



February 2011

## Asset Care Counts #4

### UNIQUE APPLICATION OF CONVENTIONAL RADIOGRAPHY

ALS was requested to develop an inspection method whereby the integrity of a new concrete floor "movement joint" on aeration tanks for a water treatment plant could be verified, to determine if the joints were prepared in line with the specification.

Using our experience and knowledge, ALS decided that a radiographic inspection technique could best meet this requirement, provided that the radiographic isotope and film could be positioned in such a way as to create a through thickness image of the floor joint on the film. This required the radiation source to be positioned at some point under the concrete slab right in line with the middle of the joint and the film be placed on top the concrete to cover the joint. To facilitate this a 20mm diameter core was drilled at a 45deg angle into the concrete slab so the isotope delivery tube could be inserted to position the radioactive source right in the middle of the joint.

The inspection was a great success. Radiographic images clearly identified the joints were not as per the specification. Concrete had flowed under the water stop membrane and over the top of the cork fill resulting in significant cracking. Subsequent core samples that were removed from selected "worst case" areas confirmed our findings.



Photographs clearly show the set up of the radiographic isotope and the position of the film, as well as a core sample confirming the ALS results.

For further information on non-destructive testing or other inspection requirements please contact any ALS Industrial Division office.

**BRISBANE**  
2 Ron Boyle Crescent  
Carole Park QLD 4300  
Phone +61 7 3718 0300  
CarolePark@alsglobal.com

**MELBOURNE**  
294 Arden Street Nth  
Melbourne VIC 3051  
Phone +61 3 9236 8000  
NorthMelbourne@alsglobal.com

**PERTH**  
109 Bannister Road  
Canning Vale WA 6155  
Phone +61 8 9232 0300  
CanningVale@alsglobal.com

**RIGHT SOLUTIONS RIGHT PARTNER**

[www.alsglobal.com](http://www.alsglobal.com)