

10 July 2015

Mr Des Friedrich
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CC:- Aaron Blacker, Probuild (NT) Pty Ltd
Andrew Durand, Greencap

REVIEW OF SAMPLING / ANALYSIS QUALITY PLAN PIONEER PARK RACECOURSE, ALICE SPRINGS, NT

This letter documents my review and comments on the background information package and Sampling Plan for the above site (Greencap document J133374/01 dated July 2015). I am providing this review in my capacity as an Environmental Auditor appointed by the Victorian EPA, and is therefore an appropriately qualified person under the Waste Management and Pollution Control Act ('the Act') to provide certification services in relation to contaminated sites issues in the Northern Territory.

The Northern Territory Environment Protection Authority (EPA) has issued separate notices to Probuild and the Alice Springs Turf Club Incorporated to carry out an environmental audit program at the site. The notices require Probuild and the Turf Club to undertake a preliminary site assessment to evaluate the types, amount and distribution of waste by burial at the premises. The assessment must be conducted in accordance with the National Environment Protection (Assessment of Site Contamination) Measure. It is understood that although there have been separate notices issued, EPA has indicated that a coordinated approach by the two parties would be acceptable to respond to the notices.

The review has been conducted to determine whether or not the background information and sampling plan satisfies general requirements in the National Environment Protection (Assessment of Site Contamination) Measure 1999 (as varied April 2013 – referred to hereafter as the ASC NEPM), and to critically review the interpretation and recommendations within the sampling plan. Comments on the preliminary / background information and sampling plan are provided in the following sections. Overall there has been a reasonable overview of the background and circumstances that have resulted in EPA issuing the notices. The information is considered generally sufficient for planning and conduct of the subsequent preliminary investigation works, and I confirm my endorsement of the Sampling Plan.

Feel free to contact me if you have any queries in relation to these comments.

Yours sincerely,

A handwritten signature in black ink that reads "Steven Kirsanovs". The signature is written in a cursive, slightly slanted style.

Steven Kirsanovs
Environmental Auditor appointed in Victoria pursuant to
Section IXD of the Environment Protection Act, 1970

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**REVIEW OF PRELIMINARY INVESTIGATION / SITE HISTORY REVIEW
/ INITIAL INSPECTION**

Aspect	General Requirements	Comments
Essential components	<p>The PSI should include the following components:-</p> <ul style="list-style-type: none"> o A desktop study to review the site history, physical setting including geology and hydrogeology, and site conditions; o A site inspection and interviews with current and past owners, operators and occupiers; and o Development of an initial conceptual site model (CSM). <p>The PSI may also include limited sampling and analysis. (Refer Section 2 in schedule B(2) of the ASC NEPM)</p>	<p>The report includes background information in relation to the circumstances that triggered the original notices from EPA. This includes interviews with representatives of the EPA, the turf club, and Probuild, and also includes a review of historical; aerial photographs of the area in question. These lines of enquiry are considered reasonable for the purposes of planning the preliminary intrusive investigation. The report also documents an initial conceptual site model showing the areas to be the subject of further intrusive investigation, and sub areas where it is suspected wastes were buried at different stages over the past decade or so. This information is considered adequate for the purpose of planning this preliminary intrusive investigation.</p>
Objectives	<p>The PSI should be sufficient to identify the following:-</p> <ul style="list-style-type: none"> o Potential sources of contamination & contaminants of concern; o Areas of potential contamination; o Potential human and ecological receptors; and o Potentially affected media. <p>(Refer Sections 2 and 3 in schedule B(2) of the ASC NEPM)</p>	<p>The objectives of the preliminary investigation are clearly outlined in the Sampling Plan and are considered to be in line with the requirements of the notices issued by EPA.</p>
Property Details	<p>The following information on the property should be provided:-</p> <ul style="list-style-type: none"> o current lot on plan, and the street number and suburb; o current owners, occupiers and users of the site; o current zoning; <p>Where multiple lots are involved, plans showing lot boundaries in relation to significant figures</p>	<p>Relevant information is provided in Section 2 of the Sampling Plan, including a reasonable locality plan and site plan showing the areas of interest for the investigation.</p>

Aspect	General Requirements	Comments
	should be provided. Refer Section 3 in Schedule B(2) of the ASC NEPM.	
Physical and Environmental Setting	<p>Basic information on the dominant topographical, geological and hydrological features should be provided including:-</p> <ul style="list-style-type: none"> o Local hydrology and drainage patterns on site and in the surrounding area; o Surrounding land uses, and proximity to parks, local watercourses, and any areas of environmental significance; o regional geology and hydrogeology; o any available site specific geology or hydrogeology information; o current groundwater usage and resource potential both on site and off site in areas (via records of registered wells in locality); 	<p>Some preliminary information is provided in the sampling plan and is considered adequate for the purpose of planning the preliminary intrusive investigation.</p> <p>It is suggested additional information should be provided in the final report in relation to the regional geology and hydrogeology, and surface water drainage/runoff, as this is relevant to the overall assessment of vulnerability of surface water and groundwater that might be posed by wastes deposited in the investigation area.</p>
Plans / drawings	<p>The following plans / drawings should be provided:-</p> <ul style="list-style-type: none"> o Locality map; o Current site plan, with scale bar, north point, general contours, local water drainage, and other environmentally significant figures; o Series of aerial photographs (where relevant) with dates; o Relevant archive plans of the former site layout and operations; o Past and present underground service plans. 	<p>Relevant plans and drawings are provided in the Sampling Plan. The plans and information are considered adequate for the purpose of planning the preliminary intrusive investigation.</p>
Current & Proposed Use	<p>The present owners, occupiers and users of the site should be identified. It should be noted whether or not these parties are responsible for the assessment and management of the site.</p>	<p>This is self evident – the site is and will remain a racecourse for the foreseeable future. The information is considered adequate.</p>
Historical Information	<p>The following information should be provided:-</p>	<p>Relevant historical information is provided in the Sampling Plan, including aerial photographs from</p>

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	<ul style="list-style-type: none"> ○ Previous occupiers (must be listed in chronological order) ○ Previous activities / uses (chronological list) including periods where land use is unknown or uncertain; ○ Industrial processes, raw materials, intermediate products, waste products and waste disposal locations associated with past activities / uses of the site; ○ Product spills, losses, incidents and accidents (including fire); ○ Chemical storage and transfer areas ○ Previous zoning and relevant development and building approval records; ○ Interview information with past property or business owners and employees; ○ Earthmoving activities carried out at the site (and any known or suspected filled areas); ○ Potential sources of contamination from past land uses on adjacent or nearby sites; 	<p>2004 to present, and interviews with relevant persons with background knowledge of the issues that led to the issue of the notices by EPA. The information is considered adequate for the purposes of planning the preliminary intrusive investigation.</p>
Site Inspection	<p>A site inspection should be carried out by a suitably qualified and experienced professional. The complexity and detail will vary depending on the level of historical information and complexity of the site itself.</p> <p>The general site layout and condition of buildings and surface areas should be noted, as should chemical storage and transfer areas, waste disposal areas, and suspected or known filled areas. Abnormal discolouration of ground or surface waters or sheens on surface waters should also be noted.</p> <p>A specific comment should be included whether or not the inspection included an</p>	<p>The Sampling Plan notes the intention to complete a detailed site walkover prior to any excavation / trenching works. It is agreed this is an essential first stage of the fieldwork stage of the preliminary investigation.</p> <p>Please ensure that as part of the inspection notes there are specific comments provided regarding whether or not asbestos containing materials were considered in the inspection, and whether or not any was noted. This is one of the requirements in relation to asbestos in the environmental assessment process included in the revisions to the Assessment of Site Contamination NEPM.</p>

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	<p>assessment for the presence of asbestos containing materials, and the type, location quantity and condition of any asbestos materials noted.</p> <p>Evidence of any off-site migration of impacts should also be noted.</p>	
Initial Conceptual Site Model (CSM)	<p>The ASC NEPM places a strong emphasis on the development and iterative revision of a CSM as the assessment process progresses. Refer Section 4 of Schedule B(2) of the ASC NEPM.</p> <p>The initial CSM is constructed from the results of the Preliminary Site Investigation and is used to identify data gaps and inform a decision on whether detailed investigation is required. The CSM should be continually challenged and updated during the assessment process.</p> <p>Schedule B(2) identifies the following as the essential elements of an initial CSM:-</p> <ul style="list-style-type: none"> - Known and potential sources of contamination and contaminants of concern; - Potentially affected media; - Human and ecological receptors; - Potential and complete exposure pathways. <p>If vapour intrusion is a suspected issue, then further detail will be needed about preferential pathways and the design of buildings planned at the site.</p>	A plan is included in the attachments of the Sampling Plan showing the area of interest with sub areas of different waste types and dates materials were deposited. This is considered sufficient for an initial conceptual site model. It is expected this will be refined based on the findings of the preliminary intrusive investigation.

SAMPLING AND ANALYSIS PLAN

Aspect	General Requirements	Comments
<p>Systematic Planning for Collection of Environmental Data</p>	<p>The ASC NEPM recommends some form of systematic planning process is used for defining the objectives of an assessment and develop a sampling plan. One example of a systematic planning approach is the Data Quality Objectives (DQO) process, although the NEPM acknowledges that a simplified process may be applicable for straightforward screening assessments.</p> <p>Irrespective of the scale and complexity of the assessment, a sampling, analysis and quality plan (SAQP) should be developed which includes some form of systematic planning process (eg. DQO's), and includes the following elements:-</p> <ul style="list-style-type: none"> - Objectives of the investigation; - Summary of the CSM; - Review of existing information (and data gap analysis); - A quality assurance plan and details of quality control samples to be collected; - Pre mobilization tasks (including health & safety planning); - Media to be sampled; - Details of analytes and parameters to be monitored (analytes should be informed by the site history findings and data gaps identified in the CSM); - Number, location and depth of sampling points. This is considered as a separate point in a later section of the comments (professional judgement should be used to select an appropriate sampling design – refer relevant Sections of Schedule B(2) of the NEPM for further guidance (Section 7 for soil, Section 8 for groundwater, and Section 9 for vapour); - Sampling methods and procedures; - Field screening methods; - Analysis methods; - Methods for analyzing and interpreting field data. 	<p>The Sampling Plan includes the majority of the expected elements and is considered by the Auditor to include an appropriate level of detail for this particular site and assessment.</p> <p>Further comments on aspects of the proposed investigations are provided below:-</p> <ul style="list-style-type: none"> o The proposed rationale and approach using targeted / judgemental sampling to assess soil conditions and the type and extent of any wastes seems reasonable and appropriate. o It is agreed test pitting / trenching is a good approach in this situation to get a better look at the fill materials and any wastes present in the investigation area. o The proposed analytical program seems reasonable. It is agreed this needs to be flexible and the eventual analysis program will be dictated to a large extent by what is found during the test pitting / trenching program. o The proposed QA/QC program is considered reasonable and appropriate. o As noted previously, the possible presence of asbestos containing materials / wastes should be addressed in the site inspection and also in the upcoming phase of soil investigation work. Specific observations should be made in the fieldwork records whether any asbestos like materials / waste items are noted.