The results of the survey on Enforcement Status of the Soil Contamination Countermeasures Act & Numbers and trends of soil contamination investigations and countermeasures in the fiscal year 2004

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Ministry of the Environment

Environmental Management Bureau

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Note) In this document, fiscal year starts on April 1st and ends on March 31st next year.

I. Purpose and Methodology

1. Purpose of this survey

This survey report compiles the enforcement status of Soil Contamination Countermeasures Act (2002, Act No.53, hereinafter referred to as “the act” or SCCA), and soil contamination cases submitted to local authorities in order to promote future countermeasures for soil contaminations by having the public know current conditions of soil contaminations and countermeasures taken against them.

2. Methodology

(1) Surveyed organizations

The survey has been conducted with the help of departments responsible for administering soil contaminations in every prefecture as well as in cities stipulated in the cabinet order referred in Article 37 of the act (hereinafter referred to as “cabinet-order cities”.) It is noted that a prefecture with cabinet-order cities inside has reported cases under its administration to avoid overlapping data separately reported from the cities.

(2) Surveyed cases

1) Scope for the survey on enforcement status of the act

This part of the survey covers the following cases, which had been required by the act to report to prefectures or cabinet-order cities from the enactment date of the act (February 15th 2003) to March 31st 2005;

- “Soil Contamination State Investigations” that had been conducted under Article 3 and Article 4 of the act,
- Cases where some data did not meet the “designation standard” of the act, etc.

2) Cases except for the above

This survey also covers cases that were reported from April 1st 1975 to March 31st 2005 (excluding cases regarding dioxins in soil) and they are classified into A) to F) as follows;

A) Cases that did not meet the “Environmental Standard Concerning Soil Contamination” stipulated in the announcement No.46 by the Environmental Agency 2001 (hereinafter referred to as “the soil environmental quality standard”). Note that these cases do not include cases designated as contaminated agricultural lands stipulated in “Agricultural Land Soil Pollution Prevention Law” (1970, Act No.139)

B) Cases in which a local authority put bylaws, guidances, guidelines, advice, or notices for cooperation to a party in accordance with “Guideline for investigation of and countermeasures against soil and water contamination” (January 1999, a notice from Manager of the Water Quality Bureau, the Environmental Agency). Note that these cases include cases in which an investigation detected concentrations below the soil environmental quality standard or unregulated chemicals, as well as cases conducted

by local authorities for themselves.

C) Cases in which a local authority has required or plans to require an investigation or a countermeasure to a party based on municipal bylaw, guidance, etc. established by local authorities.

D) Cases regarding lawsuits over soil contamination.

E) Cases that were reported by newspapers, etc. or were discussed at local assemblies.

F) Cases in which regulated substances were detected through a soil investigation within an area where groundwater pollution had been reported by surveys of groundwater quality. Note that these cases include cases in which an investigation detected concentrations below the soil environmental quality standard or unregulated chemicals.

II. Results

SECTION II-1 presents the execution status of the Soil Contamination Countermeasures Act, and II-2 summarizes the cases of soil investigations and remediation activities, which include both mandated by the act and not mandated by the act, identified by prefectures and/or cabinet-order cities.

II-1 The execution status of the Soil Contamination Countermeasures Act

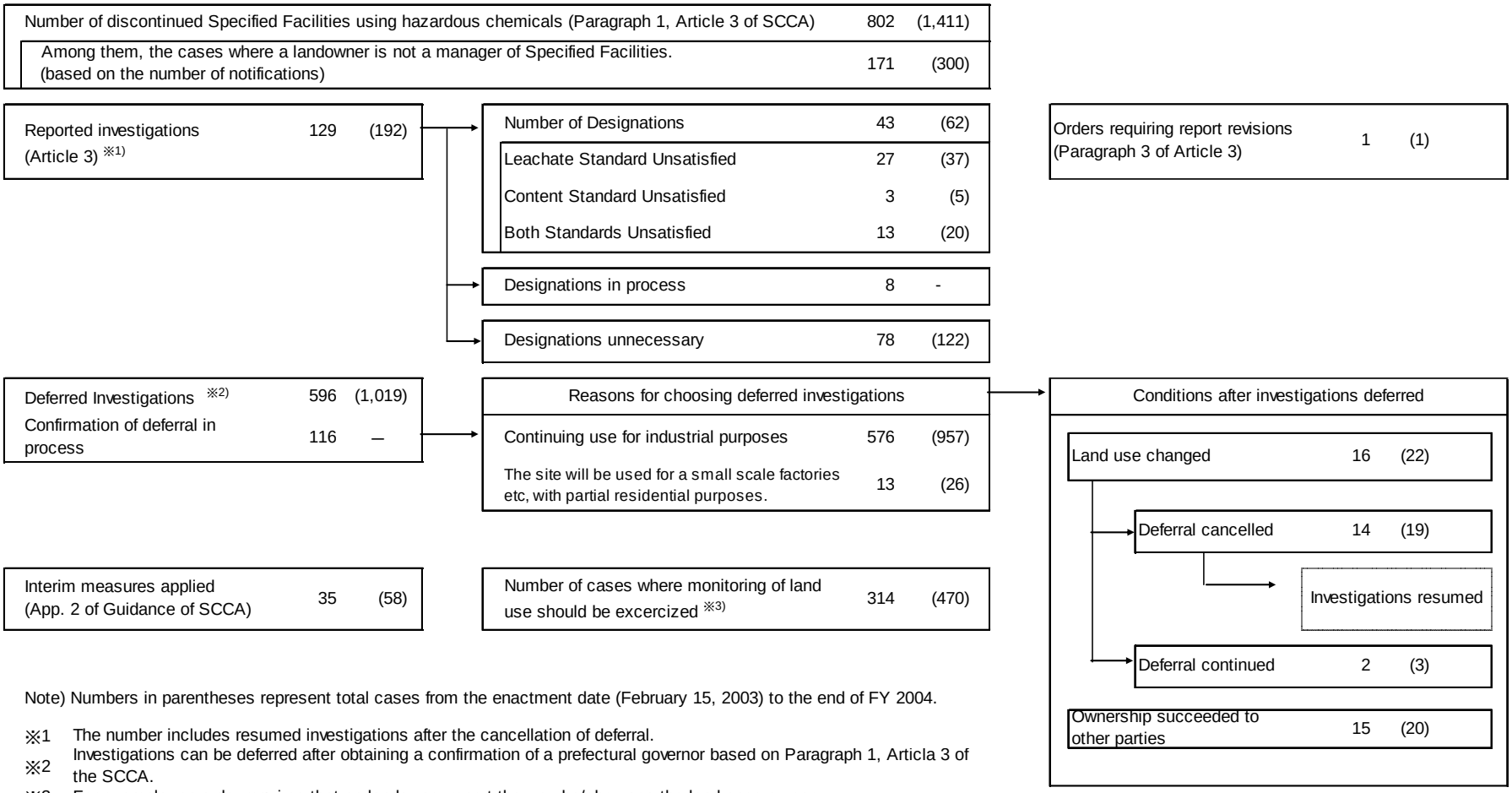
Figure 1 through Figure 3 show the execution status of the Soil Contamination Countermeasures Act in fiscal 2004. Figure 1 shows the execution status of investigations performed when Specified Facilities using hazardous substances are discontinued (based on Article 3 of the act). Figure 2 illustrates enforcement activities by prefectures etc. ordering owner, manager or occupier of the site to perform investigations (based on Article 4 of the act), and Figure 3 shows the situations of Designated Areas.

In fiscal 2004, the number of discontinued Specified Facilities are 802 (1,411 from the act enforcement date, February 15, 2003, to the end of fiscal 2004 in total), and among those, 129 Soil Contamination Investigations have been performed and reported to local authorities (192 in total). 596 investigations have been deferred based on the provisory clause of Article 3 of the law (1,019 in total).

The number of the orders demanding investigations under Article 4 of the act is 1 (one) in fiscal 2004 (four in total).

The number of Designated Areas pursuant to the first clause of Article 5 amount to 43 (total number is 64), and the number of the former Designated Areas, where whole area was cleaned up and legally dismissed, is 22 (total number is 26).

Figure 1 Execution status of investigations performed when Specified Facilities using hazardous substances are discontinued (Article 3 of the act)

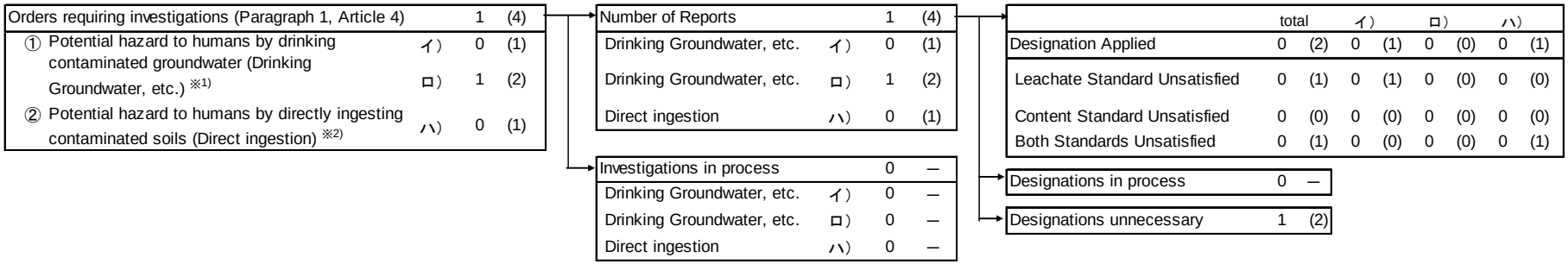


Note) Numbers in parentheses represent total cases from the enactment date (February 15, 2003) to the end of FY 2004.

※1 The number includes resumed investigations after the cancellation of deferral.
※2 Investigations can be deferred after obtaining a confirmation of a prefectural governor based on Paragraph 1, Articla 3 of the SCCA.
※3 For example, an order requires that an landowner report the way he/she uses the land once a year.

The number of discontinued Specified Facilities are not identical to the sum of reported investigations and deferred investigations , because some investigations were not implemented in the same year as the discontinuations took place, because there were cases where multiple landowners existed for a single property and each owner claimed for deferred investigation, or because there were cases where an landowner has not decided whether doing an investigation or claiming for its deferral.

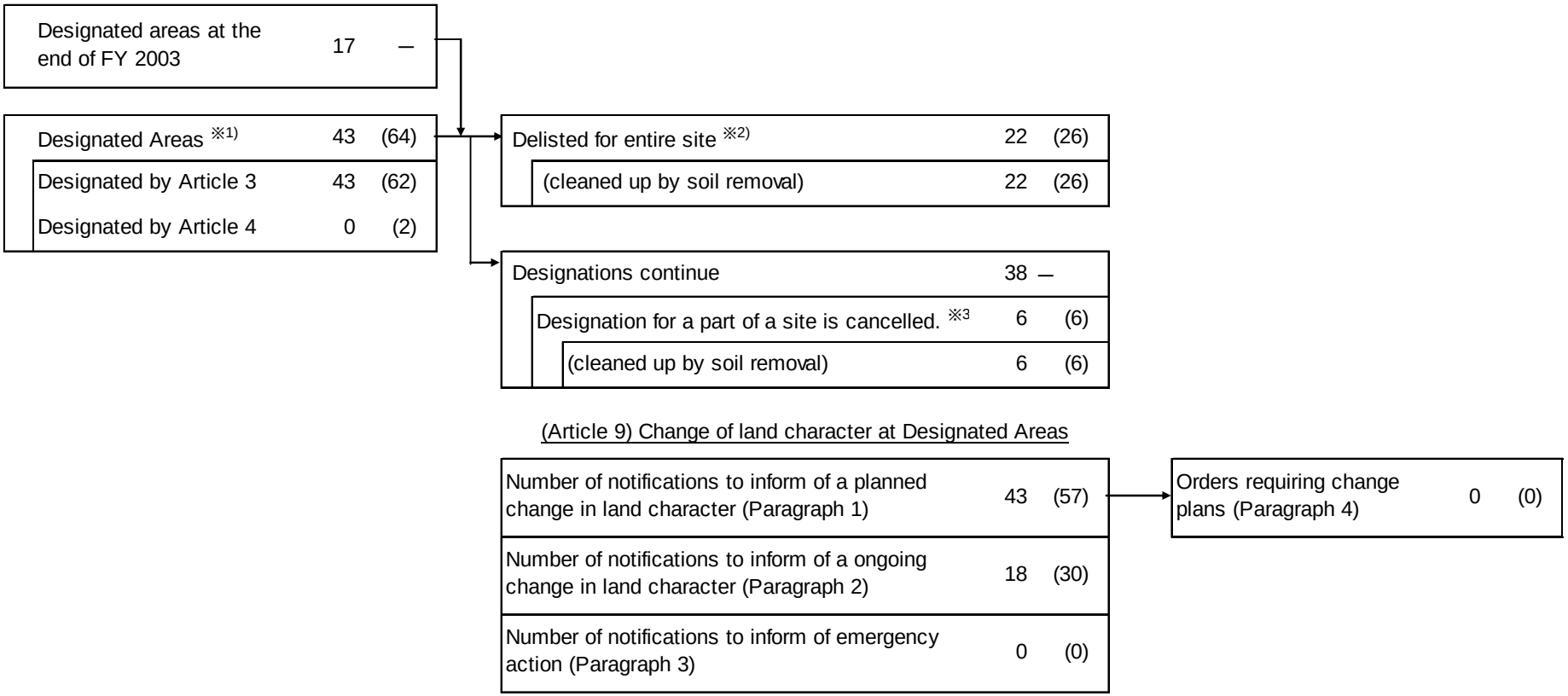
Figure 2 Enforcement activities by prefectures etc. ordering landowners to perform investigations (based on Article 4 of the act)



Note) Numbers in parentheses represent total cases from the enactment date of SCCA (February 15, 2003) to the end of FY 2004.

※1 Investigations are required when there is a situation in which use of groundwater in and around an investigation site corresponds to the situation stipulated in the ministrial order as well as the following conditions rise;
イ) It is obvious that some soils exhibit contaminated levels above the leachate standard and consequently the quality of groundwater is affected. (Article 3-1-イ of Ministrial order)
ロ) It is probable that some soils exhibit contaminated levels above the leachate standard and groundwater is contaminated. (Article 3-1-ロ of Ministrial order)
※2 ハ) It is confirmed that some soils exhibit contaminated levels above the content standard and the entry to the site is unrestricted. (Article 3-1-ハ of Ministrial order)

Figure 3 Situations of Designated Areas



Note) Numbers in parentheses represent total cases from the enactment date of SCCA (February 15, 2003) to the end of FY 2004.
※1 This number includes cases where the investigation had been completed in FY2003 and the designation was followed in FY2004.
※2 This number shows the cases in which entire site was cleaned up so that the relevant designation was removed from the register.
※3 This number shows the cases in which part of a site was cleaned up so that the relevant part of the designation was removed from the register.

Execution status of the act (SCCA) in fiscal 2004 (not related to the Articles 3, 4, and 5)

Article 7	Number of orders requiring remedial actions	0	(0)
Article 8	Number of claims for cost recovery to polluters	0	(0)
Article 29	Number of asking for reporting on owner's activities related to the enforcement of the act	4	(6)
	Number of site inspections by local authorities related to the enforcement of the act	83	(107)
Article 30	Number of prior consultations before issuing orders from prefectural governors to the heads of relevant administrative organs or local public entities	0	(0)
Article 31	Number of opinions stated from prefectural governors to public facility owners	0	(0)
Article 38	Number of violations stipulated in Article 38	0	(0)
Article 39	Number of violations stipulated in Article 39	0	(0)
Article 40	Number of violations stipulated in Article 40	0	(0)
Article 41	Number of juridical persons or individuals legally charged in conjunction with the violations stipulated in Article 38	0	(0)
	Number of juridical persons or individuals legally charged in conjunction with the violations stipulated in Article 39	0	(0)
	Number of juridical persons or individuals legally charged in conjunction with the violations stipulated in Article 40	0	(0)
Article 42	Number of violations stipulated in Article 42	0	(0)
Number of approved treatment facilities for contaminated soils		3	(7)
Number of submitted soil manifests	Transfer & treatment by contractors	16	(22)
	Transferred by contractors & self-treated	0	(0)
	Self-transferred & treated by contractors	0	(0)
	Self-transferred & self-treated	0	(0)
Number of local governments with cleanup funds		0	(0)
Number of local governments planning to build cleanup funds		30	-

Note: In the table, numbers in parentheses represent data from the enactment date of the act, February 15, 2003, to the end of fiscal 2004 in total

(1) The number of Designated Areas in each fiscal year

Table 1 shows the numbers of investigations at the time of the discontinuation of Specified Facilities (Article 3 of the act), orders for investigations (Article 4 of the act), and Designated Areas (Article 5 of the act) in each fiscal year.

The number of discontinued Specified Facilities using hazardous substances under the first clause of Article 3 is 37 in fiscal 2002 (notice: from the enactment date of SCCA (February 15th 2003) to March 31st 2003), 572 in fiscal 2003, and 802 in fiscal 2004. The total number of them is 1,411.

At the time of the discontinuation of Specified Facilities using hazardous substances, 420 cases (73.4%) out of 572 have chosen to defer investigations according to Article 3 in fiscal 2003, 596 cases (74.3&) out of 802 in fiscal 2004. The number of investigations reported to prefectural governors under the act is 66 (63 under Article 3, 3 under Article 4) in fiscal 2003, and 130 (129 under Article 3, 1 under article 4) in fiscal 2004.

The number of orders for investigations under the first clause of Article 4 is 1 (one) in fiscal 2002, 2 (two) in fiscal 2003, and 1 (one) in fiscal 2004.

No investigations have conducted by prefectural governors based on the second clause of Article 4 so far.

The Designated Areas under the first clause of Article 5 amount to 21 in fiscal 2003, 43 in fiscal 2004, exhibiting increasing trend year by year. On the other hand, the Designated Areas where remedial activities have been conducted to completely cancel the designation amount to 4 (four) in fiscal 2003, 22 in fiscal 2004. Consequently, the number of Designated Areas as of the end of fiscal 2004 is 38.

Table 1 Execution status of Soil Contamination Countermeasures Act in each fiscal year

		FY2002[1)]	2003	2004	total
Article 3	Discontinued Specified Facilities using hazardous chemicals [2)]	37	572	802	1,411
	Number of Reports notifying Investigation Results	0	63	129	192
	Number of Deferred Investigations	3	420	596	1,019
	Number of interim measures under Appdx. 2 of ministerial ordinance	0	23	35	58
	subtotal	3	506	760	1,269
Article 4	Enforcement orders of investigations	1	2	1	4
	Number of Reports upon the above orders	0	3	1	4
	Public notifications of investigations by prefectural governors	0	0	0	0
Article 5	Number of designations at the end of previous fiscal year (A)	0	0	17	—
	Number of Designations (B)	0	21	43	64
	Number of Delistings of designations (entire area) (C)	0	4	22	26
	Number of Delistings of designations (part of the area)	0	0	6	6
	A+B-C	0	17	38	—

Note 1) FY2002 is from the enactment date of SCCA (February 15, 2003) to March 31, 2003.

Note 2) The number of discontinued Specified Facilities and subtotal for each fiscal year are not identical, because some investigations were not implemented in the same year as the discontinuations took place, because there were cases where multiple landowners existed for a single property and each owner claimed for deferred investigation, or because there were cases where an landowner has not decided whether doing an investigation or claiming for its deferral.

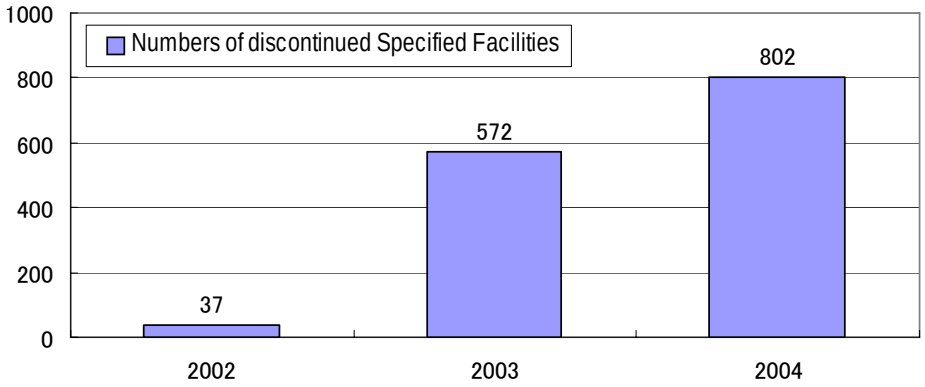


Figure 4 Numbers of discontinued "Specified Facilities"

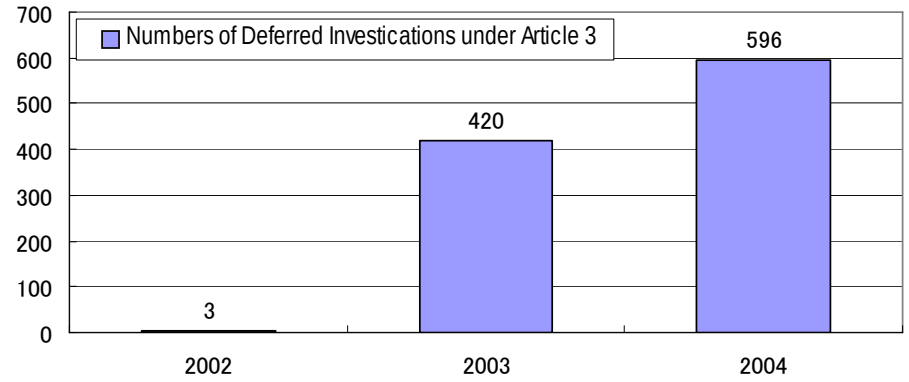
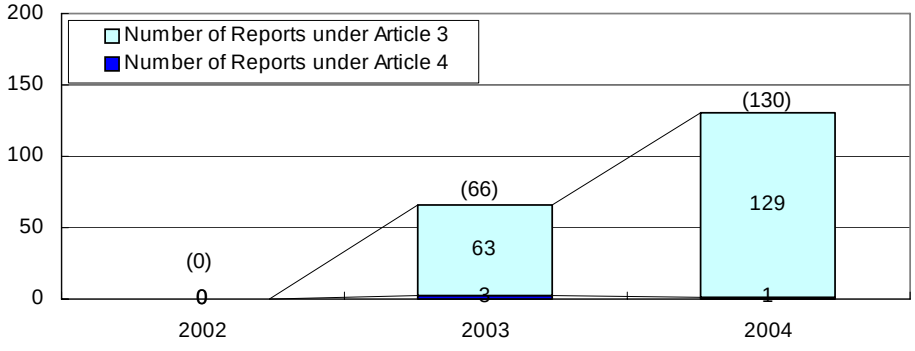


Figure 5 Number of deferred investigations under Article 3, reported in each fiscal year



Note) Numbers in ( ) is the sum for each fiscal year.

Figure 6 Number of submitted reports on Soil Contamination Investigations

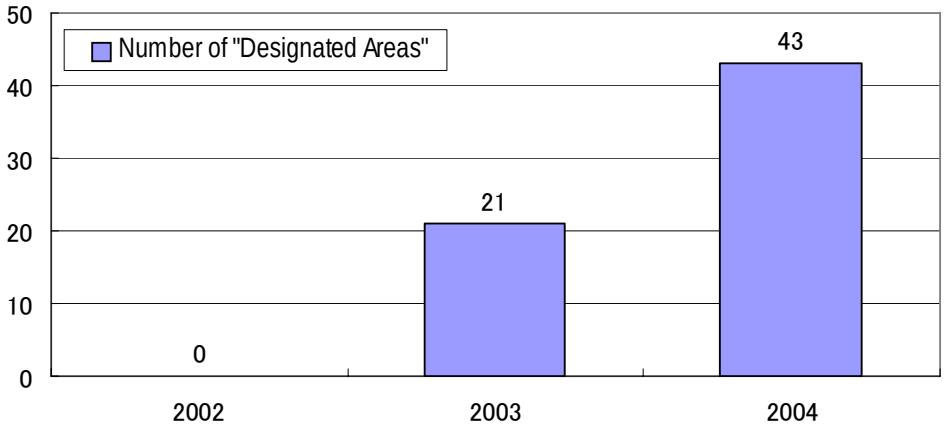


Figure 7 Number of Designated Areas designated each year

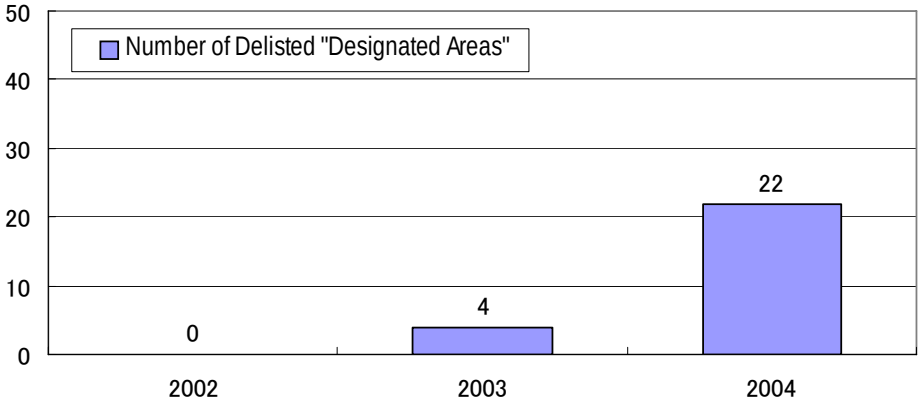


Figure 8 Number of delisted Designated Areas

(2) Categories of Designated Hazardous Substances detected in Designated Areas

Table 2 shows categories of Designated Hazardous Substances that have exceeded the SCCA standard in the 64 Designated Areas in total. Among them, the number of sites where concentrations of volatile organic compounds (VOC; Category 1) exceeded the standards is 16, those with exceeding heavy metals (Category 2) is 43, and those with complex contamination, contaminated by multiple substances categorized in more than two Hazardous Substances Categories, is 5 (five). No sites have been exceeded by agricultural chemicals and PCBs (Category 3). Among 43 Designated Areas registered in fiscal 2004, 28 of them are exceeded as to heavy metals.
Further for 64 Designated Areas, Table 3 shows the number of investigations, in which a levels above the standards were observed, for each type of analysis methods; 58 investigations have exhibited exceeding levels by leaching tests of soil, 28 investigations by content tests, and 4 (four) investigations by soil gas analyses*). Among 43 Designated Areas in 2004, 39 investigations have shown contaminated levels by leaching tests of soil, 17 investigations by content tests, and 1 (one) by soil gas analyses, respectively.

*) When the other tests show contaminated levels along with soil gas analyses, the count is made to the other tests, not on the soil gas analyses.

Table 2 Categories of Designated Hazardous Substances found in 64 Designated Areas

FY	Number of Designations	Identified Contaminants			
		VOCs (Category 1)	Heavy Metals (Category 2)	Agri. & PCBs (Category 3)	Complex contamination
2002	0	0	0	0	0
2003	21	4	15	0	2
2004	43	12	28	0	3
total	64	16	43	0	5

Table 3 Analyses methods that detected contaminated levels at Designated Areas

FY	NOT satisfied Standards		
	leaching	content	soil gass
2002	0	0	0
2003	19	11	3
2004	39	17	1
total	58	28	4

Note: The sum of each test is not equal to the number of designation in each year (see Table 2), because there were cases where more than one tests exhibited analytical data above the standards.

(3) Designated Hazardous Substances detected in Designated Areas

Table 4 summarizes Designated Hazardous Substances detected in Designated Areas (43 in fiscal 2004, 64 since the inception of the act). For 64 Designated Areas, trichloroethylene and perchloroethylene, cis-1,2-dichloroethylene are prevalent for VOCs, concerning heavy metals, fluoride and fluoride compounds, hexavalent chromium, and lead and its compounds are predominant. For 43 areas designated in 2004, trichloroethylene and perchloroethylene, cis-1,2-dichloroethylene are prevalent in VOCs, hexavalent chromium, fluoride and fluoride compounds, and lead and its compounds are predominant for heavy metals.

Table 4 Designated Hazardous Substances detected in Designated Areas

		Chemicals on SCCA standard list																										
		VOCs (Category 1)											Heavy Metals (Category 2)										Agri. & PCBs (Category 3)				
		carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus
# of Designations	FY2004	0	0	1	5	0	1	7	0	0	8	1	1	13	3	4	0	2	9	3	10	4	0	0	0	0	0
	(total)	(0)	(0)	(2)	(6)	(0)	(2)	(10)	(0)	(0)	(12)	(1)	(3)	(17)	(6)	(6)	(0)	(2)	(17)	(6)	(18)	(8)	(0)	(0)	(0)	(0)	(0)
Leaching tests	FY2004	0	0	0	4	0	1	6	0	0	6	1	1	11	3	4	0	2	7	3	9	4	0	0	0	0	0
	(total)	(0)	(0)	(1)	(5)	(0)	(2)	(9)	(0)	(0)	(10)	(1)	(3)	(15)	(6)	(6)	(0)	(2)	(13)	(6)	(17)	(8)	(0)	(0)	(0)	(0)	(0)
Content tests	FY2004	0	0	0	0	0	0	0	0	0	0	0	1	4	2	2	0	0	9	2	2	0	0	0	0	0	0
	(total)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(3)	(6)	(3)	(3)	(0)	(0)	(16)	(3)	(5)	(1)	(0)	(0)	(0)	(0)	(0)
Soil gas tests	FY2004	0	0	1	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	(total)	(0)	(0)	(1)	(1)	(0)	(0)	(1)	(0)	(0)	(2)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)

Note 1) SCCA standard is used for the judgment criteria of area designations, stipulated in Paragraph 1, Article 5 of the act. There are two standards, leaching test standard and content test standard, to be applied for designation.

Note 2) The sum of each test is not equal to the number of designation in each year, because there were cases where more than one tests exhibited analytical data above the standards.

Note 3) There are some cases where more than one chemicals are found in a single investigation.

Note 4) The numbers in parentheses is the total exceeded cases found by investigations under the act.

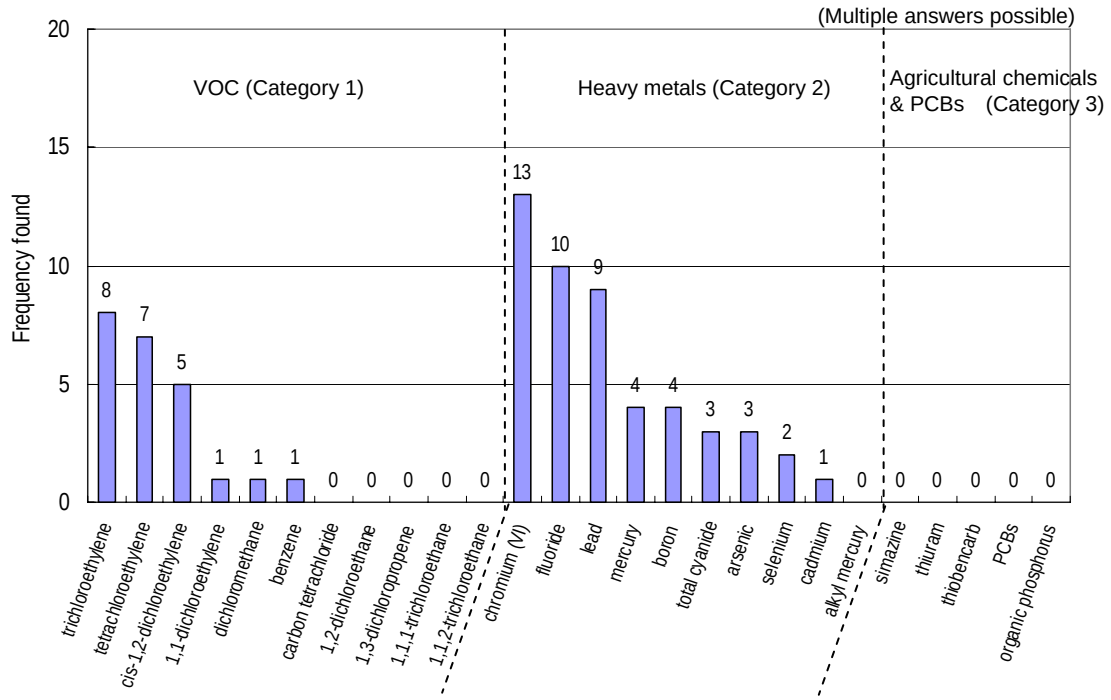


Figure 9 Designated Hazardous Substances detected in Designated Areas (FY 2004)

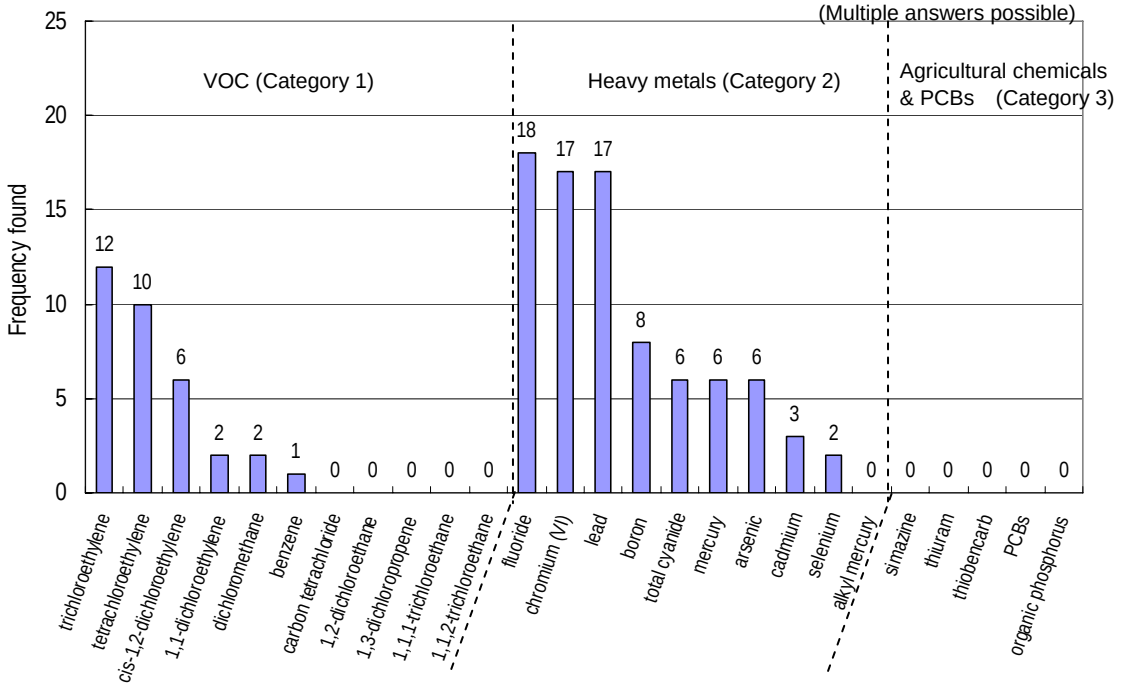


Figure 10 Designated Hazardous Substances detected in Designated Areas (total)

(4) Numbers of investigations in each prefecture and cabinet-order city

Table 5 shows the numbers of Soil Contamination Investigations under Article 3 and Article 4 (130 in fiscal 2004, 196 in total), and Designated Areas (43 in fiscal 2004, total number is 64), in each prefecture and cabinet-order city. Kanto-Area, Kinki-Area, and Chubu-Area, in order of the prevalence, have had plenty of reported investigations and Designated Areas regarding both their numbers in fiscal 2004 and the total numbers of them.

Table 5 Numbers of Soil Contamination Investigations under the act

Prefectures / Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities											
				Number of Designations									
						Identified Contaminants							
						VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
HOKKAIDO REGION	Hokkaido P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Sapporo C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hakodate C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Asahikawa C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
TOHOKU REGION	Aomori P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hachinohe C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Iwate P.	0	(3)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Morioka C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Miyagi P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Sendai C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Akita P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Akita C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yamagata P.	3	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yamagata C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fukushima P.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fukushima C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kooriyama C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Iwaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	3	(8)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
KANTO REGION	Ibaragi P.	2	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Mito C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Tochigi P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Utsunomiya C.	0	(1)	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
	Gunma P.	2	(2)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Maebashi C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Takasaki C.	1	(1)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Saitama P.	2	(4)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Saitama C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kawagoe C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kawaguchi C.	1	(2)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Tokorozawa C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Souka C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Koshigaya C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Chiba P.	2	(3)	0	(1)	0	(1)	0	(0)	0	(0)	0	(0)
	Chiba C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ichikawa C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Funabashi C.	0	(2)	1	(2)	0	(1)	1	(1)	0	(0)	0	(0)
	Matsudo C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kashiwa C.	0	(1)	0	(1)	0	(0)	0	(0)	0	(0)	0	(1)
	Ichihara C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Tokyo P.	29	(44)	10	(17)	2	(3)	5	(10)	0	(0)	3	(4)
	Hachioji C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Machida C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kanagawa P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yokohama C.	5	(5)	3	(3)	0	(0)	3	(3)	0	(0)	0	(0)
	Kawasaki C.	2	(2)	2	(2)	0	(0)	2	(2)	0	(0)	0	(0)
	Yokosuka C.	1	(1)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Atsugi C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hiratsuka C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Fujisawa C.	2	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Odawara C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Chigasaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Sagamihara C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Yamato C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Niigata P.	2	(2)	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
	Niigata C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yamanashi P.	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kofu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Shizuoka P.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Shizuoka C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hamamatsu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Numazu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fuji C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	59	(91)	21	(36)	4	(7)	14	(24)	0	(0)	3	(5)

(continued)

Table 5 *(continued)*

Prefectures / Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities											
				Number of Designations									
						Identified Contaminants							
						VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
CHUBU REGION	Toyama P.	1	(1)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Toyama C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ishikawa P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kanazawa C.	2	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fukui P.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Fukui C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nagano P.	5	(5)	3	(3)	1	(1)	2	(2)	0	(0)	0	(0)
	Nagano C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Matsumoto C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Gifu P.	2	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Gifu C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Aichi P.	4	(5)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nagoya C.	5	(6)	2	(2)	0	(0)	2	(2)	0	(0)	0	(0)
	Toyohashi C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Okazaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ichinomiya C.	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kasugai C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Toyota C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Mie P.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yokkaichi C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	23	(29)	6	(7)	1	(1)	5	(6)	0	(0)	0	(0)
KINKI REGION	Shiga P.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Otsu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kyoto P.	3	(4)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Kyoto C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Osaka P.	5	(5)	3	(3)	1	(1)	2	(2)	0	(0)	0	(0)
	Osaka C.	7	(12)	1	(2)	0	(0)	1	(2)	0	(0)	0	(0)
	Sakai C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kishiwada C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Toyonaka C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Suita C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Takatsuki C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hirakata C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ibaraki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Yao C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Neyagawa C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Higashi-Osaka C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hyogo P.	4	(5)	3	(3)	2	(2)	1	(1)	0	(0)	0	(0)
	Kobe C.	2	(5)	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
	Himeji C.	1	(1)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Amagasaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Akashi C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
	Nichinomiya C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kakogawa C.	1	(2)	1	(2)	1	(2)	0	(0)	0	(0)	0	(0)
	Takarazuka C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nara P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nara C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Wakayama P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Wakayama C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	27	(41)	11	(15)	5	(6)	6	(9)	0	(0)	0	(0)

(continued)

Table 5 *(continued)*

Prefectures / Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities											
				Number of Designations									
						Identified Contaminants							
						VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
CHUGOKU SHIKOKU REGION	Tottori P.	2	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Shimane P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Okayama P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Okayama C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kurashiki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hiroshima P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Hiroshima C.	2	(2)	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
	Kure C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fukuyama C.	1	(2)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Yamaguchi P.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Shimonoseki C.	1	(1)	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
	Tokushima P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Tokushima C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kagawa P.	3	(3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Takamatsu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ehime P.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Matsuyama C.	0	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kochi P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kochi C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	11	(17)	3	(3)	2	(2)	1	(1)	0	(0)	0	(0)
KYUSHU REGION	Fukuoka P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kitakyushu C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fukuoka C.	2	(2)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Kurume C.	2	(3)	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
	Saga P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nagasaki P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nagasaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Sasebo C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kumamoto P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kumamoto C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Oita P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Oita C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Miyazaki P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Miyazaki C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kagoshima P.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kagoshima C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Okinawa P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	6	(9)	2	(2)	0	(0)	2	(2)	0	(0)	0	(0)
TOTAL		130	(196)	43	(64)	12	(16)	28	(43)	0	(0)	3	(5)

Note 1) Prefectures and Cabinet-order cities are categorized according to the administering area of each Regional Office of the Environment.
Note 2) Numbers in parentheses are the total from the enactment date of SCCA (February 15, 2003) to the end of FY 2004.

(5) Changes in land usages before and after soil investigations

Table 6 and Table 7 show the changes in land usages before Soil Contamination Investigations and on March 31st 2005, for Designated Areas (43 in fiscal 2004 and 64 cases in total).

Table 6 Land usages at the time of soil investigations and afterwards for Designated Areas (FY 2004)

(Allowing multiple answers)

At the time of investigation \ As of March 31, 2005	Current Industrial Factories	Former Industrial Factories	Residencial	Former Landfill	Parks/Playgrounds	Roads	Riverbank	Farmland/Paddy	Woodland/Forests	others	not identified	total
Current Industrial Factories	9	3	0	0	0	0	0	0	0	1	1	14
Former Industrial Factories	0	18	4	0	0	3	0	0	0	0	4	29
Residencial	0	0	0	0	0	0	0	0	0	0	0	0
Former Landfill	0	0	0	0	0	0	0	0	0	0	0	0
Parks/Playgrounds	0	0	0	0	0	0	0	0	0	0	0	0
Roads	0	0	0	0	0	0	0	0	0	0	0	0
Riverbank	0	0	0	0	0	0	0	0	0	0	0	0
Farmland/Paddy	0	0	0	0	0	0	0	0	0	0	0	0
Woodland/Forests	0	0	0	0	0	0	0	0	0	0	0	0
others	0	0	0	0	0	0	0	0	0	0	0	0
not identified	0	0	0	0	0	0	0	0	0	0	0	0
total	9	21	4	0	0	3	0	0	0	1	5	43

Note: "Current Industrial Factories" include a service industry.

Table 7 Land usages at the time of soil investigations and afterwards for Designated Areas (total)

(Allowing multiple answers)

At the time of investigation \ As of March 31, 2005	Current Industrial Factories	Former Industrial Factories	Residencial	Former Landfill	Parks/Playgrounds	Roads	Riverbank	Farmland/Paddy	Woodland/Forests	others	not identified	total
Current Industrial Factories	14	5	1	0	0	0	0	0	0	1	3	24
Former Industrial Factories	1	26	5	0	0	4	0	0	0	0	4	40
Residencial	0	0	0	0	0	0	0	0	0	0	0	0
Former Landfill	0	0	0	0	0	0	0	0	0	0	0	0
Parks/Playgrounds	0	0	0	0	1	0	0	0	0	0	0	1
Roads	0	0	0	0	0	0	0	0	0	0	0	0
Riverbank	0	0	0	0	0	0	0	0	0	0	0	0
Farmland/Paddy	0	0	0	0	0	0	0	0	0	0	0	0
Woodland/Forests	0	0	0	0	0	0	0	0	0	0	0	0
others	0	0	0	0	0	0	0	0	0	0	0	0
not identified	0	0	0	0	0	0	0	0	0	0	0	0
total	15	31	6	0	1	4	0	0	0	1	7	65

Note: "Current Industrial Factories" include a service industry.

(6) Responsible Parties of contaminations

Table 8 shows causes of contamination in the Designated Areas (43 in fiscal 2004, total number is 64). The most predominant cause is “Operation of Specified Facilities using hazardous substances, which triggers Soil Contamination Investigations (confirmed or reasonably deduced).”

Table 8 Causes of contaminations at Designated Areas

(Allowing multiple answers)

	Number of Designations		Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	2004	total	2004	total	2004	total	2004	total	2004	total
1) It is identified or inferred that the contamination has been caused by the usage of Specified Facilities that use hazardous substances. (The Soil Contamination Investigation" should be conducted when the facility is closed.)	32	(50)	11	(15)	18	(31)	0	(0)	3	(4)
2) It is identified or inferred that the contamination has been caused by the industrial activities unrelated to the Specified Facilities mentioned above.	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
3) It is identified or inferred that the contamination has been caused by pollutants in groundwater migrating from the outside.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
4) It is identified or inferred that the contamination has been caused by airborne pollutants coming from the outside.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
5) Naturally occurring contamination	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
6) The cause cannot be identified or inferred.	9	(11)	1	(1)	8	(9)	0	(0)	0	(1)
7) Under scrutinization	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
8) Others	3	(4)	1	(2)	2	(2)	0	(0)	0	(0)
Total	45	(67)	13	(18)	29	(44)	0	(0)	3	(5)
Number of respondents	43	(64)	12	(16)	28	(43)	0	(0)	3	(5)

Note: Numbers in parentheses are total numbers collected from the enactment date of SCCA (February 15, 2003) to the end of FY 2004.

(7) Polluters vs. landowners; Industries likely to cause contaminations

Table 9 shows the relationship between polluters and landowners, based on the responses (37 responses in fiscal 2004, 57 responses in total) at Designated Areas (43 cases in fiscal 2004, 64 cases in total)”. The number of the cases where polluters are landowners is 20 (54.1%) in fiscal 2004, and 36 (63.2%) in total.

Tables 10, 11, 12 and 13 show correlations between Soil Contamination Investigations or Designated Areas and manufacturing industries. Also these tables show specific hazardous substances that have been detected at factories of each manufacturing industries.

Table 9 Relationship between polluters and landowners at Designated Areas

Polluter vs. Owner, etc.	numbers	
	2004	total
The polluter is the landowner, etc.	20	(36)
The polluter is NOT the landowner, etc.	17	(21)

Note: Numbers in parentheses are total numbers collected from the enactment date of SCCA (February 15, 2003) to the end of FY 2004.

Table 10 Correlations between Soil Contamination Investigations and manufacturing industries (FY 2004)

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Reports on Investigation Results (FY2004)		VOCs (Category 1)											Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
				carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	1	0.8			1	1						1																	3
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	1	0.8										1																	1
MANUFACTURE OF IRON AND STEEL	(26)	2	1.5																				2							2
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	1	0.8						1								1					1	1							4
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(28)	13	10.0			5	6			3			5			9	2				1		4	2						37
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	5	3.8			1	1		1		1		1		1	1	1				1	1	1	1						12
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	1	0.8			1	1						1																	3
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	2	1.5						1														1	1						3
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	1	0.8													1														1
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	6	4.6	1	1	6	6	1	1	6	1	1	6	1																31
MEDICAL AND OTHER HEALTH SERVICES	(88)	1	0.8			1	1			1			1		1		1	1	1		1			1						10
PUBLIC HEALTH AND HYGIENE	(89)	1	0.8	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1					1	1	22
SCIENTIFIC RESEARCH INSTITUTES	(92)	5	3.8	2	2	1	1		2				1	1	3	3	3	2	1	1	4	2	2	3							34
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	90	69.2	17	16	24	24	10	21	17	16	14	26	21	15	43	26	16	8	16	28	15	28	26	8	7	8	8	7	465
total		130	100.0	21	20	41	42	11	28	28	19	16	44	24	21	58	35	20	11	18	36	20	40	35	8	7	8	9	8	628

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 11 Correlations between Designated Areas and manufacturing industries (FY 2004)

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Designations (FY2004)						VOCs (Category 1)											Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
		VOCs (Category 1)	Heavy Metals (Category 2)	Agri. & PCBs (Category 3)	Complex Contamination			carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	1	0	0	0	1	2.3				1			1																			2
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	1	0	0	0	1	2.3										1																	1
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	0	1	0	0	1	2.3																1	1	1								3
MANUFACTURE OF IRON AND STEEL	(26)	0	2	0	0	2	4.7																			2							2
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(28)	3	8	0	2	13	30.2			1	3			2			5			8	2					3	1						25
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	0	3	0	0	3	7.0												1	1	1						1						4
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	1	0	0	0	1	2.3										1																1
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	1	1	0	0	2	4.7						1														1	1					3
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	0	1	0	0	1	2.3													1													1
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	4	0	0	0	4	9.3				1			4																				5
MEDICAL AND OTHER HEALTH SERVICES	(88)	0	1	0	0	1	2.3																					1						1
PUBLIC HEALTH AND HYGIENE	(89)	0	1	0	0	1	2.3															1												1
SCIENTIFIC RESEARCH INSTITUTES	(92)	0	3	0	1	4	9.3										1			1		2		1	3	2	2							12
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	1	7	0	0	8	18.6											1		2		1			5		2							11
total		12	28	0	3	43	100.0	0	0	1	5	0	1	7	0	0	8	1	1	13	3	4	0	2	9	3	10	4	0	0	0	0	0	72

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 12 Correlations between Soil Contamination Investigations and manufacturing industries (in total)

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Reports on Investigation Results (total)		VOCs (Category 1)											Heavy Metals (Category 2)									Agri. & PCBs (Category 3)					total
				carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
MINING	(5)	1	0.5												1			1			1	1								4
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	1	0.5			1	1			1			1											1						5
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	2	1.0			1	1						1		1	1	1													6
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	1	0.5										1																	1
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	1	0.5												1	1				1	1	1	1							6
MANUFACTURE OF IRON AND STEEL	(26)	3	1.5																				3							3
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	2	1.0						1								2				1	1	2	1						8
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	20	10.2			8	9			3	1		8			14	7				3		7	4						64
MANUFACTURE OF GENERAL MACHINERY	(29)	4	2.0						1	1			1		1						1		2	1						8
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	7	3.6	1		1	2		2	1	2		2		1	1	1				1	1	1	2						19
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	2	1.0			1	1						1			1								1						5
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	2	1.0						1														1	1						3
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	1	0.5													1														1
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	7	3.6	1	1	7	7	1	1	7	1	1	7	1																35
WASTE DISPOSAL BUSINESS	(87)	1	0.5												1	1					1	1	1							5
MEDICAL AND OTHER HEALTH SERVICES	(88)	1	0.5			1	1			1			1		1		1	1	1		1			1						10
PUBLIC HEALTH AND HYGIENE	(89)	2	1.0	2	2	2	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	48
SCIENTIFIC RESEARCH INSTITUTES	(92)	6	3.1	2	2	1	1		2				1	1	3	4	4	2	1	1	4	2	2	4						37
LOCAL GOVERNMENT SERVICES	(98)	1	0.5			1	1			1			1																	4
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	131	66.8	22	21	33	33	13	30	25	20	17	37	26	20	60	40	23	11	19	38	21	35	33	10	9	10	10	9	625
total		196	100.0	28	26	57	59	15	40	42	26	20	64	30	32	86	58	29	15	23	54	30	57	51	11	10	11	12	11	897

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 13 Correlations between Designated Areas and manufacturing industries (in total)

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Designations (total)						VOCs (Category 1)										Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
		VOCs (Category 1)	Heavy Metals (Category 2)	Agri. & PCBs (Category 3)	Complex Contamination			carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
MINING	(5)	0	1	0	0	1	1.6												1			1			1	1							4
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	1	0	0	0	1	1.6				1			1																			2
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	0	1	0	0	1	1.6												1														1
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	1	0	0	0	1	1.6										1																1
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	0	1	0	0	1	1.6																1	1	1								3
MANUFACTURE OF IRON AND STEEL	(26)	0	3	0	0	3	4.7																			3							3
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	0	1	0	0	1	1.6														1			1		1	1						4
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	3	13	0	3	19	29.7			2	4			2			6			11	4				2		6	2					39
MANUFACTURE OF GENERAL MACHINERY	(29)	1	2	0	1	4	6.3						1	1			1								1		2	1					7
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	1	3	0	0	4	6.3										1		1	1	1							1					5
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	1	1	0	0	2	3.1										1			1								1					3
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	1	1	0	0	2	3.1						1														1	1					3
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	0	1	0	0	1	1.6													1													1
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	5	0	0	0	5	7.8				1			5			1																7
WASTE DISPOSAL BUSINESS	(87)	0	1	0	0	1	1.6																		1		1						2
MEDICAL AND OTHER HEALTH SERVICES	(88)	0	1	0	0	1	1.6																					1					1
PUBLIC HEALTH AND HYGIENE	(89)	0	2	0	0	2	3.1															1			1	1							3
SCIENTIFIC RESEARCH INSTITUTES	(92)	0	3	0	1	4	6.3										1			1		2		1	3	2	2						12
LOCAL GOVERNMENT SERVICES	(98)	1	0	0	0	1	1.6							1																			1
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	1	8	0	0	9	14.1											1		2		2			6	1	2						14
total		16	43	0	5	64	100.0	0	0	2	6	0	2	10	0	0	12	1	3	17	6	6	0	2	17	6	18	8	0	0	0	0	0	116

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

(8) Causes of contaminations

Table 14 shows activities that are linked or possibly linked to the cause of contaminations. “Inappropriate handling of potential contaminants” and “leakage of effluent contained contaminants into groundwater” are major causes.

Table 14 Causes of contaminations at Designated Areas

(Allowing multiple answers)

	Number of Designations									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contamination	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
① Accidental Leakage of contamination-causing substances by damages to facilities, etc.	4	(9)	0	(1)	4	(7)	0	(0)	0	(1)
② Leakage due to improper handling of contamination-causing substances	7	(11)	2	(3)	5	(8)	0	(0)	0	(0)
③ Underground infiltration of drainage water that contains contamination-causing substances	5	(11)	1	(2)	4	(9)	0	(0)	0	(0)
④ Waste treatment activities before the enactment of Waste Disposal and Public Cleansing Law	2	(6)	2	(2)	0	(3)	0	(0)	0	(1)
⑤ Waste treatment activities after the enactment of Waste Disposal and Public Cleansing Law (The activity was in accordance with the Law at that time.)	0	(3)	0	(0)	0	(2)	0	(0)	0	(1)
⑥ Illegal dumping of industrial wastes after the enactment of Waste Disposal and Public Cleansing Law (The number includes thecases of unlawful handling of wastes.)	0	(4)	0	(1)	0	(2)	0	(0)	0	(1)
⑦ Mishandling of excavated soils	0	(3)	0	(0)	0	(2)	0	(0)	0	(1)
⑧ Fallouts or precipitation of airborne contamination-causing substances	1	(4)	0	(0)	1	(3)	0	(0)	0	(1)
⑨ Others	1	(2)	0	(0)	1	(2)	0	(0)	0	(0)
⑩ Causes unknown	30	(41)	9	(12)	18	(25)	0	(0)	3	(4)
Total	50	(94)	14	(21)	33	(63)	0	(0)	3	(10)
Number of respondents	43	(64)	12	(16)	28	(43)	0	(0)	3	(5)

Note: Numbers in parentheses are total numbers collected from the enactment date of SCCA (February 15, 2003) to the end of FY2004.

(9) Size of soil contamination

Tables 15 through 20 and Figures 11 through 22 depict the size (depth, area, and volume) of soil contamination discovered in Designated Areas (43 in fiscal 2004, total number is 64).

Table 15 summarizes the deepest contamination depth at each investigated site discovered in fiscal 2004. Contaminant stay within 1 meter below the ground surface in 9 (nine) cases (81.8%) out of 11 for VOCs, 18 cases (78.3%) out of 23 for heavy metals, and 1 (one) case (33.3%) out of 3 (three) for complex contamination.

Table 17 summarizes the cases found in fiscal 2004 in terms of contaminated area. Contaminants are contained in the area with less than 1,000 m^2 at 9 (nine) cases (75.0%) out of 12 for VOCs, 21 cases (75.0%) out of 28 for heavy metals, and 2 (two) cases (66.7%) out of 3 (three) for complex contamination.

Table 19 presents the cases found in fiscal 2004 from the viewpoint of contaminated soil volume. Contaminated soil volume is less than 1,000 m^3 at 6 (six) cases (85.7%) out of 7 (seven) for VOCs, 14 cases (85.7%) and out of 19 for heavy metals.

Table 15 Deepest contamination depths (SCCA Designated areas; Fiscal 2004)

Deepest depth at which the contamination concentration exceeds the standard limit (m)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < D ≦ 0.5	15	40.5%	2	18.2%	13	56.5%	0	0.0%	0	0.0%
0.5 < D ≦ 1	13	75.7%	7	81.8%	5	78.3%	0	0.0%	1	33.3%
1 < D ≦ 2	1	78.4%	0	81.8%	1	82.6%	0	0.0%	0	33.3%
2 < D ≦ 3	2	83.8%	1	90.9%	1	87.0%	0	0.0%	0	33.3%
3 < D ≦ 4	0	83.8%	0	90.9%	0	87.0%	0	0.0%	0	33.3%
4 < D ≦ 5	2	89.2%	0	90.9%	2	95.7%	0	0.0%	0	33.3%
5 < D ≦ 10	4	100.0%	1	100.0%	1	100.0%	0	0.0%	2	100.0%
10 < D	0	100.0%	0	100.0%	0	100.0%	0	0.0%	0	100.0%
unknown	6	–	1	–	5	–	0	–	0	–
Total (excluded unknown)	37	–	11	–	23	–	0	–	3	–
Number of Responded Cases	43	–	12	–	28	–	0	–	3	–
average	1.8		1.7		1.5		–		4.3	
median	1.0		1.0		0.5		–		6.0	
maximum	9.0		8.0		9.0		–		6.0	

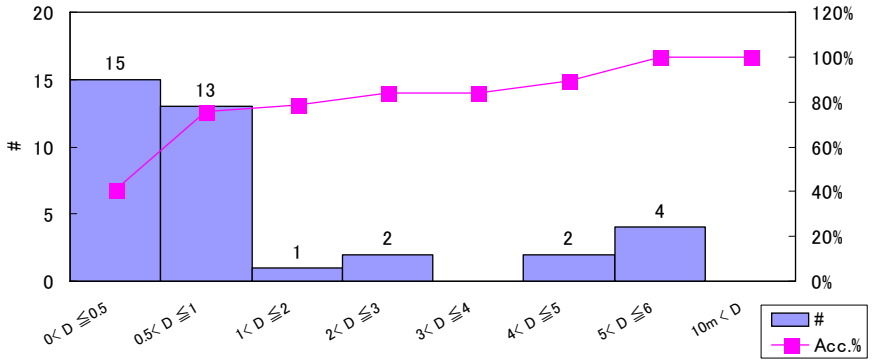


Figure 11 Deepest contamination depths (SCCA Designated areas; Fiscal 2004)

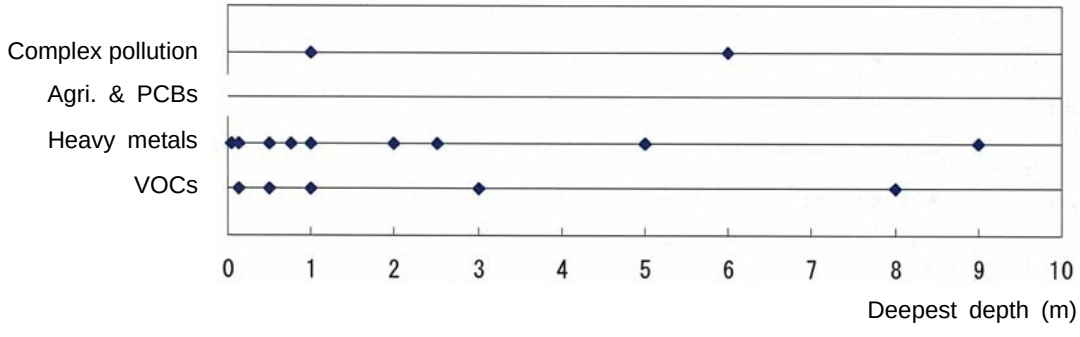


Figure 12 Deepest contamination depths (SCCA Designated areas; Fiscal 2004)

Table 16 Deepest contamination depths (SCCA Designated areas; May 2003 thru. Fiscal 2004)

Deepest depth at which the contamination concentration exceeds the standard limit (m)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < D ≦ 0.5	23	43.4%	3	20.0%	19	57.6%	0	0.0%	1	20.0%
0.5 < D ≦ 1	16	73.6%	8	73.3%	7	78.8%	0	0.0%	1	40.0%
1 < D ≦ 2	4	81.1%	1	80.0%	3	87.9%	0	0.0%	0	40.0%
2 < D ≦ 3	2	84.9%	1	86.7%	1	90.9%	0	0.0%	0	40.0%
3 < D ≦ 4	1	86.8%	1	93.3%	0	90.9%	0	0.0%	0	40.0%
4 < D ≦ 5	2	90.6%	0	93.3%	2	97.0%	0	0.0%	0	40.0%
5 < D ≦ 10	4	98.1%	1	100.0%	1	100.0%	0	0.0%	2	80.0%
10 < D ≦ 15	1	100.0%	0	100.0%	0	100.0%	0	0.0%	1	100.0%
15 < D	0	100.0%	0	100.0%	0	100.0%	0	0.0%	0	100.0%
unknown	11	–	1	–	10	–	0	–	0	–
Total (excluded unknown)	53	–	15	–	33	–	0	–	5	–
Number of Responded Cases	64	–	16	–	43	–	0	–	5	–
average	1.8		1.7		1.3		–		5.2	
median	1.0		1.0		0.5		–		6.0	
maximum	13.0		8.0		9.0		–		13.0	

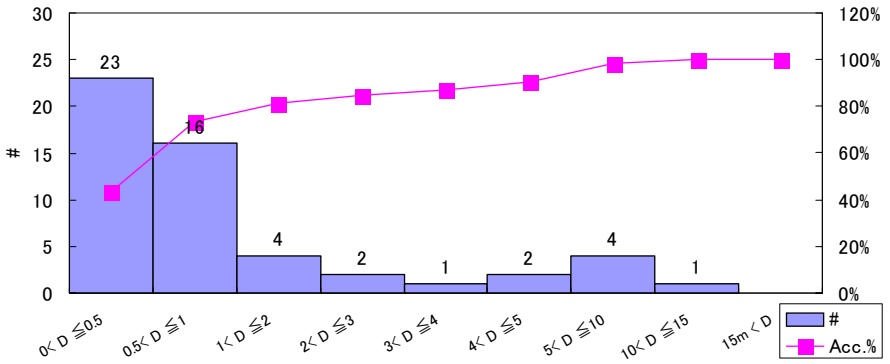


Figure 13 Deepest contamination depths (SCCA Designated areas; May 2003 thru. Fiscal 2004)

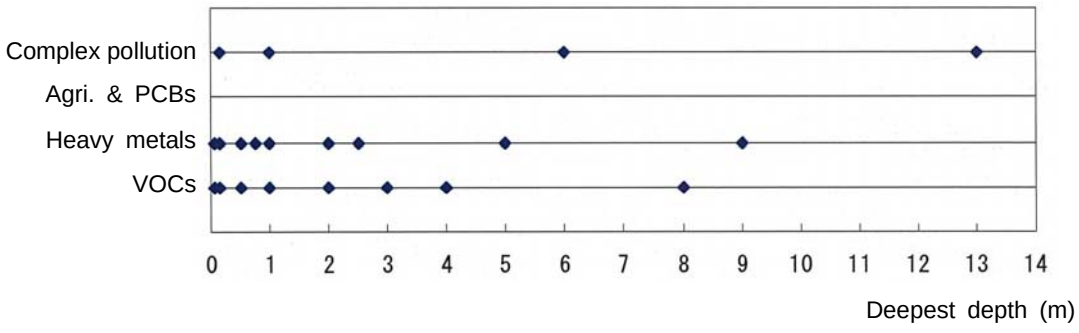


Figure 14 Deepest contamination depths (SCCA Designated areas; May 2003 thru. Fiscal 2004)

Table 17 Contaminated areas (SCCA Designated areas; Fiscal 2004)

Contaminated area (m^2)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < S ≦ 20	2	4.7%	0	0.0%	2	7.1%	0	0.0%	0	0.0%
20 < S ≦ 50	3	11.6%	1	8.3%	2	14.3%	0	0.0%	0	0.0%
50 < S ≦ 100	5	23.3%	2	25.0%	3	25.0%	0	0.0%	0	0.0%
100 < S ≦ 200	5	34.9%	2	41.7%	3	35.7%	0	0.0%	0	0.0%
200 < S ≦ 500	12	62.8%	3	66.7%	7	60.7%	0	0.0%	2	66.7%
500 < S ≦ 1,000	5	74.4%	1	75.0%	4	75.0%	0	0.0%	0	66.7%
1,000 < S ≦ 2,000	7	90.7%	2	91.7%	4	89.3%	0	0.0%	1	100.0%
2,000 < S ≦ 5,000	4	100.0%	1	100.0%	3	100.0%	0	0.0%	0	100.0%
5,000 < S	0	100.0%	0	100.0%	0	100.0%	0	0.0%	0	100.0%
unknown	0	–	0	–	0	–	0	–	0	–
Total (excluded unknown)	43	–	12	–	28	–	0	–	3	–
Number of Responded Cases	43	–	12	–	28	–	0	–	3	–
average	814		604		892		–		936	
median	346		220		414		–		489	
maximum	4,800		2,080		4,800		–		1,987	
total	35,022		7,243		24,970		–		2,809	

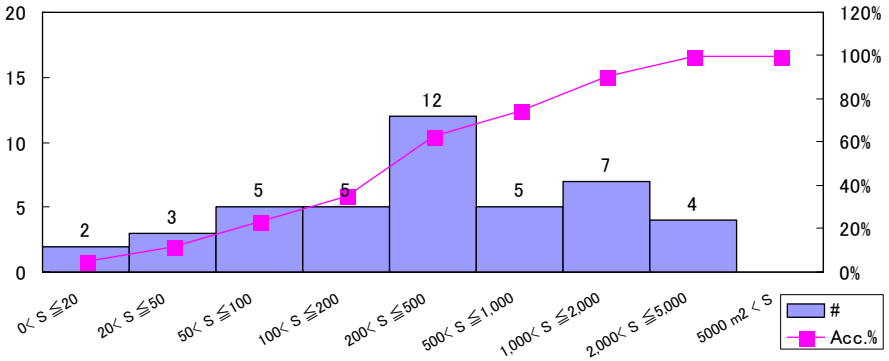


Figure 15 Contaminated areas (SCCA Designated areas; Fiscal 2004)

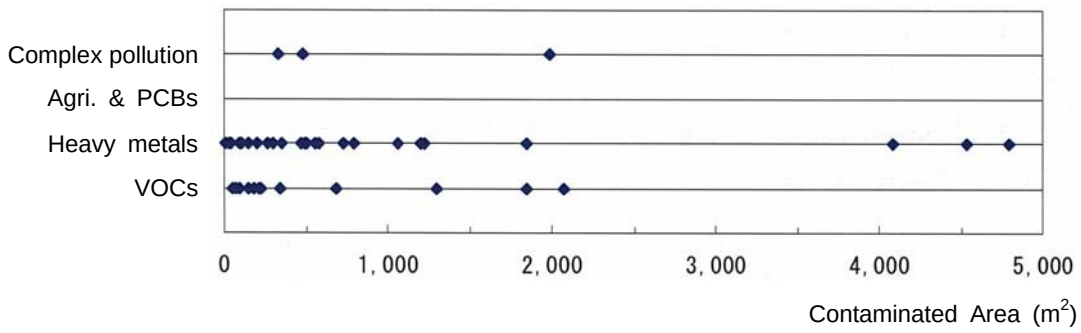


Figure 16 Contaminated areas (SCCA Designated areas; Fiscal 2004)

Table 18 Contaminated areas (SCCA Designated areas; May 2003 thru. Fiscal 2004)

Contaminated area (m^2)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < S ≦ 20	3	4.7%	1	6.3%	2	4.7%	0	0.0%	0	0.0%
20 < S ≦ 50	3	9.4%	1	12.5%	2	9.3%	0	0.0%	0	0.0%
50 < S ≦ 100	9	23.4%	3	31.3%	6	23.3%	0	0.0%	0	0.0%
100 < S ≦ 200	5	31.3%	2	43.8%	3	30.2%	0	0.0%	0	0.0%
200 < S ≦ 500	16	56.3%	5	75.0%	9	51.2%	0	0.0%	2	40.0%
500 < S ≦ 1,000	9	70.3%	1	81.3%	8	69.8%	0	0.0%	0	40.0%
1,000 < S ≦ 2,000	8	82.8%	2	93.8%	5	81.4%	0	0.0%	1	60.0%
2,000 < S ≦ 5,000	7	93.8%	1	100.0%	5	93.0%	0	0.0%	1	80.0%
5,000 < S ≦ 10,000	3	98.4%	0	100.0%	2	97.7%	0	0.0%	1	100.0%
10,000 < S	1	100.0%	0	100.0%	1	100.0%	0	0.0%	0	100.0%
unknown	0	—	0	—	0	—	0	—	0	—
Total (excluded unknown)	64	—	16	—	43	—	0	—	5	—
Number of Responded Cases	64	—	16	—	43	—	0	—	5	—
average	2,161		500		2,722		—		2,657	
median	458		220		500		—		1,987	
maximum	66,600		2,080		66,600		—		7,488	
total	138,312		8,002		117,026		—		13,283	

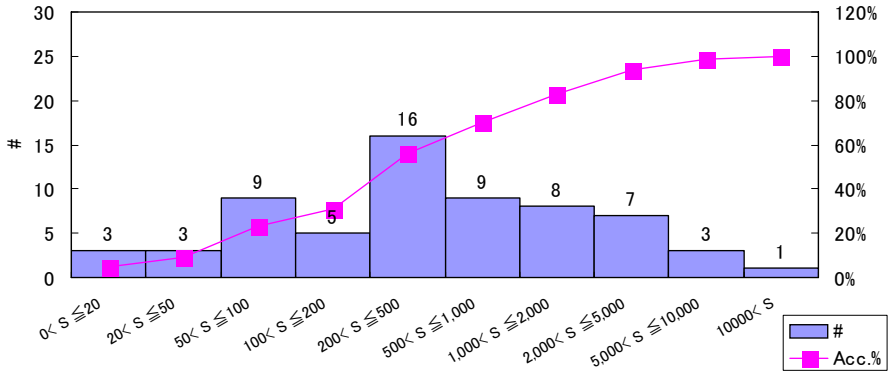


Figure 17 Contaminated areas (SCCA Designated areas; May 2003 thru. Fiscal 2004)

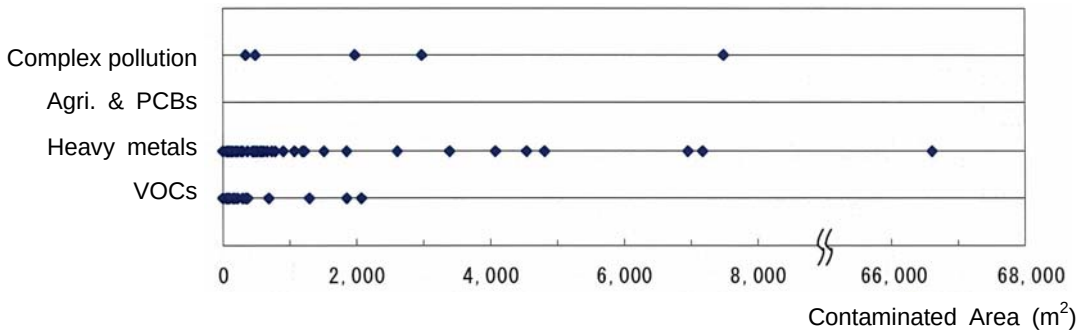


Figure 18 Contaminated areas (SCCA Designated areas; May 2003 thru. Fiscal 2004)

Table 19 Contaminated soil volumes (SCCA Designated areas; Fiscal 2004)

Volume of contaminated soil (m^3)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < V ≦ 50	3	11.5%	0	0.0%	3	15.8%	0	0.0%	0	0.0%
50 < V ≦ 100	4	26.9%	1	14.3%	3	31.6%	0	0.0%	0	0.0%
100 < V ≦ 200	1	30.8%	1	28.6%	0	31.6%	0	0.0%	0	0.0%
200 < V ≦ 500	11	73.1%	4	85.7%	7	68.4%	0	0.0%	0	0.0%
500 < V ≦ 1,000	1	76.9%	0	85.7%	1	73.7%	0	0.0%	0	0.0%
1,000 < V ≦ 2,000	4	92.3%	1	100.0%	3	89.5%	0	0.0%	0	0.0%
2,000 < V ≦ 5,000	1	96.2%	0	100.0%	1	94.7%	0	0.0%	0	0.0%
5,000 < V ≦ 10,000	1	100.0%	0	100.0%	1	100.0%	0	0.0%	0	0.0%
10,000 < V	0	100.0%	0	100.0%	0	100.0%	0	0.0%	0	0.0%
unknown	17	–	5	–	9	–	0	–	3	–
Total (excluded unknown)	26	–	7	–	19	–	0	–	0	–
Number of Responded Cases	43	–	12	–	28	–	0	–	3	–
average	842		371		1,015		–		–	
median	285		229		303		–		–	
maximum	8,190		1,366		8,190		–		–	
total	21,880		2,595		19,285		–		–	

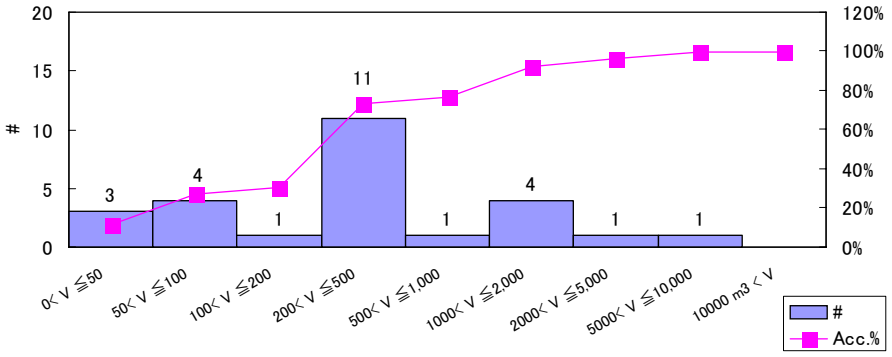


Figure 19 Contaminated soil volumes (SCCA Designated areas; Fiscal 2004)

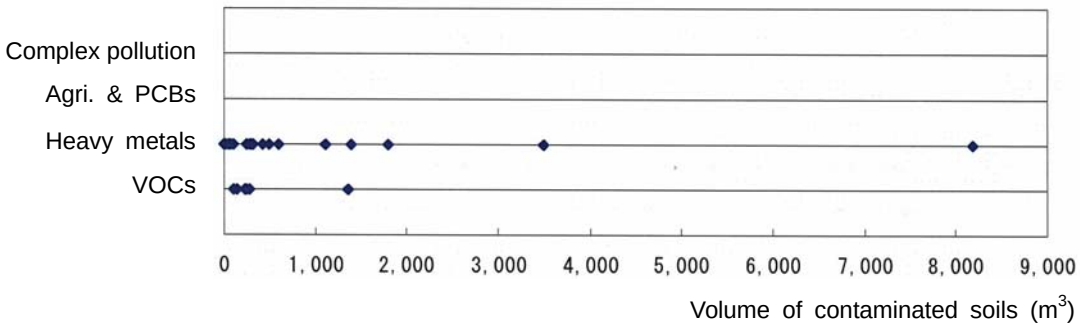


Figure 20 Contaminated soil volumes (SCCA Designated areas; Fiscal 2004)

Table 20 Contaminated soil volumes (SCCA Designated areas; May 2003 thru. Fiscal 2004)

Volume of contaminated soil (m^3)	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < V ≦ 50	6	13.6%	1	10.0%	5	15.6%	0	0.0%	0	0.0%
50 < V ≦ 100	5	25.0%	1	20.0%	4	28.1%	0	0.0%	0	0.0%
100 < V ≦ 200	3	31.8%	2	40.0%	1	31.3%	0	0.0%	0	0.0%
200 < V ≦ 500	12	59.1%	5	90.0%	7	53.1%	0	0.0%	0	0.0%
500 < V ≦ 1,000	4	68.2%	0	90.0%	4	65.6%	0	0.0%	0	0.0%
1,000 < V ≦ 2,000	6	81.8%	1	100.0%	5	81.3%	0	0.0%	0	0.0%
2,000 < V ≦ 5,000	3	88.6%	0	100.0%	2	87.5%	0	0.0%	1	50.0%
5,000 < V ≦ 10,000	3	95.5%	0	100.0%	3	96.9%	0	0.0%	0	50.0%
10,000 < V ≦ 20,000	0	95.5%	0	100.0%	0	96.9%	0	0.0%	0	50.0%
20,000 < V ≦ 50,000	1	97.7%	0	100.0%	1	100.0%	0	0.0%	0	50.0%
50,000 < V ≦ 100,000	0	97.7%	0	100.0%	0	100.0%	0	0.0%	0	50.0%
100,000 < V ≦ 200,000	1	100.0%	0	100.0%	0	100.0%	0	0.0%	1	100.0%
200,000 < V	0	100.0%	0	100.0%	0	100.0%	0	0.0%	0	100.0%
unknown	20	–	6	–	11	–	0	–	3	–
Total (excluded unknown)	44	–	10	–	32	–	0	–	2	–
Number of Responded Cases	64	–	16	–	43	–	0	–	5	–
average	5,762		325		2,399		–		86,752	
median	311		227		458		–		86,752	
maximum	169,284		1,366		33,300		–		169,284	
total	253,508		3,249		76,755		–		173,504	

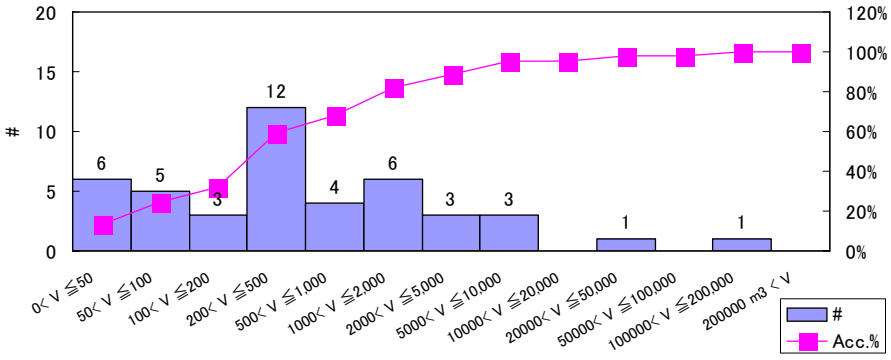


Figure 21 Contaminated soil volumes (SCCA Designated areas; May 2003 thru. Fiscal 2004)

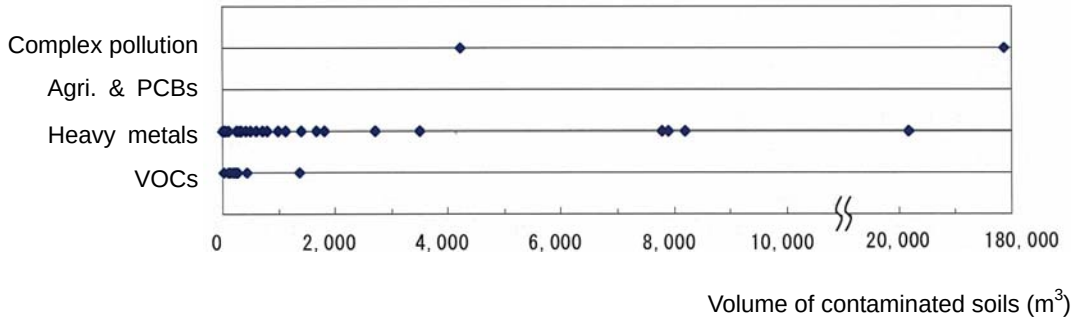


Figure 22 Contaminated soil volumes (SCCA Designated areas; May 2003 thru. Fiscal 2004)

(10) The progress of soil contamination countermeasures

Table 21 and Figure 23 summarize contaminated areas for the cases where countermeasures are already determined at Designated Areas (FY 2004).
The total areas requiring countermeasures are 76,559 m^2 (68.5%), while the total areas that have already mitigated by existing pavements, etc. are 35,238 m^2 (31.5%). The total area of them is 111,797 m^2.

Table 21 Contaminated areas with or without mitigation at Designated Areas (in total)

	Number of Designated Areas									
			Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contamination	
	#	m^2	#	m^2	#	m^2	#	m^2	#	m^2
Total areas requiring countermeasures	34	76,559	9	2,861	21	60,450	0	0	4	13,248
Total areas NOT requiring countermeasures	27	35,238	6	5,117	21	30,121	0	0	0	0
Total area	61	111,797	15	7,978	42	90,571	0	0	4	13,248

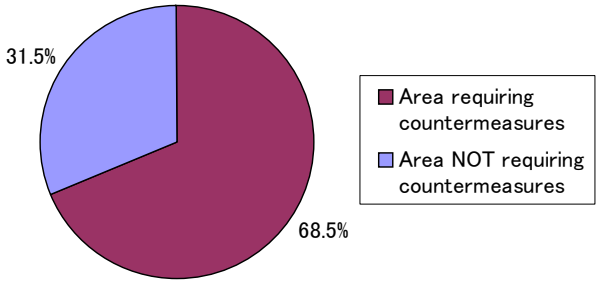


Figure 23 Contaminated areas with or without mitigation at Designated Areas (in total)

Table 22 shows progress in soil contamination countermeasures for each type of Designated Hazardous Substances for “exceeded cases (FY 2004).” The area where countermeasures have been completed by the end of fiscal 2004 is 73,022 m^2.

Table 22 Progress of countermeasures for soil contaminations at Designated Areas (in total)

	Number of Designated Areas				
		Identified Contaminants			
		VOCs (Category 1)	Heavy Metals (Category 2)	Agri. & PCBs (Category 3)	Complex contamination
	m^2	m^2	m^2	m^2	m^2
Areas completed countermeasures	73,022	3,914	63,348	0	5,760

Note) When implementing countermeasures, a site is sometimes divided into several parts to which different methods are applied. Figures in Table 22 show total areas that sum up every part of contaminated area from each designated area. There are some designated areas where some parts have already been cleaned up while the other parts have not.

(11) Remediation methods applied for soil contamination countermeasures

Table 23 summarizes the remediation methods applied for each type of Designated Hazardous Substances at Designated Areas. Removal of contaminated soil is prevalent in general: however, soil removal and in-situ remediation amount to about the same number concerning VOC, on the other hand, soil removal is predominant concerning heavy metals.
Table 24 presents soil treatment methods for excavated soils. Off-site treatments are more favored than on-site treatments for VOC cases, heavy metal cases, and complex contamination cases.

Table 23 Details of soil contamination countermeasures taken at Designated Areas

(Allowing multiple answers)

	Number of Designations		Identified Contaminants							
			VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contamination	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
Monitoring of groundwater quality	1	(6)	1	(1)	0	(4)	0	(0)	0	(1)
Removal of soil contamination	36	(58)	11	(15)	23	(37)	0	(0)	2	(6)
Dig and haul	30	(48)	6	(9)	22	(35)	0	(0)	2	(4)
In-situ remediations	6	(10)	5	(6)	1	(2)	0	(0)	0	(2)
Bioremediation	1	(1)	1	(1)	0	(0)	0	(0)	0	(0)
Chemical decomposition	2	(2)	1	(1)	1	(1)	0	(0)	0	(0)
Soil Vapor Extraction	2	(3)	2	(2)	0	(0)	0	(0)	0	(1)
Pump & Treat	0	(2)	0	(1)	0	(0)	0	(0)	0	(1)
Soil Vapor Extraction	1	(2)	1	(1)	0	(1)	0	(0)	0	(0)
Other methods	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Containment (in situ)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
by Sheet piles	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
by soil-cement mixing walls	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
by other methods	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Containment (on site landfill w/sheet & covers)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
In situ stabilization	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Ex situ stabilization and backfilling	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Containment (on site concrete vault)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
Replacement of surface soils	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
w/ on site soils	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
w/ off site soils	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
Soil covers on top of surface soils	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
Pavement	1	(3)	0	(0)	1	(3)	0	(0)	0	(0)
w/ concrete	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
w/ asphalt	1	(2)	0	(0)	1	(2)	0	(0)	0	(0)
Fense and signs (off limit)	0	(2)	0	(0)	0	(2)	0	(0)	0	(0)
Others	0	(2)	0	(0)	0	(2)	0	(0)	0	(0)
Number of respondents	34	(55)	9	(13)	23	(38)	0	(0)	2	(4)

Note 1) Numbers in parentheses are total numbers collected from the law enforcement date (February 15, 2003) to the end of FY2004.

Note 2) Total number of countermeasures and the number of designated areas are not identical, because there are cases where more than one countermeasures were applied at a single site.

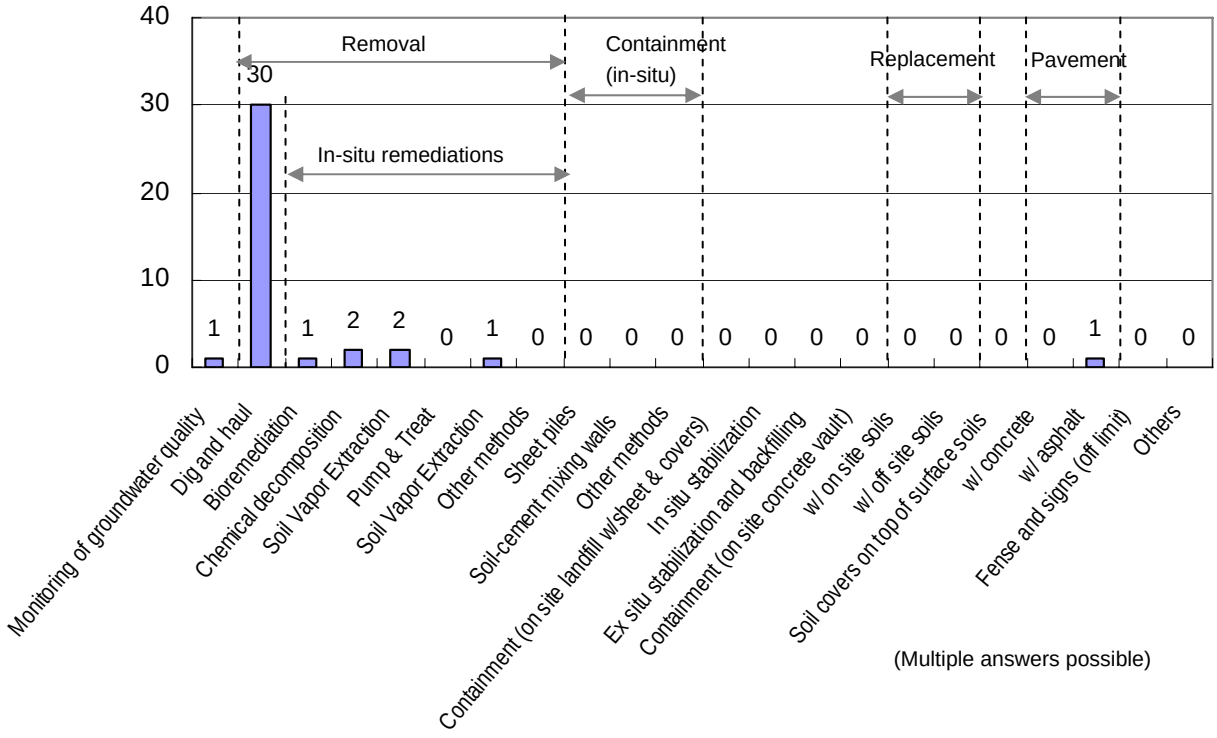


Figure 24 Soil contamination countermeasures applied at Designated Areas in fiscal 2004

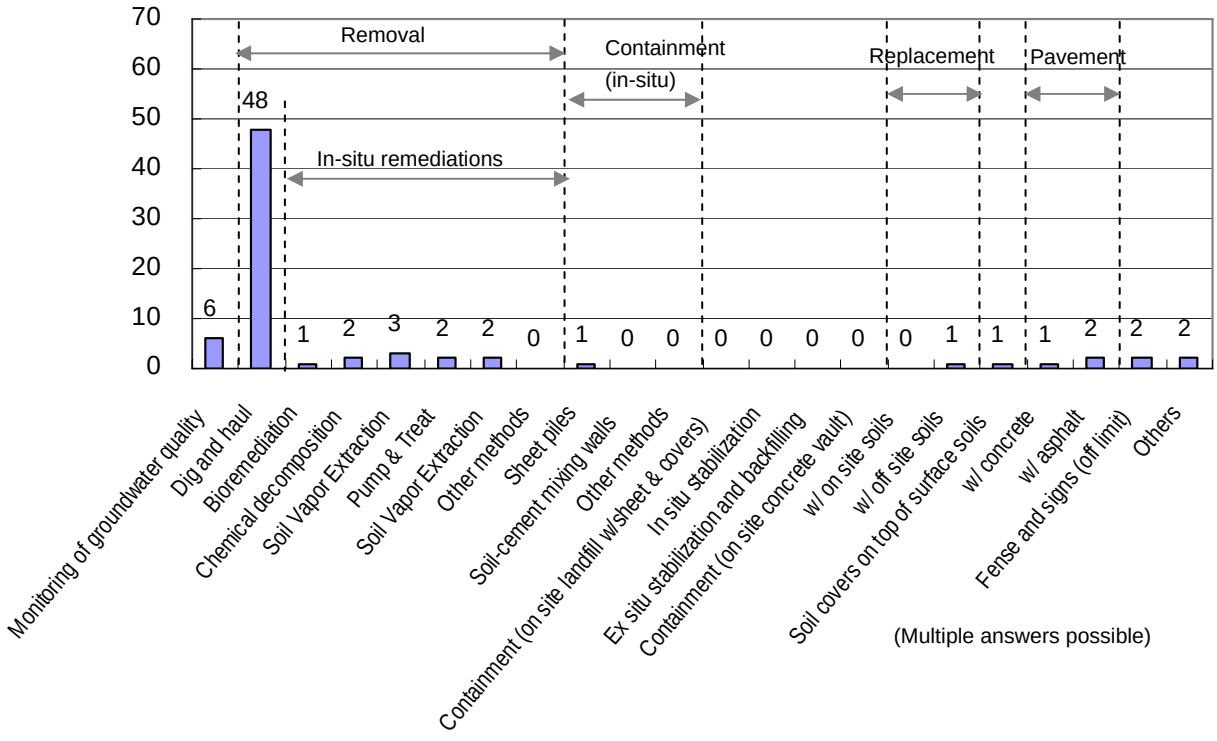


Figure 25 Soil contamination countermeasures at Designated Areas applied from fiscal 1991 through fiscal 2004

Table 24 Treatment methods for excavated soils generated at Designated Areas

(Allowing multiple answers)

				Number of Designations									
						Identified Contaminants							
						VOCs (Category 1)		Heavy Metals (Category 2)		Agri. & PCBs (Category 3)		Complex contamination	
				FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
On-site treatments	Thermal treatment			2	(2)	1	(1)	1	(1)	0	(0)	0	(0)
	Soil washing			0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Chemical treatment			1	(2)	0	(1)	1	(1)	0	(0)	0	(0)
	Biological treatment			0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Extraction			0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Others			0	(1)	0	(1)	0	(0)	0	(0)	0	(0)
	subtotal (A)			3	(5)	1	(3)	2	(2)	0	(0)	0	(0)
Off-site treatments or disposal	Disposal at landfills	Standard #1	【Landfill A】【type a】	0	(1)	0	(0)	0	(0)	0	(0)	0	(1)
		<unsatisfied>	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #1	【Landfill A】【type b-1】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		<Satisfied>	【Landfill A】【type b-2】	8	(11)	2	(3)	5	(7)	0	(0)	1	(1)
		Standard #2	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		<unsatisfied>	【Landfill B】【type b-2】 3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #1	【Landfill A】【type b-1】 4)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		<Satisfied>	【Landfill A】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #3	【Landfill A】【type b-2】 4)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		<unsatisfied>	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #1	【Landfill A】【type b-1】	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
		<Satisfied>	【Landfill A】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #2	【Landfill A】【type b-2】	4	(6)	0	(0)	4	(6)	0	(0)	0	(0)
		<Unsatisfied>	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		for Hazardous Substances (II) 1)	【Landfill B】【type b-2】 3)	0	(1)	0	(0)	0	(1)	0	(0)	0	(0)
		Standard #2 <satisfied> Standard #4 <unsatisfied>	【Landfill A】【type b-1】	1	(1)	0	(0)	1	(1)	0	(0)	0	(0)
			【Landfill A】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill A】【type c】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill A】【type b-2】	3	(3)	0	(0)	3	(3)	0	(0)	0	(0)
			【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill B】【type b-2】 3)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill B】【type c】	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Treatment facilities	Thermal treatment		0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Soil washing		7	(12)	0	(0)	6	(11)	0	(0)	1	(1)
		Chemical treatment		1	(2)	0	(1)	1	(1)	0	(0)	0	(0)
		biological treatment		0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
		Extraction		3	(5)	2	(2)	1	(2)	0	(0)	0	(1)
		Others		1	(2)	1	(1)	0	(0)	0	(0)	0	(1)
	subtotal (B)			29	(45)	5	(7)	22	(33)	0	(0)	2	(5)
total (A+B)				32	50	6	10	24	35	0	0	2	5
Number of respondents				28	(44)	5	(8)	21	(32)	0	(0)	2	(4)

Note 1) "Hazardous Substances (II)" are the Designated Hazardous Substances (category 2) listed in the SCCA.

Note 2) 【Landfill A】: Inland landfill sites and controlled by Waste Management Law, 【Landfill B】: Coastal landfill sites controlled by Law relating to prevention of marine pollution and maritime disaster. 【type a】: Isolated type, 【type b-1】: leachate-controlled type for municipal solid waste, 【type b-2】: leachate-controlled type for industrial waste, 【type b】: leachate-controlled type or equivalent, 【type c】: Non-leachate-controlled type.
Standard #1: So-called "Level 2 standard," which is 10 to 30 times higher than Leachate standard; Standard #2: SCCA standard for leachate concentrations; Standard #3: Judgment criteria in Law relating to prevention of marine pollution and maritime disaster; Standard #4: SCCA standard for soil content concentrations.

Note 3) Counting is made if contaminated soils were transported to prefectural-governor-approved landfills.

Note 4) These landfill and types do not include 【Landfill B】.

Note 5) Numbers in parentheses are total numbers collected from the enactment date of SCCA (February 15, 2003) to the end of FY2004.

II-2 Cases of soil contamination investigations and countermeasures against contaminated soil (including cases that are not conducted in accordance with the act)

This section surveys not only cases conducted under the act but also whole cases conducted under local bylaws, guidances etc., and voluntary activities that have been confirmed by local authorities.
In order to compile the surveyed results, the following terms are defined;

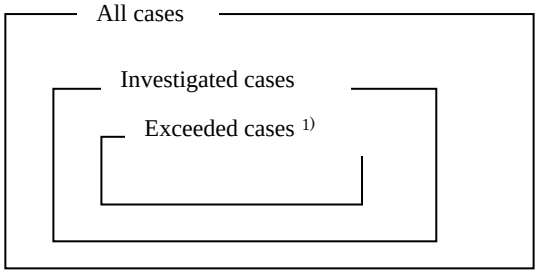
”All cases” --- described in the section Ⅰ.2.(2),

“Investigated cases” --- cases in which some kinds of analyses of chemical substances in soil have been performed, and

“Exceeded cases” --- cases in which soil analyses reveal contamination levels above the soil environmental quality standard and/or the SCCA standard.

It is noted that “all cases” include cases in which no analyses of chemical substances in soil has been performed. Also noted that “investigated cases” include not only the cases where the items in the national soil environmental quality standard or the SCCA standard are analyzed, but also the cases where other chemicals are analyzed. In addition, “investigated cases” account for the cases that are conducted before those standards were set up, cases in which analyses prove every analysis data to meet the standard, and cases with simplified investigation methods.

Relationships of “All cases,” “Investigated cases,” and “Exceeded cases”



1）“Exceeded cases” are the cases in which soil analyses reveal contamination levels above the standards after introducing the soil environmental quality standard or the SCCA standard. The soil analyses that are used for judging “contaminated/not contaminated” have to follow the approved methods written in the Appendix table in Notification #46 from the Environment Agency (1991), as well as in the Appendix tables in Notifications #18 and #19 from the Ministry of the Environment (2003).

(1) Number of cases

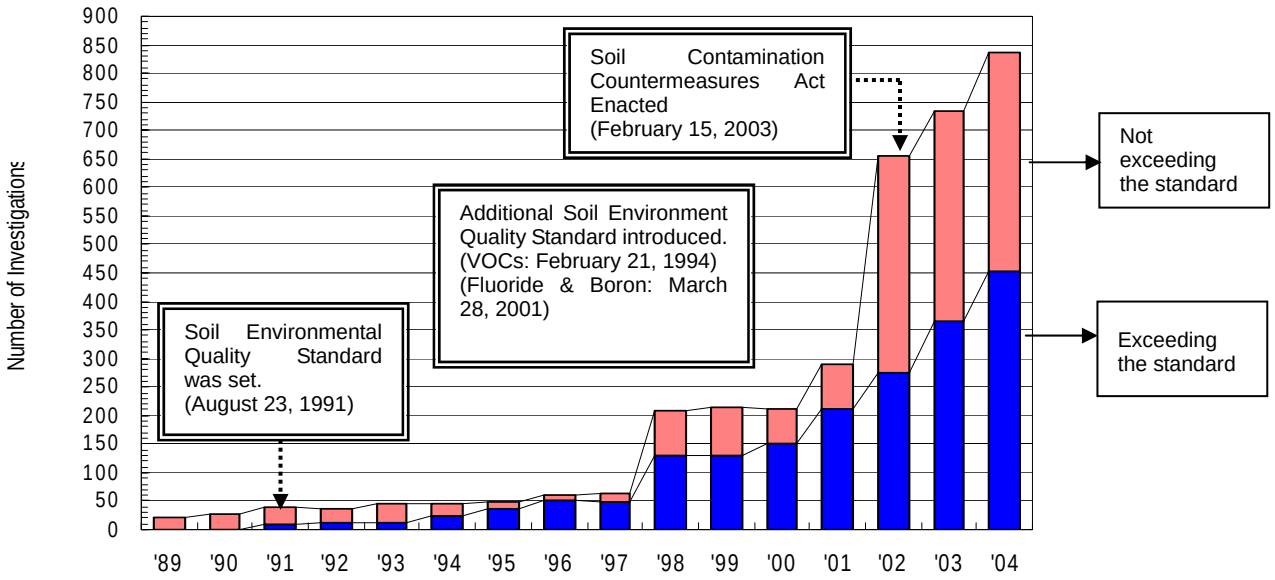
From fiscal 1975 to March 31st 2005, prefectures and cabinet-order cities have identified 6,686 cases related to chemical conditions of soils (hereinafter referred to as “all cases (total)”), among which 1,420 are SCCA-applied cases, and 5,266 are SCCA-unapplied cases. Among “all cases (total)”, 3,677 cases are “investigated cases” (hereinafter referred to as “investigated cases (total)”), and 1,906 cases are “exceeded cases” (hereinafter referred to as “exceeded cases (total)”).

In fiscal 2004 only, there are 838 “investigated cases” (130 are SCCA-applied cases, 708 are SCCA-unapplied cases), and 454 “exceeded cases” (43 are SCCA-applied cases, 454 are SCCA-unapplied cases).

(2) Number of cases in each fiscal year

Figure 26 shows a yearly progress of “investigated cases” (838 in fiscal 2004, and 3,677 in total) and “exceeded cases” (cases that did not fulfill the soil environmental quality standard and/or the SCCA-designated standard for Designated Areas), which have been confirmed by prefectures and cabinet-order cities in each fiscal year until fiscal 2004. “Exceeded cases” amount to 454 (SCCA-applied cases are 43) in fiscal 2004 only, and “exceeded cases (total)” amount to 1,906.

Table 25 shows the number of “exceeded cases” in each fiscal year for each type of Designated Hazardous Substances. Note that the number of “exceeded cases (total)” is 1,906.



FY	～'74	'75	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
# of investigations	2	7	6	2	10	5	3	10	2	18	10	18	12	14	27	22	26

FY	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	Total
# of investigations	40	35	44	44	47	60	64	209	213	210	289	656	734	838	3,677
Under the SCCA	-	-	-	-	-	-	-	-	-	-	-	0	66	130	196
Exceeding Stds.	8	11	13	25	37	50	48	130	130	151	210	274	365	454	1,906
Under the SCCA	-	-	-	-	-	-	-	-	-	-	-	0	21	43	64

Note 1) The above table is the summary of the cases that prefectures and cabinet-order cities have compiled since FY1975. Investigations that were conducted before FY1975, which prefectures and/or cabinet-order cities had later come to know, are also included in the table.

Note 2) The numbers of the investigations in the above table are calculated based on what governors of prefectures and/or cabinet-order cities had received in each fiscal year. For “Under the Act” row, the count increases each time when the governors received a report on “Soil Contamination Investigation.” For the numbers exceeding the standard under the Act, those numbers show the total “Designated Areas” registered during each fiscal year.

Figure 26 “Investigated cases” and “Exceeded cases” in each fiscal year

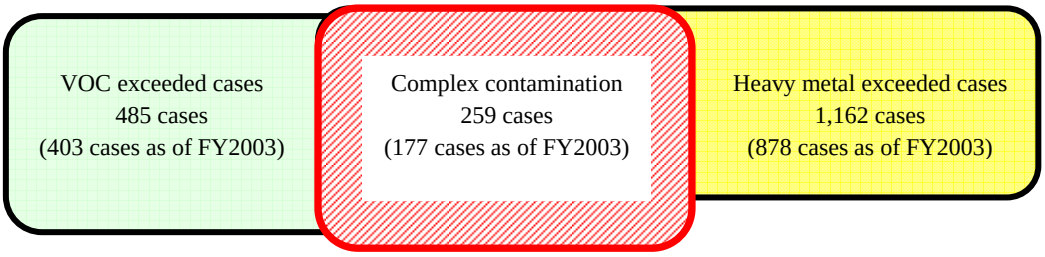
Table 25 ”Exceeded cases” in each fiscal year

FY	Number of Exceeded Cases	Identified Contaminants		
		VOCs (Category 1)	Heavy Metals, etc (Categories 2&3)	Complex contamination
1991	8		8	
1992	11		11	
1993	13		13	
1994	25	8	14	3
1995	37	16	19	2
1996	50	18	28	4
1997	48	13	29	6
1998	130	76	47	7
1999	130	67	51	12
2000	151	55	75	21
2001	210	42	128	40
2002	274	56	182	36
2003	365	56	258	51
2004	454	78	299	77
Total area	1,906	485	1,162	259

Note) In the table, "Number of Exceeded Cases" represents the cases where there were data exceeding either the soil environmental quality standard or the SCCA standard. "Heavy Metals, etc" is the sum of Category 2 and Category 3.

From fiscal 1991, when the national environmental quality standard was first introduced, to fiscal 2004, there are 1,906 “exceeded cases (total)”, and among them 485 cases have detected VOC only (hereinafter referred to as “VOC exceeded cases”), and 1,162 cases have detected only heavy metals (hereinafter referred to as “heavy metal exceeded cases”), and complex contamination have been confirmed at 259 cases.

Details of 1,906 “Exceeded cases (total)”



(3) Hazardous substances detected in “Exceeded cases”

Table 26, Figure 27 and Figure 28 show hazardous substances, which are stipulated by the act and the national soil environmental quality standard, detected in 1,906 “exceeded cases (total)”, from fiscal 1991 to fiscal 2004. Trichloroethylene, perchloroethylene, and cis-1,2-dichloroethylene are major substances for volatile organic compounds, while lead and its compounds, arsenic and its compounds, fluoride and its compounds are major substances for heavy metals, in order of the prevalence respectively. For “exceeded cases” in fiscal 2004, trichloroethylene, perchloroethylene, and cis-1,2-dichloroethylene are prevalent for volatile organic compounds, lead and its compounds, fluoride and its compounds, and arsenic and its compounds are predominant in heavy metals, in order of the prevalence respectively.

Table 26 Hazardous substances detected in "Exceeded cases"

(Multiple amswers possible)

		Chemicals on SCCL standard List and Soil environmental standard																									
		VOCs (Category 1)											Heavy Metals (Category 2)									Agri. & PCBs (Category 3)				
		carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus
Exceeded Cases	FY2004	3	3	26	62	1	7	64	18	3	80	53	8	76	27	48	0	22	251	102	136	24	0	0	0	3	0
	(total)	(29)	(28)	(75)	(269)	(5)	(41)	(358)	(45)	(24)	(410)	(69)	(320)	(161)	(227)	(1)	(79)	(822)	(510)	(349)	(67)	(2)	(0)	(1)	(26)	(2)	(0)

Note 1) SCCA standard is used for the judgment of area designations, stipulated in Paragraph 1, Article 5 of the act. There are two standards, leaching test standard and content test standard, to be applied for designation. Soil environmental quality standard is compared with leachate concentrations. Note that SCCA standard was introduced in 2003.
Note 2) There are some cases where more than one chemicals are found in a single investigation.
Note 3) The numbers in parentheses are the total exceeded cases found by investigations after the soil environmental quality standard was introduced in 1991.

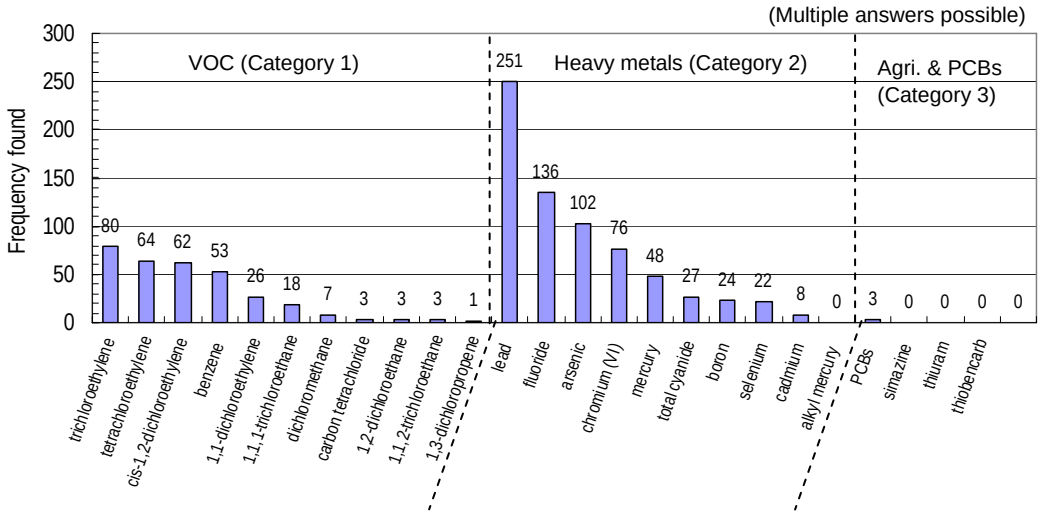


Figure 27 Hazardous substances detected in "Exceeded cases (FY 2004)"

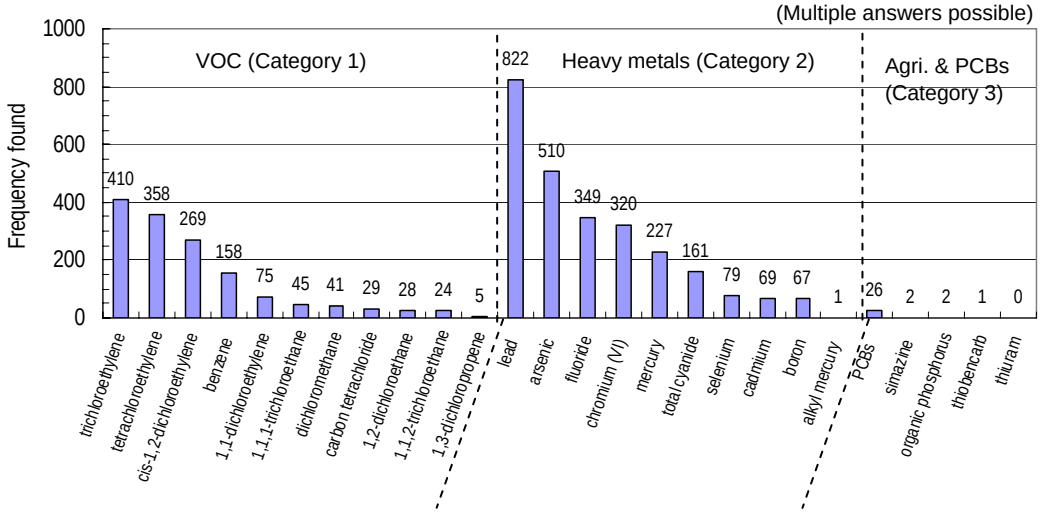


Figure 28 Hazardous substances detected in "Exceeded cases (total)"

(4) Local distribution of “Investigated cases” and “Exceeded cases”

Table 27 summarizes a local distribution of “investigated cases (838 in fiscal 2004, total number is 3,677)” and “exceeded cases (454 in fiscal 2004, total number is 1,906)” in each prefecture and cabinet-order city. Kanto-region, Kinki-region, and Chubu-region, in order of the prevalence, are predominant concerning the number of “investigated cases” and “exceeded cases” both in fiscal 2004 and the total number.

Table 27 "Investigated cases" and "Exceeded cases" in each prefecture and cabinet-order city

Prefectures / Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities		Number of Exceeded Cases							
						Identified Contaminants					
						VOCs (Category 1)		Heavy Metals & POPs (Categories 2 & 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
HOKKAIDO REGION	Hokkaido P.	6	(26)	6	(24)	3	(17)	3	(7)	0	(0)
	Sapporo C.	1	(7)	0	(1)	0	(1)	0	(0)	0	(0)
	Hakodate C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Asahikawa C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)
	subtotal	7	(34)	6	(26)	3	(18)	3	(8)	0	(0)
TOHOKU REGION	Aomori P.	1	(8)	0	(1)	0	(0)	0	(1)	0	(0)
	Hachinohe C.	0	(2)	0	(1)	0	(1)	0	(0)	0	(0)
	Iwate P.	2	(13)	2	(9)	1	(3)	1	(5)	0	(1)
	Morioka C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)
	Miyagi P.	1	(7)	1	(5)	1	(4)	0	(1)	0	(0)
	Sendai C.	2	(17)	1	(14)	0	(1)	1	(12)	0	(1)
	Akita P.	0	(4)	0	(3)	0	(3)	0	(0)	0	(0)
	Akita C.	0	(1)	0	(1)	0	(0)	0	(1)	0	(0)
	Yamagata P.	5	(37)	1	(18)	0	(14)	1	(4)	0	(0)
	Yamagata C.	0	(8)	0	(3)	0	(2)	0	(1)	0	(0)
	Fukushima P.	5	(17)	5	(15)	2	(8)	1	(3)	2	(4)
	Fukushima C.	1	(6)	0	(3)	0	(3)	0	(0)	0	(0)
	Kooriyama C.	0	(2)	0	(0)	0	(0)	0	(0)	0	(0)
	Iwaki C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	17	(123)	10	(74)	4	(39)	4	(29)	2	(6)
KANTO REGION	Ibaragi P.	2	(10)	0	(4)	0	(2)	0	(1)	0	(1)
	Mito C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Tochigi P.	0	(27)	0	(16)	0	(8)	0	(6)	0	(2)
	Utsunomiya C.	0	(13)	1	(12)	1	(3)	0	(8)	0	(1)
	Gunma P.	3	(15)	2	(10)	0	(4)	2	(5)	0	(1)
	Maebashi C.	0	(6)	0	(5)	0	(4)	0	(1)	0	(0)
	Takasaki C.	3	(6)	2	(4)	0	(0)	2	(4)	0	(0)
	Saitama P.	40	(174)	13	(68)	2	(30)	9	(29)	2	(9)
	Saitama C.	3	(26)	3	(22)	0	(8)	2	(10)	1	(4)
	Kawagoe C.	2	(18)	2	(8)	2	(3)	0	(3)	0	(2)
	Kawaguchi C.	4	(50)	3	(17)	0	(2)	3	(14)	0	(1)
	Tokorozawa C.	0	(11)	0	(6)	0	(5)	0	(1)	0	(0)
	Souka C.	4	(8)	2	(5)	0	(0)	1	(4)	1	(1)
	Koshigaya C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)
	Chiba P.	5	(18)	3	(11)	0	(2)	2	(6)	1	(3)
	Chiba C.	8	(44)	2	(15)	0	(5)	2	(9)	0	(1)
	Ichikawa C.	6	(79)	5	(37)	1	(12)	4	(24)	0	(1)
	Funabashi C.	0	(4)	1	(4)	0	(1)	1	(3)	0	(0)
	Matsudo C.	2	(12)	2	(8)	1	(3)	1	(4)	0	(1)
	Kashiwa C.	2	(8)	1	(3)	0	(1)	1	(1)	0	(1)
	Ichihara C.	0	(4)	0	(4)	0	(2)	0	(2)	0	(0)
	Tokyo P.	378	(1,444)	147	(538)	23	(69)	96	(392)	28	(77)
	Hachioji C.	0	(5)	0	(1)	0	(1)	0	(0)	0	(0)
	Machida C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kanagawa P.	3	(59)	1	(10)	0	(1)	0	(8)	1	(1)
	Yokohama C.	14	(126)	11	(85)	1	(25)	9	(48)	1	(12)
	Kawasaki C.	31	(174)	26	(136)	1	(21)	18	(93)	7	(22)
	Yokosuka C.	4	(24)	4	(15)	1	(3)	2	(9)	1	(3)
	Atsugi C.	0	(3)	0	(1)	0	(0)	0	(1)	0	(0)
	Hiratsuka C.	2	(19)	2	(14)	1	(4)	1	(8)	0	(2)
	Fujisawa C.	4	(23)	2	(14)	1	(10)	1	(2)	0	(2)
	Odawara C.	0	(7)	0	(6)	0	(2)	0	(3)	0	(1)
	Chigasaki C.	1	(4)	1	(4)	0	(0)	0	(2)	1	(2)
	Sagamihara C.	3	(20)	3	(19)	1	(7)	2	(10)	0	(2)
	Yamato C.	1	(9)	0	(4)	0	(1)	0	(2)	0	(1)
	Niigata P.	9	(54)	8	(41)	2	(15)	6	(23)	0	(3)
	Niigata C.	3	(15)	2	(12)	0	(2)	2	(9)	0	(1)
	Yamanashi P.	4	(6)	3	(4)	0	(1)	0	(0)	3	(3)
	Kofu C.	1	(4)	1	(2)	0	(0)	1	(1)	0	(1)
	Shizuoka P.	4	(15)	3	(9)	0	(4)	3	(4)	0	(1)
	Shizuoka C.	1	(4)	0	(2)	0	(1)	0	(1)	0	(0)
	Hamamatsu C.	1	(8)	1	(5)	1	(4)	0	(1)	0	(0)
	Numazu C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Fuji C.	1	(2)	0	(1)	0	(1)	0	(0)	0	(0)
	subtotal	549	(2,559)	257	(1,182)	39	(267)	171	(752)	47	(163)

(continued)

Table 27 ***(continued)***

Prefectures Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities									
				Number of Exceeded Cases							
						Identified Contaminants					
						VOCs (Category 1)		Heavy Metals & POPs (Categories 2 & 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
CHUBU REGION	Toyama P.	1	(9)	1	(6)	0	(0)	1	(5)	0	(1)
	Toyama C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Ishikawa P.	1	(3)	1	(1)	0	(0)	1	(1)	0	(0)
	Kanazawa C.	4	(14)	1	(5)	1	(2)	0	(3)	0	(0)
	Fukui P.	1	(14)	1	(8)	0	(5)	1	(3)	0	(0)
	Fukui C.	0	(3)	0	(2)	0	(2)	0	(0)	0	(0)
	Nagano P.	17	(27)	7	(16)	1	(5)	3	(8)	3	(3)
	Nagano C.	2	(7)	1	(5)	0	(0)	0	(4)	1	(1)
	Matsumoto C.	2	(2)	0	(0)	0	(0)	0	(0)	0	(0)
	Gifu P.	2	(25)	0	(8)	0	(4)	0	(4)	0	(0)
	Gifu C.	1	(9)	1	(8)	1	(5)	0	(3)	0	(0)
	Aichi P.	16	(29)	11	(23)	4	(9)	7	(12)	0	(2)
	Nagoya C.	38	(107)	34	(95)	1	(9)	28	(74)	5	(12)
	Toyohashi C.	0	(1)	0	(1)	0	(0)	0	(0)	0	(1)
	Okazaki C.	1	(2)	1	(2)	0	(0)	1	(2)	0	(0)
	Ichinomiya C.	1	(4)	0	(2)	0	(1)	0	(1)	0	(0)
	Kasugai C.	2	(7)	2	(7)	0	(1)	2	(6)	0	(0)
	Toyota C.	1	(17)	1	(5)	0	(2)	1	(3)	0	(0)
	Mie P.	8	(19)	7	(16)	1	(7)	4	(7)	2	(2)
	Yokkaichi C.	4	(6)	3	(5)	0	(1)	2	(3)	1	(1)
	subtotal	102	(305)	72	(215)	9	(53)	51	(139)	12	(23)
KINKI REGION	Shiga P.	6	(34)	2	(11)	2	(6)	0	(3)	0	(2)
	Otsu C.	0	(7)	0	(3)	0	(3)	0	(0)	0	(0)
	Kyoto P.	5	(15)	3	(12)	0	(5)	3	(5)	0	(2)
	Kyoto C.	5	(6)	5	(5)	0	(0)	4	(4)	1	(1)
	Osaka P.	5	(37)	3	(24)	1	(15)	2	(8)	0	(1)
	Osaka C.	33	(113)	22	(88)	1	(6)	19	(63)	2	(19)
	Sakai C.	2	(9)	2	(3)	0	(0)	2	(3)	0	(0)
	Kishiwada C.	1	(5)	1	(4)	0	(2)	1	(2)	0	(0)
	Toyonaka C.	3	(9)	3	(8)	0	(0)	2	(6)	1	(2)
	Suita C.	5	(10)	4	(5)	0	(1)	4	(4)	0	(0)
	Takatsuki C.	2	(16)	3	(12)	0	(3)	2	(5)	1	(4)
	Hirakata C.	1	(3)	0	(2)	0	(0)	0	(1)	0	(1)
	Ibaraki C.	1	(2)	1	(2)	0	(1)	0	(0)	1	(1)
	Yao C.	2	(4)	1	(3)	1	(2)	0	(0)	0	(1)
	Neyagawa C.	0	(3)	0	(2)	0	(1)	0	(1)	0	(0)
	Higashi-Osaka C.	2	(13)	1	(8)	0	(2)	1	(3)	0	(3)
	Hyogo P.	12	(58)	7	(39)	2	(18)	4	(19)	1	(2)
	Kobe C.	7	(45)	3	(28)	1	(9)	2	(16)	0	(3)
	Himeji C.	3	(5)	3	(5)	0	(0)	3	(5)	0	(0)
	Amagasaki C.	4	(46)	4	(30)	0	(1)	4	(24)	0	(5)
	Akashi C.	2	(5)	2	(5)	0	(1)	2	(4)	0	(0)
	Nichinomiya C.	1	(5)	1	(3)	0	(2)	1	(1)	0	(0)
	Kakogawa C.	4	(7)	3	(5)	3	(5)	0	(0)	0	(0)
	Takarazuka C.	0	(4)	0	(3)	0	(1)	0	(2)	0	(0)
	Nara P.	1	(14)	1	(8)	0	(1)	1	(6)	0	(1)
	Nara C.	0	(2)	0	(2)	0	(0)	0	(1)	0	(1)
	Wakayama P.	0	(1)	0	(1)	0	(1)	0	(0)	0	(0)
	Wakayama C.	0	(3)	0	(2)	0	(1)	0	(0)	0	(1)
	subtotal	107	(481)	75	(323)	11	(87)	57	(186)	7	(50)

(continued)

Table 27 ***(continued)***

Prefectures / Cabinet-Order Designated Cities		Number of Investigations reported to Municipalities									
				Number of Exceeded Cases							
						Identified Contaminants					
						VOCs (Category 1)		Heavy Metals & POPs (Categories 2 & 3)		Complex contaminations	
		FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
CHUGOKU SHIKOKU REGION	Tottori P.	3	(4)	0	(0)	0	(0)	0	(0)	0	(0)
	Shimane P.	1	(6)	1	(1)	0	(0)	1	(1)	0	(0)
	Okayama P.	2	(9)	2	(5)	2	(4)	0	(1)	0	(0)
	Okayama C.	9	(13)	7	(9)	2	(3)	2	(2)	3	(4)
	Kurashiki C.	3	(4)	2	(3)	1	(1)	0	(1)	1	(1)
	Hiroshima P.	1	(5)	0	(2)	0	(0)	0	(1)	0	(1)
	Hiroshima C.	6	(9)	5	(8)	1	(1)	2	(5)	2	(2)
	Kure C.	1	(3)	1	(3)	0	(0)	1	(2)	0	(1)
	Fukuyama C.	2	(4)	2	(3)	0	(0)	1	(2)	1	(1)
	Yamaguchi P.	1	(7)	0	(5)	0	(2)	0	(2)	0	(1)
	Shimonoseki C.	1	(3)	1	(3)	1	(1)	0	(1)	0	(1)
	Tokushima P.	0	(2)	0	(0)	0	(0)	0	(0)	0	(0)
	Tokushima C.	1	(3)	1	(1)	1	(1)	0	(0)	0	(0)
	Kagawa P.	5	(12)	2	(2)	1	(1)	1	(1)	0	(0)
	Takamatsu C.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)
	Ehime P.	0	(9)	0	(5)	0	(1)	0	(4)	0	(0)
	Matsuyama C.	1	(6)	1	(3)	0	(1)	1	(1)	0	(1)
	Kochi P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kochi C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	37	(100)	25	(53)	9	(16)	9	(24)	7	(13)
KYUSHU REGION	Fukuoka P.	2	(10)	2	(6)	1	(1)	0	(3)	1	(2)
	Kitakyushu C.	2	(17)	2	(11)	0	(1)	1	(8)	1	(2)
	Fukuoka C.	9	(11)	1	(2)	0	(0)	1	(2)	0	(0)
	Kurume C.	2	(4)	2	(2)	1	(1)	1	(1)	0	(0)
	Saga P.	0	(2)	0	(1)	0	(0)	0	(1)	0	(0)
	Nagasaki P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Nagasaki C.	1	(1)	1	(1)	0	(0)	1	(1)	0	(0)
	Sasebo C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Kumamoto P.	0	(5)	0	(0)	0	(0)	0	(0)	0	(0)
	Kumamoto C.	0	(9)	0	(0)	0	(0)	0	(0)	0	(0)
	Oita P.	0	(5)	0	(5)	0	(0)	0	(5)	0	(0)
	Oita C.	1	(4)	1	(3)	1	(2)	0	(1)	0	(0)
	Miyazaki P.	0	(1)	0	(0)	0	(0)	0	(0)	0	(0)
	Miyazaki C.	1	(1)	0	(0)	0	(0)	0	(0)	0	(0)
	Kagoshima P.	1	(5)	0	(2)	0	(0)	0	(2)	0	(0)
	Kagoshima C.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	Okinawa P.	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
	subtotal	19	(75)	9	(33)	3	(5)	4	(24)	2	(4)
TOTAL		838	(3,677)	454	(1,906)	78	(485)	299	(1,162)	77	(259)

Note 1) Prefectures and Cabinet-order cities are categorized according to the administering area of each Regional Office of the Environment.

Note 2) Numbers in parentheses are the total from FY1975 to the end of FY 2004.

(5) Occasions confirming soil or groundwater contaminations

Table 28 shows the occasions confirming soil or groundwater contaminations not by the investigations under SCCA.

In fiscal 2004, “investigations by operators” are more common than “investigations by authorities,” and consequently more contamination cases were identified at “investigations by operators.”

Most of the “investigations by operators” have been conducted to conform to bylaws or guidance of local authorities, while a local authority has come to know a contamination by “groundwater survey in adjacent area” to a responsible party.

Table 28 Occasions confirming soil or groundwater contaminations (excludes SCCA investigations)

(Multiple answers allowed)

	Number of Investigations reported to Municipalities									
			Number of Exceeded Cases							
					Identified Contaminants					
					VOCs (Category 1)		Heavy Metals & POPs (Categories 2 & 3)		Complex contaminations	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total	FY2004	total
Investigations by municipalities	25	(397)	20	(222)	6	(106)	11	(91)	3	(25)
On-site inspections under Water Quality Control Law	5	(138)	4	(69)	2	(44)	1	(18)	1	(7)
On-site inspections under bylaws, guidances, etc.	4	(116)	3	(66)	0	(16)	3	(42)	0	(8)
On-site inspections by other laws	0	(8)	0	(6)	0	(3)	0	(2)	0	(1)
Soil sample analyses at surrounding areas	0	(27)	0	(7)	0	(2)	0	(5)	0	(0)
Groundwater sample analyses at surrounding areas	19	(54)	15	(44)	3	(16)	10	(22)	2	(6)
Regular groundwater monitorings under Water Quality Countrol Law	0	(93)	0	(47)	0	(38)	0	(5)	0	(4)
Regular monitorings for public water body under Water Quality Countrol Law	0	(7)	0	(3)	0	(3)	0	(0)	0	(0)
Monitorings for public water body not mandated by laws	4	(43)	3	(31)	2	(11)	1	(16)	0	(4)
Investigations by operators	691	(2,099)	393	(1,243)	63	(298)	258	(756)	72	(189)
Soil investigations mandated by bylaws, guidances, etc.	482	(1,088)	231	(488)	36	(78)	153	(334)	42	(76)
Voluntary soil investigations	210	(1,013)	163	(757)	27	(220)	105	(422)	31	(115)
Others	15	(108)	15	(69)	2	(14)	12	(48)	1	(7)
Number of respondents	708	(2,468)	410	(1,441)	66	(377)	271	(858)	73	(206)

Note 1) Each subtotal represents the number of cases for corresponding categories.

Note 2) Numbers in parentheses are the total from FY1975 to the end of FY 2004.

(6) Changes in land usages before and after soil investigations

Table 29 and Table 30 show the changes in land usages before soil investigations and on March 31st 2005, for “exceeded cases (454 cases in fiscal 2004 and 1,906 cases in total).” There are some cases that factory/business sites or former factory/business sites have been diverted into residential sites, etc.

Table 29 Land usages at the time of soil investigations and afterwards (FY 2004)

(Allowing multiple answers)

As of March 31, 2005 / At the time of investigation	Current Industrial Factories	Former Industrial Factories	Residencial	Former Landfill	Parks/Playgrounds	Roads	Riverbank	Farmland/Paddy	Woodland/Forests	others	not identified	total
Current Industrial Factories	137	27	15	0	1	1	0	1	0	5	14	201
Former Industrial Factories	8	99	18	0	0	3	0	0	0	4	16	148
Residencial	1	0	12	0	0	0	0	0	0	2	1	16
Former Landfill	0	0	0	0	0	0	0	0	0	0	0	0
Parks/Playgrounds	2	0	0	0	4	0	0	0	0	0	2	8
Roads	0	0	0	0	0	2	0	0	0	0	0	2
Riverbank	0	0	0	0	0	0	0	0	0	0	0	0
Farmland/Paddy	1	0	0	0	0	0	0	2	0	0	0	3
Woodland/Forests	0	0	0	0	0	0	0	0	0	0	0	0
others	0	1	0	0	0	0	0	0	0	16	0	17
not identified	0	0	0	0	0	0	0	0	0	0	5	5
total	149	127	45	0	5	6	0	3	0	27	38	400

Note: "Current Industrial Factories" include a service industry.

Table 30 Land usages at the time of soil investigations and afterwards for "Exceeded cases (total)"

(Allowing multiple answers)

As of March 31, 2005 / At the time of investigation	Current Industrial Factories	Former Industrial Factories	Residencial	Former Landfill	Parks/Playgrounds	Roads	Riverbank	Farmland/Paddy	Woodland/Forests	others	not identified	total
Current Industrial Factories	823	152	117	2	6	13	1	3	1	19	47	1,184
Former Industrial Factories	67	299	91	2	8	19	1	0	0	29	36	552
Residencial	12	4	54	0	3	5	0	1	0	7	5	91
Former Landfill	2	1	0	6	0	0	0	1	0	0	0	10
Parks/Playgrounds	4	1	2	0	18	4	0	0	0	2	3	34
Roads	5	1	2	0	3	14	0	0	0	1	0	26
Riverbank	0	1	0	0	0	0	4	0	0	0	0	5
Farmland/Paddy	3	0	2	1	0	1	0	7	0	1	0	15
Woodland/Forests	1	0	0	0	0	0	0	0	4	2	1	8
others	4	3	2	0	2	5	0	1	1	63	2	83
not identified	1	0	2	0	0	0	0	0	0	0	8	11
total	922	462	272	11	40	61	6	13	6	124	102	2,019

Note: "Current Industrial Factories" include a service industry.

(7) Responsible parties of contaminations

Table 31 presents the causes of contamination collected from the responses for “exceeded cases (454 in fiscal 2004, 1,906 cases in total)”. Among the cases identified as “exceeded cases” in fiscal 2004, the causes for 173 contamination cases (49.7%) have been identified or inferred to be attributed to landowners, but the causes for 132 contamination cases have not been identified or inferred yet.

Table 31 Causes of contaminations

(Allowing multiple answers)

	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total
① It is identified or inferred that the contamination has been caused by operators.	173	(892)	51	(323)	78	(430)	44	(139)
② It is identified or inferred that the contamination has been caused by parties other than operators.	19	(52)	1	(3)	16	(42)	2	(7)
③ Naturally occurring contamination	11	(27)	0	(0)	3	(15)	8	(12)
④ The cause cannot be identified or inferred.	132	(379)	8	(27)	110	(310)	14	(42)
⑤ Under scrutinization	2	(11)	0	(3)	2	(6)	0	(2)
⑥ Others	11	(12)	2	(3)	5	(5)	4	(4)
Total	348	(1,373)	62	(359)	214	(808)	72	(206)
Number of respondents	330	(1,336)	61	(357)	209	(791)	60	(188)

Note 1) When comparing with Table 8, ① in Table 8 corresponds to ① in the above Table 31, and ②,③ and ④ in Tbale 8 correspond to ② in Table 31.

Note 2) Numbers in parentheses are total numbers collected from the date when the soil environmental quality standard was introduced in 1991 to the end of FY2004.

(8) Polluters vs. landowners; Industries likely to cause contaminations

Table 32 shows the relationship between polluters and landowners, based on the responses (241 responses in fiscal 2004, 1,194 responses in total) in “exceeded cases (454 cases in fiscal 2004, 1,906 cases in total)”. The number of the cases where polluters are landowners is 171 (71.0%) in fiscal 2004, and 925 (77.5%) in total.

Tables 33, 34, 35 and 36 show correlations between “investigated cases” or “exceeded cases” and manufacturing industries. Also these tables show hazardous substances that have been detected at factories of each manufacturing industries.

For example, “MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES” and “MANUFACTURE OF FABRICATED METAL PRODUCTS” are major polluting industries next to “INDUSTRIES UNABLE TO CLASSIFY,” like shown in Table 34, which summarizes “exceeded cases” in fiscal 2004.

Table 32 Relationship between polluters and landowners

Polluter vs. Owner, etc.	numbers	
	FY2004	total
The polluter is the landowner, etc.	171	(925)
The polluter is NOT the landowner, etc.	70	(269)

Note: Numbers in parentheses are total numbers collected from the date when the soil environmental quality standard was introduced in 1991to the end of FY 2004.

Table 33 Correlations between “investigated cases” and manufacturing industries (FY 2004)

Industrial Classification (Belows are used in the middle-tier category of “Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Reports on Investigation Results (FY2004)	%	VOCs (Category 1)												Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
				carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
CONSTRUCTION WORK, GENERAL, INCLUDING PUBLIC AND PRIVATE CONSTRUCTION WORK	(09)	2	0.2			1	1						1		1	2	1	1	1	1	2	1	1	1						15
CONSTRUCTION WORK BY SPECIALIST CONTRACTOR, EXCEPT EQUIPMENT INSTALLATION WORK	(10)	1	0.1																		1		1							2
MANUFACTURE OF FOOD	(12)	3	0.4				1						1	1								2	1							6
MANUFACTURE OF BEVERAGES,TOBACCO AND FEED	(13)	1	0.1																		1									1
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	3	0.4				1			2			1								1	1								6
MANUFACTURE OF APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(15)	1	0.1													1	1				1	1								4
MANUFACTURE OF LUMBER AND WOOD PRODUCTS, EXCEPT FOURNITURE	(16)	2	0.2	1	1	1	1		1	1	1	1	1	1		1					1	1								13
PUBLISHING, PRINTING AND ALLIED INDUSTRIES	(19)	9	1.1	5	5	5	6	5	5	6	5	5	5	5	5	7	5	5	2	5	7	5	5	5	2	2	2	3	2	119
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	20	2.4	5	6	10	10	3	7	7	5	5	11	7	5	6	6	6	2	6	10	6	10	5	1	1	1	2	1	144
MANUFACTURE OF PETROLEUM AND COAL PRODUCTS	(21)	1	0.1											1							2	2								5
MANUFACTURE OF PLASTIC PRODUCTS, EXCEPT OTHERWISE CLASSIFIED	(22)	4	0.5			1	1		1				1		1	1					3									9
MANUFACTURE OF RUBBER PRODUCTS	(23)	2	0.2	1	1	2	2	1	1	2	1		1																	12
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	2	0.2										1			1					1									3
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	6	0.7	1	1	1	1	1	1	2	2	1	1	1	1	3	1	1	1	1	4	4	5	4	1	1	1	1	1	43
MANUFACTURE OF IRON AND STEEL	(26)	7	0.8			1	1			1			1								2		5	1						12
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	3	0.4	1	1	2	2	1	2	1	2	1	2	1		1	2				1	2	2	1						25
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	25	3.0	2	2	10	11	2	3	6	3	2	11	2	1	18	3	1		1	8	1	7	2						96
MANUFACTURE OF GENERAL MACHINERY	(29)	11	1.3	2	2	8	9	2	3	5	6	2	9	3	2	4	2	2	2	2	9	4	6	3	2	2	2	2	2	97
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	28	3.3	3	4	13	13	3	9	7	12	5	14	4	8	10	7	6	4	5	14	9	12	7	2	2	2	2	3	180
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	23	2.7			6	9		2	11	4	1	11	2	1	6	2	1			6	1	4	3						70
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	11	1.3	4	3	7	6	3	4	6	6	3	8	3	2	4	3	3		2	7	3	4	5	1	1	1	3		92
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	2	0.2			1	1						1			1														4
MISCELLANEOUS MANUFACTURING INDUSTRIES	(34)	1	0.1				1						1										1							3
PRODUCTION, TRANSMISSION AND DISTRIBUTION OF ELECTRICITY	(35)	1	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
MANUFACTURE OF GAS	(36)	3	0.4											2	2		3	2			2	3									14
RAILWAY TRANSPORT	(39)	4	0.5			1	1			1	1		1			1		2			4	1									13
AIR TRANSPORT	(43)	1	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1		1	1	24
WHOLESALE TRADE (BUILDING MATERIALS, MINERALS AND METALS, ETC.)	(51)	2	0.2											1	1	1	1	1		1	2	1	1	1						11
RETAIL TRADE (MOTOR VEHICLES AND BICYCLES)	(57)	1	0.1																				1							1
MISCELLANEOUS RETAIL TRADE	(59)	37	4.4										1	32							25	1								59
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	15	1.8	4	4	14	15	4	4	15	5	4	15	4																88
MISCELLANEOUS LIVING-RELATED AND PERSONAL SERVICES	(74)	3	0.4	2	2	2	2	1	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	1	1	1	2	1	48
SERVICES FOR AMUSEMENT AND HOBBIES	(76)	2	0.2																		2									2
AUTOMOBILE MAINTENANCE SERVICES	(77)	3	0.4	1	1	2	2	1	1	2	2	1	2	2	1	1	1	3		1	2	2	2	1						31
MACHINE, FURNITURE, ETC. REPAIR SERVICES, EXCEPT OTHERWISE CLASSIFIED	(78)	2	0.2																	1	1									2
ADVERTISING	(83)	1	0.1												1	1	1	1	1	1	1	1	1	1						10
MEDICAL AND OTHER HEALTH SERVICES	(88)	1	0.1			1	1			1			1		1		1	1	1		1			1						10
PUBLIC HEALTH AND HYGIENE	(89)	1	0.1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				1	1	22
SCHOOL EDUCATION	(91)	6	0.7	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	1	2	5	3	3	2	1	1	1	3	2	57
SCIENTIFIC RESEARCH INSTITUTES	(92)	8	1.0	2	2	1	2		2	1			2	2	3	4	3	3	1	1	7	4	5	3						48
NATIONAL GOVERNMENT SERVICES	(97)	1	0.1											1																1
LOCAL GOVERNMENT SERVICES	(98)	3	0.4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2		1	1	1	2	1						22
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	575	68.6	181	176	209	212	155	187	203	187	176	224	266	166	223	188	187	96	171	311	208	223	171	59	59	58	113	57	4,466
total		838	100.0	221	217	305	318	187	241	288	250	215	336	349	210	306	241	236	117	207	450	273	307	223	71	72	70	134	72	5,916

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.

Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 34 Correlations between “exceeded cases” and manufacturing industries (FY 2004)

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Exceeded Cases (FY2004)					VOCs (Category 1)										Heavy Metals (Category 2)									Agri. & PCBs (Category 3)						total
		VOCs (Category 1)	Heavy Metals (Category 2)	Complex Contamination		%	carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
CONSTRUCTION WORK, GENERAL, INCLUDING PUBLIC AND PRIVATE CONSTRUCTION WORK	(09)	0	2	0	2	0.4												1					2	1								4
CONSTRUCTION WORK BY SPECIALIST CONTRACTOR, EXCEPT EQUIPMENT INSTALLATION WORK	(10)	0	1	0	1	0.2																	1		1							2
MANUFACTURE OF FOOD	(12)	0	2	1	3	0.7				1						1	1							2	1								6
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	2	1	1	4	0.9				2			3			1							1	1								8
MANUFACTURE OF APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(15)	0	1	0	1	0.2												1	1				1	1								4
PUBLISHING, PRINTING AND ALLIED INDUSTRIES	(19)	0	6	3	9	2.0				3			2			2		3	1	3			6	3	1							24
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	3	6	8	17	3.7	1	2	1	4		1	3	1		8	4		2	3	1		1	7	4	7					1		51
MANUFACTURE OF PETROLEUM AND COAL PRODUCTS	(21)	0	0	1	1	0.2											1							1	1								3
MANUFACTURE OF PLASTIC PRODUCTS, EXCEPT OTHERWISE CLASSIFIED	(22)	1	3	0	4	0.9										1		1	1					3									6
MANUFACTURE OF RUBBER PRODUCTS	(23)	3	0	0	3	0.7			1	1			3	1		1																	7
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	1	1	0	2	0.4										1			1					1									3
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	0	6	1	7	1.5							1						2				1	2	3	5	4						18
MANUFACTURE OF IRON AND STEEL	(26)	0	6	0	6	1.3																		2		5	1						8
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	1	0	1	2	0.4			1	2				1		2				1				1	1	1	1						11
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	5	15	5	25	5.5			4	7			4			10			16	2			1	7	1	6	1						59
MANUFACTURE OF GENERAL MACHINERY	(29)	3	3	4	10	2.2			3	3			4	2		5			1		1			7	2	3							31
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	4	17	5	26	5.7			5	7		2	4	4	1	8	1	5	6	3	3		2	12	5	7	3						78
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	5	5	6	16	3.5			2	4			5	2	1	9	1		6	2				6	1	4	3						46
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	3	3	4	10	2.2	1		2	3		2	4	2		4	1				1			6	1	2	1						30
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	1	1	0	2	0.4			1	1						1			1														4
MISCELLANEOUS MANUFACTURING INDUSTRIES	(34)	0	0	1	1	0.2				1						1										1							3
PRODUCTION, TRANSMISSION AND DISTRIBUTION OF ELECTRICITY	(35)	0	0	1	1	0.2								1										1		1							3
MANUFACTURE OF GAS	(36)	0	1	2	3	0.7											2			3				2	1								8
RAILWAY TRANSPORT	(39)	0	3	1	4	0.9			1	1			1			1			1		2			4	1								12
AIR TRANSPORT	(43)	0	1	0	1	0.2													1					1	1	1							4
WHOLESALE TRADE (BUILDING MATERIALS, MINERALS AND METALS, ETC.)	(51)	0	2	0	2	0.4																		2	1	1							4
RETAIL TRADE (MOTOR VEHICLES AND BICYCLES)	(57)	0	1	0	1	0.2																				1							1
MISCELLANEOUS RETAIL TRADE	(59)	21	7	7	35	7.7										28								13	1								42
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	13	0	0	13	2.9				5			12			2																	19
MISCELLANEOUS LIVING-RELATED AND PERSONAL SERVICES	(74)	0	2	1	3	0.7										1				2	1			1	1								6
SERVICES FOR AMUSEMENT AND HOBBIES	(76)	0	2	0	2	0.4																		2									2
AUTOMOBILE MAINTENANCE SERVICES	(77)	0	2	1	3	0.7			1	1			1	1		1	1				2			1	1	2							12
MACHINE, FURNITURE, ETC. REPAIR SERVICES, EXCEPT OTHERWISE CLASSIFIED	(78)	0	1	0	1	0.2																1											1
ADVERTISING	(83)	0	1	0	1	0.2															1			1									2
MEDICAL AND OTHER HEALTH SERVICES	(88)	0	1	0	1	0.2																					1						1
PUBLIC HEALTH AND HYGIENE	(89)	0	1	0	1	0.2															1												1
SCHOOL EDUCATION	(91)	0	6	0	6	1.3													1	1	2			4	1	1					1		11
SCIENTIFIC RESEARCH INSTITUTES	(92)	0	5	2	7	1.5				1			1			2	1		2		3		1	6	4	5							26
LOCAL GOVERNMENT SERVICES	(98)	0	3	0	3	0.7															1			1		1							3
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	12	181	21	214	47.1	1	1	4	15	1	2	16	3	1	18	12	2	30	8	26		15	146	63	79	9				1		453
total		78	299	77	454	100.0	3	3	26	62	1	7	64	18	3	80	53	8	76	27	48	0	22	251	102	136	24	0	0	0	3	0	1,017

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 35 Correlations between “investigated cases (total)” and manufacturing industries

Industrial Classification (Belows are used in the middle-tier category of "Standard Industrial Classification of Japan (Version 10, October 1993))		Number of Reports on Investigation Results (total)	%	VOCs (Category 1)											Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
				carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
METAL MINING	(05)	6	0.2							2			2		6	4	3	4	2	2	5	5						2	1	38
COAL AND LIGNITE MIINING	(06)	1	0.0																		1									1
NONMETAL MINING	(08)	1	0.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	26
CONSTRUCTION WORK, GENERAL, INCLUDING PUBLIC AND PRIVATE CONSTRUCTION WORK	(09)	7	0.2	2	2	3	3	1	2	2	2	2	3	2	4	7	4	4	2	3	6	4	2	2	1	1	1	2	1	68
CONSTRUCTION WORK BY SPECIALIST CONTRACTOR, EXCEPT EQUIPMENT INSTALLATION WORK	(10)	3	0.1	1	1	1	1		1	1	1	1	1		2	1	1	2			3	1	1								20
EQUIPMENT INSTALLATION WORK	(11)	2	0.1												1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	16
MANUFACTURE OF FOOD	(12)	16	0.4	4			1			2	2		3	3	4	3	3	11	2	3	8	8	1					3	2	63
MANUFACTURE OF BEVERAGES,TOBACCO AND FEED	(13)	3	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	27
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	26	0.7	3	4	7	10	2	4	17	8	3	17	5	8	7	8	10	4	8	10	11	1	2	4	4	4	6	4	171
MANUFACTURE OF APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(15)	7	0.2	3	3	3	3	3	3	4	3	3	3	3	3	4	3	4	2	2	5	5	4	3	1	1	1	2	1	75
MANUFACTURE OF LUMBER AND WOOD PRODUCTS, EXCEPT FOURNITURE	(16)	11	0.3	1	1	1	2		2	2	1	2	1	1	3	9	2	2		1	5	9						1		46
MANUFACTURE OF FURNITURE AND FIXTURES	(17)	3	0.1	2	2	2	2	2	2	2	2	2	2	2	3	3	3	4	2	3	4	4	3	3	1	1	1	2	1	60
MANUFACTURE OF PULP, PAPER AND PAPER PRODUCTS	(18)	5	0.1	2	2	3	4	2	3	4	3	2	4	2	3	3	3	3	3	2	3	3	1	1	2	2	2	3	3	68
PUBLISHING, PRINTING AND ALLIED INDUSTRIES	(19)	23	0.6	8	8	11	12	7	8	14	9	8	11	10	13	17	14	13	4	8	19	12	6	6	3	3	3	7	4	238
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	164	4.5	40	38	42	52	22	44	59	43	32	71	47	69	68	56	84	26	31	90	83	29	16	17	16	15	41	21	1,152
MANUFACTURE OF PETROLEUM AND COAL PRODUCTS	(21)	13	0.4	3	5	3	3	2	3	4	4	3	4	7	4	3	2	4	2	4	9	7	3	2	1	1	1	1	1	86
MANUFACTURE OF PLASTIC PRODUCTS, EXCEPT OTHERWISE CLASSIFIED	(22)	19	0.5	3	3	4	7	2	4	3	5	3	8	3	5	7	3	4	3	2	11	4	3	1	1	1	1	3	2	96
MANUFACTURE OF RUBBER PRODUCTS	(23)	13	0.4	5	4	8	8	3	4	12	6	3	10	3	3	4	4	3	1	3	6	5	2		1	3	1	3	1	106
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	6	0.2							2			2			2					2									8
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	50	1.4	5	2	4	7	1	3	10	6	4	15	2	20	20	10	16	4	17	33	24	14	9	2	2	2	10	2	244
MANUFACTURE OF IRON AND STEEL	(26)	59	1.6	7	6	8	12	5	6	12	8	6	13	9	26	24	17	25	11	16	40	31	20	7	5	5	5	15	11	350
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	90	2.4	11	10	22	31	5	14	33	27	11	43	8	43	37	24	27	12	12	54	42	11	7	4	6	4	17	6	521
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	236	6.4	24	21	50	57	13	33	61	55	20	90	20	58	131	84	49	10	26	90	43	28	12	6	6	6	24	9	1,026
MANUFACTURE OF GENERAL MACHINERY	(29)	98	2.7	19	14	41	52	11	27	49	44	12	73	18	27	39	28	29	12	15	42	32	15	9	6	6	6	19	8	653
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	252	6.9	46	43	72	103	26	58	112	100	36	162	39	50	52	44	42	20	27	76	52	33	21	15	14	14	29	18	1,304
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	153	4.2	18	19	39	56	11	32	66	49	19	85	24	29	44	28	31	12	14	51	34	19	13	2	2	2	11	4	714
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	53	1.4	8	7	19	23	4	13	27	20	7	38	7	11	13	11	12	2	6	21	13	6	6	2	2	2	7	1	288
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	3	0.1			1	1			1	1		2			1														7
MISCELLANEOUS MANUFACTURING INDUSTRIES	(34)	9	0.2	2	2	2	4	2	2	4	3	2	6	2	2	3	4	2	1	2	3	2	2	1	1	1	1	2	1	59
PRODUCTION, TRANSMISSION AND DISTRIBUTION OF ELECTRICITY	(35)	3	0.1	2	2	2	2	1	2	3	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	46
MANUFACTURE OF GAS	(36)	50	1.4	10	12	11	11	4	11	12	10	10	11	32	20	11	41	25	9	6	41	36	6	3	2	2	2	11	4	353
COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER, AND SEWAGE COLLECTION, PROCESSING AND DISPOSAL	(38)	2	0.1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	1	2	2	2	1	1				1	2	31
RAILWAY TRANSPORT	(39)	16	0.4	2	2	4	3	1	2	6	4	3	6	3	4	8	4	8	2	3	15	7	1		1	1	1	4	2	97
ROAD PASSENGER TRANSPORT	(40)	2	0.1							1											1									2
ROAD FREIGHT TRANSPORT	(41)	2	0.1			1	1			1	1		1			1														6
AIR TRANSPORT	(43)	2	0.1	1	1	2	2	1	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2		1		2	1	41
WAREHOUSING	(44)	3	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	3	1	1	1	1	1	1	1	1	29
SERVICES INCIDENTAL TO TRANSPORT	(45)	2	0.1												1								1							2
TELECOMMUNICATIONS	(47)	1	0.0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	2	1	1	1	1	1	1	1	1	26
WHOLESALE TRADE (BUILDING MATERIALS, MINERALS AND METALS, ETC.)	(51)	15	0.4	4	4	4	4	5	4	5	4	4	4	8	7	6	5	7	4	6	10	6	3	3	2	2	2	6	2	121
RETAIL TRADE (MOTOR VEHICLES AND BICYCLES)	(57)	2	0.1												1	1	1	1		1	1	1	2	1				1		11
RETAIL TRADE (FURNITURE, HOUSEHOLD UTENSIL AND HOUSEHOLD APPLIANCE)	(58)	1	0.0															1			1	1								3
MISCELLANEOUS RETAIL TRADE	(59)	73	2.0	4	4	4	4	3	3	4	4	4	5	53	3	3	3	3	2	3	41	4	3	3	2	2	2	3	2	171
REAL ESTATE AGENCIES	(70)	2	0.1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2			1	1	1	2	2	34
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	147	4.0	15	13	40	54	7	14	143	39	15	84	12	2	2	2	3	1	2	3	3	3		1	1	1	2	1	463
AUTOMOBILE PARKING	(73)	2	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	27
MISCELLANEOUS LIVING-RELATED AND PERSONAL SERVICES	(74)	6	0.2	3	3	3	3	2	3	3	3	3	3	3	3	5	3	3	3	5	3	3	3	2	2	2	3	2	2	77
SERVICES FOR AMUSEMENT AND HOBBIES	(76)	10	0.3	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	9	1	1	2	1	1	1	1	1	36
AUTOMOBILE MAINTENANCE SERVICES	(77)	9	0.2	3	3	4	4	3	3	4	4	3	4	4	3	3	3	5	2	3	7	5	4	2	2	2	2	2	2	86
MACHINE, FURNITURE, ETC. REPAIR SERVICES, EXCEPT OTHERWISE CLASSIFIED	(78)	3	0.1	1	1	1	1	1	1	1	1	1	1	1	1	1		1		1	2	1								18
VIDEO PICTURE INFORMATION PRODUCTION AND DISTRIBUTION	(80)	1	0.0			1	1			1			1				1													5
ADVERTISING	(83)	1	0.0												1	1	1	1	1	1	1	1	1							10
MISCELLANEOUS BUSINESS SERVICES	(86)	1	0.0															1			1									2
WASTE DISPOSAL BUSINESS	(87)	32	0.9	8	9	11	11	7	10	13	12	8	16	10	18	13	12	16	11	9	20	14	3	1	8	8	8	13	9	278
MEDICAL AND OTHER HEALTH SERVICES	(88)	14	0.4	4	4	5	5	4	4	5	4	4	6	4	8	7	8	13	5	6	11	8	3	2	3	3	3	5	4	138
PUBLIC HEALTH AND HYGIENE	(89)	6	0.2	5	5	5	5	4	5	5	5	5	5	5	6	6	6	6	3	5	6	6	2	2	2	2	2	6	4	118
SCHOOL EDUCATION	(91)	15	0.4	5	5	5	5	5	5	5	5	5	5	5	6	7	7	8	5	5	13	9	4	3	3	3	3	6	5	142
SCIENTIFIC RESEARCH INSTITUTES	(92)	29	0.8	6	4	3	5	1	6	6	5	2	8	6	13	12	11	20	7	5	22	14	8	4	2	2	2	6	3	183
MISCELLANEOUS SERVICES	(95)	1	0.0			1	1			1	1		1																	5
NATIONAL GOVERNMENT SERVICES	(97)	4	0.1							1				1							2		1							5
LOCAL GOVERNMENT SERVICES	(98)	13	0.4	2	1	2	2	1	2	2	1	1	2	1	1	1	2	4		2	7	3	4	1					1	43
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	1875	51.0	346	341	392	410	284	361	425	369	331	470	466	399	510	407	461	245	369	756	558	425	287	168	169	168	291	189	9,597
total		3677	100.0	646	619	855	996	466	714	1,161	886	591	1,314	843	909	1,117	893	989	450	652	1,591	1,129	692	449	282	286	279	583	345	19,737

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

Table 36 Correlations between “exceeded cases (total)” and manufacturing industries

Industrial Classification (Belows are used in the middle-tier category of “Standard Industrial Classification of Japan (Version 10, October 1993))		Exceeded Cases (total)					VOCs (Category 1)										Heavy Metals (Category 2)										Agri. & PCBs (Category 3)					total
		VOCs (Category 1)	Heavy Metals (Category 2)	Complex Contamination		%	carbon tetrachloride	1,2-dichloroethane	1,1-dichloroethylene	cis-1,2-dichloroethylene	1,3-dichloropropene	dichloromethane	tetrachloroethylene	1,1,1-trichloroethane	1,1,2-trichloroethane	trichloroethylene	benzene	cadmium	chromium (VI)	total cyanide	mercury	alkyl mercury	selenium	lead	arsenic	fluoride	boron	simazine	thiuram	thiobencarb	PCBs	organic phosphorus	
METAL MINING	(05)	0	2	0	2	0.1												2			1			1	1							5
COAL AND LIGNITE MINING	(06)	0	1	0	1	0.1																		1								1
NONMETAL MINING	(08)	0	1	0	1	0.1																			1							1
CONSTRUCTION WORK, GENERAL, INCLUDING PUBLIC AND PRIVATE CONSTRUCTION WORK	(09)	0	7	0	7	0.4													5		1			4	3							13
CONSTRUCTION WORK BY SPECIALIST CONTRACTOR, EXCEPT EQUIPMENT INSTALLATION WORK	(10)	0	3	0	3	0.2															1			3		1						5
EQUIPMENT INSTALLATION WORK	(11)	0	2	0	2	0.1															1			1	1							3
MANUFACTURE OF FOOD	(12)	1	9	1	11	0.6	1			1						1	1				4			7	6	1						22
MANUFACTURE OF BEVERAGES,TOBACCO AND FEED	(13)	0	1	0	1	0.1																			1							1
MANUFACTURE OF TEXTILE MILL PRODUCTS, EXCEPT APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(14)	10	9	3	22	1.2				3			11			9		1	2	1	4		1	7	11						1	51
MANUFACTURE OF APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS	(15)	3	4	0	7	0.4		1		1			3		1	2			2	1	3			4	4	3	1						26
MANUFACTURE OF LUMBER AND WOOD PRODUCTS, EXCEPT FOURNITURE	(16)	0	4	1	5	0.3				1		1	1		1				1					1	4							10
MANUFACTURE OF FURNITURE AND FIXTURES	(17)	0	3	0	3	0.2													1		1			2	2	1						7
MANUFACTURE OF PULP, PAPER AND PAPER PRODUCTS	(18)	0	3	0	3	0.2														1	1			1	2						1	6
PUBLISHING, PRINTING AND ALLIED INDUSTRIES	(19)	2	12	5	19	1.0			1	5			6			4	1		8	5	6			10	6	1						53
MANUFACTURE OF CHEMICAL AND ALLIED PRODUCTS	(20)	16	67	25	108	5.7	11	7	6	17	1	11	16	2	5	26	17	7	17	10	26		8	40	40	16	1	1			5	1	291
MANUFACTURE OF PETROLEUM AND COAL PRODUCTS	(21)	3	2	4	9	0.5		2									5		1				2	4	4	1						19
MANUFACTURE OF PLASTIC PRODUCTS, EXCEPT OTHERWISE CLASSIFIED	(22)	4	10	1	15	0.8	1		1	3		1	1			5		1	3					8	2	3						29
MANUFACTURE OF RUBBER PRODUCTS	(23)	6	0	2	8	0.4	1		3	4			7	2		5	1							3	1	2						29
MANUFACTURE OF LEATHER TANNING, LEATHER PRODUCTS AND FUR SKINS	(24)	2	3	0	5	0.3							1			1			2					2								6
MANUFACTURE OF CERAMIC, STONE AND CLAY PRODUCTS	(25)	5	28	6	39	2.0	1			3			7		2	7		3	5	1	2		8	18	18	11	9						95
MANUFACTURE OF IRON AND STEEL	(26)	4	36	4	44	2.3				3			2		1	4	2	1	10	1	1		5	19	17	16	3				1		86
MANUFACTURE OF NON-FERROUS METALS AND PRODUCTS	(27)	24	31	6	61	3.2			1	14		1	13	3		20		6	5	3	5		2	28	13	7	3				1		125
MANUFACTURE OF FABRICATED METAL PRODUCTS	(28)	30	112	16	158	8.3		1	8	19		1	18	3	1	37	1	6	84	34	8		3	42	13	23	4				2		308
MANUFACTURE OF GENERAL MACHINERY	(29)	29	23	19	71	3.7	3	2	9	19		3	25	9		37	1		16	6	5			19	12	8	2						176
MANUFACTURE OF ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES	(30)	81	67	16	164	8.6		1	14	56	1	9	38	8	4	75	1	14	19	12	13		5	42	26	19	7	1			4		369
MANUFACTURE OF TRASPORTATION EQUIPMENT	(31)	41	38	20	99	5.2			7	27		3	27	5	2	41	2	3	27	14	5		2	26	16	12	6						225
MANUFACTURE OF PRECISION INSTRUMENTS AND MACHINERY	(32)	23	11	8	42	2.2	1		3	13		2	14	2		25	1	1	3		3		1	14	3	3	1						90
MANUFACTURE OF ORDNANCE AND ACCESSORIES	(33)	1	1	0	2	0.1			1	1						1			1														4
MISCELLANEOUS MANUFACTURING INDUSTRIES	(34)	4	2	1	7	0.4				3			3		1	3				1				1		1							13
PRODUCTION, TRANSMISSION AND DISTRIBUTION OF ELECTRICITY	(35)	1	1	1	3	0.2							1	1							1		1	2	1	1							8
MANUFACTURE OF GAS	(36)	3	22	21	46	2.4		3				1	1				24	2		34	9			31	25	1							131
COLLECTION, PURIFICATION AND DISTRIBUTION OF WATER, AND SEWAGE COLLECTION, PROCESSING AND DISPOSAL	(38)	0	1	0	1	0.1																		1	1							2
RAILWAY TRANSPORT	(39)	1	9	3	13	0.7			1	1			3			4			5		4			10	2	1							31
ROAD PASSENGER TRANSPORT	(40)	1	0	0	1	0.1							1																				1
ROAD FREIGHT TRANSPORT	(41)	1	0	0	1	0.1							1																				1
AIR TRANSPORT	(43)	0	1	1	2	0.1			1								1		1					2	1	1							7
WAREHOUSING	(44)	0	3	0	3	0.2															1			1	1								3
SERVICES INCIDENTAL TO TRANSPORT	(45)	0	2	0	2	0.1												1								1							2
TELECOMMUNICATIONS	(47)	0	1	0	1	0.1																		2									2
WHOLESALE TRADE (BUILDING MATERIALS, MINERALS AND METALS, ETC.)	(51)	2	6	1	9	0.5		1							1		2	1						5	2	2							14
RETAIL TRADE (MOTOR VEHICLES AND BICYCLES)	(57)	0	1	0	1	0.1																				1							1
MISCELLANEOUS RETAIL TRADE	(59)	38	15	9	62	3.3											47							22	2								71
LAUNDRY, BEAUTY AND BATH SERVICES Note 1)	(72)	86	0	3	89	4.7			3	28			87		1	30								1	1	2							153
AUTOMOBILE PARKING	(73)	0	1	0	1	0.1																		1									1
MISCELLANEOUS LIVING-RELATED AND PERSONAL SERVICES	(74)	0	4	1	5	0.3										1				3	1			2	1	1							9
SERVICES FOR AMUSEMENT AND HOBBIES	(76)	0	9	0	9	0.5																		8	1		1						10
AUTOMOBILE MAINTENANCE SERVICES	(77)	0	8	1	9	0.5			1	1			1	1		1	1				2			4	4	4							20
MACHINE, FURNITURE, ETC. REPAIR SERVICES, EXCEPT OTHERWISE CLASSIFIED	(78)	0	2	0	2	0.1													1				1										2
VIDEO PICTURE INFORMATION PRODUCTION AND DISTRIBUTION	(80)	0	0	1	1	0.1			1	1			1			1				1													5
ADVERTISING	(83)	0	1	0	1	0.1															1			1									2
MISCELLANEOUS BUSINESS SERVICES	(86)	0	1	0	1	0.1															1			1									2
WASTE DISPOSAL BUSINESS	(87)	5	13	2	20	1.0	1	3	2	3		2	4	2	1	6	5	3		1	4		2	10	3	2					1		55
MEDICAL AND OTHER HEALTH SERVICES	(88)	0	10	1	11	0.6										1					9			2	2	2	1						17
PUBLIC HEALTH AND HYGIENE	(89)	0	5	1	6	0.3											1			1	2			4	2								10
SCHOOL EDUCATION	(91)	0	14	0	14	0.7													1	1	5			11	5	1					1		25
SCIENTIFIC RESEARCH INSTITUTES	(92)	1	13	3	17	0.9				2			1			4	1	1	3	1	9		1	11	7	7							48
NATIONAL GOVERNMENT SERVICES	(97)	0	2	1	3	0.2							1											2		1							4
LOCAL GOVERNMENT SERVICES	(98)	1	8	0	9	0.5							1							1	1			6	1	2							12
INDUSTRIES UNABLE TO CLASSIFY Note 2)	(99)	56	517	71	644	33.8	9	7	12	40	3	6	62	7	3	59	43	16	97	28	86	1	37	374	241	190	28			1	9	1	1,360
total		485	1,162	259	1,906	100.0	29	28	75	269	5	41	358	45	24	410	158	69	320	161	227	1	79	822	510	349	67	2	0	1	26	2	4,078

Note 1) "LAUNDRY, BEAUTY AND BATH SERVICES " specifically means drycleaners.
Note 2) If the cause of contaminations is not identified, the case falls into "INDUSTRIES UNABLE TO CLASSIFY."

(9) Causes of contaminations

Table 37 shows the activities that are assumed be the causes of contaminations, based on the responses (320 responses in fiscal 2004, 1,199 responses in total) found in “exceeded cases (454 in fiscal 2004, total number is 1,906)”. “Leakage due to inappropriate handling of harmful substances” is the most common.

Table 37 Causes of contaminations

(Allowing multiple answers)

	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total
① Leakages of contamination-causing chemicals by facility damages, etc	27	(128)	8	(54)	12	(53)	7	(21)
② Leakage due to inappropriate handling of contamination-causing chemicals	69	(398)	19	(182)	29	(148)	21	(68)
③ Discharge of drainage with contamination-causing chemicals into the ground	20	(85)	4	(31)	13	(44)	3	(10)
④ Burial of wastes before Waste management law was introduced	6	(32)	2	(5)	3	(22)	1	(5)
⑤ Waste management practices after Waste management law was introduced. The law was observed at the time, but contamination was caused as a result.	4	(9)	0	(0)	4	(8)	0	(1)
⑥ Illegal dumping or improper management of wastes after Waste management law.	0	(25)	0	(10)	0	(12)	0	(3)
⑦ Mismanagement of backfill soils	6	(36)	1	(6)	5	(29)	0	(1)
⑧ Fallout of airborne contaminants	2	(8)	0	(0)	2	(6)	0	(2)
⑨ Others	18	(87)	0	(6)	14	(65)	4	(16)
⑩ Unknown	209	(568)	30	(96)	143	(382)	36	(90)
Total	361	(1,376)	64	(390)	225	(769)	72	(217)
Number of respondents	320	(1,199)	59	(335)	205	(690)	56	(174)

Note) Numbers in parentheses are total numbers collected from the date when the soil environmental quality standard was introduced in 1991to the end of FY2004.

(10) Size of soil contamination

Tables 38 through 43 and Figures 29 through 40 depict the size (depth, area, and volume) of soil contamination discovered in “exceeded cases (454 in fiscal 2004, total number is 1,906).”
Table 38 summarizes the deepest contamination depth at each investigated site discovered in fiscal 2004. Contaminants stay within 1 meter below the ground surface in 33 cases (50%) out of 66 for VOCs, 169 cases (73.8%) out of 229 for heavy metals, and 21 cases (35.0%) out of 169 for complex contamination.
Table 40 summarizes the cases found in fiscal 2004 in terms of contaminated area. Contaminants are contained in the area with less than 1,000 m^2 at 44 cases (84.6%) out of 52 for VOCs, 122 cases (63.5%) out of 192 for heavy metals, and 28 cases (57.1%) out of 49 for complex contamination.
Table 42 presents the cases found in fiscal 2004 from the viewpoint of contaminated soil volume. Contaminated soil volume is less than 1,000 m^3 at 39 cases (86.7%) out of 45 for VOCs, 104 cases (62.3%) out of 167 for heavy metals, and 21 cases (43.8%) out of 48 for complex contamination.

Table 38 Deepest contamination depths (Fiscal 2004)

Deepest depth at which the contamination concentration exceeds the standards (m)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < D ≦ 0.5	154	43.4%	17	25.8%	126	55.0%	11	18.3%
0.5 < D ≦ 1	69	62.8%	16	50.0%	43	73.8%	10	35.0%
1 < D ≦ 2	53	77.7%	13	69.7%	30	86.9%	10	51.7%
2 < D ≦ 3	28	85.6%	6	78.8%	13	92.6%	9	66.7%
3 < D ≦ 4	14	89.6%	4	84.8%	4	94.3%	6	76.7%
4 < D ≦ 5	14	93.5%	2	87.9%	8	97.8%	4	83.3%
5 < D ≦ 10	17	98.3%	5	95.5%	3	99.1%	9	98.3%
10 < D ≦ 15	3	99.2%	1	97.0%	2	100.0%	0	98.3%
15 < D ≦ 20	1	99.4%	1	98.5%	0	100.0%	0	98.3%
20 < D ≦ 30	2	100.0%	1	100.0%	0	100.0%	1	100.0%
30 < D	0	100.0%	0	100.0%	0	100.0%	0	100.0%
unknown	99	—	12	—	70	—	17	—
Total (excluded unknown)	355	—	66	—	229	—	60	—
Number of Responded Cases	454	—	78	—	299	—	77	—
average	1.8		2.6		1.2		3.1	
median	1.0		1.3		0.5		2.0	
maximum	21.0		21.0		15.0		21.0	

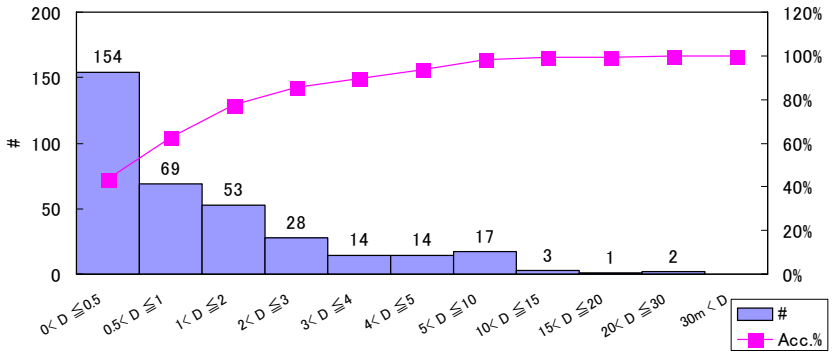


Figure 29 Deepest contamination depths (Fiscal 2004)

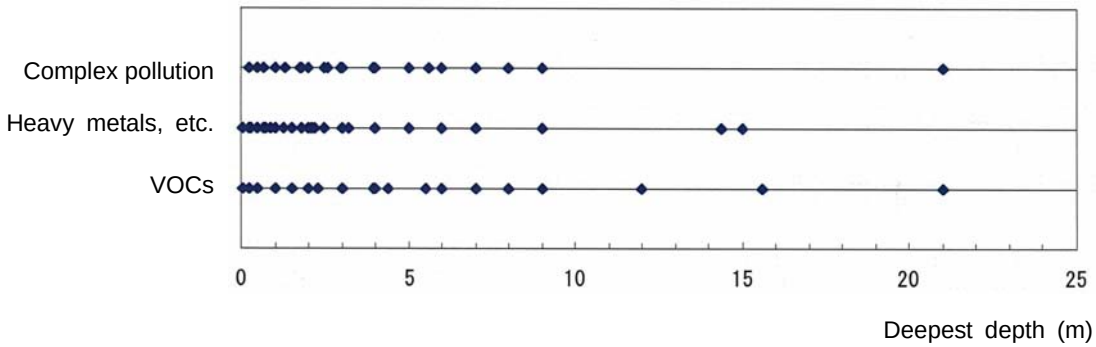


Figure 30 Deepest contamination depths (Fiscal 2004)

Table 39 Deepest contamination depths (Fiscal 1991 thru. 2004)

Deepest depth at which the contamination concentration exceeds the standard (m)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < D ≦ 0.5	459	36.1%	59	16.6%	362	47.8%	38	24.2%
0.5 < D ≦ 1	218	53.3%	62	34.0%	133	65.4%	23	38.9%
1 < D ≦ 2	192	68.4%	71	53.9%	97	78.2%	24	54.1%
2 < D ≦ 3	112	77.2%	41	65.4%	54	85.3%	17	65.0%
3 < D ≦ 4	74	83.1%	27	73.0%	30	89.3%	17	75.8%
4 < D ≦ 5	67	88.3%	16	77.5%	43	95.0%	8	80.9%
5 < D ≦ 10	104	96.5%	53	92.4%	28	98.7%	23	95.5%
10 < D ≦ 15	23	98.3%	11	95.5%	7	99.6%	5	98.7%
15 < D ≦ 20	9	99.1%	6	97.2%	2	99.9%	1	99.4%
20 < D ≦ 30	9	99.8%	7	99.2%	1	100.0%	1	100.0%
30 < D	3	100.0%	3	100.0%	0	100.0%	0	100.0%
unknown	636	—	129	—	405	—	102	—
Total (excluded unknown)	1,270	—	356	—	757	—	157	—
Number of Responded Cases	1,906	—	485	—	1,162	—	259	—
average	2.5		4.1		1.6		3.2	
median	1.0		2.0		0.8		2.0	
maximum	50.0		50.0		21.0		21.0	

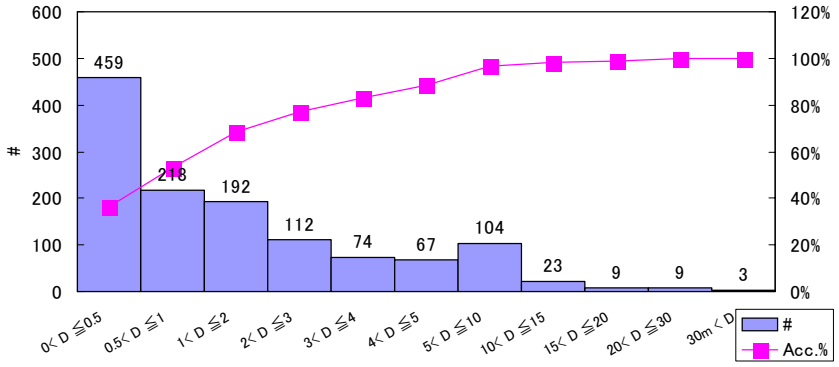


Figure 31 Deepest contamination depths (Fiscal 1991 thru. 2004)

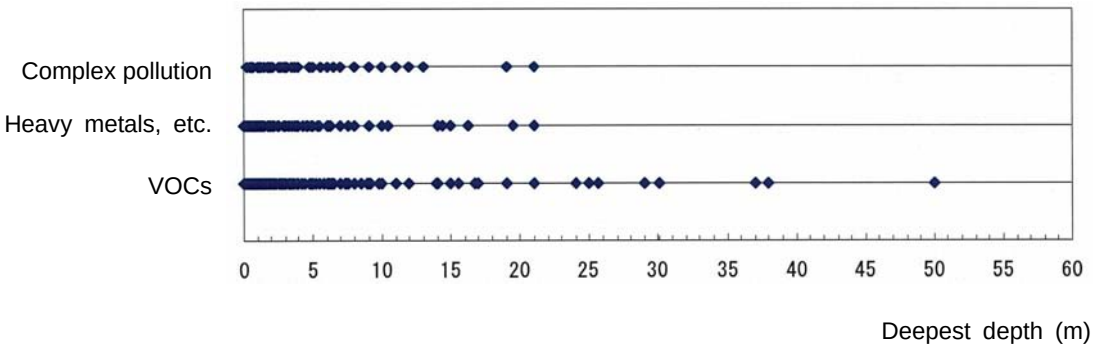


Figure 32 Deepest contamination depths (Fiscal 1991 thru. 2004)

Table 40 Contaminated areas (Fiscal 2004)

Contaminated area (m^2)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < S ≦ 20	10	3.4%	6	11.5%	3	1.6%	1	2.0%
20 < S ≦ 50	21	10.6%	7	25.0%	14	8.9%	0	2.0%
50 < S ≦ 100	32	21.5%	10	44.2%	19	18.8%	3	8.2%
100 < S ≦ 200	37	34.1%	9	61.5%	24	31.3%	4	16.3%
200 < S ≦ 500	54	52.6%	9	78.8%	33	48.4%	12	40.8%
500 < S ≦ 1,000	40	66.2%	3	84.6%	29	63.5%	8	57.1%
1,000 < S ≦ 2,000	38	79.2%	6	96.2%	25	76.6%	7	71.4%
2,000 < S ≦ 5,000	35	91.1%	1	98.1%	26	90.1%	8	87.8%
5,000 < S ≦ 10,000	12	95.2%	1	100.0%	10	95.3%	1	89.8%
10,000 < S ≦ 20,000	8	98.0%	0	100.0%	6	98.4%	2	93.9%
20,000 < S ≦ 50,000	6	100.0%	0	100.0%	3	100.0%	3	100.0%
50,000 < S ≦ 100,000	0	100.0%	0	100.0%	0	100.0%	0	100.0%
100,000 < S	0	100.0%	0	100.0%	0	100.0%	0	100.0%
unknown	161	—	26	—	107	—	28	—
Total (excluded unknown)	293	—	52	—	192	—	49	—
Number of Responded Cases	454	—	78	—	299	—	77	—
average	2,149		455		2,255		3,533	
median	480		133		520		733	
maximum	43,000		6,100		43,000		40,200	
total	629,778		23,646		433,032		173,100	

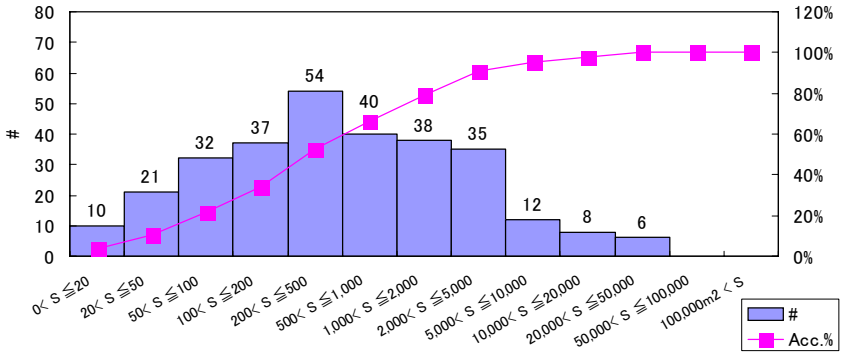


Figure 33 Contaminated areas (Fiscal 2004)

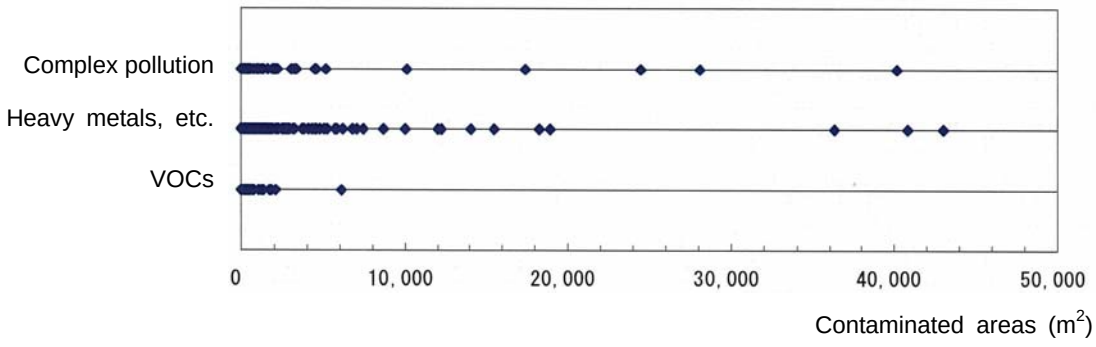


Figure 34 Contaminated areas (Fiscal 2004)

Table 41 Contaminated areas (Fiscal 1991 thru. 2004)

Contaminated area (m^2)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < S ≦ 20	56	4.8%	28	10.4%	27	3.6%	1	0.6%
20 < S ≦ 50	72	10.9%	28	20.7%	43	9.3%	1	1.3%
50 < S ≦ 100	97	19.1%	31	32.2%	62	17.6%	4	3.8%
100 < S ≦ 200	135	30.6%	46	49.3%	78	28.0%	11	10.8%
200 < S ≦ 500	202	47.7%	49	67.4%	127	45.0%	26	27.2%
500 < S ≦ 1,000	151	60.6%	29	78.1%	99	58.2%	23	41.8%
1,000 < S ≦ 2,000	142	72.6%	21	85.9%	95	70.9%	26	58.2%
2,000 < S ≦ 5,000	155	85.8%	21	93.7%	107	85.2%	27	75.3%
5,000 < S ≦ 10,000	76	92.3%	11	97.8%	53	92.3%	12	82.9%
10,000 < S ≦ 20,000	44	96.0%	5	99.6%	28	96.0%	11	89.9%
20,000 < S ≦ 50,000	29	98.5%	1	100.0%	17	98.3%	11	96.8%
50,000 < S ≦ 100,000	12	99.5%	0	100.0%	8	99.3%	4	99.4%
100,000 < S	6	100.0%	0	100.0%	5	100.0%	1	100.0%
unknown	729	—	215	—	413	—	101	—
Total (excluded unknown)	1,177	—	270	—	749	—	158	—
Number of Responded Cases	1,906	—	485	—	1,162	—	259	—
average	4,981		1,204		5,855		7,290	
median	578		211		632		1,265	
maximum	1,293,875		21,450		1,293,875		163,130	
total	5,862,308		325,028		4,385,501		1,151,779	

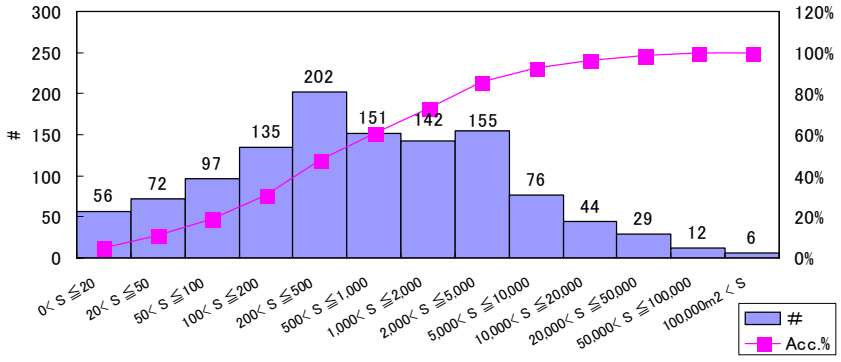


Figure 35 Contaminated areas (Fiscal 1991 thru. 2004)

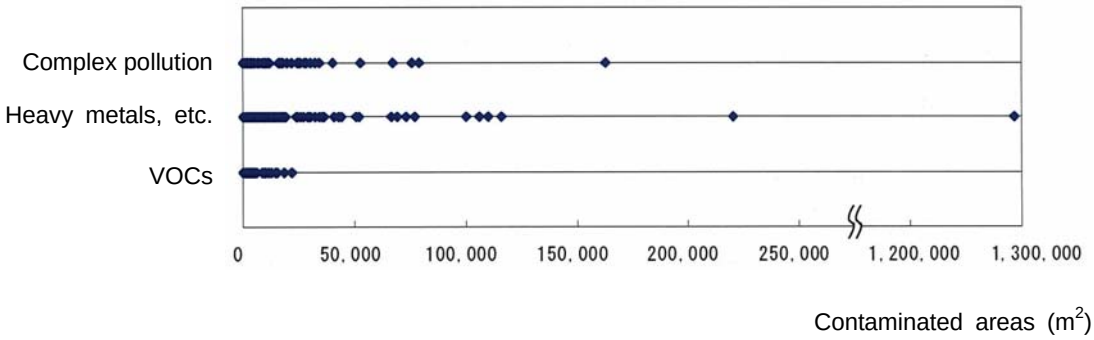


Figure 36 Contaminated areas (Fiscal 1991 thru. 2004)

Table 42 Contaminated soil volumes (Fiscal 2004)

Volume of contaminated soil (m^3)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals (Category 2)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < V ≦ 50	30	11.5%	8	17.8%	21	12.6%	1	2.1%
50 < V ≦ 100	26	21.5%	8	35.6%	17	22.8%	1	4.2%
100 < V ≦ 200	22	30.0%	2	40.0%	17	32.9%	3	10.4%
200 < V ≦ 500	54	50.8%	15	73.3%	29	50.3%	10	31.3%
500 < V ≦ 1,000	32	63.1%	6	86.7%	20	62.3%	6	43.8%
1,000 < V ≦ 2,000	34	76.2%	1	88.9%	27	78.4%	6	56.3%
2,000 < V ≦ 5,000	27	86.5%	0	88.9%	16	88.0%	11	79.2%
5,000 < V ≦ 10,000	9	90.0%	1	91.1%	6	91.6%	2	83.3%
10,000 < V ≦ 20,000	17	96.5%	2	95.6%	10	97.6%	5	93.8%
20,000 < V ≦ 50,000	7	99.2%	2	100.0%	4	100.0%	1	95.8%
50,000 < V ≦ 100,000	1	99.6%	0	100.0%	0	100.0%	1	97.9%
100,000 < V ≦ 200,000	1	100.0%	0	100.0%	0	100.0%	1	100.0%
200,000 < V ≦ 500,000	0	100.0%	0	100.0%	0	100.0%	0	100.0%
500,000 < V ≦ 1,000,000	0	100.0%	0	100.0%	0	100.0%	0	100.0%
1,000,000 < V	0	100.0%	0	100.0%	0	100.0%	0	100.0%
unknown	194	—	33	—	132	—	29	—
Total (excluded unknown)	260	—	45	—	167	—	48	—
Number of Responded Cases	454	—	78	—	299	—	77	—
average	3,444		2,578		2,647		7,027	
median	500		240		500		1,377	
maximum	109,400		39,650		48,580		109,400	
total	895,418		116,017		442,128		337,273	

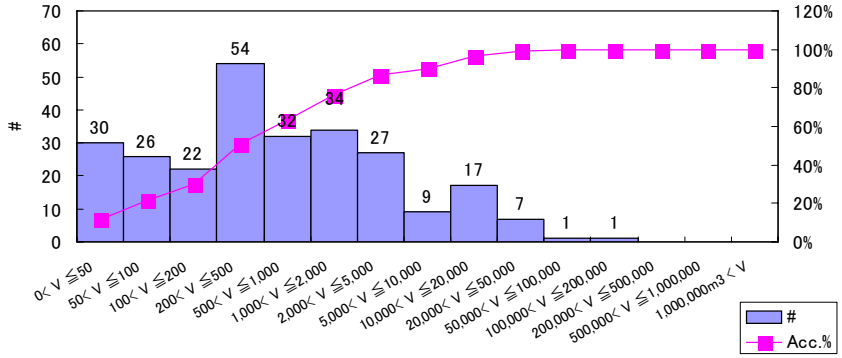


Figure 37 Contaminated soil volumes (Fiscal 2004)

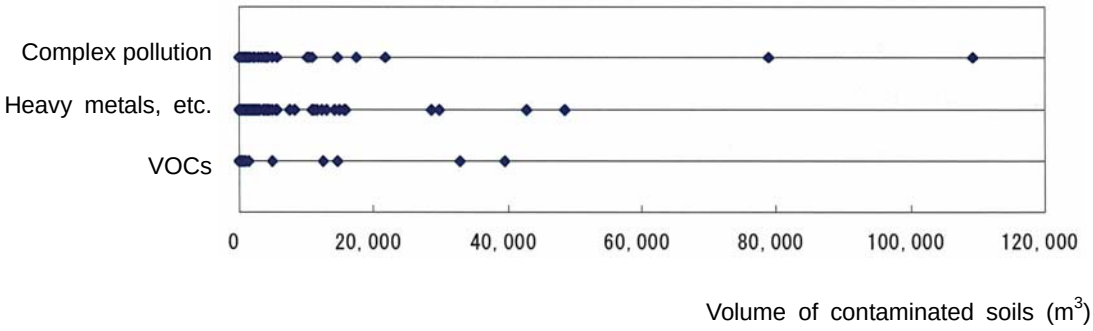


Figure 38 Contaminated soil volumes (Fiscal 2004)

Table 43 Contaminated soil volumes (Fiscal 1991 thru. 2004)

Volume of contaminated soil (m^3)	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals (Category 2)		Complex pollution	
	#	Acc.%	#	Acc.%	#	Acc.%	#	Acc.%
0 < V ≦ 50	141	12.6%	41	18.1%	97	13.1%	3	2.0%
50 < V ≦ 100	88	20.5%	23	28.3%	61	21.3%	4	4.7%
100 < V ≦ 200	98	29.2%	22	38.1%	67	30.3%	9	10.7%
200 < V ≦ 500	182	45.5%	43	57.1%	116	45.9%	23	26.2%
500 < V ≦ 1,000	131	57.2%	24	67.7%	89	57.9%	18	38.3%
1,000 < V ≦ 2,000	133	69.1%	23	77.9%	93	70.4%	17	49.7%
2,000 < V ≦ 5,000	127	80.5%	15	84.5%	82	81.4%	30	69.8%
5,000 < V ≦ 10,000	79	87.6%	14	90.7%	52	88.4%	13	78.5%
10,000 < V ≦ 20,000	72	94.0%	9	94.7%	46	94.6%	17	89.9%
20,000 < V ≦ 50,000	43	97.9%	8	98.2%	27	98.3%	8	95.3%
50,000 < V ≦ 100,000	11	98.8%	3	99.6%	5	98.9%	3	97.3%
100,000 < V ≦ 200,000	9	99.6%	0	99.6%	6	99.7%	3	99.3%
200,000 < V ≦ 500,000	4	100.0%	1	100.0%	2	100.0%	1	100.0%
500,000 < V ≦ 1,000,000	0	100.0%	0	100.0%	0	100.0%	0	100.0%
1,000,000 < V	0	100.0%	0	100.0%	0	100.0%	0	100.0%
unknown	788	–	259	–	419	–	110	–
Total (excluded unknown)	1,118	–	226	–	743	–	149	–
Number of Responded Cases	1,906	–	485	–	1,162	–	259	–
average	6,150		4,946		5,546		10,988	
median	653		393		632		2,080	
maximum	285,875		240,000		285,875		270,210	
total	6,875,530		1,117,721		4,120,530		1,637,279	

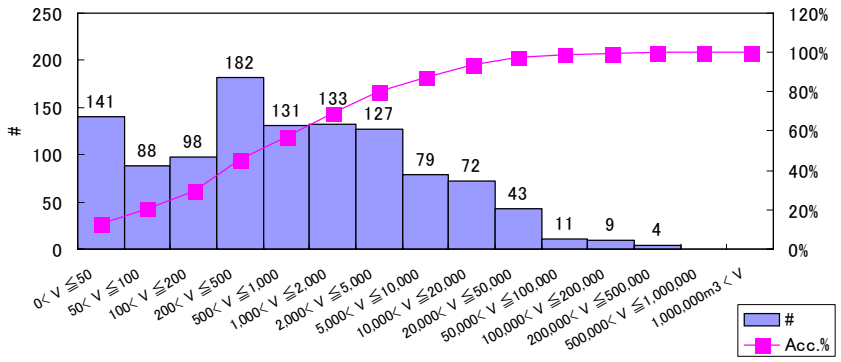


Figure 39 Contaminated soil volumes (Fiscal 1991 thru. 2004)

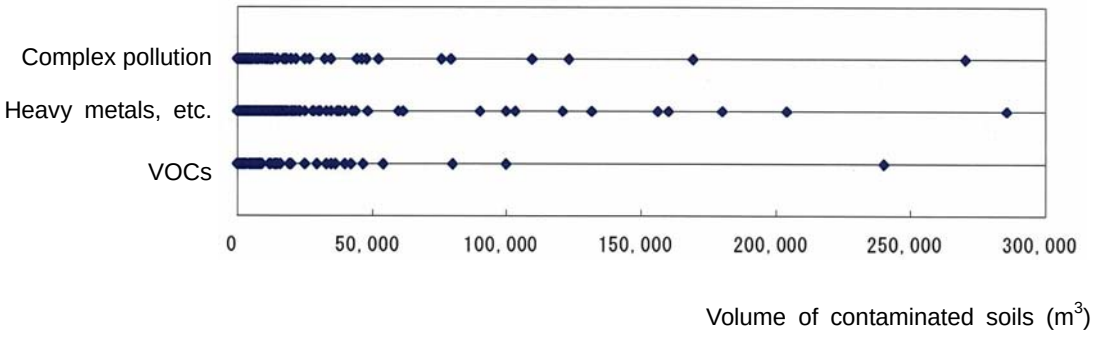


Figure 40 Contaminated soil volumes (Fiscal 1991 thru. 2004)

(11) The progress of soil contamination countermeasures

Table 44 and Figure 41 summarize contaminated areas for the cases where countermeasures are already determined for “exceeded cases (FY 2004).”
The total areas that require countermeasures are 499,440 m^2 (64.7%), while the total areas that have already mitigated by existing pavements, etc. are 272,219 m^2 (35.3%).

Table 44 Contaminated areas with or without countermeasures (Fiscal 2004)

	Number of Exceeded Cases			
		Identified Contaminants		
		VOCs (Category 1)	Heavy Metals, etc. (Categories 2&3)	Complex contamination
	m^2	m^2	m^2	m^2
Total areas requiring countermeasures	499,440	19,419	315,384	164,637
Total areas NOT requiring countermeasures	272,219	6,426	216,367	49,426
Total area	771,659	25,845	531,751	214,063

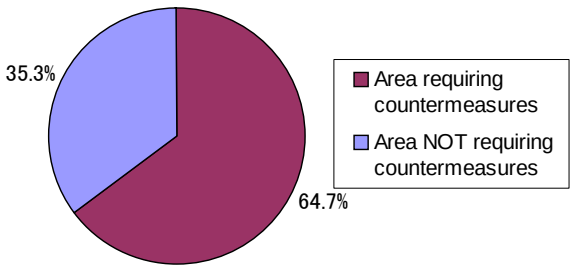


Figure 41 Contaminated areas with or without mitigation (Fiscal 2004)

Table 45 shows a progress in soil contamination countermeasures for each type of Designated Hazardous Substances for “exceeded cases (FY 2004).” The total area where countermeasures have been completed by the end of fiscal 2004 is 232,132 m^2.

Table 45 Progress of countermeasures for soil contaminations (Fiscal 2004)

	Number of Exceeded Cases			
		Identified Contaminants		
		VOCs (Category 1)	Heavy Metals, etc. (Categories 2&3)	Complex contamination
	m^2	m^2	m^2	m^2
Areas completed countermeasures	232,132	15,209	171,852	45,071

Note) When implementing countermeasures, a site is sometimes divided into several parts to which different methods are applied. Figures in Table 22 show total areas that sum up every part of contaminated area from each designated area. There are some designated areas where some parts have already been cleaned up while the other parts have not.

(12) Remediation methods applied for soil contamination countermeasures

Table 46 summarizes the remediation methods applied for each type of Designated Hazardous Substances in “exceeded cases (454 in fiscal 2004, total number is 1,906).” Looking at the data for fiscal 2004, in-situ remediation methods, such as soil vapor extraction, pump & treat, etc., are predominant in VOC contamination cases; on the other hand, soil removal is predominant for heavy metals and complex contamination.

Table 47 presents soil treatment methods for excavated soils. Off-site treatments are more favored than on-site treatments for VOC cases, heavy metal cases, and complex contamination cases.

The details of off-site treatments are as follows; contaminated soil remediation facilities (thermal treatment) are often used for VOC cases, while cement kilns are predominantly used in both heavy metal cases and complex contamination cases.

Table 46 Details of soil contamination countermeasures

(Allowing multiple answers)

	Number of Exceeded Cases							
			Identified Contaminants					
			VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex contamination	
	FY2004	total	FY2004	total	FY2004	total	FY2004	total
Monitoring of groundwater quality	9	(315)	7	(166)	1	(101)	1	(48)
Removal of soil contamination	382	(1,860)	81	(622)	211	(898)	90	(340)
Dig and haul	296	(1,246)	32	(209)	205	(844)	59	(193)
In-situ remediations	86	(614)	49	(413)	6	(54)	31	(147)
Bioremediation	18	(44)	10	(27)	0	(3)	8	(14)
Chemical decomposition	16	(54)	7	(25)	2	(7)	7	(22)
Soil Vapor Extraction	20	(199)	13	(160)	1	(4)	6	(35)
Pump & Treat	24	(282)	13	(189)	2	(31)	9	(62)
Soil Vapor Extraction	5	(15)	4	(5)	0	(6)	1	(4)
Other methods	3	(20)	2	(7)	1	(3)	0	(10)
Containment (in situ)	11	(85)	0	(7)	7	(54)	4	(24)
by Sheet piles	8	(37)	0	(3)	5	(21)	3	(13)
by soil-cement mixing walls	0	(20)	0	(2)	0	(13)	0	(5)
by other methods	3	(28)	0	(2)	2	(20)	1	(6)
Containment (on site landfill w/sheet & covers)	3	(8)	0	(0)	2	(5)	1	(3)
In situ stabilization	3	(62)	0	(2)	2	(51)	1	(9)
Ex situ stabilization and backfilling	2	(51)	0	(2)	2	(43)	0	(6)
Containment (on site concrete vault)	0	(31)	0	(2)	0	(23)	0	(6)
Replacement of surface soils	13	(25)	3	(4)	7	(15)	3	(6)
w/ on site soils	3	(4)	0	(0)	2	(3)	1	(1)
w/ off site soils	10	(21)	3	(4)	5	(12)	2	(5)
Soil covers on top of surface soils	10	(72)	0	(2)	10	(61)	0	(9)
Pavement	24	(167)	0	(8)	21	(129)	3	(30)
w/ concrete	12	(81)	0	(4)	11	(66)	1	(11)
w/ asphalt	12	(86)	0	(4)	10	(63)	2	(19)
Fense and signs (off limit)	1	(58)	0	(11)	1	(37)	0	(10)
Others	6	(249)	1	(112)	4	(109)	1	(28)
Number of respondents	362	(1,681)	66	(431)	232	(1,018)	64	(232)

Note 1) Numbers in parentheses are total numbers collected from the date when soil environmental quality standard was first introduced in 1991to the end of FY2004.

Note 2) Total number of countermeasures and the number of designated areas are not identical, because there are cases where more than one countermeasures were applied at a single site.

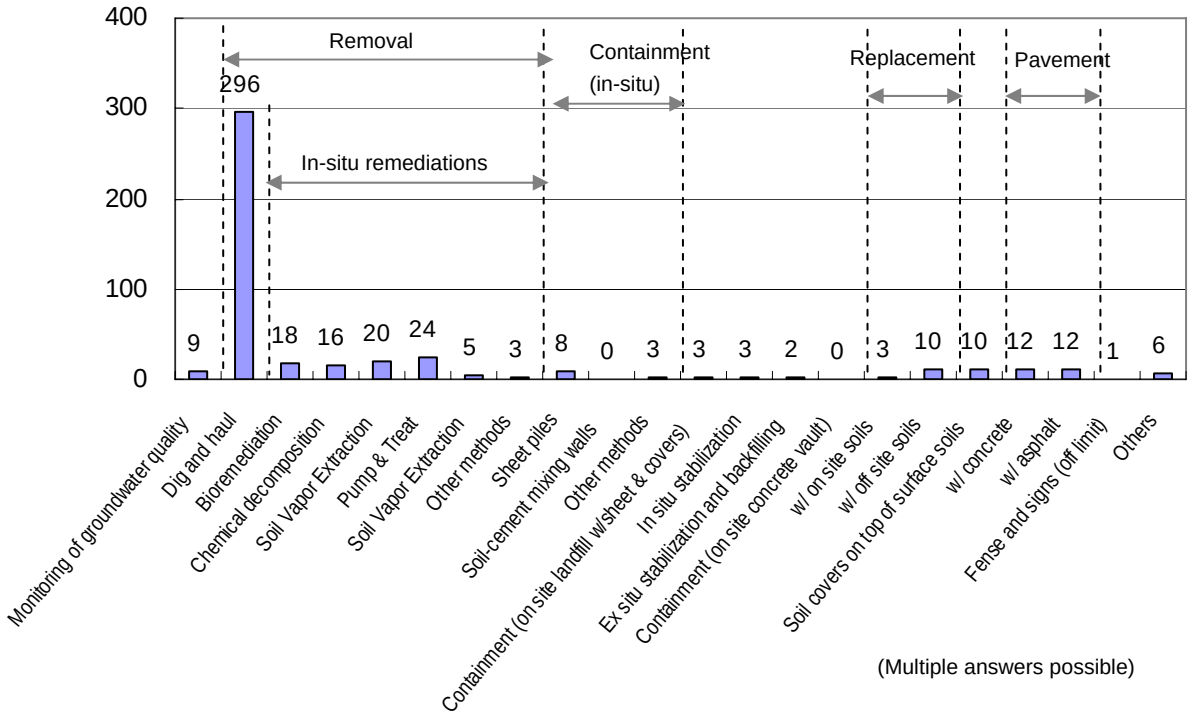


Figure 42 Soil contamination countermeasures applied in fiscal 2004

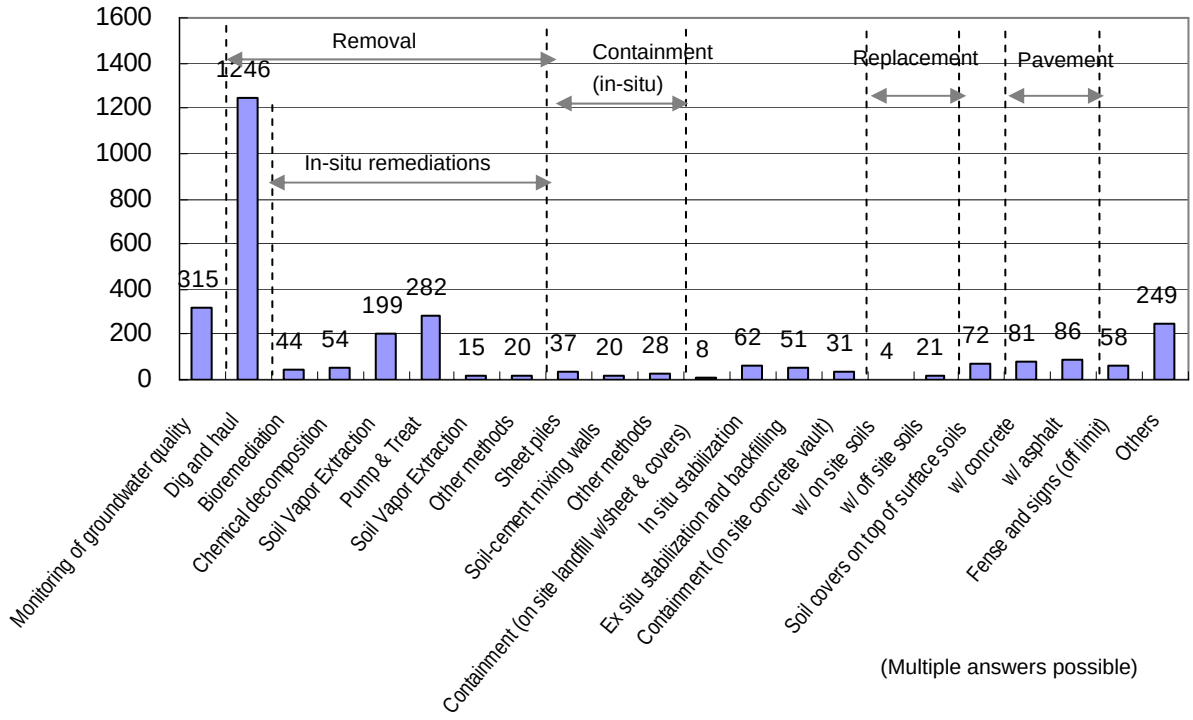


Figure 43 Soil contamination countermeasures applied from fiscal 1991 through fiscal 2004

Table 47 Treatment methods for excavated soils

(Allowing multiple answers)

				Number of Exceeded Cases							
						Identified Contaminants					
						VOCs (Category 1)		Heavy Metals, etc. (Categories 2&3)		Complex contamination	
				FY2004	total	FY2004	total	FY2004	total	FY2004	total
On-site treatments	Thermal treatment			5	(45)	3	(22)	1	(3)	1	(20)
	Soil washing			2	(19)	0	(6)	2	(10)	0	(3)
	Chemical treatment			8	(63)	0	(13)	3	(34)	5	(16)
	Biological treatment			4	(10)	2	(6)	0	(1)	2	(3)
	Extraction			2	(6)	0	(2)	0	(2)	2	(2)
	Others			3	(17)	1	(6)	1	(6)	1	(5)
	subtotal (A)			24	(160)	6	(55)	7	(56)	11	(49)
Off-site treatments or disposal	Disposal at landfills	Standard #1	【Landfill A】【type a】	2	(5)	0	(0)	2	(4)	0	(1)
		<unsatisfied>	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #1	【Landfill A】【type b-1】	1	(3)	0	(0)	0	(2)	1	(1)
		<Satisfied>	【Landfill A】【type b-2】	26	(67)	4	(13)	16	(37)	6	(17)
		Standard #2	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)
		<unsatisfied>	【Landfill B】【type b-2】 3)	2	(7)	2	(5)	0	(1)	0	(1)
		Standard #1	【Landfill A】【type b-1】 4)	0	(0)	0	(0)	0	(0)	0	(0)
		<Satisfied>	【Landfill A】【type a】	0	(1)	0	(0)	0	(1)	0	(0)
		Standard #3	【Landfill A】【type b-2】 4)	0	(1)	0	(0)	0	(1)	0	(0)
		<unsatisfied>	【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)
		Standard #1 <Satisfied> Standard #2 <Unsatisfied> for hazardous substances (II) 1)	【Landfill A】【type b-1】	7	(14)	0	(0)	6	(12)	1	(2)
			【Landfill A】【type a】	1	(3)	0	(0)	1	(2)	0	(1)
			【Landfill A】【type b-2】	19	(52)	0	(0)	17	(46)	2	(6)
			【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill B】【type b-2】 3)	3	(32)	0	(0)	3	(31)	0	(1)
		Standard #2 <satisfied> Standard #4 <unsatisfied>	【Landfill A】【type b-1】	13	(17)	1	(1)	12	(16)	0	(0)
			【Landfill A】【type a】	0	(1)	0	(0)	0	(0)	0	(1)
			【Landfill A】【type c】	0	(11)	0	(0)	0	(7)	0	(4)
			【Landfill A】【type b-2】	15	(22)	0	(0)	14	(20)	1	(2)
			【Landfill B】【type a】	0	(0)	0	(0)	0	(0)	0	(0)
			【Landfill B】【type b-2】 3)	0	(27)	0	(0)	0	(24)	0	(3)
			【Landfill B】【type c】	0	(0)	0	(0)	0	(0)	0	(0)
	Treatment facilities	Thermal treatment		31	(80)	9	(25)	12	(37)	10	(18)
		Soil washing		35	(81)	0	(1)	24	(61)	11	(19)
		Chemical treatment		9	(80)	1	(4)	5	(62)	3	(14)
		biological treatment		0	(2)	0	(1)	0	(0)	0	(1)
		Extraction		3	(10)	2	(3)	1	(5)	0	(2)
		Others		9	(14)	3	(3)	3	(5)	3	(6)
	Cement kilns			140	(270)	7	(25)	99	(192)	34	(53)
	subtotal (B)			316	(800)	29	(81)	215	(566)	72	(153)
Use of Soil Manifest cases				188	(302)	18	(33)	131	(211)	39	(58)
total (A+B)				340	(960)	35	(136)	222	(622)	83	(202)
Number of respondents				267	(777)	28	(121)	187	(521)	52	(135)

Note 1) "Hazardous Substances (II)" are the Designated Hazardous Substances (category 2) listed in the SCCA.

Note 2) 【Landfill A】: Inland landfill sites and controlled by Waste Management Law, 【Landfill B】: Coastal landfill sites controlled by Law relating to prevention of marine pollution and maritime disaster. 【type a】: Isolated type, 【type b-1】: leachate-controlled type for municipal solid waste, 【type b-2】: leachate-controlled type for industrial waste, 【type b】: leachate-controlled type or equivalent, 【type c】: Non-leachate-controlled type.
Standard #1: So-called "Level 2 standard," which is 10 to 30 times higher than Leachate standard; Standard #2: SCCA standard for leachate concentrations; Standard #3: Judgment criteria in Law relating to prevention of marine pollution and maritime disaster; Standard #4: SCCA standard for soil content concentrations.

Note 3) Counting is made if contaminated soils were transported to prefectural-governor-approved landfills.

Note 4) These landfill and types do not include 【Landfill B】.

Note 5) Numbers in parentheses are total numbers collected from the date when the soil environmental quality standard was introduced in 1991 to the end of FY2004.

III. Responses to the act at prefectures and cabinet-order designated cities

(1) The status of educational programs or training programs

120 prefectures and cabinet-order cities answered to a questionnaire asking whether they have conducted educational activities on soil contamination issues for organizations such as companies as of October 1st 2005 (See Fig. 48). The most prevalent activity is formulation and distribution of leaflets concerning the act. “The other activities” include the following; compilations of current status of soil contaminations in Environment White Books and/or on web-sites managed by prefectures and cabinet-order cities, deliveries of guidance and/or educational actions for organizations at the time of on-site inspections, and trainings for relevant organizations.

Table 49 shows the internal efforts within local authorities. 108 local authorities have internal programs on soil contamination issues.

Table 48 Educational activities on soil contamination issues for business sector

(Multiple answers possible)

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
Educational activities for companies are in place.	120	123
① Formulation and distribution of leaflets on the law	59	56
② Formulation and distribution of leaflets on the standards	20	20
③ Training programs on soil contamination issues	47	54
④ Guidance or administrations upon change of land uses or shapes (not based on any laws, bylaws, guidelines, etc.)	31	23
⑤ Other activities	50	48
⑥ No activities	27	23
total	147	146

Table 49 Internal educational activities on soil contamination issues by authorities

(Multiple answers possible)

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
Internal educational activities are in place.	108	—
① Training programs on soil contamination issues	20	—
② Exchanging informations on soil contamination issues with other sections/departments	55	—
③ Negotiations with other sections asking for streamlining processes on soil contamination issues	50	—
④ Other activities	7	—
⑤ No activities	39	—
total	147	—

(2) Enactment status and objectives of municipal bylaws

70 prefectures and cabinet-order cities with their own bylaw, guidance, and guideline (hereinafter referred to as “bylaws etc.”) for soil contamination answered to a questionnaire about the objectives of their regulations (Figure 50). The most prevalent content of the bylaws, etc. is an instructive clause that encourages prevention of soil contamination and control of hazardous substances not to infiltrate into the ground. 43 authorities have this type of content in their bylaws, etc.

In addition to the prefectures and cabinet-order cities mentioned above, 204 cities, towns or villages have their own bylaws, etc. Table 51 shows an enactment status of those cities, etc. The most prevalent clause, which 168 cities, etc. have, requires land owners, etc. to analyze soil quality upon importing the soil from outside of the city, etc. in order to prevent soil contamination from migrating.

Table 50 Objectives of bylaw, guidance, and guideline of prefectures and cabinet-order cities

(Multiple answers possible)

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
① Land owners should confirm whether the land is contaminated or not, when public domain land is obtained or sold off.	1	1
② Operators should execute soil investigations when they change use of and/or develop old factory site except public domain land.	19	18
③ As a result of above investigations, when soil contamination is found, polluters should execute required countermeasures or pay cost of countermeasures.	17	15
④ Land owners etc. should report to relevant local authorities concerning the result of their voluntary soil contamination investigations.	15	15
⑤ Information of land with contaminated soil should be registered and managed.	7	6
⑥ Technical items, which are for investigations for and countermeasures against contamination, are described.	11	10
⑦ There are unique standards in addition to SCCL standards in order to judge soil contamination.	7	5
⑧ Instructive clauses, such as prevention of soil contamination and/or regulation of harmful substances' seepage into the ground, are included.	43	35
⑨ Internal administrative agreements on facilitating investigations of and/or countermeasures against soil contamination.	17	16
⑩ In order to prevent soil contamination, land owner should analyze soil that is moved into the site from outside.	20	17
⑪ There are standards for soil contamination investigations and countermeasures and/or systems for supervising/controlling them.	4	–
⑫ There are standards and/or systems for supervising/controlling for treatment facilities.	6	–
total	70	61

Table 51 Objectives of bylaw, guidance, and guideline of cities, towns and villages other than prefectures and cabinet-order cities

(Multiple answers possible)

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
① Land owners should confirm whether the land is contaminated or not, when public domain land is obtained or sold off.	1	–
② Operators should execute soil investigations when they change use of and/or develop old factory site except public domain land.	2	–
③ As a result of above investigations, when soil contamination is found, polluters should execute required countermeasures or pay cost of countermeasures.	2	–
④ Land owners etc. should report to relevant local authorities concerning the result of their voluntary soil contamination investigations.	2	–
⑤ Information of land with contaminated soil should be registered and managed.	0	–
⑥ Technical items, which are for investigations for and countermeasures against contamination, are described.	1	–
⑦ There are unique standards in addition to SCCL standards in order to judge soil contamination.	1	–
⑧ Instructive clauses, such as prevention of soil contamination and/or regulation of harmful substances' seepage into the ground, are included.	29	–
⑨ Internal administrative agreements on facilitating investigations of and/or countermeasures against soil contamination.	1	–
⑩ In order to prevent soil contamination, land owner should analyze soil that is moved into the site from outside.	168	–
⑪ There are standards for soil contamination investigations and countermeasures and/or systems for supervising/controlling them.	2	–
⑫ There are standards and/or systems for supervising/controlling for treatment facilities.	0	–
total	204	–

Table 52 shows the number of local authorities that have their own bylaws, guidelines, and guidance in seven regions each covered by its regional office of the environment. (See Appendix for the complete list of the local authorities and their bylaws, etc.) Kanto-Region has the largest number of local authorities that set bylaws etc. for executions of soil contamination investigations and submissions of the results to relevant local authorities.

Table 52 Number of local authorities with bylaws, etc. in each regional office of the environment

Regions [Number of prefectures]		Number of local autorities									
		Prefectures, cabinet-order cities		w/ bylaws, etc. requiring soil investigations or reporting of results		Cities, Towns and villages except for prefectures, cabinet-order cities		w/ bylaws, etc. requiring soil investigations or reporting of results		Total	
Hokkaido	[1]	2	(2)	0	(0)	20	(20)	0	(0)	22	(22)
Tohoku	[6]	7	(8)	3	(3)	1	(1)	0	(0)	8	(9)
Kanto	[10]	26	(43)	11	(12)	143	(143)	4	(4)	169	(186)
Chubu	[7]	10	(10)	5	(5)	12	(12)	0	(0)	22	(22)
Kinki	[6]	11	(14)	1	(1)	13	(13)	0	(0)	24	(27)
Chugoku-Shikoku	[9]	7	(7)	2	(2)	4	(4)	0	(0)	11	(11)
Kyushu	[8]	7	(7)	1	(1)	11	(11)	0	(0)	18	(18)
	Total	70	(91)	23	(24)	204	(204)	4	(4)	274	(295)

Note 1) Prefectures in each Regions are:

Hokkaido:	Hokkaido								
Tohoku:	Aomori	Iwate	Miyagi	Akita	Yamagata	Fukushima			
Kanto:	Ibaraki	Tochigi	Gunma	Saitama	Chiba	Tokyo	Kanagawa	Niigata	Yamanash Shizuoka
Chubu:	Toyama	Ishikawa	Fukui	Nagano	Gifu	Aichi	Mie		
Kinki:	Shiga	Kyoto	Osaka	Hyogo	Nara	Wakayama			
Chugoku-Shikoku:	Tottori	Shimane	Okayama	Hiroshima	Yamaguch	Tokuyama	Kagawa	Ehime	Kochi
Kyushu:	Fukuoka	Saga	Nagasaki	Kumamoto	Oita	Miyazaki	Kagoshima	Okinawa	

Note 2) Numbers in parentheses () represent the numbers of bylaws enforced in local authorities.

Note 3) In the table, "bylaws, etc. requiring soil investigations or reporting of results " means the followings;

① Land owners should confirm whether the land is contaminated or not, when public domain land is obtained or sold off.

② Operators should execute soil investigations when they change use of and/or develop old factory site except public domain land.

④ Land owners etc. should report to relevant local authorities concerning the result of their voluntary soil contamination investigations.

(3) Financial supports provided by local authorities

As of October 1st 2005, 37 prefectures and cabinet-order cities have subsidy or loan financing systems that provide operators and/or managers with financial aid covering partial cost for investigations, remedial activities, and monitoring when a soil contamination is found. Table 53 shows the number of prefectures or cabinet-order cities with such systems.

Table 53 Number of prefectures or cabinet-order cities with financial support mechanisms

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
With financial supports	37	39
Without financial supports	110	107
total	147	146

(4) Budget at prefectures and cabinet-order cities

Table 54 presents the responses to a question whether local authorities set initial budget for soil contamination investigations and countermeasures in fiscal 2005. 114 prefectures and cabinet-order cities set budget for some kind of investigations.

Table 54 Status of budget for soil contamination investigations and countermeasuresl

(Multiple answers possible)

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
Budget is reserved for …	114	112
① Collection and compilation of land use histories	12	18
② Soil investigations referring to soil environmental standard (incl. SCCL standard) Note that the numbers doesn't include investigations under Agricultural Land Soil Pollution Prevention Law.	27	26
③ Soil investigations regarding dioxins	101	94
④ Soil investigations for uncontrolled chamicals	0	0
⑤ Investigations into incidents and claims concerning soil contaminations	30	27
⑥ Countermeasures for orphan sites	2	3
⑦ Monitoring after countermeasures of soil contaminations	20	19
⑧ Survey on active wells (e.g., mapping of wells for drinking purposes, Maintenance of information of designated wells used at disaster cases.	4	—
⑨ Characterization and feasibility studies on handy soil analysis tools	1	—
⑩ Characterization and feasibility studies on low-cost treatment methods	1	—
⑪ Collection and compilation of information on naturally occuring contaminations	5	—
⑫ Others	14	13
No budget	33	34
total	147	146

(5) Information management at prefectures and cabinet-order cities

Table 55 shows the management status of information on soil contamination investigations and countermeasures and other information on land histories. 61 prefectures and cabinet-order cities manage the information for soil contamination investigations and countermeasures using paper-based registered books.

Table 55 Management status of information on soil contamination investigations and countermeasures

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
① Paper-based registered books	61	58
② IT (Databases, GIS, etc.)	28	23
③ No formal systems	74	69
(Not managed)	13	12
total	147	146

(6) Requests for the National Government

Table 56 summarizes the request items concerning countermeasures against soil contamination for the national government from local authorities.

Table 56 Requests for the National Government

	# of prefectures and cabinet-order cities	
	FY2004	FY2003
① More enlightenment activities to landowners	101	98
② Effective information services to local governments regarding technologies for soil contamination investigations and countermeasures	87	73
③ Effective information services to local governments regarding actual cases of soil contamination countermeasures	89	83
④ Development and facilitation of technologies for soil contamination investigations and countermeasures	68	65
⑤ Others	15	19
total	143	143

Appendix

The list of municipal bylaws, guidance, and guidelines regarding soil contamination countermeasures in local authorities
(Underlined local authorities establish or amend their bylaws etc. in this survey)

1. Bylaws, guidance, and guidelines set by prefectures and cabinet-order cities

Hokkaido Pref	Bylaw	(⑧)
Iwate Pref	Bylaw	(②③④⑤⑨)
Miyagi Pref	Bylaw	(⑧)
Akita Pref	Guidance	(⑨⑫)
Yamagata Pref	Bylaw	(②③⑧⑨)
Fukushima Pref	Bylaw	(⑥⑨)
	Guideline	(④⑤)
Ibaragi Pref	Bylaw	(⑧)
Tochigi Pref	Bylaw	(⑧)
Gunma Pref	Bylaw	(②③⑥⑧)
Saitama Pref	Bylaw	(②③④⑥)
Chiba Pref	Bylaw	(⑧)
Tokyo Pref	Bylaw	(②③⑪)
	Guideline	(⑥)
Kanazawa Pref	Bylaw	(②③⑤⑦⑧)
Niigata Pref	Bylaw	(②③④⑧)
Ishikawa Pref	Bylaw	(⑨⑩)
Fukui Pref	Bylaw	(⑧)
Yamanashi Pref	Guideline	(⑧)
Shizuoka Pref	Bylaw	(⑧)
Aichi Pref	Bylaw	(②③④⑥⑧)
Mie Pref	Bylaw	(②④⑨⑪)
Shiga Pref	Guideline	(⑨)
Kyoto Pref	Bylaw	(⑧)
Osaka Pref	Bylaw	(③⑤⑥⑦⑧)
Hyogo Pref	Bylaw	(⑧)
Nara Pref	Bylaw	(⑧)
Wakayama Pref	Bylaw	(⑧)
Tottori Pref	Bylaw	(⑧)
Okayama Pref	Bylaw	(④⑧)
Hiroshima Pref	Bylaw	(②⑧)
Yamaguchi Pref	Guideline	(⑨)
Tokushima Pref	Bylaw	(⑧⑩)
Fukuoka Pref	Bylaw	(⑧)
Miyazaki Pref	Bylaw	(⑧)
Okinawa Pref	Bylaw	(⑧)

Sapporo City	Guidance	(⑧⑨)
Akita City	Guidance	(⑫)
Iwaki City	Bylaw	(⑨)
Mito City	Bylaw	(⑧)
Maebashi City	Guidance	(⑨)
Soka City	Bylaw	(②③⑦)
Chiba City	Bylaw	(⑧)
	Bylaw	(⑧)
	Guidance	(②③④⑥⑦⑪)
Ichikawa City	Bylaw	(②③④⑥⑧⑨)
Funabashi City	Bylaw	(⑧)
Ichihara City	Bylaw	(⑧)
	Bylaw	(⑧)
Yokohama City	Guidance	(①③)
	Bylaw	(②③⑤⑥⑦⑧)
	Guidance	(⑫)
Kawasaki City	Guidance	(②④⑤⑥⑦)
	Guidance	(⑫)
	Bylaw	(⑫)
	Guideline	(⑫)
Niigata City	Bylaw	(⑧)
Kanazawa City	Bylaw	(⑨)
Fukui City	Bylaw	(⑧)
Nagano City	Bylaw	(②③④)
Gifu City	Bylaw	(④⑤)
Hamamatsu City	Guidance	(②③④⑧)
Nagoya City	Bylaw	(②③④⑥⑧⑪)
Toyota City	Guidance	(⑨)
Takatsuki City	Bylaw	(②⑨)
Hirakata City	Bylaw	(⑧)
Yao City	Bylaw	(⑧)
Higashiosaka City	Bylaw	(⑧)
Amagasaki City	Bylaw	(⑧)
	Guidance	(⑨)
Kitakyusyu City	Guideline	(④⑦)
Sasebo City	Bylaw	(⑧)
Kumamoto CIty	Guideline	(⑨)

Note:
①; Land owners should confirm whether the land is contaminated or not, when public domain land is obtained or sold off.
②; Operators should execute soil investigations when they change use of and/or develop old factory site except public domain land.
③; As a result of above investigations, when soil contamination is found, polluters should execute required countermeasures or pay cost of countermeasures.
④; Land owners etc. should report to relevant local authorities concerning the result of their voluntary soil contamination investigations.
⑤; Information of land with contaminated soil should be registered and managed.
⑥; Technical items, which are for investigations for and countermeasures against contamination, are described.
⑦; There are unique standards in addition to SCCA standards in order to judge soil contamination.
⑧; Instructive clauses, such as prevention of soil contamination and/or regulation of harmful substances'

seepage into the ground, are included.
⑨; Internal administrative agreements on facilitating investigations of and/or countermeasures against soil contamination.
⑩; In order to prevent soil contamination, land owner should analyze soil that is moved into the site from outside.
⑪; There are standards for soil contamination investigations and countermeasures and/or systems for supervising/controlling them.
⑫; There are standards and/or systems for supervising/controlling for treatment facilities.

2. Bylaws, guidance, and guidelines set by cities, towns and villages other than cabinet-order cities

Hokkaido Pref	Obihiro City	Bylaw	(⑧)
	Tomakomai City	Bylaw	(⑧)
	Noboribetsu City	Bylaw	(⑧)
	Eniwa City	Bylaw	(⑧)
	Date City	Bylaw	(⑧)
	Ishikari City	Bylaw	(⑧)
	Fukushima Town	Bylaw	(⑧)
	Kamiiso Town	Bylaw	(⑧)
	Oshamanbe Town	Bylaw	(⑧)
	Yoici Town	Bylaw	(⑧)
	Nakafurano Town	Bylaw	(⑧)
	Shimokawa Town	Bylaw	(⑧)
	Engaru Town	Bylaw	(⑧)
	Toyoura Town	Bylaw	(⑧)
	Abuta Town	Bylaw	(⑧)
	Otofuke Town	Bylaw	(⑧)
	Memuro Town	Bylaw	(⑧)
	Makubetsu Town	Bylaw	(⑧)
	Akkeshi Town	Bylaw	(⑧)
	Shibetsu Town	Bylaw	(⑧)
Saitama Pref	Hidaka Town	Bylaw	(⑩)
Tokyo Pref	Koto Ward	Guideline	(②③)
	Ota Ward	Guidance	(⑦)
	Arakawa Ward	Guidance	(⑪)
	Itabashi Ward	Guidance	(②③)
	Adachi Ward	Guidance	(⑨)
	Edogawa Ward	Guidance	(①④⑥)
	Nishitokyo City	Guidance	(④⑪)
Nagano Pref	Okaya City	Bylaw	(⑧)
	Iida City	Bylaw	(⑧)
	Nakano City	Bylaw	(⑧)
	Shiojiri City	Bylaw	(⑧)
	Takato Town	Bylaw	(⑧)
	Tatsuno Town	Bylaw	(⑧)
	Iijima Town	Bylaw	(⑧)
	Hase Village	Bylaw	(⑧)
	Matsukawa Town	Bylaw	(⑧)

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⑨; Internal administrative agreements on facilitating investigations of and/or countermeasures against soil contamination.
⑩; In order to prevent soil contamination, land owner should analyze soil that is moved into the site from outside.
⑪; There are standards for soil contamination investigations and countermeasures and/or systems for supervising/controlling them.
⑫; There are standards and/or systems for supervising/controlling for treatment facilities.

3. Bylaws etc. –set up by prefectures and cabinet-order cities- concerning prevention for soil contamination due to mishandling of deposition and/or landfill of soil

Tochigi Pref	Bylaw
Saitama Pref	Bylaw
Chiba Pref	Bylaw
Hyogo Pref	Bylaw
	Guidance
Kagawa Pref	Bylaw
Ehime Pref	Bylaw
Oita Pref	Bylaw
Mito City	Bylaw
Utsunomiya City	Bylaw
Saitama City	Bylaw
Kawagoe City	Bylaw
Tokorozawa City	Bylaw
Chiba City	Bylaw
Ichikawa City	Bylaw
Funabashi City	Bylaw
Kashiwa City	Bylaw
Ichihara City	Bylaw

4. Bylaws etc. –set up by cities, towns and villages other than cabinet-order cities - concerning prevention for soil contamination due to mishandling of deposition and/or landfill of soil

Akita Pref	Odate City (Restriction on transportation of specified substances into the city)
Tochigi Pref	Ashikaga city, Tochigi city, Kanuma city, Nikko city, Imaich city, Oyama city, Moka city, Otawara city, Yaita city, Nasushiobara city, Sakura city, Nasukarasuyama city, Kaminokawa town, Minamikawachi town, Kamikawachi town, Nishkata town, Awano town, Ashio town, Ninomiya town, Mashiko town, Motegi town, Ichikai town, Haga town, Mibu town, Ishibashi town, Kokubunji town, Nogi town, Ohira town, Fujioka town (The bylaws found at cities in Tochigi Prefecture require manufacturers, contractors, etc. to conduct soil analyses before transporting soils into the cities.)
Gunma Pref	Kiryu City, Itakura City
Saitama Pref	Gyoda city, Chichibu city, Higashimatsuyama city, Kasukabe city, Sayama city, Hanyu city, Ageo city, Iruma city, Okegawa city, Kuki city, Kitamoto city, Satte city, Ogawa town, Kawajima town, Yoshimi town, Hatoyama town, Tokigawa town, Yokose town, Minano town, Ogano town, Higashichichibu town, Konan town, Kitakawabe town, Otone town, Syobu town, Kurihashi town, Washimiya town, Sugito town

Chiba Pref	Choshi city, Tateyama city, Kisarazu city, Noda city, Sawara city, Mobara city, Narita city, Sakura city, Togane city, Youkaichiba city, Asahi city, Narashino city, Katsuura city, Nagareyama city, Nachiyo city, Abiko city, Kamogawa city, Kamagaya city, Kimitsu city, Futtsu city, Yotsukaido city, Sodegaura city, Yachimata city, Inzai city, Shiroi city, Tomisato city, Shisui town, Inba village, Motono village, Sakae town, Shimofusa town, Kozai town, Taiei town, Omigawa town, Yamada town, Kurimoto town, Tako town, Tohnosho town, Hikari town, Nosaka town, Oamishiromoto town, Kujukuri town, Narutoh town, Sammu town, Hasunuma town, Matsuo town, Yokoshiba town, Shibayama town, Ichinomiya town, Mutsuzawa town, Chosei village, Shirako town (The bylaws found at cities in Chiba Prefecture require manufacturers, contractors, etc. to conduct soil analyses before transporting soils into the cities.)
Nagano Pref	Shinano Town
Gifu Pref	Mino City
Aichi Pref	Miyoshi Town
Kyoto Pref	Kameoka City, Yawata City, Kyotanabe City, Kyotanba Town, Yakuno Town
Osaka Pref	Tondabayashi City, Kawachinogano City, Kashiwara City, Habikino City, Misaki Town
Hogo Pref	Minamiawaji City, Awaji City, Goshiki Town
Tokushima Pref	Anan City, Katsuura town
Ehime Pref	Imabari City, Iyo City
Kumamoto Pref	Nankan Town
Oita Pref	Bungotakada city, Kitsuki city, Matama town, Kakazi town, Kunimi town, Kunisaki town,
Kagoshima Pref	Shibushi Town

5. Financing support facilities held by prefectures and cabinet-order cities

Hokkaido Pref
Miyagi Pref
Fukushima Pref
Tochigi Pref
Gunma Pref
Saitama Pref
Tokyo Pref
Kanagawa Pref
Ishikawa Pref
Shizuoka Pref
Aichi Pref
Mie Pref
Osaka Pref
Okayama Pref
Hiroshima Pref
Tokushima Pref
Ehime Pref
Fukuoka Pref
Sendai City
Takasaki City
Koshigaya City
Chiba City
Funabashi City
Kashiwa City
Yokohama City
Kawasaki City
Hiratsuka City
Kanazawa City
Nagano City
Shizuoka City
Hamamatsu City
Numazu City
Fuji City
Nagoya City
Fukuyama City
Fukuoka City
Miyazaki City