

Monitoring of Geothermal Features

Annual Report, June 2009

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Table of contents

Acknowledgement	i
Executive summary	ix
1 Job brief	1
2 Methods	1
3 Reports	2
3.1 Atiamuri	2
3.2 Golden Springs	5
3.3 Ngatamariki	7
3.4 Mokai	9
3.5 Orakeikorako	15
3.6 Reporoa	25
3.7 Tauhara	28
3.8 Te Kopia	30
3.9 Tokaanu	35
3.10 Waikite	46
3.11 Waiotapu	50
3.12 Whangairorohea	58
Appendices	59
Atiamuri	59
Horohoro	60
Mokai	61
Ngatamariki	64
Ohaaki	70
Orakeikorako	70
Reporoa	90
Te Kopia Springs	94
Tauhara	99
Tokaanu	103
Waikite Valley Springs	111
Waiotapu	120
Wairakei	129
Whangairorohea	130

List of figures

Figure 1:	Matapan Road spring in February 2009	2
Figure 2:	Northwest Whangapoa spring in February 2009	3
Figure 3:	Whangapoa southeast spring and discharge channel, February 2009	3
Figure 4:	Atiamuri: Two small springs at 490 Ohakuri Road, February 2009	4
Figure 5:	Atiamuri: Overview of vent location, February 2009	4
Figure 6:	Golden Springs south pool in February 2009	5
Figure 7:	Golden Springs north pool in February 2009	5
Figure 8:	Golden Springs pool feature 3 in February 2009	6
Figure 9:	Golden Springs pool feature 4 in February 2009	6
Figure 10:	Ngatamariki: Overview of hydrothermal eruption crater pool, February 2009	7
Figure 11:	Ngatamariki: Small pool beside hydrothermal eruption crater.	8
Figure 12:	Mokai: Features 1 and 2 joined in February 2009	9
Figure 13:	Mokai: Feature 3 in February 2009	10
Figure 14:	Mokai: Feature 4a in February 2009	10
Figure 15:	Mokai: Feature 4b in February 2009	11
Figure 16:	Mokai: Feature 5 in February 2009	11
Figure 17:	Mokai: Features A to G at Paerata Road, February 2009	12
Figure 18:	Mokai: Feature A (left) and Feature B (right), February 2009	12
Figure 19:	Mokai: Feature C (left) and Feature D (right), February 2009	12
Figure 20:	Mokai: Features E, F (arrows) and G (left). Features F and G (right), February 2009	12
Figure 21:	Mokai mud geyser in February 2009	13
Figure 22:	Mokai: Overview of feature 4, February 2009	14
Figure 23:	Orakeikorako: Diamond Geyser in February 2009	15
Figure 24:	Orakeikorako: Cascade Geyser in April 2009	16
Figure 25:	Orakeikorako: Map of Africa in September 2008 (left) and April 2009 (right)	17
Figure 26:	Orakeikorako: Devil's Throat in February 2009	17
Figure 27:	Orakeikorako: Fred and Maggie's Pool in February 2009	18
Figure 28:	Orakeikorako: Wairiri Geyser in February (left) and June (right) 2009	18
Figure 29:	Orakeikorako: Steaming ground on western edge of Artist's Palette in Feb (left) and April (right) 2009	19
Figure 30:	Orakeikorako: Pyramid of Geysers and Artist's Palette, February 2009	20
Figure 31:	Orakeikorako: Fumarole beside boardwalk, February 2009	20
Figure 32:	Orakeikorako: Two pools near Artist's Palette, February 2009	21
Figure 33:	Orakeikorako: Ruatapu Cave in April 2009	22
Figure 34:	Orakeikorako: Soda Fountain in February (left) and April (right) 2009	22
Figure 35:	Orakeikorako: Map of Australia in June 2009	22
Figure 36:	Orakeikorako: Kurapai Geyser in February 2009	23
Figure 37:	Orakeikorako: Waihunuhunu inlet spring 1 in June 2009	24
Figure 38:	Orakeikorako: Inlet spring 2 in June 2009	24
Figure 39:	Reporoa: Fumaroles in February 2009	25
Figure 40:	Reporoa: Feature 2 in February 2009	25
Figure 41:	Reporoa: Feature 3 in February 2009	26
Figure 42:	Reporoa: Feature 4 in February 2009	26
Figure 43:	Reporoa: Overview of area in February 2009	27
Figure 44:	Reporoa: Slumped, dry, mud pools in February 2009	27
Figure 45:	Reporoa: Area of dried, cracked mud in February 2009	27
Figure 46:	Tauhara: Rocky Point spring in February (left) and April (right) 2009	28
Figure 47:	Tauhara: Lake Taupo hot spring in February (left) and April (right) 2009	28
Figure 48:	Tauhara: Otumuheke bridge pool in Feb 2009 looking downstream (left) and upstream (right)	29
Figure 49:	Tauhara: Waipahihi source spring in April (left) and June (right) 2009	29
Figure 50:	Te Kopia: Murphy's Gully spring in February 2009	30
Figure 51:	Te Kopia: Fumarole on Paeroa Fault scarp (arrow) in February 2009	30
Figure 52:	Te Kopia: Murphys Acid Spring in February 2009.	31
Figure 53:	Te Kopia: Overview of mud pool in February 2009	31
Figure 54:	Te Kopia: Overview of mud volcano in February (left) and June (right) 2009	32
Figure 55:	Overview of Te Kopia mud pool in February 2009	33
Figure 56:	Te Kopia mud geyser in February (left) and April (right) 2009	33
Figure 57:	Te Kopia: Small dry mud pool south of main mud pool, February 2009	34
Figure 58:	Tokaanu: Overview of the hydrothermal eruption crater site in June 2009	35
Figure 59:	Tokaanu: Matewai pool in February (left) and June (right) 2009	36

Figure 60:	Tokaanu: Hoani A pool in February 2009	36
Figure 61:	Tokaanu: Hoani B pool in February 2009	37
Figure 62:	Tokaanu: Takerea 6 pool in February 2009	37
Figure 63:	Tokaanu: Takerea 5 pool in February 2009	38
Figure 64:	Tokaanu: Toretiti pool in February 2009	38
Figure 65:	Tokaanu: Te Ngutu pool in February 2009	39
Figure 66:	Tokaanu: Paurini pool in February 2009	39
Figure 67:	Tokaanu: Mud pool 1 in February (left) and April (right) 2009	40
Figure 68:	Tokaanu: Mud pool 2 in February (left) and April (right) 2009	40
Figure 69:	Tokaanu: Mud pool 3 in February (left) and April (right) 2009	40
Figure 70:	Tokaanu: Mud pool 4 in February (left) and April (right) 2009	41
Figure 71:	Tokaanu: New mud pool in April (left) and June (right) 2009	41
Figure 72:	Tokaanu: New track (black arrow) built on top of old track (red arrow) 2009	41
Figure 73:	Tokaanu: Teretere pool in February 2009	42
Figure 74:	Tokaanu: Hydrothermal eruption crater pool 2009	42
Figure 75:	Tokaanu: Hot vent in February (left) and April (right) 2009	43
Figure 76:	Tokaanu: Cluster of hot vents in February (left) and April (right) 2009	43
Figure 77:	Tokaanu: Cooking pools 1 in February (left) and April (right) 2009	44
Figure 78:	Tokaanu: Cooking pool 2 in February (left) and April (right) 2009	44
Figure 79:	Tokaanu: Taumatapuhipuhi hot spring in February 2009	45
Figure 80:	Tokaanu: Tauwhare hot spring in February (left) and April (right) 2009	45
Figure 81:	Waikite: Manaroa Spring, June 2009	46
Figure 82:	Waikite: Mid-point of stream in February 2009	47
Figure 83:	Waikite: Top inlet spring in February 2009	47
Figure 84:	Waikite: Channel at entrance to Waikite in February 2009	48
Figure 85:	Waikite: Baths outlet spring in February 2009	48
Figure 86:	Waikite: Squash club supply spring in February 2009	49
Figure 87:	Waikite hot pools supply spring in February 2009	49
Figure 88:	Waiotapu: Kerosene Creek Pool in February (left) and June (right) 2009	50
Figure 89:	Waiotapu: Overview of steaming ground area in Feb (left) and June (right) 2009	51
Figure 90:	Waiotapu: Overview of Venus Pool in February 2009	51
Figure 91:	Waiotapu: Hidden pool in February (left) and June (right) 2009	52
Figure 92:	Waiotapu: Knox Hole Spring and sulphur crystals, February 2009	53
Figure 93:	Waiotapu: Lady Knox Geyser and Knox Hole Spring outflow channel, Feb 2009	53
Figure 94:	Waiotapu: Weather map resurgence in February 2009	54
Figure 95:	Waiotapu: Pool north of Jean Batten Geyser in February 2009	54
Figure 96:	Waiotapu: Jean Batten Geyser in February 2009	55
Figure 97:	Waiotapu: Overview of sinter terraces in February 2009	55
Figure 98:	Waiotapu: Pools on sinter terrace in February 2009	56
Figure 99:	Waiotapu: Champagne Pool, February 2009	56
Figure 100:	Waiotapu Geyser in February 2009	57
Figure 101:	Waiotapu: Devil's Bath in February (left) and June (right) 2009	57
Figure 102:	Tahunatapu Spring at Whangairoa in February 2009	58

List of tables

Table 1:	Statistics for Matapan Road Spring	2
Table 2:	Statistics for Northwest Whangapoa spring	2
Table 3:	Statistics for southeast Whangapoa spring	3
Table 4:	Statistics for small Atiamuri springs	3
Table 5:	Statistics for south pool	5
Table 6:	Statistics for north pool	5
Table 7:	Statistics for feature 3	6
Table 8:	Statistics for feature 4	6
Table 9:	Statistics for hydrothermal eruption crater	7
Table 10:	Statistics for small pool beside hydrothermal eruption crater	8
Table 11:	Statistics for feature 1	9
Table 12:	Statistics for feature 2	9
Table 13:	Statistics for feature 3	9
Table 14:	Statistics for feature 4	10
Table 15:	Statistics for feature 4b	10
Table 16:	Statistics for feature 5	11
Table 17:	Statistics for Paerata Road Pools	13
Table 18:	Statistics for feature 4	14
Table 19:	Statistics for Diamond Geyser	15
Table 20:	Statistics for Bush Geyser	15
Table 21:	Statistics for Cascade Geyser	16
Table 22:	Statistics for Sapphire Geyser	16
Table 23:	Statistics for Map of Africa	16
Table 24:	Statistics for Devil's Throat	17
Table 25:	Statistics for Fred and Maggie	18
Table 26:	Statistics for Wairere Geyser	18
Table 27:	Statistics for Elephant Rock	19
Table 28:	Statistics for steaming ground	19
Table 29:	Statistics for boardwalk fumarole	20
Table 30:	Statistics for boardwalk pools	21
Table 31:	Statistics for Ruatapu	21
Table 32:	Statistics for Soda Fountain	22
Table 33:	Statistics for Kurapai	23
Table 34:	Statistics for Ellan Vanin	23
Table 35:	Statistics for inlet spring 1	23
Table 36:	Statistics for inlet spring 2	24
Table 37:	Statistics for Reporoa fumaroles	25
Table 38:	Statistics for Rocky Point Spring	28
Table 39:	Statistics for Lake Taupo Spring	28
Table 40:	Statistics for Otumuheke Bridge Spring	29
Table 41:	Statistics for Waipahihi source spring	29
Table 42:	Statistics for Te Kopia fumarole	30
Table 43:	Statistics for mud pool	31
Table 44:	Statistics for mud volcano	32
Table 45:	Statistics for Te Kopia mud pool	33
Table 46:	Statistics for Te Kopia mud geyser	34
Table 47:	Statistics for Te Kopia steam vent	34
Table 48:	Statistics for new pool	35
Table 49:	Statistics for Matewai	35
Table 50:	Statistics for Hoani A	36
Table 51:	Statistics for Hoani B	37
Table 52:	Statistics for Takarea 6	37
Table 53:	Statistics for Takarea 5	38
Table 54:	Statistics for Toretiti	38
Table 55:	Statistics for Te Ngutu	39
Table 56:	Statistics for Paurini	39
Table 57:	Statistics for mud pools	40
Table 58:	Statistics for Teretere	41
Table 59:	Statistics for hydrothermal eruption crater	42
Table 60:	Statistics for hot vent	43
Table 61:	Statistics for Cooking Pot vents	43
Table 62:	Statistics for Tuamatapuhipuhi	44
Table 63:	Statistics for Tauwhare	45

Table 64:	Statistics for Manaroa Spring	46
Table 65:	Statistics for Manaroa Stream	46
Table 66:	Statistics for Top Inlet Spring	47
Table 67:	Statistics for entrance spring	48
Table 68:	Statistics for baths outlet	48
Table 69:	Statistics for Squash Club Supply Spring	49
Table 70:	Statistics for hot pools supply spring	49
Table 71:	Statistics for Kerosene Creek pool	50
Table 72:	Statistics for steaming ground	51
Table 73:	Statistics for hidden pool	52
Table 74:	Statistics for Knox Hole Spring	52
Table 75:	Statistics for Lady Knox Geyser	53
Table 76:	Statistics for resurgence spring	54
Table 77:	Statistics for north pool	54
Table 78:	Statistics for Jean Batten	55
Table 79:	Statistics for coloured pools	56
Table 80:	Statistics for Champagne Pool	56
Table 81:	Statistics for Waiotapu Geyser	57
Table 82:	Statistics for Devil's Bath	57

Executive summary

Environment Waikato monitors the state of geothermal features throughout the region on a quarterly basis.

While throughout most of the region monitored features maintained their activity within their normal range, the increase in activity at Tirohanga Rd, Mokai has continued. At Orakeikorako, the Soda Fountain, which had been dry since September 2008, started refilling in February 2009 and stayed full throughout 2009. The mud geyser at Te Kopia had a long period of frequent activity during early 2009.

At Tokaanu, Te Waihoto pool experienced hydrothermal eruptions in January and February 2009. In February between Paurini and Teretere pool a new track was constructed due to the water level of the pools overflowing the track.

At Waiotapu, the pool north of Jean Batten Geyser showed strong fluctuations in water level and temperature. The water level in the Devil's Bath varies considerably from year to year. In September the water level was low but by February (and through to June) the level increased significantly.

No major hydrothermal eruptions or other major changes of either natural or anthropomorphic origin were observed in the year July 2008 to June 2009.

1 Job brief

The Resource management Act 1991 (RMA) requires that regional councils sustainably manage geothermal resources. Geothermal features are a part of the geothermal resource and in some cases are outstanding natural features to be protected from inappropriate use and development (RMA s6(b)). Throughout the region, most geothermal features and ecosystems are adversely affected to a greater or lesser degree by geothermal resource use or uses of land and water. Section 35(1) and (2a) of the RMA require the regional council to gather information and undertake or commission research to monitor the state of the environment as necessary to carry out its functions. Waikato Regional Council requires monitoring of the natural state of the geothermal resource and assessment of what changes of state have occurred or are occurring. The geothermal areas listed below were visited to identify any impending threats to the features and to monitor any changes in the thermal features.

Specific sites monitored:

- Atiamuri
- Golden Springs
- Ngatamariki
- Mokai
- Orakeikorako including the Waihunuhunu Inlet Spring
- Reporoa
- Tauhara
- Te Kopia
- Tokaanu
- Waikite
- Waiotapu
- Whangairorohea

2 Methods

Water temperatures were measured using a digital temperature probe with an accuracy of ± 0.1 °C. GPS locations were recorded on a Garmin GPS Map 60CSx GPS, with an accuracy of ± 5 m. Compass bearings of photographs are given to allow repeatable photography of each feature. Each GPS reading was taken in the same spot as the photograph. Flow measurements were estimated.

3 Reports

3.1 Atiamuri

Spring at 152 Matapan Road

This spring is located at a GPS reading of E2779201 N6302030. The temperature of the spring has decreased ~ 6 °C over the last year and the Flow has halved.

Table 1: Statistics for Matapan Road Spring

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	69.3	1.0	Clear water, constant flow, no H ₂ S smell
Feb 2009	63.2	0.5	Clear water, constant flow, no H ₂ S smell

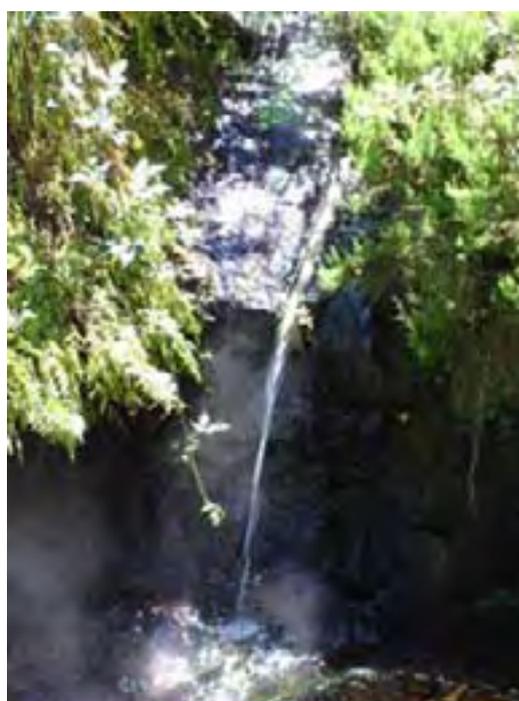


Figure 1: Matapan Road spring in February 2009

Features at 490 Ohakuri Road

1. Northwest Whangapoa spring

This spring is a Department of Conservation feature. The western bank of the spring is located at a GPS of E2776598 N6311134. The pool showed a slight variation in temperature and Flow over the last year.

Table 2: Statistics for Northwest Whangapoa spring

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	67.0	0.5	Water level 1 m below rim Gas discharging into pool
Feb 2009	69.1	0.1	Water level 1 m below rim One zone of upwelling Gas discharging into pool



Figure 2: Northwest Whangapoa spring in February 2009

2. Southeast Whangapoa spring

This spring is a Department of Conservation feature and a GPS reading of E2776615 N6311082 marks the western edge of the pool. The water temperature of this feature has not changed over the last year but its Flow has greatly decreased.

Table 3: Statistics for southeast Whangapoa spring

Date	Temp (°C)	Flow (l/s)	Comments
Jan 2008	63.0	5.0	Zones of upwelling and gas discharge visible
Feb 2009	62.8	0.2	Water level 1 m below rim One zone of upwelling Intermittent gas discharging into pool



Figure 3: Whangapoa southeast spring and discharge channel, February 2009

3. Two small springs

The GPS reading of these springs is E2776420 N6311366. Although it appears from the table below that these features have cooled considerably, this may not be the case. In February 2009, mud could be heard vigorously bubbling at the base of the pool, but it was not possible to get the temperature probe into the mud. Therefore, a steam temperature was recorded which may be much lower than the temperature of the mud at the base.

Table 4: Statistics for small Atiamuri springs

Date	Feature	Temperature (°C)
Jan 2008	Northern spring	98.3 (in mud)
	Southern spring	89.8 (in mud)
Feb 2009	Northern spring	41 (in steam)
	Southern spring	-

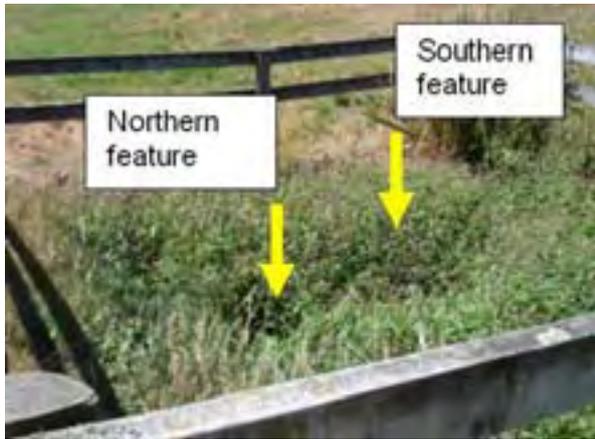


Figure 4: Atiamuri: Two small springs at 490 Ohakuri Road, February 2009

4. Extinct vent

A 1.5 m wide by 2 m deep extinct hot spring vent is located at a GPS of E2776459 N6311202. In February 2009 this ancient vent was surrounded by thriving blackberry, bracken and electric fences making the feature inaccessible. There was no evidence of steam, burnt vegetation, or hydrogen sulphide gas in the immediate area.



Figure 5: Atiamuri: Overview of vent location, February 2009
(arrow indicates vent site)

3.2 Golden Springs

1. South pool

The southern pool is located at a GPS of E2798774 N6298395 within the Golden Springs Motor Camp grounds. This feature showed a decrease in Flow but the temperature remained unchanged over the last 12 months.

Table 5: Statistics for south pool

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	39.0	50	Water muddy and tan in colour
Feb 2009	38.4	40	Water muddy and tan in colour No swimmers



Figure 6: Golden Springs south pool in February 2009

2. North pool

The northern pool is also located within the Golden Springs Motor Camp grounds at a GPS of E2798840 N6298535. This feature remained unchanged over the last year.

Table 6: Statistics for north pool

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	41.0	30	Water greenish-grey in colour
Feb 2009	40.4	30	Water murky and blue/green in colour No swimmers



Figure 7: Golden Springs north pool in February 2009

3. Golden Springs feature 3

This feature is located at a GPS of E2798940 N6298927, across the road from the Golden Springs Motor Camp. The pool has not changed over the last year.

Table 7: Statistics for feature 3

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	42.5	-	Muddy and golden brown in colour
Feb 2009	42.6	-	Water murky and yellow in colour No swimmers



Figure 8: Golden Springs pool feature 3 in February 2009

4. Golden Springs feature 4

This pool is located at a GPS of E2798921 N6299017.

Table 8: Statistics for feature 4

Date	Temperature (°C)	Flow (l/s)	Comments
Jan 2008	-	-	Murky green water
Feb 2009	48.3	30	Pale green and murky water. Numerous sites of gas discharge. No swimmers.



Figure 9: Golden Springs pool feature 4 in February 2009

3.3 Ngatamariki

Features visited at the Ngatamariki site are located in the DOC reserve adjacent to 1349 Tutukau Road.

Hydrothermal eruption crater

A GPS location of E2786600 N6291801 marks the location of the outflow channel of the hydrothermal eruption crater pool. The discharge rate of the pool decreased from 30 l/s in September 2008 to 20 l/s in February through to April 2009. The water temperature varied between 49 and 54.3 °C. No other changes occurred within this pool during the last year.

Table 9: Statistics for hydrothermal eruption crater

Date	Temp (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	50.4	30	Grey-brown	Moderate H ₂ S, minor intermittent gas bubbles
Feb 2009	54.3	20	Green-grey	pH = 6.5 (paper) Moderate H ₂ S, intermittent gas bubbles
April 2009	49.2	20	grey	Moderate amount of intermittent gas bubbles, no H ₂ S,
June 2009	-	-	-	-



Figure 10: Ngatamariki: Overview of hydrothermal eruption crater pool, February 2009

Small pool beside hydrothermal eruption crater

There is a small pool beside the hydrothermal eruption crater. The temperature of the water in this pool fluctuated between 47 and 54 °C but the water level decreased between September 2008 and February 2009. After February the water level remained unchanged.

Table 10: Statistics for small pool beside hydrothermal eruption crater

Date	Temp (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	48.8	0.3 m below rim	Black	No gas bubbles
Feb 2009	53.9	0.6 m below rim	Black	pH = 6.5
April 2009	47.1	0.6 m below rim	Black	-
June 2009	-	-	-	-



Figure 11: Ngatamariki: Small pool beside hydrothermal eruption crater.
Photographs taken in September 2008 (left) and April 2009 (right).

3.4 Mokai

Tirohanga Road

A series of features on Tirohanga Road are located in an area surrounded by an electric fence.

Feature 1: A circular pool with an estimated diameter of 3 m was identified at a GPS of E2763460 N6295714. This pool has increased in temperature considerably over the last 12 months.

Table 11: Statistics for feature 1

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	42.6	-	Brown, muddy	No gas discharge
Feb 2009	64	-	Brown, muddy	Features 1 and 2 were joined, no gas

Feature 2: Located at a GPS of E2763459 N6295723. The water temperature has remained constant within this pool over the last year. However, in February 2009 features 1 and 2 had merged to become one feature.

Table 12: Statistics for feature 2

Date	Temp (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	56.6	-	Brown, muddy	Not joined to feature 1
Feb 2009	56.8	-	Brown, muddy	Features 1 and 2 were joined, no gas



Figure 12: Mokai: Features 1 and 2 joined in February 2009

Feature 3: This feature is located at a GPS of E2763455 N6295751 and has cooled over the last year.

Table 13: Statistics for feature 3

Date	Temp (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	60.5	0.5 m below rim	Grey, muddy	-
Feb 2009	47	-	Green, murky	No gas discharge, no upwelling water



Figure 13: Mokai: Feature 3 in February 2009

Feature 4a: 3 mud pools at a GPS location of E2763460 N6295777. The size of these features has not changed over the last year but the temperatures have decreased.

Table 14: Statistics for feature 4

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	40-59	-	Mud pool	-
Feb 2009	29-40	2.5 m below rim	Brown, muddy	No upwelling water, no gas discharge



Figure 14: Mokai: Feature 4a in February 2009

Feature 4b: This feature consists of a clear pool. Flow from the pool has halved in the last year but the temperature remained similar.

Table 15: Statistics for feature 4b

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	93.9	10	Pale grey	Zones of upwelling
Feb 2009	91.2	5	clear	Minor gas discharge



Figure 15: Mokai: Feature 4b in February 2009

Arrows indicate outflow direction.

Feature 5: At a GPS of E2763448 N6295832, two mud pools are linked with the larger pool (estimated at 30 m x 50 m) draining into the smaller pool (estimated at 8 m diameter). There has been some variation in temperature of the pools over the last year.

Table 16: Statistics for feature 5

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Jan 2008	54.0 (large pool) 64.4 (small pool)	5	grey	Recently ejected considerable amount of mud that flattened nearby reeds.
Feb 2009	47.5 (large pool) 78.2 (small pool)	-	grey	Steaming ground and a fumarole developed adjacent to pools



Figure 16: Mokai: Feature 5 in February 2009

Paerata Road

Feature 1: A group of geothermal surface features were located on farmland with an overview photograph of this group shown below. The GPS location of these features is E2765402 N6294657. Within this cluster of features some features remained unchanged over the last year while others show significant changes.



Figure 17: Mokai: Features A to G at Paerata Road, February 2009



Figure 18: Mokai: Feature A (left) and Feature B (right), February 2009



Figure 19: Mokai: Feature C (left) and Feature D (right), February 2009



Figure 20: Mokai: Features E, F (arrows) and G (left). Features F and G (right), February 2009

Table 17: Statistics for Paerata Road Pools

Feature Number	Feature characteristics in February 2009	Temperature (°C) Feb 2009 Jan 2008	Maximum dimensions (m) Feb 09
A	2 joined, circular, grey, mud pools Zones of upwelling visible Steep sided pool water level 0.3 m below surface, rims dried, cracked and slumping into pool	57-64 47-62	4 m diameter for each pool
B	Grey, thick mud forms pool with shallow gradient mud banks. Water level 0.1 m below rim. Mud thrown out over grass recently. Lots of gas bubbling into pool.	88 88	3 x 2
C	Cluster of 4 dried vents, surrounded by dried, cracked mud. Dimensions as follows: 1 = 3 m long x 2.5 m wide x 1.5 m deep 2 = 2 m long x 2 m wide x 1.5 m deep 3 = 1.5 m long x 1.5 m wide x 0.8 m deep 4 = 0.5 m long x 0.5 m wide x 0.3 m deep	- -	
D	Gas constantly discharging into brown, muddy pool. Small vent (x) in photo discharging 95.9 °C steam.	- 30	10 x 8
E	Drowned	- 46-98	
F	Mud pools aligned in an east-west direction. Water not visible within mud pools (>1.5 m down from rim) but muddy water could be heard vigorously bubbling within the vents. 2 more mud features beside the vents were splattering mud out from 0.8 m depth and 1.5 m depth.	- 90-95	
G	3 mud pools all submerged with water from feature D	- 27-97	

Feature 3: Mokai Mud Geyser is located at a GPS of E2765575 N6295092. The bottom of the pool was not visible due to the extreme amount of steam, but the water could be heard bubbling vigorously. The steam and ascending gases have mineralogically altered the walls of the pool and killed all surrounding vegetation. The cliffs behind the steam cloud were bright white in colour.



Figure 21: Mokai mud geyser in February 2009

Feature 4: A group of geothermal surface features are clustered together in an area estimated at 100 m long by 70 m wide. Over the last year some features have changed while other show minimal changes.



Figure 22: Mokai: Overview of feature 4, February 2009

Table 18: Statistics for feature 4

Feature in February 2009	Temperature (°C) February 2009 January 2008	Maximum dimensions (m) in February 2009	Comments for February 2009 visit
A	36.8 31.0	30 x 10	Grey water, black scum on surface. Moderate gas discharge. Water level 1.5 m below surface.
B	41.4 34.0	5 x 3	Brown water, rare gas discharging into pool. Flowing into A at a rate of 0.1 l/s
C	34.9 45.0	2.5 x 1.5	Pale grey water with pale yellow scum floating on surface (sulphur?). Water level 0.8 m below ground surface.
D	- 39.0	3 x 2	Dry
E	- 35.0	2 x 2	Dry
F	54 (some 70.9 °C fumaroles nearby) 29-41	6 x 4	1 pool of brown water and with gas discharging into pool.
G	39.9 30.0	7 m diameter	Tan coloured muddy water. Water level 1 m below ground surface

3.5 Orakeikorako

Diamond Geyser

The GPS location of Diamond Geyser is E2784619 N6298509. Only minor variation occurred in water temperature but the Flow varied throughout the year, with the lowest Flow recorded in June 2009.



Figure 23: Orakeikorako: Diamond Geyser in February 2009

Table 19: Statistics for Diamond Geyser

Date	Temperature (°C)	Flow (ml/s)	Water colour
Sept 2008	90.2	100	clear
Feb 2009	91.4	150	clear
April 2009	90.5	100	clear
June 2009	90.3	50	clear

Bush Geyser

Bush Geyser could be heard constantly bubbling all year but was not very eruptive.

Table 20: Statistics for Bush Geyser

Date	Number of eruptions while monitoring Diamond Geyser
Sept 2008	0
Feb 2009	1
April 2009	0
June 2009	0

Cascade Geyser

The number of eruptions per visit varied but between September 2008 and April 2009 the geyser was reasonably active. June was unusual in that no eruptions were observed.



Figure 24: Orakeikorako: Cascade Geyser in April 2009

Table 21: Statistics for Cascade Geyser

Date	Number of eruptions	Duration of eruption
Sept 2008	2	-
Feb 2009	2 (~15 minute intervals)	30 seconds each
April 2009	Every 5 minutes	3 minutes
June 2009	0	0

Sapphire Geyser

Sapphire Geyser is located on Rainbow Terrace and continues to erupt occasionally.

Table 22: Statistics for Sapphire Geyser

Date	Number of eruptions	Duration of eruptions
Sept 2008	1	-
Feb 2009	0	0
April 2009	1	-
June 2009	2	30 seconds

Map of Africa

GPS E2784682 N6298522. The water temperature fluctuated throughout the year by approximately 5 °C, and the colour of the water varied throughout the year.

Table 23: Statistics for Map of Africa

Date	Temperature (°C)	Flow (l/s)	Water colour
Sept 2008	40.7	-	-
Feb 2009	36.9	-	Clear
April 2009	35.5	-	Green and clear
June 2009	35.4	-	Blue and clear



Figure 25: Orakeikorako: Map of Africa in September 2008 (left) and April 2009 (right)

Devil's Throat

The Devil's Throat pool consists of clear, vigorously bubbling water. The pool is surrounded by a sinter rim. The temperature remained reasonably constant throughout the year but the discharge flow from the pool was much lower in spring and winter than in summer and autumn. The GPS reading of this location is E2784703 N6298564.

Table 24: Statistics for Devil's Throat

Date	Temperature (°C)	Flow (l/s)	Water colour
Sept 2008	99.1	0.1	clear
Feb 2009	99.3	0.5	clear
April 2009	99.2	0.5	clear
June 2009	100.2	0.1	clear



Figure 26: Orakeikorako: Devil's Throat in February 2009

Fred and Maggie's Pool

The GPS location of this pool is E2784752 N6298549. This feature has not changed over the last year although the flow has decreased slightly.

Table 25: Statistics for Fred and Maggie

Date	Temperature (°C)	Flow (l/s)	Water colour
Sept 2008	99.7	-	clear
Feb 2009	99.4	0.5	clear
April 2009	98.1	0.3	clear
June 2009	100.2	0.2	clear



Figure 27: Orakeikorako: Fred and Maggie's Pool in February 2009

Wairiri Geyser

GPS E2784747 N6298519. Over the last 12 months this pool has remained full. The temperature, Flow and amount of gas discharging into the pool all decreased significantly in June. February showed the highest temperature and the greatest flow.

Table 26: Statistics for Wairere Geyser

Date	Temp (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	91.2	0.1	Clear	Minor but constant gas bubbles
Feb 2009	95.5	0.5	Clear	Intermittent gas discharge
April 2009	90.4	0.3	Clear	Intermittent gas discharge
June 2009	79.1	<0.05	Clear	Rare gas discharge and barely overflowing



Figure 28: Orakeikorako: Wairiri Geyser in February (left) and June (right) 2009

Elephant Rock

GPS E2784752 N6298494. This fumarole is monitored with a data logger throughout the year. The temperature in September was 97 °C, however for the rest of the year the temperature remained around 87 °C.

Table 27: Statistics for Elephant Rock

Date	Temperature (°C)	Comments
Sept 2008	97	No H ₂ S
Feb 2009	88.5	Minor H ₂ S
April 2009	86.2	No H ₂ S
June 2009	87.1	Minor H ₂ S

Steaming ground

GPS E2784765 N6298478. An L-shaped area of previously steaming ground. Ground temperature varied throughout the year but remained hot all year.

Table 28: Statistics for steaming ground

Date	Temperature (°C) 1 cm into ground	Comments
Sept 2008	77	Minor H ₂ S
Feb 2009	60-73	No H ₂ S
April 2009	99.8	No H ₂ S
June 2009	102.4	No H ₂ S



Figure 29: Orakeikorako: Steaming ground on western edge of Artist's Palette in Feb (left) and April (right) 2009

Pyramid of Geysers and Palette Pool

The Pyramid of Geysers can be seen in the background while the Palette Pool is located in the middle of the photograph below (steaming area). In February, April and June, the Palette pool was full.



Figure 30: Orakeikorako: Pyramid of Geysers and Artist's Palette, February 2009

Pyramid of Geysers is indicated by the arrow and Artist's Palette is steaming.

Fumarole to left of boardwalk

This fumarole is located at a GPS of E2784766 N6298446. The size of the fumarole increased throughout the year. The fumarole extends under the ground and undercuts the ground between the boardwalk and the fumarole.

Table 29: Statistics for boardwalk fumarole

Date	Steam temperature (°C)	Dimensions (m) length x width x depth	Comments
Sept 2008	-	1.0 x 1.0 x 0.6	-
Feb 2009	47.1	1.2 x 1.0 x 0.6	No H ₂ S
April 2009	41.5	1.5 x 1.0 x 0.6	No H ₂ S
June 2009	32.1	1.5 x 1.0 x 0.6	No H ₂ S



Figure 31: Orakeikorako: Fumarole beside boardwalk, February 2009

Two pools along boardwalk beside Artist's Palette

A GPS reading was taken on the boardwalk between the two pools and is E2784774 N6298443. The temperature of the water in these pools is quite variable and ranges between 77 and 98 °C. The amount of gas discharging into the northern pool increased in June. Water levels remained low all year.

Table 30: Statistics for boardwalk pools

Date	Temperature (°C)	Flow (l/s)	Comments
Sept 2008	77.2 (northern pool) 77.6 (southern pool)	2 m below rim in both pools	Water clear (northern) Water murky (southern)
Feb 2009	80.6 (northern pool) 83.1 (southern pool)	1.5 m below rim in both pools	No gas (northern pool) 1 zone of constant gas (southern pool)
April 2009	94.1 (northern pool) 81.6 (southern pool)	2.0 m below rim in both pools	No gas (northern pool) 1 zone of constant gas (southern pool)
June 2009	99.7 (northern pool) 80.4 (southern pool)	2.0 m below rim in both pools	Moderate gas (northern pool) and 1 zone of constant gas (southern pool)



Figure 32: Orakeikorako: Two pools near Artist's Palette, February 2009

Left: Northern pool. Right: Southern pool.

Ruatapu cave

Ruatapu cave is located at a GPS site of E2784856 N6298338. The pool at the base of Ruatapu Cave remained unchanged all year until June, when the temperature decreased by 4 °C.

Table 31: Statistics for Ruatapu

Date	Temperature (°C)	Flow (l/s)	Water colour
Sept 2008	37.7	1.5 m in front of rock	green
Feb 2009	37.5	1.5 m in front of rock	green
April 2009	37.1	1.5 m in front of rock	green
June 2009	33.9 pH = 1.8	1.5 m in front of rock	green



Figure 33: Orakeikorako: Ruatapu Cave in April 2009

Soda Fountain

Soda Fountain is located at a GPS site of E2784659 N6298492. Changes have been noted in this pool over the last 12 months. In September the pool was completely dry but by February a small amount of water had returned to the base of the pool. The pool remained with a small amount of water in the base between February and June.

Table 32: Statistics for Soda Fountain

Date	Temperature (°C)	Comments
Sept 2008	dry	Completely dry
Feb 2009	97.0	Dry, apart from small pool at base
April 2009	99.9	Vigorously bubbling water at base
June 2009	90	Quiet pool at base



Figure 34: Orakeikorako: Soda Fountain in February (left) and April (right) 2009

Map of Australia

The GPS of this feature is E2784264 N6298545. It is now behind a padlocked fence. In June, the temperature of the water was 81.3 °C with a flow of 0.5 l/s.



Figure 35: Orakeikorako: Map of Australia in June 2009

Kurapai

The GPS location of Kurapai is E2784663 N6298399. The number of eruptions from Kurapai appear to be constant all year at around 3-4 per day.

Table 33: Statistics for Kurapai

Date	Temp (°C)	Eruptions/day	Duration of eruption
Sept 2008	-	-	-
Feb 2009	98	?	5 minutes
April 2009	-	Every 3 hours	Boat driver commented eruptions are of short duration now
June 2009	-	3-4 per day	Up to 15 minutes



Figure 36: Orakeikorako: Kurapai Geyser in February 2009

Ellan Vanin

Ellan Vanin pool is located approximately 5 m west of Kurapai.

Table 34: Statistics for Ellan Vanin

Date	Temperature (°C)
Sept 2008	-
Feb 2009	dry
April 2009	dry
June 2009	-

Waihunuhunu inlet springs north of Orakei Korako inlet spring 1

The GPS reading of the spring is E2785533 N6300770. The temperature of the water remained constant all year although the flow steadily decreased.

Table 35: Statistics for inlet spring 1

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	53.6	40	Clear	No swimmers
Feb 2009	53.6	30	Murky, brown	No swimmers
April 2009	53.5	25	Slightly murky	3 swimmers
June 2009	53.4	20	Clear	No swimmers



Figure 37: Orakeikorako: Waihunuhunu inlet spring 1 in June 2009

Inlet spring 2

This inlet spring is piped and flows into the lake approximately 50 m west of inlet spring 1 at a GPS location of E2785509 N6307774. The water temperature and Flow of this spring remained constant throughout the year.

Table 36: Statistics for inlet spring 2

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	45.5	10	-	-
Feb 2009	44.4	Pipe submerged	clear	2 swimmers
April 2009	45.5	10	clear	No swimmers
June 2009	45.9	8	clear	No swimmers



Figure 38: Orakeikorako: Inlet spring 2 in June 2009

3.6 Reporoa

(1) Fumaroles

Five fumaroles were located at a GPS of E2800900 N6304314. Vents 1 and 2 have cooled over the last year while vents 3 and 4 remain unchanged.



Figure 39: Reporoa: Fumaroles in February 2009

Table 37: Statistics for Reporoa fumaroles

Feature	Temperature (°C) February 2009 January 2008	Dimensions (m) In Feb 2009
1	73.8 91.0	0.1 x 0.5 x 0.5 deep
2	56.4 62.0	0.2 x 0.4 x 0.5 deep
3	67.7 67.0	0.1 diameter x 0.3 deep
4	2 vents within 1 vent 35 and 56 53.0	0.4 x 0.8 x 0.4 deep
5	- 92.0	slumped

(2) Hot pools

A figure 8 shaped pool is located at E2800884 N6304388. Over the last year the water level has decreased making this feature into 2 separate pools, however the temperature remained similar.



Figure 40: Reporoa: Feature 2 in February 2009

(3) Hot pool

The GPS reading for this feature is E2800959 N6304325. Over the last 12 months the hot pool decreased in Flow from 5 l/s to 3 l/s but the temperature remained the unchanged.



Figure 41: Reporoa: Feature 3 in February 2009

(4) Pool



Figure 42: Reporoa: Feature 4 in February 2009

A circular steep-sided pool is located at E2801252 N6304570. Over the last year the water level decreased by at least 1 m. This area remained behind electric fences and was inaccessible. An estimate of the pool dimensions is 4 m diameter. Hydrogen sulphide gas could be smelt in the area. Dry, cracked mud surrounded the pool with sulphur crystals infilling cracks in the ground.

(5) Fumaroles

This feature has not changed over the last year. It consists of a 40 m² zone of bare earth, dead vegetation and several dried slumped, mud pools. The area sounded hollow when walking over it. In places the ground was so unstable that you sank into the soft ground. All ground surrounding the pools was dry and cracked, with sulphur deposits around the cracks. Water could be heard vigorously bubbling in some of them but was not visible (>2 m depth). Many small, < 50 mm diameter, fumarole vents were scattered around the area of bare earth that surrounded the pools. These vents were constantly discharging a moderate amount of hydrogen sulphide gas. Cow bones were scattered over the ground. The sides of the larger features had dried and were slumping into the vent. The ground surrounding these features was cracked, slumping, and very unstable.



Figure 43: Reporoa: Overview of area in February 2009



Figure 44: Reporoa: Slumped, dry, mud pools in February 2009



Figure 45: Reporoa: Area of dried, cracked mud in February 2009
One pool is located behind electric fences and remains inaccessible.

3.7 Tauhara

Rocky Point spring

GPS E2778368 N6273387. At Rocky Point on the foreshores of Lake Taupo, a small spring. The level of Lake Taupo varied throughout the year making the flow difficult to assess. Spring temperature increased slightly over the year.

Table 38: Statistics for Rocky Point Spring

Date	Temperature (°C)	Flow (l/s)	Number of swimmers
Sept 2008	- (submerged)	-	-
Feb 2009	63.9	Submerged	4
April 2009	67.3	-	0
June 2009	67.7	1	0



Figure 46: Tauhara: Rocky Point spring in February (left) and April (right) 2009

Lake Taupo Spring

GPS E2793082 N6294721. A spring on the edge of Lake Taupo. Throughout the year the flow varied with the lowest flow recorded in June 2009. The temperature of the water remained relatively constant all year.

Table 39: Statistics for Lake Taupo Spring

Date	Temp (°C)	Flow (l/s)	Water colour	No. of swimmers
Sept 2008	65.7	0.2	-	0
Feb 2009	65.8	0.5	clear	2
April 2009	63.4	0.1	clear	0
June 2009	64.4	0.05	Clear + oily slick	0



Figure 47: Tauhara: Lake Taupo hot spring in February (left) and April (right) 2009

Otumuheke Bridge pool

At a GPS of E2779047 N6276722, a small spring discharges into the stream and is referred to as Otumuheke bridge pool. This feature has not shown any significant changes throughout the last year.

Table 40: Statistics for Otumuheke Bridge Spring

Date	Temperature (°C)	Flow (l/s)	Water colour	Comments
Sept 2008	48.3	80	-	No H ₂ S
Feb 2009	50.4	80	clear	No H ₂ S
April 2009	50.3	80	clear	No H ₂ S
June 2009	48.6	100	clear	No H ₂ S

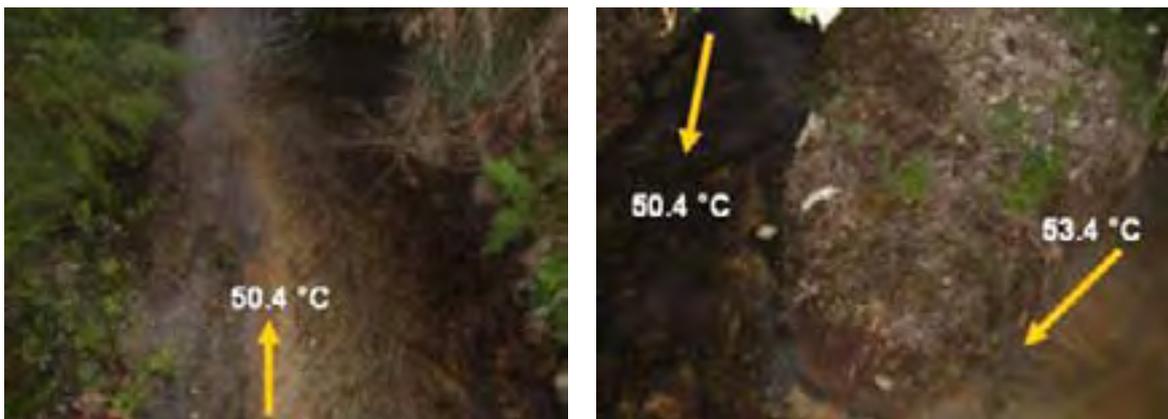


Figure 48: Tauhara: Otumuheke bridge pool in Feb 2009 looking downstream (left) and upstream (right)

Waipahihi source spring

The source spring is located within a fenced area at a GPS of E2779885 N6273260. The Waipahihi Source Spring showed a slight decrease in water temperature between September 2008 and June 2009.

Table 41: Statistics for Waipahihi source spring

Date	Temperature (°C)	Flow (l/s)	Water colour
Sept 2008	71.3	0.2	-
Feb 2009	70.5	0.01	clear
April 2009	69.6	Discharge vent submerged	clear
June 2009	65.1	0.1	clear



Figure 49: Tauhara: Waipahihi source spring in April (left) and June (right) 2009

3.8 Te Kopia

Murphy's Gully Thermal Spring

GPS E2790875 N6307328. A spring in a pine forest, temperature was 59.9 °C with a flow of 5 l/s. Minor intermittent steam and no hydrogen sulphide smel. Access was extremely difficult due to the many fallen pines. Poison had been laid in the forest.



Figure 50: Te Kopia: Murphy's Gully spring in February 2009

Te Kopia fumarole

A large fumarole in the Paeroa Fault scarp was observed from Puaiti Road.

Table 42: Statistics for Te Kopia fumarole

Date	Duration of steam clouds	Comments
Sept 2008	-	Not visible
Feb 2009	6 minutes	Very active
April 2009	Not visible due to mist	-
June 2009	1 minute cycles of steam then 30 seconds of no visible steam	Active



Figure 51: Te Kopia: Fumarole on Paeroa Fault scarp (arrow) in February 2009

Murphy's Acid Spring

The spring at a GPS location of E2790857 N6306434, approximately 70 m from Te Kopia road and opposite the thermal features in the Department of Conservation reserve, was not accessible. This feature was visited approximately a year ago, but was also inaccessible at that visit. Access to this feature is difficult because it is in a steep sided gully. The land leading up to the gully walls is so overgrown it is almost impenetrable. Also, you can not see where the steep sides of the gully begin and the thick vegetation stops making it too dangerous and difficult to enter.



Figure 52: Te Kopia: Murphys Acid Spring in February 2009.

Arrow shows approximate location of spring

Mud pool

GPS E2790923 N6306310. In February a new track was made into this feature. The mud pool is elongated in shape and is aligned in a northeast-southwest direction. There are several mud pools, partially joined, within an area that covers approximately 100 m long x 40 m wide. The most notable change in this feature over the last 12 months is the changing water level, with the water level the lowest in April and June.

Table 43: Statistics for mud pool

Date	Level of activity	Water colour	Comments
Sept 2008	Eruptive cycles throw mud 0.1 m into air.	White and murky	Multiple zones of discharging gas
Feb 2009	Cyclic bursts of intense steam every 2 minutes. Numerous areas of gas bubbles, some up to 0.2 m in diameter. The pool was very active and two areas of intense activity threw muddy water to heights of 0.3 m and 0.5 m during explosive cycles which occurred approximately every 15 seconds.	Grey and murky	Dry mud and 0.1 m wide cracks surrounded the pool. Water level 1.5 m below vegetation line on eastern bank
April 2009	Continuously steaming, numerous areas of gas bubbles. Mud thrown up to heights of 0.5 m, with occasional 1.0 m eruptions.	Pale grey	Water level 3 m below vegetation line
June 2009	Vigorously bubbling, throwing mud to heights of 1 m. Exposed bank dried and cracked.	Pale brown	Water level 3 m below vegetation line



Figure 53: Te Kopia: Overview of mud pool in February 2009

Arrows show vigorously bubbling areas

Mud volcano

This feature is located at a GPS reading of E2790923 N6306310. The dry mud volcano was circular in shape with the western slopes being the highest. This feature is increasing in both size and activity. While 12 months ago it was a 0.1 m diameter steaming vent, presently it is a 1 m diameter steaming vent with vigorously bubbling mud at its base.

Table 44: Statistics for mud volcano

Date	Level of activity	Sulphur crystals	Comments
Sept 2008	Continuous steam discharge	-	0.1 m wide concentric cracks around periphery
Feb 2009	Continuous steam discharge	On vent walls	Dry with concentric ring cracks around central vent and slumping into cracks
April 2009	Continuous steam discharge	Minor	Diameter of vent increasing, now 1.0 m
June 2009	Continuous steam discharge, bubbling mud in vent. Increasing in activity.	Not visible	Increasing in size, vent 1 m diameter



Figure 54: Te Kopia: Overview of mud volcano in February (left) and June (right) 2009

Mud pool

A mud pool and geyser occur at a GPS of E2790866 N6306251. The mud pool is a figure 8-shaped, mud pool with approximate maximum dimensions of 50 m long x 50 m wide. Significant changes have occurred in this pool over the last 12 months with the water level decreasing several meters and the formation of large cracks around the exposed and dried bank of the pool. The temperature of the water increased significantly with the lower water level.





Figure 55: Overview of Te Kopia mud pool in February 2009

Table 45: Statistics for Te Kopia mud pool

Date	Temperature (°C)	Water level	Water colour	Comments
Sept 2008	35.8	high	Grey and cloudy	High water level submerged mud geyser vent.
Feb 2009	85.3	low	Brown and murky	Large cracks 0.1 m wide have developed around the perimeter of the pool. Numerous gas bubbles.
April 2009	Water level lower than 5 m from rim and temperature probe could not reach the water.	Very low	-	Numerous gas bubbles. Large cracked mud has slumped into pool while other cracks have increased in width to 0.5 m.
June 2009	Water level lower than 5 m from rim and temperature probe could not reach the water.	Very low	Pale brown	Numerous gas bubbles. Large cracks surrounding pool where mud has dried.

Mud geyser

The level of activity of the mud geyser during the last 12 months varied from eruptive to quiet. The level of the mud pool adjacent to this feature varied considerably and at times drowned the mud geyser vent, while at other times the water level was meters below the vent. Following the low water level of the mud pool, large cracks formed around the vent of the mud geyser.



Figure 56: Te Kopia mud geyser in February (left) and April (right) 2009

Table 46: Statistics for Te Kopia mud geyser

Date	Eruptive history	Water level
Sept 2008	Submerged due to high water level in pool	Completely submerged
Feb 2009	No mud coated the trees to the south suggesting the feature has not erupted recently.	Muddy water was flowing from the mud geyser into the main pool.
April 2009	Recently erupted as evidenced by fresh mud coating on trees.	Water level below lip of mud pool.
June 2009	No evidence of recent eruptions.	Water level below lip of mud pool. Bubbling mud can be heard in vent.

Steam vent

A feature 3 m south of the ridge around the mud geyser was located at a GPS of E2790858 N6306249. The steam temperature within the vent of this feature has been increasing since February.

Table 47: Statistics for Te Kopia steam vent

Date	Temperature (°C)	Water level	Dimensions
Sept 2008	-	-	-
Feb 2009	66.4 (steam)	dry	1.8 m long x 1.2 m wide x 0.3 m deep
April 2009	99.5 (steam)	dry	2.0 m long x 1.5 m wide x 0.5 m deep
June 2009	100.3 (steam)	dry	2.0 m long x 1.5 m wide x 0.5 m deep



Figure 57: Te Kopia: Small dry mud pool south of main mud pool, February 2009

3.9 Tokaanu

New pool from hydrothermal eruption beside Te Waihoto pool

In late January a small hydrothermal eruption took place in the Te Waihoto pool area, witnessed by the staff of Tokaanu Baths who described it as a sudden eruption throwing mud and water 5 m high. It blew trees over. The eruption occurred approximately 1 m from the Te Waihoto pool, between the building and Te Waihoto pool. The crater is 1.5 m long x 1.0 m wide and 0.7 m deep. Within the walls of the hydrothermal eruption crater are exposed old soil horizons and an old sinter sheet located 0.3 m below the top soil horizon. Sinter blocks with maximum dimensions of 0.15 m long were scattered over the ground. The sinter consisted of plant-rich, porous friable sinter. A second eruption took place at the same site on February 26.

Table 48: Statistics for new pool

Date	Temperature (°C)	Water level	Eruption dates
Feb 2009	92	0.7 m below ground surface	Late January
April 2009	91.3	0.5 m below ground surface	26 th February
June 2009	84.1 pH=7.6	0.5 m below ground surface	-



Figure 58: Tokaanu: Overview of the hydrothermal eruption crater site in June 2009
Eruption crater (yellow arrows) with Te Waihoto Pool in the background (red arrows). Photographs taken in early February (left) and April (right)

Matewai pool

GPS E2749593 N6244781. The only change in Matewai pool over the last 12 months was a decrease in flow into the pool from Hoani A in the later half of the year.

Table 49: Statistics for Matewai

Date	Temp (°C) 2 pools	Water level
Sept 2008	71.8 (both pools)	Green and clear Water level 0.8 m below pool rim. Flow 1 l/s from Hoani A
Feb 2009	74.4 and 74.5	Green and clear 100 mm of water over ledge and ~ 1 m below pool rim. Flow = 1 l/s from Hoani A
April 2009	73.1 (both pools)	Green and clear 100 mm of water over ledge and ~ 0.75 m below pool rim. Flow = 0.2 l/s from Hoani A
June 2009	73.5	Green and clear 100 mm of water over ledge and ~ 0.75 m below pool rim. Flow = 0.3 l/s from Hoani A



Figure 59: Tokaanu: Matewai pool in February (left) and June (right) 2009

Hoani A pool

Dead trees within the pool are becoming increasingly silicified, and a thin, white, sinter lip occurs around the pool. Three metres to the south of the discharge channel the GPS reading is E2749583 N6244773. The discharge rate from this pool has decreased over the year.

Table 50: Statistics for Hoani A

Date	Temperature (°C)	Water level	Comments
Sept 2008	84.8	OutFlow – 1 l/s	No upwelling Minor intermittent gas
Feb 2009	87.4	Blue, 20 mm below pool lip OutFlow – 1l/s	1 zone of gas No upwelling
April 2009	87.3	Clear and blue, 20 mm below pool lip, out Flow – 0.2 l/s	No upwelling
June 2009	88.0	Clear and blue, 20 mm below pool lip. OutFlow – 0.3 l/s	2 zones of constant gas discharge



Figure 60: Tokaanu: Hoani A pool in February 2009

Hoani B pool

The GPS reading of Hoani B pool is E2749572 N6244769. Minimal fluctuations in both the temperature of the water and the water level occurred throughout the year. Submerged logs are covered in sinter and the pool has a sinter lip.

Table 51: Statistics for Hoani B

Date	Temperature (°C)	Water level	Comments
Sept 2008	82.4	0.1 m below lip	Minor, intermittent gas
Feb 2009	85.9	0.3 m below lip	No upwelling
April 2009	80.2	0.1 m below lip	No upwelling No gas discharge
June 2009	82.2	0.13 m below lip	No upwelling No gas discharge



Figure 61: Tokaanu: Hoani B pool in February 2009

Takarea pools

Takarea 6 pool is visually separated into two areas (west and east zones) by the presence of thriving orange coloured, conical tufted, mid-temperature (35-60 °C), microbial mats at the western end. Over the last year, Takarea 6 pool showed a slight decrease in water temperature and decrease in the gas input into the pool.

Table 52: Statistics for Takarea 6

Date	Temp (°C) (west end)	Water level	Comments
Sept 2008	67.2	0.03 m below lip, clear	2 zones of discharging gas
Feb 2009	61.5	0.1 m below lip, clear	No upwelling or gas discharge
April 2009	64.2	0.02 m below lip, clear	No upwelling or gas discharge
June 2009	59.3	0.03 m below lip, clear	No upwelling or gas discharge



Figure 62: Tokaanu: Takarea 6 pool in February 2009

Takarea 5 pool consists of two adjacent pools. The two pools are separated by a lip but the water was flowing over the lip from the hotter pool into the cooler pool. Apart from slight fluctuations in water temperature, no significant changes were noted during June 2008 to June 2009. The GPS reading is E2749449 N6244723.

Table 53: Statistics for Takarea 5

Date	Temperature (°C)	Water colour	Comments
Sept 2008	59.3 and 44.3	-	One zone of discharging gas
Feb 2009	61.9 and 47.9	Green and murky	Several zones of upwelling water
April 2009	58.6 and 43.3	Green and murky	Several zones of upwelling water
June 2009	56.8 and 40.1	Green and murky	Several zones of upwelling water

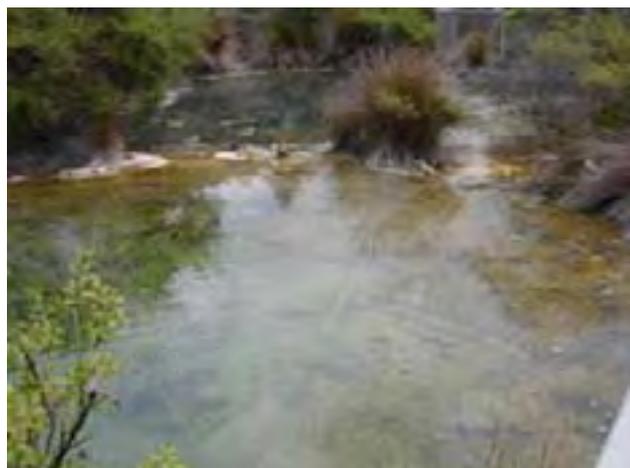


Figure 63: Tokaanu: Takarea 5 pool in February 2009

Toretiti pool

The boardwalk separates Toretiti and Te Ngutu pools. However, the two pools are joined by an area of shallow flow directly underneath the boardwalk. Toretiti pool is located at E2749426 N6244714. The water level decreased 0.15 m during the last year but the water temperature remained between 52 and 56 °C.

Table 54: Statistics for Toretiti

Date	Temperature (°C)	Water level
Sept 2008	53.6	-
Feb 2009	52.1	0.15 m below boardwalk
April 2009	52.7	0.25 m below boardwalk
June 2009	55.4	0.3 m below boardwalk



Figure 64: Tokaanu: Toretiti pool in February 2009

Te Ngutu pool

Te Ngutu pool is located at E2749426 N6244714. This pool decreased in temperature by ~10 °C this year as well as a 0.15 m decrease in water level.

Table 55: Statistics for Te Ngutu

Date	Temperature (°C)	Water level
Sept 2008	51.7	Murky and dark green
Feb 2009	53.2	Murky and dark green 0.15 m below the path
April 2009	38.7	Murky and dark green 0.25 m below the path
June 2009	39.5	Murky and dark green 0.3 m below the path



Figure 65: Tokaanu: Te Ngutu pool in February 2009

Paurini pool

GPS is E2749403 N6244684. The Paurini pool shows small temperature fluctuations throughout the year but did not change significantly during June 2008 to June 2009.

Table 56: Statistics for Paurini

Date	Temperature (°C)	Water level	Comments
Sept 2008	64.1	Green and murky 1m below viewing platform	Zones of upwelling water
Feb 2009	63	Green and murky 1m below viewing platform	Zones of upwelling water
April 2009	62	Green and murky 1m below viewing platform	Zones of upwelling water
June 2009	58	Green and murky 1m below viewing platform	Zones of upwelling water



Figure 66: Tokaanu: Paurini pool in February 2009

Mud pools

Within a 4 m diameter area, just prior to Paurini Pool, four mud pools (referred to as mud pools 1, 2, 3 and 4), have developed from former fumaroles. These features occur around the GPS site of E2749405 N6244701. The only significant changes within these pools this year is that mud pool 2 in February, and mud pool 3 in April, dried up but continued to discharge steam. In April a new mud pool formed between Paurini pool and mud pool 2.

Table 57: Statistics for mud pools

Date	Mud Pool 1	Mud pool 2	Mud pool 3	Mud pool 4 (2 pools)
Sept 2008	100.4 °C	94.1 °C	94.1 °C	98 °C and 100.5 °C
Feb 2009	93 °C, minor H ₂ S	47.5 °C (steam)	96.8 °C	98.3 °C and 99.5 °C.
April 2009	98.5 °C	96.7 °C	69.4 °C (steam)	99.1 °C and 99.8 °C
June 2009	100.8 °C	95.4 °C	99.2 °C	100.2 °C and 100.9 °C



Figure 67: Tokaanu: Mud pool 1 in February (left) and April (right) 2009



Figure 68: Tokaanu: Mud pool 2 in February (left) and April (right) 2009



Figure 69: Tokaanu: Mud pool 3 in February (left) and April (right) 2009



Figure 70: Tokaanu: Mud pool 4 in February (left) and April (right) 2009



Figure 71: Tokaanu: New mud pool in April (left) and June (right) 2009

In February between Paurini and Teretere pool a new track was constructed due to the water level of the pools overflowing the track.



Figure 72: Tokaanu: New track (black arrow) built on top of old track (red arrow) 2009

Teretere pool

Teretere pool is located at a GPS reading of E2749431 N6244757. A 10 °C temperature range of the water was recorded within this pool during the year, with the highest temperature reported in February and the lowest recorded in June.

Table 58: Statistics for Teretere

Date	Temperature (°C)	Water colour	Comments
Sept 2008	28.0	Brown	Water level 0.15 m below boardwalk
Feb 2009	31.6	Brown	No gas discharge, no upwelling
April 2009	26.6	Murky, dark green	No gas discharge, no upwelling
June 2009	21.3	Murky and brown	No gas discharge, no upwelling



Figure 73: Tokaanu: Teretere pool in February 2009

Hydrothermal eruption crater pool

This pool is located at the GPS site of E2749391 N6244754. In June, the water temperature of this feature was 10 °C lower (~21 °C) than the rest of the year (~31 °C). The water level increased considerably between September and February. Little change in the water level occurred between February and June.

Table 59: Statistics for hydrothermal eruption crater

Date	Temp (°C)	Water colour and level	Comments
Sept 2008	30.7	Dark grey, 0.5 m below pool rim	Water flowing at 50 ml/s from adjacent pool into this pool
Feb 2009	31.1	Dark green and murky 1 cm below pool rim	Rare gas discharge
April 2009	31.0	Dark green and murky 1 cm below pool rim	Rare gas discharge
June 2009	21.3	Dark green and murky 0.5 cm below pool rim	No gas discharge



Figure 74: Tokaanu: Hydrothermal eruption crater pool 2009 in February (left) and April (right)

Hot vent on gravel pathway

The GPS reading of the site is E2749529 N6244815. This was a former hot spring that has now dried up. The water temperature of this feature increased significantly between September and February. After February the temperature only showed minimal change.

Table 60: Statistics for hot vent

Date	Temperature (°C)	Water level
Sept 2008	15.4	Murky water 0.1 m below rim
Feb 2009	44 (steam)	Dry
April 2009	37.2	Brown water, water level 0.1 m below rim
June 2009	43.1	Oily slick on surface, water level 0.15 m below rim



Figure 75: Tokaanu: Hot vent in February (left) and April (right) 2009

Hot vents near Cooking pool 1

A series of small hot water and gas vents occur at a GPS site of E2749630 N6244775. These features constantly changed throughout the last year. At times they were vigorously bubbling pools while at other times they were steam vents. These features are on the public track and are not fenced.

Table 61: Statistics for Cooking Pot vents

Date	Temperature (°C)	Number of vents	Comments
Sept 2008	-	-	Covered with corrugated iron and wood
Feb 2009	99.2	2 vents	Vigorously bubbling at depth
April 2009	87.2 – 98.4	5 vents	Increasing thermal activity
June 2009	85.2 – 100.4	4 vents	1 steam vent and 3 water vents



Figure 76: Tokaanu: Cluster of hot vents in February (left) and April (right) 2009

Cooking pools

Water can always be heard boiling at depth creating a thumping noise.



Figure 77: Tokaanu: Cooking pools 1 in February (left) and April (right) 2009

GPS E2749660 N6244788. Surrounding Cooking Pool 2 is an area of numerous fumaroles and hot, bubbling pools with temperatures between 95 °C and 100 °C.



Figure 78: Tokaanu: Cooking pool 2 in February (left) and April (right) 2009

Taumatapuhipuhi hot spring

This feature is located at a GPS reading of E2749633 N6244801. No significant changes occurred in this feature throughout the year.

Table 62: Statistics for Tuamatapuhipuhi

Date	Temperature (°C)	Water	Comments
Sept 2008	95.7 (non-eruptive cycles) 101.1 (eruptive cycles)	Clear blue	Eruptions every 3 minutes
Feb 2009	98.4 (non-eruptive cycles) 99.8 (eruptive cycles)	Clear blue	30 second eruptions, every 3 minutes
April 2009	-100.2 (eruptive cycles)	Clear blue	25 - 20 second eruptions, every 3.5 minutes
June 2009	98.4 (non-eruptive cycles) 100.5 (eruptive cycles)	Clear blue	20 second eruptions every 3-4 minutes



Figure 79: Tokaanu: Taumatapuhipuhi hot spring in February 2009

Outlet from Tauwhare hot spring

The outlet from Tauwhare hot spring is located on the main road, directly across from the car park entrance into Tokaanu. The GPS reading of this feature is E2749696 N6244935. In September this pool was muddy and dark green in colour. However, from February to June the water was clear. The water level fluctuated from month to month and the surrounding ground remained hot.

Table 63: Statistics for Tauwhare

Date	Temperature (°C)	Water colour and level	Comments
Sept 2008	33.1	Dark green and muddy. 0.4 m below wooden wheel	No gas or zones of upwelling water. Surrounding burnt grass had temperature of 100 °C, 1 cm into the ground.
Feb 2009	-	Clear and 0.2 m below wooden wheel	No gas or zones of upwelling water. Surrounding burnt grass had temperature of 99.7 °C, 1 cm into the ground.
April 2009	-	Clear and 0.1 m below wooden wheel	No gas or zones of upwelling water. Surrounding burnt grass had temperature of 99.8 °C, 1 cm into the ground.
June 2009	29	Clear and 0.2 m below wooden wheel	No gas or zones of upwelling water. Surrounding burnt grass had temperature of 98.7 °C, 1 cm into the ground.



Figure 80: Tokaanu: Tauwhare hot spring in February (left) and April (right) 2009

3.10 Waikite

Manaroa Spring

A GPS reading taken in the corner of the viewing platform is E2799016 N6314261. No changes occurred with this feature during the year.

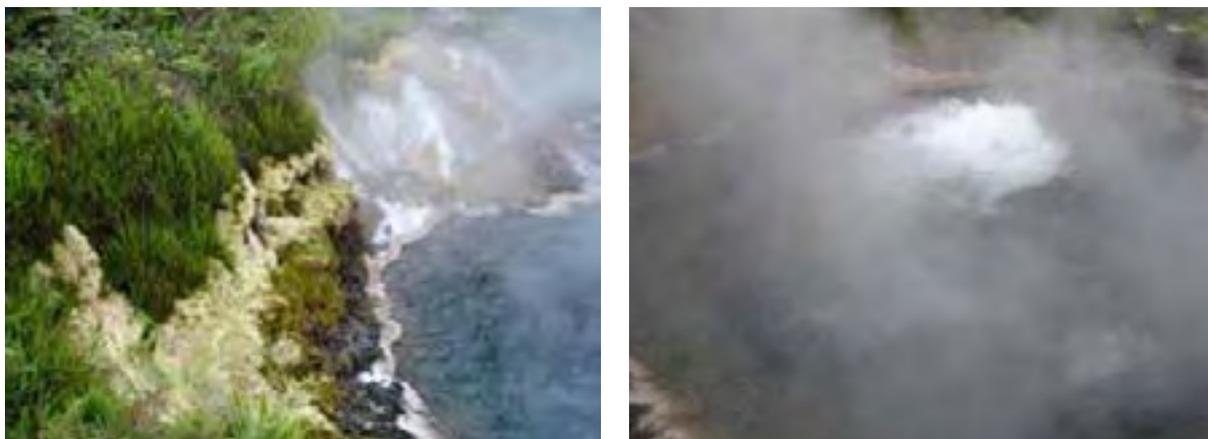


Figure 81: Waikite: Manaroa Spring, June 2009

Colour zonation within the vegetation on the bank of Manaroa Spring in February (left). Manaroa Spring in February (right)

Table 64: Statistics for Manaroa Spring

Date	Temperature (°C)	Height of ebullition	Comments
Sept 2008	99.3	-	No hydrogen gas smelt
Feb 2009	99.2	0.5 m	No hydrogen gas smelt
April 2009	99.5	0.5 m	No hydrogen gas smelt
June 2009	100.4	0.5	No hydrogen gas smelt

Mid-point of stream

Approximately 50 m down the path from the Manaroa spring at a GPS of E2798971 N6314282 is the mid-point of the stream. The water temperature at this point remained unchanged this year.

Table 65: Statistics for Manaroa Stream

Date	Temperature (°C)
Sept 2008	87.6
Feb 2009	88.2
April 2009	87.8
June 2009	88.5



Figure 82: Waikite: Mid-point of stream in February 2009

Top inlet spring

This is a pumped spring at a GPS of E2798917 N6314272. This feature remained unchanged throughout the year.

Table 66: Statistics for Top Inlet Spring

Date	Temperature (°C)	Flow (l/s)	Comments
Sept 2008	98.4	10	No hydrogen sulphide smelt
Feb 2009	96.2	10	No hydrogen sulphide smelt
April 2009	96.5	10	No hydrogen sulphide smelt
June 2009	97.4	10	No hydrogen sulphide smelt



Figure 83: Waikite: Top inlet spring in February 2009

Entrance to Waikite

The lower end of the discharge channel from the top inlet spring is located at the entrance to Waikite. The GPS reading is E2798866 N6314254. This feature remained unchanged throughout the year.

Table 67: Statistics for entrance spring

Date	Temperature (°C)
Sept 2008	63.0
Feb 2009	63.7
April 2009	62.1
June 2009	64.3



Figure 84: Waikite: Channel at entrance to Waikite in February 2009

Baths outlet

The outlet from the baths is located at a GPS of E2798856 N6314283. The discharging water flows over a man-made rock wall into the stream. No significant changes are recorded for this feature during the last 12 months.

Table 68: Statistics for baths outlet

Date	Temperature (°C)	Flow (l/s)
Sept 2008	54.1	10
Feb 2009	56.9	7
April 2009	55.5	10
June 2009	54.7	10



Figure 85: Waikite: Baths outlet spring in February 2009

Squash club supply spring

This spring comes out of a bank into a man-made concrete trough 1.5 m wide x 2 m long. The GPS of this location is E2798984 N6314233. No significant changes are recorded for this feature during the last 12 months.

Table 69: Statistics for Squash Club Supply Spring

Date	Temperature (°C)	Water colour	Water level
Sept 2008	97.8	clear	0.1 m below rim
Feb 2009	96.4	clear	Level with concrete rim
April 2009	96.9	clear	0.2 m below rim
June 2009	93.5	clear	0.2 m below rim



Figure 86: Waikite: Squash club supply spring in February 2009

Waikite hot pools supply spring

GPS E2798978 N6314244. This pool has a concrete structure surrounding it to contain the hot water. Two inlets are by the bank. The water temperature slowly increased from 96.9 °C in Sept to 99.4 °C in June. The flow was variable throughout the year.

Table 70: Statistics for hot pools supply spring

Date	Temperature (°C)	Flow (l/s)
Sept 2008	96.9	0.1
Feb 2009	97.1	3
April 2009	98.4	-
June 2009	99.4	No flow out discharge channel



Figure 87: Waikite hot pools supply spring in February 2009

3.11 Waiotapu

The group of Waiotapu features can be divided into those located at Kerosene Creek and those within the Waiotapu Thermal Wonderland. Access to the Kerosene Creek features is from the Old Waiotapu road beside Rainbow Mountain. Features (2) to (5) are located along the road to the Lady Knox Geyser.

Features at Kerosene Creek

(1a) Kerosene Creek Pool

A thermal pool at the base of a 3 m long waterfall occurs in Kerosene Creek at E2806110 N6313104. Water temperature varied between 35.7 and 43.4 °C throughout the year with the highest temperature recorded in summer and the coolest in winter.

Table 71: Statistics for Kerosene Creek pool

Date	Temperature (°C)	Flow (l/s)	Number of visitors
Sept 2008	37.3	200	0 swimmers, 3 cars
Feb 2009	43.4	120	9 swimmers 4 cars
April 2009	39.5	120	8 cars 2 swimmers
June 2009	35.7	140	No swimmers No cars



Figure 88: Waiotapu: Kerosene Creek Pool in February (left) and June (right) 2009

(1b) Steaming ground

On the eastern side of Kerosene Creek at a GPS location of E2806118 N6312772, there is an area of steaming ground, 40 m long by 15 m wide. This ground is dangerous as it is covered with numerous fumaroles and hot springs. The amount of hydrogen sulphide in the area varied throughout the year.

Table 72: Statistics for steaming ground

Date	Temp (°C)	Water level/colour in springs	H ₂ S
Sept 2008	-	-	-
Feb 2009	87.9 – 99.4	Various – overflowing to several centimeters below rim, to dry. Water colour clear to murky.	minor
April 2009	89.1 – 99.0	Pools not overflowing. Water colour clear to murky.	moderate
June 2009	68.2 – 100.5	Various – overflowing to several centimeters below rim, to dry. Water colour clear to murky.	minor



Figure 89: Waiotapu: Overview of steaming ground area in Feb (left) and June (right) 2009

Features at Waiotapu Thermal Wonderland

(2) Venus Pool

The GPS location of Venus pool is E2804580 N6311425. The pool is 4 m long by 3 m wide and full of bracken. Water was flowing through this creek and it was not possible to distinguish the site of the pool.



Figure 90: Waiotapu: Overview of Venus Pool in February 2009

(3) Hidden pool

The Hidden pool is fed by a creek and has a man-made rock dam around the downstream edge of the pool. The water from the pool partially overflows the rock wall and also flows through cracks in between the rocks. The GPS reading at this site is E2804937 N6311515. The temperature of the pool varied between 49.2 °C (February) and 35.4 °C (June).

Table 73: Statistics for hidden pool

Date	Temperature (°C)	Water colour/Flow (l/s)	Visitors
Sept 2008	39.3	Grey	0 swimmers
Feb 2009	49.2	Grey, 20 l/s	2 swimmers
April 2009	48.8	Brown, 20 l/s	4 swimmers
June 2009	35.4	Grey, 20 l/s	0 swimmers



Figure 91: Waiotapu: Hidden pool in February (left) and June (right) 2009

(4) Knox Hole Spring

This spring is located 10 m north of Lady Knox Geyser at a GPS reading of E2805226 N6311403. The Knox Hole Spring showed a significant change during the year. In September, water submerged the steam vent, while at other visits the pool was dry allowing steam and gases to escape.

Table 74: Statistics for Knox Hole Spring

Date	Temp (°C)	Flow (l/s)	Comments
Sept 2008	56.4	-	Vent submerged but gas discharging into water from vent. Sulphur crystals above pool on roof of vent.
Feb 2009	82.8	0.2	Vent dry but water heard bubbling below surface. Sulphur crystals coat walls and roof of vent. New vent formed in floor. Strong hydrogen sulphide gas smelt.
April 2009	88.1	0.05	Strong hydrogen sulphide gas smelt. New vent on floor.
June 2009	87.4	0.02	Moderate hydrogen sulphide gas smelt. New vent on floor constantly discharging steam and increased sulphur deposits.



Figure 92: Waiotapu: Knox Hole Spring and sulphur crystals, February 2009

New vent shown by arrow

(5) Lady Knox Geyser

Lady Knox Geyser erupts daily at 10 am. No changes occurred with this feature during the year.

Table 75: Statistics for Lady Knox Geyser

Date	Temperature (°C) and time measured
Sept 2008	3 hours after 10 am eruption it was still erupting to heights of 3 m
Feb 2009	99.2 at 3.30 pm
April 2009	100.6 at 4 pm
June 2009	100.8 at 3.10 pm



Figure 93: Waiotapu: Lady Knox Geyser and Knox Hole Spring outflow channel, Feb 2009

(6) Weather map resurgence spring

This spring is inaccessible but can be clearly seen from the viewing platform where the GPS reading was taken and recorded as E2804421 N6310781. This feature remained unchanged during September 2008 to June 2009.

Table 76: Statistics for resurgence spring

Date	Water level	Comments
Sept 2008	0.3 m below rim	Murky green in colour Moderate sulphur deposits Moderate hydrogen sulphide smelt
Feb 2009	0.2 m below rim	Murky green in colour Moderate sulphur deposits Moderate hydrogen sulphide smelt
April 2009	0.2 m below rim	Water flowing out of pool into main channel. Moderate hydrogen sulphide smelt
June 2009	-	Too foggy to see this feature. Moderate hydrogen sulphide smelt



Figure 94: Waiotapu: Weather map resurgence in February 2009

(7) Pool north of Jean Batten Geyser

A 1 m long x 0.7 m wide pool is located 4 m north of Jean Batten Geyser. A 15 °C change in water temperature occurred and the water level varied throughout the year from being submerged with water from the sinter terrace, to the water level being so low, that the water was not visible in the geyser.

Table 77: Statistics for north pool

Date	Temperature (°C)	Water level	Comments
Sept 2008	29.9	No water visible	-
Feb 2009	30.8	overflowing	Minor hydrogen sulphide smelt
April 2009	24.9	submerged	Minor hydrogen sulphide smelt
June 2009	15.9	Full but not overflowing	Minor hydrogen sulphide smelt



Figure 95: Waiotapu: Pool north of Jean Batten Geyser in February 2009

(8) Jean Batten Geyser

Jean Batten Geyser is located at a GPS reading of E2804548 N6310482. This geyser has not erupted for many years. No changes are reported for this feature over the last year.

Table 78: Statistics for Jean Batten

Date	Water level	Comments
Sept 2008	-	-
Feb 2009	Water from sinter terrace running into vent	steaming
April 2009	Water from sinter terrace running into vent	steaming
June 2009	Water from sinter terrace running into vent	steaming



Figure 96: Waiotapu: Jean Batten Geyser in February 2009

(9) Sinter terraces

The amount of water running over the sinter terraces varied from month to month.



Figure 97: Waiotapu: Overview of sinter terraces in February 2009

(10) Coloured pools and large fumarole on sinter terraces

A series of pools on the sinter terrace adjacent to the Champagne Pool can be seen from the viewing platform. There is one yellow coloured vent in the distance, two pools in the mid-distance, and one vigorously bubbling pool in the foreground.

Table 79: Statistics for coloured pools

Date	Yellow coloured vent	Mid-distance pools	Foreground pool
Sept	Not submerged	Submerged	Submerged
Feb	Water from sinter terrace running into vent	Murky, green and overflowing	Zones of upwelling and overflowing, brown coloured
April	Submerged	Submerged	Submerged, zones of upwelling
June	Submerged	Submerged	Submerged



Figure 98: Waiotapu: Pools on sinter terrace in February 2009

(11) Champagne Pool

A GPS of E2804517 N6310486 locates the western edge of the Champagne Pool. No significant changes are recorded for the Champagne Pool during this year.

Table 80: Statistics for Champagne Pool

Date	Temperature (°C)	Hydrogen sulphide gas	Comments
Sept 2008	73.8	-	Green, no orange flocculent
Feb 2009	76.7	moderate	Green, no orange flocculent
April 2009	75.4	minor	Green, no orange flocculent
June 2009	75.1	none	Green, no orange flocculent

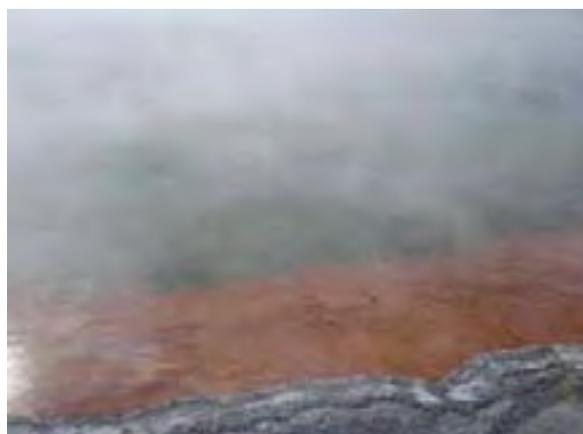


Figure 99: Waiotapu: Champagne Pool, February 2009

Overview of Champagne Pool (left). Rim of Champagne Pool (right).

(12) Waiotapu Geyser

The Waiotapu Geyser is located at E2804491 N6310256. The pool is 0.7 m long and 0.3 m wide. Data loggers monitor this geyser throughout the year. The water temperature and water level of this feature fluctuated throughout the year but no significant changes were noted.

Table 81: Statistics for Waiotapu Geyser

Date	Temp (°C)	Water level	Water colour	Vent to side of geyser
Sept 2008	90.0	0.1 m below rim	Clear and blue	-
Feb 2009	84.7	overflowing	Clear and blue	Full of 63.8 °C water
April 2009	92.5	0.3 m below rim	Clear and blue	Dry
June 2009	86.4	0.15 m below rim	Clear and blue	Dry



Figure 100: Waiotapu Geyser in February 2009

(13) Devil's Bath

Water level in the Devil's Bath varies considerably from year to year. In September the water level was low but by February (and through to June) the level increased significantly.

Table 82: Statistics for Devil's Bath

Date	Water level	Water colour
Sept 2008	Low	Bright yellow
Feb 2009	high	Bright yellow
April 2009	high	Bright yellow-green
June 2009	high	Bright green



Figure 101: Waiotapu: Devil's Bath in February (left) and June (right) 2009

3.12 Whangairorohea

Tahunatapu Spring

The Tahunatapu Spring is located at a GPS of E2793082 E6294721. Historically, this green coloured pool was used for bathing by the local people and a jetty has been erected for easy access into the pool. The water level is lower than one year ago but the temperature showed no change.



Figure 102: Tahunatapu Spring at Whangairorohea in February 2009

Appendices

Atiamuri

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
(Whangapoa Springs):											
Eastern pool	Fri 24-03-95	900	63.6	7.2	clear, vis.>3m	const.<20mm	0.7		new fence and danger signs		
	Wed 19-04-95	1150	65.7	6.9	clear, vis.>3m	const.<25mm	1.5		100mm dia. pipe into pool		
	Thu 25-05-95	945	63	7	clear, vis.>3m	const.<25mm	0.5		pipe still in pool; no changes		
	Sat 10-06-95	1047	62.8	7	clear, sl. greeny colour	const.<25mm	0.5		pinus replanted now		
	Wed 19-07-95	1500	63.2	nd	clear	weak	1		constant weak bubbles; no changes		
	Tue 13-02-96	900	69	7	clear, vis.>4m	const.<50mm	0.5		animal fur and offal on banks; NC		
	Mon 15-02-99	820	68.8	6.8	clear, vis.>4m	const.<50mm	0.5		Occasional bubbles; pinus 3-5m h	3120	2090
	Wed 23-02-00	815	64.2	7.3	clear, vis.>4m	const <50mm	0.5		constant bubbles; pinus ~3-5m high	2120	1420
	Sun 25-02-01	1050	65.3	7.2	clear, vis. 3-4m	occas<25mm	0.15		Occasional central bubbles	2580	1730
	Mon 18-02-02	1045	62.6	7.7	clear, vis. ~10m	occas bubbles	0.3		clear, calm, occas. bubble swarms		
	Tue 04-03-03	920	59.1	7.5	clear, vis >5m	occas bubbles	0.1		Outlet raised by sandbags (DOC)		
	Thur 10-04-03	950	55.2	8.1	clear, vis >5m	occas bubbles	0.1		With Waikato University staff	3295	1500
	Fri 27-02-04	1110	58.2	7.6	clear, vis. >5m	const bubbles	0.1		Steady weak bubbles <20mm high		
	Tue 15-02-05	1600	65.5		clear	const bubbles	~0.2 lps		Steady weak bubbles <20mm high	2230	
Southeast Whangapoa Spring	Apr-07	nd	63	nd	green and clear		4 lps				
	Jun-07	nd	63	nd			4 lps				
	Jan-08	nd	63	nd	Green, alkali chloride	Upwelling	~5 lps	WL low	Water greener in colour than in June 2007 on previous visit		
	Mar-08	nd		nd							
	Jun-08	nd	63	nd	Greener than Jan 08	Upwelling	~5 lps	WL decreased	Pool temperature and Flow has not changed since Jan 08		
	Sep-08	nd		nd							
	Feb-09	nd	62.8	nd	Green, clear, alkali chloride	Upwelling	0.2 lps		Zone of upwelling & several zones of constant gas discharge visible		
Western pool	Fri 24-03-95	907	69.6	7.3	clear, vis.~2m	const.<30mm	1		late 1994 outlet deepened by ~1m; swimming pool bulldozed in		
	Wed 19-04-95	1208	68.7	6.7	clear, vis.>2m	const.<25mm	0.75				
	Thu 25-05-95	957	68.5	6.9	clear, vis.>2m	const.<30mm	0.5		fizzy plopping ebullition; no changes		
	Sat 10-06-95	1055	68.4	7.1	clear, vis.>2m	const.<30mm	0.5		no changes; crackly ebullition		
	Wed 19-07-95	1510	66.2	nd	clear	const.<30mm	0.5		no changes		
	Tue 13-02-95	908	70	7.2	clear, vis.>2m	const.<50mm	0.5		no changes		
	Mon 15-02-99	845	70.8	7.1	clear, vis.>2m	const.<30mm	0.1		No changes apparent	1880	1260
	Wed 23-02-00	830	68.5	7.2	clear, vis.>2m	const <25mm	1		New wire netting surrounds	2375	1590
	Sun 25-02-01	1110	59.5	7.4	clear, vis~2m	const ~35mm	0.2		Round tank sunk into outlet as bath	2720	1820
	Mon 18-02-02	1103	58.4	7.9	clear, vis~5m	const<50mm	0.15		Unchanged; unsafe to reach pool		
	Tue 04-03-03	935	58.7	7.8	clear	const <50	0.1		Fenced off; some pinus felled		
	Thur 10-04-03	1050	51.6	8.1	clear, vis ~5m	const <50	0.3		With Waikato University staff	2540	
	Fri 27-02-04	1115	52.3	7.8	clear, vis ~5m	const <20mm	0.1		deg.C at tub ~10m from pool		
	Tue 15-02-05	1618	55.6		clear, vis ~1m	const <20mm	~0.2 lps		photos; temperatures at tub in outlet stream	2260	
Northwest Whangapoa spring	Apr-07	nd	70	nd	Green, murky				Location: E2776598 N6311134		
	Jun-07	nd	70	nd							
	Jan-08	nd	67	nd	Green, murky	Effervescing	~0.5 lps	nd	Zone of constant gas discharge in SW corner of pool		
	Mar-08	nd		nd							
	Jun-08	nd	67	nd	Green, alkali chloride	Effervescing	~0.5 lps	nd	South western corner of pool had a constant stream of gas		

Site name:	Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity,	TDS, ppm:
	Sep-08	nd		nd					bubbles		
	Feb-09	nd	69.1	nd	Green, moderately clear	Upwelling	0.1 lps	WL-1m	Pool dimensions: 5m x 8m pool; gas discharge in SW corner		
Matapan Road spring	Thur 10-03-03	1240	69.4	7.3	clear, no odours	no bubbling	~0.2 lps		GPS: 2779215mE, 6312034mN		
Spring at 152 Matapan Rd	Apr-07	nd	70	nd			5 lps		Location: E2779201 N6302030 paddock 32		
	Jun-07	nd	70	nd			5 lps				
	Jan-08	nd	69.3	nd	Clear	constant flow	~1lps		No gas smelt in area; microbial mats lining spring channel		
	Mar-08	nd		nd							
	Jun-08	nd	69.3	nd	Clear	constant flow	~1lps		No hydrogen sulfide smelt; stream temperature remained constant		
	Sep-08	nd		nd							
	Feb-09	nd	63.2	nd	Clear	nd	~0.5lps		Spring discharges from rock face & forms 3m waterfall		
Berg's farm:											
Berg's Crater		1130	~17.	? ~6.7 ?	clear, no convection	calm	0	WL-12m?	Circular vent ~20m dia., ~vertical walls, sinters; HE crater?		
	Tue 23-03-04	1430	cold		dry and infilled	nil	0		Ground subsidence; photos. GPS 2776281mE, 6311064mN, 270m		
Mud pool	Tue 23-03-04	1410	92.1	nd	dark grey mud	const <50mm	0	WL-1.5m	Mud hole ~10m dia; GPS 2776421mE, 6311367mN, 265m; photos		
Two Small mud pools at 490											
Ohakuri Road, Atiamuri											
Note: S = southern feature	Apr-07	nd		nd			nil		Location: Two springs, 1m apart at E2776420 N6311366		
N = northern feature	Jun-07	nd	98-99	nd			nil				
	Jan-08	nd	98.3	nd	Bubbling mud	Bubbling	nil	WL - 0.5 m	Features steaming and bubbling;surrounded by fences		
	Mar-08	nd		nd			nil				
	Jun-08	nd	98.3(S) & 89.8(N)	nd	Bubbling mud	Bubbling	nil	WL - 0.5 m	No hydrogen sulfide smelt; well fenced-off & healthy vegetation		
	Sep-08	nd		nd			nil				
	Feb-09	nd	41	nd	Water not visible	not visible	nil	nd	Well fenced off; steaming and audible bubbling		
Old Sinter Spring	Tue 23-03-04	1420	40.1	nd	clear, no convection	const <10mm	0	WL-2.3m	Old spring, sinter walls, rim; GPS 2776462mE, 6311205mN, 262m		
Extinct Vent	Apr-07	nd	67.1	nd			nil		Location: E2776459 N6311202		
	Jun-07	nd	67.1	nd			nil				
	Jan-08	nd	64.5	nd	Steaming	nil	nil	WL low	Moderate, constant gas discharging from vent; H2S smelt		
	Mar-08	nd		nd			nil			709	450
	Jun-08	nd	64.5	nd	Clear, discharging gas	Gas discharge	nil	WL very low	Gas constantly discharging into water at base of the vent		
	Sep-08	nd		nd			nil				
	Feb-09	nd	Inaccessible	nd	Extinct, inactive	nil	nil	Dry	Feature inaccessible due to blackberry & electric fences		

Horohoro

Site name:	Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
		(NZST):									
Waipupumahana	Wed 19-04-95	1120	52.6	6.8	clear, vis.~2m	calm	~0.5 lps		occasional bubble swarms		
	Thu 25-05-95	918	49.6	7.3	clear, vis.>2m	calm	~0.5		occasional bubble swarms		
	Sat 10-06-95	1015	48.6	6.4	clear, vis.>2m	calm	~0.5		3 Maoris came for bath same time		
	Tue 13-02-96	827	56	7.2	clear, occas. bubbles	calm	~0.5		Talked Jim Walker: "wall cut >1948"	New ring tub and	flume
	Thur 10-04-03	1535	51.4	8.6	clear, occas. bubbles	calm/<5mm	~0.5		pH dodgy? 2788384mE 6323144mN	1110	700
South Gully Spring	Thur 10-04-03	1620	81.8	7.8	clear, occas bubbles	calm	~0.02 lps		2788081mE 6322953mN or 900mN?	1160	700

Mokai

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Mokai - Tirohanga Road:											
Southern mud crater	~Mon? 07-02-95	?	exploded!	nd	grey muddy	~30m high?	nd		Explosion early (c.&th?) Feb.		
	Fri 24-03-95	1030	boiling	nd	grey mud, boiling	~0.3-1m high	0	WLs~5m?	strong boiling; ADC photos		
	Wed 19-04-95	1305	boiling	nd	grey mud, boiling	~0.5-1.5mh	0	WLs~5m	explosive boiling; no eruptions		
	Thu 25-05-95	1020	boiling	nd	grey mud, boiling	~0.5-1.5mh	0	WLs~5m	powerful boiling; photos; no changes		
	Sat 10-06-95	1150	boiling	nd	grey mud, boiling	<1m high	0	WLs~5m	powerful boiling; no changes		
	Tue 13-02-96	1010	boiling	nd	grey mud, strong boils	0.3-0.8m high	0	WLs~5m	powerful boiling; no changes		
	Wed 15-03-00	830	boiling	nd	grey mud, strong boils	0.3-1.5m high	0	WLs~5m	GPS survey; new holes & hot land		
Northern mud crater	Fri 24-03-95	1035	boiling	nd	grey mud, boiling	~0.1-1m high	0	WLs~5m?	strong boiling; ADC photos		
	Wed 19-04-95	1255	boiling	nd	grey mud, boiling	~0.5-1m high	0	WLs~5m	strong boiling; no changes		
	Thu 25-05-95	1025	boiling	nd	grey mud, boiling	~0.3-1.5mh	0	WLs~5m	strong boiling; photos; no changes		
	Sat 10-06-95	1155	boiling	nd	grey mud, boiling	~<1m high	0	WLs~5m?	photos; no changes; Mgr Rusty Morris said the cooking steam hangi now cooler		
	Tue 13-02-96	1020	boiling	nd	grey mud, boiling	0.2-1m high	0	WLs~5m	no changes		
Ohineariki Bath Spring	Fri 24-03-95	1040	warm	nd	clear, no bubbles	nil	~2 lps		clear and calm, no changes		
	Wed 19-04-95	1320	48	3.5	clear, calm	nil	~2		dug bath; white filamentous algae		
	Thu 25-05-95	1037	44	3.3	clear, calm	nil	~0.5-1		photos		
	Tue 13-02-96	1002	45.2	3	clear, calm	nil	~1-2 lps		filamentous algal webs all gone!	Bad storm on	7/09/1995
Feature 1	Apr-07	nd		nd					Location: E2763460 N6295714		
Circular pool on Tihoranga	Jun-07	nd		nd							
Road	Jan-08	nd	42.6	nd	Muddy, brown colour	calm	nd	WL	No gas discharge evident; pool diameter~3m length		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	64	nd	Muddy, brown colour	nil	nd	nd	Circular pool with diameter ~3m; no gas discharge		
Feature 2	Apr-07	nd		nd					Location: E2763459 N6295723		
Pool at Tihoranga Road	Jun-07	nd		nd							
	Jan-08	nd	56.5	nd	Brown, muddy colour	Effervescing	nil	WL	Ascending gas bubbles covering entire pool		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	56.8	nd	muddy, brown colour	nil	nd	nd	Ascending gas bubbles within entire pool;now merged with feature 1		
Feature 3	Apr-07	nd		nd					Location: E2763455 N6295751		
	Jun-07	nd		nd							
	Jan-08	nd	60.5	nd	Grey coloured mud	Steaming	nd	WL	Rare gas discharge present evident in pool		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	47	nd	green, murky	0	0	nil	Steaming; no signs of upwelling or discharge evident		
Feature 4a	Apr-07	nd		nd					3 mud pools located at E2763460 N6295777		
	Jun-07	nd		nd							
	Jan-08	nd	59	nd	Brown, muddy coloured		nil	WL-2.5m	Consists of 3 mud pools each 2.5m deep		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	39.8	nd	No water visible	nd	nd	WL-2.5m	Pool depth: 2.5m in all 3 pools. No gas or		

Site name:	Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity,	TDS, ppm:
									upwelling visible.		
Feature 4b	Apr-07	nd		nd							
	Jun-07	nd		nd							
	Jan-08	nd	93.3	nd	Pale grey colour	Upwelling	~10lps	nd	Several zones of upwelling observed		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	91.2	nd	clear colour	nil	~5lps	nd	Minor gas discharge into pool visible		
Feature 5											
Smaller pool	Apr-07	nd		nd					Two mud pools located at: E2763448 N6295832		
	Jun-07	nd		nd							
	Jan-08	nd	64.4	nd	Muddy, grey colour	nd	nd	WL-2m	Surrounding weeds flattened & covered in mud		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	78.2	nd	grey colour	nd	nd	Overflowing	Area of steaming ground & burnt vegetation beside pool		
Larger pool	Apr-07	nd		nd							
	Jun-07	nd		nd							
	Jan-08	nd	54	nd	Muddy, grey colour	Steaming	~5lps	WL-low	Mud lines around pool wall indicating former, higher water levels		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	47.5	nd	grey colour	nd	nd	nd	Area of steaming ground&burnt vegetation beside pool		
Mokai - Paerata Road:											
Northern Fumarole	Wed 19-04-95	1350	boiling	nd	pale grey muddy water	~1-2m high	0	WLs~7m?	powerful explosive constant boiling		
	Thu 25-05-95	1050	boiling	nd	pale grey muddy water	~0.5-2m high	0	WLs-7m	no changes		
	Tue 13-02-96	1042	boiling	nd	pale grey muddy water	~0.3-1m high	0	WLs~7m	no changes		
	Wed 15-03-00	1030	boiling	nd	pale grey muddy water	~0.3-2m high	0	WLs~7m	GPS position; powerful explosive		
Trackside mud pool	Fri 24-03-95	1115	82.8	nd	grey mud pool	occas.<50mm	0	WLs-500	grey mudpool, N side of track		
	Wed 19-04-95	1410	64.6	nd	grey muddy water	occas.50mm	0	WLs-150	WL risen; rainfall effect?		
	Thu 25-05-95	1106	88.2	nd	grey muddy water	occas.<50mm	0	WLs-400	Inflow from pool to west; recircn?		
	Sat 10-06-95	1220	63.2	nd	muddy water	calm	0	WLs-5	high WL - near to overflow		
	Tue 13-02-96	1050	61	nd	muddy water	const.<25mm	0	WLs-40			
Turbid Pool, South No.3	Fri 24-03-95	1118	75.8	nd	grey turbid watery pool	weak bubbles	0	WLs-200	no steam; frothy bubbles		
	Wed 19-04-95	1415	72.1	nd	sloppy watery mud	bubbles	0	WLs-150	frothy bubbles		
	Thu 25-05-95	1114	65.4	nd	muddy water	bubbles	0	WLs-75mm	no changes		
	Sat 10-06-95	1225	68.5	nd	muddy water	calm	0	WLs-50	no changes		
	Tue 13-02-96	1057	49	nd	watery grey mud	calm	~0.01 lps	WLs+5mm	overflowing		
Large Sth lakelet No.4	Fri 24-03-95	1123	34.1		black frothy waters	weak bubbles	~0.2 lps	WLs+10mm	clear water but black mud and froth		
	Wed 19-04-95	1420	38	2.2	dark grey turbid waters	weak bubbles	~0.2	WLs+10mm	clear waters; black froth and muds		
	Thu 25-05-95	1117	27.8	2.2	dark muddy turbid	weak bubbles	~0.05	WLs+5mm	clear waters; black froth and muds		
	Sat 10-06-95	1240	27.8	2.5	black froth on pond	weak bubbles	~0.03 lps	WLs+5mm	clear water; black muds		
	Tue 13-02-96	1100	46	2.2	black froth on pool	weak bubbling	~0.5 lps	WLs+20mm	black muds, clear water; no changes		
Milky SW Pool No.7	Fri 24-03-95	1127	28.8	3.7	milky turbid, vis.<0.1m	weak bubbles	~<0.5 lps	WLs+20mm	milky turbid pond; frothy whitish		

Site name:	Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity,	TDS, ppm:
	Wed 19-04-95	1430	26.6	4.5	milky turbid, vis.<0.1m	weak bubbles	~0.1	WLs+15			
	Thu 25-05-95	1123	nd	nd	milky turbid	weak bubbles	~0.05	WLs+10	badly trampled/fouled by cattle		
	Sat 10-06-95	1247	22	4.2	milky turbid	weak bubbles	~0.01 lps	WLs+5	stock trampled; mosquito larvae		
	Tue 13-02-96	1110	32	4	fawny turbid, vis.<20mm	small bubbles	~0.05	WLs+10mm	bad stock fouling, trampling		
Hot western spring	Fri 24-03-95	1133	67.7	5.5	clear/sl. grey turbidity	const. bubbles	~0.005 lps	WLs+5mm	small vent ~0.5m dia. steaming		
	Wed 19-04-95	1435	69.4	5.5	clear; no sinter	const.<5mm	~0.005	WLs+5mm	const. fizzy bubbling; steaming		
	Thu 25-05-95	1127	68.8	5.2	grey turbidity	const.~10mm	~0.01	WLs+5mm	grey turbid; const. bubbling/steam		
	Sat 10-06-95	1250	69.2	5.3	browny turbid	const.<10mm	~0.003 lps	WLs+2mm	steaming, const. gentle bubbling		
	Tue 13-02-96	1117	69.4	5.3	fawny grey turbid	const.<10mm	~0.05	WLs+10mm	constant fizzy ebullition; steaming		
Feature 2a									Location of feature: E2765484 N6294826		
Two mud pools at Paerata Road	Apr-07	nd		nd					Large mud pool with dimensions: 3 m long x 2 m wide		
Large (L) and small (S) pool	Jan-08	nd	56.5 (l) & 93 (s)	nd	Muddy (both pools)	nil	no flow	WL-0.3m	no gas discharge or upwelling present in L pool; surrounded by dry mud		
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	nd	nd	nd	nd	nd	nd	Feature not visited		
Feature 2b									Location of feature: E2765484 N6294826		
Two small mud volcanoes at Paerata Road	Apr-07	nd		nd			nil		Two small mud volcanoes, each 0.5m high & whitish-grey colour		
	Jun-07	nd		nd			nil				
Mud volcano 1 (1) and mud volcano 2 (2)	Jan-08	nd	40 (1) & 99 (2)	nd	Cones whitish-grey	steaming (both)	nil	Dry (both)	Ascending gas bubbles present over entire pool		
	Mar-08	nd		nd			nil				
	Jun-08	nd		nd			nil				
	Sep-08	nd		nd			nil				
	Feb-09	nd	nd	nd	nd	nd	nd	nd	Feature not visited		
Feature 3									Feature located at Paerata Rd at: E2765575 N6295092		
Mokai mud geyser located at Paerata Road	Apr-07	nd		nd			nd				
	Jun-07	nd		nd			nd				
	Jan-08	nd	steaming	nd	Not visible due to steam	Bubbling	nd	Not visible	Intense clouds of steam, pool heard bubbling vigorously		
	Mar-08	nd		nd			nd				
	Jun-08	nd		nd			nd				
	Sep-08	nd		nd			nd				
	Feb-09	nd	bubbling	nd	Not visible due to steam	Bubbling	nd	Not visible	Steam&agases altered rock walls; cliff bright white colour		
Feature 4									Location of feature: Paerata Road		
Group of geothermal features located at Paerata Road	Apr-07	nd		nd		nil	nil		Cluster of geothermal features in an area ~100 m long x 70 m wide		
	Jun-07	nd		nd		nil	nil				
	Jan-08	nd	range 29-45	nd	Varied from green-brown	nil	nil	WL low	Features predominantly brown/muddy with low water levels		
	Mar-08	nd		nd		nil	nil				
	Jun-08	nd		nd		nil	nil				
	Sep-08	nd		nd		nil	nil				
	Feb-09	nd	nd	nd	Brown, muddy coloured	nil	nil	nd	Group of geothermal features ~100m long x 70m wide		

Site name:	Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity,	TDS, ppm:
Mokai - Waipapa Stream:											
Ditch spring	Wed 19-04-95	1525	61.9	6.4	clear; abdnt green algae	calm	~2-3 lps		no changes of WL apparent		
	Thu 25-05-95	1205	46.1	5.9	clear; abdnt brown algae	calm	~3		surface algae carpet & flies on it		
	Sat 10-06-95	1339	46.6	6.2	clear	calm	~3 lps?		abdnt green surface algae		
	Tue 13-02-96	1215	60.3	5.9	clear, abdnt green algae	calm	~0.5		no changes		
	Wed 15-3-00	1115	nd	nd	clear, abdnt green algae	calm	~0.5		no changes visible; GPS survey		
	Wed 16-04-03	1100	53.1	7.1	clear, abdnt green algae	calm	~0.3 ?		abdnt green surface algae	2450	1400
	Apr-07								Location of Feature: E2767784		
	Jun-07								N6300470		
	Jan-08	nd	nd	nd	nd	nd	nd	nd	Ditch spring inaccessible due to logging operations		
	Mar-08										
	Jun-08										
	Sep-08										
	Feb-09	nd	nd	nd	nd	nd	nd	nd	Feature inaccessible due to barrier and "No access" sign		
Main spring channel	Fri 24-03-95	1230	57.7	5.7	clear, green algae	nil	~10-15 lps		spring stream @ junction Waipapa		
	Wed 19-04-95	1532	56.7	6.1	clear; green algae	nil	10-15		no changes of WL apparent		
	Thu 25-05-95	1210	56.6	6.1	clear; brown surf. algae	nil	~10-15		bottom green algae/surface brown		
	Sat 10-06-95	1331	57.7	5.8	clear; no algae!	nil	~10-15		has flooded to ~+0.3m; scoured out		
	Tue 13-02-96	1224	56.4	6.4	clear; no algae	nil	~20-25		high tide line of dead vegtn to +0.3m		
	Wed 15-03-00	1120	nd	nd	invaded by main stream		20-25 lps		Main stream entering spring outlet		
Waipapa stream	Fri 24-03-95	1235	25.2	nd	upstream of spr. junctn	nil	~750 lps?		cold stream upstrm spring inflow		
	Wed 19-04-95	1550	23.3	5.3		nil	~750?		no changes apparent	2110	1200
	Thu 25-05-95	1215	19.9	5.4	clear	nil	~750?		no changes		
	Sat 10-06-95	1336	21.9	5.5	silty turbid, vis.~0.5m	nil	~1000?		recent high floods		
	Tue 13-02-96	1229	24.6	5.5	dirty brown turbid	nil	~1000+?		visibility <0.1m; in flood		
Top spring under pine	Fri 24-03-95	1242	60	5.7	clear, no odours	nil	~5 lps		spring at head of springs channel		
	Wed 19-04-95	1540	59.7	5.5	clear, small sinter crust	nil	~3-5		no changes		
	Thu 25-05-95	1218	59.7	5.5	clear, no odours	nil	~3-5		no changes		
	Sat 10-06-95	1327	59.7	5.3	clear	nil	~3 lps		no changes		
	Tue 13-02-96	1238	58.3	5.9	clear	nil	~5		no changes		
	Wed 15-03-00	1130	nd	nd	clear	calm	~5		no changes; GPS survey		
	Wed 16-04-03	1040	60	7.8	clear, no odours	calm	~8		2767819mE 6300928mN; no changes		

Ngatamariki

Day and date:	Time, hrs:	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
	(NZST):									
Ngatamariki Sth Southern spring										
Mon 27-03-95	1300	77.1	6.8	clear, vis.~1.5m	const.<30mm	0.75	WLst-138	Const. strong rolling ebullition		
Fri 21-04-95	1308	75.2	6.9	clear, vis.>1.5m	const~20mm	0.5	WLst-140	Grey muds; no sinter or scum		
Thu 25-05-95	1330	77.3	7.2	clear, vis.~1m	const<30mm	1	WLst-147	No surface algae, but grey gelatin.		
Sat 10-06-95	1532	79.4	7.2	clear, vis.~1.5m	steady<50mm	1	WLst-150	Noisy ebulln, plops & fizzy		
Wed 04-10-95	1450	83.9	6.9	clear, vis.~1.5m	const<30mm	0.5	WLst-192	No green algae; grey wall sludge		
Wed 22-11-95	945	80.8	7.2	clear, vis.~1.5m	const~30mm	0.5	WLst-180	Some green algae @ margins		
Tue 20-02-96	1242	80.4	7.6	clear, vis.~1.5m	const<50mm	1.5	WLst-174	Orange algae rafts @ E side	5400	
Fri 17-05-96	1540	84.7	7.2	clear, vis.>1m	const<50mm	0.5	WLst-205	No green or orange algae	6600	

Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Fri 30-10-98	1120	80.1	7.2	clear, vis. >1m	const<50mm	3	WLst-473	No algae; different stick?	nd	1790
Tue 15-12-98	1040	80.3	7.2	clear, vis. >1m	const.<30mm	2	WLst-451	Clear, no algae	nd	1220
Mon 15-02-99	1020	82.1	7.2	clear, vis. >1m	const.<30mm	2	WLst-446	Clear, no algae	4780	3200
Fri 21-05-99	1105	84.3	7.8	clear, vis. >1m	const.<30mm	2	WLst-448	Clear, no algae	nd	2210
Mon 01-11-99	1008	88.8	7.8	clear, vis. >1m	const <25mm	1	WL-460	Clear, no algae; new upflow SW cnr	nd	2120
Wed 22-12-99	1020	90.4	7.5	pale grey turbidity, vis.0.3m	const <25mm	1	WLs-470	Grey turbid; new pools/dead shrubs	nd	2370
Wed 23-02-00	1003	85.4	7.4	clear, vis. >1m	const <25mm	1	WLs-475	Clear again; dying shrubs all around		2130
Wed 31-05-00	1023	82.4	7.6	clear, vis.~1m	const<20 mm	1	WL -470	No changes; shrubs revived again		1440
Wed 20-09-00	1115	79.7	7.5	clear, vis.~1m	const <25mm	0.5	WL-470	No changes	2360	1580
Fri 24-11-00	1130	78.5	7.5	clear, vis.~1m	const<25mm	0.5	WL -465	No changes; noisy big bubbles	1810	1210
Sun 25-02-01	1230	77.8	7.3	clear, vis.~1m	const<30mm	0.7	WL -444	Noisy ebullition; no changes	4900	3280
Mon 25-06-01	1225	85.5	7.6	clear, visibility ~1.5m	const<20 mm	0.5	WL -477	Noisy ebulln; grey sediments	4980	3340
Wed 14-11-01	1052	81.8	7.8	clear, vis~1.5m	steady<35mm	0.5	WL-481	Big noisy bubbles; d'logger on	4840	3243*
Wed 19-12-01	1202	79.7	7.8	clear, no algae	<50mm steady	0.75	WL-481	D'logger out; noisy firm ebullition		
Mon 18-02-02	1428	76.7	7.8	clear, vis. ~2m	const<30mm	0.5	WL-475	noisy ebulln; flow @ Sth end only	nd	
Wed 15-05-02	1130	73.6	7.8	clear, noisy bubbling	const<20mm	0.5	WL-465	All flow now out South; no algae	nd	
Sun 06-10-02	1145	69.7	7.7	clear, noisy bubbling	const<20mm	0.5	WL-457	Lots of pine trees fallen over	nd	nd
Mon 18-11-02	1130	75.3	7.8	clear, noisy bubbling	const <50mm	0.5	WL-449			
Mon 17-02-03	1535	72.9	7.8	clear, noisy bubbling	const ~75mm	0.5	WL-492	Clear and constant bubbling		
Wed 07-05-03	945	79.5	7.4	clear, noisy bubbling	const <20mm	0.45	WL-487	2786630mE, 6291724mN	3390	2200
Tue 14-10-03	1003	72.7	7.3	clear, noisy bubbling	<20 mm high	0.5	WL - 471	Freshly fallen pine across pool		
Tue 11-11-03	1423	69.2	7.6	clear, noisy bubbling	<20mm high	0.3	WL-468	Photo facing 117 deg. Mag.		
Tue 02-03-04	1155	74.2	7.8	clear, noisy bubbling	<25mm high	0.5	WL-470			
Mon 17-05-04	1120	72.8	8.1	clear, noisy bubbling	<50mm high	0.75	WL-474	Photo		
Wed 15-09-04	1250	80.3	8.1	sl. Grey turbid, noisy bubbles	<50mm high	0.8	WLn-615	No algae; new stick for WL; turbid vis 50mm		
Fri 19-11-04	1445	77.2	7.8	clear, noisy steady bubbling	<25mm high	1	WL -615	photograph		
Fri 18-02-05	1130	83.4	7.4	sl. Grey turbid, noisy bubbles	<25mm high	0.5	WLn-612	all flow to SE outlet only	3210	
Tue 19-04-05	1510	15.6	6.9	dark grey muddy water	calm	0.25	WLn-120	flooded by Orakonui stream being dammed		
Tue 10-05-05	1201	71.6	7.4	clear/slight grey turbidity	steady bubbles	1	WLn-615	N outlet blocked; flowing all to S outlet now	3050	
Mon 30-05-05	1530	75		clear				no changes from usual condition now		
Geyser Spring										
Mon 01-11-99	953	97.7	7.6	clear, period 1 min; cyclic	calm; to 50mm	0.5 - 0.05		Geyser action; silica rim; new!	nd	2200
Wed 22-12-99	1010	97	7.5	clear, vis. >0.5m	calm	~0.2		Stable and calm; silica sinter rim	nd	nd
Wed 23-02-00	950	96.6	7.8	clear, vis. >0.5m	const <10mm	~0.2		Sinter rim growing; no geysering	nd	1890
Wed 31-05-00	1015	92.9	7.4	clear, vis. >0.5m	calm	~0.05		No changes		nd
Wed 20-09-00	1100	90.3	7.3	clear, calm	calm	~0.07		Sinter rim forming; basin undercut	1850	1240
Fri 24-11-00	1120	92.3	7.8	calm, clear occas. bubbles	calm	~0.05		Sinter lip now ~30 mm wide	1255	840
Sun 25-02-01	1215	71.8	6.8	grey opaque, 2.5m crater!	const <10mm	~0.5		Geyser vent gone; new muddy pool	2410	1615
Mon 25-06-01	1215	60.8	6.6	grey opaque, 3x4m crater	calm	~0.3		Enlarged and cooled; grey silts	1960	1315
Wed 14-11-01	1042	54.5	6.6	Dark grey turbid	fizzy bubbles	~0.05		Visibility ~50mm; pool now 3.5x5m	1720	1152*
Wed 19-12-01	1210	38.1	5.4	Pale grey turbid, vis~0.5m	small bubbles	~0.1		Dark green algae on bottom, sides	940	630*
Wed 15-05-02	1120	33.2	5.3	turbid dark grey, vis~0.7m	calm	~0.05 lps		Small bubbles; inflow from up wall	nd	
Sun 06-10-02	1136	32.7	5.7	Clear, green algae	calm	~0.2	nd	Constant weak bubbles; photo	nd	nd
Mon 18-11-02	1120	nd	nd	clear	calm	~0.1	nd	Abundant algae, cool		
Tue 14-10-03	955	29.1	5.1	slight grey turbidity	calm	~0.5		constant weak bubbles		
Tue 11-11-03	1415	32.1	5.2	slight grey turbidity	calm	0.05		weak bubbles; photo		
Mon 17-05-04	1110			not seen				Access blocked by fallen pines		
Wed 15-09-04	1255			not seen				Blocked by fallen trees, blackberries		

Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Main pool at outlet								(Until Oct 1998 this was a lake, formed by HE in about 1948).		
Mon 27-03-95	1310	46.1	6.3	clear, vis.>1.5m	nil	10	WLst-437	No surface algae; HE crater		
Fri 21-04-95	1320	43.4	6.2	clear, vis.>1m	nil	10	WLst-438	no green surface algae		
Thu 25-05-95	1337	40.5	6.2	clear, vis.>1m	nil	10	WLst-424	No surface algae; dark bottom mats		
Sat 10-06-95	1538	41.2	6.2	clear, vis.~1.5m	nil	10	WLst-435	No surface algae at all		
Wed 04-10-95	1502	52	5.9	clear, vis.~1.5m	nil	10	WLst-433	No surface algae		
Wed 22-11-95	955	43.7	6.2	clear, vis.~0.8m	nil	10	WLst-433	No surf. algae; sl. turbid		
Tue 20-02-96	1300	47.2	6.5	clear, vis.~1m	nil	10	WLst-433	Surface dark green algal mats	1760	
Fri 17-05-96	1555	41.6	6.8	clear, vis.~1m	nil	10	WLst-427	No surface algae; bottom mats	1930	
Fri 30-10-98	1137	50.2	6.2	clear/brown	nil	5	WLst-386	No algae; lake infilled with pumice!	nd	880
Tue 15-12-98	1055	55.1	6.7	clear/brown	calm	8	WLst-392	No algae; lake infilled with pumice!	nd	1330
Mon 15-02-99	1030	58.4	6.2	brown/turbid	calm	4.0	WLst-421	Hyd. Explosn crater ~7m dia., new	3480	nd
Fri 21-05-99	1115	49.8	6.2	clear	calm	4.0	WLst-438	Lake infilled and vegtn growing	nd	980
Mon 01-11-99	1030	55	6.4	clear	calm	5.0	WL-465	no change; vegetation growing	nd	1020
Wed 22-12-99	1053	57.6	6.6	grey turbid, vis. ~50mm	calm	5.0	WLst-460	turbid grey water; new small HE?	nd	1020
Wed 23-02-00	1025	57.1	6	slight grey turbidity	calm	7.5	WLst-460	Lake infill growing seedlings		970
Wed 31-05-00	1035	55.6	6.9	slight grey turbidity	calm	3.0	WL -?	No recent changes		840
Wed 20-09-00	1125	56.5	6.6	slightly grey turbid	calm	3.0	WL-465	No recent changes	910	610
Fri 24-11-00	1138	56.1	7.2	clear	calm	4.0	WL -442	Many freshly fallen pine trees	1105	740
Sun 25-02-01	1240	58.2	6.8	clear	calm	4.0	WL -456	No changes	1980	1330
Mon 25-06-01	1235	52.3	6.8	clear; sparse black algae	calm	4.0	WL -402	No changes	1720	1150
Wed 14-11-01	1113	53.9	6.8	clear, no colour	calm	3.5	WL-411	No changes	1810	1213*
Wed 19-12-01	1152	54.9	6.5	clear, no sinters or scale	calm	5.0	WL-415	Green algae on bottom silts	2080	1394*
Mon 18-02-02	1408	55.6	6.5	clear & calm	calm	4.5	WL-409	Green algae on bottom	nd	
Wed 15-05-02	1141	55.5	7.1	clear, calm	calm	3.0	WL-405	No changes apparent	nd	
Sun 06-10-02	1155	59.6	7.4	clear	calm	3.0	WL-416	Photos; pines fallen all around	nd	nd
Mon 18-11-02	1115	61.9	7.2	muddy grey waters	calm	5.0	WL-406	Very turbid muddy waters		
Mon 17-02-03	1520	60.3	7.4	clear	calm	5.0	WL-410	Clear water again		
Wed 07-05-03	1010	54.3	7.5	slight grey turbidity	calm	5.0	WL-391	New spring at SE lakeside	1930	1200
Tue 14-10-03	1020	53.4	7.1	clear	calm	3.5	WL -388	Pine fallen across whole lake area		
Tue 11-11-03	1433	54.2	7.1	clear	calm	3.0	WL-390	Photos		
Tue 02-03-04	1210	60.6	7.0	grey turbid, vis. ~50mm	calm	4.0	WL-385	New spring formed 5m W of New Lakeside		
Mon 17-05-04	1145	54.6	7.2	grey turbid, vis. ~50mm	calm	4.0	WL-401	Photo		
Wed 15-09-04	1215	63.7	7.0	grey turbid, vis. ~0.1m	calm	5.0	WL-377	No algae		
Fri 19-11-04	1430	63.9	7.0	clear, grey sediments	calm	6.5	-3.8	no algae		
Fri 18-02-05	1152	62.8	7.5	grey turbid	calm	6.0	WL-393	abundant pumice gravels flood debris	1640	
Tue 19-04-05	1030	98		muddy eruption occurred	large eruption	0.0		huge hydrothermal eruption; see newspapers	ADC photos	
Wed 20-04-05	~1030	98		boiling grey muddy lake	boiling <2m high	0.0	?	aerial photographs by ADC; see also newspapers		
Sat 24-04-05	~1000.	63.5		muddy, bubbling steadily	bubbling <0.5mh	10.0		visit by Harry Keys, DOC		
Tue 10-05-05	1150	58.4	7.1	muddy grey waters		6.0	stick gone	old channel eroded open again, same place and size	1320	
Mon 30-05-05	1450	59.6	6.3	dark grey muddy	bubbling <50mm	8.5	no datum	flow appears same as before eruption	2340	
New lakeside spring No.1										
Mon 18-11-02	1121	94.8	7.3	grey opaque water	rolling ebullition	~0.2	WL+15	New spring 1.5m dia. at SE side lake		
Mon 17-02-03	1527	84.9	7.8	grey turbid	~0.1m high	~0.2 lps	10	Pool now ~2m dia. and new 2nd pool		
Wed 07-05-03	1045	80.3	8.1	grey turbidity	<0.1m high	~0.2	~10	Noisy ebullition, vis ~0.1m	4230	2300
Tue 14-10-03	1005	75.5	7.6	grey muddy opaque	<15 mm high	~0.2		Thin sinter rim growing at waterlevel		
Tue 11-11-03	1428	61.8	7.1	grey turbid, vis.<75mm	<5mm high	3.00		Noisy bubbling under S bank & centre		

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Tue 02-03-04	1240									
Mon 17-05-04	1130	22.1		grey turbid, vis. ~75mm	calm	0.00		Mosquito larvae		
Wed 15-09-04	1150	29.3		clear	calm	0.00	0	Mosquito larvae and green algae		
Fri 19-11-04	1430	38.3		turbid grey	calm	0.00	0	inactive		
New lakeside spring No.2										
Tue 19-04-05	1500			no longer exists				blown away; incorporated into main lake crater		
Tue 02-03-04	1235	69.3	7.2	grey opaque, noisy bubbling	<50mm high	2.00		Newly formed ~4.5 x 2.0m, ~5m W of No.1		
Mon 17-05-04	1135	64.3	7	grey turbid, vis. <50mm	<10mm	1.00				
Wed 15-09-04	1145	73.0	7.1	grey turbid, vis. <0.1m	<50mm high	1.5 lps		Noisy fizzy bubbling, steady		
Fri 19-11-04	1435	73.2	7.2	turbid grey	<30mm high	3.00		cyclical bubbling and outflows		
Fri 18-02-05	1140	73.6	6.8	grey turbid, vis <0.2m	~150mm high	0.5 to 3		geyser action, E ~20 sec, P ~1 minute	1820	
Tue 19-04-05	1500			no longer exists				blown away; incorporated into main crater		
New lakeside spring No.3										
								(~8m dia. at SW corner)		
Wed 15-09-04	1155	>75 ?		grey turbid, vis. <0.1m	<50mm high	1.00		Newly formed! WL ~0.7m above lake; SW cnr		
Fri 18-02-05	1140	>75 ?		grey turbid, vis. <0.1m	<50mm high	~1 lps		steaming and strong bubbling and flow		
Tue 19-04-05	1450	~98		muddybrown opaque	<1.5m high	2-3		erupted soon after main pool; brown ejecta		
Sat 23-04-05	~1000.	97.0		muddy brown	<0.5m high	2-3 ?		Erupted <1hr after main lake crater; brown ejecta		
Mon 30-05-05	1445	95.0		muddy brown	<50mm high	2.00		gentle bubbling and steady flow		
Northwest spring										
Mon 27-03-95	1320	60.1	7	sl. milky, vis.~1m	nil	0	-918	Old HE crater; o'flowing in 1970s		
Fri 21-04-95	1336	57.8	6.9	sl. milky turbid, vis.~1m	calm	0	-880	No changes		
Thu 25-05-95	1345	56.8	7.1	sl.greeny turb; vis~1.5m	calm	0	-900	Weak bubbles @NW wall		
Sat 10-06-95	1543	55.6	6.5	milky green; vis.~1m	calm	0	-870	weak bubbles NW end		
Wed 04-10-95	1508	56.2	7	milky green; vis.~1.5m	calm	0	-960	no bubbles visible		
Wed 22-11-95	1000	58.2	6.9	sl. grey turb; vis.<2m	calm	0	-940	weak bubbles NW end		
Tue 20-02-95	1312	61.8	6.8	sl. milky green; vis.~1.5	calm	0	-737	weak bubbles NW end; higher WL	3150	
Fri 17-05-96	1613	58.2	6.8	greeny-grey; vis.~1m	calm	0	-880	No changes	3960	
Fri 30-10-98	1200	58.8	7.3	milky/lime green, vis 0.5m	calm	0	-610	No changes?	nd	2010
Tue 15-12-98	1110	60.7	7.4	clear & calm, vis. ~1.0m	calm	0	-690	No changes	nd	2140
Mon 15-02-99	1057	60.6	6.8	clear & calm, vis. ~0.5m	calm	0	-690	Photographs, no changes	3890	nd
Fri 21-05-99	1130	57.2	7	clear & calm, vis. ~1m	calm	0	-820	No changes apparent	nd	2130
Mon 01-11-99	1050	58.8	7	clear & calm, vis. ~1m	calm	0	-990	No changes visible	nd	1910
Wed 22-12-99	1045	58.2	7.3	slight lime green colour	calm	0	-900	Masses of filamentous cream algae	nd	1740
Wed 23-02-00	1030	59.4	7.3	slight green colour; vis.~1m	calm	0	-1000	No changes	nd	1810
Wed 31-05-00	1040	53.8	7.4	clear/slight green colour	calm, vis.~1m	0	-980	No changes		1360
Wed 20-09-00	1133	50.3	7.5	clear and calm	calm, vis.~1m	0	-1065	No recent changes	1520	1020
Fri 24-11-00	1143	51.4	7.5	calm, lime green	calm vis~1.5m	0	-1050	No changes	1550	1040
Sun 25-02-01	1245	57.4	7.1	clear and calm	calm vis~1.5m	0	-1600	Slight lime green	3290	2205
Mon 25-06-01	1245	53.1	7.6	clear, dark green algae	calm vis~1.5m	0	-1220	Cold stream trickle in NW end	2780	1860
Wed 14-11-01	1121	53.6	7.7	Dark green water	calm, vis~1m	0	-1220	Orange/green algae prolific	2790	1869*
Wed 19-12-01	1145	53.9	7.4	clear, visibility ~1.5m	calm, no convect	0	-1173	Dark green bottom algae; cold inflow	2990	2003*
Mon 18-02-02	1415	54.3	7.6	clear & calm; green algae	calm, convecting	0	-1365	Thick green algal mats	nd	
Wed 15-05-02	1147	49.4	7.6	clear, heavy black mats	calm	0	-1500	Black bacterial mats coating walls	nd	
Sun 06-10-02	1205	49.8	7.5	clear, abdnt agal mats	calm	0	-1510	Photos	nd	nd
Mon 18-11-02	1108	50.6	7.4	clear, abdnt agal mats	calm	0	-1500	Algae floating mats and on walls		
Mon 17-02-03	1512	54.1	7.6	clear, floating algae	calm	0	-1740	New Manager Phil Morgan		

Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Wed 07-05-03	1017	49.6	7.9	clear, cold inflow heard	calm	0	-1655	2786597mE 6291841mN, E side	2730	1700
Tue 14-10-03	1025	45.6	7.4	clear,	convecting	0	-1560	Dark green/black bottom algae		
Tue 11-11-03	1443	48.2	7.3	clear, abndt brown algae	calm	0	-1680	Photo		
Tue 02-03-04	1215	44.9	7.5	clear, brown algae on walls	calm	0	-1670	Photo; water visibility >2m		
Mon 17-05-04	1155	44.1	7.6	clear, brown bottom algae	calm, convecting	0	-1870	Photo; visibility >2m		
Wed 15-09-04	1223	43.1	7.5	clear, green-brown algae	calm	0	-1730			
Fri 19-11-04	1420	42.3	7.2	clear	calm	0	-1680	photo to NW		
Fri 18-02-05	1200	44.3	7.3	clear, green-brown algae	calm, vis ~2m	0	-1830	photo	1810	
Tue 19-04-05	1445	38.5	7.3	grey turbid with airfall debris	calm, vis. ~0.3m	0	-1720	photograph; ejecta <170mm dia; deposit <10mm thick	1720	
Sat 23-04-05	1000	24.0	7.3				-1800	visit by Harry Key, DOC		
Tue 10-05-05	1115	35.4	7.5	clear, convecting gently	calm	0	-2100			
Mon 30-05-05	1500	33.2	7.3	clear	calm	0	-1680	appears normal again; with Akld Univ & EW staff also	1780	
Calcite spring										
Mon 27-03-95	1335	88.6	6.9	clear, vis.>1.5m	calm	~2 lps?	V-142	Snow white sinter; V=90&210 deep		
Fri 21-04-95	1347	79.1	6.8	clear, vis.>1.5m	calm	~2	V-142	No changes		
Thu 25-05-95	1355	84.5	6.9	clear, vis.>1.5m	calm	~2	V-142	Creamy filamentous growths		
Sat 10-06-95	1540	87.2	7.4	clear, vis.>1.5m	occas.bubbles	~2	V-137	No changes apparent		
Wed 04-10-95	1518	88.6	7.4	clear, vis.>1.5m	calm	~2	V-136	No changes		
Wed 22-11-95	1010	83.4	6.8	clear, vis.>1.5m	calm	~2	V-137	No changes		
Tue 20-02-96	1328	84.5	6.9	clear, vis.>1.5m	calm	~2	V-137	No changes	4950	
Fri 17-05-96	1625	83.6	6.8	clear, vis.>1.5m	calm	~2 lps	V-135	No changes; grey filamentous algae	5800	
Fri 30-10-98	1215	85.3	6.8	clear, vis.>1.5m	calm	~2	V-127	No changes apparent	nd	2040
Tue 15-12-98	1125	87.3	7.2	clear, vis.>1.5m	calm	~2	V-137mm	No changes	nd	2480
Mon 15-02-99	1045	86.4	7	clear, vis.>1.5m	calm	~2	V-138	No changes; photographs	5300	nd
Fri 21-05-99	1140	83.1	6.8	clear, vis.>1.5m	calm	~2	V-140	No changes apparent	nd	2120
Mon 01-11-99	1100	84.5	7.2	clear, vis.>1.5m	calm	~2	V-140	no changes visible	nd	2220
Wed 22-12-99	1025	84.2	7.3	clear, vis.>1.5m	calm; no gas	~2	V-143	Bacterial culture tubes in pool	nd	2030
Wed 23-02-00	1040	80.3	7.5	clear, vis.>1.5m	calm, no gas	~2	V-146	Culture tube@pool side; no change	nd	2100
Wed 31-05-00	1053	84.1	7.2	clear, vis.>1.5m	calm, no gas	~1	V-144	No changes apparent		1620
Wed 20-09-00	1140	82.1	7.5	clear, calm, vis.>1.5m	calm, no gas	~0.8	V-144	No apparent changes	1910	1280
Fri 24-11-00	1155	84.7	7.4	clear, calm; grey growths	calm vis~1.5m	~0.7	V-147	Pale fawny filamentous growths	1810	1210
Sun 25-02-01	1255	83.5	7.3	clear and calm	calm vis~1.5m	~0.5	V-151	No changes	4820	3230
Mon 25-06-01	1257	77.4	7.4	clear and calm	calm vis~1.5m	~0.5	V-153	Plastic trays anchored in spring	3560	2385
Wed 14-11-01	1137	81.3	7.7	clear, colourless	calm, vis~1.5m	0.63 lps	V-157	Flow into bucket; d'logger on pool	4360	2921*
Wed 19-12-01	1136	81.2	7.1	clear, no bubbles	calm, vis~1.5m	~0.2	V-152	D'logger out	4150	2780*
Mon 18-02-02	1420	79.7	7.7	clear & calm, convecting	calm, vis ~1.5m	~0.1 lps	V-160	Flow much reduced	nd	
Wed 15-05-02	1155	81.2	7.7	clear, no bubbles at all	calm, vis ~1.5m	~0.05	V-158	Sinters are not growing; stranded	nd	
Sun 06-10-02	1217	77.2	7.5	clear	calm	~0.1	V-165	Photo	nd	nd
Mon 18-11-02	1055	76.6	7.4	clear	calm	~0.05	V-165			
Mon 17-02-03	1505	71.9	7.4	clear	calm	~0.05	V-175	No changes apparent		
Wed 07-05-03	1030	70.1	7.8	clear	calm	~0.1	V-172	2786625mE 6291876mN, E side	3510	1900
Tue 14-10-03	1035	67.7	7.4	clear	calm	~0.02	V-168	No sinter growing now; glass slides		
Tue 11-11-03	1457	47.7	6.8	clear, no bubbles	calm	0	V- >210	Dry sinters, spring 35mm below overflow		
Tue 02-03-04	1225	57.6	7.6	clear, no bubbles	calm	0.002	V-187	Very weak overflow		
Mon 17-05-04	1215	43.2	7.3	clear, no bubbles	calm	0	V >210	Very dry sinters; vegetation growing; photos		
Wed 15-09-04	1233	40.7	7.1	clear	calm	WL -140	V >210	WL overflow -140mm; abndt green algae		
Fri 19-11-04	1405	43.2	7	clear	calm	WL -130	dry	dark brown algae; photo to SW		
Fri 18-02-05	1215	45.8	7.5	clear and calm	calm	WL o-	dry	abundant algae in pool; photo	2030	

Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
						170				
Tue 19-04-05	1455	42.8	6.8	calm, clear	calm	WL o-90		adundant dark green algae; photograph	2330	light coating silty ejecta
Sat 23-04-05	1040	48	7.1	calm, clear				visit by Harry Key, DOC		
Tue 10-05-05	1123	43.3	7.4	clear, no bubbles	calm	WL o-400	dry	dark green algae	1185	
Mon 30-05-05	1510	38.5	6.7	clear, algae	calm	WL o-97	dry	no flows for a long time now; with EW & Akl Univ staff	1960	
Ngatamariki Nth Stream at source spring										
Wed 16-04-03	1255	69.9	7.1	clear, no odours; sinters	calm	~2 lps		2786783mE 6292195mN	1530	1000
New boiling spring										
Wed 16-04-03	1315	94.1	7.4	clear, noisy ebullition	~0.1m high	~0.3 lps		2786741mE 6292198mN; sinter rim		
Hydrothermal eruption crater and associated features										
Base of crater										
Apr-07	nd	53	nd					Location: E27866600 N6291801		
Jun-07	nd	53	nd	muddy coloured						
Jan-08	nd	51	nd	Muddy grey-brown colour	Effervescing	~20lps	nd	Minor, intermittent gas bubbles present on pool surface		
Mar-08	nd	53.7	nd	Muddy grey-brown colour	nd	~	nd	Intermittent gas discharge present		
Jun-08	nd	52	nd	Muddy , murky colour	nd	~20-30 lps	nd	Pool remained unchanged from June 07		
Sep-08	nd	50.4	nd	muddy, grey/brown, steaming	nd	~30lps	nd	kidney shaped pool 50mlong x 10m wide		
Feb-09	nd	54.3	nd	muddy, grey/green colour	nd	~20lps	nd	Moderate intermittent gas bubbles present		
Apr-09	nd	49.3	nd	muddy grey colour	Bubbling	~ 20 lps	nd	moderate amount of intermittent gas bubble present		
Fumaroles and small pools around eruption crater pool										
Apr-07	nd	nd	nd							
Jun-07	nd	nd	nd							
Jan-08	nd	Bubbling	nd	Bubbling, sulfur deposits present	Bubbling	nd	nd	Fumaroles & pools conc within 3m of Eastern pool bank		
Mar-08	nd		nd							
Jun-08	nd	nd	nd	Bubbling	Bubbling	nd	nd	Minor hydrogen sulfide smell present		
Sep-08	nd	48.8	nd	Bubbling, sulfur deposits present	Bubbling	nd	WL-0.3m	No gas bubbles present; no H2S smell evident		
Feb-09	nd	nd	nd	Bubbling, sulfur deposits present	Bubbling	nd	nd	Minor H2S smell evident; ascending steam decreased		
Apr-09	nd	97.7(in vent)		Clear	Bubbling	nd	nd	Pools bubbling vigorously with steam discharge		
Pool at former fumarole site beside eruption crater pool										
Apr-07	nd	nd	nd							
Jun-07	nd	nd	nd							
Jan-08	nd	85	nd	Clear blue colour	Effervescing	~0.5lps	WL+100mm	Two zones of gas bubbles noted ascending from pool		
Mar-08	nd	62.4	nd	Clear colour	Discharging gas		WL 100mm	Minor but constant gas discharge evident in pool		
Jun-08	nd	86	nd	Murky black colour	nd	~0.5 lps	WL+100mm	Water level and discharge rate has not changed since Jan		
Sep-08	nd	48.8	nd	Nearly black colour	nd	nd	WL-0.3m	No gas bubbles present; no H2S smell		
Feb-09	nd	53.9	6.5	Black colour	nd	nd	WL-0.6m	Constant gas bubbles & strong H2S smell present		
Apr-09	nd	47.1		Black colour	Upwelling	nd	WL - 0.6m	Temperature decreased since Feb 09; no H2S present		

Ohaaki

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:
Ohaaki	Wed 10-11-04	915			river margins				Roadside along river, inundated by flooding due to subsidence
Ohaaki Pool	Wed 10-11-04	910	~80		milky opaque water	steady ~0.1mh	~10		Pool supplied by well effluent only
Ohaaki Road by River	Wed 10-11-04	915							GPS 281m, 2798629mE, 6292559mN
Piripiri Road Spring	Tue 20/09/05	1015	36.0	6.2	clear, fizzy bubbles	steady <10mm	~5 lps		GPS 2798147E, 6296065N

Orakeikorako

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
Waihunuhunu inlet spring:											
	Fri 24-03-95	1500	53.7	6.4	clear, no odours	nil	~15 lps	80mm deep	Spring flowing from culvert		
	Fri 21-04-95	1450	51	6.4	clear	nil	~15	~80	no changes		
	Sun 11-06-95	1610	53.8	5.8	clear, no odours	nil	~10-15	81mm	no changes; culvert 600mm i.d.		
	Wed 23-08-95	1350	53.6	5.7	clear, no odours	nil	~15 lps	90mm deep	no changes		
	Fri 09-02-96	1545	53.6	6.1	clear	nil	~10	86mm deep	all pines felled! Some on top of spr!		
	Wed 22-12-99	1550	53.4	6.7	clear, no odours	nil	~7-10 lps	80mm deep	No deposits or scale; no changes	nd	390
	Wed 15-05-02	1350	53.4	5.9	clear, no odours	nil	~5-7 lps		Abdnt bottles dumped around area		
	Sat 05-10-02	1620	nd	nd	clear	nil	~7 lps	nd	Photo; several boats moored; bathing	nd	nd
	Thur 08-05-03	1045	54.2	6.6	clear	nil	~10		2785529mE 6300774mN, at culvert	701	450
Waihunuhunu inlet spring 1:	Apr-07	nd	54	nd			20 lps		Location: E2785533 N6300770		
	Jun-07	nd		nd							
	Jan-08	nd		nd							
	Mar-08	nd	53	nd	Clear colour	nil	~30lps	nd	No people at this site; access by 4-wheel drive		
	Jun-08	nd	52	nd	Clear colour	nil	~40lps	WL	Clear pool where thermal water mixes with lake		
	Sep-08	nd		nd							
	Feb-09	nd		nd							
	Apr-09	nd	53.4	nd	Slightlt murky colour	nil	~ 25 lps	nd	There were 3 swimmers, 1 car & 1 boat present at this site		
	Jun-09	nd	53.5	nd	Slightly murrky colour	nil	~ 20 lps	nd	The access track is becoming overgrown by blackberries		
Waihunuhunu Stream (West)	Thur 08-05-03	1115	62.8	8.4	clear	nil	~20 lps		~10m from lake 2785339E 6300630N	1050	700
Waihunuhunu inlet spring 2:	Apr-07	nd	nd	nd		nil					
	Jun-07	nd		nd		nil					
	Jan-08	nd		nd		nil					
	Mar-08	nd	42.1	nd	Clear colour	nil	not visible	nd	Pool dimensions 2.5m long x 1.5m wide x 0.2m deep		
	Jun-08	nd		nd	Clear colour	nil	not visible	WL high	Spring is piped & flows into lake~50m W of spring1		
	Sep-08	nd		nd		nil		nd	Flow not visible as inlet pipe partially submerged		
	Feb-09	nd		nd		nil		nd			
	Apr-09	nd	43.5	nd	Clear colour	nil	~ 10 lps	ns	No swimmers were present in the pool, & pipe is partially covered by water		
	Jun-09	nd	45.9	nd	Clear colour	nil	~ 8 lps	WL low	No swimmers or visitors, & the water level of the lake is very low.		
Akaterewa Stream at Lake:	Thur 08-05-03	1020	30.4	7.1	clear	nil	~100		Mosquito fish; 2784851mE 6299754mN	606	380

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
Waitakahi Stream:	Thur 08-05-03	1145	34.3	7.5	clear	nil	~3-5 lps		2785008mE 6296814mN, at lake W'fall	472	310
S487 Geyser	Thur 08-05-03	1200	97.5	8.2	clear, mammillary sinters	0.5-1m high	0.5-1 lps		2784887mE 6296887mN, above W'fall	2560	1050
Orakeikorako springs:											
Map of Australia Pool S25	Mon 27-03-95	1640	83.7	7.1	clear, slight green	steady<30mm	~2 lps	WLo-70mm	Large spring supplying bath		
	Fri 28-04-95	1236	81.1	6.9	greeny translucent	weak <30mm	~1-2	WLo+55			
	Fri 19-05-95	1240	81.6	7	limey colour	const.<20mm	1-2	WLo+55	WL-80 from sinter top rim		
	Sun 11-06-95	1315	83.5	7.2	milky green translucent	const.<50mm	1-2	WLo+53			
	Tue 12-09-95	1322	82.1	7.2	clear, const. bubbles	const.<25mm	~1-2	WLo+90	WL-72mm from sinter lip		
	Fri 09-02-96	1445	85	6.9	clear, const. bubbles	const.<30mm	~1 lps	WLo+60	No changes		
	Tue 28-05-96	1520	83.1	7.1	clear, slight green	const.<20mm	~1-1.5	WLo+50	no changes	3730	
	Sun 06-10-02	1302	81.9	7.6	clear	const.<10mm	~0.3	nd	Photo; no changes apparent	nd	nd
	Fri 15-11-02	940	82.6	7.6	clear	<10mm	~0.2	55	Calm, steady weak bubbling		
	Tue 30-09-03	1620	82.5	7.6	clear	<10mm	0.5		Constant weak bubbling; clear		
	Apr-07	nd		nd					Location: E2784264 N6298545		
	Jan-08	nd	83.7	nd			2 lps				
	Mar-08	nd	83.7	nd	clear, greenish-blue	nd	~2lps	Level with rim	Minor intermittent gas bubbles; minor H2S smell	nd	nd
	Jun-08	nd		nd							
	Sep-08	nd	inaccessible	nd	inaccessible	inaccessible	inaccessible	inaccessible	No access to pool due to construction		
	Feb-09	nd	nd	nd	clear, green colour	nd	nd	Overflowing			
	Jun-09	nd		nd							
		nd	81.3				0.5 lps	Overflowing	clear blule pool		
Rainbow terrace, scarp											
	Mon 27-03-95										
Diamond Geyser S95	Fri 28-04-95	1500	75.6@path	7.3	clear	0.5-5mh	~2-5 lps		Geysering 0.5-5 metres high		
	Fri 19-05-95	1255	76.3	7.7	clear	0.3-1.5mh	~2-5		SAPAC on		
	Sun 11-06-95	1027	76.4	7.3	clear	1-3mh	~3-5		SAPAC stopped; geysering		
	Wed 23-08-95	1350	77.3	8.1	clear	0.5-3mh	~1-2 lps		Erupting; but now long dormancies	Photos	
	Tue 12-09-95	1000	nd	nd	erupting	0.5-3m high	~1-2		Geysering		
	Wed 22-11-95	1030	73.5@path	8.1	erupting	1-2m high	~1		geysering		
	Wed 22-11-95	1050	dry; no E's	nd	calm and dry	nil	0	WLo->1m	calm and dry; E's earlier this a.m.		
	Fri 09-02-96	1250	geysering	nd	clear, erupting	0.5-2.5mh	~1-2 lps		now erupting again		
	Tue 20-02-96	1247	78.0@path	8.5	geysering	0.5-2m high	~1-2	WLo+	SAPAC on		
	Tue 26-03-96	1410	erupting	nd	geysering	0.5-2m high	1-2	WLo+	SAPAC off		
	Tue 02-04-96	945	erupting	nd	geysering normal	0.3-2.5mh	1-2	WLo+			
	Tue 02-04-96	905	geysering	nd	geysering	0.3-2.5mh	1-2				
	Wed 03-04-96	1000	dormant!	nd	dry and empty!	nil	0	WLo->1.5m			
	Sun 21-04-96	1210	erupting	nd	geysering, normal	~0.5-2m high	1-2 lps		SAPAC on; EFL also here		
	Tue 28-05-96	1550	erupting	nd	geysering normal	~0.3-2m high	1-2		SAPAC off		
	Fri 30-10-98	1250	78.1@path	8.4	geysering	~0.3-4m high	~1 lps		constant geysering, shots to ~4m	3720	
	Tue 15-12-98	1345	78.8	8.9	geysering	~0.5-2m high	~1	WLo+50	constant geysering, shots to ~4m	3030	1220
	Mon 15-02-99	1325	nd	nd	dormant		0	Wlo-350	Dormant; but erupting by 1430 hrs	nd	nd
	Mon 01-11-99	1220	78.2	7.2	geysering	1-2m high	~1 lps		Geysering	3500	nd
	Wed 22-12-99	1150	73.6@path	7.6	geysering	1-5m high	~1-3	0+	Eruptions completely empty pool	nd	1520
	Tue 28-12-99	1245	81.2	8.6	huge eruptions	7-10 m high	~20	0+	Huge eruptns onto path; SAPAC	nd	1260
	Wed 23-02-00	1205	boiling	nd	erratic eruptions	1-3 & 7-8 mh	~20	0+	Eruptions erratic, big flows SAPAC	nd	nd
	Wed 31-05-00	1230	hot	nd	calm, no eruptions	nil	0	WLo-0.8m	Calm, but erupting ealier in day	nd	nd
	Thur 08-06-00	1225	76.3@path	8.5	erupting	~1 - 3 m high	~1-3		Erupting more usual 1-3m splashes		1080

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Wed 20-09-00	1200			calm and dormant	nil	0	WL -800	erupting all am; dormant afternoon		
	Mon 20-11-00	1315	75.3	8.6	erupting	2-3m high	~1 lps	0+		1600*	1070
	Sun 25-02-01	1435	77.2	8.4	erupting	1-3m high	~1	0+	Owner's dog killed in pool nearby	1480*	990
	Mon 25-06-01	1410	77.8	7.8	erupting	1-3m high	~2-3 lps	0+	Datalogger installed at boardwalk	3420	2290*
	Wed 14-11-01	1430	~20	nd	dormant	nil	0	WL -550	Datalogger installed; dry and cold	nd	
	Wed 19-12-01	1330	73.8	8.7	geysering	1-3m high	~1 lps		D'logger on	2920	1956*
	Mon 18-02-02	1257	77.8	8.7	geysering	1-2m high	~1-3 lps	flowing	No changes	3210	2150*
	Thur 21-03-02	1156	78.1	8.8	erupting	1-3m high	~1	flowing	Datalogger on at footpath		
	Wed 22-05-02	1333	boiling	nd	not erupting	<0.3m high	0	WLo-800	D'logger retrieved; slopes all dry	nd	
	Tue 28-05-02	1135	80.5	8.8	geysering 1-3m high	1-3m	~0.5-2 lps		D'logger installed; measured at path	nd	
	Sat 01-06-02	1035	boiling	nd	geysering	1-3m high	~0.3-1		Steadily splashing eruption	nd	
	Sun 06-10-02	1335	boiling	nd	geysering	1-3m	<0.5		D'logger removed; E's regular	nd	
	Fri 15-11-02	1435	75.4/boiling	8.6	geysering	1-3m high	~2 lps		D'logger on; photos	nd	nd
	Tue 04-03-03	1015	78.4	8.2	geysering	1-3m	~1		Temperatures at pathside		
	Mon 17-03-03	1050	76.7	8.6	geysering	1-3m high	~1				
	Wed 16-04-03	830	cold	nd	inactive, empty		0	WL-1500	Stopped erupting during 0830-1130 hrs		
	Thur 08-05-03	1430	boiling	nd	geysering; then emptied	3-5m high	~1 lps then 0		E 1430hrs; dry 1600 hrs; fire beside it	one evening a	week ago
	Tue 30-09-03	1315	97.5	nd	geysering	nd	nd	nd		2480	1700
	Wed 05-11-03	1430	71.2	8.2	geysering	2-3m high	1		Temperature at pathside		
	Wed 03-03-04	1025			dormant	nil	0		Eruption end 1020 hrs; SAPAC out		
	Mon 17-05-04	1045	74.9	8.6	erupting	1-2m high	2		SAPAC on; temperature at path		
	Wed 15-09-04	1342	74.1	8.6	erupting	1-2m high	1		SAPAC on		
	Wed 27-10-04	1350			erupting weakly	1-2m high	<0.3 lps		weak eruptions/flows; abdnt green algae!		
	Fri 19-11-04	930			feeble eruptions	<1m high	<0.1		abundant algae growing up slopes		
	Fri 18-02-05	1035	82.5	8.5	feeble eruptions	<1m high	~2 lps		sporadic E's ~1 minute every few minutes New flows 2-3m N		
	Tue 10-05-05	1345	69.8	7.8	eruptions weak	<1m high	<1		E's ~1 min, P's 3-5 minutes; algae on slopes	2100	
		1320	93.2	8.5	constant weak bubbling	<0.1m high	occas. ~0.1		trickle overflows every few minutes Main pool was 97.7 C	1840	
	Apr-07		96.1				3 lps				
	Jun-07		96.1				3 lps				
	Jan-08	nd	90.2	nd	clear, deep blue	nd	~0.6lps	Overflowing	E2784619 N6298509, did not erupt during visit		
	Mar-08	nd	93	nd	not erupting	nd	~0.5lps	Overflowing	Did not erupt during visit; microbial mats dying		
	Jun-08	nd	94	nd	not erupting	nd	~0.4lps	Overflowing	No E's during visit; water temp risen since mar 08	nd	
	Sep-08	nd	90.2	nd	clear, dormant	nd	~0.1lps	Overflowing	Did not erupt during visit,		
	Feb-09	nd	91.4	nd	clear, deep blue	nd	~0.15lps	Overflowing	Orange microbial mats on lower slopes of discharge channel		
	Apr-09	nd	90.5	nd	clear	nd	~0.1 lps	Overflowing	Did not erupt during visit		
	Jun-09	nd	90.3	nd	clear	nd	~0.05 lps	WL-200mm	Slope covered with minimal orange mats & mostly green mats		
	Wed 22-11-95										
Bush Geyser S96	Wed 22-11-95	1100	geysering	nd	clear, erupting	~0.5m high E	~0.2 lps	WLo+10	never seen erupting before		
	Fri 09-02-96	1110	dry	nd	empty and calm	nil	0	WLo->1.5m	calm now		
	Tue 20-02-96	1235	geysering	nd	clear, flowing	~0.3-1.0mh	~0.1	WLo+25	E seen ~1min; SAPAC on		
	Tue 26-03-96	1420	dormant	nd	no water seen	nil	0	WLo>1m	has been gersering; SAPAC off		
	Sun 21-04-96	1010	geysering	nd	clear, erupting	0.5-1.5mh	~0.1 lps	WLo+	erupted 5 mins. 1005-1010 hrs		
	Tue 28-05-96	1550	geysering	nd	clear, erupting	~0.3-0.5mh	~0.1		erupting at 1550 hrs		
	Fri 30-10-98	1255	geysering	nd	clear, erupting	~1m high	~<0.5 lps	WLo+	geysering watched 1255-1258 hrs		
	Mon 15-02-99	1345	geysering	nd	clear, dormancy	?	0	Wlo-1225	recent eruption	nd	nd
	Mon 01-11-99	1230	geysering	nd	erupting	0.5 - 1.5m h	0.1 lps		geysering watched 1237 hrs	nd	nd
	Wed 22-12-99	1200	geysering	nd	erupting	<0.5m high	<0.1	0+	geysering; no changes	nd	nd

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Tue 28-12-99	1250	geysering	nd	erupting	<0.5m high	0.1	0+	eruptns ~1 min@ ~10 min; SAPAC	nd	nd
	Wed 23-02-00	1218	geysering	nd	erupting	<0.5m high	0.1	0+	erupting as usual; SAPAC retrieved	nd	nd
	Wed 31-05-00	1235	geysering	nd	erupting	<0.5m high	0.02	0+	erupting as usual	nd	nd
	Wed 20-09-00	1230	geysering		erupting	~0.5m high			erupting		
	Mon 20-11-00	1315	geysering	nd	erupting	~1-2m high	~0.02 lps	0+	erupting for ~30 sec every minute	nd	nd
	Sun 25-02-01	1435	geysering		erupting				erupting every minute		
	Mon 25-06-01	1410	geysering	nd	erupting	~0.5m high	~0.02	0+	erupting every minute or so	nd	
	Mon 18-02-02	1435	geysering	nd	erupting	~0.5m high	~0.02	0+	erupting every >3 minutes	nd	
	Wed 22-05-02	1205	geysering	nd	erupting, clear	<1m high	~0.02	overflowing	erupting ~30s every ~2 mins	nd	
	Tue 28-05-02	1136	geysering	nd	clear	~1m high	~0.02 lps	overflowing	E's ~1 min. every ~10+ minutes	nd	
	Sun 06-10-02	1045	geysering	nd	clear	<1m high	~0.02	weak outflow	E's ~1 min. every ~10+ minutes	nd	
	Tue 04-03-03	1450	inactive	nd	dry	nil	0	nil	No eruptions recently; photo	nd	nd
	Wed 16-04-03	1050	geysering	nd	wet surrounds	~1m high	0	weak outflow	Noisy eruptions every ~5 minutes		
	Wed 05-11-03	1430	geysering	nd	erupting and overflows	~1m high	~0.05	weak outflow	Noisy eruptions every ~5 minutes		
	Wed 03-03-04	1030	dormant		active today; steaming				no eruptions seen but wet surrounds		
	Mon 17-05-04	1050	erupting			<0.5m high	0.02	weak overflows			
	Wed 15-09-04	1345	~70 deg.C		clear, no eruptions	<15mm high	0	WL-850mm	No geysering action, bubbling		
	Fri 19-11-04	1350	erupting		clear, active	<0.3m high	0		erupting		
	Fri 18-02-05	1055	erupting		clear, active	<0.5m high	<0.05 lps		watched E at 1105 hrs		
	Tue 10-05-05	1345	erupting		clear, active	<0.5m high	0				
		1327	erupting		clear	<0.3m high	0		no apparent changes		
	Apr-07		bubbling						E2784619 N6298509		
	Jan-08	nd	dormant	nd	dormant	nd	nd	nd	Not heard bubbling during visit		
	Mar-08	nd	dormant	nd	dormant; not bubbling	nd	nd	nd	Did not erupt during visit		
	Jun-08	nd	bubbling	nd	audible bubbling	bubbling	nil	nd	1 x Eruption during visit; active & bubbling		
	Sep-08	nd	dormant	nd	bubbling heard during visit	nd	nd	nd	Did not erupt during visit		
	Feb-09	nd	bubbling	nd	active, bubbling	bubbling	nd	nd	Erupted once during visit		
	Apr-09	nd	bubbling	nd	active, bubbling	bubbling	nd	nd	Audible bubbling emanating from geyser		
	Jun-09	nd	dormant	nd	inactive, no bubbling	nil	nd	nd	No bubbling heard during visit		
	Fri 28-04-95										
Cascade Geyser S97	Fri 19-05-95	1300	boiling	nd	clear, sinter deposits	~0.5mh	~0.5 lps		Geysered 1305-1310 hrs		
	Fri 19-05-95	1035	boiling	nd	steaming	1.0-1.5mh	~0.5-1		erupted 1035 hrs for 1 min. 1-1.5mh		
	Sun 11-06-95	1157	erupting	nd	geysering	0.5-1.5mh	~1		Erupted from 1157 hrs for 3 mins.		
	Wed 23-08-95	1400	dormant	nd	calm, no steam	nil	0	WLs>2m?	Cold and dormant		
	Tue 12-09-95	1003	dormant	nd	calm, weak steaming	nil	0	WLs-1m?	dormant; steaming. SAPAC on		
	Wed 22-11-95	1036	calm	nd	dormant	nil	0	WLs->1m	SAPAC failed; no response		
	Fri 09-02-96	1115	cold, dry	nd	dormant	nil	0	WLs->1m	no steam; dry surface area		
	Tue 20-02-96	1249	geysering	nd	erupting	~0.3-0.7mh	~0.5 lps	WLs+10?	erupting		
	Tue 26-03-96	1423	dormant	nd	steaming	nil	0	WLs>1m?	steaming; E's seen earlier in day		
	Sun 21-04-96	1208	erupting	nd	geysering; clear	~0.5m high	~0.5 lps	WLo+	erupting; seen 1208-1211 hrs		
	Tue 28-05-96	1550	dormant	nd	no steam or water	nil	0	WLs>?	dry and no steam or water		
	Fri 30-10-98	1445	geysering	nd	erupting	~1.5m high	~1	WLo+	E's for 10-30sec. every 3-5 minutes		
	Mon 15-02-99	1350	geysering	nd	erupting	~0.5m high	0	WL -200	E's for 10-30sec. every 3-5 minutes	nd	nd
	Mon 01-11-99	1235	dry	nd	drmant		0	0	Dry surrounds; inactive	nd	nd
	Wed 22-12-99	1205	dry	nd	dormant, cold and dry		0	0	Dry surrounds; inactive	nd	nd
	Tue 28-12-99	1308	geysering	nd	erupting	~0.7m high	~0.05	0+	E's 10-20 sec.@ 2-3 mins; SAPAC	nd	nd
	Wed 23-02-00	1220	geysering	nd	erupting	~0.5m high	~0.05	0+	Erupting; little outflow; SAPAC out	nd	nd
	Wed 31-05-00	1240	geysering	nd	erupting	~0.7m high	~0.05	0+	Erupting but very little outflow	nd	nd
	Wed 20-09-00		geysering								
	Mon 20-11-00	1317	?		no eruptions seen						
	Sun 25-02-01	1440	geysering		no outflows	~0.7m high	0		Noisy eruptns ~20sec every ~1 min		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Mon 25-06-01		?		not heard or seen						
	Mon 18-02-02	1447	geysering		eruption seen	~0.7m high	0	?	WL rises to overflow with eruption		
	Wed 22-05-02	1205	geysering	nd	eruptions seen	<1m high	~1 lps	overflowing	Noisy eruptns ~30s every ~2 mins	nd	
	Tue 28-05-02	1142	geysering	nd	clear, overflows	1-2m high	~0.5 lps	overflowing	Noisy E's ~30 sec every few mins	nd	
	Sun 06-10-02	1050	geysering	nd	clear, overflows	1-2m high	~0.5	overflowing	Noisy E's ~30 sec every few mins	nd	
	Tue 04-03-03	1455	inactive	nd	nil	nil	0	nil	Inactive and dry; photo	nd	nd
	Wed 05-11-03	1055	geysering	nd	clear	~1m high	0	some outflows	Noisy eruptions every few minutes		
	Wed 03-03-04	1035	inactive			nil	0	nil	no boiling or activity at all		
	Mon 17-05-04	1050	inactive		no steam or overflows	nil	0	nil	No activity or steam; no wet slopes		
	Wed 15-09-04	1345	inactive		no steam, inactive	nil	0	WL~700mm	Cold inflow from MLL above; algae in vent		
	Fri 18-02-05	1355	inactive		no steam, inactive	nil			cold and no steam; abdnt algae down slope		
		1445	inactive		no steam, inactive						
	Apr-07		acitive								
	Jan-08	nd	bubbling	nd	Erupting & active	nd	nd	nd	Erupted twice during visit at 5 min intervals		
	Mar-08	nd	nd	nd	Active, erupting	nd	nd	nd	Erupted once during visit		
	Jun-08	nd	erupting	nd	Active, eruptiion seen	nd	nd	overflowing	1 x Eruption during visit; mircrobial mats orange&brown		
	Sep-08	nd	erupting	nd	eruption seen	nd	nd	nd	2 x Eruptions during visit; mats predominantly brown		
	Feb-09	nd	erupting	nd	Acitve, erupting	nd	nd	nd	Erupted twice with 30 second duration		
	Apr-09	nd	65.8	nd	Very active	Erupting	nd	nd	Eruptions every 5 mins with 3 min duration; high discharge rate		
	Jun-09	nd	nd	nd	No	nd	no flow	nd	A new steaming vent is forming 2/3 of the way down the slope		
	Mon 27-03-95										
Sapphire Geyser S106	Fri 28-04-95	1450	~100	nd	clear	~0.5mh	~0.5-1 lps		Eruptions began 3wks ago; past 18mths x		
	Fri 19-05-95	1305	dormant	nd	no water visible	nil	0	WL>1m?	No steaming or noises heard		
	Sun 11-06-95	1040	dormant	nd	no water; weak steam	nil	0	WL>1m?	Steady weak steaming; no noises		
	Wed 23-08-95	1402	dormant	nd	no water or steam	nil	0	WLs>1m	Calm and quiet; dormant		
	Tue 12-09-95	1005	dormant	nd	no water; steaming	nil	0	WLs->1m?	dormant; steaming. SAPAC on		
	Wed 22-11-95	1040	geysering	nd	boiling, erupting	0.3-0.5m high	0	WLs-300	geysering 10-30 sec. every 2-3 mins		
	Fri 09-02-96	1117	geysering	nd	clear; erupting	0.5-1m high	0	WLs-100	geysered 3-5 mins. but no outflows		
	Tue 20-02-96	1248	geysering	nd	clear, erupting	0.5-2m high	~1-5 lps?	WLs+50	geysering		
	Tue 26-03-96	1424	geysering	nd	clear, erupting	0.3-2m high	~1-3	WLs+	geysering		
	Tue 02-04-96	1208	geysering	nd	clear, erupting	~0.5m high	~1-3	WLo+	geysering; SAPAC on; watched E		
	Sun 21-04-96	908	boiling	nd	has been E today		0 0		SAPAC off		
	Tue 28-05-96	1550	geysering	nd	clear, erupting	~1m high	~0.5 lps	WLo+	seen erupting 1550->1615 hrs		
	Fri 30-10-98	1245	geysering	nd	clear, erupting	~0.5-1.5mh	~0.5	WLo+	E's every 2-5 mins. each ~30sec.		
	Mon 15-02-99	1345	geysering	nd	clear, erupting	~0.5-1.5mh	~0.5	Wlo+	E's every 2-5 mins. each ~30sec.	nd	nd
	Mon 01-11-99	1350	calm	nd	inactive		0 0	0	Dormant	nd	nd
	Wed 22-12-99	1200	geysering	nd	clear, erupting	~1-2m high	~1-3 lps	0+	Eruptions 20-30 sec. every ~10+ minutes	nd	nd
	Wed 23-02-00	1320	geysering	nd	clear, erupting	~1-2m high	~1	0+	Eruptions ~1 min. @ >20 mins. Period	nd	nd
	Wed 31-05-00	1250	geysering	nd	clear, erupting	~2-3m high	~1	0+	Erutptions~1 min. @ >20 mins. Period	nd	nd
	Wed 20-09-00	1345	geysering								
	Mon 20-11-00	1317	?		no eruptions seen						
	Sun 25-02-01	1440	geysering		eruptions <2m high				Eruptions ~30sec every ~20 mins		
	Mon 25-06-01	1438	geysering	nd	eruptions <2m high		~1 lps	0+	Datalogger installed	nd	
	Wed 19-12-01	1447	geysering	nd	eruptions <2m high	~2m high	~0.5	0+	Datalogger installed	nd	
	Mon 18-02-02	1255	geysering	nd	eruptions 2-3m high	2-3m high	~0.5	flowing	No changes	nd	
	Wed 22-05-02	1210	geysering	nd	erupting, clear	2-3m high	~0.5 lps	overflowing	Eruptions ~1 min every ~20 mins	nd	
	Tue 28-03-02	1142	geysering	nd	clear	~2m high	~0.5	overflowing	Eruptions ~2m for ~1 min every 15-20 min	nd	

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Sat 01-06-02	1105	geysering	nd	clear	~2m high	~0.5	overflowing	Eruptions ~2m for ~1 min every 15-20 min	nd	
	Sun 06-10-02	1357	geysering	nd	clear	<2m	~0.5	overflowing	D'logger removed	nd	
	Tue 04-03-03	1455	geysering	nd	clear	~2m high	~0.5 lps	flowing	D'logger on; photo	nd	nd
	Wed 05-11-03	1055	geysering	nd	clear	2-3m high	~0.5	flows	Eruptions every 10-15 minutes		
	Wed 03-03-04	1035	geysering			<3m high	~1		Lasted ~1 minute; photos		
	Mon 17-05-04	1050	geysering		clear	2-3m high	1	flows			
	Wed 15-09-04	1350	geysering	nd	clear	2-3m high	1	flows	Eruptions seen 1350h, 1500h; <30 sec; photos		
	Fri 19-11-04	1355	geysering		clear	<3m high	1	flows	sinters around vent clean and wet		
	Fri 18-02-05	1055	geysering		clear	<3m high	1-2 lps	normal flows	datalogger on today		
	Tue 10-05-05	1350	geysering		clear	<3m high	2	flows	Eruptions 2-3 mins, P ~20 minutes?		
		1328	geysering		clear	<3m high	1-2 lps	good overflows	datalogger on today		
	Apr-07		steaming								
	Jan-08	nd	steaming	nd	not erupting	nil	nd	nd	Did not erupt during visit, steaming		
	Mar-08	nd	steaming	nd	not erupting	nil	nd	nd	Did not erupt during visit; steam visible		
	Jun-08	nd	steaming	nd	not erupting	nil	nd	nd	Did not erupt during visit but steam visible		
	Sep-08	nd	erupting	nd	erupting	nd	nd	nd	erupted once during visit		
	Feb-09	nd	Steaming	nd	not erupting; steaming	nil	nd	nd	Steam present but geyser did not erupt during visit		
	Apr-09	nd	erupting	nd	erupting, clear	nd	nd	nd	Feature erupted once during visit		
	Jun-09	nd	erupting	nd	erupting, clear	nd	nd	nd	Feature erupted twice during visit		
	Fri 19-11-04										
S ? 10m NE of Sapphire		1055	geysering		clear	<1m high	0.5	overflows	geyser on Coronation Tce, NE of S106		
	Mon 27-03-95										
Map of Africa Pool S100	Fri 28-04-95	1510	nd	nd	clear and calm	nil	~1 lps		Calm spring, constant outflow		
	Wed 23-08-95	1312	hot	nd	clear and calm	nil	~0.5	WLo+15	no changes		
	Tue 12-09-95	1007	hot	nd	clear and calm	nil	~0.5-1	WLo+25	no changes		
	Wed 22-11-95	1050	hot	nd	clear and calm	nil	~1	WLo+25	no changes		
	Fri 09-02-96	1120	hot	nd	clear and calm	nil	~1	WLo+30	no changes		
	Jan. 1966	1250	hot	nd	clear and calm	nil	~1	WLo+40	no changes		
	Tue 28-05-96		saw eruption to ~30m	~30m high	Threw out rubble, mud	He has photos			Terry Spitz saw eruptions to 30m high! Then threw out lots of rubble. He has photos of it.		
	Fri 30-10-98	1313	hot, clear	nd	calm	nil	~1 lps	WLo+30	no changes; unsafe to approach		
	Wed 16-04-03	1355	hot, clear	nd	clear and calm	nil	~1 lps	WLo+30	no changes; unsafe to approach	nd	nd
		1600	55.4	8.7	clear and calm	calm	~3		2784675mE 6298555mN, NW side	1960	1300
	Aprl-07		nd					WL 1 m			
	Jan-08	nd	40.8	nd	nd	nil	nd	nd	E2784682 N6298522 ; Micobial mats dying		
	Mar-08	nd	42	nd	milky, paler colour	nil		nd	Microbial mats re-establishing, water level increasing		
	Jun-08	nd	40	nd	slightly cloudy	calm	nd	nd	No microbial mats on pool surface		
	Sep-08	nd	40.7	nd	covered in orange mats	nil	~0.4lps	nd	Microbial mats encroaching pool surface		
	Feb-09	nd	36.9	nd	clear, blue colour	nil	nd	nd	Microbial mats north of Map of Africa thriving		
	Apr-09	nd	35.5	nd	Clear, green colour	nil	nd	nd	Temperature has decreased since Feb 09		
	Jun-09	nd	34.5	nd	Clear, blue colour	nil	nd	nd	Sections of the microbial mats becoming silicified		
	Mon 27-03-96										
Devil's Throat S70	Wed 23-08-95	1515	98.5	7.5	clear, no odours	~0.3mh	0.5		constantly boiling alkaline spring		
	Tue 12-09-95	1010	98	7.3	clear	~03mh	0.5		constantly boiling		
	Wed 22-11-95	1053	98.7	7.2	clear	~0.2m high	0.5	WLo+30	constant boiling and overflows		
	Fri 09-02-96	1123	98.6	7.4	clear, oscill. boiling	0.5-1m high	0.75	WLo+30	oscillating boiling and overflows		
	Tue 28-05-96	1237	98.5	7.3	clear, oscill. boiling	0.3-0.5mh	1	WLo+25	constant oscillating boiling		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Fri 30-10-98	1318	98.1	8.9	clear, strong boiling	~0.5m high	1	WLo+25	constant surging boiling and flows	4200	2815*
	Mon 15-02-99	1402	97.8	7.6	clear, strong boiling	~0.2-0.4mh	0.75	WLo+50	constant surging boiling and flows	3030	2030*
	Wed 22-12-99	1234	97.3	7.8	clear, strong boiling	~0.5m high	0.45		surging outflows 02. - 0.7 lps	3080	2065*
	Wed 23-02-00	1340	98.8	7.8	clear, oscill. boiling	~0.3m high	0.6	WLo+50	Surging flows & ebullition; P<1 min.	2195*	1470
	Wed 31-05-00	1205	99.1	7.6	clear, oscill. boiling	<0.5m high	0.3	Wlo+30	Surging flows 0.1-0.5 lps & ebullition; P<1 min.	2015*	1350
	Wed 20-09-00	1233	98.4	7.6	clear, oscill. boiling	~0.2m high	0.2		Strong ebullition, slight fluctuations	1225*	820
	Mon 20-11-00	1317	98.2	7.3	clear oscill. Boiling	~0.3m high	0.15	35	Constant boiling, varying flows 0.1-0.2 lps	nd	nd
	Sun 25-02-01	1445	99.2	7.2	constant boiling	<0.3m high	0.2	~35	Outflow fluctuates x3 over a minute	1015*	680
	Mon 25-06-01	1450	98	7.5	constant boiling	<0.3m high	0.2		Ditto		
	Wed 19-12-01	1457	99.4	8.3	constant boiling	<0.3m high	0.3	35	Ditto	3750	2510*
	Mon 18-02-02	1302	98.4	8.6	steady noisy boiling, clear	<0.4m	0.15	30-40	Fluctuating flow 0.1-0.2 lps & boiling; black sinter		
	Wed 22-05-02	1205	97.9	8.3	constant steady boiling	<0.3m high	0.3	25	Steady boiling and flow, clear	nd	
	Tue 28-05-02	1155	94.9	8.6	calm, clear	calm	0.05	20	Noisy boiling from hole behind	nd	
	Sun 06-10-02	1110	98	7.6	noisy boiling again	<0.3m high	0.5	20	Strong noisy boiling again	nd	
	Fri 15-11-02	1455	97.6	7.4	clear; noisy boiling	~0.3m high	0.1	25	Constant fluctuating boiling; photo	nd	nd
	Tue 04-03-03	1027	98.2	7.6	clear, boiling	<0.3m high	0.1	25	Oscillating flows and boiling strength		
	Wed 16-04-03	1103	94.9	8.5	clear, noisy boiling	~0.3m	0.3	25	Oscillating boiling and overflows		
	Tue 30-09-03	1605	93.7	9	clear, noisy boiling	<0.5m high	0.2	25		2100	1300
	Wed 05-11-03	1436	96.7	8.2	clear, geysering action	<0.4m	0.35		Geysering: E ~5 mins, P >8 minutes		
	Wed 03-03-04	1047	98.6	7.9	clear, geysering action	<0.8m high	0.3	-100 to + 25	Geysering: E ~3 mins, P ~6 mins		
	Mon 17-05-04	1120	97.9	8.4	clear, geysering action	<0.5m high	0.3	WL-100 to 25	Geysering action; nil flow to 0.3 lps		
	Wed 15-09-04	1400	98	7.8	clear, geysering action	<0.5m high	0.5	WL-150 to 30	Geysering action, nil flow to 0.5 lps, P 3min		
	Fri 19-11-04	1400	98.6	8.1	clear, steady boiling	<0.3m high	0.1		Steady boiling and flow, clear		
	Fri 18-02-05	1115	99	7.7	clear, cyclical activity	0.2m high	0.25	25	Period of ~2 minutes		
	Tue 10-05-05	1355	98.6	7.6	clear, steady boiling	<0.3m high	0.2		vent behind it under cliff now dry		
		1339	98.7	7.2	steady noisy boiling, clear	<0.2m high	0.05		no flow from behind in bank; stable boiling	1220	
	Aprl-07		99.4								
	Jun-07		99.4								
	Jan-08	nd	98	nd	Clear, bubbling vigorously	~0.1m	~0.5lps	nd	Loc'n: E2784703 N6298564; pool bubbling vigorously		
	Mar-08	nd	98	nd	clear, bubbling	0.1m high	~0.2lps	nd	Bubbling. Surrounded by sinter rim & geyserite		
	Jun-08	nd	100.3	nd	Clear, bubbling	0.15m high	~0.3lps	nd	Bubbling, temp risen since March 2008		
	Sep-08	nd	99.1	nd	clear, steady bubbling	0.1m high	~0.1lps	nd	Water temperature risen since march-08		
	Feb-09	nd	99.3	nd	Clear, bubbling vigorously	0.1m high	~0.5lps	nd	Water temperature risen since sept-08		
	Apr-09	nd	99.2	nd	Clear, bubbling vigorously	0.1 m high	~0.5 lps	nd	Hydrogen sulfide could be smelt in the area		
	Jun-09	nd	100.2	nd	Clear, erupting	0.02 m high	~0.1 lps	nd	Cyclis eruptions occurring with height of ebullition only 0.02 m high		
	Mon 27-03-95										
My Lady's Lace S111 (or Soda Fountain)	Fri 28-04-95	1600	98.5	7.5	clear	0.05-0.3mh	1	30	constantly boiling spring		
	Fri 19-05-95	1426	89.4	7.3	clear	0.1-0.5mh	1	30	constant boiling and overflow		
	Sun 11-06-95	1157	20	nd	dry basin!	ebulln deep	0	-2500	Emptied ~5 days ago.		
	Wed 23-08-95	1503	97.6	7.1	clear, no overflows	0.2-0.3mh	0	-870	Boiling water low in basin		
	Tue 12-09-95	1120	98.5	nd	clear, no overflows	0.1-0.2mh	0	-1400	constant boiling; no overflows		
	Wed 22-11-95	1210	99	7.4	clear, boiling o'flow	0.2-0.5mh	2	50	oscill. strong boiling, 0.2-0.8m high	Photos ADC	
	Fri 09-02-96	1250	98.7	7.9	clear, const. boiling	0.1-0.7mh	1	50	strong oscillating boiling		
	Tue 26-03-96	1430	98.8	8.3	clear, const. boiling	0.1-0.9mh	1	50	powerful boiling; a geyser!		
	Tue 02-04-96	1206	85	nd	clear, no flows!	calm	0	-10	lapping near o'flow; calm		
	Wed 03-04-96	947	98.5	nd	clear, no flows	~0.3m high	0	-350	below overflow		
	Sun 21-04-96	1410	98	nd	clear, but no overflow	~0.3m high	0	-10	below overflow; SAPAC on in o'flow		
	Tue 28-05-96	1610	98.5	nd	clear and overflowing	~0.1-0.5mh	1	40	SAPAC off		
	Fri 30-10-98	1440	96	5.7	clear, boiling at SE wall	~0.01-0.1mh	0	-5	occasional overflows <1mlps	4180	

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Mon 15-02-99	1645	98.5	nd	clear, central boiling	~0.1-0.2mh	1	15	steady overflow	nd	nd
	Mon 01-11-99	1310	98.6	8.3	clear, central boiling	0.4-0.8m high	0.5	40	boiling overflows	4120	nd
	Wed 31-05-00	1345	98.9	8.5	clear, boiling strongly	0.3-0.7m high	1	35	constant explosive boiling and flows	nd	1630
	Thur 08-06-00	1333	98.4	8.1	clear and overflowing			45			
	Wed 20-09-00	1345	90		clear and calm		0 0	-350	No overflows for several days		
	Mon 20-11-00	1430	99.1	8.2	powerful boiling	<0.5m high	0.3	40	Constant strong boiling	1715*	1150
	Mon 25-06-01	1530	98.5	nd	constant boiling	<0.3m high	0.3	50	Ditto	nd	
	Wed 14-11-01	1545	98.9	8.1	powerful const. Boiling	<0.8m high	0.7	50	Boiling intensity fluctuating	4290	2875*
	Wed 19-12-01	1515	98.6	8.4	clear, const. boiling	<0.8m high	0.25	50	Powerful surging boiling	3460	2318*
	Mon 18-02-02	1358	98.6	8.4	clear, strong steady boiling	<1m high	0.3	45	Powerful boiling	3780	2533*
	Thur 21-03-02	1323	97.8	8.5	Constant firm boiling	<1m high	0.5	50	Datalogger onto outflow channel	nd	
	Wed 22-05-02	1415	98	nd	firm constant boiling	<0.4m high	0.3	45	D'logger retrieved	nd	
	Tue 28-05-02	1335	98.5	nd	steady strong boiling	<0.5m	0.5	50	Slight milky green colour	nd	
	Sat 01-06-02	1320	98.3	nd	steady strong boiling	<0.5m	0.3	45	Clear, strong noisy boiling	nd	
	Sun 06-10-02	1350	98.5	nd	steady strong boiling	<0.3m	0.3	50	Clear, strong noisy boiling	nd	
	Tue 04-03-03	1535	98	nd	clear	<0.3m high	0.5	50	Constant strong boiling	nd	nd
	Mon 17-03-03	1235	92.9	6.9	clear	~0.1m	0	-900	Below overflow; stopped end January		
	Wed 16-04-03	1215	20	nd	empty	nil	0	-2500	Dry and empty, cold		
	Tue 30-09-03	1600	20	nd	empty	nil	0	-2750	Dry and cold, empty		
	Wed 05-11-03	1600	98.4	8.2	clear, boiling	<0.5m	0.3	45	Steady boiling and outflow		
	Wed 03-03-04	1232	98.5	8	clear, strong boiling	<0.5m high	0.5	50	Steady strong boiling and outflow		
	Tue 23-03-04	1212	98.7	8.2	clear, strong boiling	<0.7m high	0.2	35			
	Mon 17-05-04	1130	98		clear, strong boiling	<0.5	0.25	35	Steady strong boiling and outflow		
	Wed 15-09-04	1505	98.6	8.2	clear, strong ebullition	<0.5m high	0.5	50	Steady strong boiling and outflow		
	Fri 19-11-04	1455	98.9	8.4	clear, steady firm ebullition	<0.7m high	0.5 lps	55	constant steady boiling and flow		
	Fri 18-02-05	1308	99.2	8.4	clear, const. boiling	<0.5m high	~0.5	55	steady powerful boiling, steady outflows		
	Tue 10-05-05	1520	98.8	8	clear, steady firm ebullition	<0.5m high	0.4	55	Steady strong boiling and outflow	2080	
	Aprl-07	1432	99.3	8.2	constant boiling and flow	<0.5m high	0.5	50	steady flows and constant boiling	1910	
	Jun-07	nd	100.4	nd					vigorously bubbling		
	Jan-08	nd		nd					small pool of clear bubbling water visible but almost dry		
	Mar-08	nd	74	nd	dry	nd	nd	WL-1.5m	E2784659 N6298492; water level decreased		
	Jun-08	nd	94.6	nd	clear bubbling water	bubbling		WL-2m	small pool of clear bubbling water visible		
	Sep-08	nd	72.2	nd	dry						
	Feb-09	nd	97	nd	Pool almost dry	nil	nd	WL very low	Pool was almost completely dry		
	Apr-09	nd	99.9	nd	Clear colour	bubbling	nd	WL-2m	Pool has refilled and bubbled vigorously for a 15 min period		
	Jun-09	nd	90	nd	Clear colour	nd	nd	WL-2m	Data logger collected and deployed at feature		
S695 (~15m W of S111)	Sun 11-06-95	1605	72.1	8.1	clear; small channel	vent not seen	~0.3 lps		steady flow in small channel by MLL		
	Wed 23-08-95	1506	v. hot	nd	flowing, clear	vent not seen	~0.2		constant weak flow alongside MLL		
	Tue 12-09-95	1507	cool	nd	no flow; dry!	vent not seen	0	WLs-?	cool, no flows at all; channel dry		
	Wed 22-11-95	1215	calm, dry?	nd	no flow; dry	vent not seen	0	WLs-?	no flows, channel dry past MLL		
	Fri 09-02-96	1253	calm, dry	nd	dry and cold	vent not seen	0	WLs-?	dry outflow channel		
	Tue 26-03-96	1431	dry	nd	dry and cold	vent not sen	0	WLs-?	channel dried		
	Tue 28-05-96	1206	dry	nd	dry and cold	vent not seen	0	?	channel dried out		
	Mon 15-02-99	1442	dry	nd	dry and cold	vent not seen	0	?	channel dried out		
	Mon 25-06-01	1311	dry	nd	dry and cold	vent not seen	0	0	channel dried out	nd	nd
	Mon 18-02-02	1545	dry		dry and cold						
	Mon 17-03-03	1330	dry	nd	dry and cold		0	?	Vent not visited	nd	
	Wed 16-04-03	1215	hot	nd	flowing, clear	vent not seen	~0.05	?	Flowing in channel beside S111		
	Tue 30-09-03	1600	boiling	nd	clear; small channel	vent not seen	~0.05		Spring in dense scrub		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Wed 05-11-03	1600	cold?		not outflow	vent not seen	0		Channel cold and dry		
	Wed 03-03-04	1232	cold?		dry outlet channel	vent not seen	0		In scrub ~15m west of S111		
	Mon 17-05-04	1212	boiling		flowing, clear	vent not seen	0.1		Flows alongside W edge of S111 pool		
	Fri 19-11-04	1505	boiling		flowing, clear	visited	0.2		Noisy boiling in source vent		
	Fri 18-02-05	1310	boiling		flowing, clear		<0.2 lps		steady outflow		
	Tue 10-05-05	1520	boiling		flowing, clear	flows by MLL	0.1 lps		steady outflow alongside MLL outlet		
		1430	boiling		flowing, clear		0.1		steady outflow alongside MLL outlet		
Blowout of ~20? Jan 2001 (nearby Aorangi Geyser)	Wed 22-05-02										
	Tue 28-05-02	1140	boiling	nd	constant clear flowing	~0.1m high	~75mm	~0.5 lps	Depositing sinter; vent ~1.5m dia.	nd	
		1330	boiling	nd	constant clear flowing	~0.1m high	~75	~0.5	Clear, steady firm boiling and flow	nd	
Golden fleece terrace											
	Fri 28-04-95										
Fred and Maggie S119	Fri 19-05-95	1315	boiling	nd	clear; sinter deposits	0.1-0.3mh	~0.3-0.5	WLo+25	Constantly boiling spring, centre tce		
	Sun 11-06-95	1045	98	6.7	clear	0.1-0.2mh	~0.2	WLo+25	constant steady boiling and o'flow		
	Wed 23-08-95	1402	97.5	7.2	clear, const. boiling	~0.2mh	~0.3	WLo+25	no changes		
	Tue 12-09-95	1050	boiling	nd	clear, const. boiling	~0.1m high	~0.3 lps	WLo+25	no changes		
	Wed 22-11-95	1058	98.5	6.5	clear, constant boiling	0.1-0.2mh	~0.2	WLo+25	no changes		
	Fri 09-02-96	1130	98.1	6.8	clear, cold inflows	0.1-0.2m high	~0.1 lps	WLo+30	no changes		
	Tue 26-03-96	1325	98.4	6.4	clear	0.1-0.2m high	~0.05 lps	WLo+30	no changes		
	Tue 28-05-96	1050	boiling	nd	clear	~0.1m high	~0.05	WLo+30	no change		
	Fri 30-10-98	1325	97.9	6.7	clear, const. boiling	~0.1-0.3mh	~<0.05 lps	WLo+30	no changes	3920	
	Tue 15-12-98	1410	98.3	7.2	clear, constant boiling	~0.1-0.3mh		WLo+30	no changes?	3400	1220
	Mon 15-02-99	1335	98.4	6.8	clear, constant boiling	~0.1m high	~0.3	WLo+15	No changes apparent	nd	1360
	Mon 01-11-99	1240	98.4	6.6	clear, constant boiling	~0.3m high	~0.1 - 0.3	WLo	No changes apparent	3560	nd
	Wed 22-12-99	1325	98.8	6.7	clear, constant boiling	~0.3m high	~0.1	0+	No changes apparent	nd	1440
	Wed 23-02-00	1345	99.2	7.6	clear, constant boiling	~0.2-0.4m h	~0.1	WLo+25	No changes	nd	1410
	Wed 31-05-00	1210	98.1	6.8	clear, constant boiling	~0.1 - 0.2mh	~0.05	WLo+30	No changes apparent	nd	1460
	Wed 20-09-00	1240	98.2	7.2	clear, constant boiling	<0.2m high	~0.2		No changes		1180
	Mon 20-11-00	1320	98.2	7.1	clear, constant boiling	<0.3	~0.1 - 0.2	0+	Oscillating flows	1330*	890
	Sun 25-02-01	1452	98.9	7.5	No change	<0.3m high	~0.1 lps	0+	Outflow fluctuates over a minute	1330*	890
	Mon 25-06-01	1453	nd		Constant boiling	<0.3m high	~0.1		Ditto	nd	
	Wed 14-11-01	1503	98.6	7.3	oscillating boiling	<0.3m high	<0.1	~35-50	Flow fluctuates x3 over a minute	4400	2950*
	Wed 19-12-01	1405	98.7	7.8	clear, oscillating boiling	<0.3m	~0.2	20-35	Fluctuating flow and boiling intensity	3690	2472*
	Mon 18-02-02	1312	99.8	7.9	clear, constant boiling	<0.3m high	~0.03-0.1	WLo+20	Oscillating flows and boiling strength	3990	2673*
	Wed 22-05-02	1212	98.3	7.9	oscillating boiling, flows	<0.5m high	0.1-0.3 lps	WLo+25	Flow & boiling oscillates over ~1 min	nd	
	Tue 28-05-02	1203	98.4	7.9	constant clear boiling	~0.3m	0.05-0.1	30	Oscillating boiling and outflow	Pampas at Nth	
	Sun 06-10-02	1300	boiling	nd	constant clear boiling	<0.3m	~0.05-0.1	25	Oscillating boiling and outflow	nd	
	Fri 15-11-02	1501	98.1	7.4	clear, constant boiling	<0.3m high	~0.05	25	Oscillating boiling and flow; photo	nd	nd
	Wed 16-04-03	1130	98.9	7.7	clear, constant boiling	<0.3m	~0.1	25	Flow and boiling oscillating		
	Tue 30-09-03	1557	97.8	7.5	clear, constant boiling	<0.3m	~0.2 lps	25	2784753mE 6298547mN	2300	1400
	Wed 05-11-03	1446	98.2	7.2	clear, constant boiling	<0.3m	0.2	25			
	Wed 03-03-04	1102	98.7	7.2	clear, constant boiling	<0.3m	~0.05	25	Photo		
	Mon 17-05-04	1215	99	7.2	clear, constant boiling	<0.3m high	0.2				
	Wed 15-09-04	1403	98.3	7.3	clear, oscillating boiling	<0.3m high	0.2	40	Boiling and flow oscillate over a few minutes		
	Fri 19-11-04	1410	98.7	7.3	clear, constant boiling	<0.2m high	0.07	25	steady boiling and outflow		
	Fri 18-02-05	1120	99	7.6	clear, oscillating boiling	<0.3m high	0.25	25	Flow fluctuates x2 over ~2 minutes		
	Tue 10-05-05	1403	98.2	7.8	clear, steady boiling	<0.2m high	0.1 lps	30	stable boiling and flow	1910	
		1346	98.3	7.2	constant boiling	<0.1m high	0.1	35	steady flows	1840	
	Apr-07		98					WL 20 mm			
	Jun-07		98					WL 20 mm			

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	Jan-08	nd	98	nd	clear blue	nd	nd	WL-50mm	E2784752 N6208549; visible zones of upwelling		
	Mar-08	nd	97-99	nd	clear, upwelling present	upwelling	nd	WL-50mm	Two zones of upwelling, pool surrounded by sinter		
	Jun-08	nd	99.1	nd	clear, upwelling present	upwelling	nd	WL-50mm	Three zones of upwelling present; water clear		
	Sep-08	nd	99.7	nd	clear,	nd	nd	WL-30mm	Water remains clear		
	Feb-09	nd	99.4	nd	clear, blue, bubbling	bubbling	~0.5lps	WL-20mm	Bubbling vigorously; water level risen slightly		
	Apr-09	nd	98.1	nd	Clear, blue, bubbling	bubbling	~0.3 lps	WL-20mm	Water was clear and bubbling vigourously		
	Jun-09	nd	100.2	nd	Clear, blue, bubbling	bubbling	~0.2 lps	WL-50mm	Two zones of upwelling & ascending gas visible		
Manganese Pool S120	Fri 19-05-95	1327	90.3	nd	clear, const. bubbles	const.<10mm	0	-670	Constant small bubble swarms		
	Sun 11-06-95	1100	96	6.5	clear, no bubbles	nil	0	-800	clear and calm, no bubbles		
	Wed 23-08-95	1413	97.6	6.5	clear, const. bubbles	<10mmh	0	-550	WL has risen; const. bubbles		
	Tue 12-09-95	1055	86.1	nd	clear and no bubbles	calm, flowing!	0.2	15	clear and overflowing!		
	Wed 22-11-95	1112	85.4	6.2	clear/calm lots bubbles	<10mm	0	-300	recently flowing; channel washed		
	Fri 09-02-96	1137	94.3	nd	clear, const. bubbling	<10mm high	0	-1224	WL fallen		
	Tue 26-03-96	1330	92.6	nd	clear, const. bubbles	<10mm high	0	-1095	WL bolt -855; bolt @ WLo-240		
	Tue 28-05-96	1053	98	nd	clear, bubbles	<5mm high	0	-1200	WL@rubble floor of vent		
	Fri 30-10-98	1337	20	nd	no water visible	nil	0	-1150	steaming weakly; no water seen		
	Tue 15-12-98	1420	99.4	7.6	clear, bubbling const.	~75mmh	0	-1015	constant bubbling	4040	nd
	Mon 15-02-99	1345	20	nd	noisy ebullition	nd	0	-1050	constant bubbling below rocks	nd	nd
	Mon 01-11-99	1245	20	nd	noisy ebullition	nd	0	-1100	noisy boiling below rocks	nd	nd
	Wed 22-12-99	1305	89.6	6.8	clear and calm	calm	0	-250	Calm and clear, outlet dry	nd	1670
	Wed 23-02-00	1355	91.6	7.1	clear, no bubbles	calm	0	-625	High WL; calm	nd	1580
	Wed 31-05-00	1215	97.6	6.5	clear, occas. bubbles	calm	0	-1080	Occasional swarms of bubbles	nd	1640
	Wed 20-09-00	1250	20		water below rocks		0	-1150	Noisy bubbling beneath rocks		
	Mon 20-11-00	1330	93.2	7.4	clear and calm		0	-1095	Very low waterlevel	1430*	960
	Sun 25-02-01	1455	93	nd	clear and calm	calm	0	-960	No change	nd	
	Mon 25-06-01	1456	98.3	7	clear, const bubbles	<05mm high	0	-155	Constant steady bubbling	4080	2735
	Wed 14-11-01	1517	84.2	7.7	clear, const bubbles	<05mm high	0.02	8	Steady constant overflow	3610	2420*
	Wed 19-12-01	1415	87.4	7.6	clear, colourless	<10mm	0.1	20	Steady flowing	3680	2466*
	Mon 18-02-02	1316	85.1	7.3	clear, no convection	<05mm high	0.5	55	Sparse weak bubbles; flowing	3610	2420*
	Thur 21-03-02	1215	80.6	7.1	clear & calm, convecting	calm	0	-40	WL nail +201mm; overflow wet	nd	
	Wed 22-05-02	1410	80	nd	clear and calm	calm	0	-70		nd	
	Tue 28-05-02	1219	92.1	7.1	clear, noisy ebullition	<25mm high	0.1	30	Steady outflow, noisy gentle ebulln	nd	
	Sat 01-06-02	1230	95	nd	clear, gentle ebullition	<25mm high	0.1	20	Steady outflow, noisy gentle ebulln	nd	
	Sun 06-10-02	1405	95	nd	clear, steady ebullition	<50mm	0.15	25	Steady outflow, noisy gentle ebulln	nd	
	Fri 15-11-02	1505	98	nd	clear, steady ebullition	~0.5m high	1	75	Steady flow and strong boiling; photo	nd	nd
	Tue 04-03-03	1045	98.1	7.7	clear, boiling	~0.3m high	1	70	Steady overflow and boiling		
	Wed 16-04-03	1115	97.9	7.9	clear, boiling	~0.3m high	1	75	Strong boiling and flows		
	Tue 30-09-03	1550	98.8	7.7	clear, boiling	<0.3m	1	75	Constant strong boiling and flows	2330	1400
	Wed 05-11-03	1503	93.4	7.4	clear, bubbles	<10mm	0.3	50	Steady weak bubbles		
	Wed 03-03-04	1107	97.3	7.8	gentle bubbling, clear	<10 mm	0.2	40	Photo		
	Tue 23-03-04	1130	92.2	7.7	weak bubbling, clear	<5mm high	0.2	40			
	Mon 17-05-04	1100	92		weak bubbling, clear	<5mm high	0.3	45			
	Wed 15-09-04	1408	88.7	7.2	clear, weak convection	calm	0	-95	Nail = 240mm below overflow		
	Fri 19-11-04	1410	95.2	7.5	clear, weak bubbles	<5mm high	0	-450			
	Fri 18-02-05	1127	97	8.1	clear, occas. bubbles	calm	0	-480	nail-182		
	Tue 10-05-05	1408	98		clear, occas. bubbles	calm	0	-685	WL 685mm below overflow or nail -445mm	2150	
	Fri 19-05-95										
Blowout of c.12/5/95	Sun 11-06-95	1050	82.2	6.5	clear, calm	calm	0	WLs-480	Recent blowout; centre base scarp		
	Wed 23-08-95	1404	90.2	nd	clear and calm	nil	0	WLs-520	Growing vegtn on edges now		

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	Tue 12-09-95	1053	nd (cool)	nd	clear, calm	nil	0	WLs-700	cool; vegtn growing on walls again		
	Wed 22-11-95	1103	73	nd	clear, calm	nil	0	WLs-460	no flows or eruptions lately		
	Fri 09-02-96	1134	cool	nd	clear, calm	nil	0	WLs-730	no flows or eruptions recently		
	Tue 28-05-96	1334	warm	nd	clear, calm	nil	0	WLs-700	no flows or eruptions evident		
		1332	88.6	nd	boiling, then calm	~0.1mh/calm	0	WLs-480	no flows evident; turbid, vis.~0.1m	3790	
	Fri 19-05-95										
Scarp Geyser S122	Sun 11-06-95	1055	94.1	5.5	clear and calm	calm	0	WLs-600	Just been erupting ~0.5mh		
	Wed 23-08-95	1407	88.3	nd	clear and calm	nil	0	WLs-600	Cold inflows now off scarp from AP		
	Tue 12-09-95	1054	nd (cold)	nd	no water visible	nil	0	WL>1000	cold, no steam		
	Wed 22-11-95	1107	84.3	nd	water near surface	calm	0	WLo-170	Tide line shows WL has been -30		
	Fri 09-02-96	1133	dry, cold	nd	calm and dry	calm	0	WLo-1.5m	dry and cold now; cold inflows		
	Tue 28-05-96	1338	dry, cold	nd	no water seen	calm	0	WLo>1.5m	taking cold water off Gldn Flce Tce		
	Mon 18-02-02	1335	steaming	nd	no water seen	calm	0	WLo~1m	no eruptions evident lately		
		1230	hot	nd	clear, bubbling	<5mm high	0	WL-55mm	Constant weak bubbles; calm	nd	
	Tue 12-09-95										
Cauldron Geyser S124	Wed 22-11-95	1108	78.8	nd	high WL; calm & clear	nil	0	-500	WL has been up to WLo-220		
	Tue 28-05-96	1134	hot	nd	clear, calm	nil	0	-1500	no steaming; clear, warm		
	Fri 30-10-98	1336	hot	nd	clear, calm	nil	0	-1000	weak steaming; calm		
	Mon 25-06-01	1430	hot	nd	clear, calm	nil	0	-2500	weak steaming; calm	nd	nd
	Wed 14-11-01	1510	87.9	nd	clear, calm	nil	0	-260	Clear, gentle convection	nd	
	Wed 19-12-01	1407	81.8	nd	clear, calm	nil	0	-235	clear and calm	nd	
	Mon 18-02-02	1319	82.3	nd	clear, visibility ~2m+	calm	0	-170	Calm, no bubbles or convection	nd	
	Thur 21-03-02	1220	80.3	6.8	clear, weak convection	calm	0	-255	Calm and clear, very weak convectn	nd	
	Wed 22-05-02	1405	very hot	nd	calm and clear	calm	0	-230		nd	
	Tue 28-05-02	1214	79.8	6.3	clear	calm	0	-50	Calm and clear, lapping up to o'flow	nd	
	Sat 01-06-02	1235	very hot	nd	clear	calm	0	-50	Calm and clear, lapping up to o'flow	nd	
	Sun 06-10-02	1315	very hot	nd	clear, convecting	calm	0	-30	Calm and clear, lapping up to o'flow	nd	
	Fri 15-11-02	1520	88.7	7	clear	calm	0	-50	Lots of silt on walls; photo	nd	nd
	Tue 04-03-03	1037	89.1	7.6	clear	calm	0	-200	High waterlevel		
	Mon 17-03-03	1132	87.9	7.1	clear	calm	0	0.01			
	Wed 16-04-03	845	89.2	nd	clear	calm	0	-75	Has overflowed sometime lately		
	Tue 30-09-03	1538	88.8	7	clear	calm	0	-170		2390	1400
	Wed 05-11-03	1450	87.8	7.1	clear, weak convection	calm	0	-160			
	Wed 03-03-04	1115	91.1	7.1	clear	calm	0	-250	Photo; includes PWF (dry, inactive)		
	Tue 23-03-04	1125	89.4	6.8	clear, weak convection	calm	0	-240			
	Mon 17-05-04	1110	90		clear	calm	0	-170			
	Wed 15-09-04	1418	93.5		clear, convecting	calm	0	-370			
	Fri 19-11-04	1415	97.2	8.2	clear, no bubbles	calm	0	-770			
	Tue 10-05-05	1135	~80		clear, no bubbles	calm	0	-600			
		1355	~80.		clear, convecting	calm	0	-850			
	Tue 04-03-03										
Prince of Wales Geyser S123	Mon 17-03-03	1135	98	nd	clear, geysering	geysering	~0.3 lps	~0.5m high	Erupting every few minutes		
	Wed 16-04-03	850	98.3	nd	clear, geysering	~0.7m high	~0.3		Erupting every ~10 minutes		
	Tue 30-09-03	1610	98	nd	clear, geysering	~1m	~0.3		E's ~1m high		
	Wed03-03-04	1450	cold		dry and inactive	nil	0	0	Inactive, dry and cold		
	Mon 17-05-04	1125	cold		dry and inactive	nil	0	0	Inactive, dry and cold		
	Tue 10-05-05	1420	cold		dry and inactive	nil	0	0	Inactive, dry and cold		
		1355	cold, dry		inactive	nil	0		no activity or steam for many months		
	Sun 11-06-95										
Dreadnought Geyser S125	Wed 23-08-95	1410	90	nd	clear and calm	nil	0	-1000	occas. bubbles		
	Tue 12-09-95	1057	85.6	nd	clear and calm	nil	0	-200	calm and clear		

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	Wed 22-11-95	1110	hot	nd	clear and calm	nil	0	-1000	clear and calm		
	Fri 09-02-96	1135	cool	nd	clear and calm	nil	0	-1500	cold inflows off Golden Fleece scarp		
	Tue 28-05-96	1342	cool	nd	no water visible	nil	0	-2500	vent blocked at ~2m with debris		
	Fri 30-10-98	1337	warm	nd	water clear, calm	nil	0	-1500	inactive; no overflows evident		
	Wed 31-05-00	1433	warm	nd	water clear, calm	nil	0	-2500	inactive; no overflows evident	nd	nd
	Wed 20-09-00	1255	96.2		clear, noisy bubbling			-1760			
	Sun 25-02-01	1340	92.9	nd	clear, gentle bubbling	nil	0	-1400	Eruptns ~2mh, 3 days ~3wks ago	nd	nd
	Mon 25-06-01	1503	boiling	nd	clear and boiling	<30mm high	0	-500	No eruptions evident or seen	nd	
	Wed 14-11-01	1513	94.2	nd	clear, const. Bubbling	<05mm high	0	-440	Very high waterlevel	nd	
	Wed 19-12-01	1410	86.5	nd	clear, colourless	<5mm	0	-415	Swarms small bubbles	nd	
	Mon 18-02-02	1322	82.2	nd	clear, occasional bubbles	<5mm	0	-335	Sparse small bubbles, no convection	nd	
	Thur 21-03-02	1223	85.7	6.4	clear, constant bubbles	<5mm high	0	-430	Clear and convecting, very high WL	nd	
	Wed 22-05-02	1403	very hot	nd	clear, const small bubbles	<5mm	0	-450		nd	
	Tue 28-05-02	1210	85.3	5.9	clear, const small bubbles	<5mm	0	-150	Const fizzy bubbles;	nd	
	Sat 01-06-02	1215	very hot	nd	clear, const small bubbles	<5mm	0	-300	Taking a lot of rain runoff down scarp	nd	
	Sun 06-10-02	1355	very hot	nd	clear, const small bubbles	<5mm	0	-200	No convection	nd	
	Tue 04-03-03	1515	96.9	7.1	clear, const bubbling	<50mm high	0	-160	Has erupted; dead shrubs; photo	nd	nd
	Mon 17-03-03	1125	nd	nd	clear	<50mm high	0	-370	Constant bubbling		
	Tue 30-09-03	855	98.6	nd	clear, steady boiling	<0.3m high	0	-220	Steady strong boiling		
	Wed 05-11-03	1455	93.7		clear, gentle bubbling	<5mm	0	-375			
	Wed 03-03-04	1110	~90		clear	calm	0	-470	Calm; same WL as Wairiri?		
	Wed 15-09-04	1135	93.1		clear, gentle bubbling	<5mm	0	-420			
	Fri 19-11-04	1420	98.2		clear, constant bubbling	<10mm	0	-820			
	Tue 10-05-05	1130	~90		clear, gentle bubbling	<5mm high	0	-800	steady bubbles		
		1355	94		clear, gentle bubbling		0	-880			
	Fri 28-04-95										
Kurapai Geyser S708	Fri 19-05-95	1430	nd	nd	not visited; no tracks	not seen	0	nd	No E's this yr; E's7/9-5/10&12/12-25/12	1/12/1994	
(or Bendix Washer Geyser)	Wed 23-08-95	1200	nd	nd	no recent E's seen	not seen	0	nd	No E's seen by staff this year		
	Wed 22-11-95	1100	nf	nd	dormant; no steaming	not seen	0	nd	No eruptns seen by staff		
	Fri 09-02-96	1217	boiling	nd	steaming and noisy	water not seen	0	?	water rising in pipe; geyser action		
	Fri 30-10-98	1230	?	nd	no steam seen	not seen	0	?	no geysering seen from Tearooms		
	Sun 31-01-99	1450	boiling	nd	steaming and noisy	not seen	0	?	geysering Thurs. 29/10/98	nd	nd
	Wed 31-05-00		erupting	nd	geysering	from café	?	?	geysering last two weeks January	nd	nd
	Sun 25-02-01	1400	dormant		calm and no steaming	from boat			no eruptions for many months		
	Mon 25-06-01	1330	erupting	nd	geysering (seen ADC)	from road	0	?	Erupted 5-8m high >3 minutes	nd	
	Mon 18-02-02	1330	dormant		calm and no steaming	from café	0	?	No eruptns seen by staff	nd	
	Wed 22-05-02	1215	geysering	nd	Erupting frequently	from cafe	0	?	Es ~5 mins @ 2-3 hrs; 3 weeks now	nd	
	Tue 28-05-02	1200	geysering	nd	Erupting every 2-3 hrs	from cafe			Es 7-8 mins every 2-3 hrs	nd	
	Sat 01-06-02	1330	geysering	nd	Erupting every 2-3 hrs	from cafe	0		Es 7-8 mins every 2-3 hrs	nd	
	Sun 06-10-02	1415	geysering	nd	Erupting every 2-3 hrs	from cafe	0		Es ~5 mins @ 2.5-3 hrs	nd	
	Fri 15-11-02	1420	active	nd	Erupting every ~4 hrs				D'logger on; photo; E seen 1450 hr	nd	nd
	Tue 04-03-03	1200	geysering	nd	Erupting every ~4 hrs	from cafe	~5 lps		E's ~8 mins every ~4 hrs		
	Mon 11-03-03	1248	geysering	nd	Erupting every ~4 hrs	visited	?		Datalogger on; eruption seen at 1130 hr		
	Wed 16-04-03	1230	dry	nd	Erupting every ~4 hrs	visited	0	?	Staff saw eruption today		
	Tue 30-09-03	1645	geysering	nd	Erupting every 4-4.5 hrs	not visited	0	?	E seen at 1500hrs; E's 10-15 mins		
	Wed 05-11-03	1630	inactive		inactive				No eruptions seen for a month now		
	Wed 03-03-04		inactive			not visited			Last eruption seen Wed 29/10/03		
	Mon 22-03-04	1045	active		geysering 1-2x daily				staff see eruptions every day or two		
	Tue 23-03-04	1800	erupting		geysering 1-2x daily				Pippa saw eruption Monday evening		
	Mon 17-05-04	1100	erupting		E 20 mins to ~15m high				SAPAC off; Richard saw eruption at 1100hr		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Fri 19-11-04	1520	inactive		weak steaming, calm		0		SAPAC on; Pippa saw E Sat. 15/05/04		
	Fri 18-02-05	1310	active		steaming and calm		0		Richard saw E on Tuesday 16th Nov.		
	Tue 10-05-05	1420	erupting		13 minute eruption		5		eruption started 1320 hrs		
	Aprl-07	1300	erupting		seen by Richard				datalogger on 1450 hrs; eruption at 1300 hrs		
	Jun-07	nd		nd							
	Jan-08	nd		nd							
	Mar-08	nd		nd					E2784663 N6298399		
	Jun-08	nd		nd	E at 1.43pm for 28mins	nd	nd	nd	Es 3xa day with duration 18-32mins		
	Sep-08	nd	erupting	nd	Erupting, active	from cafe	nil		Es 3-4 x a day during 2008		
	Feb-09	nd	inactive	nd	Feature reported inactive	not visited	nil	nd	Feature not Erupting since Van Ellen filled & has been playing		
	Apr-09	nd	erupting	nd	Erupting, active	from cafe	nd	WL-1m	Erupted for 5min duration during visit		
	Oct-04										
S709 (15m S of S708)	Mon 29-11-04		dry, cold		inactive >25 years				unknown of any flows throughout earlier years		
	Fri 18-02-05		erupting		geysering				began geysering overflows Tuesday 29/11/04		
	Tue 10-05-05	1340	dry, cold		inactive now						
		1450	warm, dry		inactive, steaming gently				dry and no flows many months; weak steam		
	Fri 19-05-95										
Wairiri Geyser S126	Wed 23-08-95	1138	cold	nd	calm, WLs--2m	nil	0	-2000	Last erupted ~6 yrs ago		
	Tue 12-09-95	1059	hot	nd	calm	nil	0	-400			
	Wed 22-11-95	1111	hot	nd	calm and clear	nil	0	-1500			
	Fri 09-02-96	1136	cold, dry	nd	no water or steam seen	nil	0	-3300	no steam or water visible now		
	Tue 28-05-96	1341	cold, dry	nd	no water or steam	nil	0	-3500	no water or steaming		
	Sun 25-02-01	1338	cold, dry	nd	no water or steam	nil	0	-3000	inactive		
	Mon 25-06-01	1500	very hot		clear and calm		0	-1500	No eruptions or overflows known		
	Wed 19-12-01	1515	very hot	nd	clear and calm	nil	0	-800	Ditto	nd	
	Mon 18-02-02	1325	797	nd	clear, no colour	<5mm	0	-1030	Occasional small bubbles	nd	
	Wed 22-05-02	1227	89.8	6.4	clear, bubbles	<5mm high	0	-930	Constant weak bubbles; clear	nd	
	Tue 28-05-02	1217	77.7	5.9	slight milky; weak bubbles	<5 mm	0	-430	Weak bubbles	nd	
	Sun 06-10-02	1215	very hot	nd	clear; weak bubbles	<5mm high	0	-350	Weak bubbles	nd	
	Fri 15-11-02	1513	87.1	7.3	clear, weak bubbles	<5mm high	0	-20	Photo; almost at overflow	nd	nd
	Tue 04-03-03	1030	98.4	nd	clear, geysering	~8m high	5-10 lps	-100	Geysering ~8m high		
	Mon 17-03-03	1120	98.6	nd	clear, geysering	5-8m high	~10	-100	Eruptn seen 1030 hrs; datalogger on		
	Wed 16-04-03	855	99.1	nd	clear, geysering	~0.2m high	0	-135	Still geysering; new boiling behind it		
	Tue 30-09-03	1630	nd	nd	clear, steady boiling	<0.2m	0	-275	No big E's seen since 17/03/03		
	Wed 05-11-03	1458	92.9	6.8	clear, weak bubbling	<25mm	0	-130	No eruptions for many months now		
	Wed 03-03-04	1010	~90		clear, calm	nil	0	-350			
	Mon 17-05-04	1210	93.5		clear, calm	nil	0	-300			
	Wed 15-09-04	1420	90		clear, no convection	calm	0	-550	Unsafe to approach; crumbling ground		
	Fri 19-11-04	1430	~90		clear	calm	0	-1050			
	Tue 10-05-05	1135	~80.		clear, no convection	calm	0	-800	Occasional small bubbles		
		1355	~85.		clear, convecting	calm	0	-1100	no boiling many months		
	Apr-07		75.9					WL 2.0 m			
	Jun-07		75.9					WL 2.0 m			
	Jan-08		93		clear	calm		WL-1.0 m			
	Mar-08	nd	93	nd	clear, minor gas discharge	nil	nd	WL-0.8m	Location: E2784747 N6298519		
	Jun-08	nd	98.8	nd	Clear, gas discharge present	nil	nd	WL-0.15m	Gas discharging into pool intermittently		
	Sep-08	nd	91.2	nd	clear, constant gas discharge	nil	~0.1lps	Overflowing	Water flowing under boardwalk & onto golden fleece		
	Feb-09	nd	95.5	nd	clear, blue,	nil	~0.5lps	Overflowing	Intermittent gas discharge into pool		
	Aprl-09	nd	90.4	nd	Clear blue colour	nd	~0.3 lps	Overflowing	Feature was overflowing & intermittent gas		

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									discharge visible		
	Jun-09	nd	79.1	nd	Clear blue colour	nd	nd	Barely overflowing	Water temperature has decreased significantly since April 09		
Artist's Palette Springs:											
	Wed 27-10-04										
S735 Area (N side of terrace)	Fri 19-11-04	1000	geysering		overflows		2-3 lps				
		1335	boiling		clear, flowing	strong boiling	~1 lps	overflowing	group of ~10 springs around rotten pine log		
	Fri 09-02-96										
Hole NE of Psyche's Bath S766	Tue 26-03-96	1350	boiling	nd	grey muddy water	const. ~0.3m	0	WLo~2m	Erupted last week; killed vegetation		
	Tue 28-05-96	1020	boiling	nd	grey muddy	const.~0.3mh	0	WLo~2m	muddy; strong boiling; no E's		
	Fri 30-10-98	1340	boiling	nd	grey muddy	const.~0.5mh	0	WLo~2m	no eruptions evident		
	Wed 20-09-00	1530	calm	nd	clear	nil	0	WLo~2m	no eruptions evident	nd	nd
	Mon 25-06-01	1345	boiling	nd	grey fawny turbid	<0.3m high	0	WL --2m	erupted in past hour	nd	nd
	Wed 19-12-01	1520	calm		ditto	nil	0	WL --2m	No eruptns for many days/weeks	nd	
		1330	calm	nd	slight pale grey turbidity	nil	0	WLo~1m	Calm, no bubbling or steaming	nd	
	Tue 12-09-95										
(No name?) S726		1118	boiling	nd	grey muddy water	const. ~0.1m	0	WLo-700	no flows evident; steady boiling		
	Tue 12-09-95										
(No name?) S740		1119	cold	nd	clear and calm	nil	0	WL@o'flow	taking surface cold runoff waters		
	Mon 27-03-95										
Artist's Palette Pool S741	Fri 19-05-95	1515	warm?	nd	no water visible	nil	0	WLs->3m	Cool and no water present		
	Sun 11-06-95	1110	boiling!	nd	overflowing!	0.1-0.2mh	~5 lps	WL@o'flow	Boiling & o'flows! Not for ~3 years!	Began 2wks ago	
	late July	1425	boiling	nd	strong surges & o'flows	1-2m high!	~10-20?	overflowing	Geysering from centre vent		
	Wed 23-08-95		geysering	nd	geysering	~18m high!	~10-20?	geysering	mid/late July Erutpns ~18m high!		
	Tue 12-09-95	1105	boiling	nd	O'flowing; no E's seen	0.2-0.5mh	~5?	o'flowing	surging boiling		
	Wed 22-11-95	1140	boiling	clear	o'flowing surges	~0.1-0.5mh	~5-10	o'flowing	surging large boils; no geysering		
	Fri 09-02-96	1143	boiling	clear	surging overflows	0.3-0.5mh	5-10 lps?	o'flowing	clear; surging boiling		
	Tue 20-02-96	1358	erupting	clear	surging overflows	1-3m high	5-10?	flowing	geysering at centre vent		
	Tue 26-03-96	1450	boiling	clear	surging overflows	0.3-0.5m high	5-10?	flowing	no geysering; strong oscill. boiling	photos	
	Tue 28-05-96	1-25	boiling	clear	surging overflows	~0.1-0.5mh	5-10?	flowing	no geysering seen but strong boiling		
	Fri 30-10-98	1341	boiling	nd	weak surging flows	<0.1m high	~1-3 lps?	flows	no geysering; occas. boiling		
	Tue 15-12-98	1530	calm	clear	clear and calm	nil	0	WLo~4m	calm	nd	nd
	Mon 15-02-99	1355	dry	empty	calm, cold	nil	0	WLo~4m	calm and cold	nd	nd
	Sun 08-08-99	1340	dry	clear	calm, cool	nil	0	WLo~5m	calm and cold	nd	nd
	Mon 01-11-99	1700	hot	clear	overflow began ~today	nil	~1-3 lps?	flowing	Pool began overflows today	nd	nd
	Wed 23-02-00	1315	hot	clear	overflowing	calm	~2-3	0+	Steadily flowing; gentle convection	nd	nd
	Wed 31-05-00	1345	hot	clear	overflowing	calm	~2-3	0+	calm/convection and overflowing	nd	nd
	Wed 20-09-00	1410	hot	clear	calm, gentle surging			WL --0.3m	Gentle waterlevel surging		
	Mon 20-11-00	1350	nd	clear	calm		0	WL --0.5m	Drained out by 13/09 after e'quake	nd	
	Sun 25-02-01	1530	boiling	clear	strong convection	<0.1m high	0	WL --0.8m	Filled again since September	nd	
	Mon 25-06-01	1505	calm	clear	steaming	nil	0	WL -75mm	Close to overflow	nd	
	Wed 14-11-01	1520	boiling	clear	steaming strongly	<0.1m high	~0.5 lps	WL +05	Overflowing weakly	nd	
	Wed 19-12-01	1510	very hot	clear	milky blue	<50mm	~0.5	WLo+15	Steady weak overflow surging	nd	
	Mon 18-02-02	1335	boiling?	milky blue	bubbling all over	<50mm	~1	WLo+15	Steady weak overflow surging	nd	
	Wed 22-05-02	1240	bubbling	clear	gentle ebullition	<100mm	~1 lps	WL+20	Weak overflows, bubbling, surging	nd	
	Sat 01-06-02	1315	bubbling	milky blue	weak steady ebullition	<50 mm	~0.5 lps	15	Weak outflows, steady bubbling	nd	
	Sun 06-10-02	1310	bubbling	milky blue	weak steady ebullition	<50mm	~0.5	15	Weak outflows, steady bubbling	nd	
	Fri 15-11-02	1535	calm	clear	calm		0	WLo-150	No overflows recently; photo	nd	nd
	Tue 30-09-03	1200	calm	clear	Slight milky blue colour		0	~0.5 lps	Steady weak overflows		

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	Wed 03-03-04	1505	calm	clear	Slight milky blue colour	0	0.5	10	steady weak overflow, calm		
	Tue 23-03-04	1145	calm	clear	Slight milky blue colour	0	0.5	10	steady weak overflow		
	Mon 17-05-04	1130	calm	clear	Slight milky blue colour	0	1	10			
	Wed 15-09-04	1430	calm	clear	Slight milky blue colour	0	1	10	steady weak overflow		
	Fri 19-11-04	1433	calm	clear	no bubbling seen	0	0	WL o'flow -4?m			
	Fri 18-02-05	1320	calm	clear	no bubbling seen	0	0	WL o'flow -4m			
	Tue 10-05-05	1415	boiling	clear	steady boiling	<0.3m high	0	WL o'flow -4m	photograph		
	Apr-09	1405	boiling	clear	steady boiling	<0.3m high	0	WL - 4m?			
	Fri 19-05-95										
Square pool S742 (W ~10m from S741)	Wed 23-08-95	1115	v. hot	nd	clear and calm	nil	0	WLs-200	WL has risen since last visit		
	Tue 12-09-95	1106	boiling	nd	clear, overflowing	nil	~0.5-1 lps	WLs+25	clear, boiling and flowing		
	Wed 22-11-95	1129	bubbling	nd	clear						
	Fri 09-02-96	1144	bubbling	nd	clear	~50mm high	0	WLs-150	clear; no eruptions or overflows		
	Tue 28-05-96	1357	bubbling	nd	clear	~0.1-0.2mh	0	WLs~150	clear; no overflows evident		
	Fri 30-10-98	1342	bubbling	nd	clear	<0.2m high	0	WLs~200	clear; no flows or E's evident/seen		
	Wed 23-02-00	1535	calm	nd	clear	nil	0	WLs~3m	clear; no flows or E's evident/seen	nd	nd
	Wed 31-05-00	1300	geysering	nd	clear, no surface flows	1.5 - 2m high	0	WLs~1m	clear, eruptions ~1 min. @~15min.P	nd	nd
	Sun 25-02-01	1415	geysering		clear, no surface flows	~2m high	0	WL ~1m	erupting		
	Mon 25-06-01	1507	geysering		clear, boiling	<2m high	0	WL ~1m	eruptions from vent in SE wall	nd	
	Wed 22-05-02	1520	geysering		clear, boiling	<2m high	0	WL ~1.5m	Noisy eruptn but no surface o'flows	nd	nd
	Sat 01-06-02	1315	boiling, clear	nd	noisy boiling	~0.5m high	~0.5 lps	20	Noisy steady boiling and outflows	nd	
	Mon 17-05-04	1315	boiling, clear	nd	noisy boiling	<1m high	~0.5	20	Noisy strong boiling and outflows	nd	
	Wed 15-09-04	1440	boiling		clear, noisy boiling	<0.5m high	0	-500	Noisy boiling but no overflows		
	Fri 19-11-04	1430	boiling		clear, noisy geysering	<1m high	0	WL o'flow -2m	geysering from hole on wall		
	Fri 18-02-05	1330	boiling		clear, noisy boiling	~2m high	0	-1300	geyser on wall active but no surface overflows		
	Tue 10-05-05	1415	geysering		clear, noisy eruptions	<3m high	0	WL surface - 2m?	geyser is hole on SW wall of main spring		
		1400	geysering		clear, noisy eruptions	<3m high	0	WL ~1.8m			
	Tue 12-09-95										
(No name?) S743	Rob French saw	1127	boiling	nd	clear, constant boiling	const.~0.1mh	0	WLo-100	sinter blocks around; recent eruption		
	Wed 22-11-95	huge E's	2-3 weeks	ago with	sinter blocks thrown out	Eruptions to	10-12m high				
	Fri 30-10-98	1145	boiling	nd	clear	nil	0	WLo-350	no eruptions recently		
		1535	calm	nd	clear	nil	0	WLo->3m	no eruptions recently	nd	nd
	Tue 20-02-96										
(No name?) S744	Fri 30-10-98	1440	geysering	nd	clear	0.5-0.8mh	~1-2 lps	WLo+	Eruption of 10 mins. seen; photos		
		1540	calm	nd	clear	nil	0	WLo->3m	no activity evident	nd	nd
	Tue 12-09-95										
(No name?) S747	Wed 22-11-95	1130	boiling	nd	clear	0.1-0.2mh	0	WLo-150			
	Wed 19-12-01	1146	boiling	nd	clear	~50mm high	~1 lps	WLo+20	clear		
		1335	boiling	nd	clear	<0.1m high	~1	WLo+10	Clear, steadily bubbling and flowing	nd	
	Tue 12-09-95										
(No name?) S748		1130	bubbling	nd	clear	const.<50mm	0	WLo-100			
	Fri 19-05-95										
Small hole ~7m SE of S.760	Wed 23-08-95	1115	v. hot	nd	clear, calm	nil	0	WLs-200	WL has risen since last visit		
S760/1	Fri 09-02-96	1107	boiling	nd	clear, surging	nil	0	WLs->300	Has been geysering ~10m high		
	Thur 21-03-02	1355	boiling	nd	clear	nil	0	WLs>300	no geysering seen lately		

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	Tue 21-05-02	1140	geysering	nd	clear, vertical column	~10m high	~5 lps		Photographs of eruption with S772	nd	
	Tue 28-05-02	1300	boiling	nd	clear, splashing	~0.5m	~0.01	10	D'logger on; const. splashing only	nd	
	Sat 01-06-02	1305	boiling	nd	clear, splashing	<0.3m	~0.01	10	No eruptions but constant boiling	nd	
		1320	boiling	nd	clear, splashing	<0.5m	~0.01	10	No eruptions see; D'logger removed	nd	
	Tue 12-09-95										
(No name?) S766	Fri 09-02-96	1140	bubbling		nd	muddy	0	WLo-300	constant bubbling		
		1355	boiling	nd	clear and bubbling	clear?	0	WLo~300	no geysering seen or evident		
	Mon 27-03-95										
Geysier (no name) S772	Fri 28-04-95	1515	boiling	nd	geysering	2-4m high	~5-10 lps?	WL@o'flow	Geysered ~2 mins. 2-4 metres high		
	Fri 19-05-95	1335	boiling	nd	geysering	not seen	0	WLS-1.5m	Recent eruption; SAPAC on		
	Sun 11-06-95	1107	82.5	nd	clear, const. bubbling	<0.1mh	0	WLS-1000	SAPAC stopped; recent geysering		
	Wed 23-08-95	1420	boiling	nd	grey turbid, vis.<0.1m	~50mmh	0	WLS-1000	Very recently geysered; hot puddles		
	Tue 12-09-95	1107	boiling	nd	clear water	~50-100mh	~1 lps	WLS+5	Boiling; overflowing; no E's seen		
	Wed 22-11-95	1140	boiling	nd	muddy water now	const. 100mm	~1	WLS+10?	flowing into S.773; all one WL now		
	Fri 09-02-96	1147	boiling	nd	clear	const.~50mm	~1	WLS+25	flowing into S.773		
	Tue 26-03-96	1355	boiling	nd	clear	const.<50mm	~1	WLS+25?	flowing; part of S.773, S.774 pools		
	Tue 28-05-96	1025	boiling	nd	clear	const.~0.1mh	~1		flowing; no E's seen		
	Mon 25-06-01	1343	boiling	nd	clear	const.~0.2mh	~1	WLS+25?	flowing; no geysering; steady boiling		
	Mon 18-02-02	1520	very hot		clear and calm	nil	0	WL -800	No eruptions or boiling known	nd	nd
	Thur 21-03-02	1240	boiling	nd	clear, boiling	~0.3m high	0	WL-400mm	Eruption 2-3m high & ~5 lps	nd	
	Wed 22-05-02		boiling	nd	clear, geysering	2-3m high	~5 lps	50	Photographs	nd	
	Tue 28-05-02		boiling	nd	clear, geysering	~2m high	~5	50	D'logger on; E's ~1 min. every hr?	nd	
	Sat 01-06-02		geysering	nd	clear, geysering	1-2m high	~5	50	E's ~1 min. every >1 hrs?	nd	
	Sun 06-10-02		geysering	nd	clear, geysering	2-3m high	~5	50	E's same; D'logger removed	nd	
	Fri 15-11-02	1530	geysering	nd	clear, active	2-3m high	~5	nd	Erupting today; photo	nd	nd
	Tue 30-09-03	1200	geysering	nd	clear, active	2-4m high	~5	nd	E's ~1 min every ~30 minutes		
	Wed 05-11-03	1505	geysering		clear, active	2-3m high	5 to 10		Active geysering		
	Tue 23-03-04	1134	geysering		clear, boiling	~2.5m high	~5-10		Photos; eruptns seen 1134 & 1220 hrs		
	Mon 17-05-04	1135	geysering		clear, boiling	2-3m high	10		Also S777 & S778 seen erupting		
	Wed 15-09-04	1430	geysering		clear, boiling	2-3m high	10		Erupted 1430h; photos		
	Fri 19-11-04	1430	geysering		clear, bubbling	<3m high	<10 lps		wet surfaces around vent		
	Fri 18-02-05	1330	geysering		clear, boiling	<3m high	~10.		wet surrounds on dry sinter terrace		
	Tue 10-05-05	1415	geysering		clear, bubbling	<3m high	10		wet surrounds; E's 2-3 mins, P ~2 hrs		
	Apr-09	1405	geysering		clear, bubbling	<3m high			same as previous style		
	Mon 27-03-95										
Spring S773 (no name)	Fri 28-04-95	1515	v. hot	nd	calm; takes S772 flows	nil	0	WLS-1m	WL changes during S.772 eruptns		
	Fri 19-05-95	1340	v. hot	nd	calm	nil	0	WLS-1.5m			
	Sun 11-06-95	1117	v. hot	nd	calm	nil	0	WLS-1000			
	Wed 23-08-95	1422	boiling	nd	grey turbid, vis~0.2m	const.~0.1mh	0	WLS-1000	Dirty grey waters now; o'flow to S774		
	Tue 12-09-95	1108	boiling	nd	clear water, boiling	const.<50mm	~0.5 lps?	WLS+10	clear and constant boiling flowing		
	Wed 22-11-95	1140	boiling	nd	muddy grey waters	const.<50mm	~1	WLS+25?	muddy; all one big pool with others		
	Fri 09-02-96	1150	boiling	nd	clear	const.<50mm	~1	WLS+25?	clear, all one big waterlevel/pool		
	Tue 28-05-96	1355	boiling	nd	clear	const.<50mm	~1	WLS+25?	clear; part of one large pool		
	Mon 25-06-01	1344	boiling	nd	clear	const.<0.1m	~1 lps?	WLS+25?	clear; joined as one big pool		
	Wed 19-12-01	1520	boiling		clear, strong convectn	const <0.1m	0	WL -1.3m	Constant agitated boiling	nd	nd
	Mon 18-02-02	1335	boiling	nd	slight pale grey turbidity	<0.1m	~0.5	WLo+10	Constant boiling and flows	nd	
		1245	boiling	nd	bubbling, clear	<150mm	0	WL-600	Boiling; hole @SE side erupted ~5m	nd	
	Mon 27-03-95										
Spring S774 (no name)	Fri 28-04-95	1515	warm	nd	calm, clear	nil	0	WLS->5m	Deep well of warm/hot water; calm		
	Fri 19-05-95	1335	warm	nd	calm and clear	nil	0	WLS>5m			

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Sun 11-06-95	1120	hot	nd	calm, clear	nil	0	WLs-4m	WL has risen since last visit		
	Wed 23-08-95	1423	boiling	nd	clear; gentle ebulln	~50mmh	0	WLs-3m	WL risen		
	Tue 12-09-95	1110	85	nd	clear, gentle ebullition	<50mm high	~0.5 lps	WLs+10	clear and boiling overflows		
	Wed 22-11-95	1140	boiling	nd	muddy grey, turbid	<20mm high	~1	WLs+25?	muddy grey waters		
	Fri 09-02-96	1151	boiling	nd	clear	<50mm high	~1	WLs+25?	clear; all pools one joined WL		
	Tue 28-05-96	1355	boiling	nd	clear	<50mm high	~1	WLs+25?	clear; joined to other pools		
	Fri 30-10-98	1345	boiling	nd	clear	~<0.1m high	~1 lps?	WLs+25?	clear; joined to nearby pools		
	Mon 25-06-01	1540	calm	nd	clear	nil	0	WL >5m	clear and calm	nd	nd
	Wed 19-12-01	1520	boiling	nd	clear, strong convectn	<0.1m high	0	WL -1.5m	clear, constant firm boiling	nd	nd
	Mon 18-02-02	1335	boiling	nd	slight pale grey turbidity	<0.1m high	~0.5	WLo+10mm	Constant noisy bubbling	nd	
		1245	boiling	nd	clear, gentle boiling	<0.1m high	0	WL-2.5m	Steady boiling	nd	
	Mon 27-03-95										
Spring S795 (~20m NE of S741)	Fri 28-04-95	1515	boiling	nd	clear, geysering	0.2-0.7mh	~1-3 lps?	WL@o'flow	Geysered 10 mins. then WL fell >1m		
	Wed 23-08-95	1335	v. hot	nd	recently geysered	not seen	0	WLs-700	Hot steaming surface puddles		
	Wed 22-11-95	1110	boiling	nd	recent geysering	~0.1m high	0	WLs-300	hot; has been geysering recently		
	Fri 09-02-96	1152	boiling	nd	geysering	~0.8m high	~1-3 lps	WLs+50	geysering ~10mins; period ~40 mins		
	Tue 26-03-96	1355	geysering	nd	erupting	~0.5-0.8mh	~1-3	WLs+50	geysering >10mins.		
	Tue 02-04-96	1050	geysering	nd	erupting	0.5-1m high	1-3	WLs+	SAPAC on; photos. Pine logging!		
	Tue 28-05-96	930	boiling	nd	has been E today	nil	0		SAPAC off		
	Wed 14-11-01	1346	geysering	nd	erupting	~1m high	~1-3 lps?	WLs+50?	geysering normal; E's ~>10 minutes		
	Thur 21-03-02	1510	geysering	nd	erupting frequently	~3m high	~5	WLs+50	E ~4 mins; ~3m high; P >1hr?	nd	
	Fri 15-11-02	1402	geysering	nd	erupting 1-2m high	<2m high	~1 lps	50	Cycle not witnessed	nd	
	Wed 05-11-03	1200	geysering	nd	eruptions 1-2m high	1-2m high	~3	50	E's ~1 min every ~45 minutes		
	Mon 17-05-04	1217	geysering		eruptions 1-2m high	<2m high	~3-5		Eruption photographed		
	Wed 15-09-04	1430	geysering		wet surfaces				Eruption not seen but wet surfaces		
	Fri 19-11-04	1435	geysering		wet surrounds	<1.5m high	<5 lps		E seen but period unknown		
	Tues 30-11-04	1330	nonboiling		fluctuating WL	calm	0	WL o'flow -550	but wet tide line at overflow -350mm; cyclic?		
		930	calm		stable?	caonvecting	0	WL o-600	datalogger recovered		
	Tue 30-09-03										
S777, S778	Tue 23-03-04	1505	geysering		eruptions <8m high seen	<8m high	10 to 15		E of 3 mins seen; S777 ~8mh, S778 ~5m		
	Mon 17-05-04	1135	geysering		eruptions <8m high seen	~8m high	10 to 15		S777 E ~8m high; S778 E ~5m high		
	Wed 15-09-04	1437	geysering		eruptions <8m high seen	~8m high	10 to 20		Both erupted 1437h - 1440h; photos		
	Fri 19-11-04	1430	inactive		calm and clear, stable WL	nil	0	WL -850.	no activity or bubbling		
		1330	inactive		calm and clear, stable WL	nil	0	WL o'flow -1m	both inactive; surrounds all dry		
	Mon 27-03-95										
Pyramid of geysers S811-825	Wed 23-08-95	1520	boiling	nd	clear; boiling	~0.2mh	~<0.5 lps	WL@o'flow	constant boiling ~0.2m high		
	Tue 12-09-95	1115	calm, dry	nd	no water or steam	nil	0	WL>1m?	dry and no steaming at all		
	Wed 22-11-95	1123	calm, dry	nd	no steam or wet areas	nil	0	nd	dried out and no steaming		
	Fri 09-02-96	1158	dry	nd	steaming weakly; dry	nil	0	WL>1-2m?	dry and only weak steaming		
	Tue 28-05-96	1355	dry	nd	no steam or water	nil	0	dry	no steam or wet surfaces		
	Tue 15-12-98	1350	dry	nd	no steam or water	nil	0	dry	surfaces all dry		
	Mon 15-02-99	1355	dry	nd	no steam or water	nil	0	dry	surfaces all dry	nd	nd
	Mon 01-11-99	1340	boiling	nd	geysering overflows	~0.5m high	~1 lps	flowing	Noisy visible eruptions, overflows	nd	nd
	Wed 22-12-99	1320	cold, dry	nd	no steam; all dry	nil	0	dry	Surfaces all dry; no steaming	nd	nd
	Wed 23-02-00	1400	cold, dry	nd	no steam; all dry	nil	0	dry	Surfaces all dry; no steaming	nd	nd
	Wed 31-05-00	1400	cold, dry	nd	no steam; all dry	nil	0	dry	Surfaces all dry; no steaming	nd	nd
	Wed 20-09-00	1415	cold, dry		no steam				Surfaces all dry, no steaming		
	Mon 20-11-00	1355	cold, dry		no steam at all			dry	Ditto		
	Sun 25-02-01	1530	cold, dry		no steam			dry	Ditto	nd	
	Wed 19-12-01	1505	boiling		overflowing	~0.8m high	~0.5 lps		Top vent erupting and flowing again	nd	
	Wed 22-05-02	1335	boiling	nd	overflowing	~1m high	~1	flowing	Top vent steady; base vent E's 1-2mh	nd	

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Sat 01-06-02	1300	boiling	nd	geysering overflows	~1m	~1 lps	flowing	Top vent geysering noisily	nd	
	Fri 15-11-02	1313	geysering	nd	geysering overflows	~1m	~1	flowing	Top vent very noisy	nd	
	Tue 23-03-04	1200	geysering	nd	noisy boiling overflows	~1m high	~1	flowing	All vents very noisy, some geysering		
	Mon 17-05-04	1145	geysering		noisy boiling overflows	~1m high	~1.	flowing	Top and bottom vents strong noisy boiling		
	Wed 15-09-04	1440	steaming		no flow or noise		0 0	0	No noise only steady steaming		
	Fri 18-02-05	1425	some geysers		top E active; others steam	<1m high	<1 lps	flows from top	lower vents dry and steaming steadily		
	Tue 10-05-05	1415	dry, cool		no outflows or steam		0 0	no flows at all	inactive and dry all up slope and at base		
		1410	cold, dry		no outflows or steam		0 0	no flows at all	but N side Palette has boiling springs		
	Apr-07	nd		nd							
	Jun-07	nd		nd							
	Jan-08	nd		nd							
	Mar-08	nd	Dry	nd	Feature is dry	nil	nil	no flows at all	No water discharge; but cliff behind steaming		
	Jun-08	nd	Dry	nd	Feature is dry	nil	nil	no flows at all	No water discharge visible; steam visible behind feature		
	Sep-08	nd	Dry	nd	No water present	nil	nil	no flows at all	No microbial mats covering geyser slopes		
	Feb-09	nd	Dry	nd	No steam or water visible	nil	nil	dry	No microbial mats suggesting water flow is low		
	Apr-09	nd	Dry	nd	No water present	nil	low flow	nd	no water was seen rising from this feature.		
	Jun-09	nd	nd	nd	Feature not visible	nd	nd	nd	Feature not visible due to fog		
	Fri 28-04-95										
Hole in SE side A's Pal. Pool S1012	Fri 19-05-95	1335	boiling	nd	clear; geysering	2-5mh	~5-10 lps		Geysered 2-5m high for 45 sec.		
	Sun 11-06-95	1120	boiling	nd	clear, geysering	~5mh	~10 lps	WLo+	Geysering through A's Pal. Pool		
	Wed 23-08-95	1450	geysering	nd	clear	E ~2-3m high	~5-10 lps?	WLo+	geysering through A's Pal. Pool!		
	Tue 12-09-95	1120	boiling	nd	clear; no E's seen	<50mm high	~1-5?	WLo+	boiling but no E's seen		
	Wed 22-11-95	1140	calm	nd	clear, no E's seen	calm	0	?	calm; no E's seen		
	Fri 09-02-96	1150	calm	nd	clear; no E's seen	calm	~1 lps?	WLo+	calm; no E's seen		
	Tue 28-05-96	1355	boiling	nd	clear; geysering	E's ~2-3mh	~1	WLo+	has been geysering		
	Fri 18-02-05	1352	near boil?	nd	clear and calm	nil	0	WLo+?	calm; no upflows or bubbling		
	Fri 28-04-95										
Waiwhakaata S710 (Ruatapu Cave Pool)	Fri 19-05-95	1403	47.1	3.3	clear, calm	nil	0	-370	Calm clear pool in Ruatapu cave		
	Sun 11-06-95	1130	45.8	3	clear, calm	nil	0	-120	Pool to NW only ~200mm deep		
	Wed 23-08-95	1437	44.6	2.7	clear, calm	nil	0	-80			
	Tue 12-09-95	1130	42.5	2.7	clear, calm	nil	0	-140			
	Wed 22-11-95	1155	42.1	3	clear, calm	nil	0	-460	WL fallen; cave to NW dry!		
	Fri 09-02-96	1210	41.1	2.7	clear, calm	nil	0	-980	WI fallen; cavern to NW dry		
	Mon 19-02-96	1400	42.6	3	clear, calm	nil	0	-1240	WL very low; NW cavern pool dry		
	Tue 02-04-96	nd	36	2.6	clear, calm	nil	0	-1250	data from Dick Glover's visit		
	Tue 28-05-96	920	36	nd	clear, calm	nil	0	-1360	NW cavern pool dry		
	Tue 15-12-98	1408	35.7	2.7	clear, calm	nil	0	-1720	lowest WL Terry has ever seen	2200	
	Mon 15-02-99	1410	44.5	2.5	clear, calm	nil	0	-1460	Heating and rising waterlevels	nd	1420
	Fri 21-05-99	1255	44.7	2.5	clear, calm	nil	0	-1620	No changes?	2220	nd
	Mon 01-11-99	1425	42.6	2.1	clear, calm	nil	0	-2300	Waterlevel falling; cooling?	nd	1250
	Wed 22-12-99	1243	42.8	2	clear, calm	nil	0	-2100	No changes	nd	1100
	Wed 23-02-00	1423	43.4	2.2	clear, calm	nil	0	-1850	No apparent changes	nd	890
	Wed 31-05-00	1240	41.4	2.3	clear, calm	nil	0	-2050	No changes	nd	910
	Wed 20-09-00	1310	40.1	2.5	clear, calm			-2580	No changes		930
	Mon 20-11-00	1353	40.9	2.8	clear, calm	nil	0	-1750	Waterlevel has risen suddenly	985*	660
	Sun 25-02-01	1520	40.1	2.3	clear and calm	nil	0	-1460	No changes	760*	510
	Mon 25-06-01	1517	43.7	3.2	clear and calm	nil	0	-1420	Pool in cave to west side	1780	1190*
	Wed 14-11-01	1535	40.2	2.6	clear and calm	nil	0	-1240	No changes	1270	850*
	Wed 19-12-01	1450	42.2	2.9	clear, colourless	nil	0	-1300	No changes	1620	1085*

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Mon 18-02-02	1341	42.2	2.9	Clear, colourless, no odour	nil	0	-1110	Very high waterlevel	1930	1293*
	Wed 22-05-02	1248	39.7	2.8	clear and calm	nil	0	-1270	No changes; WL is from Fe line	nd	
	Mon 21-10-02	1315	40.1	2.6	clear, colourless and calm	nil	0	-1940	WL fallen; no odours or convection	nd	
	Fri 15-11-02	920	39.8	2.8	clear, colourless	nil	0	-1940	No changes; too dark for photo	nd	nd
	Mon 17-03-03	1125	39.4	3.2	clear	nil	0	-2070	WL measured from top of iron staining		
	Wed 16-04-03	1205	38	nd	clear	nil	0	-2330			
	Tue 30-09-03	1625	38.7	3.2	clear	calm	0	-2525		2260	1800
	Wed 05-11-03	1520	40.3	2.6	clear	calm	0	-1850			
	Wed 03-03-04	1150	39.4	2.8	clear	calm	0	-1740	Water levels all from top of iron staining		
	Mon 17-05-04	1155	40.3	3.1	clear	calm	0	-1380			
	Wed 15-09-04	1445	39.4	2.3	clear, no convection	calm	0	-1880	Fresh rockfall in pool; 7 rocks <40 litre each		
	Fri 19-11-04	1440	38.7	2.7	clear, no convection	calm	0	-1060	lots of new boardwalk between Palette & cave		
	Fri 18-02-05	1225	39.8	3.1	clear, no convection	calm	0	-1180	Bubbling upflow at west edge was 62.9 deg. C		
	Tue 10-05-05	1510	41.2	<4.0	clear, no convection	calm	0	-1910	photograph; no changes	1690	
	Apr-07	1416	39.4	2.5	clear, no convection	calm	0	-2190	no changes apparent	2050	
	Jun-07	nd	39		clear, green colour			WL +1.5 m			
	Jan-08	nd	40		clear, green colour						
	Mar-08	nd	39.8	nd	green colour,	calm	0		Yellow crystals present 1.5m above pool		
	Jun-08	nd	38.5	nd	Green colour; steaming	calm	0	WL+1.5m	Pool steaming & minor bubbling audible		
	Sep-08	nd	37.7	nd	clear, green colour	calm	0	WL+1.5m	Water temp has decreased since June 2008		
	Feb-09	nd	37.5	nd	clear, green colour	calm	0	WL+1.5m	Water temp continues to decrease since Sept 08		
	Apr-09	nd	37.1	nd	Green, clear colour	calm	0	WL+1.5m	The cave above the pool is lined with yellow crystals		
	Jun-09	nd	33.9	nd	Green, clear colour	calm	0	WL+1.5m	Moderate gas discharge is evident, & a very active pool could be heard		
Note	The water level has been gauged by the distance of the pool water from the prominent large rock at the front of the pool, thus a water level of +1.5m means that the water level was 1.5m in front of the large rock front of the pool										
Elephant Rock	Apr-07	nd	86	nd			0	0	0	Location : E2784752 N6298494;	
	Jun-07	nd	86	nd			0	0	0		
	Jan-08	nd	97	nd			0	0	0		
	Mar-08	nd	98.2	nd	Moderate steam discharge		0	0	0	Moderate H2S smell; steaming grnd altered to red clay	
	Jun-08	nd	91	nd	Moderate steam discharge		0	0	0	Fumarole vigorously discharging steam; no H2S smell	
	Sep-08	nd	97	nd	Steam temperature 97		0	0	0	No hydrogen sulfide smell	
	Feb-09	nd	88.5	nd	Steaming, active		0	0	0	Data logger retrieved; steaming ground with H2S smell	
	Apr-09	nd	86.2	nd	Steaming, active	nd	nd	nd	nd	Areas of steaming ground occurring adjacent to the	
	Jun-09	nd	87.1	nd	Steaming, active	nd	nd	nd	nd	Data logger was deployed at this feature; minor H2S smelt	
Steaming ground	Apr-07	nd	99	nd			0	0	0	Location: E2784765 N6298478	
	Jun-07	nd	99	nd			0	0	0	L-shaped area of steaming ground beside boardwalk	
	Jan-08	nd	58-92	nd			0	0	0		
	Mar-08	nd	99.7	nd	No water present,		0	0	0	No H2S smell; vegetation dead.	
	Jun-08	nd	nd	nd	Feature remains dry		0	0	0	No H2S but orange moss surrounding feature	
	Sep-08	nd	77	nd	No water present,		0	0	0	Minor hydrogen sulfide smell;	
	Feb-09	nd	60-72.7	nd	No H2S smell		0	0	0	Now only 1 vent is active; steaming less than sept	
	Apr-09	nd	99.8	nd	No water present,	nd	nd	nd	nd	None of the vents are none steaming	
	Jun-09	nd	102.4	nd	No water present,	nd	nd	nd	nd	Abundant orange moss present indicating H2S	
Fumarole to left of boardwalk	Apr-07	nd	71	nd						Location; E2784766 N 6298446	

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL = mm below overflow	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Jun-07	nd	71	nd							
	Jan-08	nd	61	nd					Location between the N&Spools: E2784774 N6298443		
	Mar-08	nd		nd	Increasing in size	0	0	0	~1m wide x 1.3m long; undercuts the surface		
	Jun-08	nd	92.1	nd	Vegetation dying; steaming	0	0	0	Feature continues to undercut the surface		
	Sep-08	nd	nd	nd	No water present	0	0	0	Feature undercutting surface; 0.6m depth		
	Feb-09	nd	47.1	nd	Steaming, active	nd	0	0	Only 300mm between edge of fumarole & path		
	Apr-09	nd	41.5	nd	Steaming, active	nd	0	0	Minimal moss growth on the vent mouth		
	Jun-09	nd	32.1	nd	Steaming, active	nd	0	0	Steam temperature has decreased since April 09		
							0	0			
Pools along boardwalk beside Artists Palette											
Northern pool											
	Apr-07	nd	62	nd							
	Jun-07	nd	62	nd				WL 1 m			
	Jan-08	nd	64	nd							
	Mar-08	nd	82.4	nd	Clear color	nd	nd	WL-1.5m	Intermittent gas discharge present in pool		
	Jun-08	nd	73	nd	Murky colour	nil	no flow	WL-1.2m	Pool walls drying, cracking & slumping into pool		
	Sep-08	nd	77.2	nd	Clear,	nil	no flow	WL-2m	nd		
	Feb-09	nd	80.6	nd	Murky, blue/grey colour	nil	no flow	WL-1.5m	The water level of this pool has increased since Sept 08		
	Apr-09	nd	94.1	nd	Murky, blue/grey colour	nd	no flow	WL -2m	no flow occurred between the artists palette pool and		
	Jun-09	nd	99.7	nd	Clear color	nd	no flow	WL -2m	Moderate gas discharge was evident flowing into this pool		
Southern pool											
	Apr-07	nd	67	nd							
	Jun-07	nd	67	nd				WL 1 m			
	Jan-08	nd	65	nd							
	Mar-08	nd	80.4	nd	Muddy grey, bubbling	nd	nd	WL-1.5m	Many zones of vigorous bubbling visible		
	Jun-08	nd	80	nd	Grey colour	nil	no flow	WL-1.2m	Zone of constant gas discharge at N end		
	Sep-08	nd	77.6	nd	grey, slightly murky	nil	no flow	WL-1.5m	nd		
	Feb-09	nd	83.1	nd	Murky, blue/grey colour	nil	no flow	WL-1.5m	zone of constant gas upwelling visible		
	Apr-09	nd	81.6	nd	Murky, blue/grey colour	nd	nd	WL-2m	The temperature has decreased since Feb 09		
	Jun-09	nd	80.4	nd	Slightly grey colour	nd	nd	WL-2m	Minor gas was evident discharging from this pool		

Reporoa

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:
Golden Springs:									
Golden Springs centre No. 1	Fri 10-03-95		43.2	nd	fawny turbid	const. weak	18		Used by locals for bathing
	Fri 21-04-95	1107	42.3	6.7	milky turbid, vis~0.2m	10-20mmh	~20?		
	Sat 10-06-95	1712	41.5	6	milky turbid	const. <20mm	~20?		
	Wed 17-01-96	1300	43.2	6.4	fawny turbid, vis.~0.5m	const.<20mm	~20?	WLtree-655	WL ~0.4m higher recently; deadveg
	Fri 17-05-96	1310	40.7	5.9	grey turbid, vis.~0.3m	const<20mm	~20?	WL-535	New wooden platforms and ladders
	Fri 11-04-03	1238	41.7	7	fawny turbid	const <20mm	~10?		2798960mE 6298958mN
Golden Springs west No. 2	Fri 10-03-95		49.6	nd	milky lime turbidity	strong, 50mm	~60		Strong fizzy rolling ebullition
	Fri 21-04-95	1045	49.2	5.9	milky turbid, vis. 0.2m	firm, 20-50mm	~60?		.Strong rolling ebulln; orange flocc.
	Sat 10-06-95	1705	49.4	5.8	milky green turbid	const. <50mm	~60?	WLroot-242	Strong rolling fizzy ebullition
	Wed 17-01-96	1317	49	5.9	fawny turbid, vis.~0.5m	const. <50mm	~60?	WL+lwr-592	WL recently +0.3m; orangy algae
	Fri 17-05-96	1320	48.5	6.1	fawny, vis.~0.3m	const.~50mm	~60?	WL+lwr-625	No changes?
	Fri 11-04-03	1205	48.9	6.2	fawny	const ~50mm	~20 lps		2798921mE 6299020mN
Golden Springs east No. 3	Fri 10-03-95		41.6	nd	clear, vis. >2m	const. gentle	~15-20?		Rises in bed of stream
	Fri 21-04-95	1115	41	6.5	vis>2m; slight milky	10-20mmh			
	Sat 10-06-95	1722	40	5.5	vis.>2m; sl. limey	const.<50mm			Once best bath until roadworks"
	Wed 17-01-96	1330	41	6.8	vis.>2m; sl. milky	const<10mmh	~15-20?		Surface algal mat around rim
	Fri 17-05-96	1338	40.2	5.8	VIS.~0.3m; milky green	const<10mm	~15-20?		Blackberries overwhelming raupo
Butcher's Pool:	Fri 16-06-95	925	42.4	5.9	vis.>2m; no colour	const. bubbles	~5 lps		No algae; clean and tidy
	Sun 02-07-95	1545	41.4	5.8	vis.<0.1m; milky	const. bubbles	~7?		All pool now turbid milky green
	Wed 04-10-95	1245	37.5	6	clear, vis.>1.5m	const.<20mm h	~10-15?		Clear again; grass clippings in pool
	Tue 20-02-96	1100	36.3	6.7	vis~1.5m; sl. milky	const<20mm	~22		Gate out to clean? WL-430 of normal
	Fri 17-05-96	1245	38	5.9	vis~1.5m; milky green	const<20mm	~5		Road graded and new surface; tidy
	Fri 11-04-03	1340	39.5	6.7	vis ~1.5m, milky green	const <25mm	15-20 lps		New toilet bdlg and pool walls
South Pool	Jan-08	nd	39	nd	Tan colour, muddy	nd	~50lps	WL	Feature fed by 0.5m high cascading waterfall
Located at: E2798774 N6298395	Feb-09	nd	38.4	nd	muddy, tan colour	nd	~40lps	nd	Pool dimensions: 4m long x 3m wide
North pool	Jan-08	nd	41	nd	Greenish-grey colour	calm	~30lps	WL high	Surrounding vegetation healthy
Location E2798840 N6298535	Feb-09	nd	40.4	nd	Blue green, murky	calm	~30lps	WL high	Surrounding vegetation healthy

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:
Golden springs feature 3	Jan-08	nd	42.5	nd	Golden brown, muddy	Upwelling	nd	nd	Zones of upwelling in centre of pool;
Location: E2798940 N6298927									
	Feb-09	nd	42.6	nd	Murky yellow clour	nd	nd	bd	zones of vigorous gas discharge&upwelling
Golden springs feature 4	Jan-08	nd		nd	Murky green colour	nil	nd	nd	Colour of pool changed since Sept 07
Location: E2798921 N6299017	Feb-09	nd	48.3	nd	pale green & murky	nil	~30lps	nd	numerous bubbles of gas discharging from pool
Opaheke: (Opataketake)									
Southeast spring	Sun 23-04-95	1210	91.7	7.1	clear, vis.>3m	<10mm const.	~7		Pool in pasture, peaty margins
	Fri 16-06-95	1235	91.7	7.4	clear	const.<20mm	~7		ADC photos; no changes
	Tue 20-02-96	950	93.4	7.4	clear	const20-30mm	~5		No changes
	Tue 28-05-96	1003	93	7.2	clear, vis.>3m	const.<50mm	~5 lps		no changes; photos
	Mon 22-02-99	1105	92.6	7.3	clear, vis.>3m	const.<50mm	~3-4		New fence; new trench; photos
	Mon 28-02-00	1000	94.2	7.8	clear, occas. bubbles	occas <50mm	~3		no changes visible; GPS survey
	Fri 01-03-02	1000	92.7	8.1	clear, const bubbling	~25mm high	~5 lps	nd	New channel dug wider & deeper
	Thur 06-03-03	1040	93.8	8	clear	calm	~1	nd	
	Fri 11-04-03	1520	93.4	7.5	clear	ebulln <10mm	~3		
	Tue 02-03-04	930	91.7	9.1	clear, strong convectn	ebulln <75mm	3.5		Photo; noisy blg small hole at W bank
	Thur 09-06-05	1330	93.4	8.1	clear, strong convectn	ebulln <50mmh	3		photos; silica deposition around rim
	Thur 29/09/05	1530	96.5	8.1	clear, convecting	ebulln <0.1mh	~6		sample to Hill Lab; 2800943E, 6304321N
Southwest spring	Sun 23-04-95	1220	88	7.2	clear, vis. >2m	nil	0	WLs-0	Black muddy walls; WL at overflow
	Fri 16-06-95	1242	90.2	7.1	dark grey turbid	const.<20mm	0-0.5 lps	WLs-0/+10	Oscill. WL over 3 minute cycle
	Tue 20-02-96	1000	88.2	7.1	dark brown, vis~0.5m	const. 10-25	0-0.2	WL-15/+10	Oscill. WL, 4 minute cycle
	Tue 28-05-96	1010	89.5	7.2	dark/black muds	~5-30mm	0-0.5 lps	WL-25/+15	oscill. WL, ~3 minute cycle; photos
	Mon 22-02-99	1112	99.7	nd	dark/black muds	~50-300mm h	0	WLs-400	Oscill. WL ~2 mins; photographs
	Mon 28-02-00	1010	98.7	8	dark brown opaque	~50-250mm h	0		oscillating WL and ebullition
	Fri 01-03-02	1008	94.5	7.6	clear, vis. ~0.5m	~20mm high	0	WL-20/-90	Dark grey sed; dry channel
	Thur 06-03-03	1053	98.1	7.4	brown, vis ~50mm	~0.2m high	0	-230	Cyclical boil and W'L, P ~8 mins.
	Fri 11-04-03	1540	91.2	7.7	clear	<0.1m high	0	-200	Cyclical boil, WL range ~150mm
	Tue 02-03-04	945	92.5	7.5	clear, vis. <0.5m	<50mm high	0 to 0.2	WL-30	Cyclic flows: E 2 mins, P 4 mins Photos
	Thur 09-06-05	1315	91.8	7.5	clear, vis. >1m		0.3 to 0.5	WL +15 +35	cyclic flow no cessation; Period >5 minutes
NW Scalding spring	Sun 23-04-95	1235	88.3	7.4	clear, vis.>3m	occas.bubbles	1		Used to scald animals; ~1yr pines
	Fri 16-06-95	1305	91.6	7.4	clear	const.<20mm	1		
	Tue 20-02-96	1038	89.3	7.6	clear, vis.>2m	const.<10mm	0.5		
	Tue 28-05-96	1130	91.2	7.8	clear, vis.>2m	const.~10mm	2		no changes; photos
	Mon 22-02-99	1035	88.2	7.7	clear, vis. ~2m	occas<25mm	0	WLs-35	Below overflow; channel dry
	Mon 28-02-00	1035	81.7	8.3	clear, vis. ~2m	occas<25mm	0.3		Constant weak flow

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:
	Fri 01-03-02	1040	78.9	8.6	clear, vis. ~2m depth	occas<10mm	0.05		Steady weak flow; bubble swarms
	Thur 06-03-03	1125	76.8	8.4	clear	calm	0.05	50	Weak white sinter rim
	Fri 11-04-03	1620	79.7	8.4	clear	calm	0.1		
	Tue 02-03-04	1035	80.7	8.4	clear, steady bubbles	ebulln <10mm	0.2		Steady weak bubbles
	Thur 09-06-05	1205	80.3	7.8	clear, big bubbles	ebulln <20mm	0.3	WL +75	bubbles in swarms
Earthquake crater (3/87)	Sun 23-04-95	1245	72.4	4.8	muddy black	10-30mmh	0	WLs-0	Edgecumbe EQ HE; firm bubbling
	Fri 16-06-96	1300	75.1	4.8	dark muddy turbid	~50mmh	~0.2 lps		No changes; ADC photos.
	Tue 20-02-96	1030	68.1	4	opaque grey vis<10mm	10-20mm	0	WLs-10	No changes
	Tue 28-05-96	1115	70.8	3.5	opaque muddy, vis.<10	const.<10mm	~0.025 lps	WLs+3mm	no changes; photos
	Mon 22-02-99	1048	77.9	nd	dark muddy turbid	const.<50mm	0	WLs-820	Unsafe to measure; WL dropped
	Mon 28-02-00	1050	81.7	4.7	dark grey opaque	const<50mm	0	WLs-100	close to overflow again
	Fri 01-03-02	1047	81.2	5.2	dark grey muddy	firm ~50mm	0	-480	Firm noisy rolling ebullition
	Thur 06-03-03	1135	nd	nd	dark grey muddy	const ~0.1m h	0	WL-970	Not safe to measure properly
	Fri 11-04-03	1605	74.1	5.1	dark grey opaque	const <20mm	0	WL-400	
	Tue 02-03-04	1043	71.2	3.8	dark brown opaque	const <50mm	0.01	WL+5	Overflowing out E and W sides
	Thur 09-06-05	1140	69.8	3.5	dark grey opaque	const <30mm	<0.01 lps	WL +03	weak overflows west and northeast rims
Opaeke Maori Spring Nth (North Maori Spring)	Tue 20-02-96	1015	nd	nd	clear, const. boiling?	~0.1-0.2mh?	1.5		Clear, raised sinter rim; ~7m dia.
	Tue 28-05-96	1035	96.2	7.3	clear, const. boiling	~0.1mh const.	2	WLo+~25	strong boiling; photos
	Mon 22-02-99	1130	96.4	6.8	clear, const. Boiling	~100mm h	1	WLo+~25	Surrounds all dried out
	Mon 28-02-00	1025	97.2	7.7	clear, const. boiling	~150mm high	1	WLo+~25	no changes? Wet surrounds
	Thur 06-03-03	1108	97	7.7	clear	const <0.3mh	0.7	WL +25	
	Fri 11-04-03	1550	97.1	7.4	clear, strong boiling	const <0.2mh	0.2	30	
	Tue 02-03-04	1015	97.1	7.5	clear, strong boiling	const <0.3mh	1		Photos, including surrounding sinters
	Thur 09-06-05	1223	97.1	7.9	clear, strong boiling	const <0.3mh	1	WL +50	Photos, including surrounding sinters
	Thur 29.09.05	1555	97.5	8.0	clear, strong boiling	const <0.3mh	~2 lps		sample to Hill Lab; 2800900E, 6304611N
Opaeke Maori Spring Sth	Tue 02-03-04	955	90+		clear, steady boiling?	const <0.1mh	0.2		Circular ~5m dia., sinter rims; photos
	Thur 09-06-05	1305	90.6		clear, steady bubbling	const <25mmh	0.2 lps		photos; two cut channels with dams
Loop road									
Main Western Lake	Fri 11-04-03	1415	26.6	3.3	dark green algal water	abdnt <20mm	?		2803580mE 6304456mN (N bank)
Centre Pool	Fri 11-04-03	1425	56.6	4.5	opaque brown water	const ~50mm	0	E bank-350	Oval 15x20m 2803640E 6304568N
Ngapouri station									
East spring	Tue 14-06-05	1015	51.8	6.8	clear, bubbling steady	<10mm high	1 lps		Pool ~6m dia. abundant Fe deposits
Lakelet	Tue 14-06-05	1030	>29.4	6.6	fawny turbid, bubbling	<10mm high	3 lps		Lakelet at SE bay, main upflow

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:
Reporoa	Jun-07		range 53 - 71.4						
	Apr-08	nd	range 53 - 92	nd		nil	nil	WL low	Location of features: E2800900 N6304314
(1) Fumaroles									Feature composed of four small fumaroles
Four fumaroles located at Reporoa									Fumaroles aligned on a 315 degree bearing
									Diameter of fumaroles ranges from 0.1 - 0.6
	Feb-09	nd	Range: 35 - 73.8	nd		nil	nil	nd	Fumarole 5 has slumped in the middle
Feature 2									Location of feature: E2800884 N6304388
Figure 8 shaped pool	Jun-07		95				WL 0.15 m		Feature composed of a figure 8-shaped pool
	Apr-08	nd	96	nd	Clear colour	Upwelling	nil	nd	No hydrogen sulfide gas detected, upwelling
	Feb-09	nd	99.4	nd	murky brown/black	0.1m high	nd	nd	figure 8 shaped pool with vigorous upwelling
	Jun-07		96.2					WL 300 mm	
Feature 3	Apr-08	nd	95	nd	Clear blue colour	nil	~5lps	WL-500mm	Location: E2800959 N6304325
Fenced off, rectangular pool									Pool dimensions: 13 m x 7 m (rectangular)
	Feb-09	nd	94.8	nd	clear blue, steaming	nil	~3lps	nd	white crusting occurred at air-water interface
	Jun-07		nd					WL 1 m	
Feature 4	Apr-08	nd	Bubbling	nd	Grey coloured	nd	nd	WL-1m	Location: E2801252 N6304570
Circular, steep-sided pool									Feature well-fenced and inaccessible
	Feb-09	nd	nd	nd	Base of pool not visible	Not visible	nil	WL-2m	Base of pool not visible but no bubbling heard
Feature 5									
Zone of bare earth, dead vegetation	Jun-07		23-98						several pools
	Apr-08	nd	Area inaccessible	nd	Brown mud pools	nd			Area unstable, hollow ground and inaccessible
	Feb-09	nd	Bubbling	nd	Base of pool not visible	Bubbling	nil	nd	Moderate hydrogen sulfide smelt

Te Kopia Springs

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
Extinct Alkaline Spring	Fri 21-04-95	1527	93.2	3.5	clear, no odours	calm	~5 lps	const. flow	Decaying brown sinters; Fe deposits			In gully west from Scenic Reserve
(or "Acid Spring")	Thu 29-06-95	1220	92.8	3.5	clear, Fe ochre deps.	calm	~5	const. flow	No sinter depositing			
	Fri 09-02-96	1627	89.8	3.3	clear, occas. bubbles	calm	1.5-2 lps	const. flow	No changes			
	Mon 20-05-96	1540	94.7	3.3	clear, occas. bubbles	calm	~2	const. flow	No changes?	1460		
	Mon 09-11-98	1215	76.9	3.5	clear, no bubbles	calm	~2.5 lps	const. flow	Cooled; orangy deposits	1170	530	
	Thu 17-12-98	1225	79.2	3.2	clear, occas. bubbles	<20mm high	~3	const. flow	No changes	835*	560	
	Thu 04-03-99	900	83.8	2.8	clear & calm	calm	~2	const. flow	Cold stream now dry	790*	530	
	Fri 21-05-99	1650	84.9	3	clear & calm	calm	~2	const. flow	Warm flow in stream upstream	910*	610	
	Mon 01-11-99	1540	85.1	3	clear & calm	calm	~1	const. flow	Bank collapse has dammed spring	865*	580	
	Wed 22-12-99	1633	85.6	3.2	clear & calm	no gases	~1-2 lps	const. flow	No changes; same waterlevel.	820*	550	
	Mon 21-02-00	1118	84.5	3	clear & calm	no gases	~0.5	const. flow	No changes	910*	610	
	Mon 29-05-00	1035	74.4	3.3	clear and calm	no bubbles	~0.2	const. flow	No changes apparent		570	
	Sat 23-09-00	1430	85.6	2.8	clear and calm	no bubbles	~1 lps	steady flow	Headward erosion pool enlargement	567*	380	
	Mon 20-11-00	1505	86.2	3.4	clear and calm	no bubbles	~0.1	const. flow	No changes; opossum asleep here	465*	310	
	Sun 25-02-01	1640	77.2	3.3	clear and calm	no bubbles	~0.2	const. flow	Leaking flows thru old sinters to N	1160	777*	
	Fri 22-06-01	1305	83.4	2.8	clear and calm	no bubbles	~1	const. flow	More bank collapse; pool dammed	1430	958*	
	Thur 15-11-01	1005	76.9	3.1	clear, larger pool now	no bubbles	~0.1	steady flow	Bank collapse; pool dammed	1280	858*	
	Tue 01-01-02	1426	86.8	3.4	clear	calm	~0.5	steady flow	D'logger in; brown/black sinters	1480	990*	
	Fri 01-02-02	1250	83.7	3.1	clear, calm	calm	~0.5 lps	steady flow	Datalogger out; new hot seeps	nd		
	Wed 15-05-02	1433	79.7	3.4	clear, calm	calm	~0.02	steady flow	Bank collapse; strm flood scoured	nd		
	Sat 05-10-02	11705	91.2	3	clear	calm	~0.3	steady flow	Photos	nd	nd	
	Mon 18-11-02	1520	87.1	3.2	clear	calm	~0.3	steady flow				
	Thur 06-03-03	1328	81.9	3.3	clear	calm	~0.1	steady flow	Bank collapses have dammed pool			
	Mon 14-04-03	1550	77.7	3.9	clear	calm	~0.1	steady flow	clear water, no odours	881	1900	2790846mE, 6306445mN
	Wed 15-10-03	1220	89.7	3.1	clear	calm	0.5	steady flow	Strong upflow; leakages N to stream			
	Tue 11-11-03	1600	88.5	3.6	clear	calm	0.5	steady flow	Seepage outflow through bank W to stream			
	Wed 03-03-04	1335	92	3.5	clear	calm	1	stable flows	No further changes apparent			
	Tue 18-05-04	1310	89.1	2.9	clear	calm	0.75	steady flow	Bank collapse has raised WL ~100mm			
	Wed 15-09-04	1015	96.1	3.2	clear, noisy bubbling	<0.1 m high	1	steady flow	Further bank collapses, silt infill; WL o'flow -20			
	Fri 05-11-04	1555	97.4		clear, noisy bubbling	<0.1m high	~2 lps	steady flow	now overflowing N bank due to dam formed by bank collapse			
	Thur 10-02-05	1535	92.9	3.3	clear, noisy bubbling	<0.1m high	~2	steady flow	noisy intermittent ebullition up SW wall			
	Thur 05-05-05	1105	81.4	2.8	clear, no small pool	calm	~0.3 lps	weak steady	all infilled with sediments; now pool only ~1m x ~0.5m	890		
Upstream seep in streambed	Wed 15-09-04	1025	89.3	3.5	clear	calm	~0.05	steady flow	Flood scoured; Fe deposits; ~20 m upstream of acid spring			
	Thur 10-02-05	1545	74.3	3.7	clear, calm	calm	~0.5 lps	steady flow	no odours; in streambed			
	Thur 05-05-05	1115	83.1	3.7	clear, no odours	calm	~0.5	steady flow	no deposits; spring in bed of stream channel	725		

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
New spring	Wed 15-09-04	945			clear	calm	~0.1 lps	steady flow	no changes recently			
(Beside track at S end of fenced)	Fri 05-11-04	930	86.3	6.5	clear, no odours	calm	~0.1	steady flow	86.3 oC at source, 64.0oC at base of bank			
EW retirement area	Thur 05-05-05	1025	84.7	6.4	clear, no odours	calm, flowing	~0.1	steady flow	wall spring 84.7; pool at base 64.6 deg. C; photographs	428		
Te Kopia mud geyser	Fri 21-04-95	1545	boiling	nd	grey muddy	const. ~0.5mh	0	WLs-1.70m	No large eruptns; dry surface muds			
	Thu 29-06-95	1230	cold!	nd	Quenched by flooding	calm	0	WLs-0.30m	Flooded and cold; no steam			
	Fri 09-02-96	1620	cold	nd	drowned	calm	~5-10 lps!	WLs+50mm	Quenched; pool overflowing north			
	Mon 20-05-96	1550	warm	nd	weak steaming	const. <20mm	0	WLs-0.15m	Geyser inactive; v. high WL quench			
	Mon 09-11-98	1200	warm	nd	bubbling weakly	const.<50mm	0	WLs-0.1m	Geyser inactive; v. high WL quench			
	Thu 17-12-98	1210	warm	nd	bubbling weakly	const.<50mm	0	WLs+50mm	Geyser inactive; v. high WL quench	nd	nd	
	Thu 04-03-99	830	warm	nd	bubbling weakly	const.<50mm	0	WLs-800	Geyser inactive	nd	nd	
	Fri 21-05-99	1630	warm	nd	bubbling weakly	const.<50mm	0	WLs-1100	Geyser bubbling; no eruptions	nd	nd	
	Mon 01-11-99	1500	boiling	nd	vigorous bubbling	0.5 - 7m high	0	WLs-2500	Fresh mud ejecta over surfaces	nd	nd	
	Mon 21-02-00	1030	boiling	nd	weak boiling	<0.5m high	0	WLs-2500	Dried surface ejectas; no eruptions	nd	nd	
	Mon 29-05-00	1020	boiling		vigorous bubbling	<0.7m high		WLs-2500	Shrubs knocked over; mud ejectas			
	Sat 23-09-00	1410	erupting		fresh mud on shrubs	3-6m high		WL -2m	Eruptns ~2 sec every 1 minute			
	Mon 20-11-00	1430	boiling		vigorous bubbling	<1m high	0	WL -2500	Eruptns past few days; fresh muds			
	Sun 25-02-01	1630	erupting		vigorous bubbling	~5m high	0	WL -3000	Fresh mud ejecta to ~5m radius	nd	nd	
	Fri 22-06-01	1240	steaming		gentle steaming only	<0.1m high	0	WL -3000	No eruptions for many weeks	nd		
	Thur 15-11-01	950	erupting		small frequent E's	1-2m high	0	WL-2.5m	E's weak <2m high			
	Fri 21-12-01	1212	boiling		steady boiling	<1m high	0	WL-2-2.5m	Gentle splashing <1m high			
	Fri 01-02-02	1230	steaming	nd	Bubbling; eruptions	E's ~3m high	0	WL -2.5m	Wet mud up walls, over shrubs	nd		
	Wed 15-05-02	1416	erupting	nd	loud bangs, eruptions	E's ~8m high	0	WL-3m	E's ~3 sec. every ~20 mins.	nd		
	Sat 05-10-02	1638	boiling	nd	constantly boiling	Boiling <0.5mh	0	WL-2.5m	No eruptns for many days; photos	nd	nd	
	Mon 18-11-02	1503	boiling	nd	constantly boiling	<1m high	0	WL-2.5m	No eruptions for many days			
	Thur 06-03-03	1310	boiling	nd	constant boiling	1-10m high?	0	WL-3m	Erupting; mud to ~30m distance			
	Wed 15-10-03	1205	boiling		constant splashes	<1m high	0	WL - 2.2m	No big eruptions for many weeks			
	Tue 11-11-03	1645	boiling		constantly splashing	<1m high	0	WL-2.5m	Has erupted over surface since last visit			
	Wed 03-03-04	1305	bubbling		calm	<0.1m high	0	WL-1m	No eruptions; flooded			
	Tue 18-05-04	1255	warm		calm	0	0	WL-1m	No eruptions since last visit; inactive; photo			
	Wed 15-09-04	1035	cool	nd	calm, quenched	0	0	WL-0.2 m	Main pool WL-0.2m, quenched; new hot spots N fence			
	Wed 05-11-04	1635	cold		calm, quenched	0	0	WL-700	Flooded and cold; no steam			
	Thur 05-05-05	1250	boiling		steady boiling splashing	<0.5m high	0	WL-1.8m	no eruptions evident but steady boiling			
Mud geyser	Apr-07	nd	nd	nd					Location: E2790866 N6306251			

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
	Jun-07	nd	nd	nd								
	Jan-08	nd	nd	nd		nd	nil	WL low	Surrounding vegetation covered in mud suggesting recent E's			
	Mar-08	nd	Inaccessible	nd	Thick mud	nil	nd	WL-5m	Intense bursts of steam discharging every 5mins, ~1min duration			
	Jun-08	nd	Bubbling	nd	Muddy, thick	nil	nd	WL very low	Vegetation not covered in mud suggesting no E's; H2S smelt			
	Sep-08	nd		nd			nd					
	Feb-09	nd	nd	nd	Muddy	nil	nd	WL low	No mud coating trees to the S, suggesting no recent eruptions			
	Apr-09	nd	Inaccessible	nd	Thick, pale brown mud	Erupting prior to visit	nd	WL low	Feature has recently erupted, as new mud coating surrounding trees			
	Jun-09	nd	Inaccessible	nd	Thick pale brown mud	bubbling	nd	WL low	Audible, explosive bubbling present within feature			
Murphy's Triple Tomos (N, Centre & S)	Thu 29-06-95	1245	boiling	nd	dark grey muds	~1mh	0	WLs-2.0m	N vent; SW vent ~1mh & WL-3m			
	Mon 20-05-96	1530	warm	nd	N hole cold & dry!	calm	0	WLs-3m?	N vent; SW vent <0.3mh weak			
	Mon 09-11-98	1250	boiling	nd	Both holes boiling	const~0.3mh	0	WLs-2m?	Both boiling steady & strongly			
	Thu 17-12-98	1237	boiling	nd	N hole bubbling weakly	const~0.3mh	0	WLs-3m?	SW hole bubbling; N hole cool	nd	nd	
	Thu 04-03-99	915	boiling	nd	N hole calm; S boiling	const~0.3mh	0	WLs-3m?	N hole dry/calm; SW mud splashes	nd	nd	
	Fri 21-05-99	1710	boiling	nd	Both boiling	const~0.3mh	0	WLs-3m?	Both vents bubbling	nd	nd	
	Mon 21-02-00	1145	bubbling		Both gentle bubbling	<0.3m high	0	WLs-3m?	Both weak bubbling			
	Mon 29-05-00	1045	bubbling		Both gentle bubbling	<0.3m high		WL -3m	Both gentle bubbling			
	Mon 20-11-00	1520	bubbling		Gentle weak bubbling	<0.1m high	0	WL -3m	Both very subdued bubbling	nd		
	Sun 25-02-01	1655	inactive		Very weakly steaming	calm	0	WL -3m	Very weak steaming	nd	nd	
	Tue 22-06-01	1320	inactive		Very weakly steaming	calm	0	WL -3m	Cool and calm; very diminished			
	Fri 21-12-01	1245	cool		No steam or bubbling	calm	0	WL-3m	Cool, calm, no steam, overgrowing			
	Fri 01-02-02	1310	inactive	nd	calm, no steaming	calm	0	WL -3m	Dead grass around 5-10m wide	nd		
	Sat 05-10-02	1655	boiling	nd	constant boiling	<1 m high	0	WL-3m	Mud splashes to ~3m; photos	nd	nd	
	Mon 18-11-02	1535	boiling	nd	constant noisy boiling	<1m high	0	WL-3m	Fresh mud ejecta over surfaces			
	Wed 15-10-03	1230	both boiling		strong noisy boiling	both <1m high	0	N-2m, S-6m	Recent mudflow out of N tomo to 5m			
	Tue 11-11-03	1635	both boiling		strong noisy boiling	both~1m high	0	N-3m, S-6m	No surface ejecta			
	Wed 03-03-04	1350	both boiling		strong noisy boiling	both 1-2m high	0		No surface ejecta			
	Tue 18-05-04	1315	both boiling		strong noisy boiling	both <2m high	0	N-3m, S-6m	No surface ejecta			
	Wed 15-09-04	940	all boiling		strong noisy boiling	N 1.5m, M <1m	0	N-3m, M-4m	N: mud to ~2m distance over top; 10 trees fallen over			
	Fri 05-11-04	950	all boiling		all strong noisy boiling	all <1m high	0		N vent has recently overflowed mud <3m downslope			
	Thur 05-05-05	1035	various		S blg; centre & N	Sth boiling	0	M-5m, N-	photographs; middle has water,			

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
					cold	<0.5m high		3m	cold; Nth has dry cold mud			
Murphy's New Blowout	Mon 20-05-96	1533	boiling	nd	grey mud, weak splash	const.<0.2mh	0	WLs-3m?	No eruptions to surface; edges dry			
	Mon 09-11-98	1255	calm, cold	nd	calm	nil	0	WLs-2.5m	Dry cold and calm; overgrown			
	Thu 17-12-98	1240	calm, cold	nd	calm	nil	0	WLs-3m?	Dry cold and calm; overgrown	nd	nd	
	Thu 04-03-99	920	hot	nd	calm	nil	0	WLs-3m?	Hot and steaming	nd	nd	
	Fri 21-05-99	1715	hot	nd	calm	nil	0	WLs-3m?	Hot and steaming	nd	nd	
	Mon 20-11-00	1520	warm		calm, inactive	nil	0		Weak steaming, margins overgrown			
	Sun 25-02-01	1700	warm		calm, inactive	nil	0	WL -3m	Inactive, calm and cool	nd	nd	
	Tue 22-06-01	1330	warm		calm, inactive	nil	0	WL -3m	Inactive and overgrowing now	nd		
	Tue 11-11-03	1645	boiling		constant boiling, noisy	<2m high	0	WL-3m	Recent ejecta to 4-5m high			
	Tue 18-05-04	1320	boiling		constant boiling, noisy	<4m high	0	WL-3m	Very vigorous, noisy; increased hot ground			
Murphy's Hot Ground	Mon 21-02-00	1135	warm		weakening heatflows?				Cooling slightly? Barren ~20x15m			
(planted by Env. Waikato)	Mon 29-05-00	1050	warm		cooling further				Grasses growing around margins			
	Mon 20-11-00	1525	warm		progressive cooling		0		Grasses invading; barren ~10x15m			
	Sun 25-02-01	1705	warm		salt halo; bare ground	nil	0		Bare area and salt crusts ~10m dia	nd	nd	
	Fri 22-06-01	1335	warm		small salt halo	nil	0		Bare area and salts ~5m diameter			
	Sat 05-10-02	1700	hot	nd	steaming, barren	nil	0	nd	Resumed wider heating; photos	nd	nd	
	Mon 18-11-02	1540	very hot	nd	steaming and bare	nil	0	nd	Increased heating and grass dying			
	Wed 15-10-03	1240	boiling?		hissing steam, barren		0		Incr. to ~30 x 15m N-S; newly dead/fallen trees			
	Tue 11-11-03	1650	steaming		hissing steam, salts		0		Photos			
	Tue 18-05-04	1320	calm		no steam or salts		0		But greatly heated ~30x20m around New Tomo			
	Thur 05-05-05	1030	calm		warm, no steaming		0		barren area; recent eucalyptus trees blown over			
Warm ground in pines	Mon 14-04-03	1445	nd	nd	steaming dead grass	nil	0	nd	Circular area ~10m dia. ~1 km W of Murphy's house			27911104mE, 6307343mN by GPS
	Fri 05-11-04	1005	74.4	dry ground	steaming dead grass				~15m diameter dead grass within pines			2791115mE, 6307206mN, 321m
West Gully Spring Wa	Mon 14-04-03	1500	53.7	9.1	clear, no odours	nil	~0.5 lps	nd	pH seems very wrong; Waikato University glass electrode	498	320	2790853mE, 6307343mN
	Fri 05-11-04	1535	63.7		clear, no odours		~1					311m, 2790859mE, 6307356mN

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
West Gully Spring Wb	Mon 14-04-03	1515	59.2	7.9	clear, no odours	nil	~0.5	nd	algal sinters on sloping hillside	531	340	2790874mE, 6307322mN
	Fri 05-11-04	1545	64		clear, no odours				weak silica sinters intergrown on abundant algae			
Te Kopia fumarole	Fri 05-11-04	1610	>110 ?	dry steam	roaring noise fluctuates				Largest fumarole E of scarp; photos & video			
	Apr-07	nd	nd	nd					stream nearby slight pale grey turbid, pH 3.7, ~4-5 lps			2790777mE, 6304669mN
	Jun-07	nd	nd	nd								
	Jan-08	nd	steaming	nd	Visible steam clouds	not visible	Inaccessible	Inaccessible	Cycles of intense steam puffs observed every 1 min			
	Mar-08	nd	not visible	nd	Feature not visible	not visible	nd	not visible	Feature not visible due to heavy fog over Paeroa fault Scarp			
	Jun-08	nd	nd	nd	Feature not visible	not visible	nd	not visible	Not visible due to heavy fog over Paeroa fault scarp			
	Sep-08	nd		nd				nd				
	Feb-09	nd	active	nd	Visible steam clouds	not visible	nd	not visible	Intense steam clouds lasting for 6 minute durations			
	Apr-09	nd		nd	Feature not visible	not visible	nd	not visible	Feature not visible due to heavy mist			
	Jun-09	nd	active	nd	Visible steam clouds	nd	nd	nd	Small eruptions evident with 1 min steam clouds & 30secs of no activity			
	Old Extinct Hot Spring	Thur 10-02-05	1030	95.2	dry steam					Spring vent ~10m x ~20m x ~4m deep; massive sinters		
Murphy's Acid Spring	Apr-07	nd	nd	nd					Location: ~70m from Te Kopia Rd at E2790857 N6306434			
	Feb-09	nd	nd	nd	Feature inaccessible	nd	nd	nd	Feature inaccessible due to steep gully & impenetrable vegetation			
Mud Pool	Apr-07	nd	nd	nd			nd		Location: E2790923 N6306310			
	Jun-07	nd	nd	nd			nd					
	Jan-08	nd	nd	nd			nd					
	Mar-08	nd	steaming	nd	Brown, muddy	1m high	nd	WL-3/4m	E's occurring in cyclical bursts, no H2S smell present			
	Jun-08	nd	nd	nd			nd					
	Sep-08	nd	nd	nd			nd					
	Feb-09	nd	steaming	nd	pale grey, murky, active	0.3m and 0.5m	nd	WL-1.5m	Cyclical bursts of intense steam & numerous gas bubbles visible			
Mud Volcano	Apr-07	nd	nd	nd		nil	0		Location: E2790923 N6306310			
	Jun-07	nd	nd	nd		nil	0					
	Jan-08	nd	nd	nd	No water present	nil	0	Dry	Considerable hydrogen sulfide smelt in area			
	Mar-08	nd	nd	nd	No gas discharge visible	nil	0		Concentric rim formed suggesting gas gas discharge			
	Jun-08	nd	steaming	nd	steaming	nil	0	level	Feature dimensions: ~3.5m x 4m wide x 2m deep			
	Sep-08	nd	nd	nd		nil	0					
	Feb-09	nd	steaming	nd	steaming	nil	0	level	Vent walls coated with sulfur			

Site name:	Day and date:	Time, hrs: (NZST)	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm (cond. X 0.67=ppm):	GPS Grid Reference (NZMS-260 Grid):
					continuously				crystals			
	Apr-09	nd	steaming	nd	steaming, dry	nd		Dry	The vent has altered to a circular shape, with continuous steam flow			
	Jun-09	nd	steaming	nd	steaming, active	bubbling		WL low	Feature was highly active, with steam & bubbling mud			
Mud Pool	Apr-07	nd	nd	nd			0		Location: E2790866 N6306251			
	Jun-07	nd	nd	nd			0					
	Jan-08	nd	nd	nd	nd	nd	0	WL- 3m				
	Mar-08	nd	Bubbling	nd	Brown mud	0.1 m high	0	WL- 3 m	Explosive cycles evident in which mud was thrown 0.1 m high			
	Jun-08	nd	steaming	nd	Muddy, steaming intensely	0.5-1m high	0	not visible	Feature steaming intensely & erupting; minor H2S present			
	Sep-08	nd	nd	nd			0					
	Feb-09	nd	85.3	nd	Brown, murky	nil	0	WL low	Numerous gas bubbles present within pool;			
	Apr-09	nd	nd	nd	Brown, murky	nd	0	WL low	Numerous gas bubbles covering pool surface			
	Jun-09	nd	nd	nd	pale grey	nd	0	WL very low	Numerous gas bubbles in pool			
Small mud Pool/fumarole	Apr-07	nd	nd	nd					Location: 3m S of main geyser: E2790858 N6306249			
	Jun-07	nd	nd	nd								
	Jan-08	nd	99.3	nd	Mud pool dried into fumarole	nd	nd	Dry	Feature has dried to a fumarole with dimensions 1.8 m x 1.2 m			
	Mar-08	nd	nd	nd								
	Jun-08	nd	nd	nd								
	Sep-08	nd	nd	nd								
	Feb-09	nd	66.4	nd		nil	nd	Dry	The small mud pool has now developed into a steaming fumarole			
	Apr-09	nd	99.5	nd	No water present	nil	nd	Dry	The temperature has risen significantly since Feb 09			
	Jun-09	nd	84 - 100.3	nd	No water present	nil	nd	Dry	steaming but dry			

Tauhara

Site name:	Day and date:	Time, NZST:	Temp. oC:	pH:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm: (Cond x 0.67=ppm)	Colour and clarity:	W'Level, o'flow:	Flow, lps:	Comments:
Waipahihi Stream at Lake Taupo	Thur 01-05-03	1250	45.6	8.3	2090	1300	clear		1.5	Abundant green algae
Waipahihi Source	Wed 27-09-00	1230	60.2	6.8	1000*	670	clear and calm, convecting		0.7	Dug out for HX; photograph
Spring, De Bretts	Mon 20-11-00	1210	60.1	6.6	1045*	700	clear, calm; HX coil in pool		1	Dug out to take heat exchanger (HX)
	Mon 26-02-01	1402	65.1	6.4	2330	1560*	clear and calm; no change		0.5	No change
	Thur 24-05-01	1450	60.8	5.8	2440	1635*	clear and calm, convecting		0.3	Heat exchanger in place; photograph

Site name:	Day and date:	Time, NZST:	Temp. oC:	pH:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	Colour and clarity:	W'Level, o'flow:	Flow, lps:	Comments:
	Thur 25-10-01	1225	65.3	6.3	2480	1662*	clear, calm; HX coil in pool		0.3	Pool recently dug out
	Tue 18-12-01	1423	65.6	6.4	2270	1521*	clear and calm		0.5	No algae in main pool
	Mon 25-02-02	1255	66.1	6.4	nd		clear and calm		0.2	HX coil in use
	Sat 18-05-02	1725	62.8	6.6	nd		clear, no colour		0.2	HX coil in use; no surface algae
	Sat 05-10-02	1330	64.6	6.7	nd	nd	clear and calm		0.3	Heat exchanger in place; photograph
	Tue 12-11-02	1215	61.4	6.4	nd		clear and calm		0.3	Heat exchanger in pool
	Mon 17-02-03	1200	62.9	6.8	nd	nd	clear, calm		0.2	Weak sinter rim; algae
	Thur 01-05-03	1302	63.5	8.1	2280	1300	clear and calm		0.2	
	Tue 07-10-03	1155	63.9	6.6			clear and calm		0.05	Pool recently dug out for HX coil benefit
	Tue 11-11-03	1125	64.3	6.3			clear and calm		0.05	Photo
	Mon 23-02-04	1205	60.8	6.8			clear and calm, no algae		0.02	Pool recently dug out under HX coil
	Wed 12-05-04	1430	63.2	6.8			clear and calm, no algae		0.1	Photo; pool recently dug out for HX coil
	Mon 20-09-04	1235	68.2	6.5			clear and calm, no algae		0.1	HX coil in pool
	Wed 10-11-04	1330	67.9	6.7			clear and calm		0.15	GPS 397m, 2779878mE, 6273258mN, photographs
	Tue 15-02-05	1411	75.5		1830		clear and calm		-0.1 lps	
	Thur 26-05-05	1425	68.1	6.3	2070		clear and calm		0.1	weak SiO2 deposition; no algae
	Apr-07	nd	nd	nd	nd	nd				Location: E2779885 N6273260
	Jun-07	nd	nd	nd	nd	nd				
	Jan-08	nd	74	nd	nd	nd	Clear colour	nd	-0.1 lps	Flow decreased since Sept 07
	Mar-08	nd	74	nd	nd	nd	Clear colour	nd	-0.2lps	Entire pool encrusted with white, rocky rim
	Jun-08	nd	63.7	nd	nd	nd	Clear colour, steaming	WL-0.02m		Stream side of pool collapsed, water flowing into stream
	Sep-08	nd	71.3	nd	nd	nd	clear		-0.2lps	Water flowing into adjacent creek
	Feb-09	nd	70.5	nd	nd	nd	clear	nd	-10mlps	access to pool becoming difficult due to blackberries
Top Stream at Weir (Waipahihi Stream)	Tue 12-11-02	1235	nd	nd	nd		clear		0.7	About 40m downstream of Top Spring
	Tue 07-10-03	1200	64.6				clear		0.3	90 deg.V 225mm: top -155mm to water
	Tue 11-11-03	1139	63.5	6.9			clear and calm		0.3	V-157mm
	Mon 23-02-04	1210	64.4	7.6			clear and calm		0.4	V-157mm
	Wed 12-05-04	1437	63.1	7.3			clear and calm		0.4	GPS 2779833mE, 6273245mN, 414m asl
	Mon 20-09-04	1240	62.7	7.1			clear and calm		0.7	V-176 in all new flume V 90o, 245mm deep
	Wed 10/11/04	1343	64.2	7.3			clear and calm		0.8	V-160, GPS 403m, 2779837mE, 6273252mN
	Tue 15-02-05	1403	67.5		1930		clear and calm		~ 1 lps	V-160
	Thur 26-05-05	1433	62.8	6.7	1740		clear and calm		1.5	V-158
AC Baths Weir	Wed 27-09-00	1140	39.3	6.8	865*	580	clear and calm		-0.5	Tree fallen across dam
	Mon 20-11-00	1230	54.1	7.2	955*	640	clear, taking well outflow	-32	0	Pool behind concrete dam
	Mon 26-02-01	1420	75.1	7.2	2460	1650*		15	~1 lps	Overflowing over weir
	Thur 24-05-01	1520	46.9	7.1	1480	990*	clear, photos	-50	~0.1	Photos
	Thur 25-10-01	1305	51.1	7.7	1650	1106*	clear, no odours	-115	0	No outflow; work on swim pools leaks!
	Tue 18-12-01	1552	53.7	7.3	1720	1152*	clear, no odours	-77	~0.3	No changes apparent
	Mon 25-02-02	1335	68.8	7.8	nd		clear	-72	~0.5	Flowing over weir
	Sat 18-05-02	1433	61.4	7.1	nd		clear, no colour	-82	~0.3 lps	Flow over weir; Pools shut; well flowing
	Sat 05-10-02	1420	71.4	7.8	nd	nd	clear,	-78	~2-3 lps	Photo
	Tue 12-11-02	1315	73.4	7.4	nd		clear		~1	AC Baths refurbishment underway
	Mon 17-02-03	1255	63.5	7.1	nd	nd	clear	-91	~0.5	Outflow from Baths well

Site name:	Day and date:	Time, NZST:	Temp. oC:	pH:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	Colour and clarity:	W'Level, o'flow:	Flow, lps:	Comments:
	Thur 01-05-03	1416	40.6	7.7	1550	1000	clear			2779335mE 6276114mN
	Tue 11-11-03	1225	29.9	7.6			clear and calm	WL-280	0	Photo
	Mon 23-02-04	1245					clear and calm	WL-300	0	Abundant dark green bottom algae
	Thur 26-05-05	1515					dry			
Kathleen Spring at Weir	Wed 27-09-00	1140								Not measured
	Mon 20-11-00	1240	31.4	6	550*	370	clear, green algae	V -462	0	Clear & calm, mosquito larvae
	Mon 26-02-01	1432	36.3	6.1	730	490*	Ditto; no flows at all	V -500	0	No change
	Thur 24-05-01	1535	32.8	5.8	740	495*	clear and calm; algae	V -590	0	black bottom algae; mosquito larvae
	Thur 25-10-01	1250	30.8	6.1	1040	697*	clear, no algae or steam	V-670	0	Nil flow = V-250mm
	Tue 18-12-01	1540	24.9	6.3	550	369*	clear, calm; black algae	V-810	0	Very small pool remaining
	Mon 25-02-02	1345	~20	nd	nd		dry and cold		0	AC Baths being rebuilt
	Sat 18-05-02	1423	~12	nd			dry and cold		0	AC Baths being rebuilt
	Sat 05-10-02	1415	~10	nd	nd	nd	dry, cold		0	Overgrown and dry; photos
	Tue 12-11-02	1310	nd	nd	nd		dry, cold		0	Overgrown and dry
	Mon 17-02-03	1245	nd	nd	nd	nd	dry, cold		0	Overgrown, cold and dry
	Tue 07-10-03	1303	dry	dry			dry, cold		0	Overgrown and cold
	Tue 11-11-03	1225	cold	dry			dry and cold ground now		0	Overgrown
	Mon 23-02-04	1240	cold	dry			dry and cold		0	Overgrown with blackberries and ferns
	Wed 12-05-04	1457	cold	dry			dry and cold		0	Very overgrown
	Mon 20-09-04	1328	cold	dry			dry and cold		0	overgrown
	Wed 10-11-04	1435	cold	dry			dry and cold, inactive		0	overgrown; GPS 402m, 2779424mE, 6276075mN
	Tue 15-02-05	1435	cold	dry			dry and cold		0	overgrown
	Thur 26-05-05	1507	cold	dry			overgrown		0	no outflows for years now
Well discharge	Tue 07-10-03	1310	41.7	7.1			clear		0.7	Outfall from HX room
	Tue 11-11-03	1240	39.6	7.2			clear		1	Photo
	Mon 23-02-04	1245	39.5	6.9			clear, no odours		1	Photo
	Wed 12-05-04	1505	40.1	6.8			clear		1	
	Mon 20-09-04	1335	46.5	7.4			clear; Fe deposits		0.7 lps	no silica deposition
	Wed 10-11-04	1445	dry				dry, not in use		0	GPS wellhead is 400m, 2779398mE, 6276060mN
	Thur 26-05-05	1515	38.4	6.6	1390		clear, iron deposits		1.5	green algae
Otumuheke Stm at source	Wed 27-09-00	1125	87.7	6.4	610*	410	clear		~20+ ?	clear; weirs removed c.1995
	Mon 20-11-00	1320	87.8	6.4	760*	510	clear		~20+ ?	Site where weir used to be; dangerous
	Mon 26-02-01	1454	91.8	5.5	1910	1280*	clear, weak sinter margins		~10+	No changes
	Thur 24-05-01	1555	89.7	5.8	1980	1325*	clear		~10+	clear and calm; very soft crumbly banks
	Thur 25-10-01	1323	91.2	5.8	1820	1219*	clear, no change		~10+	No changes apparent
	Tue 18-12-01	1610	91.3	5.6	1970	1320*	clear, no odours		~10-15	No changes
	Mon 25-02-02	1402	90.2	5.5	nd		clear		~10-15	Several deer skulls and antlers in pool
	Sat 18-05-02	1417	91.6	5.6	nd		clear, no colour		~10+ lps	No changes
	Sat 05-10-02	1437	86.7	5.8	nd	nd	clear		~20 lps	Too steamy for photographs
	Tue 12-11-02	1330	86.6	5.7	nd		clear		~7	
	Mon 17-02-03	1315	89.4	5.8	nd	nd	clear		~10	
	Thur 01-05-03	1430	88.5	6	1070	700	clear		~20 lps	2779784mE 6276393mE
	Tue 07-10-03	1325	87.5	5.3			clear		~10	
	Tue 11-11-03	1245	85.6	5.5			clear		10	Photos
	Mon 23-02-04	1305	87.3	5.8			clear		10	Photo

Site name:	Day and date:	Time, NZST:	Temp. oC:	pH:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	Colour and clarity:	W'Level, o'flow:	Flow, lps:	Comments:	
	Wed 12-05-04	1515	86.4	5.9			clear		10		
	Mon 20-09-04	1347	87.3	5.8			clear		10		
	Wed 10-11-04	1450	87.4	6.3			clear, no odours		10	GPS 390m, 2779793mE, 6276392mE	
	Tue 15-02-05	1450	85.5		1270		clear		~10 lps	photos	
	Thur 26-05-05	1526	87.3	5.9	1163		clear, no odours		13.5	ropes anchoring skulls and bones	
Otumuheke Stream (at Env. W Gauge)	Thur 01-05-03	1354	52.4	7.9	870	530	clear		~40 lps	2779045E 6276718N; ~100m upstream	
	Tue 07-10-03	1340	48.9	6			clear		~20		
(a) Well Discharge N	Mon 20-09-04	1220					clear, no odours			well discharge from culvert, S from end Lowell Place	
	Wed 05-11-04	1015	51.8	6.7			clear		~1 lps	orange brown Fe deposits; culvert from well	GPS 359m, 2778491mE, 6272963mN
	Thur 26-05-05	1040	48.3	6.4	1170		clear, no odours		~0.7	no changes from above	
(b) Well discharge S	Mon 20-09-04									No deposits; culvert from well discharge	
	Wed 05-11-04	1005	57.7	7.0			clear, no odours		<1.5 lps	S from end of Lowell Place; discharge from well	GPS 356m, 2778500mE, 6272932mN
Rocky Point Spring	Apr07		63								
	Jun-07		63								
	Jan-08	nd	21	nd	nd	nd	Submerged by lake	submerged	nd	No observations made as feature drowned by wave surge	Location: E2778368 N6273387
	Mar-08	nd	67.6	nd	nd	nd	Clear, discharging	WL+1.5m	~0.2lps	Spring discharging above lake; minor gas discharge	
	Jun-08	nd	Discharging	nd	nd	nd	Clear, discharging	WL low	~1lps	Spring discharging 1.5m above lake edge	
	Sep-08	nd	Submerged	nd	nd	nd	Submerged by lake	nd	nd	no people bathing in spring; spring submerged by lake	
	Feb-09	nd	67.3	nd	nd	nd	Clear, discharging	WL low	nd	Lake level was low	
	Apr-09	nd	67.3	nd	nd	nd	Clear, discharging	nd	nd	There were no swimmers at this feature	
	Jun-09	nd	67.7	nd	nd	nd	Clear, discharging	nd	nd	The feature has been surrounded by rocks and wood	
Lake Taupo Spring	Apr-07		66.5								
	Jun-07		66.5								
	Jan-08	nd	65	nd	nd	nd	Clear colour and warm	nd	~0.1 lps	Pool accumulating from drain lower than in Sept 07	Location: E2793082 N6294721
	Mar-08	nd	64.3	nd	nd	nd	Clear colour	nd	~10ml ps	Two people bathing their feet in spring	
	Jun-08	nd	58.9	nd	nd	nd	Murky orange colour	nd	~0.06lps	Water murky orange; orange ppt lining channel	
	Sep-08	nd	65.7	nd	nd	nd	Clear	high	~0.2lps	lake level very high & only 4m from vent	
	Feb-09	nd	65.8	nd	nd	nd	Clear, steaming	nd	~0.5 lps	Water temperature similar to Sept 08	
	Apr-09	nd	63.4	nd	nd	nd	Clear, steaming	nd	~100mlps		
	Jun-09	nd	64.4	nd	nd	nd	Clear, no stem visible	nd	~50 mlps	The Flow has decreased; oily slick on water is present	
Otumuheke Bridge Pool	Apr-07		49								
	Jun-07	nd	49								
	Jan-08	nd	49	nd	nd	nd	Clear colour	nd	~40 lps	Rare steam visible rising from stream; dead vegetation	
	Mar-08	nd	49.6	nd	nd	nd	Clear colour	nd	nd	No steam visible; no H2S smell present	
	Jun-08	nd	47.1	nd	nd	nd	Clear, steaming	nd	nd	Steam visible rising from pool; minor H2S smelt	
	Sep-08	nd	48.3	nd	nd	nd	minor steam visible	nd	~80lps	Stream 1.8m wide x 0.2m deep; no H2S smell present	
	Feb-09	nd	50.4	nd	nd	nd	Clear, steaming	nd	~ 80 lps	Rare steam was visible rising from the stream	
	Apr-09	nd	50.3	nd	nd	nd	Clear colour, steaming	nd		Steam was visible rising from the pool	
	Jun-09	nd	48,6	nd	nd	nd	Clear colour	nd			

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Spring name:	Date:	Time, NZST:	Temp. oC:	pH:	Clarity:	Conduct. uS.cm: (Cond x	TDS, ppm: 0.67=ppm)	W'Level, o'flow - mm:	Flow, lps:	Ebullition, mm:	Comments:	GPS Coordinates: (NZMS-260 Grid)
Taumatapuhpuhi	1800s									>30 m ?	"Had eruptions 100s of feet high"	
	Wed 29-09-00	1330	97.8	7.5	clear	3600*	2410	-100	~1 lps	~0.7m	Eruptions and nonflowing dormancies	
	Mon 20-11-00	925	97.4	7.2	clear	3670*	2460	-50	~1	~1m high	Period ~2 minutes, eruptns ~30 sec	
	Mon 26-02-01	1205	96.8	7	clear	14,400	9650*	-70	~1.5	~0.5m	Period 1-2 mins, eruptns ~30 sec	
	Thur 24-05-01	1200	98.4	7.6	clear	13,800	9246*	-50	~1	~0.5m	Period ~1 minute; eruptn ~30 sec	
	Thur 25-10-01	950	97.8	7.5	clear	15,900	10653*	50	~0.5	<0.5m	Boiling and flows oscillate, ~1 min P	
	Tue 18-12-01	1149	98.4	7.6	clear	11,100	7437*	40	~0.05-0.7	<0.5m	E's for ~30 sec. every minute	
	Mon 25-02-02	1040	97.3	7.6	clear	nd		35	0 - ~0.1	<1m high	E's ~30 sec every 3-4 mins.	
	Sat 18-05-02	1550	98.3	7.7	clear	nd		40	~0.3 lps	~0.8m	E's ~20 sec every ~1 min.; flow 0 to 0.3	
	Sat 05-10-02	1030	98.2-93.6	7.5	clear	nd	nd	50	~0.3	<1m high	E's 20 sec every 1-2 mins; photos	
	Tue 12-11-02	1050	97.3	6.9	clear	nd		-15	~0.2	0.5m	E's 30 sec every 3 minutes	
	Mon 17-02-03	932	98.1	7.4	clear	nd	nd	75	~0.1	1m high	Erupting every ~1 minute	
	Thur 01-05-03	1055	97.9	8.2	clear	9,440	5900	100	~0.1	<0.5m	E's ~20 sec every 2-3 minutes	
	Tue 07-10-03	945	98.4	7.5	clear			110	~0.2	<1m high	Period of ~2 minutes, E's ~<20 seconds	
	Tue 11-11-03	1018	97.5	7.5	clear			WL-100	0.5	<1.5m high	Eruptns ~30sec, P ~2 minutes	
	Mon 23-02-04	955	97.3	7.6	clear			WL-150	0.75	<1m high	Eruptns ~20 sec, P ~3 minutes	
	Wed 12-05-04	1205	97.3	8.1	clear			WL-100	0.5	<1m high	Eruptns ~20 sec, P ~3 minutes	
	Mon 20-09-04	1050	97.6	8.4	clear			WL-100	0.5	<1m high	cyclic eruptions and overflows to bath, P ~1 min.	
	Wed 10-11-04	1115	98.1	7.9	clear			WL-100	0.8	<1.5m high	cyclic eruptions and overflows	GPS 350m, 2749635mE, 6244805mN
	Tue 15-02-05	1020	98.9		clear	9,230		WL-130	~0.5 lps	<1m high	eruptions ~1 min, period ~3-5 minutes	
	Thur 26-05-05	1235	98.2	7.8	clear	10,100		WL-100	1.5	<1m high	E's 10-15 sec, P 1-2 minutes	
	Apr-07	nd	100	nd		nd	nd					
	Jun-07	nd	100	nd		nd	nd					
	Jan-08	nd	98.6-99.9	nd	clear, blue	nd	nd	WL-0.5m		0.5m high	E's every 3 minutes, water from E's reaching 101.4 degrees	
	Mar-08	nd	102.6	nd	clear	nd	nd	WL-0.5m		1m high	E's every 5 minutes with ~20 sec durations	
	Jun-08	nd	101	nd	alkali chloride	nd	nd	WL-0.5m		1m high	E's every 3minutes with ~20 second durations	
	Sep-08	nd	95.7	nd	clear	nd	nd	WL-0.6			E's cycles ~3min duration	
	Feb-09	nd	98.5	nd	clear, blue	nd	nd	WL-0.7		0.5m high	E's lasting 30secs, non-E cycles~3min duration	
	Apr-09	nd	100.2	nd	clear blue	nd	nd	below channel		nd	E's occurring every 3.5 mins with 20 sec duration	
	Jun-09	nd	100.5	nd	clear blue	nd	nd	below channel		400 mm high	E's occurring every 3.5 mins with 20 sec duration	
Matewai	Early 1982		98	nd	clear	nd	nd			<4m high	Eruptions <4m high over 4 months	
No. 31	~July 2000		98	nd		nd			~20+?	1-1.5m	Erupted ~mid-2000, ~1 min. every 20 mins.	
	Wed 29-09-00	1340	82.1	6.8	clear	3625*	2430	200	~1.5	calm	Steady flow west into Hoani Central	
	Mon 20-11-00	938	79.2	6.5	clear	3540*	2370	culv -45	~2	calm	Flowing west	
	Mon 26-02-01	1117	86.1	7.1	clear	14,200	9515*	culv -107	~1 lps	calm	Photos; flowing west; WL sinter -250	
	Thur 24-05-01	1120	79.1	6.6	clear	14,700	9850*	culv -72	~1	calm	Clear; no convection or bubbles at all	
	Thur 25-10-01	1005	80.6	6.8	clear	14,100	9447*	bank-170	~1	calm	No bubbles; WL bank-170 = pipe-50mm	
	Tue 18-12-01	1203	79.9	7.7	clear	11,900	7973*	bank-80	~2-3	calm	All one WL across with Hoani A & B	
	Mon 25-02-02	1047	84.6	7.1	clear	nd		bank-149	~2 lps	calm	Clear and convecting; no bubbles	
	Sat 18-05-02	1557	84.6	6.8	clear	nd		bank-135	~2	calm	Steady flow into Hoani; WL pipe -10mm	
	Sat 05-10-02	1037	83.3	6.8	grey turbid	nd	nd	bank-145	~2	calm	Steady flow to Hoani; photo	

Spring name:	Date:	Time, NZST:	Temp. oC:	pH:	Clarity:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	W'Level, o'flow - mm:	Flow, lps:	Ebullition, mm:	Comments:	GPS Coordinates: (NZMS-260 Grid)
	Tue 12-11-02	1000	83.1	6.9	grey turbid	nd		-207	~1	calm	Steady outflow	
	Mon 17-02-03	940	92.8	6.9	clear	nd	nd	-810	0	calm	Geysering 2m high; hot pools on surfaces	
	Mon 17-02-03	1030	92.9	7				-700		calm	Waterlevel risen since earlier reading today	
	Thur 01-05-03	1110	84.2	7.6	slight turbid	7,600	4900	-154	~1.5 lps	calm	No recent eruptions	
	Tue 07-10-03	953	73.6	7.2	clear			-1320	inflow	calm	Inflow of ~0.54 lps from Hoani B	
	Tue 11-11-03	1015	74.8	7.1	clear			WL-1150	inflow	calm	0.7 lps from Hoani B	
	Mon 23-02-04	1015	72.3	6.9	clear			WL o-90	inflow	calm	0.5 lps from Hoani B	
	Wed 12-05-04	1214	76.9	7.5	clear			WL o-650	inflow	calm	0.5 lps from Hoani B	
	Mon 20-09-04	1055	73.5	7.4	clear			WL o-670	inflow	calm	0.5 lps from Hoani B	
	Wed 10-11-04	1130	73.3	7.4	clear			WL o-720	inflow	calm	0.5 lps from Hoani B	GPS 357m, 2749596mE, 6244779mN
	Tue 15-02-05	1045	73.2	7	clear	10,800		WL o-850	inflow	calm	~0.2 lps in from Hoani B	
	Thur 26-05-05	1145	72.7	6.8	clear	8,780		WL o-820	inflow	calm	~0.5 lps steady inflow from Hoani	
	Apr-07	nd	71-75	nd	green,clear			WL ~1m				
	Jun-07	nd	71-75									
	Jan-08	nd	73	nd	green, clear	nd	nd	WL-1m	~0.3 lps	calm	Feature consists of 2 pools separated by rock ledge	E2749593 N6244781
	Mar-08	nd	74.5	nd	green colour	nd	nd	WL+0.15m	nd	calm	No zones of upwelling or gas visible	
	Jun-08	nd	73	nd	green colour	nd	nd	WL-1m	~1lps	calm	No zones of upwelling or gas visible	
	Sep-08	nd	71.8	nd	green colour	nd	nd	WL-0.8m	~0.1p s	calm	Two pools are separated by submerged rock ledge	
	Feb-09	nd	74.5	nd	clear, green	nd	nd	WL-1m	~1lps	calm	Now consists of 2 small separated pools	
	Apr-09	nd	73.1	nd	clear, green			WL-0.75 m	0.2 lps	calm	rock ledge separating pool is submerged	
	Jun-09	nd	73.5	nd	clear, green			WL-0.75 m	0.3 lps	calm	rock ledge separating pool is submerged	
Hoani - Central No. 31 B	Wed 29-09-00	1340			clear				0	calm	Receiving water from Matewai	
	Mon 20-11-00	940			clear				0	calm	Ditto	
	Mon 26-02-01	1120			clear				0	calm	Ditto; WL now within shaft only	
	Thur 24-05-01	1125	57.3		clear				0	calm	WL = Matewai; photos; oil from road	
	Thur 25-10-01	1008	56.8	nd	clear	nd			0	calm	Same WL as Matewai	
	Tue 18-12-01	1205	>60	nd	clear				0	calm	Same WL across Matewai & Hoani A	
	Mon 25-02-02	1050	>60	nd	clear	nd			0.05		All same WL; calm, flowing to Hoani A	
	Sat 18-05-02	1559	>60	nd	clear	nd			0.05	calm	Same WL as Matewai; flow into Hoani A	
	Sat 05-10-02	1042	61.5	6.9	clear	nd	nd		0	calm	Photo	
	Tue 07-10-03	957	85.2	6.8	clear			20	0.5	calm	Small bubbles, flowing into Matewai	
	Tue 11-11-03	1008	86.4	6.8	clear			25	0.7	calm	Constant weak small bubbles	
	Mon 23-02-04	1008	85.6	6.8	clear			25	0.5	calm	abundant small bubbles; flowing to Matewai	
	Wed 12-05-04	1217	87.7	7.7	clear			25	0.5	calm	constant small fizzy bubbles; flowing to Matewai	
	Mon 20-09-04	1103	84.4	7.4	clear			30	0.5	bubbling	steady gentle plume of bubbles	
	Wed 10-11-04	1138	85.3	7.4	clear			35	0.5	weak bubbles	steady gentle plume of bubbles	GPS 357m, 2749584mE, 6244778mN
	Tue 15-02-05	1055	86.1		clear	9950		30	~0.3 lps	weak bubbles	pool to west is dry; constant small bubbles	
	Thur 26-05-05	1055	85.6	6.9	clear	8460		0.35	0.5	weak bubbles	constant small fizzy bubbles; flowing to Matewai	
Hoani B Pool	Apr-07		83					WL 0.16 mmm				
	Jun-07		83					WL 0.16 mmm				

Spring name:	Date:	Time, NZST:	Temp. oC:	pH:	Clarity:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	W'Level, o'flow - mm:	Flow, lps:	Ebullition, mm:	Comments:	GPS Coordinates: (NZMS-260 Grid)
	Jan-08	nd	81	nd	clear, blue	nd	nd	WL - 0.1 m	nil	calm	No zones of upwelling or ebullition present	: E2749572 N6244769
	Mar-08	nd	85.5	nd	clear, blue	nd	nd	WL-0.3m	nil	calm	Minor gas discharge; no upwelling present	
	Jun-08	nd	83	nd	clear, blue	nd	nd	WL-0.15m	nil	calm	no zones of upwelling visible; minor gas discharge	
	Sep-08	nd	82.4	nd	clear, blue	nd	nd	WL-10mm	nil	calm	minor intermittent gas discharge present	
	Feb-09	nd	85.9	nd	clear, blue	nd	nd	WL-0.3m	nil	calm	no zones of upwelling; submerged logs in pool	
	Apr-09	nd	80.2	nd	clear, blue	nd	nd	WL-0.1m	nil	calm	Pool has no gas discharge present & no gas discharge	
	Jun-09	nd	82.2	nd	clear, blue	nd	nd	WL-0.13	nil	calm	Temperature has increased since April 2009	
Hoani - SW Pool	Wed 29-09-00	1340			clear			-75	0	calm	No outflows and no steaming; cool?	
No. 31 A	Mon 20-11-00	940			clear			-250	0	calm	Ditto	
	Mon 26-02-01	1120			vis <1m			-150	0	calm	Slight turbid milky colour; ~6m dia.	
	Thur 24-05-01	1125	24		clear			-150	0	calm	Photograph	
	Tue 18-12-01	1205	nd ~70?	nd	clear	nd		~150	0	calm	All one WL with Hoani B & Matewai	
	Mon 25-02-02	1055	nd	nd	clear	nd		-730	0	calm	Taking inflow of ~0.05 lps from Hoani B	
	Sat 18-05-02	1601	~20	nd	clear	nd		-600	0	calm	Taking trickle inflow from Hoani B	
	Tue 12-11-02	1010	37	nd	clear	nd		-250	0	calm		
	Tue 07-10-03	957	~20	nd	clear			-500	0	calm	A was very hot, calm, WLo-100mm	
	Mon 20-09-04	1110	~80		clear			WL -05	0	convecting	steaming steadily	
	Apr-07	nd	76		clear, green			WL .50mm				
	Jun-07		76					WL 50 mm				
Hoani A pool	Jan-08	nd	87	nd	clear, green	nd	nd	WL - 20mm	~0.3 lps	gas discharge	Minor intermittent gas bubbles evident rising from pool	: E2749583 N6244773
	Mar-08	nd	88.9	nd	clear, green	nd	nd	WL-0.02m	nil	gas discharge	Minor constany gas discharge in pool	
	Jun-08	nd	86.9	nd	clear, green	nd	nd	Overflowing	nil	nil	No upwelling visible but constant gas discharge	
	Sep-08	nd	84.8	nd	clear, green	nd	nd		~1lps	nil	no zones of upwelling visible; minor gas bubbles	
	Feb-09	nd	87.4	nd	clear, blue	nd	nd	WL-0.02m	~1lps	gas discharge	no upwelling visible; contant gas discharge present	
	Apr-09	nd	87.3	nd	clear, blue	nd	nd	WL-20mm	~0.2 lps	gas discharge	Two zones of gas discharge visible with minor gas discharge	
	Jun-09	nd	88	nd	clear, blue	nd	nd	WL-10 mm	~03 lps	gas discharge	Two zones of constant gas discharge evident	
Hoani - NW Pool	Mon 20-09-04	1110	~20.		clear			WL - 400	0	calm	No steam, algae or convection	
Takarea East	Wed 29-09-00	1350	81.7	6.9	clear	3540*	2370	pipe- 132	0	calm	Waterlevel from pipe top edge	
No. 6	Mon 20-11-00	955	78.3	6.9	clear	2820*	1890	pipe -118	0	calm	Ditto; ivy & honeysuckle invading	
	Mon 26-02-01	1132	80.3	6.8	clear	14,000	9380*	pipe -134	0	<05 mm	Occasional weak bubbles	
	Thur 24-05-01	1137	76.3	6.8	clear	14,100	9450*	pipe -119	0	<05 mm	Ditto	
	Thur 25-10-01	1015	75.7	6.5	clear	10,700	7169*	pipe-124	0	calm	No outflow, calm	
	Tue 18-12-01	1211	70.1	6.8	clear	10,900	7303	pipe-69	0	calm	All one WL on E side of path	
	Mon 25-02-02	1056	75.5	6.8	clear	nd		pipe -107	0	<05 mm	No flows in or out	
	Sat 18-05-02	1605	75.1	6.7	clear	nd		pipe-102	0	calm	Pool flooded across shelf to west	
	Sat 05-10-02	1103	63.2	6.6	clear	nd	nd	pipe-57	0	calm	Photo	
	Tue 12-11-02	1015	65.3	6.8	clear	nd		-56	0.2	calm	Abundant orange algae	
	Mon 17-02-03	1010	72.2	6.7	clear	nd	nd	-90	?	calm	No algae or outflows	
	Thur 01-05-3	1120	68.1	7.1	clear	13,600	8000	-77	0	calm		
	Tue 07-10-03	1005	62.6	6.6	clear			-56	0.1	calm	Orange-green algae	
	Tue 11-11-03	1003	68.2	6.5	clear			pipe-51	0.2	calm	Flowing down pipe	
	Mon 23-02-04	1020	66.9	6.4	clear			pipe-50	0.05	calm	Weak convection	
	Wed 12-05-04	1220	71.8	6.8	clear			pipe-43	0.3	calm	Convecting and small bubble swarms	

Spring name:	Date:	Time, NZST:	Temp. oC:	pH:	Clarity:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	W'Level, o'flow - mm:	Flow, lps:	Ebullition, mm:	Comments:	GPS Coordinates: (NZMS-260 Grid)
	Mon 20-09-04	1110	71.4	7.1	clear			pipe-38	0.5	convecting	no bubbling; leaking waterpipe flowing into pool	
	Wed 10-11-04	1143	73.6	7.1	clear			pipe-39	0.5	convecting	no bubbles; algae around outskirts	GPS 357m, 2749456mE, 6244735mN
	Tue 15-02-05	1059	75.6	6.8	clear	9,830			~0.5 lps	calm	no bubbles	
	Thur 26-05-05	1205	70.4	6.3	clear	8,450		pipe-29	1	calm	weak convection; no bubbles	
	Apr-07		43-67					WL 70 mm				
	Jun-07		43-67					WL 70 mm				
Takearea 6	Jan-08	nd	68 (E)	nd	clear	nd	nd	WL - 50 mm	nd	nd	Feature separated by orange microbial mats	
Note E=east end	Mar-08	nd	64.1 (E)	nd	Green, clear	nd	nd	WL-70mm		effervescing	One zone of constant gas discharge present	
	Jun-08	nd	63.7	nd	clear, green	nd	nd	WL-50mm		calm	Zone of constant gas discharge present	
	Sep-08	nd	67.2	nd	clear	nd	nd	WL-30mm	nil	calm	Two zones of gas discharge present near path	
	Feb-09	nd	61.5	nd	clear	nd	nd	WL-0.1m	nd	calm	no zones of upwelling or gas visible	
	Apr-09	nd	64.2	nd	clear	nd	nd	WL-20cm		calm	No zones of upwelling ; water level increased since Feb 09	
	Jun-09	nd	59.3	nd	clear	nd	nd	WL-30 cm		calm	No zones of upwelling; all orange mats covered in water.	
	Apr-07		60					WL 70mm				
	Jun-07		60					WL 70mm				
Takerea 5 pool	Jan-08	nd	61	nd	Green, clear	nd	nd	nd	nd	upwelling	Zones of discharging gas present in each of the pools	
	Mar-08	nd	61.4	nd	Green, clear	nd	nd	nd	nd	discharging gas	One zone of constant gas discharge present	
	Jun-08	nd	57.7	nd		nd	nd		nd	discharging gas	Orange & green microbial mats covering surface	
	Sep-08	nd	59.3	nd		nd	nd	overflowing	nd	upwelling	Zone of constant gas discharge present at E end	
	Feb-09	nd	61.9	nd	green, murky	nd	nd	nd	nd	upwelling	Consists of two pools; smaller has upwelling present	
	Apr-09	nd	58.6	nd	clear	nd	nd	nd	nd	upwelling	Two zones of upwelling present; gas vents present beside pool	
	Jun-09	nd	56.8	nd	clear	nd	nd	nd	nd	upwelling	Feature contains one zone of constant gas discharge	
Paureni No. 1 B	Wed 29-09-00	1405	61.1	6.8	vis ~1m	1580*	1060	-1012	2	<20mm	Milky lime colour; WL from joist	
	Mon 20-11-00	1008	60.8	6.7	vis ~1.5m	1655*	1110	-978	2	<20mm	Ditto; gravity flow in 200mm dia. pipe to baths	
	Mon 26-02-01	1142	62.6	6.8	vis ~2m	5300	3550*	-1002	2	<10 mm	Ditto; new metal railings along paths	
	Thur 24-05-01	1150	57.4	6.9	vis ~1.5m	5100	3415*	-991	2	<10 mm	No changes	
	Thur 25-10-01	1025	69.6	7.1	vis~2m	4700	3149*	-1008	2	<10	Greeny tint; constant gentle ebullition	
	Tue 18-12-01	1218	65.1	7	vis~1m	4330	2901	-966	2	<10	Milky green; dead shag; heavy rains	
	Mon 25-02-02	1103	62.1	6.8	vis ~1.5m	nd		-992	2	<10mm	Large 150mm dia. pipe leads from pool	
	Sat 18-05-02	1613	59.9	6.4	vis ~1.5m	nd		-1005	2	~20	Greeny, const. weak bubbles	
	Sat 5/10/02	1122	60.7	6.9	clear	nd	nd	-990	2	~20 mm	Greeny tinge, const. weak bubbles; photo	
	Tue 12-11-02	1020	61.2	6.8	clear	nd		-995	2		Green tinge, visibility ~1.5m	
	Mon 17-02-03	1017	61	6.5	clear	nd	nd	-995	2	~15mm	Visibility ~2m; slight green tinge	
	Thur 01-05-03	1129	57.1	7	clear	5190	3200	-985	2	<10mm		
	Tue 07-10-03	1005	58.9	6.9	clear			-983	2	calm	Visibility ~1m; 200mm dia. pipe to baths	
	Tue 11-11-03	945	63.2	6.6	clear			WL-990	2	calm	Greeny colour, visibility ~1.5m; bubbles	
	Mon 23-02-04	1028	62.9	6.6	clear			WL-990	2	calm	Visibility ~1.5m, greeny colour	
	Wed 12-05-04	1227	62.3	6.5	clear			WL-968	2	calm	Whole pool has clockwise convection swirl	
	Mon 20-09-04	1117	62.2	6.9	greeny clear			WL-985	3-4 ?	gentle bubbles	Visibility ~2m; slight green tinge	
	Wed 10-11-04	1153	64.8	7.2	lime green			WL-955	~3	central bubbles	visibility 1.5m	GPS 355m, 2749399mE, 6244691mN
	Tue 15-02-05	1109	63.1	7	lime green	3510		WL-990	~3-5 lps	central bubbles	WL from base of bridge	
	Thur 26-05-05	1212	61.1	6.1	lime green	3080		WL-985	4	central bubbles	greeny colour; no changes apparent	

Spring name:	Date:	Time, NZST:	Temp. oC:	pH:	Clarity:	Conduct. uS.cm: (Cond x	TDS, ppm: 0.67=ppm)	W'Level, o'flow - mm:	Flow, Ips:	Ebullition, mm:	Comments:	GPS Coordinates: (NZMS-260 Grid)
	Apr-07	nd	61		green, murky	nd		nd	nd	upwelling	Upwelling visible; bubbling gas present	
	Jun-07		61					WL 1m				
	Jan-08	nd	63	nd	green, murky	nd	nd	WL-1m	nd	upwelling	Zones of upwelling visible; channel under viewing platform dry	: E2749403 N6244684
	Mar-08	nd	62.1	nd	green, murky	nd	nd	WL-1.2m	nd	upwelling	Upwelling visible; bubbling gas present	
	Jun-08	nd	62	nd	green, murky	nd	nd	WL-1.2m	nd	not visible	Steaming intensely; discharge channel dry	
	Sep-08	nd	64.1	nd	dark green	nd	nd	WL-1m		upwelling	Multiple zones of upwelling present	
	Feb-09	nd	63	nd	green, murky	nd	nd	WL-1m	nd	upwelling	zones of upwelling present; steaming	
	Apr-09	nd	62	nd	green, murky	nd	nd	WL-1m	nd	upwelling	No changes evident since Feb 2009	
	Jun-09	nd	58	nd	green, murky	nd	nd	WL-1m	nd	upwelling	Zones of upwelling visible and steam present	
Tuwhare	Wed 29-09-00	1420	85.2	7.2	vis ~3m+	3150*	2110	-430	0	<20mm	Clear, const weak bubbles	
	Mon 20-11-00	1031	85.2	7.3	vis ~3m+	3045*	2040	-298	0	<20mm	Ditto; WL from base of wooden log	
	Mon 26-02-01	1105	86.6	6.9	vis ~3m+	10,700	7170*	-375	0	<10 mm	Occasional weak bubble swarms	
	Thur 24-05-01	1220	83.3	6.8	vis ~3m+	12,700	8510*	-360	0	<10 mm	Clear const convectn & weak bubbles	
	Thur 25-10-01	1057	86.7	7.5	vis~2m+	13,200	8844*	-507	0	<10	Clear, gentle convectn, occas bubbles	
	Tue 18-12-01	1303	61.4	6.8	vis~2m+	8,200	5494*	-510	0	<05	No changes	
	Mon 25-02-02	1145	83.8	7.4	vis~3m	nd		-270	0	<10	Clear, convecting; occas bubble swarms	
	Sat 18-05-02	1537	84.6	7.4	vis~3m	nd		-267	0	<10mm	Swirling convection, occas. bubbles	
	Sat 05-10-02	1220	82.8	7.1	clear	nd	nd	-283	0	<10	Photos	
	Tue 12-11-02	1045	84.5	7.3	clear	nd		-350	0	<10	Steel post top -433mm	
	Mon 17-02-03	1043	90.5	7.1	clear	nd	nd	-510	0	<10mm	Occas. Bubbles; steel post -580	
	Thur 01-05-03	1155	91.3	7.4	clear	8,130	5200	-525	0	<5mm	Occas weak bubbles	
	Tue 07-10-03	1045	83.3	7.1	clear			-410	0	calm	New HX hoses installed	
	Tue 11-11-03	1030	85.1	7.0	clear			WL-270	0	calm	Convection; weak bubbles; o'flow -50mm	
	Mon 23-02-04	945	83.0	7.3	clear			WL-210	0	calm	Recently overflowed; now o'flow -20mm	
	Wed 12-05-04	1250	75.2	7.8	clear			WL-270	0	calm	O'flow -40mm; occas. Weak bubbles	Noisy bubbling small hole on E bank
	Mon 20-09-04	1143	77.4	7.6	clear			WLo-150	0	weak bubbling	o'flow-150mm, log-470; noisy bubbling SE wall	
	Wed 10-11-04	1235	78.7	7.6	clear			WL o-125	0	calm	Small bubbling hole on middle east bank	GPS 360m, 2749695mE, 6244937mN
	Tue 15-02-05	1234	81.2	7.4	clear	7,940		WL o-250	0	convecting	WL steel post top -575; new dead hot ground	along roadside, ~20m diameter area
	Thur 26-05-05	1305	78.1	7.2	clear	11,730		WL 0-120	0	weak bubbling	WL log -380; noisy boiling up Sth wall	
	Apr-07		62.4									
	Jun-07		62.4									
Toretiti Pool	Jan-08	nd	54	nd	microbe covered	nd	nd	nd	nd	upwelling	Minor gas and upwelling present; pool covered in microbes	: E2749426 N6244714
	Mar-08	nd	53.5	nd		nd	nd	WL-250mm	nd	upwelling	Dark green/orange mats on surface; gas discharge	
	Jun-08	nd	51	nd		nd	nd					
	Sep-08	nd	53.6	nd	microbe covered	nd	nd				Black/ dark green mats covered pool surface	
	Feb-09	nd	52.1	nd	microbe covered	nd	nd	nd	nd	nd	Pool surface covered in orange microbial mats	
	Apr-09	nd	52.7	nd	microbe	nd	nd	WL-0.25m	nd	nil	Surface of the pool covered completely in microbial mats	

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					covered							
	Jun-09	nd	55.2	nd	microbe covered	nd	nd	WL-0.3m	nd	nil	Surface of the pool completely covered in microbial mats	
Teretere No. 27	Tue 18-12-01	1230	45	nd	vis ~0.1m	nd		-450	0	calm	Dark brown; erupted Fri 23/11/01 & 24th	
	Mon 25-02-02	1115	28	nd	vis ~0.1m	nd		WLo-300	0	calm	Dark brown calm water	
	Sat 18-05-02	1620	24	nd	vis ~0.1m	nd		-500	0	calm	Dark brown, calm. Ivy gone from tracks	
	Sat 05-10-02	1130	23	nd	vis ~0.1m	nd	nd	-200	0	calm	Dark brown, calm; photo	
	Tue 12-11-02	1028	25.6	5.9	vis ~0.2m	nd		-210	0	calm	Dark brown colour; fernbird alongside	
	Mon 17-02-03	1025	27.9	nd	vis ~0.2m	nd	nd	-400	0	calm	Dark brown colour; erupted Nov 2001	
	Tue 07-10-03	1033	23.8	5.8	vis. ~0.4m			-450	0	calm	Dark brown colour	
	Tue 11-11-03	935	28.1	5.8	vis. ~150mm			WL-150	0	calm	Dark brown colour (tannins)	
	Mon 23-02-04	1037	25.8	5.7	vis. ~400mm			WL-200	0	calm	Dark brown colour	
	Wed 12-05-04	1235	27.1	6.1	vis. ~600mm			WL-170	0	calm	Dark brown colour	
	Mon 20-09-04	1124	23.1	6.3	vis ~500mm			Wlo-150	0	calm	dark brown colour (tannins?); larvae	
	Wed 10-11-04	1205	30.3	6.3	vis ~500mm			WL o-200	0	calm	dark tannin brown	GPS 357m, 2749428mE, 6244759mN
	Tue 15-02-05	1210	29.4		vis ~500mm	9240		WL o-250	0	calm	dark brown tannin colour	
	Thur 26-05-05	1226	24.3	5.6	vis ~500mm	7370		WL o-80	0	calm	dark brown tannin colour	
	Apr-07	nd	29.1	nd		nd	nd	WL 150 mm				: E2749431 N6244757
	Jun-07	nd	29.1	nd		nd	nd	WL 150 mm				
	Jan-08	nd	28	nd	brown	nd	nd	WL-0.2m	0	calm	Water level had recently been overflowing onto gravel path	
	Mar-08	nd	36.5	nd	tan colour	nd	nd	WL-0.1m	0	calm	Minor, intermittent gas discharge present in pool	
	Jun-08	nd	23.3	nd	brown	nd	nd	WL-0.7m	0	calm	Dark brown colour, no ebullition, healthy vegetation	
	Sep-08	nd	28	nd	brown	nd	nd	WL-0.15m	0	calm	Dark brown colour; surrounded by healthy vegetation	
	Feb-09	nd	31.6	nd	brown	nd	nd	nd	0	calm	No zones of gas discharge or upwelling	
No.12 Blowout	Mon 23-02-04	1045	>90		clear				1	convecting	1m dia. blowout thru old sinters, W bank No. 12	Blowout formed ~02-01-04.
	Wed 12-05-04	1245	>90		clear				1	convecting	Bubbling steadily and flowing into No.12	
	Wed 10-11-04	1215	75		clear					calm	no flows or steam now	
Spring South of Tuwhare	Thur 26-05-05	1315	95		clear				1 lps	bubbling	~5m dia. and ~10m S of Tuwhare; dead shrubs	
hyd eruption pool by Te Waihoto	Feb-09	nd	54	nd	clear	nd	nd	nd	nd	calm	Small Eruptions 2 weeks prior visit with mud thrown 5m high	
	Apr-09	nd	91.3	nd	clear	nd	nd	WL -0.5 m			erupted again Feb 26 2009	
	Jun-09	nd	84.1	nd	clear-murky	nd	nd	WL-1.0 m			pH = 7.6 quiet pool	
Te ngutu Pool	Apr-07	nd	44	nd		nd	nd					: E2749426 N6244714S
	Jun-07	nd		nd		nd	nd					
	Jan-08	nd	41	nd	dark green, murky	nd	nd	nd	nd	nil	Drak green mats completely covered pool surafce	
	Mar-08	nd	39.8	nd		nd	nd	nd	nil	nil	Pool completely covered in microbial mats	
	Jun-08	nd	35.9	nd	dark green	nd	nd	nd	nil	nil	No gas discharge present;microbial mats submerged	
	Sep-08	nd	51.7	nd	dark green	nd	nd	nd	nil	nil	Green mats partially covering pool surface	
	Feb-09	nd	53.2	nd	dark grey	nd	nd	WL-0.15m	nd	nd	water level below path; micrbes on pool surface	
	Apr-09	nd	38.7	nd	dark green, murky	nd	nd	WL-0.3	nd	nd	Green microbial mats have sunk into the pool	
	Jun-09	nd	39.5	nd	dark green,	nd	nd	WL-0.25	~200	nd	Water is flowing from toretiti pool into Te Ngutu pool	

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					murky				mlps			
Mud Pool 1	Apr-07	nd		nd		nd	nd		nil			: E2749405 N6244701
	Jun-07	nd		nd		nd	nd		nil			
	Jan-08	nd	101	nd	bubbling mud	nd	nd	nd	nil	vigorous bubbling	Half of the pool bubbling vigorously with thick mud	
	Mar-08	nd	101.3	nd	bubbling mud	nd	nd		nil	vigorous bubbling	Active, bubbling vigorously	
	Jun-08	nd	100.7	nd	bubbling mud	nd	nd	nd	nil	vigorous bubbling	Half of the pool bubbling vigorously	
	Sep-08	nd	98.1	nd	liquid mud	nd	nd		nil	0.15m	Bubbling vigorously in 3 zones & explosive	
	Feb-09	nd	93	nd	thick mud	nd	nd	nd	nil	vigorous bubbling	Two zones of upwelling present; H2S smelt	
	Apr-09	nd	98.5	nd	thick mud	nd	nd	nd	nil	0.1 m high	Two zones of vigorously bubbling, thick mud present	
	Jun-09	nd	98.5	nd	thick mud	nd	nd	nd	nil	20 cm high	Explosions and constant bubbling visible	
Mud Pool 2	Apr-07	nd		nd		nd	nd		nil			: E2749405 N6244701
	Jun-07	nd		nd		nd	nd		nil			
	Jan-08	nd	96	nd	liquid mud	nd	nd	nd	nil	0.1 m high	Oval shaped mud pool with 200 mm diameter depression	
	Mar-08	nd	100.3	nd	liquid mud	nd	nd	drying out	nil	bubbling	Vigorously bubbling, liquid mud; drying at sides	
	Jun-08	nd	37	nd	dry, steaming	nd	nd	dry	nil	nil	Oval pool with dried, cracked mud sluping intocentre	
	Sep-08	nd		nd	dry	nd	nd	dry	nil	nil	Mud pool has dried; forms tear-drop shape	
	Feb-09	nd	47.5	nd	dry, steaming	nd	nd	dry	nil	nil	pool dimensions; 0.5m diameter x 0.15m deep	
	Apr-09	nd	95.4	nd	liquid mud	nd	nd	nd	nil	nd	Feature contains bubbling mud	
	Jun-09	nd	98.4	nd	liquid mud	nd	nd	nd	nil	nd	Feature has changed significantly,	
Mud Pool 3	Apr-07	nd		nd		nd	nd		nil			: E2749405 N6244701
	Jun-07	nd		nd		nd	nd		nil			
	Jan-08	nd	96	nd	steaming	nd	nd	WL low	nil	nil but steaming	Pool had liquid mud at its base with a temp of 96 degrees	
	Mar-08	nd	97.3	nd	steaming	nd	nd	WL low	nil	nil but steaming	Steaming; kidney shape 0.3m x 0.17m x 0.5m	
	Jun-08	nd	43	nd	steaming	nd	nd	WL low	nil	nil but steaming	Steaming, oval shape 0.3m x 0.17m x 0.5m	
	Sep-08	nd	94.1	nd	muddy water	nd	nd	WL low	nil	nil but steaming	Steaming: kidney shape 0.3m x 0.2m x 0.3m deep	
	Feb-09	nd	96.8	nd	dry, steaming	nd	nd	dry	nil	nil	oval vent 0.3m long x 0.17m wide x 0.5m deep	
	Apr-09	nd	69.4	nd	muddy	nd	nd	nd	nil	nd		
	Jun-09	nd	99.2	nd	bubbling	nd	nd	nd	nil	nd	Mud was bubbling at the base of the pool	
Mud Pool 4	Apr-07	nd		nd		nd	nd		nil			: E2749405 N6244701
	Jun-07	nd		nd		nd	nd		nil			
	Jan-08	nd	100	nd	brown mud	nd	nd	nd	nil	~0.2 m high	Eruptions throwing mud 0.2m high	
	Mar-08	nd	100.6	nd	moist mud	nd	nd	nd	nil	~0.1m high	Eruptions throwing mud 0.1m high	
	Jun-08	nd	95	nd	liquid mud	nd	nd	nd	nil	bubbling	Pool contained 3 vents filled with bubbling liquid mud	
	Sep-08	nd	98	nd	thick mud	nd	nd	WL+0.2m	nil	nil	Pool rim drying; cracking & slumping into pool	
	Feb-09	nd	98.3	nd	thick mud	nd	nd	WL-1m	nil	bubbling	Dimensions: 2m long x 1m wide x0.5mdeep	

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	Apr-08	nd	99.1	nd	thick mud	nd	nd	nd	nil	bubbling	Feature consists of 2 zones of bubbling within a large depression	
	Jun-08	nd	100.9	nd	thick mud	nd	nd	nd	nil	bubbling	Constant bubbling and steam evident	
Hydrothermal eruption crater pool	Apr-07	nd	27.7	nd		nd	nd	WL 50 mm				: E2749391 N6244754
	Jun-07	nd		nd		nd	nd					
	Jan-08	nd	28	nd	dark brown	nd	nd	WL-100mm	nd	nil		
	Mar-08	nd	30.1	nd	dark grey	nd	nd	WL-150mm	nd	nil	Water temperature risen since Jan 08 & clour changed	
	Jun-08	nd	32.9	nd	dark green	nd	nd	WL-300mm		nil	Dark green colour; water level below pool lip	
	Sep-08	nd	30.7	nd	dark grey	nd	nd	WL-0.5m	~0.5lps	nil	Dark grey colour; pool fed from adjacent pool	
	Feb-09	nd	31.1	nd	dark green	nd	nd	WL-1m	nil	nil	Rare gas discharge in pool at northern rim	
	Apr-09	nd	26.6	nd	Murky, dark green	nd	nd	WL-1 cm	nd	nil	No zones of gas discharge or upwelling present	
	Jun-09	nd	21.3	nd	murky, brown	nd	nd	WL-0.15m	nd	nil	The colour of the water has changed since April	
Hot vent on gravel pathway	Apr-07	nd	96	nd		nd	nd		nil	nil		: E2749529 N6244815
	Jun-07	nd		nd		nd	nd		nil	nil		
	Jan-08	nd	97	nd	dry, steaming	nd	nd	dry	nil	nil	Feature has been filled in with gravel & is now not visible	
	Mar-08	nd	100.9	nd	dry, steaming	nd	nd	dry	nil	nil	Steam discharge corroding base of fence post	
	Jun-08	nd	steaming	nd	dry, steaming	nd	nd	dry	nil	nil	Small, circular feaure 0.3m wide x 0.4m long	
	Sep-08	nd	15.4	nd	murky	nd	nd	WL-0.1m	nil	nil	Pool is now behind a fence; water 0.1m below rim	
	Feb-09	nd	44	nd	dry, steaming	nd	nd	dry	nil	nil	oval shape 0.6m longx0.4m widex0.15deep	
	Apr-09	nd	37.2	nd	murky, brown	nd	nd	WL-0.1m	nil	nd	This feature has been fenced off & temp decreased	
	Jun-09	nd	43.1	nd	murky, brown	nd	nd	WL-0.15	nil	nd	Rare gas discharge was present& an oily slick on the surface	
Hot vent near Cooking pool 1	Apr-07	nd		nd		nd	nd		nil			: E2749630 N6244775
	Jun-07	nd		nd		nd	nd		nil			
	Jan-08	nd	91.5	nd	murky grey	nd	nd	nd	nd	upwelling	Trench in gravel has now formed a pool with 2 zones of upwelling	
	Mar-08	nd		nd		nd	nd		nil			
	Jun-08	nd		nd		nd	nd	dry	nil	nil	Four small, steaming vents; steam decaying fence	
	Sep-08	nd		nd		nd	nd		nil		Vents inaccessible, covered in corrugated iron & wood	
	Feb-09	nd	99.4	nd	bubbling	nd	nd	not visible	nil	nd	only 2vents remain; water heard bubbling at depth	
	Apr-09	nd	87.2-98.4	nd	bubbling	nd	nd	nd	nil	nd	One fence post has fallen directly over a steaming vent	
	Jun-09	nd	87.2-98.4	nd	bubbling	nd	nd	nd	nil	nd	This area has increased in thermal activity	
Cooking Pools	Apr-07	nd		nd		nd	nd					
Cooking Pool 1	Jun-07	nd		nd		nd	nd					
	Jan-08	nd	nd	nd	steaming	nd	nd	nd	nd	nil	Pool covered with corrugated iron & plastic.	
	Mar-08	nd	101.2	nd	steaming	nd	nd			steaming	Pool bubbling vigorously; uncovered&steaming	
	Jun-08	nd	95-100	nd	steaming	nd	nd		nil	bubbling	Pool uncovered and steaming	
	Sep-08	nd	99	nd	steaming	nd	nd			bubbling	Pools covered with corrugated iron; steaming	
	Feb-09	nd	boiling	nd	steaming	nd	nd	not visible	nd	Not visible	Water could be heard boiling at depth; pool covered with mesh	

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	Apr-09	nd	steaming	nd	not visible	nd	nd	not visible	nd	Not visible	Feature was covered with orange mesh and steaming	
	Jun-09	nd	steaming	nd	not visible	nd	nd	not visible	nd	Not visible	Moist zones indicating splashing present; feature was steaming	
Cooking Pool 2	Apr-07	nd		nd		nd	nd					: E2749660 N6244788
	Jun-07	nd		nd		nd	nd					
	Jan-08	nd	96-99	nd	clear, steaming	nd	nd	nd	nil	bubbling	Adjacent to pool is an area of fumaroles & hot, bubbling pools	
	Mar-08	nd		nd	clear, steaming	nd	nd					
	Jun-08	nd	95-100	nd	clear, steaming	nd	nd		nil	bubbling	Pool uncovered and steaming	
	Sep-08	nd		nd	clear, steaming	nd	nd	not visible	nd	not visible	Pool inaccessible; covered in corrugated iron	
	Feb-09	nd	95-100	nd	clear, steaming	nd	nd	nd	nd	nd	Area contains numerous fumaroles	
	Apr-09	nd	99.9	nd	not visible	nd	nd	not visible	nd	not visible	Pool covered and steaming	
	Jun-09	nd	100.3	nd	not visible	nd	nd	not visible	nd	not visible	Pool covered and steaming, with hot vents surrounding feature	
Outlet from Tauwhare Hot Spring	Apr-07	nd		nd		nd	nd				opposite park entrance	E2749696 N6244935
	Jun-07	nd		nd		nd	nd					
	Jan-08	nd	44.6	nd	Dark green	nd	nd	nd	nd	nil	Intermittent steam rising from southern bank of pool	
	Mar-08	nd		nd		nd	nd					
	Jun-08	nd	nd	nd	Dark green	nd	nd	WL+0.15m	calm	nil	Pool circular shape ~4m diameter	
	Sep-08	nd	33.1	nd	Dark green	nd	nd	WL+0.4m	calm	nil	Water level risen since June 2008	
	Feb-09	nd	nd	nd	clear	nd	nd	WL-0.2m	calm	nil	No zones of gas discharge or upwelling visible	
	Apr-09	nd	nd	nd	Very clear	nd	nd	WL - 0.1m	calm	nil	No zones of gas discharge or upwelling present	
	Jun-09	nd	29	nd	Very clear	nd	nd	WL-0.2m	calm	nil	Feature remains calm; area of burnt grass surrounds pool	

Waikite Valley Springs

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm: (cond. X 0.67=ppm)
Otamakokore Stream at bridge	Tue 28-03-95	915	52.3	6.7	Clear	nil	SG .37m				
	Fri 21-04-95	1640	49.4	7.1	Clear	nil	SG .375				
	Thu 25-05-95	1708	49.6	6.9	Clear	nil	SG .355m		No changes apparent		
	Thu 29-06-95	1038	39	6.2	dark turbid brown	nil	SG .440m		Flooded; visibility ~0.3m		
	Tue 27-02-96	855	50.7	6.8	Clear	nil	SG .385		clear; Cristella? ferns under bridge	1160	
	Mon 20-05-96	1445	48.3	6.7	Clear	nil	SG .385		clear, no changes	1120	
	Mon 09-11-98	1310	49.2	6.9	Clear	nil	SG .380		No changes apparent	1030	560
	Thu 17-12-98	1300	50.4	6.9	Clear	nil	SG .380		No changes apparent	1095	660
	Thu 04-03-99	935	50.1	6.9	Clear	nil	SG .373		SG cleared of vegetation; no change	1700	660
	Fri 28-05-99	1336	48.8	7	clear	nil	SG .373				610
	Thu 04-11-99	742	48.9	7.4	clear	nil	SG .372		No changes apparent	850*	570
	Thu 23-12-99	850	49.3	7.6	clear	nil	SG .182		No changes apparent	850*	570
	Mon 21-02-00	1000	51.8	7.6	clear	nil	SG .370		No changes apparent	865*	580
	Mon 29-05-00	930	48.8	7.6	clear		SG .357		No changes apparent		570
	Sat 23-09-00	1115	47.6	7.5	clear		SG .365		No changes apparent	640*	430
	Fri 24-11-00	1554	52.3	8.1	clear, no changes	nil	SG .362		No changes apparent	745*	500
	Tue 27-02-01	1342	53.1	6.8	clear, no changes	nil	SG .353		No changes apparent	1180	790*

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	Fri 22-06-01	1145	48.6	7.8	clear, no changes	nil	SG .358		No changes apparent	1040	697*
	Thur 15-11-01	915	47.7	7.8	clear, no changes	nil	SG .372		No changes	980	657*
	Fri 21-12-01	1120	50.1	7.8	clear	nil	SG .375		Dark green bottom algae	1090	730*
	Tue 01-01-02	1357	53.1	7.7	clear	nil	SG .368		Dark green bottom algae	1140	765*
	Fri 01-02-02	1327	52.9	7.8	clear; silt up banks	calm	SG .355		Silt layer to WL+1.2m height, datalogger buried in flood silts!	nd	
	Wed 20-02-02	955	51.4	7.9	clear; no changes	nil	SG .365		No changes	nd	
	Sat 01-06-02	1035	47.2	7.9	clear, no changes	nil	SG .366		No changes	nd	
	Thur 10-10-02	837	48.5	7.9	clear	nil	SG .368		Dark green bottom algae; photo	nd	nd
	Mon 18-11-02	1550	50.3	7.8	clear	nil	SG .370				
	Thur 06-03-03	1530	53.8	8.1	clear	nil	SG .360			nd	
	Mon 14-04-03	1330	50.7	8.7	clear	nil	SG .350		2798392mE 6314196mN	974	620
	Thur 16-10-03	835	47.7	7.9	clear	calm	SG .375		No changes		
	Tue 18-11-03	1210	50.4	7.9	clear	calm	SG .353		Photo		
	Thur 04-03-04	1015	47.3	8.1	clear	calm	SG .372		About 150 lps? Dark green bottom algae		
	Tue 18-05-04	1040	48.9	8.2	clear	calm	SG .350				
	Wed 15-09-04	1005	45.1	7.8	clear	calm	SG .368		Evidence of bad flood scouring; WL to +0.8 m?		
	Wed 03-11-04	855	48.8	8.4	clear	calm	SG .360		~150 lps		
	Wed 09-02-05	840	52.9	8.1	clear	calm	SG .358		dark green bottom algae	897	
	Thur 05-05-05	955	47.5	7.9	clear	calm	SG .368		dark green bottom algae, ~100mm of rain in past two days	668	
Squash Club supply spring S5597	Tue 28-03-95	930	95.4	7.2	clear	const.<10mm	~5 lps		Spring dammed and piped: Sq. club		
	Thu 20-04-95	1327	93.7	6.8	clear	calm	~5	WLw-206	No changes		
	Thu 25-05-95	1620	93.6	6.7	clear	calm	~5	WLw-211			
	Thu 29-06-95	1133	93.1	7.2	clear	calm	~5?	WLw-187	No changes apparent		
	Tue 27-02-96	912	97.3	7.1	clear; grey surface xals	const.<10mm	~5 lps	WLw-255	New wall6mths ago; conc. contamn?	2380	
	Mon 20-05-96	1350	94.3	6.8	clear	const.<10mm	~5	WLw-238	No changes	3840	
	Thurs 12-11-98	850	97.2	7.1	clear	const<20mm	~2 lps	WLw-285	New pipe 113mm dia; top -260	2520	980
	Thu 17-12-98	1345	97.1	7.2	clear	const~20mm	~2	WLw-280	No apparent changes	nd	970
	Thu 04-03-99	955	96.5	7.2	clear	calm	~2-3	WLw-285	No changes	nd	1010
	Fri 28-05-99	1310	98.1	7.3	clear	calm	~2	WLw-278	No changes	nd	1150
	Tue 09-11-99	1102	98.1	7.2	clear	calm	~3	WLw-280	No changes	nd	1030
	Thu 23-12-99	910	92.3	7.2	clear	calm	~3	WLo-277	No changes	nd	1050
	Mon 28-02-00	1325	96.3	7.3	clear, constant bubbles	convecting	~2	WLo-285	~10 sandbags lying alongside	1580*	1060
	Mon 29-05-00	1117	98.6	7.5	clear, constant bubbles	convecting	~1 lps	WLo-365	Outlet pipe full 100mm dia.; NC		770
	Sat 23-09-00	1153	98	7.7	clear, constant bubbles	convecting	~3+	WL -	No changes	1015*	680
	Fri 24-11-00	1525	96.8	8.1	clear, constant bubbles	convecting	~1	WL -	No changes	970*	650
	Fri 22-06-01	1415	96.7	7.6	clear, constant bubbles	fizzy bubbles	~1	WL- 274	No changes apparent	2380	1595*
	Thur 15-11-01	1105	95.4	7.7	clear, colourless	bubble swarms	~1	WL-270	No changes	2060	1380*
	Fri 21-12-01	1328	96.4	7.8	clear, colourless	steady bubbles	~1	WL-275	Constant weak ebullition	2230	1495*
	Wed 20-02-02	1015	96.7	7.8	clear, const. bubbles	<10mm	~1 lps	WL-267	Constant small bubbles @ S wall	nd	
	Sat 01-06-02	1105	98.6	7.5	clear, const. bubbles	<10	~1	WL-276	Constant small bubbles @ S wall	nd	
	Thur 10-10-02	855	97	7.8	clear, const bubbles	<10mm	~0.7	WL-284	Photo; no changes apparent	nd	nd
	Mon 18-11-02	1605	98.5	7.6	clear, const bubbles	<10mm high	~0.5	WL-275	No apparent changes		
	Thur 06-03-03	1523	97.2	7.8	clear, const bubbles	<10mm high	~1	WL-275			
	Thur 16-10-03	1002	96.3	7.9	clear, const ebullition	<10 mm high		1 WL - 277	No changes		
	Tue 18-11-03	1142	98.3	7.8	clear, const ebullition	<10mm high		1 WL-267	Photo		
	Thur 04-03-04	1035	98.1	7.9	clear, const ebullition	<10mm high		1 WL-268	Pipe concreted into base of wall		
	Tue 18-05-04	1055	98.1	8.1	clear, const ebullition	<20mm high		1 WL-265	WL = waterlevel from top of wall		

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	Wed 22-09-04	1255	97.7	7.7	clear, const ebullition	~0.3 m high	1 - 1.5 lps	WL-250	Much stronger boiling; higher WL & flow		
	Wed 03-11-04	918	98.4	7.8	clear, strong steady ebulln	<0.3m high	2	WL-250	Boiling ~0.3m high up S wall; stronger than used to be		
	Sat 19-02-05	1105	97.5	7.7	clear, strong steady ebulln	<0.5m high	3-4 lps	WL-270		1080	
	Thur 05-05-05	1223	97.6	8.1	clear, strong steady ebulln	<0.3m high	2+	WL-260	powerful boiling; pipe full of water	1030	
Squash club supply	Apr-07	nd	nd	nd					Location: E2798984 N3614233		
	Jun-07	nd		nd							
	Jan-08	nd	97	nd	Clear colour	nd	~15 lps	WL-0.4m			
	Mar-08	nd	97.1	nd	Clear colour	nd	~10lps	WL-0.3m	Minor hydrogen sulfide smell present		
	Jun-08	nd	97.2	nd	Clear colour	nd	~10lps	WL-0.3m	Minor H2S smell present; steaming fumarole on stream bank		
	Sep-08	nd		nd							
	Feb-09	nd	94.6	nd	Clear colour	nd	nd	level wth pool	Spring flows out of bank into concrete trough 1.5m x 2m long		
	Apr-09	nd	96.9	nd	Clear colour	nd	nd	WL -0.2 m	Water level has decreased significantly since Feb 2009		
	Jun-09	nd	93.5	nd	Clear colour	nd	nd	WL-0.2 m	Water level remains constant at -0.2m below rim & no H2S smelt		
Baths supply spring S5598	Tue 28-03-95	935	98	6.9	clear	const.<50mm	~10 lps	overflowing	Dammed and piped to supply Baths		
	Thu 20-04-95	1322	98	7.2	clear	10-50mm	~10	overflow	No changes		
	Thu 25-05-95	1615	97.8	7.1	clear	10-20mmh	~7	no overflow	New dam~1yr ago; builder scalded		
	Thu 29-06-95	1138	98.5	7.4	clear	<50mmh	~7?	overflowing	No changes apparent		
	Tue 27-02-96	915	98.1	7.2	clear	30-50mmh	~7 lps?	1 lps o'flow	Constant fizzy rolling ebullition	2280	
	Mon 20-05-96	1345	97.1	7.2	clear	<10mm high	~5	~0.5 lps o'fl	No changes; v. vulner. to roadworks	3730	
	Thurs 12-11-98	900	96.7	6.8	clear; new wall & pipe	<50mmh	~10 lps	~10 lps	New wall ~yr ago; top spring piped	2290	930
	Thu 17-12-98	1350	96.5	6.9	clear	<50mmh	~8	~8 lps	no apparent changes	nd	920
	Thu 04-03-99	1003	96.9	7.4	clear	const.<50mm	~10	~8	No changes; main tap shut	nd	1020
	Fri 28-05-99	1313	97.4	7.3	clear	const.<50mm	~10	~10	No changes	nd	1020
	Tue 09-11-99	1105	96.9	7.3	clear	const.<50mm	~10	~10	New tall control valve on pipe	nd	990
	Thu 23-12-99	915	97.8	7.4	clear	const~50mm	12-15 lps	0+	Constant strong rolling ebullition	nd	840
	Mon 28-02-00	1330	97.6	7.4	clear, const. ebullition	const~50mm	~15	0+	Constant strong rolling ebullition		1010
	Mon 29-05-00	1125	97.7	7.6	clear; const. ebullition	const~75mm	~10		Steady strong ebullition		810
	Sat 23-09-00	1158	96.3	7.6	clear, const. ebullition	const~75mm	~5+		Steady strong ebullition; no change	940*	630
	Fri 24-11-00	1532	97.2	7.6	clear, const. ebullition	const~75mm	~5 lps		Steady strong ebullition; no change	1015*	680
	Fri 22-06-01	1420	97.2	7.5	clear, const. ebullition	const~50mm	~3 - 5 lps		Firm rolling ebullition; new fences	2420	1620*
	Thur 15-11-01	1110	97.2	8.2	clear, colourless	~50mm	~3.5	WLo+10	Steady firm rolling ebullition	2170	1454*
	Fri 21-12-01	1320	96.3	7.9	clear, no odour or colour	~75mm	~4.5	WLo+10	Steady vigorous ebullition	1880	1260*
	Wed 20-02-02	1010	95.9	7.7	clear, const. ebullition	<70mm high	~3	WL+10	O'flow ~0.2 lps; rest into pipe	nd	
	Sat 01-06-02	1052	97.7	7.6	clear, const. ebullition	<50	~3	10	O'flow ~0.3 lps & ~3 lps into pipe	nd	
	Thur 10-10-02	905	98.4	7.6	clear, const. ebullition	<50mm high	~3-4 lps		~0.05 lps o'flow, 3-4 pipe; photo	nd	nd
	Mon 18-11-02	1516	98.4	7.7	clear, const. ebullition	<50mm	~4	10	Constant rolling ebullition		
	Thur 06-03-03	1515	97.9	7.8	clear, const. ebullition	<50mm high	~4	10	New block wall around pool	nd	
	Thur 16-10-03	1010	97.2	7.7	clear, const firm ebulln	<50 mm high	4	10	Steady firm rolling ebullition		
	Tue 18-11-03	1148	98.1	7.6	clear, const firm ebulln	<50mm high	3.5	10	Steady strong ebullition		
	Thur 04-03-04	1042	98.5	8.1	strong rolling ebullition	<50mm high	4	10	About 0.2 lps surface overflow; rest into pipe		
	Tue 18-05-04	1108	98.3	8.1	strong rolling ebullition	<70mm high	4	10	About 1 lps surface flow and ~3 lps into pipe		
	Wed 22-09-04	1307	98.0	7.8	strong ebullition	<0.1 m high	~4 lps	o'flow ~1 lps	Overflow 1 lps, pipe ~3-4 lps; central & S boiling		

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	Wed 03-11-04	912	98.6	7.8	strong ebullition	<0.1m high	~4	o'flow ~2 lps			
	Sat 19-02-05	1115	98.3	7.8	strong ebullition	<50 mm high	~5 lps	o'flow ~2 lps	sandbag walls damming pool 50mm higher; flow stronger now?	1130	
	Thur 05-05-05	1215	98.4	8.2	constant firm ebullition	<0.1m high	~4	o'flow ~2 lps	photograph; firm rolling ebullition	1040	
Waikite hot pools supply spring	Apr-07	nd	nd	nd					Located at: E2798978 N 6314244		
	Jun-07	nd		nd							
	Jan-08	nd	99	nd	Clear, steaming	nd			Feature contains 2 inlets located by river bank		
	Mar-08	nd	98.7	nd	Clear, steaming	nd	~2lps	level with rim	Water temperature decreased since January 2008		
	Jun-08	nd	98.8	nd	Clear, steaming	nd	~0.1lps	level with rim	Pool surrounded by concrete structure to contain the boiling water		
	Sep-08	nd		nd							
	Feb-09	nd	97.1	nd	Clear, steaming	nd	~3lps	nd	Pool surrounded by concrete; to contain the water		
	Apr-09	nd	98.4	nd	Clear blue	nil	nd	level with rim	Pool water is flowing through submerged pipe & into pools		
	Jun-09	nd	99.4	nd	Clear, steaming	nil	nd	level with rim	No overflow from discharge channel present; steam present behind bank		
Main Gully Stream at baths S5588	Tue 28-03-95	1000	87.7	7.3	clear	nil	~50 lps?		Stream below top East end Carpark		
	Thu 20-04-95	1345	87.8	7.3	clear	nil	~50		No changes apparent		
	Thu 25-05-95	1625	87.3	7.3	clear	nil	~50		No changes apparent		
	Thu 29-06-95	1145	84.6	7.2	clear	nil	~50?		No changes apparent		
	Tue 27-02-96	935	87.6	7.2	clear, no odours	nil	~50 lps?		No changes	2130	
	Mon 20-05-96	1332	86	7.2	clear	nil	~50		No changes	3250	
	Thurs 12-11-98	917	88.1	6.8	clear, no odours	nil	~50	~50 lps	No changes apparent	2280	930
	Thu 17-12-98	1405	87.6	6.8	clear, no odours	nil	~50	~50	No changes	nd	930
	Thu 04-03-99	1023	87.1	7.4	clear	nil	~50	~50	No changes	nd	970
	Fri 28-05-99	1325	86.2	7.2	clear	nil	~50	~50	No changes	nd	970
	Tue 09-11-99	1123	85.2	7.4	clear	nil	~60	~60	No changes	nd	910
	Thu 23-12-99	930	88.4	7.4	clear	nil	~50	~60	No changes apparent	nd	910
	Mon 28-02-00	1320	88.8	7.7	clear	nil	~50		No changes apparent		940
	Mon 29-05-00	1144	88.3	7.6	clear		~40		No changes		860
	Sat 23-09-00	1140	86.2	7.6	clear		~50		No changes	895*	600
	Fri 24-11-00	1544	84.8	7.7	clear	nil	~50 lps?		No changes; new wooden fencing	1120*	750
	Fri 22-06-01	1430	88.1	7.5	clear	nil	~50		No changes	2190	1467*
	Thur 10-10-02	920	87.7	7.7	clear	nil	~20+		No photo; steam too dense	nd	nd
Baths spring resurgence S5589	Tue 28-03-95	1007	82.8	7.2	clear; black sinters	nil	~20 lps?		Resurges from under bank		
	Thu 20-04-95	1337	83.6	6.7	clear	calm	~20				
	Thu 25-05-95	1628	83.1	7.1	clear	calm	~20		No changes apparent		
	Thu 29-06-95	1148	82.6	7.2	clear	calm	~20?		No changes apparent		
	Tue 27-02-96	939	83.2	7.4	clear, no odours	calm	~20 lps?		No changes	2060	
	Mon 20-05-96	1335	83.4	7.2	clear	calm	15-20 lps?		No changes; no snails along here	3230	
	Thurs 12-11-98	913	83.6	7.3	clear; no changes	calm	~20 lps?	~20 lps?	No changes apparent	2130	810
	Thu 17-12-98	1410	83.2	7.2	clear, no odours	calm	~20	~20	No changes	nd	820
	Thu 04-03-99	1015	84.1	7.1	clear	calm	~20	~20	No changes	nd	910
	Fri 28-05-99	1322	83.1	7.6	clear	calm	~20	~20	No changes apparent	nd	920
	Tue 09-11-99	1115	84.2	7.3	clear	calm	~15-20	~15-20	No changes apparent	nd	910
	Thu 23-12-99	925	83.3	7.5	clear	calm	~20 lps	~20 lps	No changes; black & white sinters	nd	820
	Mon 28-02-00	1315	84.6	7.5	clear	calm	~20		No changes		880

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	Mon 29-05-00	1137	83.6	7.3	clear		~10+		no changes		740
	Sat 23-09-00	1145	82.6	7.8	clear, turbulent flow		~15		No changes	985*	660
	Fri 24-11-00	1538	83.8	7.7	clear, black sinters	strong flow	~10 lps		No changes; new wooden fencing	940*	630
	Fri 22-06-01	1426	83.9	7.8	clear, no changes	strong flow	~15		No changes apparent	2040	1367*
	Thur 10-10-02	915	86.2	7.7	clear	strong flow	~8+ lps		Photo	nd	nd
	Thur 04-03-04	1050	83.7	8.3	clear	strong flow	20		Photos		
Top Gully Spring S5580 (also "North Gully Spring")	Tue 28-03-95	1045	96.1	7.1	clear; white sinter rim	const.~0.1m	2.5		Easternmost gully spring		
	Fri 28-04-95	1555	95.5	7.1	clear	0.1-0.2mh	2.5		No changes apparent		
	Thu 25-05-95	1638	96.8	7	clear	50-150mmh	1.5		Much road rubble in spring; old		
	Thu 29-06-95	1110	96.7	7.2	clear	0.1-0.2mh	2		No changes		
	Thu 16-11-95	1208	96.7	7.4	clear	~0.2mh	2		No changes		
	Tue 27-02-96	1018	96.6	7.2	clear, no odours	const.~0.1mh	2.5		No changes	2590	
	Mon 20-05-96	1240	96.9	7.2	clear	const.~0.1mh	2		Landsnail colony around algal walls!	2910	
	Mon 09-11-98	1405	96.1	7.8	clear; no changes	const.~0.2mh	2	~2 lps	No changes apparent	2770	990
	Thu 17-12-98	1332	97.2	7.9	clear, no odours	const~0.2mh	2	~2	No changes	nd	980
	Thu 04-03-99	1120	96.9	7.3	clear	const~0.3mh	2	~2	No changes	nd	1010
	Fri 28-05-99	1200	97.1	7.2	clear	const~0.3mh	2.5	~2	No changes	nd	1070
	Tue 09-11-99	1035	96.8	7.2	clear	const<0.2mh	2	~2	No changes; some recent visitors	nd	1130
	Thu 23-12-99	1007	97.7	7.2	clear	const<0.3mh	2	~2	No changes	nd	990
	Mon 21-02-00	1255	97.1	7.5	clear	const<0.3mh	1.5	~2	No changes	nd	960
	Mon 29-05-00	1227	97.2	7.4	clear	const<0.2mh	3		No changes; recent visitors		890
	Sat 23-09-00	1315	95.4	7.6	clear	const<0.2mh	3		No changes; duck on nest N bank	1000*	670
	Fri 24-11-00	1450	97.4	7.8	clear, creamy sinters	const~0.2mh	2		No changes	1045*	700
	Tue 27-02-01	1253	96.8	7.6	clear, no change	const~0.3mh	2.2		No changes	2730	1830*
	Fri 22-06-01	1510	97.8	7.4	clear, no change	const~0.2mh	2		Recent visitors; vegetn trampled	2690	1802*
	Thur 15-11-01	1203	97.2	7.9	clear, colourless	<0.2m high	1.25		No changes	2570	1722*
	Wed 20-02-02	1147	96.3	7.8	clear, rolling convectn	const<0.2m	2		Flow ~1 lps each end	nd	
	Sat 01-06-02	1223	96.6	7.8	clear, rolling convectn	<0.2m	1		Flow ~0.5 lps each end	nd	
	Thur 10-10-02	1125	96.5	7.9	clear, rolling convectn	<0.3m high	1		Photo; no changes apparent	nd	nd
	Mon 18-11-02	1725	96.7	7.7	clear, rolling convectn	<0.2m	1.2	~1	Clear, unchanged		
	Thur 06-03-03	1453	96.4	8.1	grey silty turbid, vis 0.5m	<0.2m high	1	steady flow	Much silt/sands in outflow, pool	nd	
	Mon 14-04-03	1305	95.8	8.5	pale grey turbidity	<0.1m	1.3	stable	pH? No bank collapses at all	1510	900
	Thur 16-10-03	935	97.2	8.2	milky blue turbid	<0.3 m high	5	surging	Enlarged by 2 x 2m at N end; stronger flows		
	Tue 18-11-03	1115	95.8	7.9	clear, sky blue	<0.2m high	4.5	surging	Photos; oscillating boiling and outflows		
	Thur 04-03-04	1215	95.5	8.1	slight milky blue	<0.2m high	4	steady flow	Photos; steady strong flows, dead vegetation		
	Tue 18-05-04	1218	94.9	8.3	clear, sky blue	<0.2m high	3	steady flow	Stabilising pool size and outflow channel now		
	Wed 22-09-04	1323	93.1	8.1	turbid, sky blue, vis. 0.3m	<0.1 m	2	steady flow	Flow divided N & S outlets; abundant SiO2 deposition		
	Wed 03-11-04	937	95.2	7.6	sky blue turbid, vis. 0.5m	<0.2m high	3	steady flow	~2 lps at N and ~1 lps at S outlets		
	Sat 19-02-05	1205	95.7	7.8	sky blue turbid, vis. 0.3m	<0.1m high	3	steady flow	~1 lpsat Sth outlet and ~2 lps at North end	1170	
	Thur 05-05-05	1332	95.3	8.3	sky blue turbid, vis ~0.3m	<0.1m high	2.5	steady flow	flows ~1 lps at S, ~1.5 lpsat N; photographs	1060	
Calcite spring in gully S5585	Tue 28-03-95	1055	96.6	8.6	clear; white sinters	0.1-0.2mh	0.5-1 lps	const. flow	Dieback of vegetation around spring		
	Fri 28-04-95	1605	95.5	7.5	clear	const.<0.1mh	~0.5		White deposits now very loose, soft		
	Thu 25-05-95	1644	95	8	clear	const.<0.1mh	~0.5	const. flow	Dead vegtn above; ground thumps!		
	Thu 29-06-95	1115	97.6	8.6	slight milky turbidity	0.1-0.2mh	~0.5	const. flow	White deposits loose; visibility <0.2m		

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	Thu 16-11-95	1230	~70	nd	clear & calm; no flows!	calm	0	WLs-10mm	Sinters grown over in algae, mosses		
	Tue 27-02-96	1040	~70	nd	clear, calm; no flows	calm	0	WLs-0	Overgrown outflow channel		
	Mon 20-05-96	1243	~70	nd	turbid & calm, no flows	calm	0	WLs-10	Sinters decaying and algae/mosses		
	Mon 09-11-98	1410	~30	nd (dry)	calm, overgrown/dry	calm	0	WLs>1m	Overgrown by ferns! Calm, cold	nd	nd
	Thu 17-12-98	1427	~30?	nd (dry)	calm, overgrown/dry	calm	0	WLs>1m	Overgrown and cold, dry	nd	nd
	Thu 04-03-99	1125	cold	dry	calm, overgrown/dry	calm	0	WLs>1m	Overgrown and cold, dry	nd	nd
	Fri 28-05-99	1210	cold	dry	overgrown	calm	0	?	Ovegrown and dry, cold	nd	nd
	Tue 09-11-99	1040	cold	dry	overgrown	calm	0	?	Overgrown and cold, dry	nd	nd
	Fri 24-11-00	1500	cold	dry	overgrown; crumbling	calm	0		Shrubs overgrowing vent & sinters		
	Fri 22-06-01	1455	cold	dry	overgrown, crumbling	calm	0		Shrubs growing over vent & sinters	nd	nd
	Mon 18-11-02	1720	cold	dry	overgrown, crumbling	calm	0	0	Overgrown and dry, cold		
	Thur 16-10-03	935	cold	dry	very overgrown now	calm	0	0	Hard to recognise; badly overgrown		
Manuroa - large gully spring S5586	Tue 28-03-95	1105	98.4	7.2	clear; explosive boiling	0.1-0.8mh	~20 lps?	const. flow	Oscillating explosive boiling		
	Fri 28-04-95	1610	95.6	nd	clear; explosive boiling	0.2-1.0mh	~20	const. flow	Boiling centre now at East wall!		
	Thu 25-05-95	1648	98.1	7.1	clear; explosive boiling	0.1-1.5mh	~20	const. flow	Boil@E wall; new spr. on S wall!		
	Thu 29-06-95	1120	97.5	7.2	clear; explosive boiling	0.1-0.8mh	~20?	const. flow	Boil@centre only! Dead vegtn area		
	Thu 16-11-95	1245	nd	nd	clear; explosive boiling	0.1-0.8mh	~20?	const. flow	Four new springs around walls!		
	Tue 27-02-96	1045	nd	nd	clear, explosive	0.3-1.0mh	~20 lps?	const. flow	Unsafe to approach; much dead grd		
	Mon 20-05-96	1248	boiling	nd	clear, powerful	0.1-0.7mh	~20	const. flow	No changes? Cannot approach now		
	Mon 09-11-98	1350	98.3	7.2	clear, explosive boiling	0.2-1.0m high	~20-30 lps	const. flow	No changes apparent.	2360	1100
	Thu 17-12-98	1325	98.5	7.1	clear, explosive boiling	0.2-1.0m high	~20	const. flow	No changes	nd	1120
	Thu 04-03-99	1130	97.6	7.2	clear, explosive boiling	0.1-0.8m high	~20	const. flow	No changes apparent.	1495*	1000
	Fri 28-05-99	1210	98.4	7.2	clear, explosive boiling	0.1-0.8m high	~20	const. flow	No changes apparent.	nd	1050
	Tue 09-11-99	1043	97.2	7.2	clear, explosive boiling	0.1-1.5mh	~20	const. flow	No changes; recent visitors	1600*	1070
	Thu 23-12-99	1015	98.8	7.3	clear, explosive boiling	0.1 - 1.3 mh	~25 lps	const. flow	No changes apparent.	nd	930
	Mon 21-02-00	1307	98.6	6.8	clear, explosive boiling	0.1 - 1.0 mh	~20	const. flow	No changes	1420*	950
	Mon 29-05-00	1238	98.6	7.5	clear, explosive boiling	0.3 - 1.3 mh	~20	const. flow	Occasional huge surges		870
	Sat 23-09-00	1305	96.8	7.7	clear, explosive boiling	0.3 - 1.0 mh	~20	const. flow	Oscillating explosive boiling	1030*	690
	Fri 24-11-00	1505	96.6	7.6	clear, explosive boiling	0.3 - 1.0 mh	~20	const. flow	Violent explosive boiling surges	970*	650
	Tue 27-02-01	1308	96.6	7.7	clear, explosive boiling	<1m high	~15+ lps	const. flow	Violent explosive boiling surges	2680	1796*
	Fri 22-06-01	1502	96.4	7.6	clear, explosive boiling	0.3 - 1.0mh	~20	const. flow	Violent oscillating boiling	2620	1755*
	Thur 15-11-01	1208	96.6	7.9	clear, explosive boiling	<1m high	~15	steady flow	Explosive ebullition	2480	1662*
	Wed 20-02-02	1128	95.7	7.8	clear; explosive boiling	<0.8m high	~15	const. flow	New wide track cut on N bank	nd	
	Sat 01-06-02	1215	97.4	7.7	clear; explosive boiling	<0.5m	~10-15	const. flow	No changes	nd	
	Thur 10-10-02	1137	97.9	7.7	clear, explosive boiling	~1m high	~20+ lps	const. flow	Photo; new viewing platform built	nd	nd
	Mon 18-11-02	1712	97.8	7.8	clear, explosive boiling	~0.7m high	15-20 lps	const. flow	Explosive noisy ebullition		
	Thur 06-03-03	1445	96.7	7.7	clear, explosive boiling	~0.7m high	~15	steady flow	Explosive noisy ebullition	nd	
	Mon 14-04-03	1250	97.4	9.8	clear, explosive boiling	<0.8m high	15-20	steady flow	Violent bursts; pH ?	1400	800
	Thur 16-10-03	930	97.2	7.8	clear, violent boiling	<1.5m high	20	surging flow	No changes; explosive boiling outbursts		
	Tue 18-11-03	1105	97.2	7.7	clear, violent boiling	<1m high	20	surging flow			
	Thur 04-03-04	1205	97.5	7.8	clear, violent boiling	<1.5m high	20	surging flow	Photos		
	Tue 18-05-04	1210	98.1	7.8	clear, explosive boiling	<1.5m high	20	surging flow	No apparent changes		
	Wed 22-09-04	1315	96.8	7.5	clear, oscill. strong ebulln	<0.7 m high	15-20 lps	surging flow	no changes		
	Wed 03-11-04	945	97.5	7.6	clear, strong oscill. Ebulln	0.3 to 1.5m high	15 - 20	surging flow	Boiling from centre E; photographs		
	Sat 19-02-05	1145	97.9	8.0	clear, strong oscill. Ebulln	<1m high	15-25 lps	surging flow		1180	
	Thur 05-05-05	1320	>97.7	7.7	clear, strong oscill. Ebulln	<1m high	15-20	surging flow	photographs; explosive oscillating	1070	

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									boiling		
Manuroa - new spring east S5586/1	Thu 16-11-95	1245	boiling	nd	clear, const. boiling	~0.2mh	~2 lps?	const. flow	New spring ~0.5m up East wall		
	Tue 27-02-96	1046	boiling	nd	clear, const. boiling	~0.1-0.2mh	~1	const. flow	unchanged since its formation		
	Mon 20-05-96	1247	boiling	nd	clear, steady boiling	<0.2mh	~1	const. flow	No change		
	Mon 09-11-98	1355	dry, cold	nd	dry, cold	nil	0	nil	Dried up and dormant		
	Mon 18-11-02	1712	dry, cold	nd	dry, cold	nil	0	nil	Overgrown and cold		
Manuroa - new spring south S5586/2	Thu 16-11-95	1246	boiling	nd	clear, const. boiling	~0.1mh	~1 lps?	const. flow	New spring ~0.5m up South wall		
	Tue 27-02-96	1047	boiling	nd	clear, const. boiling	<0.1mh	~1	const. flow	no changes? Vent ~0.5m dia.		
	Mon 20-05-96	1246	boiling	nd	clear, const. boiling	<0.1mh	~1	const. flow	No changes? Cannot approach now		
	Mon 09-11-98	1355	dry, cold	nd	dry, cold	nil	nil	0	Dried up and cold, overgrown		
	Mon 18-11-02	1718	dry, cold	nd	dry, cold	nil	nil	0	Dry, cold and overgrown		
Manuroa - new spring SE S5586/3	Thu 16-11-95	1247	boiling	nd	clear, strong boiling	~0.8mh	~0.5 lps	const. flow	New spring 0.8m above Calc. Spring		
	Tue 27-02-96	1037	boiling	nd	clear, oscill. boiling	0.3-0.8mh	~1-3 lps	surges	Oscillating flows/boiling; geyser?		
	Mon 20-05-96	1245	98.3	8.1	clear, oscill boiling	0.1-0.5mh	~2	surging flow	White channel sinter; snails on algae	2620	
	Mon 09-11-98	1355	dry, cold	nd	dry, cold	nil	0	0			
	Mon 18-11-02	1720	dry, cold	nd	dry, cold	nil	0	0	Dry and overgrown		
Manuroa - new hole S5586/4	Thu 16-11-95	1248	calm	nd	milky turbid	nil	0	WLs-0.5m	New collapse hole in dead vegtn		
	Tue 27-02-96	1048	calm	nd	milky turbid	nil	0	WLs-0.5m	No changes; unsafe to enter area		
	Mon 20-05-96	1244	calm	nd	milky turbid	nil	0	WLs-0.5m	No changes; soft hot crumbly ground		
	Mon 09-11-98	1355	dry, calm	nd	dry, cold	nil	0	0 (>2m?)	Dried up and cold		
	Mon 18-11-02	1720	dry, calm	nd	dry, cold	nil	0	0	Dry and overgrown		
							Litres.Sec				
Puakohurea Geyser S5651	Tue 28-03-95	1130	98.1	7.2	clear; white sinter rim	0.1-0.3mh	7	const. flow	Oscillating boiling; no geysering		
	Fri 28-04-95	1637	93.2	7.3	clear	50-100mmh	7	const. flow	No geysering evident; vegtn to edge		
(Also "HT Geyser; HT for high tension electricity overhead cables)	Thu 29-06-95	1055	98	7.2	clear	0.1-0.2mh	7	const. flow	No geysering evident; sinter= HCl-ve		
	Tue 27-02-96	1130	97.3	7.4	clear, no odours	0.1-0.5mh	7	const. flow	No geysering; strong oscillating boil	3320	
	Mon 20-05-96	1200	98.8	7.4	clear	0.1-0.2mh	5	const. flow	No geysering; ebullition gently oscill.	3620	
	Mon 09-11-98	1430	99.1	7.3	clear, constant ebulln	0.1-0.3mh	3	const. flow	No geysering; steady ebulln; NC	3380	1210
	Thu 17-12-98	1440	98.7	7.2	clear, constant ebulln	0.1-0.3mh	3	const. flow	No geysering, steady ebullition	nd	1200
	Thu 04-03-99	1053	98.1	7.4	clear, constant ebulln	0.2m high	4	const. flow	No geysering, steady ebullition	nd	1340
	Fri 28-05-99	1240	97.6	7.5	clear, constant ebulln	0.2m high	3	const. flow	Steady boiling; no changes	nd	1420
	Tue 09-11-99	1005	98.8	7.6	clear, constant ebulln	0.1-0.3mh	3	const. flow	No changes	nd	1260
	Thu 23-12-99	950	98.6	8.1	clear, constant ebulln	0.1 - 0.3 mh	3.5	const. flow	No changes	nd	1190
	Mon 21-02-00	1222	98.3	7.7	clear, constant ebulln	<0.3m high	3	const. flow	No changes	nd	1410
	Mon 29-05-00	1205	97.1	7.7	clear, constant ebulln	0.1 - 0.3 mh	3	const. flow	Lots of pig rooting around banks		1120
	Sat 23-09-00	1230	97.2	7.7	clear, constant ebulln	<0.3m high	2.5	const. flow	No changes	1360*	910
	Fri 24-11-00	1430	97.8	8.2	clear, constant ebulln	~0.2m high	2	const. flow	No changes	1270*	850
	Tue 27-02-01	1220	97.8	7.1	clear, constant ebulln	~0.1m high	2.5	const. flow	No changes	3380	2265*
	Fri 22-06-01	1545	98.1	7.5	clear, constant ebulln	~0.1m high	1.5	const. flow	No changes apparent	3230	2164*
	Thur 15-11-01	1135	97.5	7.9	clear, colourless	~0.1m high	2	steady flow	Tropical ferns growing on SW bank	3020	2023*
	Fri 21-12-01	1356	97.8	8	clear, no colour or odour	~0.2-0.3m	2	steady flow	White sinter rims and ridges	2840	1900*

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	Wed 20-02-02	1105	95.9	7.8	clear, const. ebullition	<0.2m	2	const flow	No changes apparent	nd	
	Sat 01-06-02	1137	97.6	7.7	clear, const. ebullition	<0.2m	2.5	const flow	No changes apparent	nd	
	Thur 10-10-02	1050	97.7	7.9	clear, const ebullition	~0.5m high	1.5	const flow	Photo	nd	nd
	Mon 18-11-02	1543	97.8	7.8	clear, const ebullition	~0.2m high	2.5	const flow	No apparent changes		
	Thur 06-03-03	1420	97.6	8.1	clear, constant ebulln	<0.3m high	1	steady flow			
	Mon 14-04-03	1205	97.6	8.7	clear, constant ebulln	<0.1m high	2	steady flow	2799808mE 6315007mN	1780	1100
	Thur 16-10-03	903	97.5	7.9	clear, steady boiling	<0.1 m high	2	steady flow			
	Tue 18-11-03	1040	97	7.7	clear, steady boiling	<0.1m high	2	steady flow	Photos		
	Thur 04-03-04	1120	96.4	8.2	clear, steady boiling	<0.2m high	1.5	steady flow	Photos; no changes apparent		
	Tue 18-05-04	1125	96.9	7.9	clear, steady boiling	<0.2m high	2	steady flow			
	Wed 22-09-04	1340	96.5	8.2	clear, steady boiling	<0.2 m	1.5	steady flow	No changes apparent		
	Wed 03-11-04	1005	98.2	7.6	clear, steady boiling	<0.3m high	2	steady flow	photographs		
	Sat 19-02-05	1245	97.6	7.5	clear, steady boiling	<0.2m high	2	steady flow		1510	
	Thur 05-05-05	1250	97.9	8.1	clear, steady boiling	<0.2m high	2	steady flow		1330	
Spring SW of HT S5665	Thur 04-03-04	1135					1		GPS 2799698mE, 6315000mN, 371m, photos		
Top scalding pool S5644 Waikite	Mon 14-04-03	1005	87.6	7.9	clear, weak bubbles	<10mm	~0.05	steady flow	In fenced enclosure, centre of field	1980	1310
Monaroa Spring	Apr-07	nd	99	nd	clear				location of viewing platform: E2799016 N6314261		
	Jun-07	nd	99	nd	clear						
	Jan-08	nd	99	nd	Clear	Upwelling	nd	nd	Several zones of upwelling present, E's up to 0.7 m high		
	Mar-08	nd	99	nd	Active	nd	nd	steady flow	Spring was very active; orange microbial mats present		
	Jun-08	nd	99	nd	active, gas discharging	1m high	nd	steady flow	Water thrown periodically to heights of 1m		
	Sep-08	nd		nd							
	Feb-09	nd	99.2	nd	bubbling vigourously	0.5m high	nd	steady flow	No H2S smell; zones of intense bubbling; erupting		
	Apr-09	nd	99.5	nd	clear, bubbling	0.5 m high	nd	steady flow	Feature bubbling vigourously; multiple zones of intense bubbling		
	Jun-09	nd	100.4	nd	clear, steaming	0.5 m high	nd	steady flow	E's to a height of 0.5 m with intense steam		
Mid-point of stream	Apr-07	nd	88	nd					Location: E2798971 N6314282		
	Jun-07	nd	88	nd					Located ~50m down path from Manuroa stream		
	Jan-08	nd	87.9	nd	clear, steaming	nd	nd	steady flow	Healthy vegetation on riverbank, incl. mosses and ferns		
	Mar-08	nd	88	nd	clear, steaming				Steaming; Exposed island surfaces covered in microbial mats		
	Jun-08	nd	87.8	nd	clear, steaming	nd	nd	steady flow	Orange & green micrbial mat on islands in stream		
	Sep-08	nd		nd	clear, steaming						
	Feb-09	nd	88.2	nd	clear, steaming	nd	nd	steady flow	Light green & yellow mosses thriving on adjacent bank		
	Apr-09	nd	87.8	nd	clear, steaming	nd	nd	steady flow	Vegetation surrounding feature healthy, no H2S smelt		
	Jun-09	nd	88.5	nd	clear, steaming	nd	nd	steady flow	Feature remains unchanged since April 2009		

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Top inlet spring	Apr-07	nd	97	nd					Pumped spring located at: E2798917 N6314272		
	Jun-07	nd	97	nd							
	Jan-08	nd	96	nd	clear, steaming	nd	~15 lps	overflowing	The overflow flows onto terraces & towards the bathing pools		
	Mar-08	nd	96.2	nd	clear, steaming	nd	~10lps	overflowing	No H2S smell present; new pipe erected at top of spring		
	Jun-08	nd	96.1	nd	clear, steaming	nd	~10lps	steady flow	No H2S smell present; water leaking through retaining wall		
	Sep-08	nd		nd				steady flow			
	Feb-09	nd	96.2	nd	steaming	nd	~10lps	steady flow	White crystals encrusting pipe; no H2S smell present		
	Apr-09	nd	96.5	nd	clear, steaming	nd	~10 lps	steady flow	No hydrogen sulfide smelt; spring overflows onto terraces		
	Jun-09	nd	97.4	nd	clear, steaming	nd	~10 lps	steady flow	No hydrogen sulfide smelt; temperature has risen since April 2009		
Entrance to Waikite	Apr-07	nd	60	nd		nil			Location: E2798866 N6314254		
	Jun-07	nd	60	nd		nil					
	Jan-08	nd	59	nd	clear	nil	nd	steady flow	Lower end of discharge channel; no microbial mats present		
	Mar-08	nd	61.2	nd	clear	nil	~5lps	steady flow	No microbial mats present in the stream channel		
	Jun-08	nd	60.9	nd	clear	nil	5lps	nd	Channel floor lined with orange & black mineral ppt		
	Sep-08	nd		nd		nil					
	Feb-09	nd	63.7	nd	clear	nil	nd	nd	No microbial mats present		
	Apr-09	nd	62.1	nd	clear	nil	nd	steady flow	No microbial mats present and no hydrogen sulfide smelt		
	Jun-09	nd	64.3	nd	clear	nil	nd	steady flow	Few changes since April 2009, slight increase in pool temp since April 09		
Baths outlet	Apr-07	nd	52	nd					Location: E2798856 N63142783		
	Jun-07	nd	52	nd							
	Jan-08	nd		nd							
	Mar-08	nd		nd							
	Jun-08	nd		nd							
	Sep-08	nd		nd							
	Feb-09	nd	56.9	nd	clear	nd	~7lps	nd	Discharging water flows over man-made rock wall into stream		
	Apr-09	nd	55.5	nd	clear	nd	~ 10 lps	nd	Discharge rate has increased since Feb 2009 by 3 lps		
	Jun-09	nd	54.7	nd	clear	nd	~10 lps	nd	Stream channel was lined with ,any dead flax leaves		

Waiotapu

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Hakareteke Stream	Sun 11-06-95	1054	32.7	3.5	clear	nil	~150?	step-700	At main bathing Waterfall Pool		
("Kerosene Creek"):	Wed 19-07-95	930	27.7	nd	turbid		~200?	step-625	In flood; raining		
	Sun 01-10-95	1615	36.6	<4.0	clear		~150?	step-717	WL stump top-603		
	Thu 16-11-95	836	36	3	clear, vis~0.6m		~150?	step-730	WL stump top-615		
	Fri 09-02-96	853	33.4	3.7	turbid, vis.~0.5m		~250?	step-872	WL stump-547; recent heavy rains		
	Fri 17-05-96	942	31.1	3.5	turbid, vis. ~0.7m		~250?	step-1150	Dam removed and pool lowered	580	
	Mon 09-11-98	830	37.4	3	clear, vis. ~0.7m	nil	~250?	step-800	Dam built & WL raised ~300mm	770	480
	Fri 28-05-99	923	34.6	2.8	clear, vis. ~0.7m	nil	~250			nd	470
Kerosene Creek Pool	Apr-07	nd	38.7	nd			70 lps		Location: E2806110 N6313104		
	Jun-07	nd	36.9	nd			100 lps				
	Jan-08	nd	40	nd			70 lps				
	Mar-08	nd	41.4	nd	Muddy colour	nil	~150lps	WL-0.5 m	Thermal pool located at base of 3m waterfall		
	Jun-08	nd	36.5	nd	Muddy, flowing quickly	nil	~150lps	WL-0.6 m	Surrounding vegetation healthy; people in pool		
	Sep-08	nd	37.3	nd	nd	nd	~ 200 lps	WL-0.5 m	Flow of the pool has increased since June 08		
	Feb-09	nd	39.5	nd	nd	nd	~120 lps	WL-0.5 m			
	Apr-09	nd	39.5	nd	Slightly brown	nd	~120 lps	WL -0.5m	Eastern shelf of pool covered in green microbial mat		
	Jun-09	nd	35.7	nd	Clear brown colour	nd	~150 lps	WL -0.5m	Water temperature has decreased since April 09; no bathers present		
Tavern Stream	Tue 28-03-95	1233	41.4	4.5	clear	nil	~30				
(Stream at junction of S.H.	Thu 20-04-95	1045	39.2	4.8	grey turbid	nil	~30?		Dirty and flooded		
5 and road in to Thermal	Sun 11-06-95	1105	34.6	4.5	turbid, vis. ~100mm	nil	~30-40?		Bad culvert washout w/e 27/28 May		
Reserve, opposite Tavern):	Wed 04-10-95	1015	33	4.4	clear	nil	~40?		culvert 900 dia. depth=85mm		
	Thu 16-11-95	912	34.1	4.5	clear, vis. ~0.5m		~40?		depth in culvert=85mm		
	Fri 17-05-95	1003	33.2	4	clear		~40 lps?		depth in culvert=95mm	390	
	Thu 17-12-98	950	37.6	4.2	clear	nil	~20			508	320
	Fri 28-05-99	940	37.7	4.2	clear	nil	~20		New culvert and roading	560	340
	Wed 22-12-99	1035	36.4	3.8	clear	nil	~20	d = 87 mm	Culvert i.d. 1185mm	nd	270
	Mon 28-02-00	1245	41.1	4.1	clear	nil	~20	d = 83 mm	No changes	nd	310
	Mon 29-05-00	1155	36.1	4.3	clear		~20 lps	d = 107	No changes		410
	Tue 26-09-00	1315	35.7	4.3	clear	nil	~15-20	d = 86	Heavy rains last night	343*	230
	Sat 23-06-01	1620	37.7	4.3	clear		~10	d = 82	Culvert 1200 diameter	5250	3518*
	Sun 09-06-02	1508	38.7	3.9	clear, Fe staining	nil	~10 lps		No changes	nd	
	Wed 07-05-03	1155	42.7	5.2	clear	nil	~25		2804114mE 6312617mN	930	600
	Wed 14-05-03	1107	nd	nd	clear	nil	~10		Datalogger on	nd	nd
	Wed 15-10-03	945	36.6	4.2	clear	none	15				
	Wed 05-11-03	855	37.4	4.1	clear	none	10		Photo		
	Thu 04-03-04	1245	39.6	4.2	clear	none	20		Photos		
	Tue 18-05-04	1410	37.9	4.1	clear, no odours	no ebullition	15				
	Mon 20-09-04	1525	34.4	4.2	clear	no ebullition	12-15 lps				
	Fri 18-02-05	1715	40.1	4.1	clear, no odours	calm	12-15		photograph	560	
	Thur 05-05-05	1410	37.5	5.9	clear, no odours	calm	<15		orangy iron deposits	535	
Tavern Stream at Waiotapu	Wed 07-05-03	1350	42.5	4.8	clear	nil	~40 lps		2804103mE 6310872mN	1790	1100
Stream Bridge Swimming Pool											

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Whangioterangi ("Echo Lake")	Fri 11-04-03	1025	25.4	3.5	milky turbid, vis ~0.2m	calm	~3 lps		Outlet 2804728mE 6310321mN	3510	2300
Hidden Place S49 (Bathing pool beneath waterfall, ~150m W from Lady Knox geyser):	Tue 28-03-95	1240	40.2		grey turbid	nil	15				
	Thu 20-04-95	1122	39.6	3.1	grey turbid, vis.150mm	nil	17.5				
	Sun 11-06-95	1125	35.8	2.7	dark grey, vis. 500mm	nil	12.5		Recent flood; debris ~0.2m up dam		
	Wed 19-07-95	945	31.6		turbid, dark grey		30		In flood		
	Wed 04-10-95	1037	36.3	3	grey turbid, vis. 0.6m	nil	25				
	Thu 16-11-95	1000	38.4	2.5	dark grey, vis. 0.4m		12.5				
	Fri 09-02-96	945	38.6	3.2	turbid dark grey, vis0.1		17.5				
	Fri 17-05-96	1037	36	3	dark grey turbid, vis0.3		12.5			1670	
	Mon 09-11-98	855	40.3	2.3	dark grey turbid, vis0.3	nil	15		"New" dam has raised WL ~300mm	2040	1570
	Thu 17-12-98	1015	41.3	2.5	dark grey turbid, vis0.3	nil	10		No changes apparent	2880	1960
	Fri 28-05-99	1000	40.1	2.5	dark grey turbid, vis0.3	nil	5		No changes apparent	nd	1810
	Tue 09-11-99	1215	40.4	2.5	grey turbid, vis. 0.2m	calm	12		No changes apparent	nd	1220
	Wed 22-12-99	1103	40.1	2.2	grey turbid, vis. ~0.1m	calm	9		No changes apparent	nd	1060
	Mon 28-02-00	1220	41.8	2.5	grey turbid, vis.~0.1m	calm	10		No changes apparent	nd	1320
	Mon 29-05-00	1230	37.9	2.5	grey turbid vis.~150mm	calm	15		No changes apparent		1760
	Tue 26-09-00	1355	35.3	2.8	grey turbid vis.~150mm		20	in flood	Bad opossum damage to shrubs	1090*	730
	Mon 27-11-00	1245	40.8	3.2	brownish grey, vis~0.1m		10		No changes	955*	640
	Tue 27-02-01	940	41.9	3.2	brownish grey, vis~0.1m		12		No changes; pine trees sawn down	1770	1186*
	Sat 23-06-01	1548	38.3	2.8	grey turbid, vis~0.1m		11		Mess of fallen pine trees	1490	998*
	Wed 14-11-01	905	39.7	2.7	dark grey, vis~50mm	calm	10		Amoeba notice on punga by pool	2270	1521*
	Wed 19-12-01	1552	34.1	2.8	Brownish dark grey	calm	10.5	vis~0.1m	No changes; big flow	1890	1266*
	Fri 01-02-02	1127	41.9	2.9	dark brownish grey	calm	8	vis ~0.1m	No changes	nd	
	Sun 09-06-02	1435	40.1	2.7	dark grey sediments	calm	6	vis ~0.1m	No changes apparent	nd	
	Thur 10-10-02	1348	40.2	2.8	dark grey turbid	calm	10	vis ~0.2m	Photo	nd	nd
	Mon 18-11-02	820	39.8	2.7	dark grey turbid	calm	7	vis ~0.1m	No changes		
	Thur 06-03-03	840	39.6	3.1	dark grey turbid	calm	10	vis 150mm			
	Wed 07-05-03	1250	39.4	3.1	dark grey turbid	calm	10		2804935mE 6311515mN, S end	3500	5700
	Wed 15-10-03	1005	37.4	2.9	slight grey turbid	calm	10	vis. ~0.2m			
	Wed 05-11-03	908	38.4	2.9	grey turbid	calm	7	vis. 150mm	Photo		
	Thu 04-03-04	1445	37.8	2.7	brownish turbid	calm	13.5	vis. ~400mm	Photo		
	Tue 18-05-04	1430	37.1	2.8	dark brownish turbid	calm	10	vis. ~300mm			
	Mon 20-09-04	1505	36.6	2.8	dark brown colour; clear	calm	9	vis. 0.5m	dark brown sediments		
	Fri 18-02-05	1655	40.8	2.7	dark grey turbid	calm	10	vis. ~150mm	dark grey sediments	2760	
	Thur 05-05-05	1428	36.9	2.8	brownish sediments	calm	12	vis. ~0.3m	no apparent change; dam built ~0.2m higher	2360	
Hidden pool	Apr-07	nd	39	nd							
	Jun-07	nd	39.1	nd							
	Jan-08	nd	40	nd							
	Mar-08	nd	not visited	nd	not visited	not visited	not visited	not visited	Feature not visited as road closed		
	Jun-08	nd	37.8	nd	Murky colour	nil	~50lps	nd			
	Sep-08	nd	39.3	nd	Grey colour	nd	nd	nd	Surrounding vegetation healthy		
	Feb-09	nd	49.2	nd	Grey colour	nil	~20lps	overflowing	Pool fed by man-made dam downstream of pool		
	Apr-09	nd	48.8	nd	Brown colour	nd	~ 20 lps	overflowing	Vegetation surrounding feature healthy & four swimmers present		
	Jun-09	nd	35.4	nd	Grey colour	nd	~ 20 lps	overflowing	Pool has changed to a grey colour & no swimmers present		
Lady Knox Geyser S52	Thu 20-04-95	1100	nd	5.9	clear	3-5mh	~1-2		Soaped at 1015 hrs		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Sun 11-06-95	1115	nd	5.8	clear	3-5mh	~1				
	Wed 19-07-95	1015			clear	5-8mh	~2?				
	Thu 16-11-95	945	~100?	7.5	clear	5-7mh	~1		E 8-10mh@2-3 mins, then 5-7mh		
	Fri 09-02-96	1015	~100?	nd	clear	15mh/5-8mh	~2-3 lps?		~15mh<1 min; then 5-8mh>1 hr		
	Mon 09-11-98	915									
	Tue 09-11-99	915	~100	nd	clear	10mh/2-3mh	~1 lps		Photos; erupted ~10mh/20 sec	nd	nd
	Wed 22-12-99	1045	dry	nd	dry and calm	calm	0		Erupted at 0915 NZST; short lived	nd	nd
	Thur 11-05-00	930	~100	nd	erupting	<10m high	~3		10mh~1min; then ~5mh > 45 mins.		
	Mon 22-05-00	1240	dormant		calm and dry	nil	0		SAPAC datalogger installed		
	Mon 29-05-00	1210	dormant		calm and dry	nil	0		SAPAC datalogger retrieved		
	Tue 26-09-00								Workmen building wooden seating		
	Tue 27-02-01	918	geysering		1 kg soap at 9:15 am	~8m high	<1 lps		Main eruptn ~30sec; then ~1 hr		
	Sat 23-06-01	915	geysering			8-10m high			Strong eruptn ~1 min; then >1 hr		
	Fri 01-02-02	1115	bubbling	nd	Erupted this morning	8-10m high	0	nd	Muted bubbling and dry outflow	nd	
	Thur 10-10-02	1355	dormant	nd	Erupted this morning	~10m high	0	nd	Dry pm; weak steaming; photo	nd	nd
	Wed 15-10-03	955	erupting	7.4	clear	3-7m high	0.3		Soaped at 1015 hrs		
	Thu 04-03-04	1435	erupting		clear	<10m high	0.5		Ejecting lumps of soapy sinter. Met GNS staff here		
	Tue 18-05-04	am	erupted						Had eruption okay this morning		
	Thur 05-05-05	1015	erupting		clear, soapy odours	<10m high			Richard said no changes at all; normal		
	Apr-07	nd	99 1 hr post erp	nd					Location: E2805218 N6311396		
	Jun-07	nd	100	nd			nd		4 hours after eruption		
	Jan-08	nd	101.5	nd			nd				
	Mar-08	nd	100.5	nd	Erupting, active	nil when visited	0	nd	5 hours after erupting temp was 100.5 degrees		
	Jun-08	nd	101.8	nd	Erupted this morning	nil when visited	0		E's 3hrs prior to visit; moderate H2S smell		
	Sep-08	nd	nd	nd	Erupting, active	3 m high	nd	nd	Still erupting 1.5 hrs after initial eruption, to a height of 3 m		
	Feb-09	nd	99.2	nd	Constantly steaming	nil	nd	nd	Visited at 3.30pm; no eruptions seen		
	Apr-09	nd	100.6	nd	Constantly steaming	nil when visited	nd	WL low	Visited at 4 pm on April 8th; vent constantly steaming		
	Jun-09	nd	100.8	nd	Constantly steaming	nil when visited	nd	WL low	Vent was steaming constantly & moderate hydrogen sulfide was smelt		
Knox Hole Spring S53	Thu 20-04-95	1105	88	3	clear	10-25mm	0	30	Constant noisy bubbling, no flows		
	Sun 11-06-95	1117	75.1	2.2	clear	const. 10-30	~0.005				
	Wed 19-07-95	1020	v. hot	nd	clear, yellow deposits	10-20mm	~0.5				
	Thu 16-11-95	940	64.1	2.5	clear	10-30mm	~0.005		constant bubbling		
	Fri 09-02-96	930	73.8	3	clear	10-20mm	~0.01 lps		constant gentle bubbling		
	Fri 17-05-96	1045	74.3	2.5	clear	5-10 mmh	nil	s-10 mm	weak constant bubbles	3380	
	Mon 09-11-98	928	68.2	2.5	clear, yellow deposits	<15mmh	~0.01 lps		weak constant bubbles	3290	1630
	Tue 09-11-99	1205	78.9	2.5	clear	<15mm high	0	s-25 mm	Constant noisy bubbling, no flows	nd	1490
	Tue 26-09-00	1325			clear		~0.1		gentle weak bubbling		
	Thur 10-10-02	1355	very hot	nd	clear	~50mm high	0	s-120	Constant noisy bubbling; photo	nd	nd
	Wed 15-10-03	955	very hot		clear	<20 mm	0		New outlet ~3m downstream to south		
	Thur 04-03-04	1435	very hot		clear, bubbling weakly	<10mm	0		No pool outflows but ~0.05 lps new hole		
	Tue 18-05-04	1430	very hot		clear, bubbling weakly	<10mm	0	s-100	Pool no flow but new hole ~0.05 lps		
	Apr-07	nd	79.4	nd			100 ml/s		Location: E2805226 N6311403		
	Jun-07	nd	95	nd			20 ml/s				
	Jan-08	nd	80.3	nd							
	Mar-08	nd	89.6	nd			~50ml/s		Hydrogen sulfide smelt; sulfur crystals present		
	Jun-08	nd	74.1	nd	No water visible;	Bubbling	~20ml/s	WL low	Bubbling heard; H2S gas smelt near vent		
	Sep-08	nd	56.4	nd	Murky colour	nd	nd	WL 100mm	Several zones of gas discharge present		
	Feb-09	nd	82.8	nd	No water visible	Bubbling	~0.2lps	nd	Bubbling, new vent opened in floor of dry pool		
	Apr-09	nd	88.1	nd	No water visible	Bubbling	~ 50mlps	WL low	No water seen in vent but bubbling heard deep		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
									within vent		
	Jun-09	nd	87.4	nd	No water visible	Bubbling	~20mlps	WL low	Clear water flows flowing underground & discharging at surface		
Black Sinter Spring S50	Tue 28-03-95	1245	94.8	6.1	clear	10-20mm	3		Black spiny sinters		
	Thu 20-04-95	1145	93.3	5.9	clear	20-30mm	3				
	Sun 11-06-95	1130	95	6.2	clear	const. ~25mm	3				
	Wed 04-10-95	1042	93.7	5.9	clear	const. ~25mm	2				
	Thu 16-11-95	1010	95	5.9	clear	~30mm const.	1				
	Fri 09-02-96	1000	94.5	6.2	clear	10-20mmh	1		constant steady ebullition		
	Fri 17-05-96	1027	93.7	6.5	clear	~30 mmh	1		constant steady ebullition	7600	
	Mon 09-11-98	905	94.5	6.3	clear, no changes	~<50mmh	1.5		constant steady ebullition	8000	2770
	Thu 17-12-98	1025	95.1	6.2	clear, no changes	~50mm high	2		constant steady ebullition	8700	3600
	Fri 28-05-99	1010	96.2	6.4	clear, no changes	~50mm high	2		constant steady ebullition	nd	3560
	Tue 09-11-99	1227	96.1	6.1	clear, no changes	~50mm high	1.25		steady ebullition, no changes	nd	3290
	Wed 22-12-99	1055	96.6	5.9	clear, no changes	~30mm high	1.25		No changes apparent	nd	2780
	Mon 28-02-00	1230	97.4	5.8	clear, constant bubbles	<50mm high	2.5		No changes apparent	nd	3230
	Mon 29-05-00	1220	95.8	5.6	clear, constant bubbles	<50mm high	1.5		No changes apparent		2570
	Tue 26-09-00	1345	95.8	6.3	clear, constant bubbles	<25mm high	2		No changes	1687*	1130
	Mon 27-11-00	1252	95.2	6.8	clear, const bubbling	<50mm high	0.5		No changes	1985*	1330
	Tue 27-02-01	950	96.7	6.7	clear, const bubbling	<50mm high	1		Pines sawn down, lying in tangles	7600	5092*
	Sat 23-06-01	1540	96.8	6.7	const ebulln, clear	~30mm high	0.8		Fallen dead manuka over outlet	6100	4756*
	Wed 14-11-01	912	95.7	6.8	clear, colourless	~30mm ebull	1.5	WLo+50	No changes apparent	7400	4958*
	Wed 19-12-01	1558	95.8	6.7	Clear, constant boiling	<0.1m high	1	WLo+50	Black sinters, spicular	7100	4757*
	Fri 01-02-02	1135	96.3	6.8	const clear ebullition	<0.1m high	1	WLo+45	No changes	nd	
	Sun 09-06-02	1453	96.4	6.8	const clear ebullition	<75mm	0.3	WLo+40	No changes; reduced outflow?	nd	
	Thur 10-10-02	1342	96.8	6.8	constant ebullition, clear	~50mm high	0.5	WLo+50	Photo	nd	nd
	Mon 18-11-02	830	96.3	6.8	constant ebullition, clear	~50	0.4	50	No changes apparent		
	Thur 06-03-03	850	96.7	7	steady gentle boiling	<50mm high	1	55			
	Wed 15-10-03	1010	96.4	6.7	clear, const boiling	<70mm high	0.5	50	No changes apparent		
	Wed 05-11-03	915	96.6	6.7	clear, const boiling	<50 mm high	0.7	55	Photo		
	Thu 04-03-04	1455	96.3	7.2	clear, const boiling	<50mm high	0.7	50	Photo		
	Tue 18-05-04	1438	96.7	6.6	clear, constant bubbling	<70mm high	0.7	50	No changes apparent		
	Mon 20-09-04	1509	96.7	7.2	clear, steady bubbling	<50mm high	0.5	50	Firm bubbling; black sinters, spicules		
	Fri 18-02-05	1705	96.9	7.4	clear, steady bubbling	<50mm high	0.5	50	photograph; no changes apparent	4310	
	Thur 05-05-05	1437	96.9	7.3	clear, constant ebulln	<50mm high	0.8	~50mm deep	Black sinters, spicular	3730	
Weather Map Resurgence S59	Tue 28-03-95	1310	nd								
	Fri 28-04-95	1026	96	2	pale grey turbid, vis.150	20-30mm	~10		Resurgence of acid waters		
	Sun 11-06-95	1145	98.5	1.8	grey turbid, vis. 100mm	20-30	~10				
	Wed 04-10-95	1100	97.7	2	grey turbid, vis. 100mm	20-30	~7?				
	Thu 16-11-95	1125	boiling	nd	grey turbid	20-30	~5?				
	Fri 17-05-95	1133	98.4	2.2	grey turbid	20-30	~5			12600	
	Mon 09-11-98	950	boiling	2.3	grey turbid	<30mmh	~7		Resurgence of acid waters		
	Thur 10-10-02	1240	boiling	nd	grey turbid		0	~7 lps	Constant flows	nd	nd
	Fri 18-02-05	905	boiling	nd	yellow-fawny turbid			~10-15	source greatly enlarged in last year or so	nd	
	Apr-07	nd	nd	nd				20 lps	Location: E2804421 N6310781		
	Jun-07	nd	nd	nd				~30 lps	Feature inaccessible but seen from viewing platform		
	Jan-08	nd	nd	nd							
	Mar-08	nd	Steaming	nd	Steaming, active	nil	~60lps	WL-0.15m	Minor H2S smelt; considerable sulfur deposits on channel		
	Jun-08	nd	Steaming	nd	Steaming, active	nil	~60lps	WL-0.15m	Sulfur deposits on channel rim; minor H2S smelt		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Sep-08	nd	Steaming	nd	Steaming	nd	~60 lps	WL~-0.3m	Flow has not changed since Jun 08: minor hydrogen sulfide smell		
	Feb-09	nd	Steaming	nd	Murky green clour	nd	nd	WL-0.2m	Feature inaccessible but can be seen from viewing platform		
	Apr-09	nd	Steaming	nd	Murky green clour	nd	nd	WL-0.2m	Spring inaccessible but moderate hydrogen sulfide smelt		
	Jun-09	nd	Steaming	nd	Murky green clour	nd	nd	WL-0.2m	Feature not visible due to la arge amount steam presnt		
Champagne Pool S64	Tue 28-03-95	1320	77.6	5.4	lime green, vis.~1.5m	5-10mm	5	s-140	Constant gentle effervescence		
	Sun 11-06-95	1154	75.5	5.4	greeny yellow, vis. ~1m	5-10mm	5	s-135	const. weak efferv; new wood railing		
	Wed 04-10-95	1110	77	5.5	lime green	5-10mm	5.5	s-150			
	Thu 16-11-95	1035	76.2	5.3	limey green	5-10mm	5	s-145			
	Fri 09-02-96	1047	77	5.3	limey green, vis. ~1.5m	5-10mm	5	s-150	constant gentle effervescence		
	Fri 17-05-95	1145	75	5.3	lime green, vis. ~1.5m	5-10 mm	5.5	s-150	constant fizzy ebullition	12200	
	Mon 09-11-98	1000	76.2	5.4	lime green, vis. ~1.5m	<10mmh	6	s-147	const fizzy ebulln; S fire 08-11-98	10700	4100
	Thu 17-12-98	1103	77.1	5.9	lime green, vis. ~1.5m	<10 mm	5	s-150	const fizzy ebullition	nd	4920
	Mon 21-02-99	1255	76.2	5.4	lime green, vis. ~1.5m	<10 mm	5.5	s-150	const fizzy ebullition	nd	4760
	Fri 28-05-99	1040	74.8	4.7	lime green, vis. ~1.5m	<10 mm	5	s-148	const fizzy ebullition	nd	4520
	Tue 09-11-99	830	75.4	5.3	lime green, vis.~1.5m	<10mmh	6	s-150	const fizzy ebullition	nd	4180
	Wed 22-12-99	1145	76.8	5.4	lime green, vis.~1.5m	<10mm high	5	s-150	constant weak fizzy ebullition	nd	4070
	Mon 28-02-00	1127	77.5	5.4	lime green, vis.~1.5m	<10mm high	6	s-150	constant weak fizzy ebullition	nd	4230
	Mon 29-05-00	1250	76.6	5.3	lime green, vis.~1.5m	<10mm high	5	s-153	constant fizzy ebullition		3760
	Tue 26-09-00	1452	73.1	5.4	lime green, vis~1.5m	<10mm high	5.5		No changes; new rails by craters	2358*	1580
	Mon 27-11-00	1325	76.2	5.8	lime green, vis~1.5m	<10mm high	5		No changes	2060*	1380
	Tue 27-02-01	1055	76.6	5.4	Lime green, vis~1.5m	<10mm high	5		No changes; 77.2oC E side	8500	5695*
	Sun 24-06-01	1410	75.9	5.3	lime green, vis~1.5m	<10mm high	5.5	s-147	Photos track erosion beside pool	6400	4288*
	Thur 25-10-01	1450	75.5	5.7	lime green, vis~1m	<10 mm	3	s-150	No changes apparent	9600	6432*
	Wed 19-12-01	1503	77.3	5.7	Lime green, vis~1m	<5mm high	3	s-152	No changes	7300	4890*
	Wed 20-02-02	1302	76.9	5.9	lime green; vis ~1m	<10mm	4	s-149	Outflows ~3 lps W & ~<1 lps E	nd	
	Sun 09-06-02	1345	74.8	5.3	lime green; vis ~0.4m	<10	3	s-150	Outflow ~3 lps E & zero to West	nd	
	Thur 10-10-02	1233	75.6	5.7	lime green	<10mm high	3.5	s-151	Flow ~0.5 lps E, ~2.5 W; photo	nd	nd
	Mon 18-11-02	953	76.1	6.1	lime green	<10mm	4	s-148	Glass slides in north outlet		
	Thur 06-03-03	930	76.3	5.2	lime green	<10mm	3.5	s-148	Akld University Met. Station nearby		
	Wed 07-05-03	1305	76.4	5.3	lime green	<10mm	4	s-149	2804464mE 6310475mN, S side	6950	4600
	Wed 15-10-03	1050	73.9	5.8	translucent green	<10mm	3	s-147	Outflows ~2 lps W, ~1 lps E		
	Tue 18-11-03	857	75.5	5.9	lime green	~10mm	2	s-148	Flows 1.5 W, 0.5 E		
	Thu 04-03-04	1350	75.2	5.9	lime green	~10mm	2	s-145	Constant crackly fizzy ebullition		
	Tue 18-05-04	1525	75.5	5.4	lime green	<10mm	2	s-147	Anticlockwise convection at 8sec/1m		
	Wed 22-09-04	1330	73.2	5.6	lime green	<10mm high	3	s-151	no flow W; new rails, cobbles at start		
	Fri 18-02-05	912	76.2	5.9	lime green; vis ~1.5m	<10mm high	5.5	s-143	flow ~3.5 lps west, ~2 lps to east	6830	
	Apr-07	nd	76.8	nd					Location: E2804517 N:6310486		
	Jun-07	nd	74.6	nd	Green colour	effervescing					
	Jan-08	nd	75.7	nd	Green colour	effervescing			orange flocculant on surface		
	Mar-08	nd	77.2	nd	Green colour	effervescing	nd	nd	Constant vigorous effervescence present		
	Jun-08	nd	76.2	nd	Green colour	effervescing	nd	nd	Constant, vigourous effervescence		
	Sep-08	nd	73.8	nd	Green colour	effervescing	nd	nd	Pool was effervescing vigorously; no orange flocculant on surface		
	Feb-09	nd	76.7	nd	Green colour	nd	nd	nd	No orange flocculant on pool surface		
	Apr-09	nd	75.4	nd	Green colour	effervescing	nd	WL - 0.15 mm	Pool was constantly effervescing & minor hydrogen sulfide could be smelt		
	Jun-09	nd	75.1	nd	Green colour	effervescing	nd	WL-0.15 mm	Pool effervescing vigourously & no orange flocculant present on pool surface		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
New Geyser	Tue 28-03-95	1330	nd			noisy	0	>2m	Collapse formed c.July 1994		
(Collapse hole ~5m N of Jean Batten geyser):	Fri 28-04-95	1103	nd		water not visible	noisy	0	>2m?			
	Wed 04-10-95	1117	nd	nd	water not visible	noisy	0	>2m?	Const. noisy ebulln and steaming		
	Thu 16-11-95	1110	boiling?	nd	not visible	noisy	nil	>2m?	const. noisy boiling; no recent flows		
	Fri 09-02-96	1055	97.5	nd	clear	~0.3mh	nil	s-1185	constant noisy ebullition		
	Fri 17-05-96	1145	hot	nd	water not visible	?	nil	>2m?	const. muted rumbling; weak steam		
	Mon 09-11-98	915	boiling?	nd	water not visible	noisy	nil	>2m	constant noisy ebullition		
	Thu 17-12-98	1108	boiling?	nd	water not visible	muted	nil	>2m	constant muted bubbling	nd	nd
	Sun 24-06-01	1445	80.5	5.3	muddy grey water	bubbling	0	WL -740	Constant gentle bubbling	7850	5260*
	Wed 19-12-01	1505	boiling?	nd	Deep boiling; not seen	bubbling	0	WL-2m	Water not visible	nd	
	Sun 09-06-02	1352	54.8	5.2	milky yellow, vis.~0.4m	calm	0	WL-735	Inflow ~0.05 lps; yellow wall stains	nd	
	Thur 10-10-02	1242	68.5	5.8	dark grey turbid	calm	0	WL-600	Muddy blowout recently; photo	nd	nd
	Mon 18-11-02	910	~98	nd	water not visible	boiling	0	WL-3000	Water >3m deep; not visible		
	Wed 15-10-03	1100	boiling?	nd	>3m deep to water	boiling	0	>3000	Constant deep noisy boiling		
	Tue 18-11-03	915	boiling		>2m deep; not visible	boiling	0	>2000	Deep boiling sounds		
	Tue 18-05-04	1535	bubbling		>3m deep to water	deep bubbling	0	>3000	Steady deep muted boiling and steam		
	Wed 22-09-04	1343	cold		water clear, inflowing	calm	0	WL o-810	Taking cold water inflow off terrace		
	Fri 18-02-05	920	cold		>2.5m deep water	calm	0	WL o-2.5m			
Jean Batten Geyser	Fri 28-04-95	1100	very hot!	nd		noisy	nil	>2m?	Hot surface puddle		
	Wed 04-10-95	1115	68.3	nd	clear	0.1mh		s-200	splashing to surface		
	Thu 16-11-95	1105	cold	nd	water not visible	calm	nil	>2m	Calm and taking cold surface waters		
	Fri 17-05-96	1150	hot	nd	clear, colourless	5-10 mm	nil	s-330	gentle bubbles, steaming		
	Mon 09-11-98	1020	boiling	nd	no water visible	noisy	nil	s>1500mm	constant steady muted boiling		
	Thu 17-12-98	1110	boiling	nd	no water visible	noisy	nil	s>1500mm	constant steady muted boiling	nd	nd
	Sun 24-06-01	1445	boiling		no water visible	noisy		s>1m?	constant steady muted boiling	nd	
	Wed 19-12-01	1530	boiling	nd	no water visible	noisy	nil	s>2m?	constant steady muted boiling	nd	
	Sun 09-06-02	1355	boiling	nd	no water visible	noisy	nil	s>1m?	constant steady muted boiling	nd	
	Thur 10-10-02	1240	steaming	nd	dry; no water visible	gentle steam	nil	nd	weak deep steaming; photo	nd	nd
	Mon 18-11-02	918	steaming	nd	water not visible	gentle steam	0	>2m?	Water not visible; steady steaming		
	Thur 06-03-03	935	~98	nd	water not visible	boiling steady	0	WL >2m	Water not visible; steady steaming		
	Wed 15-10-03	1100	?		water not visible	hissing sound	0	>3m?	No steam or water heard		
	Tue 18-11-03	920			steaming steadily	gentle steam	0	>2m?			
	Tue 18-05-04	1540	boiling		steaming steadily	gentle steam	0	>3m?	Steady deep muted boiling noise		
	Wed 22-09-04	1338	95.7	7.1	grey turbid	steady <0.1m	0	WL o-300mm	No eruptions evident		
	Fri 18-02-05	920	boiling		not visible	steady	0	WL o->500	steadily boiling and steaming; no eruptions		
	Apr-07	nd	nd	nd					Location: E2804548 N6310482		
	Jun-07	nd	nd	nd							
	Jan-08	nd		nd							
	Mar-08	nd	steaming	nd	Constantly steaming	nd	0		No eruptions evident		
	Jun-08	nd	steaming	nd	Constantly steaming	gentle steam	0		No eruptions evident		
	Sep-08	nd	not steaming	nd	Not steaming	nil	0	nd	No steam present		
	Feb-09	nd	steaming	nd	Constantly steaming	nd	0	nd	Feature has not erupted for many years		
	Apr-09	nd	not steaming	nd	No steam present	nd	0	nd	Feature was not steaming and water from terraces was running into the vent		
	Jun-09	nd	inaccessible	nd	No steam present	nd	0	nd	No steam present & no hydrogen sulfide smelt		
North Side Geyser S66 or NW Boardwalk	Tue 28-03-95	1335	nd		Grey turbidity	0.2-0.5mh		0.3m	Grey debris around vent; geysering		
	Wed 04-10-95	1120	nd	nd	no water	calm	nil	>0.5m	steaming but calm, no ebulln		
	Wed 04-10-95	1138	nd	nd	grey turbid, geysering	0.5-2.0mh	~3?	flowing	geysering .5-2.0mh >15 minutes		
	Thu 16-11-95	1050	boiling?	nd	grey turbid water	0.2-0.5mh	nil	s-200	geysering 0.2-0.5mh for ~25 mins.		

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	Fri 09-02-96	1045	boiling?	nd	grey turbid	0.5mh	~1 lps?	flowing	geysering ~0.5mh for 10 minutes		
	Tue 20-02-96	830	nd	nd	not seen	calm	nil	>0.5m	calm, no steam or wet surfaces		
	Tue 20-02-96	915	boiling	nd	nd	0.5 mh	~1 lps	flowing	geysering		
	Tue 27-02-96	1247	97.8	5.7	grey turbid	0.3-1.5 mh	~0.5-3 lps	flowing	geysering >25 minutes; SAPAC on	9200	
	Fri 01-03-96	1510	97.7	5.9	grey turbid	0.3-0.5 mh	nil	s-300	geysering; SAPAC off	10300	
	Fri 17-05-96	1145	boiling	nd	grey turbid	0.3 mh	nil	s--300	geysering		
	Mon 09-11-98	910	geysering	nd	grey turbid	<1.0m high	nil	s-100	geysering ~10+ mins; D>20 mins.		
	Thu 17-12-98	1100	geysering	nd	grey turbid	~0.5m high	nil	s-150	geysering ~>15 minutes	nd	nd
	Tue 20-04-99	1156	boiling	nd	grey turbid	~0.2m high	0	s-500	boiling; not geysering. D'logger on	nd	nd
	Mon 22-05-00	1405	boiling		grey turbid	~0.5m high	0	s-500	boiling; datalogger installed		
	Mon 29-05-00	1325	98.2	5.4	clear and boiling	<0.7m high	0	s-400/500	SAPAC datalogger retrieved		3620
	Tue 27-02-01	1100	boiling	nd	const gentle bubbling	<0.2m high	0	s-500	No eruptns or overflows evident	nd	
	Sun 24-06-01	1445	calm		no steaming at all	nil	0	s ~-500	No steaming or overflows evident	nd	
	Wed 19-12-01	1527	calm		No steaming	calm	0	s>500?	No boiling or flows visible	nd	
	Wed 20-02-02	1308	boiling	nd	noisy boiling, steaming	<0.5m	0	WLs-500	No signs flows; compressn cracks	nd	
			Jim (pers. com m):	com m):	eruptions ~2m high	3 weeks ago;	~3-5 mins.	every 1-2	hours with overflows.		
	Sun 09-06-02	1415	boiling	nd	constant boiling	<0.5m high	0	WLs~500	Not watched but staff not seen E's	nd	
	Thur 10-10-02	1250	boiling	nd	constant noisy boiling	~0.5m high	0	WLs-350	Dry surrounds; photo	nd	nd
	Mon 18-11-02	910	boiling	nd	constant noisy boiling	~0.5m high	0	-300	Dry surrounds; no overflows		
	Thur 06-03-03	940	boiling	nd	constant steady boiling	~0.5m high	0	-500	Dry surrounds; no eruptions		
	Wed 15-10-03	1105	very hot?	nd	no water or steam visible	calm	0	>500	Surrounds dry; no noise or steam		
	Tue 18-11-03	915			inactive, cool	calm	0	WLs-150	Yellowy turbid water		
	Tue 18-05-04	1540	very hot?		fluctuating boiling	<0.7m high	0	WLs-0.5m	Cyclical boiling episodes over few mins.		
	Wed 22-09-04	1507	>80 ?		steady bubbling	<0.3m	0	WL s-0.5	SAPAC on		
	Fri 18-02-05	925	boiling		geysering	~0.7m high	0	WL s-0.5	geysering ~1 min every ~1hr many months		
Pool North of Jean Batten	Apr-07	nd	36.9	nd		calm		WL 300 mm	Location: E2804546 N6310483		
Geysier	Jun-07	nd	42.1	nd		calm		WL 0.8 mm			
	Jan-08	nd	24.6	nd		calm		WL 25 mm			
	Mar-08	nd	34.9	nd	Clear colour	calm	Overflowing	Overflowing	Feature 1m x 0.7m 4m north of Jean Batten Geysier		
	Jun-08	nd	25.9	nd	Clear, overflowing	calm	nd	Overflowing	Water overflowing pool rim		
	Sep-08	nd	29.9	nd	No water visible	calm	nil	Drained	The pool has drained completely,		
	Feb-09	nd	30.8	nd	Overflowing; H2S smell	calm	nd	Overflowing	Pool dimensions: 1m long x 0.7m wide		
	Apr-09	nd	24.9	nd	Pale blue color	calm	nd	Overflowing	Pool was submerged by water folwing over sinter terraces		
	Jun-09	nd	15.9	nd	Pale blue color	calm	nd	Level with rim	Water temperature has decreased significantly since April 09		
Waiotapu (or 4ft) Geysier S70	Tue 28-03-95	nd	nd						Geysier below Bridal Veil Falls		
	Fri 28-04-95	1030	45-50?		limey turbid, vis. 0.2m	nil	nil	s-500	Flooded last week; hot		
	Sun 11-06-95	1204	58.6	3.5	clear/yellow-green tint	calm	calm	s-248	Flooded recently; no E's known		
	Wed 04-10-95	1123	59.3	3.5	yellow-green, vis.250mm	calm	nil	s-25			
	Thu 16-11-95	1055	79.2	5.5	clear!	calm	nil	s-05	No silt in vent; has erupted!		
	Fri 09-02-96	1110	90	6.2	clear	calm	nil	s-40	Has just erupted; puddles very hot		
	Tue 20-02-96	840	94.6	6.2	clear	0.1mh	~0.1 lps		Oscillating boiling and overflows		
	Tue 20-02-96	857	~100?	nd	clear	0.5-1.0 mh	~3-5 lps		geysered 0.5-1.0 mh for c.6 mins.		
	Tue 20-02-96	905	nd	nd	clear	calm	nil	s-700	after end of eruption		
	Tue 20-02-96	910	nd	nd	clear	0.1-0.3 mh	nil	s-300			
	Tue 27-02-96	1318	84.6	5.9	clear	calm	~0.005 lps	flowing	Recent eruptn; hot pools; SAPAC on	3130	

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Fri 01-03-96	1535	91.1	6.3	clear	calm	nil	s-150	Recent eruptn; SAPAC off	3550	
	Fri 17-05-96	1155	84.4	5.7	clear	calm	0	s-15	Recent eruption; warm puddles	4740	
	Mon 09-11-98	1020	84.6	5.9	clear	calm	~0.05 lps	flowing	erupting; >2 hrs since last?	2860	1210
	Thu 17-12-98	1118	85.7	6.9	clear	calm	0	s-003	Calm, no recent eruptions	nd	1540
	Mon 21-02-99	1240	84.5	6.7	clear	calm	0	s-805	Just ended eruption	nd	1280
	Tue 20-04-99	1230	83.4	6.2	clear	bubbles	0.01 lps	o'flowing	Datalogger installed; photographs	nd	1430
	Fri 28-05-99	1050	94.8	6.8	clear	erupting	~1	flowing	With Katherine Luketina	nd	1460
	Tue 09-11-99	845	88.4	6.8	clear	calm	0	s-40	Erupted hrs ago; warm puddles	nd	1380
	Wed 22-12-99	1205	84.6	6.3	clear, occas. bubbles	calm	0	s-55	Erupted hrs ago; warm puddles	nd	1230
	Mon 28-02-00	1145	87.4	6.2	clear, no bubbles	calm	0	s-05	Erupted in last few hours	nd	1340
	Mon 22-05-00	1344	hot ~90?		clear and bubbling	bubbles	~0.05 lps	s+10	About to erupt soon; datalogger on		
	Mon 29-05-00	1300	91.7	5.8	clear, occas. bubbles	big bubbles	~0.03	s+05	Active; E soon? SAPAC retrieved		1560
	Tue 26-09-00	1508	90.2	6.8	clear and calm		0	WL -215	Active; erupted am; warm pools	1045*	700
	Mon 27-11-00	1337	85.8	6.7	clear, const bubbles	bubbling	~0.005	2	Active; hot puddles	925*	620
	Tue 27-02-01	1107	87.6	5.9	calm and clear	calm	0	WL -045	No eruption for many hours	3320	2224*
	Sun 24-06-01	1430	88.1	6.7	calm and clear	no bubbles	0	WL -001	Datalogger on; no eruptns for days?	3120	2090*
	Thur 25-10-01	1505	93.3	6.7	clear; noisy bubbling	big bubbles	~0.01-0.5	WL+30	E <1.5m high for 12 mins.	3220	2157*
	Wed 19-12-01	1515	86.3	6.9	clear, active geysering	calm	~0.05	WL+10	E's today; weak o'flows	3210	2150*
	Wed 20-02-02	1340	88.3	6.8	clear, weak convection	calm	0	WLo-8mm	Eruptions today; warm puddles	nd	
					Jim building wooden	edges along	path down	beside	terraces to Bridal Veil Falls		
	Sun 09-06-02	1402	87.7	6.3	clear, bubbling & flows	bubbling	~0.01 lps	WL+10	Has been erupting today	nd	
	Thur 10-10-02	1303	86.3	6.4	clear, no eruptions	calm	0	WL-23	No eruptions recently; photo	nd	nd
	Mon 18-11-02	935	91.2	7.4	clear, calm	calm	0	WL-155	Warm puddles; erupted ~2hrs ago		
	Thur 06-03-03	943	87.5	6.7	clear	calm	0	-51	Dry surrounds; no E's for days?		
	Wed 15-10-03	1105	86.4	6.7	clear	calm	0	WL -82mm	Dry surrounds; no E's for days?		
	Tue 18-11-03	927	85.5	6.4	clear	calm	0	WL-116	No eruptns past days; SAPAC on		
	Thu 04-03-04	1402	85.2	6.8	clear	calm	0	WL-62	No eruptions today; SAPAC on		
	Tue 18-05-04	1535	85.9	6.5	clear, no convection	calm	0	WL-10	No E's for days; SAPAC on		
	Wed 22-09-04	1438	94.5	7.9	clear	calm	0	WL-100	recent eruption & one seen 1445-1454 hrs		
	Fri 18-02-05	925	86.1	7.4	clear, no convection	calm	~0.002 lps	WL+05	active; warm puddles	1630	
Waiotapu Geyser	Apr-07	nd	84	nd	clear	calm		WL 300 nm	Location: E2804491 N6310256		
	Jun-07	nd	85.5	nd	clear	calm					
	Jan-08	nd	85.2	nd	Clear,alkali chloride	calm	nd	WL-50mm	Minor steam present rising from pool		
	Mar-08	nd	83.6	nd	Clear, alkali chloride	calm	nd	WL-30mm	No gas bubbles observed in pool		
	Jun-08	nd	84.4	nd	Clear, alkali chloride	calm	nd	WL-10mm	No gas bubbles visible; pool calm		
	Sep-08	nd	90	nd	Clear, alkali chloride	calm	nd	WL-100 mm	Water temperature has risen since June 08		
	Feb-09	nd	84.7	nd	Clear, blue colour	calm	nd	Overflowing	Pool 0.7m long x 0.3m wide, steaming		
	Apr-09	nd	92.5	nd	Clear, blue alkali cholride	bubbling	nd	WL-0.3m	Data logger retrieved from geyser; constant gas bubbles ascending		
	Jun-09	nd	86.4	nd	Clear blue	calm	nd	WL-0.15m	Data logger deployed at feature; no gas bubbles ascending from pool		
Venus Bath Spring S47 (Old Bath at Outlet):	Tue 26-09-00	1418	47.9	3.2	clear and calm		0.3		Slight milky green colour	1045*	700
	Mon 27-11-00	1310	52.8	3.4	clear and calm		0.1		No changes; old sinter margins	970*	650
	Tue 27-02-01	1010	54.4	4.1	calm, clear		0.2		No changes	2390	1601*
	Sat 23-06-01	1605	51.8	3.8	calm, clear, vis ~2m		0.2		No changes	1660	1112*
	Wed 14-11-01	850	53.7	3.5	slight grey fawn colour	calm	0.5	WLo+65	Visibility ~1.5m	2410	1615*
	Wed 19-12-01	1618	54.1	3.3	clear, vis~1.5m	calm	0.5	WLo+60	Bacterial grey masses on walls	2490	1670*
	Fri 01-02-02	1150	54.7	3.4	slight greeny colour	calm, clear	0.25	WLo+50	Visibility ~2m depth; d'logger out	nd	
	Sun 09-06-02	1435	51.6	3.4	greeny clear	calm	0.03	WLo+50	Visible to ~1.5m; fawny bacteria?	nd	
	Thur 10-10-02	1330	51.8	3.8	clear, slight greeny	calm	0.15		Pine trees sawn down; photo	nd	nd
	Mon 18-11-02	805	51.6	3.7	clear	calm	0.2	50	No changes apparent		

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
	Thur 06-03-03	910	52.3	3.6	clear	calm	0.3	55			
	Wed 14-05-03	1209	50.6	4	clear	calm	0.1	55	Datalogger on	nd	nd
	Wed 15-10-03	1030	50.4	3.8	clear, visibility ~2.5m	calm	0.5	60	Recorder on		
	Wed 05-11-03	935	51.2	3.6	clear	calm	0.3	50	Photo; datalogger retrieved		
	Thu 04-03-04	1510	52.3	3.4	clear, visibility ~2.5m	calm	0.5	WL-77			
	Tue 18-05-04	1420	50.7	3.6	clear, visibility >2m	calm	0.3		No changes apparent		
	Mon 20-09-04	1450	52.7	3.4	clear	calm	0.2	WL-96	WL from sinter top; microbial masses		
	Fri 18-02-05	1643	54.4	3.3	clear, visibility <2m	calm	0.5	WL-92	fawny grey sediments; no changes	2160	
	Thur 05-05-05	1422	52.7	3.4	clear, greeny colour	calm	0.3	WL-94	visibility >2m; no apparent changes	1790	
Venus Pool	Apr-07	nd	46.5	nd					Location: E2804937 N6311515		
	Jun-07	nd	45.5	nd							
	Jan-08	nd	dry	nd							
	Mar-08	nd	not visited	nd	not visited	not visited	not visited	not visited	Feature not visited as road closed		
	Jun-08	nd		nd							
	Sep-08	nd	nd	nd	nd	nd	nd	nd	Feature not visited		
	Feb-09	nd	inaccessible	nd	Feature not visible	nd	nd	not visible	Feature not visible due to bracken overgrowth		
	Apr-09	nd	inaccessible	nd	Feature not visible	nd	nd	not visible	Feature not visible due to bracken overgrowth		
	Jun-09	nd	inaccessible	nd	Feature indistinguishable	nd	nd	not visible	Pool dimensions: 4m long x 3 m wide; much bracken overgrowth		
Hakareteke Geyser S49N	Mon 27-11-00	1120	99.1	2.8	clear, geysering		~2 lps		Datalogger on; red & black sinters	761*	510
	Sat 23-06-01	1435	98.6	2.5	erupting ~0.3m high	clear			Datalogger on; no big eruptn seen	3130	2097*
	Tue 01-01-02	1555	98.6	2.9	clear, boiling	~0.3-0.5m	0 - 0.005	WLo+03	D'logger on outflow ~0.6m out	2160	1450*
	Fri 01-02-02	1035	98.1	2.8	oscillating boiling	~0.3m high	.01-.05 lps	WLo+10	D'logger off; oscillating outflow	nd	
	Sun 09-06-02	1528	99.6	2.7	oscillating boiling	<0.3m	0-0.05	WLo+10	Clear, oscill. boiling; no eruptions	nd	
	Thur 06-03-03	750	99.4	2.7	clear, oscillating boiling	<0.1m high	0	WL -10	No flow but wet channel; datalogger		
	Wed 14-05-03	1042	98.8	3.1	clear, steady boiling	<0.2m high	0	WL-10	Recent outflow; datalogger on		
	Wed 15-10-03	925	99.4	2.8	clear, oscillating boiling	<0.2m high	0.005		Recorder on		
	Wed 05-11-03	815	100.1	3.1	clear, oscillating boiling	<0.1 m high	0	-10	Photo; datalogger retrieved		
Rainbow Crater	Tue 27-02-01	1040			Recent mud eruption	weak bubbles	0		Erupted ~8m high am Mon 29 Jan	nd	
Post Mistress Spring	Thu 04-03-04	1300	93.2	8.2	clear, steady boiling	<50mm high	0.7		GPS 2803780mE, 6311231mN, 340m		
ROTOWHERO SPRINGS											
Spring ~10m N of alluvial fan, at NE shore	Thur 08-05-03	1450	45.7	3.4	Pale grey turbidity	calm	3-5 lps		2805143mE 6314618mN	1710	1100
Spring at NE Shore Cliff	Thur 08-05-03	1500	95.3	3.5	clear	<0.1m high	~5 lps		2805202mE 6314527mN	2510	1500
Spring at SE Shore	Thur 08-05-03	1507	38.9	3.3	muddy turbid	calm	~1 lps?		2805199mE 6314450mN? (?N)	4840	4900
Centre of Lake	Thur 08-05-03	1515	30.3	3.2	Green algal turbidity	calm/gas	?		2805077mE 6314577mN	13000	1200
Lake at SW Bank (roadside)	Thur 08-05-03	1520	30.1	3.3	Greeny turbid, vis ~0.1m	calm			At entry point by roadside	3020	1400

Site name:	Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Steaming ground	Apr-07	nd	98	nd	active	nil	nil	dry	Location: E 2806118 N6312772		
	Jun-07	nd	88-96	nd	active	nil	nil	dry			
	Jan-08	nd	91-99	nd	active	nil	nil	dry			
	Mar-08	nd	steaming	nd	Steaming, active	nil	nil	dry	Feature 40m long x 15m wide; fumaroles present		
	Jun-08	nd	steaming	nd	Steaming, active	nil	nil	dry	Feature inaccessible due to flooding, H2S smelt		
	Sep-08	nd	steaming	nd	nd	nd	nd	nd	This area was not visited due to flooding of the path		
	Feb-09	nd	range: 98-99	nd	Clear to murky	nil	nil	WL low	Ground is highly dangerous and active		
	Apr-09	nd	range:89.1-99	nd	Clear to murky	nd	nd	WL lower than feb	Ground highly active & covered with numerous fumaroles		
	Jun-09	nd	range: 82-100	nd	Clear, oily slick present	nd	nd	WL variable	Constant bubbling heard from springs & moderate H2S was smelt		
Devils Bath	Apr-07	nd	inaccessible	nd	bright yellow-green	calm	nil		Location:		
	Jun-07	nd	inaccessible	nd	bright yellow-green	calm	nil	WL very low			
	Jan-08	nd	inaccessible	nd	Bright yellowy-green	calm	nil	WL decreased	Water level risen slightly since September 2007		
	Mar-08	nd	inaccessible	nd	Bright yellowy-green	calm	nil	WL increased	All previously observed fumaroles submerged		
	Jun-08	nd	inaccessible	nd	Bright yellowy-green	calm	nil	WL low	Water level decreased since March 08; H2S smelt		
	Sep-08	nd	inaccessible	nd	Bright yellow	calm	nil	WL low	No hydrogen sulfide was smelt in the area		
	Feb-09	nd	inaccessible	nd	Bright yellow, colour	calm	nil	high	Gas bubbles present & white scum at pool rim visible		
	Apr-09	nd	inaccessible	nd	Bright yellowy-green	effervescing	nil	WL high	The water level was high with rare gas discharge present in pool		
	Jun-09	nd	inaccessible	nd	Bright green colour	effervescing	nil	WL high	The colour of the pool has changed to green but water level remains constant		

Wairakei

Name:	Date:	Time, NZST:	Temp. oC:	pH:	Conduct. uS.cm: (Cond x 0.67=ppm)	TDS, ppm:	Colour and Clarity:	W'Level, o'flow:	Flow, lps:	Comments:
Geyser Valley Stream at Parshall Flume	Wed 07-05-03	1450	18.9	6.7	245	160	clear	0	~100 lps	2778709mE 6282837mN, below tearooms
Kiriohineki Stream at S.H.1/5	Wed 07-05-03	1510	50.9	8.4	7690	4900	clear/slight milky colour	0	~70 lps	2779055mE 6281734mN, E side of road
Wairakei Stream at Waikato River	Wed 07-05-03	1540	44.7	8.6	5860	3700	clear	0	~1000 lps	2780216mE 6281429mN, ~50m up of river

Whangairorohea

Day and date:	Time, hrs: (NZST):	Temp C:	pH:	Colour and clarity:	Ebullition:	Flow, lps:	WL-s'o:	Comments:	Conductivity, umho/cm:	TDS, ppm:
Pool spring										
Fri 10-03-95	1200	38.2	nd	clear, vis.>3m	nil	nil	WL-588	WL from arrow on log		
Fri 21-04-95	1150	37.3	7	clear, vis.>3m	nil	nil	WL-684	All green surface algae now gone!		
Fri 19-05-95	1328	33.2	6.7	clear, vis.>3m	sparse bubble	0	WL-685	No surface algae; sparse bubbles		
Sat 10-06-95	1635	34.4	6.5	clear, vis.>3m	occas.bubbles	0	WL-725	No surface algae		
Wed 17-01-96	1143	39.5	6.8	clear, vis.>3m	occas.bubbles	0	WL-486	Abdnt surface green algae		
Fri 17-05-96	1420	35.3	7	clear, vis.>3m	nil	0	WL-665	Green surface algae almost all gone	1680	
Fri 30-10-98	910	37.8	6.8	clear, vis.>3m	occas.bubbles	0	WL-632		1610	960
Tue 15-12-98	850	37.6	7.1	clear, vis.>3m	occas.bubbles	0	WL-602	Dead stump in water, ~30 yrs?	1580	1130
Mon 01-11-99	1430	39.3	6.8	clear, vis.>3m	occas.bubbles	0	WL-815	Algae ~0.5 surface area; logging		1010
Mon 28-02-00	850	38.4	6.8	clear, vis.>3m	occas.bubbles	0	WL-802	Logging skid pad now built nearby	nd	890
Wed 31-05-00	930	38	6.7	nd	nd		nd	Logging going on all around spring		
Fri 09-03-01	1230	37.8	6.8	clear, calm, vis.>3m	occas.bubbles	0	nd	Logged bare; blackberries!	nd	nd
Mon 18-02-02	1510	37.9	6.7	clear & calm, vis.>2m	occas.bubbles	0	WLn-177	Datalogger in; new WL stick	nd	
Thur 21-03-02	1245	36.3	7.8	clear and calm	nd	0	nd	D'logger retrieved; raupo plants here	nd	
Wed 15-05-02	1025	33.5	7.5	calm, clear, vis.>1.5m	occas.bubbles	0	NW-433	W stick -690; new NW stick -433	raupo, carex	
Sat 05-10-02	1545	35.5	7.7	calm, clear	occas.bubbles	0	NW-635	Photos		
Thur 06-03-03	1215	38.3	7.5	calm, clear	calm	0	NW-561			
Mon 14-04-03	1655	35.7	6.5	calm, clear	occas bubbles	0	NW-628	On N shore: 2793078mE 6294720mN	1720	1100
Tue 30-09-03	1345	34.2	7.4	calm, clear	occas bubbles	0	pile-816	WL from SE pile; new track, jetty		
Tue 02-03-04	1115	37.7	7.4	calm, clear	bubbles <15mm	0	Wpile-731	Photos; bottom algae, none floating		
Mon 17-05-04	1025	33.9	7.5	calm, clear	occas. Bubbles	0	Wpile-725	Photos; clockwise current ~30sec/1m		
Fri 18-02-05	1025	36.4	7.3	calm, clear, vis >2m	occas. bubbles	0	Wlpile-588	jetty under ~100mm of water! Photos	1560	
Tue 10-05-05	1535	35.2	7.6	calm, clear, vis. ~2m	occas. Bubbles	0	WL -850	New name board on posts by road: "Tahunatapu"	1520	
Cold stream										
Fri 10-03-95	1220	24	nd	clear	nil	~30 lps		Recent severe flood scouring		
Fri 21-04-95	1200	23.6	5.9	clear	nil	~15-20?				
Fri 19-05-95	1335	20.7	nd	clear	nil	~10-15?		Vegetation regrowth after floods		
Sat 10-06-95	1639	20.9	6.7	clear	nil	~10-15?		No changes		
Wed 17-01-96	1130	21.4	5.7	clear	nil	~25?		No recent floods or changes		
Fri 17-05-96	1430	20.5	5.8	clear	nil	~10		No changes	200	
Fri 30-10-98	930	17		clear	nil	~15		No changes	223	130
Fri 09-03-01	1230	nd	nd	clear; abndt logging debris	nil	~15		Overgrown now; tree prunings	nd	nd
Streambed seepages										
Fri 10-03-95	1225	42	nd	clear	nil	?		Hot seepages up under cold stream		
Fri 21-04-95	1210	53	nd	clear	nil	?				
Fri 19-05-95	1340	54	nd	clear	nil	?		~50 deg.C along ~20m of stream		
Sat 10-06-95	1643	51	nd	clear	nil	?		No changes apparent		
Wed 17-01-96	1135	57	6.4	clear	nil	?		No changes?		
Fri 17-05-96	1435	49	6.4	clear, no odours	nil	?		No changes apparent	1870	
Fri 30-10-98	935	43	nd	clear, no odours	nil	?		No changes?	nd	nd
Mon 01-11-99	1440	47	nd	clear, no odours	nil	~15		no changes	nd	nd