

2nd December 2013

Auckland Council
Private Bag 92300
Auckland 1142

Attention: Naveen Kumar, Water Resources Section

Re: Quarterly Report for Three Kings Quarry, Permit 12977

Dear Naveen

As required by Condition 7 of the above resource consent, please find enclosed records of groundwater level measurements for the period of 01 September 2013 to 30 November 2013.

Should you have any queries please do not hesitate to contact me on 027 504 3624 or at elyse.laface@winstoneaggregates.co.nz.

Yours faithfully



Elyse LaFace
Environmental Coordinator



Three Kings Quarry – Permit No 12977

Groundwater Take To Dewater Three Kings Quarry

Quarterly Report

December 2013

QUARTERLY REPORT

Three Kings Quarry – Permit No 12977

This report is made with regard to Condition 7 of Permit No 12977 and contains records for the period of 1 September 2013 to 30 November 2013.

The results of groundwater level monitoring within boreholes surrounding the take point have been provided for the reporting period. The notes that are included with the groundwater level results have been revised. The revisions have been made to provide details pertaining to the latest borehole substitution required due to the loss of pneumatic piezometer 25b2.

A plan showing the location of boreholes in which groundwater levels were measured has also been included in this report.

THREE KINGS GROUNDWATER LEVEL RECORD SHEET

Date	BH 2B	BH 5B	BH 6A	BH 6B	BH 6C	BH 7	BH 10a	BH 10b
19-Sep-13	0.69	34.56	32.62	38.39	43.15	35.64	29.42	51.34
18-Oct-13	0.33	34.92	31.96	38.08	42.81	35.98	29.24	51.52
21-Nov-13	1.11	34.14	32.44	38.58	43.57	35.22	29.7	51.06

Date	BH 11b	BH 12a	BH 12b	BH 13a	BH 13c	BH 16	BH 17	BH 18A
19-Sep-13	7.54	72.45	51.38	4.97	67.16	12.39	59.78	7.08
18-Oct-13	7.53	72.46	50.53	5	67.13	12.42	59.75	7.09
21-Nov-13	7.53	72.46	51.13	5.08	67.05	14.96	57.21	7.09

Date	BH 18B	BH 19A	BH 19B	BH 20	BH 20a	BH 21	BH 22	BH 22a
19-Sep-13	37.76	46.74	45.49	34.56	41.00	39.05	1.17	55.49
18-Oct-13	37.64	46.86	45.13	34.92	41.00	39.05	1.07	55.59
21-Nov-13	37.49	47.01	45.87	34.18	41.06	38.99	1.35	55.31

Date	BH 23	BH 23a	BH 24	BH 24a	BH 25	BH 25a	BH 25b2	BH 26
19-Sep-13	5.42	51.78	5.89	51.45	6.33	56.47	2.50	60.26
18-Oct-13	5.33	51.87	5.7	51.64	6.19	56.61	2.50	60.26
21-Nov-13	5.33	51.87	5.63	51.71	6.32	56.48	2.49	60.27

Date	BH 26a	BH 27	BH 28a	BH 29	BH 30	BH 31a	BH 33	BH 34
19-Sep-13	5.01	54.40	0.01	49.59	7.28	51.93	7.69	58.91
18-Oct-13	5.04	54.37	0.01	49.59	7.41	52.06	7.59	59.01
21-Nov-13	5.16	54.25	0.01	49.59	7.24	51.89	7.73	58.87

Date	BH 35a	BH 35b	BH 36a	BH 36b	BH 37a	BH 37b	BH 38a	BH 38b
19-Sep-13	17.77	48.49	10.68	55.58	7.23	59.30	7.21	59.32
18-Oct-13	17.74	48.52	10.6	55.66	7.15	59.38	7.13	59.40
21-Nov-13	17.79	48.47	10.67	55.59	7.36	59.17	7.34	59.19

Date	BH 39a	BH 39b	BH 40a	BH 40b
19-Sep-13	7.22	54.77	4.83	57.30
18-Oct-13	7.27	54.72	4.79	57.34
21-Nov-13	7.28	54.71	4.86	57.27

Locations of boreholes are marked on the attached plan.

Waterlevels within standpipe piezometers are expressed as depth below surface levels (first column) and as elevations above sealevel (second column). All values expressed in meters.

Waterlevels within pneumatic piezometers are expressed as head of water above piezometer tip (first column) and as elevations above sealevel (second column).

BH32 destroyed by Roading Contractors in June 2011.

The pneumatic piezometers in BH28b and BH31b stopped producing reliable results and monitoring of these ceased in July 2012. Waterlevels will continue to be monitored by piezometers installed in BH28a and BH31a.

The pneumatic piezometers 25b1 and 25b2 stopped producing reliable results and monitoring of these ceased in April 2013 and November 2013, respectively. Waterlevels will continue to be monitored by the standpipe piezometer installed in BH25. Council was notified of the latest substitution of 25b2 for BH25 via email on 04 September 2013. The distance between BH25 and BH25b is 2.89m (refer to the attached photo).

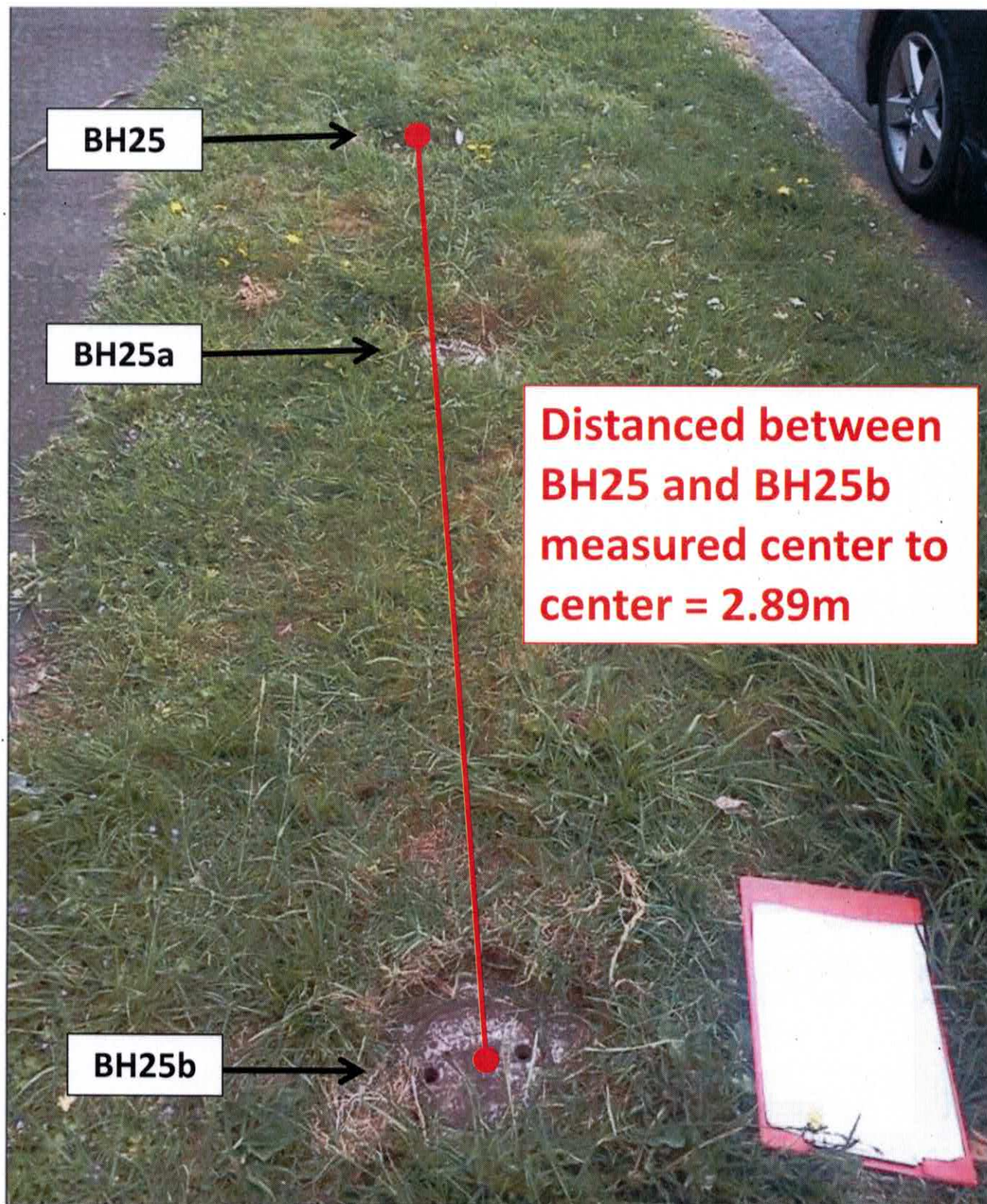


Photo taken 27/11/2013 of Boreholes 25, 25a and 25b.



Note:
Origin of Levels
C455 S049330
RL55.1412m
in some terms as
W205 S054417
RL59.305m

• SS3316 = Precise
Level Survey
Benchmarks

• BH16 = Borehole
Location



PROJECT NO.	1110/00001
DRAWING NO.	6451-100
AS	
AD	
REV	
B	

BOREHOLE LOCATION PLAN AS AT 10-3-05

WINSTONE AGGREGATES LTD
THREE KINGS QUARRY

HARRISON
GRIERSON
CONSULTING ENGINEERS SURVEYORS PLANNERS
Land 5 Dugby Road, 20 Henderson Bay, Auckland City Ph 09 588 3300 Fax 09 588 3305

DATE	BY	REVISION	DESCRIPTION
10/03/05	SS3316	1	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	2	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	3	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	4	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	5	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	6	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	7	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	8	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	9	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	10	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	11	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	12	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	13	ISSUED FOR CONSTRUCTION
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10/03/05	SS3316	98	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	99	ISSUED FOR CONSTRUCTION
10/03/05	SS3316	100	ISSUED FOR CONSTRUCTION