

Further analysis of Hillsdale sampling

The EPA has conducted further analysis of soil samples taken at Denison Street, Hillsdale, in May 2013, to include total chlorine, inorganic chlorine (naturally occurring chlorine such as sea salt) and hexachlorobenzene (HCB) and its breakdown products. This further analysis follows the sampling, testing and analysis undertaken by the EPA, Sydney Water and Botany Council in and around the Sydney Water easement on Denison Street, Hillsdale.

Chlorine analyses and polyvinyl chloride (PVC)

Total chlorine is present in a number of the samples, indicating that a chemical that contains chlorine is present in the soil. Further investigations found that this was due to the presence of particles of polyvinyl chloride (PVC), a plastic that is used in a range of household products such as water pipes and furniture. PVC was manufactured at the Botany Industrial Park in the past.

NSW Health has advised the EPA that given the location and size of the PVC particles in the affected areas, the public health impact is negligible.

NSW Health also advises that maintaining good ground cover, such as grass, in the affected areas will reduce dust generation.

Table 1

Site	Total Cl (g/kg)	Inorganic Cl (g/kg)	Microplastic (PVC) (g/kg)	PVC Cl equivalent ¹	PVC Cl as % of total
SS 01	0.3	0.014	0.5	0.3	93
SS 02	0.9	0.012	2.0	1.1	120
SS 03	0.5	0.011	0.5	0.3	56
SS 04	0.2	0.012	0.5	0.3	140
SS 05	0.7	0.015	2.0	1.1	160
SS 06	0.4	0.028	0.5	0.3	70
SS 07	4.7	0.017	9.0	5.0	110
SS 08	1.2	0.006	3.0	1.7	140
SS 09	9.1	0.012	13.0	7.3	80
SS 10	5.8	0.019	8.0	4.5	77
SS 11	1.7	0.034	4.0	2.2	130
SS 12	5.8	0.040	10	5.6	97
SS 13	30	0.011	67	38	130
SS 14	0.6	0.024	0.5	0.3	47
SS 15	1.1	0.028	0.5	0.3	26
Duplicate 1	0.7	0.011	1.0	0.6	80
Duplicate 2	4.5	0.015	7.0	3.9	87

¹ Calculated using 56% Cl in PVC

Note: All values below PQL (highlighted in yellow) were given a value of half the PQL. The 'PQL' is the practical quantitation limit of the method, which is the lowest concentration that can be reliably measured and reported within specified limits of precision and accuracy under laboratory operating conditions.

Hexachlorobenzene (HCB) and breakdown products

The results for HCB were low and below health investigation levels (HIL) for open space use based on the National Environment Protection (Assessment of Site Contamination) Measure. There were also no significant concentrations of HCB breakdown products.

Table 2

Site	HCB	HCB breakdown products (all values in micrograms per kilogram)				Sum	HIL for Recreational C land use (open space)	% of HIL
		Pentachloro- benzene	Tetrachloro- benzene	Pentachloro- phenol	Trichloro- phenol			
SS 01	15	5.0	5.0	5.0	5.0	35	10,000	0.4
SS 02	16	5.0	5.0	5.0	5.0	36	10,000	0.4
SS 03	5.0	5.0	5.0	5.0	5.0	25	10,000	0.3
SS 04	11	5.0	5.0	5.0	5.0	31	10,000	0.3
SS 05	29	5.0	5.0	5.0	5.0	49	10,000	0.5
SS 06	2.5	5.0	5.0	5.0	5.0	23	10,000	0.2
SS 07	73	5.0	5.0	5.0	5.0	93	10,000	0.9
SS 08	20	5.0	5.0	5.0	5.0	40	10,000	0.4
SS 09	130	14	5.0	5.0	5.0	160	10,000	1.6
SS 10	150	49	5.0	5.0	5.0	210	10,000	2.1
SS 11	190	75	5.0	5.0	5.0	280	10,000	2.8
SS 12	470	220	5.0	5.0	5.0	710	10,000	7.1
SS 13	130	23	12	5.0	5.0	170	10,000	1.7
SS 14	7.0	5.0	5.0	5.0	5.0	27	10,000	0.3
SS 15	9.0	5.0	5.0	5.0	5.0	29	10,000	0.3
Duplicate 1	11	5.0	5.0	5.0	5.0	31	10,000	0.3
Duplicate 2	120	5.0	5.0	5.0	5.0	140	10,000	1.4

Note: All values below PQL (highlighted in yellow) were given a value of half the PQL. The 'PQL' is the practical quantitation limit of the method, which is the lowest concentration that can be reliably measured and reported within specified limits of precision and accuracy under laboratory operating conditions.