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Northern Paeroa Range

Site Number:	SNA800
Ecological District:	Atiamuri
Source of Information:	Wildland Consultants (2009 & 2014); Paul Cashmore pers. comm. 2006 in Wildland Consultants (2007b). Identified as site U17/36.
Digital Scale:	1;5,000
Data Source:	WRAPS 2007
Regional Council:	Waikato
1998 Site Number:	Not identified as a site in Shaw and Beadel (1998).
Current Tenure:	Unprotected
Site Area:	c. 0.3 ha
Altitude Range:	480 m
Bioclimatic Zone:	Lowland
Grid Reference:	NZTM E1889107, N5749290

VEGETATION		LANDFORM	EXTENT
CODE	TYPE		
1	Nonvegetated raw-soilfield This site comprises seven areas of nonvegetated raw-soilfield located within gullies housing a tributary of the Kawaunui Stream.	Gully (Area D is gully and wetland)	c. 0.3 ha
	Area A: Nonvegetated raw-soilfield surrounded by plantation pines with an understorey of mānuka shrubland and small patches of Yorkshire fog. While this area has been active in the recent past, no steaming was evident during the 2010 site visit. This area was viewed with binoculars from across the creek.		
	Area B: Nonvegetated raw-soilfield with abundant pine needles, several geothermal kānuka plants, and occasional browntop. A concrete pipe is present in the hottest area of geothermal activity. The loamfield is surrounded by maritime pine forest with a mānuka subcanopy to c.3 m, and occasional mingimingi, grey willow, and blackberry.		
	Area C: Nonvegetated raw-soilfield. The site is surrounded by pine plantation and mānuka-mingimingi scrub with occasional blackberry, broom, and bracken, and several small patches of Yorkshire fog grassland.		
	Area D: This area is predominantly exposed geothermal clays surrounded by plantation forest. There has been geothermal activity previously within this are, although no geothermal activity was evident during the 2010 inspection. Occasional mānuka to 3 m height, water fern, and mingimingi are present on the margins. A small wetland <5 × 5 m is also present within this area, with <i>Juncus edgariae</i> and rank exotic grasses, including Yorkshire fog and browntop.		
	Area E: A small area of nonvegetated raw-soilfield surrounded by pine plantation with mānuka and mingimingi, and occasional water fern and bracken, in the understorey, with occasional Yorkshire fog, sweet vernal, mānuka seedlings, and geothermal kānuka.		

Indigenous Flora: Geothermal kānuka (At Risk-Naturally Uncommon) is present as occasional scattered plants within parts of the site. Other species typical of geothermal habitats present include mānuka, bracken, mingimingi, and water fern.

Fauna:	No threatened or at risk bird species as listed in Robertson <i>et al.</i> 2013 have been recorded from this site. Common indigenous and exotic bird species are present including grey warbler, Australian magpie, and spur-winged plover. Cattle sign and rabbits were also present.
Notes on Overall Condition:	In a moderate condition. Most features have had some impact from stock and are surrounded by exotic plantation forest. A concrete pipe has been constructed within one geothermal feature. Adjoining land uses include exotic plantation forest, farming, and riparian margin vegetation.
Change Relative to Shaw and Beadel (1998):	Unknown
Threats/Modification/Vulnerability:	<p><i>Invasive Exotic Plants:</i> Most areas of geothermally-altered soils are largely devoid of vegetation. Blackberry and grey willow are locally common on margins. Management of pest plants at this site is of lower priority compared with other geothermal sites in the Waikato Region.</p> <p><i>Human Impacts:</i> A concrete pipe is present in Area B.</p> <p><i>Grazing Impacts:</i> While all sites are fenced, stock sign was present in most sites.</p>
Risk Assessment:	<p>Pest plants: Risk to site - low; Timeframe - low.</p> <p>Grazing: Risk to site - low; Timeframe - low.</p>
Significance Level:	Local (Appendix 7 - Table 1 - Criteria 3, 5; Table 2 - Factor S).
Significance Justification:	Northern Paeroa Range is locally significant because it comprises several small examples of a nationally uncommon habitat type (geothermally heated dry ground, hydrothermally altered ground; Williams <i>et al.</i> 2007; Holdaway <i>et al.</i> 2012). The site also provides habitat for a very small population of an At Risk plant species (geothermal kānuka) but does not represent habitat of considerable importance for the conservation of this species.
Field Work Required:	No field work required.
Notes:	A geophysical assessment of the surface geothermal manifestations at this site is presented in Appendix 4. This assessment was undertaken in 2010 (University of Auckland).
References:	Wildland Consultants (2004c, 2007b, 2009, 2012 & 2014)