



QUEENSLAND GOVERNMENT

Department of Environment

Hazardous Waste and Contaminated Sites Section
Department of Environment
PO Box 155
BRISBANE ALBERT STREET
QLD 4002

Ph: (07) 3225 1827 Fax: (07) 3227 8341

Application for Assessment of a Site Investigation Report

Please note: Failure to lodge all required information can result in your application being rejected and returned to you for completion and resubmission.

Complete both sides of this document (attach a separate sheet if more space required)

1 Applicant details

(This is the person to whom the suitability statement will be sent and to whom all enquiries will be directed)

Contact name CTPI 49-Sch4

Telephone CTPI 49-Sch4 Fax 3252-5712

Company name FLUOR DANIEL GTI
(if applicable)

Postal address PO BOX 2320

FORT. VALLEY MAC Postcode 4006

2 Lodgement details

(Complete this section only if form not lodged by applicant)

Contact name CTPI 49-Sch4

Telephone CTPI 49-Sch4

Company name BORAL LIMITED
(if applicable)

Postal address GPO BOX 148

BRISBANE Q Postcode 4001

3 Site owner's details

(Agent's address not acceptable)

Full name ALLEN TAYLOR & COMPANY LIMITED. *

Address PO BOX 224

COOROY QLD Postcode 4563

4 Site details

Name of local government NOOSA SHIRE COUNCIL

Suburb/Town/City TEWANTIN QLD.

Postcode 4565

Notifiable activity/possible contaminating activity

WOOD TREATMENT & PRESERVATION

PETROLEUM PRODUCT OR OIL STORAGE

Intended use of the site

PASSIVE RECREATION.

5 Location and landuse details of each parcel covered by the site investigation report

Street number	Street name	Lot on Plan description	Current landuse	Proposed landuse
<u>1</u>	<u>MAPLE STREET.</u>	<u>LOTS 1-2-3 RP153249</u>	<u>SAWN TIMBER</u>	<u>PASSIVE</u>
		<u>LOTS 1-2-3 RP87371</u>	<u>DRYING & MOULDING</u>	<u>RECREATION</u>
		<u>LOT 2 RP47020</u>	<u>PETROLEUM</u>	
		<u>LOT 1 RP88582</u>	<u>PRODUCT STORAGE</u>	
		<u>LOTS 2-3 RP110206</u>		

Louise,

11/2

- Need copy of RPI's for all lots on appln form except for (L1,2,3 RPI 532 99).
- Pls chase up outstanding proof items - James.

Received additional info
25/2/99

CTPI 49-S

12.2.99

Called & left a message with receptionist,
+ my name & no so he can call back if
problems.

Call

CTPI 49-Sch4

let know need:

- copy of Registered Plans for all lots on app'n except ↓
- + need qual info (details next page)

6. Details of report

Is a development application pending under the *Integrated Planning Act 1997*?

☐ Yes ☒ No

The attached report contains (as per *Guidelines for the Assessment and Management of Contaminated Land in Queensland*) -

- ☒ Stage 1 investigation - (CONTAINED WITHIN STAGE II REPORT.)
- ☒ Stage 2 investigation If previous submissions have been made quote:
- ☐ Stage 3 investigation DoE File no.

Is a response required from DoE at this time or is further information following?

- ☒ Response required
- ☐ Further information following

Checklist — tick each box when complete

- ☒ Completed items 1-6 and written name and address in return slip (you **must** answer each item).
- ☒ Enclosed statutory fee.
- ☒ Enclosed statutory declarations by investigators, preparers and ~~owners~~.
- ☒ Enclosed signed consultant's report (as per *Guidelines for the Assessment and Management of Contaminated Land in Queensland*).
- ☒ Enclosed **legible** copy/copies of proof of ownership of site/s clearly showing the full name/s of the registered proprietor/s e.g. current Certificates of Title or Title Search/es. (Order in Council (Crown Land) and Form 100 (Change of Ownership Notification) may be accepted if the above are not available). - CONTAINED WITHIN STAGE II REPORT.
- ☒ Enclosed **legible** copy/copies of all relevant registered plans (available from the Titles Section, Department of Natural Resources) **clearly showing location of the site/s** and current registered plan details. - CONTAINED WITHIN STAGE II REPORT.
- ☒ Enclosed copy of a street map/area map clearly showing location of property. - CONTAINED WITHIN STAGE II REPORT.

OFFICE USE ONLY

Date recieved	Date rejected (if applicable)	Date accepted	Initials
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

* ALLEN TAYLOR & COMPANY LIMITED IS A WHOLLY OWNED SUBSIDIARY OF BORAL LIMITED. BORAL LIMITED CONTRACTED FLUOR DANIEL GTI TO UNDERTAKE THIS STAGE II INVESTIGATION AND SITE REMEDIATION PLAN.

R

SCHEDULE

1 Maple Street, Tewantin Qld.

Lot/Plan	Report No.	Entry Date	Initial Status	Reclass. Status
Lot 1 RP153299	92-3866	10155	3/12/93	
Lot 2 RP153299	92-3859	10152	3/12/93	
Lot 3 RP153299	92-3867	10156	3/12/93	
Lot 1 RP88582	92-3870	10159	3/12/93	
Lot 1 RP87371	92-3864	10153	3/12/93	
Lot 2 RP87371	92-4038	10233	12/12/95	
Lot 3 RP87371	92-3865	10154	3/12/93	
Lot 2 RP110206	92-3869	10157	3/12/93	
Lot 3 RP110206	92-3869	10158	3/12/93	
Lot 2 RP47020	92-1		31/10/91	

above sites relate to the same comments as per
 'Site report for Lot 1 RP153299 and 'Display Historical Site'
 are not on Plan - Wood treatment & preservation
 Lot 2 RP87371 has the additional N/A of 'petroleum product
 as per K. Hopper advice.
 CTPI 4
 16/3/95.

Local Government Area:

Memorandum

Queensland Government

Environmental Protection Agency

Incorporating the

Queensland Parks and Wildlife Service

Enquiries
Telephone
Your reference
Our reference

Annemarie Lewis
(07) 3225 1054

CTPI 49-Sch

e lew

From: Annemarie Lewis, Acting Registrar (EMR/CLR)

Subject
lot/plans:

ons

1 + 2 RP 153299

to mail

*t.
S*

NOTES

Acting Registrar (EMR/CLR)

CTPI 49-Sch4

Page 1 of 1

Date Received:

20-29-2009
Urgent due date:

File A

288 Edward St Brisbane
Queensland 4000 Australia

GPO Box 2771 BRISBANE
Queensland 4001 Australia

Telephone

Facsimile

Website www.epa.qld.gov.au

Page 5 of 509
ABN 87 221 158 786

Memorandum

Queensland Government
Environmental Protection Agency
Incorporating the
Queensland Parks and Wildlife Service

Enquiries Paul Butcher
Telephone (07) 3225 8416
Your reference
Our reference BNE21917

29 November 2007

Annemarie Lewis, Acting Registrar

From: Paul Butcher, Environmental Officer

Subject: Deletion – Lots 1 and 2 on RP153299

Hi Annemarie,

Please delete **Lots 1 and 2 on RP153299** from the EMR as per the assessment attached. Lot 3 on RP153299 is to remain on the EMR.

Thanks,

CTPI 49-Sch4

Paul Butcher
Environmental Officer

FILE NOTE

Assessment of request for deletion – Lots 1, 2 and 3 on RP153299

Request from SKM dated 7 November 2007 and received on 9 November 2007

Lots 1 and 2 on RP153299 on the EMR for NA 38 - Wood treatment and preservation.

Lot 3 on RP153299 on the EMR for NA 38 - Wood treatment and preservation.

NA 29 – Petroleum product or oil storage.

Refers BNE21917 Vols. 1 – 3.

1. It is recommended that **Lots 1 and 2 on RP153299** be deleted from the EMR based on a review of the file and the information supplied in support of the deletion request. The key considerations supporting this recommendation are as follows:

An examination of the location of Lots 1 and 2 in relation to the contaminating activities identified in previous investigations showed that these lots are removed from the main areas of mill activity and are separated from the latter by the creek.

Lots 1 and 2 are some distance from the location of the former UST, said to be on the southern boundary of Lot 3.

1998 Fluor Daniel report designates Lots 1 and 2 as part of Area A for the purposes of the investigation and considered this area of low risk due to it being reported as office area and never having been used for timber processing and as remote from the waste disposal streams.

There is no indication in the reports or supplied stat decs that these lots were ever used for anything other than for administration purposes.

One sample location from the 1998 report (A4) is on these lots (Lot 2) and analysis indicated that no CCA or boron was detected above EILs

2. It is recommended that **Lot 3 on RP153299** remain on the EMR based on a review of the file and the information supplied in support of the deletion request. The applicant should be advised that the removal of this lot from the EMR would require an investigation and report submitted by a suitably qualified environmental consultant. The key considerations supporting this recommendation are as follows

The lot was subject to a notifiable activity – 29 Petroleum product or oil storage.

The lot may have been subject to the storage of treated timber

Other potential sources of contamination existed on the lot, eg. drum storage, disused rail line.

Prior sampling indicates the presence of Cr, Cu and/or As above Qld Guidelines EILs in 3 samples, one near the creek (A3).

CTPI 49-Sch4

CTPI 49-Sch4

Paul Butcher
27/11/07

Enquiries Paul Butcher
Telephone (07) 3225 8416, email: paul.butcher@epa.qld.gov.au
Your reference
Our reference BNE21917

Environmental Protection Agency

Incorporating the
Queensland Parks and Wildlife Service

29 November 2007

Mr Adam Britton
Noosa Shire Council
PO Box 141
TEWANTIN QLD 4565

Re: Request for deletion of land parcels from the Environmental Management Register (EMR) - Lots 1, 2 and 3 on RP153299, located at 1 Maple Street, Cooroy

Dear Sir,

In relation to the above land, the administering authority has reviewed the request for deletion and the supporting documentation and has made the following decision

Lots 1 and 2 on RP153299 can be deleted from the EMR based on the information provided.

Lot 3 on RP153299 has been subject to a notifiable activity and cannot be deleted from the EMR.

Lot 3 on RP153299 may be removed from the EMR under sections 375 and 384 of the *Environmental Protection Act 1994* through the submission of a site investigation report to the Environmental Protection Agency (EPA) – Waste and Contaminated Land Unit. The report must be prepared in accordance with the *Environmental Protection Act 1994* and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland* (DEH, 1998). The report must demonstrate that Lot 3 on RP153299 is not contaminated and enable the EPA to remove the site from the Environmental Management Register

Should you require any further information please do not hesitate to contact the above officer on the telephone number listed.

CTPI 49-Sch4

Operations Manager (Waste and Contaminated Land Unit)

CC: CTPI 49-Sch4
Sinclair Knight Merz
PO Box 246
SPRING HILL QLD 4004

Published on DES Disclosure Log
RTI Act 2009

Local Government Area:

BNE 21917

Memorandum



Queensland Government

Environmental Protection Agency

Incorporating the
Queensland Parks and Wildlife Service

Enquiries
Telephone
Your reference
Our reference

Annemarie Lewis
(07) 3225 1054

12/11/2007

To: Kim Barry

From: Annemarie Lewis, Acting Registrar (EMR/CLR)

Subject
lot/plans:

Deletion of Lot 1, 2, 3 RP153299

Kim Can you please look at
this Report
You might have the file for this
one

Can Lots 1, 2, 3 RP153299 now
be deleted
Thanks

Annemarie Lewis
Acting Registrar (EMR/CLR)

CTPI 49-Sch4

BNE21917

Sinclair Knight Merz

369 Ann Street, Brisbane 4000
PO Box 246
Spring Hill QLD 4004 Australia

Tel: +61 7 3244 7100
+61 7 3244 7307
www.skmconsulting.com

Kim Barry
Environmental Protection Agency
GPO Box 2771
BRISBANE QLD 4001

7 November 2007

QEO9942

Dear Madam

Deletion of Lots 1, 2 and 3 on RP153299 from Environmental Management Register

I refer to the former Cooroy Timber Mill site ('the Mill site'), in the past operated by Boral Limited (Boral) and located at 1 Maple Street, Cooroy on land previously described as Lots 1, 2 and 3 on RP 153299, Lots 1, 2 and 3 on RP87371, Lot 2 on RP47020, Lot 1 on RP88582 and Lots 2 and 3 on RP110206, Parish of Tewantin, County of March. A location map for the site is provided as Figure 1.

All land parcels associated with this Mill site were listed on the Environmental Management Register (EMR) for notifiable activities (petroleum product storage and wood treatment and preservation) in 1995.

In 2005, the Mill site was reconfigured, resulting in a number of new land parcels, namely Lots 1 to 7 on SP173771. However, the land parcels of interest, namely Lots 1 to 3 on RP153299, were not affected by this reconfiguration (refer to Figure 2). The current Registered Plan for these land parcels is provided in confirmation (refer to Figure 3).

This letter represents a request for deletion of the land parcels of interest from the EMR on behalf of Noosa Shire Council (NSC). NSC has an interest in the matter resulting from its role as owner and developer of the land. The proposed development of the land is for community use purposes with limited opportunities for soil access, including a Library, Education/Conference Facilities, Community Shops and associated car parking, parks and recreational open space.

It is the intent of this letter report to demonstrate that these land parcels have not been subject to contaminating activities during the Mill operations nor any further contaminating activities since the cessation of the Mill operations and that these land parcels should therefore not have been listed on the EMR in 1995. In support of this request, the following information is

Sinclair Knight Merz Pty Limited

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Offices across Australia, New Zealand, UK, South East Asia, Middle East, the Pacific and Americas

R

1) Figures (*attached as Appendix 1*):

- Figure 1: Location Map;
- Figure 2: Current land parcel configuration overlaid over current aerial photograph;
- Figure 3: Current Registered Plan;
- Figure 4: Concept Plan for proposed development;
- Figure 5: Site use figure for administration area (Lots 1 and 2 on RP153299);
- Figure 6: Site use figure for storage area (Lot 3 on RP153299);
- Figure 7: Sample locations for administration area (Lots 1 and 2 on RP153299);
- Figure 8: Sample locations for storage area (Lot 3 on RP153299);

2) Reports:

- Stage 2 Investigation Report, prepared by Fleur Daniel GTI (Australia) Pty Ltd, dated 9 October 1998; (*previously submitted to the EPA – refer file number 902328*);
- Remediation Plan Boral Timber yards, prepared by Fleur Daniel GTI (Australia) Pty Ltd, dated 2 November 1998; (*previously submitted to the EPA – refer file number 902328*);
- Additional Environmental Investigations – Boral Timber Cooroy Mill, prepared by IT Environmental (Australia) Pty Ltd, dated 28 September 2000; (*previously submitted to the EPA – refer file number 902328*);
- Closure Report – Soil Remediation and Stormwater Management Works, prepared by IT Environmental (Australia) Pty Ltd, dated 19 April 2001; (*previously submitted to the EPA – refer file number 902328*);
- Letter report – investigation of soil in removed UST vicinity on Lot 3 on RP153299, prepared by Golder Associates, dated 1 November 2007 (*attached as Appendix 2*)

3) Other supporting information:

- Statutory Declaration made by Mr CTPI 49-Scl retired manager of the Mill site, outlining knowledge of mill operations; (*attached as Appendix 3*)
- Statutory Declaration made by Mr CTPI 49-Sch4 Director of Business for Noosa Shire Council and outlining knowledge of subject land parcels subsequent to ownership transfer in 2002; (*attached as Appendix 4*)

Site History

Mill Operations

The Mill site was used as a timber mill for the production of floor boards since the early 1900's. The configuration exhibited at the time of its closure in 2001 was established in 1959 – 1960. The activities associated with the treatment and processing of timber, such as boron treatment, kiln drying of timber, stacking, air drying and storage of raw and processed timber were conducted in the area north of Maple Street/Cooroy Creek.

Lots 1 and 2 on RP153299 were used primarily as an administration area, as illustrated in attached Figures 5 and 6. No timber processing has reportedly (Fleur Daniel, 1998) occurred within the boundaries of these land parcels.

Lot 3 on RP153299 was used for the storage of finished planed timber in a large shed located closest to Mary River Road. Some planing is said to have occurred in another large shed that was located closer to Marara Street. This activity ceased in 1995 (CTPI 49-Sch 4 Stat Dec 2007).

An underground storage tank (UST) of unknown capacity was located mid-way along the southern boundary of Lot 3. This UST provided leaded petrol for company cars until 1972 when its use ceased and petrol sources off-site. The UST itself was apparently removed around 1980 (CTPI 49-Sch 4 Stat Dec 2007).

Investigation Activities – Early Investigations

The investigations carried out by Fleur Daniel (1998) and subsequently IT Environmental (Australia) Pty Ltd extended to the three land parcels of current interest.

Four (4) soil samples were taken from locations across Lots 1 and 2 on RP153299 (refer to Figure 7, sourced from Fleur Daniel, 1998). The analytical results for these samples indicated that no petroleum hydrocarbons were detected and no contaminant of concern exceeded a concentration of (current) HIL(A) (NEPM¹). Arsenic concentrations ranged from 1 to 27 mg/kg, Boron concentrations were less than 20 mg/kg (i.e. LoR), Copper concentrations ranged from 5 to 94 mg/kg and chromium concentrations ranged from 20 to 34 mg/kg.

¹ National Environment Protection Council (NEPC). 1999, 'National Environmental Protection (Assessment of Site Contamination) Measure'.



related legislation was introduced subsequent to cessation of the use and cannot be applied retrospectively;

- 1998 investigations of the UST area on Lot 3 showed no soil or groundwater contamination associated with the past storage of petrol; and
- 2007 investigations confirm the above investigations.

Consequently, it is believed that the above summary together with the supporting documentation presents a positive case for the deletion of Lots 1 to 3 on RP153299 from the EMR.

We look forward to an early confirmation of the EPA's decision regarding this deletion.

Yours sincerely

CTPI 49-Sch4

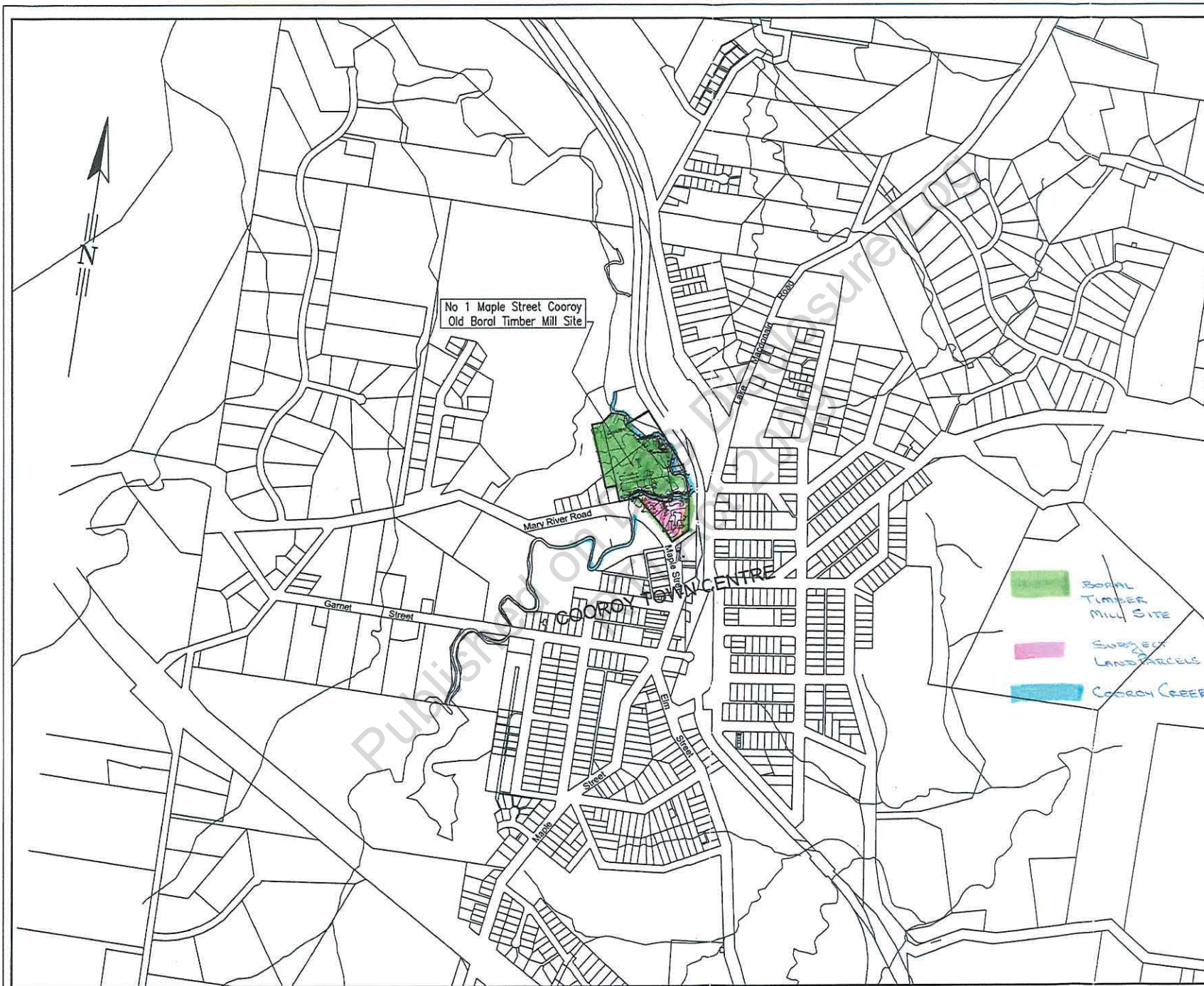
CTPI 49-Sch4

Environmental Manager - Contaminated Land Management

Phone: CTPI 49-Sch4

Fax: (07) 3244 7306

E-mail: CTPI 49-Sch4@skm.com.au



CALLAGHAN & TOTH
Consulting Engineers

P.O. Box 203, TEWANTIN 4565

CTPI 49-Sch4

TEWANTIN 4556 NOOSA JUNCTION 4566

CTPI 49-Sch4

designed CTF datum AHD
drawn
checked Origin (B.M.) PSN XX RLXX

approved
SURVEYED BY

PHONE *

project
**CONTAMINATED SITE
REMEDiation**

Client

NOOSA COUNCIL

title **OLD BORAL LOWER MILL
SITE PLAN**

FIGURE 1

Business Directorate

Director - Business

DATE APPROVED BY COUNCIL

SCALE
0 50 100 150 200 250 500
Meters

scale
1:10000(A3) SCALE SHOWN IS ORIGINAL DRAWING SCALE
DO NOT SCALE FROM THIS DRAWING
USE ONLY DIMENSIONS PROVIDED

REVISIONS

rev	revision details	date
1		
2		
3		
4		
5		

FILES

COMPUTER DIRECTORY
C:\KEYS\JOBS\0646\

Sheet 01 of 01 sheets

drawing number

0646-50

date 11/04/2003



Figure 2: Current Land Parcel Configuration
(overlaid over current aerial photograph)

R

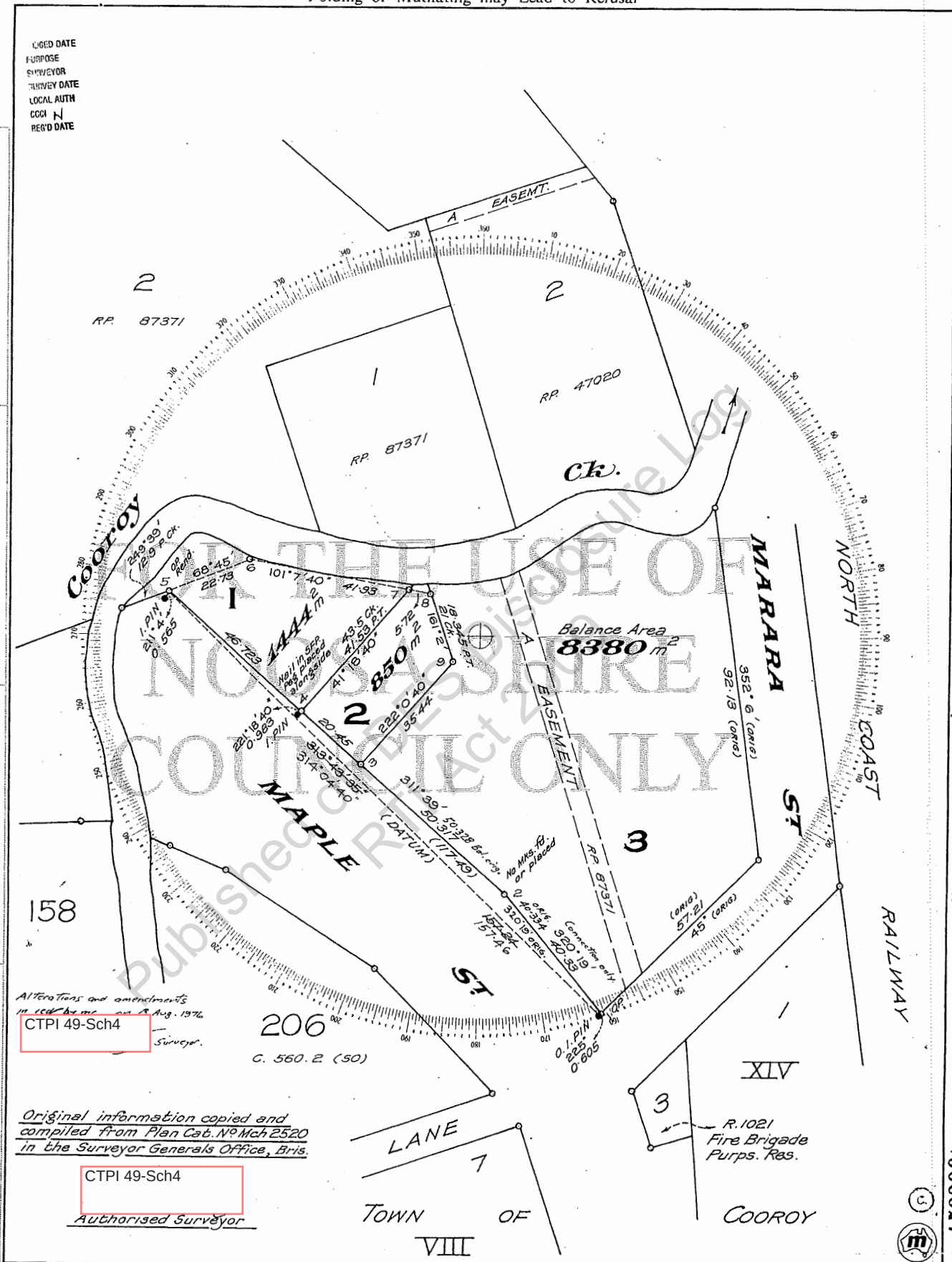
Folding or Mutilating may Lead to Refusal

153299

LOADED DATE
PURPOSE
SURVEYOR
SURVEY DATE
LOCAL AUTH
CCL 1
REG'D DATE

153299

Drawing of Plan must be restricted to the space inside the blue lines



153299

CANCELLATIONS etc

153299

Lots 1 to 3 Orig. Portion 100 DIMENSIONS IN METRES
LOT Orig. Grant 127451
 Cancelling Portion 100 on 50 Plan Mch 2520 County of March Town of
 Parish of Tewantin
 Surveyed by CTPI 49-Sch4 13/2/1976 SCALE 1:800 REGISTERED PLAN 153299
 CROWN COPYRIGHT RESERVED. REGISTRAR OF TITLES, QUEENSLAND

CISP

M.F.

Copyright protects this plan. Unauthorised reproduction or amendment is not permitted. Contact the surveyor or Consulting Surveyors Queensland for information.

No 35399

153299

FOR TITLES OFFICE USE ONLY

CTPI 49-Sch4 of Noosa Heads
 Authorised Surveyor, do hereby solemnly and sincerely declare that I have faithfully and truly surveyed, measured and marked on the ground the parcel of land herein referred to, and that the measurements and boundaries given in this plan are correct, and do not to the best of my belief in any way interfere with the rights or property of any persons, owners or occupiers of the land adjoining the above land, and described in the said plan; and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the "Oaths Acts, 1867-1960"

CTPI 49-Sch4

Authorised Surveyor

Made and Signed at MAROOCHYDORE
 19.26, before me.

CTPI 49-Sch4

Signature of Registrar of Titles or of a Magistrate

Council of the SHIRE of NOOSA certifies that all the requirements of this Council, the Local Government Acts of 1936 to 1974 and all By-Laws have been complied with and approves this Plan of Subdivision subject to



Dated this 30th day of May 1976

CTPI 49-Sch4

CTPI 49-Sch4

Mayor or
Chairman
Town or
Shire Clerk

I/We N.C.S. HOLDINGS PTY. LTD. as proprietor/s
 (Names in full)
 of this land, agree to this Plan of subdivision, and dedicate the new roads shown hereon to public use.

Signature of
Proprietor/s

CTPI 49-Sch4

CTPI 49-Sch4

(Ra)	Sub.	Vol.	Folio
1	11	5572	77
2	11	78	78
3	11	79	79

Designation of signatories to this seal should be shown.

25.8.76

CTPI

Lodged by **A. C. FOX & ASSOCIATES**
byes, Nelson & Co.
Adicitors.
Gympie.

For Additional Plan & Document Notings Refer to CISP

Fees Payable	
Postal fee and Postage	30.00
Lodgt. & Exam.	4.00
Entd. on Docs.	30.00
New Title	4.00
Entd. on Deeds	2.50
Photo Fee	2.50
Total	\$70.50
Short Fees Paid	

Received
Registrar of Titles
Journal No.
F209373
Receipt No.
39386

Calc. Bk. No. 299/156
 Examined 1/10/76 AB
 Passed 1/10/76 AB
 Charted 6/10/76 SHC
 Located T.M. COOPER

Particulars entered in Register Book
 Vol. 2965 Folio 46

5 OCT 1976
 CTPI 49-Sch4

CTPI 4

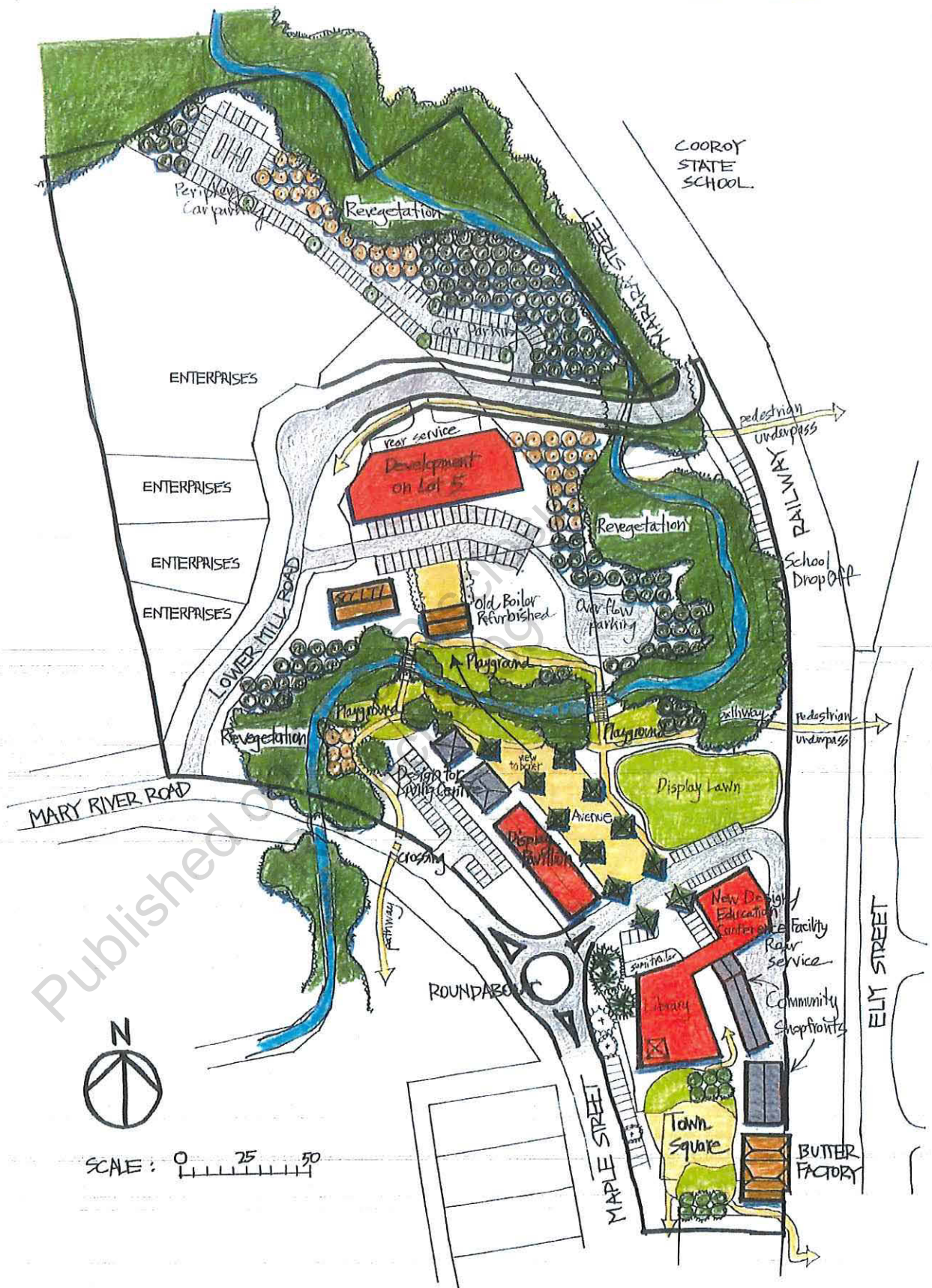
REGISTRAR OF TITLES

RECEIVED
REG. OF TITLES
AUG 13 10 45 AM '76

CTPI
153299

REGISTERED PLAN 153299

FIGURE 4



Concept Drawing

Cooroy Lower Mill Site

August 06

FIGURE 5

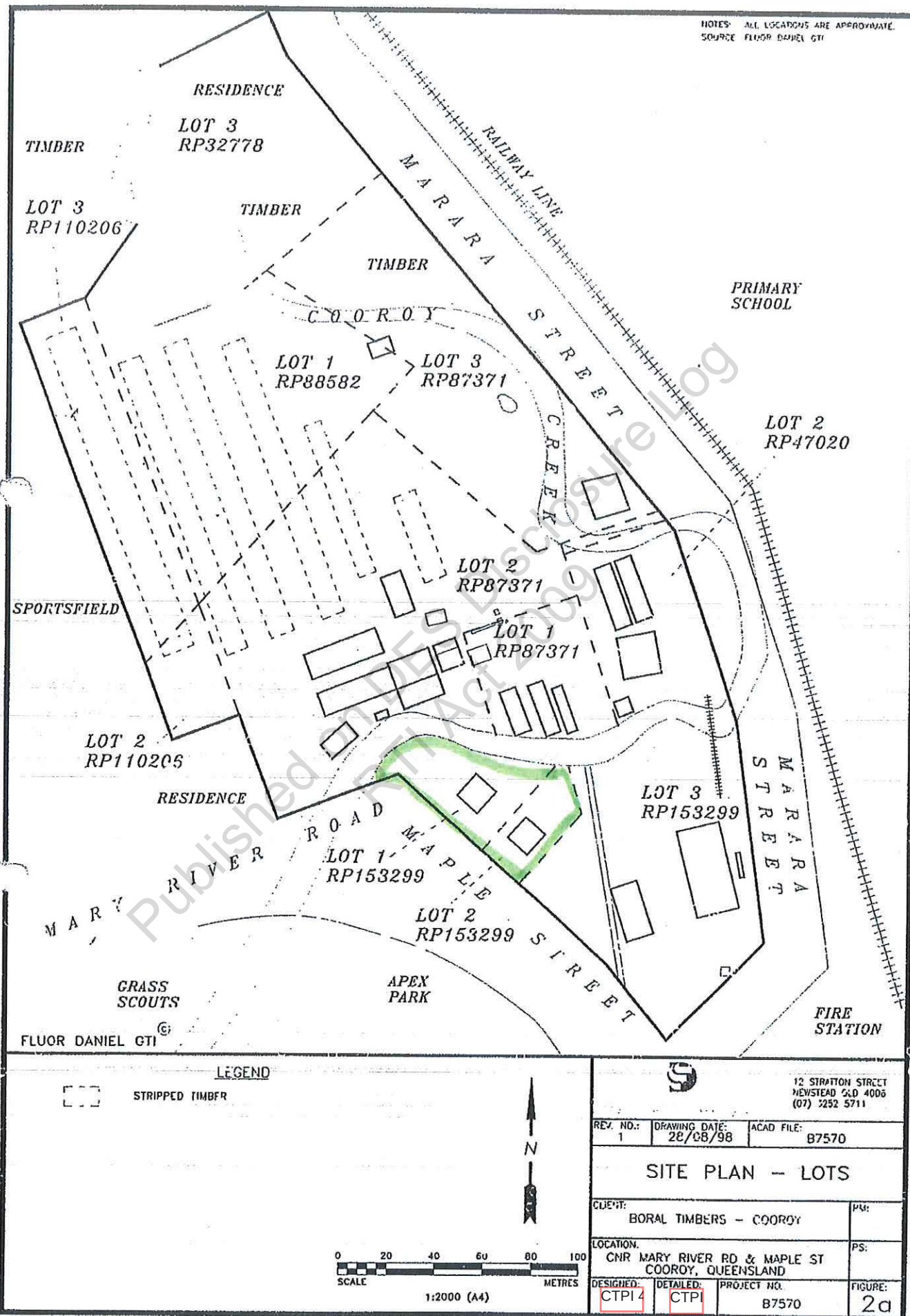


Figure 5: Site use for administration area (lots 1 and 2 RP153299)

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLOOF DANIEL CP

FILE COPY

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL CTP

LEGEND

STRIPPED TIMBER

SCALE

0 20 40 60 80 100 METRES

1:2000 (A4)

TITLE BLOCK

12 STRATTON STREET
NEWSTEAD QLD 4006
(07) 3257 5711

REV. NO.: 1
DRAWING DATE: 28/09/38
ACAD FILE: B7570

SITE PLAN - MANAGEMENT AREAS

CLIENT: BORAL TIMBERS - COOROY
PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND
PS:

DESIGNED: CTP
DETAILED: CTPI 4
PROJECT NO.: B7570
FIGURE: 2b

Source: *Rauo Daniel, 1998*

FIGURE 7

NOTES: ALL LOCATIONS ARE APPROXIMATE
SOURCE: FLUOR DANIEL GTI

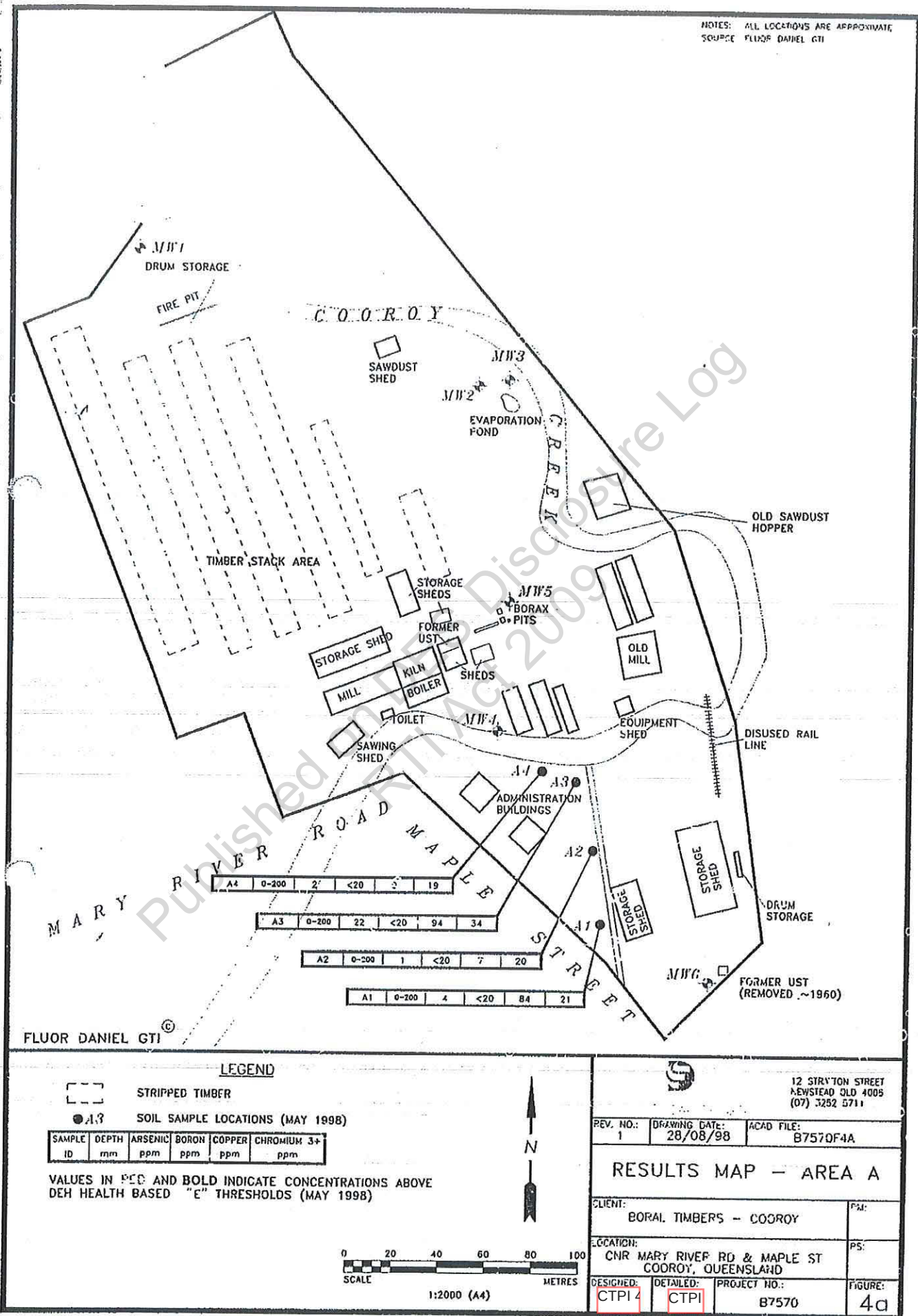


Figure 7: Sample locations for administration area (lots 1 and 2 on RP/53 297 and partial lot 3 RP/53 299)

20-296 File A Page 22 of 509

Source: Fluor Daniel, 1998

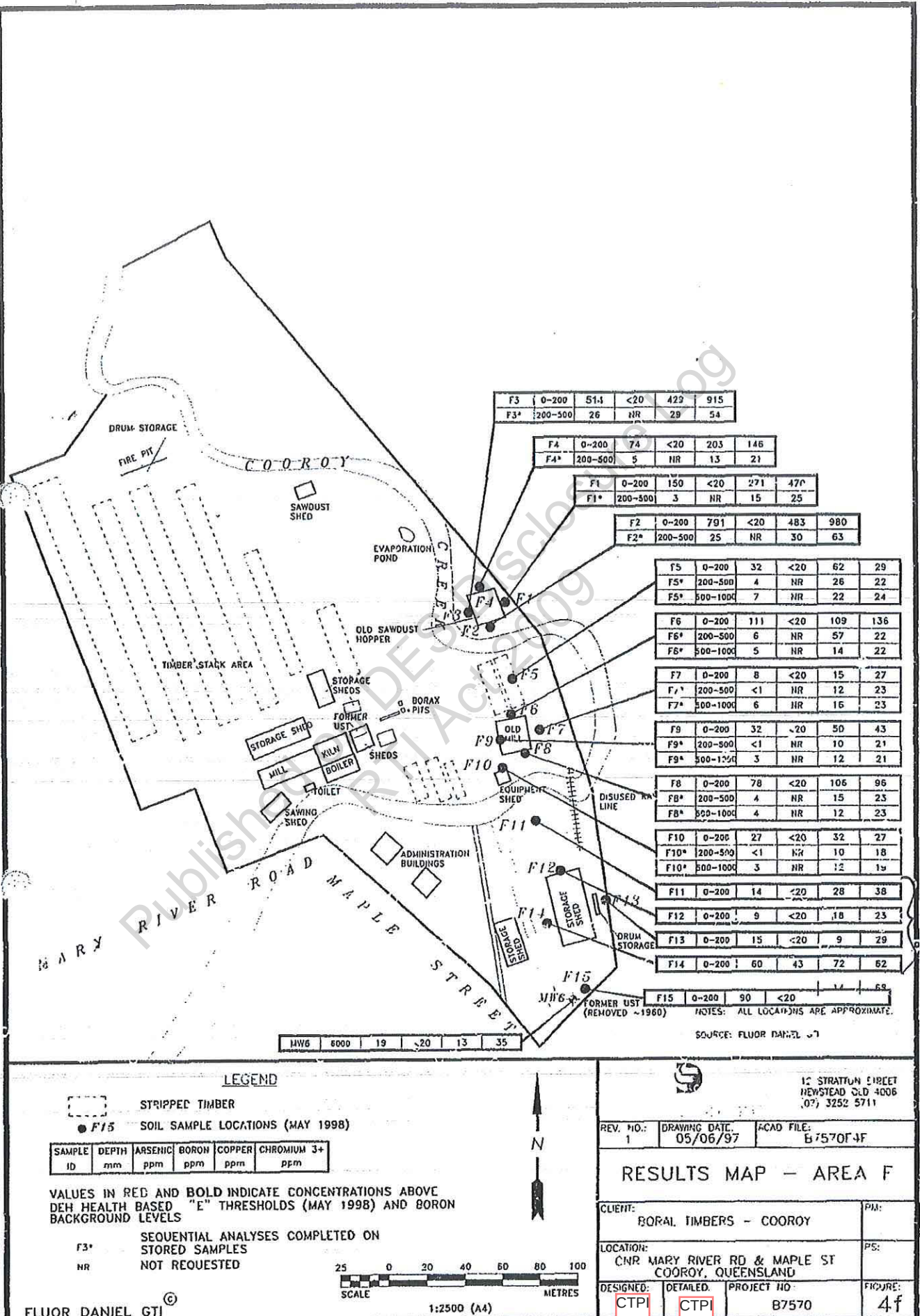


Figure 8: Sample locations for storage area (Set 3 on RP153299)

Golder Associates Pty Ltd
A.B.N. 64 006 107 857

Unit 1, Dalton Centre, Newspaper Place
Maroochydore, Qld 4558 Australia
(PO Box 5569, Maroochydore BC, Qld 4558 Australia)
Telephone +61-7 5443 3511
Fax +61-7 5443 6645
www.golder.com



1 November 2007

077683027(AA)

Noosa Council
PO Box 141
TEWANTIN QLD 4565

Attention: Mr. Adam Britton (Email: abritton@noosa.qld.gov.au)

Dear Sir

**LOWER MILL SITE, FORMER UNDERGROUND STORAGE TANK
MARARA STREET, COOROY**

Fieldwork for the above project was carried out on 19 October 2007 comprising 5 boreholes (BH1 to BH5) drilled in and around the former underground storage tank (UST). Final reports of the boreholes are attached together with explanatory notes, and sampling locations are shown on Figure 1.

Soil samples were forwarded to ALS Environmental for quantitative analysis. Quantitative laboratory analysis results are attached. Please note that duplicate soil samples were analysed for quality control purposes and were taken at 4.4-4.5m (BH1), 3.9-4.0m (BH2), 0.4-0.5m (BH3), 0.4-0.5m (BH4), and 0.9-1.0m (BH5).

A Photo Ionisation Detector (PID) was used to measure volatile hydrocarbon vapours on collected soil samples. No soil samples returned results above 0 ppm.

Please find attached our invoice for works undertaken. We would appreciate your prompt processing for payment.

If you require any further information please do not hesitate to contact this office.

Yours faithfully

GOLDER ASSOCIATES PTY LTD

CTPI 49-Sch4

CTPI 49-Sch4

CTPI 49-Sch4

BS/EnvScience) MEIANZ
Environmental Scientist

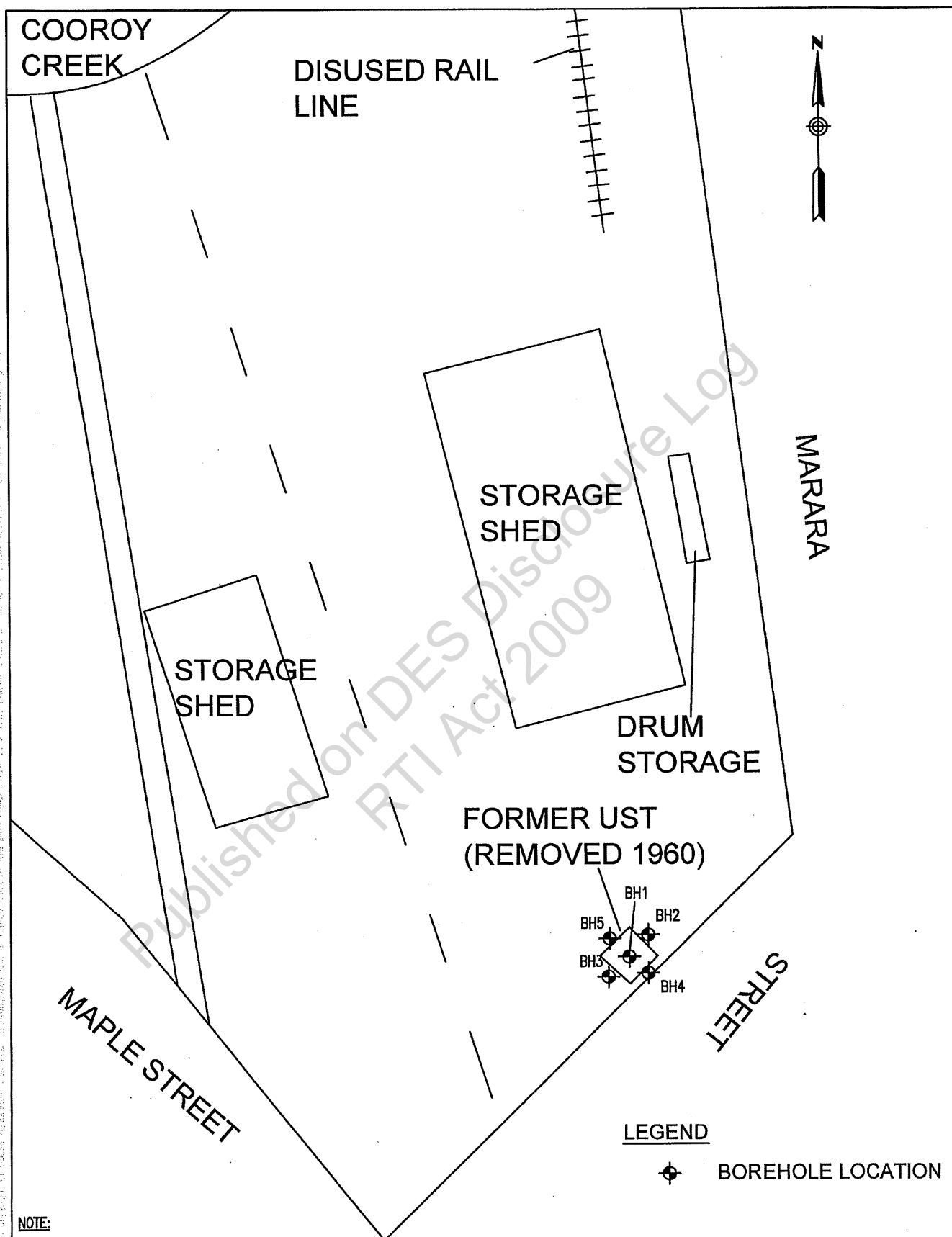
CTPI 49-Sch4

BE(Geol.) MIEAust RPEQ 7602
Senior Geotechnical Engineer

Attachments : Reports on Boreholes & Explanation Notes
Figure 1
Certificate of Analysis
Chain of Custody
Quality Control Report
Invoice

J:\2007\Environmental\077683027\00_CORRESPONDENCE\OUT\AA0776830271.doc

CTPI 49-Sch4



NOTE:

BASE PLAN SUPPLIED BY NOOSA COUNCIL

	CLIENT Noosa Council		PROJECT Lower Mill Site - Marara Street, Cooroy	
	DRAWN	CTPI 49-Sch	DATE	31-10-07
	CHECKED		DATE	31-10-07
	SCALE	1:500 (approx)		
TITLE SITE PLAN			PROJECT No	077683027
			FIGURE No	1
			REV No	-
				A4



REPORT OF BOREHOLE: BH1

CLIENT: Noosa Shire Council
PROJECT: Contamination Assessment
LOCATION: Maple/Marara st Cooroy
JOB NO: 077683027

POSITION: Refer to Site Plan
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: 100 mm HOLE DEPTH: 5.10 m

SHEET: 1 OF 1
DRILL RIG: Edson CP1
DRILLER: Contract Drilling
LOGGED: CTPI 48 DATE: 19/10/07
CHECKED: [Redacted] DATE: 31/10/07

Drilling				Sampling		Field Material Description						
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT			0.0					CI	Sandy CLAY, Medium plasticity, dark brown/brown, some gravel			
			0.5		U50 0.40-0.50m R = 0A PID = 0.0 ppm							
			1.0		U50 0.90-1.00m R = 0A PID = 0.0 ppm				becoming grey/pale brown			
			1.5		U50 1.40-1.50m R = 0A PID = 0.0 ppm							
			2.0		U50 1.90-2.00m R = 0A PID = 0.0 ppm							
			2.5		U50 2.40-2.50m R = 0A PID = 0.0 ppm							
			3.0		U50 2.90-3.00m R = 0A PID = 0.0 ppm							
			3.5		U50 3.40-3.50m R = 0A PID = 0.0 ppm							
			4.0		U50 3.90-4.00m R = 0A PID = 0.0 ppm							
			4.5		U50 4.40-4.50m R = 0A PID = 0.0 ppm							
		5.0	5.10	U50 4.90-5.00m R = 0A PID = 0.0 ppm				END OF BOREHOLE @ 5.10 m				
		5.5										
		6.0										
		6.5										

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for hydrogeological purposes only, without attempt to assess geotechnical properties or possible contamination. Any reference to geotechnical properties or potential contamination are for information only and do not necessarily indicate the presence or absence of the properties stated.

GAP gINT FN. F01a
RL2



REPORT OF BOREHOLE: BH2

CLIENT: Noosa Shire Council
PROJECT: Contamination Assessment
LOCATION: Maple/Marara st Cooroy
JOB NO: 077683027

POSITION: Refer to Site Plan
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: 100 mm HOLE DEPTH: 5.10 m

SHEET: 1 OF 1
DRILL RIG: Edson CP1
DRILLER: Contract Drilling
LOGGED: CTPI 49- DATE: 19/10/07
CHECKED: DATE: 31/10/07

Drilling				Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY
ADT			0.0				CI	Sandy CLAY, Medium plasticity, dark brown/brown, some gravel		
			0.5		U50 0.40-0.50m R = 0A PID = 0.0 ppm					
			1.0		U50 0.90-1.00m R = 0A PID = 0.0 ppm			becoming grey/pale brown		
			1.5		U50 1.40-1.50m R = 0A PID = 0.0 ppm					
			2.0		U50 1.90-2.00m R = 0A PID = 0.0 ppm					
			2.5		U50 2.40-2.50m R = 0A PID = 0.0 ppm					
			3.0		U50 2.90-3.00m R = 0A PID = 0.0 ppm					
			3.5		U50 3.40-3.50m R = 0A PID = 0.0 ppm					
			4.0		U50 3.90-4.00m R = 0A PID = 0.0 ppm					
			4.5		U50 4.40-4.50m R = 0A PID = 0.0 ppm					
			5.0	5.10	U50 4.90-5.00m R = 0A PID = 0.0 ppm			END OF BOREHOLE @ 5.10 m		
			5.5							
			6.0							
			6.5							

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REPORT OF BOREHOLE: BH3

CLIENT: Noosa Shire Council
PROJECT: Contamination Assessment
LOCATION: Maple/Marara st Cooroy
JOB NO: 077683027

POSITION: Refer to Site Plan
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: 100 mm HOLE DEPTH: 5.10 m

SHEET: 1 OF 1
DRILL RIG: Edson CP1
DRILLER: Contract Drilling
LOGGED: CTPI 4 DATE: 19/10/07
CHECKED: DATE: 31/04/07

Drilling				Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY
ADT			0.0				CI	Sandy CLAY, Medium plasticity, dark brown/brown, some gravel		
			0.5		U50 0.40-0.50m R = 0A PID = 0.0 ppm					
			1.0		U50 0.90-1.00m R = 0A PID = 0.0 ppm			becoming grey/pale brown		
			1.5		U50 1.40-1.50m R = 0A PID = 0.0 ppm					
			2.0		U50 1.90-2.00m R = 0A PID = 0.0 ppm					
			2.5		U50 2.40-2.50m R = 0A PID = 0.0 ppm					
			3.0		U50 2.90-3.00m R = 0A PID = 0.0 ppm					
			3.5		U50 3.40-3.50m R = 0A PID = 0.0 ppm					
			4.0		U50 3.90-4.00m R = 0A PID = 0.0 ppm					
			4.5		U50 4.40-4.50m R = 0A PID = 0.0 ppm					
			5.0	5.10	U50 4.90-5.00m R = 0A PID = 0.0 ppm			END OF BOREHOLE @ 5.10 m		
			5.5							
			6.0							
			6.5							

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GAP gINT FN. F01a
RL2



REPORT OF BOREHOLE: BH4

CLIENT: Noosa Shire Council
PROJECT: Contamination Assessment
LOCATION: Maple/Marara st Cooroy
JOB NO: 077683027

POSITION: Refer to Site Plan
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: 100 mm HOLE DEPTH: 5.10 m

SHEET: 1 OF 1
DRILL RIG: Edson CP1
DRILLER: Contract Drilling
LOGGED: CTPI 49 DATE: 19/10/07
CHECKED: DATE: 31/10/07

Drilling				Sampling			Field Material Description					
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED	GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY	STRUCTURE AND ADDITIONAL OBSERVATIONS
ADT			0.0					CI	Sandy CLAY, Medium plasticity, dark brown/brown, some gravel			
			0.5		U50 0.40-0.50m R = 0A PID = 0.0 ppm							
			1.0		U50 0.90-1.00m R = 0A PID = 0.0 ppm							
			1.5		U50 1.40-1.50m R = 0A PID = 0.0 ppm							
			2.0		U50 1.90-2.00m R = 0A PID = 0.0 ppm					D-M		
			2.5		U50 2.40-2.50m R = 0A PID = 0.0 ppm			becoming grey/pale brown			St	
			3.0		U50 2.90-3.00m R = 0A PID = 0.0 ppm							
			3.5		U50 3.40-3.50m R = 0A PID = 0.0 ppm							
			4.0		U50 3.90-4.00m R = 0A PID = 0.0 ppm							
			4.5		U50 4.40-4.50m R = 0A PID = 0.0 ppm					M-W		
		5.0	5.10	U50 4.90-5.00m R = 0A PID = 0.0 ppm								
									END OF BOREHOLE @ 5.10 m			
			5.5									
			6.0									
			6.5									

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GAP gINT FN. F01a
RL2



REPORT OF BOREHOLE: BH5

CLIENT: Noosa Shire Council
PROJECT: Contamination Assessment
LOCATION: Maple/Marara st Cooroy
JOB NO: 077683027

POSITION: Refer to Site Plan
SURFACE RL: m DATUM: AHD71
INCLINATION: -90°
HOLE DIA: 100 mm HOLE DEPTH: 5.10 m

SHEET: 1 OF 1
DRILL RIG: Edson CP1
DRILLER: Contract Drilling
LOGGED: CTPI 4 DATE: 19/10/07
CHECKED: DATE: 31/10/07

Drilling				Sampling		Field Material Description				
METHOD	PENETRATION RESISTANCE	WATER	DEPTH (metres)	DEPTH RL	SAMPLE OR FIELD TEST	RECOVERED GRAPHIC LOG	USC Symbol	SOIL / ROCK MATERIAL DESCRIPTION	MOISTURE	CONSISTENCY DENSITY
ADT			0.0				CI	Sandy CLAY, Medium plasticity, dark brown/brown, some gravel		
			0.5		U50 0.40-0.50m R = 0A PID = 0.0 ppm					
			1.0		U50 0.90-1.00m R = 0A PID = 0.0 ppm			becoming grey/pale brown		
			1.5		U50 1.40-1.50m R = 0A PID = 0.0 ppm					
			2.0		U50 1.90-2.00m R = 0A PID = 0.0 ppm					
			2.5		U50 2.40-2.50m R = 0A PID = 0.0 ppm			becoming brown	D-M	St
			3.0		U50 2.90-3.00m R = 0A PID = 0.0 ppm					
			3.5		U50 3.40-3.50m R = 0A PID = 0.0 ppm					
			4.0		U50 3.90-4.00m R = 0A PID = 0.0 ppm					
			4.5		U50 4.40-4.50m R = 0A PID = 0.0 ppm					
			5.0	5.10	U50 4.90-5.00m R = 0A PID = 0.0 ppm			END OF BOREHOLE @ 5.10 m		
			5.5							
			6.0							
			6.5							

This report of borehole must be read in conjunction with accompanying notes and abbreviations. It has been prepared for hydrogeological purposes only, without attempt to assess geotechnical properties or possible contamination. Any reference to geotechnical properties or potential contamination are for information only and do not necessarily indicate the presence or absence of the properties stated.

GAP gINT FN. F01a
RL2



EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT REPORTS

DRILLING/EXCAVATION METHOD

AS*	Auger Screwing	RD	Rotary blade or drag bit	HQ	Diamond Core - 63 mm
AD*	Auger Drilling	RT	Rotary Tricone bit	NMLC	Diamond Core - 52 mm
*V	V-Bit	RAB	Rotary Air Blast	NQ	Diamond Core - 47 mm
*T	TC-Bit, e.g. ADT	RC	Reverse Circulation	BH	Tractor Mounted Backhoe
HA	Hand Auger	PT	Push Tube	EX	Tracked Hydraulic Excavator
DTC	Diatube Coring	CT	Cable Tool Rig	EE	Existing Excavation
WB	Washbore or Bailer	JET	Jetting	HAND	Excavated by Hand Methods

PENETRATION/EXCAVATION RESISTANCE

- L Low resistance.** Rapid penetration possible with little effort from the equipment used.
- M Medium resistance.** Excavation/possible at an acceptable rate with moderate effort from the equipment used.
- H High resistance to penetration/excavation.** Further penetration is possible at a slow rate and requires significant effort from the equipment.
- R Refusal or Practical Refusal.** No further progress possible without the risk of damage or unacceptable wear to the digging implement or machine.

These assessments are subjective and are dependent on many factors including the equipment power, weight, condition of excavation or drilling tools, and the experience of the operator.

WATER



Water level at date shown



Partial water loss



Water inflow



Complete water loss

GROUNDWATER NOT OBSERVED

The observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave in of the borehole/test pit.

GROUNDWATER NOT ENCOUNTERED

The borehole/test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/test pit been left open for a longer period.

SAMPLING AND TESTING

SPT	Standard Penetration Test to AS1289.6.3.1-1993
4,7,11 N=18	4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following 150mm seating
30/80mm	Where practical refusal occurs, the blows and penetration for that interval are reported
RW	Penetration occurred under the rod weight only
HW	Penetration occurred under the hammer and rod weight only
HB	Hammer double bouncing on anvil
DS	Disturbed sample
BDS	Bulk disturbed sample
G	Gas Sample
W	Water Sample
FP	Field permeability test over section noted
FV	Field vane shear test expressed as uncorrected shear strength (s_v = peak value, s_r = residual value)
PID	Photoionisation Detector reading in ppm
PM	Pressuremeter test over section noted
PP	Pocket penetrometer test expressed as instrument reading in kPa
U63	Thin walled tube sample - number indicates nominal sample diameter in millimetres

Ranking of Visually Observable Contamination and Odour (for specific soil contamination assessment projects)

R = 0	No visible evidence of contamination	R = A	No non-natural odours identified
R = 1	Slight evidence of visible contamination	R = B	Slight non-natural odours identified
R = 2	Visible contamination	R = C	Moderate non-natural odours identified
R = 3	Significant visible contamination	R = D	Strong non-natural odours identified

ROCK CORE RECOVERY

TCR = Total Core Recovery (%)

SCR = Solid Core Recovery (%)

RQD = Rock Quality Designation (%)

$$= \frac{\text{Length of core recovered}}{\text{Length of core run}} \times 100$$

$$= \frac{\sum \text{Length of cylindrical core recovered}}{\text{Length of core run}} \times 100$$

$$= \frac{\sum \text{Axial lengths of core} > 100 \text{ mm}}{\text{Length of core run}} \times 100$$

R

METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT REPORTS

	FILL		CLAY (CL, CI or CH)
	GRAVEL (GP or GW)		ORGANIC SOILS (OL or OH or Pt)
	SAND (SP or SW)		COBBLES or BOULDERS
	SILT (ML or MH)		

Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay.

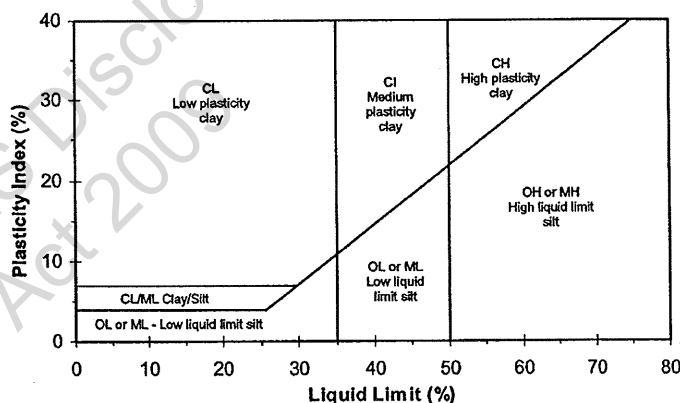
CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil and Rock is classified and described in Reports of Boreholes and Test Pits using the preferred method given in AS1726 – 1993, Appendix A. The material properties are assessed in the field by visual/tactile methods.

Particle Size

Major Division	Sub Division	Particle Size
BOULDERS		> 200 mm
COBBLES		63 to 200 mm
GRAVEL	Coarse	20 to 63 mm
	Medium	6.0 to 20 mm
	Fine	2.0 to 6.0 mm
SAND	Coarse	0.6 to 2.0 mm
	Medium	0.2 to 0.6 mm
	Fine	0.075 to 0.2 mm
SILT		0.002 to 0.075 mm
CLAY		< 0.002 mm

Plasticity Properties



MOISTURE CONDITION

AS1726 - 1993

Symbol	Term	Description
D	Dry	Sands and gravels are free flowing. Clays & Silts may be brittle or friable and powdery.
M	Moist	Soils are darker than in the dry condition & may feel cool. Sands and gravels tend to cohere.
W	Wet	Soils exude free water. Sands and gravels tend to cohere.

CONSISTENCY AND DENSITY

AS1726 - 1993

Symbol	Term	Undrained Shear Strength	Symbol	Term	Density Index %	SPT "N" #
VS	Very Soft	0 to 12 kPa	VL	Very Loose	Less than 15	0 to 4
S	Soft	12 to 25 kPa	L	Loose	15 to 35	4 to 10
F	Firm	25 to 50 kPa	MD	Medium Dense	35 to 65	10 to 30
St	Stiff	50 to 100 kPa	D	Dense	65 to 85	30 to 50
VSt	Very Stiff	100 to 200 kPa	VD	Very Dense	Above 85	Above 50
H	Hard	Above 200 kPa				

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.

SPT correlations are not stated in AS1726 – 1993, and may be subject to corrections for overburden pressure and equipment type.



Environmental Division

CERTIFICATE OF ANALYSIS

Work Order	: EB0712248	Page	: 1 of 14
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Brisbane
Contact	: MR CTPI 49-Sch4	Contact	: CTPI 49-Sch4
Address	: P O BOX 5569 MAROOCHYDORE SOUTH QLD AUSTRALIA 4558	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: CTPI 49@golder.com.au	E-mail	: Services.Brisbane@alsenviro.com
Telephone	: +61 CTPI 49-Sch4	Telephone	: +61 CTPI 49-Sch4
Facsimile	: +61 07 5443 6645	Facsimile	: +61-7-3243 7218
Project	: 077683027 Cooroy - Contamination Ass	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Order number	: MQ 4675	Date Samples Received	: 23-OCT-2007
C-O-C number	: 077683027tr1	Issue Date	: 30-OCT-2007
Sampler	: CK	No. of samples received	: 56
Site	: —	No. of samples analysed	: 56
Quote number	: EN/002/05		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	Position	Accreditation Category
CTPI 49-Sch4	Senior Inorganic Chemist	Inorganics

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A Campbell Brothers Limited Company

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Work Order : EB0712248
Client : GOLDER ASSOCIATES
Project : 077683027 Cooroy - Contamination Ass



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes.

Key : CAS Number = Chemistry Abstract Services number
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting

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 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Compound	CAS Number	LOR	Unit	BH1 0.4-0.5	BH1 0.9-1.0	BH1 1.4-1.5	BH1 1.9-2.0	BH1 2.4-2.5
				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
				EB0712248-001	EB0712248-002	EB0712248-003	EB0712248-004	EB0712248-005
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	---	1.0	%	17.6	22.4	21.4	20.1	18.6
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	16	14	12	10	12

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Compound	CAS Number	LOR	Unit	BH1 2.9-3.0	BH1 3.4-3.5	BH1 3.9-4.0	BH1 4.4-4.5	BH1 4.9-5.0
				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
EA055: Moisture Content				EB0712248-006	EB0712248-007	EB0712248-008	EB0712248-009	EB0712248-010
^ Moisture Content (dried @ 103)	—	1.0	%	21.2	18.3	16.0	18.9	19.6
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	12	12	11	9	11

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Analytical Results

Sub-Matrix: SOIL

				Client sample ID	BH2 0.4-0.5	BH2 0.9-1.0	BH2 1.4-1.5	BH2 1.9-2.0	BH2 2.4-2.5
				Client sampling date / time	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit		EB0712248-011	EB0712248-012	EB0712248-013	EB0712248-014	EB0712248-015
EA055: Moisture Content									
Moisture Content (dried @ 103)	—	1.0	%		27.5	20.8	18.5	16.9	16.9
EG005T: Total Metals by ICP-AES									
Lead	7439-92-1	5	mg/kg		13	8	10	14	12

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Compound	CAS Number	LOR	Unit	BH2 2.9-3.0	BH2 3.4-3.5	BH2 3.9-4.0	BH2 4.4-4.5	BH2 4.9-5.0
				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
				EB0712248-016	EB0712248-017	EB0712248-018	EB0712248-019	EB0712248-020
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	---	1.0	%	12.4	18.5	16.4	18.6	18.1
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	10	9	16	14	11

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Page : 7 of 14
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

Compound	CAS Number	LOR	Unit	BH3 0.4-0.5	BH3 0.9-1.0	BH3 1.4-1.5	BH3 1.9-2.0	BH3 2.4-2.5
				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
EA055: Moisture Content				EB0712248-021	EB0712248-022	EB0712248-023	EB0712248-024	EB0712248-025
^ Moisture Content (dried @ 103)	—	1.0	%	22.0	22.4	17.1	18.4	16.5
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5.	mg/kg	17	12	13	20	12

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH3 2.9-3.0	BH3 3.4-3.5	BH3 3.9-4.0	BH3 4.4-4.5	BH3 4.9-5.0
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-026	EB0712248-027	EB0712248-028	EB0712248-029	EB0712248-030
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	---	1.0	%	18.0	22.2	19.8	23.6	25.2
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	16	10	12	12	13

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Page : 9 of 14
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH4 0.4-0.5	BH4 0.9-1.0	BH4 1.4-1.5	BH4 1.9-2.0	BH4 2.4-2.5
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-031	EB0712248-032	EB0712248-033	EB0712248-034	EB0712248-035
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	—	1.0	%	27.8	24.3	22.6	18.8	21.4
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	15	14	16	14	13

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH4 2.9-3.0	BH4 3.4-3.5	BH4 3.9-4.0	BH4 4.4-4.5	BH4 4.9-5.0
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-036	EB0712248-037	EB0712248-038	EB0712248-039	EB0712248-040
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	—	1.0	%	21.6	20.0	19.3	17.7	18.7
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	12	12	14	12	12

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH5 0.4-0.5	BH5 0.9-1.0	BH5 1.4-1.5	BH5 1.9-2.0	BH5 2.4-2.5
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-041	EB0712248-042	EB0712248-043	EB0712248-044	EB0712248-045
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	---	1.0	%	14.4	19.9	13.4	10.1	11.5
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	13	8	12	11	12

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Page : 12 of 14
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH5 2.9-3.0	BH5 3.4-3.5	BH5 3.9-4.0	BH5 4.4-4.5	BH5 4.9-5.0
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-046	EB0712248-047	EB0712248-048	EB0712248-049	EB0712248-050
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	—	1.0	%	12.5	19.7	23.2	10.7	11.2
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	11	12	11	11	11

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: SOIL

Client sample ID

				BH1 DUP	BH2 DUP	BH3 DUP	BH4 DUP	BH5 DUP
Client sampling date / time				19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00	19-OCT-2007 15:00
Compound	CAS Number	LOR	Unit	EB0712248-051	EB0712248-052	EB0712248-053	EB0712248-054	EB0712248-055
EA055: Moisture Content								
^ Moisture Content (dried @ 103)	—	1.0	%	17.5	15.1	22.6	25.5	20.4
EG005T: Total Metals by ICP-AES								
Lead	7439-92-1	5	mg/kg	16	9	15	15	10

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Page : 14 of 14
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Analytical Results

Sub-Matrix: WATER

				Client sample ID	Rinsate	---	---	---	---
				Client sampling date / time	19-OCT-2007 15:00	---	---	---	---
Compound	CAS Number	LOR	Unit	EB0712248-056	---	---	---	---	---
EG020T: Total Metals by ICP-MS									
Lead	7439-92-1	0.001	mg/L	<0.001	---	---	---	---	---

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Forward to:

TESTING REQUEST FORM

ALS

32 SLAND STREET STAFFORD QLD 4053

GOLDER ASSOCIATES PTY LTD

Unit 1 Dalvin Centre

Newspaper Place

Maroochydore QM 4558

Phone: (07) 54433511

Fax: (07) 54436645

Order No.:	MQ 4675	Project No.:	077683027
Project:	Cooroy - Contamination Ass		
C.O.C. No.:	077683027/1	Quotation No.:	EN/002/05
Sampled By:	CTP	Contact Name:	CTPI 49-S
Email Report to:	CTPI golder.com.au		
Prior Storage:	LABORATORY		

SAMPLE ID	Sample Depth (m)	Media	No. of 250 ml Jars	SAMPLE DATE	Hold	Lead
BH1	0.4-0.5	soil	1	19/10/2007	✓	✓
BH1	0.9-1.0	soil	1	19/10/2007	✓	✓
BH1	1.4-1.5	soil	1	19/10/2007	✓	✓
BH1	1.9-2.0	soil	1	19/10/2007	✓	✓
BH1	2.4-2.5	soil	1	19/10/2007	✓	✓
BH1	2.9-3.0	soil	1	19/10/2007	✓	✓
BH1	3.4-3.5	soil	1	19/10/2007	✓	✓
BH1	3.9-4.0	soil	1	19/10/2007	✓	✓
BH1	4.4-4.5	soil	1	19/10/2007	✓	✓
BH1	4.9-5.0	soil	1	19/10/2007	✓	✓
BH2	0.4-0.5	soil	1	19/10/2007	✓	✓
BH2	0.9-1.0	soil	1	19/10/2007	✓	✓
BH2	1.4-1.5	soil	1	19/10/2007	✓	✓
BH2	1.9-2.0	soil	1	19/10/2007	✓	✓
BH2	2.4-2.5	soil	1	19/10/2007	✓	✓
BH2	2.9-3.0	soil	1	19/10/2007	✓	✓
BH2	3.4-3.5	soil	1	19/10/2007	✓	✓
BH2	3.9-4.0	soil	1	19/10/2007	✓	✓
BH2	4.4-4.5	soil	1	19/10/2007	✓	✓
BH2	4.9-5.0	soil	1	19/10/2007	✓	✓
BH3	0.4-0.5	soil	1	19/10/2007	✓	✓
BH3	0.9-1.0	soil	1	19/10/2007	✓	✓
BH3	1.4-1.5	soil	1	19/10/2007	✓	✓
BH3	1.9-2.0	soil	1	19/10/2007	✓	✓
BH3	2.4-2.5	soil	1	19/10/2007	✓	✓
BH3	2.9-3.0	soil	1	19/10/2007	✓	✓
BH3	3.4-3.5	soil	1	19/10/2007	✓	✓
BH3	3.9-4.0	soil	1	19/10/2007	✓	✓
BH3	4.4-4.5	soil	1	19/10/2007	✓	✓
BH3	4.9-5.0	soil	1	19/10/2007	✓	✓
BH4	0.4-0.5	soil	1	19/10/2007	✓	✓
BH4	0.9-1.0	soil	1	19/10/2007	✓	✓
BH4	1.4-1.5	soil	1	19/10/2007	✓	✓
BH4	1.9-2.0	soil	1	19/10/2007	✓	✓
BH4	2.4-2.5	soil	1	19/10/2007	✓	✓
BH4	2.9-3.0	soil	1	19/10/2007	✓	✓
BH4	3.4-3.5	soil	1	19/10/2007	✓	✓
BH4	3.9-4.0	soil	1	19/10/2007	✓	✓
BH4	4.4-4.5	soil	1	19/10/2007	✓	✓
BH4	4.9-5.0	soil	1	19/10/2007	✓	✓
BH5	0.4-0.5	soil	1	19/10/2007	✓	✓
BH5	0.9-1.0	soil	1	19/10/2007	✓	✓
BH5	1.4-1.5	soil	1	19/10/2007	✓	✓
BH5	1.9-2.0	soil	1	19/10/2007	✓	✓
BH5	2.4-2.5	soil	1	19/10/2007	✓	✓
BH5	2.9-3.0	soil	1	19/10/2007	✓	✓
BH5	3.4-3.5	soil	1	19/10/2007	✓	✓
BH5	3.9-4.0	soil	1	19/10/2007	✓	✓
BH5	4.4-4.5	soil	1	19/10/2007	✓	✓
BH5	4.9-5.0	soil	1	19/10/2007	✓	✓
BH1	DUP	soil	1	19/10/2007	✓	✓
BH2	DUP	soil	1	19/10/2007	✓	✓
BH3	DUP	soil	1	19/10/2007	✓	✓
BH4	DUP	soil	1	19/10/2007	✓	✓
BH5	DUP	soil	1	19/10/2007	✓	✓

Checked by: CTP
Date Sent from Maroochydore LabPlease Return Signed Copy By Facsimile:
Date Received By ALS: 23/10/07

ALS Signature

CTPI 49-S

Rinsale 56 water 1 19/10/07 Lead ✓

Environmental Division
CTPI 4 Brisbane
Work Order
EB0712248

Telephone: +61-7-3243 7222



Environmental Division

QUALITY CONTROL REPORT

Work Order	: EB0712248	Page	: 1 of 5
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Brisbane
Contact	: MR CTPI 49-Sch4	Contact	: CTPI 49-Sch4
Address	: P O BOX 5569 MAROOCHYDORE SOUTH QLD AUSTRALIA 4558	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: CTPI 49@golder.com.au	E-mail	: Services.Brisbane@alsenviro.com
Telephone	: +61 CTPI 49-Sch	Telephone	: +61 CTPI 49-Sch
Facsimile	: +61 07 5443 6645	Facsimile	: +61-7-3243 7218
Project	: 077683027 Cooroy - Contamination Ass	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement
Site	: —	Date Samples Received	: 23-OCT-2007
C-O-C number	: 077683027tr1	Issue Date	: 30-OCT-2007
Sampler	: CTP	No. of samples received	: 56
Order number	: MQ 4675	No. of samples analysed	: 56
Quote number	: EN/002/05		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. All pages of this report have been checked and approved for release.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits



NATA Accredited Laboratory 825

This document is issued in accordance with NATA accreditation requirements.

Accredited for compliance with ISO/IEC 17025.

Signatories

This document has been electronically signed by the authorized signatories indicated below. Electronic signing has been carried out in compliance with procedures specified in 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Accreditation Category</i>
CTPI 49-Sch4	Senior Inorganic Chemist	Inorganics

Environmental Division Brisbane

Part of the **ALS Laboratory Group**

32 Shand Street Stafford QLD Australia 4053

Tel. +61-7-3243 7222 Fax. +61-7-3243 7218 www.alsglobal.com

A Campbell Brothers Limited Company

Page : 2 of 5
Work Order : EB0712248
Client : GOLDER ASSOCIATES
Project : 077683027 Cooroy - Contamination Ass



General Comments

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key :
Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = Chemistry Abstract Services number
LOR = Limit of reporting
RPD = Relative Percentage Difference
= Indicates failed QC

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 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR:- No Limit; Result between 10 and 20 times LOR:- 0% - 50%; Result > 20 times LOR:- 0% - 20%.

Sub-Matrix: SOIL				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EA055: Moisture Content (QC Lot: 520387)									
EB0712248-004	BH1 1.9-2.0	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	20.1	20.0	0.0	0% - 20%
EB0712248-011	BH2 0.4-0.5	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	27.5	27.7	0.7	0% - 20%
EA055: Moisture Content (QC Lot: 520388)									
EB0712248-024	BH3 1.9-2.0	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	18.4	18.7	1.6	0% - 50%
EB0712248-031	BH4 0.4-0.5	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	27.8	28.3	1.9	0% - 20%
EA055: Moisture Content (QC Lot: 520389)									
EB0712248-044	BH5 1.9-2.0	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	10.1	10.1	0.0	0% - 50%
EB0712248-051	BH1 DUP	EA055-103: Moisture Content (dried @ 103)	---	1.0	%	17.5	19.8	12.0	0% - 50%
EG005T: Total Metals by ICP-AES (QC Lot: 518672)									
EB0712210-012	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EB0712248-007	BH1 3.4-3.5	EG005T: Lead	7439-92-1	5	mg/kg	12	8	33.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 519410)									
EB0712101-001	Anonymous	EG005T: Lead	7439-92-1	5	mg/kg	Anonymous	Anonymous	Anonymous	Anonymous
EB0712248-026	BH3 2.9-3.0	EG005T: Lead	7439-92-1	5	mg/kg	16	16	0.0	No Limit
EG005T: Total Metals by ICP-AES (QC Lot: 519411)									
EB0712248-036	BH4 2.9-3.0	EG005T: Lead	7439-92-1	5	mg/kg	12	12	0.0	No Limit
EB0712248-046	BH5 2.9-3.0	EG005T: Lead	7439-92-1	5	mg/kg	11	13	21.8	No Limit
Sub-Matrix: WATER				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Client sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Recovery Limits (%)
EG020T: Total Metals by ICP-MS (QC Lot: 518720)									
EB0712240-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous
EB0712026-001	Anonymous	EG020A-T: Lead	7439-92-1	0.001	mg/L	Anonymous	Anonymous	Anonymous	Anonymous

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Page : 4 of 5
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES
 Project : 077683027 Cooroy - Contamination Ass



Method Blank (MB) and Laboratory Control Spike (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: SOIL

Sub-Matrix: SOIL		Method Blank (MB) Report			Laboratory Control Spike (LCS) Report			
					Spike Concentration	Spike Recovery (%) LCS	Recovery Limits (%) Low High	
Method: Compound	CAS Number	LOR	Unit	Result				
EG005T: Total Metals by ICP-AES (QCLot: 518672)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.5 mg/kg	101	88.1	111
EG005T: Total Metals by ICP-AES (QCLot: 519410)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.5 mg/kg	111	88.1	111
EG005T: Total Metals by ICP-AES (QCLot: 519411)								
EG005T: Lead	7439-92-1	5	mg/kg	<5	55.5 mg/kg	110	88.1	111

Sub-Matrix: WATER

Sub-Matrix: WATER		Method Blank (MB) Report				Laboratory Control Spike (LCS) Report			
						Spike	Spike Recovery (%)	Recovery Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High	
EG020T: Total Metals by ICP-MS (QCLot: 518720)									
EG020A-T: Lead	7439-92-1	0.001	mg/L	<0.001	0.1000 mg/L	104	83.3	115	

R



Environmental Division

SAMPLE RECEIPT NOTIFICATION (SRN)
Comprehensive Report

Work Order	: EB0712248		
Client	: GOLDER ASSOCIATES	Laboratory	: Environmental Division Brisbane
Contact	: MR CTPI 49-Sch4	Contact	: CTPI 49-Sch4
Address	: P O BOX 5569 MAROOCHYDORE SOUTH QLD AUSTRALIA 4558	Address	: 32 Shand Street Stafford QLD Australia 4053
E-mail	: CTPI 49@golder.com.au	E-mail	: Services.Brisbane@alsenviro.com
Telephone	: +61 07 5443 3511	Telephone	: +61 CTPI 49-Sch4
Facsimile	: +61 07 5443 6645	Facsimile	: +61-7-3243 7218
Project	: 077683027 Cooroy - Contamination Ass	Page	: 1 of 4
Order number	: MQ 4675		
C-O-C number	: 077683027tr1	Quote number	: ES20050035 (EN/002/05)
Site	: ---		
Sampler	: CT	QC Level	: NEPM 1999 Schedule B(3) and ALS QCS3 requirement

Dates

Date Samples Received	: 23-OCT-2007	Issue Date	: 23-OCT-2007 15:50
Client Requested Due Date	: 30-OCT-2007	Scheduled Reporting Date	: 30-OCT-2007

Delivery Details

Mode of Delivery	: Carrier	Temperature	: 6.6 C - Ice bricks present
No. of coolers/boxes	: 2 MEDIUM	No. of samples received	: 56
Security Seal	: Intact	No. of samples analysed	: 56

General Comments

- This report contains the following information:
 - Sample Container(s)/Preservation Non-Compliances
 - Summary of Sample(s) and Requested Analysis
 - Requested Deliverables
- **Samples received in appropriately pretreated and preserved containers.**
- **Sample(s) have been received within recommended holding times.**
- Please direct any turn around / technical queries to the laboratory contact designated above.
- Please direct any queries related to sample condition / numbering / breakages to Maggie Kahi.
- Analytical work for this work order will be conducted at ALS Brisbane.
- Sample Disposal - Aqueous (14 days), Solid (90 days) from date of completion of work order.

Issue Date : 23-OCT-2007 15:50
 Page : 2 of 4
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES



Sample Container(s)/Preservation Non-Compliances

All comparisons are made against pretreatment/preservation AS, APHA, USEPA standards.

- No sample container / preservation non-compliance exist.

Summary of Sample(s) and Requested Analysis

Some items described below may be part of a laboratory process necessary for the execution of client requested tasks. Packages may contain additional analyses, such as the determination of moisture content and preparation tasks, that are included in the package.

When date(s) and/or time(s) are shown bracketed, these have been assumed by the laboratory for process purposes.

Matrix: SOIL

Laboratory sample ID	Client sampling date / time	Client sample ID	SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES
EB0712248-001	19-OCT-2007 15:00	BH1 0.4-0.5	✓	✓
EB0712248-002	19-OCT-2007 15:00	BH1 0.9-1.0	✓	✓
EB0712248-003	19-OCT-2007 15:00	BH1 1.4-1.5	✓	✓
EB0712248-004	19-OCT-2007 15:00	BH1 1.9-2.0	✓	✓
EB0712248-005	19-OCT-2007 15:00	BH1 2.4-2.5	✓	✓
EB0712248-006	19-OCT-2007 15:00	BH1 2.9-3.0	✓	✓
EB0712248-007	19-OCT-2007 15:00	BH1 3.4-3.5	✓	✓
EB0712248-008	19-OCT-2007 15:00	BH1 3.9-4.0	✓	✓
EB0712248-009	19-OCT-2007 15:00	BH1 4.4-4.5	✓	✓
EB0712248-010	19-OCT-2007 15:00	BH1 4.9-5.0	✓	✓
EB0712248-011	19-OCT-2007 15:00	BH2 0.4-0.5	✓	✓
EB0712248-012	19-OCT-2007 15:00	BH2 0.9-1.0	✓	✓
EB0712248-013	19-OCT-2007 15:00	BH2 1.4-1.5	✓	✓
EB0712248-014	19-OCT-2007 15:00	BH2 1.9-2.0	✓	✓
EB0712248-015	19-OCT-2007 15:00	BH2 2.4-2.5	✓	✓
EB0712248-016	19-OCT-2007 15:00	BH2 2.9-3.0	✓	✓
EB0712248-017	19-OCT-2007 15:00	BH2 3.4-3.5	✓	✓
EB0712248-018	19-OCT-2007 15:00	BH2 3.9-4.0	✓	✓
EB0712248-019	19-OCT-2007 15:00	BH2 4.4-4.5	✓	✓
EB0712248-020	19-OCT-2007 15:00	BH2 4.9-5.0	✓	✓
EB0712248-021	19-OCT-2007 15:00	BH3 0.4-0.5	✓	✓
EB0712248-022	19-OCT-2007 15:00	BH3 0.9-1.0	✓	✓
EB0712248-023	19-OCT-2007 15:00	BH3 1.4-1.5	✓	✓
EB0712248-024	19-OCT-2007 15:00	BH3 1.9-2.0	✓	✓
EB0712248-025	19-OCT-2007 15:00	BH3 2.4-2.5	✓	✓
EB0712248-026	19-OCT-2007 15:00	BH3 2.9-3.0	✓	✓
EB0712248-027	19-OCT-2007 15:00	BH3 3.4-3.5	✓	✓
EB0712248-028	19-OCT-2007 15:00	BH3 3.9-4.0	✓	✓
EB0712248-029	19-OCT-2007 15:00	BH3 4.4-4.5	✓	✓
EB0712248-030	19-OCT-2007 15:00	BH3 4.9-5.0	✓	✓
EB0712248-031	19-OCT-2007 15:00	BH4 0.4-0.5	✓	✓
EB0712248-032	19-OCT-2007 15:00	BH4 0.9-1.0	✓	✓
EB0712248-033	19-OCT-2007 15:00	BH4 1.4-1.5	✓	✓
EB0712248-034	19-OCT-2007 15:00	BH4 1.9-2.0	✓	✓
EB0712248-035	19-OCT-2007 15:00	BH4 2.4-2.5	✓	✓

R

Issue Date : 23-OCT-2007 15:50
 Page : 3 of 4
 Work Order : EB0712248
 Client : GOLDER ASSOCIATES



			SOIL - EA055-103 Moisture Content	SOIL - EG005T (solids) Total Metals by ICP-AES
EB0712248-036	19-OCT-2007 15:00	BH4 2.9-3.0	✓	✓
EB0712248-037	19-OCT-2007 15:00	BH4 3.4-3.5	✓	✓
EB0712248-038	19-OCT-2007 15:00	BH4 3.9-4.0	✓	✓
EB0712248-039	19-OCT-2007 15:00	BH4 4.4-4.5	✓	✓
EB0712248-040	19-OCT-2007 15:00	BH4 4.9-5.0	✓	✓
EB0712248-041	19-OCT-2007 15:00	BH5 0.4-0.5	✓	✓
EB0712248-042	19-OCT-2007 15:00	BH5 0.9-1.0	✓	✓
EB0712248-043	19-OCT-2007 15:00	BH5 1.4-1.5	✓	✓
EB0712248-044	19-OCT-2007 15:00	BH5 1.9-2.0	✓	✓
EB0712248-045	19-OCT-2007 15:00	BH5 2.4-2.5	✓	✓
EB0712248-046	19-OCT-2007 15:00	BH5 2.9-3.0	✓	✓
EB0712248-047	19-OCT-2007 15:00	BH5 3.4-3.5	✓	✓
EB0712248-048	19-OCT-2007 15:00	BH5 3.9-4.0	✓	✓
EB0712248-049	19-OCT-2007 15:00	BH5 4.4-4.5	✓	✓
EB0712248-050	19-OCT-2007 15:00	BH5 4.9-5.0	✓	✓
EB0712248-051	19-OCT-2007 15:00	BH1 DUP	✓	✓
EB0712248-052	19-OCT-2007 15:00	BH2 DUP	✓	✓
EB0712248-053	19-OCT-2007 15:00	BH3 DUP	✓	✓
EB0712248-054	19-OCT-2007 15:00	BH4 DUP	✓	✓
EB0712248-055	19-OCT-2007 15:00	BH5 DUP	✓	✓

Matrix: **WATER**

Laboratory sample ID	Client sampling date / time	Client sample ID	WATER - EG020A-T Total Metals by ICPMS - Suite A
EB0712248-056	19-OCT-2007 15:00	Rinsate	✓

Issue Date : 23-OCT-2007 15:50
Page : 4 of 4
Work Order : EB0712248
Client : GOLDER ASSOCIATES



Requested Deliverables

MR CTPI 49-Sch4

- A4 - AU Certificate of Analysis - NEPM format
- A4 - AU Interpretive Quality Control Report
- A4 - AU Quality Control Report - NATA
- A4 - AU Sample Receipt Notification - Environmental
- Default - Chain of Custody
- EDI Format - GHDNEW

THE ACCOUNTS PAYABLE (MRCHYDRE)

- A4 - AU Tax Invoice

Email CTPI 49 @golder.com.au
Email @golder.com.au
Email @golder.com.au
Email @golder.com.au
Email @golder.com.au
Email @golder.com.au

Email apmaroochydre@golder.com.au

Published on DES Disclosure Log
RTI Act 2009

Commonwealth of Australia
STATUTORY DECLARATION
Statutory Declarations Act 1959

1 Insert the name, address and occupation of person making the declaration

I, CTPI 49-Sch4 of the Boral Timber Mill at 1 Maple Street Cooroy.

make the following declaration under the *Statutory Declarations Act 1959*:

2 Set out matter declared to in numbered paragraphs

2

1. CTPI 49-Sch4

2. I declare to the best of my knowledge that from just prior to 1998 to the time of mill closure in 2001 that only a minor amount of CCA treated wood was brought on site and no wood treated on site. This was because an extension to the mill at Wondi was built at this time specifically to plane CCA treated timber to the finished product for sale.
3. I declare to the best of my knowledge that from just prior to 1998 to the time of mill closure that no CCA treated timber was planed or treated on the southern side of Cooroy Creek (Lots 1, 2 & 3 on RP153299).
4. The underground diesel tank along side the kiln was in the ground from approximately 1959 – 1991 when it was removed. It was then replaced by a 200 gallon above ground tank beside the kilns, which was operating until the mill's closure in 2001. These were the only fuel tanks on the North side of Cooroy Creek. The tanks were used to refuel fork lifts.
5. An underground petrol tank was used until 1972 in Marara Street on the southern boundary of Lot 3 on RP153299. After 1972 petrol for company cars was sourced off site. The petrol tank was removed in approximately 1980.
6. Roundup was used to control weeds at the base of timber stacks up until approximately 1996. The roundup was applied once a year by Napsac. The chemical was applied less toward 1996 due to reduced seed survival.
7. I declare that to the best of my knowledge the land encompassed Lots 6, 1, 2 & 4 on SP173771 as shown on Sketch A (signed and dated by me) was only used for the purpose of stacking raw timber before planing to make floor boards. The areas were not used for fuel, chemical or sawdust storage. From 1998 to 2001 CCA treated timber was not stored in these areas.
8. The general mill operation from 1998 to 2001 consisted of:
 - New rough sawn timber arriving from other mills. This wood was hand stacked in the timber stacking yard generally Lot 1 RP88582, Lot 2 RP110203, Lot 3 RP110206 and part of Lot 2 RP87371
 - This timber was left to air dry for 4 months.
 - The timber was then placed in kilns to dry for 5 days.
 - It then went to the planing shed adjacent the kiln to be planed into internal and external flooring.
 - The sawdust from the planing process was sucked up into a hopper which automatically fed the steam boiler fire for the kiln.
 - Ash from the boiler fire (a few wheelbarrows per week) was taken to the fire pit in the far north of the site.
 - Finished planed timber ready for sale was then hauled by trailer over to the large storage shed closest to Mary River Road, on Lot 3 RP153299.
 - The other large shed on the Marara Street side of Lot 3 RP153299 was used to do special planing orders up until 1995 after which it was not used at all.

CTPI 49-Sch4

CTPI 49-Sch4

I understand that a person who intentionally makes a false statement in a statutory declaration is guilty of an offence under section 11 of the *Statutory Declarations Act 1959*, and I believe that the statements in this declaration are true in every particular.

3 Signature of person making the declaration

3

CTPI 49-Sch4

4 Place
5 Day
6 Month and year

Declared at ⁴ *Cooroy* on ⁵ *29* of ⁶ *AUGUST-2007*

Before me,

7 Signature of person before whom the declaration is made (see over)

7

CTPI 49-Sch4

8 Full name, qualification and address of person before whom the declaration is made (in printed letters)

8

CTPI 49-Sch4

CTPI 49-Sch4

Registered Engineer Member of Engineers Aust.

CTPI 49-Sch4

Note 1 A person who intentionally makes a false statement in a statutory declaration is guilty of an offence, the punishment for which is imprisonment for a term of 4 years — see section 11 of the *Statutory Declarations Act 1959*.

Note 2 Chapter 2 of the *Criminal Code* applies to all offences against the *Statutory Declarations Act 1959* — see section 5A of the *Statutory Declarations Act 1959*.



SKETCH A

CTPI 49-Sch4

CTPI 49-Sch4

**QUEENSLAND
TO WIT**

STATUTORY DECLARATION

I David John Thomas of CTPI 49-Sch4 in the State of
Queensland DO SOLEMNLY AND SINCERELY DECLARE as follows: -

1. I am the Director of Business for the Noosa Council who has primary responsibility for the Cooroy Lower Mill Site consisting of the following lands:

<u>Description of Lot</u>	<u>Title Reference</u>
Lot 1 on Registered Plan 153299	15572077
Lot 2 on Registered Plan 153299	15572078
Lot 3 on Registered Plan 153299	15572079
Lot 1 on Registered Plan 87371	13189215
Lot 3 on Registered Plan 87371	13120121
Lot 2 on Registered Plan 87371	13955238
Lot 1 on Registered Plan 88582	13955238
Lot 2 on Registered Plan 110206	13955238
Lot 3 on Registered Plan 110206	13955238
Lot 2 on Registered Plan 47020	12613020

2. Ownership of this land was transferred from the Queensland Department of State Development to the Noosa Council on 5 July 2002.
3. The site consisted of a collection of dilapidated buildings from which the equipment had been removed.

4. No activities were undertaken by the Noosa Council or any contractor, or community organisation on the site from the time of transfer until the sites subsequent redevelopment.
5. On about January 2003 Callaghan and Toth Consulting Engineers were appointed by Council to advise on the redevelopment of the site and then subsequently took possession of the site for construction purposes.
6. Acting on the advice of Council's Planning staff an application for the transfer of Licence SR388 was made and granted on 29 January 2003 and a new licence SR2509 was issued. This was to cover the following lands:

Lot 1 RP88582	County of March Parish of Tewanin Title Ref. 13955238
Lot 1 RP153299	County of March Parish of Tewanin Title Ref. 15572077
Lot 1 RP87371	County of March Parish of Tewanin Title Ref. 13189215
Lot 2 RP110206	County of March Parish of Tewanin Title Ref. 13955238
Lot 2 RP47020	County of March Parish of Tewanin Title Ref. 12613020
Lot 2 RP87371	County of March Parish of Tewanin Title Ref. 13955238
Lot 3 RP87371	County of March Parish of Tewanin Title Ref. 13120121
Lot 2 RP153299	County of March Parish of Tewanin Title Ref. 15572078
Lot 3 RP153299	County of March Parish of Tewanin Title Ref. 15572079
7. No activities were ever carried on by the Noosa Council under the licence, the licence was held to assist the development application of the Camphor Laurel Woodworkers Group for a workshop on the site. This was later subsequently applied for built and the licence was surrendered and transferred to this organisation.

AND I MAKE this solemn Declaration conscientiously believing the same to be true and by virtue of the provisions of the "Oaths Act 1867 - 1981".

R

SIGNED AND DECLARED by the above)

Declarant at TEWANTIN..... this)

...4th... day of September, 2007,)

in the presence of:

CTPI 49-Sch4

CTPI 49-Sch4

Declarant

DAVID JOHN THOMAS

Secretary of Justice of the Peace

ATTORNEY-GENERALS
DEPARTMENT

Reg. No. 66325

QUALIFIED

Published on DES Disclosure Log
RTI Act 2009



Please quote: T774

6 September 2007

Noosa Council
PO Box 141
Tewantin Qld 4565

Attention: Mr David Thomas

Dear David

RE: Former Cooroy Saw Mill - Lot 2 on RP47020; Lots 1 to 3 on RP87371; Lot 1 on RP88582; Lots 2 and 3 on RP110206; Lots 1 to 3 on RP153299

I confirm that the former Department of State Development purchased the former Cooroy sawmill on 1 April 2001 following the closure of the mill on 30 March 2001.

The mill has not been operational since its closure on 30 March 2001. Should you require any additional information please contact Mr. John White of the Department on 3227 7834.

Yours sincerely

CTPI 49-Sch4

CTPI 49-Sch4

**Maurice Harvey
Executive Director
Property Services Group
Department of Infrastructure**

Information Request

Section 3.3.6 Integrated Planning Act 1997

This notice is issued by the administering authority pursuant to section 3.3.6 of the *Integrated Planning Act 1997*, to advise you of a decision or action.

Enquiries to: Tamara Emms
Telephone: (07) 3225 1065
Your reference: 2007/1921
Our reference: Appl'n No: 10153 Part: 1 File No.: BNE21917

CC: Tracy Arthur
Noosa Shire Council
PO Box 141
TEWANTIN QLD 4565

Noosa Council
Attn: Ian Haycroft
PO Box 141
TEWANTIN QLD 4565

IPA updated
18/02/08
CTPI 49-Sch

Application for development approval.

Applicant: Noosa Council
Council Application Number: 2007/1921
EPA Application Number: 10153 Part 1
Date application received by EPA: 17/10/2007
Development Description: Material Change of Use
Address of subject land: 2 Marara Street and 4 Lower Mill Road, Cooroy
Lot 1 on C56021, Lot 1 on RP87371, and Lot 5 on
SP173771 → B-Parcel: 1st 2/ RP87371

This development application and supporting information have been reviewed. The Environmental Protection Agency (EPA) – Waste and Contaminated Land Unit (W&CLU), acting as a concurrence agency for **contaminated land issues**, requires the following further information for the application to be assessed fully.

Information Required:

A site investigation report, prepared in accordance with the *Environmental Protection Act 1994* (EP Act) and the *Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland* (DEH, 1998), must be submitted to the Environmental Protection Agency (EPA) – Waste and Contaminated Land Unit (W&CLU). The report must demonstrate that **Lot 1 on RP87371 and Lot 5 on RP173771** are suitable for the intended use.

Additional comments or advice about the application

The EPA may recommend refusal or preliminary approval if all the information required is not provided.

The Draft Guidelines for the Assessment and Management of Contaminated Land in
e

contacting the EPA's Waste and Contaminated Land Unit. Please ensure that the appropriate statutory fee [as of the 1 July 2007 \$1000.00 per lot listed on the Environmental Management Register] is included with this application for the assessment of the site investigation / validation reports.

Project Manager: Tamara Emms, on (07) 3225 1065.

If a person other than the applicant provides a response to this Information Request Notice, this person must provide written legal delegation. Otherwise the assessment period will not commence until the applicant confirms in writing.

Under the *Integrated Planning Act 1997* s3.3.8(1), an applicant receiving an information request from the assessment manager or a concurrence agency (the "requesting authority") must respond by giving the requesting authority-

-) all of the information requested; or
-) part of the information requested together with a notice asking the requesting authority to proceed with the assessment of the application; or
a notice-
 - (i) stating that the applicant does not intend to supply any of the information requested;
 - (ii) asking the requesting authority to proceed with the assessment of the application.

Under s3.2.12(2)(b), the application lapses if the applicant does not respond to the information request within 12 months.

As required by s3.3.6(5), the Agency is forwarding a copy of the information request to the assessment manager.

A response to this information request should be posted or facsimiled to:

Waste and Contaminated Land Unit
Southern Region (Brisbane)
Environmental Protection Agency
GPO Box 2771
BRISBANE QLD 4001

Should you require any additional information please do not hesitate to contact the above officer on the t

CTPI 49-Sch4

Signed

14.11.07

**Delegate of Administering Authority
*Environmental Protection Act 1994.***

~ End of Information Request ~

IPA APPLICATION ASSESSMENT SHEET – CONTAMINATED LAND UNIT

Due Date: 14/11/07

1. PROPOSAL DETAILS

Proposal:

Material Change of Use

Proposal Description:

Woodworkers clubhouse and workshops

2. ADMINISTRATIVE DETAILS

EPA App'n No:

10153 Part 1

File No:

BNE21917

Referral Coordination (RCU) No:

Council:

Noosa Shire Council

LA App'n No:

2007/1921

Site Address:

Property Description:

on SP173771

Applicant Name:

, Noosa Council / Noosa Council

EMR/CLR/AMA details:

Lot/Plan	EMR/CLR/ AMA No:	Notifiable Activity (NA) or Hazardous Contamination.	On going NA Yes or No?
/RP873371	10153	38 – wood treatment and	
	10233	38 – wood treatment and	
5/SP173771		preservation	
5/SP173771	10233	29 – petroleum product and oil storage	

Lot(s) No EMR/CLR & proposed use is for child care, educational, recreational or residential uses, including a caretaker residence on industrial land.

Lot/Plan Industrial Activity has been identified Yes or No

3. APPLICATION ASSESSMENT

3.1 Information from the application, EMR or CLU files:

Any existing ERA's?:

Any new ERA's?:

ERA Jurisdiction:

R

3.2 Information from the application and IDAS forms, EMR or EPA-CLU files:

Past Use: saw mill

Current Use: community woodworking activities and vacant land

3.3 Supporting information: (For incorrect referral skip 3.3.1)

3.3.1 Are there any Environmental Values that are at risk?

Other relevant details supporting the conclusion(s)

Historical activities on both sites have potentially caused contamination of the sites due to past use as a sawmill and the presence/absence and nature of the contamination needs to be identified to determine the suitability of the site for the proposed use. There has been no information submitted relating to potential contamination with this DA. Parcels of land surrounding the two sites in the proposal which were originally part of the sawmill have been investigated to remove them from the EMR. These previous investigations have not included the lots and plans in this application. The sites are proposed for recreational use

4. ASSESSMENT OUTCOME

Conclusion: (Is the site suitable for the proposed development?)

Recommendation:

site investigation needs to be conducted to determine the presence/absence of contamination of the two sites in question.

CTPI 49-Sch4

Assessor name: Tamara Emms **Assessor signature:**

Date:

Reviewer is required when EPA Assessment is involved (Site Investigation/Validation Report was submitted with the application or as a response of an Information Request Notice)

Reviewer Name: \ **Reviewer signature**

Revision Date:

CTPI 49-Sch4

Reviewer Comment(s)/Recommendation:

End of the Assessment

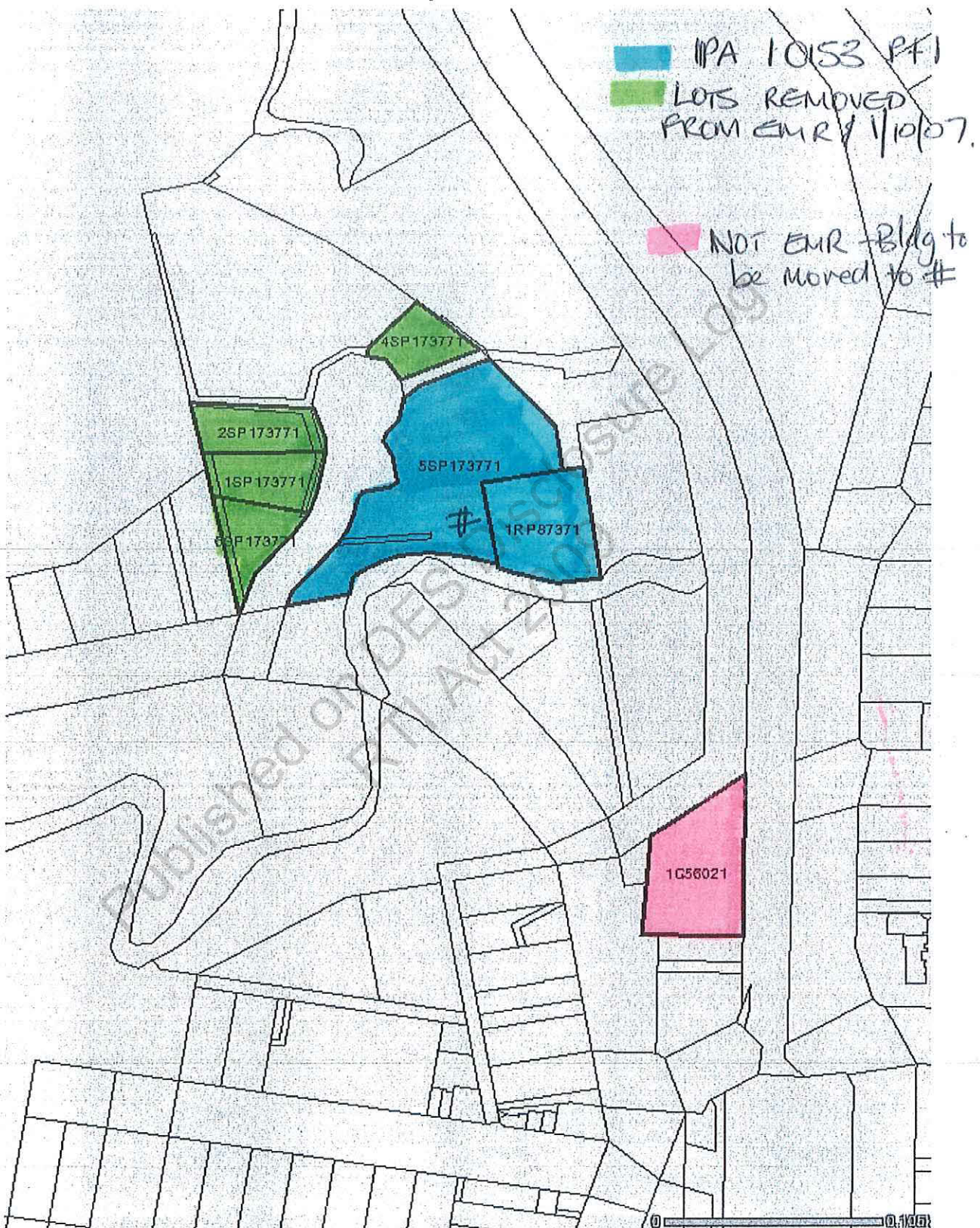
ecomaps

12/11/2007

Queensland Environmental Protection Agency

ecomaps Screen Plot

Page 1 of 2



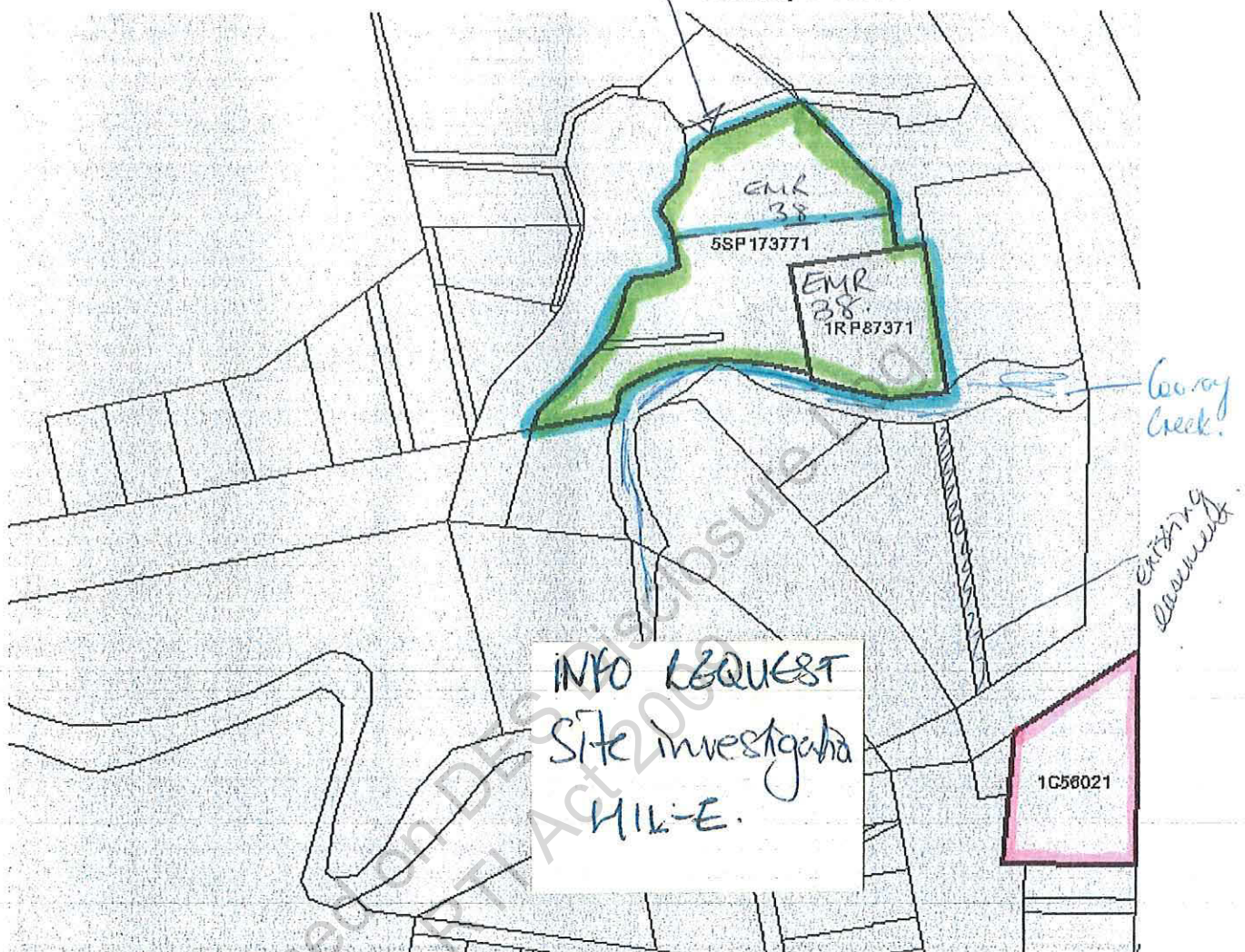
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R

ecomaps

30/10/2007

ecomaps Screen Plot



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ecomaps

30/10/2007

Queens

ecomaps Screen Plot

ecomaps Layers

- ☐ Cadastral Selection
- ☒ Grouped Cadastral
- ☐ Queensland
- ☐ Other States

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R

*Potential Contam: Cu, Cr, As, B, phenols
incl pentachloro phenol

Memorandum

To BNE 21917.

File Reference

From

Subject 2 MARARA ST COOROY

Date

LOWER MILL RD

Notes

LOT 1 CS 56021

LOT 1 on RP 87371 - 38

10153

LOT 5 on SP 173771 - 38/29 - 10233

* CONCURRENCE AGENCY RESPONSE

* MCU - Industrial Business Type 2 +
Wellbeing Type 2

* RoL - boundary realignment +
easement extinguish

* Demolition / removal works
PROPOSAL

- relocation of Cooroora Woodworkers Club

- refurbishment of Cooroora House Mill
Bowl + Kiln

- CURRENT - vacant land / woodworking
activities

- PROPOSED - woodworkers club + workshops

* LOT 1 on CG 56021 (CS6021)

- Cooroora Woodworkers Cottage + Carvers
cottage relocated - (TO WHERE?)

- workshop sheds removed / demolished

* LOT 1 on RP 87371

- 2x cottage relocated to this site

- MCU - Well Being Type 2. Social

* LOT 5 on SP 173771

- refurb bowl + kiln for use by woodworkers.

- MCU - Industrial Business Type 2.

* LOT 1 on RP 87371 + LOT 5 on SP 173771

- RoL to combine these 2 lots

- removal of easement lot 5 on RP 87371

(this is not a LIVE lot).

R

Notice of extension of Information Request Period Section 3.3.6 *Integrated Planning Act 1997*

This statutory notice is issued by the administering authority pursuant to section 3.3.6 of the *Integrated Planning Act 1997*, to advise you of a decision or action.

Enquiries to: Tamara Emms
Telephone: (07) 3225 1065
Your reference: 2007/1921
Our reference: Appl'n No.: 10153 Part: 1 File No.: BNE21917

Noosa Shire Council
Attn: Tracy Arthur
PO Box 141
TEWANTIN QLD 4565

Attention: Tracy Arthur

Re: Application for development approval.

The Environmental Protection Agency, acting as a concurrence agency for **contaminated land issues**, has extended the Information Request period by 10 business days at the end of the current period 31 October 2007.

The extended Information Request Period will end on 14 November 2007.

Application Information

Applicant:

Noosa Council
Council Application number: 2007/1921
Description: Material Change of Use
Street address of subject land: 2 Marara Street and 4 Lower Mill Road, Cooroy
Location details: Lot 1 on C56021, Lot 1 on RP87371, and Lot 5 on SP173771

Concurrence Agency Information

Application received by EPA: 17/10/2007
EPA No.: 10153 Part 1
Relevant Laws and Policies: *Environmental Protection Act 1994*
Concurrence Agency Office: Southern Regional Office (Brisbane)
Postal Address: GPO Box 2771
BRISBANE QLD 4001

Should you require any further information please do not hesitate to contact the above officer on the telephone number listed.

CTPI 49-Sch4

CTPI 49-Sch4

Signed

30 October 2007

Delegate of Administering Authority
Environmental Protection Act 1994.

IDAS APPLICATIONS CHECKLIST

APPLICATION NUMBER:

10153 Pt 1

1 CS6021 No EHR
1 RP87371 EHR 10153
NA38
BNE21917

BNE21917

TE:

17/10/2007

5 SP143771 EHR 60205

REQUEST DUE: 31/10/2007

↳ Lt 3 RP87371
EHR 10154
↳ 2 R110206
EHR 10157
↳ 3 RP110206
EHR 10158
↳ 1 RP88582
EHR 10159
↳ 2 RP87371
EHR 10233

LEDGEMENT NOTICE

DETAILS – PART A CONSENT

- ☐ PART D – MATERIAL CHANGE OF USE AND OR
- ☒ PART F – RECONFIGURING A LOT
- ☒ PART N – CONTAMINATED LAND
- ☒ IDAS ASSESSMENT CHECKLIST
- ☐ REFERRAL COORDINATION REQUIRED?(Y/N)

R

Revised on
23/10/07

IDAS APPLICATIONS CHECKLIST

10153 Pt.)

BNF21.917

INFORMATION REQUEST DUE 31/10/2007

☒ ACKNOWLEDGEMENT NOTICE

IPA FORMS

☒ COMMON DETAILS – PART A

☒ OWNERS CONSENT

PART D MATERIAL CHANGE OF USE

☒ PART F – RECONFIGURING A LOT

PART N

IDAS ASSESSMENT CHECKLIST

REFERRAL COORDINATION REQUIRED?(Y)

R

Enquiries Chris O'Loughlin
Telephone 07 3225 1066
Your reference
Our reference Appl'n No: 10153 Part: 1 File No.: BNE21917

Environmental Protection Agency
Incorporating the
Queensland Parks and Wildlife Service

10 October 2007

Mr [CTPI 49-Sch4]
C/- [CTPI 49-Sch4]
Landscape Architect Town Planner
P O Box 6
4569 Cooran

Dear [CTPI 49-Sch4]

RE: Application (No. 2007/1921) for development approval for assessable development (Material Change of Use) to be carried out at 2 Marara Street and 4 Lower Mill Road COOROY (Lot 1 on C56021, Lot 1 on RP87371, Lot 5 on SP173771).

On **09 October 07**, the Environmental Protection Agency – Contaminated Land Unit (EPA-CLU) has received an incomplete development application in relation to the above site.

Please note that it is a requirement under Section 3.3.3 of the *Integrated Planning Act 1997* (IP Act) that, as a concurrence agency, the EPA-CLU be provided with a copy of the application (unless the referral agency already has a copy of the application); and, a copy of the acknowledgement notice, for assessment.

Under the above circumstances, and, pursuant to section 3.3.3 (1) of the IP Act, the EPA-CLU advises that the material submitted is not considered a properly made application and the information to be submitted should include but not be limited to:

A council acknowledgement notice on letterhead
IDAS application forms (signed IDAS Assessment checklist); (IDAS forms can be downloaded from **Local Government and Planning website**:

Details of the proposal (including plans, any reports submitted to council, etc).

In accordance with the Section 3.2.12(2)(a) IP Act this application will lapse if you do not comply with Section 3.3.3 IP Act within the 3 months of the acknowledgement notice issued

IDAS Assessment Checklist:

[CTPI 49-Sch4]

CEIVED

17 OCT 2007

Should you require any further information please do not hesitate to contact the above officer on the telephone number provided.

Yours sincerely

CTPI 49-Sch4

Juleyn Uatuku

Environmental Support Officer
Environmental Protection Agency

Cc Noosa Shire Council
PO Box 141
TEWANTIN QLD 4565
(Attn: .)

Bne 2007/12092
Bne 21917

Acknowledgement Notice

INTEGRATED PLANNING ACT 1997, IDAS DEVELOPMENT APPLICATION

File No: 2007/1921

For further information regarding this notice, please contact: **Tracy Arthur**

Phone: 5449 5228

APPLICANT DETAILS

Name: Noosa Council

Postal address: CARE Ian Haycroft
PO Box 141
TEWANTIN QLD 4565

Phone no: 5449 5103

Mobile no:

PROPERTY DESCRIPTION

Street address: 2 Marara Street COOROY, Marara Street COOROY & 4 Lower Mill Road COOROY

Real property description: LOT 1 C 56021, LOT 1 RP 87371 & LOT 5 SP 173771

OWNER'S DETAILS

Name: Noosa Shire Council

Postal address: PO Box 141
TEWANTIN QLD 4565

APPLICATION TYPE

What approval is being sought?

Preliminary
Approval

Development
Permit

Material Change of Use - Industrial Business Type 2 and Wellbeing
Type 2

Reconfiguration of a Lot (Boundary Realignment & Extinguishing
Easement)

Building work (Demolition and/or Removal)

SUPERSEDED PLANNING SCHEME

The application will be assessed under the superseded Planning Scheme.

CODE ASSESSMENT

Will Code Assessment be required?

Applicable Codes

Cooroy & Lake Macdonald Locality Code;
Community Uses Code;
Business Uses Code;
Landscaping Code; &
Engineering Works Codes

IMPACT ASSESSMENT

Will Impact Assessment be required?

RECEIVED

9 OCT 2007

R

8 REFERRAL AGENCIES

What are the names and addresses of Referral Agencies?

REFERRAL AGENCY	ADDRESS	REFERRAL - BASIS
Qld Transport	Transport Planning Branch GPO Box 213 BRISBANE QLD 4001	CONCURRENCE Site is within 400m of public passenger transport facility & Site abuts railway corridor land.
Environmental Protection Agency	Contaminated Land Unit GPO Box 2771, BRISBANE QLD 4001	Part of site identified as contaminated land

9 INFORMATION REQUEST

Will a further Information Request be made by the Assessment Manager?

Yes

Notification is also given in accordance with section 3.3.6(6) of the *Integrated Planning Act* that the information request period is extended by 10 days.

10 ASSESSMENT MANAGER

Name: Noosa Council Signature: Date: 02/10/07

Form 1 Development Application

idas

IDAS Assessment Checklist

(Formerly the "Referrals Checklist")

IMPORTANT NOTE FOR ALL APPLICANTS:

1. This checklist was formerly referred to as the "Referrals Checklist". Some of the 'Guides' to using the IDAS Application Forms continue to refer to this document as the "Referrals Checklist". The name of this checklist was changed from 25 July 2005 to more accurately describe its function.
2. Under the IPA and IDAS framework, an application may require assessment by the local Council and/or certain Queensland State entities (e.g. Environmental Protection Agency, Dept. of Natural Resources and Water, Queensland Heritage Council etc.).
3. This checklist is provided to assist applicants to determine when an application requires assessment by a Queensland State entity and may also assist the applicant to determine the assessment manager¹ for the application.
4. Therefore, the completion of **all questions** in section 1 of this checklist is **mandatory** for all applications (*other than those requiring the completion of Parts A & B only*).
5. It is the responsibility of the applicant to accurately complete this checklist.
6. Section 2 is mandatory only if the proposed development is located in any part of a wild river area declared under the *Wild Rivers Act 2005*.
7. Depending on the nature of the application, an applicable State entity may be either the assessment manager or an IDAS referral agency for the application.
8. The assessment manager for the application will rely on the information provided in this checklist (*as well as any material lodged in support of the application*) to identify any applicable referral agencies for the application in the Acknowledgement Notice. The assessment manager will also rely on this information when identifying if the application triggers referral coordination².
9. To assist you in answering the following questions a series of guides are available free from the IPA website www.ipa.qld.gov.au. Guide 25 explains the role of the IDAS Assessment Checklist in the IDAS application process, and its relationship to the Form 1 development application.
10. Any other parts of Form 1 that this checklist requires to be completed are available from the Council or the applicable State entity, or can be downloaded free from www.ipa.qld.gov.au.
11. Section 3 provides advice about the referrals that can be required for applications for building work assessable against the *Building Regulation 2006*.

SECTION 1 - STATE ASSESSMENT (completion mandatory)**Note:** The following state assessment triggers apply to development **other than for building work assessable against the *Building Regulation 2006***.**Environmentally relevant activity**For more information refer to [Guide 4](#).Unless you answered "none of the above" to Q1, the application requires assessment by the [administering authority](#)³.

If an entity, other than the administering authority, is the assessment manager for the application, the administering authority is a concurrence agency for the application in relation to this matter.

Note: An application involving ERA 19 and/or 20 will also require completion of Part K7 of Form 1 for approval **where** an allocation under the *Water Act 2000* is required.

1. The application involves: (
- tick applicable box/es*
-)

- ☐ (i) an environmentally relevant activity (ERA) for which a code for environmental compliance has **not** been made - *complete Part G of Form 1*
- ☐ (ii) a mobile or temporary ERA for which a code of environmental compliance has **not** been made - *complete Part G of Form 1*
- ☒ (iii) none of the above

Continued overleaf

PLEASE NOTE: The assessment manager may refuse to accept an application, which, at the time of lodgement, fails to provide the completed IDAS Assessment Checklist (if applicable).

OFFICE USE ONLY (*applicable to assessment manager*)

DATE RECEIVED	REFERENCE NUMBER/S
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¹ The assessment manager is responsible for assessing and deciding an IDAS application. The assessment manager for an application is prescribed in schedule 8A of the IPA.

² For additional information refer to Guide 6 'Does my application trigger the referral coordination process?'

³ The 'administering authority' may be either the Environmental Protection Agency, the relevant local government (for a devolved ERA) or the Queensland Department of Primary Industries and Fisheries (for a delegated ERA).

State-controlled road matters

For more information refer to [Guide 3](#).

Unless you answered "none of the above" to Q2, the application triggers referral to the [Department of Main Roads](#) (DMR) as a referral agency.

In certain circumstances DMR will be an advice agency, while in other circumstances DMR will be a concurrence agency.

Schedule 2 of the [IP Regulation](#) will assist you to determine where DMR is an advice or concurrence agency for the application.

2. The application involves: (tick applicable box/es)

- ☐ (i) development on land **contiguous**⁴ to a State controlled road and for -
- ☐ (a) **material change of use** assessable against the planning scheme;
- ☐ (b) **reconfiguring a lot** unless -
- the total number of lots is not increased; and
 - the total number of lots abutting the State-controlled road is not increased;
- ☐ (c) **operational work** (not associated with a material change of use assessable against the planning scheme or reconfiguring a lot mentioned in (b) above)–
- associated with access to a State-controlled road; or
 - for filling or excavation; or
 - involving the redirection or intensification of site stormwater from the land, through a pipe with a cross-sectional area greater than 625 cm² that directs stormwater to a State-controlled road.
- ☐ (ii) development on land **not contiguous** to a State-controlled road and -
- ☐ (a) **material change of use** –
- assessable against the local government's planning scheme; and
 - mentioned in schedule 5 of the IP Regulation and exceeding the thresholds set by that schedule;
- ☐ (b) **reconfiguring a lot** for a purpose mentioned in schedule 5 of the IP regulation and exceeding the thresholds set by that schedule;
- ☐ (c) **operational work** (not associated with a material change of use assessable against the planning scheme or reconfiguring a lot mentioned in (b) above)–
- assessable against the local government's planning scheme; and
 - mentioned in schedule 5 of the IP Regulation and exceeding the thresholds set by that schedule.
- ☒ (iii) none of the above

Clearing vegetation

For more information refer to [Guide 12](#).

Unless you answered "none of the above" to Q3, the application requires assessment by the [Department of Natural Resources and Water](#) (NRW).

If an agency other than NRW is the assessment manager for the application, NRW is a concurrence agency for the application in relation to this matter.

If you ticked Q3(i) or (ii), your application requires referral to NRW for assessment regardless of whether vegetation clearing is proposed or not.

3. The application involves: (tick applicable box/es)

- ☒ (i) **material change of use** –
- (a) assessable against the planning scheme;
- (b) on a lot containing –
- a category 1, 2 or 3 area shown on a property map of assessable vegetation; or
 - if there is no property map of assessable vegetation for the lot - remnant vegetation;
- (c) where the existing use of the land is a rural or environmental use; and
- (d) where the size of the land is 2 hectares or larger - complete Part J of Form 1
- ☒ (ii) **reconfiguring a lot** –
- (a) on a lot containing a category 1, 2 or 3 area shown on a property map of assessable vegetation or, if there is no property map of assessable vegetation for the lot, remnant vegetation;
- (b) where the size of the lot before the reconfiguration is 2 hectares or larger;
- (c) where 2 or more lots are created; and
- (d) where the size of any lot created is 25 hectares or smaller - complete Part J of Form 1
- ☐ (iii) **operational work** -
- (a) for the clearing of native vegetation where the vegetation clearing is made assessable under Schedule 8 of the IPA; and
- (b) not associated with a material change of use assessable against the planning scheme mentioned in (i) or reconfiguring a lot mentioned in (ii) - complete Part J of Form 1
- ☐ (iv) none of the above.

Strategic port land

For more information refer to [Guide 11](#).

If you ticked (i) - the relevant Port Authority is the assessment manager for the application.

If you ticked (ii) Queensland Transport is a concurrence agency for the application.

4. The application involves:

- ☐ (i) development on strategic port land as defined in the *Transport Infrastructure Act 1994* (TI Act) - complete Part I of Form 1
- ☐ (ii) a **material change of use** that is **inconsistent** with the land use plan approved under the TI Act for the strategic port land - complete Part I of Form 1
- ☒ (iii) none of the above

⁴ Land contiguous to a State-controlled road is defined in schedule 14 of the IP Regulation to mean land - if part of the land is within 100m of the State-controlled road; or that is part of a future State-controlled road.

<p>Acid sulfate soils For more information refer to Guide 10. Unless you answered "none of the above" to Q5, the application requires assessment by Department of Natural Resources and Water (NRW). If an agency other than NRW is the assessment manager for the application, NRW is an advice agency for the application in relation to this matter.</p>	<p>5. The application involves development on land situated in an identified⁵ local government area and where the surface of the land is: <i>(tick applicable box)</i></p> <p>☐ (i) below 20m AHD⁶ and the development will involve the excavation of 1000m³ or more of soil or sediment at or below 5m AHD, or</p> <p>☐ (ii) at or below 5m AHD and the development will involve filling the site with 1000m³ or more of material</p> <p>☒ (iii) none of the above</p>
<p>Major hazard facilities or possible major hazard facilities For more information refer to Guide 17. If you answered "YES" to Q6, the application requires assessment by the Department of Emergency Services (DES). If an agency other than DES is the assessment manager for the application, DES is a concurrence agency for the application in relation to this matter.</p>	<p>6. Does the application involve a material change of use for a major hazard facility or possible major hazard facility as defined under the <i>Dangerous Goods Safety Management Act 2001</i>?</p> <p>☒ NO</p> <p>☐ YES - complete Part L of Form 1</p>
<p>Water related development under the Water Act 2000 For more information about items (a) – (f), refer to Guide 15. For more information about item (g), refer to Guide 14 Does my application involve assessment of a referable dam? Unless you answered "none of the above" to Q7, the application requires assessment by the Department of Natural Resources and Water (NRW). If an agency other than NRW is the assessment manager for the application, NRW is a concurrence agency for the application in relation to this matter.</p>	<p>7. The application involves:</p> <p>☐ (i) operational work, for taking or interfering with water under the <i>Water Act 2000</i>, that is: <i>(tick applicable box/es)</i></p> <p>☐ (a) in a watercourse, lake or spring, <i>(eg. a pump, gravity diversion, stream re-direction, weir or dam)</i> - complete Part K₂, K₃, K₄, K₆, or K₉ of Form 1 whichever is applicable;</p> <p>☐ (b) for an artesian bore anywhere in the State, no matter what the use - complete Part K₁ of Form 1;</p> <p>☐ (c) for a subartesian bore, in declared subartesian area⁷, or in a certain area covered by a water resource plan, for use for purposes other than stock and/or domestic use - complete Part K₁ of Form 1;</p> <p>☐ (d) for a subartesian bore, in certain declared subartesian areas, for use for stock and/or domestic purposes - complete Part K₁ of Form 1;</p> <p>☐ (e) for taking overland flow water in certain areas covered by a water resource plan - complete Part K₈ of Form 1;</p> <p>☐ (f) for interfering with overland flow water in a drainage and embankment area - complete Part K₁₀ of Form 1</p> <p>☐ (g) for constructing a referable dam⁸ or works that will increase the storage capacity of a referable dam by more than 10% - complete Part K₅ of Form 1; or</p> <p>☒ (ii) none of the above.</p>
<p>Removal of quarry material from a watercourse For more information refer to Guide 16. If you answered "YES" to Q8, the application requires assessment by the Department of Natural Resources and Water (NRW). If an agency other than NRW is the assessment manager for the application, NRW is a concurrence agency for the application in relation to this matter. Note: Part G of Form 1 is required to be completed as the activity of removing quarry material from a watercourse is also an Environmentally Relevant Activity (ERA).</p>	<p>8. Does the application involve development for the removal of quarry material from a watercourse⁹ requiring an allocation notice under the <i>Water Act 2000</i>?</p> <p>☒ NO</p> <p>☐ YES - complete Parts K₇ and G of Form 1</p>

5 The identified local government areas are: Aurukun, Bowen, Brisbane, Broadsound, Bundaberg, Burdekin, Burke, Burnett, Caboolture, Cairns, Calliope, Caloundra, Cardwell, Carpentaria, Cook, Cooloolia, Douglas, Fitzroy, Gladstone, Gold Coast, Hervey Bay, Hinchinbrooke, Isis, Johnstone, Livingstone, Logan, Mackay, Maroochy, Maryborough, Mirium Vale, Mornington, Noosa, Pine Rivers, Redcliffe, Redland, Rockhampton, Sarina, Thuringowa, Tiara, Torres, Townsville, Whitsunday.

6 Australian Height Datum (AHD).

7 The declared ground water areas are listed in [Guide 13 Development in a declared catchment area](#).

8 Referable dam is defined under the *Water Act 2000*.

9 Watercourse is defined in sch 10 of the IPA.

Operational work that is tidal work or work in coastal management district

For more information refer to [Guide 18](#). For more information about prescribed tidal work in local government tidal areas refer to [Guide 24](#).

Unless you answered "none of the above" to Q9, the application requires assessment by the [Environmental Protection Agency \(EPA\)](#).

If an agency other than EPA is the assessment manager for the application, EPA is a concurrence agency for the application in relation to this matter.

Local government is the assessment manager for all prescribed tidal work.

9. The application involves **operational work** that is: (tick the applicable box/es)

- ☐ (i) **tidal work**¹⁰ as defined under the *Coastal Protection and Management Act 1995* (the Coastal Act) that is not prescribed tidal work – complete Part M of Form 1; or
- ☐ (ii) tidal work that is **prescribed tidal work**¹¹ other than in a canal¹² – complete Part P of Form 1; or
- ☐ (iii) carried out within a **coastal management district** under the Coastal Act and for – complete Part M of Form 1 if any box/es (a) to (i) below are ticked.
- ☐ (a) constructing or installing works in a watercourse between MHS and HAT (i.e. other than those works in tidal water) where the development has been determined not to be assessable against the *Water Act 2000*;
- ☐ (b) constructing a canal¹² intended to be connected to tidal waters;
- ☐ (c) constructing an artificial waterway;
- ☐ (d) reclaiming land under tidal water;
- ☐ (e) disposing of dredge spoil or other solid waste material in tidal water;
- ☐ (f) interfering with quarry material on State coastal land above high-water mark;
- ☐ (g) draining or allowing drainage or flow of water or other matter across State coastal land above high-water mark;
- ☐ (h) removing or interfering with coastal dunes on land, other than State coastal land, that is in an erosion prone area and above high-water mark;
- ☐ (i) constructing a bank or bund wall to establish a ponded pasture on land, other than State coastal land, above high-water mark; or
- ☒ (iv) none of the above.

Operational work below high water mark

For more information refer to [Guide 18](#). For more information about prescribed tidal work in local government tidal areas refer to [Guide 24](#).

Unless you answered "none of the above" to Q10, the application triggers referral to [Queensland Transport \(QT\)](#) (Maritime Safety Qld) as a concurrence agency.

Local government is the assessment manager for all prescribed tidal work.

10. The application involves **operational work** that is: (tick the applicable box/es)

- ☐ (i) **tidal work**¹³ as defined under the *Coastal Protection and Management Act 1995* (the Coastal Act) that is not prescribed tidal work – complete Part M of Form 1; or
- ☐ (ii) tidal work that is **prescribed tidal work**¹⁴ – complete Part P of Form 1; or
- ☐ (iii) carried out within a coastal management district¹⁵ under the Coastal Act and for –
- ☐ (a) disposing of dredge spoil or other solid waste material in tidal water – complete Part M of Form 1;
- ☐ (b) reclaiming land under tidal water – complete Part M of Form 1; or
- ☐ (c) constructing a canal¹², if the canal is associated with reconfiguring a lot – complete Part M of Form 1;
- ☒ (iv) none of the above.

Coastal management

For more information refer to [Guide 18](#).

Unless you answered "none of the above" to Q11, the application requires assessment by the [Environmental Protection Agency \(EPA\)](#).

If an agency other than EPA is the assessment manager for the application, EPA is a concurrence agency for the application in relation to this matter.

11. The application involves: (tick the applicable box/es)

- ☐ (i) a **material change of use** assessable under a planning scheme **involving operational work** carried out completely or partly in a coastal management district¹⁵
- ☐ (ii) a **material change of use** assessable under a planning scheme **involving building work**, carried out completely or partly in a coastal management district that is –
- the construction of a new premises with a GFA¹⁶ of at least 1000m²
 - the enlargement of the GFA of existing premises by more than 1000m²
- ☐ (iii) **reconfiguring a lot** assessable under schedule 8 of the IPA where the land is situated completely or partly in a coastal management district
- ☐ (iv) **reconfiguring a lot**¹⁷ assessable under schedule 8 of the IPA and in connection with the construction of a canal¹² – complete Part M of Form 1
- ☒ (v) none of the above

10 Tidal work is defined in sch 10 of the IPA.

11 Prescribed tidal work is defined in the *Coastal Protection and Management Regulation 2003* and includes certain tidal works completely or partly within a local government tidal area.

12 Canal means canal as defined under the *Coastal Protection and Management Act 1995*

13 Tidal work is defined in sch 10 of the IPA.

14 Prescribed tidal work is defined in the *Coastal Protection and Management Regulation 2003* and includes certain tidal works completely or partly within a local government tidal area.

15 Coastal management district is defined in sch 10 of the IPA and means a coastal management district under the *Coastal Protection and Management Act 1995*, other than an area declared as a coastal management district under section 47(2) of that Act.

16 GFA is defined in sch 14 of the IPA to mean the gross floor area. For a definition of how to calculate GFA, go to the planning scheme against which the application is being assessed.

17 Under s117 of the *Coastal Protection and Management Act 1995*, an application for reconfiguration, where the reconfiguration is associated with the construction of an artificial waterway, must be accompanied by the application for the operational works to construct the artificial waterway.

<p>Development within the limits of a port</p> <p>For more information refer to <u>Guide 18</u>. For information about prescribed tidal work refer to <u>Guide 24</u>.</p> <p>If you answered "YES" to Q12, the application triggers referral to the <u>Port Authority</u>.</p> <p>The Port Authority is a concurrence agency if the development is –</p> <ul style="list-style-type: none"> • within 200m of a shipping channel or an entry and exit shipping corridor for the port • within 1000m of a swing basin, a commercial shipping wharf, a mooring, anchorage or spoil grounds; • within 1000m of a planned port facility identified in a land use plan approved under the <i>Transport Infrastructure Act 1994</i>. <p>In all other situation the Port Authority is an advice agency.</p>	<p>12. Does the application involve development below high water mark¹⁸ and within the limits of a port under the <i>Transport Infrastructure Act 1994</i>?</p> <p>☒ NO</p> <p>☐ YES – complete Part M of Form 1, or Part P of Form 1 if the work is prescribed tidal work</p>
<p>Marinas</p> <p>For more information refer to <u>Guide 18</u>. For information about whether a marina is prescribed tidal work refer to <u>Guide 24</u>. The local government is the assessment manager for all prescribed tidal work.</p> <p>If you answered "YES" to Q13, the application triggers referral to <u>Queensland Fire and Rescue Service</u> as an advice agency.</p>	<p>13. Does the application involve operational work that is tidal work for a marina¹⁹ with more than 6 vessel berths?</p> <p>☒ NO</p> <p>☐ YES - complete Part M of Form 1, or Part P of Form 1 if the tidal work is prescribed tidal work</p>
<p>Tidal works in strategic port land tidal areas</p> <p>For more information refer to <u>Guide 18</u>.</p> <p>Unless you answered "NO" to Q14, the relevant <u>Port Authority</u> is the assessment manager for the application and the <u>Environmental Protection Agency</u> (EPA) and <u>Queensland Transport</u> (QT) are concurrence agencies for the application.</p>	<p>14. Does the application involve tidal works within a strategic port land tidal area²⁰?</p> <p>☒ NO</p> <p>☐ YES - complete Part M of Form 1</p>
<p>Heritage</p> <p>For further information refer to <u>Guide 19</u>.</p> <p>If you answered "YES" to Q15, the application triggers referral to the <u>Queensland Heritage Council</u> as concurrence agency for the application.</p> <p>Unless you answered "none of the above" to Q15(b), the application involves referral to the <u>Environmental Protection Agency</u> as an advice agency for the application</p>	<p>15. Does the application involve development in a heritage registered place as defined under the <i>Queensland Heritage Act 1992</i>?</p> <p>☒ NO</p> <p>☐ YES – complete Part C of Form 1</p> <p>15(b) The application involves: (tick applicable boxes)</p> <p>☐ (i) a material change of use assessable against the planning scheme and the lot shares a common boundary with a protected area or registered place under the <i>Queensland Heritage Act 1992</i>;</p> <p>☐ (ii) reconfiguring a lot if the lot shares a common boundary with a protected area or registered place under the <i>Queensland Heritage Act 1992</i>;</p> <p>☐ (iii) none of the above.</p>
<p>Declared catchment areas</p> <p>For more information, including a list of the declared catchment areas within Queensland, refer to <u>Guide 13</u>.</p> <p>Unless you answered "none of the above" to Q16, the application requires assessment by the <u>Department of Natural Resources and Water</u> (NRW).</p> <p>If an agency other than NRW is the assessment manager for the application, NRW is a concurrence agency for the application in relation to this matter.</p>	<p>16. The application is in an area declared to be a catchment area under the <i>Water Act 2000</i> and involves: (tick the applicable box/es)</p> <p>☐ (i) reconfiguring a lot if any lot resulting from the reconfiguration is less than 16 hectares;</p> <p>☐ (ii) development assessable against the planning scheme involving the establishment or expansion of a waste water disposal system, other than a disposal system for carrying out an environmentally relevant activity under the <i>Environmental Protection Act 1994</i>;</p> <p>☒ (iii) none of the above</p>

18 High water mark is defined in the *Coastal Protection and Management Act 1995* and means the ordinary high water mark at spring tide.

19 Marina is defined in the *Transport Operations (Maritime Pollution) Regulation 1995*.

20 Strategic port land tidal areas are the areas generally 50 metres seaward of high water mark adjacent to strategic port land.

Contaminated land

Applications involving material change of use and/or reconfiguring a lot may trigger this referral.

For more information refer to [Guide 5](#).

Unless you answered "none of the above" to Q17, the application requires assessment by the [Environmental Protection Agency \(EPA\)](#). If an agency other than EPA is the assessment manager for the application, EPA will be a concurrence agency for the application in relation to this matter.

17. The application involves: (tick the applicable box/es)

- ☒ (i) **reconfiguring a lot** for which all of part of the premises are –
- (a) premises mentioned in the IPA, schedule 8, part 1, table 2 –
 - item 5, including the exemption otherwise provided for by paragraph (d);
 - item 6, including the exemption otherwise provided for by paragraph (e); or
 - item 7, including the exemption otherwise provided for a mining activity or petroleum activity; or
 - (b) in an area for which an area management advice has been given for unexploded ordnance - *complete Part N of Form 1*
- ☒ (ii) a **material change of use** –
- (a) made assessable under the IPA, schedule 8, part 1, table 2, items 5 to 7; or
 - (b) assessable against the planning scheme and if all or part of the premises is in an area for which an area management advice has been given for unexploded ordnance - *complete Part N of Form 1*
- ☐ (iii) none of the above

Electricity infrastructure

For more information refer to schedule 2 of the [IP Regulation](#).

Unless you answered "none of the above" to Q18, the application triggers referral to the [agency to which the easement is granted in favour of](#) as advice agency.

18. The application involves: (tick the applicable box/es)

- ☐ (i) **reconfiguring a lot** where any part of the lot is –
- subject to an easement in favour of a distribution entity or transmission entity under the *Electricity Act 1994* and the easement is for a transmission grid or supply network under that Act; or
 - situated within 100m of a substation site;
- ☐ (ii) a **material change of use**, assessable against a planning scheme and not associated with reconfiguring a lot if –
- any part of the premises is subject to an easement in favour of a distribution entity or transmission entity under the *Electricity Act 1994* and the easement is for a transmission grid or supply network under that Act; and
 - any structure or work that is the natural and ordinary consequence of the use is, or will be, located wholly or partly in the easement;
- ☐ (iii) a **material change of use**, assessable against a planning scheme and not associated with reconfiguring a lot if any part of the premises is situated within 100m of a substation site;
- ☐ (iv) **operational work** that is filling or excavation assessable against the planning scheme, not associated with reconfiguring a lot, if –
- any part of the premises is subject to an easement in favour of a distribution entity or transmission entity under the *Electricity Act 1994* and the work is located wholly or partly in the easement;
 - the work is located wholly or partly within 10m of a substation site;
- ☒ (v) none of the above.

Land designated for community infrastructure

Applications involving development on land designated for community infrastructure may trigger this referral.

For more information refer to schedule 2 of the [IP Regulation](#).

If you answered "YES" to Q19, the application requires assessment by the chief executive of the [department administering the Act](#) authorising the development for the designated purpose.

If an agency other than the designator is the assessment manager for the application, the designating agency will be a concurrence agency for the application in relation to this matter.

19. Does the application involve development assessable against the planning scheme and on land designated for community infrastructure?

- (i) intended to be supplied by a public sector entity; and
 - (ii) on land not owned by or on behalf of the State; and
 - (iii) other than development –
 - (a) for the designated purpose; or
 - (b) carried out by, or on behalf of, the designator.
- ☒ NO
- ☐ YES

SEQ Regional Plan

For more information refer to schedule 2 of the IP Regulation.

Refer to Chapter 2, part 5A and schedule 10 of the Integrated Planning Act 1997, and schedule 2 of the Regulatory Provisions for relevant definitions.

Unless you answered "none of the above" to Q20, the application requires assessment by the Office of Urban Management (OUM).

20. The application involves (tick applicable box/es) -

- ☐ (i) a **material change of use** of premises –
- (a) in a **Major Development Area** in the Urban Footprint for –
- ☐ (i) an **urban activity** –
- ☐ in an area included in a structure plan where the IPA, section 3.1.6 applies;
- ☐ in an area not included in a structure plan where –
- the IPA, section 3.1.6 applies to the application for the material change of use; or
 - the premises exceeds 10,000m²; or
 - the gross floor area (GFA) on the premises will exceed 10,000m²; or
 - impact assessment is required under the relevant planning scheme
- ☐ (ii) **intensive animal husbandry**; or
- ☐ (iii) residential development involving a **rural residential purpose**
- (b) in the **Regional Landscape and Rural Production Area** for –
- ☐ (i) an **urban activity** and not specified in section 2.4(2); or
- ☐ (ii) residential development involving a **rural residential purpose** and not specified in section 2.6(2)
- (c) in the **Rural Living Area** for an urban activity and not specified in section 2.8(2);
- (d) in the **Investigation Area** for –
- ☐ (i) an **urban activity** and not specified in section 2.10(2);
- ☐ (ii) residential development involving a **rural residential purpose** and not specified in section 2.12(2); or
- ☐ (iii) **intensive animal husbandry**
- ☐ (ii) **reconfiguring a lot** –
- On land in a **Major Development Area** in the Urban Footprint that is:
- (a) not included in a structure plan; and
- (b) not specified in section 3.1(2).
- ☒ (iii) none of the above

Fisheries matters

For more information refer to schedule 2 of the IP Regulation.

Unless you answered "none of the above" to Q21, the application requires assessment by the Department of Primary Industries and Fisheries (DPI&F).

If an agency other than DPI&F is the assessment manager for the application, DPI&F is a concurrence agency for the application in relation to items (i) – (iv) and an advice agency in relation to item (v).

21. The application involves: (tick the applicable box/es)

- ☐ (i) an assessable **material change of use** for aquaculture - complete Part O₁ of Form 1;
- ☐ (ii) assessable **operational work** that is the construction or raising of a waterway barrier - complete Part O₃ of Form 1;
- ☐ (iii) assessable **operational work** completely or partly within a declared fish habitat area - complete Part O₂ of Form 1;
- ☐ (iv) assessable **operational work** that is the removal, destruction or damage of a marine plant - complete Part O₂ of Form 1;
- ☐ (v) development assessable under the IPA, schedule 8, part 1, on land that adjoins a declared fish habitat area;
- ☒ (vi) none of the above.

Integration of land use and public transport

For more information refer to [Guide 23](#), schedule 8A of the [IPA](#), & schedule 2 of the [IP Regulation](#).
Unless you answered "none of the above", the application triggers referral to QT as a concurrence agency.

22. The application involves: *(tick the applicable box/es)*—

- ☐ (i) a **material change of use** assessable against the planning scheme for a purpose mentioned in schedule 13C of the IP Regulation and exceeding the thresholds set by that schedule.
- ☐ (ii) **reconfiguring a lot**—
- ☐ (a) on land that is completely or partly within a public transport corridor, and the total number of lots increases;
 - ☐ (b) on land that is completely or partly within a future public transport corridor or an airport's public safety area;
 - ☐ (c) on land that is within 400m of a public passenger transport facility or a future public passenger transport facility, and the total site area is 5000m² or greater;
 - ☐ (d) for a residential purpose within the 25 ANEF contour for an airport;
 - ☐ (e) for a residential purpose resulting in 100 or more allotments.
- ☐ (iii) **operational work** assessable against the planning scheme, but not associated with a material change of use mentioned in (i) above or reconfiguring a lot mentioned in (ii) above, on land that—
- ☐ (a) is completely or partly within a public transport corridor or a future public transport corridor;
 - ☐ (b) will result in work that encroaches into an airport's operational airspace.
- ☒ (iv) none of the above.

Railway safety and efficiency

For more information refer to [Guide 23](#), schedule 8A of the [IPA](#) & schedule 2 of the [IP Regulation](#).
Unless you answered "none of the above", the application triggers referral to QT as a concurrence agency.

23. The application involves: *(tick the applicable box/es)*—

- ☐ (i) a **material change of use** assessable against the planning scheme for a purpose mentioned in schedule 13D of the IP Regulation and exceeding the thresholds set by that schedule.
- ☐ (ii) **reconfiguring a lot**—
- ☐ (a) on land that is completely or partly within a future public transport corridor, future railway land or a railway tunnel easement;
 - ☐ (b) on land that is within 400m of a Citytrain passenger railway station or a future Citytrain passenger railway station, and the total site area is 5000m² or greater;
 - ☐ (c) on land that abuts rail corridor land, commercial corridor land or future railway land, and the total number of lots increases;
 - ☐ (d) on land that abuts rail corridor land, commercial corridor land or future railway land and an easement abutting the corridor or future railway land is created;
 - ☐ (e) on land that is completely or partly within 100m of, and abutting an approach to, a railway level crossing, and the total number of lots increases;
 - ☐ (f) for a residential purpose resulting in 100 or more allotments.
- ☐ (iii) **operational work** assessable against the planning scheme, but not associated with a material change of use mentioned in (i) above or reconfiguring a lot mentioned in (ii) above, involving extracting, excavating or filling greater than 50m³, on land that—
- ☐ (a) is completely or partly within rail corridor land or commercial corridor land, and the work is not for rail transport infrastructure or other rail infrastructure;
 - ☐ (b) is completely or partly within future railway land, or a railway tunnel easement;
 - ☐ (c) abuts rail corridor land, commercial corridor land or future railway land, and the work is within 25m of the railway boundary.
- ☒ (iv) none of the above.

Moonie to Brisbane pipeline

For more information refer to schedule 2 of the [IP Regulation](#).
Unless you answered "none of the above", the application triggers referral to the holder of pipeline licence No 1 issued under the [Petroleum Act 1923](#), currently Santos QNT Pty Ltd, for advice.

24. The application involves the easement for the construction or operation of the Moonie to Brisbane strategic pipeline, and involves: *(tick the applicable box/es)*—

- ☐ (i) a **material change of use** assessable against the planning scheme and not associated with reconfiguring a lot, and any structure or work will be located wholly or partly in the easement.
- ☐ (ii) **reconfiguring a lot**
- ☐ (iii) **operational work** assessable against the planning scheme, that is filling, excavation, compaction, drilling, boring or piling not associated with a reconfiguring a lot, and the work is located wholly or partly in the easement.
- ☒ (iv) none of the above.

Koala habitat area

For more information, refer to [Guide 26](#) and schedule 2 of the IP Regulation.

Unless you answered "none of the above", the application requires referral to the [Environmental Protection Agency](#) as a concurrence agency.

25. The application involves: (tick the applicable box/es)–

- ☐ (i) a **material change of use** of premises in a koala conservation area or koala sustainability area made assessable under a planning scheme, that is not for a domestic activity and will result in –
- ☐ (a) clearing of native vegetation over an area greater than 2500m²;
- ☐ (b) a new building and any reasonably associated structure with a total footprint greater than 1000m²;
- ☐ (c) an extension to an existing building and any reasonably associated structure if the extension has a total footprint greater than 1000m²;
- ☐ (d) extracting gravel, rock or sand from an area greater than 5000m²;
- ☐ (e) excavating or filling an area greater than 5000m²;
- ☐ (f) additional traffic in a koala conservation area or koala sustainability area, between 6p.m. on a day and 6a.m. on the following day.
- ☐ (ii) **reconfiguring a lot** in a koala conservation area or koala sustainability area that will result in –
- ☐ (a) an increased number of lots;
- ☐ (b) clearing of native vegetation over an area greater than 2500m².
- ☐ (iii) **operational work** in a koala conservation area or koala sustainability area made assessable under Schedule 8, Part 1, Table 4, items 1A to 1G (not associated with reconfiguring a lot mentioned in (ii) above) that will result in the clearing of native vegetation over an area greater than 2500m².
- ☐ (iv) **operational work** in a koala conservation area or koala sustainability area made assessable under a planning scheme (not associated with a material change of use mentioned in (i) or reconfiguring a lot mentioned in (ii) above) that is not for a domestic activity and will result in –
- ☐ (a) clearing of native vegetation over an area greater than 2500m²;
- ☐ (b) extracting gravel, rock or sand from an area greater than 5000m²;
- ☐ (c) excavating or filling an area greater than 5000m².
- ☒ (v) none of the above.

Wild river area

For more information, refer to [Guide 27](#)

If you answered YES to Q26, you must also complete section 2 of this checklist. This will enable you to determine if your application can proceed in a wild river area and which referral agency will assess your application against the Wild Rivers Code, or if the proposed development is "prohibited" in a wild river area.

Note: Development can be "prohibited" in a wild river area because the application cannot be accepted by the assessment manager.

26. Does the application involve development in a wild river area declared under the *Wild Rivers Act 2005*?

- ☒ NO
- ☐ YES

Preliminary Approval

If you answered YES to Q27, the application triggers referral to the [Department of Local Government, Planning, Sport and Recreation](#) as an advice agency.

27. Does the application involve a development for which preliminary approval is sought under Section 3.1.6 of the *Integrated Planning Act 1997*?

- ☒ NO
- ☐ YES

Wetlands

Domestic activity means the construction or use of a single residence on a lot and any reasonably associated building or structure. Examples of a building or structure that could be reasonably associated with a single residence include: caretaker's residence, granny flat, building or structure used for a home business.

Note: Wetland is defined in the Integrated Planning Regulation 1998.

Unless you answered "none of the above" to Q28, the application involves referral to the [Environmental Protection Agency](#) as an advice agency for the application.

28. The application involves: (tick the applicable boxes) -

- ☐ (i) a material change of use, other than for a domestic activity, assessable against the planning scheme that is in or within 100m of a wetland;
- ☐ (ii) reconfiguring a lot –
- In or within 100m of a wetland that will result in
- ☐ (a) more than 10 lots being created; or
- ☐ (b) lots less than 5 hectares;
- ☒ (iii) none of the above

Conservation Estate

Urban purposes is defined in the Integrated Planning Act 1997 as "purposes for which land is used in cities or towns, including residential, industrial, sporting, recreation and commercial purposes, but not including environmental, conservation, rural, natural or wilderness area purposes".

Unless you answered "none of the above" to Q29, the application involves referral to the Environmental Protection Agency as an advice agency for the application.

29. The application involves: (tick the applicable box/es)---

- ☐ (i) a material change of use for urban purposes that is in or within 100m of any of the following –
- ☐ (a) a protected area, forest reserve, critical habitat or area of major interest under the Nature Conservation Act 1992;;
 - ☐ (b) a State forest or timber reserve under the Forestry Act 1959;
 - ☐ (c) a marine park under the Marine Parks Act 2004;
 - ☐ (d) a recreation area under the Recreation Area Management Act 1988;
 - ☐ (e) a world heritage area listed under the World Heritage Convention;
 - ☐ (f) Brisbane forest park under the Brisbane Forest Park Act 1977.
- ☐ (ii) reconfiguring a lot if –
- ☐ (a) any part of the lot is situated in, or within 100m of, any of the following –
 - ☐ (i) a protected area, forest reserve, critical habitat or area of major interest under the Nature Conservation Act 1992;
 - ☐ (ii) a State forest or timber reserve under the Forestry Act 1959;
 - ☐ (iii) a marine park under the Marine Parks Act 2004;
 - ☐ (iv) a recreation area under the Recreation Area Management Act 1988;
 - ☐ (v) a world heritage area listed under the World Heritage Convention; Brisbane forest park under the Brisbane Forest Park Act 1977; and
 - ☐ (b) the reconfiguration involves more than 10 lots being created, or any lot resulting from the reconfiguring is less than 5ha;
- ☒ (iii) none of the above.

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SECTION 2 – ASSESSMENT IN A WILD RIVER AREA**(completion mandatory if the proposed development is located in a wild river area)****Wild River Area**

It is the responsibility of the applicant to determine if the development is proposed in a wild river area.

Information about wild river areas including the geographical location and position of management areas in relation to properties, can be accessed by contacting the Department of Natural Resources and Water (NRW), accessing the department's website www.nrw.qld.gov.au or contacting the department by email on: wild.rivers@nrw.qld.gov.au

Note on Referrals

Referrals for development in a wild river area (other than for agricultural activities and animal husbandry activities) are not changed from the existing referral arrangements.

Notes on development assessable against the Wild Rivers Code

For information regarding development in a wild river area, see the relevant wild river declaration and Guide 27. The relevant wild river declaration will provide information regarding which types of development must be assessed against the Wild Rivers Code, and in some cases which types of development are exempt from wild river requirements.

The notes on development assessable against the Wild Rivers Code in this section of the checklist provide some guidance however this may vary between wild river areas. The relevant declaration will provide the information applying to each wild river area.

Applications for some new developments will not be accepted if the proposed development is in a high preservation area (HPA). Most applications for development activities which may be made including those in a preservation area (PA), must be assessed against and must comply with the Wild Rivers Code where indicated in a relevant wild river declaration.

1. Which wild river area is the development proposed in?

The proposed development is to be located in: (tick the applicable box/es)

- ☐ i) a high preservation area (HPA);
☐ ii) a preservation area (PA);
☐ iii) a wild river floodplain management area (FMA);
☐ iv) a wild river nominated waterway;
☐ v) a designated urban area (DUA).

Environmentally relevant activities (ERAs) in a designated urban area

If you answered YES, your application for an ERA is exempt from any wild river requirements and provided there are no other aspects of this development that require assessment against wild rivers, you do not need to complete the remaining questions in Section 2.

If you answered NO to Q2, please complete the remaining questions in Section 2.

2. Does the proposed development only involve any of the following environmentally relevant activities (ERAs) in a **designated urban area** (as mapped in the relevant wild river declaration)?

- i) An ERA 28 or ERA 14; or
 ii) A level 2 ERA **except** ERA 1, 2, 3, 4, 20, 22 or 59.

☐ NO ☐ YES (ensure you have completed Part G of Form 1)

Clearing native vegetation

If YES, there are a limited number of purposes for which an application to clear native vegetation may be accepted in a HPA. See Guide 27 for a list of relevant purposes for which an application may be made in a HPA.

If YES and you ticked Q4 box i) the application may be made and is assessable against the Wild Rivers Code. If YES and you ticked Q4 box ii) the application will not be accepted.

Note: If clearing native vegetation is in a PA, there are no wild river requirements and provided there are no other aspects of this development where wild river requirements apply, do not complete the remaining questions in Section 2.

3. Is the application operational work for clearing native vegetation in a HPA?

☐ NO ☐ YES (ensure you have completed Part J of Form 1)

4. If YES, is the clearing?

- ☐ i) clearing regrowth (as defined in the *Vegetation Management Act 1999*) in a registered area of agriculture in a HPA (see Guide 27); or
☐ ii) in a HPA outside a registered area of agriculture?

<p>Works in tidal areas, coastal management districts and fish habitat areas</p> <p>If you answered YES to Q5, and ticked any boxes in Q6, your application is required to be assessed against and must comply with the Wild Rivers Code.</p> <p>If you answered YES to Q5 and ticked box i) in Q6, your application is required to be referred to the EPA.</p> <p>Note: If specified works are proposed in a local government area, it is prescribed tidal work – the relevant local government will be the assessment manager with the EPA as a concurrence agency</p> <p>If you answered YES to Q5, and ticked box ii) or iii) in Q6, your application requires referral to DPIF.</p> <p>If you answered NO to Q5 and ticked box i) in Q6, the application will not be accepted.</p> <p>If you answered NO to Q5, ticked box ii) in Q6 and the development is necessary to install authorised works or infrastructure where a development permit is not required, or if a required permit is held, the application must be assessed against and must comply with the Wild Rivers Code. Applications for purposes other than specified works or as described above will not be accepted.</p> <p>If you answered NO to Q5 and ticked box iii) in Q6, the application may be made if the works are in a PA. These applications must be assessed against and must comply with the Wild Rivers Code. The application will not be accepted if the development is proposed to be located in a HPA.</p> <p>For more information about specified works refer to Guide 27</p>	<p>5. Is the development for specified works? (see definition in the <i>Wild Rivers Act 2005</i> and Guide 27- Development in a wild river area)</p> <p>☐ NO ☐ YES</p> <p>6. The application is for one or more of the following:</p> <p>☐ i) Operational works that is tidal works or works in a coastal management district (<i>ensure you have completed Part M and/or Part P of Form 1</i>); OR</p> <p>☐ ii) Operational works for the removal, destruction or damage of marine plants (<i>ensure you have completed Part O₂ of Form 1</i>); OR</p> <p>☐ iii) Building or operational works in a fish habitat area (<i>ensure you have completed Part O₂ of Form 1</i>).</p>
<p>Residential, commercial or industrial development</p> <p>If you answered YES to Q7, your application is not subject to wild river requirements. Provided there are no other aspects of this development that require assessment against the relevant wild river declaration or Wild Rivers Code, you do not need to complete the remaining questions in Section 2.</p> <p>If you answered NO to Q7 and ticked either box i) or ii) in Q8, the assessing agency is the relevant local government. The application must be assessed against and must comply with the Wild Rivers Code.</p>	<p>7. Is the application for residential, commercial or industrial development in a designated urban area?</p> <p>☐ NO ☐ YES</p> <p>8. If NO, does the application for residential, commercial or industrial development involve:</p> <p>☐ i) a material change of use made assessable in a local government planning scheme (<i>ensure you have completed Part D of Form 1</i>); or</p> <p>☐ ii) operational works associated with reconfiguring a lot (<i>ensure you have completed Part F of Form 1</i>).</p>
<p>Animal husbandry activities</p> <p>If you answered YES to Q9 your application requires assessment against and must comply with the Wild Rivers Code.</p> <p>The assessing agency is NRW.</p> <p>Note: Applications for animal husbandry activities will not be accepted if proposed in a HPA. For more details and a definition of animal husbandry activities see the <i>Wild Rivers Act 2005</i> and refer to Guide 27.</p>	<p>9. Does the application involve a material change of use for animal husbandry activities (as defined under the <i>Wild Rivers Act 2005</i>) in a PA?</p> <p>☐ NO ☐ YES (<i>ensure you have completed Part R of Form 1</i>)</p>
<p>Agricultural activities</p> <p>If you answered YES to Q10, your application requires assessment against and must comply with the Wild Rivers Code.</p> <p>The assessing agency is NRW.</p> <p>Note: Applications for agricultural activities will not be accepted if proposed in a HPA. For more details and a definition of agricultural activities see the <i>Wild Rivers Act 2005</i> and refer to Guide 27.</p> <p>The production of fodder in a PA, and pasture improvement using low impact soil disturbance techniques is not an agricultural activity as defined under the <i>Wild Rivers Act 2005</i>. For more information see Guide 27.</p>	<p>10. Does the application involve agricultural activities (as defined under the <i>Wild Rivers Act 2005</i>) in a PA?</p> <p>☐ NO ☐ YES (<i>ensure you have completed Part Q of Form 1</i>)</p> <p>11. If YES is the application for:</p> <p>☐ i) a material change of use; or</p> <p>☐ ii) operational works.</p>

R

Works that take overland flow water

The relevant wild river declaration will state works that take overland flow water are either self assessable or assessable, or are exempt from wild river requirements.

If you ticked Q13 i), your application must be assessed by NRW against the Wild Rivers Code and must comply with the code.

If you ticked Q13 ii) an application is not required to be made however the works must comply with the relevant self-assessable section of the Wild Rivers Code, otherwise the works become assessable development for which an application is required and must be assessed by NRW against the relevant part of the Wild Rivers Code and must comply with the code.

If you ticked Q13 iii) your application is not subject to wild river requirements.

Applications for development that is other than that stated to be assessable, self-assessable or exempt will not be accepted.

12. Does the application involve works that take overland flow water in a HPA or an FMA?

☐ NO ☐ YES (ensure you have completed Part K₈ of Form 1)

13. If YES, is the application for works stated in the relevant wild river declaration to be?

☐ i) assessable works
☐ ii) self-assessable works
☐ iii) exempt works

Works that interfere with overland flow water

The relevant wild river declaration will state works that interfere with overland flow water that are either self assessable, assessable or exempt from wild river requirements.

If you ticked Q15 i), your application must be assessed by NRW against the Wild Rivers Code and must comply with the code.

If you ticked Q15 ii) an application is not required to be made however the works must comply with the relevant self-assessable section of the Wild Rivers Code, otherwise the works become assessable development for which an application is required and must be assessed by NRW against the relevant part of the Wild Rivers Code and must comply with the code.

If you ticked Q15 iii) your application is not subject to wild river requirements.

Applications for development that is other than that stated to be assessable, self-assessable or exempt will not be accepted.

14. Does the application involve works that interfere with overland flow water in a FMA?

☐ NO ☐ YES (ensure you have completed Part K₁₀ of Form 1)

15. If YES, is the application for works stated in the relevant wild rivers declaration to be?

☐ i) assessable works
☐ ii) self-assessable works
☐ iii) exempt works

Waterway barrier works

Applications for building or raising waterway barrier works in a HPA will not be accepted.

If you answered YES to Q16, your application must be assessed by DPIF against the Wild Rivers Code and must comply with the code.

16. Does the application involve building or raising waterway barrier works in a PA?

☐ NO ☐ YES (ensure you have completed Part O₃ of Form 1)

Aquaculture (non ERA)

Applications for aquaculture in a HPA will not be accepted.

If you answered YES to Q17, your application must be assessed by DPIF against the Wild Rivers Code and must comply with the code.

17. Does the application involve aquaculture in a PA?

☐ NO ☐ YES (ensure you have completed Part O₁ of Form 1)

Works that interfere with water in a watercourse

Note: If the development is proposed in a HPA, applications for all works that interfere with water in a watercourse (including dams or weirs, stream realignment or stream diversion) will not be accepted.

In a PA, applications for instream dams and weirs may be accepted in nominated waterways. If you ticked box ii) in Q19, your application will not be accepted.

Note: Operational works outside a HPA or nominated waterway are not subject to wild river requirements.

More information and locations of nominated waterways is available by contact NRW, accessing the department's website www.nrw.qld.gov.au or contacting the department by email on: wild.rivers@nrw.qld.gov.au.

18. Does the application involve operational works that interfere with water in a watercourse that is in a nominated waterway in a PA?

☐ NO ☐ YES (ensure you have completed the relevant Part K of Form 1)

19. If YES,

☐ i) The application is for an instream dam or weir; or
☐ ii) The application is for operational works that interfere with water in a watercourse, and is for development other than a dam or weir.

Environmentally relevant activities

Most applications for an ERA in a HPA will not be accepted. Applications which may be made require referral to the EPA. The assessment of some ERAs is assessed by NRW, others have been devolved to DPIF, NRW or delegated local government (see EPA website for more information on devolved ERAs)

If you answered NO to Q20 you do not need to complete Qs 21-24.

If you answered YES to Q20 and the development is in a PA, your application must be assessed by the administering authority²¹ against the Wild Rivers Code and must comply with the code, unless the proposal is for development where an application will not be accepted, or is exempt from wild river requirements (see Q2). You will be able to determine if an application will not be accepted for the development by answering Q21 – Q24.

If you answered NO to Q21, you do not need to complete Q22. If you answered YES to Q21 you are required to complete Q22.

If you answered NO to Q22, the application will not be accepted. If you answered YES to Q22, the application must be assessed by NRW against the Wild Rivers Code and must comply with the code.

If you answered NO to Q23 and the development is proposed in the HPA the application will not be accepted. If you answered YES to Q23, the application must be assessed by the EPA or NRW (as prescribed in schedule 8A of the IPA) against the Wild Rivers Code and must comply with the code.

If you answered YES to Q24 the application will not be accepted. If you answered NO to Q24, your application must be assessed by NRW against the Wild Rivers Code and must comply with the code.

Exempt ERAs in a designated urban area

If the development is proposed in a designated urban area there may be no wild river requirements. See Section 2 Q2.

Note: All applications that can be accepted must be assessed against and must comply with the Wild Rivers Code (other than exempt ERAs in a designated urban area).

Documentation

If you answered NO to Q25, your application may be subject to an information request and processing of the application may be delayed.

20. Does the application involve an ERA?

☐ NO

☐ YES (ensure you have completed Part G of Form1)

21. Is the application for an ERA 20 instream?

☐ NO

☐ YES

22. Is a quarry allocation notice held for the proposed ERA 20 instream?

☐ NO

☐ YES

23. Does the application involve any of the following in a HPA?

i) a level 2 ERA 11, (and is for specified works or a residential complex)

ii) an ERA 19 (dredging)

iii) Low impact ERA 20 (out of stream) for specified works or a residential complex (as defined in the Wild Rivers Act 2005, and Environmental Protection Act 1994)

iv) an ERA 22 (out of stream)

☐ NO

☐ YES

24. Is the proposed development for ERA 20 (out of stream) and;

– in a FMA; and

– not low impact; and

– not for a residential complex in the area, or for specified works.

☐ NO

☐ YES

25. Has documentation been included with the application describing how the applicant proposes to comply with the mandatory requirements, required outcomes, and/ or performance requirements as set out in the relevant part/s of the Wild Rivers Code?

☐ NO

☐ YES

²¹ The administering authority may be either the EPA, or if devolved or delegated, the local government, DPIF or NRW.

SECTION 3 – BUILDING REFERRALS (completion not mandatory)

Below is a list of the referrals that can apply to an application for building work assessable against the *Building Regulation 2006*. This section of the IDAS Assessment Checklist is provided for **advice only**. This section of the IDAS Assessment Checklist is **not** required to be completed and lodged with an application for building work assessable against the *Building Regulation 2006* only.

Special fire services - generally For more information go to schedule 2 table 1 and schedule 2A of the <i>IP Regulation</i> . Assessment period 15 days. No response is a deemed refusal.	1. An application may trigger referral to Qld Fire and Rescue Services as an advice agency if the building work requires special fire services mentioned in schedule 2A part 1 of the <i>Integrated Planning Regulation 1998</i> (IP Regulation) or includes an alternative solution assessed against the performance requirements of the Building Code of Australia.
Fire safety for budget accommodation For more information go to schedule 2 of the <i>IP Regulation</i>	2. An application may trigger referral to Qld Fire and Rescue Services as an advice agency if the building work the subject of the application requires the installation of a fire safety system for a budget accommodation building.
Spray painting For more information go to schedule 2 of the <i>IP Regulation</i>	3. An application may trigger referral to the Department of Industrial Relations (DIR) as a concurrence agency if the application involves a workplace incorporating spray painting.
Retail meat premises For more information go to schedule 2 of the <i>IP Regulation</i>	4. An application may trigger referral to Safe Food Qld as a concurrence agency if the application involves a retail meat premises.
Private health facilities For more information go to schedule 2 of the <i>IP Regulation</i>	5. An application may trigger referral to the Department of Health as a concurrence agency if the application involves a private health facility.
Workplace area less than 2.3m² For more information go to schedule 2 of the <i>IP Regulation</i>	6. An application may trigger referral to the Department of Industrial Relations (DIR) as an advice agency if the application involves a work place area less than 2.3m ² .
Land contiguous to a State-controlled road For more information go to schedule 2 of the <i>IP Regulation</i>	7. An application may trigger referral to the Department of Main Roads as a concurrence agency or advice agency if the application involves land contiguous to a State-controlled road.
Pastoral workers accommodation For more information go to schedule 2 of the <i>IP Regulation</i>	8. An application may trigger referral to the Department of Industrial Relations (DIR) as a concurrence agency if the application involves pastoral workers accommodation.
Child care centre For more information go to schedule 2 of the <i>IP Regulation</i>	9. An application may trigger referral to the Department of Communities as a concurrence agency if the application involves a childcare centre.
Coastal development For more information go to schedule 2 of the <i>IP Regulation</i>	10. An application may trigger referral to the Environmental Protection Agency (EPA) as a concurrence agency if the application involves land completely or partly seaward of a coastal building line ²² .
Heritage For more information go to schedule 2 of the <i>IP Regulation</i>	11. An application may trigger referral to the Heritage Council as a concurrence agency if the application involves a heritage registered place.
Fisheries matters For more information go to schedule 2 of the <i>IP Regulation</i>	12. An application may trigger referral to the Department of Primary Industries and Fisheries (DPI&F) as a concurrence agency if the application involves assessable building work in a declared fish habitat area; or as an advice agency if the application involves assessable building work on land that adjoins a declared fish habitat area.
Integration of land use and public transport For more information go to schedule 2 of the <i>IP Regulation</i>	13. An application may trigger referral to Queensland Transport as a concurrence agency if the application involves existing or future public transport corridors, or airport operational airspace ²³ .
Railway safety and efficiency For more information go to schedule 2 of the <i>IP Regulation</i>	14. An application may trigger referral to Queensland Transport as a concurrence agency if the application involves future railway land.

NOTE: CONCURRENCE AGENCY ASSESSMENT PERIODS

The local government, as the concurrence agency, is required to assess and provide a response for the following building applications within a prescribed time. For applications relating to design and siting (17, 18 & 19), and building work for removal or rebuilding (23), the assessment period is 5 days. For all other applications the assessment period is 15 days. If no response is received from the local government for an application, it is taken to be a deemed refusal. However for amenity and aesthetics impact of particular building work for a single detached class 1a or class 10 building or structure (15), no response is taken to be a deemed approval.

Amenity and aesthetic impact of particular building work for single detached class 1 building or class 10 building or structure For more information go to schedule 2 table 1 of the <i>IP Regulation</i> . Assessment period 15 days. No response is a deemed approval.	15. An application will trigger a referral to the local government if it is : <ul style="list-style-type: none"> for a single detached class 1 building or class 10 structure; and the local government has declared by resolution the following: <ul style="list-style-type: none"> the appearance of the building or structure will have an extremely adverse impact on the amenity of the locality; and the appearance of the building or structure would be in extreme conflict with the character of the locality.
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²² Coastal building lines are prescribed under the *Coastal Protection and Management Act 1995*.

²³ Operational airspace is as defined in State Planning Policy 1/02 "Development in the Vicinity of Certain Airports and Aviation Facilities".

<p>Whether particular buildings may be occupied for residential purposes</p> <p>For more information go to schedule 2 table 1 of the IP Regulation.</p> <p>Assessment period 15 days. No response is a deemed refusal.</p>	<p>16. An application to use an existing building that is not class 1, 2, 3 or 4 for residential purposes may trigger a referral to the local government as the concurrence agency.</p>
<p>Design and siting</p> <p>For more information go to schedule 2 table 1 of the IP Regulation.</p> <p>Assessment period 5 days. No response is a deemed refusal.</p>	<p>17. An application may trigger referral to the local government as the concurrence agency if the building work does not comply with the performance criteria of parts 11 and 12 of the Queensland Development Code.</p> <p>18. An application may trigger referral to the local government as the concurrence agency if the building work does not comply with the qualitative statement for building clearance and site cover.</p> <p>19. An application may trigger referral to the local government as the concurrence agency if the building work does not comply with the qualitative statement for performance criteria 4, 5, 7, 8 or 9 of the Queensland Development Code, part 11 or 12.</p>
<p>Fire safety in particular budget accommodation buildings</p> <p>For more information go to schedule 2 table 1 of the IP Regulation.</p> <p>Assessment period 15 days. No response is a deemed refusal.</p>	<p>20. An application may trigger referral to the local government as the concurrence agency to determine the building will comply with the fire safety standard under the <i>Building Act 1975</i> when the building work has been completed.</p>
<p>Higher risk personal appearance services</p> <p>For more information go to schedule 2 table 1 of the IP Regulation and the QDC part 15.</p> <p>Assessment period 15 days. No response is a deemed refusal.</p>	<p>21. An application may trigger referral to the local government as the concurrence agency to determine if the building work</p> <ul style="list-style-type: none"> complies with the performance criteria of the Queensland Development code part 15; and the work does not comply with an acceptable solution stated in the part.
<p>Building work for residential service</p> <p>For more information go to schedule 2 table 1 of the IP Regulation and the QDC part 20.</p> <p>Assessment period 15 days. No response is a deemed refusal.</p>	<p>22. An application for building work for premises in which residential care service under the <i>Residential Services (Accreditation) Act 2002</i>, section 4, is conducted, or is proposed to be conducted, will trigger referral to the local government as the concurrence agency.</p>
<p>Building work for removal or rebuilding</p> <p>For more information go to schedule 2 table 1 of the IP Regulation.</p> <p>Assessment period 5 days. No response is a deemed refusal.</p>	<p>23. An application for the removal and/or rebuilding at another site of a building or other structure, will trigger referral to the local government as the concurrence agency.</p>
<p>Building work for rainwater tank in designated rainwater tank area</p> <p>For more information go to schedule 2 table 1 of the IP Regulation and the QDC part 25.</p> <p>Assessment period 15 days. No response is a deemed refusal.</p>	<p>24. An application may trigger referral to the local government as the concurrence agency to determine if the building work or structure complies with the relevant performance criteria if -</p> <ul style="list-style-type: none"> Under the <i>Building Regulation 2006</i>, a rainwater tank is proposed to be installed as part of relevant building work, in a designated rainwater tank area; and Under the Queensland Development Code, part 25, the rainwater tank does not include an acceptable solution for a relevant performance criteria.

CTPI 49-Sch4

LANDSCAPE ARCHITECT TOWN PLANNER

CTPI 49-Sch4

CTPI 49-Sch4

com.au

PO Box 6

4569 Cooran
QLD, Australia

18 September 2007

The Chief Executive Officer
Noosa Council
PO Box 141
Tewantin QLD 4565

Dear Sir,

Re: Development Application for Cooroy Lower Mill Domain

Please find attached a development application undertaken on behalf on Noosa Council and the Cooroy Lower Mill Site Board for the relocation of the Cooroora Woodworkers Club and the refurbishment of the Cooroy Lower Mill Boiler and Kiln for their workshops and ancillary activities.

This proposal will create a significant community woodworking node in Cooroy, particularly due to the existing Camphor Laurel Initiative already being located next door. It will also achieve refurbishment of the historically significant remaining remaining buildings on the site.

The development approval is a prerequisite for obtaining funding through the Regional Partners Program of the Australian Department of Transport and Regional Services.

The contact for the development application is Ian Haycroft, Project Officer with Council's Community Services Directorate. He can be contacted on 54 495103 or email at ihaycroft@noosa.qld.gov.au

Yours faithfully

CTPI 49-Sch4

CTPI 49-Sch4



Form 1 Development Application

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Common details

The completion of **all applicable questions** on Part A is **mandatory** for all applications. Part A must be accompanied by the completed IDAS Assessment Checklist if required, and by one (1) or more other completed parts of the Form as required. For more information on the parts of the Form refer to www.ipa.qld.gov.au. Any information requested in the form may be provided in an attachment to the application. For further information about completing the following details, refer to **Guide 1**.

Description of land

All land the subject of the application, must be identified. However, a description of the land is not required in relation to a mobile or temporary Environmentally Relevant Activity (ERA).

Advice for completing Q2 - Q2 applies if development is proposed within a water body or watercourse.

Advice for completing Q3 - Most land can be identified by a lot on plan description. These details can be obtained from title documents or through the local government.

However, if the land on which the development is proposed does **not** have a lot on plan description (i.e. the development is proposed in a water body or watercourse) provide -

- (i) the lot on plan description for the adjoining/adjacent land; or
- (ii) GPS coordinates where there is no adjoining/adjacent land (eg. in Moreton Bay).

Advice for completing Q7 - Q7 does **not** apply if the development is within a water body or watercourse.

Advice for completing Q8 - Q8 applies if development is within a local government area.

Note: Areas below high water mark are **not** within a local government's area unless provided for under the Local Government Act 1993.

Advice for completing Q9 - Q9 applies if development is on strategic port land or a strategic port land tidal area. For more details refer to **Guide 11**.

1. Street address: (including house number, street name, suburb/locality name & postcode) (if applicable)

Lower Mill Road and Marara Street Cooroy

2. Name of water body or watercourse, within which the development is proposed: (if applicable)

3. Lot on plan description (eg. Lot 123 on RP 4567) / GPS coordinates:

Lot 1 on CG 56021, Lot 1 on RP 87371 and Lot 5 on SP173771

4. The above description is for: (tick applicable box)

- ☒ (i) the land on which the development is proposed; or
☐ (ii) the land adjoining the water body or watercourse, within which the development is proposed; or
☐ (iii) the water body or watercourse.

5. Shop / tenancy number:

6. Storey / level:

7. Total area of land: (m² or ha):

8. Local government area in which the land is situated: (eg. Esk, Hervey Bay, Woocoo etc.) (if applicable)

Noosa

9. Port authority for the strategic port land or strategic port land tidal area on which the development is proposed: (eg. Port of Brisbane, Port of Townsville) (if applicable)

Proposal details

If there is insufficient room available, details may be provided in an attachment to the application.

10. Existing use of the land: (eg. vacant, single house, shop etc.)

Vacant, woodworking activities

11. Proposed use of the land: (eg. 6 unit apartment building, 30 lot residential subdivision, ERA for aquaculture in ponds with a total area of 7 ha for which wastes are released into waters etc).

Woodworkers clubhouse and workshops

Other applicable parts of Form 1

Part A must **always** be accompanied by other completed parts of Form 1. For information about when a part of Form 1 may apply refer to **Guide 1**.

12. Other parts of Form 1 completed as part of this application: (eg. Part D, Part I, etc)

Parts D, E, F

Applicant details

Clearly identify who is making the application. The applicant need **not** be the owner of the land.

When signing and lodging this application

The applicant is responsible for ensuring the information provided is correct. The assessment manager, any referral agency & the Chief Executive (where applicable) will rely on this information when assessing and deciding the application.

If the applicant is a company - a contact person must be shown.

13. Applicant's name:

Noosa Council

15. Contact person:

Ian Haycroft

14. Contact number:

54495103

16. Facsimile number/e-mail address:

ihaycroft@noosa.qld.gov.au

17. Postal address:

PO Box 141 Tewantin Q 4565

18. Signature:

CTPI 49-S

CTPI 49-Sch4

CTPI 49-Sch

19. Date:

18 9 07



Land owner's consent (if applicable)

Section 3.2.1(3) of the IPA prescribes that an application must contain, or be supported by, the written consent of the land owner/s. If the application involves:

- (i) a material change of use;
- (ii) reconfiguration of a lot;
- (iii) work on land below high-water mark & not within a canal as defined under the *Coastal Protection and Management Act 1995*; or
- (iv) work on rail corridor land defined under the *Transport Infrastructure Act 1994*.

Section 3.8.1(2)(a) of the IPA provides that landowner's consent is **not** required for a **mobile or temporary ERA**.

For more information refer to Guide 1.

20. Land owner's consent to the making of this application:

Name	CTPI 49-Sch4	Date
(i) Noosa Council		18/9/07
(ii)		
(iii)		
(iv)		
(v)		

Resource entitlement (if applicable)

Section 3.2.1(5) of the IPA requires evidence of resource entitlement be given for applications that involve a prescribed State resource.

Section 3.2.1(10)(a)(ii) of the IPA prescribes that an application **cannot** be taken to be properly made without evidence of the resource entitlement.

Advice for completing Q21 & 22

Refer to schedule 10 of the *Integrated Planning Regulation 1998* that prescribes the nature of evidence required by the State in support of the lodging of this development application.

Advice for completing Q23

The information in (i) – (v) is mandatory if evidence is required under Q22 (ii) or (iii) above.

The official stamp of the Department of Natural Resources, Mines and Water is mandatory where the application involves any water or riverine quarry material under the *Water Act 2000*.

Section 3.2.1(5A) allows the resource manager to limit the time the evidence may be used. Q23 (vi) must be completed if the evidence is time limited.

21. Does this application involve a State resource prescribed under a regulation (other than involving quarry material on State coastal land under the *Coastal Protection and Management Act 1995*)?

☒ NO - go to Q24

☐ YES - go to Q22

22. This application is accompanied by evidence: (tick applicable box)

- ☐ (i) of the **allocation** of, or entitlement to, the resource – attach evidence and go to Q23(vi)
- ☐ (ii) the chief executive of the department administering the resource is satisfied the development **is consistent with an allocation** of, or entitlement to, the resource – go to Q23
- ☐ (iii) the chief executive of the department administering the resource is satisfied the development application **may proceed in the absence of an allocation** of, or entitlement to, the resource – go to Q23

23. Evidence of the resource entitlement:

- (i) Resource entitlement / authority details

- (ii) Name of delegated officer

- (iii) Position of delegated officer

- (iv) Signature of delegated officer

- (v) Date

- (vi) Expiry date of evidence (if applicable)

(vii) Official stamp of the department administering the resource (if applicable)

Assessment triggers

This checklist does **not** apply if the application requires the completion of Parts A and B of the Form **only**. It must be completed for all other applications.

24. Is the IDAS Assessment Checklist completed and attached to this application?

☒ YES

☐ NO – the assessment manager may refuse to accept this application on the grounds that the application has not been properly made

Plans / drawings / reports

An application should be accompanied by details to support the proposal & enable the assessment manager, referral agencies and any person viewing the application during public scrutiny or public notification to understand the scope of the proposal and any potential impact.

25. Plans/drawings/reports accompanying this application:

Plan / Drawing / Report Number	Title	Date
(i) Rev02	Cooroy Lower Mill Development Application	12 September 2007
(ii)		
(iii)		
(iv)		

PLEASE NOTE: The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information required by Part A and any other relevant part of Form 1.

OFFICE USE ONLY (applicable to assessment manager's)

FEE (\$)	DATE RECEIVED	RECEIVING OFFICER'S NAME/S	REFERENCE NUMBER/S
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Notification of Engagement of Private Certifier (Optional format)

To _____ Council. I have been engaged as the private certifier for the building work referred to in this application.

Date of engagement: / / Accreditation Number: _____ Name: _____ Signature: _____

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Form 1 Development Application

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Material change of use

assessable against a local government's planning scheme

PART D

Completion of **all applicable questions** on Part D is **mandatory** for all applications involving assessment of a material change of use (MCU) assessable against a local governments planning scheme.

Nature of the application A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.	1. This application is for: (tick 1 or both if applicable) ☐ Preliminary approval for a material change of use of premises including conceptual design for any associated works that require approval under the planning scheme (i.e. consideration of the proposal concept) AND / OR ☒ Development permit for a material change of use of premises including conceptual design for any associated works that require approval under the planning scheme.
The subject land For the definition of "gross floor area" go to the planning scheme against which the application will be assessed.	2. How the subject land is identified in the planning scheme (name the zone, precinct etc.) <div>Cooroy Lake MacDonald Locality, Community Service and Industry Zone</div> 3. Existing gross floor area: (if applicable) <div>252</div> 4. Are there any existing easements on the land? ☐ NO ☒ YES – attach plans of the location and details of the purpose of the easement
Material change of use details	5. Details of the change to the use of the land: (eg. vacant land to shopping centre, house to apartment building, vacant land to industry (tyre manufacturing) etc.) <div>Woodworkers Cottage (meeting room) and associated workshops</div> 6. Number of employees: <div>Nil - Volunteers</div> 7. Operating days and hours: <div>Varied - as determined by volunteers</div>
Associated building works details (if applicable) For the definition of "site cover", "gross floor area" and "storey" go to the planning scheme against which the application will be assessed.	8. Site cover: <div>>5%</div> 9. Gross floor area: <div>396</div> 10. Number of on-site car parking spaces: <div>10</div> 11. Number of storeys / maximum height above natural ground: <div>1</div> 12. Number of employees <div>Nil Volunteers</div> 13. Hours and days the use will operate <div>Varied - As determined by volunteers</div>
Associated operational works details (if applicable)	14. Details of associated operational works (eg. landscaping, cut and fill, drainage, road works etc.) <div>carparking and landscaping</div>

PLEASE NOTE

This application **cannot** be accepted unless accompanied by Part A of Form 1.

The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information requested by Part A and any other relevant part of Form 1.

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DATE RECEIVED

REFERENCE
NUMBER/S

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Form 1 Development Application

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Operational &/or building work

assessable against a local government's planning scheme

PART E

Completion of **all question** on Part E is **mandatory** for all applications involving the assessment of operational work and/or building work assessable against a local government's planning scheme (including detailed engineering plans and other plans, detailed engineering plans for subdivisional works and conceptual design plans for engineering & building work when the application does not involve assessment of a material change of use of premises at the same time).

Nature of the works

The types of work that are assessable against a planning scheme are determined by the scheme for a particular local government and will vary across the State.

To determine the types of work that are assessable under a particular planning scheme, contact the relevant local government.

The information in Q2 is necessary for statistical and planning purposes.

1. The application is seeking approval of (tick one (1) or both if applicable):
 - ☒ **Building work** assessable against a planning scheme - provide details of the aspects of building work (e.g. building height greater than 8.5m; building work on high landslip risk area)
 - Demolition / removal of Cooroora Woodworkers buildings
 - ☐ **Operational work** assessable against a planning scheme - provide details of the nature of the operational work (e.g. roadworks; landscaping; drainage works; stormwater; water infrastructure; sewerage infrastructure; earthworks; clearing vegetation; signage)
2. Is the application for operational work involving the creation of new lots?
 - ☒ NO ☐ YES - specify number of new lots to be created below
3. Does the proposal involve the construction of a canal that is associated with reconfiguring a lot?
 - ☒ NO ☐ YES

Nature of the application

A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.

4. This application is for: (tick one (1) or both if applicable)
 - ☒ **Preliminary approval** - provide details of the type of work eg. roadwork, stormwater, water and sewerage infrastructure, etc
 - Demolition / removal of Cooroora Woodworkers buildings
 - ☐ **Development permit** - provide details of the type of work eg. roadwork, stormwater, water and sewerage infrastructure, etc
5. Are the works subsequent to a previous development permit or preliminary approval?
 - ☒ NO ☐ YES - provide details of all previous approvals

List of approval reference/s	Date approved	Date approval lapses
	/ /	/ /
6. Is payment of a Portable Long Service Leave (PLSL) levy applicable to the proposal?
 - ☐ YES - complete Q7
 - ☒ NO - Q7, 8 & 9 do not apply
7. Has the PLSL levy been paid?
 - ☐ YES - complete Q8
 - ☒ NO - the applicable levy **must** be paid before a development permit can be given for the works
8. How much was paid?
9. What is the receipt number of the payment?

Portable Long Service Leave levy (if applicable)

Prior to issuing a development permit for the works, the assessment manager is required by law to "sight" an approved form, issued by Qleave, which signifies that the PLSL levy has been paid.

For further information refer to <http://www.qleave.qld.gov.au>

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PLEASE NOTE

This application **cannot** be accepted unless accompanied by Part A of Form 1.
The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information requested by Part A and any other relevant part of Form 1.

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DATE RECEIVED	REFERENCE NUMBER/S
<p>(i) Is a PLSL levy applicable in this instance? ☐ NO ☐ YES - <i>complete Q(ii)</i></p> <p>(ii) Has the approved form (<i>issued by QLeave and which signifies that the PLSL levy has been paid</i>) been sighted by the assessment manager / private certifier at the time of lodgement of this application?</p> <p>☐ NO ☐ YES – <i>provide receipt details</i> _____</p>	

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Reconfiguring a lot

PART F

Completion of **all applicable questions** on Part F is **mandatory** for all applications involving the reconfiguring of a lot (including freehold subdivision, community title subdivision, subdivision by lease, etc.).

Nature of the application

A development permit authorises development to occur, while a preliminary approval is a step in the approval process and does not authorise development to occur.

1. This application is for: (tick one (1) or both if applicable)

☒ **Development permit** - provide details below eg. stage 1: freehold subdivision of 25 lots, realignment of a boundary, creation of an access easement)

Boundary alteration between two lots and extinguishment of easement

AND / OR

☐ **Preliminary approval** - provide details below eg. stages 2, 3 and 4: freehold subdivision of 75 lots, realignment of a boundary, creation of an access easement)

The subject land

The information requested in Q2 & 3 is necessary for statistical and planning purposes.

2. Number of existing lots: 2

3. Total area of land in application: (if staged, total area of the land in this stage)

Lot 1 - 2706M2 and Lot 5 - 7236M2 Total 9942m2

4. How the subject land is identified in the planning scheme: (name the zone, precinct etc.)

Community Service Zone and Industry Zone

5. Current use of the land: (if vacant, also identify the previous use)

Vacant and industry

6. Are there buildings or structures existing on the land?

☐ NO

☒ YES - complete Q 7

7. Indicate which one of the following circumstances applies:

☐ **All** existing buildings and structures on the land will be **demolished** as part of the development / redevelopment of the site; or

☒ **Some** existing buildings and structures on the land are proposed to be **retained** as part of the development / redevelopment of the site - indicate on the plans prepared in response to Question 6 above, those buildings or structures proposed to be retained

8. Existing services on the land: (eg. water & sewerage) - attach plan identifying location if appropriate)

water, sewage, telephone and electricity if available

9. Are there any existing easements over the land?

☐ NO

☒ YES - attach plan identifying easement location & purpose

The proposal

The information requested in Q10-13 is necessary for statistical and planning purposes.

10. Total area of land in the development permit minus any balance area

9942 m2

11. Number of proposed lots:

2

12. Number of additional **residential** lots proposed in development permit: (if applicable)

nil

R

13. Estate name & stage number: *(applicable if the application is for a stage or stages of an overall subdivision proposal)*
-
14. Area of land to be contributed for community purposes: *(if applicable)*
Land is already all in community ownership
15. Length of new road to be constructed: *(if applicable)*
nil

PLEASE NOTE

This application **cannot** be accepted unless accompanied by Part A of Form 1.

The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information requested by Part A and any other relevant part of Form 1.

OFFICE USE ONLY *(applicable to assessment manager)*

DATE RECEIVED	REFERENCE NUMBER/S
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Clearing native vegetation

PART J

Completion of **all applicable questions** on Part J is **mandatory** for all applications involving assessment against the *Vegetation Management Act 1999* (VMA) for the clearing of vegetation.

Part J does **not** apply to vegetation clearing assessable against a Council's planning scheme or local law. Where the clearing is assessable against the planning scheme, Part E of the form applies.

For further information about vegetation clearing under the VMA refer to **Guide 12 Vegetation clearing made assessable under schedule 8 of the IPA**.

Nature of application

Operational work: clearing of native vegetation is regulated under the VMA.

Schedule 8 of the IPA makes the clearing of vegetation to which the VMA applies assessable development.

However, the clearing of native vegetation in certain circumstances is exempt development under Schedule 8 of the IPA.

Exempt development includes, for example, clearing to the extent necessary to build a single residence on a lot and any reasonably associated building or structure, if the building of the residence has been approved under the IPA; and clearing that is for *essential management* or *routine management* as defined in Schedule 10 of the IPA.

Material change of use (MCU): an MCU application that meets the referral triggers in Q1(b) must be referred to NRMW for concurrence assessment, using this form.

Reconfiguration of a lot (RaL): a RaL that meets the referral triggers in Q1(c) must be referred to NRMW for concurrence assessment, using this form.

1. This application is for: (tick applicable box) -

- ☐ (a) **operational work** for the clearing of vegetation where the clearing is made assessable under Schedule 8 of the IPA – complete Q2, 3, 4, 5 & 6
- ☒ (b) **a material change of use** if – complete Q7 only
- (i) the lot contains –
- a. a category 1, 2 or 3 area shown on a property map of assessable vegetation; or
- b. if there is no property map of assessable vegetation for the lot - remnant vegetation; and
- (ii) the existing use is a rural or environmental use; and
- (iii) the size of the land is 2 hectares or larger.
- ☒ (c) **reconfiguration of a lot** if – complete Q7 only
- (i) the lot contains –
- a. a category 1, 2 or 3 area shown on a property map of assessable vegetation; or
- b. if there is no property map of assessable vegetation for the lot – remnant vegetation; and
- (ii) the size of the lot before the reconfiguration is 2 hectares or larger; and
- (iii) 2 or more lots are created; and
- (iv) the size of any lot created is 25 hectares or smaller.

Type of clearing

Q2 and 3 only apply if the application is for operational work for the clearing of vegetation as identified in Q1(a) above.

2. The type of vegetation clearing (i.e. clearing for a "relevant purpose") proposed by this application is: (tick applicable box(es) -

- ☐ (i) under a project declared to be a significant project under the *State Development and Public Works Organisation Act 1971*, section 26;
- ☐ (ii) necessary to control non-native plants and declared pests;
- ☐ (iii) to ensure public safety;
- ☐ (iv) for establishing a necessary fence, firebreak, road or other built infrastructure, if there is no suitable alternative site for the fence, firebreak, road or infrastructure;
- ☐ (v) as the natural and ordinary consequence of other assessable development for which a development approval as defined under the *Integrated Planning Act 1997* (IPA) was given, or a development application as defined under the IPA was made before 16 May 2003;
- ☐ (vi) for fodder harvesting;
- ☐ (vii) for thinning;
- ☐ (viii) for clearing of encroachment;
- ☐ (ix) for an extractive industry;
- ☐ (x) for clearing regrowth on leases issued under the *Land Act 1994* for agriculture and grazing purposes.

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Type of clearing (cont)

Q3 only applies if the application is for operational work for the clearing of vegetation as identified in Q1(a) above.

Section 22A(1) of the VMA provides that, if a vegetation clearing application is not for a relevant purpose the application is taken not to be a properly made application and the assessment manager must refuse to receive the application.

An application is for a relevant purpose if the chief executive of NRMW is satisfied the proposed clearing is a relevant purpose. *Relevant purposes* are prescribed under section 22A(2) of the VMA.

Advice for completing Q3

Confirmation from the chief executive NRMW or delegate that the application is for a relevant purpose is required for all vegetation clearing applications.

Submissions seeking confirmation from the chief executive NRMW or delegate must include information that demonstrates how the proposed clearing is for a relevant purpose.

Submissions are accepted at all NRMW Service Centres and will be forwarded to the nearest Vegetation Services office.

3. Is this application accompanied by confirmation that the chief executive of NRMW is satisfied the vegetation clearing application is for the relevant purpose/s identified in question 2?

☐ YES

☐ NO

Confirmation is provided by either: (tick applicable box):

☐ A letter of confirmation from the chief executive of NRMW, or delegate, is attached to this application;

OR

☐ The applicant requests that the chief executive of NRMW or delegate, considers whether the vegetation clearing application is for the relevant purpose identified in question 2 and completes the section below:

Name of Delegated Officer

Position of Delegated Officer

Signature of Delegated Officer

Date

/ /

Note: If confirmation is not provided, this application is not a properly made application.

Property vegetation management plan (PVMP)

A property vegetation management plan (PVMP) **must** accompany all vegetation clearing applications and must contain **all** the information identified in Q5 & 6.

The PVMP is to refer to the vegetation identified in Q1 above.

The PVMP may also include any other information the applicant considers will assist in the assessment of the application.

For an application for operational work, the relevant code is the regional vegetation management code applying to the area of the application.

It is not a requirement for a PVMP to be provided with an MCU and/or RaL application that is referred to NRMW for the assessment of clearing.

4. Is a PVMP attached to this application?

☐ YES

☐ NO – a PVMP must accompany all applications for vegetation clearing

5. The PVMP accompanying this application addresses the following matters: (tick if applicable)

☐ (i) the location and extent of the area proposed to be cleared – complete Q6;

☐ (ii) the purpose of the clearing;

☐ (iii) details of the way the proposed clearing meets the performance requirements of the relevant code or policy for the area.

6. The location and extent of the area proposed to be cleared in this application is shown by –

☐ (a) a map showing –

☐ (i) the boundary of the area on an image base; and

☐ (ii) five (5) or more points visible in the image base that correspond to identifiable fixed features; and

☐ (iii) the *Map Grid of Australia 1994* coordinates and zone references for each point, acquired by GPS or similar system of satellites that receives and processes information; and

☐ (iv) a description of the feature that each point represents;

OR

☐ (b) a description of the boundary of the area by reference to *Map Grid of Australia 1994* coordinates and zone references for the area.

Clearing as a result of a MCU or RaL

Q7 only applies to MCU and RaL applications.

This information is required for all MCU and RaL applications.

For a MCU application the relevant policy is the NRMW policy for assessing material change of use applications.

For a RaL application the relevant policy is the NRMW policy for assessing reconfiguration of a lot applications.

Note: Clearing as part of and as a consequence of the MCU/RaL includes:

- (a) clearing of assessable vegetation that will be approved or authorised by the MCU/RaL approval;
- (b) additional clearing under exemptions that would apply as a result of the approval; and
- (c) clearing that will be necessary to accommodate the proposed use and development of the premises.

Where clearing of remnant vegetation is not identified in the application, any future clearing of the remnant vegetation will require a separate approval.

7. Confirm by ticking the applicable box(es), that the following details are provided in plans and written information supporting the application:

- ☒ (i) Details of how the application meets the performance requirements of the NRMW concurrence agency policy for Material Change of Use (MCU) and/or the NRMW concurrence agency policy for Reconfiguration of a Lot (RaL).
- ☒ (ii) The location and extent of:
 - all infrastructure associated with the development, including proposed building envelopes and underground or above ground services;
 - all proposed allotment boundaries;
 - all proposed roads, easements, vehicle and pedestrian access and parking;
 - any proposed clearing or consequential clearing that will result from the development including firebreaks and fire management lines, excavations and stockpiling of soil and clearing that will be necessary in order maintain the infrastructure proposed, following its construction.

Please note: A copy of the original MCU and/or RaL application and Acknowledgement Notice must be provided when referred to NRMW.

PLEASE NOTE: PART J of Form 1 cannot be accepted by the assessment manager unless accompanied by PART A. The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information requested by Part A and any other relevant part of Form 1.

OFFICE USE ONLY (applicable to assessment manager)

DATE RECEIVED	REFERENCE NUMBER/S
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Form 1 Development Application

idas

Contaminated land

PART N

Completion of **all questions** on Part N is **mandatory** for all applications involving assessment against the *Environmental Protection Act 1994* when development is proposed on contaminated or potentially contaminated land.

For further information refer to **Guide 5 Contaminated land matters** available free from www.ipa.qld.gov.au or the Environmental Protection Agency's (EPA's) information sheets available free from www.epa.qld.gov.au under Ecoaccess/ business and industry. Alternatively, contact the local government.

Nature of the application

Exemptions may apply to your proposal. Refer to **Guide 5 Contaminated land matters** for advice regarding development that is exempt from this assessable development trigger.

1. This application is for: (Tick one (1) or both if applicable)

Aspect of development	Type of approval being sought	
☒ Material change of use	☐ Preliminary approval	☐ Development permit
☒ Reconfiguring a lot	☐ Preliminary approval	☐ Development permit

2. Does this application require assessment against a planning scheme?

☐ NO ☒ YES – complete other relevant parts of the IDAS Application Form 1

The subject land

3. Has an Environmental Management Register (EMR) and/or Contaminated Land Register (CLR) search been conducted for the land the subject of the application?

☒ NO ☐ YES – attach results of the search and complete Q4

4. All or part of the land the subject of the application is:

- ☒ (i) on the EMR or the CLR under the *Environmental Protection Act 1994*;
- ☐ (ii) used for, or if the land is vacant, was last used for-
- ☐ (a) a notifiable activity
- ☐ (b) an industrial activity and the proposed use is for a child care centre, educational, recreational or residential purpose (including a caretaker residence on industrial land);
- ☐ (iii) in an area for which an area management advice has been given for natural mineralisation or industrial activity and the proposed use is for child care, educational, recreational or residential purpose (including a caretaker residence on industrial land);
- ☐ (iv) in an area for which an area management advice has been given for unexploded ordnance.

REFER TO
SUPPORTING REPORT
SECTION 5.3
Page 18

Plans and documents

For further information about preparing a proposal report, refer to **Guide 7 Preparing a proposal report**.

5. Confirm, by ticking the applicable box(es), that the following details are provided in plans and written information supporting this application:

- ☐ (i) plans showing where any Notifiable Activity, Hazardous Contaminant, or potentially contaminated activity / activities have occurred on site;
- ☐ (ii) if the application involves a material change of use from an industrial use to a more sensitive use (eg. child care, educational, recreational or residential purposes), supply a detailed site history outlining previous potentially contaminated uses on the site

PLEASE NOTE

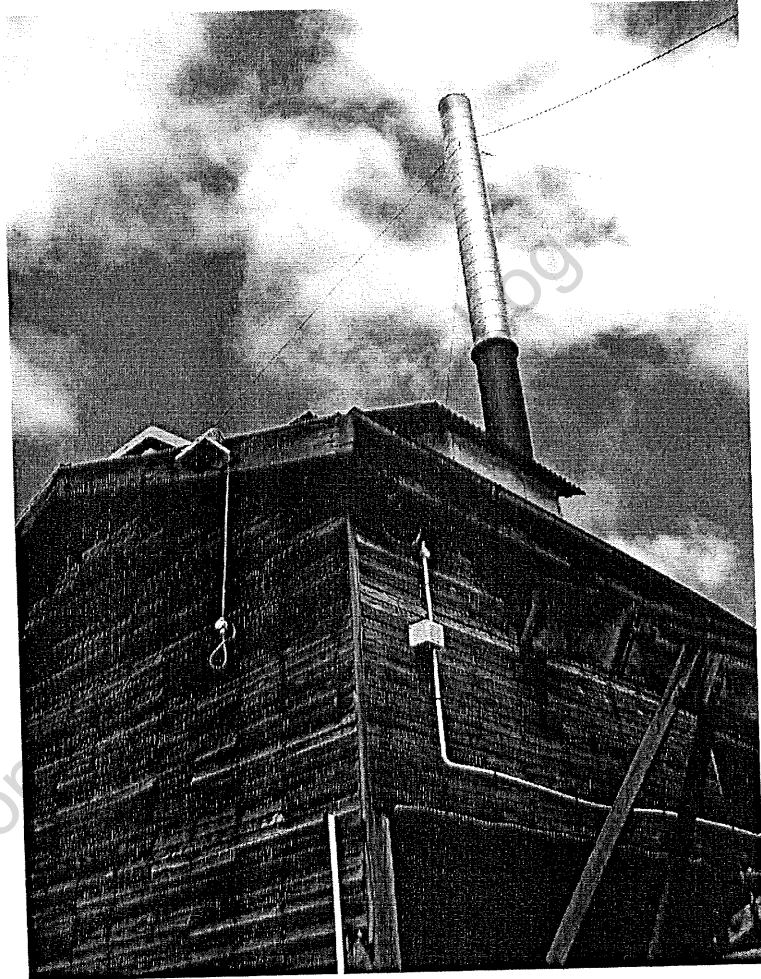
PART N of Form 1 **cannot** be accepted by the assessment manager unless accompanied by PART A of Form 1.

The assessment manager may refuse to accept an application that, at the time of lodgement, fails to provide all applicable information requested by Part A and any other relevant part of Form 1.

OFFICE USE ONLY (applicable to assessment manager)

DATE RECEIVED	REFERENCE NUMBER/S
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Cooroy Lower Mill Domain

Development Application

Rev03 18 September 2007 for Submission

R

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Appendix A: Flooding Assessment

Report prepared for applicant by:

CTPI 49-Sch4

LANDSCAPE ARCHITECT TOWN PLANNER

CTPI 49-Sch4

PO Box 6
4569 Cooran
QLD, Australia

1.0 Proposal

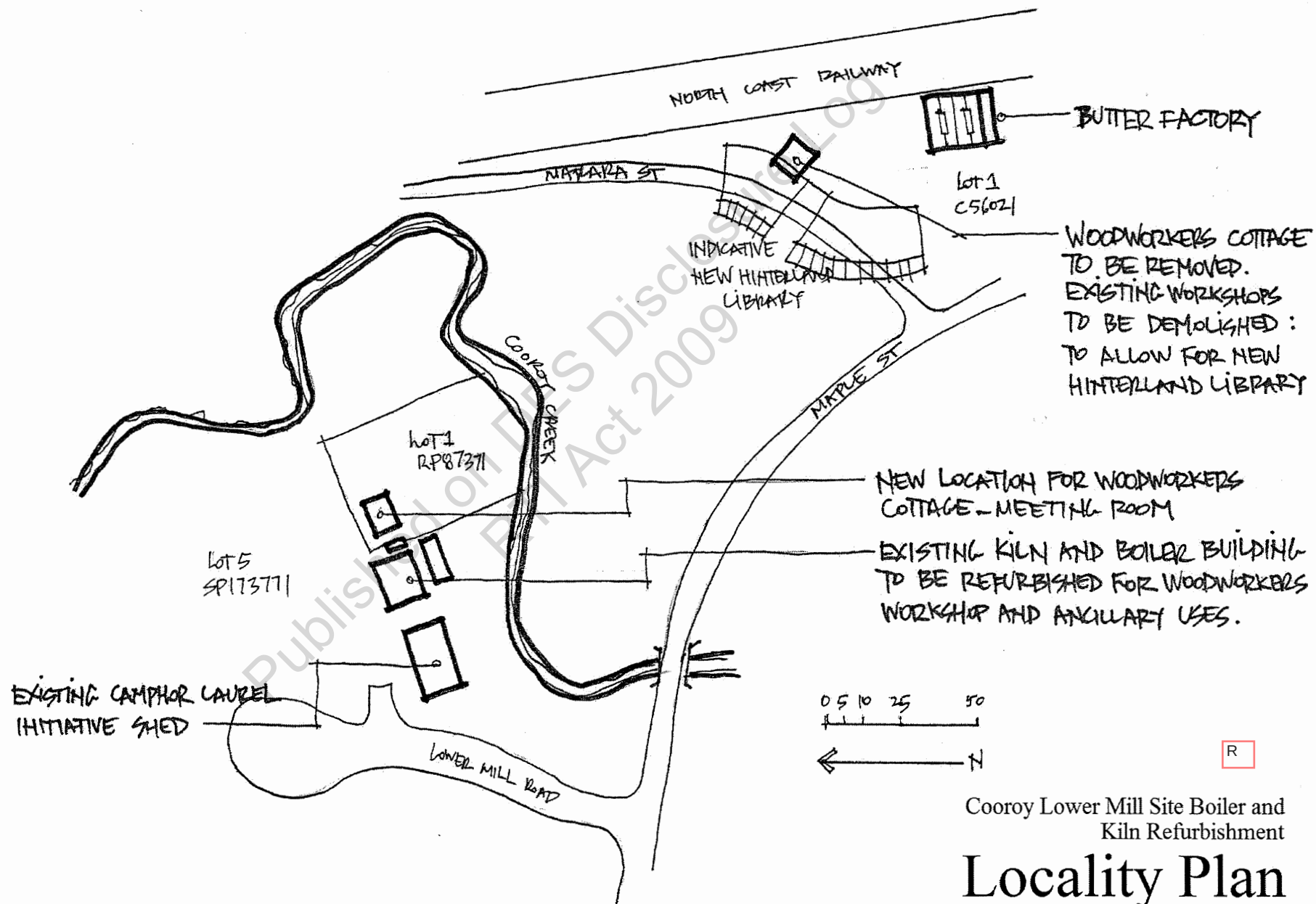
The proposal is to create a cluster of woodworking activity on the former Cooroy Lower Mill Site on Lower Mill Road, Cooroy by:

- relocating of the Cooroora Woodworkers Cottage from its location near to the Cooroy Butter Factory to adjacent to the Kiln – continuing its current use as club meeting rooms.
- refurbishing the Cooroy Lower Mill Boiler and Kiln for industrial type use by the Cooroora Woodworkers
- Undertaking a boundary alteration to provide a more orderly and logical lot layout

The site is now known as the Cooroy Lower Mill Domain. The plans on the following pages show the proposals.

The relationship of the land parcels to the development application and assessment provisions of the Noosa Plan is as follows:

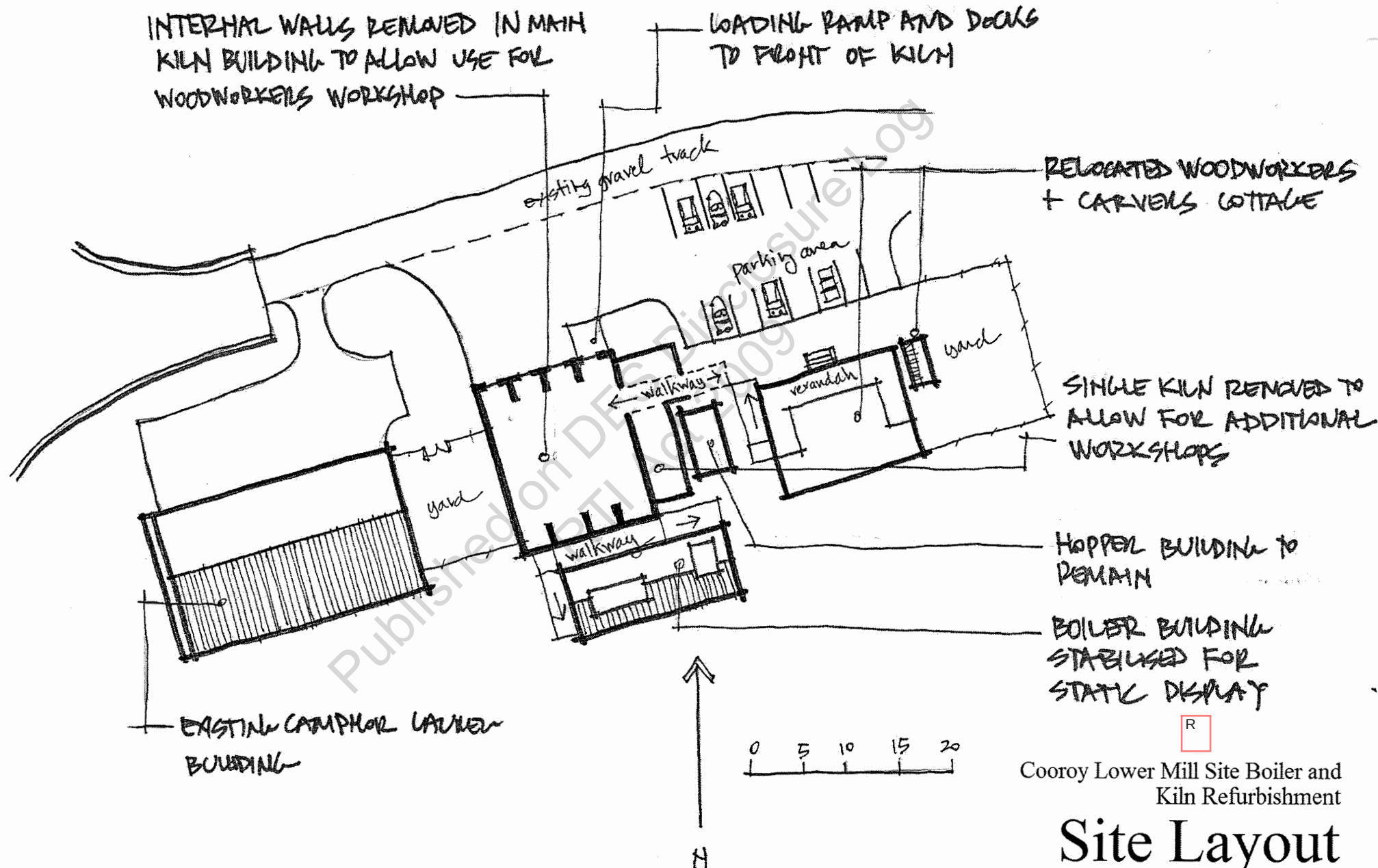
Parcel of land	Zone	Component of Development Application	Assessable Development
Lot 1 on CG 56021, Maple St Cooroy	<i>Community Service Zone</i>	Cooroora Woodworkers Cottage and Carvers Cottage is to be relocated from this site and workshop sheds removed / demolished	Carrying out <i>building work</i> for demolition, relocation or removal of a building in a <i>Character Area or Heritage Site</i>
Lot 1 RP 87371, Marara St Cooroy	<i>Community Service Zone</i>	Land on which Cooroora Woodworkers and Carvers Cottages are to be relocated to.	<i>Material Change of Use for Well Being Type 2: Social</i>
Lot 5 on SP 173771, Lower Mill Rd Cooroy	<i>Industry Zone</i>	Refurbishment of boiler and kiln for use by Woodworkers as their workshop and ancillary activities	<i>Material Change of Use for Industrial Business – Type 2</i>
Lot 1 on 87371 and Lot 5 on 173771 and extinguish Easement A on Lot 5 on RP 87371	<i>Industry and Community Service Zones</i>	Boundary Alteration to provide for more orderly lot layout	<i>Lot reconfiguration (boundary alteration)</i>



Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Locality Plan

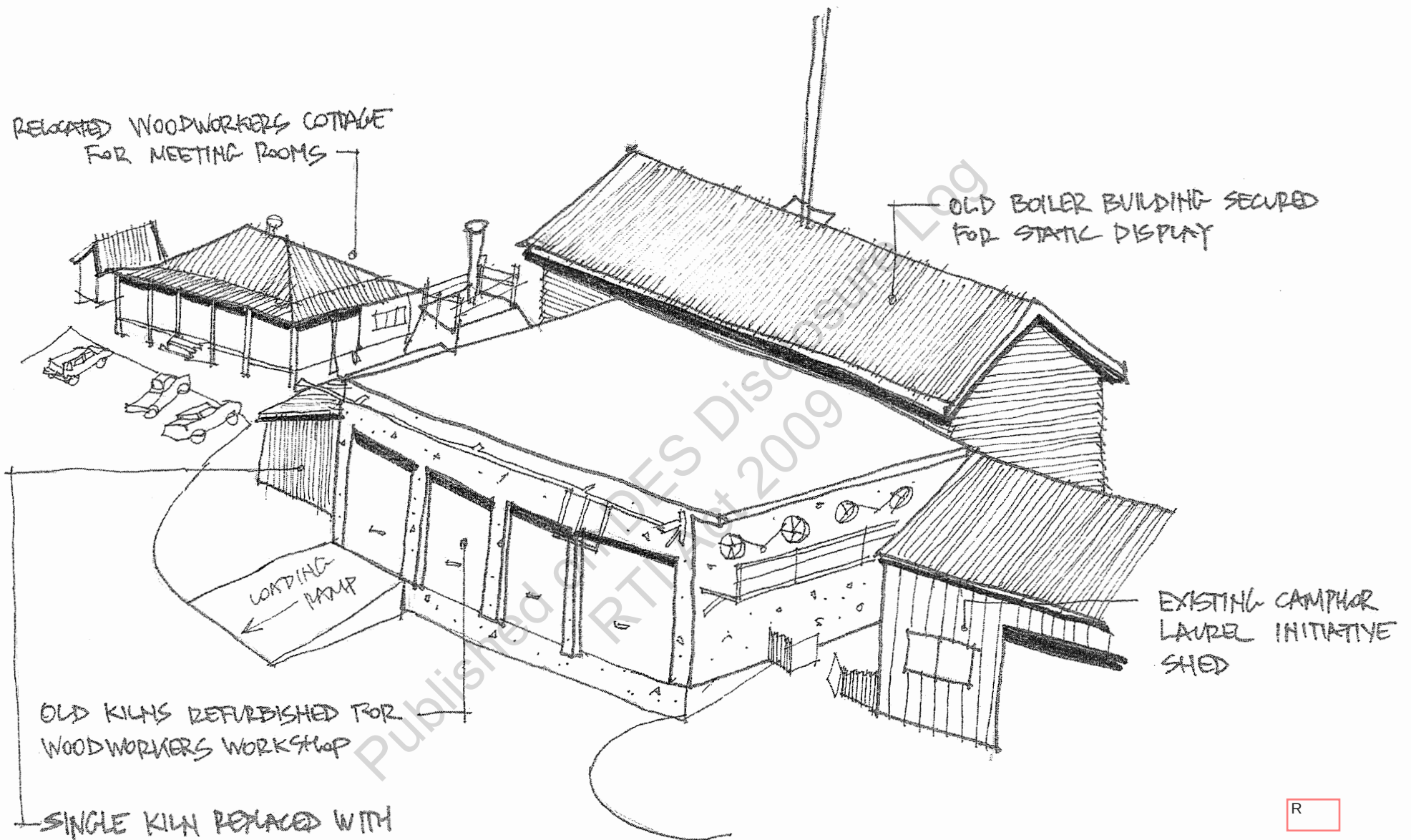
Plan 1/8 18 September 2007
Page 110 of 509



Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Site Layout

Plan 2/8 18 September 2007



R

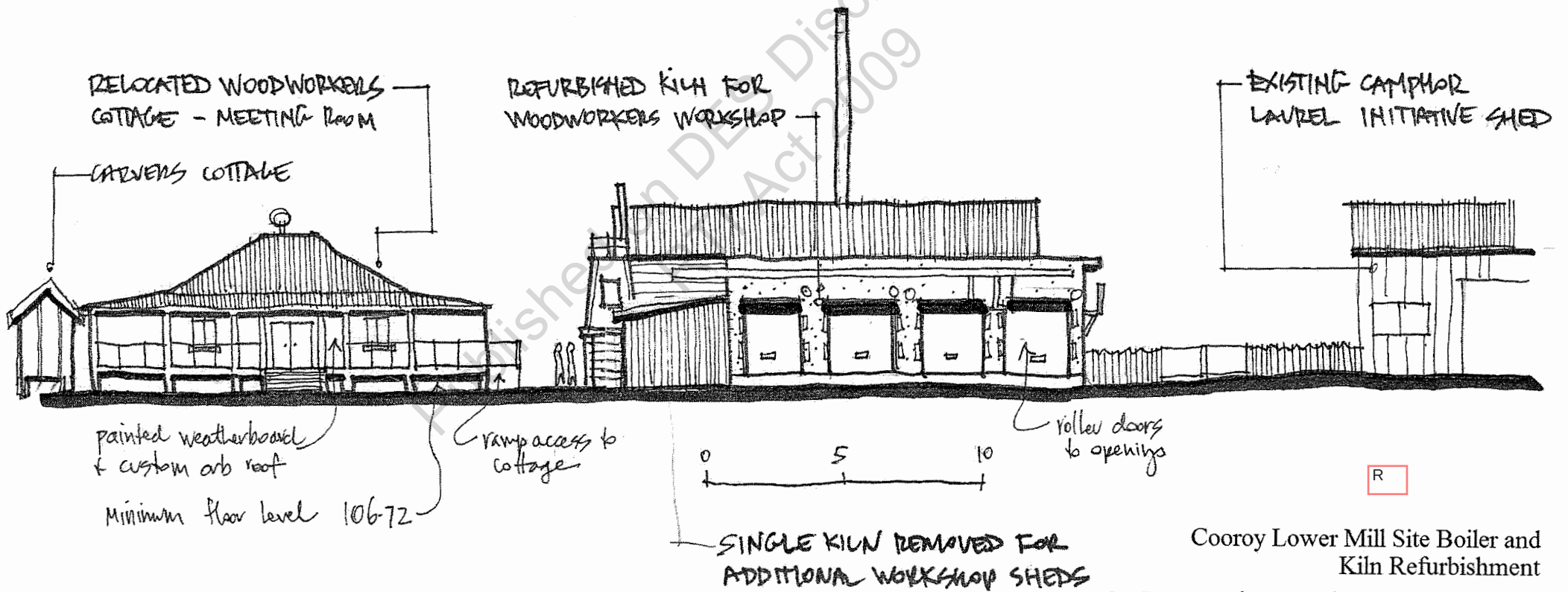
Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Perspective

Plan 3/ 8

18 September 2007

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Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

North Elevation

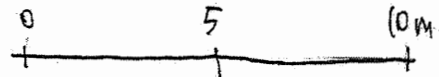
Plan 4/ 8 18 September 2007
Page 113 of 509

EXISTING CAMPHOR
LAUREL INITIATIVE SHED

BOILER BUILDING SECURED
FOR STATIC DISPLAY

RELOCATED WOODWORKERS
COTTAGE - MEETING ROOM

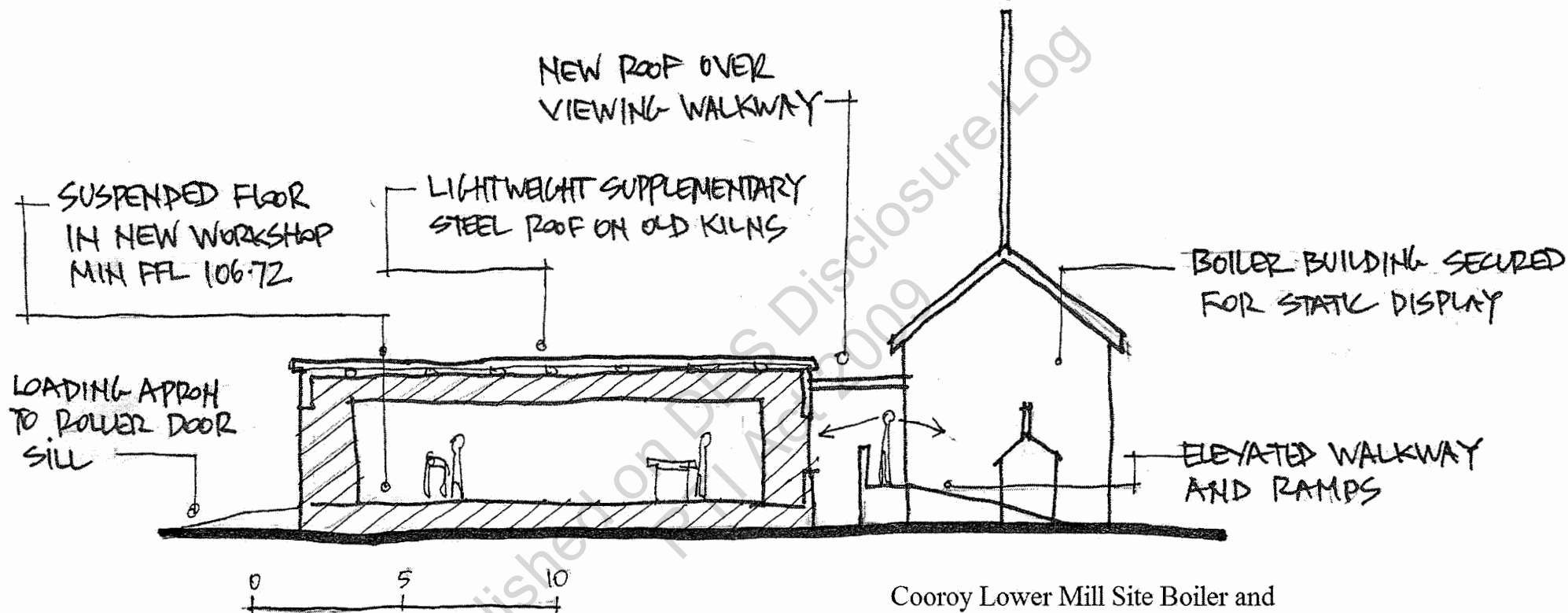
CARPENERS COTTAGE



Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

South Elevation

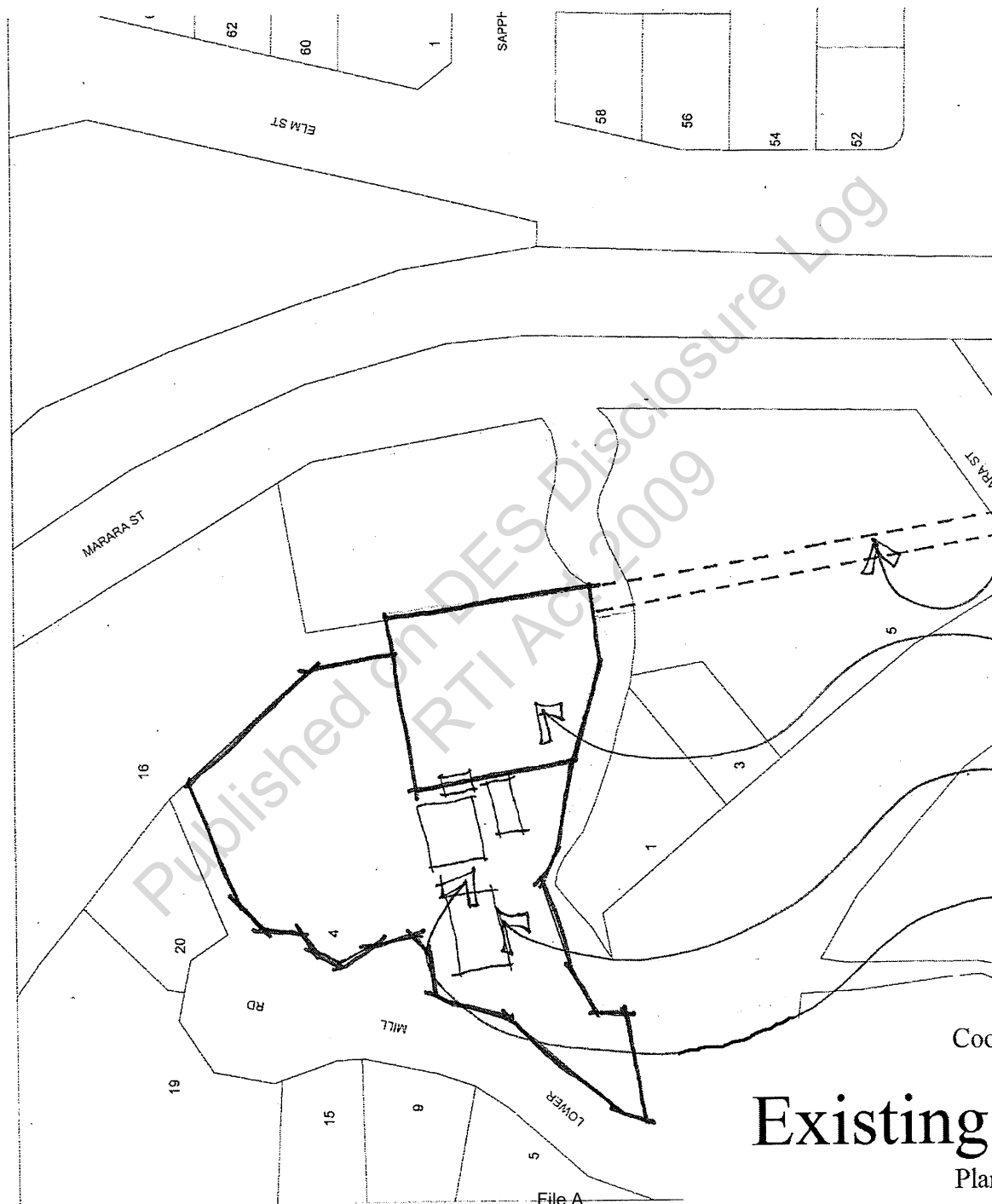
Plan 5 / 8 18 September 2007



Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Section North - South

Plan 6 / 8 18 September 2007



EXISTING EASEMENT A
RP 87371

EXISTING LOT 1
RP 87371

EXISTING LOTS
SP 173771

EXISTING BOILER AND
KILN BUILDINGS

R

Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Existing Boundaries

Plan 7 / 8

18 September 2007

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NEW LOT 1
BOUNDARY

NEW LOT 5
BOUNDARY

EXISTING BUILDINGS

R

Cooroy Lower Mill Site Boiler and
Kiln Refurbishment

Proposed Boundaries

Plan 8 / 8

18 September 2007
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Each of the components of the development application is code assessable.

The key aspects in support of the proposal:

- The proposed uses are consistent uses in the respective zones and consistent with Noosa Plan and the Cooroy Lower Mill Master Plan
- The relocation of the existing woodworkers cottage allows placement of the new hinterland library and Cooroy Town Square
- The refurbishment, reuse (and preservation) of the Cooroy Lower Mill kiln, hopper and boiler building are important to the cultural heritage of the town
- The resultant woodworkers node creates an active community and industrial cluster of woodworking activity around the existing Camphor Laurel Initiative, the existing boiler and kiln and the adjacent Cooroora Woodworkers, provides in a pleasing collection of buildings that will contribute to the Cooroy Town Character
- Site issues such as flood hazards, riparian protection, bushfire hazards and contamination have been mitigated
- The boundary alteration provides a more orderly and logical lot layout

Funding is currently being sought from state and federal government agencies for the project, with prospects being encouraging.

2.0 Cooroora Woodworkers

Whilst Noosa Council is the applicant for the proposal, the tenant of the new woodworker's node is the Cooroora Woodworkers Association. This community association includes 120 active members and has been successfully undertaking woodworking activities for over ten years in Cooroy.

The woodworking activity provides a valuable social and physical activity with productive output for mostly elderly people in the Noosa Hinterland. The club also undertakes weekly activity sessions for disabled adults, as well as programs with students linking to the local school curriculum.

The establishment of the new woodworker's node off Lower Mill Road will provide additional room for the Cooroora Woodworkers, as well as facilitate community exchanges with the existing adjacent Sunshine Coast Camphor Laurel Timber Initiative.

In addition the scheme will provide a tenant in the refurbished boiler and kiln that have an appreciation of its original timber use, as well as a skill set that will assist in everyday building maintenance.

It is very appropriate that a contemporary and community based timber activity in Cooroy will be housed in and around the historical remaining boiler and kiln of the Cooroy Lower (Saw) Mill.

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3.0 Cooroy Lower Mill Master Plan

The Cooroy Lower Mill was in operation on the site from the early 1900's,

The Mill closed in October 2000 by the state government as part of the Regional Forestry Agreement process and the site was included in public tenure as part of the compensation package offered to the people and former mill workers of Cooroy. The intent was to allow the land to be used for alternative economic activity and community purposes.

Noosa Council has established the community based Cooroy Lower Mill Site Board in 2004 to assist in its planning for the Cooroy Lower Mill Site. More information about the Cooroy Lower Mill Board is available on Council's website at <http://www.noosa.qld.gov.au/AboutNoosa/Economy/CooroyLowerMillSite.shtml> .

A key task for the Board was the development of a Master Plan for the land. This Master Plan was developed by the Board in 2006, and endorsed by Noosa Council in October 2006. The Master Plan is available at <http://www.noosa.qld.gov.au/AboutNoosa/documents/Economy/Cooroy%20Lower%20Mill%20Site%20Master%20Plan.pdf> .

This Master Plan has been intrinsic in planning for infrastructure for the site, and has been used to attract funding for the Hinterland Library under the Q150 funding. It is also been used for funding applications submitted for refurbishment of the boiler / kiln, revegetation activities and establishment of an all abilities playground.

The intended uses proposed in this application are consistent with the Cooroy Lower Mill Master Plan. The vision of the Master Plan is about attraction of organisations that are focused on the "Design for Living" activities and apply excellence, innovation and training as intrinsic components of their approach.

More specifically:

- relocation of the woodworkers cottage from its current location is consistent with the intent and anticipated uses of the *Creative Learning Precinct*, in particular to establish the Hinterland Library
- establishment of the woodworkers node in the *Design for Living Enterprises Precinct* is consistent with the intent to create a node of creative industry – relocation of the woodworkers to this precinct is specifically mentioned
- refurbishment of the boiler building for heritage purposes in the *Greenbelt Precinct* is consistent and also specifically mentioned

4.0 Noosa Plan Provisions

The section of the report will deal with each component of the development application separately, as applicable provisions of Noosa Plan differ in each instance.

4.1 Relocation of the Woodworkers Cottage and Surrounding Buildings

The proposal is to relocate the Cooroora Woodworkers Cottage and Carvers Cottage from their current site (Lot 1 on 56021) and removal / demolition of adjacent workshop sheds.

As stated the buildings are to be removed to allow for the placement of the new hinterland library and town square, as outlined by the Cooroy Lower Mill Site Master Plan.

This application only concerns the removal of these existing buildings and does not address the new replacement library buildings.

Noosa Plan contains the site in a *Community Services Zone*, with an overlay including the site on a *Heritage Site* and *Character Area*. Carrying out *building work* for demolition, relocation or removal of a building on a *Heritage Site* or *Character Area* requires code assessment.

The subject site also includes the Cooroy Butter Factory, which is considered the primarily important heritage building on the site. No alterations to the Butter Factory are proposed as part of this application.

With respect to the Woodworkers Cottage, the building was previously used as a caretaker's office for the Butter Factory, and was originally located at the western side of the building.

Despite the current "Queenslander" appearance of the cottage, the building is actually a post war residential building with austere styling that has undergone extensive modifications. It was shifted to its current location by the Woodworkers 10 years ago, when the building also underwent considerable internal and external modifications to provide it with a faux Queenslander appearance, particularly with the addition of verandas, weatherboards replacing the original fibro sheeting, and custom orb roofing replacing previous fibre cement roofing.

Photographs on the wall in the Woodworkers Cottage of the renovation and relocation process attest to this history.

Little is know about the adjacent Carvers Cottage, but it is possible to have also been an outbuilding in the vicinity of the Butter Factory.

Other workshops erected next to the workshop are steel framed sheds of recent vintage and have no heritage value.

The proposed removal of the buildings from the site is considered appropriate with the Noosa Plan heritage provisions in that:

- the main building of heritage value on the site is the Butter Factory, and no changes are proposed to that building
- The Woodworkers Cottage is a post war building that has already been relocated on the site and received extensive internal and external modifications creating a faux colonial appearance
- The sheds are steel framed of recent vintage and have no heritage significance
- The Woodworkers and Carvers Cottage are to be relocated nearby on the Lower Mill Site. The proposed location and intended setting continues a link of the buildings with their industrial history, enhancing heritage values overall in the Cooroy township

4.2 Establishment of Woodworkers and Carvers Cottage in New Location

The proposal is to establish the Woodworkers and Carvers Cottage on land currently described as Lot 1 on 87371. The cottages will be used by the Cooroora Woodworkers for social meetings and aligned purposes for their community organisation.

The subject land is included by Noosa Plan as *Community Services Zone*,

The use is defined as *Well Being Type 2 Social*, with the *Material Change of Use* being a consistent use requiring code assessment in the applicable zone.

The intent of the Community Service Zone is:

land committed or planned for community purposes—

- i) is protected and managed to enable the efficient and timely delivery of community services; and*
- ii) is consistent with the indoor recreation, education, health, social and safety needs of the local community, including people with special needs, such as the elderly, children, low-income earners and disabled persons;*

The provision of a community building, with a specific interest group being the elderly is consistent with the intent of the zone.

Review of the proposal against the applicable Cooroy and Lake McDonald Locality code indicates that the proposal is consistent the relevant performance criteria. The proposal:

- provides a building form consistent with the Cooroy Town Character, evidenced by their existing form
- intended refurbishment of the buildings including painting will improve their appearance
- other site issues, as outlined in other sections of this report can be successfully mitigated

The site is included as a *Flood Hazard Area*, *Environmental Protection Area*, *Riparian Buffer Area* and *Medium Bushfire Hazard Area* on Noosa Plan Overlay Maps. As these issues are common to various parts of the application these issues are evaluated in detail in Sections 4.5 to 4.7 of this report.

4.3 Refurbishment of the Boiler and Kiln Buildings

The proposal is to reuse the existing boiler, hopper and kiln buildings for the woodworker's workshop and ancillary activities on land currently described as Lot 5 on 173771 off Lower Mill Road, Cooroy.

The large kiln building will in particular be refurbished and fitted out with woodworking equipment. The single remaining kiln building will be demolished and the area be used to erect additional workshop and storage sheds. The boiler and hopper buildings will be secured and retained for static display.

The subject land is included by Noosa Plan as *Industry Zone*,

The use is defined as *Industrial Business Type 2* with the *Material Change of Use* being a consistent use requiring code assessment in the applicable zone.

The intent of the *Industry Zone* is:

land in this zone—

- i) accommodates the principal industrial centre of the hinterland including businesses associated with manufacturing, production, storage, repairs and the like to the exclusion of inconsistent uses such as residential or community uses;*
- ii) has good access to the major road network including the Bruce Highway;*
and
- iii) accommodates uses and works that are designed and managed to contribute positively to the character of the locality without adverse impacts on the environment including excessive noise, odour, dust and other waste;*

The use of the site for wood workshop production is consistent with the intent of the zone.

Review of the proposal against the applicable Cooroy and Lake McDonald Locality code indicates that the proposal is consistent the relevant performance criteria.

The site is included as a *Flood Hazard Area*, *Environmental Protection Area*, *Riparian Buffer Area* and *Medium Bushfire Hazard Area* on Noosa Plan Overlay Maps. As these issues are common to various parts of the application these issues are evaluated in detail in Sections 4.5 to 4.7 of this report.

4.4 Boundary Alteration

As indicated on plans included in Section 1.0 of this report it is intended to undertake a lot reconfiguration (boundary alteration) between Lot 1 on 87371 and Lot 5 on 173771, as well as extinguish access Easement A on RP 87371 over Lot 5 on 153299.

The proposal is consistent with the Code for Lot Reconfiguration and reasons in support of the boundary alteration include:

- providing an orderly lot layout
- recognising road access that is now available from Lower Mill Road that was not previously available
- providing the woodworking activity node with tenure in one parcel to assist in Council administration of leases for community activities
- assisting with resolution of any building setback issues between existing Lot 1 and Lot 5 – both for the current and any future building development

4.5 Flood Hazard Area

Existing Lot 1 and 5 are included as a *Flood Hazard Area* by Noosa Plan overlay maps. Flooding constraints on the site are clearly recognised, as evidenced by recent rain events.

The proposed development form and layout and flooding constraints have been examined by consulting engineers Callaghan and Toth and their advice is included as **Appendix A** to this report.

In summary and in support of the proposed development form and layout:

- the Woodworkers and Carvers Cottage are to be placed on stumps, and as result expected to have no impact on upstream flood levels
- no other filling is proposed to impact flood levels
- all buildings will have a minimum floor level of FFL 106.72, consistent with the Sunshine Coast Camphor Laurel Timber Initiative building to ensure floor levels are well above modelled flood levels
- to remove any doubt concerning impact of flood levels, it is proposed to remove an area of fill on existing Lot 5 to improve flood flows through the site generally, which is actually expected to improve upstream flooding impacts

4.6 Environment Protection / Riparian Buffer Areas

The area is traversed by Cooroy Creek, and riparian areas along the creek are placed in both the *Environment Protection and Riparian Buffer Areas* by Noosa Plan overlay maps.

The proposed development is consistent with relevant code provisions of the Noosa Plan due to that:

- existing vegetation near to the site is degraded, comprising of Camphor Laurel species
- no vegetation is proposed to be removed for the development, as the site for new buildings is cleared
- the site layout retains a minimum 30 metre setback to the creek for new buildings, allowing room for future revegetation works
- Stormwater can be taken to Lower Mill Road drainage system, which includes a discharge into a bio-retention area prior to discharge into Cooroy Creek. If necessary an additional bio-retention system can be installed.

It is noted that Noosa Council intends to undertake extensive revegetation of the creek corridor. This intention was also imposed as a condition of development approval for the lot reconfiguration for Lower Mill Road as undertaken by Noosa Council.

This revegetation proposal is the early stage of detailed revision by the Lower Mill Site Board with Noosa Council as part of the overall park design for the Lower Mill Domain.

4.7 Bushfire Hazards Areas

Lot 1 and Lot 5 are included as a *Medium Bushfire Hazard Area* by the Noosa Plan overlay maps.

A bushfire assessment is provided below, methodology consistent with Annex 3 of State Planning Policy 1/03 Guidelines" Mitigating the Adverse Impacts of Flood, Bushfire and Landslide, as required by Noosa Plan code provisions

Step 1: Assessment of Vegetation Community:

Area on subject land	Vegetation community on subject land	Fire Behaviour	Hazard Score
Proposed development area	Orchards, farmlands, kikuyu pastures.	Fires very infrequent, slow moving, may be difficult to extinguish, frequent fire breaks.	2
Areas along Cooroy Creek	Intact rainforest, mangrove forest, intact riverine rainforest.	Virtually fireproof.	0
Determined score for hazard assessment: 1			

Step 2: Assessment of Slope

Area on subject land	Slope	Hazard Score
Development Area	Plains up to 5%	1
Determined score for hazard assessment: 1		

Step 3: Assessment of Aspect

Area on subject land	Slope	Hazard Score
Proposed development area	East to South and all land under 5% slope	0
Determined score for hazard assessment: 0		

Determined Hazard Score:

Vegetation Community	+ Slope	+ Aspect	= Hazard Score
1	+1	+ 0	= 2

Low Hazard Score

The assessment demonstrates that the land, under closer scrutiny than as indicated by the Noosa Plan Bushfire Hazard Assessment, is **Low Hazard**. Accordingly pursuant to the State Planning Policy and supporting guidelines, there is no requirement to undertake a Bushfire Management Plan over the site.

In the unlikely event of a bushfire, the site has ready availability of town water, and proximity to the fire brigade to promptly extinguish fire.

Published on DES Disclosure Log
RTI Act 2009

4.8 Engineering / Works Code Issues (Car parking and Services)

The site is flat and spacious and generally unconstrained by engineering and services connection issues. The headings below address relevant issues.

Car parking and Loading

Calculations against Noosa Plan provision estimate demand for:

- 5 car parking spaces for the Woodworkers and Carvers Cottages (1 space per 20m²)
- 5 car parking spaces for the Workshop areas (1 space per 50m²).

This estimate of 10 car parking spaces equates with current car parking demand at the existing Cooroora Woodworkers Clubhouse and workshops.

Indicative informal car parking areas are shown on the proposal plans included with Section 1.0, with ample room available to provide 10 car parking spaces.

The proposal plans at provides in Section 1 also provide for loading dock immediately adjacent to the kiln doors, to allow ease of unloading of small trucks.

A bicycle rack can be provided near to the entry to the cottages.

It is intended that vehicle driveway access, car parking and loading areas be constructed to a gravel standard.

This approach is consistent with the adjacent Sunshine Coast Camphor Laurel Timber Initiative. This informal approach is also what is currently used at the existing location of the woodworkers.

In addition it is noted that site development and access to the considerable building pad on existing Lot 5 (owned by Council) is as yet underdetermined. More formal access arrangements and construction can be determined as a consequence of the eventual development of this building pad.

Services

The site can be readily connected to water supply, electricity and sewage services available on Lower Mill Road.

Stormwater can be taken to Lower Mill Road drainage system, which includes a discharge into a bio-retention area prior to discharge into Cooroy Creek. If necessary an additional bio-retention system can be installed.

5.0 State Agency Issues

5.1 Cultural Heritage

Interestingly enough, the remaining boiler, kiln and hopper buildings are among the few buildings that remain on the entire site from its previous use of the Cooroy Lower Mill.

The buildings are not locally or state heritage listed, but a recent inspection was undertaken by the Cultural Heritage Branch of the Environmental Protection Agency as part of a state wide survey. They noted from their inspection of the site¹:

- assessment teams have been surveying the Noosa area and the Cooroy Lower Mill Site has been identified as being of heritage significance
- the fabric, equipment and fixtures contained within the buildings are very intact and provide an excellent historical record of the timber history of Cooroy
- the boiler room equipment includes the fuel system, boiler, steam engine and electric generator
- the kiln, a highly intact example of a steam heated – cross shaft internal fan design – retains heating tubes fan, the kiln chambers and a reconditioning chamber
- This was the first drying kiln built in the region and the only known example surviving
- Many other remnant industrial buildings, particularly sawmills, have had their interior fixtures and equipment removed, and the retention of these fixtures and equipment make these buildings quite remarkable
- The Cultural Heritage Branch support Noosa Council and the Cooroy Lower Mill Board in its funding applications to conserve these buildings...they provide such a valuable palpable and real record of Cooroy's history

5.2 Proximity to Railway Corridor

The site of the existing Woodworkers and Carvers Cottage and supporting workshops are located immediately adjacent to the railway corridor.

Consistent with the provisions of the Integrated Planning Act and the IDAS Assessment Checklist, the proposed development application is to be referred to the Queensland Transport for state assessment.

In this regard it is noted:

¹ Correspondence from Fiona Gardiner, Manager Cultural Heritage Branch, EPA to Noosa Council dated 29 August 2007

-
- The proposed development application is to remove these buildings immediately adjacent to the railway corridor
 - Removal of these buildings will remove any conflict of use and existing potential to compromise railway safety

5.3 Contaminated Land

Existing Lot 1 and 5 are currently on the Environmental Management Register due to previous use of the land for a sawmill

Consistent with the provisions of the Integrated Planning Act and the IDAS Assessment Checklist, the proposed development application is to be referred to the Environmental Protection Agency for state assessment.

In this regard it is noted:

- Exhaustive decontamination work was undertaken by Boral prior to transfer of the land to the state government
- Final assessment of the site is being conducted by the EPA, with the site expected to be released from the Environmental Management Register in the near future
- The EPA contact for the assessment is work is Kim Barry Principal Scientific Advisor, Contaminated Land Unit
- The EPA file reference is #10159 Part 4

5.4 Environmentally Relevant Activity

It is noted, that whilst the proposal is for woodworking activity, is not defined as Environmentally Relevant Activity 68 (Woodworking) pursuant to the purposes of the Environmental Protection Act, as the production volume does not exceed one tonne.

5.5 Regional Ecosystem

Part of the subject site is classified as a Remnant Endangered Regional Ecosystem by the Vegetation Management Act. In this regard it is noted:

- existing vegetation near to the site is degraded, comprising of Camphor Laurel species
- no vegetation is proposed to be removed for the development, as the site for new buildings is cleared
- the site layout retains a minimum 30 metre setback to the creek for new buildings, allowing room for future revegetation works

-
- Stormwater can be taken to Lower Mill Road drainage system, which includes a discharge into a bio-retention area prior to discharge into Cooroy Creek. If necessary an additional bio-retention system can be installed.

It is noted that Noosa Council intends to undertake extensive revegetation of the creek corridor. This intention was also imposed as a condition of development approval for the lot reconfiguration for Lower Mill Road as undertaken by Noosa Council.

This revegetation proposal is the early stage of detailed revision by the Lower Mill Site Board with Noosa Council as part of the overall park design for the Lower Mill Domain.

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6.0 Conclusion

In summary it is considered the creation of a woodworker's node, inclusive of:

- relocating of the Cooroora Woodworkers Cottage from its location near to the Cooroy Butter Factory to adjacent to the Kiln – continuing its current use as club meeting rooms.
- refurbishing the Cooroy Lower Mill Boiler and Kiln for industrial use by the Cooroora Woodworkers
- Undertaking a boundary alteration

is appropriate development, consistent with the Cooroy Lower Mill Master Plan and Noosa Plan.

In support of the proposal:

- The proposed uses are consistent uses in the respective zones and consistent with Noosa Plan and the Cooroy Lower Mill Site Master Plan
- The relocation of the existing woodworkers cottage allows placement of the new hinterland library and Cooroy Town Square
- The refurbishment, reuse (and preservation) of the Cooroy Lower Mill Kiln, Hopper and Boiler buildings are important to the cultural heritage of the town
- The resultant woodworkers node provides a pleasing collection of buildings that will contribute to the Cooroy Town Character
- Site issues such as flood hazards, riparian protection, bushfire hazards and contamination have been mitigated
- The boundary alteration provides a more orderly and logical lot layout

Appendix A: Flood Level Assessment

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21.

R

Callaghan & Toth

Civil, Environmental, & Hydraulic Engineers

14th September 2007

File No: 0637

The Chief Executive Officer
Noosa Council
PO Box 141
Tewantin 4565

Attention: Michael Hagan

Dear Sir,

Cooroy Woodworkers Cottage relocation at Lot 1 RP87371

We have been asked to comment on the effects on flooding impacts of the relocation of the Woodworkers Cottage as shown on the Figure 1 and Northern Elevation dated 11/9/07.

The flooding impacts of the cottage on stumps would be negligible as it is in a low velocity area, the flood passes beneath the floor and the flow thru the stumps is not impeded by a perimeter barrier.

The Cardno Lawson & Trelor flood 2D modelling June 2005 indicates that in the current developed state the 10 year ARI flood level would be RL105.94 and the 100year ARI would be RL106.24. Plan 81A (attached) indicates that flow velocities would be minimal at the cottage site due to the protective effect of the kilns.

The site chosen for the Woodworkers Cottage adjacent to the existing kilns on the eastern side would be on an existing ground level of RL 106.00 and have a floor level of 106.75. We therefore state that the addition of the cottage as shown on the above plans will have negligible effect on the flood impacts to the surrounding areas.

The Cooroy Lower Mill Site Board has also requested that we comment on possibility of a reduction of flood impacts as a result of there offer to reduce the allotment filling of lot 5 in the south eastern corner as shown on plan 0303-81A (attached).

The flood study 2D modelling shows that the depths and velocity's are substantial in the area which will have filling removed refer 0303-81A & 82A.

The flood study also shows on plan 0303-82A that the developed depth of flow in the 100 year ARI is significant and that the proposed area jutted out into the main creek flow.

We therefore recommend that this area of 397.4 as shaded on plan 81A be removed from the allotment filling of lot 5 as it will more than offset the negligible impacts which would be caused by the building stumps of the Wood workers Cottage.

The car parking associated with the Woodworkers Cottage will not have any impact provided the carparks are at existing ground level and in the location shown on the plans. The flood study indicates that the existing ground is inundated to a depth of 200mm to 300mm in the area where car parking is shown and this depth is acceptable under QUDM guidelines for a public road.

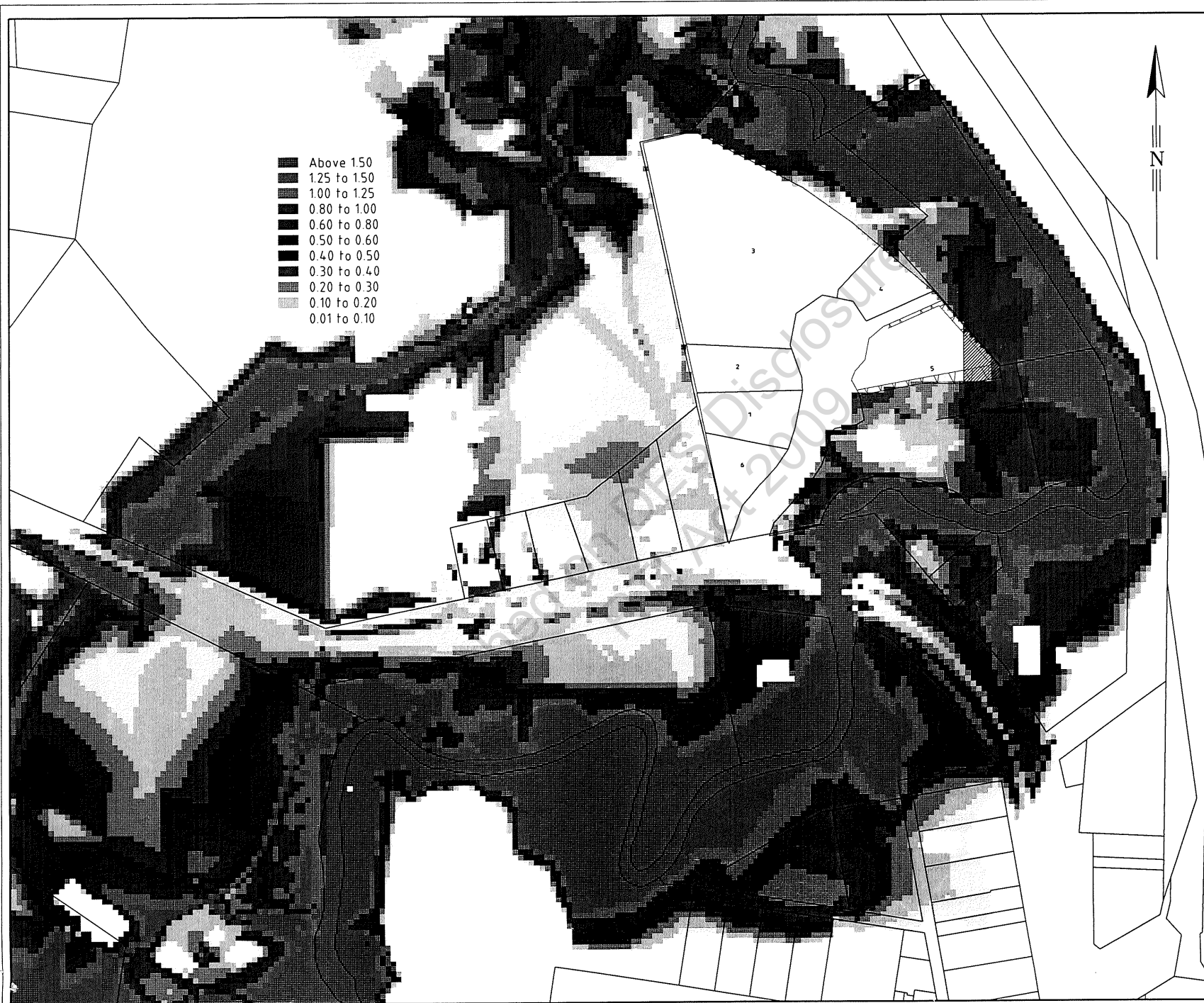
Yours faithfully,
Callaghan & Toth

CTPI 49-Sci BE Environmental RPEQ MIEAust CPEng NPER
Principal

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Callaghan & Toth Civil, Environmental & Hydraulic Engineers 2/11 Sunshine Beach Road NOOSA JUNCTION 4566 Ph: 54749081 Fax: 54749041 www.callaghanandtoth.com.au																			
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15/10/07

CONTAMINATED LAND UNIT
GPO Box 2771
BRISBANE Q 4001.

Dear Sir,

as per attached letter, IDK3 Assessment
checklist now attached to application

Yours faithfully

CTPI 49-Sch4

CTPI 49-Sch4

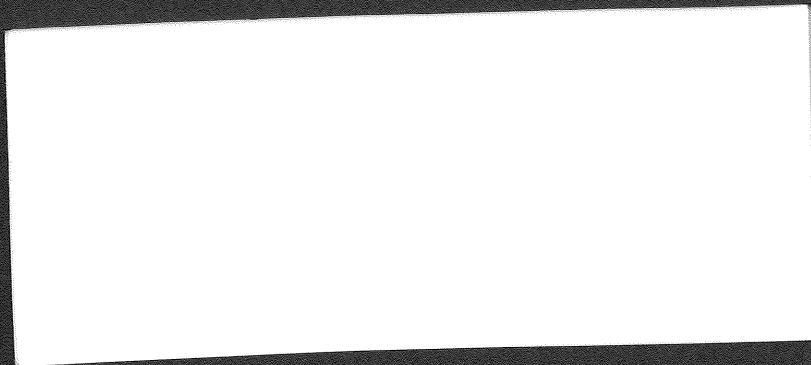
CTPI 49-Sch4

PO Box 6, Cooran
QLD, Australia 4569

com.au

CTPI 49-Sch4

LANDSCAPE ARCHITECT TOWN PLANNER



FLUOR DANIEL GTI

R

FLUOR DANIEL GTI

**STAGE II INVESTIGATION REPORT
BORAL TIMBER YARDS
1 MAPLE STREET
COOROY, QUEENSLAND**

Prepared for:

Mr CTPI 49-Sch4
Boral Limited
GPO Box 148
BRISBANE QLD 4001

9 October 1998
Our Ref: B7570BR01

Prepared by:

FLUOR DANIEL GTI AUSTRALIA PTY LTD

Written/Submitted by:

CTPI 49-Sch4
CTPI 49-Sch4
Senior Project Manager

Reviewed/Approved by:

CTPI 49-Sch4
CTPI 49-Sch4
Senior Environmental Scientist

CTPI 49-Sch4
CTPI 49-Sch4
Principal Geohydrologist

DISTRIBUTION LIST

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1	B7570R01a.doc	Draft	18 September 1998	Fluor Daniel GTI	
1	B7570R01b.doc	Draft	30 September 1998	Boral Limited	
1	B7570R01b.doc	Draft	30 September 1998	Fluor Daniel GTI	
5	B7570R01.doc	Final	9 October 1998	Boral Limited	
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EXECUTIVE SUMMARY

Boral Limited (Boral) contracted Fluor Daniel GTI to complete a Stage II investigation of the Allen Taylor & Co. Limited Timber Yards, Cooroy, Queensland. This investigation was completed as a precursor to possible site divestment by Boral.

Based on the results of work completed at the site to date, Fluor Daniel GTI concludes the following:

Inorganic Contaminants

- Localised areas of soil impact occur on the site which exceed the 1998 Draft Department of Environment Table 9.1 Health Threshold Level E concentrations for arsenic. These areas are primarily associated with visible deposits of sawdust from planing operations on CCA treated wood. Other areas are associated with the past disposal of boiler ash resulting from the burning of CCA treated wood and sawdust.
- Depth sampling indicates that the arsenic concentration decreases rapidly with depth in soil, consistent with the known geochemical behaviour of arsenic. With one exception, related to the sawdust deposits, impact does not extend beyond one metre, and is not anticipated to migrate deeper into the sub-surface.
- There is no evidence of substantive groundwater impact by arsenic, chromium, copper or boron resulting from prior site activities, with the exception of the vicinity of MW5. The boron concentration in the groundwater at MW5 is elevated as a result of prior activities and from possible leakage of the borax pits. Boron was not detected in creek water samples, suggesting limited migration of boron to date.
- Although the 1991 Envirotest Phase I investigation detected elevated heavy metals in surface waters, the recent Phase II investigation did not indicate heavy metals resulting from site conditions at concentrations sufficient to cause adverse impacts to receiving water aquatic organisms. Upstream sources may have caused elevated lead and zinc concentrations.
- Stream sediments exceed draft 1998 Department of Environment Environmental Investigation Threshold values for zinc in upstream areas, for arsenic in downstream areas, and for chromium at two random sites. Despite these exceedances, results of stream sampling do not indicate dissolved metals concentrations in stream water at concentrations to cause adverse impacts. Rather, the metals appear to be sorbed onto the stream sediments.

Hydrocarbon Contaminants

- Hydrocarbon-impacted soils associated with the former petrol UST (Area H) have been remediated and validated in accordance with currently acceptable protocols.



- Two isolated 'hotspots' of TPH/PAH impacts above environmental investigation thresholds remain on site. The volume of impacted soil in these locations is approximately 1m³ at each location.

No other hydrocarbon or OC/OP analyses exceeded investigation thresholds.

Figure 7 shows the extent and distribution of metals, boron and hydrocarbon impacts in soils at the site. This plan is based on the results of the 1991 and 1998 analytical programs.

Remedial Action

Recommendations for remedial actions will be provided in a separate remediation plan and site management plan outline.

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PROPERTY DETAILS

Local Authority: Noosa Shire Council

Information Provided by: AC Fox and Associates
GPO Box 1612
BRISBANE QLD 4001

Site Address: Maple Street
COOROY QLD 4563

Lot Description: Lots 1, 2 and 3 on RP153299
Lots 1, 2 and 3 on RP87371
Lot 2 on RP47020
Lot 1 on RP88582
Lots 2 and 3 on RP110206
Parish of Tewanin, County of March

Titles Reference: 15572077, 15572078, 15572079,
12613020

**Name and Postal Address of
Registered Owner:** Allen Taylor and Company Limited
PO Box 224
COOROY QLD 4563

Activities: Wood treatment and preservation,
petroleum product or oil storage

Current Zoning: Village Industry (22)

Proposed Zoning: No known proposed change



1. INTRODUCTION

1.1 Reason for Investigation

Boral Limited (Boral) contracted Fluor Daniel GTI to complete a Stage II investigation of the Allen Taylor & Co. Limited Timber Yards, Cooroy, Queensland. This investigation was completed as a precursor to possible site divestment by Boral.

1.2 Objective

In accordance with the Brief, the objectives of the investigation were to:

- Conduct a Stage II Contaminated Site Assessment to assess the area and depth of any contamination, including groundwater and the sediments and waters of Cooroy Creek;
- Decommission the abandoned concrete borax dip pits and remediate surrounding contaminated soil; and
- Remove the underground distillate tank (2,000 litres) and remediate any associated contaminated soil;
- Recommend appropriate soil, groundwater and creek sediment remediation strategies for the remainder of the site, together with estimated costs, to achieve either a “former” or “restricted” listing on the Contaminated Sites Register (equivalent to removal from the Environmental Management Register, or issue of a Suitability Statement with appropriate Site Management Plan); to be issued under separate cover.

1.3 Summary of Work Undertaken

To achieve the objectives of Boral Limited, Fluor Daniel GTI performed the following tasks:

Task 1. Stage II Contaminated Site Assessment

- Site inspection and description;
- Site history including air photograph review;

- Soil sampling at 110 locations across the site including six monitoring wells, and laboratory analysis of samples;
- Sediment sampling at seven and water sampling at nine creek locations and laboratory analysis of samples;
- Groundwater sampling at six monitoring well locations across the site and laboratory analysis of samples;
- Sequential laboratory analysis of 34 deeper soil samples (of stored samples); and
- Data review and reporting.

Task 2. Decommission Abandoned Borax Pits

- Collection of liquid samples of water in three borax pits; and
- Laboratory analysis of samples for suite of inorganic parameters.

Task 3. Distillate Tank Removal and Soil Remediation

- Excavation of distillate tank and any contaminated soil;
- Collection of soil samples for field screening and laboratory analysis;
- Remediated contaminated soil by land farming; and
- Conducted validation sampling and reporting.

Task 4. Report on Remediation Strategies

- Characterisation of the contamination present in each Management Area (this report);
- Review of possible remediation strategies for each Management Area (under separate cover); and
- Recommendation of prioritised remediation strategies for each Management Area (under separate cover).

2. SITE INFORMATION

2.1 Site Location and Description

The site is located at 1 Maple Street, Cooroy, Queensland. The parcels of land involved are:

- Lots 1 & 2, RP 153299 (administration area);
- Lot 3, RP 153299 (timber treatment or milling operations and/or storage area);
- Lots 1, 2 & 3, RP 87371 (timber treatment or milling operations and/or storage area);
- Lot 2, RP 47020 (timber treatment or milling operations and/or storage area);
- Lot 1, RP 88582 (timber treatment or milling operations and/or storage area); and
- Lots 2 & 3, RP 110206 (timber treatment or milling operations and/or storage area).

Current registered plans for the lots are provided in Appendix B.

A site locality map (Figure 1) indicates the site in relation to the surrounding areas and the land-uses of property surrounding the site.

A site plan for the site showing the lot boundaries and location of facilities at the site is presented as Figures 2a and 2b.

2.2 Regional Geology and Hydrogeology

The Gympie 1:250,000 Geology Sheet (Geological Survey of Queensland, 1975) indicates the region is underlain by Triassic shale, arenite and greywacke of the Kin Kin Beds. This unit is overlain by Lower Jurassic sandstone, shale, siltstone and conglomerate of the Myrtle Creek Sandstone, with this unit overlain by the Tertiary Pomona Beds (shale, sandstone, conglomerate and minor basalt). Quaternary alluvium occurs along existing stream channels.

The Groundwater Resources of Queensland Map (Department of Natural Resources, 1987) indicates groundwater yields of less than 5 L/s from consolidated rocks is available, with a total dissolved solids (TDS) range of 500 – 1500 mg/L (fresh to mildly brackish).

2.3 Site History

Prior to its use as a timber mill, the area was historically used for transient farming and residence. Details are shown in Table 1b. No permanent facilities were constructed as the timber site occupies the floodplain of Cooroy Creek and is subsequent to inundation. No environmental impacts are known to have occurred at the site prior to its use as a timber mill. Supplemental site history information is included in a report prepared in 1991 by Envirotech Health, Environment and Workplace Pty Ltd. This report is included in Appendix C.

The site has operated as a timber mill since the early 1900s, with the current timber mill constructed in 1959-60 (Envirotech 1991). Based on airphoto review, the storage of timber in the yard is believed to have commenced between 1940 and 1953. According to Mr CTPI 49-Sch4 CTPI 49-Sch4 the mill was built around 1959-60, and the kiln and boiler on the site date from this period (Envirotech 1991). Land was levelled during this period to allow timber stacks to dry, and since 1969 timber drying, sawing and planing has continued CTPI 49-Sch4

An underground hydrocarbon storage tank (super petrol) near the southern boundary of Lot 3, RP 153299 was removed (date of removal unknown) according to CTPI 49-Sch4. The location of the former underground storage tank was identified by Mr CTPI 4 and is shown on Figure 3d at sampling location F15. A second operational underground storage tank (UST) and an aboveground storage tank were identified near the kiln. These tanks were used to fuel forklifts and for other industrial requirements. The removal of the UST and validation of the excavation and backfill are detailed in Sections 3.5 and 4.4.



Boron timber treatment on the site began in the 1960's and ended 8 to 9 years ago. Three borax pits were used in the treatment. These pit locations are shown on Figures 2a and 2b.

No copper chromium arsenate (CCA) treatment is known to have occurred at the site. Timber treated with CCA was historically trucked to the site for sawing and planing. Both CCA and boron treated timber has been milled on the site, with sawdust from such milling previously used to fuel the site boiler. Treated timber off-cuts previously were burned in a fire pit located at the rear of the site.

Ash and sawdust have been disposed of across areas of the site since the site has been in operation. The practice ceased in the mid 1990's and material has since been disposed off site. Two types of sawdust are currently generated on site. Sawdust from non-treated timber is used to fire the boiler. Boiler ash is then disposed off site. Treated timber sawdust (CCA sawdust) is stockpiled and removed from site.

Timber has been burnt behind a galvanised iron 'firewall' throughout operations. Main dumping areas were located with long-serving Boral personnel during the site inspection (fire pit area, evaporation pond area, creek bank near boiler). These areas were targeted during the Stage II investigation.

In 1991, Envirotest conducted an environmental audit of the site. The audit examined surface soils (0.1m) in the vicinity of the fire pit, boiler, evaporation pond and borax pits, concluding that these areas were contaminated (ie containing levels of boron, copper, chromium and arsenic that exceeded environmental investigation thresholds). The horizontal and vertical extent of the contamination was not evaluated and most of the site was not examined. The 1991 Envirotest audit also found that several water samples from Cooroy Creek, which flows through the site, contained concentrations of cadmium, chromium and boron that exceeded relevant water quality guidelines.

Weedicides such as Gromoxone (limited historical use) and Roundup (currently used) have been used at the site (Envirotest 1991). Hydrocarbons (diesel) had been used in the past at the site for dust suppression in the operations/storage area CTPI 49-Sch4. Currently water from the evaporation pond (fed by surface runoff from the site) is used for dust suppression CTPI 4

CTPI 49-Sch4

Aerial photographs of the site were available for 13 years (1940, 1953, 1956, 1965, 1970, 1974, 1979, 1984, 1986, 1989, 1993, 1996 and 1997). The photographs were viewed at the Department of Natural Resources (Sunmap) facility in Woolloongabba, and selected photos copied for further study.

In the 1940 photograph the old mill was present and no timber was being stored in the timber stacking area. In 1953 timber stacking in the open area was occurring, and the sawdust hopper (F1-F4) on the north side of the creek could be seen. In the 1953 photograph storage sheds are present on the southern side of the creek (Area F). The 1956 photo showed no changes since 1953. The 1968, 1970, 1974, 1979, 1984, 1986, 1989, 1993 and 1996 photographs were too large a scale to note any changes. The 1997 photograph shows the site as it is today with the storage sheds and boiler/kiln in Area H and the fire pit wall present.

Based on review of the site history, the site was divided into a number of management units, for purposes of developing sampling programs best suited to the operational history of each management area. These management units are described below, in increasing order of likely contamination.

Low Contamination Risk Management Areas:

Area A. Vacant Land and Office Area

This area was designated as low risk since it has never reported to have been used for timber processing and is remote from the waste disposal streams. Contamination is considered as unlikely.

Possible Contamination Risk Management Areas

Area B. Timber Stack Area

This was a large area used for the stockpiling of processed timber. Herbicide was reputedly applied around and between the wood stacks. Dust suppression using diesel was also suspected, based on anecdotal information. Mr CTPI 49-Sch4 reports that, to the best of his knowledge, no organochlorine or organophosphorous pesticides have been used in the area.

Known or Probable Contamination Risk Management Area

This group of management units included all areas identified in the 1991 audit as being contaminated by past timber preservation and milling operations, as well as more recent probable sources. The areas included the former milling sites, new CCA sawdust stockpile site, maintenance workshop, distillate tank and the low lying area along the creek which may have been filled with boiler ash.

Area C. Fire Pit

In 1991, Envirotech determined that surface soil samples were contaminated within 8m of the fire pit.

Area D. New CCA Sawdust Stockpile

Upon cessation of burning of CCA sawdust, Boral began stockpiling the sawdust for off-site disposal. The site inspection noted CCA treated sawdust scattered over the area adjacent to the stockpile shed.

Area E. Evaporation Pond and Catchment Area

In 1991, Envirotech determined that the sediment in the evaporation pond was contaminated. It is also believed that contaminated boiler ash may have been dumped in this area.



Area F. Old Mills, Maintenance Shed and Sawdust Collection Hopper

This area had not previously been examined for contamination by Envirotest, but was used for the milling of CCA treated timber.

Area G. Borax Pits

The 1991 audit identified surface soils around the borax pits which are 2 metres deep, to be impacted with boron to a distance of at least 4m. The vertical and horizontal extent of contamination was unknown. The possibility existed that soils may have been impacted by overflow/dripping and/or tank leakage.

Area H. Current Mill Sheds, Boiler, Kiln and Surrounding Area

The 1991 Envirotest audit examined surface soils in between the boiler/kiln and creek. These were found to be impacted with CCA apparently as a result of the use of boiler ash for fill.

Area I. Cooroy Creek

In 1991, the sediments in Cooroy Creek were determined to be uncontaminated by Envirotest, but water samples from the creek were found to exceed guidelines for the protection of aquatic ecosystems for chromium, cadmium and boron. It was suggested by Envirotest that upstream sources might also be contaminating the creek.

2.4 Site Inspection

Fluor Daniel GTI staff conducted an initial site inspection on 16 January 1998, accompanied by Mr [CTPI 49-Sch4] (acting Site Manager) and Mr [CTPI 49-Sch4] of Boral. Photographs of the site are included in Appendix A. It was noted that work practices had changed since the 1991 Envirotest audit. It was noted that the practice of burning CCA treated timber had ceased several years ago, with all CCA treated timber off-cuts and sawdust stockpiled in a shed for off-site disposal by a contractor.

It was also noted that CCA sawdust had been lost during transport to and from the shed, with the result that additional areas of potential CCA contamination were identified, including the current mill, sawdust collection shed, sawdust stockpile shed and environs, as well as the old mill and sawdust collection hopper. It was agreed during the site inspection that any area of sawdust deposit be regarded as potentially contaminated.

The site is reasonably flat with a small rise in the central part of the main operations/storage area (mill, dry shed) directing surface water flow to the south, east and north. Cooroy Creek flows through the site, and frequently inundates parts of the site. The administration and operations/storage area on the south side of the creek is reasonably flat, with a storm water discharge channel running through this area to enter the creek from the south.

The majority of the site had a 0.1m to 0.2m road base cover (dry grey silt, plus rock chips). No areas are covered by bitumen. The creek line vegetation looked healthy, with no other vegetation on the site apart from the lawn area around the administration buildings.

The administration area (Area A) was free of staining. In the main timber stack area (Area B) some hydrocarbon staining was noted, and storage drums (some with CCA treated ash) were located along the south side of the fire pit wall.

The past fire pit area (Area C) had some scrap metal lying on the ground on the western side, and there were two scrap timber piles (which were to be removed and not burnt). The new sawdust stockpile shed area (Area D) had a bank of fill between the shed and the creek. Some staining was seen on the east, north and west side of the shed. Sawdust was apparent in the vicinity of the shed.

The evaporation pond area (Area E) had some minor staining on the ground surface. There was some timber rubble along the bank of the creek. Some timber was stored on planks south of the pond. The pond water was dark grey in colour and contained sediment. Overflow from the pond to the creek may be possible during heavy rainfall events.

The old mill area (Area F) still has a concrete pad in the mill and shed section. Some timber was stored on planks. Some sawdust was on the ground. The past sawdust hopper area on the north side of the creek was backfilled with sawdust and clay/dirt. Some minor staining could be seen around the storage sheds on the south side of the creek, with a separate small storage shed containing drums of CCA treated ash.

The borax pits (Area G) had some staining around the perimeter, with the pits containing residual boron solution in water. An underground sump next to the pits contained boron solution, according to Mr CTPI 49-Sch4 (Site Manager).

The mill, storage sheds, boiler and kiln area (Area H) had some staining on the ground, and some timber was stored on planks.

Cooroy Creek (Area I) had healthy vegetation along the creek line. Minor sawn timber was noted in the creek. A drainage channel fed by a storm water pipe entered the creek from the south in the administration area (Area A).

The north side of the site was bounded by the creek, with heavy timber to the north. The east side of the site is bounded by a gravel road and railway line, with a school on the east side of the railway line. The west side of the site is bounded by open grassland and a residence in the south-western corner. The south side is bounded by bitumen and gravel roads, with a park on the south side of the bitumen road and a fire station on the south side of the gravel road.



3. ENVIRONMENTAL SITE ASSESSMENT

3.1 Sampling Program - Rationale

The major objective of the sampling program was to assess the extent of known and perceived impact. Known impact was identified in the 1991 Stage I assessment (Envirotest, 1991). Perceived impact was designated as those areas potentially impacted as a result of historical activities at the site.

The sampling methodology used a judgemental sampling strategy biased towards further delineating known impact based on Envirotest's 1991 sampling. The site was divided into nine management areas, as described in the previous section, based on the current and historical use of the site and the degree of known (1991 audit) or perceived impact. The site layout and preliminary designation of management areas are shown in Figure 2b.

The nine management areas were labelled A to I. The sampling program developed for each was dependent upon the past history of the area, and whether there is a low, possible or probable risk of contamination in relation to investigation thresholds. The sampling density for each management area was linked to the associated contamination risk (known or probable contaminated sites had a higher sampling density in comparison to areas perceived to be uncontaminated).

3.2 Sampling Program – Soil, Groundwater, Surface Water and Sediment

Soil samples were collected at various depths in each location. In areas defined in the Stage I environmental site assessment (Envirotest, 1991) as impacted from 0-200 mm, deeper samples were collected for analysis, to further delineate the vertical extent of impacts. Samples from outside of the known areas of soil contamination were collected and analysed to further delineate the lateral extent of impact in the upper 200mm of depth.

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Soil samples were collected by backhoe, hand auger, grab samples and from split spoon sampler (hollow stem auger rig) as appropriate. Soil sample analytical results from the soil sampling program are included in Tables 3 to 10. Where laboratory analyses indicated soil concentrations in excess of the Draft 1998 thresholds for residential health-based criteria ("A"), additional deeper and lateral samples were analysed. Soil sample analytical results from the monitoring well installation program (split spoon) are included in the tables.

Six monitoring wells were installed, and soil and groundwater samples collected from each of the new wells. Each well was developed (pumped) until the water was of consistent clarity or had consistent physiochemical properties. After installation, location and top-of-casing elevation was determined by a registered surveyor. Creek water and sediment samples were taken from nine locations along Cooroy Creek and a stormwater discharge channel.

Sampling details for the various management areas are described below.

Area A. Vacant Land and Office Area

Four locations were sampled in Area A, not only to determine natural concentrations, but to evaluate possible contamination. Sampling locations are shown in Figure 3a.

Area B. Timber Stack Area

This is a large area used for the stockpiling of processed timber. Four locations were sampled for soil contamination within the wood stacks and seven soil sampling locations were established between the stacks and around the perimeter of the area. Sampling locations are shown in Figure 3a.

Area C. Fire Pit

In 1991, surface soil samples were shown to be contaminated within 8 metres of the fire pit. Fluor Daniel GTI installed five test pits within the area of known surface contamination, to define the vertical extent of contamination. For these sites no surface samples were collected, only samples below 200mm. An additional eight pits were constructed around this location to define the lateral extent of contamination. Sampling locations are shown in Figure 3b.

A monitoring well (MW1) was installed adjacent to the creek to sample the groundwater downgradient of the fire pit.

Area D. New CCA Sawdust Stockpile

The site inspection noted CCA treated sawdust scattered over the area adjacent to the stockpile shed. Fluor Daniel GTI excavated 10 test pits (1m depth) and installed one monitoring well in this area (Figure 3b). The test pits remote from the stockpile shed were constructed to detect any former dumping of contaminated fill/ash in the low lying area along the creek.

Area E. Evaporation Pond and Catchment Area

In 1991, the sediment in the evaporation pond was identified as contaminated. Fluor Daniel GTI excavated three test pits and installed one monitoring well (MW3) in the vicinity of known contamination.

To assess the horizontal extent of contamination, a further three test pits were excavated 5 metres from the dam. An additional seven pits were placed along the drainage and throughout the catchment area. Sampling locations are shown on Figure 3c.

A sample from the evaporation pond was analysed for heavy metals and boron. Results are shown in Table 14.

Area F. Old Mills, Maintenance Shed and Sawdust Collection Hopper

This area had not previously been examined for contamination, but was used for the milling of CCA treated timber. Fifteen test pits were excavated adjacent to these buildings to screen for the presence of any contamination and assess its depth. One of these test pits was installed at the location of a former petrol underground storage tank (UST). These sampling locations are shown in Figure 3d. One monitoring well (MW6) was installed downgradient of the location of a former UST.

Area G. Borax Pits

The 1991 Envirotest audit identified surface soils around the borax pits, which are 2 metres deep, to be impacted with boron to a distance of at least 4 metres. The vertical and horizontal extent of contamination was unknown. The possibility existed that soils may have been impacted by overflow/dripping and/or tank leakage. Fluor Daniel GTI excavated three deep test pits (3 metres depth) and one monitoring well (MW5) adjacent to the pits. The lateral extent of shallow contamination found in 1991 was further delineated by the installation of 12 lateral sampling pits. Sampling locations are shown in Figure 3d.

The residual liquid within each pit was sampled and analysed for metals and boron.

Area H. Current Mill Sheds, Boiler, Kiln and Surrounding Area

The 1991 Envirotest audit examined surface soils in between the boiler/kiln and creek. These were found to be impacted with CCA. Fluor Daniel GTI further delineated the vertical and lateral extent of soil contamination by nine test pits and one monitoring well (MW4) in the area adjacent to the boiler/kiln.

Ten test pits (1 metre depth) were excavated along the creek and around the milling area as an initial screen for additional impacted areas. Sampling locations are shown in Figure 3d.

Area I. Cooroy Creek

Fluor Daniel GTI sampled sediment and stream water at seven locations for boron and metals, including a stormwater discharge channel (CK3W – puddle only) adjacent to the administration area (Area A). Sampling locations are shown in Figure 3e.

In addition, water samples were collected 100 metres upstream and downstream of the site. These samples were designed to provide an indication if contaminants were entering the site from upstream sources and whether contaminants leaving the site were being naturally attenuated in the creek. Field measurements are shown in Appendix E.

3.3 Sequential Analyses

Where further delineation of metals impact was warranted, stored samples were analysed. Additional samples to delineate one “hotspot” (C6-0-200) for polycyclic aromatic hydrocarbons (PAHs) were taken to ensure sample holding times were valid. The sequential analyses results are contained in Tables 3 to 10 as appropriate.

3.4 Monitoring Well Installation

Six monitoring wells were installed between 26 and 27 August 1998. Wells were installed to approximately 2m below water level to provide an ongoing monitoring network. Methodology is described in Appendix D. Well locations are shown on Figure 5.

Well top-of-casing heights were surveyed. Wells were gauged prior to sampling. Drilling logs, gauging and survey data are shown in Appendix E.

3.5 Sampling Program – Borax Pits

Three borax pits were sampled on 1 July 1998 to determine the concentration of boron and heavy metals present in accumulated liquid in the pits. The location of the borax pits is shown on Figure 3d. Each pit was estimated to hold 20,000 litres of liquid.

3.6 Sampling Program – Underground Storage Tank

Soil samples were collected from the perimeter of the excavated underground storage tank (UST) after removal on 16 July 1998. Six samples were collected from the walls and floor of the excavation, to determine the extent of any impact from fuel storage. Two samples were collected from the tank pit backfill. Samples were collected in accordance with current DEH protocols for UST sites. The location of the UST is shown on Figure 2b.

Field screening using a photoionisation detector (PID) suggested hydrocarbon impact to tank pit backfill had occurred. A soil sample taken adjacent to the UST (sample H1-2) on 28 May 1998 contained total petroleum hydrocarbons (TPH) above investigation thresholds. Tank pit backfill was 'chased out' until a suitable 'zero line' was attained. The excavation perimeter was sampled as described above.

Impacted soil was excavated and removed to a temporary on-site landfarm. The soil was spread out and landfarmed for five weeks from 16 July 1998 to 21 August 1998. Validation samples from the landfarm were analysed for TPH and benzene, toluene, ethylbenzene and xylenes (BTEX). Soil sample analytical results are contained in Table 15. Upon validation, the backfill was returned to the open excavation on 3 September 1998.

3.7 Analytical Program

Table 2 summarises the Stage II investigation soil sample analyses conducted during this investigation. All samples were sent to National Association of Testing Authorities (NATA) registered laboratories. A total of 176 samples were analysed (145 first round, 31 second round). The majority of samples were analysed for a suite of heavy metals and boron. In addition samples were analysed for total petroleum hydrocarbons (TPH: C₆-C₉, C₁₀-C₁₄, C₁₅-C₂₈, C₂₉-C₃₆) in the vicinity of the underground storage tanks and in Area B (suspected diesel application for dust suppression).

Four samples were analysed for organochlorine/organophosphorous compounds (OC/OPs) in Area B (possible OC/OP application area), and one sample was analysed at the maintenance shed (F6).

Three soil samples from the fire pit area were analysed for PAHs. One soil sample from the maintenance shed was analysed for PAHs.

Nine water and seven sediment samples were collected from Cooroy Creek, and analysed for boron and a suite of heavy metals (arsenic (As), cadmium (Cd), chromium (Cr^{+3} and Cr^{+6}), copper (Cu), lead (Pb), and zinc (Zn)). The surface water samples were collected on a "total" basis, without filtration, and were subsequently acidified prior to analyses. In this way, metals present in the form of suspended particulate matter reports as present in the liquid. This practice results in reported concentrations which overstate the actual concentrations in the water. This is particularly true for lead, which has an extremely low solubility in natural waters. Creek water samples were also analysed for total tannins.

Water samples were collected on a "grab" basis from the three borax pits and from the evaporation pond, to provide data on the concentration of arsenic, boron, cadmium, copper, lead, zinc and trivalent and hexavalent chromium contained in this waste water.

Six groundwater samples were also analysed for boron and metals.

3.7.1 Quality Assurance Program

Field duplicate and field blank samples were taken for groundwater and surface water samples. The results are included in the analytical result tables.

Chain of custody documentation and laboratory quality assurance/quality control data are included in the laboratory reports (Appendix F to Appendix K).



RESULTS

Site Geology and Hydrogeology

The site geology consists of a 0.1 to 0.2m thick road base style fill (grey silt plus rock chips) across most of the site with some soil at the surface. Below this to a depth of at least 6m is a grey/yellow clay or silty clay. A clayey gravel from approximately 3 to 6m deep exists in the northern part of the site. The gravel is considered to be Quaternary alluvium. Some areas of sawdust were identified in the vicinity of the sawdust shed (Area D). Patches of ash were identified in the vicinity of the fire pit (Area C). Table 1 shows a summary of soil profiles encountered.

The water table at the site is approximately 1 to 3m below the ground surface. Figure 5 shows the inferred groundwater flow direction to the north, from MW6 toward MW1. MW6 was installed in the toe of a hillslope, and likely represents a seepage water level above the main floodplain of Cooroy Creek. The hydraulic gradient is slightly steeper at the edge of the floodplain area, as would be expected.

Comparison to Regulatory Thresholds

The 1998 Draft Department of Environment and Heritage (DEH) Environmental and Health Based Investigation Thresholds "A", "E" and "F" values for the various parameters have been provided in tables as applicable. The "A" values are for residential usage, "E" values are for park and recreational usage, and "F" values for commercial/industrial uses. Additionally, only background levels were available for boron as no environmental or health based thresholds exist in the DEH 1998 draft.

Because of the propensity of much of the Boral site to be frequently inundated, the level E values were considered as more applicable to realistically anticipated future land use. For this purpose, the concentrations in the various tables of soil sampling are compared to the level E values, with values exceeding the level E thresholds shown by shading. Note that for areas covered by the 1991 Envirotech audit and shown to be contaminated to a depth of 200 mm, sample analysis began at a depth of 200 mm on the assumption the contamination from 1991 remained in place.

Creek sediment samples are the only exception to the above. These samples were compared to the environmental investigation thresholds, as it is deemed more appropriate to review potential environmental impacts within the creek itself.

Samples of surface water are compared to 1992 ANZECC Marine and Fresh Water and 1996 NHMRC Australian Drinking Water values. Samples of groundwater are compared to 1994 Dutch Environmental guidelines.

4.3 Results of Stage II Investigation

Laboratory analytical results are presented in Tables 3 to 15 with statistical summaries. Analytical results for arsenic, boron, copper and chromium⁺³ in soil are depicted on Figures 4a to 4i and 6. Analytical reports, chain of custody forms and QA documentation are included in Appendices F through K.

4.4 Results of Borax Pit Sampling and Analyses

Laboratory analytical results are presented in Table 14. Analytical reports, chain of custody forms and QA documentation are included in Appendix J.

4.5 Results of Distillate Tank Removal and Soil Removal

Laboratory analytical results are presented in Table 15. Analytical reports, chain of custody forms and QA documentation are included in Appendix K.

5. DISCUSSION

5.1 Inorganic Analytes – General Discussion

The various inorganic parameters of concern behave in a known and predictable manner in the natural geochemical environment. The following briefly describes the geochemical behaviour of each of the parameters of analysis, and is provided in an effort to assist in understanding the analytical results obtained by the sampling. Additional discussion of geochemical behaviour of these parameters is available in the generally available geochemical literature.

Arsenic is not generally mobilised in an oxidised environment; however, under reducing conditions such as in the presence of wood sawdust, it may become highly mobile, particularly with the formation of a mono- or di- methyl arsenite ion. In addition, under reducing conditions, in the presence of ferrous ions, arsenic will react with iron to form microcrystalline arsenopyrite or an amorphous iron-arsenic precipitate. The conversion of reducing to oxidising conditions will reduce the mobility of arsenic, through co-precipitation of ferric hydroxide/ferric arsenite. The precipitate has been shown to be geochemically stable over a wide range of geochemical conditions.

Boron is a highly soluble element, with few compounds of low solubility. Most of the boron reported in the various soil samples is actually present as dissolved boron in interstitial fluids, or as soluble boron salts left behind in the soil by the evaporation of such interstitial fluid.

Cadmium and Zinc are amphoteric metals, with low solubility under near neutral conditions, but soluble under either acidic or alkaline conditions. Both cadmium and zinc tend to adsorb onto clay minerals and iron hydrous oxides under normal environmental conditions.

Copper is generally of low geochemical mobility, except under acidic conditions or in the presence of elevated concentrations of ammonia.



Lead is generally immobile under normal geochemical conditions. It is frequently reported at "hazardous" concentrations in the results of Toxicity Characteristic Leaching Procedure (TCLP) analyses, since the TCLP uses acetic acid as the leach media and lead acetate is one of the few soluble compounds of lead. Conversely, lead phosphate displays extremely low solubility concentrations.

Chromium is highly insoluble in the normal, trivalent form but is highly soluble and mobile in the hexavalent form. A number of materials, such as ferrous iron and organic carbon, have the ability to reduce hexavalent chromium to the trivalent form, while elevated concentrations of manganese can catalyse the oxidation of trivalent chromium to the hexavalent form.

5.2 Organic Analytes – General Discussion

Total petroleum hydrocarbons (TPH: C₆-C₉, C₁₀-C₁₄, C₁₅-C₂₈, C₂₉-C₃₆) have been detected in locations associated with fuel storage and maintenance. Long-chain hydrocarbons (C₁₅-C₃₆) dominate in localised areas associated with equipment maintenance, and are localised in extent. These compounds are generally less mobile and soluble than short-chain compounds. Hydrocarbons associated with the former underground storage tank were readily bioremediated by landfarming, and have been reduced to below investigation threshold concentrations.

Polycyclic aromatic hydrocarbons (PAH) have been detected associated with ash in Area C (Fire Pit). The concentrations encountered were relatively low, and not likely to impact upon the future use of the site.

Organochlorine/organophosphorous compounds (OC/OPs) were not detected at the site.



5.3 Area A Soil

As shown by Table 3 and Figure 4a, none of the soil samples collected in Area A exceed the Draft E thresholds, with only sample A3 containing metals at concentrations in excess of normal soil concentrations. A background TPH sample (A1 0-0.2) contained no detectable concentrations (Appendix F). The concentrations in samples from Area A exhibit normal scatter for soil samples.

5.4 Area B Soil

As shown by Table 4 and Figure 4b, none of the soil samples collected in Area B exceed the Draft E thresholds for metals, or background levels for boron. The concentrations in samples from Areas A and B exhibit normal scatter for soil samples.

Three 0-200mm samples analysed for OC/OPs contained non-detectable concentrations. Four 0-200mm samples analysed for TPH contained concentrations below investigation thresholds (Draft CHEM Unit 1991 used for TPH comparison). Laboratory reports are included in Appendix F.

5.5 Area C Soil

As shown by Table 5 and Figure 4C, soil samples collected across Area C covered the area of the former fire pit. Only one sample (sample C9 0-200mm) exceeded the arsenic Health E threshold. Samples collected from 200-500 and 500-1000mm depth at this site contained 9 and 6 mg/kg, respectively, suggesting the vertical extent of arsenic in this area is limited to the upper 200mm.

The elevated concentrations of copper and chromium (but below E thresholds) in the same surface sample indicate CCA treated wood as the likely source. No detectable hexavalent chromium was found in soil samples.

A soil sample taken below the fire pit (C12 500-1000 mm) contained PAHs below investigation threshold concentrations. Three soil samples were analysed for PAHs from sample location C6. Sample C6 500-1000 mm exceeded the benzo-a-pyrene threshold of 1mg/kg (2.2 mg/kg). Some PAHs are associated with ash in this area, however the extent and distribution are not consistent across all ash samples. Laboratory reports are included in Appendix F.

5.6 Area D Soil

Two near-surface soil samples (D5 and D7) from Area D exceeded the Health E thresholds level, for surface soils. In the case of sample D5, sampling between 200-500 and 500-1000mm also exceed the Health E levels. This may result from the presence of high concentrations of organic material in the sawdust, which facilitates the migration of arsenic to depth. The other site (sample D7) showed a decline to 168 mg/L at 200-500 mm depth. Two additional samples (D6 and D9) were less than the Health E value.

As was the case in Area C, those samples in excess of the arsenic concentration also contained elevated concentrations of copper and trivalent chromium, and thereby suggest the relationship of the impact to the CCA sawdust at the site. Those samples with elevated arsenic concentrations were located along the haulage road to the sawdust storage shed, and were visibly impacted with sawdust.

A soil sample from location D2 (0-200mm) was analysed for TPH. This location had visible surface staining. Results were below the investigation thresholds for TPH.

Results for Area D are shown in Table 6 and Figure 4d. Laboratory reports are included in Appendix F.

5.7 Area E Soil

No samples from Area E exceeded the Health E threshold values. Results from Area E are shown on Table 7 and Figure 4e.



5.8 Area F Soil

Two sites in Area F (F2 and F3) exceed the Health E threshold values for surface soil samples. Analysis of samples collected from 200-500 mm at these sites all show arsenic concentrations in the range of normal background values, suggesting that the adsorption/chemical fixation capacity of the soil is sufficient to prevent the subsequent migration of arsenic into the sub-surface.

TPH in sample F6 0-200mm contained C₁₅-C₃₆ concentrations above Draft CHEM Unit 1991 thresholds (1 422 mg/kg vs 1 000 mg/kg). No BTEX, PAH or OC/OP compounds were detected. The sample was obtained from a localised area of staining, and the lateral and vertical extent of impact is considered to be less than 1 m³.

Two soil samples were taken from the former petrol underground storage tank (F15). Both samples contained non-detectable TPH concentrations.

Results from Area F are shown in Table 8 and Figure 4f. Laboratory reports are included in Appendix F.

5.9 Area G Soil

Four locations (G4, G13, G14, G15) contained boron concentrations above DEH background levels. No soil samples below 0-200 mm contained boron concentrations above background levels. No specific environmental or health-based criteria exist for boron. Metals concentrations were below Health E thresholds.

Results from Area G are shown in Table 9 and Figure 4g.

5.10 Area H Soil

One site (H3 at a depth of 200-500mm) in Area H exceeded the arsenic Health E threshold values (Table 10), with a concentration of 1 360 mg/kg. H3 (200-500mm) contained a boron concentration above DEH background levels. The same sample also contained concentrations of copper and chromium indicative of the origin of this material as boiler ash resulting from the burning of CCA-treated timber.

Results from Area H are shown in Table 10 and Figure 4h. Laboratory reports are included in Appendix F.

Earlier sampling by Envirotech had shown that the surface soils in this same location were also impacted above thresholds. Samples collected at H3 500-1000mm below grade showed a decline in arsenic concentrations to 32 mg/kg, together with reduced concentrations of chromium and copper. Thus, the boiler ash occurs at a depth of less than 0.5 metres at this location.

A localised area of oil staining was sampled at location H1. TPH results exceeded investigation thresholds (Draft CHEM Unit 1991) for C15-C36 chainlength hydrocarbons. No detectable PAHs were found. This soil was excavated, landfarmed and validated during tank removal works described below in Section 5.10.1. Laboratory reports are included in Appendix F.

5.10.1 Underground Storage Tank Soil Validation

Analytical results indicate that the excavation perimeter is validated with respect to hydrocarbons (samples E-W-N-S/WALL, BASE).



Approximately 100 m³ of suspected hydrocarbon-impacted soil was removed to the on site landfarm on 16 July 1998. One of two validation samples analysed 31 July 1998 returned C₁₅ - C₃₆ concentrations in excess of investigation thresholds. Landfarm operation was continued until 3 September 1998, when a second round of two validation samples was collected (LF3 and LF4). These samples contained hydrocarbon concentrations below investigation thresholds. Landfarm soils have since been returned to the open excavation, and the excavation brought to grade.

The sampling and analytical program associated with the UST removal indicates that the area has been validated with respect to petroleum hydrocarbons and lead. Work was completed in accordance with current DEH protocols. Results from the UST removal are shown in Table 15.

5.11 Cooroy Creek Sediment

Samples collected from downstream sites (CKS6 and CKS7) exceed the environmental investigation thresholds for arsenic. Sample CK7 also exceeds the value for Cr³⁺. Upstream samples from sites CKS2 and CKS3 exceed the environmental investigation threshold values for zinc. This zinc appears to result from upstream runoff from either mineralised areas or other sources, while the downstream increase in arsenic may reflect the relatively quiet conditions in the stream and the settling of fine-grained sediment in this downstream area. The random distribution of impact above thresholds suggests relatively low level impacts to stream sediments. Results for Area I are shown on Table 11 and Figure 4i.

5.12 Cooroy Creek Waters

Water samples from the creek contained lead and zinc concentrations in excess of the ANZECC Fresh and Marine Water Guidelines (Table 12) in samples CK1W and CK3W (stormwater discharge channel puddle only). This lead and zinc may be sourced from upgradient sources and/or mineralised areas.



Tannin concentrations in creek water samples were all non-detectable. Laboratory reports are included in Appendix H.

5.13 Groundwater

Groundwater samples from the various monitoring wells contained metals at concentrations below Dutch 1994 guidelines. Boron ranged from <0.2 mg/L to 3.8 mg/L in wells, except for MW5 (40.4 mg/L). The boron appears to have resulted from leaks in the borax pits. Minor input from other sources may have also occurred. The boron-impacted groundwater is anticipated to move downgradient and ultimately discharge into Cooroy Creek. Laboratory reports are included in Appendix I. Results are shown in Table 13 and Figure 6.

5.14 Borax Pit and Evaporation Pond Liquid

Management options for borax pit and evaporation pond liquids are currently under review. The results of this review will be presented under separate cover. Results are shown in Table 14.



6. CONCLUSIONS

Based on the results of work completed at the site to date, Fluor Daniel GTI concludes the following:

6.1 Inorganic Contaminants

- Localised areas of soil impact occur on the site which exceed the 1998 Draft Department of Environment Table 9.1 Health Threshold Level E concentrations for arsenic. These areas are primarily associated with visible deposits of sawdust from planing operations on CCA treated wood. Other areas are associated with the past disposal of boiler ash resulting from the burning of CCA treated wood and sawdust.
- Depth sampling indicates that the arsenic concentration decreases rapidly with depth in soil, consistent with the known geochemical behaviour of arsenic. With one exception, related to the CCA sawdust deposits, impact does not extend beyond one metre, and is not anticipated to migrate deeper into the sub-surface.
- There is no evidence of substantive groundwater impact by arsenic, chromium, copper or boron resulting from prior site activities, with the exception of the vicinity of MW5. The boron concentration in the groundwater at MW5 is elevated as a result of prior activities and from possible leakage of the borax pits. Boron was not detected in creek water samples, suggesting limited migration of boron to date.
- Although the 1991 Envirotest Phase I investigation detected elevated heavy metals in surface waters, the recent Phase II investigation did not indicate heavy metals resulting from site conditions at concentrations sufficient to cause adverse impacts to receiving water aquatic organisms. Upstream sources may have caused elevated lead and zinc concentrations.



- Stream sediments exceed draft 1998 Department of Environment Environmental Investigation Threshold values for zinc in upstream areas, for arsenic in downstream areas, and for chromium at two random sites. Despite these exceedances, results of stream sampling do not indicate dissolved metals concentrations in stream water at concentrations to cause adverse impacts. Rather, the metals appear to be sorbed onto the stream sediments.

6.2 Hydrocarbon Contaminants

- Hydrocarbon-impacted soils associated with the former petrol UST (Area H) have been remediated and validated in accordance with currently acceptable protocols.
- Two isolated 'hotspots' of TPH/PAH impacts above environmental investigation thresholds remain on site. The volume of impacted soil in these locations is less than 1m³.

No other hydrocarbon or OC/OP analyses exceeded investigation thresholds.

Figure 7 shows the extent and distribution of metals, boron and hydrocarbon impacts in soils at the site. This plan is based on the results of the 1991 and 1998 analytical programs.

6.3 Remedial Action

Recommendations for remedial actions will be provided in a separate remediation plan and site management plan outline.

7. REFERENCES

Australian and New Zealand Environment and Conservation Council (November 1992). Australian Water Quality Guidelines for Fresh and Marine Waters.

Chemical Hazards and Emergency Management (CHEM) Unit (1991). *Draft Guidelines for the Assessment of Contaminated Land in Queensland.* Government Printer, Queensland.

Chemical Hazards and Emergency Management (CHEM) Unit (1992). *Guidelines for the Assessment of Contaminated Land in Queensland.* Government Printer, Queensland.

Department of Environment (1998). Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland.

Department of Minerals and Energy (1975). Gympie 1:250,000 Geological Series, Sheet SG56-10.

Department Of Natural Resources (1980). Cooroy 1:25,000 Topographic Map, Sheet 9445-11.

Department Of Natural Resources (1987). Groundwater Resources of Queensland 1:2,500,000 (Mines Department State Series: Map 4).

Envirotest (November 1991). Environmental Audit of Boral Cooroy Wood Treatment Facility.

Ministry of Housing, Spatial Planning and the Environment (Dutch) (1994). *Environmental Quality Objectives in the Netherlands.* Samson-Sijthoff grafische bedrijven v.b., Alphen a/d Rijn.

National Health and Medical Research Council (1996). Australian Drinking Water Guidelines.



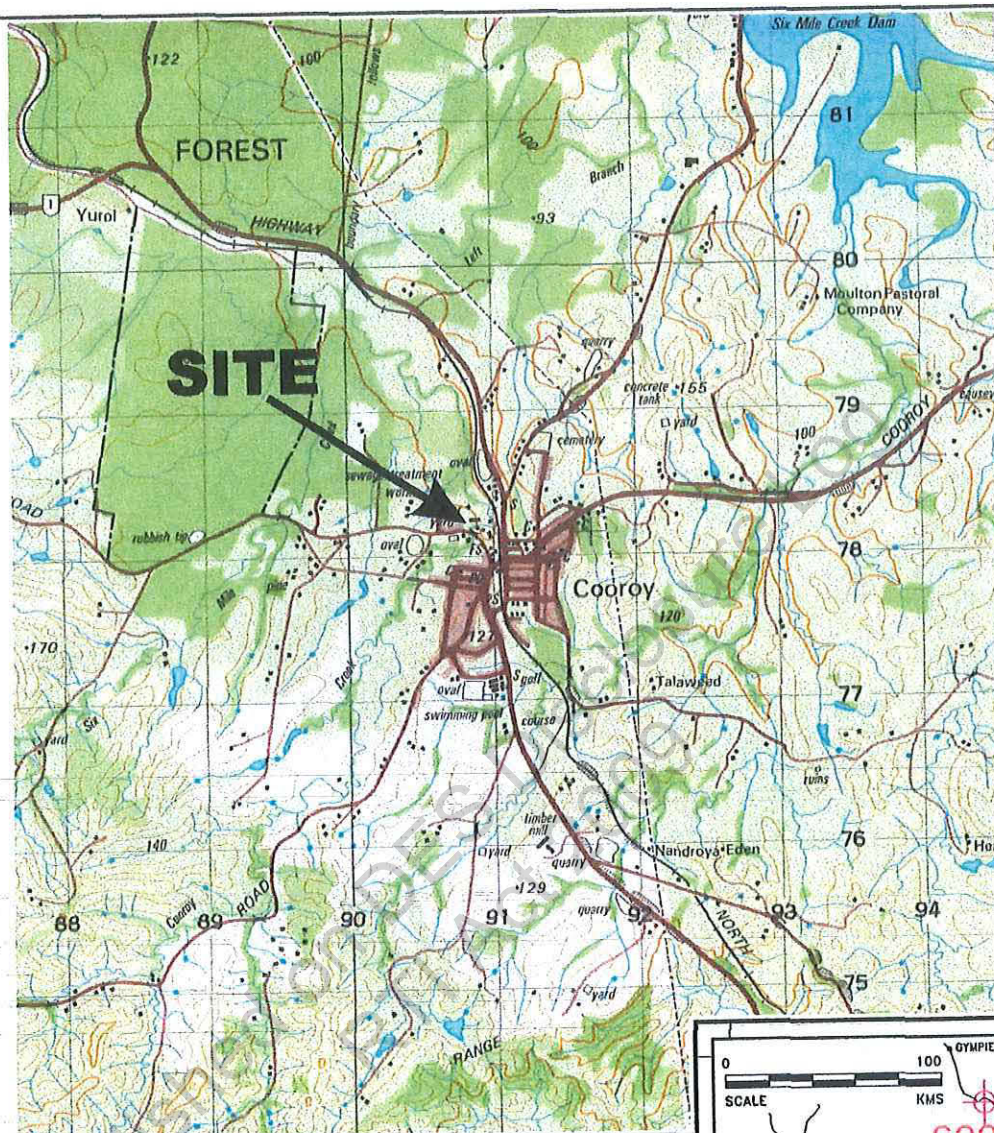
DISCLAIMER

Fluor Daniel GTI has conducted work concerning the environmental status of the property which is the subject of this report, and has prepared this report on the basis of that assessment.

The work was conducted, and the report has been prepared, in response to specific instructions from the client to whom this report is addressed, within the time and budgetary requirements of the client, and in reliance on certain data and information made available to Fluor Daniel GTI. The analyses, evaluations, opinions and conclusions presented in this report are based on that information, and they could change if the information is in fact inaccurate or incomplete.

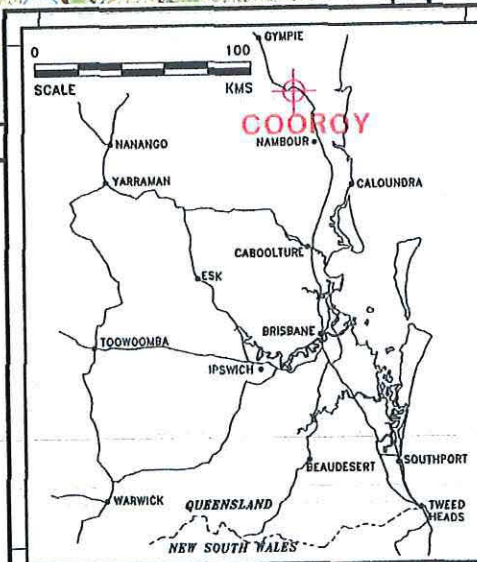
Fluor Daniel GTI will not update the report and has not taken into account events occurring after the time its assessment was conducted.

This report is intended for the sole use of the client and only for the purpose for which it was prepared. Any representation contained in the report is made only to the client. Any third party who relies on the report or on any representation contained in it does so at their own risk.



SOURCE: QUEENSLAND TOPOGRAPHIC IMAGE MAP
COOROY, QUEENSLAND
SHEET: 9445-11
EDITION 1 1980

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SCALE: 1:50 000



FLUOR DANIEL GTI

12 STRATTON STREET
NEWSTEAD QLD 4006
(07) 3252 5711

DESIGNED:
CTPI 49

COMPILED:
CTPI 49

PROJ. NO.
B7570

SITE LOCATION MAP

CLIENT:

BORAL TIMBERS - COOROY

LOCATION:

CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

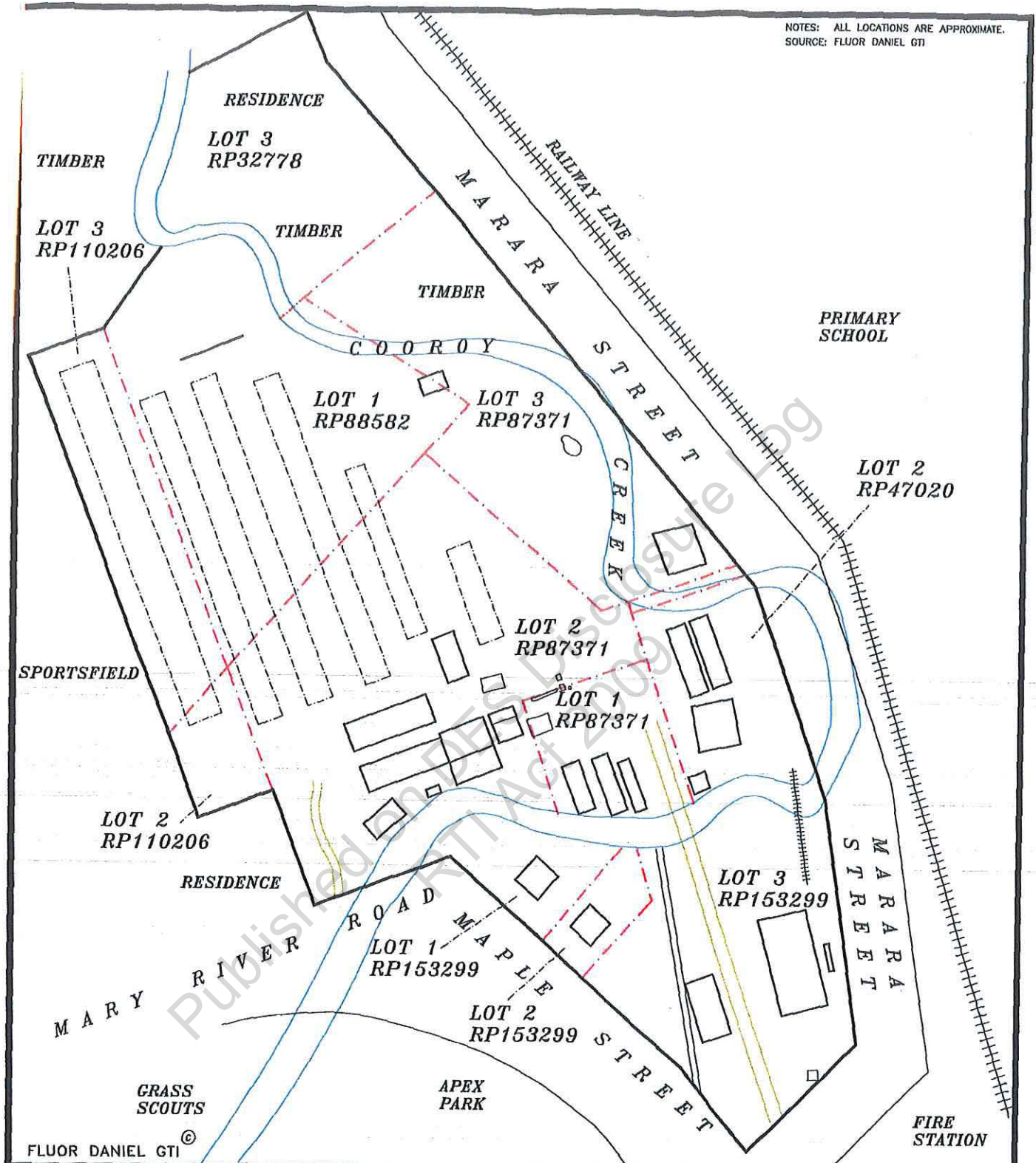
DRAWING DATE:

01/07/98

FIGURE:

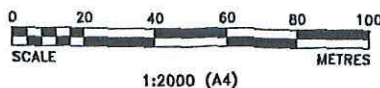
1

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



STRIPPED TIMBER

LEGEND



12 STRATTON STREET
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FLUOR DANIEL GTI

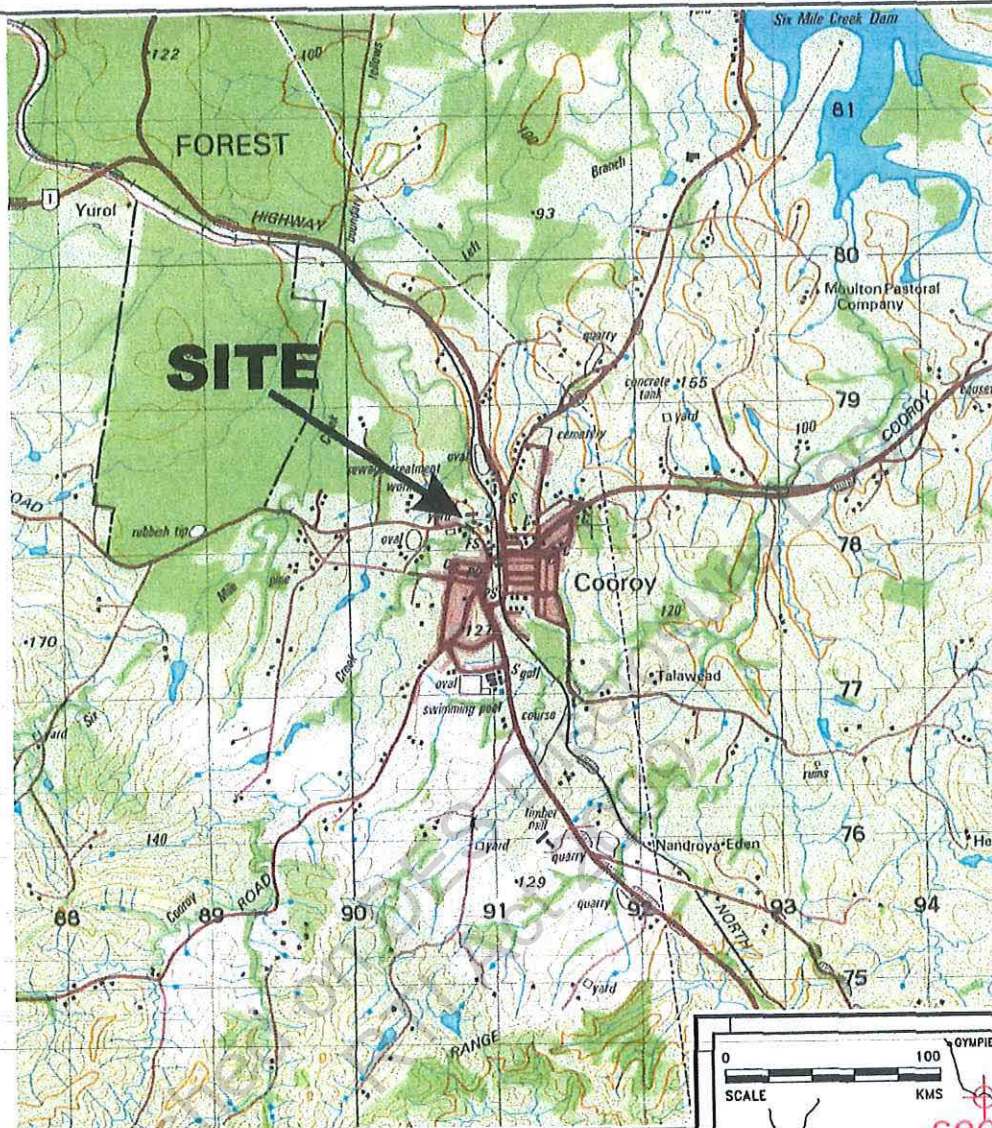
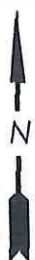
REV. NO.: 1	DRAWING DATE: 28/08/98	ACAD FILE: B7570
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SITE PLAN - LOTS

CLIENT: BORAL TIMBERS - COOROY	PM:
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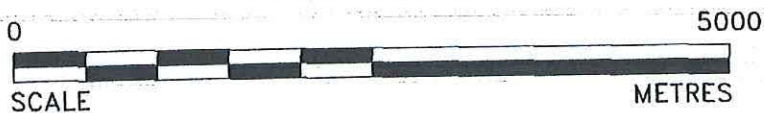
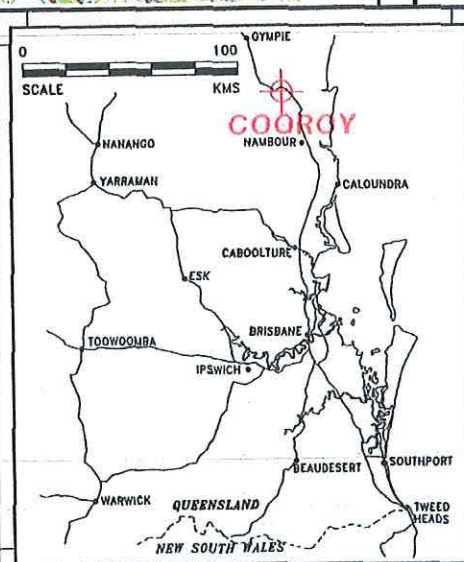
LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND	PS:
---	-----

DESIGNED: CTPI 4	DETAILED: CTPI 4	PROJECT NO.: B7570	FIGURE: 2a
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SOURCE: QUEENSLAND TOPOGRAPHIC IMAGE MAP
COORoy, QUEENSLAND
SHEET: 9445-11
EDITION 1 1980

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SCALE: 1:50 000



FLUOR DANIEL GTI

12 STRATTON STREET
NEWSTEAD QLD 4006
(07) 3252 5711

DESIGNED:

CTPI 49

COMPILED:

CTPI 49

PROJ. NO.

B7570

SITE LOCATION MAP

CLIENT:

BORAL TIMBERS - COORoy

LOCATION:

CNR MARY RIVER RD & MAPLE ST
COORoy, QUEENSLAND

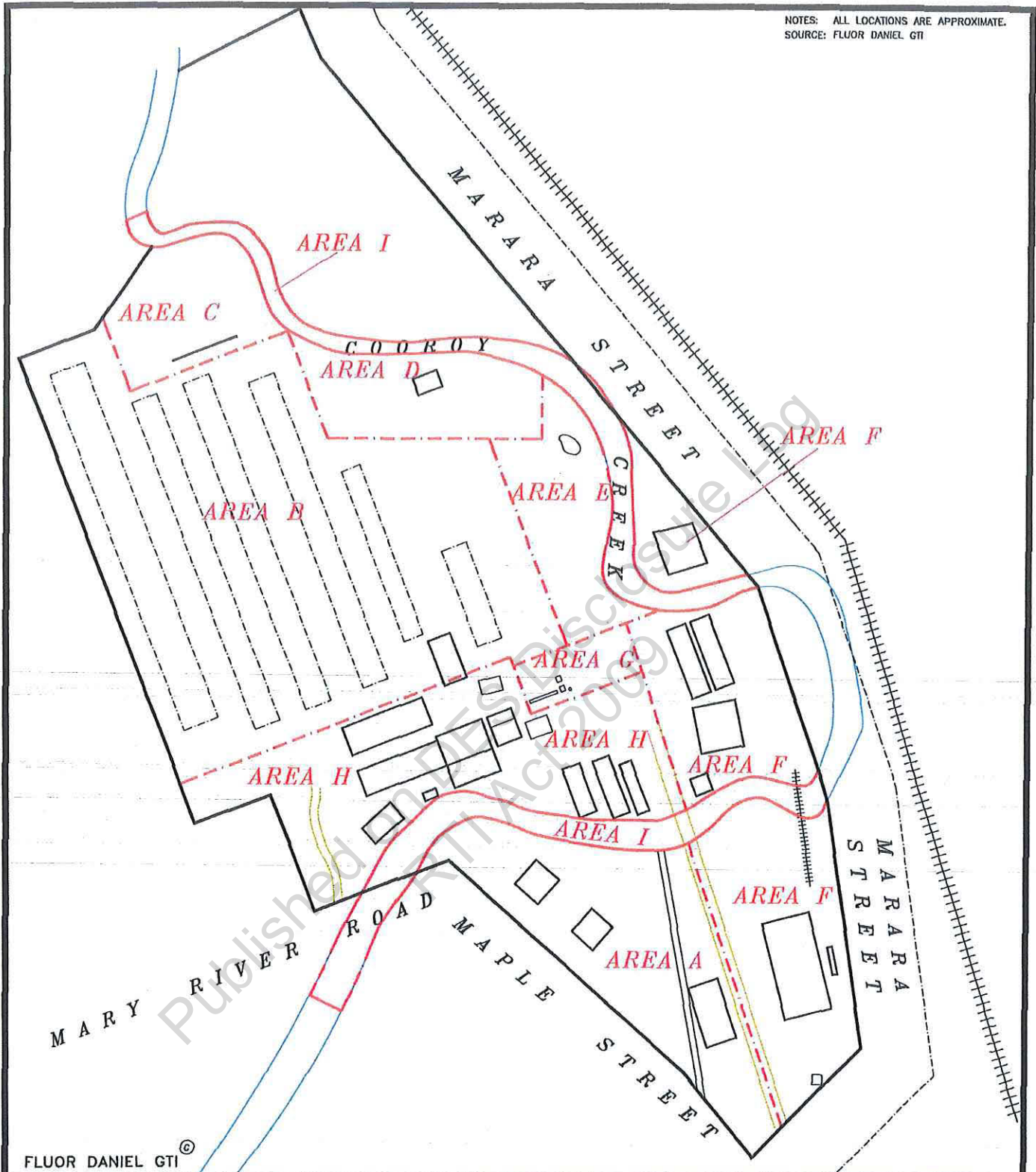
DRAWING DATE:

01/07/98

FIGURE:

1

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI

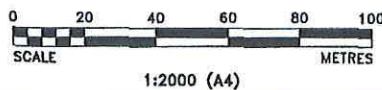


FLUOR DANIEL GTI ©

LEGEND



STRIPPED TIMBER



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NEWSTEAD QLD 4006
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FLUOR DANIEL GTI

REV. NO.: 1	DRAWING DATE: 28/08/98	ACAD FILE: B7570
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**SITE PLAN –
MANAGEMENT AREAS**

CLIENT: BORAL TIMBERS – COOROY

PM:

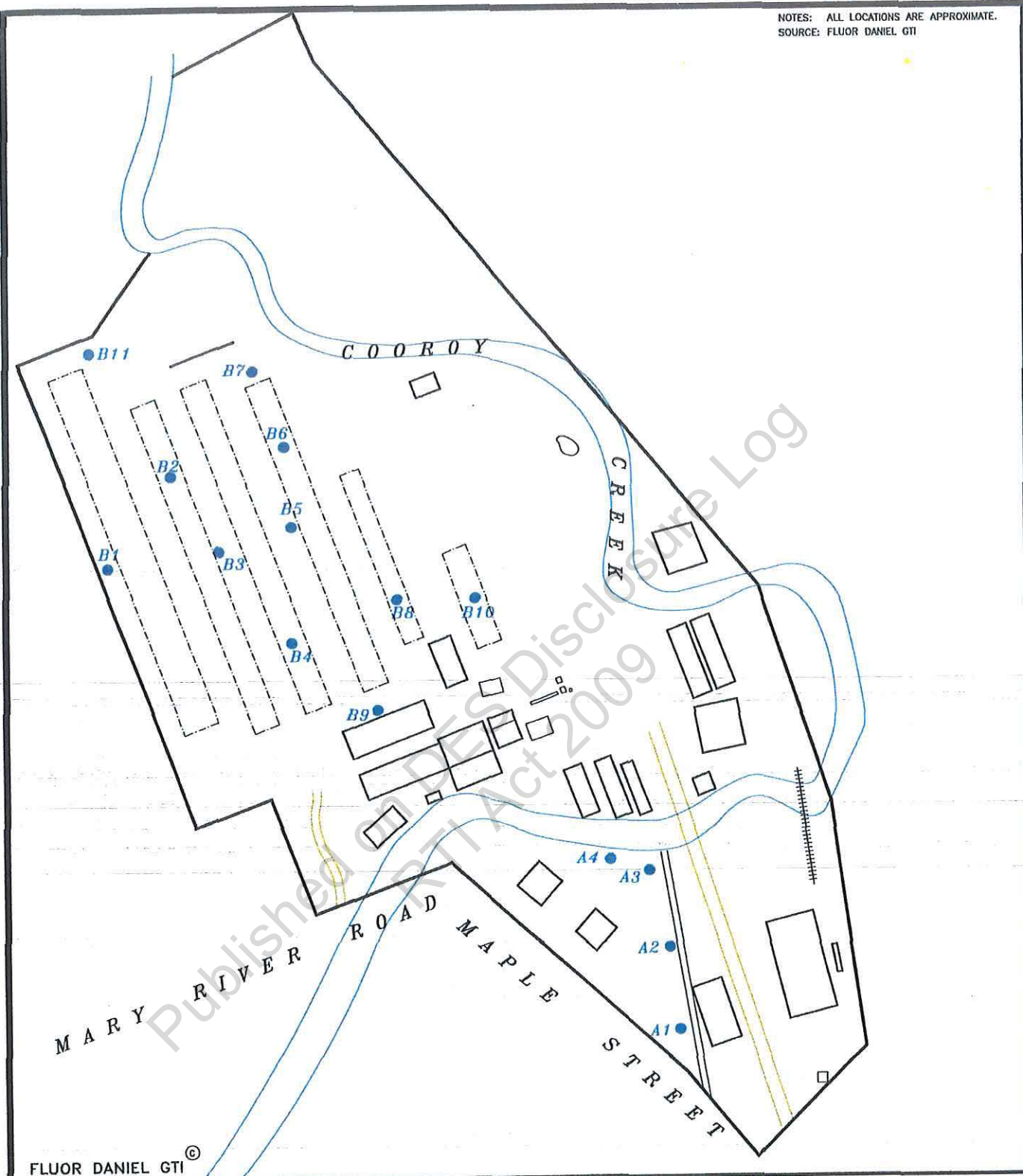
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI 4	DETAILED: CTPI 4	PROJECT NO.: B7570
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FIGURE:
2b

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

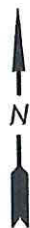
LEGEND



STRIPPED TIMBER



SOIL SAMPLE LOCATIONS (MAY 1998)



1:2000 (A4)



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REV. NO.:
1

DRAWING DATE:
28/08/98

ACAD FILE:
B7570F3A

SITE PLAN WITH SAMPLING LOCATIONS

CLIENT:
BORAL TIMBERS - COOROY

PM:

LOCATION:
CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

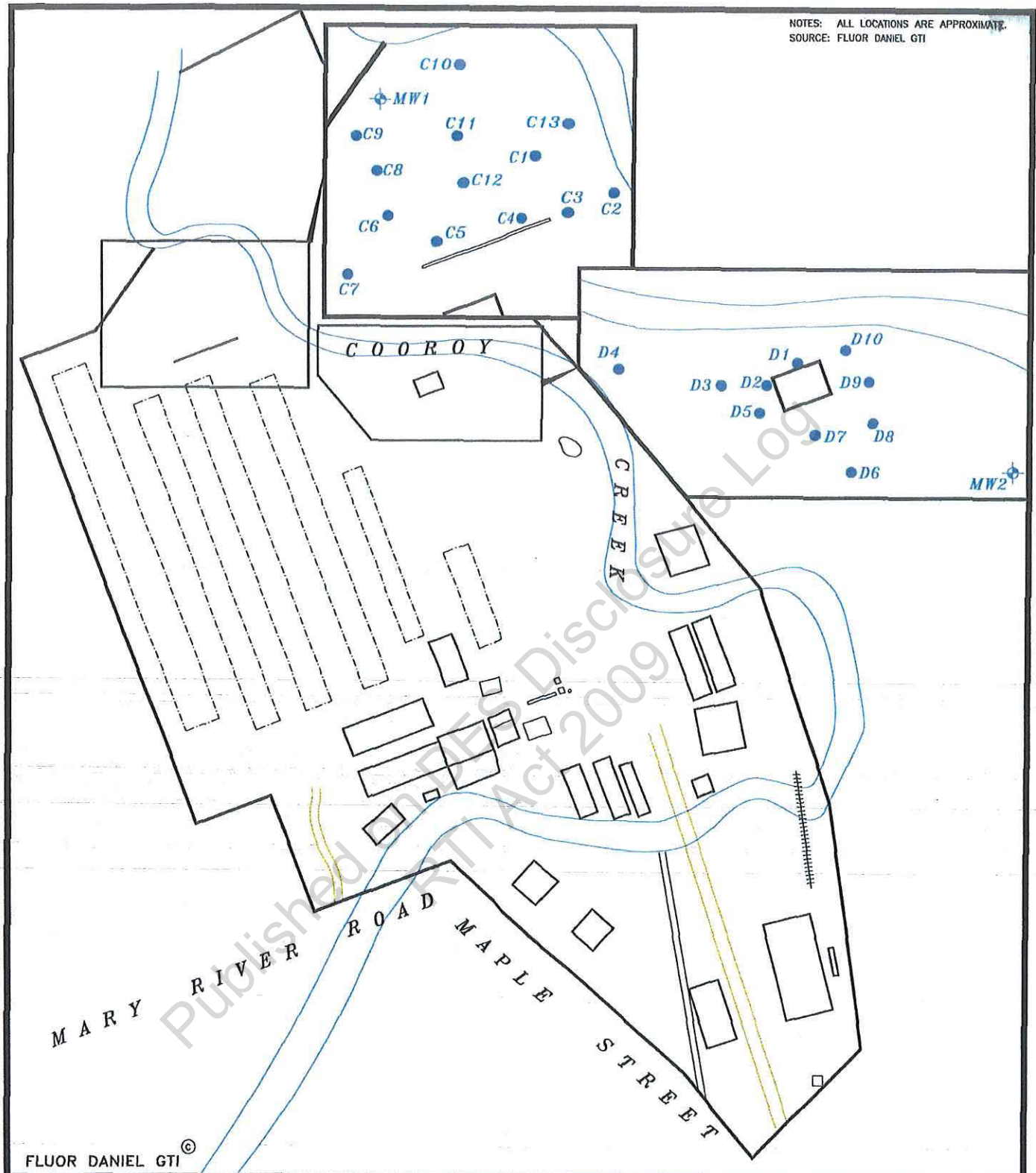
DESIGNED:
CTPI 4

DETAILED:
CTPI 4

PROJECT NO.:
B7570

FIGURE:
3a

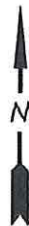
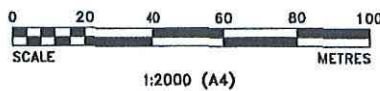
NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND

-  STRIPPED TIMBER
-  SOIL SAMPLE LOCATIONS (MAY 1998)
-  MONITORING WELL LOCATIONS (MAY 1998)



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FLUOR DANIEL GTI

REV. NO.: 1	DRAWING DATE: 28/08/98	ACAD FILE: B7570F3B
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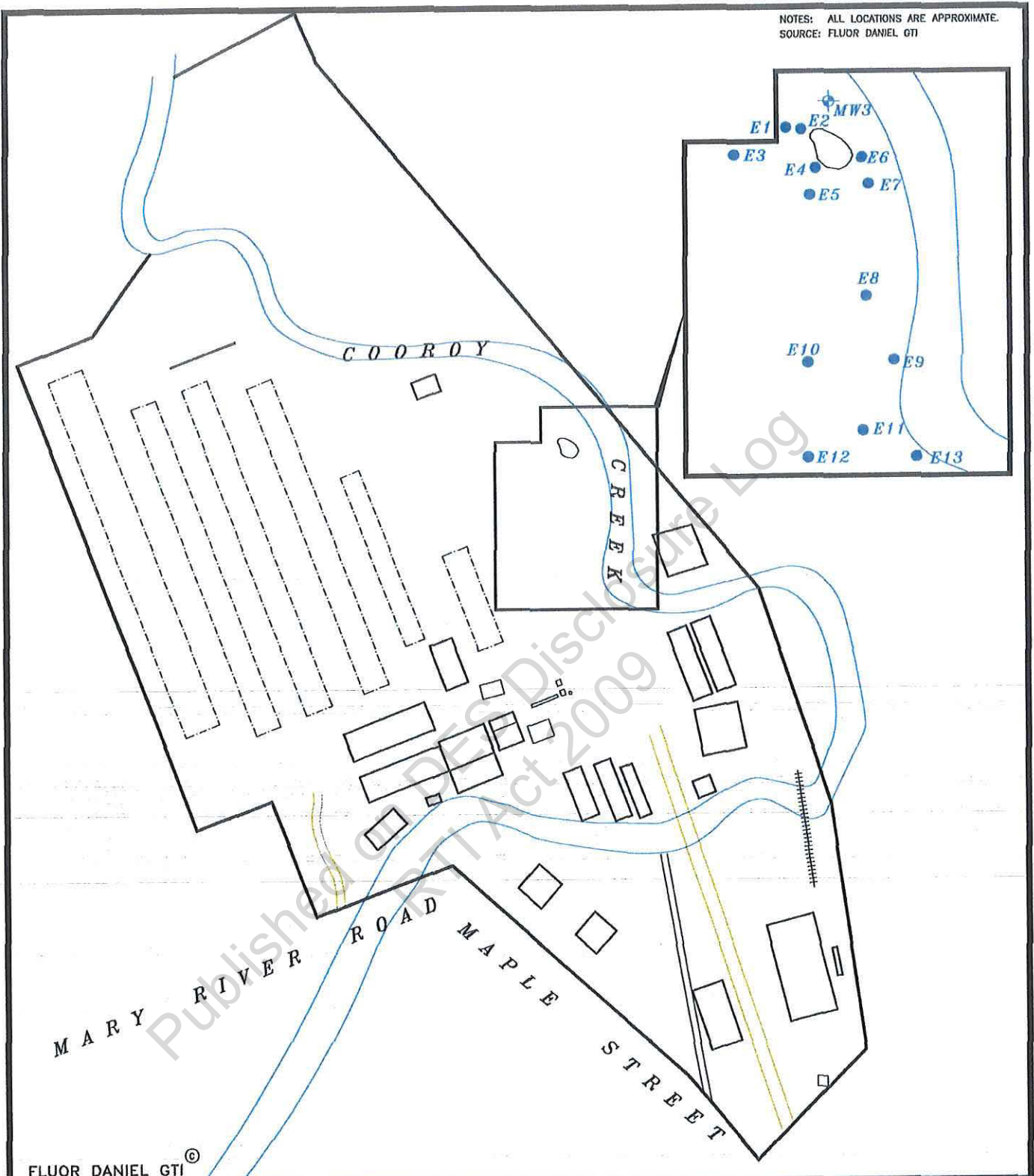
SITE PLAN WITH SAMPLING LOCATIONS

CLIENT: BORAL TIMBERS - COOROY	PM:
-----------------------------------	-----

LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND	PS:
---	-----

DESIGNED: CTPI 4	DETAILED: CTPI 7	PROJECT NO.: B7570	FIGURE: 3b
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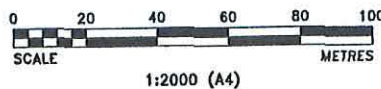
NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND

-  STRIPPED TIMBER
-  SOIL SAMPLE LOCATIONS (MAY 1998)
-  MONITORING WELL LOCATIONS (MAY 1998)

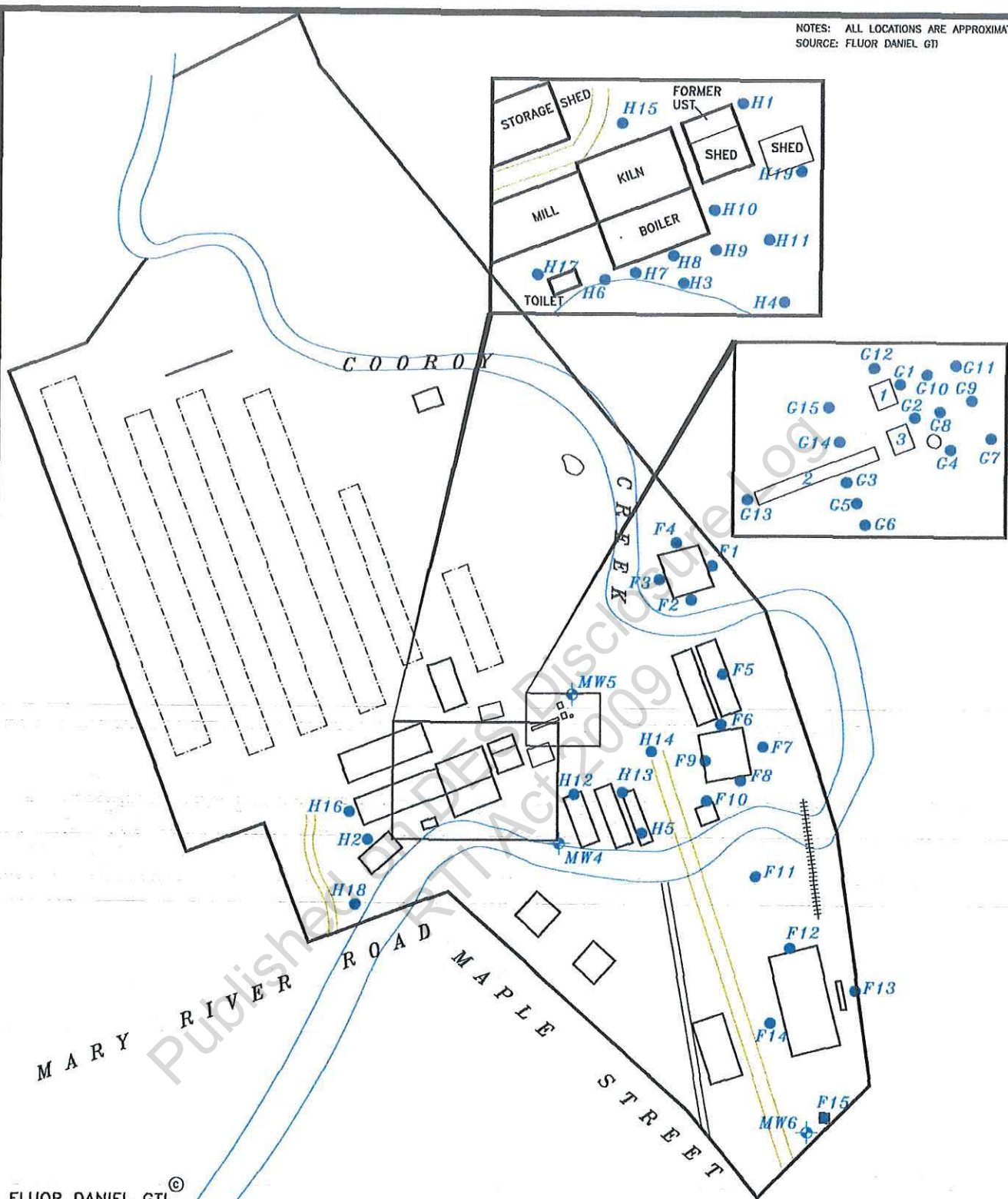


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FLUOR DANIEL GTI

REV. NO.: 1	DRAWING DATE: 28/08/98	ACAD FILE: B7570F3C
SITE PLAN WITH SAMPLING LOCATIONS		
CLIENT: BORAL TIMBERS - COOROY	PM:	
LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND	PS:	
DESIGNED: CTPI 4	DETAILED: CTPI 4	PROJECT NO.: B7570
		FIGURE: 3c

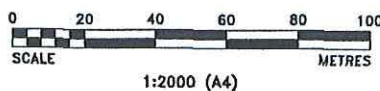
NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND

-  STRIPPED TIMBER
-  SOIL SAMPLE LOCATIONS (MAY 1998)
-  MONITORING WELL LOCATIONS (MAY 1998)



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FLUOR DANIEL GTI

REV. NO.: 1 DRAWING DATE: 28/08/98 ACAD FILE: B7570F3D

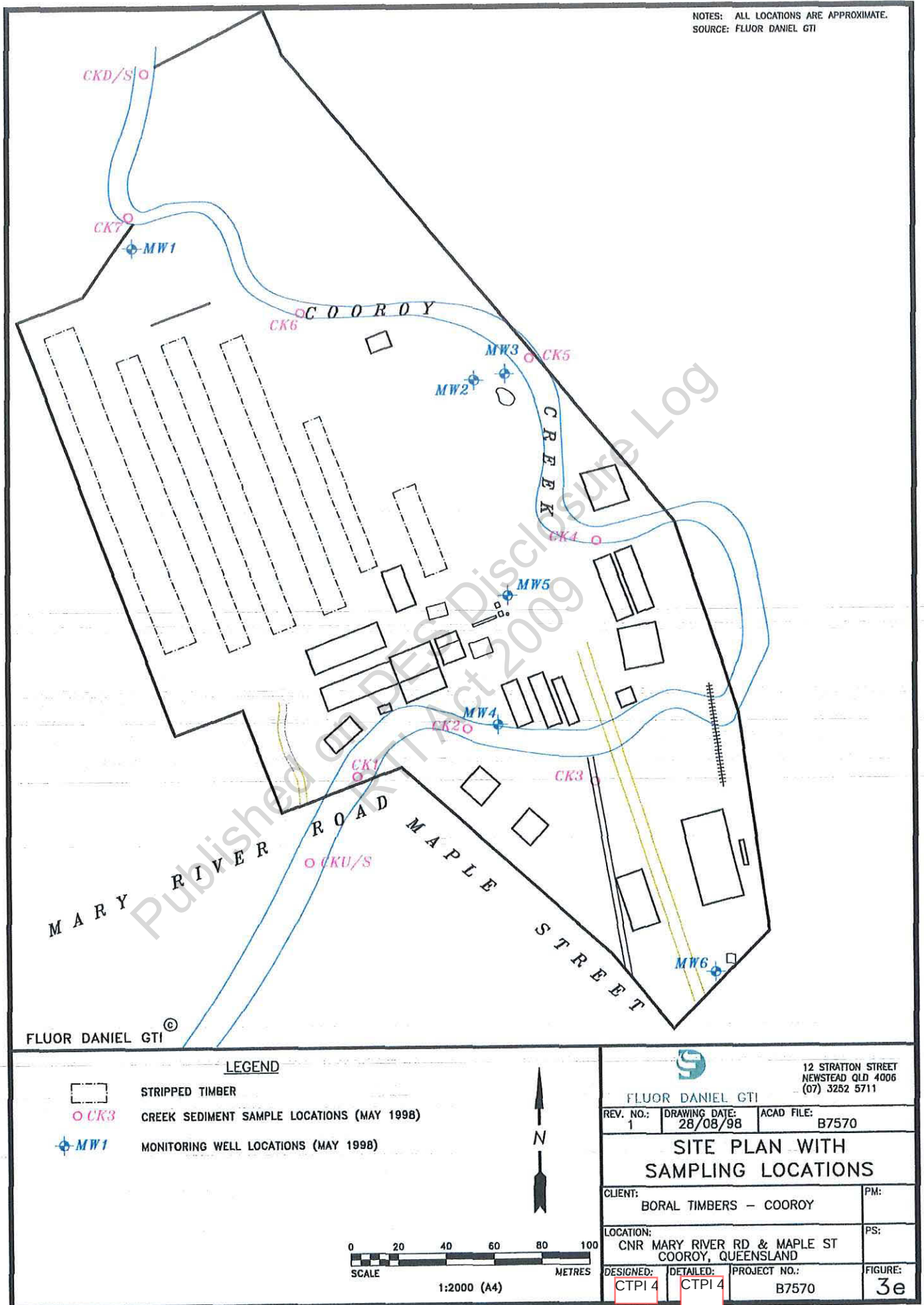
SITE PLAN WITH SAMPLING LOCATIONS

CLIENT: BORAL TIMBERS - COOROY PM:

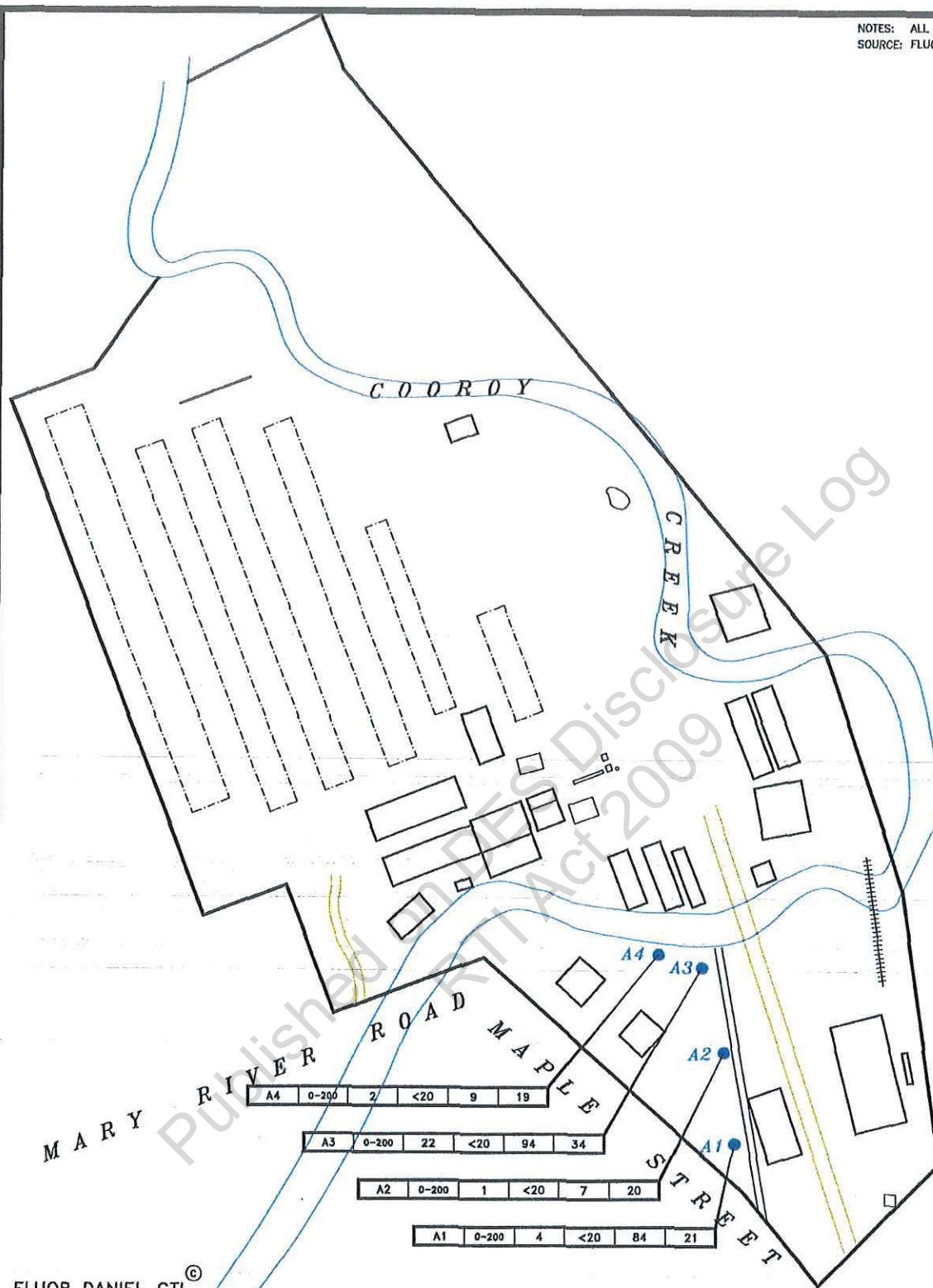
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND PS:

DESIGNED: CTPI 4 DETAILED: CTPI 4 PROJECT NO.: B7570 FIGURE: 3d

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND



STRIPPED TIMBER



SOIL SAMPLE LOCATIONS (MAY 1998)

SAMPLE ID	DEPTH mm	ARSENIC ppm	BORON ppm	COPPER ppm	CHROMIUM 3+ ppm
-----------	----------	-------------	-----------	------------	-----------------

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998)



1:2000 (A4)



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FLUOR DANIEL GTI

REV. NO.: 1 DRAWING DATE: 28/08/98 ACAD FILE: B7570F4A

RESULTS MAP - AREA A

CLIENT: BORAL TIMBERS - COOROY

PM:

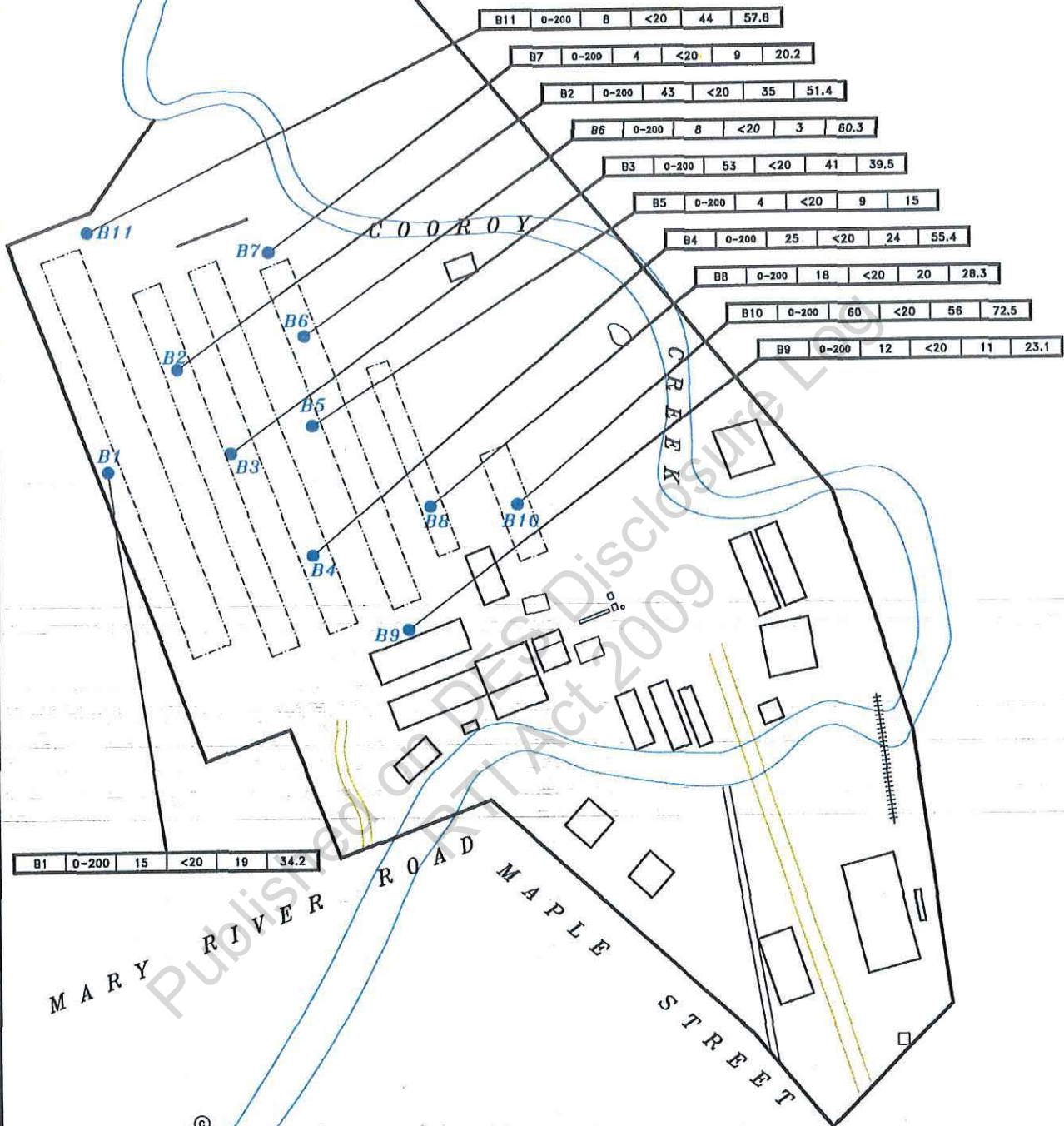
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI 4 DETAILED: CTPI 4 PROJECT NO.: B7570

FIGURE: 4a

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND



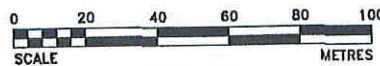
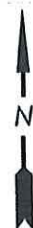
STRIPPED TIMBER



SOIL SAMPLE LOCATIONS (MAY 1998)

SAMPLE ID	DEPTH mm	ARSENIC ppm	BORON ppm	COPPER ppm	CHROMIUM 3+ ppm
-----------	----------	-------------	-----------	------------	-----------------

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998)



FLUOR DANIEL GTI

12 STRATON STREET
NEWSTEAD QLD 4006
(07) 3252 5711

REV. NO.: 1

DRAWING DATE: 28/08/98

ACAD FILE: B7570F4A

RESULTS MAP - AREA B

CLIENT: BORAL TIMBERS - COOROY

PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI 4

DETAILED: CTPI 4

PROJECT NO.: B7570

FIGURE: 4b

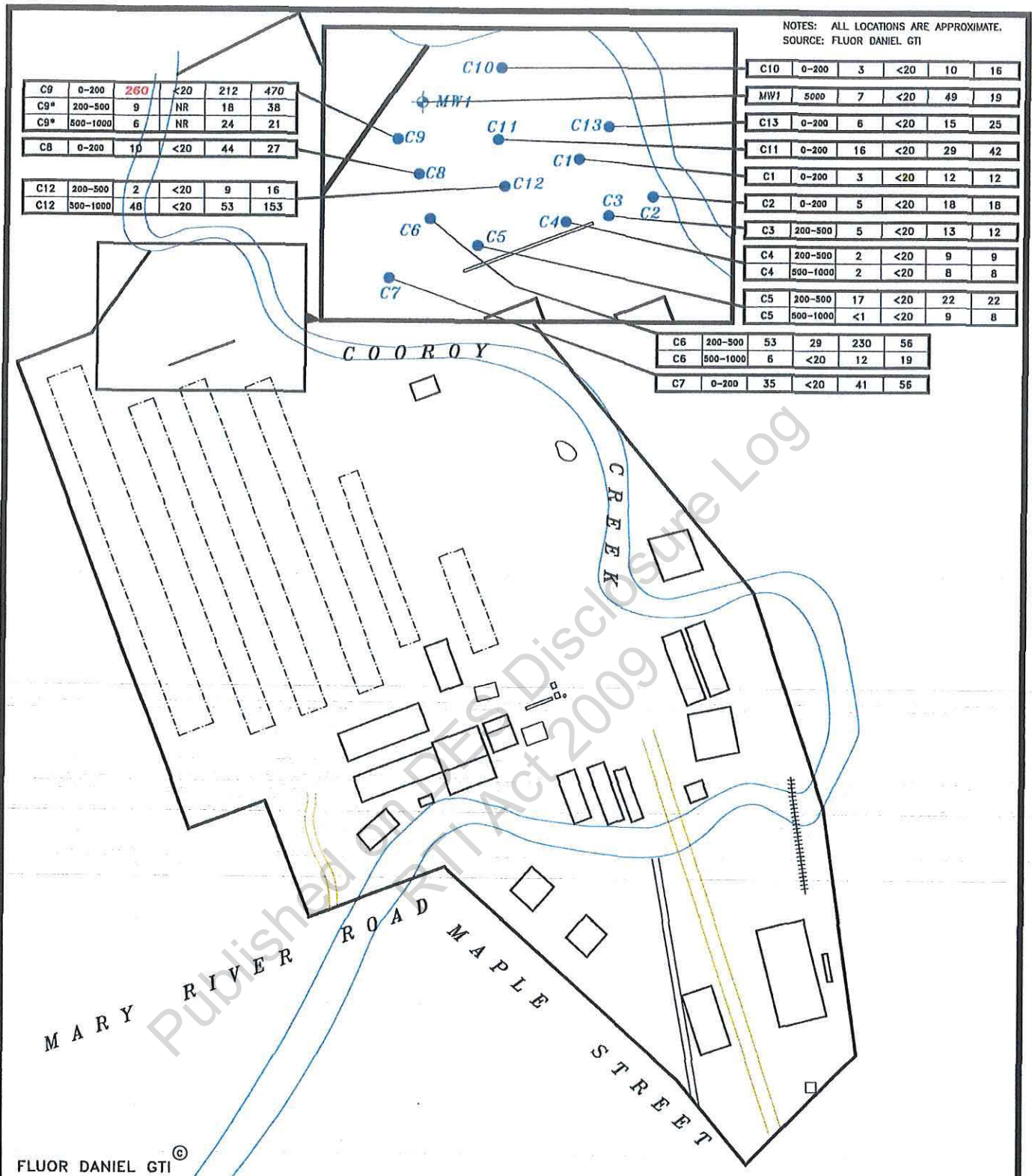
NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI

C9	0-200	260	<20	212	470
C9*	200-500	9	NR	18	38
C9*	500-1000	6	NR	24	21
C8	0-200	10	<20	44	27

C12	200-500	2	<20	9	16
C12	500-1000	48	<20	53	153

C10	0-200	3	<20	10	16
MW1	5000	7	<20	49	19
C13	0-200	6	<20	15	25
C11	0-200	16	<20	29	42
C1	0-200	3	<20	12	12
C2	0-200	5	<20	18	18
C3	200-500	5	<20	13	12
C4	200-500	2	<20	9	9
C4	500-1000	2	<20	8	8
C5	200-500	17	<20	22	22
C5	500-1000	<1	<20	9	8

C6	200-500	53	29	230	56
C6	500-1000	6	<20	12	19
C7	0-200	35	<20	41	56



FLUOR DANIEL GTI ©

LEGEND



STRIPPED TIMBER



SOIL SAMPLE LOCATIONS (MAY 1998)

SAMPLE ID	DEPTH mm	ARSENIC ppm	BORON ppm	COPPER ppm	CHROMIUM 3+ ppm
-----------	----------	-------------	-----------	------------	-----------------

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998)

C9* SEQUENTIAL ANALYSES COMPLETED ON STORED SAMPLES
NR NOT REQUESTED



1:2000 (A4)



12 STRATTON STREET
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FLUOR DANIEL GTI

REV. NO: 1 DRAWING DATE: 28/08/98 ACAD FILE: B7570F4A

RESULTS MAP - AREA C

CLIENT: BORAL TIMBERS - COOROY

PM:

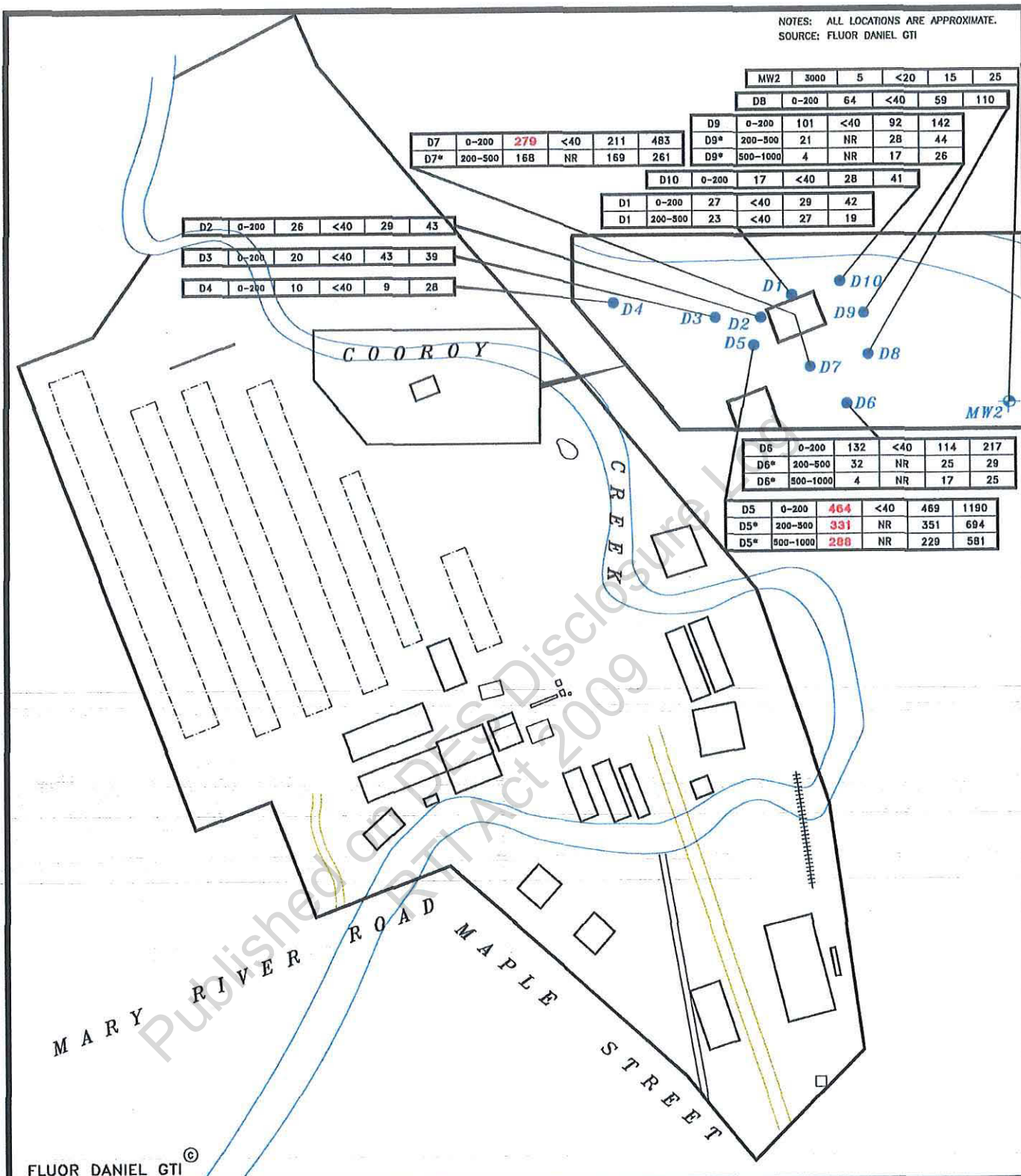
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI4 DETAILED: CTPI4 PROJECT NO: B7570

FIGURE: 4c

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND



STRIPPED TIMBER

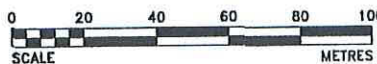


SOIL SAMPLE LOCATIONS (MAY 1998)

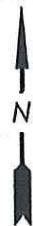
SAMPLE ID	DEPTH mm	ARSENIC ppm	BORON ppm	COPPER ppm	CHROMIUM 3+ ppm
-----------	----------	-------------	-----------	------------	-----------------

VALUES IN RED AND BOLD INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998)

D5* SEQUENTIAL ANALYSES COMPLETED ON STORED SAMPLES
NR NOT REQUESTED



1:2000 (A4)



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FLUOR DANIEL GTI

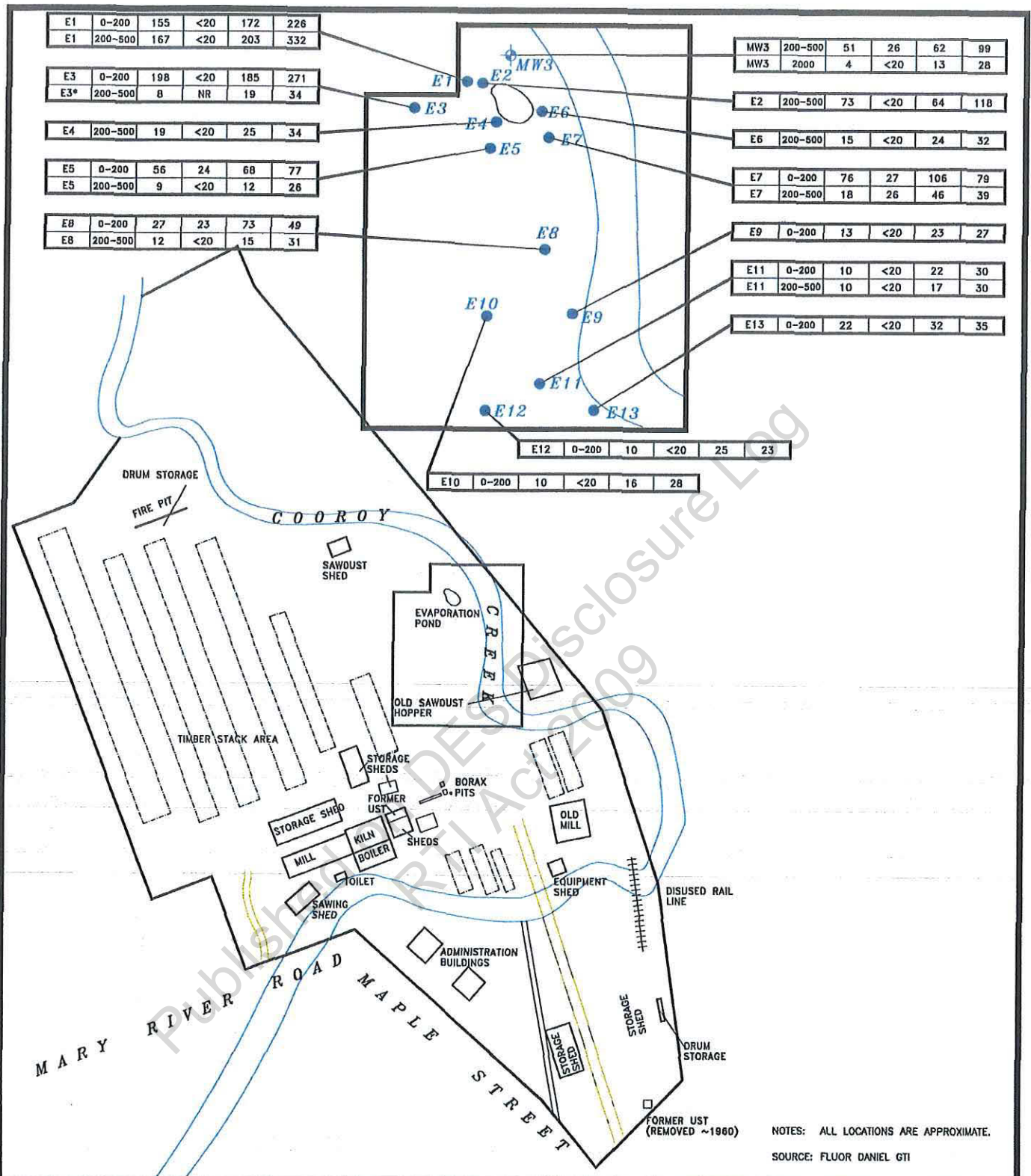
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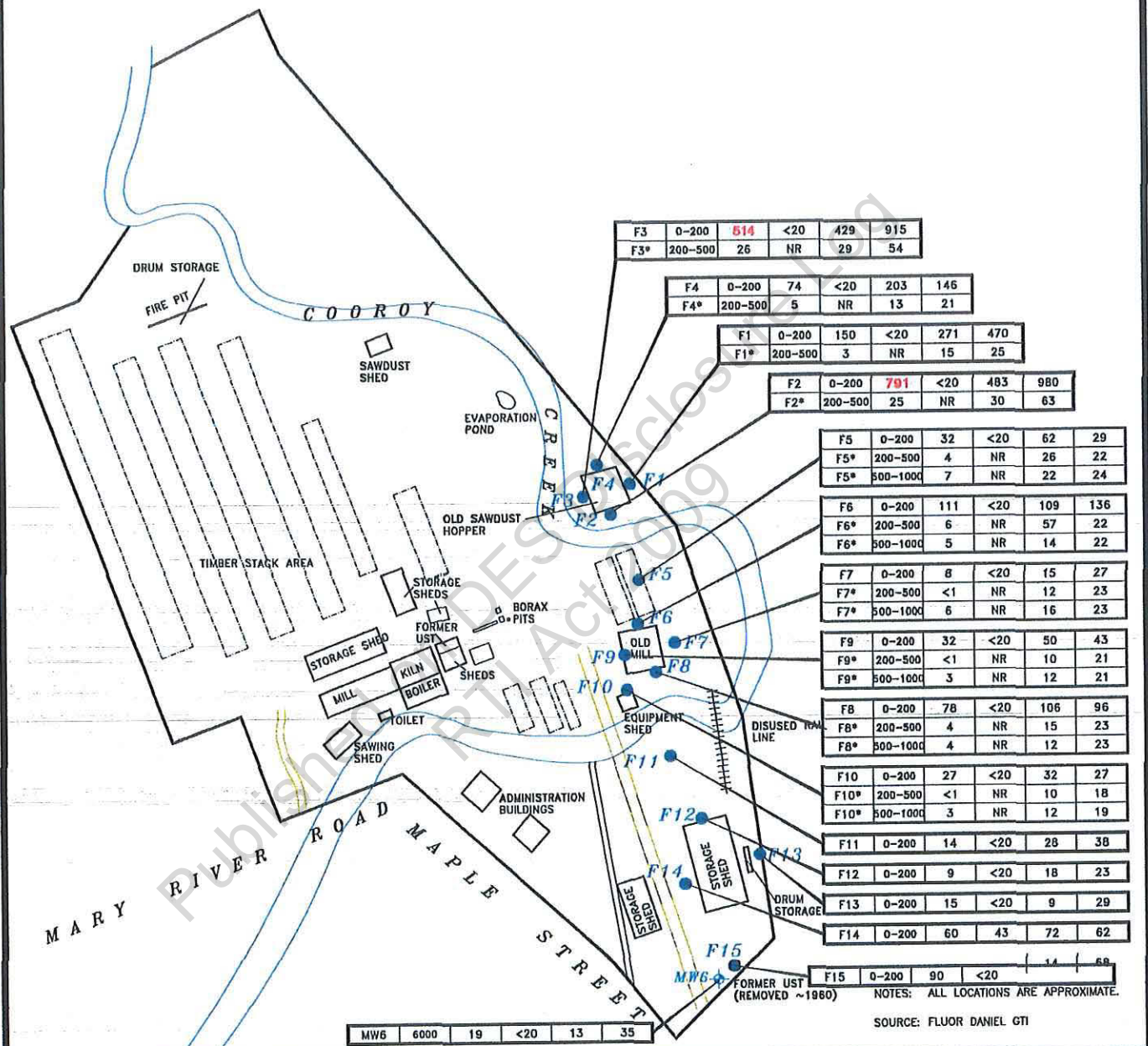
RESULTS MAP - AREA D

CLIENT: BORAL TIMBERS - COOROY PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND PS:

DESIGNED: CTPI DETAILED: CTPI 4 PROJECT NO.: B7570 FIGURE: 4d





LEGEND

- STRIPPED TIMBER
- SOIL SAMPLE LOCATIONS (MAY 1998)

SAMPLE ID	DEPTH mm	ARSENIC ppm	BORON ppm	COPPER ppm	CHROMIUM 3+ ppm
-----------	----------	-------------	-----------	------------	-----------------

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998) AND BORON BACKGROUND LEVELS

SEQUENTIAL ANALYSES COMPLETED ON
F3* STORED SAMPLES
NR NOT REQUESTED



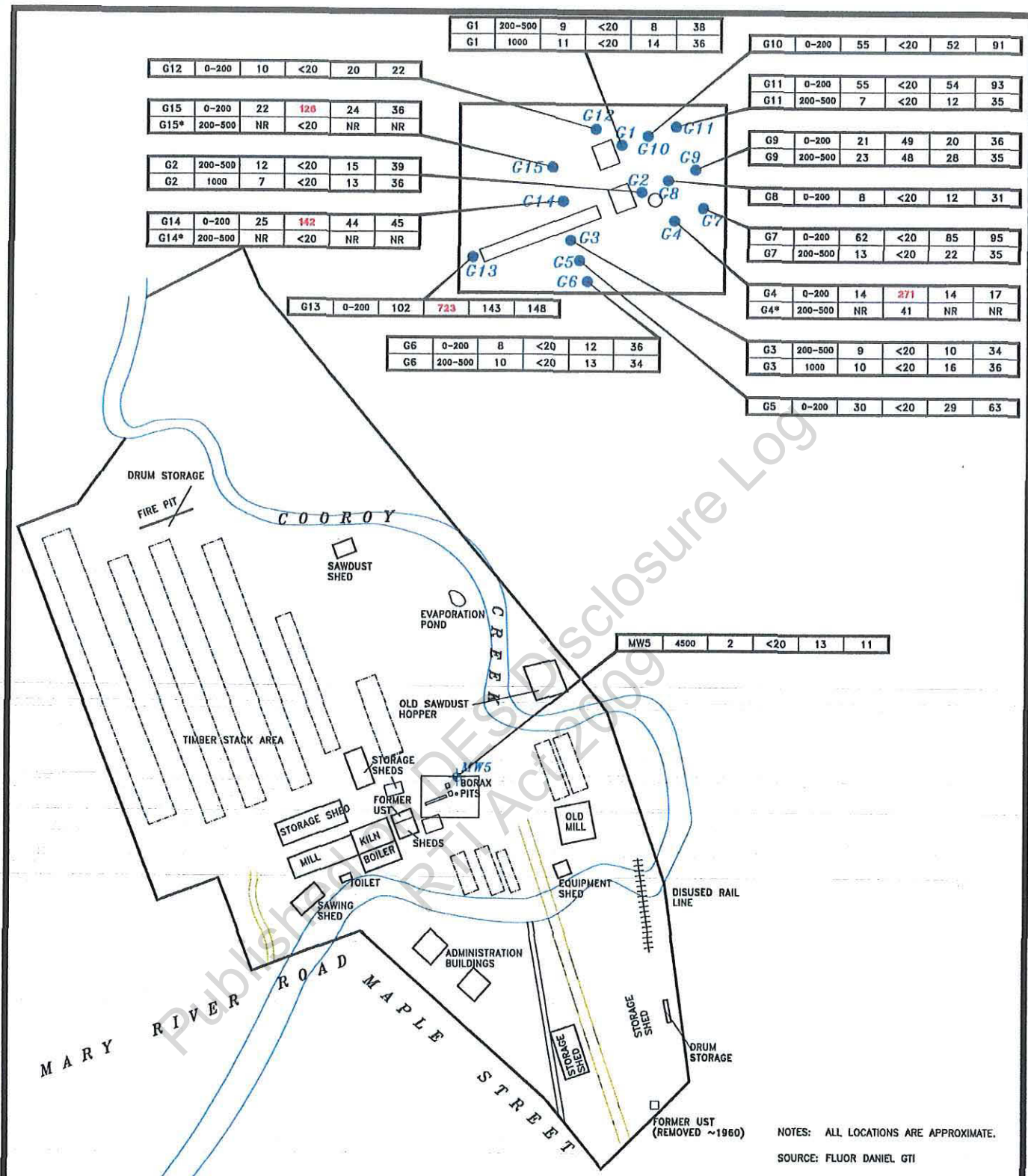
FLUOR DANIEL GTI ©

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12 STRATTON STREET
NEWSTEAD QLD 4006
(07) 3252 5711

REV. NO.: 1
DRAWING DATE: 05/06/97
ACAD FILE: B7570F4F

RESULTS MAP - AREA F

CLIENT: BORAL TIMBERS - COOROY
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND
DESIGNED: CTPI
DETAILED: CTPI
PROJECT NO.: B7570
FIGURE: 4f



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REV. NO.: 1 DRAWING DATE: 05/06/97 ACAD FILE: B7570F4G

RESULTS MAP - AREA G

CLIENT: BORAL TIMBERS - COOROY PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND PS:

DESIGNED: CTPI 49 DETAILED: CTPI 4 PROJECT NO.: B7570 FIGURE: 4g

LEGEND

STRIPPED TIMBER

SOIL SAMPLE LOCATIONS (MAY 1998)

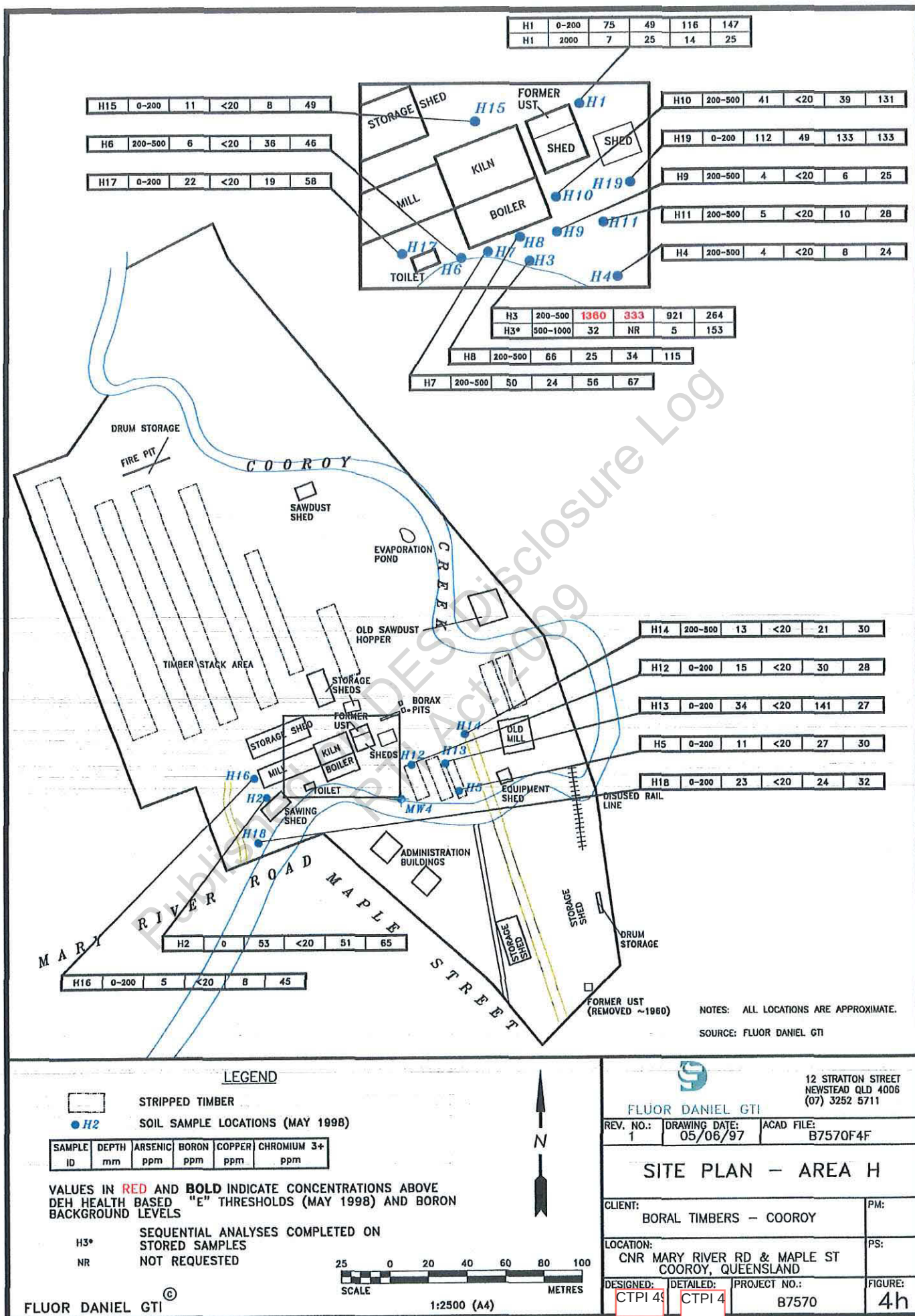
G3

VALUES IN RED AND BOLD INDICATE CONCENTRATIONS ABOVE DEH HEALTH BASED "E" THRESHOLDS (MAY 1998) AND BORON BACKGROUND LEVELS

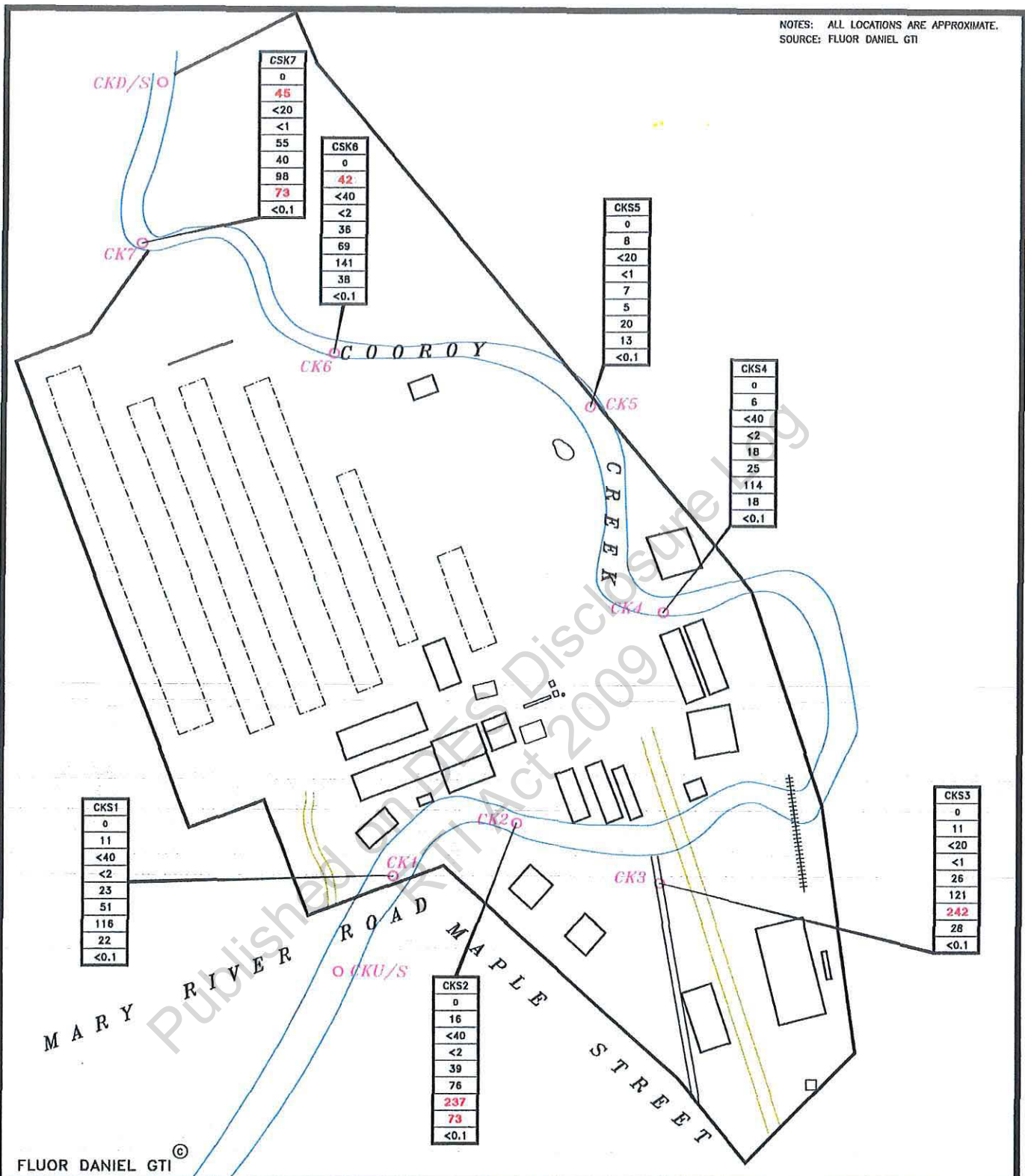
SEQUENTIAL ANALYSES COMPLETED ON STORED SAMPLES

NOT REQUESTED

SCALE 1:2500 (A4)



NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND



STRIPPED TIMBER



CREEK SEDIMENT SAMPLE LOCATIONS (MAY 1998)

SAMPLE ID	
DEPTH	mm
ARSENIC	ppm
BORON	ppm
CADMIUM	ppm
COPPER	ppm
LEAD	ppm
ZINC	ppm
CHROMIUM 3+	ppm
CHROMIUM 6+	ppm

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DEH ENVIRONMENTAL THRESHOLDS (MAY 1998)



1:2000 (A4)



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REV. NO.: 1 DRAWING DATE: 28/08/98 ACAD FILE: B7570F4I

RESULTS MAP - AREA I

CLIENT: BORAL TIMBERS - COOROY

PM:

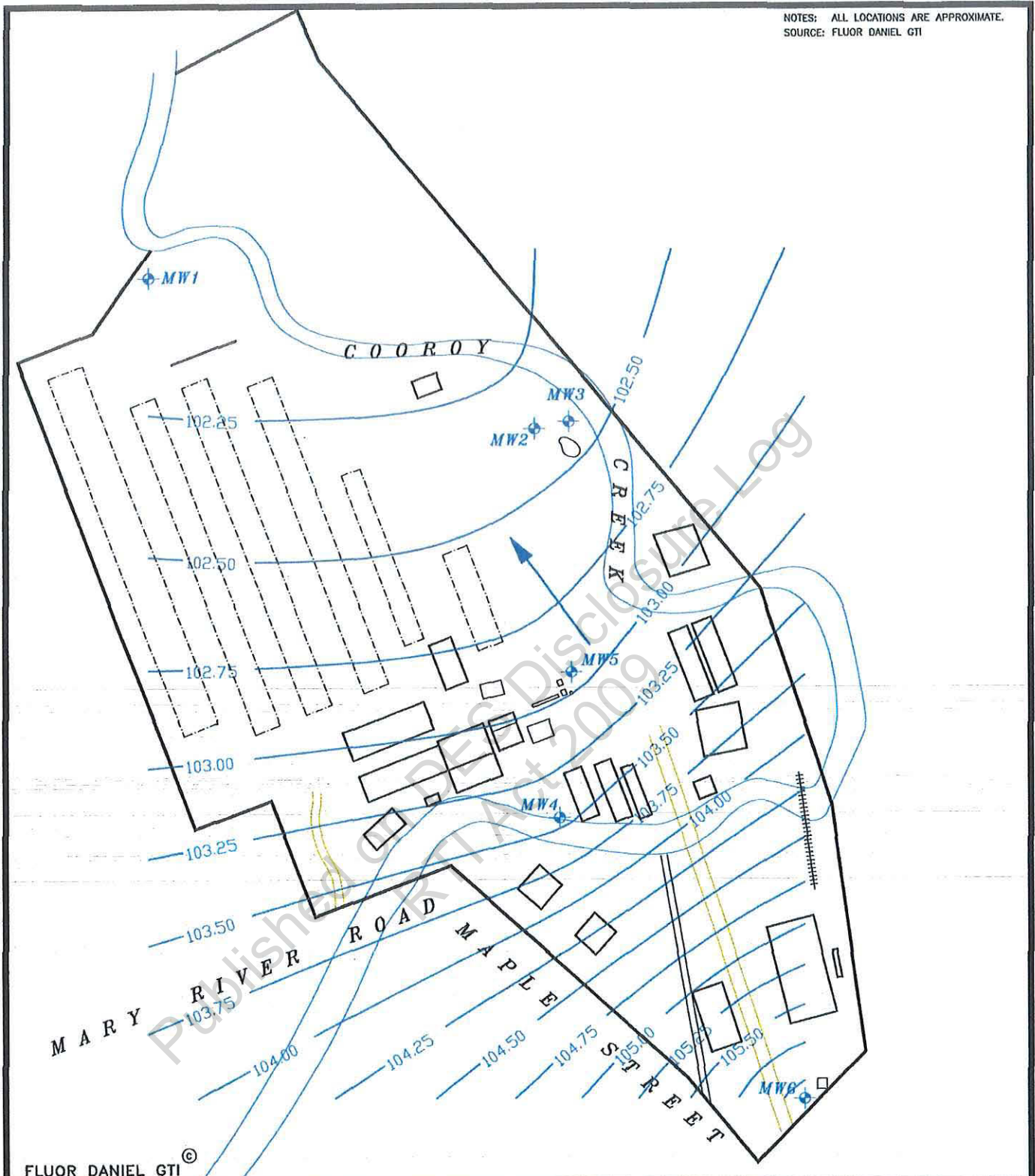
LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI 4i DETAILED: CTPI PROJECT NO.: B7570

FIGURE: 4i

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND

-  STRIPPED TIMBER
-  MONITORING WELL LOCATION
-  INFERRED GROUNDWATER ELEVATION CONTOUR (mAHD)
-  INFERRED GROUNDWATER FLOW DIRECTION



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FLUOR DANIEL GTI

REV. NO.: 1 DRAWING DATE: 28/08/98 ACAD FILE:

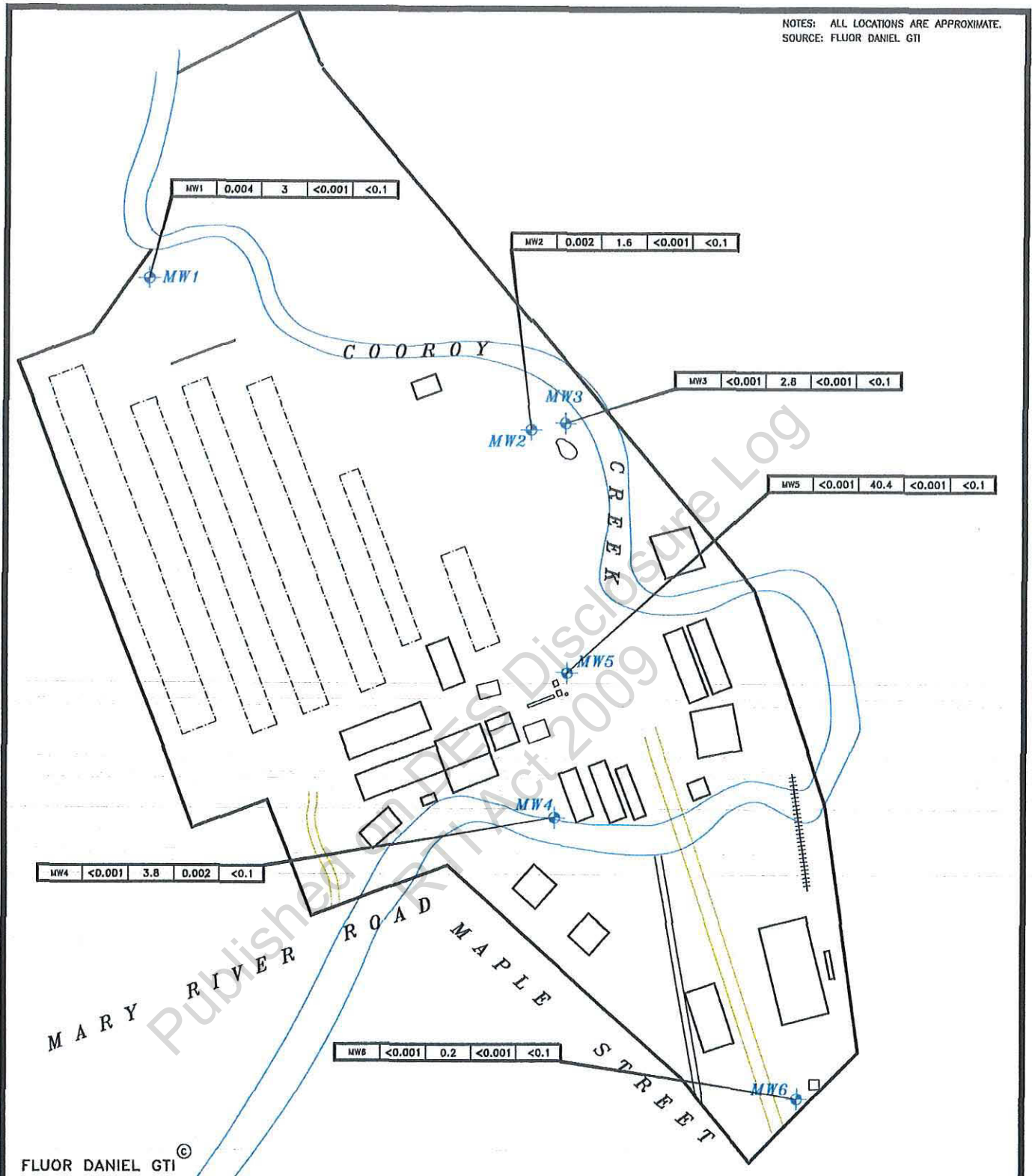
GROUNDWATER CONTOUR PLAN (May 1998)

CLIENT: BORAL TIMBERS - COOROY PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND PS:

DESIGNED: CTPI 4 DETAILED: CTPI 4 PROJECT NO.: B7570 FIGURE: 5

NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



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LEGEND



STRIPPED TIMBER



MONITORING WELL LOCATION (May 1998)

SAMPLE ID	ARSENIC	BORON	COPPER	CHROMIUM 3+
	ppm	ppm	ppm	ppm

VALUES IN **RED** AND **BOLD** INDICATE CONCENTRATIONS ABOVE DUTCH INTERVENTION LEVELS (1994)



1:2000 (A4)

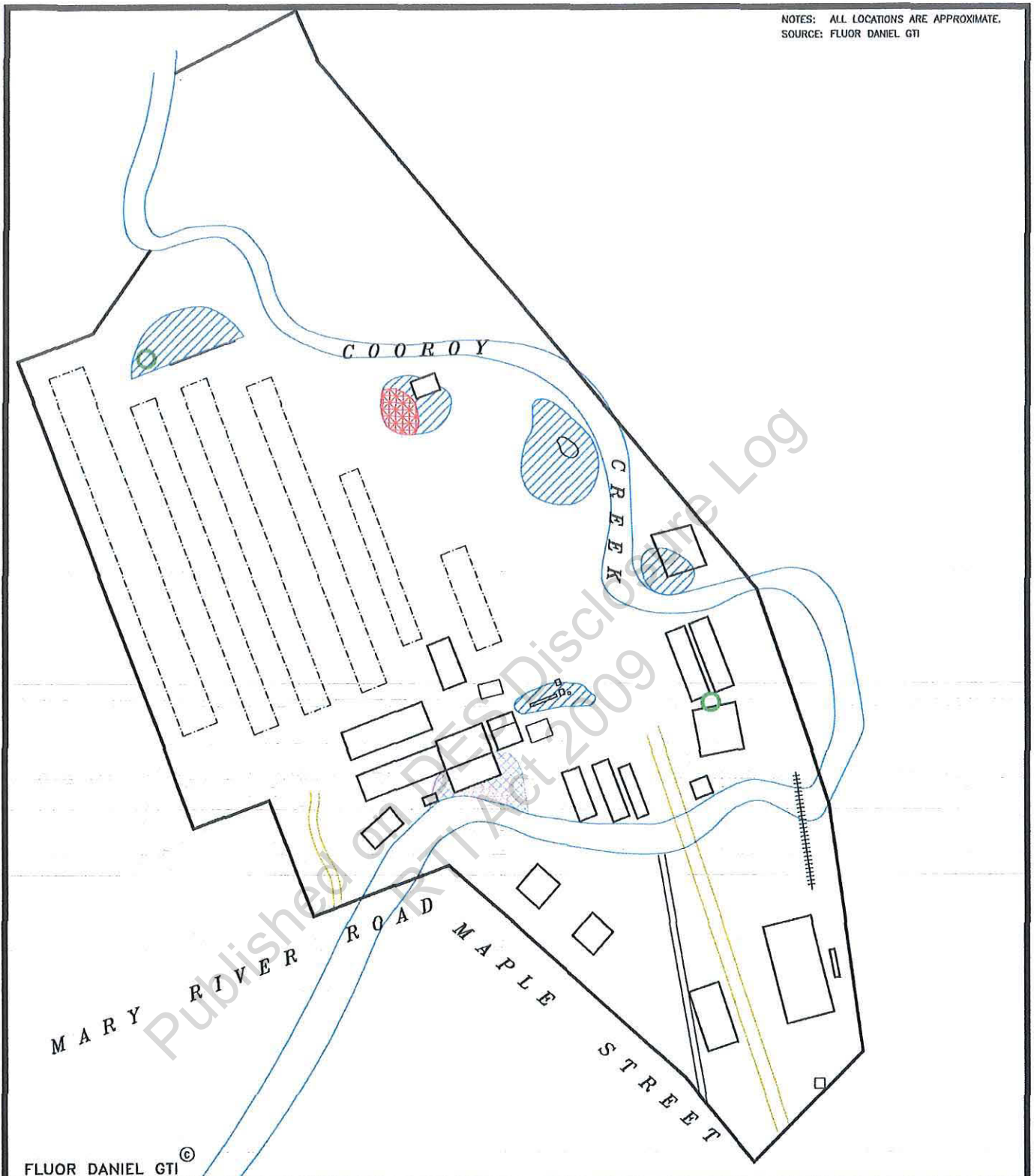


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REV. NO.: 1	DRAWING DATE: 28/08/98	ACAD FILE:
GROUNDWATER ANALYTICAL RESULTS		
CLIENT: BORAL TIMBERS - COOROY	PM:	
LOCATION: CNR MARY RIVER RD & MAPLE ST COOROY, QUEENSLAND	PS:	
DESIGNED: CTPI 4	DETAILED: CTPI 4	PROJECT NO.: B7570
		FIGURE: 6

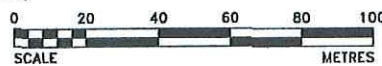
NOTES: ALL LOCATIONS ARE APPROXIMATE.
SOURCE: FLUOR DANIEL GTI



FLUOR DANIEL GTI ©

LEGEND

-  STRIPPED TIMBER
-  CCA/BORON IMPACT 0-200mm
-  CCA/BORON IMPACT 0-500mm
-  CCA/BORON IMPACT 500-1000mm
-  CCA/BORON IMPACT >1000mm
-  ISOLATED "HOTSPOT" (HYDROCARBONS)



1:2000 (A4)



12 STRATTON STREET
NEWSTEAD QLD 4006
(07) 3252 5711

FLUOR DANIEL GTI

REV. NO.: 1 DRAWING DATE: 28/08/98 ACAD FILE: B7570F7

SITE PLAN - AREAS OF IMPACT

CLIENT: BORAL TIMBERS - COOROY

PM:

LOCATION: CNR MARY RIVER RD & MAPLE ST
COOROY, QUEENSLAND

PS:

DESIGNED: CTPI 4 DETAILED: CTPI PROJECT NO.: B7570

FIGURE: 7

TABLE 1
Generic Soil Profile

Area ID	DEPTH	LITHOLOGY
Area A		
	0 - 0.2m	Soil, black, dry
	0.2 - 0.5m	Clay, yellow, dry, low plasticity
Area B		
	0 - 0.1m	Fill, silt, grey, plus rock chips, dry.
	0.1 - 0.5m	Clay, grey/orange, dry, low plasticity.
Area C		
	0 - 0.1m	Fill, silt, grey, plus rock chips.
	0.1 - 2.0m	Clay, grey/red, mottled, dry, low plasticity.
Area D		
	0 - 0.3m	Fill, Silty clay, grey, plus rock chips, dry
	0.3 - 2.0m	Silty clay, grey/orange, damp, low plasticity
Exceptions	D5 - D9 0.3 - 1.4m	Sawdust layer at surface to between 0.3 and 1.4metres.
Area E		
	0 - 0.5m	Soil, black, damp
	0.5 - 2.0m	Silty clay, orange, damp, low plasticity
Exceptions	E3 - E4 0 - 0.35m	Sawdust, damp.
	E8 - E13 0 - 0.2m	Fill, silty clay plus rock chips, grey, dry, minor ash.
	0.2 - 0.5m	Silty clay, grey/orange, damp, low plasticity
Area F		
	F1 - F4 0 - 0.3m	Sawdust, dry.
	0.3 - 0.5m	Clay, brown, damp, low plasticity.
Exceptions	F4 0 - 0.3m	Soil, black, damp
	F5 - F10 0 - 0.2m	Fill, silt, grey, rock chips and some sawdust, dry.
	0.2 - 1.0m	Clay, orange, damp, low plasticity.
	F11 - F14 0 - 0.2	Fill, silt, grey, dry, plus, rock chips
	0.2 - 1.0m	Clay, grey/orange, damp, low plasticity, minor ash
	F15 0 - 0.1m	Fill, silt, grey, dry
	0.1 - 2.0m	Silty clay, orange, damp, low plasticity

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TABLE 1 (Continued)
Generic Soil Profile

Area G		
	G1 – G3 0 – 0.1m 0.1 – 2.0m 2.0 – 3.0m	Fill, silt, grey, plus, rock chips, dry. Clay, orange, damp, low plasticity Clay, orange, mottled, damp, low plasticity
	G4 – G15 0 – 0.2m 0.2 – 1.0m	Fill, silt, grey, plus rock chips, dry. Clay, grey, damp, low plasticity
Area H		
	H1 0 – 0.2m 0.2 – 1.5m 1.5 – 3.0m	Fill, silt, grey, plus rock chips, dry, stained. Clay, yellow, damp, low plasticity Clay, yellow/brown, mottled, Fe nodules, damp, low plasticity.
	H3 – H5 0 – 0.2m 0.2 – 1.0m	Silt, grey, damp Clay, orange, damp, low plasticity.
	H2, H6 – H19 0 – 0.2m 0.1 – 1.0m	Fill, silt, grey, plus rock chips, dry. Silt clay, grey/orange, damp, low plasticity
Exceptions	H8, H19 0 – 0.1m	Plus minor ash.
Exceptions	H10, H11 0.2 – 0.5m	Plus minor ash.

TABLE 1b
Site Historical Operations – Potential Impacts

Activity	Dates	Potential Impacts
Farming	Pre 1900	Nil
Drying, sawing, planing	~1900 to ~1960s	Nil
Boron treatment	~1960s to ~1990s	Boron
Burning and disposal of CCA and boron treated sawdust/ash in boiler	~1970s to present	Copper, chrome, arsenic, other metals, boron
Burning of waste timbers in fire pit	To present	CCA, other metals, boron
Vehicle refuelling (cars)	~1960s to 1980s	Petroleum hydrocarbons, lead
Vehicle/plant refuelling (current)	~1980s to present	Petroleum hydrocarbons (diesel)
Stormwater/sediment collection (evaporation pond)	To present	Metals, boron
Sawdust stockpiling (post-burning, pre shed stockpiling)	~1990 to 1997	CCA
Dust suppression in Area B	To ~1990	Petroleum hydrocarbons
Timber drying (Area B)	To present	CCA, OC/OP

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TABLE 2
Summary of Stage II Site Investigation Soil Sampling Program for
Boral Timber Yards, Cooroy

Management Area	Sampling Locations *	Sampling Depths (mm)	1 st Round (metals)	Boron	Metals	TPH	OC/OP	PAH	2 nd Round (metals)
<i>Low Risk</i> A. Vacant Land, Office	4 (-)	0-200 200-500	4	4	4				
<i>Possible Risk</i> B. Timberstack	11 (-)	0-200	11	11	11	4	3		
<i>Probable Risk</i> C. Fire Pit	14 (1)	0-200 200-500 500-1000 WT	8 5 4 1	8 5 4 1	8 5 4 1			2 1	1 1
D. Sawdust Stockpile	11 (1)	0-200 200-500 500-1000 WT	11 1 1	11 1 1	11 1 1				4 3
E. Evaporation Pond	15 (1)	0-200 200-500 WT	11 9 1	11 9 1	11 9 1				1

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Stage II Investigation Report
Boral Timber Yards
1 Maple Street
Cooroy, Queensland

Management Area	Sampling Locations *	Sampling Depths (mm)	1 st Round (metals)	Boron	Metals	TPH	OC/OP	PAH	2 nd Round (metals)
F. Old Mills, Hopper	15 (1)	0-200 200-500 500-1000 WT	15 1	15 1	15 1	1 	1 	1 	10 6
G. Borax Dip	16 (1)	0-200 200-500 1000 WT	12 8 3 1	12 8 3 1	12 8 3 1	 	 	 	3
H. Boiler/Kiln	21 (1)	0-200 200-500 500-1000 WT	11 10 - 1	11 10 - 1	11 10 - 1	1 	 	 	1 1
I. Cooroy Creek	9 (-)		7						
UST		Walls Base Landfarm			4 (lead) 1 (lead)	4 1 4			
QA/QC Samples	NA		10						
Totals	116 (6)		145	129	134	10	4	4	31

Notes: * Figures in brackets indicate monitoring wells included in sampling locations.; WT = sample to be collected at the water table in monitoring well boring; + = sequential analyses of soil samples for monitoring wells range through 0-200, 200-500, 1000, 2000, 3000.

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TABLE 3
Soil Analytical Results - Metals - Area A - Vacant Land and Office Area
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
A1-0-0.2	0-200	4	<20	<1	84	22	61	21	<0.1
A2-0-0.2	0-200	1	<20	<1	7	14	22	20	<0.1
A3-0-0.2	0-200	22	<20	7	94	276	479	34	<0.1
A4-0-0.2	0-200	2	<20	<1	9	18	77	19	<0.1
Maximum		22	<20	7	94	276	479	34	<0.1
Minimum		1	<20	<1	7	14	22	19	<0.1
Mean		7.250	<20	1.750	48.500	82.500	159.750	23.500	<0.1
Median		3	<20	7	46.5	20	69	20.5	<0.1
Stand Dev.		9.912	0.000	3.500	46.950	129.041	214.083	7.047	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 *	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
 Shading indicates concentrations above health-based "E" investigation thresholds
 Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
 * DoE 1-75 ppm boron range refers to background levels only

TABLE 4
Soil Analytical Results - Metals - Area B - Timber Stack Area
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
B1-0-200	0-200	15	<20	<1	19	22	23	34.2	<0.1
B2-0-200	0-200	43	<20	<1	35	111	99	51.4	<0.1
B3-0-200	0-200	53	<20	<1	41	17	37	39.5	<0.1
B4-0-200	0-200	25	<20	<1	24	10	12	55.4	<0.1
B5-0-200	0-200	4	<20	<1	9	10	14	15	<0.1
B6-0-200	0-200	8	<20	<1	3	10	5	60.3	<0.1
B7-0-200	0-200	4	<20	<1	9	13	18	20.2	<0.1
B8-0-200	0-200	18	<20	<1	20	30	97	28.3	<0.1
B9-0-200	0-200	12	<20	<1	11	16	37	23.1	<0.1
B10-0-200	0-200	60	<20	<1	56	48	83	72.5	<0.1
B11-0-200	0-200	8	<20	<1	24	30	44	57.8	<0.1
B8DUP	0-200	14	<20	<1	16	24	62	21.2	<0.1
Maximum		60	<20	<1	56	111	99	72.5	<0.1
Minimum		4	<20	<1	3	10	5	15	<0.1
Mean		22.000	<20	<1	22.250	28.417	44.250	39.908	<0.1
Median		14.5	<20	<1	19.5	19.5	37	36.85	<0.1
Stand Dev.		19.363	0.000	0.000	15.262	28.299	33.491	19.019	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 *	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
Shading indicates concentrations above health-based "E" investigation thresholds
Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
* DoE 1-75 ppm boron range refers to background levels only

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TABLE 5
Soil Analytical Results - Metals - Area C - Fire Pit
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
C1-0-200	0-200	3	<20	<1	12	15	38	12	<0.1
C2-2-200	2-200	5	<20	<1	18	19	28	18	<0.1
C3-200-500	200-500	5	<20	<1	13	10	20	12	<0.1
C4-200-500	200-500	2	<20	<1	9	8	10	9	<0.1
C4-200-500	500-1000	2	<20	<1	8	6	10	8	<0.1
C5-200-500	200-500	17	<20	<1	22	12	11	22	<0.1
C5-500-1000	500-1000	<1	<20	<1	8	10	11	8	<0.1
C6-200-500	200-500	53	29	<1	230	45	119	56	<0.1
C6-500-1000	500-1000	6	<20	<1	12	14	22	19	<0.1
C7-0-200	0-200	35	<20	<1	41	58	73	56	<0.1
C8-0-200	0-200	10	<20	<1	44	18	89	27	<0.1
C9-0-200	0-200	260	<20	<1	212	19	61	470	<0.1
*C9-200-500	200-500	9	NR	NR	18	NR	NR	38	<0.1
*C9-500-1000	500-1000	6	NR	NR	14	NR	NR	21	<0.1
C10-0-200	0-200	3	<20	<1	11	9	15	16	<0.1
C11-0-200	0-200	16	<20	<1	29	17	35	42	<0.1
C12-200-500	200-500	2	<20	<1	9	9	12	16	<0.1
C12-500-1000	500-1000	48	<20	<1	53	12	21	153	<0.1
C13-0-200	0-200	6	<20	<1	15	15	54	25	<0.1
MW1	5000	7	<20	1	49	13	44	19	<1
Maximum		260	29	1	230	58	119	470	<0.1
Minimum		<1	<20	<1	8	9	15	8	<0.1
Mean		24.750	1.450	0.050	41.350	15.450	33.650	52.350	<0.1
Median		6	29	1	16.5	13.5	25	20	<0.1
Stand Dev.		57.423	6.485	0.224	63.136	13.601	31.562	103.444	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
 Shading indicates concentrations above health-based "E" investigation thresholds
 Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
 * Denotes sequential sample analyses
 ** DoE 1-75 ppm boron range refers to background levels only
 NR = Not requested

TABLE 6
Soil Analytical Results - Metals - Area D - Sawdust Stockpile
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
D1-0-200	0-200	27	<20	<2	29	42	62	42	<0.1
D1-200-500	200-500	23	<20	<2	27	31	71	39	<0.1
D2-0-200	0-200	26	<20	<2	29	33	53	43	<0.1
D3-0-200	0-200	20	<20	<2	43	26	115	39	<0.1
D4-0-200	0-200	10	<20	<2	9	17	12	28	<0.1
D5-0-200	0-200	464	<20	<2	469	<2	10	1190	<0.1
*D5-200-500	200-500	331	NR	NR	351	NR	NR	694	<0.2
*D5-500-100	500-1000	288	NR	NR	229	NR	NR	581	<0.2
D6-0-200	0-200	132	<20	<2	114	21	42	217	<0.1
*D6-200-500	200-500	32	NR	NR	25	NR	NR	29	<0.1
*D6-500-100	500-1000	4	NR	NR	17	NR	NR	25	<0.1
D7-0-200	0-200	279	<20	2	221	21	52	483	<0.1
D7-200-500	200-500	168	NR	NR	169	NR	NR	261	<0.1
D8-0-200	0-200	64	<20	<2	59	19	37	110	<0.1
D9-0-200	0-200	101	<20	2	92	86	94	142	<0.1
*D9-200-500	200-500	21	NR	NR	28	NR	NR	44	<0.1
*D9-500-100	500-1000	4	NR	NR	17	NR	NR	26	<0.1
D10-0-200	0-200	17	<20	<2	28	27	59	41	<0.1
MW2	3000	5	<20	1	15	27	35	25	<0.1
Maximum		464	<20	2	469	86	115	1190	<0.1
Minimum		4	<20	<2	9	<2	10	25	<0.1
Mean		106.105	<20	0.263	103.737	18.421	33.789	213.632	<0.1
Median		27	<20	2	29	27	52.5	43	<0.1
Stand Dev.		136.611	0.000	0.653	129.275	21.639	35.629	312.939	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES:

- < Number = less than level of reporting
- Shading indicates concentrations above health-based "E" investigation thresholds
- Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
- * Denotes sequential sample analyses
- ** DoE 1-75 ppm boron range refers to background levels only
- NR = Not requested

TABLE 7
Soil Analytical Results - Metals - Area E - Evaporation Pond and Catchment Area
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
E1-0-200	0-200	155	<20	2	172	36	79	226	<0.1
E1-200-500	200-500	187	<20	<1	203	23	68	332	<0.1
E2-200-500	200-500	73	<20	1	64	30	72	118	<0.1
E3-0-200	0-200	198	<20	<1	185	26	54	271	<0.1
*E3-200-500	200-500	8	NR	NR	19	NR	NR	34	<0.1
E4-200-500	200-500	19	<20	1	25	29	63	34	<0.1
E5-0-200	0-200	56	24	1	68	77	125	77	<0.1
E5-200-500	200-500	9	<20	2	12	27	28	26	<0.1
E6-200-500	200-500	15	<20	1	24	43	82	32	<0.1
E7-0-200	0-200	76	27	2	106	119	120	79	<0.1
E7-200-500	200-500	18	26	2	46	127	131	39	<0.1
E8-0-200	0-200	27	23	1	73	93	214	49	<0.1
E8-200-500	200-500	12	<20	1	15	23	48	31	<0.1
E9-0-200	0-200	13	<20	1	23	29	71	27	<0.1
E10-0-200	0-200	10	<20	1	16	34	76	28	<0.1
E11-0-200	0-200	10	<20	1	22	39	75	30	<0.1
E11-200-500	200-500	10	<20	1	17	35	47	30	<0.1
E12-0-200	0-200	10	<20	1	25	32	90	23	<0.1
E13-0-200	0-200	22	<20	<1	32	58	267	35	<0.1
EPS	0	50	<20	<1	59	44	176	80	<0.1
MW3	200-500	51	26	1	62	57	1770	99	<0.1
MW3	2000	4	<20	1	13	27	28	28	<0.1
Maximum		198	27	2	203	127	1770	332	<0.1
Minimum		4	<20	<1	12	23	28	23	<0.1
Mean		46.955	5.727	0.955	58.227	45.818	167.455	78.545	<0.1
Median		18.5	26	1	28.5	35	76	34.5	<0.1
Stand Dev.		58.567	10.833	0.653	57.925	31.681	363.287	86.204	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES:

- < Number = less than level of reporting
- Shading indicates concentrations above health-based "E" investigation thresholds
- Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
- * Denotes sequential sample analyses
- ** DoE 1-75 ppm boron range refers to background levels only
- NR = Not requested

TABLE 8
Soil Analytical Results - Metals - Area F - Old Mills, Maintenance Shed and Sawdust Collection Hopper
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
F1-0-200	0-200	150	<20	<2	271	10	20	470	<2
*F1-200-500	200-500	3	NR	NR	15	NR	NR	25	<0.1
F2-0-200	0-200	791	<20	1	483	10	56	980	<0.1
*F2-200-500	200-500	25	NR	NR	30	NR	NR	63	<0.1
F3-0-200	0-200	514	<20	3	429	33	103	915	<0.1
*F3-200-500	200-500	26	NR	NR	29	NR	NR	54	<0.1
F4-0-200	0-200	74	<20	1	203	114	95	146	<0.1
*F4-200-500	200-500	5	NR	NR	13	NR	NR	21	<0.1
F5-0-200	0-200	32	<20	3	62	82	1220	29	<0.1
*F5-200-500	200-500	4	NR	NR	26	NR	NR	22	<0.1
*F5-500-1000	500-1000	7	NR	NR	22	NR	NR	24	<0.1
F6-0-200	0-200	111	<20	1	109	48	149	136	<0.1
*F6-200-500	200-500	6	NR	NR	57	NR	NR	22	<0.1
*F6-500-1000	500-1000	5	NR	NR	14	NR	NR	22	<0.1
F7-0-200	0-200	8	<20	<1	15	28	64	27	<0.1
*F7-200-500	200-500	<1	NR	NR	12	NR	NR	23	<0.1
*F7-500-1000	500-1000	6	NR	NR	16	NR	NR	23	<0.1
F8-0-200	0-200	78	<20	<1	106	71	302	96	<0.1
*F8-200-500	200-500	4	NR	NR	15	NR	NR	23	<0.1
*F8-500-1000	500-1000	4	NR	NR	12	NR	NR	23	<0.1
F9-0-200	0-200	32	<20	<1	50	39	154	43	<0.1
*F9-200-500	200-500	<1	NR	NR	10	NR	NR	21	<0.1
*F9-500-1000	500-1000	3	NR	NR	12	NR	NR	21	<0.1
F10-0-200	0-200	27	<20	<1	32	271	99	27	<0.1
*F10-200-500	200-500	<1	NR	NR	10	NR	NR	18	<0.1
*F10-500-1000	500-1000	3	NR	NR	12	NR	NR	19	<0.1
F11-0-200	0-200	14	<20	<1	28	49	97	38	<0.1
F12-0-200	0-200	9	<20	<1	18	40	71	23	<0.1

TABLE 8
Soil Analytical Results - Metals - Area F - Old Mills, Maintenance Shed and Sawdust Collection Hopper
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
F13-0-200	0-200	15	<20	<1	9	31	60	29	<0.1
F14-0-200	0-200	60	43	<1	72	53	346	62	<0.1
F15-0-200	0-200	9	<20	<1	14	37	60	68	<0.1
F8dup	0-200dup	70	<20	<1	74	55	244	98	<0.1
MW6	6000	19	<20	<1	13	45	39	35	<0.1
Maximum		791	43	3	483	271	1220	980	<2
Minimum		3	<20	<2	9	10	20	18	<2
Mean		64.061	1.303	0.273	69.485	30.788	96.333	110.485	<2
Median		14.5	43	1	22	45	97	27	<2
Stand Dev.		159.557	7.485	0.761	115.051	52.144	220.707	230.803	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES:

- < Number = less than level of reporting
- Shading indicates concentrations above health-based "E" investigation thresholds
- Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
- * Denotes sequential sample analyses
- ** DoE 1-75 ppm boron range refers to background levels only
- NR = Not requested

TABLE 9
Soil Analytical Results - Metals - Area G - Borax Dip Pits
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
G1-200-500	200-500	9	<20	<1	8	37	19	38	<0.1
G1-1	1000	11	<20	<1	14	30	69	36	<0.1
G2-200-500	200-500	12	<20	<1	15	27	36	39	<0.1
G2-1	1000	7	<20	<1	13	28	28	36	<0.1
G3-200-500	200-500	9	<20	<1	10	25	27	34	<0.1
G3-1	1000	10	<20	<1	16	25	36	36	<0.1
G4-0-200	0-200	14	271	<1	14	18	45	17	<0.1
*G4-200-500	200-500	NR	41	NR	NR	NR	NR	NR	NR
G5-0-200	0-200	30	<20	<1	29	39	64	63	<0.1
G6-0-200	0-200	8	<20	<1	12	30	24	36	<0.1
G6-200-500	200-500	10	<20	<1	13	25	24	34	<0.1
G7-0-200	0-200	62	<20	<1	85	34	106	90	<0.1
G7-200-500	200-500	13	<20	<1	22	32	51	35	<0.1
G8-0-200	0-200	8	<20	<1	12	28	24	31	<0.1
G9-0-200	0-200	21	49	<1	20	37	73	36	<0.1
G9-200-500	200-500	23	48	<1	28	35	94	35	<0.1
G10-0-200	0-200	55	<20	<1	52	41	75	91	<0.1
G11-0-200	0-200	55	<20	<1	54	33	59	93	<0.1
G11-200-500	200-500	7	<20	<1	12	24	21	35	<0.1
G12-0-200	0-200	10	<20	<1	20	27	86	22	<0.1
G13-0-200	0-200	102	723	<1	143	141	268	148	<0.1
G14-0-200	0-200	25	142	<1	44	47	177	45	<0.1
*G14-200-500	200-500	NR	<20	NRE	NR	NR	NR	NR	NR
G15-0-200	0-200	22	126	<1	24	87	68	36	<0.1
*G15-200-500	200-500	NR	<20	NR	NR	NR	NR	NR	NR
MW5	4500	2	<20	1	13	10	2	11	<0.1
Maximum		102	723	1	143	141	268	148	<0.1
Minimum		13	<20	<1	8	10	2	11	<0.1
Mean		20.192	53.846	0.038	25.885	33.077	56.769	41.423	<0.1
Median		12	126	1	16	30	51	36	<0.1
Stand Dev.		23.663	150.095	0.196	30.509	27.819	58.655	32.801	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
Shading indicates concentrations above health-based "E" investigation thresholds and boron background levels
Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
* Denotes sequential sample analyses
** DoE 1-75 ppm boron range refers to background levels only
NR = Not requested

TABLE 10
Soil Analytical Results - Metals - Area H - Current Mill Sheds, Boiler, Kiln and Surrounding Area
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
H1-0-200	0-200	75	49	<1	116	59	884	147	<0.1
H1-2	2000	7	25	<1	14	18	49	25	<0.1
H2-0	0	53	<20	<1	51	30	138	65	<0.1
H3-0.2-0.5	200-500	1360	333	<1	921	7	31	264	<0.1
*H3-500-1000	500-1000	32	NR	NR	5	NR	NR	153	<0.1
H4-0.2-0.5	200-500	4	<20	<1	8	20	16	24	2
H5-0-0.2	0-200	11	<20	<1	27	44	99	30	<0.1
H6-0.2-0.5	200-500	6	<20	<1	36	15	3	46	<0.1
H7-0.2-0.5	200-500	50	24	<1	56	18	9	67	<0.1
H8-0.2-0.5	200-500	66	25	<1	34	29	44	115	<0.1
H9-0.2-0.5	200-500	4	<20	<1	6	25	6	25	<0.1
H10-0.2-0.5	200-500	41	<20	<1	39	26	27	131	<0.1
H11-0.2-0.5	200-500	5	<20	<1	10	24	34	28	<0.1
H12-0-0.2	0-200	15	<20	2	30	184	707	28	<0.1
H13-0-0.2	0-200	34	<20	<1	141	78	243	27	<0.1
H14-0-0.2	0-200	13	<20	<1	21	36	96	30	<0.1
H15-0-0.2	0-200	11	<20	<1	8	18	21	49	<0.1
H16-0-0.2	0-200	5	<20	<1	8	30	27	45	<0.1
H17-0-0.2	0-200	22	<20	<1	19	25	48	58	<0.1
H18-0-0.2	0-200	23	<20	1	24	56	93	32	<0.1
H19-0-0.2	0-200	112	49	1	133	30	65	133	<0.1
*H19-200-500	200-500	5	NR	NR	16	NR	NR	35	<0.1
MW4	200-500	7	<20	1	11	25	22	25	<0.1
Maximum		1360	333	2	921	184	884	264	2
Minimum		4	<20	<1	5	7	3	24	<0.1
Mean		85.261	21.957	0.217	75.391	34.652	115.739	68.783	0.087
Median		15	37	1	24	26	44	45	2
Stand Dev.		279.284	69.553	0.518	188.557	37.225	223.069	60.825	0.417
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
Shading indicates concentrations above health-based "E" investigation thresholds
Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
* Denotes sequential sample analyses
** DoE 1-75 ppm boron range refers to background levels only
NR = Not requested



TABLE 11
Creek Sediment Sample Analytical Results - Metals - Area I - Cooroy Creek
Results in parts per million (ppm)

Sample ID	Depth (mm)	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
CKS1	0	11	<40	<2	23	51	116	22	<0.1
CKS2	0	16	<40	<2	39	76	237	73	<0.1
CKS3	0	11	<20	<1	26	121	242	28	<0.1
CKS4	0	6	<40	<2	18	25	114	18	<0.1
CKS5	0	8	<20	<1	7	5	20	13	<0.1
CKS6	0	42	<40	<2	36	69	141	38	<0.1
CKS7	0	45	<20	<1	55	40	98	73	<0.1
CKS3DUP	0	13	<20	<1	20	99	186	16	<0.1
Maximum		45	<40	<2	55	121	242	73	<0.1
Minimum		6	<40	<2	7	5	20	13	<0.1
Mean		19.000	<40	<2	28.000	60.750	144.250	35.125	<0.1
Median		12	<40	<2	24.5	60	128.5	25	<0.1
Stand Dev.		15.437	0.000	0.000	14.871	38.369	74.835	24.637	0.000
Level of Reporting		1	20	1	1	1	1	1	0.1
Investigation Thresholds									
DoE Environmental - 1998 (Draft)		20	1-75 **	3	60	300	200	50	NE
DoE Health Based "A" - 1998 (Draft)		100	1-75	20	1000	300	7000	12%	100
DoE Health Based "E" - 1998 (Draft)		200	1-75	20	2000	600	14000	24%	200
DoE Health Based "F" - 1998 (Draft)		500	1-75	20	5000	1500	35000	60%	500

NOTES: < Number = less than level of reporting
 Shading indicates concentrations above **environmental investigation thresholds**
 Department of Environment Draft Guidelines for the Assessment and Management of Contaminated Land in Queensland - 1998
 * Denotes sequential sample analyses
 ** DoE 1-75 ppm boron range refers to background levels only

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TABLE 12
Creek Water Sample Analytical Results - Metals -Area I
Results in milligrams per litre (mg/L)

Sample ID	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
CK1W	0.002	<0.2	<0.0002	0.001	0.002	0.012	<0.02	<0.02
CK2W	<0.001	<0.2	<0.0002	<0.001	<0.001	0.002	<0.02	<0.02
CK3W	<0.001	<0.2	<0.0002	0.003	0.004	0.034	<0.02	<0.02
CK4W	0.001	<0.2	<0.0002	<0.001	<0.001	0.003	<0.02	<0.02
CK5W	<0.001	<0.2	<0.0002	<0.001	<0.001	0.003	<0.02	<0.02
CK6W	0.002	<0.2	<0.0002	<0.001	<0.001	0.002	<0.02	<0.02
CK7W	0.009	<0.2	<0.0002	0.005	<0.001	0.002	<0.02	<0.02
CKU/SW	0.001	<0.2	<0.0002	<0.001	<0.001	0.002	<0.02	<0.02
CKD/SW	0.001	<0.2	<0.0002	<0.001	<0.001	0.002	<0.02	<0.02
CK5DUPW	<0.001	<0.2	<0.0002	<0.001	<0.001	0.005	<0.02	<0.02
FIELD BLANK	<0.001	<0.2	<0.0002	<0.001	<0.001	0.004	<0.02	<0.02
Maximum	0.009	<0.2	<0.0002	0.005	0.004	0.034	<0.02	<0.02
Minimum	<0.001	<0.2	<0.0002	<0.001	<0.001	0.002	<0.02	<0.02
Mean	0.001	<0.2	<0.0002	0.001	0.001	0.006	<0.02	<0.02
Median	0.0015	<0.2	<0.0002	0.003	0.003	0.003	<0.02	<0.02
Stand Dev.	0.003	0.000	0.000	0.002	0.001	0.010	0.000	0.000
Level of Reporting	0.001	0.2	0.0002	0.001	0.001	0.001	0.01	0.01
Investigation Thresholds								
ANZECC Fresh & Marine Waters - 1992	0.05	NE	0.0002	0.002-0.005*	0.001	0.005	NE	NE
NHMRC Australian Drinking Water - 1996	0.007	0.3	0.002	2	0.01	NE	NE	0.05

NOTES: < Number = less than level of reporting, shading indicates concentrations above investigation thresholds, * Depends on hardness of water
Australian and New Zealand Environment and Conservation Council - Australian Water Quality Guidelines for Fresh and Marine Waters - 1992
National Health and Medical Research Council - Australian Drinking Water Guidelines - 1996

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TABLE 13
Groundwater Sample Analytical Results - Metals
Results in milligrams per litre (mg/L)

Sample ID	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
MW1	0.004	3	<0.001	<0.001	0.001	0.006	<0.01	<0.01
MW2	0.002	1.6	<0.001	<0.001	<0.001	0.019	<0.01	<0.01
MW3	<0.001	2.8	<0.001	<0.001	0.001	0.018	<0.01	<0.01
MW4	<0.001	3.8	<0.001	0.002	0.004	0.080	<0.01	<0.01
MW5	<0.001	40.4	<0.001	<0.001	0.003	0.032	<0.01	<0.01
MW6	<0.001	0.2	<0.001	0.001	0.052	0.017	<0.01	<0.01
MW1DUP	0.004	3	<0.001	<0.001	0.002	0.028	<0.01	<0.01
MWB	<0.001	<0.2	<0.001	<0.001	0.001	0.005	<0.01	<0.01
Maximum	0.004	40.4	<0.001	0.002	0.052	0.08	<0.01	<0.01
Minimum	<0.001	<0.2	<0.001	<0.001	<0.001	0.005	<0.01	<0.01
Mean	0.001	6.850	<0.001	0.000	0.008	0.026	<0.01	<0.01
Median	0.004	3	<0.001	0.0015	0.002	0.0185	<0.01	<0.01
Stand Dev.	0.002	13.626	0.000	0.001	0.018	0.024	0.000	0.000
Level of Reporting	0.001	0.2	0.001	0.001	0.001	0.001	0.01	0.01
Investigation Thresholds								
Dutch Intervention (1994)	0.06	NE	0.006	0.1	0.075	0.8	NE *	NE *

NOTES: < Number = less than level of reporting, shading indicates concentrations above investigation thresholds,
Dutch Intervention (1994) = Environmental Quality Objectives in the Netherlands – Intervention Values
MWB = Field blank, MW1DUP = Duplicate of MW1
* Chromium = 0.03



TABLE 14
Water Sample Analytical Results - Metals
Results in milligrams per litre (mg/L)

Sample ID	Arsenic	Boron	Cadmium	Copper	Lead	Zinc	Trivalent Chromium	Hexavalent Chromium
Evaporation Pond	0.207	1.4	<0.001	0.082	0.021	0.118	0.06	<0.01
Boron Pit #1	0.959	11.2	0.020	2.42	0.067	1.93	0.93	<0.01
Boron Pit #2	1.16	724	0.015	0.85	0.050	1.13	1.11	<0.01
Boron Pit #3	0.973	950	<0.050	0.50	0.051	1.50	1.20	<0.01
Maximum	1.16	950	0.02	2.42	0.067	1.93	1.2	<0.01
Minimum	0.207	1.4	<0.001	0.082	0.021	0.118	0.06	<0.01
Mean	0.825	421.650	0.009	0.963	0.047	1.170	0.825	<0.01
Median	0.966	367.6	0.0175	0.675	0.0505	1.315	1.02	<0.01
Stand Dev	0.422	488.415	0.010	1.021	0.019	0.773	0.522	0.000
Level of Reporting	0.001	0.2	0.001	0.001	0.001	0.001	0.02	0.02

NOTES: < Number = less than level of reporting,
* Total chromium

TABLE 15
Tank Pit & Land Farm Soil Sample Analytical Results - TPH, BTEX & Lead
Results in parts per million (ppm)

Sample ID	Depth (m)	TPH	C6-C9	C10-C14	C15-C28	C29-C36	B	T	E	X	Total BTEX	Total Lead
E/WALL	1.5	<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	11
W/WALL	1.5	<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	13
N/WALL	1.5	<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	13
S/WALL	1.5	<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	10
BASE	3	<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	12
LF1-0.5	0.5	<LOR	<2	76	355	247	<0.2	<0.2	<0.2	<0.2	<LOR	nr
LF2-0.5	0.5	<LOR	<2	52	1020	1270	<0.2	<0.2	<0.2	<0.2	<LOR	nr
LF3-0.5	0.5	<LOR	<2	<50	283	364	<0.2	<0.2	<0.2	<0.2	<LOR	nr
LF4-0.5	0.5	<LOR	<2	<50	259	449	<0.2	<0.2	<0.2	<0.2	<LOR	nr
Maximum		<LOR	<2	76	1020	1270	<0.2	<0.2	<0.2	<0.2	<LOR	13
Minimum		<LOR	<2	<50	<100	<100	<0.2	<0.2	<0.2	<0.2	<LOR	10
Mean		<LOR	<2	14.222	213.000	258.889	<0.2	<0.2	<0.2	<0.2	<LOR	6.556
Median		<LOR	<2	64	319	406.5	<0.2	<0.2	<0.2	<0.2	<LOR	12
Stand Dev		0.000	0.000	28.852	336.392	419.046	0.000	0.000	0.000	0.000	0.000	6.287
Level of Reporting		NE	2	50	100	100	0.2	0.2	0.2	0.2	NE	1
Investigation Thresholds												
			C6-C9	C10-C14	C15-C36							
CHEM Unit (Draft 1991)		NE	100	100	1000		NE	NE	NE	NE	7	300
CHEM Unit (1992)		NE	NE	NE	NE	NE	1	NE	NE	NE	NE	300
Dept. of Env. 1998 Draft (Env)		NE	NE	NE	NE	NE	1	NE	NE	NE	NE	300

NOTES: TPH = total petroleum hydrocarbons; C6-C9 = carbon chain length group; B = benzene; T = toluene; E = ethylbenzene; X = xylenes;
NE = threshold not established; nr = not requested; LOR = below level of reporting; Shading denotes concentrations above investigation thresholds;
Chemical Hazards and Emergency Management (CHEM) Unit (Draft 1991 and 1992) Guidelines for the Assessment of Contaminated Land in Queensland;
Department of Environment (1998) Draft Guidelines (Environmental) for the Assessment & Management of Contaminated Land in Queensland.

**APPENDIX A
SITE PHOTOGRAPHS**

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Photograph 1. Office and small tributary to Cooroy Creek (Area A - view north).



Photograph 2. Timber stacking/drying (Area B - view north-west).

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Photograph 3. Fire pit area with firewall in background (Area C - view south).



Photograph 4. Sawdust stockpile area and shed near evaporation pond. Monitoring well MW2 located just to right of frame (Area D view - west from MW3).

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Photograph 5. Cooroy Creek at sampling location CK6 (downstream of sawdust shed) (Area D - view north-west).

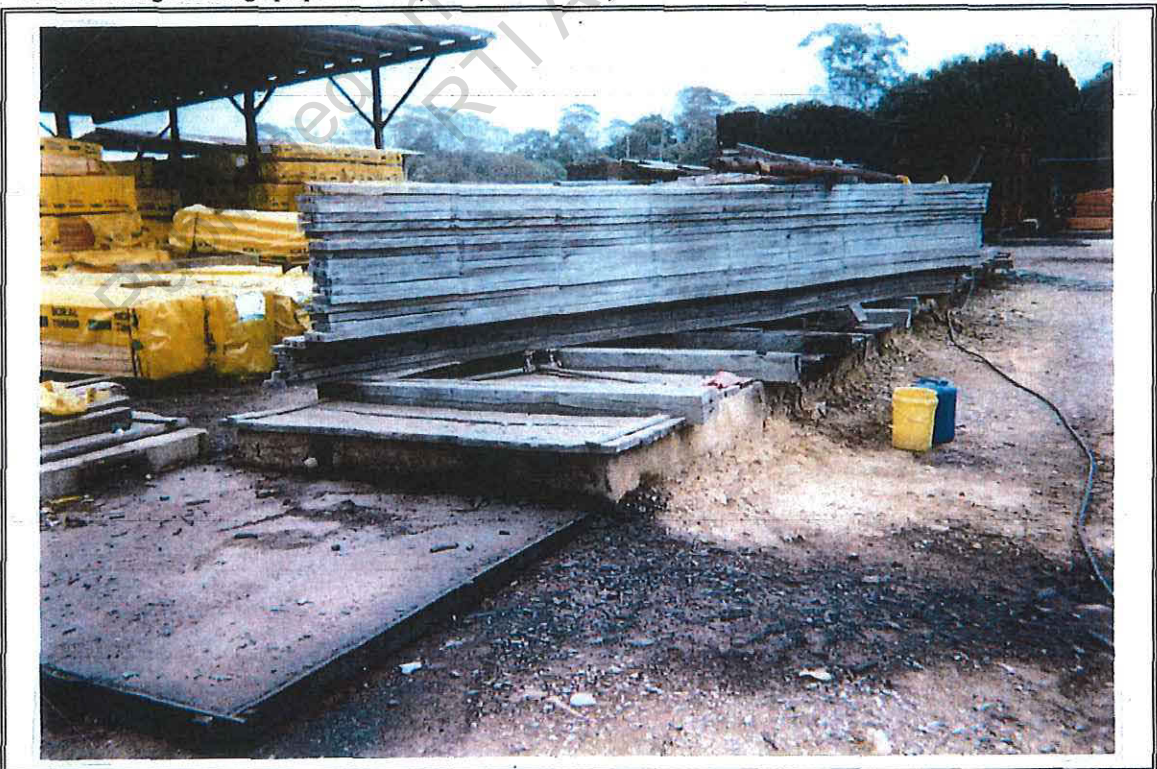


Photograph 6. Evaporation Pond and monitoring well MW3. Cooroy Creek in tree line (Area E - view north east.)

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Photograph 7. Ash and Sawdust drum storage shed. Drums are removed from site by contractor. Monitoring Well MW6 is located to right of telegraph pole at rear (Area F - view south).



Photograph 8. Disused borax pits (Area G - view north-west).
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Photograph 9. Monitoring Well MW4. Mill and boiler house to rear (Area H - view north-west).



Photograph 10. Underground fuel tank in bunded area adjacent to mill (Area H - view west).

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APPENDIX B
LAND TITLE DOCUMENTS

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CAUTION

RE:QUEENSLAND DEPARTMENT OF NATURAL RESOURCES INDEX SEARCHES

We have searched the Queensland Department of Natural Resources two property index systems, the Automated Titling System(ATS) and Integrated Valuations and Sales system (IVAS). The results of this search is enclosed.

IVAS is not a register of ownership and does contain inaccuracies. There may be some delay before the index is updated after a change in ownership occurs. Information from the Queensland Valuer General's proprietor's index was converted to IVAS. This information did not have middle names, only initials, and this can lead to additional lots being identified which are not owned by the person of interest. Full name details will be entered after a change of ownership. The only means of identifying the correct Proprietor is to obtain a title search of each property. The Queensland Department of Natural Resources, as a matter of policy, refuses to refund the fees paid for wrongly obtained deeds notwithstanding that they were obtained due to defects in their system.

We caution that as these indexes are maintained on computer, some entries may not be revealed due to variations in the spelling of names.

Yours faithfully

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PAPUA NEW GUINEA

Proprietor: Bore Pty. Ltd.
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Papua New Guinea
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LA/Div : 515 NOOSA
Valn No : 525/00000

Property Address : MAPLE ST, COOROY, 4563
Frontage : 0.00 metres Depth : 0.00 metres

Owners : ALLEN TAYLOR & CO LTD

Tenants in Common : N
Exempt from Rating : N

Service Address : PO BOX 224,
COOROY, QLD, AUSTRALIA, 4563

RPD : L1/RP153299:PAR TEWANTIN

L2
Tenure : FH FREEHOLD
Area : 1444M2

Rental Value Required : N

Valuation Information-:

Date of Effect	Date of Valn.	Unimproved Value	Sect Code	Date of Issue
30/06/97	01/10/96	\$ 25,000	28	03/03/97
30/06/98	01/10/97	\$ 25,000	28	23/02/98

Land Use Information-:

L/Use Type : S	L/Use Code : 00	SECONDARY LAND USE ONLY
L/Use Type : AV	L/Use Code : 02	SINGLE UNIT DWELLING
L/Use Type : P	L/Use Code : 02	SINGLE UNIT DWELLING

Number of Lots : 1 Business Indicator : N

Property Type : U URBAN
Issuing Status : I ISSUING
Services : WS WATER & SEWERAGE
Zoning : 22 VILLAGE INDUSTRY

Map Nos : 3550000000

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SMA : 9

Financial Div : 3
Benefitted Area ID :

Cancelled Property : N

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Request No: 543562

Search Date: 20/05/1998 10:55 am

Title Reference: 15572077

Date Created: 21/10/1976

Previous Title: 12965046

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 153299

County of MARCH

Parish of TEWANTIN

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TO N C S HOLDINGS PTY LTD
ORIGINAL TERM: COMMENCING 30 JUN 1987
TERMINATING 29 JUN 1990
OR OPTIONS AS MAY BE STATED
3. TRANSFER No 601617361 (J730471P) 13/12/1988
IN LEASE NO J384686D
TO ALLEN TAYLOR & COMPANY LIMITED

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - Yes

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LA/Div : 515 NOOSA
Valn No : 526/00000

Property Address : MAPLE ST, COOROY, 4563
Frontage : 0.00 metres Depth : 0.00 metres

Owners : ALLEN TAYLOR & CO LTD

Tenants in Common : N
Exempt from Rating : N

Service Address : PO BOX 224,
COOROY, QLD, AUSTRALIA, 4563

RPD : L2/RP153299:PAR TEWANTIN

Tenure : FH FREEHOLD
Area : 850M2

Rental Value Required : N

Valuation Information-:

Date of Effect	Date of Valn.	Unimproved Value	Sect Code	Date of Issue
30/06/97	01/10/96	\$ 31,500	28	03/03/97
30/06/98	01/10/97	\$ 31,500	28	22/02/98

Land Use Information-:

L/Use Type : S	L/Use Code : 25	PROFESSIONAL OFFICES
L/Use Type : AV	L/Use Code : 02	SINGLE UNIT DWELLING
L/Use Type : P	L/Use Code : 02	SINGLE UNIT DWELLING

Number of Lots : 1 Business Indicator : N

Property Type : U URBAN
Issuing Status : I ISSUING
Services : WS WATER & SEWERAGE
Zoning : 22 VILLAGE INDUSTRY

Map Nos : 3550000000

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SMA : 9

Financial Div : 3
Benefitted Area ID :

Cancelled Property : N

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REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 2 REGISTERED PLAN 153299

County of MARCH

Parish of TEWANTIN

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TERMINATING 29 JUN 1990
OR OPTIONS AS MAY BE STATED
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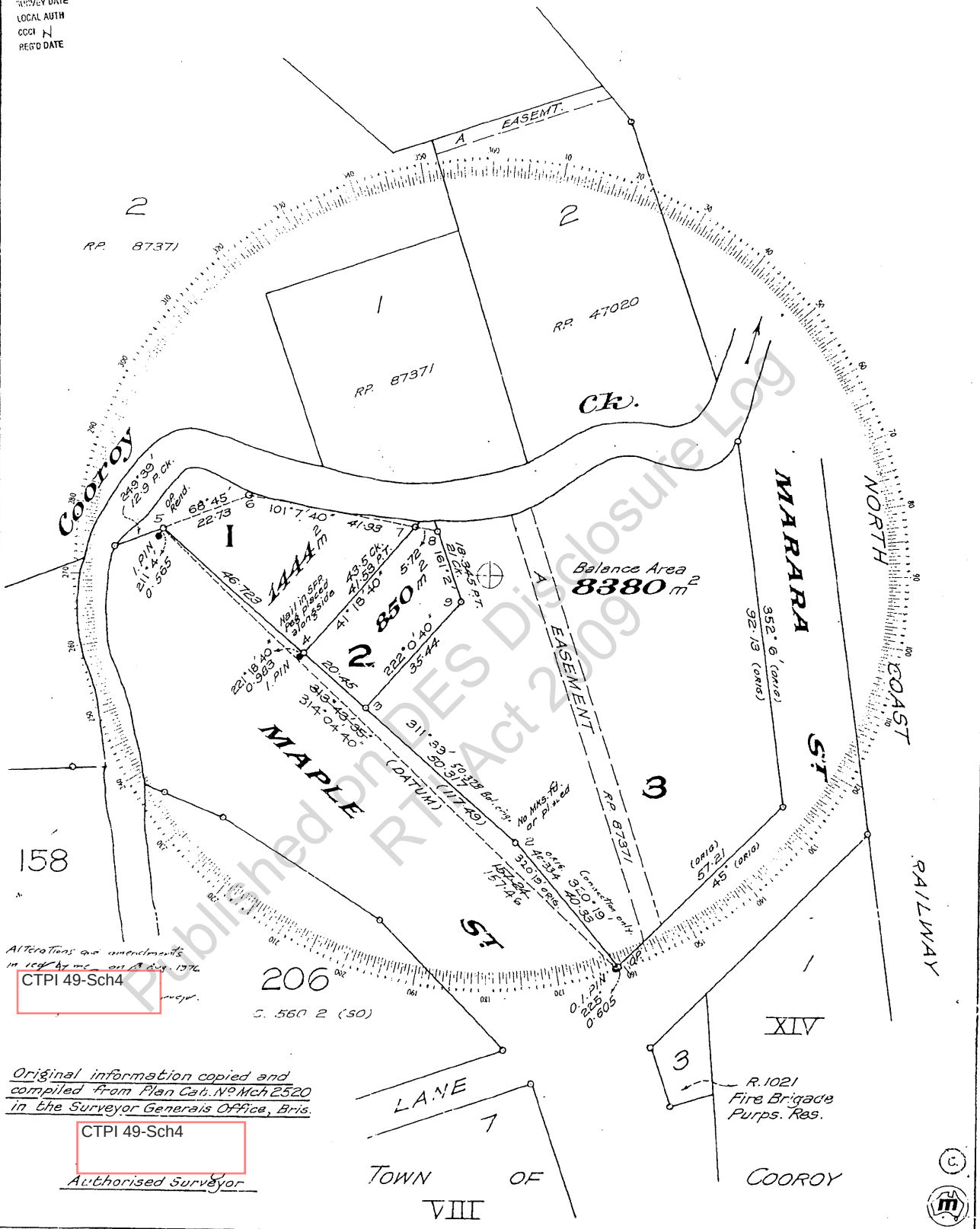
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Drawing of Plan must be restricted to the space inside the blue lines

153299

REG'D DATE
PURPOSE
SURVEYOR
TRANSFER DATE
LOCAL AUTH
COCN N
REG'D DATE



Alterations and amendments
in red by me on 13 Aug 1976
CTPI 49-Sch4

Original information copied and
compiled from Plan Cat. No Mch 2520
in the Surveyor General's Office, Bris.
CTPI 49-Sch4

Authorised Surveyor

Lots 1 to 3 Orig. Portion 100 DIMENSIONS IN METRES
Cancelling Portion 100 on SO Plan Mch 2520 Orig. Grant 127451
County of March Town of Tewantin
Parish of Tewantin
Surveyed by CTPI 49-Sch4 13/2/1976 SCALE 1:800 REGISTERED PLAN 153299
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Title Reference: 15572079

Date Created: 21/10/1976

Previous Title: 12965046

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 3 REGISTERED PLAN 153299

County of MARCH

Parish of TEWANTIN

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2. EASEMENT No 601788263 (B482099) 10/05/1957
BURDENING THE LAND
TO RESUB 1 OF SUB 1 OF POR 62A
OVER EASEMENT A ON RP87371
3. LEASE No 601617360 (J384686D) 19/02/1988
OF THE WHOLE OF THE LAND
TO NCS HOLDINGS PTY LTD
ORIGINAL TERM: COMMENCING 30 JUN 1987
TERMINATING 29 JUN 1990
OR OPTIONS AS MAY BE STATED
4. TRANSFER No 601617361 (J730471P) 13/12/1988
IN LEASE NO J384686D
TO ALLEN TAYLOR & COMPANY LIMITED

ADMINISTRATIVE ADVICES - NIL

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Page 1/1



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Title Reference: 12613020

Date Created: 07/02/1952

Previous Title: 12160092
12160093
12160094

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 2 REGISTERED PLAN 47020
County of MARCH Parish of TEWANTIN

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UNREGISTERED DEALINGS - NIL

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Title Reference: 13189215

Date Created: 21/04/1959

Previous Title: 11857054

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 87371
County of MARCH

Parish of TEWANTIN

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2. EASEMENT No 601788263 (B482099) 10/05/1957
BENEFITING THE LAND
OVER SUB A OF POR 100
3. LEASE No 601617360 (J384686D) 19/02/1988
OF THE WHOLE OF THE LAND
TO N C S HOLDINGS PTY LTD
ORIGINAL TERM: COMMENCING 30 JUN 1987
TERMINATING 29 JUN 1990
OR OPTIONS AS MAY BE STATED
4. TRANSFER No 601617361 (J730471F) 13/12/1988
IN LEASE NO J384686D
TO ALLEN TAYLOR & COMPANY LIMITED

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

CERTIFICATE OF TITLE ISSUED - Yes

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Title Reference: 13955238

Date Created: 03/11/1966

Previous Title: 12700047
13198158
13548211

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 2	REGISTERED PLAN 87371	Parish of TEWANTIN
	County of MARCH	
LOT 1	REGISTERED PLAN 88582	Parish of TEWANTIN
	County of MARCH	
LOT 2	REGISTERED PLAN 110206	Parish of TEWANTIN
	County of MARCH	
LOT 3	REGISTERED PLAN 110206	Parish of TEWANTIN
	County of MARCH	

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Deed of Grant No. 11394224 (POR 62)
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OF THE WHOLE OF THE LAND
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COMMENCING 30 JUN 1987
TERMINATING 29 JUN 1990
3. TRANSFER No 601617361 (J730471P) 13/12/1988
IN LEASE NO J384686D
TO ALLEN TAYLOR & COMPANY LIMITED

ADMINISTRATIVE ADVICES - NIL
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Date Created: 13/06/1958

Previous Title: 12237099

REGISTERED OWNER

ALLEN TAYLOR AND COMPANY LIMITED

ESTATE AND LAND

Estate in Fee Simple

LOT 3 REGISTERED PLAN 87371
County of MARCH

Parish of TEWANTIN

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IN LEASE NO J384686D
TO ALLEN TAYLOR & COMPANY LIMITED

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APPENDIX C

ENVIROTEST

ENVIRONMENTAL AUDIT OF BORAL-COOROY WOOD TREATMENT FACILITY

- NOVEMBER 1991

Our Ref: B7570R01

9 October 1998

R



- *Environmental Assessments and Audits*
- *Marine, Estuarine and Freshwater Studies*
- *Water Quality*
- *Air Monitoring*
- *Environmental Hygiene and Health*
- *Hazardous Chemicals*
- *Environmental Risk Assessments*
- *Analytical Services*

ENVIRONMENTAL AUDIT OF BORAL-COOROY WOOD TREATMENT FACILITY

Prepared for:

BORAL TIMBERS

ENVIROTEST

November 1991

R

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INTRODUCTION

Following approval from Boral Timbers, a contamination review was initiated at it 6 1991. The structure of the audit followed the proposed study design, with sampling and analysis carried out for soils, waters, sediment, ambient air and stack emissions.

The results and recommendations are presented below

SITE HISTORY

Limited site history (apart from aerial photographs of the general area) was available on the Cooroy site. However, a tour was made of the mill with Mr CTPI 49-S (relieving Manager, Boral Cooroy) who has detailed knowledge of history and operating practices

According to Mr CTPI 49-S the mill was built around 1959-60, on land previously set aside for pastoral usage. The kiln and boiler at use on the site date from this period. Figure 1 shows the current site configuration

In the initial years of production, boron treatment was the only form of wood timber treatment. Boron impregnation of timbers continues to be the sole form of wood treatment carried out. However, at some point in the mill history, CCA treated timber was introduced for processing in the mill. CCA timber is still milled on-site, with CCA contaminated sawdust used along with sawdust from milling of boron-treated timbers to fire the boiler furnace.

Boiler ash containing concentrated boron, copper, chromium and arsenic was initially disposed of by dumping wheelbarrows full of ash directly into the creek behind the boiler. Boiler ash is currently stored in drums at the rear of the boiler for removal, however, it still appears to be prevalent at some areas of the Plate 1 shows the creek bank at the rear of the boiler house.

Wood off-cuts, including treated wood off-cuts, are disposed of via open burning in the fire pit (shown in Figure 1). Ash from the burning is left on-site in the fire pit. Plate 2 shows an unburnt wood pile at the burn

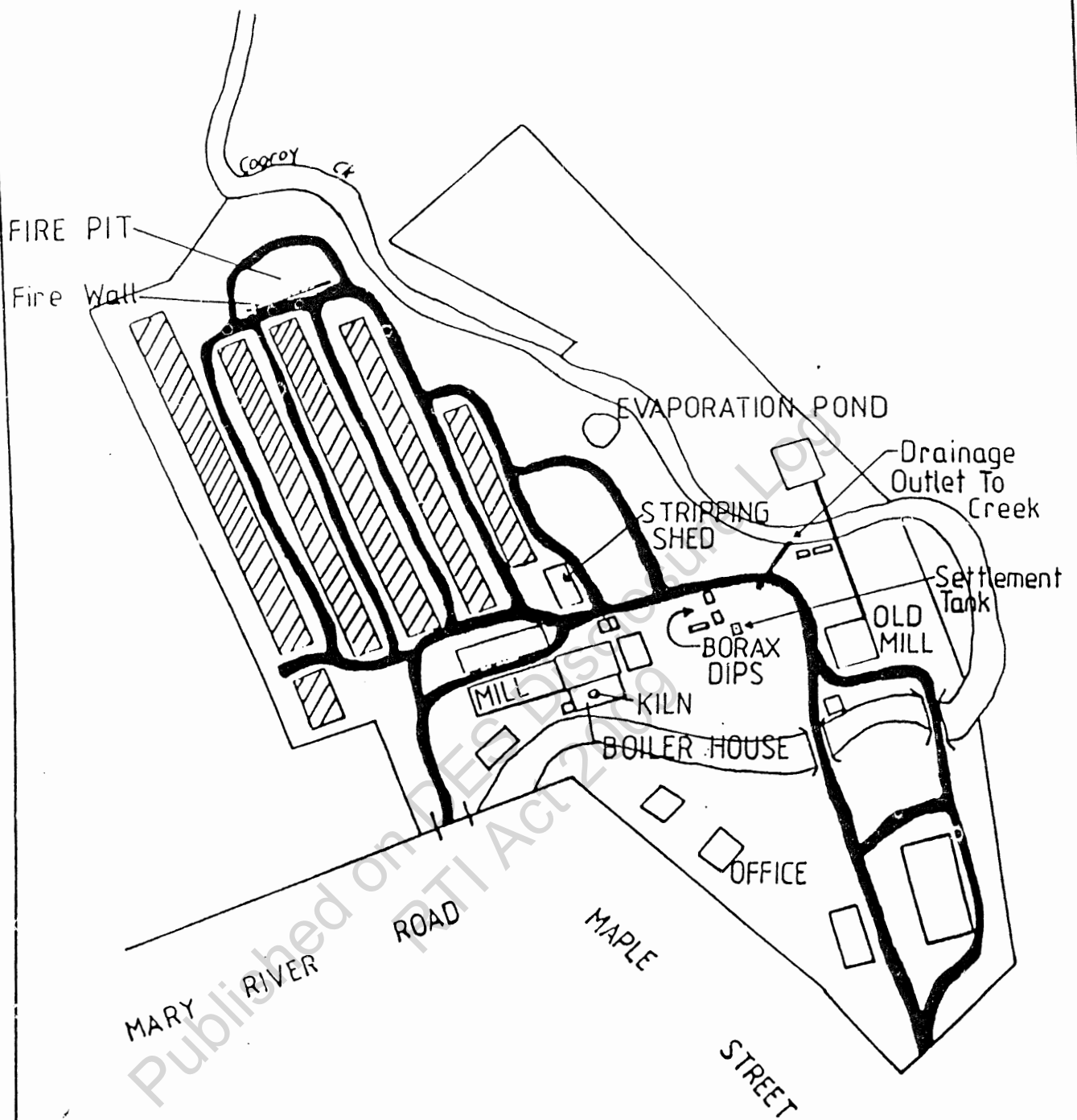


FIGURE 1
PLANT LAYOUT
BORAL TIMBERS - COOROY
ENVIROTEST
NOT TO SCALE
Source: Boral Timbers

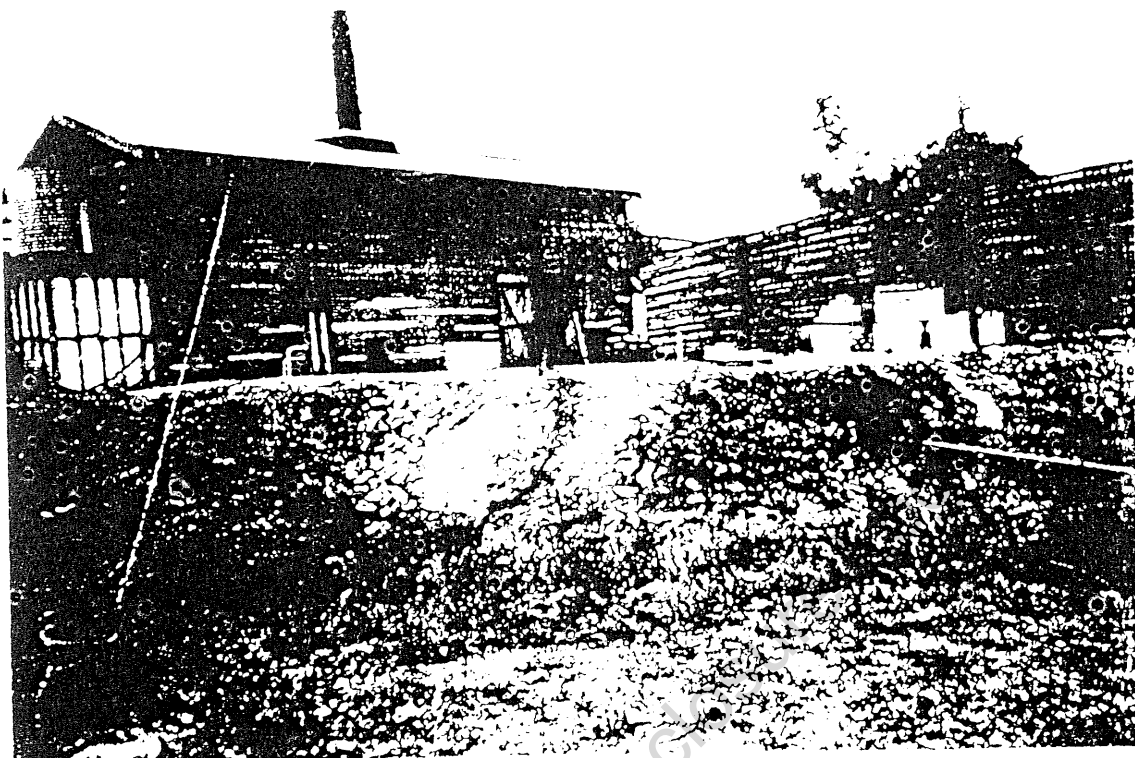


PLATE 1

Boiler House. Creek Bank at the Rear of
the Boiler House used for Ash Disposal



PLATE 2

Burn Pit. Wood Pile Awaits Open Burn

2.1 Usage of Chemicals

No other industrial chemicals apart from boron preservatives are currently used at the site.

Other chemicals have been used for weed control on grass areas and around the stack. Weedicides were identified as Gromoxone and Roundup, with Roundup still currently in use. Historical use of Gromoxone was very limited.

2.2 Boron Treatment

Boron treatment is carried out at the site by dipping air dried timber stacks (dried for approximately 8 months) in pits containing boron solution.

No concrete drip pad surrounds the treatment pits, and current practise is to drip the boron treated stacks for 15 minutes above the pits before removal. The treated boron timber is then removed for storage on-site, prior to shipping. No particular location is set aside for storage of boron-treated timber.

CTPI 49-Sch4 indicated that the borax dips have never been submerged beneath flood waters, however, the boron dips have overflowed due to operator error, with treatment solution moving with stormwater drainage into the adjacent creek (see Figure 1).

Plates 3 and 4 show the borax dips and the adjacent stormwater drain to the creek.

2.3 Timber Kilning and Conditioning

It was indicated that no effluent arises from the kiln process, with steam coils used to heat the kilns as opposed to open steam.

The conditioning process, in which treated timber is "post-dried", does produce limited quantities of effluent. The effluent from the conditioning process comprises condensed steam, from the open steam used in the process. Plate 5 shows the conditioning shed and kiln (left to right).



PLATE 3

Borax Dips with Stormwater Drain in Foreground



PLATE 4

Close Up of Stormwater Drain.
Black Discolouration is Associated with Borax



PLATE 5

Conditioning Shed and Kiln (left to right)
with Sediment Trap in Foreground

2.4 Sediment Collection System

A sediment collection system is in operation at the site. Drainage water from the kiln/boiler area containing organic material such as sawdust is collected in a series of sediment traps. The resulting slurry is pushed along pipes with the use of steam into the water/sediment evaporation pond (shown on Figure 1).

The evaporation pond has been located in its current position for most of the history of the site, and originally received washout waters and other materials from the kiln/boiler area. Plates 6 and 7 show the outlet pipe from the sediment collection system and the evaporation pond.

2.5 Boiler Operation

The boiler operates by burning sawdust exclusively. Sawdust is supplied from milling/dressing operations and, depending on operating phases, may contain significant proportions of contaminated material.

No emission controls are in operation. It has been noted that periodic surges of high particulate emission (black plume) occur when the manual feed of unburnt sawdust miss-matches boiler pressure. Low boiler pressure causes an automatic increase in sawdust feed, resulting in high particle loading.

3.0 SAMPLING AND ANALYSIS

Throughout the sampling program, recognised techniques were employed for sample collection, with standard analytical methods used in analytical procedures.

The specific methods are outlined below.

3.1 Soils and Sediments

3.1.1 Sampling Methods

At each sampling location, soil samples were collected from the surface layer (0 - 0.1 m). Sediment samples were taken from the creek bed. All samples were individual samples obtained by a manual grab technique. Samples were collected, placed in appropriately cleaned containers, stored in ice and transported back to the ENVIROTEST laboratory in Brisbane for analysis.



PLATE 6

Outlet of Sediment Collection
System Entering Evaporation
Pond



PLATE 7

Ponding Water in Evaporation Pond

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3.1.2 Analytical Methods

Trace Elements

Reference: USEPA Standard Method 3050 and APHA Standard Method 305.

Prepared samples were digested with nitric acid and hydrogen peroxide. Determination was by inductively coupled plasma emission-mass spectrophotometry (ICP-MS) and results expressed on a dry weight basis.

Interference: All glassware was thoroughly acid-washed to minimise contamination. Sediment samples can contain diverse matrix types. Spiked samples and blanks were processed to ensure this method was applicable and to monitor any contamination.

3.2 Waters

3.2.1 Sampling Methods

DETERMINATION	CONTAINER	PRESERVATION
Total Organic Carbon	G	Analyse immediately; or refrigerate and add H ₂ SO ₄ to pH <2
Oil and Grease	G, wide-mouth calibrated	Add H ₂ SO ₄ to pH <2, refrigerate
Metals, general	P(A)	Add HNO ₃ to pH <2
Tannins	P	Store on ice

Refrigerate = storage at 4°C in the dark
P = plastic (polyethylene or equivalent)
G = glass
P(A) = rinsed with 1 + HNO₃
G(S) = glass rinsed with organic solvents

SOURCE: APHA Standard Methods, 16th Edition

3.2.2 Analytical Methods

Total Organic Carbon

Reference: APHA Standard Method 505A

Total organic carbon (TOC) refers to all carbon atoms covalently bonded in organic molecules. Unlike BOD or COD, TOC is independent of the oxidation state of the organic matter. Furthermore, TOC does not measure other organically bound elements (such as nitrogen and hydrogen) and inorganics that can contribute to the oxygen demand measured by BOD and COD. TOC is analysed by the Combustion-Infrared method using a Beckman TOC Analyser.

Oil and Grease

Reference: APHA Standard Method 503B

Oil and grease includes any material recovered as a substance soluble in Freon. Determination was by Fourier Transform Infrared Spectrometry (Perkin Elmer FT-IR 1725X) coupled with IR data manager software.

Trace Elements and Cations (Sodium, Potassium, Calcium and Magnesium)

Reference: APHA Standard Method 305

Elements by Mass Spectrometry using an inductively coupled plasma source (ICP-MS).

Tannins

Reference: APHA Standard Method 513

3.3 Ambient Air

3.3.1 Sampling Methods

PARAMETER	A. Sampling Medium and/or Equipment Used B. Sampling Duration and Rate C. Reference
Trace Elements	A. 37 mm filter membrane B. 240 min at 2.0 l/min C. NIOSH Method No. 7300
Dust	A. 37 mm filter membrane B. 240 min at 2.0 l/min C. NIOSH Method No. 7300

3.3.2 Analytical Methods

PARAMETER	A. Method B. Reference
Trace Elements	A. 37 mm membrane filters were digested by a nitric acid and hydrogen peroxide mixture. Determination was by inductively coupled plasma mass spectrophotometry (ICP-MS) (Model: VG Plasma Quad) B. NIOSH Method No. 7300
Dust	A. Gravimetric determination of total dust collected on a pre-weighed membrane filter using a Millipore filter cassette and calibrated air pump (2 l/min). B. Australian Standard

3.4 Stack Air

3.4.1 Sampling Methods

PARAMETER	A. Method B. Reference
<u>Gas Analysis</u> Nitrogen (volume percent dry basis) Oxygen (volume percent dry basis) Carbon Dioxide (volume percent dry basis) Moisture Mass Flow Rate Particulate Load Temperature Flow Rate	A. Isokinetic Stack Sampling Procedure B. SIMTARS Procedures

3.4.2 Analytical Methods

PARAMETER	A. Sampling Medium and/or Equipment Used B. Sampling Duration and Rate C. Reference
Nitrogen Oxygen Carbon Dioxide Moisture Mass Flow Rate Temperature Flow Rate Particulate Load	A. In-situ using Isokinetic Instrumentation B. 40 mins C. SIMTARS Procedures
Particulate Load was further tested for Trace Element Concentration	A. 37 mm membrane filters were digested by a nitric acid and hydrogen peroxide mixture. Determination was primarily by inductively coupled plasma emission spectrophotometry. Arsenic and mercury were measured by hydride and cold vapour generation respectively, using atomic absorption spectrophotometry

4.0 ASSESSMENT OF CONTAMINATION

Contamination assessment was carried out at the site for soil, sediment and water, ambient air and stack emissions. In all cases, parameters of interest were chosen based on the site history and known chemical usage. The results for each of the media are presented below.

4.1 Soil Contamination

A total of 39 soil samples was taken at the Cooroy site (excluding sediments). The concentrations of chosen parameters at each site are shown in Table 1, with site locations marked on Figure 2. To facilitate interpretation of these values, relevant criteria are presented in Table 2.

Table 2 summarises current Australian ANZEC (Australian and New Zealand Environment Council), Dutch, French and Queensland criteria from the CHEM (Chemical Hazard and Emergency Management) Unit. The Australian criteria are currently incomplete, with only background and selected threshold values given. The Dutch and French criteria present complete background, investigation threshold and treatment/clean-up thresholds for most parameters, and until recently the Dutch and French criteria were used in place of any Australian guidelines. The CHEM Unit threshold values were published with the Draft "Guidelines for Assessment of Contaminated Land in Queensland" in March, 1991. These criteria are intended for use in preliminary surveys, and provide no indication of clean-up concentrations. These may depend upon site specific risk assessments.

Inspection of Table 1 will reveal that significant contamination exists in some areas of the site. Boron, chromium, copper and arsenic were found to be well above acceptable limits in some areas. Barium, cadmium and lead were slightly elevated in some areas, however, the concentrations of these parameters do not seem to be significant.

Generally, boron, chromium, copper and arsenic contamination appears in areas associated with the disposal or mishandling of either boiler ash, boron chemicals or treated timbers.

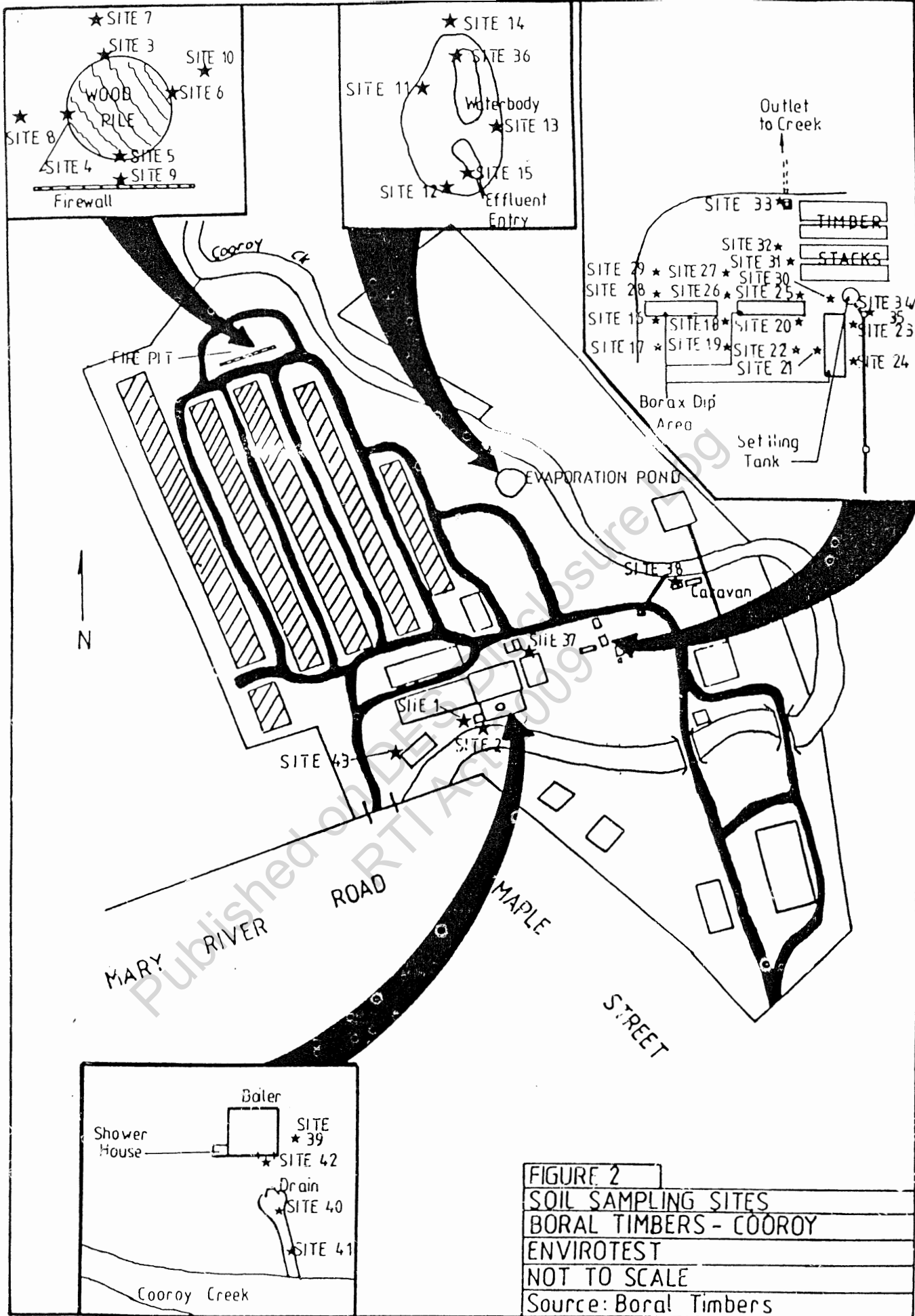


TABLE 1
SOIL CONTAMINATION

SITE NO	PARAMETER CONCENTRATION (mg/kg)										
	B	Cr	Co	Ni	Cu	Ba	As	Cd	Sn	Hg	Pb
1	1380	804	4	34	1450	563	1600	14	3	0.2	54
2	9410	30400	7	35	8930	774	8820	14	6	0.15	13
3	270	541	5	9	233	132	198	4	1	<0.05	46
4	125	140	93	5	86	73	66	0.7	0.05	<0.05	46
5	547	226	7	15	319	245	295	0.8	2	<0.05	45
6	590	102	8	18	148	218	139	7	1	<0.05	39
7	68	119	6	5	90	210	94	<0.05	<0.05	<0.05	55
8	62	76	6	5	82	131	68	2	<0.05	<0.05	65
9	16	18	2	3	12	41	6	<0.05	<0.05	<0.05	10
10	164	69	8	7	100	85	89	4	<0.05	<0.05	23
11	422	114	7	7	71	81	104	7	0.1	<0.05	85
12	130	48	7	4	39	66	38	5	<0.05	<0.05	199
13	649	5450	3	7	368	44	584	0.7	1	<0.05	38
14	186	249	8	7	85	79	251	9	<0.05	<0.05	76
15	7640	5280	6	46	5700	621	8140	11	3	<0.05	9
16	93	37	7	4	46	49	29	0.4	<0.05	<0.05	33
17	66	21	7	7	21	29	13	1	<0.05	<0.05	19
18	364	38	10	7	44	102	26	4	<0.05	<0.05	42
19	179	35	13	9	43	60	24	3	<0.05	<0.05	30
20	1810	74	4	9	84	69	48	2	2	<0.05	353
21	855	54	7	3	67	44	50	3	<0.05	<0.05	51
22	347	48	9	7	45	47	35	<0.05	<0.05	<0.05	41
23	172	29	<1	1	14	12	18	<0.05	<0.05	<0.05	9
24	102	26	1	1	159	7	19	<0.05	<0.05	<0.05	12
25	1440	290	2	3	144	27	163	<0.05	2	<0.05	20
26	267	39	5	2	31	30	18	<0.05	<0.05	<0.05	14
27	57	80	5	6	116	62	60	4	1	<0.05	197
28	58	40	6	2	42	36	30	2	<0.05	<0.05	52

B Cr $\checkmark$ Cu - As $\checkmark$ $\checkmark$ $\checkmark$

R

	PARAMETER CONCENTRATION (mg/kg)										
	B	Cr	Co	Ni	Cu	Ba	As	Cd	Sn	Hg	Pb
29	55	25	6	5	30	103	24	1	<0.05	<0.05	29
30	298	200	7	8	153	73	125	5	1	<0.05	208
31	205	156	6	6	95	42	77	<0.05	<0.05	<0.05	36
32	34	256	3	5	183	37	88	1	1	<0.05	39
33	140	116	6	6	161	53	67	<0.05	<0.05	<0.05	51
38	15	36	5	4	42	89	24	<0.05	<0.05	<0.05	131
39	29	225	2	8	129	196	196	<0.05	<0.05	<0.05	26
40	147	1030	4	8	802	95	593	1	2	<0.05	31
41	1170	2760	17	37	1840	191	5900	15	38	<0.05	15
42	1680	3260	5	47	7470	496	5600	11	10	<0.05	22
43	61	126	7	8	315	65	155	3	<0.05	<0.05	56

TABLE 2
CONTAMINATED LANDS CRITERIA

PARAMETER	THRESHOLD CONCENTRATIONS (mg/kg)							
	AUSTRALIAN (ANZEC, 1991)			DUTCH		FRENCH		CHEM UNIT (1991)
	A	B	C	B	C	B	C	B only
B	1-75	-	-	-	-	40	100	-
Cr	0.5-110	50	-	250	800	300	750	250
Co	2-170	-	-	50	300	60	150	50
Ni	2-400	60	-	100	500	50	100	100
Cu	1-190	-	-	100	500	200	500	100
Ba	20-200	-	-	400	2000	400	1000	400
As	0.2-30	-	-	30	50	40	100	30
Cd	0.04-2	-	-	5	20	4	10	3
Sn	1-25	-	-	50	300	40	100	50
Hg	0.001-0.1	1	-	2	10	2	3	2
Pb	<2-200	300	-	150	600	200	500	200

A = Background
 B = Investigation threshold
 C = Treatment/Clean-up threshold

4.1.1 Boiler House Area

Sample 2 was boiler ash, sampled directly from a drum at the rear of the boiler. The ash was found to contain extremely high concentrations of boron, chromium, copper and arsenic (9410, 30400, 8930, and 8820 mg/kg respectively). Elevated cadmium (14 mg/kg compares with Dutch and French C levels of 20 and 10 mg/kg respectively and CHEM Unit investigation threshold of 3 mg/kg) was also associated with the ash, and may be a contaminant in wood preservative chemicals.

Sample 1, taken at the creek bank behind the boiler where ash was dumped in the past, was also found to have elevated boron, chromium, copper and arsenic above Dutch C levels. This indicates significant contamination due to previous mishandling of ash residue. Samples 39 to 42 were also taken adjacent to the boiler shed, with Samples 40 to 42 associated with a drain from the boiler house to the creek (see Figure 2).

Sample 39 was green in colouration, and was suspected to be residue of boiler ash. It was found to contain some elevated chromium and copper, however, only arsenic was above the Dutch C threshold (196 mg/kg compares with a Dutch C of 50 mg/kg).

Samples 40 to 42 however, did contain significant contamination, with copper, chromium and arsenic well above C levels in all samples. Boron contamination was also significant here, being well above C levels in all samples.

Areas adjacent to the boiler house, particularly the creek bank, have been contaminated to a significant degree by boiler ash chemicals. Contamination here is significant in copper, chromium, arsenic and boron. Any site rehabilitation would involve clean-up of this area.

4.1.2 Fire Pit

A total of eight samples was taken in the fire pit area. Samples 3 to 6 were taken of the ash at the base of the wood pile, with 7 to 10 taken at a perimeter of approximately 8 m from the pit area. The location of the samples is shown on Figure 2.

As shown in Table 1, Samples 3 to 6 contained significant boron and arsenic, well above Dutch C levels in all cases. Chromium and copper were elevated, however, the highest values fell below clean-up criteria.

At an eight metre radius from the burn pit (Samples 7 to 10) elevated levels of boron were still found, with Sample 10 above C level. Arsenic concentrations were still above Dutch C levels except in Sample 9.

The soil associated with the burn pit was found to contain significant contamination in boron and arsenic up to a radius of 8 metres.

4.1.3 Evaporation Pond

Four samples were taken of soil in the evaporation pond (dried sediment) being Samples 11, 12, 13 and 15. An additional sample, Number 14, was taken on the creek bank downslope from the evaporation pond. These sample locations are shown in Figure 2.

All samples, including the sample of the creek bank, contained significant boron contamination. It is apparent that contaminants are leaving the pond and entering the creek.

Sample 15 contained extremely high concentrations of boron, chromium, copper, arsenic and cadmium, and is likely to be dumped boiler ash (7640, 5280, 5700, 8140 and 11 mg/kg respectively).

Sample 13 also contained significant chromium and arsenic contamination (5450 and 584 mg/kg respectively), with significant arsenic also found in Sample 14 (251 mg/kg).

Overall, areas of the evaporation pond sediment were found to be highly contaminated with boron, copper, chromium, arsenic and cadmium. Dumped ash was found in the evaporation pond indicating bad disposal practices continue. Extensive removal of evaporation pond sediment would be required in any remedial program.

4.1.4 Borax Pit Area

Eighteen soil samples were taken around the rectangular borax pits. These samples are numbered 16 to 33, and were taken at perimeters of 0.5 m and 4.0 m away from the pits, as shown on Figure 2. Twelve of the samples, including samples at the 4 m perimeter and three taken in the direction of surface water transport (31, 32 and 33 contained significant boron contamination (above French C level of 100 mg/kg). The highest of these was Sample 25 at 0.5 m which contained 1440 mg/kg boron. Six samples, 25, 27, 30, 31, 32 and 33 also contained significant arsenic contamination.

The lack of a concrete drip pad and adequate containment area has lead to significant boron contamination of the dip area. Arsenic contamination is also prevalent in the area, although its source is unclear. Any remedial action would entail soil removal and/or installation of a slab and containment area.

4.1.5 Miscellaneous Soil Samples

A sample of a fallow garden bed near the caravan (Sample 38, see Figure 2), was low in all parameters.

A background sample taken near the rear entrance (Sample 43) contained elevated chromium, copper and arsenic (126, 315 and 155 mg/kg compared with maximum Australian backgrounds of 110, 190 and 30 mg/kg respectively). It is likely this area has been contaminated with CCA chemicals or waste boiler ash.

4.2 Water and Sediment Contamination

A total of 17 water samples and six sediment samples was taken at the Cooroy site, with twelve of the water samples (50 - 51, 52, 54, 57 - 64) and the six sediment samples (44 to 49) taken at six sites in the adjacent creek (see Figure 3).

4.2.1 Creek Waters and Sediments

Table 3 (creek waters) and Table 4 (creek sediments) are presented with Table 5 which lists appropriate criteria (note that sediments may be considered contaminated lands).

Inspection of Table 3 and Table 5 reveals a pattern of water contamination which is linked to soil contamination within the Cooroy site. Of the parameters of interest, arsenic is well below both aquatic and drinking water criteria, with boron, chromium and cadmium elevated above acceptable limits. Copper and lead were found to exceed aquatic ecosystem criteria (27 and 12 µg/l compared with 5 µg/l in each case) only at Site 6, upstream of the Plant. This indicates a separate and unconnected source of these chemicals upstream.

Cadmium was found to be well above aquatic, stock and drinking water criteria at many points within the creek. However, a high concentration upstream of the Plant (16 µg/l compared with a maximum at Site 4 of 20 µg/l) may indicate another source of contamination. Considering cadmium contamination of the bank was high near this point, it is likely that contaminants are entering from the mill site.

The concentration of chromium was found to exceed the aquatic threshold at Site 4 (21 µg/l compares with 10 µg/l), indicating chromium is also leaching into the water from the bank just prior to this point.

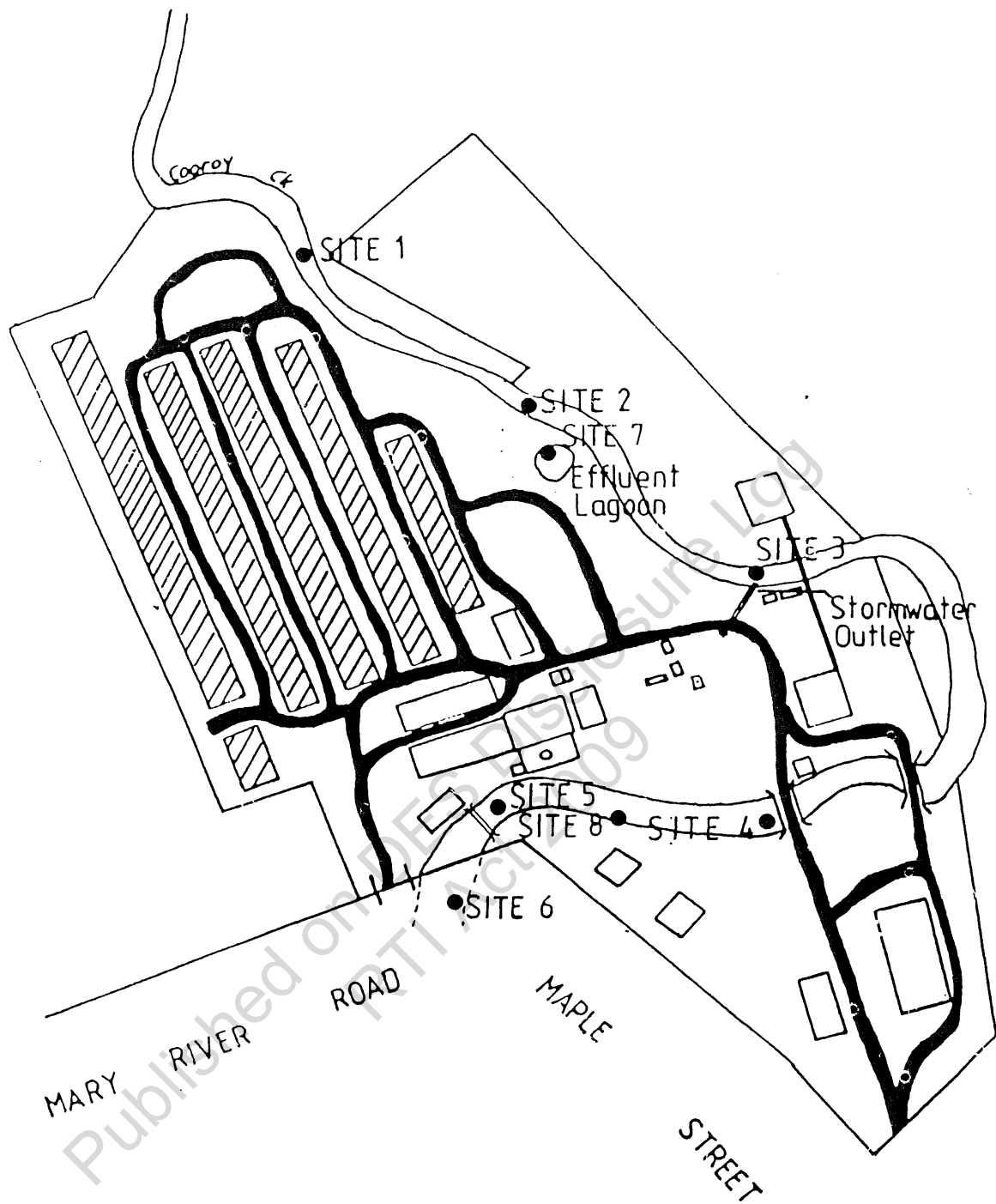


FIGURE 3
WATER SAMPLING SITES
BORAL TIMBERS - COORQY
ENVIROTEST
NOT TO SCALE
Source: Boral Timbers

TABLE 3
CREEK WATERS

SAMPLE NO	SITE NO	PARAMETER CONCENTRATION (µg/l)										
		As	Ba	B	Cd	Cr	Co	Cu	Pb	Hg	Ni	Sn
50	1	7	23	49200	11	1	<1	1	<1	<1	7	2
51	1	9	22	46200	10	1	<1	2	2	<1	10	3
52	2	7	15	71900	10	1	<1	1	<1	<1	7	2
54	2	5	15	69600	13	1	<1	1	<1	<1	9	<1
57	4	12	21	16800	3	1	<1	2	2	<1	8	<1
58	4	8	28	16100	16	21	<1	2	4	<1	17	3
59	8	24	27	30300	9	2	<1	3	2	<1	14	4
60	8	22	16	29600	20	2	<1	2	1	<1	7	4
61	5	11	71	600	9	2	19	1	1	<1	32	2
62	5	10	59	42	18	2	19	2	2	<1	34	3
63	6	14	93	<1	15	5	8	26	12	<1	20	1
64	6	15	102	<1	16	7	9	27	12	<1	20	3

TABLE 4
SEDIMENT CONTAMINATION

SAMPLE NO	SITE NO	PARAMETER CONCENTRATION (mg/kg)										
		As	Ba	B	Cd	Cr	Co	Cu	Pb	Hg	Ni	Sn
44	1	40	68	29	3	85	8	63	70	<0.05	7	0.2
45	2	32	5	43	8	81	9	45	65	<0.05	5	1
46	3	11	75	89	4	26	7	18	29	<0.05	5	<0.05
47	4	19	70	16	0.8	43	8	37	121	<0.05	6	0.1
48	8	23	78	20	6	53	9	41	71	<0.05	6	0.9
49	5	10	35	4	1	25	4	15	40	<0.05	3	3

TABLE 5
WATER QUALITY CRITERIA

PARAMETER	THRESHOLD CONCENTRATIONS (µg/l)		
	AQUATIC ECOSYSTEMS*	STOCK* WATER	DRINKING** WATER
As	50	200	50
Ba	-	-	1000
B	-	5000	1000
Cd	0.2	10	5
Cr	10	1000	50
Co	-	1000	-
Cu	5	500	1000
Pb	5	500	50
Hg	0.012	2	1
Ni	-	5000	-
Sn	-	-	-
Oil and Grease	-	-	200

- + Vic EPA (1983)
 ++ NH&MRC/AWRC (1987)
 * ANZEC (1990)

The pattern of water contamination is most marked for boron. Upstream from the site, the concentration remains below the detection limit, however, it quickly rises to exceed drinking water and stock water criteria at Site 8 adjacent to the boiler house (30 mg/l compared with drinking and stock criteria of 1 mg/l and 5 mg/l). The highest boron concentration was found downslope of the evaporation pond (71.9 mg/l).

Elevated arsenic, boron and cadmium concentrations were found in creek sediments. The concentrations did not exceed clean-up criteria, however, they give indications of contaminant transport.

Cadmium is highest at Sites 8 and 2, indicating sources from the creek bank adjacent to the boiler house and evaporation pond respectively. Boron is highest at Site 3, located at the drain outlet taking stormwater from the borax pit area. This indicates boron has moved in the creek along stormwater routes.

Elevated arsenic at Site 1 (near the fire pit) may have arisen from the evaporation pond.

The pattern of water contamination indicates cadmium, chromium and boron have moved from contaminated soil on-site into the adjacent creek. The creek bank adjacent to the boiler house is associated with high cadmium, chromium and boron concentrations, with the maximum concentration of boron adjacent to the evaporation pond. Concentrations of cadmium, chromium and boron exceed limits for the protection of aquatic ecosystems, with cadmium and boron exceeding stock and drinking water criteria. Remediation would entail removal of contaminant sources.

4.2.2 Evaporation Pond and Process Effluent

The results for five miscellaneous water quality samples are shown in Table 6.

TABLE 6

MISCELLANEOUS WATER QUALITY SAMPLES

PARAMETER	CONCENTRATION IN SAMPLE (µg/l unless shown otherwise)				
	SAMPLE 32	SAMPLE 54	SAMPLE 53	SAMPLE 55	SAMPLE 56
As	1080	404	-	-	-
Ba	278	69	-	-	-
B	314000	61600	-	-	-
Cd	38	16	-	-	-
Cr	193	30	-	-	-
Co	7	2	-	-	-
Cu	169	61	-	-	-
Pb	35	8	-	-	-
Hg	1	1	-	-	-
Ni	46	18	-	-	-
Sn	10	<1	-	-	-
Total Organic Carbon (mg/l)	-	-	-	-	150
Tannin and Lignin (mg/l)	-	-	-	-	12.7
Total Oil and Grease (mg/l)	-	-	0.8	<0.1	-

Inspection of Tables 5 and 6 reveals concentrations of arsenic, boron, cadmium, chromium, copper and lead elevated well above aquatic thresholds. With the exception of lead, these chemicals are associated with processing at the Plant. The lead contamination, which remains below stock criteria, may have arisen due to contamination via used oils.

The arsenic, boron and cadmium concentrations are well above stock and drinking water criteria and are the highest measured on-site. Any incidence of heavy rain would cause this water to move into the creek and further spread contamination.

Total oil and grease in the pond water was relatively low.

The trace element and total oil and grease concentrations found in a sediment trap near the borax pits are shown in Table 6 (Samples 53 and 54). The water in the trap shows the same pattern of contamination, confirming that arsenic, boron, cadmium, copper and lead are moving into the effluent pond via the sediment trap system. Total oil and grease were detectable here but may be considered low.

The effluent from the reconditioning process was found to be low in total organic carbon and tannin and lignin, and thus suitable to enter the sediment system providing other contaminants are low.

The pattern of contamination in the sediment trap and effluent pond indicates arsenic, boron, cadmium, chromium, copper and lead are moving via the sediment trap to the effluent pond. Arsenic, boron and cadmium concentrations throughout the wastewater system are extremely high.

4.3 Leaching of Contaminated Soil

Three samples of contaminated soil were chosen for leaching experiments (1, 6 and 20), being representative of contamination of the creek bank, fire pit and borax pit area respectively.

Each of the three soil samples was extracted via the US EPA toxicity characteristic leaching procedure (TCLP) for parameters of interest. The TCLP models the natural leaching action of stormwater and groundwater on waste residues.

The results are given in Table 7, showing total concentration in the soil and that leached into solution. It is apparent that the major contaminants are readily leached into solution, reaching concentrations which exceed aquatic and drinking water thresholds and stock thresholds in most cases. Boron is most readily taken into solution, as demonstrated by the procedure.

TABLE 7

TCLP EXTRACTION OF SOILS

PARAMETER	CONCENTRATION IN SOIL (mg/kg) AND WATER ¹ (µg/l)					
	SITE 1		SITE 6		SITE 20	
	SOIL	WATER	SOIL	WATER	SOIL	WATER
Cu	1450	400	148	2400	84	850
Cr	804	710	104	330	74	370
B	1380	22500	590	13600	1810	80000
As	1600	1400	139	34	48	3
Ba	563		218		69	
Pb	54		39		353	
Hg	0.2		<0.05		<0.05	

1 Extraction solution

The leaching procedure, designed to simulate the natural leaching action of storm and ground waters, demonstrates that the observed water contamination is easily achieved through leaching of on-site soils.

4.4 Ambient Air Contamination

Six ambient air samples were taken at the site (labelled A to F), providing data on ambient dust levels and other parameters of interest. The ambient air results are presented in Table 8 with the site locations shown in Figure 4 with some available criteria.

Criteria are unavailable for most parameters, however, those available for chromium, copper and mercury indicate air concentrations are below levels of particular concern. Site A showed evidence of contamination for metals and Sites A and F for dust. (The on-site dust levels are not necessarily due to stack emissions.) Boron was detectable at other sites. The limit of detection for dust was too high for normal ambient levels. These aspects are considered in Section 5.0. Total dust is below the occupational threshold limit value of 10 mg/m³.

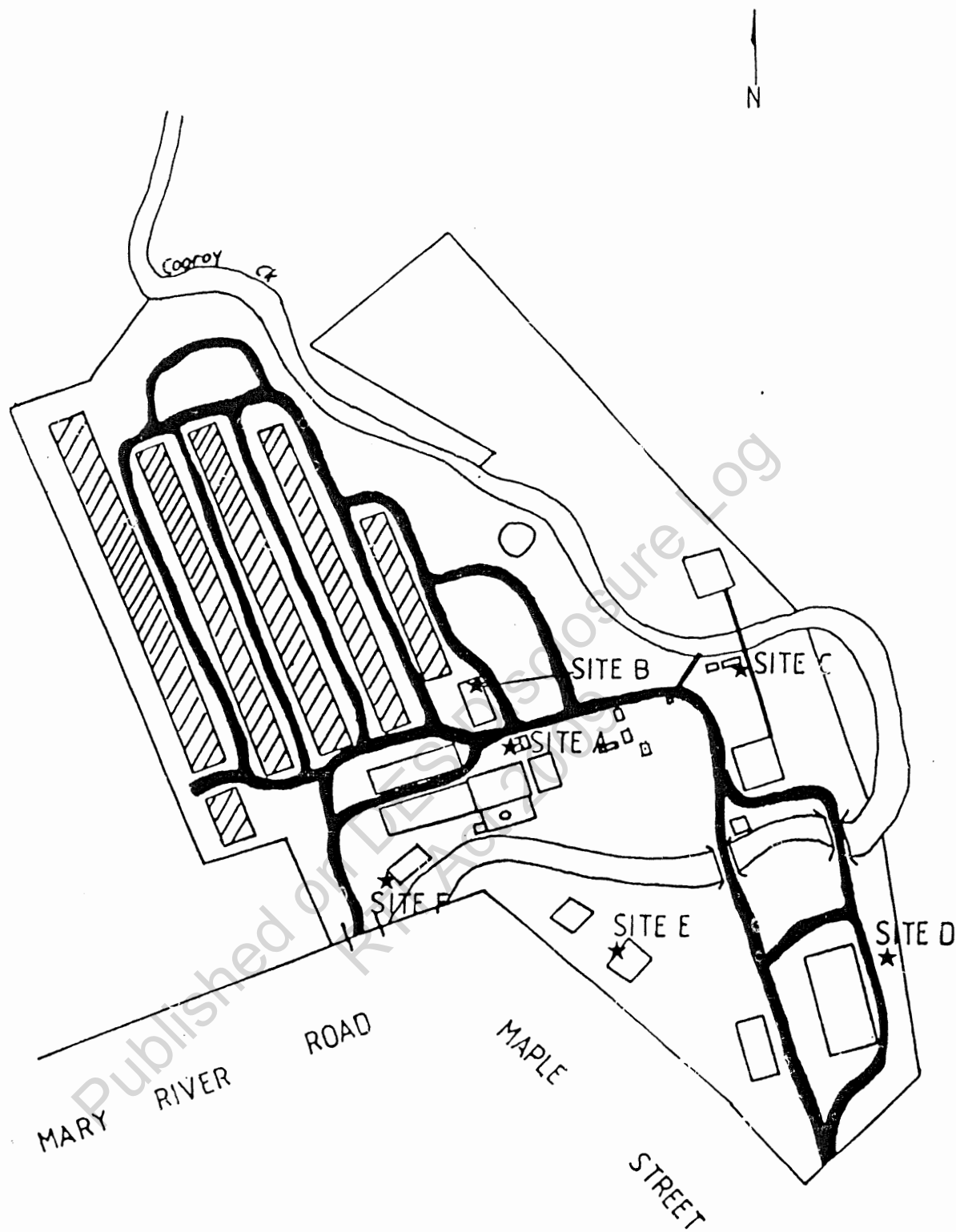


FIGURE 4
AIR SAMPLING SITES
BORAL TIMBERS - COORQY
ENVIROTEST
NOT TO SCALE
Source: Boral Timbers

TABLE 8

AMBIENT AIR RESULTS

PARAMETER	AIR CONCENTRATION ($\mu\text{g}/\text{m}^3$)						
	A	B	C	D	E	F	Vic EPA*
B	<0.04	2.7	4.7	0.79	2.0	0.54	-
Cr	2.0	0.24	<0.04	<0.04	<0.04	<0.04	17.0
Co	1.11	0.04	<0.04	<0.04	<0.04	<0.04	-
Cu	2.2	<0.04	<0.04	<0.04	<0.04	<0.04	6.7
As	0.84	0.04	<0.04	<0.04	<0.04	<0.04	-
Cd	0.66	<0.04	<0.04	<0.04	<0.04	<0.04	-
Ni	0.57	<0.04	<0.04	<0.04	<0.04	<0.04	-
Sn	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-
Ba	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	-
Hg	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	1.7
Pb	3.9	0.33	<0.04	<0.04	<0.04	<0.04	-
Dust	500	<500	<500	<500	<500	2000	-

* Vic EPA groundlevel concentrations ($\mu\text{g}/\text{m}^3$)

5.0 AIRBORNE CONTAMINANTS FROM BOILER PLANT STACK

5.1 Stack Emissions

A preliminary and test run of stack emissions from the Boral Timbers boiler stack were measured on the 12 November, 1991 during burning of sawdust fuel. Stack particulates were collected, weighed and analysed for a range of trace elements (B, Cr, Co, Ni, Cu, Zn, Cd, Pb, Hg and As).

Stack emission parameters and measurements are listed in Table 9. Emission concentrations and rates for individual elements are given in Table 10. Results show that airborne particulates measured in the stack at 1419 mg/m³ (12% CO₂ reference level) were excessive when compared with the National Health and Medical Research Council (NH&MRC) standard of 250 mg/m³ (12% CO₂ reference level). Similarly, emission of total arsenic (33.3 mg/m³) exceeded a NH&MRC standard of 10 mg/m³ (total antimony, arsenic, cadmium, lead, mercury and vanadium combined). Boron, copper, chromium and lead concentrations were also elevated (see Table 10) which indicates that the solid fuel was contaminated with wood preservatives. The source of the lead is uncertain, probably waste or fuel oil.

It is apparent that current operation of the boiler house produces emissions of particulates and arsenic that would be unacceptable for a licensed stack emission. Burning of wood wastes (sawdust) containing arsenic residues is likely to produce excessive emissions and contaminated ash residues which will be difficult to dispose.

TABLE 9

STACK PARAMETERS AND EMISSION MEASUREMENTS
- BORAL TIMBERS BOILER STACK

PARAMETER	TEST RUN	PRELIMINARY RUN
	12 NOVEMBER, 1991	
Time	1250 to 1330	1044 to 1126
Stack Diameter (mm)	756	756
Sample Points	4	4
Sample Time (minutes)	40	42
Stack Gas Velocity (m/s)	5.3	5.2
Stack Temperature (°C)	286	290
Stack Pressure (Pa)	101075	101075
Barometric Pressure (Pa)	101000	101000
Volumetric Flow Dry Basis (Ncm/s)	1.1	1.06
Normal Volume of Dry Gas Sample (litres)	541	1255
Moisture Content (%)	6	6
Concentration of Particulate (mg/Nm ³)	997	661*
Mass Flow Rate (g/s)	1.097	0.701*
<u>Gas Analysis</u>		
Nitrogen (volume percent dry basis)	78.4	78.4
Oxygen (volume percent dry basis)	12.4	12.4
Carbon Dioxide (volume percent dry basis)	9.2	9.2

* Thimble washings not added to sample

TABLE 10

TRACE ELEMENT CONCENTRATIONS AND EMISSION RATES
FOR BOILER STACK EMISSIONS
(12-11-91)

TRACE ELEMENT	CONCENTRATION (mg/Nm ³)	EMISSION RATE (g/s)
Boron	2.4	0.006
Chromium	7.2	0.017
Cobalt	0.02	5×10^{-5}
Nickel	0.05	1.2×10^{-4}
Copper	9.5	0.022
Zinc	0.75	1.75×10^{-3}
Cadmium	0.08	1.9×10^{-4}
Lead	4.2	1.0×10^{-2}
Mercury	0.002	4.7×10^{-6}
Arsenic	30.5	0.071

A further look at the emission problem can be obtained by using computer modelling to predict the dispersion of airborne particulates, arsenic and other elements at different distances downwind from the stack. These aspects are presented in the following section.

5.2 Predicted Airborne Concentrations from Stack Emissions

A Gaussian plume dispersion model has been used to predict ambient concentrations of particulates, arsenic and copper downwind of the boiler stack under a range of meteorological conditions. The set of emission parameters and measurements used in the model are listed in Table 11. These include particulates. Emission rates for trace elements are contained in Table 10.

TABLE 11

MODELLING PARAMETERS AND CONDITIONS

Stack Height	20 m*
Stack Diameter	0.756
Stack Gas Velocity (m/s)	5.3
Stack Temperature (°C)	286
Ambient Temperatures (°C)	10 27
Mass Flow Rate (g/s)	1.097
Terrain	Urban
Stability Conditions	A to D

* approximate only

The ambient concentrations for particulates, arsenic and copper at different distances along the downwind axis from the stack have been calculated for 10°C and 27°C at low (1 m/s) and strong wind (5 m/s) movement. Various atmospheric stability conditions have also been applied.

"Worst case" concentrations occurred, for daytime, under strong winds (5 m/s) and cloudy conditions. One hour average concentrations calculated for these types of conditions are included in Tables 12 to 14. Examples of the variation in concentration with distance downwind are shown in Figures 5 and 6.

TABLE 12

PREDICTED PARTICULATE CONCENTRATIONS
($\mu\text{g}/\text{m}^3$)
(1 Hour Average)

DISTANCE DOWNWIND	WIND SPEED		WIND SPEED	
	1 m/s	5 m/s	1 m/s	5 m/s
50 m	0.0	25.0	0.0	27.5
100 m	2.4	33.9	3.4	35.0
200 m	23.1	17.3	25.5	17.5
500 m	12.9	3.7	13.2	3.7
1000 m	4.2	1.0	4.2	1.0
1200 m	3.0	0.7	3.1	0.7
1500 m	2.1	0.5	2.1	0.5

TABLE 13

PREDICTED ARSENIC CONCENTRATIONS
($\mu\text{g}/\text{m}^3$)
(1 Hour Average)

DISTANCE DOWNWIND	WIND SPEED		WIND SPEED	
	1 m/s	5 m/s	1 m/s	5 m/s
50 m	0.0	1.6	0.0	1.8
100 m	0.2	2.2	0.2	2.3
200 m	1.5	1.1	1.6	1.1
500 m	0.8	0.2	0.9	0.2
1000 m	0.3	0.1	0.3	0.1
1200 m	0.2	0.0	0.2	0.0
1500 m	0.1	0.0	0.1	0.0

TABLE 14
PREDICTED COPPER CONCENTRATIONS
($\mu\text{g}/\text{m}^3$)
(1 Hour Average)

DISTANCE DOWNWIND	WIND SPEED		WIND SPEED	
	1 m/s	5 m/s	1 m/s	5 m/s
50 m	0.0	0.5	0.0	0.6
100 m	0.0	0.7	0.1	0.7
200 m	0.5	0.3	0.5	0.4
500 m	0.3	0.1	0.3	0.1
1000 m	0.1	0.0	0.1	0.0
1200 m	0.1	0.0	0.1	0.0
1500 m	0.0	0.0	0.0	0.0

Peak concentrations tend to extend further (about 200 m or so) downwind under low wind conditions than during strong winds. Concentrations are slightly higher at warm temperatures than cold ones.

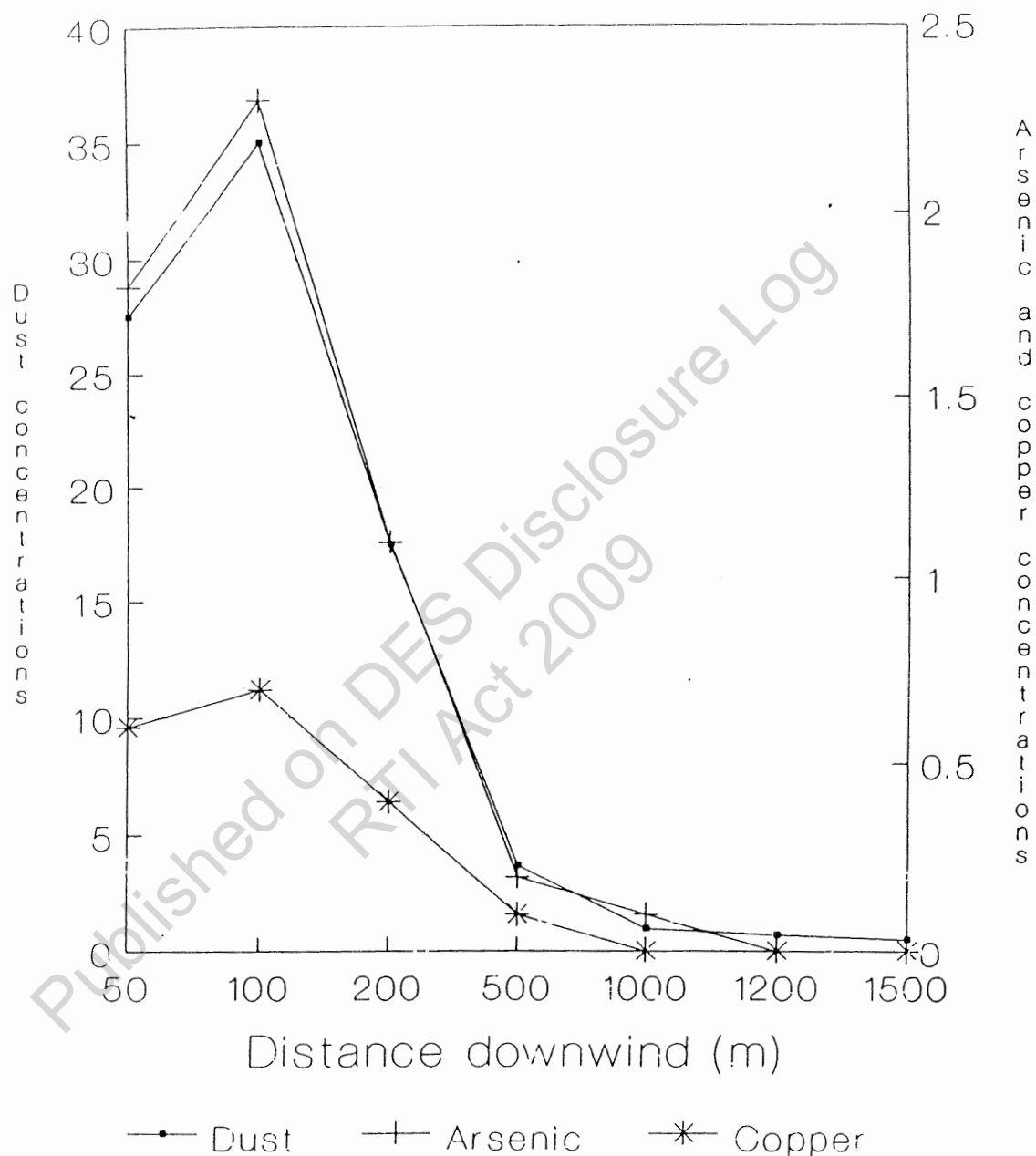
Predicted particulate concentrations (1 hr) are well below the 24 hr maximum standard for total suspended particulates (TSP) adopted by the US EPA ($260 \mu\text{g}/\text{m}^3$). (The annual mean guideline adopted by the NH&MRC for particulates is $90 \mu\text{g}/\text{m}^3$.)

The modelling suggests that increased levels of particulates in the Cooroy township are likely in the order of $5\text{-}35 \mu\text{g}/\text{m}^3$ depending on operation of the boiler, wind direction and strength. For a coastal township, this may be a significant increase in particulates compared with existing levels for non-urban areas where soil erosion is insignificant.

In Brisbane, TSPs (av. 24 hr maximum) commonly exceed $200 \mu\text{g}/\text{m}^3$. Suburban areas are generally at or above $160 \mu\text{g}/\text{m}^3$ (see Simpson and Auliciems, 1989).

Airborne Dust, Arsenic and Copper

Stability C, Wind 5m/sec, Air temp 27 C

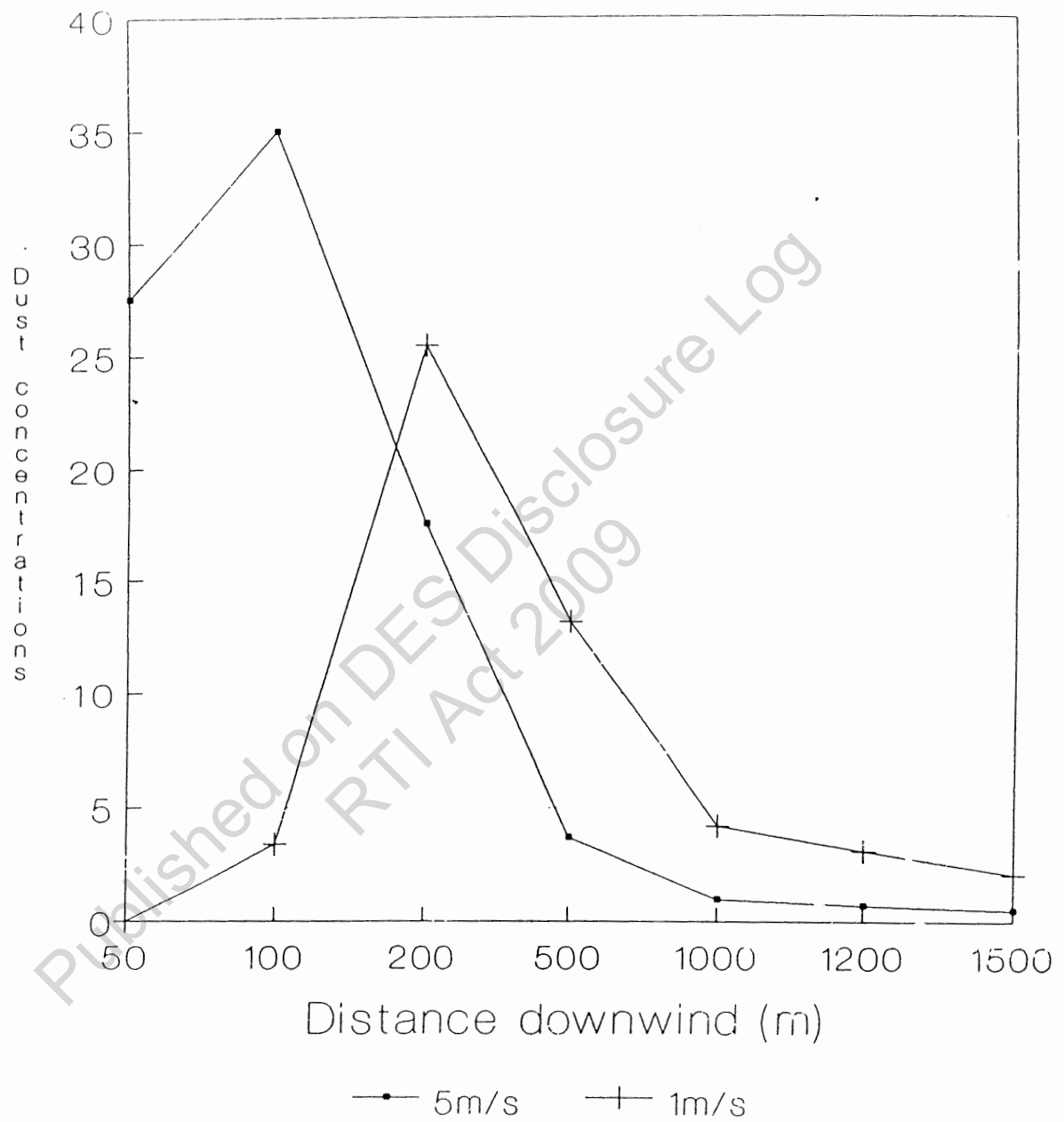


Concentrations in ug/m³

FIGURE 5

Airborne Dust

Stability C, Air temp 27 C



Concentrations in ug/m³

FIGURE 6

The air in non-urban and non-industrial areas contains very low levels of arsenic, ie. generally less than $0.01 \mu\text{g}/\text{m}^3$. In urban areas and particularly industrial towns, levels of arsenic have exceeded $1 \mu\text{g}/\text{m}^3$ (WHO, 1984).

Current projections suggest that arsenic levels of 1 to $2 \mu\text{g}/\text{m}^3$ or so will occur within 100 to 300 m downwind of the stack. Such levels are somewhat excessive and would contribute significantly to daily arsenic intake.

Similarly, copper (and chromium) in air would be elevated at different periods around the stack depending upon prevailing conditions.

It should be recognised that these predictions are only a screening assessment and are based on one set of observations only, ie. emission data. There has been no attempt to calculate individual or community risks of exposure in Cooroy which would require more detailed analysis of emissions, prevailing meteorological conditions and characterisation of exposed populations. More sophisticated models could be applied to examine this problem.

Even so, the practice of burning contaminated materials, particularly within a township, needs to be reviewed as soon as possible.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Following examination of soils at the Cooroy site, it was found that boron, chromium, copper and arsenic contamination occurs in areas associated with the disposal or mishandling of either boiler ash, boron chemicals, or treated timbers.

Areas adjacent to the boiler house, particularly the creek bank, have been contaminated to a significant degree by boiler ash chemicals. Contamination here is significant in copper, chromium, arsenic and boron. Any site rehabilitation would involve clean-up of the area.

The soil associated with the burn pit was found to contain significant contamination in boron and arsenic up to a radius of 8 metres.

Areas of the evaporation pond sediment were found to be highly contaminated with boron, copper, chromium, arsenic and cadmium. Dumped ash was found in the evaporation pond indicating bad disposal practices continue. Extensive removal of evaporation pond sediment would be required in any rehabilitation program.

The lack of a concrete drip pad and adequate containment areas has lead to significant boron contamination of the dip area. Arsenic contamination is also prevalent in the area, although its source is unclear. Any remedial action would entail soil removal and/or installation of a slab and/or installation of a slab and containment area.

The pattern of water contamination indicates cadmium, chromium and boron have moved from contaminated soil on-site into the adjacent creek. The creek bank adjacent to the boiler house is associated with high cadmium, chromium and boron concentrations, with the maximum concentration of boron adjacent to the evaporation pond.

Concentrations of cadmium, chromium and boron exceed limits for the protection of aquatic ecosystems with cadmium and boron exceeding stock and drinking water criteria. Remediation would entail removal of contaminant sources.

The pattern of contamination in the sediment trap and effluent pond indicates arsenic, boron, cadmium, chromium, copper and lead are moving via the sediment trap to the effluent pond. Arsenic, boron and cadmium concentrations throughout the wastewater system are very high.

A leaching procedure designed to simulate the natural leaching action of storm and groundwaters was performed on three soils indicative of contamination in the creek bank, in the fire pit and in the borax pit area respectively. The leaching demonstrated that the observed water contamination is easily achieved through leaching of on-site soils.

Ambient air results in the mill area indicated measured parameters were generally low, although dust and smoke on-site are likely to be variable. Sampling of stack emissions from the boiler house, however, indicated that excessive levels of particulates (and arsenic) are being emitted. Furthermore, computer modelling of ambient levels downwind of the stack suggests some elevated levels of particulates, arsenic and some other elements are likely to occur within the Township of Cooroy depending on climatic conditions.

The burning of contaminated sawdust as a fuel is a current environmental problem for air, soil and water quality at the mill site.

The results in this report, in practice, represent a preliminary form of investigation. Further work would be necessary to characterise the extent of site contamination in terms of area, soil depth and probably groundwater under the site.

It is recommended that a comprehensive environmental management plan for the mill site be prepared to address key issues identified in this report. The scope should include:

1. Hazardous waste minimisation and disposal practices
2. Site remediation
3. Wastewater management and water quality
4. Air emissions and quality
5. Environmental protection guidelines

The above matters are also interrelated with occupational hygiene and safety on-site which should also be examined in detail to ensure workers are not exposed to excessive risks.

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7.0 REFERENCES

- ANZEC (1990). "Draft National Water Quality Guidelines". Australian and New Zealand Environment Council.
- ANZEC/NH&MRC (1991). "Draft Australian Guidelines for the Assessment and Management of Contaminated Sites". Australian and New Zealand Environment Council and National Health and Medical Research Council.
- APHA (1985). *The Examination of Water and Wastewater*. 16th Edition. American Public Health Association, Washington, D.C.
- Gaussian Air Quality Model. Australian Environmental Studies, Griffith University.
- NH&MRC (1985). "National Guidelines for Control of Emission of Air Pollutants from New Stationery Sources". Australian Environment Council/National Health and Medical Research Council, Canberra.
- NH&MRC/AWRC (1987). "Guidelines for Drinking Water Quality in Australia". National Health and Medical Research Council, Canberra.
- NIOSH (1984). "NIOSH Manual of Analytical Methods". 3rd Edition. National Institute for Occupational Safety and Health, US Department of Health and Human Services, Ohio.
- Simpson, R. and Auliciems, A. (1989). *Air Pollution in Brisbane*. Institute of Applied Environmental Research, Griffith University.
- SIMTARS. Safety in Mines Testing and Research Station - Stack emission measurements.
- Vic EPA (1983). "Manual of Recommended Water Quality Criteria". 1st Edition. Publication No. 165, Victorian Environmental Protection Authority, Victoria.
- WHO (1984). "Guidelines for Drinking Water Quality". Vol. 2. World Health Organisation, Geneva.

**APPENDIX D
METHODOLOGY**

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Our Ref: B7570R01

9 October 1998

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Introduction

Fluor Daniel GTI (Australia) Pty Ltd (formerly Groundwater Technology) is a professional environmental consulting, and remediation group which provides hydrogeological, engineering, bioremediation, risk assessment, laboratory analysis and chemical engineering services for the assessment and remediation of soil and groundwater contamination. Fluor Daniel GTI's experience in over 14,000 environmental projects throughout the world has enabled it to develop new technologies and monitoring techniques which accurately & comprehensively address site contamination so that the risk to end users is minimised.

The Quality Control/Quality Assurance (QC/QA) program developed by Fluor Daniel GTI strives to produce and document technical field sampling procedures for accurate and consistent soil, groundwater and environmental data. The Fluor Daniel GTI quality control procedures are based on rigorous U.S. Environmental Protection Agency QC/QA Manuals and Fluor Daniel GTI's own Standard Operating Procedures manual.

This document is a summary of Fluor Daniel GTI's environmental assessment and QC/QA procedures; it is not intended as an exhaustive description of the procedures undertaken during any assessment or remediation project.

Background Investigations

Fluor Daniel GTI conducted a background investigation to compile a detailed site history and reviewed available geological, hydrogeological and cultural information. The sources of information included various government departments, old site reports and Client supplied information.

Sampling Procedures and Equipment – Soils

Soil samples were collected during UST removal, further excavation and soil stockpiles. Soil samples were collected directly from the excavator bucket during excavation where possible. When not possible, a shovel or hand auger was used.

Jars were stored on ice awaiting laboratory analysis. This reduced volatile loss and bacterial degradation in the samples.

Sampling Procedure

The following work steps were followed to obtain samples for laboratory and field analysis.

1. Discussed sample locations with site personnel to clear any underground utilities.
2. Determined appropriate site safety conditions.
3. Put on disposable nitrile sampling gloves prior to sampling, decontaminated/clean sampling equipment.
4. Collected sample and sealed in new glass containers and labelled with waterproof pens.
Labels included:
 - a) sample identification number
 - b) job number only (to maintain Client confidentiality)
 - c) date and time of sample collection
5. Checked to make sure sample was tightly sealed and placed in cooler (with ice) immediately.
6. Filled out "chain of custody" form (sample attached).
7. Stored sample set under refrigeration after sampling and prior to transportation.
8. Transported iced sample set via VIP courier with "chain of custody" to a NATA registered environmental laboratory.
9. Stored samples not sent to laboratory for 90 days (these samples were the ultimate responsibility of the Client).

Soil Vapour Screening

Field soil samples were collected at each sample location, sealed in sample jars and the headspace of each sample was evaluated for volatile organic compounds (VOCs) using a portable photoionisation detector (PID) calibrated with a known concentration isobutylene in air mixture. The detection limit of the PID depends on the equipment used but is generally considered to be 0.5 to 1 ppm. The values obtained during the headspace screening were used as a relative indicator of the concentration of volatile organics and did not necessarily represent actual concentrations.

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The headspace above the soil sample was allowed to equilibrate for 10 minutes before the PID suction tube punctured the aluminium foil seal. The maximum PID reading was recorded on the drilling logs. A separate sample for laboratory analysis was obtained from the same horizon if significant VOCs are recorded.

Visual and odour characteristics were also used for field screening since some contaminants do not react to the PID such as tars, paraffins and many other compounds.

Monitoring Well Installation & Water Sampling

Monitoring wells were installed (using a hollow stem auger rig) to measure water levels and assess the quality of groundwater. The monitoring wells were constructed by placing lengths of well casing inside the constructed borehole after removal of the augers.

The monitoring wells were constructed using 50mm diameter, Class 18 PVC, threaded and flush-joined, with a length of machine-slotted well screen (0.4 mm slots). The screen was placed at this interval to permit the entry of groundwater for water quality determination. The upper blank section of PVC casing above the screen was extended to a point approximately 500 mm to 1000 mm above the ground surface.

A sand filter pack (0.8 – 1.5 mm grain size) was placed around the monitoring well to a height of approximately 0.5 m above the screen interval to enhance well efficiency. A granulated bentonite (swelling clay) seal with a thickness of about 0.3 m was placed above the screened/filter pack section to physically isolate the well screen and prevent surface run-off from entering the monitoring well. A bentonite seal was also placed at the surface.

PVC end caps were used to seal off the base of the monitoring wells, to prevent entry of sand and silt and to seal off the wells at the ground surface. Well construction details are shown in the drill logs for the monitoring wells.

Each well was developed by using a pump and teflon tubing until water of consistent clarity was obtained. Development reduces formation plugging and ensures free fluid movement into the well. After installation, locations and top-of-casing elevations were surveyed by a professional surveyor.

Well Gauging and Purging

Fluor Daniel GTI personnel gauged and sampled the wells using an interface probe and teflon bailer, respectively. The probe is capable of measuring depth to water with an accuracy of 2mm. Based on the time noted for the wells to recover following development the delay between installation and sampling was considered sufficient to allow groundwater conditions to stabilise.

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After a delay to allow the water level in the wells to recover, samples were drawn from wells using a teflon bailer. The teflon bailer used for sampling was cleaned in a laboratory strength detergent and then rinsed with distilled water to prevent introduction of contaminants.

Water Sampling

Water samples analysed were poured into plastic and glass amber bottles and filled so that no air bubbles or headspace were present. The bottles were sealed with a Teflon lined cap.

The bottles were labelled with the following data:

- a) identification number
- b) job number
- c) date of sample collection

A duplicate sample was collected to assess sampling and laboratory reproducibility. A field blank was collected using deionised water that passed through the teflon bailer to assess field decontamination procedures.

The samples are then placed in a cooler with ice and refrigerated. A "Chain of Custody" form was filled out and hand delivered with the water samples to the National Association of Testing Authorities (NATA) registered analytical laboratory of Australian Laboratory Services (ALS) of Stafford, Queensland.

Analysis of Soil & Water Samples

Soil samples from excavations were submitted to a laboratory with NATA accreditation for selected analyses. The samples were selected on the basis of the VOC concentrations, evidence of hydrocarbon staining and/or odour. Soil samples were analysed for the following:

- Total petroleum hydrocarbons (TPH) and constituent hydrocarbon chain length groups (C₆-C₉, C₁₀-C₁₄, C₁₅-C₂₈ and C₂₉-C₃₆) by ALS (Brisbane) method 302/402;
- Benzene, toluene, ethylbenzene and xylene (BTEX) by ALS (Brisbane) method 301/401 (GC determination) based on USEPA methods 8020 and 3550;
- Lead by ALS (Brisbane) method 102/203 (ICP determination) based on USEPA method 200.8;
- Polynuclear aromatic hydrocarbons (PAH) by ALS (Brisbane) Method EP-075B (Semivolatile Scan);
- Metals by ALS (Brisbane) Method EG-005T;
- Mercury by ALS (Brisbane) Method EG-020T;
- OC/OP Pesticides by ALS (Brisbane); and
- Tannins by ALS (Brisbane).

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Laboratory QC/QA

Laboratory QC/QA was carried out independently of the sampling QC/QA and included spike samples, duplicates and control blanks. This assessed the precision, accuracy, representativeness and comparability. The laboratory is also subjected to regular inspection and certification by the National Association of Testing Authorities (NATA).

As part of this NATA registration, the laboratory is required to provide regular quality control checks on their analyses. These reagent blanks, control blanks, control standards, repeat duplicates and recoveries were reported to us and we keep them on file. These results are not usually submitted with the report, however they are available upon request.

All laboratory results and reports were reviewed by Fluor Daniel GTI project managers or project directors to ensure that appropriate levels of accuracy were maintained and that any recommendations fully reflect the site data.

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APPENDIX E
DRILLING LOGS, GAUGING AND SURVEYING DATA

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Drilling Log

Monitoring Well MW1

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 6.0 m Diameter 150 mm
 Top of Casing 104.943 m Water Level Initial 4.00 m Static 102.071 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 4.5 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log By CTPI 49-Sch4 Date 26/5/98 Permit # _____
 Checked By CTPI 49 License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NHI/0.2		CL	CLAY: Yellow, dry, (Fill).
			NHI/0.5			SOIL: Black, loam, dry.
1			NHI/1.0		MH	
						CLAY: Yellow, damp, medium plasticity.
2			NHI/2.0			CLAY: Grey/yellow, mottled, damp, medium plasticity.
3			NHI/3.0		CL	
4			NHI/4.0			CLAY: Grey, damp, medium plasticity
5			NHI/5.0		GC	CLAYEY GRAVEL: Grey, very wet, angular quartzose gravel.
6						End of Hole 6.0 metres - 2 metres below water level.
7						
8						



Drilling Log

Monitoring Well **MW2**

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 4.0 m Diameter 150 mm
 Top of Casing 105.295 m Water Level Initial 2.0 m Static 102.378 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 1.5 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log By CTPI 49-Sch4 Date 26/5/98 Permit # _____
 Checked By _____ License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NW2/0.2	MH		SILT: Orange, dry.
			NW2/0.5			SILTY CLAY: Orange, damp, low plasticity.
1			NW2/1.0	CL		
2			NW2/2.0			CLAYEY GRAVEL: Orange, wet, angular quartzose gravel.
3			NW2/3.0	GC		
4						End of Hole 4.0 metres - 2 metres below water level.
5						
6						
7						
8						



Drilling Log

Monitoring Well **MW3**

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 5.0 m Diameter 150 mm
 Top of Casing 106.033 m Water Level Initial 3.0 m Static 102.383 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 3.0 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log By CTPI 49-Sch4 Date 26/5/98 Permit # _____
 Checked By _____ License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NW3/0.2 NW3/0.5 NW3/1.0		MH	SOIL: Black, loam, dry, ash and wood fibres.
1						
2			NW3/2.0		CL	CLAY: Yellow, moist, low plasticity.
3						
4					GC	CLAYEY GRAVEL: Grey, wet, angular quartzose gravel.
5						End of Hole 5.0 metres - 2 metres below water level.
6						
7						
8						



Drilling Log

Monitoring Well **MW4**

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 5.2 m Diameter 150 mm
 Top of Casing 106.800 m Water Level Initial 3.2 m Static 103.425 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 3.0 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log B CTPI 49-Sch4 Date 26/5/98 Permit # _____
 Checked By CTPI 4 License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NW4/0.2 NW4/0.5	MH		SOIL: Black, loam, dry. SILTY CLAY: Orange, damp, low plasticity.
1						
2						
3				CL		
4						
5						
6						
7						
8						

End of Hole 5.2 metres - 2 metres below water level.



Drilling Log

Monitoring Well MW5

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 6.0 m Diameter 150 mm
 Top of Casing 106.553 m Water Level Initial 4.0 m Static 102.913 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 4.0 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log By CTPI 49-Sch4 Date 27/5/98 Permit # _____
 Checked By CTPI 49 License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NH5/0.2 NH5/0.5			SILTY CLAY: Orange, damp, low plasticity.
1						
2					CL	
3						CLAY: Grey, damp, medium plasticity.
4						CLAYEY GRAVEL: Grey, wet, angular quartzose gravel.
5			NH5/4.5		GC	
6						End of Hole 6.0 metres – 2 metres below water level.
7						
8						

Drilling Log

Monitoring Well **MW6**

Project Boral - Cooroy Owner Boral Limited
 Location Cooroy Proj. No. B7570
 Surface Elev. _____ Total Hole Depth 6.0 m Diameter 150 mm
 Top of Casing 107.889 m Water Level Initial 5.0 m Static 106.117 m
 Screen: Dia 50 mm Length 3.0 m Type/Size 0.5 mm
 Casing: Dia 50 mm Length 4.0 m Type Class 18 PVC
 Fill Material 8/16 Sand Pack Rig/Core _____
 Drill Co. Cloake Engineering Method Hollow Stem Auger
 Driller CTPI 49-Sch4 Log By CTPI 49-Sch4 Date 27/5/98 Permit # _____
 Checked By CTPI 49 License No. _____

See Site Map
For Boring Location

COMMENTS:

Depth (m)	Well Completion	PID (ppm)	Sample ID	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-1						
0			NW6/0.2		Fill	SILT: Grey, dry, rocky, (Fill). CLAY: Yellow, damp, medium plasticity.
1		2.5				
2		3.0				
3		1.9				SILTY CLAY: Yellow, damp, low plasticity.
4		3.5			CL	As above, harder.
5		2.0				SILTY CLAY: Brown, damp, low plasticity.
6			NW6/6.0			SILTY CLAY: Brown, wet, low plasticity.
7		1.5				End of Hole 6.0 metres - refusal on siltstone.
8						

WELL MONITORING FORM

PROJECT: Boral Cooroy
 LOCATION: Maple Street
 DATE: 28/05/98
 OPERATOR: CTPI 49-Sch4
 EQUIPMENT: Interface Probe (IP)

PROJECT NO.: B757

WELL ID	WELL DEPTH (m)	T.O.C. ELEV.	DEPTH WATER (m)	ELECTRICAL CONDUCTIVITY (microsiemens/cm)	pH	DISSOLVED OXYGEN	WATER ELEV. (m)
MW1	7.470	104.943	2.872	600	5	6.2	102.071
MW2	4.495	105.295	2.917	100	7	5.8	102.378
MW3	5.635	106.033	3.650	800	6	3.5	102.383
MW4	5.985	106.800	3.375	400	5	5.4	103.425
MW5	6.771	106.553	3.640	1700	4	4.3	102.913
MW6	6.752	107.889	1.772	1300	8	3.7	106.117

Notes: TOC elevations based on professional survey conducted on 28 May 1998

Our Ref: B7570G01

COOROY CREEK MONITORING FORM

PROJECT: Boral Cooroy
LOCATION: Maple Street
DATE: 28/05/98
OPERATOR: CTPI 49-Sc
EQUIPMENT:

PROJECT NO.: B7570

CREEK ID	ELECTRICAL CONDUCTIVITY (microsiemens/cm)			pH	DISSOLVED OXYGEN
CKU/S			100	5	6.2
CK1			200	6	5.8
CK2			300	5	4.5
CK3			200	7	5.0
CK4			200	5	5.7
CK5			300	5	5.5
CK6			300	5	6.0
CK7			200	6	6.0
CKD/S			100	6	6.5

Our Ref: B7570G02



2
RP 119674

2
RP 70298

1
RP 110206

MARY RIVER ROAD

MAPLE STREET

MARARA

STREET

WATER LEVEL
+ 102.19
BOUNDARY OF LAND IS
BANK OF COOROY CREEK

•MW1
RL 104.943

•MW2
RL 105.295

•MW3
RL 106.033

•MW5
RL 106.553

•MW4
RL 106.800

•MW6
RL 107.889

CO-ORDINATES

	EAST	NORTH
MW1	377.689	448.407
MW2	520.583	392.957
MW3	533.359	395.483
MW4	529.986	249.732
MW5	534.385	303.319
MW6	621.046	146.503
COR A	603.386	122.246

CLEMENT, REID
& WATTERSON

Surveyors &
Town Planners

Shop 1, 10 Maple Street
COOROY

P.O. Box 639
COOROY Q 4563

Ph. (07) 5442 6121
Fax. (07) 5442 5125

Client: FLUOR DANIEL GTI

Project:
PLAN SHOWING POSITION
& LEVEL OF MONITORING
WELLS AT BORAL
COOROY.

PARISH: TEWANTIN
COUNTY: MARCH
LOCAL GOVT: NOOSA S.C.
TOWN: COOROY

Scale: 1: 1500

Plan 1 of 1

Datum: AHD.

Date: 12/09/98

PM 105338
Origin RL 106.538

Contour Interval:

REF: 98/657A

NOTE: This plan replaces our plan dated
28/05/98 Ref: 98/657.

0 10 20 30 40 50mm

NOTE: REDUCED LEVELS OF MONITORING
WELLS ARE THE TOPS OF THE
POLY PIPE.

APPENDIX F
LABORATORY ANALYTICAL REPORTS -
SOIL

Published on DES Disclosure Log
RTI Act 2009

R

Our Ref: B7570R01

9 October 1998

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14738
SUB BATCH: C
No. OF SAMPLES: 4
DATE RECEIVED: 27/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 COC 14094 SAMPLE TYPE: SOIL PROJECT: BORAL-COORBY

Method	Analysis description	Units	LOR	A1 0-0.2 25/05/98	A2 0-0.2 25/05/98	A3 0-0.2 25/05/98	A4 0-0.2 25/05/98
-055	Moisture Content (dried @ 103°C)	%	0.1	19.2	16.4	22.7	17.8
005T	Arsenic - Total	mg/kg	1	4	1	22	2
	Boron - Total	mg/kg	20	<20	<20	<20	<20
	Cadmium - Total	mg/kg	1	<1	<1	7	<1
	Copper - Total	mg/kg	1	84	7	94	9
	Lead - Total	mg/kg	1	22	14	276	18
	Zinc - Total	mg/kg	1	61	22	479	77
-049	Trivalent Chromium	mg/kg	1	21	20	34	19
050	Hexavalent Chromium	mg/kg	1	<1	<1	<1	<1

COMMENTS:

Samples as received digested by USEPA method 3051 prior to the determination of metals. Hexavalent chromium determined on a 1:1 soil/water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reported on a dry weight basis.

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to ent.

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CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14788
SUB BATCH: C
No. OF SAMPLES: 4
DATE RECEIVED: 27/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 CDC 14094 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL-COOROY

Method	Analysis description	Units	LOR	BLANK	A1 0-0.2 %SPK REC	A4 0-0.2 CHK
				27/05/98	25/05/98	25/05/98
FA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	18.0
-005T	Arsenic - Total	mg/kg	1	<1	103 %	3
	Boron - Total	mg/kg	20	<20	----	<20
	Cadmium - Total	mg/kg	1	<1	105 %	<1
	Copper - Total	mg/kg	1	<1	103 %	9
	Lead - Total	mg/kg	1	<1	104 %	18
	Zinc - Total	mg/kg	1	<1	103 %	78
-049	Trivalent Chromium	mg/kg	1	----	----	20
-050	Hexavalent Chromium	mg/kg	1	<1	92.0 %	<1

COMMENTS:

Results which appear on this report are for laboratory
QUALITY CONTROL purposes.

CTPI 49-Sch4

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• Results Client.

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ANALYTICAL REPORT

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CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GT1 (AUST) P/L
ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14788
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 27/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 CDC 14094
SAMPLE TYPE: SOIL

PROJECT: BORAL-COOROY

Method	Analysis description	Units	LOR	A1
			0-0.2	25/05/98

EA-055	Moisture Content (dried @ 103°C)	%	0.1	19.2
E 071-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	<100
	C29 - C36 Fraction	mg/kg	100	<100
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	89
	Toluene-D8	%	1	90
	4-Bromofluorobenzene	%	1	98

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COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis.

CTPI 49-Sch4

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14788

DATE BATCH RECEIVED : 28/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 02/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2032	28/5/98	31/5/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1967	28/5/98	1/6/98

Published on DES Disclosure Log
RTI Act 2009

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BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2032

ANALYST: CTPI 49-Sch4

MATRIX: Soil

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery	RPD	
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	34	33	107	3	89	109	20
C10	2.0	<LOR	5.9	6.2	5.9	101	5	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST CTPI 49-Sch4

QC LOT No.: TPHT1967

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	91	86	89	6	61	132	20
C15-C28	100	<LOR	350	339	326	95	4	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28. 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14094

For future reference the batch number on this order is: EB14788

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

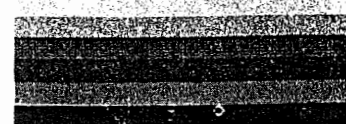
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLOOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14790
 SUB BATCH: 0
 No. OF SAMPLES: 12
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 04/06/98

ORDER No.: 57570 CUG 14099 SAMPLE TYPE: SOIL PROJECT: BORAL - CIGRUM

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Pb mg/kg EG-0057 1	Zn mg/kg EG-0057 1	Cr 3+ mg/kg EG-049 0.2	Cr 6+ mg/kg EG-050 0.2		
1-0-200	0-200 26/05/98	22	23	34.2	<0.2		
2-0-200	0-200 26/05/98	111	99	51.4	<0.2		
3-0-200	0-200 26/05/98	17	37	39.5	<0.2		
4-0-200	0-200 26/05/98	10	12	55.4	<0.2		
5-0-200	0-200 26/05/98	10	14	15.0	<0.2		
6-0-200	0-200 26/05/98	10	5	60.3	<0.2		
7-0-200	0-200 26/05/98	13	18	20.2	<0.2		
8-0-200	0-200 26/05/98	30	27	28.3	<0.2		
9-0-200	0-200 26/05/98	16	37	23.1	<0.2		
10-0-200	0-200 26/05/98	48	83	72.5	<0.2		
11-0-200	0-200 26/05/98	30	44	57.8	<0.2		
DUPO-200	0-200 26/05/98	24	62	21.2	<0.2		

REMARKS:

CTPI 49-Sch4



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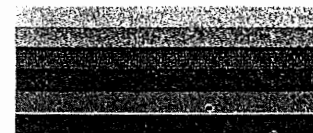
• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLOUR DANIEL GRI (AUST) P/L
 ADDRESS: P O BOX 2520
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: 1814790
 SUB BATCH: 0
 No. OF SAMPLES: 12
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 04/06/98

ORDER No. B7570 COC 14099 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COOROO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cr mg/kg EG-005T 1	Cu mg/kg EG-005T 1
*** BLANK 27/05/98		----	<1	<20	<1	<1	<1
*** B1-O-200 %SPK REC 2		----	101%		103%	97.0%	103%
*** B8-O-200 1CHK 26/05		18.6	14	<20	<1	26	13
*** B8-O-200 2CHK 26/05		18.6	9	<20	<1	19	10
*** B10-C-200 CHK 26/05/		5.7	52	<20	<1	62	55
*** B11-O-200 %SPK REC 2		----	94.0%	----	99.0%	92.0%	98.0%
*** B8DUPO-200 1CHK 26/05		20.5	8	<20	<1	24	14
*** B8DUPO-200 2CHK 26/05		20.5	9	<20	<1	19	9



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COMMENTS:

Results which appear on this report are routine laboratory checks for A.A.I. (M.M.K.) (M.M.K.).

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Re CTPI 49-Sch4 itted by client.

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLOOR DANIEL GRI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: ERI4790
 SUB BATCH: 0
 No. OF SAMPLES: 12
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 04/06/98

ORDER No. B7570 000 1409 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORAL

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Pb mg/kg EG-005T	Zn mg/kg EG-005T	Cr 3+ mg/kg EG-049 0.2	Cr 6+ mg/kg EG-050		
*** BLANK 27/05/98		<1	<1	----	<0.2		
*** B1-0-200 %SPK REC 2		110%	97.0%		80.0%		
*** B8-0-200 1CHK 26/05		30	27	----	----		
*** B8-0-200 2CHK 26/05		20	20	----	----		
*** B10-0-200 CHK 26/05/		56	85	62.0	<0.2		
*** B11-0-200 %SPK REC 2		104%	95.0%	----	80.0%		
*** B8DUPO-200 1CHK 26/05		24	67	23.9	<0.2		
*** B8DUPO-200 2CHK 26/05		13	15	----	----		

COMMENTS:

CTPI 49-Sch4



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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: C.T. BRISBANE
BATCH NUMBER: 2214790
SUB BATCH:
No. OF SAMPLES: 3
DATE RECEIVED: 04-05-98
DATE COMPLETED: 04-05-98

ORDER No.: B7570 CCC 14029 SAMPLE TYPE: SOI- PROJECT: RURAL - COUN.

Method	Analysis description	Units	LOR	B1-0-200 0-200 26/05/98	B7-0-200 0-200 26/05/98	B10-0-200 0-200 26/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	21.1	18.4	7.5
EP-068A-SS	ORGANOCHLORINE PESTICIDES					
	alpha-BHC	mg/kg	0.05	<0.05	<0.05	<0.05
	HCB	mg/kg	0.05	<0.05	<0.05	<0.05
	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1	<0.1	<0.1
	delta-BHC	mg/kg	0.05	<0.05	<0.05	<0.05
	Heptachlor	mg/kg	0.05	<0.05	<0.05	<0.05
	Aldrin	mg/kg	0.05	<0.05	<0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlordane - trans	mg/kg	0.05	<0.05	<0.05	<0.05
	Endosulfan 1	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlordane - cis	mg/kg	0.05	<0.05	<0.05	<0.05
	Dieldrin	mg/kg	0.05	<0.05	<0.05	<0.05
	DDE	mg/kg	0.05	<0.05	<0.05	<0.05
	Endrin	mg/kg	0.05	<0.05	<0.05	<0.05
	Endosulfan 2	mg/kg	0.05	<0.05	<0.05	<0.05
	DDD	mg/kg	0.05	<0.05	<0.05	<0.05
	Endrin aldehyde	mg/kg	0.05	<0.05	<0.05	<0.05
	Endosulfan sulfate	mg/kg	0.05	<0.05	<0.05	<0.05
	DDT	mg/kg	0.2	<0.2	<0.2	<0.2
	Endrin ketone	mg/kg	0.05	<0.05	<0.05	<0.05
	Methoxychlor	mg/kg	0.2	<0.2	<0.2	<0.2
EP-068B-SS	ORGANOPHOSPHORUS PESTICIDES					
	Dichlorvos	mg/kg	0.05	<0.05	<0.05	<0.05
	Demeton-S-methyl	mg/kg	0.05	<0.05	<0.05	<0.05
	Monocrotophos	mg/kg	0.2	<0.2	<0.2	<0.2
	Dimethoate	mg/kg	0.05	<0.05	<0.05	<0.05
	Diazinon	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlorpyrifos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05
	Parathion-methyl	mg/kg	0.2	<0.2	<0.2	<0.2

COMMENTS:

Samples analysed on or as received, i.e. as supplied, on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

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CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: 1314790
SUB BATCH: 3
No. OF SAMPLES: 21 (05/98)
DATE RECEIVED: 04/06/98
DATE COMPLETED:

ORDER No.: B7570 000 14099 SAMPLE TYPE: SOIL PROJECT: BURAL - COOROS

Method	Analysis description	Units	LOR	B1-0-200 0-200 26/05/98	B7-0-200 0-200 26/05/98	B10-0-200 0-200 26/05/98
FP-068B-SS	Malathion	mg/kg	0.05	<0.05	<0.05	<0.05
	Fenthion	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlorpyrifos	mg/kg	0.05	<0.05	<0.05	<0.05
	Parathion	mg/kg	0.2	<0.2	<0.2	<0.2
	Pirimphos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlorfenvinphos E	mg/kg	0.05	<0.05	<0.05	<0.05
	Chlorfenvinphos Z	mg/kg	0.05	<0.05	<0.05	<0.05
	Bromophos-ethyl	mg/kg	0.05	<0.05	<0.05	<0.05
	Fenamiphos	mg/kg	0.05	<0.05	<0.05	<0.05
	Prothiofos	mg/kg	0.05	<0.05	<0.05	<0.05
	Ethion	mg/kg	0.05	<0.05	<0.05	<0.05
	Carbophenothion	mg/kg	0.05	<0.05	<0.05	<0.05
	Azinphos-methyl	mg/kg	0.05	<0.05	<0.05	<0.05
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE					
	Dibromo-DDE	%	1	93	46	106
P-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE					
	DEF	%	1	103	56	127

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GT1 (AUST) P/L
ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14790
SUB BATCH: 2
No. OF SAMPLES: 4
DATE RECEIVED: 27/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 CDC 14099 **SAMPLE TYPE:** SOIL **PROJECT:** BURAL - COORO

Method	Analysis description	Units	LOR	83-0-200 0-200 26/05/98	85-0-200 0-200 26/05/98	89-0-200 0-200 26/05/98	811-0-200 0-200 26/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	12.7	16.4	4.7	21.3
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS						
	C6 - C9 Fraction	mg/kg	2	<2	<2	<2	<2
	C10 - C14 Fraction	mg/kg	50	<50	<50	<50	<50
	C15 - C28 Fraction	mg/kg	100	<100	<100	184	<100
	C29 - C36 Fraction	mg/kg	100	<100	<100	307	<100
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES						
	1,2-Dichloroethane-D4	%	1	79	78	88	79
	Toluene-D8	%	1	91	88	91	82
	4-Bromofluorobenzene	%	1	89	89	101	86

COMMENTS:

Samples analysed on 26/05/98. Results reported on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14790

DATE BATCH RECEIVED : 28/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 04/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-068	Pesticides	Soil	Tumbler	USEPA 8270B	OCOPS688	28/5/98	30/5/98
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2031	28/5/98	29/5/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1966	28/5/98	2/6/98

Published on DES Disclosure Log
RTI Act 2009

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BATCH QUALITY CONTROL

ALS EP-068 : PESTICIDES

QC LOT No. : OCOPS688
MATRIX: Soil

ANALYST: CTPI 49-S

COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Rec.		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-068A : ORGANOCHLORINE PESTICIDES									
a-BHC	<LOR	0.25	0.29	0.26	109	12	78	118	20
HCB	<LOR	0.25	0.30	0.26	111	13	75	117	20
b- & g-BHC	<LOR	0.50	0.50	0.46	96	8	47	147	20
d-BHC	<LOR	0.25	0.26	0.24	100	7	76	121	20
Heptachlor	<LOR	0.25	0.19	0.19	76	1	38	173	20
Aldrin	<LOR	0.25	0.28	0.26	109	9	78	116	20
Heptachlor epoxide	<LOR	0.25	0.28	0.25	106	9	78	117	20
trans-Chlordane	<LOR	0.25	0.28	0.25	107	9	80	116	20
Endosulfan 1	<LOR	0.25	0.28	0.26	107	7	77	119	20
cis-Chlordane	<LOR	0.25	0.28	0.26	108	6	80	115	20
Dieldrin	<LOR	0.25	0.28	0.25	107	9	78	118	20
DDE	<LOR	0.25	0.29	0.26	111	10	75	118	20
Endrin	<LOR	0.25	0.25	0.18	85	32 *	21	152	20
Endosulfan 2	<LOR	0.25	0.26	0.25	102	7	-148	385	20
DDD	<LOR	0.25	0.26	0.25	102	5	71	129	20
Endrin aldehyde	<LOR	0.25	0.28	0.22	100	21 *	69	130	20
Endosulfan sulfate	<LOR	0.25	0.24	0.23	94	5	61	140	20
DDT	<LOR	0.25	0.00	0.00	0	0	-566	1032	20
Endrin ketone	<LOR	0.25	0.15	0.17	63	11	39	184	20
Methoxychlor	<LOR	0.25	0.01	0.02	5	49 *	-554	950	20
EP-068B : ORGANOPHOSPHORUS PESTICIDES									
Dichlorvos	<LOR	0.25	0.30	0.27	115	10	70	120	20
Demeton-s-methyl	<LOR	0.25	0.28	0.25	106	12	17	157	20
Monocrotophos	<LOR	0.25	0.30	0.26	111	14	-7	201	20
Dimethoate	<LOR	0.25	0.29	0.26	109	11	67	126	20
Diazinon	<LOR	0.25	0.27	0.26	107	6	74	120	20
Chlorpyrifos methyl	<LOR	0.25	0.28	0.26	108	8	78	117	20
Parathion methyl	<LOR	0.25	0.29	0.26	110	9	66	129	20
Malathion	<LOR	0.25	0.28	0.25	106	9	72	123	20
Fenthion	<LOR	0.25	0.28	0.26	108	11	28	155	20
Chlorpyrifos	<LOR	0.25	0.28	0.25	107	10	81	115	20
Parathion	<LOR	0.25	0.29	0.26	110	11	69	127	20
Phosphorothion ethyl	<LOR	0.25	0.28	0.25	108	11	74	125	20
Chlorfenvinphos E	<LOR	0.25	N/A	N/A	N/A		####	####	
Chlorfenvinphos Z	<LOR	0.25	0.28	0.26	109	10	69	121	20
Bromophos ethyl	<LOR	0.25	0.29	0.26	109	10	79	116	20
Fenamiphos	<LOR	0.25	0.26	0.25	106	10	16	159	20
Prothiofos	<LOR	0.25	0.29	0.26	110	11	79	116	20
Ethion	<LOR	0.25	0.29	0.26	109	11	76	121	20
Carbofenthion	<LOR	0.25	0.28	0.26	107	10	63	129	20
Azinphos methyl	<LOR	0.25	0.27	0.23	99	16	44	133	20
EP-068C : TRIAZINE PESTICIDES									
Simazine	<LOR	0.15	0.18	0.14	106	25 *	40	137	20
Atrazine	<LOR	0.25	0.29	0.23	105	22 *	52	130	20
EP-068D : SYNTHETIC PYRETHROIDS									
Cypermethrins	<LOR	0.25	0.28	0.25	106	9	45	137	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2031

MATRIX: Soil

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	33	34	107	1	89	109	20
C10	2.0	<LOR	5.9	5.5	5.8	95	4	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHT1966

Semivolatila Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	94	87	90	7	61	132	20
C15-C28	100	<LOR	350	347	322	96	8	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

SRAEB14790



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14099

For future reference the batch number on this order is: EB14790

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Please direct any turnaround/technical queries to Paul VOGEL.
Any queries relating to sample condition/numbering/breakages should
be directed to Sharon Davidson.

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14099

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia
Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No:

B7576

Task No:

Project Manager:

CTPI 49-Sch4

Project Name:

Betal - Corral

Samplers Name:

CTPI 49-Sch4

Project Location:

Corral

Laboratory:

ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC & OP Petroleum	PCB's	PAH's	METALS (Specify)	
	B1-0-200	(1) B1	0-200	26/5/98	Soil	Ice	1X2506	3			✓				- 0 inorg - 100/0P - 2 TPH
	B2-0-200	(2) B2								✓					
	B3-0-200	(3) B3								✓					
	B4-0-200	(4) B4								✓					
	B5-0-200	(5) B5								✓					
	B6-0-200	(6) B6								✓					
	B7-0-200	(7) B7								✓					
	B8-0-200	(8) B8								✓					
	B9-0-200	(9) B9								✓					
	B10-0-200	(10) B10								✓					
	B11-0-200	(11) B11								✓					
	B8dup-0-200	(12) B8								✓					

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

E314790 S @ 27/5

URGENT 2/6 @

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: EN. PRISMANE
BATCH NUMBER: 8815384
SUB BATCH: 1
No. OF SAMPLES: 2
DATE RECEIVED: 02/07/98
DATE COMPLETED: 08/07/98

ORDER No.: B7570 SAMPLE TYPE: SOIL PROJECT: BORAL COOROY

Method	Analysis description	Units	LOD	C6 0-200 01/07/98	C6 500-1000 01/07/98
--------	----------------------	-------	-----	-------------------------	----------------------------

55	Moisture Content (dried @ 103°C)	%	0.1	12.3	10.4
0758-SS	POLYNUCLEAR AROMATICS				
	Naphthalene	mg/kg	0.5	<0.5	<0.5
	2-Methylnaphthalene	mg/kg	0.5	<0.5	<0.5
	2-Chloronaphthalene	mg/kg	0.5	<0.5	<0.5
	Acenaphthylene	mg/kg	0.5	<0.5	<0.5
	Acenaphthene	mg/kg	0.5	<0.5	<0.5
	Fluorene	mg/kg	0.5	<0.5	<0.5
	Phenanthrene	mg/kg	0.5	<0.5	0.8
	Anthracene	mg/kg	0.5	<0.5	<0.5
	Fluoranthene	mg/kg	0.5	<0.5	2.8
	Pyrene	mg/kg	0.5	<0.5	2.9
	N-2-Fluorenylacetamide	mg/kg	0.5	<0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5	<0.5	1.5
	Chrysene	mg/kg	0.5	<0.5	1.3
	Benzo(b) & (k)fluoranthene	mg/kg	1	<1	3
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	<0.5	2.2
	3-Methylcholanthrene	mg/kg	0.5	<0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5	1.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5	0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5	2.1
0751-SS	BASE/NEUTRAL EXTRACTABLE SURROGATES				
	Nitrobenzene-D5	%	1	68	62
	1,2-Dichlorobenzene-D4	%	1	66	61
	2-Fluorobiphenyl	%	1	85	77
	Anthracene-d10	%	1	105	86
	p-Terphenyl-D14	%	1	87	83

CTPI 49-Sch4

COMMENTS:

Samples analysed on an air-dried basis. Results are reported on a dry weight basis.

This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

20-296
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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB15384

DATE BATCH RECEIVED : 02/07/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 06/07/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOC645	3/7/98	6/7/98

Published on DES Disclosure Log
RTI Act 2009

BATCH QUALITY CONTROL

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS645
MATRIX: Soil

ANALYST CTPI 49-Sch4

COMPOUND	Blank	Spike	QC SPIKE RESULTS				Control Limits		
	Conc.	Level	SCS	DCS	Average	RPD	Recovery		RPD
	mg/kg	mg/kg	Conc	Conc	Rec.		Low	High	%
			mg/kg	mg/kg	%	%			
EP-075A : PHENOLS									
Phenol	<LOR	1.25	1.09	1.05	85	3	73	112	35
2-Chlorophenol	<LOR	1.25	1.22	1.14	94	7	72	111	35
2-Methylphenol	<LOR	1.25	1.15	1.07	89	7	74	115	35
4-Methylphenol	<LOR	1.25	1.43	1.61	122 *	12	66	118	35
2-Nitrophenol	<LOR	1.25	0.81	0.76	63	5	27	111	35
2,4-Dimethylphenol	<LOR	1.25	1.23	1.07	92	14	37	145	35
2,4-Dichlorophenol	<LOR	1.25	1.14	1.03	87	10	58	114	35
2,6-Dichlorophenol	<LOR	1.25	1.21	1.09	92	10	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.25	1.21	98	3	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	1.40	1.18	103	17	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	1.35	1.01	95	29	68	116	35
Pentachlorophenol	<LOR	1.25	0.16	0.15	12	11	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.28	1.17	98	8	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.36	1.22	103	11	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.22	1.13	94	8	75	108	35
Acenaphthalene	<LOR	1.25	1.18	1.05	89	12	71	111	35
Acenaphthene	<LOR	1.25	1.21	1.13	93	7	69	116	35
Fluorene	<LOR	1.25	1.34	1.25	104	7	71	120	35
Phenanthrene	<LOR	1.25	1.40	1.23	105	13	77	115	35
Anthracene	<LOR	1.25	1.42	1.24	106	13	73	119	35
Fluoranthrene	<LOR	1.25	1.39	1.23	105	12	72	121	35
Pyrene	<LOR	1.25	1.35	1.22	103	10	71	125	35
N-2-Fluorenylacetimide	<LOR	1.25	1.32	1.04	95	24	37	141	35
Benz(a)anthracene	<LOR	1.25	1.34	1.10	98	20	64	128	35
Chrysene	<LOR	1.25	1.34	1.10	98	20	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	2.76	2.41	103	14	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	1.92	1.77	148 *	8	55	143	35
Benzo(a)pyrene	<LOR	1.25	1.41	1.20	104	16	56	109	35
3-Methylcholanthrene	<LOR	1.25	1.18	1.03	88	13	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.49	1.34	113	10	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.47	1.35	113	9	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.53	1.48	120	3	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL CTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jul. 03, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

For future reference the batch number on this order is: EB15384

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.

Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jul. 09, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

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Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GT1 (AUST) P/L
ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: FB14944
SUB BATCH: 0
No. OF SAMPLES: 1
DATE RECEIVED: 04/06/98
DATE COMPLETED: 10/06/98

ORDER No :

SAMPLE TYPE: SOIL

PROJECT:

Method Analysis description Units LOR
 23/05/98

EA-055	Moisture Content (dried @ 103°C)	%	0.1	32.5
EP-075B-SS	POLYNUCLEAR AROMATICS			
	Naphthalene	mg/kg	0.5	<0.5
	2-Methylnaphthalene	mg/kg	0.5	<0.5
	2-Chloronaphthalene	mg/kg	0.5	<0.5
	Acenaphthylene	mg/kg	0.5	<0.5
	Acenaphthene	mg/kg	0.5	<0.5
	Fluorene	mg/kg	0.5	<0.5
	Phenanthrene	mg/kg	0.5	<0.5
	Anthracene	mg/kg	0.5	<0.5
	Fluoranthene	mg/kg	0.5	<0.5
	Pyrene	mg/kg	0.5	<0.5
	N-2-Fluorenylacetamide	mg/kg	0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5	<0.5
	Chrysene	mg/kg	0.5	<0.5
	Benzo(b) & (k)fluoranthene	mg/kg	1	<1
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	<0.5
	3-Methylcholanthrene	mg/kg	0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5
EP-075I-SS	BASE/NEUTRAL EXTRACTABLE SURROGATES			
	Nitrobenzene-D5	%	1	72
	1,2-Dichlorobenzene-D4	%	1	71
	2-Fluorobiphenyl	%	1	90
	Anthracene-d10	%	1	68
	p-terphenyl-D14	%	1	62

COMMENTS:

Samples analysed on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.



ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14787

DATE BATCH RECEIVED : 28/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 03/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOCS634	28/5/98	29/5/98

Published on DES Disclosure Log
RTI Act 2009

R

BATCH QUALITY CONTROL

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS634

MATRIX: Soil

ANALYST: CTPI 49-Sch4

COMPOUND	Blank	Spike	QC SPIKE RESULTS				Control Limits		
	Conc.	Level	SCS	DCS	Average		Recovery		RPD
	mg/kg	mg/kg	Conc	Conc	Rec.	RPD	Low	High	%
			mg/kg	mg/kg	%	%			
EP-075A : PHENOLS									
Phenol	<LOR	1.25	0.97	1.01	79	4	73	112	35
2-Chlorophenol	<LOR	1.25	0.91	1.00	76	10	72	111	35
2-Methylphenol	<LOR	1.25	1.27	1.38	106	8	74	115	35
4-Methylphenol	<LOR	1.25	1.26	1.37	105	9	66	118	35
2-Nitrophenol	<LOR	1.25	0.74	0.79	61	6	27	111	35
2,4-Dimethylphenol	<LOR	1.25	1.21	1.28	99	5	37	145	35
2,4-Dichlorophenol	<LOR	1.25	0.62	0.66	51 *	6	58	114	35
2,6-Dichlorophenol	<LOR	1.25	0.60	0.65	50 *	8	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.18	1.19	95	1	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	0.92	0.93	74	1	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	0.88	0.92	72	4	68	116	35
Pentachlorophenol	<LOR	1.25	0.04	0.03	3	22	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.01	1.07	83	5	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.11	1.21	93	8	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.06	1.14	88	7	75	108	35
Acenaphthalene	<LOR	1.25	1.09	1.19	91	9	71	111	35
Acenaphthene	<LOR	1.25	1.00	1.07	83	6	69	116	35
Fluorene	<LOR	1.25	1.08	1.15	89	6	71	120	35
Phenanthrene	<LOR	1.25	1.08	1.07	86	1	77	115	35
Anthracene	<LOR	1.25	1.09	1.17	90	8	73	119	35
Fluoranthrene	<LOR	1.25	1.06	1.13	88	6	72	121	35
Pyrene	<LOR	1.25	1.09	1.16	90	6	71	125	35
N-2-Fluorenylacetimide	<LOR	1.25	1.07	1.19	90	10	37	141	35
Benz(a)anthracene	<LOR	1.25	1.09	1.12	88	2	64	128	35
Chrysene	<LOR	1.25	1.10	1.22	93	10	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	1.80	1.91	74	6	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	1.29	1.32	104	3	55	143	35
Benzo(a)pyrene	<LOR	1.25	0.86	0.93	72	7	56	109	35
3-Methylcholanthrene	<LOR	1.25	0.84	0.86	68	3	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.06	1.09	86	3	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.03	1.08	84	4	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.09	1.13	89	3	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTP1 49-Sch4
DATE: Jun. 04, 1998
FROM: CTP1 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

For future reference the batch number on this order is: EB14944

All samples and paper work were received in good order.
Please direct any turnaround/technical queries to CTP1 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTP1 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 09, 1998

Comments: Rebatch of EB14787

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
Phone (07) 3243 7222
Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Meibourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CLIENT OF CUSTODY AND ANALYSIS REQUEST

14097

Fluor Daniel GTI (Australia) Pty Ltd
 ACN 003 931 057
 17 Forrester Street, Kingsgrove NSW 2208 Australia
 Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: B7570 Task No: Project Manager:

Project Name: Betal-Corral Samplers Name:

Project Location: Cuckoo Laboratory: ALW

CTPI 49-Sch4

CTPI 49-Sch4

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
①	C1-0-200	C1	0-200	25/5/98	Soil	Ice	1X2506	3						X
②	C2-0-200	C2	"											
③	C3-200-500	C3	200-500											
④	C4-200-500	C4	"											
⑤	C4-500-1000	"	500-1000											
⑥	C5-200-500	C5	200-500											
⑦	C5-500-1000	"	500-1000											
⑧	C6-200-500	C6	200-500											
⑨	C6-500-1000	"	500-1000											
⑩	C7-0-200	C7	0-200											
⑪	C8-0-200	C8	"											
⑫	C9-0-200	C9	"											
⑬	C10-0-200	C10	"											
⑭	C11-0-200	C11	"											
⑮	C12-200-500	C12	200-500											
⑯	C12-500-1000	"	500-1000											
⑰	C13-0-200	C13	0-200	✓	✓	✓	✓	✓						

Asy. B. Cd, Cr, Cu, Fe, Pb, Zn

Sample Receipt Advice: (Lab Use Only)

Relinquished by: CTPI 49-Sch4 Date: 27/5/98 Received by:
 Relinquished by: Date: Received by:
 Relinquished by: Date: Received by:

EB14787 S © 27/5

URGENT



ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GYI (AUST) P
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: FB14787
SUB BATCH:
No. OF SAMPLES: 1
DATE RECEIVED: 27/05/98
DATE COMPLETED: 05/06/98

ORDER No.: B7570 CDC 14097 SAMPLE TYPE: SOIL PROJECT: BCRAL-COURCO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
C1	0-200 25/05/98	17.5	3	<20	<1	12	15
C2	2-200 25/05/98	15.9	5	<20	<1	18	19
C3	200-500 25/05/	15.8	5	<20	<1	13	10
C4	200-500 25/05/	13.4	2	<20	<1	9	4
C4	500-1000 25/05	12.2	2	<20	<1	8	6
C5	200-500 25/05/	15.6	17	<20	<1	22	17
C5	500-1000 25/05	16.9	<1	<20	<1	8	10
C6	200-500 25/05/	31.7	53	29	<1	230	45
C6	500-1000 25/05	15.3	6	<20	<1	12	14
C7	0-200 25/05/98	13.6	35	<20	<1	41	58
C8	0-200 25/05/98	13.2	10	<20	<1	44	18
C9	0-200 25/05/98	45.7	260	<20	<1	212	17
C10	0-200 25/05/98	12.5	3	<20	<1	11	9
C11	0-200 25/05/98	15.2	16	<20	<1	29	17
C12	200-500 25/05/	13.2	2	<20	<1	9	9
C12	500-1000 25/05	22.1	48	<20	<1	53	12
C13	0-200 25/05/98	20.4	6	<20	<1	15	15



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COMMENTS:

Samples as noted on dispatch slip were analysed for the determination of total heavy metal content determined on a 100% water extract. The extraction method used was 100% water between total extract and water extract. The extraction was 100% weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results client.

Perth Laboratory
Phone: (08) 8952 6020 Fax: (08) 8952 6028
Brisbane Laboratory
Phone: (03) 5446 1390 Fax: (03) 5446 1389
Brisbane Laboratory
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New Zealand Laboratory
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Orange Laboratory
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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUGR DANIEL GTI (AUST) P L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: 117 BRISBANE
BATCH NUMBER: 1514-1517
SUB BATCH:
No. OF SAMPLES: 17
DATE RECEIVED: 25/05/98
DATE COMPLETED: 25/06/98

ORDER No.: 07570 000 14097 SAMPLE TYPE: SOIL PROJECT: BORAL COI 601

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-04 ^a 1	Cr 6+ mg/kg EG-050 1		
C1	0-200 25/05/98	38	12	<1		
C2	2-200 25/05/98	28	18	<1		
C3	200-500 25/05/	20	12	<1		
C4	200-500 25/05/	10	9	<1		
C4	500-1000 25/05	10	8	<1		
C5	200-500 25/05/	11	22	<1		
C5	500-1000 25/05	11	8	<1		
C6	200-500 25/05/	119	56	<1		
C6	500-1000 25/05	22	19	<1		
C7	0-200 25/05/98	73	56	<1		
C8	0-200 25/05/98	89	27	<1		
C9	0-200 25/05/98	61	470	<1		
C10	0-200 25/05/98	15	16	<1		
C11	0-200 25/05/98	35	42	<1		
C12	200-500 25/05/	12	16	<1		
C12	500-1000 25/05	21	153	<1		
C13	0-200 25/05/98	54	25	<1		

COMMENTS:



100-835

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• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

Alice Springs Laboratory
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Bendigo Laboratory
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Brisbane Laboratory
Phone: (07) 3243 7222 Fax: (07) 3243 7218
Charters Towers Laboratory

Cloncurry Laboratory
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Kalgoorlie Laboratory
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New Zealand Laboratory
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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST)
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4008

LABORATORY: LIA BRISBANE
 BATCH NUMBER: 4814987
 SUB BATCH: 1
 No. OF SAMPLES: 17
 DATE RECEIVED: 21/05/98
 DATE COMPLETED: 03/06/98

ORDER No: B7570 000 1409 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL-COORD

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % FA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
*** BLANK 27/05/98		----	<1	<20	<1	<1	<1
*** C1 0-200 %SPK REC 2		----	107%	----	104%	101%	110%
*** C7 0-200 CHK 25/05/		15.1	38	<20	<1	45	65
*** C8 0-200 %SPK REC 2		----	99.0%	----	101%	96.0%	101%
*** C13 0-200 CHK 25/05/		20.5	6	<20	<1	14	18



No. 825
 This Laboratory is Registered by the National Association of Testing Authorities, Australia. The tests reported herein have been performed in accordance with its terms of registration. This document shall not be reproduced except in full.

COMMENTS:

Results which appear on this report are for the purpose of
 checks for JUVENILE CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to samples as submitted by client.

Ice Springs Laboratory
 Phone: (08) 8952 6020 Fax: (08) 8952 6028
 Indigo Laboratory
 Phone: (03) 5446 1390 Fax: (03) 5446 1389
 Brisbane Laboratory
 Phone: (07) 3243 7200 Fax: (07) 3243 7218
 Carpenters Towers Laboratory
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL CTI (AUST) P L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY:
 BATCH NUMBER:
 SUB BATCH:
 No. OF SAMPLES:
 DATE RECEIVED:
 DATE COMPLETED:

ORDER No.: BT570 CDD 14097 SAMPLE TYPE: QUALITY CONTROL PROJECT: BTR4-FLUORU

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
*** BLANK 27/05/98		<1	---	<1			
*** C1 0-200 %SPK REC 2		112%	---	84.0%			
*** C7 0-200 CHK 25/05/		81	63	<1			
*** C8 0-200 %SPK REC 2		96.0%	---	108%			
*** C13 0-200 CHK 25/05/		52	23	<1			

COMMENTS:



CTPI 49-Sch4
 NATA
 805
 Test Lab
 Association of Testing Authorities, Australia. The
 tests reported herein have been performed in
 accordance with the terms of registration. This
 document should not be reproduced except in full.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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 arters Towers Laboratory
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Cloncurry Laboratory
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 Kalgoorlie Laboratory
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 Orange Laboratory
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SRAEB14787



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14097

For future reference the batch number on this order is: EB14787

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
Phone (07) 3243 7222
Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14097

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: B7570

Task No:

Project Manager: CTPI 49-Sch4

Project Name: Botul-Corroy

Samplers Name: CTPI 49-Sch4

Project Location: Corroy

Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample D.E.U.	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)				
①	C1-0-200	C1	0-200	25/5/98	Soil	Ice	1 X 250G	3						X				
②	C2-0-200	C2	"															
③	C3-200-500	C3	200-500															
④	C4-200-500	C4	"															
⑤	C4-500-1000	"	500-1000															
⑥	C5-200-500	C5	200-500															
⑦	C5-500-1000	"	500-1000															
⑧	C6-200-500	C6	200-500															
⑨	C6-500-1000	"	500-1000															
⑩	C7-0-200	C7	0-200															
⑪	C8-0-200	C8	"															
⑫	C9-0-200	C9	"															
⑬	C10-0-200	C10	"															
⑭	C11-0-200	C11	"															
⑮	C12-200-500	C12	200-500															
⑯	C12-500-1000	"	500-1000															
⑰	C13-0-200	C13	0-200															

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

EB14787 S © 27/5

URGENT 2/6. (org)

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: FNV BRISBANE
BATCH NUMBER: BR14787
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 27/05/98
DATE COMPLETED: 05/06/98

ORDER No.: B7570 COC 14097 SAMPLE TYPE: SOIL PROJECT: BDRAL-COORRO

Method	Analysis description	Units	LOR	C12 500-1000 25/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	22.1
EP-075B-SS	POLYNUCLEAR AROMATICS			
	Naphthalene	mg/kg	0.5	<0.5
	2-Methylnaphthalene	mg/kg	0.5	<0.5
	2-Chloronaphthalene	mg/kg	0.5	<0.5
	Acenaphthylene	mg/kg	0.5	<0.5
	Acenaphthene	mg/kg	0.5	<0.5
	Fluorene	mg/kg	0.5	<0.5
	Phenanthrene	mg/kg	0.5	<0.5
	Anthracene	mg/kg	0.5	<0.5
	Fluoranthene	mg/kg	0.5	<0.5
	Pyrene	mg/kg	0.5	<0.5
	N-2-Fluorenylacetamide	mg/kg	0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5	<0.5
	Chrysene	mg/kg	0.5	<0.5
	Benzo(b) & (k)fluoranthene	mg/kg	1	<1
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	<0.5
	3-Methylcholanthrene	mg/kg	0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5
EP-075T-SS	BASE/NEUTRAL EXTRACTABLE SURROGATES			
	Nitrobenzene-D5	%	1	83
	1,2-Dichlorobenzene-D4	%	1	64
	2-Fluorobiphenyl	%	1	99
	Anthracene-d10	%	1	82
	p-Terphenyl-D14	%	1	78

COMMENTS:

Samples analysed for the presence of polynuclear aromatic hydrocarbons (PAHs) and base/neutral extractable surrogates (BNEs) using the method described in the report.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14787

DATE BATCH RECEIVED : 28/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 03/05/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOC634	28/5/98	29/5/98

Published on DES Disclosure Log
RTI Act 2009

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BATCH QUALITY CONTROL

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS634
MATRIX: Soil

ANALYST: CTPI 49-Sch4

COMPOUND	Blank Conc.	Spike Level	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-075A : PHENOLS									
Phenol	<LOR	1.25	0.97	1.01	79	4	73	112	35
2-Chlorophenol	<LOR	1.25	0.91	1.00	76	10	72	111	35
2-Methylphenol	<LOR	1.25	1.27	1.38	106	8	74	115	35
4-Methylphenol	<LOR	1.25	1.26	1.37	105	9	66	118	35
2-Nitrophenol	<LOR	1.25	0.74	0.79	61	6	27	111	35
2,4-Dimethylphenol	<LOR	1.25	1.21	1.28	99	5	37	145	35
2,4-Dichlorophenol	<LOR	1.25	0.62	0.66	51 *	6	58	114	35
2,6-Dichlorophenol	<LOR	1.25	0.60	0.65	50 *	8	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.18	1.19	95	1	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	0.92	0.93	74	1	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	0.88	0.92	72	4	68	116	35
Pentachlorophenol	<LOR	1.25	0.04	0.03	3	22	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.01	1.07	83	5	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.11	1.21	93	8	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.06	1.14	88	7	75	108	35
Acenaphthalene	<LOR	1.25	1.09	1.19	91	9	71	111	35
Acenaphthene	<LOR	1.25	1.00	1.07	83	6	69	116	35
Fluorene	<LOR	1.25	1.08	1.15	89	6	71	120	35
Phenanthrene	<LOR	1.25	1.08	1.07	86	1	77	115	35
Anthracene	<LOR	1.25	1.09	1.17	90	8	73	119	35
Fluoranthrene	<LOR	1.25	1.06	1.13	88	6	72	121	35
Pyrene	<LOR	1.25	1.09	1.16	90	6	71	125	35
N-2-Fluorenylacetimide	<LOR	1.25	1.07	1.19	90	10	37	141	35
Benz(a)anthracene	<LOR	1.25	1.09	1.12	88	2	64	128	35
Chrysene	<LOR	1.25	1.10	1.22	93	10	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	1.80	1.91	74	6	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	1.29	1.32	104	3	55	143	35
Benzo(a)pyrene	<LOR	1.25	0.86	0.93	72	7	56	109	35
3-Methylcholanthrene	<LOR	1.25	0.84	0.86	68	3	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.06	1.09	86	3	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.03	1.08	84	4	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.09	1.13	89	3	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14097

For future reference the batch number on this order is: EB14787

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4.
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14097

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: B7570

Task No:

Project Manager:

CTPI 49-Sch4

Project Name: Batal-Copy

Samplers Name:

CTPI 49-Sch4

Project Location: Cook-City

Laboratory:

ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specif.)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
①	C1-0-200	C1	0-200	25/5/98	Soil	Ice	1 X 2.506	3						X
②	C2-0-200	C2	"											
③	C3-200-500	C3	200-500											
④	C4-200-500	C4	"											
⑤	C4-500-1000	"	500-1000											
⑥	C5-200-500	C5	200-500											
⑦	C5-500-1000	"	500-1000											
⑧	C6-200-500	C6	200-500											
⑨	C6-500-1000	"	500-1000											
⑩	C7-0-200	C7	0-200											
⑪	C8-0-200	C8	"											
⑫	C9-0-200	C9	"											
⑬	C10-0-200	C10	"											
⑭	C11-0-200	C11	"											
⑮	C12-200-500	C12	200-500											
⑯	C12-500-1000	"	500-1000											X
⑰	C13-0-200	C13	0-200											

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

E314787 S © 27/5

URGENT

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14788
 SUB BATCH: C
 No. OF SAMPLES: 4
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 03/06/98

ORDER No.: 37570 CDC 14094 SAMPLE TYPE: SOIL PROJECT: BORAL-COORO

Method	Analysis description	Units	LOQ	A1 0-0.2 25/05/98	A2 0-0.2 25/05/98	A3 0-0.2 25/05/98	A4 0-0.2 25/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	19.2	16.4	22.7	17.8
EG-0057	Arsenic - Total	mg/kg	1	4	1	22	2
	Boron - Total	mg/kg	20	<20	<20	<20	<20
	Cadmium - Total	mg/kg	1	<1	<1	7	<1
	Copper - Total	mg/kg	1	84	-	94	9
	Lead - Total	mg/kg	1	22	14	276	18
	Zinc - Total	mg/kg	1	61	22	479	77
EG-049	Trivalent Chromium	mg/kg	1	21	20	34	19
EG-050	Hexavalent Chromium	mg/kg	1	<1	<1	<1	<1

COMMENTS:

Samples as received digested by US-EPA method 3051 prior to the determination of metals. Only values for the elements listed in the soil/water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reported on a dry weight basis.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to **CTPI 49-Sch4** ent.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: PO BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14788
SUB BATCH: 0
No. OF SAMPLES: 4
DATE RECEIVED: 27/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 COD 14094 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL-COORRAL

Method	Analysis description	Units	LOR	BLANK	A1 0-0.2 %SPX REC	A4 0-0.2 CHK
				27/05/98	25/05/98	25/05/98
LA-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	18.0
EG-005T	Arsenic - Total	mg/kg	1	<1	103 %	3
	Boron - Total	mg/kg	20	<20	----	<20
	Cadmium - Total	mg/kg	1	<1	105 %	<1
	Copper - Total	mg/kg	1	<1	103 %	9
	Lead - Total	mg/kg	1	<1	104 %	18
	Zinc - Total	mg/kg	1	<1	103 %	78
EG-049	Trivalent Chromium	mg/kg	1	----	----	20
EG-050	Hexavalent Chromium	mg/kg	1	<1	92.0 %	<1

COMMENTS:

Results which appear on this report are final and are not to be used for any other purpose.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to the sample(s) described in the report.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14788
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 27/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 CCC 14094 SAMPLE TYPE: SOIL

PROJECT: BORAL - COBORO

Method	Analysis description	Units	LOR	A1 0-0.2 25/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	19.2
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	<100
	C29 - C36 Fraction	mg/kg	100	<100
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	89
	Toluene-D8	%	1	90
	4-Bromofluorobenzene	%	1	98

COMMENTS:

Samples are numbered 1 to 100 in order of collection, with 100 being the last weight basis.

CTPI 49-Sch4

- This is the Final Report which supersedes any preliminary reports with this batch number.

- Results apply to sample(s) as submitted by client

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14788

DATE BATCH RECEIVED : 28/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 02/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2032	28/5/98	31/5/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1967	28/5/98	1/6/98

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BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2032

ANALYST: CTPI 49-Sch4

MATRIX: Soil

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPL
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	34	33	107	3	89	109	20
C10	2.0	<LOR	5.9	6.2	5.9	101	5	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHT1967

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	91	86	89	6	61	132	20
C15-C28	100	<LOR	350	339	326	95	4	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

SRAEB14788



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14094

For future reference the batch number on this order is: EB14788

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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ANALYTICAL REPORT

PAGE 1 of

CONTACT: Mr CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GT (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4005

LABORATORY: ENV BRISBANE
 BATCH NUMBER: FB14790
 SUB BATCH: C
 No. OF SAMPLES: 12
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 04/06/98

ORDER No.: B7570 C00 14079 SAMPLE TYPE: SOIL PROJECT: BORAL - COORO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture %	As mg/kg EG-005T	B mg/kg EG-005T	Cd mg/kg EG-005T	Cr mg/kg EG-005T	Cu mg/kg EG-005T
		EA-055 0.1					
B1-0-200	0-200 26/05/98	21.1	15	<20	<1	34	19
B2-0-200	0-200 26/05/98	21.2	43	<20	<1	51	7
B3-0-200	0-200 26/05/98	12.7	53	<20	<1	40	41
B4-0-200	0-200 26/05/98	13.4	25	<20	<1	55	24
B5-0-200	0-200 26/05/98	16.4	4	<20	<1	15	9
B6-0-200	0-200 26/05/98	17.1	8	<20	<1	60	
B7-0-200	0-200 26/05/98	18.4	4	<20	<1	20	9
B8-0-200	0-200 26/05/98	18.6	18	<20	<1	28	2
B9-0-200	0-200 26/05/98	4.7	12	<20	<1	23	11
B10-0-200	0-200 26/05/98	7.6	60	<20	<1	73	56
B11-0-200	0-200 26/05/98	21.3	8	<20	<1	58	24
B8DUP0-200	0-200 26/05/98	22.0	14	<20	<1	21	1



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COMMENTS:

Samples as received digested by Inducta method 3051 prior to the
 determination of metals. No heavy metal contamination detected in
 soil/water extract. Results could be dry wt basis. The presence of
 coarse material may result in low concentration of sample. This
 report supersedes any previous preliminary reports of the same batch number.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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Page 358 of 509



ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST), P L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENVIRONMENTAL
 BATCH NUMBER: B814824
 SUB BATCH: 0
 No. OF SAMPLES: 11
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 10/06/98

ORDER No.: B7570 C00 1410% SAMPLE TYPE: SOIL PROJECT: BORAL - DOORS

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-05C 0.1	As mg/kg EG-005T 2	B mg/kg EG-005T 40	Cd mg/kg EG-005T 2	Cu mg/kg EG-005T 2	Pb mg/kg EG-005T 2
01	0-0.2 27/05/98	18.2	27	<40	<2	29	42
01	0.2-0.5 27/05/98	25.3	23	<40	<2	27	31
02	0-0.2 27/05/98	20.0	26	<40	<2	29	33
03	0-0.2 27/05/98	12.2	20	<40	<2	43	26
04	0-0.2 27/05/98	15.6	10	<40	<2	9	17
05	0-0.2 27/05/98	55.0	464	<40	<2	469	<2
06	0-0.2 27/05/98	31.2	132	<40	<2	114	21
07	0-0.2 27/05/98	40.2	279	<40	2	221	21
08	0-0.2 27/05/98	20.2	64	<40	<2	59	19
09	0-0.2 27/05/98	36.9	101	<40	2	92	86
010	0-0.2 27/05/98	23.3	17	<40	<2	28	27



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COMMENTS:

Samples analysed by method EA-05C for moisture content. Hexavalent Chromium determined on a 1:5 soil/water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reflect a dry weight basis. This report supersedes any previous preliminary reports on the same batch.

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GFI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENVIRONMENTAL
 BATCH NUMBER: 14148/26
 SUB BATCH:
 No. OF SAMPLES: 11
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 11/06/98

ORDER No.: 87570 COD 14107 SAMPLE TYPE: SOIL PROJECT: BORAL - UDR60

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 2	Cr 3+ mg/kg EG-049 2	Cr 6+ mg/kg EG-050 2			
1	0-0.2 27/05/98	62	42	<2			
1	0.2-0.5 27/05/98	71	39	<2			
2	0-0.2 27/05/98	53	43	<2			
3	0-0.2 27/05/98	115	39	<2			
4	0-0.2 27/05/98	12	28	<2			
5	0-0.2 27/05/98	10	1190	<2			
6	0-0.2 27/05/98	42	217	<2			
7	0-0.2 27/05/98	52	483	<2			
8	0-0.2 27/05/98	37	110	<2			
9	0-0.2 27/05/98	94	142	<2			
10	0-0.2 27/05/98	59	41	<2			

COMMENTS:

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

Results apply to sample(s) as submitted by client.

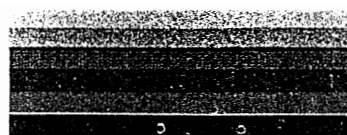
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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLOUR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: **CTPI 49-Sch4**
 BATCH NUMBER: **87570**
 SUB BATCH:
 No. OF SAMPLES: **1**
 DATE RECEIVED: **29/05/98**
 DATE COMPLETED: **12/06/98**

ORDER No.: **87570** CDD **14103** SAMPLE TYPE: **QUALITY CONTROL** PROJECT: **BORAL - COCKLE**

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 2	B mg/kg EG-005T 40	Cd mg/kg EG-005T 2	Cu mg/kg EG-005T 2	Pb mg/kg EG-005T 4
*** BLANK 29/05/98		----	<2	<40	<2	<2	<2
** D1 0-0.2 %SPK REC 2		----	94.0%	---	99.0%	95.0%	100%
** D9 0-0.2 CHK 27/05/		37.1	130	<40	2	91	95
** D10 0-0.2 %SPK REC 2		----	100%	----	96.0%	94.0%	112%

Published on DES Disclosure Log
RTI Act 2009

COMMENTS: Results which appear on this report are routine laboratory checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: Mr **CTPI 49-Sch4**
 CLIENT: FLOOR DANIEL GTI (ALST) P/L
 ADDRESS: P.O. BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: **CTPI 49-Sch4**
 BATCH NUMBER: **1914826**
 SUB BATCH:
 No. OF SAMPLES: 11
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 10/06/98

ORDER No.: B7570 000 14107 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORDY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 2	Cr 3+ mg/kg EG-049 2	Cr 6+ mg/kg EG-050 2			
*** BLANK 29/05/98		<2	<2	<2			
** D1 0-0.2 %SPK REC 2		98.0%	--	118%			
** D9 0-0.2 CHK 27/05/		107	167	<2			
** D10 0-0.2 %SPK REC 2		97.0%	--	102%			

COMMENTS:

CTPI 49-Sch4

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• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST) P L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: [REDACTED]
 BATCH NUMBER: [REDACTED]
 SUB BATCH: [REDACTED]
 No. OF SAMPLES: [REDACTED]
 DATE RECEIVED: [REDACTED]
 DATE COMPLETED: [REDACTED]

ORDER No.: B7570 C00 14103 SAMPLE TYPE: SOIL PROJECT: BERAL - BOLLING

Method	Analysis description	Units	LOD	0.2
				27/05/98
A-05	Moisture Content (dried @ 103°C)	%	0.1	20.0
P-1-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	154
	C29 - C36 Fraction	mg/kg	100	520
P-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	88
	Toluene-D8	%	1	91
	4-Bromofluorobenzene	%	1	101

COMMENTS:

Samples anal. for TPH/BTEX compounds on weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.
 • Results apply to sample(s) as submitted by client.

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Melbourne
 Phone: (03) 9853 5299 Fax: (03) 9853 0730
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Laboratories also in:
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 Malaysia
 Thailand
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ORGANICS QUALITY CONTROL REPORT

BATCH No. : E314826

DATE BATCH RECEIVED : 29/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 04/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Sample Analyse
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2034	1/6/98	1/6/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1968	1/6/98	2/6/98

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R

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2034
MATRIX: Soil

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	30	31	97	2	89	109	20
C10	2.0	<LOR	5.9	5.8	5.9	98	2	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHT1968

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	111	106	108	5	61	132	20
C15-C28	100	<LOR	350	409	388	114	5	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14103

For future reference the batch number on this order is: EB14826

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4.
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
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Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14103

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9502 4849

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No:

57570

Task No:

Project Manager:

CTPI 49-Sch4

Project Name:

Betal-Cocrey

Samplers Name:

CTPI 49-Sch4

Project Location:

Cocrey

Laboratory:

ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)	
①	D1-C-C-2	D1	C-C-2	27/5/98	Soil	Ice	1x250G	3							
②	D1-C-2-C-5	D1	C-2-C-5												
③	D2-C-C-2	D2	C-C-2							✓					
④	D3-C-C-2	D3													
⑤	D4-C-C-2	D4													
⑥	D5-C-C-2	D5													
⑦	D6-C-C-2	D6													
⑧	D7-C-C-2	D7													
⑨	D8-C-C-2	D8													
⑩	D9-C-C-2	D9													
⑪	D10-C-C-2	D10													

As, B, Cd, Cr, Cu, Fe, Pb, Zn

-1 TPH

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

EB 14826 S C 24/5
URGENT 3/6 C 24/5



ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENE BRISBANE
BATCH NUMBER: E814824
SUB BATCH: 1
No. OF SAMPLES: 19
DATE RECEIVED: 27/05/98
DATE COMPLETED: 09/06/98

ORDER No.: BT570 CDD 14104 SAMPLE TYPE: SDIL

PROJECT: BORAL - COOROL

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
0-0.2 27/05/98		37.1	155	<20	2	172	36
0.2-0.5 27/05/98		41.3	187	<20	<1	203	27
0.2-0.5 27/05/98		23.6	73	<20	1	64	30
0-0.2 27/05/98		33.9	198	<20	<1	185	24
0.2-0.5 27/05/98		24.8	19	<20	1	25	29
0-0.2 27/05/98		17.3	56	24	1	68	27
0.2-0.5 27/05/98		18.6	9	<20	2	12	27
0.2-0.5 27/05/98		22.2	15	<20	1	24	43
0-0.2 27/05/98		25.2	76	27	2	106	119
0.2-0.5 27/05/98		22.9	18	26	2	46	127
0-0.2 27/05/98		13.6	27	23	1	73	93
0.2-0.5 27/05/98		20.6	12	<20	1	15	23
0-0.2 27/05/98		26.3	13	<20	1	23	29
0-0.2 28/05/98		16.4	10	<20	1	16	34
0-0.2 28/05/98		22.7	10	<20	1	22	39
0.2-0.5 28/05/98		19.7	10	<20	1	17	35
0-0.2 28/05/98		6.7	10	<20	1	25	32
0-0.2 28/05/98		19.4	22	<20	<1	32	58
EP S 28/05/98		43.3	50	<20	<1	59	44

CTPI 49-Sch4



No. 825

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COMMENTS:

Samples as received digested by USFPA 311 prior to the determination of metals. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Hexavalent Chromium determined on 1:5 soil/water extract. Results reported on dry weight basis. This report supersedes any previous preliminary reports of the same batch number.

This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

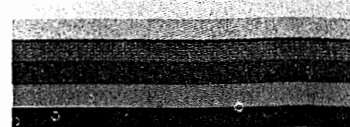
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: **BRISBANE**
 BATCH NUMBER: **BB14422**
 SUB BATCH:
 No. OF SAMPLES: **12**
 DATE RECEIVED: **27/05/98**
 DATE COMPLETED: **07/06/98**

ORDER No.: B7570 CDC 14104 SAMPLE TYPE: SOIL PROJECT: BORA - COORUB

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
E1	0-0.2 27/05/98	79	226	<1			
E2	0.2-0.5 27/05/	68	332	<1			
E3	0.2-0.5 27/05/	72	118	<1			
E4	0-0.2 27/05/98	54	271	<1			
E5	0.2-0.5 27/05/	63	34	<1			
E6	0-0.2 27/05/98	125	77	<1			
E7	0.2-0.5 27/05/	28	26	<1			
E8	0.2-0.5 27/05/	82	32	<1			
E9	0-0.2 27/05/98	120	79	<1			
E10	0.2-0.5 27/05/	131	39	<1			
E11	0-0.2 27/05/98	214	49	<1			
E12	0.2-0.5 27/05/	48	31	<1			
E13	0-0.2 27/05/98	71	27	<1			
E14	0-0.2 28/05/98	76	28	<1			
E15	0-0.2 28/05/98	75	30	<1			
E16	0.2-0.5 28/05/	47	30	<1			
E17	0-0.2 28/05/98	90	23	<1			
E18	0-0.2 28/05/98	267	35	<1			
EP	S 28/05/98	176	80	<1			

COMMENTS:



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CTPI 49-Sch4

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• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2520
 FORTITUDE VALLEY QLD 4006

LABORATORY: LNV BRISBANE
 BATCH NUMBER: 5814824
 SUB BATCH: C
 No. OF SAMPLES: 19
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No.: B7570 C00 14104 SAMPLE TYPE: QUALITY CONTROL PROJECT: BDRAT C00R05

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
*** BLANK 29/05/98		----	<1	<20	<1	<1	<1
*** E1 0-0.2 %SPK REC 2		-----	79.0%	---	95.0%	95.0%	104%
*** E7 0.2-0.5 CHK 27/05/		24.9	22	27	1	65	126
*** E8 0-0.2 %SPK REC 2		----	99.0%	---	89.0%	91.0%	101%
*** EP S CHK 28/05/		38.7	51	<20	<1	63	43



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COMMENTS:

Results which appear on this report are routine laboratory checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

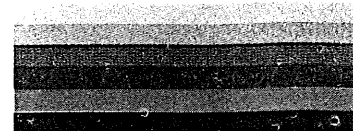
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: 157 BRISBANE
BATCH NUMBER: 1814824
SUB BATCH:
No. OF SAMPLES: 19
DATE RECEIVED: 29/05/98
DATE COMPLETED: 06/06/98

ORDER No: B7570 CDD 14104 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORUBRA

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Co mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
*** BLANK 29/05/98		<1	---	<1			
** E1 0-0.2 %SPK REC 2		99.0%	---	99.0%			
** E7 0.2-0.5 CHK 27/05/		152	52	<1			
** E8 0-0.2 %SPK REC 2		82.0%		99.0%			
** EP S CHK 28/05/		173	74	<1			

COMMENTS:

CTPI 49-Sch4

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ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14104

For future reference the batch number on this order is: EB14824

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

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Melbourne
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Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14104

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
- ☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
- ☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☒ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
- ☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
- ☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
- ☐ Other:

Project No: B7570 Task No:

Project Manager:

CTPI 49-Sch4

Project Name: Boral - Corrig

Samplers Name:

CTPI 49-Sch4

Project Location: Corrig

Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
①	E1-0-0.2	E1	0-0.2	27/5/98	Soil	Ice	N250 G	3d						
②	E1-0.2-0.5	"	0.2-0.5											
③	E2-0.2-0.5	E2	0.2-0.5											
④	E3-0-0.2	E3	0-0.2											
⑤	E4-0.2-0.5	E4	0.2-0.5											
⑥	E5-0-0.2	E5	0-0.2											
⑦	E5-0.2-0.5	"	0.2-0.5											
⑧	E6-0.2-0.5	E6	0.2-0.5											
⑨	E7-0-0.2	E7	0-0.2											
⑩	E7-0.2-0.5	"	0.2-0.5											
⑪	E8-0-0.2	E8	0-0.2											
⑫	E8-0.2-0.5	"	0.2-0.5											
⑬	E9-0-0.2	E9	0-0.2											
⑭	E10-0-0.2	E10	0-0.2	28/5/98										
⑮	E11-0-0.2	E11	0-0.2											
⑯	E11-0.2-0.5	"	0.2-0.5											
⑰	E12-0-0.2	E12	0-0.2											
⑱	E13-0-0.2	E13	0-0.2											
⑲	EP-S	EP	-											

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

24/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

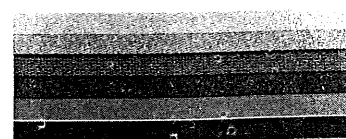
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Received by:

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14823
 SUB BATCH: 0
 No. OF SAMPLES: 16
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No.: B7570 C00 14105 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
F1	0-200 27/05/98	50.2	150	<40	<2	271	10
F2	0-200 27/05/98	29.2	791	<20	1	483	10
F3	0-200 27/05/98	60.1	514	<20	3	429	33
F4	0-200 27/05/98	30.7	74	<20	1	203	114
F5	0-200 28/05/98	25.4	32	<20	3	62	82
F6	0-200 28/05/98	13.4	111	<20	1	109	48
F7	0-200 28/05/98	20.5	8	<20	<1	15	28
F8	0-200 28/05/98	15.2	78	<20	<1	106	71
F9	0-200 28/05/98	13.4	32	<20	<1	50	39
F10	0-200 28/05/98	17.3	27	<20	<1	32	271
F11	0-200 28/05/98	19.7	14	<20	<1	28	49
F12	0-200 28/05/98	20.0	9	<20	<1	18	40
F13	0-200 28/05/98	17.7	15	<20	<1	9	31
F14	0-200 28/05/98	7.9	60	43	<1	72	53
F15	0-200 28/05/98	23.8	9	<20	<1	14	37
F8	0-200dup 28/05	11.4	70	<20	<1	74	55



No. 825
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COMMENTS:

Samples as received digested by USEPA method 3001 prior to the determination of metals. Hexavalent chromium determined on a 1:1 soil/water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reported on a dry weight basis. Comment continued overleaf.....

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results approved by client

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ANALYTICAL REPORT

PAGE 2 of

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTJ (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENF BRISBANE
BATCH NUMBER: E814823
SUB BATCH: 4
No. OF SAMPLES: 16
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CCC 14105 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
F1	0-200 27/05/98	20	470	<2			
F2	0-200 27/05/98	56	98	<1			
F3	0-200 27/05/98	103	915	<1			
F4	0-200 27/05/98	95	140	<1			
F5	0-200 28/05/98	1220	29	<1			
F6	0-200 28/05/98	149	130	<1			
F7	0-200 28/05/98	64	27	<1			
F8	0-200 28/05/98	302	9	<1			
F9	0-200 28/05/98	154	43	<1			
F10	0-200 28/05/98	99	27	<1			
F11	0-200 28/05/98	97	38	<1			
F12	0-200 28/05/98	71	43	<1			
F13	0-200 28/05/98	60	29	<1			
F14	0-200 28/05/98	346	62	<1			
F15	0-200 28/05/98	60	68	<1			
F8	0-200dup 28/05	244	98	<1			



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COMMENTS:

LOR's for sample F1 0-200 raised due to high moisture content. The presence of coarse material may result in high LOR's. Sample duplicate. This report supersedes any previous preliminary reports of the same batch number.

CTPI 49-Sch4

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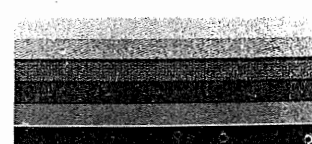
• Resubmitted by client.

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ANALYTICAL REPORT

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CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: E814823
SUB BATCH: 0
No. OF SAMPLES: 16
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14105 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORLE

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
*** BLANK 29/05/98		----	<1	<20	<1	<1	<1
*** F1 0-200 %SPK REC 2		----	96.0%	----	107%	92.0%	11%
*** F10 0-200 CHK 28/05/		17.5	20	<20	<1	31	331
*** F11 0-200 %SPK REC 2		----	103%	----	97.0%	96.0%	96.0%
*** F8 0-200dp CHK 28/05/		13.5	72	<20	<1	83	55



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COMMENTS:

Results which appear in this report are for internal checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

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• Results submitted by client.

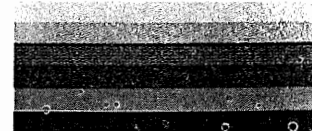
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PAGE 2 of

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14823
SUB BATCH: 0
No. OF SAMPLES: 16
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CCC 14105 SAMPLE TYPE: QUALITY CONTROL* PROJECT: BORAL - COORO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
*** BLANK 29/05/98		<1	----	<1			
*** F1 0-200 %SPK REC 2		103%	-----	95.0%			
*** F10 0-200 CHK 28/05/		100	25	<1			
*** F11 0-200 %SPK REC 2		85.0%	-----	100%			
*** F8 0-200dp CHK 28/05/		259	112	<1			

COMMENTS:

CTPI 49-Sch4



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ANALYTICAL REPORT

PAGE

CONTACT: CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST)
ADDRESS: BOX 2720
FORTITUDE VALLEY 4006

LABORATORY: E BRISBA
BATCH NUMBER: EB14823
SUB BATCH: 1
No. OF SAMPLES: 3
DATE RECEIVED: 0
DATE COMPLETED: 09/06

ORDER No. B7570

SAMPLE TYPE: SOIL

PROJECT:

Analysis description

200-500

2
0

EP-071-SS Moisture Content (dried @ 103°C)
TOTAL PETROLEUM HYDROCARBONS
C6 - C9 Fraction
C10 - C14 Fraction
C15 - C28 Fraction
C29 - C36 Fraction

EP-080-SS BTEX
Benzene 2 2 0 2
Toluene 2 2 0 2
Chlorobenzene 2 2 0 2
Ethylbenzene 2 2 0 2
meta- & para-Xylene 2 2 0 2
ortho-Xylene 0

EP-080S-SS VOLATILE TPH/BTEX COMPOUND SURROGATES
1,2-Dichloroethane-D4 %
Toluene-D8 %
4-Bromofluorobenzene %

COMMENTS:

Sample
weight

ported

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14823
SUB BATCH: 2
No. OF SAMPLES: 1
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 COD 14105 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROO

Method	Analysis description	Units	LOR	F6 0-200 28/05/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	13.4
EP-068A-SS	ORGANOCHLORINE PESTICIDES			
	alpha-BHC	mg/kg	0.05	<0.05
	HCB	mg/kg	0.05	<0.05
	beta-BHC & gamma-BHC	mg/kg	0.1	<0.1
	delta-BHC	mg/kg	0.05	<0.05
	Heptachlor	mg/kg	0.05	<0.05
	Aldrin	mg/kg	0.05	<0.05
	Heptachlor epoxide	mg/kg	0.05	<0.05
	Chlordane - trans	mg/kg	0.05	<0.05
	Endosulfan i	mg/kg	0.05	<0.05
	Chlordane - cis	mg/kg	0.05	<0.05
	Dieldrin	mg/kg	0.05	<0.05
	DDE	mg/kg	0.05	<0.05
	Endrin	mg/kg	0.05	<0.05
	Endosulfan 2	mg/kg	0.05	<0.05
	DDD	mg/kg	0.05	<0.05
	Endrin aldehyde	mg/kg	0.05	<0.05
	Endosulfan sulfate	mg/kg	0.05	<0.05
	DDT	mg/kg	0.2	<0.2
	Endrin ketone	mg/kg	0.05	<0.05
	Methoxychlor	mg/kg	0.2	<0.2
FP-068B-SS	ORGANOPHOSPHORUS PESTICIDES			
	Dichlorvos	mg/kg	0.05	<0.05
	Demeton-S-methyl	mg/kg	0.05	<0.05
	Monocrotophos	mg/kg	0.2	<0.2
	Dimethoate	mg/kg	0.05	<0.05
	Diazinon	mg/kg	0.05	<0.05
	Chlorpyrifos-methyl	mg/kg	0.05	<0.05
	Parathion-methyl	mg/kg	0.2	<0.2

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14823
 SUB BATCH: 2
 No. OF SAMPLES: 1
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14105 SAMPLE TYPE: SOIL PROJECT: BORAL CLOVER

Method Analysis description Units LOR F6
 0-200
 26/05/98

EP-068B-SS	Malathion	mg/kg	0.05	<0.05
	Fenthion	mg/kg	0.05	<0.05
	Chlorpyrifos	mg/kg	0.05	<0.05
	Parathion	mg/kg	0.2	<0.2
	Pirimphos-ethyl	mg/kg	0.05	<0.05
	Chlorfenvinphos E	mg/kg	0.05	<0.05
	Chlorfenvinphos Z	mg/kg	0.05	<0.05
	Bromophos-ethyl	mg/kg	0.05	<0.05
	Fenamiphos	mg/kg	0.05	<0.05
	Prothiofos	mg/kg	0.05	<0.05
	Ethion	mg/kg	0.05	<0.05
	Carbophenothion	mg/kg	0.05	<0.05
	Azinphos-methyl	mg/kg	0.05	<0.05
EP-068S-SS	ORGANOCHLORINE PESTICIDE SURROGATE			
	Dibromo-DDE	%	1	78
EP-068T-SS	ORGANOPHOSPHORUS PESTICIDE SURROGATE			
	DEF	%	1	89

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

Brisbane
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Sydney
 Phone: (02) 9841 9500 Fax: (02) 9841 9530
Melbourne
 Phone: (03) 9853 5299 Fax: (03) 9853 0730
Perth
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Laboratories also in:
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 20-296

Orange Laboratory
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 Phone: (02) 6363 1722 Fax: (02) 6363 1189

File A

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AUSTRALIAN LABORATORY
SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE

CONTACT: R CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P
ADDRESS: BOX 2320
FORTITUDE VALLEY 4006

LABORATORY:
BATCH NUMBER:
SUB BATCH:
No. OF SAMPLES:
DATE RECEIVED:
DATE COMPLETED: 09/06

ORDER No

SAMPLE TYPE: SOIL

PROJECT:

Analysis description

EP-075B-SS Moisture Content (dried @ 103°C)
POLYNUCLEAR AROMATICS
Naphthalene
2-Methylnaphthalene
2-Chloronaphthalene
Acenaphthylene
Acenaphthene
Fluorene
Phenanthrene 5
Anthracene 5
Fluoranthene 5
N-2-Fluorenylacetamide 5
Benz(a)anthracene 5
Benzo(b) & (k)fluoranthene 5
7,12-Dimethylbenz(a)anthracene
Benzo(a)pyrene
3-Methylcholanthrene
Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene
Benzo(g,h,i)perylene
EP-075T-SS BASE/NEUTRAL EXTRACTABLE SURROGATES
Nitrobenzene-D5 % 8
1,2-Dichlorobenzene-D4 % 8
2-Fluorobiphenyl % 9
Anthracene-d10 % 6
p-Terphenyl-D14 % 6

COMMENTS:

pe a
weight basis

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sam

Brisbane
Phone: (07) 3243 7222 Fax: (07) 3243 7218
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Phone: (09) 249 2988 Fax: (09) 249 2942

Laboratories also in:
Singapore
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Thailand
Hong Kong
New Zealand

File A

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14823

DATE BATCH RECEIVED : 29/5/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 12/6/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analyzed
			Extraction	Analysis			
EP-068	Pesticides	Soil	Tumbler	USEPA 8270B	OCOPS689	1/6/98	4/6/98
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2033	1/6/98	1/6/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1968	1/6/98	3/6/98
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOCS635	1/6/98	2/6/98
EP-080	BTEX	Soil	USEPA 5030 A	USEPA 8260A	VOCS2033	1/6/98	1/6/98

R

BATCH QUALITY CONTROL

ALS EP-068 : PESTICIDES

QC LOT No. : OCOPS689
MATRIX: Soil

ANALYST CTPI 49-Sch4

COMPOUND	Blank Conc	Spike Level	SPIKE QC RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Rec.		RPI
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-068A : ORGANOCHLORINE PESTICIDES									
a-BHC	<LOR	0.25	0.26	0.24	99	6	78	118	20
HCB	<LOR	0.25	0.24	0.23	95	4	75	117	20
b- & g-BHC	<LOR	0.50	0.54	0.50	104	8	47	147	20
d-BHC	<LOR	0.25	0.25	0.24	99	2	76	121	20
Heptachlor	<LOR	0.25	0.34	0.31	130	10	38	173	20
Aldrin	<LOR	0.25	0.25	0.24	98	2	78	116	20
Heptachlor epoxide	<LOR	0.25	0.26	0.25	104	4	78	117	20
trans-Chlordane	<LOR	0.25	0.27	0.25	103	8	80	116	20
Endosulfan 1	<LOR	0.25	0.24	0.24	96	2	77	119	20
cis-Chlordane	<LOR	0.25	0.27	0.25	105	7	80	115	20
Dieldrin	<LOR	0.25	0.13	0.24	74 *	59 *	78	118	20
DDE	<LOR	0.25	0.26	0.25	102	3	75	118	20
Endrin	<LOR	0.25	0.10	0.14	47	37 *	21	152	20
Endosulfan 2	<LOR	0.25	0.18	0.24	84	27 *	0	385	20
DDD	<LOR	0.25	0.26	0.25	102	5	71	129	20
Endrin aldehyde	<LOR	0.25	0.25	0.26	102	3	69	130	20
Endosulfan sulfate	<LOR	0.25	0.28	0.26	109	6	61	140	20
DDT	<LOR	0.25	0.42	0.41	168	2	0	1032	20
Endrin ketone	<LOR	0.25	0.38	0.32	140	20	39	184	20
Methoxychlor	<LOR	0.25	0.35	0.34	138	4	0	950	20
EP-068B : ORGANOPHOSPHORUS PESTICIDES									
Dichlorvos	<LOR	0.25	0.25	0.23	96	7	70	120	20
Demeton-s-methyl	<LOR	0.25	0.14	0.23	74	45 *	17	157	20
Monocrotophos	<LOR	0.25	0.13	0.26	79	67 *	0	201	20
Dimethoate	<LOR	0.25	0.20	0.26	91	27 *	67	126	20
Diazinon	<LOR	0.25	0.19	0.26	89	32 *	74	120	20
Chlorpyrifos methyl	<LOR	0.25	0.26	0.25	102	3	78	117	20
Parathion methyl	<LOR	0.25	0.25	0.25	100	2	66	129	20
Malathion	<LOR	0.25	0.29	0.28	114	6	72	123	20
Fenthion	<LOR	0.25	0.27	0.25	104	6	28	155	20
Chlorpyrifos	<LOR	0.25	0.26	0.25	101	5	81	115	20
Parathion	<LOR	0.25	0.25	0.24	99	2	69	127	20
Pirimiphos ethyl	<LOR	0.25	0.21	0.25	92	18	74	125	20
Chlorfenvinphos E	<LOR	0.25	N/A	N/A	N/A		####	####	
Chlorfenvinphos Z	<LOR	0.25	0.26	0.26	104	1	69	121	20
Bromophos ethyl	<LOR	0.25	0.26	0.25	104	4	79	116	20
Fenamiphos	<LOR	0.25	0.17	0.26	85	41 *	16	159	20
Prothiofos	<LOR	0.25	0.27	0.26	106	6	79	116	20
Ethion	<LOR	0.25	0.28	0.27	110	4	76	121	20
Carbofenthion	<LOR	0.25	0.24	0.28	105	14	63	129	20
Azinphos methyl	<LOR	0.25	0.02	0.18	39 *	165 *	44	133	20
EP-068C : TRIAZINE PESTICIDES									
Simazine	<LOR	0.15	0.01	0.08	28 *	164 *	40	137	20
Atrazine	<LOR	0.25	0.01	0.13	28 *	164 *	52	130	20
EP-068D : SYNTHETIC PYRETHROIDS									
Cypermethrins	<LOR	0.25	0.22	0.21	84	5	45	137	20

COMMENTS:

20-296) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07) Page 384 of 509

2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2033
MATRIX: Soil

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				Control Limits		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc	Conc	Rec.		(%)		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	35	34	110 *	3	89	109	20
C10	2.0	<LOR	5.9	6.8	6.1	108	11	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHT1968

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery	RPD	
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	111	106	108	5	61	132	20
C15-C28	100	<LOR	350	409	388	114	5	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS635

MATRIX: Soil

ANALYST CTPI 49-Sch4

COMPOUND	Blank Conc.	Spike Level	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-075A : PHENOLS									
Phenol	<LOR	1.25	1.15	1.18	93	2	73	112	35
2-Chlorophenol	<LOR	1.25	1.07	1.10	87	2	72	111	35
2-Methylphenol	<LOR	1.25	1.12	1.23	94	9	74	115	35
4-Methylphenol	<LOR	1.25	1.27	1.48	110	15	66	118	35
2-Nitrophenol	<LOR	1.25	0.88	0.95	73	7	27	111	35
2,4-Dimethylphenol	<LOR	1.25	0.95	1.10	82	14	37	145	35
2,4-Dichlorophenol	<LOR	1.25	1.11	1.16	91	5	58	114	35
2,6-Dichlorophenol	<LOR	1.25	0.67	0.73	56 *	8	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.23	1.28	101	4	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	1.04	1.10	86	6	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	0.91	0.97	75	6	68	116	35
Pentachlorophenol	<LOR	1.25	0.14	0.16	12	15	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.07	1.15	89	7	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.21	1.18	95	3	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.12	1.26	95	12	75	108	35
Acenaphthalene	<LOR	1.25	1.29	1.32	104	2	71	111	35
Acenaphthene	<LOR	1.25	1.18	1.28	98	9	69	116	35
Fluorene	<LOR	1.25	1.26	1.34	104	6	71	120	35
Phenanthrene	<LOR	1.25	1.31	1.39	108	6	77	115	35
Anthracene	<LOR	1.25	1.42	1.47	116	3	73	119	35
Fluoranthrene	<LOR	1.25	1.41	1.45	114	3	72	121	35
Pyrene	<LOR	1.25	1.50	1.53	121	2	71	125	35
N-2-Fluorenylacetimide	<LOR	1.25	1.37	1.38	110	1	37	141	35
Benz(a)anthracene	<LOR	1.25	1.34	1.41	110	5	64	128	35
Chrysene	<LOR	1.25	1.45	1.45	116	1	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	2.39	2.44	97	2	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	1.12	1.17	92	5	55	143	35
Benzo(a)pyrene	<LOR	1.25	0.74	0.75	60	2	56	109	35
3-Methylcholanthrene	<LOR	1.25	1.07	1.12	88	5	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.30	1.35	106	3	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.31	1.37	107	4	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.41	1.49	116	6	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS2033
MATRIX: Soil

ANALYST CTPI 49-Sch4

COMPOUND	Blank Results	Spike Conc	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery		RPD
			mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	0.98	0.98	98	0	88	109	20
Toluene	<LOR	1.0	0.91	0.94	92	2	87	110	20
Chlorobenzene	<LOR	1.0	1.01	1.04	103	3	88	110	20
Ethylbenzene	<LOR	1.0	1.03	1.05	104	2	88	110	20
m- & p-Xylene	<LOR	1.0	1.01	1.06	103	4	88	111	20
o-Xylene	<LOR	1.0	1.00	1.04	102	4	88	112	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

SRAEB14823



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14105

For future reference the batch number on this order is: EB14823

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

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Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14105

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other.

Project No: B757c Task No: Project Manager: CTPI 49-Sch4Project Name: Verat - Correy Samplers Name:Project Location: Correy Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC <i>lip</i> <i>peroxide</i>	PCBs	PAH's	METALS (Specify)	
	F1-C-2cc ①	F1	0-2cc	27/5/98	Soil	Ice	1x2506	3d							-1 T/B
	F2-C-2cc ②	F2													-2 0/100
	F3-C-2cc ③	F3													-3 PAH
	F4-C-2cc ④	F4													
	F5-C-2cc ⑤	F5		28/5/98											
	F6-C-2cc ⑥	F6							✓	✓	✓		✓		
	F7-C-2cc ⑦	F7													
	F8-C-2cc ⑧	F8													
	F9-C-2cc ⑨	F9													
	F10-C-2cc ⑩	F10													
	F11-C-2cc ⑪	F11													
	F12-C-2cc ⑫	F12													
	F13-C-2cc ⑬	F13													
	F14-C-2cc ⑭	F14													
	F15-C-2cc ⑮	F15													
	F15-2cc-5cc ⑯	"	2cc-5cc												
	F15-2 ⑰	"	2												
	F8-C-2cc ⑱	F8	0-2cc												

Special Instructions

Sample Receipt Advice:

(Lab Use Only)

Relinquished by: CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

EB14 823 S © 29/5 (arg)

URGENT

Page 500 of 509

ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14829
SUB BATCH: 0
No. OF SAMPLES: 22
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 COD 14107 SAMPLE TYPE: SOIL PROJECT: BGRAL - COORDY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture	As	B	Cd	Cu	Pb
		% EA-055 0.1	mg/kg EG-005T 1	mg/kg EG-005T 20	mg/kg EG-005T 1	mg/kg EG-005T 1	mg/kg EG-005T 1
G1-200-500 200-500 28/05/		16.7	9	<20	<1	9	37
G1-1 1 28/05/98		16.4	11	<20	<1	14	30
G2-200-500 200-500 28/05/		18.9	12	<20	<1	15	27
G2-1 1 28/05/98		19.0	7	<20	<1	13	28
G3-200-500 200-500 28/05/		16.8	9	<20	<1	10	25
G3-1 1 28/05/98		18.6	10	<20	<1	16	21
G4-0-200 0-200 28/05/98		26.1	14	271	<1	14	18
G5-0-200 0-200 28/05/98		16.0	30	<20	<1	29	39
G6-0-200 0-200 28/05/98		16.3	8	<20	<1	12	30
G6-200-500 200-500 28/05/		16.7	10	<20	<1	13	25
G7-0-200 0-200 28/05/98		9.5	62	<20	<1	85	34
G7-200-500 200-500 28/05/		20.7	13	<20	<1	22	32
G8-0-200 0-200 28/05/98		17.4	8	<20	<1	12	28
G9-0-200 0-200 28/05/98		18.8	21	49	<1	20	37
G9-200-500 200-500 28/05/		16.4	23	48	<1	28	35
G10-0-200 0-200 28/05/98		14.2	55	<20	<1	52	41
G11-0-200 0-200 28/05/98		11.6	55	<20	<1	54	33
G11-200- 200-500 28/05/		15.7	7	<20	<1	12	24
G12-0-200 0-200 28/05/98		7.7	10	<20	<1	20	27
G13-0-200 0-200 28/05/98		21.2	102	723	<1	143	141
G14-0-200 0-200 28/05/98		8.5	25	142	<1	44	47
G15-0-200 0-200 28/05/98		5.1	22	126	<1	24	87



No. 825

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COMMENTS:

Samples as received digested by USEPA method 3051 prior to the determination of metals. Hexavalent Chromium determined on a 1:5 soil/water extract. Trivalent chromium determined on the filtrate only between total chromium and hexavalent chromium. Results reported on a dry weight basis. Comment continued overleaf.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

Alice Springs Laboratory
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Charters Towers Laboratory
Phone: (077) 87 4155 Fax: (077) 87 4220

Cloncurry Laboratory
Phone: (077) 42 1323 Fax: (077) 42 1685
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New Zealand Laboratory
Phone: (07) 575 7654 Fax: (07) 575 7641
Orange Laboratory
Phone: (02) 6363 1722 Fax: (02) 6363 1189

Perth Laboratory
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14829
SUB BATCH: 0
No. OF SAMPLES: 22
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 C0C 14107 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
G1-200-500 200-500 28/05/ G1-1 1 28/05/98		19 69	38 36	<1 <1			
G2-200-500 200-500 28/05/ G2-1 1 28/05/98		36 28	39 36	<1 <1			
G3-200-500 200-500 28/05/ G3-1 1 28/05/98		27 36	34 36	<1 <1			
G4-0-200 0-200 28/05/98		45	17	<1			
G5-0-200 0-200 28/05/98		64	63	<1			
G6-0-200 0-200 28/05/98		24	36	<1			
G6-200-500 200-500 28/05/ G7-0-200 0-200 28/05/98		24 106	34 90	<1 <1			
G7-200-500 200-500 28/05/ G8-0-200 0-200 28/05/98		51 24	35 31	<1 <1			
G9-0-200 0-200 28/05/98		73	36	<1			
G9-200-500 200-500 28/05/ G10-0-200 0-200 28/05/98		94 75	35 91	<1 <1			
G11-0-200 0-200 28/05/98		59	93	<1			
G11-200- 200-500 28/05/ G12-0-200 0-200 28/05/98		21 86	35 22	<1 <1			
G13-0-200 0-200 28/05/98		268	148	<1			
G14-0-200 0-200 28/05/98		177	45	<1			
G15-0-200 0-200 28/05/98		68	36	<1			



No. 825

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COMMENTS:

The presence of coarse material may result in low precision for sample duplicate. This report supersedes any previous analysis for the same batch number.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14829
SUB BATCH: 0
No. OF SAMPLES: 22
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14107 **SAMPLE TYPE:** QUALITY CONTROL **PROJECT:** BORAL - COORDY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture %	As mg/kg EG-005T	B mg/kg EG-005T	Cd mg/kg EG-005T	Cu mg/kg EG-005T	Pb mg/kg EG-005T
		EA-055 0.1	EG-005T 1	EG-005T 20	EG-005T 1	EG-005T 1	EG-005T 1
*** BLANK 29/05/98		----	<1	<20	<1	<1	<1
*** G1-200-500 %SPK REC 2		----	101%	----	103%	101%	92.0
*** G6-200-500 CHK 28/05/		16.3	8	<20	<1	13	24
*** G7-0-200 %SPK REC 2		----	85.0%	----	102%	94.0%	95.0%
*** G13-0-200 CHK 28/05/		20.3	123	665	<1	181	----
*** G14-0-200 %SPK REC 2		----	101%	----	101%	96.0%	98.0%
*** G15-0-200 CHK 28/05/		4.4	31	105	<1	23	86



No. 625

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COMMENTS:

Results which appear on this report are routine laboratory checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLOOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14829
SUB BATCH: 0
No. OF SAMPLES: 22
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14107 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
*** BLANK 29/05/98		<1	-----	<1			
*** G1-200-500 %SPK REC 2		102%	-----	99.0%			
*** G6-200-500 CHK 28/05/		23	34	<1			
*** G7-0-200 %SPK REC 2		90.0%	-----	88.0%			
** G13-0-200 CHK 28/05/		344	149	<1			
** G14-0-200 %SPK REC 2		88.0%	-----	90.0%			
** G15-0-200 CHK 28/05/		65	34	<1			

COMMENTS:

CTPI 49-Sch4



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• Results apply to sample(s) as submitted by client.

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SRAEB14829



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14107

For future reference the batch number on this order is: EB14829

All samples and paper work were received in good order.

Samples have been received within recommended holding times.

Samples chilled when received.

Samples received in appropriately pretreated and preserved containers.

Please direct any turnaround/technical queries to CTPI 49-Sch4.

Any queries relating to sample condition/numbering/breakages should be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14107

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 3554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No:

B7570

Task No:

Project Manager:

CTPI 49-Sch4

Project Name:

Boral-Corroy

Samplers Name:

CTPI 49-Sch4

Project Location:

Corroy

Laboratory:

ALW

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCBs	PAH's	METALS (Specify)
①	G1-200-500	G1	200-500	28/5/98	Soil	Ice	1x2500	30						
②	G1-1	G1	1											
③	G2-200-500	G2	200-500											
④	G2-1	G2	1											
⑤	G3-200-500	G3	200-500											
⑥	G3-1	G3	1											
⑦	G4-0-200	G4	0-200											
⑧	G5-0-200	G5	11											
⑨	G6-0-200	G6	11											
⑩	G6-200-500	G6	200-500											
⑪	G7-0-200	G7	0-200											
⑫	G7-200-500	G7	200-500											
⑬	G8-0-200	G8	0-200											
⑭	G9-0-200	G9	11											
⑮	G9-200-500	G9	200-500											
⑯	G10-0-200	G10	0-200											
⑰	G11-0-200	G11	11											
⑱	G11-200-500	G11	200-500											
⑲	G12-0-200	G12	0-200											
⑳	G13-0-200	G13	11											
㉑	G14-0-200	G14	11											
㉒	G15-0-200	G15	11											

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

Relinquished by:

CTPI 49-Sch4

Date:

29/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

EB14829 S (C) 29/5

URGENT 3/6

ANALYTICAL REPORT

PAGE 1 of 12

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: LIA BRISBANE
 BATCH NUMBER: F814822
 SUB BATCH:
 No. OF SAMPLES: 20
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 07/06/98

ORDER No.: B7570 CQC 14106 SAMPLE TYPE: SOIL PROJECT: RURAL - COOKOO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
1	0-200 28/05/98	18.8	75	49	<1	116	59
H1	2 28/05/98	18.6	7	25	<1	14	13
H2	0 28/05/98	4.2	53	<20	<1	51	30
H3	0.2-0.5 28/05/	28.0	1360	333	<1	921	
4	0.2-0.5 28/05/	16.7	4	<20	<1	8	20
5	0-0.2 28/05/98	19.4	11	<20	<1	27	44
H6	0.2-0.5 28/05/	15.2	6	<20	<1	36	15
7	0.2-0.5 28/05/	16.7	50	24	<1	56	18
8	0.2-0.5 28/05/	18.8	66	25	<1	34	29
H9	0.2-0.5 28/05/	14.4	4	<20	<1	6	25
H10	0.2-0.5 29/05/	16.0	41	<20	<1	39	26
11	0.2-0.5 29/05/	16.5	5	<20	<1	10	24
H12	0-0.2 29/05/98	10.7	15	<20	2	30	184
H13	0-0.2 29/05/98	17.8	34	<20	<1	141	78
14	0-0.2 29/05/98	20.9	13	<20	<1	21	66
15	0-0.2 29/05/98	11.4	11	<20	<1	8	18
H16	0-0.2 29/05/98	11.7	5	<20	<1	8	30
17	0-0.2 29/05/98	15.0	22	<20	<1	19	25
18	0-0.2 29/05/98	16.4	23	<20	1	24	56
H19	0-0.2 29/05/98	18.1	112	49	1	133	30



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COMMENTS:

Samples as received digested by CCR-96. Analyzed for the presence of metals. Hexavalent Chromium determined on a 1:5 soil/water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reported on a dry wt basis. This report supersedes any previous preliminary report on the same batch.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

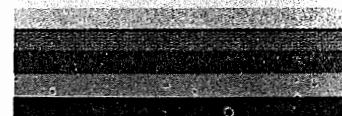
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ANALYTICAL REPORT

PAGE 2 of

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: ERI4820
 SUB BATCH: 1
 No. OF SAMPLES: 20
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14106 SAMPLE TYPE: SOIL PROJECT: BORAL - COOKU

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
H1	0-200 28/05/98	884	147	<1			
H1	2 28/05/98	49	25	<1			
H2	0 28/05/98	138	65	<1			
H3	0.2-0.5 28/05/	31	264	<1			
H4	0.2-0.5 28/05/	16	24	2			
H5	0-0.2 28/05/98	99	30	<1			
H6	0.2-0.5 28/05/	3	46	<1			
H7	0.2-0.5 28/05/	9	57	<1			
H8	0.2-0.5 28/05/	44	115	<1			
H9	0.2-0.5 28/05/	6	25	<1			
H10	0.2-0.5 29/05/	27	131	<1			
H11	0.2-0.5 29/05/	34	28	<1			
H12	0-0.2 29/05/98	707	28	<1			
H13	0-0.2 29/05/98	243	27	<1			
H14	0-0.2 29/05/98	96	30	<1			
H15	0-0.2 29/05/98	21	49	<1			
H16	0-0.2 29/05/98	27	45	<1			
H17	0-0.2 29/05/98	48	58	<1			
H18	0-0.2 29/05/98	93	32	<1			
H19	0-0.2 29/05/98	65	133	<1			

COMMENTS:

CTPI 49-Sch4



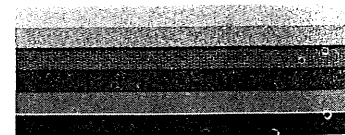
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 Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLOOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14822
SUB BATCH: 0
No. OF SAMPLES: 20
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 CQC 14106 SAMPLE TYPE: QUALITY CONTROL PROJECT: BURAL - COORO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cd mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Pb mg/kg EG-005T 1
*** BLANK 29/05/98		----	<1	<20	<1	<1	<1
*** H1 0-200 %SPK REC 2		---	96.0%	---	101%	95.0%	101%
*** H9 0.2-0.5 CHK 28/05/		14.4	6	<20	<1	6	20
*** H10 0.2-.5 %SPK REC 2		----	92.0%	----	97.0%	94.0%	92.0%
*** H19 0-0.2 CHK 29/05/		9.0	95	44	1	170	29



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COMMENTS:

Results which appear on this report are for information only, checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14822
 SUB BATCH: 0
 No. OF SAMPLES: 20
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No. B7570 COC 14106 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORU

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Zn mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1	Cr 6+ mg/kg EG-050 1			
*** BLANK 29/05/98		<1	----	<1			
*** H1 0-200 %SPK REC 2		----	----	<1			
*** H9 0.2-0.5 CHK 28/05/		3	21	<1			
*** H10 0.2-1.5 %SPK REC 2		100%	----	100%			
*** H19 0-0.2 CHK 29/05/		70	131	<1			

COMMENTS:



CTPI 49-Sch4

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A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14822
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 29/05/98
DATE COMPLETED: 09/06/98

ORDER No.: B7570 COC 14106 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	H1 2 28/05/98
--------	----------------------	-------	-----	---------------------

EA-055	Moisture Content (dried @ 103°C)	%	0.1	18.6
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	163
	C15 - C28 Fraction	mg/kg	100	1750
	C29 - C36 Fraction	mg/kg	100	1560
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	92
	Toluene-D8	%	1	92
	4-Bromofluorobenzene	%	1	95

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

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Page 401 of 509

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: E814822
 SUB BATCH: 1
 No. OF SAMPLES: 1
 DATE RECEIVED: 29/05/98
 DATE COMPLETED: 09/06/98

ORDER No.: B7570 CDC 14106 SAMPLE TYPE: SOIL PROJECT: BORAL - COORAL

Method Analysis description Units LOR H10
 0.2-0.5
 29/05/98

EA-055	Moisture Content (dried @ 103°C)	%	0.1	16.0
P-075B-SS	POLYNUCLEAR AROMATICS			
	Naphthalene	mg/kg	0.5	<0.5
	2-Methylnaphthalene	mg/kg	0.5	<0.5
	2-Chloronaphthalene	mg/kg	0.5	<0.5
	Acenaphthylene	mg/kg	0.5	<0.5
	Acenaphthene	mg/kg	0.5	<0.5
	Fluorene	mg/kg	0.5	<0.5
	Phenanthrene	mg/kg	0.5	<0.5
	Anthracene	mg/kg	0.5	<0.5
	Fluoranthene	mg/kg	0.5	<0.5
	Pyrene	mg/kg	0.5	<0.5
	N-2-Fluorenylacetamide	mg/kg	0.5	<0.5
	Benz(a)anthracene	mg/kg	0.5	<0.5
	Chrysene	mg/kg	0.5	<0.5
	Benzo(b) & (k)fluoranthene	mg/kg	1	<1
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<0.5
	Benzo(a)pyrene	mg/kg	0.5	<0.5
	3-Methylcholanthrene	mg/kg	0.5	<0.5
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	<0.5
	Dibenz(a,h)anthracene	mg/kg	0.5	<0.5
	Benzo(g,h,i)perylene	mg/kg	0.5	<0.5
P-075T-SS	BASE/NEUTRAL EXTRACTABLE SURROGATES			
	Nitrobenzene-D5	%	1	85
	1,2-Dichlorobenzene-D4	%	1	60
	2-Fluorobiphenyl	%	1	88
	Anthracene-d10	%	1	59
	p-Terphenyl-D14	%	1	74

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis.

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14822

DATE BATCH RECEIVED : 29/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 04/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2032	1/6/98	2/6/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1967	1/6/98	3/6/98
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOCS634	1/6/98	2/6/98

Published on DES Disclosure Log
RTI Act 2009

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2032

ANALYST: CTPI 49-Sch4

MATRIX: Soil

Volatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc	Spike Conc	SPIKE RESULTS				Control Limits		
				SCS	DCS	Av.	RPD	Recovery (%)		RPD
				Conc	Conc	Rec.				
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	34	33	107	3	89	109	20
C10	2.0	<LOR	5.9	6.2	5.9	101	5	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST CTPI 49-Sch4

QC LOT No.: TPHT1967

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	91	86	89	6	61	132	20
C15-C28	100	<LOR	350	339	326	95	4	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS634

MATRIX: Soil

ANALYST: CTPI 49-Sch4

COMPOUND	Blank Conc.	Spike Level	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-075A : PHENOLS									
Phenol	<LOR	1.25	0.97	1.01	79	4	73	112	35
2-Chlorophenol	<LOR	1.25	0.91	1.00	76	10	72	111	35
2-Methylphenol	<LOR	1.25	1.27	1.38	106	8	74	115	35
4-Methylphenol	<LOR	1.25	1.26	1.37	105	9	66	118	35
2-Nitrophenol	<LOR	1.25	0.74	0.79	61	6	27	111	35
2,4-Dimethylphenol	<LOR	1.25	1.21	1.28	99	5	37	145	35
2,4-Dichlorophenol	<LOR	1.25	0.62	0.66	51 *	6	58	114	35
2,6-Dichlorophenol	<LOR	1.25	0.60	0.65	50 *	8	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.18	1.19	95	1	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	0.92	0.93	74	1	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	0.88	0.92	72	4	68	116	35
Pentachlorophenol	<LOR	1.25	0.04	0.03	3	22	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.01	1.07	83	5	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.11	1.21	93	8	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.06	1.14	88	7	75	108	35
Acenaphthalene	<LOR	1.25	1.09	1.19	91	9	71	111	35
Acenaphthene	<LOR	1.25	1.00	1.07	83	6	69	116	35
Fluorene	<LOR	1.25	1.08	1.15	89	6	71	120	35
Phenanthrene	<LOR	1.25	1.08	1.07	86	1	77	115	35
Anthracene	<LOR	1.25	1.09	1.17	90	8	73	119	35
Fluoranthrene	<LOR	1.25	1.06	1.13	88	6	72	121	35
Pyrene	<LOR	1.25	1.09	1.16	90	6	71	125	35
N-2-Fluorenylacetimide	<LOR	1.25	1.07	1.19	90	10	37	141	35
Benz(a)anthracene	<LOR	1.25	1.09	1.12	88	2	64	128	35
Chrysene	<LOR	1.25	1.10	1.22	93	10	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	1.80	1.91	74	6	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	1.29	1.32	104	3	55	143	35
Benzo(a)pyrene	<LOR	1.25	0.86	0.93	72	7	56	109	35
3-Methylcholanthrene	<LOR	1.25	0.84	0.86	68	3	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.06	1.09	86	3	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.03	1.08	84	4	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.09	1.13	89	3	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTP1 49-Sch4
DATE: Jun. 01, 1998
FROM: CTP1 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14106

For future reference the batch number on this order is: EB14822

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTP1 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTP1 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14106

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222☐ Other:

Project No:

67570

Task No:

Project Manager:

CTPI 49-Sch4

Project Name:

Beral- Cooray

Samplers Name:

CTPI 49-Sch4

Project Location:

Cooray

Laboratory:

ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)	
①	H1-0-200	H1	0-200	28/5/98	Soil	Ice	1x250g	3d							-1 TPH
②	H1-2	H1	2							✓					-2 PAH
③	H2-0	H2	0												
④	H2-0-2.5	H3	0-2.5												
⑤	H4-0-2.5	H4	"												
⑥	H5-0-0.2	H5	0-0.2												
⑦	H6-0-2.5	H6	0-2.5												
⑧	H7-0-2.5	H7	"												
⑨	H8-0-2.5	H8	"												
⑩	H9-0-2.5	H9	"												
⑪	H10-0-2.5	H10	"	29/5/98											
⑫	H11-0-2.5	H11	"												
⑬	H12-0-0.2	H12	0-0.2												
⑭	H13-0-0.2	H13	"												
⑮	H14-0-0.2	H14	"												
⑯	H15-0-0.2	H15	"												
⑰	H16-0-0.2	H16	"												
⑱	H17-0-0.2	H17	"												
⑲	H18-0-0.2	H18	"												
⑳	H19-0-0.2	H19	"												
Special Instructions									Sample Receipt Advice: (Lab Use Only)						
Relinquished by: CTPI 49-Sch4									Date: 29/5/98						
Relinquished by:									Received by:						
Relinquished by:									Received by:						

CTPI 49-Sch4

Relinquished by:

Date:

29/5/98

Received by:

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

URGENT



ANALYTICAL REPORT

PAGE 1 of 4

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB10333
 SUB BATCH: 0
 No. OF SAMPLES: 31
 DATE RECEIVED: 29/06/98
 DATE COMPLETED: 08/07/98

ORDER No.: B7570 C0C14117 SAMPLE TYPE: SOIL PROJECT: BURAL COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-C55 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cr mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1
D5	200-500 25/05/	20.5	9	----	38	18	38
D5	500-1000 25/05	20.0	6	----	21	14	21
D5	200-500 27/05/	59.5	331	----	694	351	694
D5	500-1000 27/05	66.1	288	----	581	229	581
D5	200-500 27/05/	21.9	32	----	29	25	29
D6	500-1000 27/05	20.4	4	----	25	17	25
D7	200-500 27/05/	25.6	168	----	261	169	261
D7	200-500 27/05/	20.8	21	----	44	28	44
D7	500-1000 27/05	19.9	4	----	26	17	26
E3	200-500 27/05/	15.3	8	----	34	19	34
F	200-500 27/05/	18.5	3	----	25	15	25
F	200-500 27/05/	20.6	25	----	63	30	63
F3	200-500 27/05/	19.5	26	----	54	29	54
F4	200-500 27/05/	17.7	5	----	21	13	21
F	200-500 27/05/	20.6	4	----	22	26	22
F6	200-500 27/05/	18.8	6	----	22	57	22
F7	200-500 27/05/	19.2	<1	----	23	12	23
F	200-500 27/05/	18.2	4	----	23	15	23
F	200-500 27/05/	15.0	<1	----	21	10	21
F10	200-500 27/05/	14.6	<1	----	18	10	18
F	500-1000 28/05	19.0	7	----	24	22	24
F	500-1000 28/05	16.6	5	----	22	14	22
F7	500-1000 28/05	19.5	6	----	23	16	23
F9	500-1000 28/05	17.2	4	----	23	12	23
F	500-1000 28/05	14.9	3	----	21	12	21
F10	500-1000 28/05	14.8	3	----	19	12	19
G4	200-500 28/05/	26.4	----	41	----	----	----
G	200-500 28/05/	16.1	----	<20	----	----	----
G	200-500 28/05/	15.2	----	<20	----	----	----
H3	500-1000 28/05	17.8	32	----	153	5	153

COMMENTS:

Samples as received digested by USEPA method 3051 prior to the determination of metals. Results reported on a dry weight basis. Cr+6 determined as the difference between total chromium and hexavalent chromium. Cr+6 determined on a 1:5 soil/water extract. LORs for samples D5 200-500 & D5 500-1000 raised due to high moisture conc

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sam

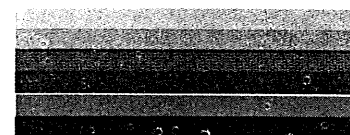
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All pages of this report have been checked and approved for release.



ANALYTICAL REPORT

PAGE 2 of 4

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FOR TITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB15333
 SUB BATCH: 0
 No. OF SAMPLES: 31
 DATE RECEIVED: 29/06/98
 DATE COMPLETED: 08/07/98

ORDER No.: B7570 C0C14117 SAMPLE TYPE: SOIL PROJECT: BORAL COOROY

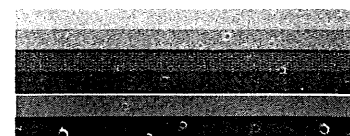
SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	B mg/kg EG-005T 20	Cr mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Cr 3+ mg/kg EG-049 1
200-500 28/05/		16.8	5	----	35	16	35

COMMENTS:

CTPI 49-Sch4

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ANALYTICAL REPORT

PAGE 4 of 4

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: FB15333
 SUB BATCH: 0
 No. OF SAMPLES: 31
 DATE RECEIVED: 29/06/98
 DATE COMPLETED: 08/07/98

ORDER No.: B7570 CDC14117 SAMPLE TYPE: SOIL PROJECT: RORAL COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cr 6+ mg/kg EG-050 0.1					
200-500 28/05/		<0.1					

COMMENTS:

CTPI 49-Sch4

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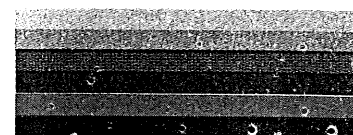
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 • Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: 5815333
 SUB BATCH: 0
 No. OF SAMPLES: 31
 DATE RECEIVED: 22/06/98
 DATE COMPLETED: 08/07/98

ORDER No: B7570 C0014117 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL COORUY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Moisture % EA-055 0.1	As mg/kg EG-005T 1	S mg/kg EG-005T 20	Cr mg/kg EG-005T 1	Cu mg/kg EG-005T 1	Fe 54 mg/kg EG-049 1
*** BLANK 29/05/98		----	<1	<20	<1	<1	<1
* C9 200- %SPK REC 2		----	93.0%	----	92.0%	97.0%	----
** D9 500- CHK 25/05/		19.9	3	<20	22	14	22
** E3 200- %SPK REC 2		----	101%	----	93.0%	97.0%	----
** F9 200- CHK 27/05/		15.1	4	<20	20	9	20
* F10 200- %SPK REC 2		----	107%	----	91.0%	102%	----
* G15 200- CHK 28/05/		15.1	----	<20	----	----	----
* H3 500- %SPK REC 2		----	94.0%	----	89.0%	98.0%	----



No. 825
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 accordance with its scope of registration. This
 statement is subject to the published contract conditions.

COMMENTS:

Results which appear on this report are routine laboratory
 checks for QUALITY CONTROL purposes

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

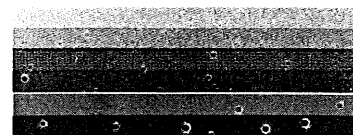
• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

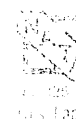
LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15333
SUB BATCH: 0
No. OF SAMPLES: 31
DATE RECEIVED: 29/06/98
DATE COMPLETED: 08/07/98

ORDER No.: B7570 CQC14117 **SAMPLE TYPE:** QUALITY CONTROL **PROJECT:** BURAL COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.P.	Cr 6+ mg/kg EG-050 0.1					
*** BLANK 29/05/98		<0.1					
*** C9 200- %SPK REC 2		110%					
*** D9 500- CHK 25/05/		<0.1					
*** E3 200- %SPK REC 2		106%					
*** F9 200- CHK 27/05/		<0.1					
*** F10 200- %SPK REC 2		114%					
* < G15 200- CHK 28/05/		----					
* < H3 500- %SPK REC 2		110%					

COMMENTS:

CTPI 49-Sch4



Association of Professional Laboratories Australia. The
 Method used and results have been performed in
 accordance with the relevant legislation. This
 document is not to be used for any other purpose.

• This is the Final Report which supersedes any preliminary reports with this batch number.
 • Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: E815333
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 29/06/98
DATE COMPLETED: 08/07/98

ORDER No.: B7570 COC14117 SAMPLE TYPE: SOIL PROJECT: BORAL COOROY

Method Analysis description Units LOR 0-200
25/05/98

E 055	Moisture Content (dried @ 103°C)	%	0.1	15.1
E 075B-SS	POLYNUCLEAR AROMATICS			
	Naphthalene	mg/kg	0.5	<1.0
	2-Methylnaphthalene	mg/kg	0.5	<1.0
	2-Chloronaphthalene	mg/kg	0.5	<1.0
	Acenaphthylene	mg/kg	0.5	0.7
	Acenaphthene	mg/kg	0.5	<1.0
	Fluorene	mg/kg	0.5	<1.0
	Phenanthrene	mg/kg	0.5	3.1
	Anthracene	mg/kg	0.5	1.2
	Fluoranthene	mg/kg	0.5	10.1
	Pyrene	mg/kg	0.5	10.8
	N-2-Fluorenylacetamide	mg/kg	0.5	<1.0
	Benz(a)anthracene	mg/kg	0.5	5.5
	Chrysene	mg/kg	0.5	4.7
	Benzo(b) & (k)fluoranthene	mg/kg	1	8
	7,12-Dimethylbenz(a)anthracene	mg/kg	0.5	<1.0
	Benzo(a)pyrene	mg/kg	0.5	5.6
	3-Methylcholanthrene	mg/kg	0.5	<1.0
	Indeno(1,2,3-cd)pyrene	mg/kg	0.5	3.7
	Dibenz(a,h)anthracene	mg/kg	0.5	1.5
	Benzo(g,h,i)perylene	mg/kg	0.5	4.9
EP-075T-SS	BASE/NEUTRAL EXTRACTABLE SURROGATES			
	Nitrobenzene-D5	%	1	74
	1,2-Dichlorobenzene-D4	%	1	75
	2-Fluorobiphenyl	%	1	84
	Anthracene-d10	%	1	81
	p-Terphenyl-D14	%	1	95

CTPI 49-Sch4

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis. Particular samples required dilution prior to analysis due to matrix interferences. LOR values have been adjusted accordingly.

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• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB15333

DATE BATCH RECEIVED : 30/06/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 03/07/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-075	Semivolatile Scan	Soil	Tumbler	USEPA 8270B	SVOC643	30/6/98	1/7/98

Published on DES Disclosure Log
RTI Act 2009

R

BATCH QUALITY CONTROL

ALS EP-075 : SEMIVOLATILE SCAN

QC LOT No. : SVOCS643

ANALYST: CTPI 49-Sch4

MATRIX: Soil

COMPOUND	Blank Conc.	Spike Level	QC SPIKE RESULTS				Control Limits		
			SCS Conc	DCS Conc	Average Rec.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
EP-075A : PHENOLS									
Phenol	<LOR	1.25	1.14	1.24	95	9	73	112	35
2-Chlorophenol	<LOR	1.25	1.17	1.25	97	7	72	111	35
2-Methylphenol	<LOR	1.25	1.52	1.64	127 *	8	74	115	35
4-Methylphenol	<LOR	1.25	1.28	1.44	109	12	66	118	35
2-Nitrophenol	<LOR	1.25	0.89	1.02	76	13	27	111	35
2,4-Dimethylphenol	<LOR	1.25	1.21	1.27	99	5	37	145	35
2,4-Dichlorophenol	<LOR	1.25	1.01	1.09	84	8	58	114	35
2,6-Dichlorophenol	<LOR	1.25	1.03	1.10	85	7	70	115	35
4-Chloro-3-methylphenol	<LOR	1.25	1.19	1.21	96	2	71	114	35
2,4,6-Trichlorophenol	<LOR	1.25	1.07	1.05	85	2	64	113	35
2,4,5-Trichlorophenol	<LOR	1.25	0.98	0.95	77	3	68	116	35
Pentachlorophenol	<LOR	1.25	0.08	0.07	6	14	0	125	35
EP-075B : POLYAROMATIC HYDROCARBONS									
Naphthalene	<LOR	1.25	1.13	1.22	94	7	72	112	35
2-Methylnaphthalene	<LOR	1.25	1.14	1.21	94	6	28	166	35
2-Chloronaphthalene	<LOR	1.25	1.10	1.18	91	7	75	108	35
Acenaphthalene	<LOR	1.25	1.02	1.08	84	5	71	111	35
Acenaphthene	<LOR	1.25	1.14	1.19	93	5	69	116	35
Fluorene	<LOR	1.25	1.14	1.20	94	5	71	120	35
Phenanthrene	<LOR	1.25	1.18	1.22	96	4	77	115	35
Anthracene	<LOR	1.25	1.16	1.20	94	3	73	119	35
Fluoranthrene	<LOR	1.25	1.15	1.20	94	4	72	121	35
Pyrene	<LOR	1.25	1.13	1.18	92	4	71	125	35
N-2-Fluorenylacetamide	<LOR	1.25	1.06	1.18	90	10	37	141	35
Benz(a)anthracene	<LOR	1.25	1.03	1.14	87	10	64	128	35
Chrysene	<LOR	1.25	1.12	1.08	88	4	60	138	35
Benzo(b) & (k) fluoranthene	<LOR	2.50	2.29	2.31	92	1	51	117	35
7,12-Dimethyl benz(a)anthracene	<LOR	1.25	2.44	2.43	195 *	0	55	143	35
Benzo(a)pyrene	<LOR	1.25	1.16	1.16	93	0	56	109	35
3-Methylcholanthrene	<LOR	1.25	0.81	0.86	67	6	54	123	35
Indeno(1,2,3-cd)pyrene	<LOR	1.25	1.13	1.19	92	5	70	119	35
Dibenz(a,h)anthracene	<LOR	1.25	1.16	1.19	94	2	65	120	35
Benzo(g,h,i)perylene	<LOR	1.25	1.16	1.24	96	7	67	121	35

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) *: Recovery or RPD falls outside the recommended limits.

SRAEB15333



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 30, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC14117

For future reference the batch number on this order is: EB15333

All samples and paper work were received in good order.
Breaches in recommended extraction/analysis holding times may occur.
See comments section for details.
Samples chilled when received.
Please direct any turnaround/technical queries to CTPI 49-Sch4.
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jul. 14, 1998

Comments: C6 500-1000 has not been received. Soil samples for PAH analysis ideally should be extracted within 14 days.

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Melbourne
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Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14120

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: **B7570**Task No: **6**

Project Manager:

CTPI 49-Sch4

Project Name: **Boral Cooroy**

Samplers Name:

CTPI 49-Sch4

Project Location: **Cooroy**Laboratory: **ALS****Analysis Request**

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)	Other
(28)	G4 200-500			28.5.98	Soil	Ice									✓
(29)	G14 200-500			↓	↓	↓									✓
(30)	G13 300-500			↓	↓	↓									✓
(31)	H3 500-1000			↓	↓	↓									✓
(32)	H19 200-500			↓	↓	↓									✓

Special Instructions:**Sample Receipt Advice:** (Lab Use Only)**EB 15333**

Relinquished by:

CTPI 49-Sch4

Date: **29.6.98**

Received by:

CTPI 49-Sch4

ALS 29/06

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

File A

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14117

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

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Project No: 87570

Task No: 6

Project Manager:

CTPI 49-Sch4

Project Name:

Boral Cooroy

Samplers Name:

CTPI 49-Sch4

Project Location:

Cooroy

Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
	C6 0-200 ①			25.5.98	Soil	Ice							✓	✓
	C6 500-1000 - (NR)			25.5.98									✓	
	C9 200-500 ②			25.5.98										
	C9 500-1000 ③			25.5.98										
	D5 200-500 ④			27.5.98										
	D5 500-1000 ⑤			27.5.98										
	D6 200-500 ⑥			27.5.98										
	D6 500-1000 ⑦			27.5.98										
	D7 200-500 ⑧			27.5.98										
	D9 200-500 ⑨			27.5.98										
	D9 500-1000 ⑩			27.5.98										
	E1 500-1000													
	E3 500-1000													
	E3 500-1000 ⑪			27.5.98										
	⑫-⑮ E5 200-500 ⑫			27.5.98										
	⑮-⑰ E5 200-500 ⑬			27.5.98										
	⑰-⑲ E5 200-500 ⑭			27.5.98										
	⑲-⑳ E5 200-500 ⑮			27.5.98										
	⑳-㉑ E5 200-500 ⑯			27.5.98										
	㉑-㉒ E5 200-500 ⑰			27.5.98										
	㉒-㉓ E5 200-500 ⑱			27.5.98										
	㉓-㉔ E5 200-500 ⑲			27.5.98										
	㉔-㉕ E5 200-500 ⑳			27.5.98										
	㉕-㉖ E5 200-500 ㉑			27.5.98										
	㉖-㉗ E5 200-500 ㉒			27.5.98										
	㉗-㉘ E5 200-500 ㉓			27.5.98										
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	㉙-㉚ E5 200-500 ㉕			27.5.98										
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	㊾-㊿ E5 200-500 ㊺			27.5.98										

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

6815333 S C 29/6 094

Relinquished by:

CTPI 49-Sch4

Date:

29.6.98

Received by:

CTPI 49-Sch4

ALS 29/6

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

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ANALYTICAL REPORT

PAGE 1 of 3

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: E814825
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 C00 14102 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	MW1 5 26/05/98	MW2 3 26/05/98	MW3 2 26/05/98	MW4 0.2-0.5 26/05/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	11.2	19.6	19.0	17.2
EG-005T	Arsenic - Total	mg/kg	1	7	5	4	7
	Boron - Total	mg/kg	20	<20	<20	<20	<20
	Cadmium - Total	mg/kg	1	1	1	1	1
	Copper - Total	mg/kg	1	49	15	13	11
	Lead - Total	mg/kg	1	13	27	27	25
	Zinc - Total	mg/kg	1	44	35	28	22
EG-049	Trivalent Chromium	mg/kg	1	19	25	28	25
EG-050	Hexavalent Chromium	mg/kg	1	<1	<1	<1	<1

COMMENTS:

Samples as received digested by USEPA method 3051 prior to the determination of metals. Results reported on a dry weight basis. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Hexavalent Chromium determined on a 1:5 soil/water extract.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample, as submitted by client.

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CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLOOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2620
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14825
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 DOC 14102 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	MW5 4.5 27/05/98	MW6 0.2-0.5 27/05/98	MW6 6 27/05/98	MW3 2dup 26/05/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	16.1	26.3	17.0	18.6
G-005T	Arsenic - Total	mg/kg	1	2	19	18	7
	Boron - Total	mg/kg	20	<20	<20	<20	<20
	Cadmium - Total	mg/kg	1	1	<1	1	<1
	Copper - Total	mg/kg	1	13	13	22	12
	Lead - Total	mg/kg	1	10	45	30	26
	Zinc - Total	mg/kg	1	2	39	69	25
G-049	Trivalent Chromium	mg/kg	1	11	35	87	25
G-050	Hexavalent Chromium	mg/kg	1	<1	<1	<1	<1

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results

client.

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ANALYTICAL REPORT

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CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLOOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2520
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: FB14825
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 CDD 14102 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	MW3 0.2-0.5 26/05/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	22.0
G-005T	Arsenic - Total	mg/kg	1	51
	Boron - Total	mg/kg	20	26
	Cadmium - Total	mg/kg	1	1
	Copper - Total	mg/kg	1	62
	Lead - Total	mg/kg	1	57
	Zinc - Total	mg/kg	1	1770
G-049	Trivalent Chromium	mg/kg	1	99
G-050	Hexavalent Chromium	mg/kg	1	<1

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results a nt.

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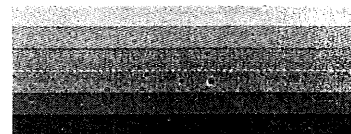
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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GT1 (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14825
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 CDF 14102 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	BLANK 29/05/98	MW1-5 %SPK REC 26/05/98	MW3-0.2-.5 CHK 26/05/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	23.8
G-005T	Arsenic - Total	mg/kg	1	<1	105 %	52
	Boron - Total	mg/kg	20	<20	----	26
	Cadmium - Total	mg/kg	1	<1	116 %	<1
	Copper - Total	mg/kg	1	<1	95.0 %	64
	Lead - Total	mg/kg	1	<1	102 %	56
	Zinc - Total	mg/kg	1	<1	99.0 %	1630
G-049	Trivalent Chromium	mg/kg	1	----	----	99
G-050	Hexavalent Chromium	mg/kg	1	<1	94.0 %	<1

COMMENTS:

Results which appear on this report are for laboratory
QUALITY CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: INV BRISBANE
BATCH NUMBER: E814825
SUB BATCH: 1
No. OF SAMPLES: 1
DATE RECEIVED: 29/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 C0C 14102 SAMPLE TYPE: SOIL PROJECT: BORAL - COOROY

Method	Analysis description	Units	LOR	MW6 6 27/05/98
--------	----------------------	-------	-----	----------------------

A-055	Moisture Content (dried @ 103°C)	%	0.1	17.0
P-071-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	<100
	C29 - C36 Fraction	mg/kg	100	<100
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	86
	Toluene-D8	%	1	81
	4-Bromofluorobenzene	%	1	93

COMMENTS:

Samples analysed on an as received basis. Results reported on a dry weight basis.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14825

DATE BATCH RECEIVED : 29/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 04/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analyzed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2033	1/6/98	2/6/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT1968	1/6/98	2/6/98

Published on DES Disclosure Log
RTI Act 2009

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2033

MATRIX: Soil

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc	Spike Conc	SPIKE RESULTS				Control Limits		
				SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery (%)		RPD
				mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	31	35	34	110 *	3	89	109	20
C10	2.0	<LOR	5.9	6.8	6.1	108	11	78	121	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST CTPI 49-Sch4

QC LOT No.: TPHT1968

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C11-C14	50	<LOR	100	111	106	108	5	61	132	20
C15-C28	100	<LOR	350	409	388	114	5	62	132	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4, ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14102

For future reference the batch number on this order is: EB14825

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 03, 1998

A L S - SERVICING YOUR NEEDS BETTER

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APPENDIX G
LABORATORY ANALYTICAL REPORTS -
SEDIMENT

Published on DES Disclosure Log
RTI Act 2009

Our Ref: B7570R01

9 October 1998



ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14786
SUB BATCH: 0
No. OF SAMPLES: 8
DATE RECEIVED: 27/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570

SAMPLE TYPE: SOIL

PROJECT: BORAL-COOROO

Method	Analysis description	Units	LOR	CKS1	CKS2	CKS3	CKS4
				26/05/98	26/05/98	26/05/98	26/05/98
E 055	Moisture Content (dried @ 103°C)	%	0.1	51.8	67.9	31.8	60.6
E 005f	Arsenic - Total	mg/kg	1	11	16	11	6
	Boron - Total	mg/kg	20	<40	<40	<20	<40
	Cadmium - Total	mg/kg	1	<2	<2	<1	<2
	Copper - Total	mg/kg	1	23	39	26	18
	Lead - Total	mg/kg	1	51	76	121	25
	Zinc - Total	mg/kg	1	116	237	242	114
E 049	Trivalent Chromium	mg/kg	1	22	73	28	18
E 050	Hexavalent Chromium	mg/kg	1	<2	<2	<1	<2

Published on DES Disclosure Log
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CTPI 49-Sch4

COMMENTS.

Samples as received digested by USEPA 3051 prior to the detection of metals. Hexavalent Chromium determined on a 1:1 soil water extract. Trivalent chromium determined as the difference between total chromium and hexavalent chromium. Results reported on a dry weight basis. LOR's for particular samples raised due to high moisture content.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

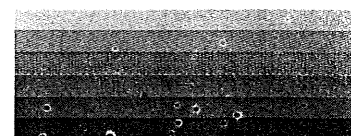
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ANALYTICAL REPORT

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CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14786
SUB BATCH: 0
No. OF SAMPLES: 8
DATE RECEIVED: 27/05/98
DATE COMPLETED: 04/06/98

ORDER No.: B7570 **SAMPLE TYPE:** SOIL **PROJECT:** BORAL-COORO

Method	Analysis description	Units	LOR	CKS5	CKS6	CKS7	CKS3DUP
				26/05/98	26/05/98	26/05/98	26/05/98
055	Moisture Content (dried @ 103°C)	%	0.1	20.8	58.4	48.0	25.7
005T	Arsenic - Total	mg/kg	1	8	42	45	13
	Boron - Total	mg/kg	20	<20	<40	<20	<20
	Cadmium - Total	mg/kg	1	<1	<2	<1	<1
	Copper - Total	mg/kg	1	7	36	55	20
	Lead - Total	mg/kg	1	5	69	40	99
	Zinc - Total	mg/kg	1	20	141	98	186
049	Trivalent Chromium	mg/kg	1	13	38	73	16
050	Hexavalent Chromium	mg/kg	1	<1	<2	<1	<1

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB14786
SUB BATCH: 0
No. OF SAMPLES: 8
DATE RECEIVED: 27/05/98
DATE COMPLETED: 04/06/98

ORDER No: B7570

SAMPLE TYPE: QUALITY CONTROL

PROJECT: BORAL-COSRO

Method	Analysis description	Units	LOR	BLANK	CKS1 %SPK REC	CKS3DUP CHK
				27/05/98	26/05/98	26/05/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	----	----	25.5
G-005T	Arsenic - Total	mg/kg	1	<1	101 %	12
	Boron - Total	mg/kg	20	<20	----	<20
	Cadmium - Total	mg/kg	1	<1	106 %	<1
	Copper - Total	mg/kg	1	<1	107 %	20
	Lead - Total	mg/kg	1	<1	107 %	98
	Zinc - Total	mg/kg	1	<1	102 %	187
G-049	Trivalent Chromium	mg/kg	1	----	----	21
G-050	Hexavalent Chromium	mg/kg	1	<1	94.0 %	<1

COMMENTS:

Results which appear on this report are for laboratory
QUALITY CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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SRAEB14786



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

66C 14c98

For future reference the batch number on this order is: EB14786

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

CTPI 49

14098

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☐ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No:

67570

Task No:

Project Manager:

CTPI 49-Sch4

Project Name:

Boral - Cooroy

Samplers Name:

CTPI 49-Sch4

Project Location:

Cooroy

Laboratory:

ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
	CHS1 ①	CH1		26/5/98	Sediment	Ice	1x250G	3d						✓
	CHS2 ②	CH2												
	CHS3 ③	CH3												
	CHS4 ④	CH4												
	CHS5 ⑤	CH5												
	CHS6 ⑥	CH6												
	CHS7 ⑦	CH7												
	CHS5dup ⑧	CH3												

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

EB14786 S © 27/5.

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

URGENT 2/6

APPENDIX H
LABORATORY ANALYTICAL REPORTS -
SURFACE WATER

Our Ref: B7570R01

9 October 1998

R



ANALYTICAL REPORT

PAGE 1 of 3

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTJ (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: AMENDED ENVIRO
BATCH NUMBER: AME14779
SUB BATCH: 0
No. OF SAMPLES: 11
DATE RECEIVED: 27/05/98
DATE COMPLETED: 05/06/98

ORDER No.: B7570 **COC** 14100 **SAMPLE TYPE:** WATER **PROJECT:** BORAL-COORUF

Method	Analysis description	Units	LOR	CK1W 27/05/98	CK2W 27/05/98	CK4W 27/05/98	CK5W 27/05/98
EG-005T	Boron - Total	mg/L	0.2	<0.2	<0.2	<0.2	<0.2
EG-020T	Arsenic - Total	mg/L	0.001	0.002	<0.001	0.001	<0.001
	Cadmium - Total	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
	Copper - Total	mg/L	0.001	0.001	<0.001	<0.001	<0.001
	Lead - Total	mg/L	0.001	0.002	<0.001	<0.001	<0.001
	Zinc - Total	mg/L	0.001	0.012	0.002	0.003	0.003
EG-049	Trivalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

COMMENTS:

Samples digested by USEPA method 3001 prior to the determination of total metals. This batch supersedes E814779.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

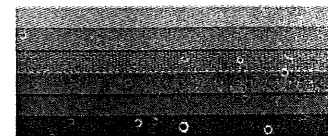
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 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: AMENDED ENVIRO
BATCH NUMBER: AME14779
 SUB BATCH: 0
 No. OF SAMPLES: 11
 DATE RECEIVED: 27/05/98
 DATE COMPLETED: 05/06/98

ORDER No.: B7570 CDC 14100 SAMPLE TYPE: WATER PROJECT: BORAL-COOROY

Method	Analysis description	Units	LOR	CK6W	CK7W	CKU/SW	CKD/SW
				27/05/98	27/05/98	27/05/98	27/05/98
EG-005T	Boron - Total	mg/L	0.2	<0.2	<0.2	<0.2	<0.2
EG-020T	Arsenic - Total	mg/L	0.001	0.002	0.009	0.001	0.001
	Cadmium - Total	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
	Copper - Total	mg/L	0.001	<0.001	0.005	<0.001	<0.001
	Lead - Total	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
	Zinc - Total	mg/L	0.001	0.002	0.002	0.002	0.002
EG-049	Trivalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.
 • Results apply to sample(s) as submitted by client

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ANALYTICAL REPORT

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CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: AMENDED ENVIRO
BATCH NUMBER: AME14779
SUB BATCH: 0
No. OF SAMPLES: 11
DATE RECEIVED: 27/05/98
DATE COMPLETED: 05/06/98

ORDER No.: B7570 COC 14100 SAMPLE TYPE: WATER PROJECT: BORAL-COOROY

Method	Analysis description	Units	LOR	CK5DUPW 27/05/98	FIELD BLANK 27/05/98	CK3W 27/05/98
EG-005	Boron - Total	mg/L	0.2	<0.2	<0.2	<0.2
EG-020	Arsenic - Total	mg/L	0.001	<0.001	<0.001	<0.001
	Cadmium - Total	mg/L	0.001	<0.001	<0.001	<0.001
	Copper - Total	mg/L	0.001	<0.001	<0.001	0.003
	Lead - Total	mg/L	0.001	<0.001	<0.001	0.004
	Zinc - Total	mg/L	0.001	0.005	0.004	0.034
EG-049	Trivalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

Brisbane
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Sydney
Phone: (02) 9841 9500 Fax: (02) 9841 9530
Melbourne
Phone: (03) 9853 5299 Fax: (03) 9853 0730
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File A

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: AMENDED ENVIRO
BATCH NUMBER: AME14779
SUB BATCH: 0
No. OF SAMPLES: 11
DATE RECEIVED: 27/05/98
DATE COMPLETED: 05/06/98

ORDER No.: B7570 **LOC** 14100 **SAMPLE TYPE:** QUALITY CONTROL **PROJECT:** BORAL-COOROY

Method	Analysis description	Units	LOR	METHOD BLANK 27/05/98	BLANK CHK 27/05/98	CK3W %SPK REC 27/05/98
EG-005T	Boron - Total	mg/L	0.2	<0.2	<0.2	----
EG-020T	Arsenic - Total	mg/L	0.001	<0.001	<0.001	116 %
	Cadmium - Total	mg/L	0.001	<0.001	<0.001	118 %
	Copper - Total	mg/L	0.001	<0.001	<0.001	118 %
	Lead - Total	mg/L	0.001	<0.001	<0.001	----
	Zinc - Total	mg/L	0.001	<0.001	0.001	123 %
EG-049	Trivalent Chromium	mg/L	0.01	<0.01	----	----
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	102 %

COMMENTS:

Results which appear on this report are for laboratory
QUALITY CONTROL purposes.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

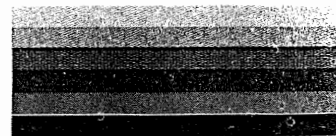
20-296 **Brisbane**
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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15041
SUB BATCH: C
No. OF SAMPLES: 11
DATE RECEIVED: 11/06/98
DATE COMPLETED: 16/06/98

ORDER No.: E750 CDC 14103 SAMPLE TYPE: WATER

PROJECT: BCRAL-COOROY

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cd mg/L EG-020F 0.0002				
FIELD	CK1W	<0.0002				
	CK2W	<0.0002				
	CK4W	<0.0002				
	CK5W	<0.0002				
	CK6W	<0.0002				
	CK7W	<0.0002				
	CKU/SW	<0.0002				
	CKD/SW	<0.0002				
	CK5DUPW	<0.0002				
	BLANK	<0.0002				
	CK3W	<0.0002				

COMMENTS:



No 825

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Orange Laboratory
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Perth Laboratory
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Townsville Laboratory
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File A

All pages of this report
have been checked and
approved for release.

Page 442 of 509



ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTP1 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: ED15041
 SUB BATCH: 1
 No. OF SAMPLES: 11
 DATE RECEIVED: 11/06/98
 DATE COMPLETED: 16/06/98

ORDER No: B750 COC 14108 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL-COORO

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Cd mg/L EG-020F 0.0002					
*** BLANK		<0.0002					
*** CK1W %SPK REC		118%					
*** FIELD BLNK CHK		<0.0002					

COMMENTS:

Results which appear on this report are routine and are checks for QUALITY CONTROL purposes.



CTP1 49-Sch4

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Cloncurry Laboratory
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 Kalgoorlie Laboratory
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 New Zealand Laboratory
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 Orange Laboratory
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Perth Laboratory
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 Townsville Laboratory
 Phone: (077) 79 9155 Fax: (077) 79 9729

SRAEB14779



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: May. 28, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14100

For future reference the batch number on this order is: EB14779 & EB1504

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results May. 28, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
Phone (07) 3243 7222
Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14100

Fluor Daniel GTI (Australia) Pty Ltd

ACH 003 931 057

17 Forrester Street, Kingsgrove NSW 2203 Australia

Tel: (02) 9502 4844 Fax: (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414
☐ Sydney Tel (02) 9502 4644 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: B7570 Task No: Project Manager:

CTPI 49-Sch4

Project Name: Boral - Cooray Samplers Name:

CTPI 49-Sch4

Project Location: Cooray Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
①	CK1W	CK1		27/5/98	Water	Ice, Acid	2x250P	1d						
②	CK2W	CK2												
③	CK4W	CK4												
④	CK5W	CK5												
⑤	CK6W	CK6												
⑥	CK7W	CK7												
⑦	CK4d/SW	CK4d												
⑧	CK4d/SW	CK4d												
⑨	CK5d/SW	CK5												
⑩	Blanks													
⑪	CK3W	CK3												

Special Instructions: * Collected 0700 - 0900 27/5/98, 1 bottle for metals except Cr⁶⁺
 ** Please have results by 1200 28/5/98 if possible 1 bottle for Cr⁶⁺

Sample Receipt Advice: (Lab Use Only)

ES14779 W © 27/5

Relinquished by:

CTPI 49-Sch4

Date:

27/5/98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

URGENT 28/5 pm.

PAGE 1 of 1

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15380
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 02/07/98
DATE COMPLETED: 09/07/98

PROJECT: BORAL COOROY

No 825

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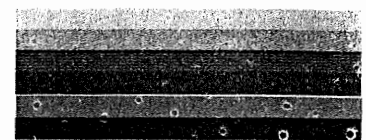
Results reported as substances reducing folin phenol reagent in g phenol/litre.

CTPI 49-Sch4

- Results apply to sample(s) as submitted by client.

File A

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED
DATE 08-01-2010 BY 60322 UCBAW



ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
 CLIENT: FLUOR DANIEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB15380
 SUB BATCH: 0
 No. OF SAMPLES: 9
 DATE RECEIVED: 02/07/98
 DATE COMPLETED: 09/07/98

ORDER No.: B7570 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL COORD

SAMPLE NUMBER	ELEMENT UNIT METHOD L.O.R.	Tannins mg/L ALS 2					
*** CK1	%SPK REC 0	108%					
*** CKD/S	CHK 01/07/	<2					

Published on DES Disclosure Log
RTI Act 2009



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 tests reported herein have been performed in
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COMMENTS:

Results which appear on this report are routine laboratory
 checks for QUALITY CONTROL purposes.

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.
 • Fees apply to samples as submitted by client.

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File A

SRAEB15380



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jul. 02, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

For future reference the batch number on this order is: EB15380

All samples and paper work were received in good order.

Samples have been received within recommended holding times.

Samples chilled when received.

Please direct any turnaround/technical queries to CTPI 49-Sch4

Any queries relating to sample condition/numbering/breakages should be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results

Jul. 09, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14126

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

- ☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438
☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712
☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349

- ☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 4414
☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105
☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222
☐ Other:

Project No: B7576

Task No:

Project Manager:

CTPI 49-Sch4

Project Name: Boral Cooroy

Samplers Name:

CTPI 49-Sch4

Project Location: Cooroy

Laboratory: ALS

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)	Tannins & Lignins				
	CK1 ①	CK1		1.7.98	water	ice	1500 amber								✓				
	CK2 ②	CK2		↓	↓	↓	↓								✓				
	CK3 ③	CK3		↓	↓	↓	↓								✓				
	CK4 ④	CK4		↓	↓	↓	↓								✓				
	CK5 ⑤	CK5		↓	↓	↓	↓								✓				
	CK6 ⑥	CK6		↓	↓	↓	↓								✓				
	CK7 ⑦	CK7		↓	↓	↓	↓								✓				
	CK U/S ⑧	CK U/S		↓	↓	↓	↓								✓				
	CK D/S ⑨	CK D/S		↓	↓	↓	↓								✓				

Special Instructions: Unfiltered & Unpreserved. Please extract properly.

Sample Receipt Advice: (Lab Use Only)

B15380 W © 2/7

Relinquished by: CTPI 49-Sch4

Date: 2.7.98

Received by:

CTPI 49-Sch4

Relinquished by:

Date:

Received by:

Relinquished by:

Date:

Received by:

URGENT 9/7

Page 449 of 509

APPENDIX I
LABORATORY ANALYTICAL REPORTS -
GROUNDWATER

Published on DES Disclosure Log
RTI Act 2009

Our Ref: B7570R01

9 October 1998

R



AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 1 of 3

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: FB14827
SUB BATCH: C
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 03/06/98

ORDER No.: R7570 DUC 14108 SAMPLE TYPE: WATER PROJECT: BORAL - COOROO

Method	Analysis description	Units	LOR	MW1	MW2	MW3	MW4
				29/05/98	29/05/98	29/05/98	29/05/98
EG-005T	Boron - Total	mg/L	0.2	3.0	1.6	2.8	3.8
EG-020T	Arsenic - Total	mg/L	0.001	0.004	0.002	<0.001	<0.001
	Cadmium - Total	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
	Chromium - Total	mg/L	0.001	0.003	0.001	0.001	0.001
	Copper - Total	mg/L	0.001	<0.001	<0.001	<0.001	0.002
	Lead - Total	mg/L	0.001	0.001	<0.001	0.001	0.004
	Zinc - Total	mg/L	0.001	0.006	0.019	0.018	0.080
EG-049	Trivalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01	<0.01

COMMENTS:

This report was issued as one of a preliminary report of the same batch number.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by C

ANALYTICAL RE

PAGE

CONTACT:

CLIENT:

ADDRESS:

FORT

VALLEY

4006

CTPI 49-Sch4

DANTEI

LABORATORY:

BATCH NUMBER:

SUB BATCH

No. OF SAMPLES

DATE RECEIVED

DATE COMPLETED

FB1482

29/05

06

ORDER No.

B7570 C

SAMPLE TYPE:

PROJECT:

BORAI

LAURE

Analysis description

29/05/98

29/05/98

29/05/98

Arsenic

Cadmium - Total

Chromium

- Total

- Total

- Total

Trivalent Chromium

Hexavalent Chromium

/

0.001
0.05
0.08
0.0
0

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

mitted by client.

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A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 3 of 3

CONTACT: MR CTPI 49-Sch4
 CLIENT: ELLOR DANTEL GTI (AUST) P/L
 ADDRESS: P O BOX 2320
 FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
 BATCH NUMBER: EB14827
 SUB BATCH: 0
 No. OF SAMPLES: 9
 DATE RECEIVED: 22/05/98
 DATE COMPLETED: 03/06/98

ORDER No.: B7570 CDD 14108 SAMPLE TYPE: WATER PROJECT: BORAL - COORDO

Method	Analysis description	Units	LAB	MWB
				29/05/98

EG-005T	Boron - Total	mg/L	0.2	<0.2
EG-020T	Arsenic - Total	mg/L	0.001	<0.001
	Cadmium - Total	mg/L	0.001	<0.001
	Chromium - Total	mg/L	0.001	<0.001
	Copper - Total	mg/L	0.001	<0.001
	Lead - Total	mg/L	0.001	0.001
	Zinc - Total	mg/L	0.001	0.005
EG-049	Trivalent Chromium	mg/L	0.01	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

20-296

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 Phone: (03) 9853 5299 Fax: (03) 9853 0730
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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: FNV BRISBANE
BATCH NUMBER: FB14827
SUB BATCH: 0
No. OF SAMPLES: 9
DATE RECEIVED: 29/05/98
DATE COMPLETED: 03/06/98

ORDER No.: B7570 CDD 14108 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL - COORD

Method	Analysis description	Units	LOR	BLANK	MW1 %SPK REC	MWB C-X
				29/05/98	29/05/98	29/05/98
EG-005T	Boron - Total	mg/L	0.2	<0.2	---	<0.2
EG-020T	Arsenic - Total	mg/L	0.001	<0.001	106 %	<0.001
	Cadmium - Total	mg/L	0.001	<0.001	107 %	<0.001
	Chromium - Total	mg/L	0.001	<0.001	108 %	<0.001
	Copper - Total	mg/L	0.001	<0.001	105 %	<0.001
	Lead - Total	mg/L	0.001	<0.001	106 %	<0.001
	Zinc - Total	mg/L	0.001	<0.001	105 %	0.070
EG-049	Trivalent Chromium	mg/L	0.01	---	---	<0.01
EG-050	Hexavalent Chromium	mg/L	0.01	<0.01	84.0 %	<0.01

COMMENTS:

Results which appear on this report are for the analysis of
QUALITY CONTROL SAMPLES

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR. **CTPI 49-Sch4**
CLIENT: FLOOR DANIEL OTI (AUST) P/L
ADDRESS: P O BOX 2520
FORTITUDE VALLEY QLD 4006

LABORATORY: 100/ RPT. 100
BATCH NUMBER: FR14821
SUB BATCH: 2
No. OF SAMPLES: 29/05/98
DATE RECEIVED: 03/06/98
DATE COMPLETED:

ORDER No.: P7570 C00 14108 SAMPLE TYPE: WATER PROJECT: RURAL - 0001

Method	Analysis description	Units	LOR	MW5 29/05/98	MW6 29/05/98
EP-071-WS	TOTAL PETROLEUM HYDROCARBONS				
	C6 - C9 Fraction	ug/L	20	<20	<20
	C10 - C14 Fraction	ug/L	50	<50	<50
	C15 - C28 Fraction	ug/L	100	126	<100
	C29 - C36 Fraction	ug/L	50	<50	53
EP-080-WS	BTEX				
	Benzene	ug/L	1	<1	<1
	Toluene	ug/L	2	<2	<2
	Chlorobenzene	ug/L	2	<2	<2
	Ethylbenzene	ug/L	2	<2	<2
	meta- & para-Xylene	ug/L	2	<2	<2
	ortho-Xylene	ug/L	2	<2	<2
EP-080S-WS	VOLATILE TPH/BTEX COMPOUND SURROGATES				
	1,2-Dichloroethane-D4	%	1	93	93
	Toluene-D8	%	1	95	100
	4-Bromofluorobenzene	%	1	107	101

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB14827

DATE BATCH RECEIVED : 29/05/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 01/06/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Water	USEPA 5030 A	USEPA 8260A	VOCW566	N/A	1/6/98
	-Semivolatile	Water	USEPA 3510B	USEPA 8015A	TPHW539	1/6/98	1/6/98
EP-080	BTEX	Water	USEPA 5030 A	USEPA 8260A	VOCW566	N/A	1/6/98

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BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCW566
MATRIX: Water

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of	Blank	Spike	SPIKE RESULTS				CONTROL LIMITS		
	Reporting	Conc	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			conc	conc	Rec.		(%)		
	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	$\mu\text{g/L}$	%	%	Low	High	%
C6-C9	20	<LOR	311	287	318	97	10	92	108	20
C10	20	<LOR	59	57	57	96	1	78	124	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Water

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHW539

Semivolatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc.	Spike Conc.	Spike Results				Control Limits		
				SCS	DCS	Av.	RPD	Recovery		RPD
	ug/L	ug/L	ug/L	Conc.	Conc.	Rec.	%	Low	High	%
C11-C14	50	<LOR	520	455	478	90	5	51	133	20
C15-C28	100	<LOR	1000	1001	1044	102	4	64	127	20
C29-C36	50	<LOR	N/A	N/A	N/A	N/A	N/A	70	130	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : Recovery or RPD falls outside the recommended control limit.



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jun. 01, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570 COC 14108

For future reference the batch number on this order is: EB14827

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Samples received in appropriately pretreated and preserved containers.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jun. 02, 1998

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APPENDIX J
LABORATORY ANALYTICAL REPORTS -
BORAX PIT LIQUID

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Our Ref: B7570R01

9 October 1998

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AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENL BRISBANE
BATCH NUMBER: EB15379
SUB BATCH: 0
No. OF SAMPLES: 3
DATE RECEIVED: 02/07/98
DATE COMPLETED: 10/07/98

ORDER No.: B7570 SAMPLE TYPE: SOLUTION PROJECT: BORAL COOROY

Method	Analysis description	Units	LOR	PIT 1	PIT 2	PIT 3
				01/07/98	01/07/98	01/07/98
E 005T	Boron - Total	mg/L	0.2	11.2	724	950
	Cadmium - Total	mg/L	0.005	0.020	0.015	<0.050
	Copper - Total	mg/L	0.01	2.42	0.85	0.50
	Zinc - Total	mg/L	0.01	1.93	1.13	1.50
E 020T	Arsenic - Total	mg/L	0.001	0.959	1.16	0.973
	Lead - Total	mg/L	0.001	0.067	0.050	0.051
E 049	Trivalent Chromium	mg/L	0.01	0.93	1.11	1.20
E 050	Hexavalent Chromium	mg/L	0.01	<0.01	<0.01	<0.01

COMMENTS:

Samples digested by USEPA method 8001 prior to the determination of total metals. Total metals reported due to matrix interfering on filtered samples. Metal detection limits based on the high concentration of dissolved salts.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results were confirmed by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: BRISBANE
BATCH NUMBER: EB15379
SUB BATCH: C
No. OF SAMPLES: 3
DATE RECEIVED: 02/07/98
DATE COMPLETED: 10/07/98

ORDER No.: B7570 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL COOROY

Method	Analysis description	Units	LOR	BLANK	PIT 1 %SPK REC	PIT 3 CHK
				02/07/98	01/07/98	01/07/98
EG-05T	Boron - Total	mg/L	0.2	<0.2	---	938
	Cadmium - Total	mg/L	0.005	<0.005	102 %	<0.050
	Copper - Total	mg/L	0.01	<0.01	100 %	0.50
	Zinc - Total	mg/L	0.01	<0.01	103 %	1.60
EG-020T	Arsenic - Total	mg/L	0.001	<0.001	---	0.836
	Lead - Total	mg/L	0.001	<0.001	103 %	0.046
EG-49	Trivalent Chromium	mg/L	0.01	---	---	1.20
EG-50	Hexavalent Chromium	mg/L	0.01	<0.01	102 %	<0.01

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COMMENTS:

Results which appear on this report are for
QUALITY CONTROL purposes.

CTPI 49-Sch4

This is the Final Report which supersedes any preliminary reports with this batch number.

Results apply to sample(s) as submitted by client.

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SRAEB15379



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jul. 02, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

For future reference the batch number on this order is: EB15379

All samples and paper work were received in good order.
Samples have been received within recommended holding times.
Samples chilled when received.
Please direct any turnaround/technical queries to CTPI 49-Sch4
Any queries relating to sample condition/numbering/breakages should
be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jul. 09, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

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APPENDIX K
LABORATORY ANALYTICAL REPORTS -
UNDERGROUND STORAGE TANK REMOVAL

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Our Ref: B7570R01

9 October 1998

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENVI BRISBANE
BATCH NUMBER: 8910226
SUB BATCH: 0
No. OF SAMPLES: 2
DATE RECEIVED: 24/08/98
DATE COMPLETED: 31/08/98

ORDER No.: B7570.4 COC 14302 SAMPLE TYPE: SOIL PROJECT: BURAL COORD

Method	Analysis description	Units	LOR	LF3	LF4
				0.5m 21/08/98	0.5m 21/08/98
A-055	Moisture Content (dried @ 103°C)	%	0.1	16.3	18.3
P-C71-SS	TOTAL PETROLEUM HYDROCARBONS				
	C6 - C9 Fraction	mg/kg	2	<2	<2
	C10 - C14 Fraction	mg/kg	50	<50	<50
	C15 - C28 Fraction	mg/kg	100	283	364
	C29 - C36 Fraction	mg/kg	100	259	449
P-080-SS	BTEX				
	Benzene	mg/kg	0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2
	ortho Xylene	mg/kg	0.2	<0.2	<0.2
P-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES				
	1,2-Dichloroethane-D4	%	1	88	94
	Toluene-D8	%	1	100	102
	4-Bromofluorobenzene	%	1	102	95

COMMENTS:

Sample received from client for analysis of petroleum hydrocarbons and BTEX compounds. Results are reported in the attached report.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB16226
SUB BATCH: C
No. OF SAMPLES: 2
DATE RECEIVED: 24/08/98
DATE COMPLETED: 31/08/98

ORDER No.. B7570.4 CDC 14302 SAMPLE TYPE: QUALITY CONTROL PROJECT: BORAL COORO

Method	Analysis description	Units	LOR	BLANK	LF3 0.5m	LF4 0.5m	LF4 0.5m
				24/08/98	21/08/98	21/08/98	21/08/98
					CHK	MS	MSD
4-055	Moisture Content (dried @ 103°C)	%	0.1	----	16.3	----	----
P-071-SS	TOTAL PETROLEUM HYDROCARBONS						
	C6 - C9 Fraction	mg/kg	2	<2	<2	87.0 %	87.0 %
	C10 - C14 Fraction	mg/kg	50	<50	53	86.0 %	79.0 %
	C15 - C28 Fraction	mg/kg	100	<100	326	77.0 %	59.0 %
	C29 - C36 Fraction	mg/kg	100	<100	281	----	----
P-080-SS	BTEX						
	Benzene	mg/kg	0.2	<0.2	<0.2	93.0 %	95.0 %
	Toluene	mg/kg	0.2	<0.2	<0.2	91.0 %	85.0 %
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	90.0 %	88.0 %
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	----	----
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	----	----
	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	----	----
P-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES						
	1,2-Dichloroethane-D4	%	1	107	87	95	96
	Toluene-D8	%	1	116	101	105	98
	4-Bromofluorobenzene	%	1	106	101	97	100

COMMENTS:

Results apply to sample(s) as submitted by client.

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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ORGANICS QUALITY CONTROL REPORT

BATCH No. : EB16226

DATE BATCH RECEIVED : 24/08/98

CLIENT : Fluor Daniel GTI

DATE BATCH COMPLETED : 01/09/98

Method Code	Test	Matrix	Method Reference		QC Lot Number	Date Samples Extracted	Date Samples Analysed
			Extraction	Analysis			
EP-071	TPH-Volatile	Soil	USEPA 5030 A	USEPA 8260A	VOCS2129	26/8/98	28/8/98
	-Semivolatile	Soil	Tumbler	USEPA 8015A	TPHT2129	25/8/98	26/8/98
EP-080	BTEX	Soil	USEPA 5030 A	USEPA 8260A	VOCS2129	26/8/98	28/8/98

R



ORGANICS QUALITY CONTROL - Sample Identification

Batch No.: EB16226

Client: Fluor Daniel GTI

ALS Sample ID	Client Sample ID	Date
-1	LF3 0.5m	21/8/98
-2	LF4 0.5m	21/8/98

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BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

QC Lot No. : VOCS2139
MATRIX : Soil

ANALYST: CTPI 49-Sch4

Volatile Components

COMPOUND	Level Of Reporting (LOR)	Blank Conc	Spike Conc	SPIKE RESULTS				Control Limits		
				SCS Conc	DCS Conc	Av. Rec.	RPD	Recovery (%)		RPD
				mg/kg	mg/kg	%	%	Low	High	%
C6-C9	2.0	<LOR	20	18.8	19.1	95	2	88	109	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/06)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

MATRIX: Soil

ANALYST: CTPI 49-Sch4

QC LOT No.: TPHT2139

Semivolatile Components

COMPOUND	Level Of	Blank	Spike	Spike Results				Control Limits		
	Reporting	Conc.	Conc.	SCS	DCS	Av.	RPD	Recovery		RPD
	(LOR)			Conc.	Conc.	Rec.		%		
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
C10-C14	50	<LOR	175	117	124	69	6	56	125	20
C15-C28	100	<LOR	210	166	183	83	10	66	124	20
C29-C36	100	<LOR	N/A	N/A	N/A	N/A	N/A	60	110	20

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/Q7).
- 2) * : Recovery or RPD falls outside the recommended control limit.

BATCH QUALITY CONTROL - MATRIX SPIKE

ALS EP-071 : Total Petroleum Hydrocarbons by Fractions

Semivolatiles QC Lot No.: TPHT2139
 Volatiles QC Lot No.: VOCS2139
 Matrix : Soil

Analyst : CTPI 49-Sch4
 Spiked Sample : EB 16226-2

Compound	Sample Results mg/kg	Spike Level mg/kg	Spike Results				
			MS Conc mg/kg	MSD Conc mg/kg	Avg Rec %	RPD %	Control Limits %
C6-C9	<LOR	10	8.7	8.7	87	0	20
C10-C14	<LOR	350	303	275	83	9	20
C15-C28	297	420	324	250	68	26 *	20
C29-C36	367	--	--	--	--	--	--

COMMENTS:

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : RPD falls outside of the recommended control limit.
- 3) # : Unable to determine result due to sample matrix.

BATCH QUALITY CONTROL

ALS EP-071 : TOTAL PETROLEUM HYDROCARBONS

ALS EP-080 : BTEX

Vol QC Lot No : VOCS2139

Vol Analyst : CTPI 49-Sch4

Svol QC Lot No TPHT2139

SVol Analyst : G Entwistle

Matrix : Soil

COMPOUND	QC DUPLICATE RESULTS		
	EB 16226	EB 16226	RPD
	-1 mg/kg	-1D mg/kg	%
EP-071 : TOTAL PETROLEUM HYDROCARBONS			
C6-C9	<LOR	<LOR	--
C10-C14	31	44	35
C15-C28	237	273	14
C29-C36	217	235	8
EP-080 : BTEX			
Benzene	<LOR	<LOR	--
Toluene	<LOR	<LOR	--
Chlorobenzene	<LOR	<LOR	--
Ethylbenzene	<LOR	<LOR	--
meta- & para-Xylene	<LOR	<LOR	--
ortho-Xylene	<LOR	<LOR	--

BATCH QUALITY CONTROL

ALS EP-080 : BTEX ANALYSIS

QC Lot No. : VOCS2139
MATRIX : Soil

ANALYST: CTPI 49-Sch4

COMPOUND	Blank	Spike	QC SPIKE RESULTS				Control Limits		
	Results	Conc	SCS	DCS	Av.	RPD	Recovery		RPD
	mg/kg	mg/kg	mg/kg	mg/kg	%	%	Low	High	%
Benzene	<LOR	1.0	1.0	1.0	96	2	91	108	20
Toluene	<LOR	1.0	0.9	0.9	95	0	85	116	20
Chlorobenzene	<LOR	1.0	1.0	1.0	99	2	91	111	20
Ethylbenzene	<LOR	1.0	1.1	1.0	105	3	90	112	20
m- & p-Xylene	<LOR	1.0	1.1	1.1	107	1	86	114	20
o-Xylene	<LOR	1.0	1.0	1.0	103	0	90	112	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data. (Method QWI-ORG/07)
- 2) * : Recovery or RPD falls outside of the recommended control limits.

BATCH QUALITY CONTROL : ALS EP-080 BTEX SOIL MS/D

Batch No. : EB 16226
Spiked Sample : EB 16226-2
Analyst : CTPI 49-Sch4

Units: mg/kg
QC Lot No. : VOCS2139
Matrix : Soil

SAMPLE I.D. EB 16226-2	Spike Level	Sample Result	MS Conc	MSD Conc	Avg Rec.	RPD	Control Limits
Compound	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%	%	%
Benzene	1.0	<LOR	0.9	0.9	94	2	20
Tolucne	1.0	<LOR	0.9	0.9	88	6	20
Chlorobenzene	1.0	<LOR	0.9	0.9	89	2	20

COMMENTS :

- 1) The control limits are based on ALS laboratory statistical data (Method QWI-ORG/07).
- 2) * : RPD falls outside of the recommended control limit.
- 3) # : Unable to determine result due to sample matrix.

ANALYTICAL REPORT

PAGE 1 of 1

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUGR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15781
SUB BATCH: 0
No. OF SAMPLES: 2
DATE RECEIVED: 28/07/98
DATE COMPLETED: 31/07/98

ORDER No.: B7570 CCC 1418 **SAMPLE TYPE:** SOIL **PROJECT:** BORAL-COORCOY

Method	Analysis description	Units	LOR	LF1-0.5	LF2-0.5
				28/07/98	28/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	18.2	17.1
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS				
	C6 - C9 Fraction	mg/kg	2	<2	<2
	C10 - C14 Fraction	mg/kg	50	76	52
	C15 - C28 Fraction	mg/kg	100	355	1020
	C29 - C36 Fraction	mg/kg	100	247	1270
EP-080-SS	BTEX				
	Benzene	mg/kg	0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2	<0.2
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES				
	1,2-Dichloroethane-D4	%	1	108	109
	Toluene-D8	%	1	103	102
	4-Bromofluorobenzene	%	1	105	97

CTPI 49-Sch4

COMMENTS:

Samples analysed on an automatic analyser. Results are reported as shown.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

SRAEB15781



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTP1 49-Sch4
DATE: Jul 29, 1998
FROM: CTP1 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7570

For future reference the batch number on this order is: EB15781

All samples and paper work were received in good order.

Samples have been received within recommended holding times.

Samples chilled when received.

Please direct any turnaround/technical queries to CTP1 49-Sch4

Any queries relating to sample condition/numbering/breakages should be directed to CTP1 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results Jul. 30, 1998

Comments: P.N - Boral Cooroy
P.L - Cooroy
COC 14183

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
Phone (07) 3243 7222
Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15638
SUB BATCH: J
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570

SAMPLE TYPE: SOIL

PROJECT: BORAL COORDY

Method	Analysis description	Units	LOR	E/WALL 17/07/98	W/WALL 17/07/98	N/WALL 17/07/98	S/WALL 17/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	16.2	20.0	17.3	18.5
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS						
	C6 - C9 Fraction	mg/kg	2	<2	<2	<2	<2
	C10 - C14 Fraction	mg/kg	50	<50	<50	<50	<50
	C15 - C28 Fraction	mg/kg	100	<100	<100	<100	<100
	C29 - C36 Fraction	mg/kg	100	<100	<100	<100	<100
EP-080-SS	BTEX						
	Benzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Toluene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2	<0.2	<0.2	<0.2
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES						
	1,2-Dichloroethane-D4	%	1	106	101	109	106
	Toluene-D8	%	1	102	97	103	99
	4-Bromofluorobenzene	%	1	90	86	92	88

COMMENTS:

CTPI 49-Sch4

Samples analysed on an as received basis. Results are reported on a dry weight basis.

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

20-296
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Page 481 of 509



ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS:
P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15638
SUB BATCH: 1
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570

SAMPLE T/PE: SOIL

PROJECT: BORAL COORDY

Method	Analysis description	Units	LOR	BASE
				17/07/98
EA-005	Moisture Content (dried @ 103°C)	%	0.1	16.7
EP-071-SS	TOTAL PETROLEUM HYDROCARBONS			
	C6 - C9 Fraction	mg/kg	2	<2
	C10 - C14 Fraction	mg/kg	50	<50
	C15 - C28 Fraction	mg/kg	100	<100
	C29 - C36 Fraction	mg/kg	100	<100
EP-080-SS	BTEX			
	Benzene	mg/kg	0.2	<0.2
	Toluene	mg/kg	0.2	<0.2
	Chlorobenzene	mg/kg	0.2	<0.2
	Ethylbenzene	mg/kg	0.2	<0.2
	meta- & para-Xylene	mg/kg	0.2	<0.2
	ortho-Xylene	mg/kg	0.2	<0.2
EP-080S-SS	VOLATILE TPH/BTEX COMPOUND SURROGATES			
	1,2-Dichloroethane-D4	%	1	10%
	Toluene-D8	%	1	99
	4-Bromofluorobenzene	%	1	87

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

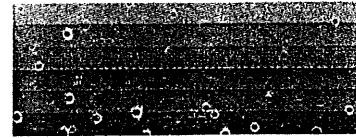
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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: E815658
SUB BATCH: 0
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570

SAMPLE TYPE: SOIL

PROJECT: BORAL COOROY

Method	Analysis description	Units	LOR	E/WALL 17/07/98	W/WALL 17/07/98	N/WALL 17/07/98	S/WALL 17/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	16.2	20.0	17.3	18.5
EG-0057	Lead - Total	mg/kg	1	11	13	13	10

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RTI Act 2009

COMMENTS:

Samples as received analysed for moisture content and lead determination of lead. Results reported as mg/kg CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

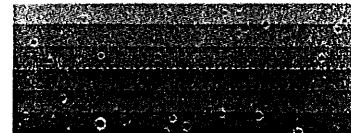
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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR **CTPI 49-Sch4**
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS: P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15638
SUB BATCH: 0
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570

SAMPLE TYPE: SOIL

PROJECT: BORAL COOROY

Method	Analysis description	Units	LOR	BASE
				17/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	16.7
EG-005T	Lead - Total	mg/kg	1	12

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RTI Act 2009

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number

• Results apply to sample(s) as submitted by client.

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ANALYTICAL REPORT

PAGE 1 of 2

CONTACT: MR CTPI 49-Sch4

CLIENT: FLUOR DANIEL GTI (AUST) P/L

ADDRESS:

P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15638
SUB BATCH: 0
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570

SAMPLE TYPE: QUALITY CONTROL

PROJECT: BORAL COORON

Method	Analysis description	Units	LOR	BLANK 20/07/98	E/WALL %SPK REC 17/07/98	BASE MS 17/07/98	BASE MSD 17/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	---	---	---	---
EG-005T	Lead - Total	mg/kg	1	<1	98.0 %	96.0 %	98.0 %

COMMENTS:

Results which appear to be correct
QUALITY CONTROL

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

20-296

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ANALYTICAL REPORT

PAGE 2 of 2

CONTACT: MR CTPI 49-Sch4
CLIENT: FLUOR DANIEL GTI (AUST) P/L
ADDRESS:
P O BOX 2320
FORTITUDE VALLEY QLD 4006

LABORATORY: ENV BRISBANE
BATCH NUMBER: EB15638
SUB BATCH: 0
No. OF SAMPLES: 5
DATE RECEIVED: 20/07/98
DATE COMPLETED: 27/07/98

ORDER No.: B7570 **SAMPLE TYPE:** QUALITY CONTROL **PROJECT:** BORAL COOROY

Method	Analysis description	Units	LOR	BASE CHK 17/07/98
EA-055	Moisture Content (dried @ 103°C)	%	0.1	16.1
EG-005T	Lead - Total	mg/kg	1	11

COMMENTS:

CTPI 49-Sch4

• This is the Final Report which supersedes any preliminary reports with this batch number.

• Results apply to sample(s) as submitted by client.

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SRAEB15638



ENVIRONMENTAL GUARANTEED TESTING

SAMPLE RECEIPT ADVICE

COMPANY: FLUOR DANIEL GTI (AUST) P/L
ATTENTION: MR CTPI 49-Sch4
DATE: Jul. 21, 1998
FROM: CTPI 49-Sch4 ENV BRISBANE

ALS has received samples pertaining to your reference: B7370

For future reference the batch number on this order is: EB15638

Samples are presently being sorted for processing. Should we encounter any difficulties/irregularities you will be notified immediately.

All samples and paper work were received in good order.

Samples have been received within recommended holding times.

Samples chilled when received.

Samples received in appropriately pretreated and preserved containers.

Please direct any turnaround/technical queries to CTPI 49-Sch4

Any queries relating to sample condition/numbering/breakages should be directed to CTPI 49-Sch4

You can expect results to be reported as detailed below:

All Environmental Results

Jul. 28, 1998

Comments:

A L S - SERVICING YOUR NEEDS BETTER

AUSTRALIAN LABORATORY SERVICES P/L

A.C.N. 009 936 029

Brisbane
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Fax (07) 3243 7218

Sydney
Phone (02) 9841 9500
Fax (02) 9841 9530

Melbourne
Phone (03) 9853 5299
Fax (03) 9853 0730

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

14130

Fluor Daniel GTI (Australia) Pty Ltd

ACN 003 931 057

17 Forrester Street, Kingsgrove NSW 2208 Australia

Tel: (02) 9502 4844 Fax (02) 9502 2105

SEND RESULTS TO:

☐ Adelaide Tel (08) 8262 4414 Fax (08) 8262 4438☒ Brisbane Tel (07) 3252 5711 Fax (07) 3252 5712☐ GTEL Tel (02) 9502 4844 Fax (02) 9554 8349☐ Melbourne Tel (03) 9482 3266 Fax (03) 9482 1414☐ Sydney Tel (02) 9502 4844 Fax (02) 9502 2105☐ Perth Tel (08) 9244 2733 Fax (08) 9445 3222☐ Other:

Project No: B7570

Task No: 4

Project Manager: CTPI 49-Sch4

Project Name: BORAL COOROY

Samplers Name: CTPI 49-Sch4

Project Location: COOROY

Laboratory: A.L.S

Analysis Request

Laboratory No. (Lab Use Only)	Sample ID	Sample Location	Sample Depth	Sample Date	Matrix (Soil ... etc)	Preservation (HCl, ice ... etc)	Containers (No. & type)	T-A-T (Specify)	BTEX	TPH	OC's	PCB's	PAH's	METALS (Specify)
	E/WALL ①		1.5	17-7-98	Soil	ICE	1x250	NORMAL	✓	✓				Pb
	W/WALL ②		1.5	↓	↓	↓	↓	↓	↓	↓				↓
	N/WALL ③		1.5	↓	↓	↓	↓	↓	↓	↓				↓
	S/WALL ④		1.5	↓	↓	↓	↓	↓	↓	↓				↓
	BASE ⑤		3.0	↓	↓	↓	↓	↓	↓	↓				↓

Special Instructions:

Sample Receipt Advice: (Lab Use Only)

B815538 S © 2017 (org)

Relinquished by: CTPI 49-Sch4

Date: 17-7-98

Received by: CTPI 49-Sch4

2017

Relinquished by:

Date:

Received by: File A

Relinquished by:

Date:

Received by:

URGENT 28/7

Page 488 of 509

FILE COPY OF NOTIFICATION DISK

La Code:

- 0000 1

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP47020

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 3691

Current Use:

Past Use:

Comments:

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RTI Act 2009

R

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La Code:

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Plan: RP47020

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 3691

Current Use:

Past Use:

Comments:

*duplicate of another record, identical details
deleted 5/12/95*

CTPI 49-Sch

Sites beginning

Printed 22 MAY 1992 14:14

Site ID: 092-0001

Site Name: BORAL TIMBER PLANT COOROY

Authority: NOOSA S.C.

Category

Date: 31/10/1991

Location: MAPLE STREET
COOROY

Lot: 999 on Plan RP999999

Tenure:

Owner: BORAL TIMBER
PO BOX 224
COOROY

Zoning:

Area: ha/sq metres

Current Use: 3

Past Use:

Contaminants: B

Comments: REGISTERED TREATMENT PLANT. BORON COMPOUNDS ONLY U

R

FILE COPY OF NOTIFICATION DISK

Code:

092-003859 PRD

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP153299

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area:

Current Use:

Past Use:

Comments:

Published on DES Disclosure Log
RTI Act 2009

R

Site Id: 092-003859

Site Name: TIMBERYARD BORAL COOROY PT5

Official Authorisation for CSR Site:

Local Government: NOOSA S.C.

Category:

Entry Date: 03/12/93

Last Altered:

Location:

COOROY
4865

Lot: Plan RP153299

Tenure:

Owner: BORAL TIMBERS
P O BOX 224
COOROY
Q D
4563

Zoning:

Current Use:

Prescribed Purpose:

File: 0

UXO region:

Contaminants:

Action Officer:

Vol:

Comments:

UN

NI

S999

NOTIFICATION BY SHIRE COUNCILP
LAND3 DIPS ON SITE

Area:

0 ha/s

Past Use:

Status:

P

Folio:

0099

OF 16 PARCELS OF

pairs of duplicates on CSR are 2 of 10 parcels

belonging to a timber mill in Cooroy. the notification

were written as

RP87371

1/3 RP153299,

and entered 1 and 3 1,2 and On IVAS and CISP

lots 1-3 belong the mill for both plans Could one of each

pair duplicates be changed Lot 2, for RP87371 and RP153299

CTPI 49-Sch4

07/11/95

(STEPHEN)

SITE

092-003859

SITE

092-003861

LOT 3 110206

ALTERED TO SHOW LOT 2

CTPI 49-

LOT 2

8/12/95

CTPI 49-

END OF REPORT

Jo

Yo

NEED TO CHECK

STEPHEN

File A

WHAT

HE ACTUALLY REQUIRES ON

CTPI 49-S

Page 493 of 509

07/12/95

FILE COPY OF NOTIFICATION DISK

Code:

092-003867

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP153299

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 8008

Current Use:

Past Use:

Comments:

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R

092-003867

Site Name: TIMBERYARD BORAL COOROY PT13

Official Authorisation for CSR Site:

Local Government: NOOSA S.C.

Category:

Entry Date: 03/12/93

Last Altered:

Location:

COOROY
4865

Lot: Plan RP153299

Tenure:

Owner: BORAL TIMBERS
P O BOX 224
COOROY
Q D

4563

Zoning:

Current Use:

Prescribed Purpose:

File: 0

UXO region:

Contaminants:

Action Officer:

Vol:

Comments:

UNK

NIL

S999

NOTIFICATION BY SHIRE
OF LAND3 DIPS ON SITE

Area:

0 ha/s

Past Use:

Status:

F

0099

L

F 16 PARCELS

END OF REPORT

R

FILE COPY OF NOTIFICATION DISK

003870

Code:

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP88582

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 11040

Current Use:

Past Use:

Comments:

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R

FILE COPY OF NOTIFICATION DISK

092-003864 PRO 131

Code:

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP87371

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 2721

Current Use:

Past Use:

Comments:

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Code:

-004038

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP87371

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 13475

Current Use:

Past Use:

Comments:

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FILE COPY OF NOTIFICATION DISK

Code:

092-003865

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Plan: RP87371

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 9223

Current Use:

Past Use:

Comments:

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Site Name:TIMBERYARDBORALCOOROY PT7

Official Authorisation for CSR Site:

Local Government:NOOSA S.C.

Entry Date:03/12/93

Category:

Last Altered:08/12/1995

Location:

COOROY

4865

Lot:PlanRP110206Tenure:

Owner:

BORAL TIMBERS

P O BOX 224

COOROY

Q D

4563

Zoning:

Current Use:

Prescribed Purpose:

File:0

UXO region:

Contaminants:UNK

Action Officer:NIL

Vol:S999

Comments:NOTIFICATION BY SHIRE COUNCILPT 7 OF 16 PARCELS LAND3 DIPS ON SITE.// DUPLICATE OF LOT 3 ALTERED TO LOT 2 ON VALIDATORS INSTRUCTION. LOT 2 NOT PREVIOUSLY ENTERED.-08/12/95. JR.

Area:

443

Past Use:

Status:P

Folio:0099

15 Nov 02

092-003868

delete this

CTPI 49-Sch4

11/1/96

CTPI 49-Sch4

END OF REPORT

FILE COPY OF NOTIFICATION DISK

092 - 003868
- 131

Code:

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Site Plan: RP110206

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area:

Current Use:

Past Use:

Comments:

Published on DES Disclosure Log
RTI Act 2009

R

Site Name:TIMBERYARD BORAL COOROY PT7

Official Authorisation for CSR Site:

Local Government:NOOSA S.C. Category:

Entry Date:03/12/93 Last Altered:

Location:

COOROY
4865

Lot:Plan RP110206 Tenure:

Owner:

BORAL TIMBERS
P O BOX 224
COOROY
Q D

4563

Zoning:VIL Area:0 ha/s

Current Use:

Prescribed Purpose:

File:0 Past Use:

UXO region:

Contaminants:

Action Officer:NIL Status:P

Vol:S999 Folio:0099

Comments:NOTIFICATION BY SHIRE COUNCILPT 7 OF 16 PARCELS OF
LAND3 DIPS ON SITE

END OF REPORT

092-0001
092-0002

The following information should be supplied by people providing notification to the CHE
Unit of contaminated land or land used for a prescribed purpose under the *Contaminated Land
Act 1991* and the *Contaminated Land Regulation 1991*.

092-0007
092-0008
092-0009
092-0010

Local Authority Area:- NOOSA.

Information provided by:-

Name:

CTPI 49-Sch4

Contact Telephone No:

CTPI 49-Sch4

092-0012
092-0013

Organisation:

Address:

COORO

Postcode

092-0015
092-0016

Name by which the property is known locally:-

Location:-

Street Address

Postcode

Lot-on-Plan Description of each parcel of land (*individual parcels of land which make up the property should be included. Please make a separate attachment if there is more than one parcel*).

RP110206

Land Titles Regi Volume an Folio Number for each parcel (see also ove remarks
arcels).

2/-RP470

RP87371

RP110206

Name and Postal Address of Owner:-

Name

Address

P.O. Box

COORO

Postcode

* I have put the
not lots
corner
as (e.g.) lot 1 and lot 3
owner knows

Cont'd /2

Description of the source of the suspected contamination or the prescribed purpose for which the land is or has been used (a short description of the land use or cause of contamination will be sufficient. A separate attachment can be made if space is insufficient).

THIS SITE IS A TIMBER PROCESSING PLANT WHERE TIMBER
THAT WAS NOTUS SUBPARABLE WAS BORAX DIPPED TO TREAT
TIMBER THERE ARE 3 PILLS ON SITE

Desirable and additional Information

Area of each parcel in square metres (this information is useful as a cross-check on the land description details):-

~~1162.196~~ 5.1466 ha

Current local authority zoning of the land:- VILLAGES INDUSTRY

The processing of this information would be greatly assisted by the inclusion of a map or locality plan.

If further information is required please contact:

The Clerk (Contaminated Land),

DEPARTMENT OF ENVIRONMENT & HERITAGE

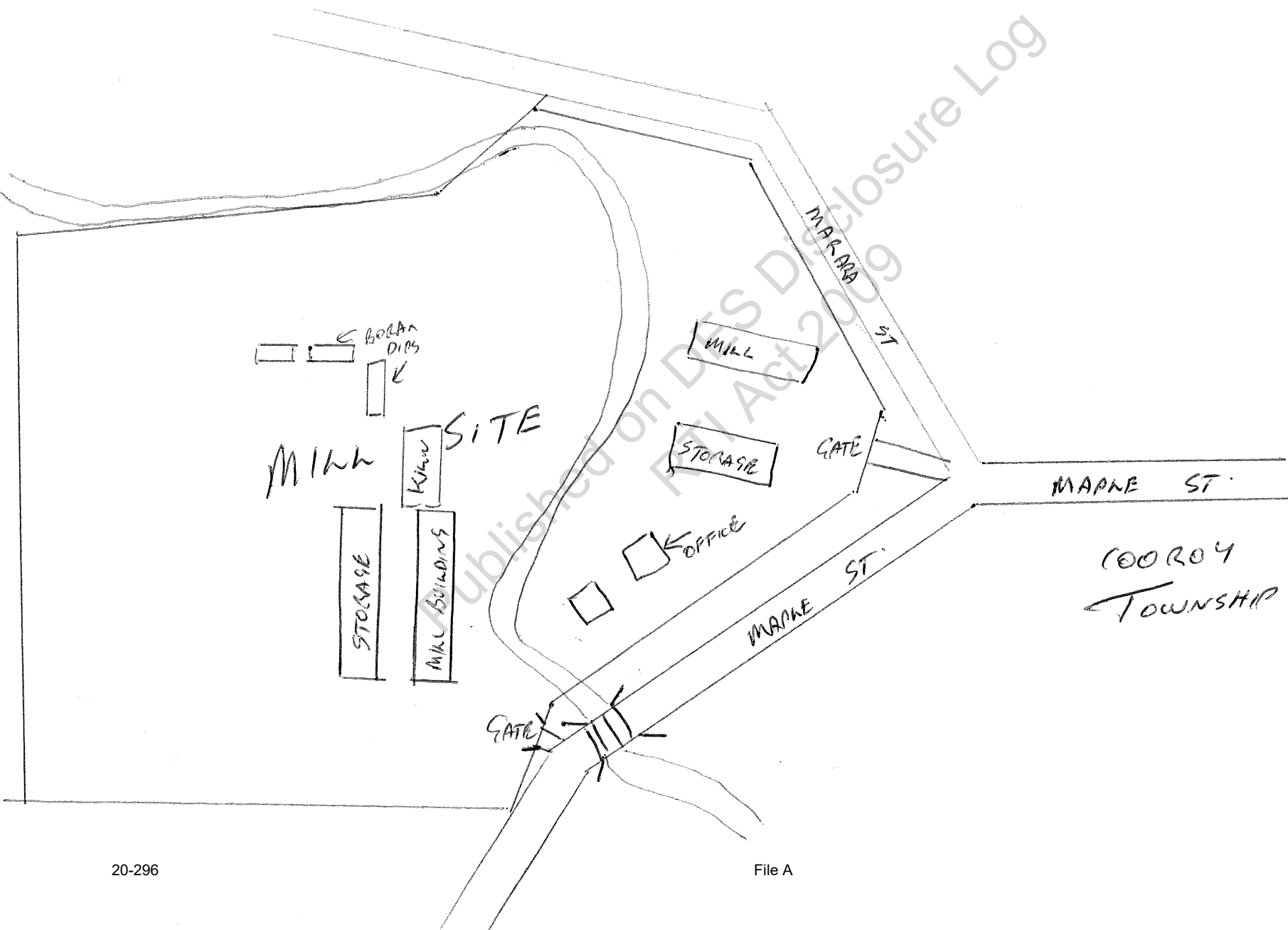
P.O. BOX 155

NORTH QUAY QLD. 4002

PHONE : 07. 227 7370

FAX : 07. 227 8341.

BORAK TIMBALS
COOROY



R

FILE COPY OF NOTIFICATION DISK

Code:

092 - 003869

Site Name: COOROY SAWMILL

Category:

File: 900392

SITE LOCATION:

MAPLE ST
COOROY

4563

Site Lot:

Plan: RP110206

OWNER ADDRESS:

ALAN TAYLOR & CO LTD
PO BOX 224
COOROY

4563

Zoning:

Area: 4308

Current Use:

Past Use:

Comments:

Published on DES Disclosure Log
RTI Act 2009

R

Site Id: 092-003869

Site Name: TIMBERYARD - BORAL - COOROY PT15

Official Authorisation for CSR Site: Y

Local Government: NOOSA S.C.

Category: PRO

Entry Date: 03/12/93

Last Altered:

Location: MARARA STREET
COOROY
4865

Lot: 3 on Plan RP110206

Tenure:

Owner: BORAL TIMBERS
P O BOX 224
COOROY
QLD
4563

Zoning: VIL

Area: 0 ha/s

Current Use: 131

Past Use: 131

Prescribed Purpose: 131

File: 0

UXO region:

Contaminants: UNK

Action Officer: NIL

Status: P

Vol: S999

Folio: 0099

Comments: NOTIFICATION BY SHIRE COUNCIL PT 15 OF 16 PARCELS
OF LAND 3 DIPS ON SITE-----
** END OF REPORT **

**Queensland
service**

notification file 900779

**Department of
Primary Industries**

Division of Technical Services • 80 Meiers Road • PO Box 631 • Indooroopilly Q 4068
Telephone: (07) 877 9700 • Facsimile: (07) 371 2217

Enquiries to

Jack Norton

CTPI 49-Sch

Telephone

(07) 877 9753

CTPI 49-Sch4

CTPI 4

Your reference

Your reference

730.01 (TF2)

Date

November 14, 1991

092 - 000001

Lot 2 RP47020

Mr CTPI 49-Sch4
CHEM Unit
GPO Box 1425
R

Dear Sir,

Please refer to your letter 4/11/91, ref CHEM 505, concerning timber treatment and sawmill sites throughout Queensland.

Regarding the two questions you specifically asked, CTPI 49-S Saw & Planing mill situated in Ravenshoe Rd Wondecla. I have no information on the mill at Longland's Rd.

The CTPI 49-Sch4 mill at Kairi is the same mill as CTPI 49-Sch4 Kairi.

I would also offer the following comments concerning the database listing of treatment plant sites:

Site 013-0001 called CTPI 49-Sch4 saw mill.

Sites 025-0001 025-0003 now belong to CSR and the mill is called CSR Permalog.

Sites 059-0001, 059-0004 to 059-0008 were bought by Associated Plywood Sales (APS) and the mill is now in receivership.

Site 075-0002 is called CTPI 49-Sch4 sawmill.

Site 090-0001 CTPI 49-Sch4 Nebo is currently installing a CCA plant. Given that all new CCA plants must meet zero discharge requirements, I'm not sure that this will become a contaminated site.

Site 092-0001 There is plant at Boral Cooroy. only way there could be CCA problems here is if there is waste from reprocessing activities. If this is deemed to be a problem then I suggest you have to cast your net to cover all reprocessing and remilling plants - there are more of these than treating plants.

Site 100-0002 Like CTPI 49-Sch4 has just installed a CCA plant. Given

that all new CCA plants must meet zero discharge requirements, I'm not sure that this will become a contaminated site.

Site 102-0003 The CTPI 49 mill at Gayndah has been removed and the land bulldozed - no idea where the removed layer has been sent. You may be hard pressed to find contamination at this site.

Site 124-0001 is called CTPI 49-Sch4 saw milling

Site 140-0057 is called Brisbane Treated Timbers

Site 141-0002 is probably CTPI 49-Sch Sawmilling. Refer to Site 141-0003 which is also in Bundaberg.

I hope this is the information you want, please contact me if you have any questions on this matter,

Yours faithfully

CTPI 49-Sch4

(Jack Norton)
for Manager, Timber Research
and Extension Branch