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From: "Cody Ware" <waresurveying@emerytelcom.net>
To: "Dave Shaver" <dshaver@coalsource.com>
Date: 1/9/2008 1:19 PM
Subject: Ware Surveying's monitoring at Grassy Trail Reservoir
Attachments: Grassy monitoring - straight line and distances.xls; accumulation over monument.jpg; looking east across dam.jpg

CC: <sunny1@emerytelcom.net>, <jblake@utah.gov>, <Peter_Brinton@blm.gov>, <d...
Hello everyone, this is Cody Ware of Ware Surveying. Mr. Shaver asked that I include all of you with my reports of our monitoring at Grassy Trail Reservoir. If you don't want or need to receive these reports let me know.

Our monthly monitoring includes the following:

GPS survey of monuments up the hillside to the west of the dam, and points at the mid-line and toe of the dam.

Differential level survey of the 6 old monuments across the crest of the dam as well as a few new points.

Total station survey of the "Straight Line" monuments, as well as distances to the monitoring wells and new monuments (attached).

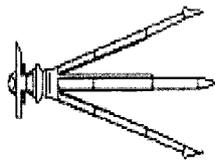
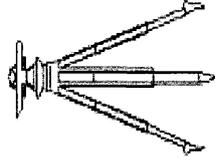
This month we were only able to monitor the straight line survey and distances due to the amount of snow accumulation. In previous years the snow has not been as heavy, and most accumulations were kept off of the dam surface with the City's backhoe. On our most recent trip (12-27-07) we found that in addition to the heavy accumulations the snow had also been piled over a couple of our survey monuments. This snow was over 5 feet deep, and will require heavy equipment to remove. Pictures that show the dam and the snow piled over a monument are attached. In the picture the monument is behind me, and the rod is about 5 feet tall. We proceeded with the surveys that were accessible, and they showed no movement. We will pick up with monitoring the other surveys as soon as the snow cover allows.

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**UtahAmerican Energy
West Ridge Mine**

Grassy Trail Reservoir
"Straight line" survey data

Distance from control point to face of Monitoring Well (MW) in feet											Straight Line Movement
Date of survey	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	West Mon.		
12/14/2006	94.21	141.49	245.90	295.13	394.71	493.96	556.71	708.27	na		No
1/31/2007	94.21	141.49	245.90	295.13	394.71	493.96	556.71	708.27	na		No
3/1/2007	94.21	141.49	245.90	295.13	394.71	493.96	556.71	708.27	na		No
3/29/2007	94.21	141.49	245.90	295.13	394.71	493.95	556.70	708.27	na		No
5/30/2007	94.20	141.49	245.89	295.12	394.70	493.94	556.70	708.26	na		No
6/5/2007	94.20	141.49	245.89	295.12	394.69	493.94	556.68	708.25	na		No
7/2/2007	94.20	141.49	245.89	295.12	394.69	493.94	556.69	708.26	na		No
10/9/2007	94.21	141.50	245.90	295.13	394.71	493.95	556.70	708.26	na		No
11/10/2007	94.22	141.50	245.90	295.13	394.70	493.95	556.70	708.26	na		No
12/27/2007	94.21	141.50	245.91	295.13	394.71	493.95	na	na	710.95		No
Notes											
							Snow	Snow	New Monument		



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