The White Ant Co Pty Ltd
PO Box 230
Banora Point NSW 2486

Phone: (07) 5524 9532
Fax: (07) 5524 8718
www.whiteantco.com.au

ABN 51 100 706 009

Field Evaluation of "*PROTECTANT*™"
As a Physical Barrier System
To Prevent Subterranean Termite Ingress.

Test Sample Setup.

Test units consisted of a 200 series concrete block (double hollow) with one of the hollows sealed on one side by a sheet of stainless-steel mesh affixed and then filled with lengths of Radiata Pine Studs (35x70) until full. This hollow was then sealed with the "*Protectant* and a "*Protectant* Adhesive" as per the table below. The second hollow in each block was filled with lengths of Radiata Pine Studs (35x70) and held in place by wrapping a band of plastic mesh around the block.

These samples were prepared in Townsville by Mr Peter Dunn and Mr Terry Miller of The White Ant Co Pty Ltd and delivered to each site. As a set of 5 blocks per site for installation by the Queensland Government Department of Primary Industries and Fisheries, Horticulture and Forestry Services representatives on the 28th and 29th of November 2006.

Materials Used.

Un-treated Geotexile base cloth.

Protectant™ Wall Sheeting: A one sided solvent pass with AD-TR-SC Red
E883C-2000/1 Batch No. 919859/001
Manufactured 04/06/06
Roll No. 193287

Protectant™ Termite Barrier: A two sided solvent pass with AD-TR-SC- Red
E883C-200/2 Batch No. 920500/001
Manufactured 29/06/06
Roll No 196693

AD-ULETH-TR-STH: One part polyurethane sealant (4.4g/l bifenthrin)
Batch No.06F9091

AD-ULETH-TR-NTH: One part polyurethane sealant (8.8g/l bifenthrin)
Batch No.06H3799

AD-TR-SOL-Red: One part polyurethane paint on sealant (5.4g/l bifenthrin)

Note: Where the AD-ULETH-TR-STH was used to fix the *Protectant* wall sheeting fabric on sample No. 2 the product AD-TR-SOL-Red was painted over the outer edges as per the installation manual for retaining walls and construction joints.

TERMITE Protectant™ BARRIER
THEWHITEANTCO

The White Ant Co Pty Ltd
PO Box 230
Banora Point NSW 2486

Phone: (07) 5524 9532
Fax: (07) 5524 8718
www.whiteantco.com.au

ABN 51 100 706 009

Field Evaluation of "*PROTECTANT*™" As a Physical Barrier System To Prevent Subterranean Termite Ingress.

Test Sample Setup.

Table of samples prepared for each site:

Two sets where prepared and marked as per the table below.

	Fabric	**Adhesive**	
Sample 1	Geotextile Base Cloth	AD-ULETH-TR-STH	
Sample 2	Wall Sheeting Roll # 193287	AD-ULETH-TR-STH	AD-TR-SOL-Red
Sample 3	Wall Sheeting Roll # 193287	AD-ULETH-TR-NTH	
Sample 4	Termite Barrier Roll # 196693	AD-ULETH-TR-STH	
Sample 5	Termite Barrier Roll # 196693	AD-ULETH-TR-NTH	

This process was undertaken based on the Research Proposal provided by the Queensland Government Department of Primary Industries and Fisheries, Horticulture and Forestry Services, dated 15th June 2005.

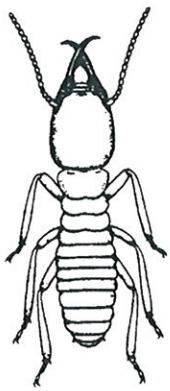
In the preparations for these in-ground trials a review of the site at Esk west of Brisbane was carried out by the Queensland Government Department of Primary Industries and Fisheries, Horticulture and Forestry Services coordinators and they advised that this site had become unsuitable for a trial of this type. The basis of this was termite activity on other trials at this site had been affected by the poor weather and the prolonged drought in the region.

Peter Dunn
Technical Manager.
30th November 2006.

Installation Report

For The White Ant Company Pty Ltd

12th December 2006



Prepared by B.C. Peters and C.J. Fitzgerald

Commercial in Confidence

Queensland Government
Department of **Primary Industries and Fisheries**

Mastotermes darwiniensis and *Coptotermes acinaciformis* Trials Townsville

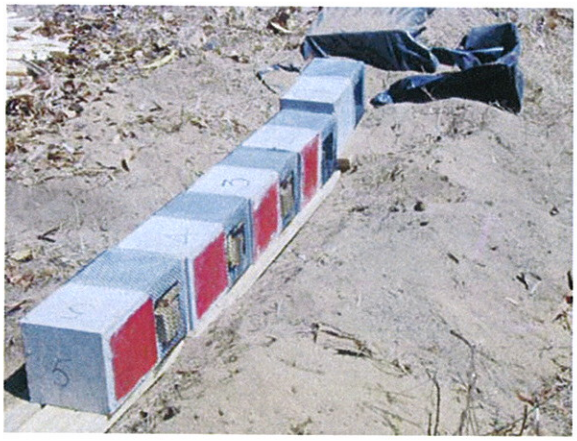


Figure 1. *Mastotermes darwiniensis* trench with timber tracks and blocks

Figure 2. Blocks covered with feeder timber

Figure 3. Blocks covered with feeder timber (side view)

Figure 4. Blocks and timber covered with black plastic

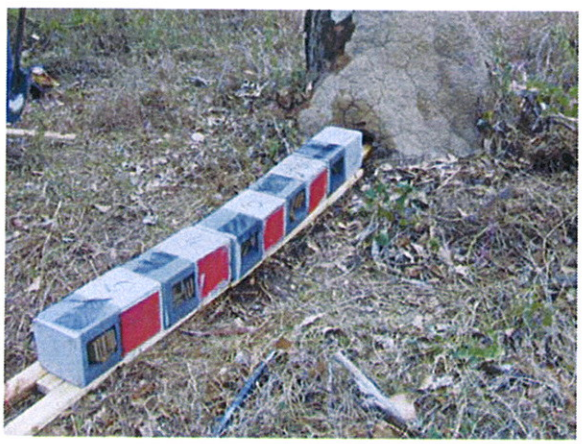


Figure 5. Blocks and timber tracks inserted in *Coptotermes acinaciformis* mound

Figure 6. Blocks covered with feeder timber (side view)

Figure 7. Blocks covered with feeder timber (front view)

Figure 8. Blocks covered with black plastic

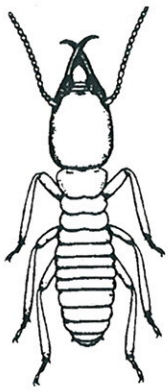
Figure 9. Mound with repaired section to validate health of the colony

The trials were installed on the 28th and 29th of November 2006 at our North Queensland test sites. Termites were confirmed as active at both sites. The first inspection is due in June 2007. All blocks will be assessed for potential entry by termites through the test product and feeder material will be replenished.

Inspection Report – 4 months

For The White Ant Company Pty Ltd

28th March 2007



Prepared by B.C. Peters and C.J. Fitzgerald

Commercial in Confidence

Queensland Government
Department of Primary Industries and Fisheries

M. darwiniensis and C. acinaciformis Townsville Trials – 4 month inspection

Figure 1. *Mastotermes darwiniensis* trench uncovered after 4 months.

Figure 2. Feeder timber surrounding test units heavily infested by *M. darwiniensis*.

Figure 3. Test unit removed from the trench with accompanying live *M. darwiniensis*.

Figure 4. An audible "shake" test of the unit revealed enclosed feeder timber was untouched by *M. darwiniensis*.

Figure 5. *C. acinaciformis* trench uncovered after 3 months.

Figure 6. Feeder timber surrounding test units heavily infested with *C. acinaciformis*.

Figure 7. Removal of feeder timber to reveal test units (Termi-Mesh view).

Figure 9. The trench was re-loaded with fresh feeder timber to ensure continued foraging by *C. acinaciformis*.

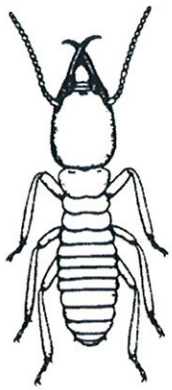
Figure 8. On closer inspection the feeder timber inside the test unit was untouched.

The trials were inspected on the 20th March 2007 in the presence of Peter Dunn **(Technical Manager) THE***WHITE***ANT**CO. A number of test units were inspected from both trials and there was no evidence that termites had breached either the Test barrier (Termite *Protectant*[tm] barrier) or the Termi-Mesh termite barrier. This was despite strong termite pressure at both trial sites. Non-breaching of the barriers was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the Test and Termi-Mesh termite barriers (confirmed by an audible "shake" test where possible). The next inspection is due around the 20th May 2007 (the original 6 month inspection).

Inspection Report – 12 months

For The White Ant Company Pty Ltd

26th November 2007



Prepared by B.C. Peters and C.J. Fitzgerald

Queensland Government
Department of **Primary Industries and Fisheries**

FIELD EVALUATION OF PROTECTANT™ AS A PHYSICAL BARRIER TO PREVENT SUBTERRANEAN TERMITE INGRESS

SUMMARY

The trials were inspected on the 26th November 2007. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*™ barrier. This was despite strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units. The next inspection (24 months post installation) is due during November 2008.

M. darwiniensis and C. acinaciformis Townsville Trials – 12 month inspection

Figure 1. *Mastotermes darwiniensis* trench uncovered after 12 months.

Figure 2. Feeder timber within a test unit heavily infested by *M. darwiniensis*.

Figure 3. Feeder timber within another test unit completely destroyed by *M. darwiniensis*. There had been no breach of the test material.

Figure 4. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *M. darwiniensis*.

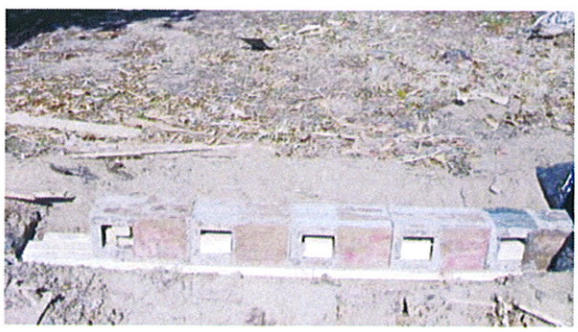


Figure 5. Fresh feeder blocks were placed in each of the test units for *M. darwiniensis*.

Figure 6. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

Figure 7. *Coptotermes acinaciformis* trench uncovered after 12 months.

Figure 8. Feeder timber within the test unit heavily infested with *C. acinaciformis*.

Figure 9. Feeder timber within each test unit was often completely destroyed by the termites.

Figure 10. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *C. acinaciformis.*

Figure 11. Fresh feeder material was placed into each of the test units.

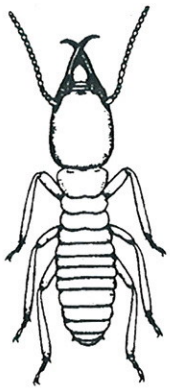
Figure 12. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

The trials were inspected on the 26th November 2007. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*^{tm} barrier. This was despite strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units. The next inspection (24 months post installation) is due during November 2008.

Inspection Report – 24 months

For The White Ant Company Pty Ltd

13th November 2008



Prepared by B.C. Peters and C.J. Fitzgerald

Queensland Government
Department of **Primary Industries and Fisheries**

FIELD EVALUATION OF PROTECTANT™ AS A PHYSICAL BARRIER TO PREVENT SUBTERRANEAN TERMITE INGRESS

SUMMARY

The trials were inspected on the 13th October 2008. All test units were inspected from both trials. There was no evidence that termites had breached the Termite *Protectant*^{tm} barrier impregnated with bifenthrin or the geotextile termite barrier that does not contain bifenthrin termiticide. This was despite strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units. The next inspection (36 months post installation) is due during Oct - Nov 2009.

Figure 1. *Mastotermes darwiniensis* trench uncovered for 24 month inspection.

Figure 2. Feeder timber along the trench was heavily infested by *M. darwiniensis*.

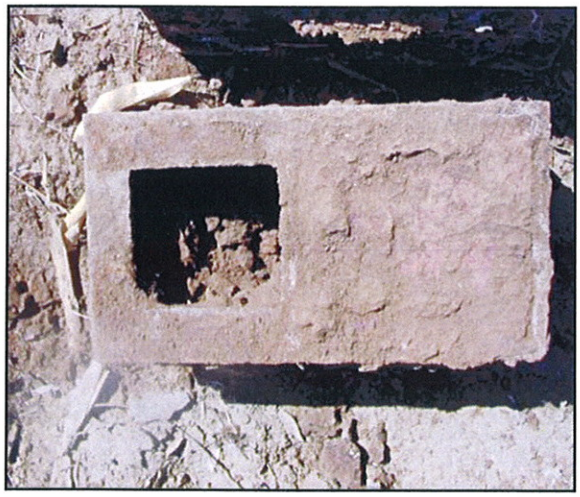


Figure 3. Feeder timber within a test unit was completely destroyed by *M. darwiniensis*. There had been no breach of the Termite *Protectant*^{tm} barrier.

Figure 4. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *M. darwiniensis*.

Figure 5. Fresh feeder blocks were placed in each of the test units for *M. darwiniensis*.

Figure 6. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

Figure 7. *Coptotermes acinaciformis* trench uncovered for 24 month inspection.

Figure 8. Feeder timber within the test unit heavily infested with *C. acinaciformis*.

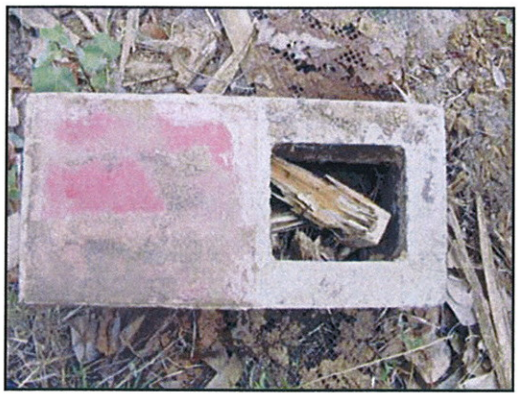


Figure 9. Feeder timber within each test unit was badly damaged by *C. acinaciformis*. There had been no breach of the Termite *Protectant*^{tm} barrier.

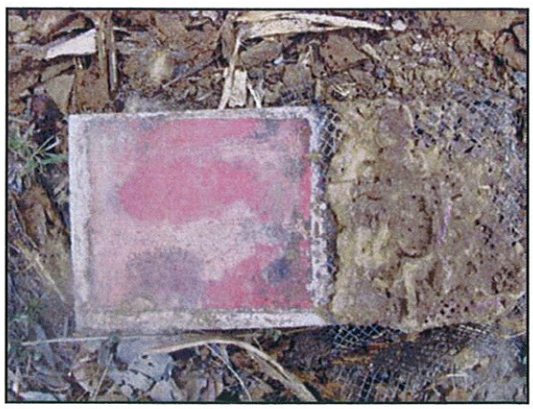


Figure 10. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *C. acinaciformis*.

Figure 11. Fresh feeder material was placed into each of the test units.

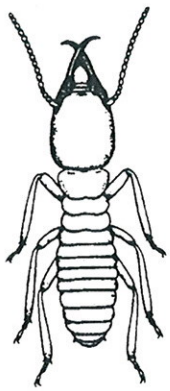
Figure 12. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

The trials were inspected on the 13th October 2008. All test units were inspected from both trials. There was no evidence that termites had breached the Termite *Protectant*^{tm} barrier impregnated with bifenthrin or the geotextile termite barrier that does not contain bifenthrin termiticide. This was despite strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units. The next inspection (36 months post installation) is due during Oct - Nov 2009.

Inspection Report – 36 months

For The White Ant Company Pty Ltd

7th September 2009



Prepared by B.C. Peters and C.J. Fitzgerald

Queensland Government
Department of Primary Industries and Fisheries

FIELD EVALUATION OF PROTECTANT™ AS A PHYSICAL BARRIER TO PREVENT SUBTERRANEAN TERMITE INGRESS

SUMMARY

The trials were inspected on the 24th August 2009. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*^{tm} barrier. This was despite evidence of strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units.

Figure 1. *Mastotermes darwiniensis* trench uncovered for 36 month inspection.

Figure 2. Feeder timber within the accessible section of the block was badly damaged by *M. darwiniensis*.

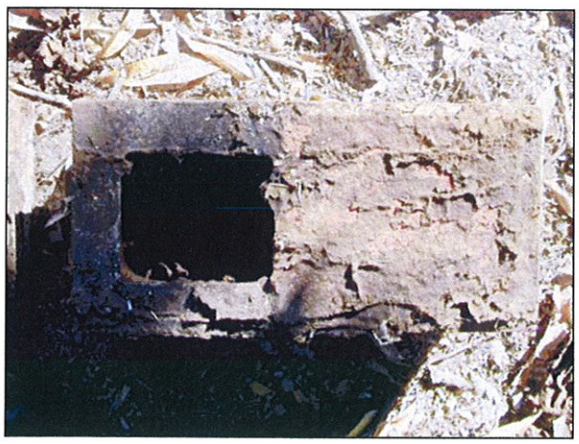


Figure 3. Feeder timber within a test unit was completely destroyed by *M. darwiniensis*. There had been no breach of the Termite *Protectant*^{tm} barrier.

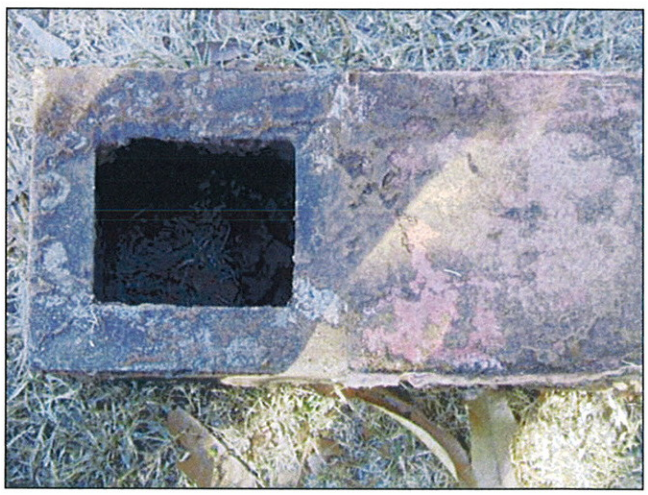


Figure 4. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *M. darwiniensis*.

Figure 5. Fresh feeder blocks were placed in each of the test units for *M. darwiniensis*.

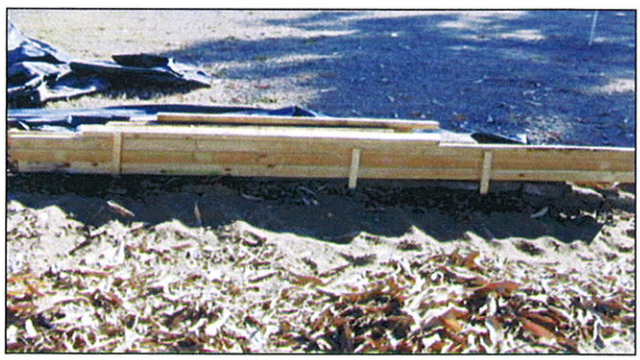


Figure 6. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

Figure 7. *Coptotermes acinaciformis* trench uncovered for 36 month inspection.

Figure 8. Feeder stakes abutting the Termite *Protectant*^{tm} barrier were badly damaged by *C. acinaciformis*.

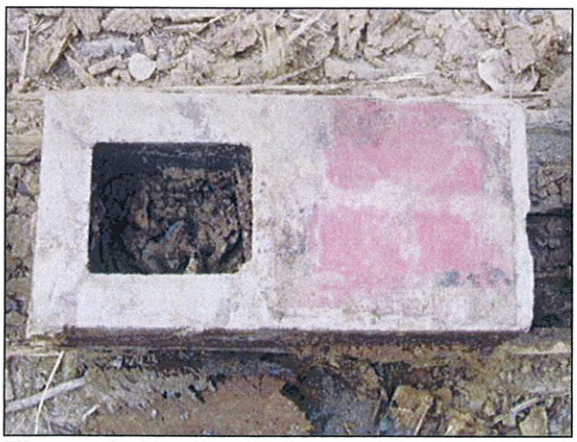


Figure 9. Feeder timber within a test unit was completely destroyed by *C. acinaciformis*. There had been no breach of the Termite *Protectant*^{tm} barrier.

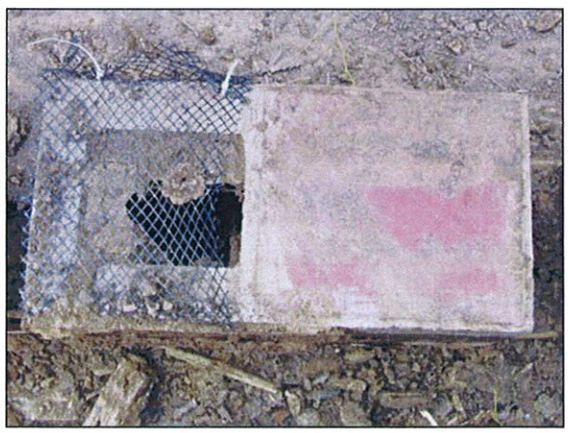


Figure 10. An audible "shake" test of either of the 5 test units revealed enclosed feeder timber was untouched by *C. acinaciformis.*

Figure 11. Fresh feeder material was placed into each of the test units.

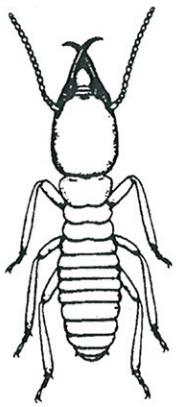
Figure 12. The 5 test units were surrounded by fresh feeder timber, recovered with black plastic and secured.

The trials were inspected on the 24th August 2009. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*^{tm} barrier. This was despite evidence of strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). As most of the "unprotected" termite feeder material had been consumed by the termites at both sites all the feeder material (within the test units and surrounding the test units) was replenished. This would ensure continued foraging by the termites and hence sustained termite pressure on the test units.

Inspection Report – 48 months

For The White Ant Company Pty Ltd

20th September 2010



Prepared by B.C. Peters and C.J. Fitzgerald

Queensland Government
Department of Primary Industries and Fisheries

FIELD EVALUATION OF PROTECTANT™ AS A PHYSICAL BARRIER TO PREVENT SUBTERRANEAN TERMITE INGRESS

SUMMARY

The trials were inspected on the 16th August 2010. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*^{tm} barrier. This was despite evidence of strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). After 4 years of exposure to sustained, strong termite pressure at both sites the trial was concluded.

Figure 1. *Mastotermes darwiniensis* trench uncovered for the 48 month inspection.

Figure 2. The presence of numerous *M. darwiniensis* signalled strong termite pressure at the trial site.

Figure 3. Feeder timber within the accessible section of the block was badly damaged by *M. darwiniensis*.

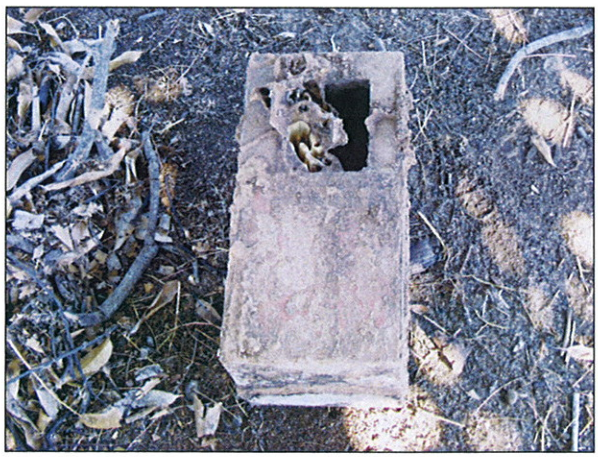


Figure 4. Feeder timber within a test unit was completely destroyed by *M. darwiniensis*. There had been no breach of the Termite *Protectant*^{tm} barrier.

Figure 5. An audible "shake" test of the 4 test

This concluded the trial for *M. darwiniensis* so the trench was not re-established. Four years of exposure to sustained strong termite pressure had revealed no breaches of the Termite *Protectant*^{tm} barrier.

units revealed enclosed feeder timber was untouched by *M. darwiniensis*.

Figure 7. *Coptotermes acinaciformis* trench uncovered for the 48 month inspection.

Figure 8. Feeder material abutting the Termite *Protectant*^{tm} barrier was badly damaged by *C. acinaciformis*.

Figure 9. The test units exposed. Extensive damage to the feeder material abutting the units signalled strong termite pressure.

Figure 10. Feeder timber within a test unit was completely destroyed by *C. acinaciformis*. There had been no breach of the Termite *Protectant*^{tm} barrier

Fig.11. An audible "shake" test of the 4 test units revealed enclosed feeder timber was untouched by *C. acinaciformis*.

The trials were inspected on the 16th August 2010. All test units were inspected from both trials and there was no evidence that termites had breached the Termite *Protectant*^{tm} barrier. This was despite evidence of strong termite pressure at both trial sites. Non-breaching of the barrier was confirmed by the absence of termites and/or termite mud packing on the feeder material enclosed by the test barrier (confirmed by an audible "shake" test). After 4 years of exposure to sustained, strong termite pressure at both sites the trial was concluded.

This concluded the trial for *C. acinaciformis* so the trench was not re-established. Four years of exposure to sustained strong termite pressure had revealed no breaches of the Termite *Protectant*^{tm} barrier.