

24th June 2005

Auckland Regional Council  
Private Bag 92 012  
Auckland.

**Attention: Alastair Smail**

**Re: Three Kings Quarry De-watering Consent 949798**

Dear Alastair

As required by the Interim Monitoring and Contingency Plan, please find enclosed the results of the 3-month precise level survey of survey benchmarks in Zone IIA (Hillsborough Road area) which was completed this week.

As in the December 2004 and March 2005 survey, a settlement alarm has been recorded. The adjusted differential between marks AP110 and AP111 on Hillsborough Road between Budock Road and Marie Ave is calculated at 1 in 3363. The measured difference in level change between these two points is 3.33mm. The adjusted difference in level change is 5.27mm. The spacing between the marks is 17.7metres.

The action required for this trigger is to report this settlement to the ARC and Quarry Manager, and to install additional survey marks at 50 metre centres between the existing survey marks. The spacing between these marks is already at a 50 metres or less.

For your information, the adjusted settlement differential between survey marks AP111 and OAP71 which recorded a settlement alarm in a December 2004 survey is 1 in 11,109, and the adjusted differential settlement for survey marks AP67 and AP112 which recorded a settlement alarm in a March 2005 survey is 1 in 14,903.

I trust all is in order. Please contact the undersigned if any further information or clarification is required.

Yours faithfully  
for **Winstone Aggregates**



Michael Harris  
Engineering Geologist.

Cc Gordon Laing, Three Kings Quarry Manager

### Three Kings Precise Level Survey Results

Station ID	Location	Average Level (mRL)	June 05 (mRL)	June 05 to Average (mm)
M 212A	Mt Albert Rd	86.127	86.115	-12
SM 4163	Mt Albert Rd	74.142	74.143	1
SM 4164	Mt Albert Rd	75.851	75.847	-4
SM 4165	Mt Albert Rd	83.632	83.626	-6
RM 7457	Mt Albert Rd	85.707	85.695	-12
M 205	Mt Albert Rd	59.305	59.304	-1
AP 206	Mt Albert Rd	59.976	59.969	-7
M 210	Mt Albert Rd	83.050	83.034	-16
SM 1979	Hillsborough Rd	61.241	61.217	-24
BP 1977B	Hillsborough Rd	71.993	71.987	-6
RM 6813	St Andrews Rd	80.905	80.885	-20
RM 7647	Mt Albert Rd	67.601	67.580	-21
AP 8B	Mt Albert Rd	75.740	75.730	-10
CA 55	Manukau Rd	65.141	65.141	0
CA 53	Akarana Ave	70.594	70.594	0
M 216	Mt Albert Rd	72.658	72.658	0
SS 1977	Hillsborough Rd	74.453	74.451	-2
AP 35	Mt Albert Rd	54.190	54.192	2
AP 37	Hillsborough Rd	59.335	59.328	-7
AP 38	Budock Rd	69.274	69.271	-2
AP 39	Hillsborough Bowling	56.297	56.293	-4
AP 40	Hillsborough Bowling	55.757	55.754	-3
IS 41	Hillsborough Bowling	56.336	56.332	-4
AP 56	Mt Albert Rd	58.409	58.410	1
AP 61	Rowan Rd	71.310	71.306	-4
AP 62	Mt Albert Rd	63.068	63.063	-5
AP 63	Mt Albert Rd	61.250	61.247	-3
AP 64	Hillsborough Rd	60.579	60.576	-3
AP 65	Hillsborough Rd	59.546	59.541	-5
OAP 66	Hillsborough Rd	59.987	59.984	-3
AP 67	Hillsborough Rd	63.871	63.868	-3
OCP 68	Budock Rd	66.304	66.303	-1
AP 69	Budock Rd	65.977	65.975	-2
AP 70	Budock Rd	71.208	71.206	-2
OAP 71	Hillsborough Rd	67.651	67.649	-2
AP 72	Hillsborough Rd	74.077	74.076	-1
AP 77	Mt Albert Rd	82.751	82.747	-4
AP 78	Mt Albert Rd	81.022	81.018	-4
AP 79	Mt Albert Rd	78.663	78.658	-5
AP 80	Mt Albert Rd	71.414	71.408	-6
AP 81	Mt Albert Rd	58.435	58.433	-2
AP 82	Mt Albert Rd	58.505	58.503	-2
AP 83	Mt Albert Rd	58.863	58.862	-1
AP 84	Mt Albert Rd	59.350	59.349	-1

### Three Kings Precise Level Survey Results

Station ID	Location	Average Level (mRL)	June 05 (mRL)	June 05 to Average (mm)
AP 85	Mt Albert Rd	60.619	60.618	-1
AP 86	Mt Albert Rd	62.051	62.050	-1
AP 87	Mt Albert Rd	62.733	62.732	-1
AP 88	Mt Albert Rd	64.828	64.825	-3
AP 89	Mt Albert Rd	65.939	65.936	-3
AP 90	Mt Albert Rd	68.687	68.685	-2
AP 91	Mt Albert Rd	70.075	70.073	-2
AP 92	Mt Albert Rd	72.613	72.613	0
AP 93	Mt Albert Rd	73.864	73.863	-1
AP 94	Mt Albert Rd	77.101	77.100	-1
AP 95	Mt Albert Rd	79.957	79.955	-2
AP 96	St Andrews Rd	77.897	77.896	-1
AP 97	St Andrews Rd	80.321	80.32	-1
AP 98	Rowan Rd	68.501	68.5	-1
AP 99	Rowan Rd	69.478	69.477	-1
AP 100	Hillsborough Rd	62.966	62.963	-3
AP 101	Hillsborough Rd	61.359	61.357	-2
AP 102	Hillsborough Rd	60.006	60.004	-2
AP 103	Hillsborough Rd	59.404	59.401	-3
AP 104A	Hillsborough Rd	59.555	59.553	-1
AP 105	Hillsborough Rd	59.711	59.709	-2
AP 106	Hillsborough Rd	60.458	60.457	-1
AP 107	Hillsborough Rd	60.881	60.88	-1
AP 108	Hillsborough Rd	62.060	62.059	-1
AP 109	Hillsborough Rd	62.806	62.805	-1
AP 110	Hillsborough Rd	64.997	64.993	-4
AP 111	Hillsborough Rd	66.322	66.321	-1
AP 112	Budock Rd	63.699	63.698	-1
AP 113	Budock Rd	65.546	65.546	0
AP 114	Budock Rd	65.879	65.882	3
AP 115	Budock Rd	67.579	67.579	0
AP 116	Budock Rd	69.485	69.485	0
AP 117	Budock Rd	70.833	70.834	1
OAP 118	Mt Albert Rd	59.895	59.894	-1