AS 2922—1987

Australian Standard®

AMBIENT AIR— GUIDE FOR THE SITING OF SAMPLING UNITS

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The following interests are represented on Committee CH/19:

Aluminium Development Council

Australian Chemical Industry Council

Australian Institute of Petroleum

Australian Mining Industry Council

Australian Timber Producers Council

Clean Air Society of Australia and New Zealand

Confederation of Australian Industry

CSIRO, Division of Fossil Fuels

Department of Conservation and Environment, W.A.

Department of Arts, Heritage and Environment

Department of Environment and Planning, S.A.

Department of Environment, Tasmania

Department of Science

Electricity Supply Association of Australia

Environment Protection Authority of Victoria

National Association of Testing Authorities, Australia

National Health and Medical Research Council

State Pollution Control Commission, N.S.W.

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PREFACE

This standard was prepared by the Association's Committee on Methods for Examination of Air under the direction of the Chemical Standards Board. It complements the series of methods prepared by the Committee for the determination of pollutants in ambient air.

During the preparation of this standard, the Committee paid special attention to the work of the Environment Protection Agency of the USA, particularly their 'Guideline Series' on air monitoring. Some of the material in this standard is derived from the USA Code of Federal Regulations, Title 40, Chapter 1, Part 58, Appendices D and E.

Use has also been made of the following Australian documents:

(a) Indicative Network Design for a National Air Monitoring Program, July 1983 — Australian Environment Council.

(b) Recommended Methods for Monitoring Air Pollutants in the Environment, 1985 — Australian Environment Council/National Health and Medical Research Council.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

AMBIENT AIR—GUIDE FOR THE SITING OF SAMPLING UNITS

1 SCOPE. This standard sets out general guidelines for the siting of ambient air sampling units and specifies a number of siting parameters for individual air pollutants.

2 APPLICATION. The standard is applicable to the siting of an individual sampling unit for specific purposes or to sampling units within a network. It does not include the detailed design of a network of sampling units.

3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 2330 Ambient Air—Determination of Hydrogen Sulphide—Automatic Intermittent Sampling—Gas Chromatographic Method

AS 2447 Ambient Air—Determination of Oxides of Nitrogen—Chemiluminescent Method

AS 2509 Ambient Air—Determination of Acid Gases (Expressed as Sulphur Dioxide)

AS 2523 Ambient Air—Determination of Sulphur Dioxide—Direct Reading Instrumental Method

AS 2524 Ambient Air—Determination of Ozone—Direct Reading Instrumental Method

AS 2618 Ambient Air—Determination of Gaseous and Particulate Fluorides—Selective Ion Electrode Method

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- Part 2—Gaseous Fluorides and Acid - soluble Particulate Fluorides (0.1 $\mu g/m^3$ or greater)—Manual, Double Filter Paper Sampling
- Part 3—Gaseous Fluorides and Total Particulate Fluorides (1 $\mu g/m^3$ or greater)—Automated, Double Paper Tape Sampling*
- Part 4—Gaseous Fluorides, Total Particulate Fluorides and Acid-soluble Particulate Fluorides—Impinger Sampling*
- Part 5—Gaseous Fluorides and Particulate Fluorides (0.1 $\mu g/m^3$ or greater)—Sodium Acetate Coated Tube Absorption Method*

AS 2695 Ambient Air—Determination of Carbon Monoxide—Direct Reading Instrumental Method

AS 2724 Ambient Air—Particulate Matter

- Part 1—Determination of Deposited Matter Expressed as Insoluble Solids, Ash, Combustible Matter, Soluble Solids and Total Solids
- Part 2—Determination of Suspended Matter Expressed as Equivalent Black Smoke by Filter Paper Soiling
- Part 3—Determination of Total Suspended Particulates (TSP)—High Volume Sampler Gravimetric Method
- Part 4—Determination of Light Scattering—Integrating Nephelometer Method*
- Part 5—Determination of Impinged Matter Expressed as Directional Dirtiness, Background Dirtiness and/or Area Dirtiness (Directional Dust Gauge Method)

AS 2800 Ambient Air—Determination of Particulate Lead—High Volume Sampler Gravimetric Collection—Flame Atomic Absorption Spectrometric Method

AS XXXX Ambient Air—Determination of Polycyclic Aromatic Hydrocarbons (PAH) High Volume Sampler Collection—High Performance Liquid Chromatographic Method*

AS YYYY Ambient Air—Determination of Methane, Gaseous Non-methane Hydrocarbons and Gaseous Total Hydrocarbons—Direct Reading Instrumental Method*

AS 2923 Ambient Air—Guide for Measurement of Horizontal Wind for Air Quality Applications.

4 OBJECTIVES OF AMBIENT AIR MONITORING. The reasons for monitoring ambient air are numerous. Most often, monitoring is undertaken to determine air quality in a given location, typically in urban areas. This type of air monitoring is usually based on determining air quality for human health and welfare, i.e. a pollutant *receptor* point of view. Monitoring may also be needed to determine the influence of emissions from a specified source, perhaps a single point source or a complex of sources. This type of air monitoring is usually related to the assessment of human activities, i.e. a pollutant *source* point of view.

* In course of preparation.