

4th March 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 December 2012 to 28 February 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

March 2013

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 December 2012 to 28 February 2013.

THREE KINGS GROUNDWATER LEVEL RECORD SHEET

Date	BH 1B	BH 2B	BH 5B	BH 6A	BH6B	BH 6C	BH 7	BH 10a								
19-Dec-12	10.99	35.23	0.66	34.59	43.73	34.53	33.22	45.57	38.62	40.17	43.22	35.57	28.69	39.92	29.84	50.92
16-Jan-13			1.07	34.18	44.15	34.11	33.52	45.27	38.83	39.96	43.59	35.20	28.92	39.69	29.84	50.92
20-Feb-13			0.85	34.40	43.94	34.32	33.87	44.92	38.92	39.87	43.47	35.32	29.04	39.57	29.84	50.92

Date	BH 10b	BH 11b	BH 12a	BH 12b	BH 13a	BH13c	BH 16	BH 17								
19-Dec-12	8.1	72.66	7.54	72.45	21.44	50.79	5.19	66.94	15.95	56.22	7.07	66.34	48.85	51.29	43.37	34.51
16-Jan-13	8.09	72.67	7.57	72.42	21.59	50.64	5.23	66.90	16.26	55.91	7.09	66.32	49.02	51.12	43.79	34.09
20-Feb-13	8.1	72.66	7.56	72.43	21.77	50.46	5.15	66.98	16.69	55.48	7.10	66.31	49.24	50.90	43.59	34.29

Date	BH 18A	BH 18B	BH 19A	BH 19B	BH 20	BH 20a	BH 21	BH 22								
19-Dec-12	48.66	35.84	37.95	46.55	45.49	34.56	41.19	38.86	1.51	55.15	5.96	50.78	36.82	35.49	34.05	41.19
16-Jan-13	48.72	35.78	38.22	46.28	45.85	34.20	41.20	38.85	1.80	54.86	6.28	50.46	37.02	35.29	34.05	41.19
20-Feb-13	48.8	35.70	38.35	46.15	45.71	34.34	41.21	38.84	2.28	54.38	6.63	50.11	37.05	35.26	34.06	41.18

Date	BH 22a	BH 23	BH 23a	BH 24	BH 24a	BH 25	BH 25a	BH25b1								
19-Dec-12	10.79	64.35	5.43	51.77	6.12	51.22	6.52	56.28	2.40	60.36	22.32	37.13	12.07	47.37	8.29	47.18
16-Jan-13	10.97	64.17	5.49	51.71	6.26	51.08	6.63	56.17	2.40	60.36	22.29	37.16	14.00	45.44	7.31	46.20
20-Feb-13	11.19	63.95	5.6	51.60	6.44	50.90	6.93	55.87	2.42	60.34	22.44	37.01	14.74	44.70	7.31	46.20

Date	BH25b2	BH 26	BH 26a	BH 27	BH28a	BH28b	BH29	BH30							
19-Dec-12	12.70	56.09	0.04	59.40	5.16	54.25	0.00	49.60	6.99	51.64		7.95	58.65	17.07	55.30
16-Jan-13			0.10	59.34	5.23	54.18	0.02	49.58				8.00	58.60		
20-Feb-13	10.38	53.77	0.13	59.31	5.28	54.13	0.03	49.57	6.82	51.47		8.14	58.46	16.77	55.00

Date	BH31a	BH31b	BH32	BH33	BH34	BH35a	BH35b	BH36a								
19-Dec-12	15.40	48.99														
16-Jan-13																
20-Feb-13	15.14	48.73														

Date	BH36b	BH37a	BH37b	BH38a	BH38b	BH39a	BH39b	BH40a						
19-Dec-12	7.51	59.02	3.57	53.97	4.01	54.47	4.90	53.57	7.22	54.77	4.94	57.19	10.54	60.78
16-Jan-13	7.58	58.95	3.63	53.91	4.17	54.31	4.84	53.63	7.27	54.72	4.99	57.14	10.63	60.69
20-Feb-13	7.67	58.86	3.64	53.90	4.22	54.26	4.99	53.48	7.26	54.73	5.08	57.05	10.75	60.57

Date	BH40b	
19-Dec-12	8.59	62.77
16-Jan-13	8.68	62.68
20-Feb-13	8.71	62.65

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 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 January 2013 as the monitoring was not undertaken due to an omission by the monitoring contractors (Geotechnics). Monitoring resumed in February 2013.

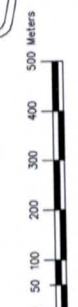
As a result of fill activities the last monitoring round for BH1b was December 2012 with the decommission of this borehole undertaken in early January 2012. At this stage of operations, waterlevels within the quarry will continue to be monitored by BH2b and BH5b.



Note:
Origin of Levels
CA55 S048930
RL55.1412m
in some terms as
M205 S05417
RL59.305m

• SSS316 = Precise
Level Survey
Benchmarks
Location

• BH16 = Borehole
Location



DATE

BOREHOLE LOCATION PLAN
AS AT 10-3-05

WINSTONE AGGREGATES LTD
THREE KINGS QUARRY

PROJECT

HARRISON
GRIERSON
CONSULTING ENGINEERS SURVEYORS PLANNERS



Level 1, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 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44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 55900, 56000, 56100, 56200, 56300, 56400, 56500, 56600, 56700, 56800, 56900, 57000, 57100, 57200, 57300, 57400, 57500, 57600, 57700, 57800, 57900, 58000, 58100, 58200, 58300, 58400, 58500, 58600, 58700, 58800, 58900, 59000, 59100, 59200, 59300, 59400, 59500, 59600, 59700, 59800, 59900, 60000, 60100, 60200, 60300, 60400, 60500, 60600, 60700, 60800, 60900, 61000, 61100, 61200, 61300, 61400, 61500, 61600, 61700, 61800, 61900, 62000, 62100, 62200, 62300, 62400, 62500, 62600, 62700, 62800, 62900, 63000, 63100, 63200, 63300, 63400, 63500, 63600, 63700, 63800, 63900, 64000, 64100, 64200, 64300, 64400, 64500, 64600, 64700, 64800, 64900, 65000, 65100, 65200, 65300, 65400, 65500, 65600, 65700, 65800, 65900, 66000, 66100, 66200, 66300, 66400, 66500, 66600, 66700, 66800, 66900, 67000, 67100, 67200, 67300, 67400, 67500, 67600, 67700, 67800, 67900, 68000, 68100, 68200, 68300, 68400, 68500, 68600, 68700, 68800, 68900, 69000, 69100, 69200, 69300, 69400, 69500, 69600, 69700, 69800, 69900, 70000, 70100, 70200, 70300, 70400, 70500, 70600, 70700, 70800, 70900, 71000, 71100, 71200, 71300, 71400, 71500, 71600, 71700, 71800, 71900, 72000, 72100, 72200, 72300, 72400, 72500, 72600, 72700, 72800, 72900, 73000, 73100, 73200, 73300, 73400, 73500, 73600, 73700, 73800, 73900, 74000, 74100, 74200, 74300, 74400, 74500, 74600, 74700, 74800, 74900, 75000, 75100, 75200, 75300, 75400, 75500, 75600, 75700, 75800, 75900, 76000, 76100, 76200, 76300, 76400, 76500, 76600, 76700, 76800, 76900, 77000, 77100, 77200, 77300, 77400, 77500, 77600, 77700, 77800, 77900, 78000, 78100, 78200, 78300, 78400, 78500, 78600, 78700, 78800, 78900, 79000, 79100, 79200, 79300, 79400, 79500, 79600, 79700, 79800, 79900, 80000, 80100, 80200, 80300, 80400, 80500, 80600, 80700, 80800, 80900, 81000, 81100, 81200, 81300, 81400, 81500, 81600, 81700, 81800, 81900, 82000, 82100, 82200, 82300, 82400, 82500, 82600, 82700, 82800, 82900, 83000, 83100, 83200, 83300, 83400, 83500, 83600, 83700, 83800, 83900, 84000, 84100, 84200, 84300, 84400, 84500, 84600, 84700, 84800, 84900, 85000, 85100, 85200, 85300, 85400, 85500, 85600, 85700, 85800, 85900, 86000, 86100, 86200, 86300, 86400, 86500, 86600, 86700, 86800, 86900, 87000, 87100, 87200, 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101400, 101500, 101600, 101700, 101800, 101900, 102000, 102100, 102200, 102300, 102400, 102500, 102600, 102700, 102800, 102900, 103000, 103100, 103200, 103300, 103400, 103500, 103600, 103700, 103800, 103900, 104000, 104100, 104200, 104300, 104400, 104500, 104600, 104700, 104800, 104900, 105000, 105100, 105200, 105300, 105400, 105500, 105600, 105700, 105800, 105900, 106000, 106100, 106200, 106300, 106400, 106500, 106600, 106700, 106800, 106900, 107000, 107100, 107200, 107300, 107400, 107500, 107600, 107700, 107800, 107900, 108000, 108100, 108200, 108300, 108400, 108500, 108600, 108700, 108800, 108900, 109000, 109100, 109200, 109300, 109400, 109500, 109600, 109700, 109800, 109900, 110000, 110100, 110200, 110300, 110400, 110500, 110600, 110700, 110800, 110900, 111000, 111100, 111200, 111300, 111400, 111500, 111600, 111700, 111800, 111900, 112000, 112100, 112200, 112300, 112400, 112500, 112600, 112700, 112800, 112900, 113000, 113100, 113200, 113300, 113400, 113500, 113600, 113700, 113800, 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