

BEFORE THE BOARD OF INQUIRY

IN THE MATTER of the Resource
Management Act 1991

AND

IN THE MATTER of applications for
resource consent and
notices of requirement
by Transpower
New Zealand Limited
for the North Island
Grid Upgrade Project

STATEMENT OF EVIDENCE OF BRENT DALE DRUSKOVICH FOR
TRANSPOWER NEW ZEALAND LIMITED
(Archaeological / heritage issues)

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INTRODUCTION

Qualifications and role

1. **MY** name is Brent Dale Druskovich. I am a self employed consultant archaeologist and have run my own business since January 2004. From November 1999 until 2004, I was employed by Bioresearches Group Limited (**Bioresearches**). At Bioresearches, I was the sole archaeologist in charge of all archaeological and historical matters. Since 1995, and prior to working for Bioresearches, I was a self employed subconsultant archaeologist. I have been subcontracted to Bioresearches for the Transpower North Island Upgrade Project (**Upgrade Project**).
2. I have a Master of Arts (Honours) with an Anthropology Major from the University of Auckland, a Bachelor of Arts (Anthropology), and a Bachelor of Commerce (Accounting) from the University of Auckland. For my Arts degrees, I majored in Archaeology, which is a sub discipline of Anthropology.
3. I have been involved with the Upgrade Project since March 2005. My role in the project has been to provide archaeological and heritage advice for the Upgrade project.
4. **IN** my role I have searched the New Zealand Archaeological Association (**NZAA**) archaeological records for sites recorded on, or adjacent to the Upgrade Project, read archaeological reports and other non-fiction books and reports, as well as interviewing people identified as having local historical knowledge, surveyed some sections of the route (where access has been allowed), recorded and identified new sites, as well as updated the location of some previously recorded sites.
5. I have also examined aerial photographs for the length of the Upgrade Project. When I refer to recorded sites, I am referring to sites which have been recorded in the NZAA files, unless stated otherwise.
6. I am familiar with the archaeological and historic issues and how they relate to the routes of both overhead and underground lines, as well as the proposed substation sites. In preparing this evidence, I have read all reports authored

by myself during the project to date, as well as the documents (or relevant parts thereof) included within the Notices of Requirement and Resource Consent applications as set out in **Appendix A** to my evidence.

7. I confirm that I have read the Code of Conduct for expert witnesses in the Environment Court Consolidated Practice Note (2006). I have approached the preparation of this evidence in the same manner that I would for the Environment Court.

Scope of evidence

8. **IN** this brief of evidence, I discuss archaeological and heritage issues associated with the Upgrade Project.
9. **MY** evidence is limited to archaeological and historic matters only. In places, my evidence may overlap with that of Mr Simon Beale, where vegetation has been planted at or on old homesteads, Pa or other site types. My evidence may also overlap with that of Mr Buddy Mikaere and Mr Tahī Ngakete, where Iwi concerns include the archaeological matters. I will also comment on the Draft Protocols from Appendix 1 of the Cultural Impact Assessment (Transpower New Zealand Ltd North Island Grid Upgrade Project: Notices of Requirement Documentation: Part X Section 6: Cultural Impact Assessment).
10. **MY** ability to detect archaeological evidence has been significantly limited in some sections of the line route by landowners not allowing access to their properties. Where access has not been allowed, observations, where possible, have been made from the road as well as from aerial photographs that Transpower has made available.
11. **IN** other areas, I have not visited every proposed tower location where I consider the likelihood of archaeological evidence being found to be low. On occasion I was unable to accurately locate the proposed tower location due to vegetation limiting the ability to use handheld GPS units or attain sight lines; these locations were all within plantation forests.
12. I should note that not all archaeological evidence can be detected by site visits using standard archaeological survey methodology. However, in most cases

significant archaeological evidence can be detected by such methods as testpitting, probing with a gum spear and onsite visual means.

13. **IN** my evidence I will use some industry specific terms, especially with regard to mitigation and further work recommendations. The terms as used in my evidence are defined below:
- (a) "Archaeological Investigation" – an investigation by an archaeologist of a known or suspected archaeological site, generally by excavation, to record, sample and retrieve archaeological material.
 - (b) "Archaeological Survey" – A recognised archaeologist searching a location for evidence of human occupation. This will normally involve walking over an area, testing subsurface deposits with the use of testpitting and gum spears and interpreting and recording what is found.
 - (c) "Cadastral Survey" – an archaeologist marking and defining a site extent for surveyors to record onto plans.
 - (d) "Monitor or monitoring" – involves an archaeologist being present when topsoil and occasionally other soil layers are removed to record archaeological evidence that may be present. This may require works to temporarily stop or be diverted so that an archaeologist can record, measure and sample that evidence.

APPROACH AND METHODOLOGY

14. I attended workshops and gave input during the ACRE Process (which is described by Mr Dougall Campbell and Ms Sylvia Allan in their evidence). During the Area and Corridor stages the analysis had relied on heritage information from the NZAA database, district plans and the advice of Mr Mikaere. When I first joined the Upgrade Project in early 2005 – the Project was in the Route stage. The initial route options had been identified. I prepared a working paper to assist the comparative evaluation of the routes, and to scope potential archaeological issues. I reviewed the information that was forthcoming from the consultation process. In the route decision-making process, a group of specialists, including myself, were involved in robust

evaluations of each section of the possible routes. The final route option chosen was the one that I consider to have had the least heritage issues.

15. **DURING** the Route and Easement sections of the process, I was regularly consulted on heritage matters, both within workshops and on specific tower placements outside the workshops. As with all experts, my advice was integrated in the final tower placement and alignment decisions.
16. **ON** occasion, the final placements were not in ideal archaeological positions (ie adjacent to Pa). However all final locations, as best as can be asserted (given all available information), are in archaeologically acceptable locations with archaeological evidence being avoided wherever possible. The known sites that may be impacted upon, are all likely to cause at worst damage to, but not destruction of, the site. The ACRE process has enabled heritage issues and known sites to be considered at each stage of the route selection process.
17. **OVERALL**, I consider that it has enabled a route to be selected which has avoided known archaeological sites. In particular, I consider that the western route was the most appropriate route south of Morrinsville. While the eastern route largely avoided specific archaeological sites, it did cross an area of some archaeological significance. In particular I consider that it would have been inappropriate to locate the proposed towers amongst the hills near Tirau. Here many large Pa and other less significant terrace and pit sites are located. It is my understanding that this area has the highest density of Pa in the country. In general all of the higher hills have large Pa that dominate the skyline and surrounding countryside. I consider that the placement of towers in this significant archaeological landscape would probably have physically damaged some archaeological sites. I also consider that it would have been inappropriate to build a line that would have dominated a significant archaeological landscape.
18. I consider that from an archaeological viewpoint, there was little difference in preference between the routes where they split further north, though the western route is slightly more preferable based on an indication¹ of a probable,

¹ from Iwi during consultation and notes at the NZAA Waikato file that record a village on LINZ survey ML8726

but presently unknown, archaeological landscape at Waiora on the eastern route.²

19. I have recommended mitigation methods to avoid damage to sites, and to monitor any accidental damage of evidence being found outside the known extents of those sites. I suggest mitigation aimed primarily at avoidance of damage for sites where works will be in the vicinity of, but not directly upon known archaeological sites. In my view some of the new tower locations will actually improve the heritage values along the line, with some towers to be removed from archaeological sites along the ARI-PAK A line.
20. **THE** limited flexibility of tower placement during the construction phase should allow for archaeological sites discovered after consent or during construction to be avoided. It is this ability to shift some towers up or down the line by up to 40 metres that I define as being practical when I suggest it as a mitigation measure. However, I understand that there is no ability to shift major angle towers should archaeological sites be found during the construction process. (Mr Noble discusses the limited flexibility to move towers in his evidence).
21. **THE** ARI-PAK A line removal has potential to impact upon archaeological sites where it has been built upon them. I have suggested mitigation measures, including methods to remove the ARI-PAK A towers, so that no further damage to archaeological sites occurs, or it is at least minimised.
22. **SECTIONS** of the ARI-PAK A line will require further assessment should the Upgrade Project proceed, as I anticipate that it is reasonable to expect the presence of archaeological sites in some areas I have not visited. Where this is the case I refer to it during my discussion of the particular Route Section below.

HISTORIC PLACES ACT 1993 (HPA) REQUIREMENTS

23. **FOR** any known or suspected archaeological site to be lawfully modified and/or destroyed, authority must be given under the HPA. Authority applications are administered through the New Zealand Historic Places Trust

² This area is usually identified as 'Waiti' or 'Waiti Village'

(NZHPT). An archaeological site is defined by the HPA in Section 2 as follows:

"Archaeological site" means any place in New Zealand that:

- (a) *Either –*
 - (i) *Was associated with human activity that occurred before 1900; or*
 - (ii) *Is the site of the wreck of any vessel where that wreck occurred before 1900; and*
- (b) *Is or may be able through investigation by archaeological methods to provide evidence relating to the history of New Zealand."*

- 24. **SECTION 10** of the HPA makes it unlawful to destroy, damage or modify an archaeological site without authority when knowing or having reasonable cause to suspect that it is an archaeological site. These authorities must be applied for under sections 11 or 12 of the HPA.
- 25. **SECTION 11** applications are for a specific site or sites, whereas section 12 applications can be applied to all sites, or all sites of specific types, within a specified land area. A section 12 application will in most cases be the most appropriate authority to be sought for this Upgrade Project, as it is possible that unrecorded archaeological sites will be encountered as a result of the proposed works.
- 26. **DISCUSSIONS** with the NZHPT have been ongoing since October 2005, as to how to best manage the Upgrade Project. I have been a party to some of these meetings. Recent discussions (10 October 2007) have resulted in the Upgrade Project being managed through NZHPT's Tauranga office, which is the office usually responsible for the majority of the area through which the Upgrade Project passes.

Draft Protocols from Appendix 1 of the Cultural Impact Assessment (Transpower New Zealand Limited North Island Grid Upgrade Project: Notices of Requirement Documentation: Part X Section 6: Cultural Impact Assessment).

27. I am in agreement in principle with most aspects of the protocols that have been the subject of consultation with tangata whenua. However, I consider that parts of these protocols need support in terms of the handling of associated matters such as archaeological issues and to satisfy the needs of the Historic Places Act 1993 and the Historic Places Trust authority process.
28. I suggest that this support be done by the insertion into the construction management plan and site works plans, some supplementary information that will meet these needs given that the potential exists for some overlap between the cultural and historical issues that might arise from the accidental discovery of koiwi, taonga, archaeological evidence and similar.
29. **THE** construction management plans are being developed by Transpower as a document to assist the contractors to address potential impacts on the environment and ensure that any conditions imposed on designations, resource consents, or NZHPT authority are complied with. The site work plans are being developed to set out site specific issues and would address any site specific archaeological concerns. This process is discussed within the evidence of Mr Dougall Campbell.
30. **TO** this end, I propose that the construction management plan and site works plans contain an instruction to the effect that should archaeological evidence, which includes koiwi, be found then the Responsible Officer should also notify the project archaeologist and possibly NZHPT; the latter in terms of any obligations that Transpower might be subject to under any HPA authorities.
31. **MY** view is that in general, the need to notify the Department of Conservation should not be necessary unless the finds concerned are on Conservation property. Police notification should also only be required in the event that koiwi are discovered.
32. **IT** is also my opinion, that the NZHPT should be automatically notified only when koiwi are found. In the case of other finds being made such as taonga,

then the project archaeologist or Iwi representatives are probably the best people to assess the need to notify the NZHPT.

33. **MY** understanding is that in the case of taonga, provided that they are objects of Maori origins or are objects that were used by Maori prior to 50 years ago they are classified as Taonga Tuturu, which Section 11 of the Protected Objects Act 1975 states to be *prima facie* the property of the Crown. In that respect a discussion needs to take place between the project archaeologist, Transpower and tangata whenua representatives.

SUMMARY OF POTENTIAL EFFECTS ON ARCHAEOLOGICAL SITES

34. **THE** effects upon the archaeological landscape are generally low and insignificant if managed appropriately. Very few sites, if any, are likely to be damaged by the placement of the towers and none destroyed.
35. **THE** underground cable route to Pakuranga Substation will damage and/or destroy three archaeological sites and archaeological evidence is also likely to be found during works at Pakuranga Substation itself. Those sites that may be destroyed are two midden sites, both of which have been compromised by farming and other activities in the past, and a Hawthorne hedge (evidence of pre-1900 farming). All of these sites are located at, or immediately adjacent to, the Pakuranga Substation.
36. **THE** only other identified sites that may be damaged are a terrace site (of unknown origins); a gumdiggers ditch; and possibly, some agricultural soils in the Hunua Valley and the northern Waikato River crossing vicinity; and other indications of possible archaeological evidence in Matahuru.
37. **IN** some places where ARI-PAK A towers are to be removed from known archaeological sites, the Upgrade Project will have a positive effect. The removal also has potential to impact on known archaeological sites and I have suggested mitigation measures in my evidence.
38. **IN** all other cases the proposed line, both underground and overhead, avoids known archaeological sites. I do however recognise that it is possible that other archaeological sites of lower significance may be accidentally found during the construction or dismantling process.

39. **THE** known archaeological characteristics of each section of the route and substation sites are shown on the **Map Book, Series 2** in the **Map Book** and are referenced in this evidence by page numbers. As well as the identified sites, those areas associated with sites that are subject to recommendations for specific considerations are identified separately as shaded areas. Areas where I consider there may be archaeological interest but there are no recorded sites, are referred to in my evidence.

Pakuranga Substation

40. I have surveyed the substation for archaeological evidence. As a result of this survey and research, I identified one archaeological site (R11/2398) on the substation and two on the boundary of the substation (Midden sites R11/2381 and R11/2382 – refer **Map Book, Series 2, page 1b**), probably entirely within the neighbouring Manukau City Reserve. I use the phrase "probably" as the property boundaries are not marked in this vicinity, and as far as I can ascertain both sites are close to the boundary between the two properties.
41. **THE** farm that the substation was once sub-divided from appears on pre-1900 plans at Land Information New Zealand (**LINZ**) and a number of what would now be archaeological features appear on the plans. None, however, are depicted on the current substation grounds. I also found that the majority of the substation where earthworks are proposed has been extensively earthworked in the past. I therefore consider it highly unlikely that any archaeological evidence, should it have been present, could have survived these works.

Site R11/2398

42. **THIS** site is a remnant Hawthorn Hedge alignment. Hawthorn hedges were once used as paddock boundaries, much the same way as barbed wire and electric fences denote paddock boundaries today. Typically these hedges were planted prior to 1900, often in conjunction with ditch and bank fencing. The fact that this site does not show on pre-1900 plans is to be expected as survey plans typically only show external or boundary fencing rather than internal paddock fencing of which this alignment would have been part.

43. **THE** hedge currently follows the contours of the undulating land and gullies in a non-continuous but straight line. The hedge alignment will be destroyed by the need to produce a flat base to site the new substation on.

R11/2398 archaeological significance

44. **THE** site (R11/2398) itself is archaeologically insignificant and its destruction is in my view acceptable with appropriate mitigation. In my view, the fact that the hedge is present, combined with the pre-1900 plans, suggest that further farming related evidence may be found. The middens on the boundary likewise indicate that evidence relating to the Maori occupation of the area may also be found.

Recommendations and mitigation

45. I consider that the archaeological evidence present, or likely to be present, at Pakuranga Substation is of generally low archaeological significance, and it is acceptable to destroy it with appropriate mitigation.
46. **APPROPRIATE** mitigation would include the following:
- (a) that site R11/2398 is investigated *prior to* construction earthworks commencing;
 - (b) that all topsoil stripping, where significant earthworks have not occurred in the past, be monitored.

R11/2381 and R11/2382

47. **THESE** sites are two small middens that are located where it is proposed the underground cable route enter the Pakuranga Substation. The property boundaries are unmarked here. However, it appears that the middens are located entirely within the adjoining drainage reserve rather than the substation grounds themselves. Both deposits are invisible and can only be detected by probing and testpitting. Neither midden are mentioned in the NOR for the Pakuranga to Brownhill underground but are mentioned within the Pakuranga Substation NOR. I do not repeat my comments on R11/2381 and

R11/2382 in relation to the Pakuranga to Brownhill cable route section of my evidence.

48. **BOTH** midden are relatively shallow, containing mostly fragmented shell, with firecracked rock and charcoal. I consider that the fragmented state of the shell indicates that these sites have been disturbed and spread beyond their original deposition boundaries, most likely by past farming activities such as ploughing. It is possible that other undetected archaeological evidence would also be found in the vicinity during construction or from further archaeological survey within the drainage reserve.

R11/2381 and R11/2382 archaeological significance

49. I consider that the archaeological significance of these sites is relatively low. This is because they are of the most common archaeological type site, relatively small (R11/2381 13x15m area, R11/2382 7x7m area), have no visible presence, and have been damaged in the past.

Recommendations and mitigation

50. **CURRENTLY**, it seems probable that both sites are likely to be damaged and/or destroyed by the works associated with the cable installation. Given their low and compromised archaeological values I consider this outcome to be acceptable, provided that any portions of these sites that may be avoided are first identified.
51. I consider that appropriate mitigation would include the following:
- (a) That both sites (R11/2831 and R11/2382) are subject to cadastral survey *prior to* site works plans being finalised, and attempt(s) made to avoid these sites as far as practicable.
 - (b) Should it be practical to avoid either or both of the sites, the site or sites should be marked on all construction plans and have temporary fencing or barriers around their extent during construction to avoid accidental damage.

- (c) Should avoidance of the sites not be practicable, either and/or both sites should be investigated to standard archaeological practice *prior* to the construction process commencing. This investigation should include adjoining areas, up to but not necessarily 20m distant, to assess whether other undetected archaeological evidence is present.
- (d) All works in the drainage reserve, as with the Pakuranga Substation where significant earthworks have not occurred in the past, involving the stripping of topsoil should be monitored by an archaeologist.
- (e) Any planting plan should look to either avoiding the midden sites, should it be determined that parts of them will remain after construction, or to replant with shallow rooted species that are suitable for archaeological sites.³ It should be noted that to be maintained in mown grass would be the most desirable outcome, however other alternatives are acceptable.⁴

Otahuhu Substation

52. **OTAHUHU** Substation has not been archaeologically surveyed for the Upgrade Project. I did not consider it necessary to carry out a survey, due to past surveys that had been carried out at the site. Past surveys by Dr Rod Clough and Don Prince did not find any archaeological evidence within the substation grounds. These surveys indicate that it is unlikely that any exists.

Brownhill Substation

53. I have surveyed the proposed Brownhill Substation and no archaeological evidence was found. I consider it unlikely that any undiscovered sites would be found during earthworks.

Underground cable section, Pakuranga to Brownhill

54. I have surveyed the majority of the route. Access was not granted across all of the proposed route. The areas where access was not granted were the areas

³ Jones, K.L., Harlow, D. and Gosling, D. 2002 *Caring for Archaeological Sites: New Zealand Guidelines. A draft for discussion March 2002*, published by Department of Conservation, Wellington

⁴ Ibid

where I considered that archaeological evidence was least likely to be found. I consider that for the most part it is unlikely that archaeological evidence is present, either because the route is in areas of low past population density or because the route has been heavily earthworked in the past. Three sites have been identified along the route (R11/2380 to R11/2382). I discuss R11/2380 below. Sites R11/2381 and R11/2382 were discussed in the Pakuranga Substation section.

R11/2380 (Map 2b)

55. **THIS** site is a knoll that has been flattened and terraces built on both sides, both within Caldwell's Road road reserve and the adjoining Point View Reserve. Probing and testpitting has not detected evidence that can be conclusively used to identify the terrace origins. Possible origins range from Maori occupation, through to their existence being due to an unknown farming activity. Currently, the terraces are cut by the road and have a park bench built upon them. A pole is also erected with a related services trench leading to it. Elsewhere in the reserve, terraces and pits are recorded and Ngai Tai ki Umupuia (refer section 5.7 of Part VI of NOR documentation) have stated that they recognise the Point View Reserve area as a pa.

R11/2380 archaeological significance

56. **THE** archaeological significance of the site is unknown. Should the terraces be part of a farming activity I would consider them to be of low significance. If part of a Pa complex, they should be considered high. If the terracing was built for undefended Maori housing, their values are somewhere in between. However, the portion of the site contained within the road reserve is a minor component of the site as a whole. In any event, the true archaeological significance of the site is only likely to be found by excavation, which would cause some damage to the site.

Recommendations and mitigation

57. **IT** is my understanding that there is limited ability to avoid R11/2380 due to the steep drop on the other side of the road and the minimum space required to lay the cables. In my view, it is therefore acceptable to lay the cables in this area despite the presence of the site due to (a) the unknown nature of the site,

and (b) the fact that only a small portion of the site will be affected by the works.

58. I consider that appropriate mitigation would include the following:
- (a) That construction methodologies be devised to minimise the amount of damage to site R11/2380. Those parts of the site that will be damaged should be subject to a preliminary investigation *prior to* the main works proceeding through this area.
 - (b) All earthworks within 30 metres either side of the site (R11/2380) along Caldwell's Road should be monitored by an archaeologist when and as they occur.

Underground cable section, Otahuhu to Brownhill

59. I have archaeologically surveyed the majority of the route, but access was not granted to some properties. No archaeological evidence was found on the land archaeologically surveyed. I consider it unlikely that archaeological evidence will be found over much of the route. I should note that, both Dr Rod Clough (Consultant Archaeologist) and James Brown (Ngai Tai Umupuia Te Waka Totara Trust) have informed me of midden deposits near the route within Barry Curtis Park. At the time of finalising my evidence, these deposits have not been recorded within the NZAA site recording system.
60. I consider that there are two main areas of higher archaeological site probability, and that further investigation is required at both areas. One is in the vicinity of Otara Creek, where vegetation, rubbish, footpaths and overburden prevented adequate survey. The other site is at 383 East Tamaki Road where 19th Century farming evidence is recorded. This site contains archaeological sites R11/2333 (dry stone wall) and R11/2384 (fence posts – **Map Book, Series 2, page 1b**). In particular, I consider that the East Tamaki Road property should be checked prior to alignment and construction plans being finalised to ensure that the cable route and the space required for construction do not damage archaeological sites R11/2333 and R11/2384.
61. I archaeologically surveyed 383 East Tamaki Road after the route selection process had been completed. However, it was omitted from the

archaeological assessment of effects document that accompanies the NOR (Part VII). This property was part of the larger estate of the Reverend Smale and is directly related to the archaeological site and features recorded across the road at 334 East Tamaki Road. Archaeological features found on the property are minimal and damaged. However, it is possible that further 19th Century farming evidence is present subsurface.

Recommendations and mitigation

62. **FOR** Otara Creek Crossing, I recommend the following:
- (a) That all earthworks 20m either side of the Otara Creek crossing are monitored by an archaeologist.
63. **FOR** 383 East Tamaki Road and undeveloped neighbouring properties, including the drainage reserve, I recommend the following:
- (a) That the alignment be checked to ensure that it does not damage the known archaeological evidence at 383 East Tamaki Road and minor adjustments to the location of the cable within the corridor occur if it does. This would at most result in a minor change.
 - (b) That an archaeologist monitor all earthworks involving the stripping of topsoil at 383 East Tamaki Road, and undeveloped neighbouring properties, including the drainage reserve.

Overhead line section

64. **IN** a general sense, the indication in the NOR documentation relating to the overhead line correctly reflects that the intended outcome of tower placement has been to avoid archaeological sites throughout the process. However, there are three cases where it is possible that archaeological sites may be damaged by tower placement and there are other situations along the line where accidental damage is unlikely, but possible with regard to felling of vegetation. The activities involving the separate removal of some ARI-PAK A towers also may affect archaeological sites.

65. **IT** is therefore necessary to have mitigation measures in place for known archaeological sites when unlikely, but foreseeable events may take place. Cases where this mitigation applies are discussed in the following evidence in relation to each line section. This includes recommendations relating to some areas where it is appropriate to undertake archaeological surveys on the basis that there is a probability of hitherto unknown sites being found.

Route Section 1, Whitford Valley (Manukau City Council NOR)

66. **THERE** are no recorded archaeological sites in this section. I consider it unlikely that any significant unrecorded sites exist along the easement route.

Route Section 2, Brookby Area (Manukau City Council NOR)

67. **THERE** are no recorded archaeological sites within or immediately adjacent to the easement in this section. I consider it unlikely that any significant unrecorded sites exist along the easement route.

68. A moa bone deposit (**Map Book, Series 2, page 3b**) has been recorded within the NZAA records. However, the records indicate it to be a natural deposit. It therefore is a natural history concern rather than an archaeological one.

69. I have archaeologically surveyed the proposed locations of towers 16 A, B and 17 (surveyed December 2007) only in this section and found no archaeological evidence to be present there. I have not surveyed other tower locations because I concluded that they were in areas of low archaeological probability. Observations made from the roads along the route and of aerial photographs suggest that no significant archaeological evidence is present where other tower locations are proposed.

Route Section 3, Ardmore Basin (Manukau City Council NOR)

70. **THE** majority of this section is across the relatively flat Ardmore basin. I consider that there is little likelihood of archaeological evidence being found there. However, local residents have reported that archaeological evidence has been found in the general vicinities of towers 30 to 33 which are in an elevated position. As a result of my survey at tower locations 30 to 33, a 16m

long trench has been found near the proposed tower 32 site. I have interpreted this trench as a gumdiggers' trench (S11/1031 – **Map Book, Series 2, page 4b**). The ARI-PAK A line is found on a similar alignment in this area, but I have not visited the existing towers to check for archaeological evidence.

S11/1031

71. **ON** 11 April 2007, I visited this site with Mr Phil Patrick (Transpower Engineer) who explained that it could not be confirmed whether this site was likely to be destroyed or damaged by the tower placement and associated works. This is because tree cover masks its position on aerial photographs and does not allow accurate GPS readings. A conclusion about the necessity to damage or destroy this site can only be made once trees have been removed. However, I understand that there is little ability to shift location of tower 32 due to the relationship of the landform and with those towers along the route both above and below it.

72. **THE** site is a trench that has been cut across the slope of the ridge on a relatively gentle slope below the crest. The trench is approximately 16m long and between .5 and 1m depth over most of its length. There is typically 1 to 1.25m depth between the top of the bank and trench floor. I consider that it is a gumdiggers trench but may relate to an unknown farming practice or other activity. The site components are the trench and a bank on the downslope side formed by the spoil.

S11/1031 archaeological significance

73. I consider that this site has low to medium archaeological significance. At present, it is one of only a few recorded early historic sites in the area. It is visually recognisable and in an apparent good state of preservation. It is, however, a non-complex site having little historical significance. Nevertheless, I consider that it should be preserved as much as possible, although some damage is acceptable.

S11/1031 Recommendations and mitigation

74. **AS** it will not be known whether the site will be damaged or not until trees have been removed from the hill, I recommend the following mitigation:
- (a) That the people felling the trees in the vicinity of S11/1031 should be informed of the site's location and be prohibited from felling trees onto the site or driving any vehicles onto the site. It should be ensured that any trees in the immediate vicinity (up to 3m) of the site should be cut off above the stumps and the stumps left in situ pending the further investigations in (b), (c) and if necessary (d) below, and that all other trees to be felled should be directionally felled away from the trench to prevent further damage.
 - (b) Once the site is cleared, that it be cadastrally surveyed onto plans once trees have been removed, and if practicable (recognising that there may be topographic difficulties) the tower 32 location be designed to avoid Site S11/1031.
 - (c) That, as far as practicable, any access to tower 32 should be designed to avoid the trench site. That the S11/1031 site be placed on all construction and other plans and be marked off during construction to avoid accidental damage.
 - (d) Should part of S11/1031 require damaging, then archaeological investigation should occur *prior* to construction commencing.

Other recommendations

75. **RECOGNISING** the past finds of residents in the area, I consider that it would be appropriate for the following to be a condition:

"That all earthworks in relation to the construction of Towers 29 to 32 and the access to them be archaeologically surveyed *prior* to construction, and monitoring of all earthworks involving the removal of topsoil, should also occur during construction."

76. I also consider that all of the ARI-PAK A towers (positioned on a similar alignment to Towers 29 to 32) that are to be dismantled should be archaeologically surveyed in this area as it is possible they have been built on or adjacent to archaeological sites.

Route Section 4, Hunua Basin (Franklin District Council NOR)

77. I understand that local people have informed Transpower representatives of archaeological evidence being found in the northern part of this section (from Skyhigh Road to Tower 36) of the route. Almost invariably the evidence being chance finds of artefacts, rather than actual archaeological sites themselves; although it is possible that the finders, local people without archaeological training, did not recognise other archaeological evidence that may have been present with the artefacts.
78. I have assessed a number of the tower locations in this section of the route and found no archaeological evidence to be evident at the proposed locations. In undertaking this work, I often had significant distances to walk across the landscape between these towers and again did not observe any archaeological evidence. I consider that this lack of apparent archaeological evidence combined with the chance finds reported by locals would suggest that this area was occupied by Maori prehistorically, but that this occupation was not intensive.
79. AN 1870s brick kiln is also recorded as being once located in the vicinity of Hunua township at an unknown location. Since the project began, a brick storage and discard area (S12 328 – **Map Book, Series 2, page 4b**) has been identified (2006) to be 330m east of tower 38. Russell Foster (consultant archaeologist) has informed me that the actual site of manufacture has not been identified but he considered it likely that it would be located nearby. I consider that as well as the kiln, other early European settlement sites may also be expected to be found dispersed throughout the valley.
80. I have also concluded, based upon site inspections and observations made from the road, that evidence relating to Maori occupation is more likely to be found in the vicinity of Towers 33a to 36 than the other towers in this section.

Recommendations

81. **RECOGNISING** the past finds of residents and the long history of occupation throughout section 4 of the route, I consider that it would be appropriate for the following conditions.
- (a) That all of the proposed tower locations be archaeologically surveyed before site work plans are finalised, other than towers 33A to 37, 40, 43 and 44 which have already been, and will not require resurvey.
 - (b) That all earthworks that involve the removal of topsoil and relating to the construction of towers 33A to 36, and the access to them, be monitored by an archaeologist during construction.
 - (c) That all proposed access routes for the towers be archaeologically surveyed before site work plans are finalised and plans be altered, where practicable, for tower locations and access to them, should evidence of archaeological sites be found.
82. I consider that all of the ARI-PAK A towers that are to be dismantled should also be archaeologically surveyed in this area, as it is possible they have been built on, or adjacent to, archaeological sites.

Route Section 5, South of Hunua Township to South of Lyons Road (Franklin District Council NOR)

83. I have assessed a number of the proposed tower locations, particularly in the Northern half of this section and found no archaeological evidence where they are proposed.
84. G and R Matheson, whose families have been resident in the Hunua area for generations, advised me of a number of artefactual finds along the valley, almost all on the eastern side, rather than along the western route that is proposed for the tower locations. Historic references to the area in various books I have read as part of my assessment, also record that the majority of settlement occurred on the eastern side of the valley.

85. **BASED** on survey and observations, the knowledge of the Mathesons, references in various books, I consider that the archaeological characteristics of this section can be divided into three areas, as follows:

- (a) Towers 46 to 59: have a low probability of archaeological evidence being found.
- (b) Towers 59 to 63: are on the relatively flat valley floor, where Maori agricultural soils have been recorded (S12/272 – **Map Book, Series 2, page 6b**) adjacent to the route.
- (c) Towers 63a to the end of the section (tower 71): a number of finds and sites (mostly pit sites) have been found on the farms in this area. A large Maori population was recorded as living in the area during the 1860s. This area includes part of the landscape surrounding Paparata Pa, which was described (Cowan 1983:270)⁵ as having the valley below (referring to the Lyons Road side) covered in fields of wheat, potatoes, maize and peach trees and having extensive rifle pit defences spread traversing nearly the whole valley. I consider that archaeological evidence may be found regularly across the landscape, but much of it is probably invisible on the surface. I have also recorded an early historic site and another has been indicated in this area. Here it can be expected that archaeological evidence may be found on, or near, all of the proposed tower locations.

86. I also consider it likely that there will be sites near, or at, the existing ARI-PAK A line throughout this section, as it is located along the archaeologically more significant eastern side of the valley.

87. **THE NOR** document states (part VIII page 149) that the removal of one tower near Hotel du Vin will need specific solution. I note that there are in fact two towers (approximately 330m east and 290m northeast of tower 69) at either end of the archaeological site (an area of garden mounds, terraces and rifle trenches – not a garden mound as stated in NOR) which will need specific solutions. Specific solutions are required for their removal so that it can be ensured that damage to the immediately adjacent archaeological sites are

⁵ Cowan, J 1983 *The New Zealand Wars: a History of the Maori Campaigns and the Pioneering Period. Volume I: 1845 -64.* Government Printer, Wellington. Originally published 1922.

either avoided or minimised. I note that Mr Patrick, in his evidence, refers to various methods of removal of the ARI-PAK A lines in order to avoid or minimise effects on adjoining sites. The detailed methodology should in my view be contained in the site work plan for these towers.

Recommendations and discussions

Area 1: towers 46 to-59

88. I have limited archaeological concerns for this section except at Tower 56 where I found evidence that soils there have been disturbed by human activity. I have not been able to identify what that activity may have been or when it took place. I therefore recommend that an archaeologist monitors the earthworks at Tower 56 so that it can be determined whether archaeological evidence is present or not.

Area 2: towers 59 to 63

89. **AN** agricultural soil (S12/272) has been recorded on the valley floor (between towers 59 to 63) Towers 60 to 63 are to be located on the valley floor. This soil is a made soil that Maori have created to enhance its growing abilities, this particular soil has had charcoal mixed into it as a form of fertiliser, It is not a natural soil condition and is distinguishable from naturally occurring soils that surround it. Other made soils may have shell added (for its lime) or have sand or gravel added to enhance drainage, or larger stones added to increase the soil temperatures and encourage better growth of cultigens. However, the extent of the site is not defined. It is therefore currently unknown whether the Towers will be built upon it or not.

S12/272 archaeological significance

90. I consider that the site itself is of low archaeological significance as it has little if any visual recognition. It is likely to have been damaged, if not destroyed, in places by over a century of modern farming practices. I also consider it likely to have compromised scientific values because of those farming practices. The site's most valuable attribute is that it is an indicator that other archaeological evidence may be found in the vicinity. Evidence such as garden shelters and caches of garden tools could be found. Again, I consider

it likely that this evidence would have been significantly damaged, or destroyed, by modern farming practices. Unlike in other locations along the route, I do not consider it necessary or justifiable to shift tower sites 60 to 63 (and I understand in any event that tower 61 is a major angle tower and cannot therefore be shifted) should archaeological evidence be found during works or further assessment, as any site they are shifted to is just as likely to contain agricultural soils with similar low values. However, an NZHPT authority would be necessary if the soils were disturbed.

S12/272 recommendations and mitigation.

91. I consider that the following mitigation methods are appropriate:
- (a) That all earthworks are archaeologically monitored from (but not including) tower site 59 to tower site 63, to record any extent of the agricultural soils and take samples for analysis if present.

Area 3: tower 63A - 70

92. I consider that archaeological evidence can be expected to be placed regularly across the landscape in this area, albeit much of it may now be subsurface and not visible. This area of the route section is also where concerns that Paparata Pa be avoided (NOR Document Part X Section 6: Cultural Impact Assessment page 11). Some non iwi originated submissions during the ACRE process raised this issue (*ibid*: page 20).
93. **PREVIOUSLY** I have reported that Paparata Pa is not recorded in the NZAA records. I based this on the fact that no Pa site is recorded where local landowners had indicated they thought it is located. I have since realised that the Pa has been recorded as S12/45 (**Map Book, Series 2, page 6b**), at a point 1370 metres east of the easement. When I was informed of the site location I was told it was west of the easement alignment. This leaves the possibility that there is another unrecorded Pa west of the alignment that may or may not be Paparata Pa and equally that a Pa (recorded as Paparata Pa) is present to the east of the alignment. However I am sure that the site is not within the easement. This view is based upon observations made in the field and verbal assurances given by landowners and Mr Bruce Bruton (historian) who has visited the site, as well as the NZAA site records.

94. I should note, however, that some of the rifle trenches associated with the outer defences of the Pa, and valley, are within the route, but not the easement. Landowners on both sides of the Papparata ridge report storage pits being present on their farms. I have walked or traversed through much of this section (but not specifically assessed the tower locations) and found little or no archaeological evidence to be present on the surface. Further examination of aerial photographs also failed to identify archaeological evidence along this section of the route. However, I note that not all archaeological evidence is visible on the surface, and historic records and landowners comments indicate that archaeological evidence is found through out this area.

Recommendations

95. I recommend the following:
- (a) That all of the proposed access routes, and tower locations for towers 63A to 69 be archaeologically surveyed before the site works plans are finalised.
 - (b) That the site works plans, where practicable, will accommodate any archaeological findings.

S12/324

96. **DURING** my survey, I discovered an early historic house site (**Map Book, Series 2, page 6b**) which is found immediately north of Lyon Road in the vicinity of Tower 70. That site is comprised of the former gardens, as signified by the presence of ornamental trees including a large Norfolk Pine, a well and the foundations of the building. The site is partially within the easement. However I have no concerns as it will not be affected by the proposed Tower construction or associated vegetation clearance.

S12/324 archaeological significance.

97. I consider that S12/324 is an archaeologically significant site, as sites of its apparent age are rarely recorded within the archaeological record. When they have been recorded, they are typically found in urban environments,

associated with specific mission or trading situations or where there have been houses of some substance. The fact that this house site has remnants of its garden environs still growing (ie the Norfolk Pine) further enhances its archaeological values and the trees themselves are of high visual significance as they are the only component of the site visible from any distance.

S12/324 recommendations

98. I recommend the following:

- (a) That S12/324 be marked on all site works plans, and be carried through into TP's maintenance requirements so that it is not accidentally damaged. The plans should note that it includes associated trees.

ARI-PAK A line

99. **AS** stated earlier in my evidence, towers 336 and 337 of the ARI-PAK A line are found at either end of archaeological site S12/325. As previously stated, the alignment of the ARI-PAK A line follows the eastern side of the Hunua valley where archaeological evidence has been reported in the past. Removal of this line will require special consideration in this section, and all current tower sites will need to be assessed. The access route taken by any crews dismantling these towers should also be assessed.

S12/325 archaeological assessment

100. **THIS** site, with its components of terraces, mounds and rifle trenches, is a highly significant archaeological site. The mounding of dirt has been reported in numerous historic recordings, but rarely have any survived to the present day. I consider that these mounds are scientifically important as traditional Maori agricultural methods are not fully understood. The rifle pits relate to the 1860s and the New Zealand Wars, an historically important chapter of New Zealand's history. The recommendations I suggest below are designed to prevent damage to the site.

S12/325 (ARI-PAK A towers 336 and 337) recommendations

101. I recommend the following:

- (a) That all work is conducted when the ground is likely to be at its hardest, and should not be conducted immediately after, or during, significant rain so as to prevent pugging and weight damage to the site.
- (b) That towers 336 and 337 of the ARI-PAK A line should be carefully lowered, with the use of a helicopter, crane or controlled lowering, and the bases of towers 336 and 337 of the ARI-PAK A line be removed, by hand digging to a depth of 600mm and then cut off. These works should be done with an archaeologist present.
- (c) That the downed conductors should not be dragged directly across the ground surface.
- (d) That vehicles are not to be driven on site S12/325 other than when specifically needed for tower/conductor removal purposes.
- (e) That a vehicular approach route be defined to each tower that avoids the surface archaeological evidence.

Route Section 5, ARI-PAK A line generally

102. **DUE** to my own understanding of the history of the area, in response to the submission of the Auckland Regional Council, and as it is probable that other archaeological evidence is present along the ARI-PAK A line in section 5, I make a further recommendation to Transpower for this section – that each tower location should be archaeologically surveyed *prior to* the dismantling process.

103. I note, however, that most of the ARI-PAK A line in Route section 5 falls outside the designation.

Route Section 6, South of Lyons Road to Kopuku (Franklin District Council and Waikato District Council NORs)

104. **THERE** are no recorded archaeological sites within or immediately adjacent to the easement in this section. Based on observations made from the road and examination of aerial photographs, I consider it unlikely that any significant unrecorded sites exist along the easement route.

Route Section 7, Kopuku to Te Hoe (Waikato District Council NOR)

105. **A** number of Pa are recorded along this section, either within the easement or adjacent to it. Others still are recorded on the hills on either side of the route, up to a kilometre distant to the easement.
106. **EACH** situation along the route is discussed below. I note that in all cases the proposed tower locations are unlikely to affect any significant archaeological evidence. The mitigation methods proposed are all aimed at avoiding damage, and recording archaeological evidence that may exist outside the known or recognisable extent of sites.

S12/253 (tower 94)

107. **IT** is proposed to build tower 94 in close proximity to S12/253 (Pa – **Map Book, Series 2, page 8b**). Pine trees within the easement on the Pa edge would need to be cleared. Currently, an ARI-PAK A tower (no. 303) is built adjacent to the Pa and the new tower is to be built in the same location. The new tower is to be built no closer than the old tower but will require more substantial earthworks than the tower it replaces. I have testpitted and probed the proposed location and found no archaeological deposits. However, I note that not all archaeological evidence can be detected by these means. I have no concerns about part of the Pa being within the easement. I have proposed to Transpower that this Pa be identified as a "no go" area for any future maintenance.

S12/253 archaeological significance

108. I consider that this Pa site has high archaeological significance, despite the fact that a shed has been built on a small portion of it, and some bulldozing

has occurred to make tractor access to the shed. Overall, apart from some minor erosion, the site is well preserved, larger in size than average, in a commanding location and unusually, for a location remote from the coast, has shellfish midden remaining on it.

109. **THE** site has a few storage pits on it, which suggest that agricultural practices were taking place in the vicinity. Given the size of the pa, a sizeable number of people would have been required to defend it. I consider it is unlikely that all of their houses were within the defences, and some were likely to be living nearby across the broader landscape. I consider that other archaeological evidence that relates to domestic housing and agriculture are therefore likely to be located nearby.

S12/253 Recommendations and mitigation

110. I recommend the following conditions:
- (a) That all of the proposed access routes for tower 94 be archaeologically surveyed before site works plans are finalised.
 - (b) That the site works plans insofar as they relate to proposed access routes be altered, where practicable, to accommodate any archaeological findings.
 - (c) That an archaeologist be present while any earthworks associated with tower construction or demolition, and any earthworks involving the stripping of topsoil within 100m of the Pa are taking place.
 - (d) That all trees adjacent to the Pa, that have to be removed, be directionally felled downhill and that those trees within 5m of the top of the bank be cut off at stump level and the stumps be allowed to rot in-situ, except where removal is required for access.
 - (e) If felled trees are to be dragged to a haul site, it is recommended that an archaeologist be present during initial hauling and once the hauling is completed, so that any exposed surfaces can be inspected for archaeological evidence, and any evidence that may be present recorded.

S13/30 (Towers 140A and B, Tower 141 – Map Book, Series 2, page 10b)

111. **PA** site S13/30 is located immediately west of the easement in the vicinity of the flattop towers 140A and B. The Pa site itself should not be affected by construction. However, vegetation is likely to be removed (refer NOR document Part X Section 10 page 27) from the banks of the stream immediately adjacent to the Pa. When I visited this site, I noted that a number of firecracked rocks were present on, and around, the Pa. The property owners, V and J Lawson, informed me that they believed such rocks are dispersed irregularly over various parts of their paddocks. I consider that these rocks would suggest that Maori have lived around this Pa, rather than just on it. The ARI-PAK A line passes overhead of the Pa.
112. I archaeologically surveyed the Tower 140 A and B, and 141 locations in January 2008. Here I found that Towers 140 A and B are located on a farm race which will need to be diverted. In the pasture adjacent to the race testpitting found buried topsoil beneath the current topsoil layer that was darker and sandier than the current upper levels of soil. This may be buried topsoil indicative of an historic garden or other occupation. I could not find enough evidence to be sure of this conclusion.
113. I also inspected the proposed access routes to the tower locations and where vegetation is to be removed, some of which are (both tracks and vegetation) immediately adjacent to the Pa. The proposed tracks are to be built on the alignment of already existing bulldozed farm tracks. I did not find archaeological evidence at these locations, but note that not all archaeological evidence is detectable by archaeological survey methods.
114. **TOWER** 141 is to be situated on a flood plain. Testpitting found silt to be present. I concluded that it is unlikely that any significant archaeological evidence was likely to be found on the flood plain.
115. **MR** Noel Cheyne (the landowner of where Tower 141 is to be placed), whose family have farmed in the area since the 19th century, informed me that elsewhere on their land burials had been found, and he knew of kumara pits and rifle trenches to be present in the hills distant to the east, as well as

scattered artefactual finds in the valley. These have not been recorded in the NZAA records. Given the close proximity of the tower sites to the Pa (S13/30) and that they are in an area where archaeological evidence has been found (but not recorded) I consider it more likely than not that the buried topsoil is an archaeological soil and not naturally occurring.

S13/30 Archaeological significance

116. **THIS** site, being a Pa in a relatively complete state has to be considered as a highly significant site. I consider this site to be at the low end of high significance as it is a small Pa, appears to have had its ditches bulldozed in the past and possibly its terracing as well. Nevertheless the site is likely to retain many scientific values in that evidence relating to defence, economy and housing may be expected to be found upon it if it were to be archaeologically investigated. The reported stones, burials and other archaeological evidence, as well as the probable archaeological soil indicate significant settlement has occurred in the areas around it.

Recommendations

117. I make the following recommendations:
- (a) That tower locations for 140A, 140B and 141, as well as the rerouted race route, be archaeologically investigated *prior to* site works commencing.
 - (b) That any earthworks that may be required for access to Tower locations 140 A, 140 B and 141, and access routes to vegetation that is to be cut, be monitored by an archaeologist.
 - (c) That any vegetation is removed in a manner which does not affect Pa S13/30.
 - (d) That when the section of the ARI-PAK A line spanning archaeological site S13/30 is dismantled, conductors should not be dragged directly across the ground surface.

- (e) That the Site Works Plan for Tower 141 states that contractors be aware of the possibility that archaeological evidence may be present. They should stop work for an archaeologist to assess if they have any doubts as to the nature of materials found in excavations.

S13/18 (tower 161 – Map Book, Series 2, page 11b)

118. **TOWER** 161 is located near the base of a hill upon which Pa site S13/18 is located. I have visited S13/18. I found that this is a large Pa site, with many large storage pits present. I consider that this number of pits would suggest that a large population was living in the vicinity, with extensive cropping. The valley floor appears once to have been a swamp. It is possible that evidence relating to prehistoric Maori agriculture and other practices may be found preserved within old swamp deposits.

Valley Floor Archaeological Significance

119. **AS** already mentioned, the valley floor appears once to have been a swamp. Swamp sediments generally trap and preserve plant evidence such as pollens and phytoliths that can be analysed to reconstruct the plants present at a site or an area, even though the rest of the plant parts have been burned up or dissolved. Because they are made of the inorganic substances, phytoliths don't decay when the rest of the plant decays over time and can survive in conditions that would destroy organic residues. Phytoliths can provide evidence of both economically important plants and those that are indicative of the environment at a particular time period. Usually charcoals or other dateable materials can be found in swamps and these can be used to date the deposit, this can lead to an understanding of change in environment over time.
120. **IN** New Zealand, most of the domesticated plants used by Maori preserve poorly and often only phytoliths and occasionally pollen are the only traces left. As this tower (161) is proposed to be placed at the foot of a spur which a large and complex Pa site is located upon, with a large number of pits indicating significant agricultural practice took place nearby, I therefore consider it reasonable to expect that sediments that contain evidence of agriculture and changing vegetation over time would be found at this location.

121. **BECAUSE** of the anaerobic conditions found in swamps, wooden artefacts may also be found, generally wooden artefacts are only preserved in swamplike anaerobic or very dry circumstances. I do not consider that this tower location is likely to have wooden artefacts preserved beneath the pasture surface. However, it is a possibility.

Recommendations

122. I recommend the following:

- (a) That the earthworks for tower 161 be monitored by an archaeologist and any evidence recorded in accordance with standard archaeological practice.
- (b) That representative sediment samples are taken from this location during the tower earthworks for further analysis and the analysis submitted to NZAA site record form for site S13/18.

Route Section 8, Te Hoe to Flaxmill Road (Waikato District Council NOR)

123. **NO** archaeological or historic concerns are identified in the NOR document for this section of the overhead line route (Part VIII, pages 164 to 166). In general, I agree with this. However, there is the possibility that remains of a flax mill are present in the vicinity of Flaxmill Road. There are no records at this location within the NZAA records. Plans which I have searched at LINZ have no mills depicted upon them. Flax mills typically operated in the 1800s through to the first half of the 20th century. Should it be found that a flaxmill was operating in this area prior to 1900, the remains of it would be considered to be an archaeological site under the HPA. However, if the mill had commenced post 1900, it would not be considered an archaeological site.

Recommendations

124. I recommend the following:

- (a) Archaeological survey should occur at the sites of towers 173 to 175, and the proposed access routes to these towers, *prior to* the site works plans being finalised.

Route Section 9, Flaxmill Road to Tauhei Road (Waikato District Council and Matamata-Piako District Council NORs)

125. **THERE** are no recorded archaeological sites within or immediately adjacent to the easement in this section. Based on observations made from the road and examination of aerial photographs I consider it unlikely that any significant unrecorded sites exist along the easement route.

Route Section 10, Tauhei Road to South of Wairama Road (Matamata-Piako District Council NOR)

126. **GENERALLY** little archaeological evidence has been recorded in this area. However, Iwi have indicated that the area has many cultural associations. I have no knowledge of whether these are associations for which archaeological evidence is likely to exist or not. I have driven through the area and examined much of the route from the road. I have also examined aerial photographs of the route. I am of the opinion that it is unlikely that any sites of high archaeological significance are likely to be accidentally encountered by the placement of towers.
127. **THERE** is one significant Pa, T14/110 (**Map Book, Series 2, page 15b**), that the route passes close to. Here tower 233 is proposed to be placed approximately 100m from the Pa edge. This tower will replace ARI-PAK A tower 122 (approximately 150m east of tower 233) which is actually built upon the Pa. Removal of this tower will be an archaeological benefit, and presumably a cultural benefit as well, of the Upgrade Project. However, I consider it possible that damage may occur to archaeological deposits during dismantling of the ARI-PAK A tower, and during construction of the new tower.

T14/110 archaeological significance.

128. **THIS** Pa site is large. It is located in a very prominent and commanding location, with sweeping views of the valley to the south and east, and broad views to the north and west. The Pa site is in generally good state of preservation with many archaeological components, including ditches and banks, internal terracing, a small number of pits, and flanking terrace defences to the east. As well as the features on the Pa site proper, a number of terraces that were probably once used for housing are present outside the

defences. These terraces are over 100m distant, on the spur that falls to the south west, as well as a few others in eastern directions.

129. I consider that the site integrity has been slightly compromised in specific locations by the building of a ARI-PAK A tower near the eastern edge of the pa, minor stock trampling and localised slips and slumps, especially amongst the outer lying terraces. There are a series of natural terraces and slumps on the slopes to the east of the Pa. I consider that these terraces tend to be wetter than the built terraces to the west, but may also have been utilised by Maori. The NZAA site record suggests that this Pa is named Kaipaka, and has been associated with past battles. However, conflicting evidence suggests that the battles referred to occurred at another Pa near Te Awamutu, also called Kaipaka. I consider it best that these associations are assessed by Iwi.
130. **IN** my view, this site is of high archaeological significance as it is large, contains features that relate to many aspects of Maori life, including but not limited to defence, housing and agriculture. The site is in a good to very good state of preservation, and is easily recognised and viewable from a public position.

T14/110 Recommendations

131. I make the following recommendations:
- (a) That particular care be taken with works in the vicinity of T14/110, and that the extent of the Pa site should be marked off while construction and demolition works are in progress.
 - (b) That no vehicles are driven on to the Pa site (T14/110). The ARI-PAK A tower 122 should be carefully dismantled with the use of a helicopter or crane.
 - (c) That the base of the ARI-PAK A tower is removed by digging by hand to a depth of 600mm then cut off. These works should be done with an archaeologist present.

- (d) That all demolition work on ARI-Pak A tower 122 and construction of tower 233 occur only when the ground is likely to be hard, avoiding significant rain events, so as to prevent pugging and weight damage to Pa site T14/110 or to other possible unknown archaeological deposits that are likely to surround the pa).
- (e) That any access tracks shall as far as practicable avoid any surface archaeological evidence.
- (f) That an archaeologist monitors all earthworks involving the removal of topsoils within 100m of the Pa site.

Route Section 11, South of Wairama Road to North of State Highway 1 (Matamata-Piako District Council and Waipa District Council NOR)

132. **THERE** are no recorded archaeological sites within or immediately adjacent to the easement in this section, until south of Toatoaroa Road. North of Toatoaroa Road, I consider it unlikely that any significant sites are likely to exist where towers are planned. South of Toatoaroa Road, there appears to be two recorded Pa sites (T15/96 and T15/97 – **Map Book, Series 2, page 18b**) within the route between towers 282 and 284. Both of these appear on aerial photographs taken by Transpower as part of their route assessment.
133. **BOTH** sites were originally recorded from 1943 aerial photographs. There is no record of either site having been visited by an archaeologist. From examination of the latest photographs and observations that I made from the road, I am of the opinion that T15/96 has been damaged by bulldozing sometime between 1943 and the present. T15/97 is north of tower 284. This site was originally recorded with co-ordinates that would suggest it was somewhat distant to the west. However, I am confident after comparing the aerial photographs, that it is the one and same site.
134. I have had permission withheld to enter the property that the sites are found on, and so I have not been able to assess the tower locations other than by aerial photograph examination. In my view, the tower locations south of Toatoaroa Road are likely to avoid archaeological sites of high significance.

135. **HOWEVER**, it is probable that less significant archaeological sites are present within the route easement between Toatoaroa Road and the Waikato River.
136. **THE** ARI-PAK A line is also built more or less on the same alignment in this area, and it is possible that it has been built upon archaeological sites, as has been found elsewhere along the overhead line route. I therefore consider it important that this section is surveyed and assessed, by an archaeologist *prior* to construction commencing on this section of the route.

Recommendations

137. I recommend the following:
- (a) That all tower locations, from 282 to 288, the access tracks to them, and the ARI-PAK A towers already standing in this same area, be archaeologically surveyed *prior* to site works plans being finalised.
 - (b) That site works plans be altered, where practicable, to accommodate any archaeological findings.
 - (c) Should it be determined that vegetation is to be removed from, or in, the vicinity of any archaeological sites, all reasonable steps be taken to minimise damage to those sites.

Route Section 12, North of State Highway 1 to South of the Waikato River (Waipa District Council NOR)

138. **NO** archaeological sites are recorded within the route easement. However, this section holds the same archaeological attributes as the previous section south of Toatoaroa Road. Site T15/178 (agricultural soils – **Map Book, Series 2 page 19b**) has been recorded both up and down river of the route on both sides of the Waikato River. I consider it plausible that modified soils may be present in the vicinity of towers 291 to 293.
139. I have come to this opinion as the modified soils are recorded for an approximate 21km stretch along both banks of the Waikato River. These soils have been recorded on the basis of borrow pits (pits from which sand has been removed) being present on 1943 aerial photographs. In this case, the

inference from the existence of the borrow pits is that sand has been added to soils to obtain better soil qualities.

T15/178 Archaeological Significance

140. **THIS** site, or possibly more correctly these sites, are likely to have been highly modified by over a century of modern farming practices including discing, ploughing, fertiliser applications, and often earthworks to take the bumps from the pits out of the paddocks. I am of the opinion that they are likely to be highly modified, if not destroyed in places, however in other locations they may survive with minimal modification.
141. I believe that their greatest value is that of an indicator suggesting that there was a large Maori population resident near the banks of the Waikato River, and is therefore suggestive that many archaeological sites may be expected close to the Waikato River itself. These sites may not necessarily be readily visible on the surface or detectable by usual archaeological survey methods.

Recommendations

142. I recommend the following:
- (a) That all tower locations, the access tracks to them, and the ARI-PAK A towers already standing in this same section of the route be archaeologically surveyed *prior to* the site works plans being finalised.
 - (b) That site works plans be altered, where practicable, to accommodate any archaeological findings.
 - (c) Should it be determined that vegetation is to be removed from, or in the vicinity of, any archaeological sites, all reasonable steps be taken to minimise damage to those sites.

Route Section 13, South of the Waikato River to Arapuni

143. **NO** recorded archaeological sites are recorded within the easement in this section. A number of large Pa are recorded outside the easement along the

route. Only one of these Pa is significantly close (site T15/153 – **Map Book, Series 2, page 20b**). Aerial photographs as well as observations I made from Roberts Road would suggest that the proposed tower location 308 and two nearby ARI-PAK towers (nos. 20 which is approximately 60m to the south and 21 which is 20m to the north) located here are not placed on associated archaeological sites. Nevertheless, these three locations should be archaeologically assessed prior to works commencing as onsite assessment may detect archaeological evidence that cannot be detected from a distance.

Recommendations

144. I recommend the following:

- (a) That tower location 308, the access tracks to it and the ARI-PAK A towers (20 and 21) either side of it, be archaeologically surveyed *prior to site works plans being finalised*.
- (b) That the site works plans, where practicable, accommodate any archaeological findings.

Route Section 14, Arapuni to Wiltsdown Road (South Waikato District Council NOR)

145. **NO** archaeological sites are recorded within the easement. However, a historic chimney has been reported as standing on the property at 173 Lake Arapuni Road (**Map Book, Series 2, page 21b**). I have been denied access to this property to assess the chimney. I have also been unable to identify its position from observations made from the road, or from aerial photographs.

Archaeological significance of the chimney

146. IT is not known whether the chimney pre-dates 1900 or not, and therefore whether it is an archaeological site for the purposes of the HPA. The significance of the site could vary greatly, dependant upon the state of site preservation, size of the dwelling that the chimney was once part of and whether there are other associated features present at or in the vicinity of the site. It is likely that site significance is medium to low, or very low if it was found that the chimney was not of pre-1900 manufacture.

Recommendations

147. I recommend the following:

- (a) That towers 326 to 328 and the access to them be archaeologically surveyed *prior to* site works plans being finalised⁶.

Route Section 15, Wiltsdown Road to Whakamaru North

148. I surveyed much of the land in section 15, together with Mr Perry Fletcher (Consultant Archaeologist-Taupo), in December 2005 to January 2006. This survey was a combination of site specific visits (at proposed tower locations), driving through areas on forestry roads, and by pedestrian survey in areas where we considered that sites were more likely to be found and where conditions allowed. Perry Fletcher assisted me in the survey for three reasons:

- (a) He has considerable expertise and knowledge of archaeological landscapes within the forests of this region.
- (b) After the preliminary results were released (December 2005), the Raukawa Trust Board requested that further survey was carried out in specific areas and that Mr Fletcher was involved in that survey
- (c) From a purely logistical point of view, Mr Fletcher has the appropriate accreditation to work and drive vehicles in the Carter Holt Harvey forests. By going with Mr Fletcher it meant that I did not have to sit through a number of courses to be able to survey within the forests unaccompanied.

149. **AS** a result of this survey, I am of the opinion that most of the route proceeds through areas of lower site probability and was likely a hinterland when occupied by Maori, who would have entered the area for specific resource gathering or shelter during times of warfare. I consider that this use of the land will have resulted in a dispersed settlement pattern with clusters around

⁶ The presence of the chimney arose from the consultation process. Should it be found to be at distance from the line, and/or not of pre-1900 vintage, no further work would be required.

navigable streams and outcrops of rock that may have provided shelter. To the best of our knowledge, Mr Perry Fletcher and I targeted areas where these conditions are known to exist. We found no archaeological evidence where surveyed within the easement.

150. I acknowledge the Raukawa Trust Board assertion that archaeological sites are likely to be found in the general vicinity of this section of the route. However, I consider that as a rule archaeological sites would be likely to be found outside the proposed route. If they were ever within the proposed corridor they are now likely to be destroyed by forestry activities (much of the forestry being in either its second or third rotation).

Recommendations

151. I recommend all site works plans throughout section 15 of the overhead line contain warning of the possibility of archaeological sites being found, particularly in the vicinity of rock outcrops and larger streams. This recommendation applies to geotechnical testing and vegetation clearance as well as construction works.

Whakamaru and Whakamaru North Substations

152. I have not surveyed these properties as both I and Mr Fletcher thought they were located where it was unlikely that archaeological evidence would be found, being neither located where navigable streams intersected the Waikato River, nor near land forms that would have been favourable for settlement. I, with Mr Fletcher's advice, concluded from observations made from the road and aerial photographs that it is unlikely that significant, if any, archaeological evidence would be found there.

ISSUES RAISED IN SUBMISSIONS

153. A number of submissions raise issues in relation to archaeology and heritage which I discuss below.

Issues raised by Auckland Regional Council (ARC) (Submission No.1065)

154. **ARC** raises issues in relation to cultural heritage. Its submission relates to all the NOR within the Manukau City area. ARC submits that:
- (a) the route alignment has not been previously surveyed (apart from an area at Mangatawhiri), or assessed for historic places and areas;
 - (b) unrecorded historic places and wahi tapu may be adversely affected by the proposed activities; and
 - (c) there are approximately 15 historic places and areas within close proximity to the proposed line, with 6 falling in the route alignment. These include both pre-european Maori occupation sites and sites reflecting the past 200 years.
155. **WITH** regards to (a) I consider that the ARC's assertions are generally correct. However I have now personally undertaken survey within parts of the route and assessed all sections. In my opinion, there is a low likelihood that historic and archaeological evidence will be affected by the Upgrade Project other than where already stated within my evidence. As a result of the Upgrade Project some of the previously unsurveyed areas have now been surveyed.
156. **WITH** regards to paragraph (b), Transpower has consulted with tangata whenua groups and I refer to Mr Mikaere's evidence on that consultation. I have already commented earlier in my evidence that recorded historic sites may still be affected by the project. However, I consider that the Protocol proposed by Mr Mikaere and the proposed monitoring conditions and further survey, as well as any necessary HPA processes will ensure that either avoidance or mitigation will occur.
157. I am in agreement with paragraph (c), however, the mere fact that sites are within the route alignment does not necessarily mean that they will be affected.

158. I have however, made a recommendation in relation to the ARI-PAK A line within/adjacent to Section 5 earlier in this evidence, which specifically addresses any additional unrecognised sites in this area.

Issues raised by New Zealand Historic Places Trust (NZHPT) (Submission No.0992)

159. **NZHPT** raises potential effects on cultural heritage resources. Its submission relates to all NORs and resource consents. In particular: submission point 1 refers to points that are relevant to Maori. This will be addressed in the evidence of Mr Buddy Mikaere. Their second submission is focused on effects of archaeological resources. I agree with their submission point that as well as the NORs, it will also be necessary to obtain authorities under the HPA. Transpower has commenced discussions with HPA in relation to such authorities.
160. I also support in general terms the move by the NZHPT to ensure that there are mechanisms to recognise the obligations of Transpower and its agents to comply with the requirements of the HPA. The advice note and NZHPT suggested amendment to the Protocol document is one way that this could be achieved. Another alternative to the Protocol amendment would be to insert instructions within the Construction Management Plans.

Issues raised by Waipa District Council (Submission No.0919)

161. **WAIPA** District Council's submission relates to all NORs. The Council submits that inadequate consideration has been given to protection of historic heritage from inappropriate use and development. In paragraph 5.1 of this submission, the Council submits that heritage has been raised to a matter of national importance. It is my view that in terms of cultural heritage, Transpower has in fact treated it as a matter of national importance as evidenced by their primary aim to avoid heritage sites rather than damage or destroy them. I am not qualified to comment further as the rest of their submission refers to natural heritage.
162. **THE** Council also submits (paragraph 10.3) that the Waikato Regional Statement Policy has an objective of:

"The protection of regionally significant heritage resources, and allowing subdivision, use and development of other heritage resources, while ensuring there is no net loss to the region."

163. I am of the opinion that Transpower has done exactly that by choosing a route that contains a minimal number of cultural heritage sites within it and by actively avoiding recorded sites. The removal of transmission lines from some sites on the ARI-PAK A line as well as the possibility of scientifically examining some of the made soils along the route is likely to result in a net gain for cultural heritage. I also refer to the evidence of Ms Allan which discusses the ACRE process, and the extent of heritage consideration throughout that process.

CONCLUSIONS

164. I consider that the Upgrade Project will have a minimal impact upon the archaeological landscape. In some places where ARI-PAK A towers are to be removed from archaeological sites, the Upgrade Project will actually have a positive effect.
165. **THE** route selection process has at all times attempted to avoid archaeological sites. The only area likely to have a moderate negative effect is at Pakuranga Substation, where remnant pre-1900 farming evidence, and remnant Maori occupation evidence, are likely to be significantly damaged, if not destroyed. However, as the archaeological sites at this substation have all been damaged by past activities, and are of low archaeological value, I consider that appropriate mitigation would include archaeological investigations prior to the construction works occurring and some monitoring of topsoil removal during construction.
166. **ALONG** the route a number of mitigation measures are proposed. Generally, these are aimed at avoidance and preventing damage with the recording of evidence should archaeological sites be accidentally disturbed. I have highlighted areas where further archaeological work is required, and discussion is ongoing with NZHPT staff to define the exact extent of further work required.

167. I acknowledge that in some areas archaeological evidence may be encountered, and that it may not be possible to avoid it all. However, I consider that any archaeological evidence found is likely to be insignificant.

A handwritten signature in black ink, appearing to read 'Brent Dale Druskovich', with a long, sweeping flourish extending to the right.

Brent Dale Druskovich

31 January 2008

APPENDIX A
Documents read

I read the following documents (or relevant parts thereof) included within the Notices of Requirement and Resource Consent applications:

Executive Summaries

Part II: Introduction and Information Relevant to All Notices of Requirement

Part III: Information, Description and Assessment of Effects on the Environment – Underground Cable Section Pakuranga Substation.

Part IV: Information, Description and Assessment of Effects on the Environment – Underground Cable Section Otahuhu Substation.

Part V: Information, Description and Assessment of Effects on the Environment – Underground Cable Section Brownhill Substation.

Part VI: Information, Description and Assessment of Effects on the Environment – Underground Cable Section Pakuranga to Brownhill.

Part VII: Information, Description and Assessment of Effects on the Environment – Underground Cable Section Brownhill to Otahuhu.

Part VIII: Information, Description and Assessment of Effects on the Environment – Overhead Line Section.

Part IX: Information, Description and Assessment of Effects on the Environment – Whakamaru and Whakamaru North Substations.

Part X: Section 2: Consultation Report

Part X: Section 6: Cultural Impact Assessment

Part X: Section 9: Archaeological Impact Assessment

Part X: Section 10: Terrestrial Ecology Impact Assessment

Part X: Section 19: Issues/Constraint Maps for Overhead Line Section

Part X: Section 20: Plans and Profiles for Overhead Line Section