

Report

HAZARDOUS MATERIALS SURVEY

**Saints Peter and Paul
Assyrian Primary
School, 17-19 Kosovich
Place, Cecil Park**

**Prepared for:
Assyrian Schools Ltd**

**Project No.
41016**

**Date:
27/06/18**

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REFERENCES

- AS 4964 – 2004 Method For The Qualitative Identification Of Asbestos In Bulk Samples.
- Code of Practice: How to Manage and Control Asbestos in the Workplace [Safe Work Australia, 2016].
- Code of Practice: How to Safely Remove Asbestos [Safe Work Australia, 2016].
- AS 2601 - 2001 The Demolition of Structures.
- National Code Of Practice For The Control And Safe Use Of Inorganic Lead At Work [NOHSC:2015(1994)].
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)].
- AS/NZS 4361.2:2017 Guide To Hazardous Paint Management Part 2: Lead Paint In Residential, Public And Commercial Buildings.
- AS 4874-2000 Guide To The Investigation Of Potentially Contaminated Soil And Deposited Dust As A Source Of Lead Available To Humans.
- Identification of PCB-Containing Capacitors [ANZECC, 1997].
- Polychlorinated Biphenyls Management Plan [ANZECC, 2003].
- Schedule B1 – Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)].
- EPA Waste Classification Guidelines, Part 1 Classifying Waste (2014).
- NSW Work Health and Safety Act 2011.
- NSW Work Health and Safety Amendment Act 2018.
- NSW Work Health and Safety Regulation 2017.

TERMS AND DEFINITIONS

| | | |
|------|---|--|
| AC | - | Asbestos Cement |
| ACM | - | Asbestos-Containing Material |
| HEPA | - | High Efficiency Particulate Air |
| NATA | - | National Association of Testing Authorities, Australia |
| NES | - | National Exposure Standard |
| PCBs | - | Polychlorinated Biphenyls |
| PPE | - | Personal Protective Equipment |
| SMF | - | Synthetic Mineral Fibre |

1 INTRODUCTION

1.1 AUTHORISATION

This inspection and report was authorized by Mr Tim Williams of PMDL, for and on behalf of Assyrian Schools Ltd on the 15th of June 2018.

1.2 SCOPE OF WORK

The scope of work involved a survey of the site to determine the location, extent and condition of hazardous materials including asbestos, lead and PCBs in soil. The investigation pertains to the southwest corner of the site, located north of the neighbouring property dam indicated by red marker [Refer to Appendix A – Site Plans and Figure 1 below].

1.3 SITE DESCRIPTION

The site is located at Saints Peter and Paul Assyrian Primary School, 17-19 Kosovich Place, Cecil Park [refer to Figure 1]. The site consists of a vacant block with thick ground cover vegetation. [Refer to Appendix A – Site Plans].



Figure 1: Site Location – Pins showing approximate location of sampling

1.4 METHODOLOGY

1.4.1 Asbestos

An inspection of the premises has been carried out in order to identify, as far as practicable, all ACM in the workplace in accordance with the Code of Practice: How to Manage and Control Asbestos in the [Safe Work Australia, 2016].

Representative samples of materials suspected of containing asbestos have been taken by competent personnel and inaccessible areas presumed to contain asbestos. Once such a presumption has been made, the material must be treated as an ACM, with work practices and disposal criteria as required for the presence of asbestos, until the material is removed or testing has confirmed that it does not, in fact, contain asbestos.

Samples have been analysed in accordance with AS 4964 – 2004 *Method for the qualitative identification of asbestos in bulk samples*.

A risk assessment has been carried out to ensure the associated risks of the identified ACM are assessed. The risk assessment takes account of the condition of the ACM (e.g whether they are friable or non-friable and stable, and whether they liable to damage or deterioration), the likelihood of exposure, and whether the nature or location of any work to be carried out is likely to disturb the ACM. Decisions about control measures to protect workers have been made depending on the assessed risks to health.

The locations of all ACM and any inaccessible areas, as well as the types and condition of asbestos have been recorded in the asbestos register.

1.4.2 Lead

1.4.2.1 Lead in Soil

Soil samples have been taken in accordance with *Managing Lead Contamination in Home Maintenance, Renovation and Demolition Practices. A guide for Councils* [EPA, 2003]. Results have been compared to Schedule B1 – Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)]:

Representative samples were taken in accordance with Guide to the investigation of potentially contaminated soil and deposited dust as a source of lead available to humans [AS 4874-2000].

Samples have been analysed for lead content by Envirolab Services Pty Ltd [NATA Accredited Laboratory 2901].

1.4.3 PCBs

Representative soil samples were taken and compared to the threshold concentration listed in *Polychlorinated Biphenyls Management Plan* [ANZECC, 2003].

Samples have been analysed for PCB concentration by Envirolab Services Pty Ltd [NATA Accredited Laboratory 2901].

1.5 INACCESSIBLE AREAS

Limited or no access was available to the following areas at the time of inspection:

- Ground surface [Limited access due to thick vegetation]

Care should be taken if future refurbishment, demolition or maintenance works need to access these areas.

1.6 LIMITATIONS

This report has been prepared to meet the requirements outlined in the scope of work. It does not include evaluation of any other issues. Airsafe performed the services in a professional manner, in accordance with relevant guidelines and standards, and generally accepted industry practices. Airsafe does not make any other warranty, expressed or implied, as to the professional advice contained in this report.

The survey was based on a visual inspection of the specified areas. It should be noted that this assessment is reflective of the current site conditions and cannot be regarded as absolute without extensive earthworks. Only materials that were physically accessible at the time of inspection were sampled. Consequently, it is not possible to guarantee that every hazardous material has been located. Care should be taken during the course of normal site works. If suspect materials are encountered, works should cease in the area until samples have been collected and analysed by competent personnel.

As the site is covered in thick ground vegetation, only surface sampling techniques were used where possible. The survey is not intended for use or referral for the purpose of site earthworks and as such further investigation, which may entail subsurface testing, may be required.

It should be noted that the sampling program was limited to the collection of representative samples of suspect materials for analysis. Other materials of similar appearance are assumed to have a similar content.

The report does not cover any inaccessible areas identified during the inspection. Hazardous materials should be presumed to be present in all inaccessible areas until removed or confirmed through testing that it does not, in fact, contain asbestos.

Where information has been supplied to Airsafe for the purpose of preparing this report, the information is assumed to be both adequate and accurate. The information provided, therefore, has not been verified or audited. Airsafe will not be liable in relation to incorrect conclusions should any information be incorrect, misrepresented or otherwise not fully disclosed.

Limitations apply to analytical methods used in the identifications of some asbestos containing materials. These limitations may be due to samples collected from non-homogenous materials not being representative, the presence of masking agents, and low concentrations of asbestos fibres. As such, sample analysis results should be considered indicative only.

This report was prepared for the sole use of the client identified on the cover page and only for the purpose for which it was prepared. Any reliance on this report by third parties shall be at their own risk and may not contain sufficient information for purposes of other parties or for other uses.

This report is not intended to be used for the purposes of tendering, programming of works, refurbishment works or demolition works unless used in conjunction with a specification detailing the extent of the works. This report must be read in its entirety and must not be copied, distributed or referred to in part only. The report must not be reproduced without the written approval of Airsafe.

2 GENERAL INFORMATION

2.1 ASBESTOS

2.1.1 Effects on Health

Asbestos is formed in fibre bundles and, as it is further processed or disturbed, the fibre bundles become progressively finer and more hazardous to health. The small fibres are the most dangerous. They are invisible to the naked eye and, when inhaled, penetrate the deepest part of the lungs (respirable fibres).

Significant health risks may arise from the inhalation of airborne asbestos fibres. Compared with straight amphibole fibres, such as amosite and crocidolite, chrysotile fibres are curly and less likely to penetrate the deepest parts of the lung.

Breathing in fibres brings a risk of asbestosis, lung cancer and mesothelioma. Evidence suggests that asbestos causes gastrointestinal and laryngeal cancers in humans, but to a far lesser extent than lung cancer. Usually, asbestos related diseases have a delay or latency period of 20 to 40 years between first exposure and the onset of symptoms and detection of the disease. Asbestos-related diseases can appear or progress even after a person is no longer exposed.

Asbestosis is the scarring of lung tissue that can result from the inhalation of substantial amounts of asbestos over a period of years. It results in breathlessness that may lead to disability and, in some cases, death. Minor changes in X-ray images may be detected for many years without any symptoms of asbestosis or progression of the disease.

Lung cancer is related to the amount of fibre that is breathed in and the risk of lung cancer is greatly increased in those who also smoke tobacco.

Mesothelioma is a cancer of the pleura (outer lung lining) or the peritoneum (the lining of the abdominal cavity). The risk of mesothelioma is less with chrysotile than with other types of asbestos. Both pleural and peritoneal mesothelioma can result from exposure to amosite and crocidolite. Exposure of humans to chrysotile alone has caused few pleural mesotheliomas, and has never produced peritoneal mesothelioma without exposure to either amosite or crocidolite. Mesothelioma rarely occurs in less than 15 years from first exposure, and most cases occur over 30 years after first exposure.

As for many cancer-causing substances, no safe level of exposure for lung cancer or mesothelioma has been identified. However, the amount of asbestos fibre in the air that people inhale is the important factor in determining the level of health risk. The highest risks involve inhaling air that contains a high concentration of asbestos fibre.

Asbestos fibres may be released into the air whenever they are disturbed, and especially during the following activities:

- any direct action on ACM, such as drilling, boring, cutting, filing, brushing, grinding, sanding, breaking, smashing or blowing with compressed air (State legislation prohibits most of these actions);
- the inspection or removal of ACM from workplaces (including vehicles, plant and equipment);
- the maintenance or servicing of materials from vehicles, plant, equipment or workplaces;
- the renovation or demolition of buildings containing ACM.

Non-friable ACM that has been subjected to extensive weathering or deterioration also has a higher potential to release asbestos fibres into the air.

2.1.2 Asbestos Classification

Under NSW OHS legislation, material that contains asbestos is referred to as friable or non-friable.

2.1.2.1 Non-friable Asbestos Material

Non-friable asbestos material is any material that contains asbestos in a bonded matrix. It may consist of Portland cement or various resins/binders, and cannot be crushed by hand when dry. Asbestos cement (AC) products and electrical meter boards in good condition are examples of non-friable asbestos material.

A large number of products made from non-friable asbestos material are still found in Australian buildings, motor vehicles and plant components. These products include:

- flat (fibro), corrugated or compressed asbestos cement sheeting
- asbestos cement pipes such as electrical, water, drainage and flue pipes
- brake and clutch linings.

2.1.2.2 Friable Asbestos Material

Friable asbestos material is any material that contains asbestos and is in the form of a powder, or can be crumbled, pulverized or reduced to powder by hand pressure when dry. Examples of friable asbestos include:

- sprayed limpet
- asbestos cloth and rope
- millboard
- pipe lagging
- boiler lagging.

Any asbestos cement products that have been subjected to weathering, or damaged by hail, fire or water blasting, are considered to be friable asbestos and an asbestos removal contractor with a SafeWork licence for friable asbestos is required for its removal.

2.1.3 Control Measures

The ultimate goal is for all workplaces to be free of ACM. Where practicable, consideration should be given to the removal of ACM during renovation, refurbishment, and maintenance, rather than other control measures such as enclosure, encapsulation or sealing.

The control measures required for identified and presumed ACM should be determined from the risk assessment and should follow the following principles:

Control Measure 1 - Immediate Elevated Risk Level

Friable material which, due to its present condition and location, presents an immediate health risk. Immediate control measures are required and the area containing this material should be isolated from personnel. Abatement of this particular hazard is strongly recommended at the earliest practicable time.

Control Measure 2 - Potential Elevated Risk Level

Damaged or unstable material, which if disturbed is likely to present an immediate health risk, with the likelihood that contamination may be spread to other areas. Control measures to stabilise this material should be initiated immediately, with formal abatement of the hazard being considered.

Control Measure 3 - Low Risk

Non-friable or stable material that has some minor areas of damage requiring remedial action or is likely to be subject to damage or to degrade due to environmental conditions. It is recommended that maintenance work be performed to stabilise and repair damaged areas. Controls should be implemented to protect these materials from further damage or degrading factors.

Control Measure 4 - Negligible Risk under Present Conditions

Non-friable or stable material that is unlikely to present a risk to health unless damaged, tooled, cut, sanded, abraded or machined. It is recommended that these materials be maintained in good order. Reassessment of the control measure rating will be required if planned works are likely to have an impact on these materials.

These control measures reflect the following hierarchy of controls:

- 1 - Elimination/removal (most preferred);
- 2 - Isolation/enclosure/sealing;
- 3 - Engineering controls;
- 4 - Safe Work Practices (administrative controls); and
- 5 - Personal Protective Equipment (PPE) (least preferred).

ACM need to be removed before demolition, partial demolition, renovation or refurbishment if they are likely to be disturbed by those works in accordance with the Code of Practice: How to Safely Remove Asbestos [Safe Work Australia, 2016].

2.2 LEAD

Lead in any form is toxic to humans when ingested and inhaled. Repeated inhalation or ingestion of lead dust or paint particles may produce the cumulative effects of lead poisoning.

2.2.1 Lead in Soil

The presence of lead deposits within soils may result from renovation of a building or may emanate from other external sources such as; atmospheric deposits caused by leaded petrol used in motor vehicles; residues from nearby industrial sites, such as smelters; or other lead paint removal projects being performed in the vicinity of the building.

Lead concentration is reported as greater than or less than the Health-Based Investigation Level of 300mg/kg for HIL A – Low Density Residential [also includes children's day care centres, preschools and primary schools]. Schedule B1 – Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)]:

2.3 PCBs

PCBs is the common name for polychlorinated biphenyls. These synthetic compounds are chemically stable, have good insulating properties and do not degrade appreciably over time or with exposure to high temperatures. These properties made PCBs very useful in electrical devices such as capacitors.

If these chemicals are released into the environment, they do not readily break down and can accumulate in fatty tissues of animals. The longevity of PCBs and their affinity for fatty tissue can result in PCBs moving up and concentrating through the food chain.

PCBs can enter the body in three ways; absorption through the skin, inhalation of vapour, or ingestion. The likelihood of becoming sick from PCB exposure increases with the length of time and the amount of material that a person might come in contact with. The most commonly observed symptom in people exposed to high levels of PCBs is an acne-like rash known as chloracne. PCBs may also cause damage to the liver and the nervous system, with the possibility of causing cancer.

The major use of PCBs in the electrical industry has been as an insulating fluid inside transformers and capacitors. These transformers and capacitors have ranged in size from the very large transformers, which contain several thousand litres of PCBs and were typically used by electrical supply businesses and heavy industries, to the small capacitors which may only contain several milliliters of PCBs and were used in farming equipment and on commercial premises. Capacitors containing PCBs were installed in various types of equipment including fluorescent light fittings during the 1950's, 60's and 70's.

3 RESULTS

| Site Details | | Audit Details | |
|---------------|---|------------------|----------------|
| Full Address: | Saints Peter and Paul Assyrian Primary School, 17-19 Kosovich Place, Cecil Park | Survey Date: | 15/06/2018 |
| Property Id: | Saints Peter and Paul Assyrian Primary School | Inspected By: | Rhys de Gruchy |
| Client Name: | Assyrian Schools Ltd | Inspection Date: | 15/06/2018 |

3.1 ASBESTOS REGISTER

| Location | Material | Sample ID | Sample Status | Photo No. | Asbestos Classification | Condition | Control Measure | Action Required | Action Taken |
|------------------------------------|----------|-----------|---------------|-----------|-------------------------|-----------|-----------------|-----------------|--------------|
| GPS Coordinate: -33.8672, 150.8407 | Soil | 41016-1 | Negative | - | - | - | - | - | - |
| GPS Coordinate: -33.8673, 150.8408 | Soil | 41016-2 | Negative | - | | | | | |

NOTES:

During a previous investigation it is noted that asbestos contamination was found in the area of investigation, due to limited access from thick vegetation the area should be assumed to contain asbestos based on previous findings.

3.2 LEAD

3.2.1 Lead in Soil

| Location | Sample ID | Sample Status | Photo No. | Disturbance Potential | Recommendations and Comments | Action Taken |
|------------------------------------|-----------|--|-----------|-----------------------|--|--------------|
| GPS Coordinate: -33.8672, 150.8407 | 41000-1 | Less than Health-Based Investigation Level | - | - | RESULT 13mg/kg lead content, <300 mg/kg for low density residential sites based on the soil contamination criteria of the Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)]. | |
| GPS Coordinate: -33.8673, 150.8408 | 41000-2 | Less than Health-Based Investigation Level | - | - | RESULT 17mg/kg lead content, <300 mg/kg for low density residential sites based on the soil contamination criteria of the Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)]. | |

NOTES:

Health-Based Investigation Level of 300mg/kg for HIL A – Low Density Residential [also includes children’s day care centres, preschools and primary schools]. Schedule B1 – Guideline on Investigation Levels for Soil and Groundwater [National Environment Protection (Assessment of Site Contamination) Measure 1999 (April 2013)]:

3.3 PCB

3.3.1 PCBs in Soil

| Location | Sample ID | Sample Status | Photo No. | Disturbance Potential | Recommendations and Comments | Action Taken |
|------------------------------------|-----------|-----------------------------------|-----------|-----------------------|---|--------------|
| GPS Coordinate: -33.8672, 150.8407 | 41000-1 | Less than threshold concentration | - | - | RESULT: <0.1 mg/kg total PCBs in soil, <50mg/kg threshold concentration | |
| GPS Coordinate: -33.8673, 150.8408 | 41000-2 | Less than threshold concentration | - | - | RESULT: <0.1 mg/kg total PCBs in soil, <50mg/kg threshold concentration | |

NOTES:

Soil samples were taken and compared to the threshold concentration level of 50mg/kg listed in *Polychlorinated Biphenyls Management Plan [ANZECC, 2003]*.

4 SUMMARY AND RECOMMENDATIONS

A detailed inspection found no hazardous materials in the designated area of the site. Care should be taken during all future excavation works. If suspect materials are encountered, work should cease in the area until the material has been analysed by qualified personnel. Airsafe recommends that a Unexpected Finds Protocol be implemented in relation to any potential unexpected finds of asbestos containing materials

The unexpected finds protocol shall cover the following points:

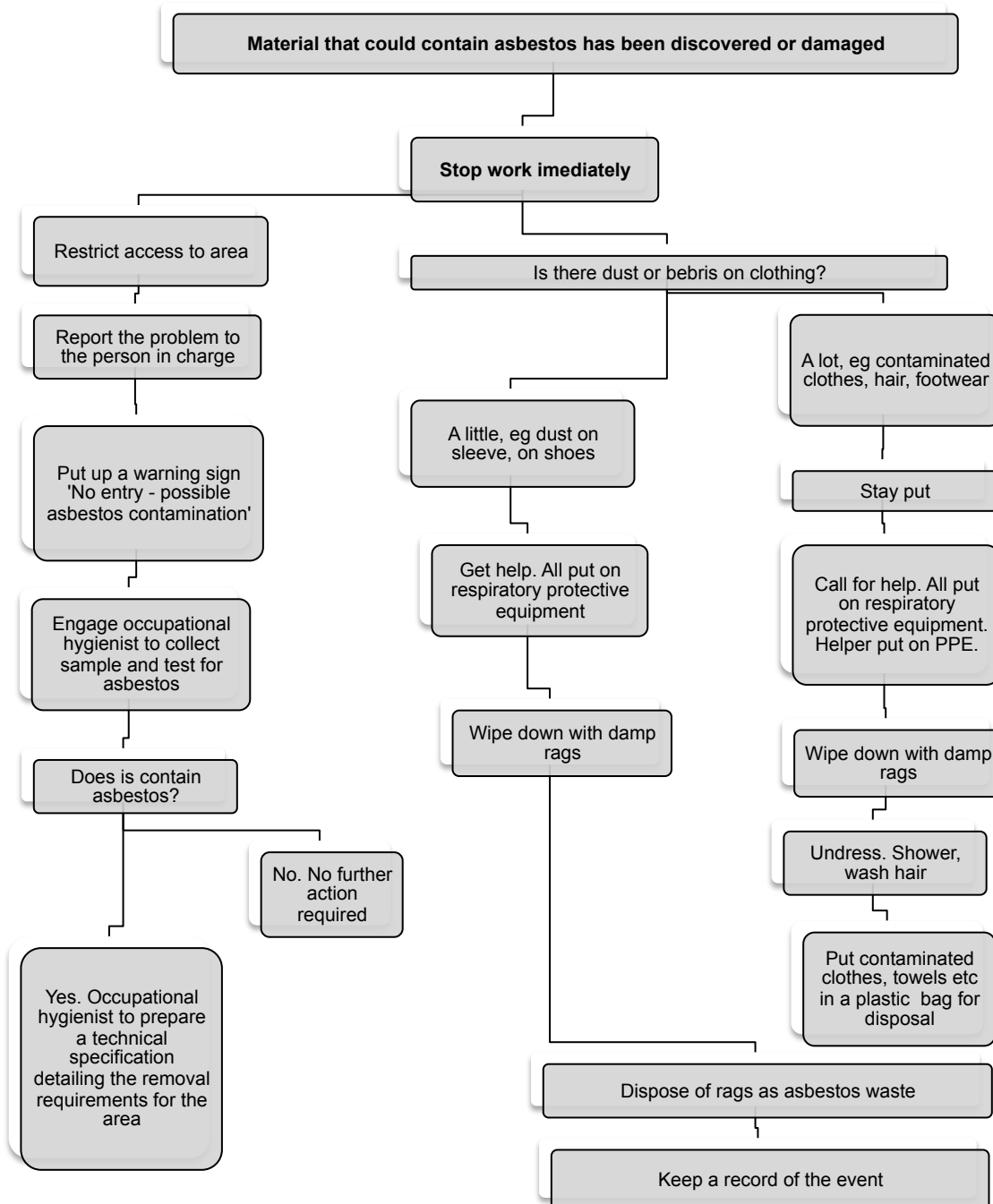


Figure 2: Unexpected finds procedure.

4.1 ASBESTOS

4.1.1 Warning Signs and Labels

Any areas of a workplace, which contain asbestos containing materials, should be signposted with warning signs to ensure that the asbestos is not unknowingly disturbed without the correct precautions being taken.

All identified or presumed asbestos containing material – or their enclosures if the asbestos containing materials are inaccessible – should be clearly labelled. A competent person should determine the number and positions of the labels required. Labels used for this purpose must identify the material as containing asbestos. If a risk assessment suggests an asbestos containing material might be disturbed or persons might be exposed and it is not practical to label the asbestos containing material (e.g. floor tiles or friable asbestos containing material such as lagging), a prominent warning sign, specifying the asbestos containing material, should be posted in the immediate vicinity.

Appendix C shows examples of warning signs and labels that provide an indication of the words that may be used to alert persons to the presence of the asbestos containing material and asbestos hazards. *The wording is not mandatory.* Other warning signs and labels may be used, provided they meet the requirements of AS 1319-1994 *Safety Signs for the Occupational Environment*.

4.1.2 Controlling Maintenance Work

The person with control of the premises should develop a system to control any maintenance work that contains ACM.

Particular attention should be paid to controlling work activities that affect inaccessible areas listed in the register of ACM, such as wall cavities and ceiling spaces.

The control system may take one of several forms, depending on the size and complexity of the organisation. For example,

- smaller organisations may prefer in-house controls, with one person being nominated to control all work carried out by maintenance workers and all contractors; and
- formal, written safe systems of work, incorporating permits-to-work, may be used to control both maintenance workers and contractors.

Whatever the method used, it should be effective in making all maintenance workers and contractors aware of the presence of ACM and preventing any work activity that might expose them, or others nearby, to airborne asbestos fibres.

There should be full consultation concerning any maintenance and service work that might disturb ACM. All people performing the work should receive all necessary training, and the work should be documented and supervised.

The asbestos work area must be isolated and access restricted to essential workers only. Barriers and warning signs may be required.

Personal protective equipment needs to be selected to prevent the contamination of clothing and provide adequate respiratory protection. The level of respiratory protection required will depend on the risk

assessment. Respirators should be selected, used and maintained according to the relevant Australian Standard.

Thorough decontamination of PPE, equipment and the asbestos work area should be carried out at the completion of the tasks.

Under the asbestos prohibition, wherever an asbestos component requires replacement the replacement product must be non-asbestos. It is illegal to reinstall or reuse any ACM.

All ACM must be disposed of correctly, in accordance with State laws. PPE used during maintenance and service work must also be disposed of in this way.

4.1.3 Awareness Training

If ACM are present or thought to be present in a workplace, there must be full consultation, information-sharing and involvement by everyone in the workplace, including employers, workers, contractors and other, throughout the processes of identifying ACM, developing an asbestos management plan, assessing the risks and developing and implementing control measures.

Information and training must be provided to workers, contractors and others who may come into contact with ACM in a workplace, either directly or indirectly.

Depending on the circumstances this asbestos training may include:

- the purpose of the training;
- the health risks of asbestos;
- the types, uses and occurrence of ACM in buildings, plant and/or equipment in the workplace;
- the trainees' roles and responsibilities under the workplace's asbestos management plan;
- where the workplace's register of ACM is located and how it can be accessed;
- the timetable for removal of ACM from the workplace;
- the processes and procedures to be followed to prevent exposure, including exposure from any accidental release of asbestos dust into the workplace;
- where applicable, the correct use of maintenance and control measures, protective equipment and work methods to minimise the risks from asbestos, limit the exposure of workers and limit the spread of asbestos fibres outside any asbestos work area;
- the NES and control levels for asbestos; and
- the purpose of any air monitoring or health surveillance that may occur.

The provision of this information on the occupational health and safety consequences of exposure to asbestos and appropriate control measures should be recorded.

4.1.4 Reviewing Risk Assessments

The register of ACM, including any risk assessments, should be reviewed every 12 months or earlier where:

- there is evidence that the risk assessment is no longer valid;
- there is evidence that any control measures are not effective;
- a significant change is proposed for the workplace or for work practices or procedures relevant to the risk assessment.

A visual inspection of identified ACM should be undertaken to assess if there is a change in the condition of the ACM or if the ACM has been removed, enclosed or sealed. The review should ensure the asbestos materials are not deteriorating or otherwise contributing to an unacceptable health risk.

4.1.5 Air Monitoring

To ensure control measures are effective, air monitoring should be carried out in accordance with the Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC: 3003 (2005)] by a NATA accredited laboratory on a regular basis until the material is completely removed.

The NES of 0.1 fibres/mL should never be exceeded, and control measures should be reassessed whenever air monitoring indicates the 'control level' of 0.01 fibres/mL has been reached.

4.1.6 Responsibilities and Licensing

Persons in adjoining properties that might be affected by the asbestos removal activities must be consulted.

Safework NSW requires that certain asbestos removal work be licensed under the *Work Health and Safety Regulation 2017*.

An AS A: Friable Asbestos Licence is required to remove friable asbestos.

Friable asbestos licence holders are also authorised to undertake non-friable asbestos work so there is no need to obtain a non-friable asbestos license if the contractor already holds a friable licence [INCLUDE ONLY IF NON-FRIABLE MATERIALS AS WELL].

An AS B: Non-friable Asbestos Licence is required to remove more than 10 square metres of non-friable asbestos.

The client is responsible for ensuring an asbestos removalist carries out the removal of ACM. The client should request details of the contractor's asbestos removal license prior to any removal of ACM. A copy of the notification must be displayed at the place of work.

Before starting work, a site-specific permit approving the friable asbestos project must be obtained. A permit will not be granted without a current licence. A copy of the permit must be displayed at the place of work.

SafeWork must be notified before undertaking any non-friable asbestos removal work where a licence is required. A copy of the notification must be displayed at the place of work.

The asbestos removalist must ensure the removal is adequately supervised and is carried out in a safe manner by ensuring that a nominated supervisor recognised by SafeWork is on site at all times when licensed work is being carried out.

All persons involved in the removal of ACM must be competent for the tasks allocated to them. The licence holder must ensure asbestos workers have had training in safe work methods in asbestos work.

4.1.7 Site Preparation

Preparation activities include minimising the number of people present and gathering the correct tools, PPE, decontamination materials, barricades, warning signs, etc at the workplace before any work commences.

The responsible person should ensure the security and safety of the asbestos removal site and asbestos work area at all times, particularly if the removal process is to take place over several days or an extended period of time.

The asbestos removal site should be clearly defined to ensure that non-essential people do not enter and to clearly delineate the removal site and warn persons that asbestos removal work is being carried out (e.g. through the placement of barriers and signs or other warning devices). All barriers and warning signs should remain in place until a clearance to re-occupy has been granted.

Before removal tasks commence plastic sheeting (for containment) may need to be placed on the floor or other surfaces that may be contaminated with asbestos dust. If the removal work is not being carried out in an enclosure, the surfaces to be worked on should be cleaned, by either wet wiping or vacuuming, to minimise exposure from the disturbance of asbestos fibres that might be on the surfaces prior to the commencement of removal tasks.

4.1.8 General Requirements for Asbestos Removal

Asbestos removal works should be carried out in accordance with the requirements of the Code of Practice: How to Safely Remove Asbestos [Safe Work Australia, 2016]

Wherever possible, dry ACM should not be worked on.

Techniques that prevent the generation of airborne asbestos fibres should be used.

4.1.9 Asbestos Removal Equipment

Care should be taken in selecting tools for asbestos removal tasks.

In addition to having to be suitable for these tasks, all tools should prevent or minimise the generation and dispersion of airborne asbestos fibres as much as possible.

The use of power tools in asbestos removal work should be avoided because of the possibility of internal contamination, which commonly occurs with such devices.

In general, manually operated hand tools are preferred.

A constant low-pressure water supply is required for wetting down asbestos. This can be achieved with a mains-supplied garden hose fitted with a pistol grip. If no water supply is readily available, a portable pressurised vessel, such as a pump-up garden sprayer, may be able to be used.

Asbestos vacuum cleaners should comply with the requirements of AS/NZS 60335.2.69:2017 Household and Similar Electrical Appliances—Safety Part 2.69 and AS 4260-1997 *High Efficiency Particulate Air Filters (HEPA) – Classification, Construction and Performance*.

Warning: Domestic vacuum cleaners are unsuitable and should never be used, even if they have a HEPA filter.

Asbestos vacuum cleaners should only be used for collecting small pieces of asbestos dust and debris. Larger pieces should never be broken into smaller sizes so they can be vacuumed.

4.1.10 Personal Protective Equipment (PPE)

All persons engaged in asbestos removal work should wear respiratory protective equipment (RPE) conforming with the requirements of AS/NZS1716-2012 *Respiratory Protective Devices*.

The selection, use and maintenance of respirators should be in accordance with AS/NZS1715-2009 *Selection Use and Maintenance of Respiratory Protective Devices*.

Protective clothing should be provided and worn at all times during all work in the asbestos work area prior to the final clearance inspection.

Protective clothing should be made from materials which provide adequate protection against fibre penetration. Coveralls should not have external pockets or Velcro fastenings because these features are easily contaminated and difficult to decontaminate.

Disposable coveralls are preferred. They should never be reused, and must be disposed of as asbestos waste.

4.1.11 Decontamination

The type of decontamination required will depend on the type of asbestos (i.e. friable or non-friable); the work method used, and site conditions.

Decontamination must include the asbestos work area, all tools and equipment and personal decontamination.

All contaminated materials, including cleaning rags, plastic sheeting and PPE etc, must be disposed of as asbestos waste.

Some asbestos removal work necessitates the use of decontamination units.

4.1.12 Waste Removal

Loose asbestos waste should not be allowed to accumulate within the asbestos work area.

Asbestos waste should be collected in heavy-duty 200 µm (minimum thickness) polythene bags that are no more than 1200 mm long and 900 mm wide.

The bags should be labelled with an appropriate warning, clearly stating that they contain asbestos and that dust creation and inhalation should be avoided.

If it is not feasible to use asbestos waste bags, drums or bins, because of the volume or size of the asbestos wastes, a waste skip, vehicle tray or similar container that has been double lined with heavy-duty plastic sheeting (200 µm minimum thickness) may be used. Once the skip is full, its contents should be completely sealed with the plastic sheeting.

4.1.13 Disposal of Asbestos Waste

All asbestos waste should be removed from the workplace by a competent person and transported and disposed of in accordance with all relevant State legislation and guidelines for the transport and disposal of asbestos waste.

All asbestos waste must be transported in a covered leak-proof vehicle and:

- not mixed with general building waste;
- not taken to a waste facility for recycling.

Only vehicles licensed by the EPA NSW can transport friable asbestos waste in the metropolitan area.

Asbestos in any form must be disposed of in a manner approved by the EPA NSW and at a waste facility licensed by the EPA NSW to accept asbestos waste.

NSW licensed landfills that accept asbestos waste from the public are listed by region on the EPA NSW website.

Vehicles and their containers must be cleaned before leaving the waste facility.

All asbestos containing material is to be placed into trucks or bins for transport to a landfill site licensed to accept Special Waste – Asbestos in accordance with the requirements of the NSW Protection of the Environment Operations (General) Regulation 2009. Asbestos waste shall be transported in accordance with NSW EPA Waste Tracking Requirements, including but not limited to Part 4 of the Protection of the Environment Operations (Waste) Regulation 2014: ie Waste-locate to be used for more than 100kg of asbestos waste in a single load.

The transport of the asbestos contaminated waste is to be undertaken in covered leak proof vehicles and is to be disposed of at a landfill site that can lawfully receive this waste in accordance with the NSW Protection of the Environment Operations (Waste) Regulation 2014.

Contact the EPA NSW and/or the local council for details of waste facilities that can accept asbestos waste.

To demonstrate proof of proper disposal, copies of asbestos waste disposal receipts are to be kept for inspection by Safework, the EPA NSW or the local council.

4.1.14 Air Monitoring

Air monitoring should be performed whenever ACM are being removed, to ensure the control measures are effective.

Air monitoring should be performed in accordance with the *Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres* [NOHSC: 3003 (2005)].

4.1.15 Clearance to Reoccupy

A visual inspection involving an examination of the asbestos work area should be carried out, prior to the resumption of normal work in the area by unprotected personnel, to confirm that the asbestos removal work has been completed and there is no visual evidence of dust and debris.

Particular attention should be paid to ledges, the tops of air-conditioning ducts, cracks in the floor, folds in plastic sheeting and crevices or other areas which may have been overlooked during the initial clean-up.

The clearance inspection must be conducted by a competent person who is independent from the person responsible for the removal work.

APPENDIX A – SITE PLANS

APPENDIX B - PHOTOGRAPHS

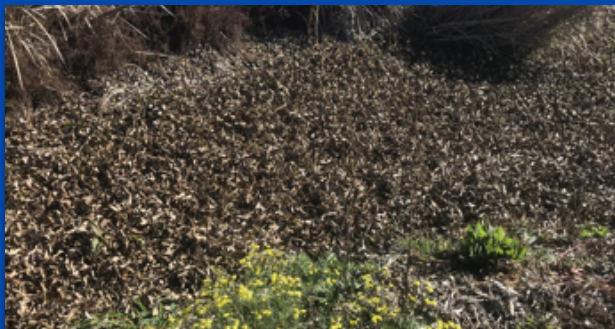


Photo 1

Creek bed in marked area

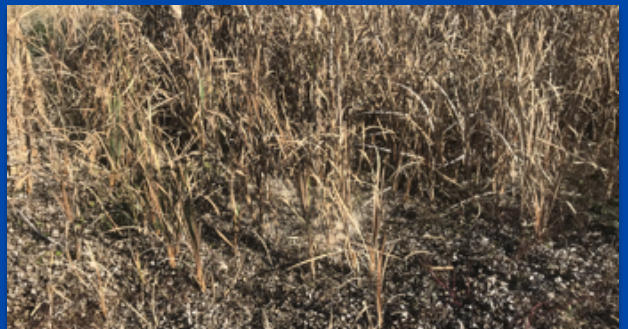


Photo 2

Low section of creek bed.



Photo 3

Side of creek bed in marked area showing sampling area.



Photo 4

Facing south - creek bed and sampling area

APPENDIX C – ANALYSIS RESULTS



93 Beattie Street Balmain NSW 2041 Australia
T. 02 9555 9034 | F. 02 9555 9035
info@airsafe.net.au | www.airsafe.net.au
ABN 36 609 424 946

TEST REPORT

June 18, 2018

PMDL

17/124 Walker Street
NORTH SYDNEY NSW 2060

Your Reference: St. Peter and Paul Christian Primary School, Cecil Park
Job Number: 41016

Attention: Tim Williams

Dear Tim,

In accordance with your instructions, Airsafe tested samples from the above site for asbestos content.

The following samples were processed on the dates indicated.

| | |
|----------------------------------|----------------|
| Samples: | 2 Soil Samples |
| Date of Sample Receipt: | 18/06/18 |
| Date of Sample Analysis: | 18/06/18 |
| Date of Preliminary Report Sent: | Not Issued |

The results are contained in the following pages of this report.

Should you have any queries regarding this report please contact the undersigned.

Yours faithfully
AIRSAFE OHC PTY LTD

Matthew Shaw
Approved Identifier and Signatory



Accredited for compliance with ISO/IEC 17025 – Testing.
NATA accredited laboratory 2959.
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Page 1 of 2

PROJECT: St. Peter and Paul Christian Primary School, Cecil Park

JOB NO: 41016

| Sample No | Location/Reference | Sample Description | Asbestos ID - Soil | Trace Analysis |
|-----------|------------------------|--------------------|---|--------------------------------|
| 41016-1 | GPS -33. 8672 150.8407 | 445g soil | No asbestos found at reporting limit of 0.1 g/kg Organic fibres detected | Respirable fibres not detected |
| 41016-2 | GPS -33.8673 150.8408 | 364g soil | No asbestos found at reporting limit of 0.1 g/kg Organic fibres detected | Respirable fibres not detected |

Method: Samples have been analysed using polarised light microscopy including dispersion staining in accordance with the Method for the qualitative identification of asbestos in bulk samples [AS 4964 – 2004] and in-house method AS102 - Method for the Qualitative Identification of Asbestos in Bulk Samples.

Sampling: Samples have been analysed on an “as received” basis.

Note: The results relate only to the samples tested.

Comment: Even after disintegration of certain bulk samples (vinyl tiles and bituminous type materials), the detection of fibres may be difficult when using Polarised Light Microscopy and Dispersion Staining Techniques. This may be due to the matrix of the sample (uneven distribution), or fine fibres that are difficult to detect and positively identify.



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APPENDIX D – CHAIN OF CUSTODY

93 Beattie Street Balmain NSW 2041 Australia
T. 02 9555 9034 | F. 02 9555 9035
info@airsafe.net.au | www.airsafe.net.au
ABN 36 609 424 946

Envirolab Services
12 Ashley St
Chatswood NSW 2067
Ph: (02) 9910 6200

Job No: 194228

Date Received: 18/6/18
Time Received: 15:40
Received By: GMR
Temp: Cool/Ambient 17.9
Cooling: Ice/icepack
Security: intact/Broken/None

PROJECT NAME: St Peter and Paul Christian Primary School.....

JOB NO: 41000.....

CONTACT: Simon Gorham

REPORT TO: info@airsafe.net.au

PRIOR STORAGE: Esky / Fridge / Ice

TO: Envirolab Services Pty Ltd
12 Ashley Street
Chatswood NSW 2067

CONTACT: T. 02 9910 6200
F. 02 9910 6201

ATTENTION: Aileen Hie
ahie@envirolabservices.com.au

[illegible]

APPENDIX E – TEST REPORTS



Envirolab Services Pty Ltd
 ABN 37 112 535 645
 12 Ashley St Chatswood NSW 2067
 ph 02 9910 6200 fax 02 9910 6201
 customerservice@envirolab.com.au
 www.envirolab.com.au

CERTIFICATE OF ANALYSIS 194208

Client Details

| | |
|------------------|-----------------------------------|
| Client | Airsafe Laboratories |
| Attention | Simon Gorham |
| Address | 93 Beattie St, Balmain, NSW, 2041 |

Sample Details

| | |
|---|--|
| Your Reference | 41000, St Peter & Paul Christian Primary School |
| Number of Samples | 2 Soil |
| Date samples received | 18/06/2018 |
| Date completed instructions received | 18/06/2018 |

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.
 Samples were analysed as received from the client. Results relate specifically to the samples as received.
 Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

| | |
|---|------------|
| Date results requested by | 25/06/2018 |
| Date of Issue | 22/06/2018 |
| NATA Accreditation Number 2901. This document shall not be reproduced except in full. | |
| Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with * | |

Results Approved By

Dragana Tomas, Senior Chemist
 Ken Nguyen, Senior Chemist

Authorised By

Jacinta Hurst, Laboratory Manager

Envirolab Reference: 194208
 Revision No: R00



Page | 1 of 9

Client Reference: 41000, St Peter & Paul Christian Primary School

| PCBs in Soil | | | |
|----------------------------|-------|------------|------------|
| Our Reference | | 194208-1 | 194208-2 |
| Your Reference | UNITS | 41000-1 | 41000-2 |
| Date Sampled | | 15/06/2018 | 15/06/2018 |
| Type of sample | | Soil | Soil |
| Date extracted | - | 19/06/2018 | 19/06/2018 |
| Date analysed | - | 20/06/2018 | 20/06/2018 |
| Aroclor 1016 | mg/kg | <0.1 | <0.1 |
| Aroclor 1221 | mg/kg | <0.1 | <0.1 |
| Aroclor 1232 | mg/kg | <0.1 | <0.1 |
| Aroclor 1242 | mg/kg | <0.1 | <0.1 |
| Aroclor 1248 | mg/kg | <0.1 | <0.1 |
| Aroclor 1254 | mg/kg | <0.1 | <0.1 |
| Aroclor 1260 | mg/kg | <0.1 | <0.1 |
| Total +ve PCBs (1016-1260) | mg/kg | <0.1 | <0.1 |
| Surrogate TCLMX | % | 104 | 102 |

Envirolab Reference: 194208
Revision No: R00

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Client Reference: 41000, St Peter & Paul Christian Primary School

| Acid Extractable metals in soil | | | |
|---------------------------------|-------|------------|------------|
| Our Reference | | 194208-1 | 194208-2 |
| Your Reference | UNITS | 41000-1 | 41000-2 |
| Date Sampled | | 15/06/2018 | 15/06/2018 |
| Type of sample | | Soil | Soil |
| Date prepared | - | 19/06/2018 | 19/06/2018 |
| Date analysed | - | 19/06/2018 | 19/06/2018 |
| Lead | mg/kg | 13 | 17 |

Client Reference: 41000, St Peter & Paul Christian Primary School

| Moisture | | | |
|----------------|-------|------------|------------|
| Our Reference | | 194208-1 | 194208-2 |
| Your Reference | UNITS | 41000-1 | 41000-2 |
| Date Sampled | | 15/06/2018 | 15/06/2018 |
| Type of sample | | Soil | Soil |
| Date prepared | - | 19/06/2018 | 19/06/2018 |
| Date analysed | - | 20/06/2018 | 20/06/2018 |
| Moisture | % | 24 | 20 |

Client Reference: 41000, St Peter & Paul Christian Primary School

| Method ID | Methodology Summary |
|-------------------|---|
| Inorg-008 | Moisture content determined by heating at 105+/-5 °C for a minimum of 12 hours. |
| Metals-020 | Determination of various metals by ICP-AES. |
| Org-006 | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. |
| Org-006 | Soil samples are extracted with dichloromethane/acetone and waters with dichloromethane and analysed by GC-ECD. Note, the Total +ve PCBs PQL is reflective of the lowest individual PQL and is therefore "Total +ve PCBs" is simply a sum of the positive individual PCBs. |

Client Reference: 41000, St Peter & Paul Christian Primary School

| QUALITY CONTROL: PCBs in Soil | | | | | Duplicate | | | Spike Recovery % | | |
|-------------------------------|-------|-----|---------|------------|-----------|------|------|------------------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-3 | [NT] |
| Date extracted | - | | | 19/06/2018 | [NT] | [NT] | [NT] | [NT] | 19/06/2018 | [NT] |
| Date analysed | - | | | 20/06/2018 | [NT] | [NT] | [NT] | [NT] | 20/06/2018 | [NT] |
| Aroclor 1016 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1221 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1232 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1242 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1248 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Aroclor 1254 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | 100 | [NT] |
| Aroclor 1260 | mg/kg | 0.1 | Org-006 | <0.1 | [NT] | [NT] | [NT] | [NT] | [NT] | [NT] |
| Surrogate TCLMX | % | | Org-006 | 110 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |

Client Reference: 41000, St Peter & Paul Christian Primary School

| QUALITY CONTROL: Acid Extractable metals in soil | | | | | Duplicate | | Spike Recovery % | | | |
|--|-------|-----|------------|------------|-----------|------|------------------|------|------------|------|
| Test Description | Units | PQL | Method | Blank | # | Base | Dup. | RPD | LCS-3 | [NT] |
| Date prepared | - | | | 19/06/2018 | [NT] | [NT] | [NT] | [NT] | 19/06/2018 | [NT] |
| Date analysed | - | | | 19/06/2018 | [NT] | [NT] | [NT] | [NT] | 19/06/2018 | [NT] |
| Lead | mg/kg | 1 | Metals-020 | <1 | [NT] | [NT] | [NT] | [NT] | 99 | [NT] |

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Revision No: R00

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Client Reference: 41000, St Peter & Paul Christian Primary School

| Result Definitions | |
|--------------------|---|
| NT | Not tested |
| NA | Test not required |
| INS | Insufficient sample for this test |
| PQL | Practical Quantitation Limit |
| < | Less than |
| > | Greater than |
| RPD | Relative Percent Difference |
| LCS | Laboratory Control Sample |
| NS | Not specified |
| NEPM | National Environmental Protection Measure |
| NR | Not Reported |

| Quality Control Definitions | |
|--|--|
| Blank | This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples. |
| Duplicate | This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable. |
| Matrix Spike | A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist. |
| LCS (Laboratory Control Sample) | This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample. |
| Surrogate Spike | Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples. |
| Australian Drinking Water Guidelines recommend that Thermotolerant Coliform, Faecal Enterococci, & E.Coli levels are less than 1cfu/100mL. The recommended maximums are taken from "Australian Drinking Water Guidelines", published by NHMRC & ARMC 2011. | |

Client Reference: 41000, St Peter & Paul Christian Primary School

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: <5xPQL - any RPD is acceptable; >5xPQL - 0-50% RPD is acceptable.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals; 60-140% for organics (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.