

3rd December 2012

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 2012 to 30 November 2012.

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 2012

QUARTERLY REPORT

Three Kings Quarry – Permit No 12977

The following report is made with regard to Condition 7 of Permit No 12977.

This report contains the groundwater levels within boreholes surrounding the take point.

A plan showing the location of boreholes in which groundwater levels were measured is attached.

This report contains records for the period of 1 September 2012 to 30 November 2012.

THREE KINGS GROUNDWATER LEVEL RECORD SHEET

Date	BH 1B	BH 2B	BH 5B	BH 6A	BH6B	BH 6C	BH 7	BH 10a								
19-Sep-12	10.99	35.23	0.67	34.58	43.70	34.56	31.97	46.82	38.25	40.54	43.10	35.69	28.06	40.55	29.42	51.34
17-Oct-12	11.39	34.83	1.07	34.18	44.11	34.15	32.29	46.50	38.55	40.24	43.52	35.27	28.53	40.08	29.6	51.16
21-Nov-12	11.43	34.79	1.15	34.10	44.17	34.09	32.84	45.95	38.74	40.05	43.66	35.13	28.63	39.98	29.83	50.93

Date	BH 10b	BH 11b	BH 12a	BH 12b	BH 13a	BH13c	BH 16	BH 17								
19-Sep-12	8.08	72.68	7.56	72.43	20.86	51.37	4.98	67.15	13.47	58.70	7.05	66.36	48.26	51.88	43.34	34.54
17-Oct-12	8.09	72.67	7.56	72.43	21.03	51.20	5.02	67.11	13.44	58.73	7.06	66.35	48.40	51.74	43.75	34.13
21-Nov-12	8.1	72.66	7.59	72.40	21.29	50.94	5.19	66.94	15.47	56.70	7.07	66.34	48.68	51.46	43.84	34.04

Date	BH 18A	BH 18B	BH 19A			BH 19B	BH 20		BH 20a		BH 21		BH 22			
19-Sep-12	48.38	36.12	37.69	46.81	45.44	34.61	40.92	39.13	1.03	55.63	4.62	52.12	36.66	35.65	34.06	41.18
17-Oct-12	48.57	35.93	37.67	46.83	45.84	34.21	41.28	38.77	1.07	55.59	5.01	51.73	37.01	35.30	34.06	41.18
21-Nov-12	48.78	35.72	38.87	45.63	45.92	34.13	41.20	38.85	1.23	55.43	5.55	51.19	37.14	35.17	34.05	41.19

Date	BH 22a	BH 23	BH 23a			BH 24		BH 24a		BH 25		BH 25a		BH 25b1	
19-Sep-12	10.00	65.14	5.38	51.82	5.78	51.56	6.30	56.50	2.39	60.37	22.10	37.35	9.73	49.71	10.46 49.35 11.07 49.96
17-Oct-12	10.24	64.90	5.37	51.83	5.83	51.51	6.33	56.47	2.39	60.37	22.21	37.24	9.90	49.54	
21-Nov-12	10.59	64.55	5.39	51.81	5.99	51.35	6.43	56.37	2.39	60.37	22.33	37.12	11.55	47.89	

Date	BH25b2	BH 26		BH 26a		BH 27		BH 28a		BH 28b		BH 29		BH 30	
19-Sep-12		0.00	59.44	4.99	54.42	0.00	49.60					7.74	58.86		
17-Oct-12	11.10	54.49	0.00	59.44	54.34	0.00	49.60	7.18	51.83			7.80	58.80	17.40	55.63
21-Nov-12	13.81	57.20	0.02	59.42	55.28	0.00	49.60	7.02	51.67			7.88	58.72	17.25	55.48

Date	BH31a	BH31b	BH32	BH33		BH34		BH35a		BH35b		BH36a		
19-Sep-12	15.56	49.15			1.32	58.95	8.70	50.05	17.69	48.57	10.67	55.59	7.30	59.23
17-Oct-12	15.54	49.13			1.45	58.82	8.89	49.86	17.68	48.58	10.70	55.56	7.41	59.12
21-Nov-12					1.54	58.73	9.54	49.21	17.72	48.54	10.80	55.46	7.50	59.03

Date	BH36b	BH37a	BH37b	BH38a	BH38b	BH39a	BH39b	BH40a								
19-Sep-12	7.23	59.30	3.48	54.06	3.67	53.93	4.06	54.42	4.71	53.76	7.16	54.83	4.79	57.34	10.48	60.84
17-Oct-12	7.35	59.18	3.51	54.03	3.71	53.89	4.07	54.41	4.81	53.66	7.22	54.77	4.83	57.30	10.45	60.87
21-Nov-12	7.46	59.07	3.53	54.01	3.72	53.88	4.03	54.45	4.86	53.61	7.19	54.80	4.89	57.24	10.48	60.84

Date	BH40b
19-Sep-12	8.43
17-Oct-12	8.47
21-Nov-12	8.54

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 ceased working in July 2012. Waterlevels will continue to be monitored by piezometers installed in these bores (refer to BH28a and BH31a). Results have not been reported for the pneumatic piezometers (BH25b1, BH25b2, 28a, 30 and 31a) for September 2012 as the monitoring was not undertaken due to an omission by the monitoring contractors (Geotechnics). Monitoring resumed in October 2012.

As a result of fill activities the last monitoring round for BH11b will be December 2012 with the decommission of this borehole programmed for early January 2012. At this stage of operations, waterlevels within the quarry will continue to be monitored by BH2b and BH5b.

