Contaminated land report
Roads and Traffic Authority

Report for Hunter River Third Crossing - Pender and Foster Sawmill

Phase 1 Investigations

July 2006
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1. Executive Summary

GHD Pty Ltd (GHD) was commissioned by the NSW Roads and Traffic Authority (RTA) to undertake a contaminated site assessment of a section of the Pender and Foster Sawmill site. This assessment is part of a proposed roadway, which will form the third crossing of the Hunter River near Maitland.

The area covered by this investigation was limited to the portion of the sawmill site intended for redevelopment as part of the third Hunter River Crossing, and encompasses an area of approximately 0.64 ha.

The objectives of the investigation were to assess the potential for contamination to exist on the site, and determine if the proposed route alignment will impact on any contaminated land. This involved a review of past and present site information, a site visit and systematic soil sampling.

The Executive Summary of this report should be read in the context of the more detailed discussion presented in the following sections, the scope of work undertaken and the limitations of this report as described in Section 14.

Concentrations of several parameters in soil samples were above the Ecological Investigation Levels (EILs) and CT1 thresholds for classification as inert waste, indicating some minor impact and possible implications for disposal of any waste soils from the site. However there is no evidence of significant contamination of soils within the area subject to this investigation.

Based on the results of the investigation, GHD considers that the surface and substrate soils within the route corridor forming part of this investigation were unlikely to contain significant contamination and hence are not likely to pose any restrictions to the proposed redevelopment. If soils from the site are to be disposed of off-site, Toxity Characteristics Leaching Procedure (TCLP) testing and comparison of the determining parameters with relevant specific contaminant concentration (SCC) criteria is recommended to confirm the waste classification of the material.
2. Introduction

GHD Pty Ltd (GHD) was commissioned by the NSW Roads and Traffic Authority (RTA) to undertake a contaminated site assessment of a section of the Pender and Foster Sawmill site (sawmill site), as shown in Figure 1 in Appendix A. This assessment is for a proposed roadway, which will form the third crossing of the Hunter River near Maitland. GHD understands that the RTA has approached Maitland City Council (Council) concerning the contamination status of the sawmill site.

Council stated that they have no reports on the sawmill, but consider that there is potential for the site to be contaminated due to the activities undertaken on or adjacent to the site in the past. The Pender and Foster Sawmill is currently in use as a sawmill and is listed in the Maitland Local Environment Plan (LEP) as a heritage item. The area covered by this investigation was limited to the portion of the sawmill site intended for redevelopment as part of the third Hunter River Crossing, and encompasses an area of approximately 0.64 ha as outlined on Figure 2, Appendix A.

2.1 Objectives

The objectives of the investigation are to:

- Assess the potential for contamination to exist on the site; and
- Determine if the proposed route alignment will impact on any contaminated land.

2.2 Scope of Works

In order to meet the above objectives GHD undertook the following scope of works:

- A review of site geology, hydrology, hydrogeology (including a desktop search of the DIPNR groundwater bore data base) and topography information for the site;
- A site history review including historical land titles, aerial photographs, Maitland City Council records and Section 149 Certificates. GHD understands that a heritage study of the site will be provided by the RTA;
- A site inspection for potential sources of contamination (eg current and former industrial processes, USTs etc);
Systematic soil sampling including:

- Drilling 11 boreholes using a hand auger;
- Collection of surface (0.0-0.1 m), near surface (0.2-0.3 m) and deeper (0.4-0.5 m) soil samples at each borehole location;
- Analysis of selected samples for analytes typically associated with contaminated sites and based on consideration of the historical review (refer to Table 5.1). These analytes include total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene and xylene (BTEX), pH, heavy metals (As, Cd, Cr, Cu, Pb, Ni, Zn, Hg), polycyclic aromatic hydrocarbons (PAHs) and organochlorine pesticides (OCPs); and

Preparation of this report.
3. Site Condition and Surrounding Environment

3.1 Site Location and Description
The sawmill site is located on the corner of Pitnacree Road and Fosters Lane, East Maitland NSW. The sawmill site is Lot 2, DP 819157, and is shown in Figures 1 and 2 in Appendix A.

A sawmill has operated on the site for approximately 85 years. The active portion of the site consists of seven separate buildings; with administration services located in the northern most building. There was no visible evidence of current or former underground storage tanks (USTs) or aboveground storage tanks (ASTs) in the investigation area. The operating yard of the sawmill has minimal vegetation and is predominantly covered by a silty gravel road base. Various stacks of timber and trusses were piled across the site.

The southern portion of the sawmill site, which appeared to be pasture, was covered by healthy grass, with some small trees and thistles. A fence divided the southern portion of the sawmill site into two parcels of land.

The investigation area, which covers 6,400 m², is outlined by the extent of the proposed road works shown on Figure 2, Appendix A. The investigation site is divided into two portions. The western portion generally consists of a hardstand area covered by approximately 300 mm of road base. The eastern portion is part of a pasture with surface soils consisting of silty loam covered by grass.

3.2 Surrounding Land Uses
During the field investigation the land uses surrounding the sawmill site were identified as follows:

North: Residential housing and rural land;

South: A drainage channel which flows into Howes Lagoon followed by Morpeth Road;

West: Pinacree Road followed by the main Northern Rail Line Rural Land; and

East: Rural land.
3.3 **Sensitive Receptors**

During the site inspection GHD noted the following sensitive receptors surrounding the sawmill site:

- Local residences are situated adjacent to the northern boundary;
- Howes Lagoon located to the south of the site;
- The Hunter River is located approximately 1.5 km past the northern boundary; and
- The drainage channel south of the site.

3.4 **Groundwater Bore Search**

GHD conducted a search of the NSW Department of Infrastructure, Planning and Natural Resources groundwater bore database, for all licensed bores located within a 1.5 km radius of the sawmill site. A total of seven bores were identified located predominantly to the east and northeast of the site. The closest groundwater bore was situated approximately 500 m north of the site. The intended use of six of the wells was reported for irrigation with the use of the seventh bore listed as unknown. Groundwater levels were generally reported between 2.7 m and 6.0 m below ground surface. The locations of the wells are provided in Figure 3, Appendix A.

3.5 **Section 149 Certificate**

The Section 149 certificate supplied by Maitland City Council, for Lot 2 DP 819157 Pitnacree Road, Pitnacree, indicated that:

- The Maitland LEP 1993 identifies the land as being within a floodway;
- The Maitland LEP 1993 does not identify the land as including or comprising critical habitat;
- The land is not within a heritage conservation area under the Maitland LEP 1993, however an environmental heritage item is situated on the land;
- The Draft Development Control Plan DCP29 – Floodplain Management for Development Sites applies to the land;
- The Regional Environmental Plan – Hunter Regional Environmental Plan 1989 (as amended) applies to this site; and
- State Environmental Planning Policy (SEPP) 55 – Remediation of Land applies to this site; and
- The land is not affected by matters required to be disclosed under section 59(2) Contaminated Land Management Act 1997.

The Section 149 certificate is presented in Appendix B.
3.6 Historical Title Search

GHD reviewed historical title data provided by Environmental Legal Searches, including the Title tree below, which outlines the formation of Lot 2 DP 819157:

```
Lot 2 DP 819157
   Lot 71 DP 575844  PA63186
   Part Lots 2, 3 & 4  Lots 5 & 6  Lots 17, 18, 19 & 20
```

**Figure 3.1 Title Tree (source: Environmental Legal Searches)**

The historical title search documents have been included in Appendix B.

A summary of proprietors provided by Environmental Legal Searches for each of the titles outlined in the title tree above, is summarised in Table 3-1, below.

<table>
<thead>
<tr>
<th>Owner</th>
<th>Date</th>
<th>Lot/s</th>
</tr>
</thead>
<tbody>
<tr>
<td>William Samuel Pender, George Thomas Pender and Augustus Short Foster</td>
<td>1918</td>
<td>2, 3, 4</td>
</tr>
<tr>
<td>The Railway Commissioners for NSW</td>
<td>1918</td>
<td>2, 3, 4</td>
</tr>
<tr>
<td>Pender and Foster Limited</td>
<td>1918 - 1985</td>
<td>2, 3, 4</td>
</tr>
<tr>
<td>William Samuel Pender, George Thomas Pender and Augustus Short Foster</td>
<td>1918</td>
<td>5, 6</td>
</tr>
<tr>
<td>Pender and Foster Limited</td>
<td>1918 - 1985</td>
<td>5, 6</td>
</tr>
<tr>
<td>Una Elizabeth Clift</td>
<td>1924</td>
<td>17, 18, 19, 20</td>
</tr>
<tr>
<td>Pender and Foster Limited</td>
<td>1924 - 1985</td>
<td>17, 18, 19, 20</td>
</tr>
<tr>
<td>Errol Short Foster, Jessie Maud Foster and George Thomas Pender</td>
<td>1945 - 1947</td>
<td>Lot 71, DP 575844.</td>
</tr>
<tr>
<td>Aubrey Alfred Short Foster</td>
<td>1947 - 1979</td>
<td>Lot 71, DP 575844.</td>
</tr>
<tr>
<td>Pender and Foster</td>
<td>1979 - 1985</td>
<td>Lot 71, DP 575844.</td>
</tr>
</tbody>
</table>
3.7 Aerial Photograph Review

Three aerial photographs from 1958, 1975 and 2005 have been reviewed to support this assessment. In 1958 the sawmill site contained five dominant buildings and a storage area. The majority of the site, including the investigation area appears to be undeveloped pastoral land, possibly disturbed and flattened. In 1975, the sawmill operation seems to have expanded towards the northeast of the site covering a larger proportion of the overall sawmill site. It appears that piles of timber line the outer southeast boundary. In 2005 the mill was approximately the same size as it appeared in the 1975 aerial photograph, with the northeast area of the site used for storage.
4. **Topography and Geology**

4.1 **Topography and Hydrology**

The investigation site is relatively flat, with surface water draining south towards a drainage channel, which flows northeast into Howes Lagoon.

According to the Newcastle 1:250 000 Geological Series sheet S1 56-2, the site contains a slope gradient of <1%, an elevation of 2 m to 11 m AHD and a local relief is to 2 m AHD.

4.2 **Geology**

Based on the Newcastle 1:250,000 Geological Series sheet S1 56-2 the regional geology surrounding the sawmill site is within an area of Carboniferous and Devonian age, clastic and volcanic sediments.

Based on the soil landscape map for the area, produced by the former NSW Department of Land and Water Conservation, the sawmill site straddles two distinct soil landscapes. The northern portion of the sawmill site lies within the Hunter soil landscape series and the southern portion lies within the Rivermead landscape series.

The Hunter soil landscape consists of extensive alluvial plains on recent alluvium derived from the Hunter and Paterson Rivers in the Lower Hunter Plain region in the centre of the area. The slope gradients are <1%, elevation is 2 m to 11 m AHD and local relief is to 2 m AHD.

The deep soils (>150 cm) are moderately well to imperfectly drained Prairie Soils and imperfectly to poorly drained Brown Clays with some well drained Chernozems. The landscape has a flood hazard, foundation hazard, permanently high watertable (localised), seasonal waterlogging (localised) and productive arable land and soils of high fertility.

The Rivermead soil landscape consists of level to gently undulating alluvial terraces with slope gradients of 0 – 4%, elevation of 5 – 20 m and local relief of 5 – 10 m.

The deep soils (>200 cm) are well drained Yellow Earths and Red Earths. The shallow (<35 cm) to deep (>200 cm) soils are moderately well to imperfectly drained Brown Podzolic Soils, with some Chocolate Soils and moderately well drained Brown Clays at depths >130 cm.

This landscape has a high foundation hazard, localised flood hazard and seasonal waterlogging on imperfectly drained terraces.

The Acid Sulfate Soil (ASS) Risk Map indicates no known occurrence of ASS in the immediate site area. However, nearby areas are identified as having a high probability of ASS at surface and within 1 m of the surface.
4.3 Hydrogeology

The dominant hydrogeological influences at the sawmill site are the drainage channel that flows into the Howes Lagoon to the northeast and the Hunter River to the northwest. The direction of the groundwater flow could not be determined, although is assumed to be in a northerly direction towards the Hunter River and Howes Lagoon.
5. Potential Contaminants of Concern

Based on GHD’s knowledge of the site and experience on similar sites, the potential sources of contamination are most likely to be associated with the sawmill operations, including possible treatment of timbers on the site in the past. However, no sources of contamination were apparent during the site inspection.

The following parameters were considered to be the main potential contaminants of concern (PCOCs):

- Total petroleum hydrocarbons (TPH);
- Benzene, toluene, ethyl benzene and total xylenes (BTEX);
- Polyaromatic hydrocarbons (PAH);
- Heavy metals (As, Cd, Cr, Cu, Co, Mn, Ni, Pb, Zn and Hg);
- pH; and
- Organochlorine pesticides (OCPs).

Due to their lack of persistence in soils, organophosphate pesticides (OPPs) were not included in the sampling program.

The analytical program undertaken to assess the PCOCs is shown in Table 5-1 below. The analyses in the table include quality control (QC) samples as detailed in Table A, Appendix C.

Table 5.1 Analytical Program

<table>
<thead>
<tr>
<th>Basis of investigation</th>
<th>Number of sample locations</th>
<th>Typical analytical parameters</th>
<th>Number of analyses (^{(1)}) (Including QC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand Auger Holes</td>
<td>11</td>
<td>TPH/ BTEX(^{2})</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAHs</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Heavy Metals (^{3})</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pH</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OCPs(^{4})</td>
<td>3</td>
</tr>
</tbody>
</table>

1. QC duplicate samples were collected and submitted at a rate of 1 in 10 samples;
2. Selected on the basis of field observations;
3. Metals included As, Cd, Cr, Cu, Hg, Pb, Ni, and Zn; and
4. Analysed as four part composites.
6. Sampling and Analysis Plan and Methodology

6.1 Data Quality Objectives

The purpose of establishing data quality objectives is to ensure the field investigations and analyses are undertaken in a way that enables the collection and reporting of reliable data on which to base the site assessment. The data quality objectives (DQOs) and the procedures designed to achieve these objectives are listed below.

Data Representativeness – Sampling on a systematic basis across the site to obtain samples from representative locations and strata across the entire area. The sampling locations and intervals were selected to give reasonable characterisation of soils present in the investigation area.

Document Completeness – Ensuring reliability and accuracy in any observations made during data collection (eg. completion of field environmental notes); and ensuring clarity in instructions and directions given to all those who have the potential to influence the quality of the data (eg. completion of field and laboratory chain of custody documentation).

Data Comparability – Use of NATA certified laboratory, standard laboratory methodology and use of consistent sampling techniques (by professional staff in accordance with GHD’s Standard Field Operating Procedures).

Precision and Accuracy for Sampling and Analysis – Achievement of required Relative Percent Differences (RPDs) for duplicate analysis and laboratory QC results within the relevant Quality Control Criteria.

Decision Rules – Data was compared against investigation guidelines made or endorsed by NSW EPA.

6.2 Rationale For Sampling And Analysis Plan

The sampling and analytical program was based on GHD’s knowledge of the site, and experience on similar sites and guidelines made or approved by the NSW EPA.

Based on the available site history and land use information (which did not indicate any apparent areas of contamination for target sampling), GHD sampled soils from 11 systematic locations across the site.

Sampling locations are presented in Figure 2 in Appendix A.

6.3 Field Work

An experienced environmental scientist undertook fieldwork on 21 December 2005. All fieldwork was undertaken in accordance with the GHD Standard Field Operating Procedures (FOP).

Soil samples were collected from 11 borehole locations (ie. boreholes 1 through 11, inclusive) to a maximum depth of 0.5 m, using a hand auger. All field work was undertaken as outlined in the scope of works.
The collected samples were immediately transferred to sample containers, appropriate for the laboratory analysis required. All sample containers were clearly labelled with the sample number, sample location, sample depth and sample date. The sample containers were then transferred to a chilled cooler for sample preservation prior to and during shipment to the testing laboratory. A Chain-of-Custody form was forwarded with the samples to the testing laboratory. Three composite samples were submitted for laboratory analysis of OCP. The composite samples were composed of the following:

- COMP 1 – P01-0.0, P02-0.0, and P04-0.0;
- COMP 2 – P05-0.0, P06-0.0, P07-0.0 and P08-0.0; and
- COMP 3 – P09-0.0, P10-0.0 and P11-0.0.

Soil conditions encountered in all test locations during the investigations were tabulated in Table A, Appendix C. Table A details soil characteristics, with any features such as discoloration, staining, odours and other indications of contamination being noted if present.
7. Quality Assurance/Quality Control

7.1 Field Quality Assurance/Quality Control (QA/QC)

7.1.1 Field Quality Assurance

All fieldwork was conducted in general accordance with the GHD’s FOP. The FOP ensures that all environmental samples are collected by a set of uniform and systematic methods.

The FOP describes many field activities including:

- Implemented decontamination procedures;
- Sample identification procedures;
- Information requirements for soil bore logs;
- Chain of custody information requirements;
- Sample duplicate frequency; and
- Field equipment calibration requirements.

7.1.2 Field Quality Control

Field quality control procedures used during the project comprised:

- Blind Duplicates (soil): These were prepared in the field by duplicating the original sample and placing two equivalent portions into two separate containers. The blind duplicate sample is sent anonymously to the project laboratory. For the blind duplicate sample pair, relative percentage difference (RPDs) were calculated. Blind duplicates provide an indication of the analytical precision of the project laboratory, but may also be affected by factors such as sampling methodology or inherent heterogeneity of the sample medium.

7.2 Laboratory Quality Assurance/Quality Control (QA/QC)

7.2.1 Laboratory Quality Assurance

The analytical laboratories undertook the analyses utilising their own internal procedures and their test methods (for which they are NATA accredited) and in accordance with their own quality assurance system which forms part of their NATA accreditation.
7.2.2 Laboratory Quality Control

Laboratory quality control procedures used during the project and reported by the laboratory comprised of the following:

- **Laboratory Duplicate Samples**: Analysis of duplicate sub-samples from one sample submitted for analytical testing and analysis of the samples in the one batch. A laboratory duplicate provides data on the analytical precision (repeatability) of an analytical batch;

- **Spiked Samples**: A sample is spiked by adding a known concentration of the target analyte(s) to the sample matrix prior to sample extraction and analysis. A spike documents the effect of the sample matrix on the extraction and analytical techniques; and

- **Laboratory Blank**: Usually an organic or aqueous solution that is as free of analyte as possible and contains all the reagents in the same volume as used in the processing of the samples. The reagent blank must be carried through the complete sample preparation procedure and contains the same reagent concentrations in the final solution as in the sample solution used for analysis. The reagent blank is used to correct for possible contamination resulting from the preparation or processing of the sample.

Other internal laboratory quality control procedures, as required for NATA registration, are performed and are not reported by the laboratories. These procedures and results can be provided on request.
8. Basis For Contamination Assessment

8.1 Relevant Guidelines
The following guidelines were used to assess the soil contamination status of the investigation site:

- ANZECC/NHMRC, 1992, Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites;
- EPA, 1994, Guidelines for Assessment of Service Station Sites, NSW EPA;
- EPA, 1995, Sampling Design Guidelines, NSW EPA;
- EPA, 1997, Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA;
- EPA, 1998, Guidelines for NSW Site Auditor Scheme, NSW EPA; and

8.2 Soil Assessment Criteria
The NEPC (1999) includes a range of Soil Investigation Levels, including Ecological Investigation Levels (EILs) largely similar to the Environmental Investigation Thresholds (EITs) listed in the Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC/NHMRC 1992).

Health Investigation Levels (HILs) listed in the NEPM are generally the same as the Health-based Soil Investigation Levels (HBSILs) listed in the Guidelines for the NSW Site Auditor Scheme (NSW EPA, 1998). However, the criteria in these guidelines are restricted to non-volatile and semi-volatile substances and do not include all the potential contaminants that may be at the site. Therefore, for the substances not included in these guidelines, the Threshold Concentrations (TC) from the Guidelines for Assessing Service Station Sites (1994) have been used.

The basis on which the HILs (or HBSILs) have been set should be assessed for relevance to the situation under consideration. HILs are provided for a range of different exposure settings or land uses:

“A” Standard Residential with garden/accessible soil (includes children day-care centres, kindergartens, pre-schools and primary schools);

“D” Residential with minimal opportunities for soil access;

“E” Parks, recreational open space and playing fields (including secondary schools); and

“F” Commercial/industrial (includes shops, offices, factories and industrial sites).
GHD understands that the site will be redeveloped as a roadway; therefore the investigation level considered appropriate for this assessment is Setting F for Commercial and Industrial Sites.

The EILs are not necessarily relevant to commercial/industrial land use, but were used in this investigation to assess potential environmental impacts.

The methodology used to develop Environmental and Health Investigation Levels (EILs and HILs) for this site was in accordance with EPA recommendations and comprised the following (in order of preference):

**Health Investigation Levels (HIL or TC)**
- NSW EPA (1998) “Guidelines for the NSW Site Auditor Scheme” incorporating the National Environmental Health Forum (1996), Soil Series No. 1, Health Based Soil Investigation Levels, Exposure Setting F: Commercial/Industrial; and

**Environmental Investigation levels (EIL or TC)**
- NSW EPA (1998) Guidelines for the NSW Site Auditor Scheme, Provisional Phytotoxicity –based Investigation Levels;
- ANZECC/NHMRC (1992) Guidelines for the Assessment and management of Contaminated Sites, Environment Investigation Levels; and
- NSW EPA (1994) Guidelines For Assessing Service Station Sites, levels for protection of terrestrial organisms in soil.

Table 8-1 shows the assessment criteria for EILs and HIL F.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Environmental Criteria (EIL (a) or TC)</th>
<th>Health-Based Criteria (HIL F(f) or TC (b))</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>6-8(d) pH units</td>
<td>-</td>
</tr>
<tr>
<td>Arsenic</td>
<td>20</td>
<td>500</td>
</tr>
<tr>
<td>Cadmium</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>Chromium</td>
<td>50(b)</td>
<td>500(c)</td>
</tr>
<tr>
<td>Copper</td>
<td>100</td>
<td>5000</td>
</tr>
<tr>
<td>Lead</td>
<td>600</td>
<td>1500</td>
</tr>
<tr>
<td>Nickel</td>
<td>60</td>
<td>3000</td>
</tr>
<tr>
<td>Zinc</td>
<td>200</td>
<td>35000</td>
</tr>
<tr>
<td>Mercury</td>
<td>1</td>
<td>75</td>
</tr>
<tr>
<td>TPH C_2-C_9</td>
<td></td>
<td>65 (e)</td>
</tr>
<tr>
<td>TPH C_10-C_36</td>
<td></td>
<td>1000 (e)</td>
</tr>
<tr>
<td>Benzene</td>
<td>1(e)(g)</td>
<td>-</td>
</tr>
<tr>
<td>Toluene</td>
<td>1.4(e)(h)</td>
<td>130(i)</td>
</tr>
<tr>
<td>Ethyl Benzene</td>
<td></td>
<td>50 (i)</td>
</tr>
<tr>
<td>Xylene</td>
<td>14(e)(h)</td>
<td>25 (i)</td>
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<tr>
<td>PAHs (total)</td>
<td></td>
<td>100</td>
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<tr>
<td>Benzo(a)pyrene</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Dieldrin</td>
<td>0.2(d)</td>
<td>-</td>
</tr>
<tr>
<td>Aldrin+Dieldrin</td>
<td></td>
<td>50</td>
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<tr>
<td>Chlordane</td>
<td>-</td>
<td>250</td>
</tr>
<tr>
<td>DDT+DDD+DDE</td>
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<td>1000</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>-</td>
<td>50</td>
</tr>
</tbody>
</table>

Notes: All units in mg/kg unless otherwise noted.
b) Australian and New Zealand Environment and Conservation Council (1992), Guidelines for the Assessment and Management of Contaminated Sites, Environmental Investigation Thresholds Level where valance state is not distinguished but expected to be Cr(III).
c) Based on Cr(VI).
d) Australian and New Zealand Environment and Conservation Council (1992), Guidelines for the Assessment and Management of Contaminated Sites, Environmental Investigation Thresholds.

g) From NSW EPA (1994) Guidelines for Assessing Service Station Sites, Threshold Concentration for Sensitive Land Use. A lower benzene concentration may be needed to protect groundwater.

h) From NSW EPA (1994) Guidelines for Assessing Service Station Sites, Netherlands MPC to protect terrestrial organisms in soil.

i) Human health and ecological based protection level for toluene. The threshold presented here is the Netherlands invention value for the protection of terrestrial organisms. Other considerations such as odours and the protection of groundwater may require a lower remediation criterion.

j) Human health based protection level for ethyl benzene or total xylenes as shown. The threshold concentration presented here is the Netherlands intervention value. Other considerations such as odours and the protection of groundwater may require a lower remediation criterion.

8.3 Waste Classification Criteria

Criteria from the Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (NSW EPA 1999) are shown in Table 8-2 for the contaminants identified at the site.
### Table 8-2 Contaminant Threshold Values for Waste Classification of Non-liquid Waste (EPA 1999)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Arsenic</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Lead</th>
<th>Mercury</th>
<th>Nickel</th>
<th>Ethylbenzene</th>
<th>Xylene</th>
<th>Toluene</th>
<th>PAHs (^{1,2})</th>
<th>Benzo(apyrene) (^6)</th>
<th>TPH C6-C9</th>
<th>TPH C10-C36</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT1 Inert Waste (without TCLP) (mg/kg)</td>
<td>10</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>0.4</td>
<td>4</td>
<td>60</td>
<td>100</td>
<td>28.8</td>
<td>N/A</td>
<td>0.08</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>SCC1 (Inert Waste with TCLP) (mg/kg)</td>
<td>500</td>
<td>100</td>
<td>1900</td>
<td>1500</td>
<td>50</td>
<td>1050</td>
<td>1080</td>
<td>1800</td>
<td>518</td>
<td>200</td>
<td>1</td>
<td>650</td>
<td>4000</td>
</tr>
<tr>
<td>TCLP1 (mg/L)</td>
<td>0.5</td>
<td>0.05</td>
<td>0.1</td>
<td>0.5</td>
<td>0.02</td>
<td>0.2</td>
<td>3</td>
<td>5</td>
<td>1.44</td>
<td>N/A (^1)</td>
<td>0.004</td>
<td>-</td>
<td>-</td>
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<tr>
<td>CT2 (Solid Waste without TCLP) (mg/kg)</td>
<td>100</td>
<td>20</td>
<td>100</td>
<td>100</td>
<td>4</td>
<td>40</td>
<td>600</td>
<td>1000</td>
<td>288</td>
<td>N/A</td>
<td>0.8</td>
<td>-</td>
<td>-</td>
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<tr>
<td>SCC2 (Solid Waste with TCLP) (mg/kg)</td>
<td>500</td>
<td>100</td>
<td>1900</td>
<td>1500</td>
<td>50</td>
<td>1050</td>
<td>1080</td>
<td>1800</td>
<td>518</td>
<td>200</td>
<td>10</td>
<td>650</td>
<td>10000</td>
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<tr>
<td>TCLP2 (mg/L)</td>
<td>5.0</td>
<td>0.5</td>
<td>5</td>
<td>5</td>
<td>0.2</td>
<td>2</td>
<td>30</td>
<td>50</td>
<td>14.4</td>
<td>N/A (^1)</td>
<td>0.04</td>
<td>-</td>
<td>-</td>
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<tr>
<td>CT3 (Industrial Waste without TCLP) (mg/kg)</td>
<td>400</td>
<td>80</td>
<td>400</td>
<td>400</td>
<td>16</td>
<td>160</td>
<td>2400</td>
<td>4000</td>
<td>1152</td>
<td>N/A</td>
<td>3.2</td>
<td>-</td>
<td>-</td>
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<tr>
<td>SCC3 (Industrial Waste with TCLP) (mg/kg)</td>
<td>2000</td>
<td>400</td>
<td>7600</td>
<td>6000</td>
<td>200</td>
<td>4200</td>
<td>4320</td>
<td>7200</td>
<td>2073</td>
<td>800</td>
<td>23</td>
<td>2600</td>
<td>40000</td>
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<tr>
<td>TCLP3 (mg/L)</td>
<td>20</td>
<td>4</td>
<td>20</td>
<td>20</td>
<td>0.8</td>
<td>8</td>
<td>120</td>
<td>200</td>
<td>57.6</td>
<td>N/A (^1)</td>
<td>0.16</td>
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<td>-</td>
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</tbody>
</table>

**Notes:**

1. Scheduled chemicals and polycyclic aromatic hydrocarbons are assessed by using SCC1, SCC2 and SCC3. No TCLP analysis is required.
2. Polycyclic aromatic hydrocarbons (total) is assessed as the total concentration of 16 USEPA Priority Pollutant PAHs. Note that there are no waste classification requirements for zinc and copper.
9. Quality Control Assessment Guidelines and Methodology

The results of the field and laboratory quality control (QC) samples were assessed to determine:

- The quality of the data generated;
- Whether the data meets the objectives of the study; and
- Whether the data is acceptable for the intended use.

9.1 Field Quality Control

Assessment of the field quality control duplicate sample was undertaken by calculating the RPD of duplicate samples. The criteria used for the assessment of RPD was based on guidelines given in AS4482.1 1997 which states that an RPD value within 30%-50% is acceptable. By comparison, the NEPM (1999) Schedule B(3) states the RPD between results of split samples should in general be within 30%, however this variation can be expected to be higher for organic analysis than for inorganics, and for low concentrations of analytes.

The significance of RPDs of results was evaluated on the basis of sample technique, sample variability, and absolute concentration relative to criteria and laboratory performance.

Duplicate samples were analysed at a rate of approximately 10% of the total samples taken. Assessment of field quality control duplicates was undertaken by calculating the RPDs. RPD is defined as:

$$RPD(\%) = \left| \frac{C_o - C_d}{C_o + C_d} \right| \times 200$$

Where:

- $C_o$ = Analyte concentration of the original sample
- $C_d$ = Analyte concentration of the duplicate sample

The EPA in its correspondence of September 1997, titled ‘Update on Issues Relevant to Contaminated Sites Management in NSW’ state that the RPD between these samples should generally be within 30% of the mean concentration. It is noted that this variation may be higher for organics, or for cases where analyte concentrations are small. This is consistent with quality control objectives described in the NEPM.
9.2 Laboratory Quality Control

Assessment of laboratory QC was undertaken internally by the individual laboratory, however, the results were independently reviewed and assessed by GHD.

Duplicates were assessed by calculating the RPD and blanks should return analyte concentrations as not detected. Percent Recovery (P) is used to assess spiked samples and surrogate standards. Acceptable values for RPD will be generally as outlined above, while P can vary depending on the type of analyte tested, concentrations of analytes, and sample matrix but should normally range from about 70-130%. However, the analytical laboratory has their own criteria for assessing these results.
10. Investigation Results

10.1 Field Observations
Soils at the site generally consisted of either silty gravel road base or light brown silty loams with traces of gravel. There were no visual signs of contamination evident in any soil sample collected from the site.

10.2 Soil Analytical Results
A site plan showing the soil sample locations is presented in Figure 2, Appendix A.
Summaries of the laboratory results are presented in Tables B to E in Appendix C. Table A (Appendix C) presents a summary of the number of samples analysed. Detailed laboratory reports and COC (Chain of Custody) documents are provided in Appendix D.
These results have been compared with EILs and the adopted site assessment criteria for commercial/industrial properties (HIL F), as discussed in Section 8.2.

Heavy Metals and pH
A total of 15 surface soil (including QC) samples were analysed for a suite of heavy metals, including As, Cd, Cr, Cu, Pb, Ni, Zn and Hg. Laboratory analytical results indicated that all concentrations of heavy metals were less than the HIL F in all samples analysed and in the majority of cases less than the EILs, as shown in Table B in Appendix C. A summary of the results is provided below:
- P01 exceeded EILs for As, Ni and Zn for both surface and shallow substrate intervals;
- P10 exceeded EILs for Ni for surface level;
- P11 exceeded EILs for both As and Ni for surface levels; and
- The pH of the soils varied between 6.2 and 7.3, which is slightly acidic to neutral and considered likely to be representative of natural soils in the area.

Organics
Table C in Appendix C shows the laboratory analytical results for PAHs. These indicate that concentrations of PAHs were less than the applicable guidelines. Several components, notably phenanthrene and fluoranthene were present in nearly all samples at concentrations greater than the laboratory PQL. Benzo(a)pyrene was reported in only 1 sample (ie. sample P04-0.0) at a level equal to the laboratory PQL.
Laboratory analytical results indicated that concentrations of TPH C_{10}-C_{36} were greater than the laboratory PQL in the majority of samples but less than the adopted site assessment criteria of 1000 mg/kg in all samples. Results are shown in Table D in Appendix C.
Table D also shows the laboratory analytical results for BTEX, and indicates that concentrations of BTEX were less than the laboratory PQL and the applicable guidelines in all samples analysed.

Laboratory analytical results in Table E, Appendix C, indicate that concentrations of OCPs were less than the laboratory limit of reporting (PQL) in all samples analysed.

**Comparison with CT1 concentrations**

A number of samples had concentrations of As, Cd, Pb, Ni and/or benzo(a)pyrene exceeding CT1 for classification as inert waste. All samples exceeded CT1 for As, Pb and Ni, except for P08, P09 and P10, which had concentrations below detectable limits. P01-0.2 also exceeded CT1 for Cd, and most samples except P01-0.2 and P02-0.0 exceeded CT1 for Cr. P04-0.0 exceeded CT1 levels for Benzo(a)pyrene.

TCLP analysis of these parameters would be required, and comparison with relevant SCC1 criteria to confirm classification if material were to be disposed off site.

### 10.3 Assessment of QA/QC

**Duplicate Samples**

RPDs for heavy metals, TPH and PAHs analytical results were calculated for the duplicate sample pair P05-0.0 and Q01.

All RPDs for heavy metals were less than 30%, as shown in Table B (Appendix C). RPD’s for all organic contaminants were within the 30-50% range (as shown in Tables C and D), which is considered acceptable.

**Laboratory Quality Control**

The laboratory undertook assessment of laboratory QC internally. The results were also independently reviewed and assessed by GHD.

The QA/QC results reported indicate that the laboratory was achieving levels of performance within there recommended control limits during the period when the samples from this program were analysed.

**Conclusions with Respect to Data Quality**

On the basis of the QA and QC measures undertaken and the review of field and laboratory QC results, GHD considers the data is representative of the soils sampled and sufficiently accurate and is precise for the assessment of the parameters analysed.
11. Discussion and Recommendations

A historical review of the sawmill site indicated that soil contamination might be present at the site due to previous activities undertaken at the sawmill. A site inspection completed by GHD found no indication of surface soil contamination, hence systematic sampling was undertaken along the proposed route corridor to assess whether any of the potential contaminants of concern were present.

Of the 11 sample locations investigated at representative areas across the site, all soil samples analysed reported concentrations of heavy metals, TPH, BTEX, PAHs and OCPs below health-based site assessment criteria for commercial/industrial lands.

TPH in the C10-C36 range at concentrations less than the NSW EPA sensitive landuse criteria was observed in seven (7) primary samples and 1 duplicate sample. There were no detectable concentrations of volatile hydrocarbons (C6-C9 TPH or BTEX) in these samples.

A number of samples exceeded the EILs for a range of metals (P01 – As, Ni and Zn), P10 – Ni, and P11 – As and Ni). It is likely that due to the location of P01, runoff from the existing road is likely to be contributing to the exceedance of EILs for As, Ni and Zn.

A number of samples had concentrations of As, Cd, Pb, Ni and/or benzo(a)pyrene exceeding CT1 for classification as inert waste. TCLP analysis of these parameters would be required, and comparison with relevant SCC1 criteria to confirm classification if material were to be disposed off site.

While there is some minor impact, there is no indication of significant contamination of soils within the area subject to this investigation.

As this assessment was limited to inspection and sampling of surface and near surface soils, GHD cannot guarantee contamination does not exist in deeper soils.
12. Conclusions

GHD was commissioned by the RTA to undertake a contamination assessment of a portion of the Pender and Foster Sawmill site, to assess potential contamination issues associated with the construction of the proposed third crossing of the Hunter River at East Maitland, NSW. The investigation site was limited to an area of approximately 6,400 m² and located at the southern portion of the sawmill site.

The conclusions of this report should be read in the context of the more detailed discussion presented in the previous sections, the scope of work undertaken and the limitations of this report as described in Section 14.

Based on information gained during the site history review and site inspection, a total of 22 samples (including QA/QC sample) were collected at representative areas across the site. Selected samples were analysed for the identified potential contaminants of concern, which included heavy metals, pH, PAHs, TPH, BTEX, and OCPs.

Of the 11 sample locations investigated at representative areas across the investigation site, all soil samples analysed reported concentrations of heavy metals, TPH, BTEX, PAHs and OCPs below health-based site assessment criteria for commercial/industrial lands.

Concentrations of several parameters in soil samples were above the EILs and CT1 indicating some minor impact and possible implications for disposal of any waste soils from the site. However there is no evidence of significant contamination of soils within the area subject to this investigation.

Based on the results of the investigation, GHD considers that the surface and substrate soils within the route corridor forming part of this investigation were unlikely to contain significant contamination and hence are not likely to pose any restrictions to the proposed redevelopment. If soils from the site are to be disposed of off-site, TCLP testing and comparison of the determining parameters with relevant SCC1 criteria is recommended to confirm the waste classification of the material.
13. References

Amdel Laboratory Report 5e4574 Amdel Analytical Services Division

ANZECC / NHMRC, 1992, Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites.

EPA, 1994, Guidelines for Assessment of Service Station Sites, NSW EPA.

EPA, 1995, Sampling Design Guidelines, NSW EPA.

EPA, 1997, Guidelines for Consultants Reporting on Contaminated Sites, NSW EPA.

EPA, 1998, Guidelines for NSW Site Auditor Scheme, NSW EPA.

14. Limitations

This report has been prepared for use by the client who has commissioned the works in accordance with the project brief only, and has been based in part on information obtained from the client and other parties. The advice herein relates only to this project and all results, conclusions and recommendations made should be reviewed by a competent and experienced person with experience in environmental investigations, before being used for any other purpose. GHD Pty Ltd accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by GHD Pty Ltd, and should not be relied upon by other parties, who should make their own enquires.

The extent of sampling and subsequent analysis has been necessarily limited, and has been targeted towards areas where contamination is considered to be most likely, based on the knowledge of the site history and visual observation. This approach maximises the probability of identifying contaminants; however, it may not identify contamination that occurs in unexpected locations or from unexpected sources.

Due to the preliminary scope of this investigation, there remain some uncertainties with respect to the vertical extent of any identified contamination and potential sources of contamination that were not apparent (such as buried waste) during the site visit.

Changes to site conditions may occur with time, through natural processes or through intentional or accidental introduction of contaminants to the site. The conclusions and recommendations of this report are based on the information obtained at the time of the investigations.

Further, soil, rock and aquifer conditions are often variable, resulting in non-homogenous contaminant distributions across a site. Contaminant concentrations have been identified at chosen sample locations; however, conditions between sample locations can only be inferred on the basis of the estimated geological and hydrogeological conditions and the nature and extent of identified contamination. Boundaries between zones of variable contamination are often indistinct, and have been interpreted based on available information and the application of professional judgement. The accuracy with which the sub-surface conditions have been characterised depends on the frequency and methods of sampling and the uniformity of sub-surface conditions and is therefore limited by the scope of works undertaken.

This report does not provide a complete assessment of the environmental status of the site, and it is limited to the scope defined herein. Should information become available regarding conditions at the site including previously unknown sources of contamination, GHD Pty Ltd reserves the right to review the report in the context of the additional information.
Appendix A

Figures
PITNACREE
2321

SITE LOCATION

PROJECT

Pender And Foster Sawmill - Phase 1

GHD

CLIENTS | PEOPLE | PERFORMANCE

352 King Street  Newcastle  NSW  2300 Australia  T 61 2 4979 9999  F 61 2 4979 9988  E  rltmsl@ghd.com.au  W  www.ghd.com.au

Source: UBD

Figure 01

Site Location

RTA

job no. 22-12560  rev no. A

Site Location

scale | NTS  for A4  date | 13/01/06

352 King Street  Newcastle  NSW  2300 Australia  T 61 2 4979 9999  F 61 2 4979 9988  E  rltmsl@ghd.com.au  W  www.ghd.com.au

Plot Date: 06 July, 2000 - 9:53 AM  Cad File No: 22-12560-FG21.dwg
Appendix B

Historical Title Search Documents and Section 149 Certificate
10 January 2006

GHD PTY LTD
P O Box 5403
Newcastle West NSW 2302

Attention: Mr Bob Campbell

RE: Lot 2 DP 819157 (refer to point 4 of the Terms of Conditions & Limitations)
  Corner of Pittacree Road and Fosters Lane, East Maitland

Lot 2 DP 819157

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<td>Lots 5 &amp; 6</td>
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**SUMMARY OF PROPRIETORS**
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**DRAFT**

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Title Tree

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Lot 2 DP 819157
Change of Name 9729663
Transfer US28114

PA63186

Lot 71 DP 575844
Book 3373 No. 161
Book 2017 No. 91

Part Lots 2, 3 & 4
Book 3828 No. 780
Book 1140 No. 937
Book 1125 No. 593

 Lots 5 & 6
Book 3828 No. 760
Book 1140 No. 938

 Lots 17, 18, 19 & 20
Book 3828 No. 780
Book 1140 No. 938
Book 1357 No. 312

Terms of Conditions & Limitations

1. The client is responsible for payment associated with the search.

2. The client is authorised to use our report subject to settlement of our account. Until the account is settled, the report remains the property of Environmental Legal Searches. If the account is not settled within 30 days of the invoice date, the client's authority to use the report may be revoked. Where authority to use the report is revoked, all references to the report should be deleted or redacted in any document until the account is settled.

3. Where applicable, the details of the lease(s) were solely based on the available records of the Department of Lands. The MOST RECENT record may not be available on the day of the searching.

4. Search was based on the Lot number (Lot 2) and DP number (DP 819157) confirmed by Mr Bob Campbell of OHD detailed in the email dated 19 December 2005. It is understood that from your email that the Lot could only cover part of your site (known as SM).

5. The attached cadastral plan and Deposited Plan MUST be checked against the survey plan for the site for correctness.
FOLIO: 2/819157

SEARCH DATE      TIME      EDITION NO     DATE
----------      -----      ---------     -----  
5/12/2005       8:42 AM    3           25/6/2003

LAND

LOT 2 IN DEPOSITED PLAN 819157
AT EAST MAITLAND
LOCAL GOVERNMENT AREA: MAITLAND
PARISH OF MAITLAND    COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM: DP819157

FIRST SCHEDULE

-----------
BBC HARDWARE LIMITED (CN 9729663)

SECOND SCHEDULE (1 NOTIFICATION)

----------
1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

----------
UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

158515 GHD

PRINTED ON 5/12/2005
**LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH**

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**SEARCH DATE**

5/12/2005 11:14AM

**FOLIO:** 71/575844

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**Prior Title(s):** CA49253

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*** END OF SEARCH ***

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EMG-JONATHAN-GHD

PRINTED ON 5/12/2005
**LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH**

**SEARCH DATE**

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5/12/2005 8:44AM

**FOLIO:** 2/819157

FOLIO: 2/819157

**First Title(s):** OLD SYSTEM

**Prior Title(s):** 71/575844 PA63186

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LAND AND PROPERTY INFORMATION NEW SOUTH WALES - TITLE SEARCH

FOLIO: 2/819157

SEARCH DATE       TIME       EDITION NO       DATE
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5/12/2005       8:42 AM       3             25/6/2003

LAND

LOT 2 IN DEPOSITED PLAN 819157
AT EAST MAITLAND
LOCAL GOVERNMENT AREA: MAITLAND
PARISH OF MAITLAND    COUNTY OF NORTHUMBERLAND
TITLE DIAGRAM: DP819157

FIRST SCHEDULE

BBC HARDWARE LIMITED (CN 9729663)

SECOND SCHEDULE (1 NOTIFICATION)

1. RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

NOTATIONS

UNREGISTERED DEALINGS: NIL

*** END OF SEARCH ***

158515 GHD

PRINTED ON 5/12/2005
LAND AND PROPERTY INFORMATION NEW SOUTH WALES - HISTORICAL SEARCH

SEARCH DATE

5/12/2005 8:44AM

FOLIO: 2/819157

First Title(s): OLD SYSTEM
Prior Title(s): 71/575844 PA63186

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*** END OF SEARCH ***

EMG-JONATHAN-GHD

PRINTED ON 5/12/2005
S149 Planning Certificate
Environmental Planning & Assessment Act, 1979 (as amended)

APPLICANT: BOB CAMPBELL
352 KING STREET
NEWCASTLE NSW 2300

Certificate No: 05/2845
Certificate Date: 29/11/2005
Fee Paid: $100.00
Receipt No: 98670
No. of Pages: Page 1 of 17

Your Reference: GHD

PROPERTY: LOT 2 DP819157
PITNACREE ROAD,
PITNACREE

PARISH: Maitland

PROPERTY NO: 29245

IMPORTANT: Please read this certificate carefully.

This certificate contains important information about the land described above.

Please check for any item, which could be inconsistent with the proposed use or development of the land. If there is anything you do not understand, please contact the Council by phone on (02) 49349700, or personally at Council’s office at 285-287 High Street Maitland.

The information provided in this certificate relates only to the land described above. If you require information about adjoining or nearby land, or about the Council’s development policies or codes for the general area, contact Council’s Planning & Environment Department.

All information provided is correct as at the date issued on this certificate. However, it is possible for changes to occur at any time after issue of this certificate. We recommend that you only rely upon a very recent certificate.

The following responses are based on the Council’s records and / or information from sources outside the Council. The responses are provided with all due care and in good faith, however the Council cannot accept responsibility for any omission or inaccuracy arising from information outside the control of the Council.

Furthermore, while this certificate indicates the general effect of the zoning of the abovementioned land, it is suggested that the applicable planning instruments be further investigated to determine any additional requirements.

Copies of Maitland City Council’s Local Environmental Planning Instrument, Development Control Plans and Policies are available for purchase from Council’s Customer Service Centre.

Maitland City Council 29 November 2005 Page 1
PART 1: MATTERS PROVIDED PURSUANT TO SECTION 149 (2)

1. Local Environmental Plans (LEP)
   Maitland LEP 1993, gazetted 3rd September 1993 (as amended) applies to the land.

2. Exhibited draft Local Environmental Plans
   Council has placed on exhibition under section 66(1)(b) of the Act the following draft Local Environmental Plan(s) applying to the land:

   **Draft Local Environmental Plan No. 97005 - Properties Identified In The Draft Local Environmental Plan Maps.**
   Proposed and existing - Heritage Conservation Areas, Heritage Items, Archaeological Sites or Potential Archaeological Sites and Heritage Conservation Clause 31 to 39 apply to the land.

   **Draft Local Environmental Plan No. 98002 - All Land Within Maitland Local Government Area.**
   Maitland Local Environmental Plan - Exempt and Complying Development.

3. Development Control Plans prepared by Council
   The following Development Control Plan(s) prepared by the Council under section 72 of the Act apply to the land:

   **Development Control Plan No. 21 - Outdoor Advertising (15/5/85)**
   This plan provides for the control of outdoor advertising to benefit the whole City having regard to the competing needs and expectations of the whole community. Council shall take the provisions of this plan into consideration in determining applications for outdoor advertising in the area covered by the plan.

   **Development Control Plan No. 24 - Accessible Living (2/11/95)**
   This plan provides design guidelines to improving accessibility for all sectors of the Community and seeks through this policy to encourage builders and business people to be responsive to the needs of those members of the community who are temporarily or permanently disabled. This plan applies to all land in the City of Maitland. It applies primarily to new buildings however, if practicable and reasonable access to existing buildings will be required if proposals for changes of use or alteration result in an increased level of public usage.

   **Development Control Plan No. 29 - Floodplain Management (7/8/00)**
   This plan provides detailed guidelines for people wishing to carry out development within the floodplain area.

   **Development Control Plan No. 31 - Energy Smart Homes**
   This plan provides minimum standards of energy efficiency that applies to the building envelope and hot water system for new residential development.

   **Development Control Plan No. 33 - Subdivision Guidelines**
   This Development Control Plan provides application and design guidelines for subdivisions which require development consent in Maitland City.
This plan provides guidelines for the management of Heritage Items and places in the City of Maitland and provides details on Council requirements for any proposed changes to Heritage Items, Archaeological Sites, Potential Archaeological Sites or buildings or places located in a Heritage Conservation Area.

This plan has been prepared to state Council’s Policy in relation to the advertising & notification of development applications in the City of Maitland. The plan defines the types of development that will be advertised and/or notified and adopts a format in which that advertising/notification will take place.

Development Control Plan No. 40 - Car Parking Requirements
The DCP aims to provide guidance on all aspects of parking generation relating to development. The DCP specifies parking requirements for specific land uses and applies to development on all land within the City of Maitland.

Development Control Plan No. 44 - On-Site Sewage Management Systems
This plan aims to achieve the following: a) The prevention of the spread of disease by micro-organisms. b) The prevention of the spread of foul odours. c) The prevention of contamination of water. d) The prevention of degradation of soil and vegetation. e) The implementation of measures to discourage insects and vermin. f) to ensure that persons do not come into contact with untreated sewage of effluent in their ordinary activities on the premises concerned. g) To encourage the re-use of resources. h) To minimise any adverse impacts on the amenity of the land on which it is installed or constructed and other land in the vicinity of that land.

Development Control Plan No. 45 - Telecommunications And Radio Communications
The DCP provides an outline of a communications carrier’s obligations in respect to the provision of telecommunications and radio communications infrastructure in the City of Maitland. The overriding aim of the DCP is to provide an integrated planning framework to ensure a consistent approach in the consideration of proposals for the provision of infrastructure in the City. The DCP seeks to address stakeholder interests, provide guidance to carriers about Council’s requirements, and, achieve environmental, economic and socially sustainable development.

These plans may be inspected and purchased at Council’s Customer Services Centre. Council advises that reference should be made to all applicable development control plans.

4. Regional Environmental Plans

The land is affected by the following Regional Environmental Plans:

Regional Environmental Plan - Hunter Regional Environmental Plan 1989 (as amended)
This plan requires the Council to consult and consider certain matters before granting consent to particular development on rural and urban land in the Hunter Region.

5. Exhibited draft Regional Environmental Plans

The Council has not been notified of any draft regional environmental plan(s) applying to the land that has been placed on exhibition under section 47(b) of the Act.

6. Development Control Plans prepared by the Director-General
The Council has not been notified of any Development Control Plan applying to the land that has been prepared by the Director-General under section 51A of the Act.

7. State Environmental Planning Policies

The Minister for Planning has notified that the following State Environmental Planning Policies shall be specified on certificates under Section 149 of the Environmental Planning and Assessment Act, 1979.

The land is affected by the following State Environmental Planning Policies:

**State Environmental Planning Policy No. 1 - Development Standards**

Allows development standards to be varied where strict compliance with such standards can be shown to be unreasonable or unnecessary. In considering applications to vary standards Council will examine whether the development is consistent with the underlying objectives of the standard.

**State Environmental Planning Policy No. 4 - Development Without Consent**

Policy aims to permit, without the need for development consent, development which is of very minor environmental significance for certain purposes by or on behalf of public authorities and certain development on land reserved or dedicated under the National Parks & Wildlife Act, 1974.

**State Environmental Planning Policy No. 6 - Number Of Storeys In A Building**

Specifies the manner in which provisions within Environmental Planning Instruments relating to how the number of storeys within buildings are to be interpreted and calculated.

**State Environmental Planning Policy No. 8 - Surplus Public Land**

Policy applies for the development of land in public ownership which is no longer required for a public purpose.

**State Environmental Planning Policy No. 9 - Group Homes**

Enables the development of group homes on all land where dwellings are permissable.

**State Environmental Planning Policy No. 10 - Retention Of Low-Cost Rental Housing Accommodation**

The aim of this policy is to provide a mechanism for the retention of low cost rental accommodation, and it applies to local government areas in the Greater Metropolitan Region. This policy assists in ensuring that people on low incomes have affordable places to rent. Some of the matters in the policy include consideration of how changes to low rental residential buildings may affect the rental stock of an area, how it may impact on the current residents and what are the future needs of the community.

**State Environmental Planning Policy No. 11 - Traffic Generating Developments**

Provides that applications for traffic generating development - listed in schedules 1 & 2 of the policy are to be referred to the traffic authority for its views prior to determination.

**State Environmental Planning Policy No. 16 - Tertiary Institutions**

Aims to permit any kind of tertiary institution on land zoned for a specific kind of tertiary institution.

**State Environmental Planning Policy No. 21 - Caravan Parks**

Establishes a policy in relation to caravan parks which requires development consent of Council. Development includes the establishment of caravan parks and subdivision for lease purposes.
**State Environmental Planning Policy No. 22 - Shops And Commercial Premises**
The policy allows, with the consent of Council, a change of use from a shop to another kind of shop or commercial premises, or alternatively a commercial premises to a shop or another kind of commercial premises, where the new use is prohibited under an environmental planning instrument. In this circumstance Council must be satisfied that the change of use will not have more than a minor environmental impact and is in keeping with the objectives (if any) of the zone.

**State Environmental Planning Policy No. 27 - Prison Sites**
Aims to facilitate the erection and use of buildings for the purposes of prisons.

**State Environmental Planning Policy No. 30 - Intensive Agriculture**
This policy aims to provide for greater consistency in the assessment of applications for cattle feedlots and piggeries. The policy requires that cattle feedlots of 50 or more head and piggeries having a capacity of 200 or more pigs or 20 or more breeding sows, need development consent. The policy also provides for public participation in such applications and requires the consent authority to take into consideration various environmental matters when assessing such applications.

**State Environmental Planning Policy No. 33 - Hazardous And Offensive Development**
Provides definitions for hazardous and offensive developments as well as potentially hazardous and offensive developments and specifies the way in which applications for such developments are to be considered.

**State Environmental Planning Policy No. 35 - Maintenance Dredging Tidal Waterways**
Policy enables the maintenance dredging of tidal waterways by public authorities to be carried out in a timely, cost effective and environmentally responsible manner in response to changing conditions in those waterways.

**State Environmental Planning Policy No. 36 - Manufactured Home Estates**
Policy facilitates the establishment of manufactured home estates as a contemporary form of medium density residential development by allowing such estates, with development consent, on certain land where caravan parks are permitted, subject to the land meeting locational criteria specified in the SEPP.

**State Environmental Planning Policy No. 37 - Continued Mines And Extractive Industries**
Establishes assessment process for mines and extractive industries operating prior to consent being required under an Environmental Planning Instrument - Applies only to sites occupied by Continued Operations as defined in the SEPP.

**State Environmental Planning Policy No. 38 - Olympic Games And Related Projects**
This policy was created to consider the identification and planning for projects related to the Sydney Summer Olympic Games in 2000. The policy applies to all land in New South Wales and helped to facilitate the development for the Sydney Olympic Park in an ecologically sustainable manner.

**State Environmental Planning Policy No. 44 - Koala Habitat Protection**
Policy aims to encourage the proper conservation and management of areas of koala habitat.

**State Environmental Planning Policy No. 45 - Permissibility Of Mining**
This policy removes provisions in an LEP which are relevant to determining whether a proposed mine is a permissible form of development and the determination of development applications for the purposes of mining.

**State Environmental Planning Policy No. 48 - Major Putrescible Landfill Sites**
Aims to provide for consistent assessment and determinations of proposals for major putrescible landfill sites by making the Minister for Planning the consent authority.
**State Environmental Planning Policy No. 50 - Canal Estate Development**
Prohibits canal estate development.

**State Environmental Planning Policy No. 55 - Remediation Of Land**
Provides a statewide planning approach to the remediation of contaminated land for the purpose of reducing the risk of harm to human health or any other aspect of the environment.

**State Environmental Planning Policy No. 60 - Exempt And Complying Development**
This Policy identifies the development that can be exempt or complying development. This Policy allows certain types of development to be carried out as exempt or complying development provided the requirements and standards set out in the Policy are met. This SEPP also removes the operation of clauses 6 to 10 of State Environmental Planning Policy No.4 - Development Without Consent from this area.

**State Environmental Planning Policy No. 64 - Advertising And Signage**
This policy aims to ensure that signage (including advertising) is compatible with the desired amenity and visual character of an area, and provides effective communication that is of high quality design and finish. This policy includes the regulating of signage through time limited consents but does not regulate the content of signage.

**State Environmental Planning Policy No. 65 - Design Quality Of Residential Flat Development**
This Policy aims to improve the design quality of residential flat development in New South Wales.

This Policy recognises that the design quality of residential flat development is of significance for environmental planning for the State due to the economic, environmental, cultural and social benefits of high quality design.

**State Environmental Planning Policy No. 70 - Affordable Housing (Revised Schemes)**
This Policy:

(a) identifies that there is a need for affordable housing in the local government areas within which that land is situated, and (b) describes the kinds of households for which affordable housing may be provided, and (c) makes a requirement with respect to the imposition of conditions relating to the provision of affordable housing.

The policy applies to all land in the Greater Metropolitan Region.

**State Environmental Planning Policy - Artc - Rail Infrastructure**
The aim of this Policy is to facilitate development for the purposes of rail infrastructure facilities that are subject to arrangements between the Australian Rail Track Corporation Ltd and State Rail Authorities. Some development for the purposes of certain rail infrastructure facilities may be carried out without development consent.
State Environmental Planning Policy - Building Sustainability Index: Basix
1) Regulations under the Act have established a scheme to encourage sustainable residential
development (the BASIX scheme) under which:

a) an application for a development consent, complying development certificate or construction
certificate in relation to certain kinds of residential development must be accompanied by a list of
commitments by the applicant as to the manner in which the development will be carried out, and

b) the carrying out of residential development pursuant to the resulting development consent,
complying development certificate or construction certificate will be subject to a condition requiring
the commitments referred to in paragraph (a) to be fulfilled.

2) The aim of this Policy is to ensure consistency in the implementation of the BASIX scheme
throughout the State.

3) This Policy achieves its aim by overriding provisions of other environmental planning instruments
and development control plans that would otherwise add to, subtract from or modify any obligations
arising under the BASIX scheme.

State Environmental Planning Policy - State Significant Development
This policy aims to identify development of economic, social or environmental significance to the
State. It also rationalises the provisions relating to the consent authority for state significant
development.

8. Draft State Environmental Planning Policies

The following draft State Environmental Planning Policy(s) applying to the land has been publicised
as referred to in section 39(2) of the Act.

Draft State Environmental Planning Policy - Integration Of Land Use And Transport
This policy aims to ensure that urban structure, building forms, land use locations, development
designs, subdivision and street layouts help achieve the following planning objectives:

a) improving accessibility to housing, employment and services by walking, cycling and public
transport,

b) improving the choice of transport and reducing dependence solely on cars for travel purposes,

c) moderating growth in the demand for travel and the distances travelled, especially by car,

d) supporting the efficient and viable operation of public transport services,

e) providing for the efficient movement of freight.

Draft State Environmental Planning Policy - Application Of Development Standards
The aims of this Policy are:

a) to provide an appropriate degree of flexibility in the application to particular development of a
development standard specified in or under an environmental planning instrument, and

b) to achieve better outcomes for and from development in the circumstances addressed in this
Policy, and

c) to promote good strategic planning practice by incorporating provisions allowing flexibility in
local environmental plans.
Draft State Environmental Planning Policy - Sewerage Works
Aims to establish uniform planning controls for sewerage works. The policy would allow public authorities to undertake sewerage works, subject to other authorities being consulted and satisfactory environmental impact assessment being carried out. Sewerage projects would be treated as an activity in accordance with Part 5 of the Environmental Planning and Assessment Act 1979. The only exception being on land covered by SEPP No. 14 - Coastal Wetlands or SEPP No. 26 - Littoral Rainforests. These SEPPs specify types of development that are to be treated as designated development, requiring the consent of the local council and the concurrence of the Director of Planning.

Draft State Environmental Planning Policy - Subdivision

9. Zoning and land use under relevant LEPs

Maitland LEP 1993, gazetted 3rd September 1993 (as amended) identifies the zone applying to the land as:

1(a) Prime Rural Land
It is also within a Floodway under Maitland LEP

The following development control table(s) give the objectives of the zone, the description of the zone and identify development allowed or prohibited in each zone. Development consent where required, must be obtained from the Council.

The Council must not grant development consent if the proposed development does not satisfy the objectives of the zone in which it is intended to be carried out.

1(a) Prime Rural Land

1) Objectives of the zone 1(a) Prime Rural Land

a) To identify the City's most valuable agricultural land and other rural land requiring development control to prevent alienation from agricultural use and land degradation.
b) To discourage further subdivision and encourage consolidation of existing agricultural land holdings.
c) To permit appropriate agriculture-related land use and certain non agriculture-related land uses which will not adversely affect agricultural productivity.
d) To control development that could:
   i) have an adverse impact on the rural character of the land in the zone;
   ii) create unreasonable or uneconomic demands for the provision or extension of amenities and services; or
   iii) be subject to physical limitations such as erosion hazard, bushfire risk and flooding.

2) Description of the zone

This zone identifies land, which is of prime agricultural value.

3) Development allowed without development consent

Agriculture; Bushfire Hazard Reduction; Home Based ChildCare Establishment; Works authorised under the Hunter Valley Flood Mitigation Act 1956 and carried out by a public authority.
4) Development allowed only with development consent

Abattoir; Animal Establishment; Aquaculture; Bed and Breakfast Accommodation; Communications Facility; Dual Occupancy; Dwelling House if consent is permitted by Clause 13; Extractive Industry; Forestry; Home Activity; Intensive Agriculture; Marina; Mining; Plant Nursery; Recreation Area; Refreshment Room; Road; Roadside Stall; Rural Industry; Rural Tourist Accommodation; Rural Workers’s Dwelling if consent is permitted by Clause 14; Turf Farming; Utility Undertaking; Vehicle Repair Station; Wetlands Conservation.

5) Development which is prohibited

Any development other than development included in Item 3 or 4.

The following provisions of Maitland LEP 1993 also apply to certain development in rural zones:

Clause 11 states, Council may grant consent to the subdivision of land in a rural zone only where the allotments to be created will have the following minimum areas:

On land zoned 1(a) 40 hectares
On land zoned 1(b) 40 hectares
On land zoned 1(c) 4000 m2 with an average lot size of not less than 5500m2

Clause 12 states, not withstanding Clause 11, land within Zone 1(a), 1(b) or 1(c) may, with the consent of Council, be subdivided so as to create an allotment of any size where Council is satisfied that the allotment is to be used for a purpose (other than agriculture, intensive agriculture or a dwelling house) for which development consent has been given and the size of the allotment is appropriate for that use.

For erection of dwelling houses in rural zones clause 13 states:

1) In this Clause,
   - Separate parcel means an allotment of land in existence on 1st January 1991 or the aggregation of two or more adjoining or adjacent allotments of land if they were in common ownership on 1 January 1991.
   - Established cropping enterprise means an agricultural activity, which uses an area of prime agricultural land for the cultivation of crops such as lucerne, corn, or fodder.
   - Established horticultural enterprise means an agricultural activity, which uses an area of prime agricultural land for commercial vegetable production.

2) The Council may consent to the erection of a dwelling house on:
   a) a separate parcel in Zone 1(a) where:
      i) the separate parcel has a minimum area of 40 hectares; or
      ii) the separate parcel contains an established cropping establishment which has a cultivated area in excess of 15 hectares and which has been in operation for a minimum period of 2 years immediately prior to the application being made; or
      iii) the separate parcel contains an established horticultural enterprise which has a cultivated area in excess of 8 hectares and which has been in operation for a minimum period of 2 years immediately prior to the application being made; or
   b) a separate parcel in Zone 1(b) where the separate parcel has a minimum area of 4000m2.

3) Notwithstanding subclause (2), Council may consent to the erection of a dwelling house on land in Zone 1(a), 1(b) or 1(c) if:
   a) the land comprises an allotment the subdivision of which was approved by Council after 14th April 1972; or
   b) the dwelling house is to replace an existing habitable dwelling house.
4) Subclause 3(a) does not apply to an allotment created before or after the commencement of this subclause by a subdivision consented to by the Council for a purpose set out in Clause 8 (2)(a), (b), (c), (d) or (f), except an allotment with a minimum area of 40 hectares created by a subdivision consolidating allotments.

Clause 14 states, Council may grant consent to the erection of an additional dwelling house that is a rural worker's dwelling on land in Zone 1(a) or 1(b) where:
  a) the land has a minimum area of 40 hectares;
  b) Council is satisfied that the nature of the agricultural activity being undertaken on the land requires the rural worker to be on site as a permanent resident; and
  c) the land on which the dwelling is to be erected is not capable of being excised by way of transfer of a new or existing title.

Advertising in Rural Zones:

Clause 15 states, nothing in this plan prevents Council from granting consent to advertising on land in Zone 1(a), 1(b) or 1(c) if the advertising is directing the travelling public to tourist areas or tourist facilities, or is advertising an activity carried out on the land upon which the advertisement is erected.

It is also within a Floodway under Maitland LEP

The following provisions of Maitland LEP 1993 apply to development in floodways and in the vicinity of flood mitigation works:

Clause 40 states, the Council shall not consent to the carrying out of development for any purpose within 20 metres of:
1) a) any work to which the Hunter Valley Flood Mitigation Act 1956 extends; or
   b) the bank of any part of the lower river within the meaning of that Act, except with the concurrence of the Director of Public Works.
2) In considering whether to grant concurrence as referred to in subclause (1), the Director of Public Works shall take into consideration the likely effect of the proposed development in relation to the flooding of land in the vicinity of the land on which the proposed development is to be carried out.

Clause 41 states, not withstanding the other provisions of this plan, the Council may only grant consent to development, after having regard to any relevant comments of the Council’s Flood Plain Management Committee, will not result in either:
  a) detrimental changes to the flow of floodwater; or
  b) possible harm to human life, animal welfare, or property.
Applications for consent for development in the floodway, must be accompanied by a report setting out:
  a) any likely dangers to human life; and
  b) the likely impact the development may have on the character of floodwaters in the event of a major flood.

The above information should also be read in conjunction with information provided under response No.17 - Council and other public authority policies on hazard risk restrictions.

10. Land dimensions to permit the erection of a dwelling-house on the land

Clause 13 of Maitland LEP 1993 as produced in "9" above contains development standards that establish the minimum land area required to permit the erection of a dwelling-house on land in Rural zones.
11. Critical Habitat

No Local Environmental Plan or draft Local Environmental Plan identifies the land as including or comprising critical habitat.

12. Conservation Area/Item of Environmental Heritage

The land is not in a Heritage Conservation Area under Maitland LEP 1993.

An environmental heritage item is situated on the land. - Local Significance

Maitland LEP 1993 makes the following provisions in relation to heritage items and development in heritage conservation areas:

Clause 31 states, in order to conserve and enhance buildings, structures and sites of recognised significance which are part of the heritage of the City, a number of provisions apply with respect to heritage items and conservation areas.

The definitions used with respect to heritage conservation are:

ALTER in relation to a heritage item or a building or work in a heritage conservation area, means:
   a) make structural changes to the outside of the heritage item, building or work; or
   b) make non-structural changes to the detail, fabric, finish or appearance of the outside of the heritage item, building or work, not including changes that result from maintenance of the existing detail, fabric, finish or appearance of the outside of the heritage item, building or work.

CONSERVATION INSTRUMENT has the meaning ascribed to that expression in the Heritage Act 1977.

DEMOLITION means the damaging, defacing, destruction, pulling down or removal of a heritage item, building or work, in whole or in part.

HERITAGE CONSERVATION AREA means an area described in Column 1 of Schedule 1 and shown on the heritage map in the manner specified opposite that description in Column 2 of that Schedule.

HERITAGE ITEM means a building, work, relic, tree or place of heritage significance, being an item described in Column 1 of Schedule 2 and shown by heavy black edging and hatching on the Heritage map and lettered in the manner specified opposite that description in Column 3 of that Schedule.

HERITAGE ITEM OF LOCAL SIGNIFICANCE means a heritage item classified by the word LOCAL in Column 2 of Schedule 2 opposite that item.

HERITAGE ITEM OF REGIONAL SIGNIFICANCE means a heritage item classified by the word REGIONAL in Column 2 of Schedule 2 opposite that item.

HERITAGE ITEM OF STATE SIGNIFICANCE means a heritage item classified by the word STATE in Column 2 of Schedule 2 opposite that item.

HERITAGE MAP means the series of maps marked Maitland Local Environmental Plan Heritage Conservation.
HERITAGE SIGNIFICANCE means historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance.

MAINTENANCE in relation to a heritage item or to a building or work within a heritage conservation area, means the continuous protective care of the fabric of the heritage item, building or work and its setting.

RELIC means any deposit, object or material evidence (terrestrial or underwater) relating to the use or settlement of the City of Maitland which is more than 50 years old.

Advertising of heritage applications

Clause 36 states, except as provided by subclause (3), the provisions of sections 84, 85, 86, 87(1) and 90 of the Environmental Planning & Assessment Act 1979 (unamended) apply to and in respect of:

a) the demolition of a building or work that is a heritage item;

b) the demolition of a building or work within a heritage conservation area; and

c) the use of a building, work or land referred to in clause 37 for a purpose which, but for that clause, would be prohibited under this plan,

in the same way as those provisions apply to and in respect of designated development.

If an application is made to the Council for consent to demolish a building or work that is a heritage item, other than a heritage item of State significance, the Council shall not grant consent to that application until 28 days after the Council has notified the Secretary of the Heritage Council of its intention to do so.

This clause does not apply to the partial demolition of a building or work which, in the opinion of the Council, is of a minor nature and does not adversely affect the heritage significance of the building or work.

Heritage conservation incentives

Clause 37 states, nothing in this plan prevents the Council from granting consent to an application for:

a) the use, for any purpose, of a building, work or place that is a heritage item or an item subject to a conservation instrument;

b) the use, for any purpose, of a building, work or place that is within a heritage conservation area;

c) in the case of a heritage item or item subject to a conservation instrument which is a building or work, the use, for any purpose, of land:

(i) on which the building or work is situated; or

(ii) adjoining the land on which the building or work is situated, if it is satisfied that:

d) the proposed use would have little or no adverse impact on the amenity of the area; and

e) the conservation of the heritage item, building, work or place within a heritage conservation area or item subject to a conservation instrument depends on the Council granting that consent.

When considering an application for consent to erect a building on land on which there is situated a building which is a heritage item or an item subject to a conservation instrument, the Council may:

a) for the purpose of determining the floor space ratio; and

b) for the purpose of determining the number of parking spaces to be provided on the site, exclude from its calculation of the floor space of the buildings erected on the land the floor space of the item, but only if the Council is satisfied that the conservation of the building depends upon the Council making that exclusion.

Development of Heritage Items:
Clause 32 states, a person shall not, in respect of a building, work, relic, tree or place that is a heritage item:
   a) demolish or alter the building or work;
   b) damage or move the relic or excavate for the purpose of exposing a relic;
   c) damage or despoil land on which the building, work or relic is situated or land which comprises the place;
   d) erect a building on or subdivide land on which the building, work or relic is situated or on the land which comprises the place; or
   e) damage any tree on the land on which the building, work or relic is situated or on the land which comprises the place.

except with the consent of the Council.

The Council shall not grant consent to a development application required by this clause unless it has made an assessment of:
   a) the significance of the item as a heritage item;
   b) the extent to which the carrying out of the development in accordance with the consent would affect the heritage significance of the item and its site;
   c) whether the setting of the item, and in particular, whether any stylistic, horticultural or archaeological features of the setting should be retained;
   d) whether the item constitutes a danger to the users or occupiers of that item or to the public;
   and
   e) measures to be taken to conserve heritage items including any conservation plan prepared by the applicant.

This clause does not apply to any development which, in the opinion of the Council, is of a minor nature or does not adversely affect the heritage significance of the heritage item concerned.

13. Declared State Significant Development

Development to which State Environmental Planning Policy No. 34 - Major Employment Generating Development, State Environmental Planning Policy No. 48 - Major Putrescible Landfill sites and State Environmental Planning Policy No. 55 - Remediation of Land apply is state significant development by virtue of a declaration by the Minister referred to in section 76A(7)(b) of the Act.

The Council has received notification that the following development is state significant development by virtue of a declaration by the Minister referred to in section 76A(7)(b) of the Act:

Declaration made on 3rd August 1999:

An extractive industry, if in the opinion of the consent authority:
1. the resource has been identified as being of State or regional significance in a strategic plan adopted by the Director-General; or
2. the total resource (the subject of the development application) is greater than 5 million tonnes; or
3. the proposed extraction rate is greater than 200,000 tonnes per annum; or
4. the project is to be located in an "environmentally sensitive area of State significance".

An aquaculture industry if in the opinion of the consent authority:
1. the project has been identified as being of State or regional significance in a strategic plan adopted by the Director-General; or
2. the project will employ more than 20 people; or
3. the project is to be located in an "environmentally sensitive area of State significance".

A railway freight terminal if in the opinion of the consent authority:
1. the project has been identified in a Freight Strategy prepared by the Department of Transport adopted by the Director-General; or
2. the project employs more than 100 people; or
3. the capital investment value of the project is $20M or more; or
4. the project is to be located in an "environmentally sensitive area of State significance".

Declaration made on 29th June 2001:

All developments for the purposes of canals or other artificial waterways except those prohibited by State Environmental Planning Policy No. 50 - Canal Estate Development.

New coal mines that require new mining leases as provided for under section 63 of the Mining Act 1992.

All coal mining-related development associated with development approvals previously given by the Minister on or from 4 June 1987.

Declaration made on 13th January 2003:

Development to which SEPP 71 - Coastal Protection applies.

Declaration made on 22nd November 2004:

Electricity generation facility involving wind energy which:
1. includes more than 30 towers; or
2. has an installed generating capacity of more than 60 MW; or
3. has an installed generating capacity of more than 30 MW and the towers are in more than one council area.

14. Coastal Protection

The Council has not received any notification from the Department of Public Works that the land is affected by the operation of section 38 or 39 of the Coastal Protection Act 1979.

15. Mine Subsidence Compensation Act 1961

The land has not been proclaimed to be within a Mine Subsidence District under the meaning of section 15 of the Mine Subsidence Compensation Act 1961.

16. Road widening or realignment

The land is not affected by any road widening or re-alignment under:
(a) Division 2 of Part 3 of the Roads Act 1993: or
(b) any environmental planning instrument;
(c) any resolution of the council.

17. Council and other public authority policies on hazard risk restrictions

The Council by resolution has adopted a policy, which restricts the development of the land, which is below the level of the 1% flood. The land is also located within a Declared Floodplain (floodway) under the provisions of the Hunter Valley Flood Mitigation Act, 1956. Any new development or additions or alterations to existing development within a Declared Floodplain may only be carried out with the concurrence of the Minister for Land and Water Conservation. Additional information in relation to the extent and characteristics of flooding on the subject land should be obtained from Council.
This information should also be read in conjunction with information provided under response No. 9 - Zoning and land use under relevant LEPs.

All land affected by flooding is subject to controls in Development Control Plan No.29 - Hunter Valley Floodplain Management.

Information given in relation to flooding is based upon Council’s adopted 1% Flood Standard. Council has not adopted a policy in relation to the Probable Maximum Flood (PMF) Level. A PMF event is the largest flood that could conceivably occur at a particular location. A property which is above the 1% Flood Standard may still be affected by flooding in larger flood events such as the PMF.

The land is not affected by a policy:
   a) adopted by the Council, or
   b) adopted by any other public authority and notified to the Council for the express purpose of its adoption by that authority being referred to in planning certificates issued by the Council that restricts the development of the land because of the likelihood of land slip, tidal inundation, subsidence, acid sulphate soils or any other risk.

The absence of a Council policy to restrict development of the land because of the likelihood of a particular risk does not imply that the land is free from risk.

The land is not 'bushfire prone land'.

18. Land reserved for acquisition

No environmental planning instrument, deemed environmental planning instrument or draft environmental planning instrument applying to the land provides for the acquisition of the land by a public authority, as referred to in section 27 of the Act.

19. Contribution Plans

The following contribution plan(s) apply to the land:
   - Maitland Section 94 Contributions Plan 1995.

Contributions plans may be inspected and purchased at Council’s Customer Service Centre.

20. Matters arising under the Contaminated Land Management Act 1997

The land is not affected by any of the additional matters prescribed under section 59(2) of the Contaminated Land Management Act 1997.

PART 2: ADDITIONAL MATTERS PROVIDED PURSUANT TO SECTION 149 (5)

The following information is provided in accordance with section 149(5) of the Environmental Planning and Assessment Act 1979. Section 149(6) of the Act states that a Council shall not incur any liability in respect of advice provided in good faith pursuant to sub-section 149(5). If this information is to be relied upon, it should be independently checked.

Maitland LEP 1993 makes the following special provisions in relation to the land
1. **Tree Preservation**

The following provisions in clause 29 of Maitland LEP 1993 apply to the preservation of trees:

- A person shall not carry out or cause to be carried out the ring-barking, cutting down, lopping, topping, removing, injuring, or willful destruction of any tree with a height of 3 metres or more or having a branch spread of 3 metres or more in diameter, except with the written consent of the Council.
- The Council shall not grant consent for any action referred to in subclause (1) unless it has made an assessment of the importance of the tree or trees in relation to:
  a) soil stability and prevention of land degradation;
  b) scenic or environmental amenity; and
  c) vegetation systems and natural wildlife habitats.
- This clause does not apply to trees in a State Forest or on other Crown timber lands within the meaning of the Forestry Act 1916 or to trees required to be lopped in accordance with the Electricity (Overhead Line Safety) Regulation 1991.

2. **Development Consent**

Council’s records indicate that the land has not had any development consent granted within the five (5) years preceding the date of this certificate.

3. **Draft DCP’s**

**Draft Development Control Plan No. 30 - Exempt And Complying Development**

This plan contains provisions relating to exempt and complying development under Clause 52 of Maitland LEP 1993.

**Draft Development Control Plan No. 41 - Controls For Site Waste Management And Minimisation**

This DCP aims to reduce the demand for waste disposal by maximising avoidance, reuse and recycling of subdivision debris/refuse, demolition waste, building/construction materials, household generated waste and industrial/commercial waste. The DCP provides advice to intending applicants on how to prepare waste management plan, detailing actions to minimise waste generation and disposal; requires source separation and other design and location standards, which complement waste collection and management services and encourages building design and construction techniques which will minimise future waste generation.

4. **State Heritage Register**

The land subject to this certificate is not listed on the State Heritage Register.

5. **Suspension of covenants**

The land is affected by a suspension of covenants, agreements or instruments that impose restrictions on development of the land. The suspension operates to the extent necessary to enable development to be carried out in accordance with the Maitland Local Environmental Plan, 1993, or with any development consent granted under the provisions of the Environmental Planning and Assessment Act, 1979 in relation to the land.
NOTE: Covenants that burden neighbouring land (and which benefit the subject land) may also have been suspended. In determining a development or building application, the Council is not required to take into consideration whether the proposed development or building would comply with any applicable covenant. The enforcement of covenants is a private matter between covenantee.

6. Filling of land

Clause 44 of Maitland LEP 1993 states, land to which this plan applies shall not have its natural ground level altered by way of clearing or filling except with the consent of the Council.

7. Development in the vicinity of heritage items

Clause 38 of Maitland LEP 1993 states, the Council shall not grant consent to an application to carry out development on land in the vicinity of a heritage item unless it has made an assessment of the effect the carrying out of that development will have on the heritage significance of the item and its setting.

David Evans - General Manager

Per: [Signature]

End of Certificate
Appendix C

Results Summary Tables
<table>
<thead>
<tr>
<th>Sample ID</th>
<th>Sample Interval (m)</th>
<th>Duplicate Sample</th>
<th>Date Sampled</th>
<th>pH</th>
<th>Metals</th>
<th>PAHs</th>
<th>TPH/BT EX</th>
<th>OCP</th>
<th>Description</th>
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<td>Copper (Cu)</td>
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**NB:** Results expressed in mg/kg (ppm) dry weight excluding pH values

### Table B - Soil Metals

1 Ecological Investigation Levels (Interim Urban) (NEPM, 1999)
2 Health Investigation Level "F" (Commercial/Industrial) (NEPM, 1999)
3 Cr(III) Guideline Value
4 Cr(VI) Guideline Value
5 Inorganic mercury
6 Note: nd = Not detected (<PQL)
# TABLE C: Soil Analytical Results - PAH

**Client:** RTA  
**Title:** Pender and Foster Sawmill  
**Job No:** 2212560

All results in mg/kg

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<th>Acenaphthylene</th>
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<th>Fluoranthene</th>
<th>Pyrene</th>
<th>Benzo(a)anthracene</th>
<th>Benzo(b)kfluoranthene</th>
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1 Health Investigation Level "F" (Commercial or Industrial) (NEPM, 1999)

Note: nd = Not Detected (<PQL)
**TABLE D:** Soil Analytical Results - TPH/BTEX

**Client:** RTA  
**Title:** Pender and Foster Sawmill  
**Job No:** 2212560

NB: Results expressed in mg/kg (ppm) dry weight unless otherwise specified

<table>
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<tr>
<th>Sample ID</th>
<th>C8-C9</th>
<th>C10-C14</th>
<th>C15-C28</th>
<th>C29-C36</th>
<th>Total Detected TPH</th>
<th>C10-C36</th>
<th>Benzene</th>
<th>Toluene</th>
<th>Ethylbenzene</th>
<th>m&amp;p-Xylene</th>
<th>p-Xylene</th>
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</thead>
<tbody>
<tr>
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TC: Sensitive land use 1

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RPD  

|       | 40 | 7  | 40 | 22 | NA  | NA | NA | NA | NA | NA |

1. NSW EPA Guidelines for Assessing Service Station Sites (1994)
2. Netherlands Maximum Permissible Concentration to protect organisms in soil.
3. Health based threshold concentrations
4. Total xylene
5. nd = non-detect
# TABLE E: Soil Analytical Results - OCPs

**Client:** RTA  
**Title:** Pender and Foster Sawmill  
**Job No:** 2212560

NB: Results expressed in mg/kg (ppm) dry weight unless otherwise specified.

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<th>a-BHC</th>
<th>p-BHC</th>
<th>g-BHC</th>
<th>Heptachlor</th>
<th>Aldrin</th>
<th>Dieldrin</th>
<th>Heptachlor epoxide</th>
<th>Chlordane-Cis</th>
<th>Chlordane-Trans</th>
<th>DDD</th>
<th>DDE</th>
<th>DDT</th>
<th>Endrin</th>
<th>Endosulfan 1</th>
<th>Endosulfan 2</th>
<th>oxychlordane</th>
<th>Endosulfan sulfate</th>
<th>Trans-Norchlor</th>
<th>Methoxychlor</th>
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<td>0.05</td>
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1 Health Investigation Level *P* (Commercial/Industrial) (NEPM, 1999)
2 Total of Aldrin and dieldrin
3 Total of Trans-chlordane and cis-chlordane
4 Total of DDT, DDD and DDE
Appendix D

Laboratory Certificates and Chain of Custody Forms
CERTIFICATE OF ANALYSIS

Report No. : 5E4574
Attention : Bob Campbell
Client : GHD Pty LTD
          PO Box 5403
          NEWCASTLE WEST
Samples : 25
Reference/Order : 2212560
Project : RTA
Received Samples : 22/12/05
Instructions : 22/12/05
Date Reported : 18/01/06

PLEASE SEE FOLLOWING PAGES FOR METHOD LISTING AND RESULTS

RESULTS

All samples were analysed as received. This report relates specifically to the samples as received. Results relate to the source material only to the extent that the samples as supplied are truly representative of the sample source. This report replaces any preliminary results issued. Note that for methods indicated with "#", NATA accreditation does not cover the performance of this service. Three significant figures (or 2 for <10PQL) are reported for statistical purposes only. Where "Total" concentrations are reported for organic suites of compounds this is the summation of the individual compounds and the PQL is noted for reporting purposes only. This report has been authorized by the NATA signatories listed in the method descriptions section on the following page.

Peter Keyte B.Sc.(Chem)
Production Manager
Report No. : 5E4574

Please note: Where samples are collected/submitted over several days, the date on which the last samples were analysed or extracted is reported. Unless Ferrous Iron is determined on site, the possibility of a ferrous-ferric ratio change may occur.

<table>
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<tr>
<th>Method</th>
<th>Description</th>
<th>Extracted</th>
<th>Analysed</th>
<th>Authorised</th>
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<td>E7500</td>
<td>Moisture (%w/w)</td>
<td>23/12/05</td>
<td>28/12/05</td>
<td>GTO 096</td>
</tr>
<tr>
<td>E1230</td>
<td>TPH C6-C9 by Purge &amp; Trap</td>
<td>23/12/05</td>
<td>03/01/06</td>
<td>GTO 094</td>
</tr>
<tr>
<td>E1221</td>
<td>TPH (C10-C36)</td>
<td>23/12/05</td>
<td>30/12/05</td>
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<td>E1010</td>
<td>BTEX in Soil</td>
<td>23/12/05</td>
<td>03/01/06</td>
<td>GTO 094</td>
</tr>
<tr>
<td>E1110</td>
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<td>23/12/05</td>
<td>16/01/06</td>
<td># 095</td>
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<td>E5910</td>
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<td>29/12/05</td>
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<td>DBL 101</td>
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<td>E1080</td>
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<td>03/01/06</td>
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<td>Greg Towers</td>
<td>094, 096</td>
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<td>DLU</td>
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### E7500 Moisture (%sw/w) in Soil

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Moisture Content

- E1230 TPH in Soil by Purge & Trap/GC-MS

| C6-C9 Fraction | nd | nd | nd | nd | nd |

- E1221 TPH in Soil

| C10-C14 Fraction | 10 | 10 | 30 | 30 | 20 |
| C15-C28 Fraction | 50 | 160 | 320 | 280 | 260 |
| C29-C36 Fraction | 50 | 120 | 380 | 240 | 260 |

- E1010 BTEX (P&T) in Soil

| Benzene | 0.2 | nd | nd | nd | nd |
| Toluene | 1   | nd | nd | nd | nd |
| Ethylbenzene | 1 | nd | nd | nd | nd |
| m&p-Xylene | 2 | nd | nd | nd | nd |
| o-Xylene | 1 | nd | nd | nd | nd |
| 4-Bromofluorobenzene-SURROGATE | 1 | 86% | 85% | 75% | 74% |

PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
-- = Not Applicable

Refer to Amdel standard laboratory qualifier codes for comments.
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<td>14%</td>
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PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
-- = Not Applicable

Refer to Amdel standard laboratory qualifier codes for comments.

Soils: mg/kg (ppm) dry weight unless otherwise specified
Waters: mg/L (ppm) unless otherwise specified in Method Header
Leachates: mg/L (ppm) in leachate unless otherwise specified in Method Header
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PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
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Refer to Amdel standard laboratory qualifier codes for comments.

Soils : mg/kg (ppm) dry weight unless otherwise specified
Waters : mg/L (ppm) unless otherwise specified in Method Header
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header
### E5910 Metals in Soil

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### E5950 Mercury in Soil

| Mercury       | 0.05 | nd      | nd      | nd      | 0.08    | 0.12    |

### E3600 pH in Soil

| pH            | 0.1  | 6.7     | --      | 7.3     | --      | --      |

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PQL = Practical Quantification Limit
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nd = < PQL
-- = Not Applicable

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Soils: mg/kg (ppm) dry weight unless otherwise specified
Waters: mg/L (ppm) unless otherwise specified in Method Header
Leachates: mg/L (ppm) in leachate unless otherwise specified in Method Header
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PQL = Practical Quantitation Limit
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Refer to Amdel standard laboratory qualifier codes for comments.
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<td>Endrin</td>
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<td>96%</td>
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PQL = Practical Quantitation Limit
LNR = Samples Listed not Received
nd = < PQL
--- = Not Applicable

Refer to Amdel standard laboratory qualifier codes for comments.

Soils : mg/kg (ppm) dry weight unless otherwise specified.
Waters : mg/L (ppm) unless otherwise specified in Method Header.
Leachates : mg/L (ppm) in leachate unless otherwise specified in Method Header.
## CHAIN OF CUSTODY AND ANALYSIS REQUEST FORM

**GHD Pty Ltd, 352 King Street, Newcastle NSW 2300 Australia**

**Telephone:** (02) 4979 5930  **Fax:** (02) 4979 5998

**Project No.** 2212580  **Phax No:** (02) 4979 5930

**Project Name:** Penfold and Feates Shutmill  **Fax:** (02) 4979 5998

**Project Manager:** Bob Campbell  **Address:** 352 King Street

**Send to:** AMOEL  **Card#:** 22158

**Address:** 91 Mitchell Rd  **Attention:** Angela

**Data Required:** 21/12/2005  **Phone:** 49024800

**Newcastle NSW 2300**

**Date Submitted:** 21/12/2005

**PLEASE FAX THIS COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT (02) 4979 8809**

### RELINQUISHED BY

<table>
<thead>
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<th>Name</th>
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<th>Time</th>
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<th>Organization</th>
<th>Date</th>
<th>Time</th>
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<td></td>
<td>J. Tridale</td>
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### SAMPLE No.

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**TOTAL:**

| 10 | 10 | 15 | 3 | 3 | 0 | 0 | 0 | 0 | 0 |
# Chain of Custody and Analysis Request Form

**GHD Pty Ltd, 352 King St, Newcastle NSW 2300 Australia**

- **Telephone:** (02) 4979 9130
- **Fax:** (02) 4979 9660

---

**Project No:** 2212600  
**Phone No:** (02) 4979 9130  
**Send to Lab:** AMDEL  
**Address:** 83 Mitchell Rd  
**Fax No:** (02) 4979 9485  
**Attention:**  
**Date Requested:**  
**Date Submitted:** 24/12/2005

---

**Newcastle NSW 2300**  
**PLEASE FAXED COMPLETED FORM TO GHD PROJECT MANAGER ON RECEIPT.**  
**4979 9130**

---

## Released By

<table>
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<tr>
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## Sample Details

<table>
<thead>
<tr>
<th>SAMPLE No</th>
<th>All sample numbers</th>
<th>No. of Containers</th>
<th>Customer Specifics</th>
<th>MATRX</th>
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<th>ANALYSIS REQUIRED</th>
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It is the responsibility of the receiver to verify that the number of samples and their identifying number correspond to those listed in this form.

---

1 of 2