

**OGMCOAL - Crandall Canyon- Quick note on TIE**

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**From:** Steve Christensen  
**To:** OGMCOAL  
**Date:** 9/28/2011 9:29 AM  
**Subject:** Crandall Canyon- Quick note on TIE

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>>> "Marrelli, Dana" <dmarrelli@coalsource.com> 9/28/2011 9:08 AM >>>

Hello...

Here is where we are on the TIE for Crandall. I am planning on re-sampling for the TIE on Monday, October 3<sup>rd</sup>.

Please let me know if you have any questions and I will keep you all informed.

Thank you,

Dana

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**From:** Lee Rawlings [mailto:leerawlings@afconnect.com]  
**Sent:** Monday, September 19, 2011 10:07 PM  
**To:** Marrelli, Dana  
**Subject:** Quick note on TIE

Dana

As I mentioned in my last email summarizing the initial tests showed the fatheads passing and the ceriodaphnia failing with significant toxicity. However there were some issues with food during that first test so we redid the test before proceeding with the TIE. This test showed only minimal toxicity, not enough to warrant doing the TIE. The reduction in toxicity over time suggests that the toxicity degrades over time which complicates the TIE somewhat. I suggest at this point that we resample using special sample containers that are designed to minimize headspace and the interaction of air with the sample. Then test using only on the ceriodaphnia and if toxicity is present going into the TIE with the new sample. These bladders are rather difficult to fill and work with but are especially useful if the toxicity is due to volatile compounds or compounds that degrade over time. Give me a call later and we can talk about it 801-360-5438.

Thanks

Lee