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From: Steve Christensen
To: John Gefferth
Date: 6/19/2007 3:26 PM
Subject: Emery Hydro Section
Attachments: Emery Deep Water Rights.pdf; Emery Deep Water Rights 2.pdf; Emery Hydro Sug
gestions.doc

CC: Pam Grubaugh-Littig; Richard B. White

John,

Per our phone conversation, I'm forwarding you a few documents.

One of them is a small list of issues/items within the hydrology section of the MRP that I've found to be in need of some clarification. It may very well be the case that some of the items have already been addressed from previous submittals that, for whatever reason, didn't make it into the final MRP copy (i.e. 4th East Portal circa October, 2002) . If not, perhaps we can head a few of these issues off at the pass before the formal review process starts in a few weeks.

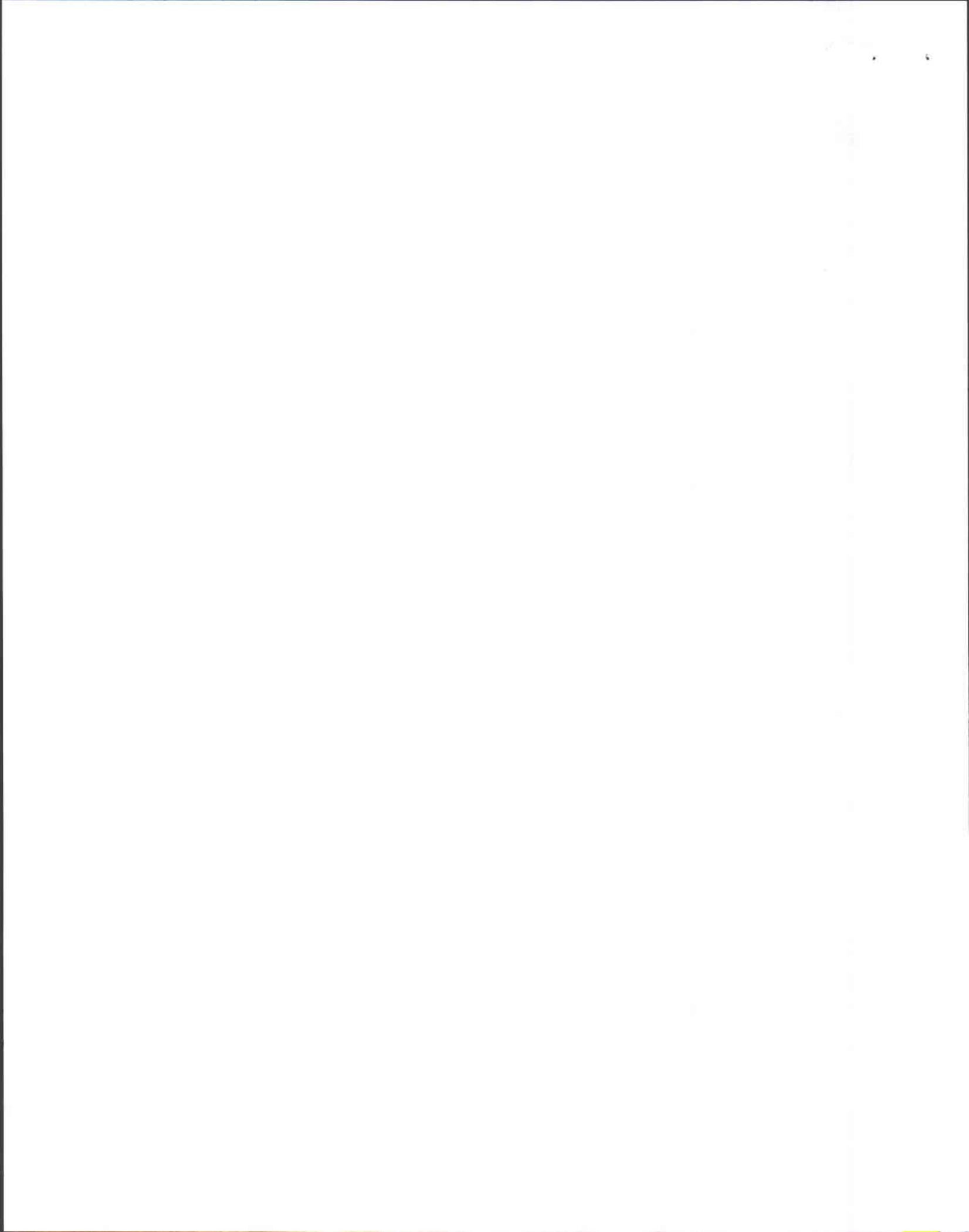
The other two files are maps that were generated by the Water Rights office in Price, UT. I asked Marc Stillson to put these together in light of the SP-10 questions that have come up recently. These are the maps that I'll be using for review purposes. Please check and see if these maps correspond with you're water right information as we'll have to reconcile any differences that emerge.

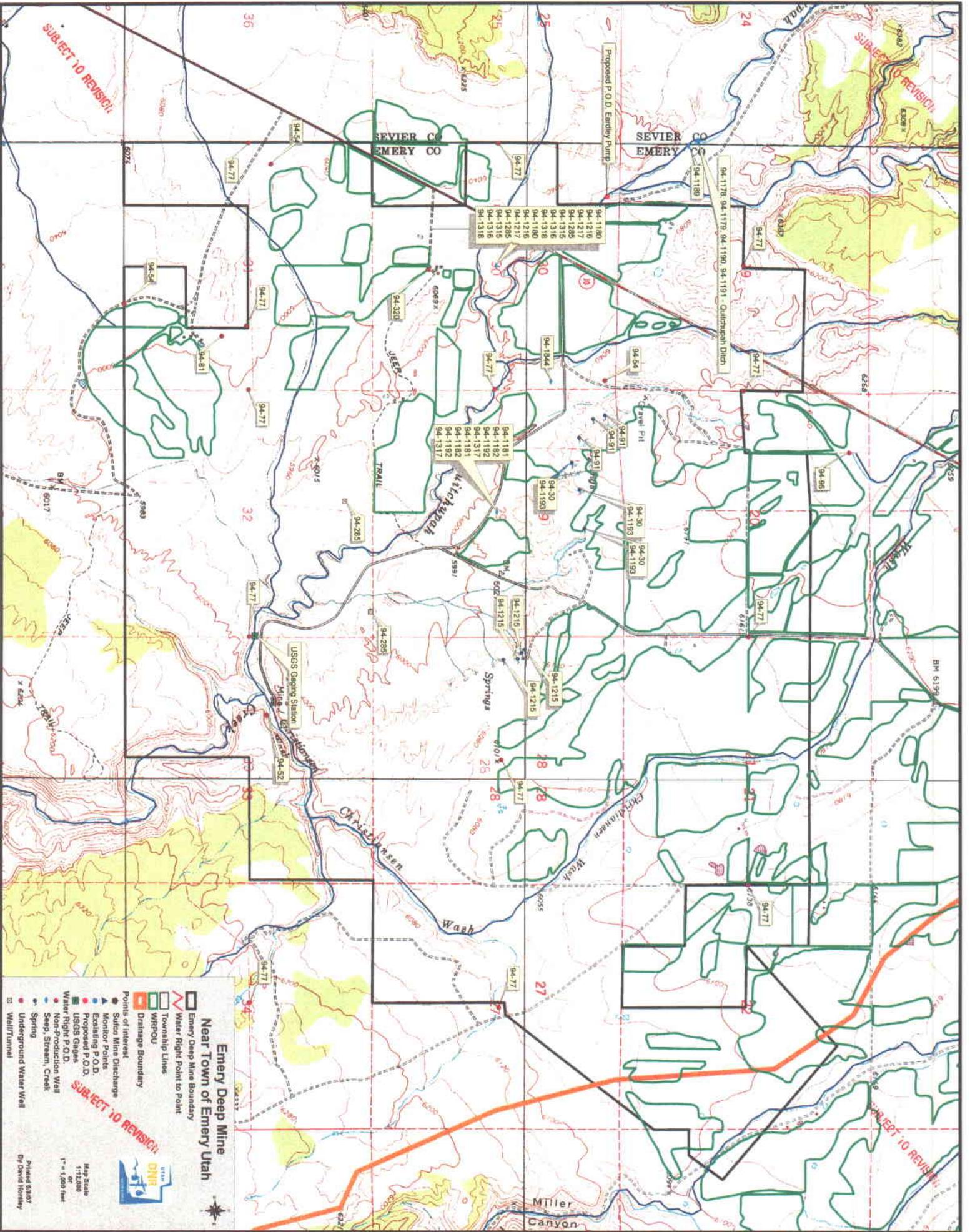
If you have any questions, please feel free to call me.

Thanks,
Steve

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*Outgoing
c/015/0015*





**Emery Deep Mine
Near Town of Emery Utah**

- Emery Deep Mine Boundary
- ▭ Water Right Point to Point
- ▭ Township Lines
- ▭ WRPOLU
- ▭ Drainage Boundary
- Points of Interest
- ▲ Sulfur Mine Discharge
- ▲ Monitor Point
- ▲ Existing P.O.D.
- ▲ Proposed P.O.D.
- ▲ USGS Gages
- ▲ Water Right P.O.D.
- Non-Production Well
- Seep, Stream, Creek
- Spring
- Underground Water Well
- Well/Tunnel



Map Scale
1:12,000
or
1" = 1,000 feet

Printed 8/87
By David Torrey

Utah Division of Water Rights
 Hydrographic Survey Map
 Date: 1930, 1932, 1935-1938
 Scale: 1 inch = 500 feet
 Compiled 1995 by Laurel Gardner, Blaine, Utah

Emery County
 Section 3, T12N, R11E
 Section 4, T12N, R11E
 Section 5, T12N, R11E
 Section 6, T12N, R11E
 Section 7, T12N, R11E
 Section 8, T12N, R11E
 Section 9, T12N, R11E
 Section 10, T12N, R11E
 Section 11, T12N, R11E
 Section 12, T12N, R11E
 Section 13, T12N, R11E
 Section 14, T12N, R11E
 Section 15, T12N, R11E
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 Section 99, T12N, R11E
 Section 100, T12N, R11E



29,30,31,32-225-6E-S1

Emery Deep Hydrology Section (Chapter VI):

- I. *Water Monitoring:* There are portions of the water-monitoring plan that are difficult to follow and should be clarified. Upon review of the NPDES permit (dated May 24, 2004), there are nine outfalls listed. However, the monitoring plan calls for the sampling of five NPDES sites. In addition Plate VI-3, Ground Water Monitoring Well and Surface Water Monitoring Site Location Map, has individual NPDES sites depicted in more than one location. For example, Sites 6 and 11 are both labeled as "NPDES 001". Site 6 is labeled "Flume, NPDES 001". Site 11 is labeled as "Pre. Pt. NPDES 001". Sites 7 and 15 are both labeled as NPDES site 002 with site 15 further labeled as "Future Prep. Pt."0. I'm assuming that this is in reference to the preparation plant that was proposed but never built. Plate VI-3 should be updated so that it's readily apparent as to what water monitoring sites correspond with the listed outfalls in the NPDES permit and are currently monitored. The scale of Plate VI-3 makes it difficult to interpret. It's clear that the outlier sites (Emery Town Well, Site 9 and Site 10) make enlarging the scale difficult, however; Plate VI-3 in its current state is difficult to review. It would be helpful if the table on page 154 also clearly indicated (for each monitoring site) all corresponding names (i.e. NPDES site name, mine site name, database name, design name etc...) as there are sites that have more than one name designation.
- II. *Mine Water Discharge:* The MRP should provide a thorough discussion on mine water discharge. Upon reviewing the MRP, it's not apparent to the reader as to how the in-mine water is handled/routed. A narrative should be supplied within the MRP describing the pumping process, receiving ponds, discharges, treatment etc... The narrative should describe the pumping system and how it operates (what pumps are used and when). In addition, the pond numbers don't correspond with the NPDES permit, which makes review difficult. The discussion should clearly identify what monitoring points correspond with the NPDES outfalls. The narrative/discussion in the MRP should make it clear as to what ponds are discharging, which are not, what pumps operate and when, where the pumps are located etc...The information should be clearly labeled on a plate (an existing plate would be fine) as well as in the text of the MRP.
- III. *TDS:* In light of the recent Dept. of Water Quality issues with the TDS levels at the mine, the PHC should expand and update PHC discussions on potential impacts to water quality in the receiving streams (including Muddy Creek).
- IV. *Plate VI-10, Surface Drainage Control Map:* It is difficult to determine the routing of the surface drainage upon review of this map. The plate should be modified so that it's easier to determine the routing of the ditches and other surface drainage control structures. The scale of Plate II-1 would be ideal for clearly depicting watershed boundaries, diversions, ditches, flow directions etc...
- V. *Plate VI-6:* The plate depicts the water rights within and adjacent to the permit area. Upon review of the information in light of the recent SP-10

investigation, it appears that some clarification of the water rights may be needed. For example, Plate VI-6 does not depict water right no. 94-30, however it's listed in the table on page 141. The Water Rights maps I've attached depicts water right 94-30 in three locations (springs SP-10, SP-11 and SP-12). In addition, Plate VI-6 depicts the number "302" next to water right 94-1193. Upon review of the water right information, it's unclear what "302" corresponds to.