

REPORT OF THE

STANDING COMMITTEE ON CONSTITUTIONAL AFFAIRS

IN RELATION TO

A PETITION OBJECTING TO THE PRACTICE OF LANDFILLING WITH DEMOLITION WASTE IN THE AREA OF BIRD AND JACKSON ROADS IN MUNDIJONG: PART 2

Presented by Hon Murray Nixon JP MLC (Chairman)

STANDING COMMITTEE ON CONSTITUTIONAL AFFAIRS

Date first appointed:

December 21 1989

Terms of Reference:

- 1 The functions of the committee are to inquire into and report on:
 - a) the constitutional law, customs and usages of Western Australia;
 - b) the constitutional or legal relationships between Western Australia and the Commonwealth, the States and Territories,

and any related matter or issue;

- c) a bill to which SO 230 (c) applies but subject to SO 230 (d);
- d) any petition.
- 2 A petition stands referred after presentation. The committee may refer a petition to another standing committee where the subject matter of the petition is within the terms of reference of that standing committee. A standing committee to which a petition is referred shall report to the House as it thinks fit.

Members as at the time of this inquiry:

Hon Murray Nixon JP MLC (Chairman) Hon Ray Halligan MLC Hon Ken Travers MLC

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CONTENTS

1	Introduction	1
	ISSUES ADDRESSED BY THE COMMITTEE	
3	HEARINGS	2
4	TERMS OF REFERENCE	3
5	ASBESTOS	3
6	WATER	9
7	CONCLUSIONS	21
	APPENDIX 1: WASTE TYPES	25

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1 INTRODUCTION

- 1.1 On June 30 1998 Hon Jim Scott MLC tabled a petition (*Tabled Paper #1754*) objecting to the practice of landfilling with demolition waste in the area of Bird and Jackson Roads in Mundijong. The petitioners expressed concern that landfilling with demolition waste was contaminating the local wetlands, environment and drinking water. The petitioners expressed concern regarding the health of the local population, and the potential for danger to the local lifestyle, property values and local businesses.
- 1.2 The petition was retabled (*Tabled Paper #171*) on September 16 1998 by Hon Jim Scott MLC. The petitioners again expressed concern that landfilling with demolition waste was contaminating the local environment.
- 1.3 The Standing Committee on Constitutional Affairs (the Committee) inquired into the matters raised in the petition and tabled its report in the Legislative Council (Report Number 37) on July 1 1999.
- 1.4 The principal petitioner, Mr Paul Nield, and his wife, Mrs Christine Nield, were not satisfied with the Committee's conclusions and recommendations. Mrs Nield telephoned the Committee staff on July 8 1999 and both she and Mr Nield expressed their disappointment with the report.
- 1.5 Mr Nield subsequently wrote to the Committee on a number of occasions regarding the Committee's report. Mr Nield claimed, among other things, that:
 - his property (Lot 1 Boomerang Road, Mundijong) was outside the terms of reference of the petition and should not have been included in the report;
 - the Committee's report was a "whitewash" and "negligent"; and
 - Hon Cheryl Edwardes MLA, Minister for the Environment supplied misleading information to the Committee via the Department of Environmental Protection (DEP). Mr Nield also claimed that the Minister mislead the Committee to engineer a preconceived report and that she also used that information to mislead the public. He claimed that this type of malicious, misleading propaganda was being used to protect polluters to the

ongoing detriment of the citizens of Western Australia.

1.6 Having considered the matters raised by the Nields the Committee proceeded to examine the Nields' claims.

2 ISSUES ADDRESSED BY THE COMMITTEE

- 2.1 The Committee addressed the following issues:
 - the claim by the Nields that the Committee had failed to follow its terms of reference;
 - the current practices and procedures in Western Australia for disposing of asbestos¹ in landfill sites; and
 - the current methods and guidelines used in Western Australia for testing water for contaminants.

3 HEARINGS

- 3.1 As part of its examination, the Committee conducted four hearings into the above matters. The hearings were conducted on March 22 2000, April 5 2000, April 10 2000 and December 15 2000. The witnesses who appeared before the Committee were:
 - Mr Paul Nield, principal petitioner;
 - Mr Ross Belton, Research Officer for Dr Judy Edwards MLA;
 - Mr Lee Bell, Secretary, Contaminated Sites Alliance;
 - Mr Gordon McLean, Managing Director, McLean Recycling Industries Pty Ltd;
 - Mrs Delys MacLeod, Administration Manager, McLean Recycling Industries Pty Ltd and occupier of Lot 2 Bird Road, Mundijong;
 - Mr Fred Tromp, Director, Pollution Prevention Division, DEP;
 - Mr Philip Hine, Assistant Director, Pollution Prevention Division, DEP;
 - Dr John Ottaway, Assistant Director, Waste Disposal, Waste Management Division, DEP;

The Committee notes that in many cases in this report the word "asbestos" is used when technically the material referred to is an asbestos cement product.

- Mr Wayne Ennor, Environmental Officer, DEP;
- Dr Steve Appleyard, Supervising Hydrogeologist, Land Use Impact Branch, Water and Rivers Commission (WRC);
- Mr Ian Bodill, Former Chief Executive Officer, Shire of Serpentine-Jarrahdale; and
- Mr Andrew Watson, Senior Executive Manager, Environmental Planning and Development, Shire of Serpentine-Jarrahdale.

4 TERMS OF REFERENCE

- 4.1 The Committee considered Mr Nield's claim that his property was outside the terms of reference of the petition and should not have been included in the report.
- 4.2 The petition states that the petitioners object to the practice of landfilling with demolition waste "in the area of Bird and Jackson Rds Mundijong."
- 4.3 The Committee's terms of reference state that the functions of the Committee are to inquire into and report on, among other things, any petition. The terms of reference also state that "A standing committee to which a petition is referred shall report to the House as it thinks fit." The Committee's terms of reference are set out in full at the beginning of this report.
- 4.4 The Committee considers that Lot 1 Boomerang Road, Mundijong is in the area of Bird and Jackson Roads, Mundijong, and that the property falls within the general ambit of the subject matter of the petition. The Committee concludes that it has followed its terms of reference.

5 ASBESTOS

- 5.1 The Committee considered the current practices and procedures in Western Australia for disposing of asbestos in landfill sites.
- 5.2 At the hearing on March 22 2000 Mr Belton commented, among other things, on the issue of the disposal of asbestos.
- 5.3 Mr Belton submitted that there has been a distinct lack of action in prosecuting for the illegal tipping of asbestos in the area and that there has also been a distinct lack of communication between the Health Department of Western Australia (HDWA) and the DEP regarding the forwarding of information relating to possible breaches of the *Health (Asbestos) Regulations 1992* (Health Regulations).

- Mr Belton told the Committee that in correspondence with Dr Judy Edwards dated March 8 1999 the Minister for the Environment stated that there was no formal process through which the DEP notified the HDWA of possible breaches of the asbestos regulations, but that close contact was maintained between the two departments where such a possibility existed.
- 5.5 The Committee was told that in subsequent correspondence the Minister advised Dr Judy Edwards that offences against the Health Regulations were dealt with by local government and not the DEP.
- 5.6 Mr Belton submitted that there is a clear need for a memorandum of understanding between the DEP and the HDWA about possible breaches of the asbestos regulations to ensure that illegally dumped asbestos is not tolerated.
- 5.7 Mr Bell also commented on the issue of the disposal of asbestos and submitted that the managers of the landfill sites may not be qualified or may not be capable of assessing the nature of the material entering the sites. He submitted that some regulation needs to occur.
- 5.8 At the same hearing on March 22 2000 Mr Tromp also discussed the issue of asbestos disposal. He commented on the DEP's involvement in monitoring and testing landfill sites in Western Australia prior to and after September 1996.
- 5.9 Mr Tromp advised that before October 1996 the DEP had no statutory status in regulating landfill. It provided advice as required to the Environmental Protection Authority (EPA).
- 5.10 Mr Tromp also advised the Committee that asbestos issues fall within the province of the *Health Act 1911* (Health Act), administered by the HDWA. The Health Act is administered locally, through delegation to local shires.
- 5.11 The Committee was advised that local shires appoint health inspectors to deal with the disposal of asbestos. Mr Tromp advised that "In relation to Bird Road the shire has been very heavily involved in all of the issues."
- 5.12 At the hearing on April 5 2000 the Committee again addressed the question of the disposal of asbestos. Mr Tromp re-iterated his previous advice that the management of asbestos material is delegated under the Health Act and asbestos regulations vested with local shires. Mr Tromp stated that the primary responsibility for dealing with asbestos-related issues lies with local shires, however added that when the DEP becomes aware of asbestos issues in general, it normally liaises with the shire in relation to detection, removal and disposal arrangements.

- 5.13 Mr Tromp advised the Committee that "The health issue with asbestos is fibres in the air. Normally the approach to dealing with a potential asbestos problem is to adopt a management procedure. In the case of Mr Nield's property, that involved following the standard Health Department advice that a metre of fill be used to cover it and no access be allowed. That is normally sufficient to ensure that no fibres are released."
- 5.14 Mr Tromp also told the Committee that "In the case of loose materials, it is a matter of ensuring that the material is properly packaged and handled in accordance with the asbestos regulations and disposed of at a landfill site."
- 5.15 He told the Committee that sampling for airborne asbestos fibres would not be the primary reaction in the case of an asbestos situation. Mr Tromp explained that that method is very commonly used when asbestos materials are removed in a very concentrated fashion in industrial situations, such as de-lagging of boilers or in ships, or stripping asbestos that may have been used as acoustic material in buildings.
- 5.16 Mr Tromp told the Committee that "We are talking about asbestos cement it is not asbestos itself. Monitoring is not likely to provide very much useful information."
- 5.17 The Chairman sought clarification from Mr Tromp by putting forward the proposition that "In other words, there is a correct prevention procedure to ensure they [asbestos fibres] do not become a health problem." Mr Tromp agreed that that would be the correct management response.
- 5.18 The Committee was advised that if the DEP goes to a landfill site, does an inspection and finds asbestos not covered, it employs the measures previously mentioned (see paragraph 5.13) such as covering the asbestos with a metre of fill. The less the material is handled the lower the rate of exposure.
- 5.19 Mr Ennor advised the Committee that advice given by the DEP regarding the disposal of asbestos was on a case-by-case basis. He told the Committee that the DEP would have to identify whether the material was asbestos, look at the quantities involved and make a management decision. He informed the Committee that the DEP does not have any policy stipulating a procedure for a specific amount of asbestos.
- 5.20 The Committee was advised that the material most likely to be present on all sites is asbestos cement. Mr Tromp advised the Committee that those materials can be ten per cent asbestos and 90 per cent cement and that the fibres can be a mixture of white and blue asbestos.
- 5.21 Mr Tromp advised the Committee that the only ongoing landfill which is occurring in the area is on Lot 12 Bird Road, Mundijong. The other sites are no longer accepting waste of any kind.

- 5.22 Mr Tromp informed the Committee that the DEP had inspected the landfill site at Lot 12 Bird Road seven times in the past 12 months. He also informed the Committee that in addition, four other visits had taken place to other locations in the area. On only one occasion had asbestos cement been detected. Mr Tromp told the Committee that the Shire of Serpentine-Jarrahdale (the Shire) had taken charge of the situation, and that he believed that the material was removed to the Shire's landfill.
- 5.23 At the hearing on April 10 2000 Mr Watson advised the Committee that in the past the Shire had taken asbestos at its landfill site, but because the Shire was closing down the landfill site at the end of the financial year (June 30 2000) the Shire was unable to provide appropriate cover for asbestos in accordance with HDWA requirements. He advised that the Shire was not currently taking asbestos.
- 5.24 Mr Watson agreed with Hon Ken Travers' statement that the Shire was responsible for applying the health regulations to asbestos dumping on both its own and any sites within the area. He also told the Committee that in all those matters the Shire has relied fairly heavily on the DEP because "... for reasons largely of its own doing, it has got itself involved in many of these matters. It has often been a partnership arrangement, I suppose. Often it has been involved in matters before the council."
- 5.25 Mr Watson advised the Committee that the Shire does not have a monitoring program in place but operates on a complaints basis. He submitted that the Shire does not have the resources for an active monitoring program.
- 5.26 Mr Watson informed the Committee that on receipt of a complaint the Shire would send someone to look at the site, and that it would not be uncommon for the DEP and the Shire officer to visit the site together. Mr Watson told the Committee that he did not know of any occasion on which the Shire had received a complaint concerning asbestos that was not followed up on the day.
- 5.27 The Committee requested further information from the DEP as a result of matters raised at the hearing on April 5 2000. In response to its request, the Committee received a letter from Mr Fred Tromp dated April 20 2000.
- 5.28 Mr Tromp advised the Committee that the handling of asbestos wastes, once received at a landfill authorised to accept such wastes, is governed by licence conditions. In most cases this involves requirements to locate the waste in a specific area of the landfill and to cover the material as soon as possible with at least one metre of fill.
- 5.29 Mr Tromp also advised that landfill operators are encouraged to provide facilities to enable wrapping of asbestos wastes where these arrive at a landfill unwrapped. Mr Tromp informed the Committee that this is not expected to be a common occurrence

and should only involve householders who are unaware of the wrapping requirements and who only have small amounts of waste.

- 5.30 The Committee was advised that in future, the presence of asbestos wastes being present in material used for landfilling is not expected to be an issue because inert waste (which commonly includes construction and demolition waste) will be defined to specifically exclude asbestos. This is set out in Table 1 on page 15 of the "Guidelines for Acceptance of Solid Waste to Landfill", prepared by the DEP, marked "Draft for comment" and dated March 2000. Table 1 of these Guidelines is attached to this report as Appendix 1.
- 5.31 Mr Tromp also advised in his letter dated April 20 2000 that when the DEP is notified that asbestos material has been dumped at unauthorised sites, the Environmental Health Officer from the local government will be notified to ensure that the asbestos material is handled in accordance with the Health Regulations.
- 5.32 Mr Tromp also advised the Committee that regarding the issue of future management for asbestos disposal, there is agreement that the HDWA will transfer responsibility for asbestos disposal issues to the DEP so that all waste disposal activities are managed through one authority. Mr Tromp advised that in accordance with this agreement the DEP has prepared regulations for the management of transport of controlled wastes, including asbestos wastes, which are planned to be gazetted soon.
- 5.33 The Committee was advised in a facsimile letter from Mr Wayne Ennor dated December 6 2000 that it is proposed that these regulations will be enacted by January 1 2001. The Committee notes that the management of transport of controlled wastes is currently under HDWA control.²
- 5.34 Mr Tromp advised that the features of the proposed controlled waste regulations represent a change from the existing requirements for asbestos disposal and are as follows:
 - waste disposal sites will be defined as premises appropriately licensed under Part V of the *Environmental Protection Act 1986* rather than as a schedule in the Health Regulations;
 - labelling requirements for asbestos wastes will be included;
 - penalties for breach of the regulations will be in line with those for breaches of waste disposal regulations for other waste types; and
 - waste transport operators who transport asbestos wastes for commercial gain will need to be licensed by the DEP and will be subject to conditions

The Committee notes that at the time of completing this report these regulations have not been gazetted.

governing the handling of such wastes.

- 5.35 Mr Tromp advised the Committee that the HDWA proposes to implement matching amendments to the Health Regulations to complete the transfer of responsibilities to the DEP.
- 5.36 At the hearing on December 15 2000 Hon Ken Travers noted that the DEP will take over responsibility from the HDWA for the management of asbestos and queried whether policy guidelines had been developed to manage situations where asbestos is identified on a landfill site. Mr Hine told the Committee that the DEP would probably adopt a general policy position that the asbestos should be removed. He told the Committee that that would apply to any form of inappropriate disposal of any sort of waste.
- 5.37 Mr Hine also told the Committee that he did not want to completely eliminate the discretion where it was deemed to become less hazardous and safer for all concerned to leave the asbestos where it was. He submitted that it would really depend on how the asbestos presented itself. If it was neatly wrapped in plastic, as it should be, there would be nothing wrong with picking it up and taking it away. However if the asbestos was in lots of small, broken up pieces and the DEP was concerned about the potential for lots of small fibres, they might still decide that it would be safer to cover it quickly and remove the danger.
- 5.38 Mr Hine also told the Committee that the DEP might call in the HDWA for assistance if they thought it was necessary, since it has traditionally had that expertise.
- 5.39 At the hearing on December 15 2000 Hon Ken Travers also queried whether the areas where asbestos had been dumped had been marked as being contaminated with asbestos and as areas that should not be excavated.
- 5.40 Mr Ennor told the Committee that he did not think so.
- 5.41 Hon Ken Travers put it to the witnesses that where asbestos has been dumped, that area should be identified as containing asbestos. He suggested that that would stop someone in ten years' time putting a backhoe through the area without realising the asbestos was there.
- 5.42 Mr Ennor agreed that that was a good point and told the Committee "It may be something that we should look into."
- 5.43 Mr Hine told the Committee that it is generally the case that, in a sense, the landfill site becomes a contaminated site by definition, so that any suggestion of development

on that site would be subject to some scrutiny. He also told the Committee that the Health Act prohibits construction on putrescible landfill.

6 WATER

- 6.1 The Committee considered the current methods and guidelines used in Western Australia for testing water for contaminants.
- 6.2 At the hearing on March 22 2000 Mr Belton stated that the appropriate standards that should be applied to protect the environment are the Australian and New Zealand Environment and Conservation Council "Australian Water Quality Guidelines for Fresh and Marine Waters" 1992 (ANZECC Guidelines 1992) and the National Health and Medical Research Council and Agriculture and Resource Management Council of Australia and New Zealand "Australian Drinking Water Guidelines" 1996 (Australian Drinking Water Guidelines 1996).
- 6.3 At the hearing on December 15 2000 Dr Appleyard advised the Committee that the new ANZECC 2000 criteria, which are now in draft form, have been released. He informed the Committee that the ANZECC 2000 criteria move beyond setting a rigid number and asking whether it is above or below that. It takes a more holistic view of the ecosystem and looks at total impacts.
- 6.4 Dr Appleyard also advised the Committee that the ANZECC 2000 criteria sets out criteria about how mixing zones can be built into proposals to allow concentrations at the end of mixing zones to achieve those fresh water criteria. Dr Appleyard told the Committee that "Rather than just looking at the trigger above or below that solid number, we must look at the new guidelines and how they deal with ecosystems."
- 6.5 In the Australian Drinking Water Guidelines 1996 the health value for dieldrin is expressed in milligrams per litre and is 0.0003 milligrams per litre (0.3 micrograms). According to ANZECC this guideline value, based on present knowledge, does not result in any significant risk to the health of a consumer over a lifetime of consumption of that water.
- An issue raised at the hearing on April 5 2000 was whether the guidelines are expressed in micrograms or milligrams per litre. Mr Tromp admitted that confusion relating to micrograms and milligrams can arise when comparing results. He advised that to overcome the confusion, he converts all the results to micrograms. The numbers are then comparable.
- 6.7 In this report all test results and guideline values for contaminants in water have been converted to micrograms for ease of comparison.

- 6.8 Mr Belton told the Committee that a point of conjecture was at what point the guidelines should be applied. It was in dispute whether they should be applied at the point the water was discharged from a property or the point at which it was discharged from a drain.
- Mr Belton stated that the EPA does not differentiate between man-made and natural drains; but that they are all defined as watercourses. He told the Committee that at a meeting with representatives from the Water and Rivers Commission (WRC) in January 2000 he explained his concern about the differentiation between a man-made or altered watercourse and a natural watercourse.
- 6.10 Mr Belton told the Committee that at the meeting he requested a copy of the definitions used and the policy covering determination of relevant water quality guidelines. He advised that Dr Judy Edwards received a letter from Hon Dr Kim Hames MLA, Minister for Water Resources confirming that all drains are waterways and that there is no differentiation between man-made and natural or modified drains.
- 6.11 Mr Belton also told the Committee that the Minister's letter stated that the WRC "... considers that the quality of water discharged to a drain should conform to standards required to protect a receiving water body and should not be influenced by the quality of water in the drain at the point of discharge."
- 6.12 Mr Belton also expressed concern that samples from the drinking water bore at Lot 2 Bird Road in August 1998 showed a level of dieldrin at 0.003 micrograms per litre, above the guidelines for marine and fresh waters. He also told the Committee that sampling of the same drinking water bore in October 1999 showed a level of dieldrin at 0.021 micrograms per litre and clorpyrifos at 0.36 micrograms per litre. He expressed concern that "These levels are both way above the guidelines for marine and fresh water. More importantly, it shows a dramatic tenfold increase in the level of dieldrin in the drinking water bore in the space of a year. This bore was used for drinking water purposes."
- 6.13 Mr Belton told the Committee that dieldrin is leaching into the ground water and the rate of contamination is increasing, with possible consequences for other drinking water bores in the area. He told the Committee that a number of properties in this area rely solely on their bores for drinking water.
- 6.14 Mr Belton submitted that "The evidence is that heavy metals and pesticides are leaching from the site at levels above the guidelines for marine and fresh waters and are increasing in the drinking water at Lot 2 Bird Road. There must be an investigation into the process by which these landfill sites are approved and monitoring and remediation of the ground water plume must also be undertaken."

- 6.15 Mr Bell commenced his submission by informing the Committee that his involvement with the Mundijong sites began in 1997. He advised that he collected water samples from a drinking water bore from Lot 2 Bird Road and upon analysis those samples showed there was reason for concern with the levels of pesticide.
- 6.16 When he visited the property, a number of the members of the household were ill. He told the Committee that they believed their illnesses may have been related to the drinking water they were consuming. Mr Bell stated that he could not make any conclusions that pesticides were necessarily the problem relating to health as bore water is not suitable for drinking. However he did state that "It is highly significant ... the level of increase from that particular bore was something of a tenfold nature."
- 6.17 Mr Bell submitted that ground water contamination is occurring and pesticides are in the ground water. He stated that "In accordance with regulatory procedures, that needs to be investigated and the source needs to be brought under control. That is not occurring and, if anything, the problem is being exacerbated by the letting of additional licences which will compound the problem by bringing in additional material."
- 6.18 Mr Bell also stated that "The continued quibbling over test results and the departmental massaging of limits of detection and water quality guidelines to provide an excuse for a lack of remedial or interventionist action is unacceptable in this instance."
- 6.19 Another issue raised by Mr Bell was the limit of detection of pesticides. He submitted that this was one of the chief problems. Mr Bell explained that "The limit of detection is what the laboratory sets as to what its equipment may be able to detect down to the smallest amount of material in the sample." Mr Bell stated that those limits can be set by the client by requesting the laboratory to set a particular limit of detection.
- 6.20 Mr Bell was concerned that when samples were taken in July 1997, the DEP stipulated that the limit of detection would be 0.01 micrograms per litre. He stated that "Clearly, that means that the results of the test of that sample will become meaningless in terms of ecological investigation levels or ecological action levels for the water." Mr Bell submitted that that sort of manipulation is what is causing difficulties in evaluating exactly what the environmental impact is.
- 6.21 Mrs MacLeod also addressed the issue of water quality in her submission to the Committee on March 22 2000. Mrs MacLeod told the Committee that she uses the bore water on Lot 2 Bird Road to shower and wash up. Mrs MacLeod told the Committee that she is very sensitive to chemicals but that she has not had a problem with the bore water. Mrs MacLeod advised that she does not drink the bore water.

- 6.22 Mrs MacLeod told the Committee that she has a daughter and she would not move into a contaminated area. She submitted that she was conscious of the environment and would not raise her daughter in a contaminated area.
- 6.23 The final witnesses to give evidence on March 22 2000 were Mr Tromp and Mr Ennor.
- 6.24 Mr Tromp told the Committee that in determining what guidelines and criteria should apply to the discharge of leachate from waste management facilities, the DEP takes a number of factors into consideration. The receiving environment determines the criteria the DEP uses as a guide to assess potential environmental impact.
- 6.25 For example, if a licensee discharged leachate from a pond into a fresh water river, the ANZECC Guidelines 1992 will be used as the river will be considered a fresh water river environment.
- 6.26 The most probable or known types of contaminants that are contained in the discharge are usually sampled. Mr Tromp advised that in the past the DEP has used the ANZECC Guidelines 1992, using the guideline criteria for raw water, irrigation water and aquatic ecosystem protection as well as the Australian Drinking Water Guidelines 1996 to assess the discharges from Lot 12 Bird Road.
- 6.27 Mr Tromp advised the Committee that the DEP met with representatives from the WRC in February and March 2000 to discuss water quality guidelines and to decide which criteria most appropriately applies to leachate discharges. He advised that as a result, the DEP will use the aquatic ecosystem protections available in the ANZECC Guidelines 1992 as a guide to assist monitoring discharges in the future.
- 6.28 He stated that there have been suggestions that there are high levels of heavy metals and organochlorine pesticides in waters in the area of Bird Road. He stated that all information available to the DEP so far indicates that these materials are present, as they are in many water systems in Western Australia, but at levels well below any level of concern. He submitted that the DEP will continue to monitor the situation to ensure the environment remains protected.
- 6.29 Mr Tromp discussed the landfill site at Lot 12 Bird Road which is operated by McLean Recycling Industries Pty Ltd (MRI). He advised the Committee that one of the main environmental issues concerning the site is the potential for leachate from the site to enter the Birrega drainage system.
- 6.30 Mr Tromp explained that the leachate generated by MRI is collected around the perimeter of the premises and directed to a clay lined pond where it is stored until an

appropriate method of disposal can be determined in accordance with the licence conditions for the site.

- 6.31 A formal licence inspection of the MRI landfill site was conducted in January 2000 and revealed that the licensee had substantially complied with the licence conditions. Mr Tromp told the Committee that the inspector noted that the potential problems normally associated with inert landfills such as dust emissions were well controlled by the licensee.³
- 6.32 Mr Tromp told the Committee that on several occasions MRI had requested approval from the DEP to discharge leachate from the leachate pond in accordance with its licence conditions. The Committee was advised that the DEP has issued an approval for MRI to discharge leachate on each occasion and is satisfied that the discharge sample results indicate that the environmental impact on the Birrega drain is negligible.
- 6.33 The Committee was advised by Mr Tromp that the DEP is aware that there has been one unauthorised overflow of leachate from Lot 12 Bird Road. It was advised on October 15 1999 that a minor amount of leachate had overflowed from the leachate pond at the premises into the Birrega drain. Two inspectors from the DEP attended the premises that afternoon and took samples from the leachate pond and the Birrega drain. Mr Tromp advised that the DEP will continue to regulate the monitoring of leachate discharges from Lot 12 Bird Road.
- 6.34 At the hearing on April 5 2000 Mr Tromp advised the Committee that in response to a request by the DEP on December 7 1999, MRI has submitted a strategy which outlines modifications to stormwater drainage and the leachate drainage system in order to prevent a repeat of the situation in which leachate was accidentally discharged. The modifications include an increase in the height of the bund wall of the leachate pond which, according to MRI's environmental consultant, effectively doubles the storage capacity of the pond. A linear measure has also been installed in the pond which will be regularly checked and which will trigger a sampling response, and a request for DEP approval to discharge by MRI's environmental consultant when the pond reaches approximately 70 per cent of its capacity.

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The Committee was also advised by Mr Tromp in a letter dated March 1 2000 that "The DEP considers Lot 12 Bird Road (MRI) to be a well operated premises and was recently inspected in order to determine compliance with licence conditions." A copy of the inspection report was provided to the Committee. It states that the inspection was carried out on January 28 2000 on a hot, dry day with strong easterly winds prevailing. The inspection revealed that the licensee was operating the premises in accordance with all licence conditions with the exception of one condition; that is, a 5 000 litre hydrocarbon storage tank was found to be unbunded. The inspection report notes that the licensee was directed to store the tank in an appropriately bunded area. The inspection report states that the premises were managed and operated at a high standard.

- 6.35 In order to reduce the amount of leachate produced by the landfill on Lot 12 Bird Road, MRI has advised the DEP that the filled areas of the site will be progressively sealed with clay, concrete, bitumen or buildings and structures. A stormwater system will then capture it and divert the uncontaminated stormwater into the Boomerang or Birrega drain.
- 6.36 Mr Tromp told the Committee that the DEP has also required the sampling of the Birrega drain upstream and downstream of the discharge to evaluate the impact of the discharge. The DEP has placed conditions on the discharge to ensure that the maximum amount of dilution will occur. The DEP aims for discharge either during or soon after rainfall events.
- 6.37 The Committee was advised that in all of these cases the DEP has not found levels in the Birrega drain system in excess of 0.001 micrograms per cubic litre which is the detection limit being used which is approximately half that of the aquatic ecosystem protection level that is required. Mr Tromp told the Committee that from the DEP's point of view, the water in the drain is already meeting the aquatic ecosystem protection levels.
- 6.38 Mr Ennor advised the Committee that the water in the Birrega drain had been tested approximately four times under authorised discharge during 1998 and that during those tests there was no evidence that it exceeded the acceptable level for marine waterways.
- 6.39 Mr Tromp also briefly discussed the landfill site at Lot 1 Jackson Road. He told the Committee that the DEP considers the potential for environmental impact to be extremely low and that it does not intend to take any action.
- 6.40 Mr Tromp referred to Lot 2 Bird Road and stated that the DEP has been monitoring the remediation process on the site. He advised the Committee that when the DEP became aware that the property was being put up for sale, a pollution abatement notice was served, requiring the occupant or owner to cease accepting demolition waste.
- 6.41 The Committee was advised that this measure has been complied with.
- 6.42 The pollution abatement notice also required the owners to remove all visible and reasonably accessible potentially polluting waste material, such as copper, lead, zinc coated metal and pesticide-treated timbers and to dispose of them at a licensed landfill site.
- 6.43 Mr Tromp advised that this measure has also been complied with for the work completed so far. He advised that as of the week commencing Monday, March 13 2000 approximately 85 per cent of the work had been completed.

- 6.44 Mr Tromp advised that a further requirement of the pollution abatement notice was that the waste material be capped with either one metre of clay or half a metre of clay over half a metre of clean fill. The clay must be compacted over the top and sides of the waste to minimise the possible ingress of rainwater and leaching of pollutants into the environment. He advised that as at March 17 2000 approximately 95 per cent of this had been completed.
- 6.45 The Committee was also advised that the waste at Lot 15 Bird Road has been removed and consolidated with the waste at Lot 2 Bird Road. Before transferring the waste, the majority of the timber and scrap metal was removed. The Committee was advised that as the inert waste has been removed from Lot 15 Bird Road the DEP is no longer concerned about the environmental impacts from this site.
- 6.46 Mr Tromp stated that "The Department of Environmental Protection is satisfied that the issues of landfill and inert waste in the area of Bird and Jackson Roads, Mundijong have been adequately addressed. The Department of Environmental Protection considers the potential for environmental impacts from the filled area to be very low in terms of the nature of the waste material, the surrounding or receiving environment and the environmental controls that have been implemented in the Bird and Jackson Roads area. Nevertheless, the Department of Environmental Protection will continue to monitor the situation in the area."
- 6.47 The witnesses from the DEP also appeared before the Committee at its hearing on April 5 2000.
- 6.48 At that hearing Dr Ottaway told the Committee that "It is important to note that water quality guidelines are just that guidelines." Dr Ottaway submitted that the values for drinking water quality are derived by toxicologists who make calculations on questions such as 'If a person were drinking contaminated water exclusively every day for 70 years what would be the concentration of contaminant that would result in a significantly increased risk of developing some health problem?'
- 6.49 Dr Ottaway illustrated this by giving the example that if the relevant guideline for a contaminant is one part per billion, it does not necessarily mean that finding a value of 0.5 parts per billion should be regarded as acceptable or that finding a value of two parts per billion should be regarded as unacceptable. He stated again that they are guidelines.
- 6.50 Dr Ottaway told the Committee that whether or not the contaminant level is acceptable is a matter of professional judgment that takes into account matters such as the relevant guideline, the level found in the particular sample and how much of the water is used for drinking and bathing purposes.

- 6.51 The Committee was informed that where an excessively high level of contaminant is found in a sample, a range of options is available to the DEP. If the source of the contamination can be determined and remedial action is feasible, the individual or company concerned can be required to stop the pollution and make good the damage.
- 6.52 In some instances, because of the way in which the pollution has occurred, the DEP will prosecute the person or company responsible.
- 6.53 Dr Ottaway told the Committee that there are some instances in which it has been established that pollution has occurred but, because of the way it was done and the physical circumstances, it has not been possible to prosecute anyone or to take remedial action. In those circumstances, all the DEP can do is advise the public that the ground water is contaminated and that the water should not be used for drinking, bathing, or irrigating plants.
- Mr Tromp agreed with Dr Ottaway's submission concerning the application of water quality guidelines. Mr Tromp drew the Committee's attention to the preface to the ANZECC Guidelines 1992 and in particular to the final three paragraphs. He noted that the preface states that the guidelines "... cannot hope to apply to the whole range of water environments across Australia without modification to address local conditions." The preface states that the ANZECC Guidelines 1992 "... may be applied in a wide range of circumstances but should be treated, in many cases, as long-term goals to be achieved by a concerted management program rather than as immediately achievable outcomes."
- 6.55 Following on from this point, Hon Ken Travers queried at what point the guidelines were applied when testing the discharge of leachate.
- 6.56 Mr Tromp advised that upstream and downstream tests of the discharge have been taken to ascertain what level of dieldrin comes down to the drain from the north and what concentration is occurring due to the discharge mixing with the water already flowing in the drain. Mr Tromp advised that both samples have returned levels less than 0.001 micrograms during the discharge period.
- 6.57 Mr Tromp told the Committee that the water going into the drain was higher than the acceptable level but that in management terms where industrial discharge occurs, an area defined as the mixing zone is allowed where the level that is normally required for attainment within the waterway is not being met while the mixing takes place. Mr Tromp noted that this is mentioned in the ANZECC Guidelines 1992.
- 6.58 Mr Tromp advised the Committee that "We believe the distance the discharge travels from MRI into the drain is probably quite short and may be only in the order of tens of

- metres. We have liaised with the Water and Rivers Commission and it is happy with that situation."
- 6.59 Mr Tromp explained that the requirement for MRI to notify the DEP prior to discharge and to provide the conditions in the pond is to assure the DEP that sufficient mixing will occur before it is discharged.
- 6.60 As a result of matters raised at the hearings, the Committee wrote to the WRC on July 21 2000 seeking further information about the current methods and guidelines used in Western Australia for testing water for contaminants. The Committee questioned:
 - what are the appropriate guidelines for testing water being discharged into a
 watercourse for substances such as dieldrin, cadmium, copper, lead nickel,
 zinc and mercury and for organochlorine pesticides; and
 - at what points in a watercourse should those guidelines should be applied; that is, on the water to be discharged into the watercourse or on the watercourse itself above and below the point of discharge.
- 6.61 The Committee received a letter from Mr Tony Laws, Manager, Water Quality Protection Branch, WRC dated July 26 2000. Mr Laws advised the Committee that the WRC advocates the use of the *Australian/New Zealand Standard 5667 1(1998) Water quality Sampling, Parts 1 and 6* (Standard 5667). He advised that for samples sent to analytical laboratories, the reference commonly used for selecting water testing methods is *Standard Methods for the Examination of Water and Wastewater –* APHA, AWWA WEF (current edition).
- 6.62 Mr Laws advised that the WRC has not published separate water quality testing guidelines for use in Western Australia.
- 6.63 Mr Laws also advised the Committee that with respect to the locations in a water course where these guidelines should be applied, decisions are normally taken on a site specific basis by a person qualified and experienced in water quality investigations. Mr Laws informed the Committee that sites should be selected, where practical, upstream and downstream of any site of concern and include an appropriate point of release of contaminated waters, where a representative sample is possible and a measurable flow is occurring.
- 6.64 Mr Laws advised that consideration should be given to the seasonal climatic conditions applying at the time, the ability to achieve a representative sample of all waters sampled, and the time and resources available to conduct the investigation.
- 6.65 The Committee was also advised that the investigator would also be expected to assess the environmental values (uses) attributable to the water course, the probable

level of risk to waters posed by the site of concern and the anticipated impacts of surrounding land uses.

- 6.66 The Committee also received a facsimile letter from Dr Steve Appleyard, Supervising Hydrogeologist, Land Use Impact Branch, WRC dated August 29 2000 regarding water sampling in drains.
- 6.67 Dr Appleyard advised that Standard 5667 sets out the methodology for designing water sampling programs, for sampling techniques, and for the preservation and handling of samples. He informed the Committee that the important elements of a good sampling program are as follows:
 - the aims and objectives of a sampling program are clarified before sampling to allow an appropriate sampling methodology and frequency to be adopted;
 - samples are collected according to a standard protocol in appropriate sample containers, samples are handled appropriately (for example, put on ice) and transmitted to a laboratory as quickly as possible;
 - repeat samples are sampled in a consistent manner from a clearly marked location;
 - additional quality assurance samples are collected (such as blanks, sample duplicates and samples spiked with a known amount of contaminant);
 - information about sampling is tracked in a Chain of Custody Form to document who handles the samples and when; and
 - the laboratory is appropriately qualified (for example, it has National Association of Testing Authorities registration), uses appropriate analytical methods, analyses a sample within a specified holding time with detection limits that are appropriate for measuring a particular contaminant.
- 6.68 Dr Appleyard advised the Committee that with regard to sampling in the drain adjacent to the Bird Road landfill, the WRC supports the DEP in considering that samples in the drain should be collected 50 metres downstream of the outlet from the leachate storage pond, 50 metres upstream of the outlet and near the outlet from the leachate storage pond on the site.⁴
- 6.69 The Committee received a letter from Mr Fred Tromp from the DEP dated October 13 2000 in which he advised the Committee that the DEP had received a request from MRI on August 25 2000 to discharge leachate from the Lot 12 Bird Road, Mundijong

At the hearing on December 15 2000 Hon Ken Travers queried this advice. Dr Appleyard submitted that in his facsimile letter of August 29 2000 the 50 metres should have read 500 metres. He told the Committee that it was a typing error.

premises into the Birrega Drain. He advised that MRI are required, under licence conditions, to gain the approval of the Director, Pollution Prevention Division, before discharging any leachate from the premises.

- 6.70 Mr Tromp advised that in order to assess whether the leachate was suitable for disposal into the Birrega Drain, the DEP met with MRI's consultants and suggested they develop a discharge strategy which reflected the intent of the ANZECC Guidelines 1992 and the draft ANZECC Australian and New Zealand Guidelines for Fresh and Marine Water Quality 1999.⁵
- 6.71 The Committee was advised that MRI's consultants provided the DEP with a strategy for discharging leachate into the Birrega Drain which was referred to the WRC for comment. The WRC subsequently endorsed the strategy and the DEP issued conditions under which the discharge of leachate could occur.
- 6.72 Mr Tromp informed the Committee that on September 26 2000 MRI's consultants conducted sampling of the surrounding drainage system with officers from the DEP and Shire of Serpentine-Jarrahdale present. The Peel Inlet Management Authority (PIMA) also conducted its own independent sampling of the Birrega Drain at approximately the same time.
- 6.73 The Committee was advised that the results of the sampling by both PIMA and MRI's consultants show that no organochlorine pesticides were detected in the water samples taken from the Boomerang Birrega Drain (system).
- 6.74 Further, the Committee was advised that results of testing for other contaminants such as heavy metals, that were required by the DEP, show that there was a negligible difference in concentrations when comparing the upstream and downstream sample results.
- 6.75 At the hearing on December 15 2000 the Committee queried the correct procedure for sampling discharges from the MRI leachate pond. Mr Ennor stated that it is 50 metres upstream of the discharge and 500 metres downstream. He told the Committee that that is the extent of the mixing zone, as stipulated in the guidelines. He submitted that the guidelines set up a model outlining the procedures for determining mixing zones. The distance is not set, but the edge of the mixing zone can be determined from the

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that the key point was that MRI met the most stringent criteria.

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At the hearing on December 15 2000 Hon Ray Halligan queried whether there was some difference between the two sets of guidelines or whether they were both the same with respect to the limits of some of the contaminants. Mr Ennor advised that the ANZECC Guidelines 1992 had specified numbers, but the draft guidelines were more explicit concerning the DEP's approach to the sampling regime. He told the Committee that the DEP took the most stringent approach to the sampling regime. Mr Ennor also advised the Committee that the DEP applied the ANZECC Guidelines 1992 because they are what is currently advocated. He informed the Committee that the DEP steers away from draft numbers. Mr Hine submitted

guidelines. The distance would be based on a number of calculations involving the volume of water, the size of the drains, flow rates and the concentration in the relevant streams.

- 6.76 Hon Ken Travers queried whether or not the WRC required samples to be taken near the outlet of the leachate storage pond. Dr Appleyard advised that "From the point of view of the Water and Rivers Commission it would be advantageous to have that extra sample. It is the preference of the Water and Rivers Commission but the Department of Environmental Protection sets the conditions for testing in that area. It is up to that department."
- 6.77 Dr Appleyard stated that the scientific reason for requiring samples to be taken near the outlet from the leachate storage pond relates to quality control with the mixing zone model. Mixing zone is based on a theoretical model relating to the volumes coming from various sources. Dr Appleyard submitted that it is always worth checking to ensure the model is working. If it is not, one can readjust the mix of the zone to accommodate any changes occurring.
- 6.78 Hon Ken Travers queried why there is not testing at the outlet. Mr Ennor submitted that there is no scientific reason or need to have it. He told the Committee that the most important results to have are those from upstream and downstream.
- 6.79 At the hearing on December 15 2000 Mr Hine submitted that "It is very important to understand that the discharge from this pond is a one-off, possibly annual, event. It is not a particularly big dam that discharges into a fairly large channel, which flows all through the winter and drains an enormous area."
- 6.80 Mr Hine also stated that even if the DEP completely banned discharges from this leachate pond, it would have negligible impact on water quality in that drain as a whole because the discharge occupies only one or two days a year. He stated that "With the procedure we put in place, we very deliberately achieve levels of dilution in the hundreds, if not thousands, of that leachate within a couple of hundred metres."
- Or Appleyard agreed with Mr Hine and submitted that "In terms of the grand scheme of things, that one source is probably one-millionth of the impact that general agricultural and urban land use in that catchment is having on the Serpentine River." He told that Committee that "It is the fact that most of the pollution problems in the Peel-Harvey system are due to urban and agricultural land use in the catchment."
- 6.82 Following on from this point, Hon Ken Travers queried whether, if the MRI site were used for purely agricultural purposes, the impact on the drain would be higher or lower than if it were used as a landfill site. Dr Appleyard told the Committee that in general terms, the agricultural impacts are likely to be higher. He stated that the focus

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here is on dieldrin as it is the pesticide that causes most concern. He told the Committee that if one looks at the Perth metropolitan area, one will find levels of dieldrin equivalent to, or higher than, those levels. This is simply from general household spraying and the use of dieldrin in the past on telegraph poles and wherever it was used in the urban and agricultural environment.

- 6.83 Dr Appleyard told the Committee that dieldrin would be found almost anywhere, and that as techniques are becoming increasingly sophisticated, we can increasingly detect things at lower concentrations. He told the Committee that "Therefore, we will find chemicals we have not seen before in water and soil samples."
- In answer to Hon Ken Travers question "Is your view that if the site were still being used for agriculture, the dieldrin and heavy metals would be higher than are the current levels?" Dr Appleyard replied "I think so. Heavy metals are found in fertilisers loaded on catchments at high levels. Most heavy metals are washed off paddocks through erosion, and the best management is to prevent erosion by proper riparian vegetation establishment. That drainage system is poorly vegetated. Therefore, it will be hard to stop material eroding into the drain from general agricultural and land use in the catchment."
- 6.85 At the hearing on December 15 2000 the Chairman asked the witnesses whether the DEP and the WRC are satisfied with the results that were conducted and that the samples for the most recent tests, dated September 11 2000, were taken in accordance with the new guidelines covering the discharge of leachate into water streams.
- 6.86 Mr Ennor stated "Yes. Philip [Mr Hine] and I were involved in the process of determining the model. We also attended on the day the samples were taken. We followed through on the process."
- 6.87 The Chairman also queried whether, when measurements were taken downstream, there were any indications that the level of contamination had increased. Mr Ennor replied "No. Comparison of the upstream and downstream results shows negligible difference. Given the measurements taken we are talking about micrograms per litre one could say that they are insignificant."

7 CONCLUSIONS

- 7.1 The Committee has considered the matters raised by Mr and Mrs Nield.
- 7.2 The Committee concludes that it followed its terms of reference with regard to Report Number 37.

7.3 The Committee notes that since it commenced its inquiry into the petition, the procedures and requirements for the disposal of asbestos are in the process of being amended. The Committee is pleased to note that the HDWA intends to transfer responsibility for asbestos disposal issues to the DEP so that all waste disposal activities are managed through one authority.

7.4 The Committee concludes that with this transfer of responsibility to the DEP there is a need to:

- develop guidelines to deal with the arrival of asbestos products at landfill sites not authorised to receive asbestos;
- monitor the procedures to ensure there is no deliberate contravention of the intention of the regulations; and
- compile a register of any landfill sites that may contain small amounts of asbestos products.
- 7.5 The Committee notes that water guidelines need to be applied on a case by case basis in a manner appropriate to the circumstances. In this regard, since the Committee's examination of the matter the Committee notes that the procedures and guidelines for monitoring water-courses for contaminants are now more rigorous.
- 7.6 The Committee notes the need for close cooperation and a clear identification of responsibility between related Government agencies.
- 7.7 The Committee supports the expeditious development of memorandums of understanding between Government agencies to achieve this aim.
- 7.8 The Committee has not been presented with any evidence to show significant adverse impacts on the environment in the area of Bird and Jackson Roads, Mundijong due to licenced landfills.

Hon Murray Nixon JP, MLC

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Chairman

Date: January 9 2001

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APPENDIX 1

APPENDIX 1: WASTE TYPES

Table 1 Waste types

WASTE TYPE	DESCRIPTION			
Clean Fill	Waste material which consist of rocks or soil arising from the excavation of largely undisturbed material and that does not contain harmful contaminants.			
	Examples: Virgin excavated natural material (e.g. clay, gravel, sand, soil and rock), or such material that is mixed with:			
	 waste that has been excavated from areas that are not contaminated, as a result of industrial, commercial, mining or agricultural activities, with manufactured chemicals and does not contain sulfidic ores or soils, or 			
	 waste that consists of excavated natural materials that meet such criteria as approved by the Director Pollution Prevention Division. 			
Inert Wastes	Wastes that are largely non-biodegradable, non-flammable and not chemically reactive. Inert wastes are subdivided into two separate classes: Type 1 - Inert Wastes are sourced from waste streams as listed below and contain contaminants in concentrations less than the specified criteria.			
	Type 2 - Wastes consisting of non-biodegradable organic materials such as tyres and plastics, which are flammable and require special management to reduce the potential for fires.			
	 Type 3 - Waste material from DEP approved secondary waste treatment plants, subject to appropriate assessment and approval of that waste and the specified landfill. 			
	Examples of Type 1 inert wastes: Building and demolition waste (e.g. bricks, concrete, paper, plastics, glass, metal and timber ¹), being material resulting from the demolition, erection, construction, refurbishment or alteration of buildings or from the construction, repair or alteration of infrastructure-type development such as roads, bridges, cams, tunnels, railways, and airports, and which:			
	is not mixed with any other type of waste, and			
	does not contain any asbestos. Asphalt waste (e.g. resulting from road construction and waterproofing works) Biosolids categorised for unrestricted use.			
	Casting sand (that does not contain leachable components which would require disposal in a higher class of landfill).			
	Examples of Type 2 inert wastes:			
Putrescible Wastes	Used, rejected or unwanted tyres (including shredded tyres or tyre pieces). Wastes that contain organic materials such as food wastes or wastes of animal or vegetable origin, which readily bio-degrade within the environment of a landfill.			
	Examples: Municipal waste, consisting of: household domestic waste that is set aside for kerb-side collection or delivered by the householder directly to the waste facility, or other types of domestic waste (e.g. domestic clean-up, furniture and residential garden waste), or local council generated waste (e.g. waste from street sweeping, litter bins and parks). or commercial waste generated from food preparation premises, supermarkets etc). Food waste Biosolids other than those categorised for unrestricted use. Office and packaging waste (e.g. paper, plastics, glass, metal and timber) that is not			
	mixed with any other type of waste. Cleaned pesticide, biocide, herbicide or fungicide containers ² . Drained and mechanically crushed oil filters, and rags and oil absorbent materials (not containing free liquids) from automotive workshops.			
,	Disposable nappies, incontinence pads and sanitary napkins (not otherwise classified as			

Waste Definitions and Acceptance Criteria for Landfill Draft - 1/03/00

15