

2 November 2023

Tim Doman
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By email: TDomain@artc.com.au

Project name: Goulburn Wheat Yards, Contaminated Land Audit
Project number: SCL220020.01

Dear Tim

Subject: Interim Site Audit Advice (IAA) #3 for Statutory Site Audit 2022/ SY028. Review of Ramboll 'Goulburn Wheat Yards Assessment, Offsite Lead Delineation Preliminary Site Investigation', Final Report

1 INTRODUCTION AND PURPOSE

Mr Brad May, a NSW EPA accredited Contaminated Site Auditor (auditor) under the Contaminated Land Management Act 1997 (CLM Act) (Accreditation Number 1603) and an employee of Epic Environmental Pty Ltd (Epic) was commissioned by the Australian Rail Track Corporation (ARTC) on 31 October 2022 to carry out a site contamination audit (site audit) in relation to the site known as the Goulburn Wheat Yards, located off Sloane Street, Goulburn NSW 2580 (the site).

This IAA provides ARTC with interim advice regarding an offsite lead delineation assessment surrounding the site, as documented in the final report:

- Ramboll (2023) 'Goulburn Wheat Yards Assessment – Offsite Lead Delineation Preliminary Site Investigation', Project reference: 318001660, Final Report, dated 31/10/2023.

The report presents the results of an environmental assessment to assess the potential offsite risk of lead contamination surrounding the Goulburn Wheat Yards.

2 AUDITOR COMMENTS AND CONCLUSION

Auditor comments have been made on draft versions of the report, which have been satisfactorily addressed as shown in the attached **Table 1**.

Following the review, the auditor endorses the report.

Regards



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Enclosures: Table 1 – Audit Comments

TABLE 1 Contaminated Site Audit Log and Reporting Checklist

Audit Details

Project Reference: SCL220020.01
Site Audit Notification No. (NSW only): 2022/ SY028
Site Address: Off Sloane St, Goulburn NSW 2580
Lot on Plan: Railyards: Lot 1 DP1187262, Part Lot 2 DP1192120 and Part Lot 2 DP 1185735, Chainage 225.6km - 227km
Document name: Goulburn Wheat Yards Assessment, Offsite Lead Delineation Preliminary Site Investigation
Document details: Project No. 318001660 Rev0 - Final, dated 31_10_23

Table 1. IAA#4 Auditor comments on Lead Delineation DSI (Ramboll, Rev0)

Comment No.	Reviewer	Doc Rev	Review date	Reference/ Report Section	Review #1 Auditor Comments [15/08/2023] to be Addressed	Review #1 Consultant Response [revised report 7/9/23]	Review #2 Auditor comments [23/10/23]	Comment Status (Open / Closed)
0	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	General Comment	This communication is provided as interim advice only. Where applicable, the information provided is consistent with NSW EPA Guidelines and Policies. The Advice does not constitute a site audit report, or site audit statement and does not pre-empt conclusions which will be drawn at the end of the audit process. A site audit report and site audit statement will be issued when the audit process has been completed.	Noted	-	Closed
1	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	1. Introduction	Suggest make clear distinction between 'the wheat yards site' and the 'study area' being the subject area of the investigation.	Amended	-	Closed
2	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	1.1 Background	Include in background all potential contaminants of concern for the Rail Yard site primarily lead, but including heavy metals (including arsenic, copper, zinc, nickel), TRH/ BTEX, PAHs, OCP/ OPPs, PCBs, phenols and asbestos. The auditor notes that PFAS chemicals are potential contaminant of concern for the Railyards site and have not yet been assessed	Updated Section 1.1 and Section 7 as follows <i>Ramboll notes that other contaminants of potential concern (CoPCs) have been identified onsite, including OCP, OPP, PCB, heavy metals (Cd, CrVI, Ni, Zn, Hg), phenols, TRH, BTEXN, phenols, PAH, asbestos and Per- and polyfluoroalkyl substances (PFAS), but these have not been considered in this investigation.</i>	-	Closed
3	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	5. Site Condition and Environment	It would be useful if significant features identified in the site inspection as reported in Table 5-1 were marked up on Figure 2 (or other Figures). For example the noted escarpment, watercourses and drainage lines (noted marked on Fig 4a to 4e, but show actual drainage lines).	Updated. The wording in Table 5-1 has been corrected from escarpment.	-	Closed
4	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	5. Site Condition and Environment Table 5-1	Comment (or include in Table 5-1) details of any nearby historical or current contamination sources that may be material to the PSI.	Updated Table 5-1.	-	Closed
5	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	9.1 Sampling Plan and Methodology	Auditor notes that only one sediment sample was collected from the open drain on Ottiwell Street (east) (DS01). Depending on revised results and interpretation, future field investigation may include further sampling and analysis of sediment in drainage lines.	Noted	-	Closed
6	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	10. Quality Assurance/ Quality Control	include make and model number of XRF used (or include in Appendix)	Updated. Details of the make and model are provided in Section 8.2, Table 8-2, DQI - Precision. Also listed in Appendix 8.	-	Closed
7	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	10. Quality Assurance/ Quality Control	Include fpXRF individual license details (or include in Appendix)	Radiation user licence is included as Appendix 9.	-	Closed
8	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	10. Quality Assurance/ Quality Control, Table 10-1 and Appendix 4	With regard to fpXRF correlation (Appendix 4), the auditor suggests that the correlation coefficient may be applied to produce 'worst case' heavy metal concentration estimates for comparison against criteria.	The correlation coefficient measures the comparability of the fpXRF data to the laboratory data (not a bias in the dataset). A worst case heavy metal concentration estimate was instead determined using the "error" values (see comment 14). Refer to Appendix 5 for updated tables, and Section 12.2.1 for discussion.	-	Closed
9	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	10. Quality Assurance/ Quality Control, Table 10-1	Include RCRA standard used for Pb (3rd para page 39)	Updated to include lead.	-	Closed
10	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	11. Assessment Criteria	The report states that 'the assessment criteria to be adopted for the offsite delineation investigation will depend on the local land use, as follows', then lists all available NEPM land-use scenarios. However, if all samples are collected from road verges, then land-use criteria to be applied will be equivalent to HIL-C (Recreational open space) and EIL - Recreational and public open space. Discuss / update.	Updated to HIL - C (Recreational Open Space) and EIL - Urban Residential and Public Open Space. Updated Appendices Tables (Appendix 5).	-	Closed
11	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	12. Results, 13. Conceptual Site Model and 14. Conclusions and Recommendations	Revisit these sections, following recalculation of results (if required) as per comments 15 and 17, below, as well as taking into account estimated worst case values as per comment 7.	Updated Chapter 12. No further updates were required.	-	Closed
12	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	14. Conclusions and Recommendations	Following recalculation (as required) and interpretation of results, include (if possible) additional evidence for heavy metal concentrations (particularly copper and zinc) to be natural mineralisation with reference to published regional background heavy metal data and evaluation of the Geochemical Abundance Index (GAI)	Background concentrations sourced from Oliszowky et al (1995). Comment added to Section 12.3.	-	Closed
13	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 4 - correlation tables	The Tables would be improved with units included in the header row.	Updated to include units	-	Closed

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14	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 4 - correlation tables	Explain what is the source of the 'As error', 'Cu error', 'Pb error' and 'Zn error' columns? What is the impact of these errors on the results?	The error refers to the amount of error associated with the individual result for that analyte and was provided on the raw fpXRF output sheet sheets provided as Appendix 3. This error was used to produce a 'worst case' heavy metal concentration (see comment 8).	-	Closed
15	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 4 - correlation tables	Explain calculation made in 'As corrected', 'Cu corrected', 'Pb corrected' and 'Zn corrected' columns. The calculation doesn't appear to be correction for moisture described in Table 10-1. For example, for the first sample (XS008), Pb fpXRF Pb concentration is 13.44ppm and measured moisture is 13%. Using the formula $\text{corrected fpXRF} = \text{fpXRF} / (100\% - \text{moisture } \%)$, the corrected value for lead will be $13.44 / 0.87 = 15.45\text{ppm}$, which is not in agreement with the Table value of 12.57ppm. To check and recalculate.	Updated.	Remaining errors in App4 addressed 31_10	Closed
16	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 5 - Summary Tables	The Tables would be improved with units included in the header row.	Updated to include units.	-	Closed
17	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 5 - Summary Tables	As per comment 15, explain calculation made in 'Arsenic', 'Copper', 'Lead' and 'Zinc' columns (assuming these are corrected values). This doesn't appear to be the calculation for moisture described in Table 10-1. To check and recalculate.	Updated.	-	Closed
18	BM (Epic)	0-Draft, 21/7/2023	16/08/2023	Appendix 5 - Summary Tables	Following confirmation of the corrected dataset (above comment), include statistical summary (e.g count, sd, mean, 95%UCL) and consider dataset statistics in interpretation of results.	Updated.	-	Closed