0035

of Internal C/015/0032

**From:** Steve Christensen
**To:** Daron Haddock; OGMCOAL; Priscilla Burton
**Date:** 8/18/2008 9:41 AM
**Subject:** Fwd: RE: East Mtn.-Erosion Control logs (Crandall Canyon Incoming)
**Place:** OGMCOAL

f.y.i.

>>> "Shaver, Dave" <dshaver@coalsource.com> 8/15/2008 12:47 PM >>>
Thanks Steve...Your memo encapsulates the discussion I had with the crew foreman up on the site yesterday. I appreciate your taking the time to put this in writing. I intend to forward it on to Scamp. I will also be in a position to spend more time on the mountain to monitor the work now that the Memorial is behind me. Thanks again.

Dave

**From:** Steve Christensen [mailto:stevechristensen@utah.gov]
**Sent:** Thursday, August 14, 2008 3:16 PM
**To:** Shaver, Dave; Daron Haddock; OGMCOAL@utah.gov; Priscilla Burton; Dave Shaver
**Subject:** East Mtn.-Erosion Control logs

Dave,

I understand that you're already out on East Mountain as I type this. I can't draw a lick, but I thought I'd take a stab at a plan view and see if I conveyed what I was talking about when we spoke this morning (See attached).

As we discussed this morning, these logs don't need to be keyed in deep (6-8") like a silt fence. However, just a like a hay bale, there has to be good contact between the log and the ground. In order for that to happen, some hand took work may be required. I would envision creating a small concave depression/cradle for those logs to fit into (approximately 2-3" deep x 4-6" wide). Obviously, you don't want to bury them or trench them deep because you lose their sediment holding capacity. I realize that some out slopes of the road are rocky and filled with debris. All I can say is that the crews should do their best to make good contact between the ground and the excelsior logs by removing as much debris as they can. If the water can run underneath the logs, they're useless. I observed several instances of that yesterday in the field. The logs that had been installed yesterday had actually been partially filled with soil by the crews in an apparent effort to seal them.

I also wanted to point out again that an arc or 'u' shaped configuration seems like a good idea to me. It sure worked last year. It seems to function like a cup or bowl. I would merely suggest that there needs to be separation between the three logs. If the three logs are touching each other or within inches of one another, as soon as the first log fills up, you'll start losing soil off the disturbed area and the other two logs are useless.

Unfortunately, these types of erosion control devices require a lot of maintenance just like a silt fence, a check dam, a hay bale or any other sediment catchment device. As evidenced by yesterday's field visit, almost all of the first rung of logs were already filled with sediment from last weeks rain, which is a good thing. They're working. However, that also means that after a heavy precipitation event, those water bars and logs need to be checked and if necessary, cleaned out. The majority of outlets on the water bars I observed yesterday were either filled or partially filled with loose soil. Part of that unconsolidated soil was there due to recent grading of the road following the storm. I understand the road needs to be graded, but care should be taken that the outlets of the water bars aren't left plugged or partially plugged as a result.

The water bars are simply diversions to carry sediment off the road. They should be as kept as clean as possible (i.e. without loose soil directly in them or at their outlets as I saw yesterday). Here's a link to a simply trail design web-site I found. http://www.foothill.net/fta/work/maintnotes.html. About half way down the page, there's a short, but good discussion on water bars ("Install and Maintain Water Bars"). Under point #5 it says "Without regular unplugging, a water bar is useless". With these water bars and logs being the only erosion/sediment transport defense the road has, it's imperative that they remain cleaned out and maintained.

I apologize for the length of this e-mail Dave. I don't mean to beat this to death. As you alluded to on the phone, communication is key. In the spirt of that, this is an attempt on my part to try and clear things up and to avoid spending any more time on these water bars/logs than is necessary to get the job done.

I hope this helps. Please call me if any of this doesn't jive with what you took away from our phone conversation earlier today.

Thanks,
Steve