

29th August 2005

Auckland Regional Council  
Vodafone House  
Private Bag 92012  
Auckland.

**Attention: Alastair Small**

Dear Alastair

**Re: Three Kings Quarry, Cessation of Settlement.**

Further to condition 12 of the consent to dewater Three Kings (Permit No 12977), this is to advise that there has been a cessation of settlement (as defined in the definitions within the consent) and it has been more than 2 years since dewatering at Three Kings Quarry has been undertaken (last undertaken in October 2002).

As such, notice is given that, until dewatering recommences, ground surface monitoring will be conducted by annual survey. As the last survey of all precise level benchmarks was undertaken in March 2005, the next precise level survey will be undertaken in March 2006. As required by condition 12, should dewatering recommence (quarry groundwater level lowered below RL34metres) then precise level surveys will revert to that set out in Condition 12.

With regard to the precise level survey information, a table with surface level variations of precise level benchmarks compared with March 2004 is attached. Please note that the June 2005 survey data is compared with the June 2004 survey. In summary:

- The survey data is generally in the range of plus or minus 5mm which is consistent with evidence given during the review of the consent to dewater Three Kings Quarry.
- Two benchmarks have recorded settlements greater than 5mm compared with the March 2004 survey, AP17C on Hunter Park Drive and AP24 in the Big King Reserve. In both these cases, the recorded settlement is not caused by dewatering.
- AP17C is a recent survey mark installed in a concrete driveway. The original survey benchmarks (AP17 and AP17A) did not have a history of settlement (a total of 6mm of settlement at September 2002). AP17C recorded an apparent 11mm of settlement between September 2004 and March 2005 compared with its total settlement since installation in March 2003 of 13mm. This variation in level is considered to be a result of movement of the surface level rather than settlement resulting from dewatering.
- AP24 is located on the water reservoir at the top of Big King. It is an original benchmark and its level has varied considerably since precise level surveys were

commenced. It is currently 9mm below its baseline level (last surveyed March 2005) compared with 2mm above its baseline level in the September 2004 survey. The variation in level of AP24 may result from the volume of water in the reservoir at the time of the survey rather than from settlement associated with the dewatering of Three Kings Quarry. The surveyor has noted that while acceptable closes for this benchmark are being achieved it is difficult to survey this mark to the tolerances required by the consent to dewater Three Kings Quarry.

A graph showing the change in level of precise level benchmarks AP17C and AP24 is attached.

If you require any clarification or further information, please contact the undersigned.

Yours faithfully  
for **WINSTONE AGGREGATES**



Michael Harris  
Engineering Geologist.

Precise Levels Compared with Baseline Levels

AP 17 —●— AP 17A AP 17C —x— AP 24

