

BEFORE THE CANTERBURY REGIONAL COUNCIL

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of a hearing by the Canterbury
Regional Council Hearing Panel
on the proposed Canterbury
Land and Water Regional Plan

**SUPPLEMENTARY STATEMENT OF EVIDENCE OF DAVID LE MARQUAND FOR
Z ENERGY LIMITED, BP OIL NEW ZEALAND LIMITED AND MOBIL OIL NEW ZEALAND
LIMITED (The Oil Companies)**

(HEARING GROUP 3)

14 May 2013

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1. INTRODUCTION

Qualifications and experience

1.1 My name is David William le Marquand. I refer to my evidence provided on behalf of the Oil Companies for Hearing Group 1, dated 4 February 2013, which sets out my qualifications and experience.

2. SCOPE OF SUPPLEMENTARY EVIDENCE

2.1 This supplementary evidence addresses the Oil Companies' concerns raised in their submission relating to the Christchurch – West Melton Chapter. In particular my evidence relates to Policy 9.4.1(c) and (e) of the pLWRP where the Oil Companies seek amendment to the policy, and also refers to section 5 (pages 25 – 33) of the Officers' Report.

2.2 I have read the Environment Court's code of conduct for expert witnesses and agree to comply with it. I have prepared my statement of evidence accordingly. I confirm that my evidence is within my area of expertise and that I have not omitted to consider material facts known to me that might alter or detract from my expressed opinions.

3. POLICY 9.4.1

3.1 Through a number of specified actions Policy 9.4.1 of the Christchurch-West Melton sub-regional area seeks to protect the high quality, untreated groundwater sources available to Christchurch City as a potable water supply in the area shown on the planning maps as the Christchurch Groundwater Protection Zone. The Oil Companies sought the following amendments to Policy 9.4.1 in their submission:

9.4.1 Protect the high quality, untreated groundwater sources available to Christchurch City as a potable water supply in the area shown on the Planning Maps as the Christchurch Groundwater Protection Zone by:

(a) Ensuring any abstraction of groundwater maintains upward hydraulic pressure of groundwater where this pressure exists;

- (b) *Adopting best practicable options for the treatment and disposal of stormwater, contaminants containing hazardous substances, and other contaminants which are discharged onto land where it may enter groundwater;*
- (c) *~~Limiting~~ Controlling the use of land where ~~for~~ activities ~~which~~ involve the aggregation of large quantities of hazardous substances to ensure risks of ~~in ways which may~~ spill, leaching or otherwise contaminateing groundwater is appropriately mitigated.*
- (d) *Preventing new landfills or any expansion of existing landfill disposal areas, except for the disposal of inert fill or clean fill only; and*
- (e) *Ensuring any land uses maintain an overlying confining layer above the aquifer of at least 3m thickness, or where this layer is removed or reduced, including as part of site construction or gravel or mineral extraction, measures are put in place to mitigate the risk of contaminants from land uses entering groundwater and for gravel extraction sites they sites are rehabilitated once excavation ceases using inert fill.*

Policy 9.4.1(c)

3.2 Policy 9.4.1(c) limits the use of land for activities which involve the aggregation of large quantities of hazardous substances in ways which may spill, leach or otherwise contaminate groundwater. As proposed, the policy in my view lacks clarity as it is uncertain what and how the phrase "*limit the use of land*" will be applied. I support the reasoning provided in the Oil Companies' submission, which states at page 10:

It is not clear what or how the land use is intended to be limited, whether it is the volume to be limited i.e. potential consequences (the Plan has removed volume schedules) or whether it is the risk of spills to be limited. The Companies consider that it is inappropriate to focus solely on consequences. Risk is a function of probability and consequence. Indeed the risk associated with underground infrastructure is commonly overstated. There have been few instances of widespread groundwater contamination impacting on potable water supplies in the Canterbury region despite a long history of use of steel tanks and the extreme circumstances of seismic activity over the last two years. Furthermore

studies show that plumes tend to be limited to approximately 100m by natural attenuation and advective dispersion. Recent improvements in automatic tank gauging, secondary containment and non-corrodible tank and pipe materials further diminish the risk of serious leaks occurring. Use of or upgrading to modern systems should therefore be encouraged.

- 3.3** In my view it would be inappropriate to apply the policy in a way that was not focused on ensuring appropriate environmental outcomes (i.e. it is more appropriate to 'control' by way of appropriate mitigation and a risks/effects based approach, rather than 'limit' quantities without an assessment of the level of risk), and I support the proposed amendment to 9.4.1(c). The Officers' Report (page 27) makes the following comment:

It is considered that the Oil Companies proposed wording of this policy is marginally more appropriate because it refers to controlling rather than limiting and because it acknowledges mitigation. Their proposed amendment is therefore recommended.

- 3.4** As a consequence the staff report recommends the following amendment and I support that recommendation:

Limiting Controlling the use of land for where activities which involve the aggregation of large quantities of hazardous substances to ensure risks of spill, leaching or otherwise contaminating in ways which may spill, leach or otherwise contaminate groundwater are appropriately mitigated;

Policy 9.4.1(e)

- 3.5** Policy 9.4.1(e) requires a 3m thickness of material to be retained above the aquifer and that where this layer is to be reduced, that it be replaced with inert fill. The Oil Companies' submission was that the policy could be better clarified if the focus for rehabilitation with inert fill related to gravel extraction sites. My concern with the policy as proposed, is that most excavations will be for a specific purpose such as installation of equipment, services or building foundations and therefore it is not physically possible to rehabilitate an entire excavation with inert fill – because there will be other material located in the excavation. I consider that the policy could be amended to more explicitly recognise and provide for that situation.

- 3.6 The staff report makes the following comment on the Oil Companies' submission (page 27):

The Oil Companies and Transpower seek to amend part (e) which requires sites excavated over the groundwater protection zone, including excavation for construction purposes and gravel extraction, to be rehabilitated using inert fill. They point out that in most cases excavation will have occurred to enable construction or installation of structures, which logically cannot be backfilled with inert fill.

- 3.7 However, the staff report has made no recommended changes to the provision. I also consider that the reference to gravel extraction sites only is not strong enough in terms of policy direction. The policy should relate to backfilling, while also recognising that some excavations may have been undertaken to facilitate construction activities. In my opinion it would be appropriate to amend the policy as follows:

Ensuring any land uses maintain an overlying confining layer above the aquifer of at least 3m thickness, or where this layer is removed or reduced, including as part of site construction or gravel or mineral extraction, measures are put in place to mitigate the risk of contaminants from land uses entering groundwater and ~~sites are rehabilitated once construction, maintenance, or excavation ceases, any remaining excavations are rehabilitated using inert fill.~~

4. Conclusion

- 4.1 The key points in my evidence are as follows:
- (a) general support for the recommendations in the Officers' Report in relation to Policy 9.4.1(c) to focus on controlling the use of land involving large quantities of hazardous substances and ensuring the policy focuses on mitigation of the risks from such activities; and
 - (b) in policy 9.4.1(e) appropriate clarification is sought in terms of the circumstances in which "inert fill" is required to be applied.

- 4.2** Policy 9.4.1 can be improved if the staff recommendations relating to 9.4.1(c) are adopted and an appropriate focus retained on risk and mitigation. Policy 9.4.1(e) can also be improved, while retaining the original intent, if the proposed changes outlined are adopted.

David William le Marquand

14 May 2013