



# **Sydney Environmental & Soil Laboratory**

Specialists in Soil Chemistry, Agronomy  
and Contamination Assessments

## **Detailed Site Investigation (Phase 2)**

for

## **First Fleet Park The Rocks NSW**

**Prepared for:**

**Sydney Harbour Foreshore Authority  
February 2010**

**(Report: C4024.Q2011.B12748FA)**

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Sydney Environmental & Soil Laboratory Pty Ltd ABN 70 106 810 708

PO Box 357  
Pennant Hills  
NSW 1715

16 Chilvers Road  
Thornleigh NSW  
2120 Australia

T: 02 9980 6554  
F: 02 9484 2427

E: [info@sesl.com.au](mailto:info@sesl.com.au)  
W: [www.sesl.com.au](http://www.sesl.com.au)





## **Executive Summary**

*Sydney Environmental & Soil Laboratory Pty. Ltd. (SESL) was engaged by Mr P Nowland of Sydney Harbour Foreshore Authority (Client) to conduct a Phase 2 Detailed Site Investigation (PSI) at First Fleet Park, The Rocks NSW (the site). The site encompasses Lot 7002 DP1057990. SESL understands that this DSI is required to characterise the current site condition and provide guidance in regards to the proposed open space redevelopment.*

*The objective of this Phase 2 DSI was to:*

- Produce a Detailed Site Investigation (DSI) in accordance with Department of Environment and Climate Change NSW Contaminated Sites assessment protocol;*
- Identify issues of ongoing pollution and non-compliance, as compared to current regulatory criteria;*
- Identify the likelihood and/or extent of significant contamination occurring from past or present practices on the site; and*
- Recommend any further management strategies including any additional investigations.*

*The scope of works for the current assessment is detailed as follows:*

- Comprehensive data review on the history of the site including a review of selected aerial photographs and Certificates of Title;*
- Searches for information held by relevant State Authorities in relation to contaminated land;*
- Review of records on Council's files, including section 149 certificates;*
- Review of WorkCover Dangerous Goods License Search;*
- Obtaining information pertaining to the site's environmental setting including the proximity of the site to sensitive receptors and information on site geology;*
- Inspection of the site and immediate surrounds to support the results of the data review and to identify site characteristics that may be suggestive of land contamination;*
- Site walk over and inspection by SESL;*
- Intrusive soil sampling based on site account and site inspection. Standard quality assurance (QA) and quality control (QC) measures implemented;*
- Laboratory chemical analysis by National Association of Testing Authorities (NATA) accredited laboratories, in accordance with a chain of custody prepared by SESL;*
- Assessment of field and laboratory analytical results limited to the current commercial/industrial landuse of the site;*
- Preparation of this report detailing the PSI findings in accordance with Department of Environment and Climate Change (DECC) guidelines for reporting contaminated sites;*
- Propose suitable additional investigations (if required); and*
- Propose suitable remedial and validation strategies for the site (if required).*

*The Phase 2 DSI was based on a desktop review of available information, a search of the historical records and a site walkover with intrusive soil sampling of accessible areas carried out on 06/01/10.*

*The subject site is located immediately east and south of the Museum of Contemporary Art, The Rocks, and is approximately 0.866 hectares (Ha) in size. The exposed soil regions were investigated*



during the DSI, totalling 0.650 Ha to an investigation depth of 0.5m due to the scope of proposed landscaping works.

In proposing recommendations and/or remediation criteria for the Site, the published Column 3 (NEPF 'E') Health Based Investigation Levels (HIL) for parks and recreational open space, have been adopted from the soil investigation levels for urban redevelopment sites in NSW, as set out in the Contaminated Sites: Guidelines for the NSW Site Auditor Scheme (DEC, 2006). Environmental Investigation Levels (EIL) were also considered in this investigation as provisional phytotoxicity investigation levels.

The finding of the PSI indicated levels of heavy metal, Benzo(a)pyrene (BaP) and Polycyclic Aromatic Hydrocarbon (PAH) contaminants exceeded the adopted thresholds (HIL or EIL) at four locations on the site. Details of sampling locations can be seen in Appendix A – Map 1 and Map 2.

A summary of results exceeding the HILs:

- A2/0.5m exceeds the HILs for BaP (6.3 mg/kg) and PAH (73.4 mg/kg); and
- B4/0.35m exceeds the HILs for BaP (8.4 mg/kg) and PAH (73.1 mg/kg).

A summary of the results exceeding EILs:

- B7/0.1m exceeds the EILs for Mercury (1.2 mg/kg); and
- B9/0.1m exceeds the EILs for Zinc (290 mg/kg).

The results indicate that the surface topsoil materials at locations B7 and B9 and the subsurface soil materials at A2 and B4 contain elevated contaminants. See Appendix B for full results compared to the adopted Guidelines.

It is the recommendation of SESL that these isolated areas may be removed from site under the guidance of a site-specific Remedial Action Plan (RAP) or maintained on site under the guidance of a site specific Environmental Management Plan (EMP). Based on this Phase 2 DSI, SESL consider the site suitable for the current open space landuse, subject to the implementation of a Remedial Action Plan (RAP) or Environmental Management Plan (EMP). A Site Validation Report (SVR) shall be carried out to ensure success of the RAP if adopted.

Reference should be made to Section 9 of the report that sets out details of the limitations of the assessment.

SYDNEY ENVIRONMENTAL & SOIL LABORATORY PTY LTD

Ryan Jacka  
Environmental Consultant

Daniel Saunders  
Senior Environmental Consultant



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### Map 2 - Regions of Elevated Results

First Fleet Park, The Rocks NSW

- KEY:
-  Bore Hole
  -  Affected Regions
  -  Not Accessible

Date: 05/01/10

