

Schedule B1

Investigation Levels & Screening Levels

Investigation Levels & Screening Levels are the concentrations of contaminants above which further appropriate investigation and evaluation will be required. They are applicable to the first stage of site assessment and provide the basis for Tier-1 risk assessment.

A Tier-1 Assessment is a risk-based analysis comparing site data with relevant investigation and screening levels, to determine the need for further assessment or development of an appropriate management strategy.

New investigation and screening levels for human health and the environment have been introduced into the draft variation of the NEPM.

Investigation Levels

Health Investigation Levels (HILs) Schedules B1, B4 and B7

- generic soil concentrations which apply across Australia to all soil types, generally to a depth of 3m below surface
- apply to low and high density residential, recreational and commercial/industrial land uses

The methodologies for deriving HILs have been extensively revised and updated and some HILs have been varied as a result. Land use scenarios have also been revised.

Ecological Investigation Levels (EILs) Schedules B1 and B5a, B5b and B5c

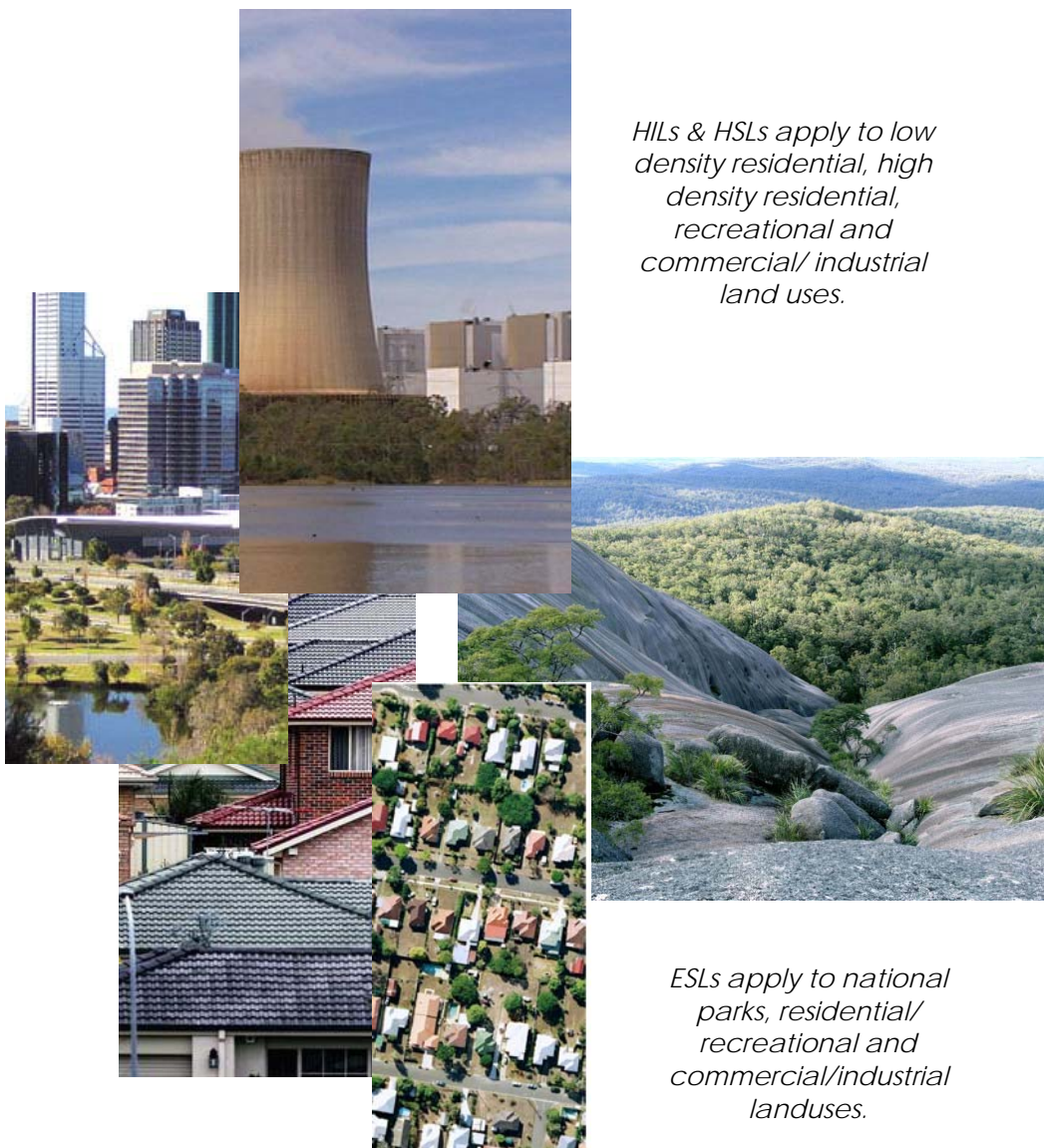
- soil concentrations which generally apply to a depth of 2m below surface
- designed to provide varying levels of ecosystem protection depending on land use: national parks and areas of high ecological value, urban residential and public open space, and commercial/industrial land uses.
- Where appropriate data are available, EILs are site-specifically determined and consider soil physicochemical properties.

The draft EILs replace the interim EILs in the current NEPM. The EILs are based on methodology developed by CSIRO.

Groundwater Investigation Levels (GILs) Schedules B1 and B6

- the concentrations of a groundwater parameter at which further investigation (point of extraction) or a response (point of use) is required.

The GILs have been updated based on National Water Quality Management Strategy documents.



HILs & HSLs apply to low density residential, high density residential, recreational and commercial/ industrial land uses.

ESLs apply to national parks, residential/ recreational and commercial/industrial landuses.

Screening Levels (Schedule B1)

Applicable to sites affected by petroleum hydrocarbon contamination

new

Health Screening Levels (HSLs)

- concentrations of petroleum hydrocarbon compounds in soil, groundwater and soil gas.
- provide Tier 1 health assessment of exposure to hydrocarbon vapours in various land use settings.
- application considers soil type, contamination source depth, biodegradation and building structure such as the presence or absence of a basement
- have a range of limitations which must be taken into account for site specific circumstances.

The HSLs are based on work carried out by CRC CARE.

Ecological Screening Levels (ESLs)

- soil concentrations of petroleum hydrocarbon materials intended to be protective for specific land uses
- broadly apply to coarse and fine grained soils and are applicable to the top 3m of soil
- are adapted from *The Canada-Wide Standard for Petroleum Hydrocarbons in Soil* (Canadian Council of Ministers of the Environment, 2008) and associated data

Where sufficient information was available, the Australian EIL methodology was used to derive the ESLs.

Petroleum hydrocarbon 'management limits'

- maximum values of petroleum hydrocarbon compounds that should remain on site following evaluation of human health and ecological risks and risks to groundwater resources.
- consider the formation of phase separated hydrocarbons, fire and explosion risks, damage to buried infrastructure and aesthetics
- are based on CCME publications.