

4th March 2014

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 December 2013 to 28 February 2014.

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

March 2014

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 December 2013 to 28 February 2014.

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 31A.

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	BH6B	BH 6C	BH 7	BH 10a	BH 10b								
18-Dec-13	1.13	34.12	44.21	34.05	32.73	46.06	38.63	40.16	43.61	35.18	28.55	40.06	29.75	51.01	8.11	72.65
15-Jan-14	1.06	34.19	44.12	34.14	33.01	45.78	38.76	40.03	43.62	35.17	28.87	39.74	29.84	50.92	8.1	72.66
19-Feb-14	1.14	34.11	44.20	34.06	33.39	45.40	38.88	39.91	43.69	35.10	29.08	39.53	29.85	50.91	8.1	72.66

Date	BH 11b	BH 12a	BH 12b	BH 13a	BH13c	BH 16	BH 17	BH 18A								
18-Dec-13	7.53	72.46	21.13	51.10	5.01	67.12	14.87	57.30	7.08	66.33	48.6	51.54	43.82	34.06	48.73	35.77
15-Jan-14	7.52	72.47	21.3	50.93	5.16	66.97	15.8	56.37	7.08	66.33	48.81	51.33	43.74	34.14	48.86	35.64
19-Feb-14	7.53	72.46	21.54	50.69	5.19	66.94	16.2	55.97	7.09	66.32	49.04	51.10	43.83	34.05	48.89	35.61

Date	BH 18B	BH 19A	BH 19B	BH 20	BH 20a	BH 21	BH 22	BH 22a								
18-Dec-13	37.68	46.82	45.91	34.14	40.98	39.07	1.48	55.18	5.26	51.48	37.01	35.30	30.85	44.39	10.14	65.00
15-Jan-14	37.99	46.51	45.89	34.16	41.00	39.05	1.82	54.84	5.64	51.10	37.01	35.30	30.87	44.37	10.33	64.81
19-Feb-14	38.01	46.49	45.94	34.11	41.00	39.05	2.13	54.53	6.16	50.58	37.19	35.12	25.15	50.09	10.63	64.51

Date	BH 23	BH 23a	BH 24	BH 24a	BH 25	BH 25a	BH 26	BH 26a								
18-Dec-13	5.30	51.90	5.88	51.46	6.37	56.43	2.49	60.27	22.29	37.16	14.12	45.32	0.05	59.39	5.12	54.29
15-Jan-14	5.37	51.83	6.02	51.32	6.46	56.34	2.47	60.29	22.42	37.03	14.00	45.44	0.06	59.38	5.21	54.20
19-Feb-14	5.44	51.76	6.17	51.17	6.60	56.20	2.47	60.29	22.49	36.96	14.09	45.35	0.04	59.40	5.26	54.15

Date	BH 27	BH28a	BH29	BH30	BH31a	BH33	BH34	BH35a								
18-Dec-13	0.01	49.59	7.18	51.83	7.75	58.85	17.45	55.68	18.71	52.30	1.75	58.52	10.36	48.39	17.77	48.49
15-Jan-14	0.02	49.58	7.04	51.69	7.83	58.77	17.22	55.45			1.83	58.44	10.63	48.12	17.83	48.43
19-Feb-14	0.02	49.58	6.98	51.63	7.92	58.68	16.96	55.19			1.90	58.37	10.88	47.87	17.90	48.36

Date	BH35b	BH36a	BH36b	BH37a	BH37b	BH38a	BH38b	BH39a								
18-Dec-13	10.69	55.57	7.36	59.17	7.33	59.20	3.59	53.95	3.75	53.85	4.08	54.40	4.87	53.60	7.29	54.70
15-Jan-14	10.76	55.50	7.43	59.10	7.42	59.11	3.59	53.95	3.80	53.80	4.04	54.44	4.88	53.59	7.27	54.72
19-Feb-14	10.86	55.40	7.53	59.00	7.51	59.02	3.64	53.90	3.84	53.76	4.11	54.37	4.93	53.54	7.28	54.71

Date	BH39b	BH40a	BH40b			
18-Dec-13	4.87	57.26	10.51	60.81	8.56	62.80
15-Jan-14	4.93	57.20	10.51	60.81	8.54	62.82
19-Feb-14	4.98	57.15	10.60	60.72	8.64	62.72

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 seallevel (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 seallevel (second column).

BH32 destroyed by Roading Contractors in June 2011.

The pneumatic piezometer in BH28b stopped producing reliable results and monitoring ceased in July 2012. Waterlevels have continued to be monitored by the piezometers installed in BH28a.

The pneumatic piezometers BH25b1 and BH25b2 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 BH25.

The pneumatic piezometers 31a and 31b stopped producing reliable result and monitoring of these ceased in January 2014 and July 2012, respectively. Waterlevels will continue to be monitored by the standpipe piezometer installed in BH33. Council was notified of the latest substitution of BH31b for BH33 via email on 15 February 2014. The distance between BH31 and BH33 is approximately 147m (refer to the attached photo).

Approx distance between B#B1 (Shackleton Rd)
and B#B3 (Peary Rd)






Note:
Origin of Levels
CA55 5049830
RL65.1412m
in same terms as
R203 5054417
RL58.305m

● SS3316 = Precise
Level Survey
Benchmarks

● BH16 = Borehole
Location



PROJECT:										TITLE:																			
 HARRISON GRIERSON CONSULTING ENGINEERS SURVEYORS PLANNERS Level 5 Coptic House, 25 American Way, Auckland City Ph 09 946 3360 Fax 09 946 3360										WINSTONE AGGREGATES LTD THREE KINGS QUARRY										BOREHOLE LOCATION PLAN AS AT 10-3-05									
ASSOCIATION OF CONSULTING ENGINEERS NEW ZEALAND										ISO 9001 QUALITY MANAGEMENT SYSTEM REGISTERED										PROJECT NO: 1130006451									
BOREHOLE: DATE: 10/5/05										CORE NO: BOREHOLES DATE: 10/5/05										DRAWING NO: 6451-100									
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