M-1977-403HR
CT-01

ERIC R. JACOBSON
OURAY HYDROELECTRIC PLANT
PO BOX 1385
OURAY, CO 81427

November 15, 2016

Ms. Camille Price
Project Manager
Inactive Mine Reclamation Program
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety

Mr. Russ Means
Colorado Division of Reclamation, Mining and Safety
Minerals Program
101 3rd Street
Grand Junction, CO 81501

Ms. Kathy Rosow
Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive South
WQCD-B2
Denver, CO 80246

Mr. Doug Jamison
Colorado Department of Public Health and Environment
HMWM Division
4300 Cherry Creek Drive South B-2
Denver, CO 80246

Ms. Jean Wyatt
U.S. Environmental Protection Agency – Region 8
1595 Wynkoop St.
Mail Code: 8EPR-AR
Denver, CO 80202-1129

CITIZENS COMPLAINT

Dear Ms. Price, Mr. Means, Ms. Rosow, Mr. Jamison, and Ms. Wyatt:

This is a citizen's complaint submitted to the Colorado Department of Public Health and Environment (CDPHE) and the Colorado Department of Natural Resources Division of Reclamation, Mining and Safety, Inactive Mine Reclamation Program and Division of

Water Resources. Current and former operations at the Treasury Tunnel by the Idarado Mining Company (Idarado) in Ouray County, Colorado have resulted in water quantity and quality impacts to Red Mountain Creek and the Uncompahgre River. As the party responsible for operations at the mine, the Idarado Mining Company must be required to mitigate these impacts.

I am the owner and operator of the Ouray Hydroelectric Plant ("OHP") located in Ouray, Colorado. The OHP utilizes water diverted from the Uncompahgre River just south of the Town of Ouray. The OHP infrastructure includes a diversion dam on the Uncompahgre River and a 6,600-foot long steel pipeline penstock which delivers OHP's water to the turbines housed in the OHP powerhouse located in the Town of Ouray. In addition to driving the turbines, the water was historically used for domestic purposes inside the power plant building.

Operations at the OHP are strongly impacted by both the quality and quantity of water delivered to the powerhouse. Lower diversion amounts result in reduced power generation. Degraded water quality, particularly low pH, causes severe corrosion of the penstock and turbine. Therefore, any upstream actions resulting in reductions in flow and/or water quality degradation will result in very significant detriment of and injury and damage to OHP as well as other citizens living along and utilizing water diverted from the Uncompahgre River.

Water is diverted from the Uncompahgre River for the OHP in accordance with the decree issued in Case No. CA 1990 for the Ouray Hydro-Electric Project No. 259. The water right was decreed absolute with a decreed rate of 60 cubic feet per second (cfs), with an adjudication date of May 11, 1942 and an appropriation date of July 1, 1902. I frequently place a call on the Uncompahgre River during low flow periods to ensure receipt of the water to which I am legally entitled under my decreed right.

Groundwater tributary to Red Mountain Creek has historically been conveyed through the Idarado Mine workings, discharging at the Treasury Tunnel portal. There is substantial evidence that a significant amount of water, up to approximately 2,500 gallons per minute (gpm), historically discharged from the Treasury Tunnel prior to the tunnel being extended beyond the topographic divide separating the Uncompahgre River Basin and the San Miguel River Basin. A letter report prepared by Western Water & Land, Inc. (WWL) reviewing evidence of the subject trans-basin diversion is provided in Attachment A. I assert that this water is being diverted underground within the mine workings by Idarado to flow into the San Miguel River Basin. This is a transbasin diversion for which Idarado has no decreed water right.

As a result of the ongoing diversions made by Idarado within the underground workings, much of the water that historically discharged at the Treasury Tunnel currently discharges at the Meldrum Tunnel in the San Miguel River basin. It is suspected the underground diversions were implemented by Idarado to reduce the flows to Red Mountain Creek and thereby reduce its treatment obligation within the Red Mountain Creek basin as Margaret Livingston, US Environmental Protection Agency counsel, noted in 1988: "As mentioned

previously, Idarado's apparent motivation in wanting to plug the tunnels on the Red Mountain side is to leave no portals discharging into the Red Mountain Creek. (This is what Mac DeGuire testified to on page 3141.) By offering to plug the Red Mountain portals and to divert water over to the Telluride side, Idarado is apparently hoping that it can eliminate its point source discharges on the Red Mountain side. This, it hopes, will get Idarado out of having to pay over $14,000,000 for the Ironton Park Reservoir." The memo from Ms. Livingston is provided in Attachment B.

Idarado Mining Company obtained a decree in Case No. 02CW245 entitling it to make transbasin diversions by pumping up to 0.2 cfs (approximately 90 gpm) of water emanating from the Treasury Tunnel and therefore tributary to the Red Mountain Creek through the mine workings for discharge out of the Meldrum Tunnel in the San Miguel River Basin. The water right decreed in Case No. 02CW245 is Idarado's only decreed Treasury Tunnel related water right. As stated in the decree, "this diversion, the Treasury Tunnel Pump, prevents over-saturation of the Treasury weepline infiltration system". Over-saturated conditions results in seepage from the system and flow on the ground surface, ultimately discharging directly into Red Mountain Creek. The weepline was constructed by Idarado at the Treasury Tunnel portal to avoid the requirement of obtaining a permit to discharge the water to Red Mountain Creek. Idarado's decreed transbasin diversions of water tributary to Red Mountain Creek to the San Miguel River Basin are curtailed when I place a call during low-flow periods. When the decreed transbasin diversions are curtailed, water emanating from the Treasury Tunnel is piped to the weepline. Idarado is physically incapable of delivering any water pursuant to the augmentation plan approved in Case No. 02CW345 during winter months due to access and winter operation constraints.

In November 2012, I retained WWL to assess water-quality conditions upstream of the OHP. WWL performed the assessment by collecting surface water samples at three separate locations. Samples were collected when Idarado's transbasin diversions were being curtailed in response to a call that I had placed on the Uncompahgre River. One sample was obtained from the Uncompahgre River at the inlet to the OHP power pond. The second sample was collected from Red Mountain Creek at the County Road 20 bridge crossing Red Mountain Creek in Ironton Park. The third sample was collected from a seep immediately downgradient of the Idarado weepline used to discharge water from the Treasury Tunnel. Water emanating from the seep flowed on the ground surface, discharging into Red Mountain Creek. On two separate occasions, I have personally observed water flowing on the ground surface and discharging into Red Mountain Creek from seeps emanating immediately downgradient of the Idarado weepline. I believe that this constitutes a discharge and a discharge permit must be obtained from CDPHE.

Analytical results reported for the samples collected by WWL are presented in Attachment C. As shown, the pH of Red Mountain Creek at the County Road 20 bridge (RMC-CR20) is extremely acidic (2.31). The pH at the Power Pond inlet is also acidic (4.57). However, the water emanating from the seep immediately downgradient of the weepline exhibits near neutral conditions (6.97). These findings show that the pH of Red Mountain Creek would be much higher if the water tributary to Red Mountain Creek that

had historically discharged to Red Mountain Creek and I believe constitutes an undecreed diversion was not diverted underground by Idarado to the San Miguel River Basin. The resulting increased pH, and therefore less acidic water at the Power Pond, would significantly reduce the very negative operational and financial impacts to the OHP pipeline and turbine.

Although discharges from the Treasury Tunnel provide a benefit to Red Mountain Creek and the Uncompahgre River with respect to pH, the analytical results for the WWL samples show concentrations of several analytes above neighboring stream standards. It is recognized that no stream standards have been established for the reach of Red Mountain Creek into which the Treasury Tunnel drainage discharges. However, comparisons to the standards established for Red Mountain Creek from its source to immediately above the confluence with the East Fork of Red Mountain Creek show the Treasury Tunnel Seep samples contains several analytes at concentrations exceeding the standards, including but not limited to zinc. As a result, water treatment must be required prior to discharge.

In summary, I assert that the actions of Idarado have significantly reduced the quantity and degraded the quality of the water flowing in Red Mountain Creek and the Uncompahgre River to the very significant detriment of and injury and damage to OHP and the other citizens living along and utilizing water diverted from the Uncompahgre River. I further assert that a discharge permit including treatment should be required for all water discharging from the Treasury Tunnel and that the permit and treatment system must account for and be sized to accommodate up to the quantity of water that historically discharged from the Treasury Tunnel, up to approximately 2,500 gpm, prior to the tunnel being extended beyond the topographic divide separating the Uncompahgre River Basin and the San Miguel River Basin.

REQUEST FOR ACTION: I hereby request that your respective State and Federal agencies, responsible for regulating Idarado's activities and protecting the Red Mountain Creek and Uncompahgre River watershed and the citizens of Ouray, Montrose and other downstream Counties, take immediate action and require Idarado to obtain a discharge permit for and require treatment of all of the water flowing from and which should be flowing from the Treasury Tunnel.

Sincerely:

16 Nov. 2016

Eric Reus Jacobson
Owner, Ouray Hydroelectric Plant

ATTACHMENTS:

Attachment A: WWL Letter Report; Treasury Tunnel – Historic Mine Water Discharge Assessment

Attachment B: (1988) Livingston to Hope/Brown/Deere/Deckler, Page 4, stamped as received August 25, 1988 by the Colorado Mined Land Reclamation Division.

Attachment C: Surface Water Analytical Results

ATTACHMENT A

WWL Letter Report; Treasury Tunnel – Historic Mine Water Discharge Assessment

Western Water & Land, Inc.

August 19, 2015

Mr. Eric Jacobson
Hydrowest, Inc.
P.O. Box 1385
Ouray, CO 81427

Treasury Tunnel – Historic Mine Water Discharge Assessment

Dear Mr. Jacobson:

Western Water & Land, Inc. (WWL) has completed an assessment of historic mine water discharges at the Treasury Tunnel, located in Ouray County, Colorado. The purpose of the assessment was to document, based on historical research, the amount of water reportedly discharging from the mine to Red Mountain Creek during mine development within the Uncompahgre River Basin. The assessment was performed on the basis of existing information, some of which you provided from data files that you had previously compiled.

Background

The Treasury Tunnel portal is located within the Uncompahgre River Basin, near the top of Red Mountain Pass at an elevation of approximately 10,600 feet above mean sea level. The portal is situated approximately 10,000 feet east-southeast of the divide between the Uncompahgre and San Miguel River Basins. The Treasury Tunnel, which was originally referred to as the Hammond Tunnel, extends in a west-northwest direction from the portal, ultimately extending beneath the divide and connecting with mine workings accessed from the Meldrum and Mill Level Tunnels, both of which are located within the San Miguel River Basin. The Treasury Tunnel was connected to the Meldrum Tunnel in the mid 1950's.

Work on the Treasury Tunnel began before 1900, and the mine was extended approximately 5,400 feet from the portal by early in the 1900's, at which time activity lagged until the late 1930's (Hillebrand, 1968; Exhibit A - page 1, paragraph 7). The approximate trace of the Treasury Tunnel prior to the early 1940's is presented in attached Figure 1. According to Hillebrand (1968), the Treasury Tunnel was extended from 5,400 feet to the Black Bear vein in the early 1940's (Exhibit A - page 1, paragraph 7). The Treasury Tunnel intersected the Black Bear vein about 8,660 feet from the portal (King and Allsman, 1950; Exhibit B - page 25, paragraph 5). A hydroelectric power house constructed at the portal area was supplied water from the mine.

Historical Review Summary

There are several references in the historical record regarding mine discharges from the Treasury Tunnel. The records indicate that a considerable amount of water was discharging from the mine prior to the mine's extension beyond approximately 5,400 feet from the mine portal. Prior to mine expansion

743 Horizon Court Suite 330, Grand Junction, CO 81506
Phone: (970) 242-0170 Fax: (970) 242-0270

in the early 1940's, groundwater inflows to the Tunnel occurred on the Uncompahgre River Basin side of the hydrologic divide.

In 1906, the Ouray Herald (Exhibit C - "Treasury Tunnel" page 1, paragraph 5) reported "the water flowing from the tunnel, which at present is at the rate of 2200 gallons per minute, is used to develop the electric power necessary to operate the stamp mill of the company and light the buildings and tunnel." In a May 24, 1905 letter from Harry J. Wolf to Cooper Anderson, Esq. (Exhibit D - page 1, paragraph 2), Mr. Wolf stated "Mr. Russel, City Engineer of Ouray, states that the flow from the Hammond Tunnel is about 2500 to 2800 gallons per minute. (Mr. Russel's measurement)." It is stated in a description of the power house presented in a Report on the Property of the Treasurytunnel Mining Company (Exhibit E - page 6, paragraph 3) that "Wheel is connected by iron pipe to penstock at end of tunnel ditch, from which there is a flow of over 2,000 gallons of water per minute, which quantity has been flowing since the beginning of 1903 without diminution, and will be increased as Tunnel is driven further into mountain and other veins are struck."

Since 1977, the amount of water discharging from the Treasury Tunnel has been less than the amount that was discharging from the Tunnel prior to 1977. In a July 7, 1982 letter to Mr. Donald H. Simpson (Colorado Department of Health – Water Quality Control Division), Mr. James H. Boyd (Director of Environmental Affairs, Newmont Services Limited) stated "In the past, the Treasury Tunnel carried a considerable flow of water, but in 1977, under an agreement with the Division, the bulk of the abandoned and inactive mine discharge flow through the Treasury Tunnel was diverted to the Meldrum portal" (Exhibit F - page 4, paragraph 1).

Conclusions

The information contained in the historical record provides evidence that a substantial amount of water discharged from the Treasury Tunnel prior to extension of the Tunnel in the early 1940's beyond 5,400 feet from the mine portal. Historical information from the early 1900's indicates water discharged from the mine at flow rates of more than 2,000 gallons per minute. Because the Tunnel had not yet been extended to the hydrologic divide, the observed flow rates in the early 1900's were in response to groundwater flowing into the mine on the Uncompahgre River Basin side of the divide. High discharge rates have not been observed from the Treasury Tunnel since 1977 when the bulk of the flow through the Treasury Tunnel was diverted to the Meldrum Tunnel, located on the San Miguel River Basin side of the hydrologic divide.

WWL appreciates the opportunity to provide this assessment of historical mine discharges at the Treasury Tunnel. If you have any questions or would like further information, please contact me at (970) 242-0170 or bmerrill@westernwaterandland.com.

Sincerely,

WESTERN WATER & LAND, INC.

William G. Merrill
Principal Hydrogeologist

Attachment

References

Boyd, James H., 1982. Letter to Mr. Donald H. Simpson (Colorado Department of Health – Water Quality Control Division). July 7.

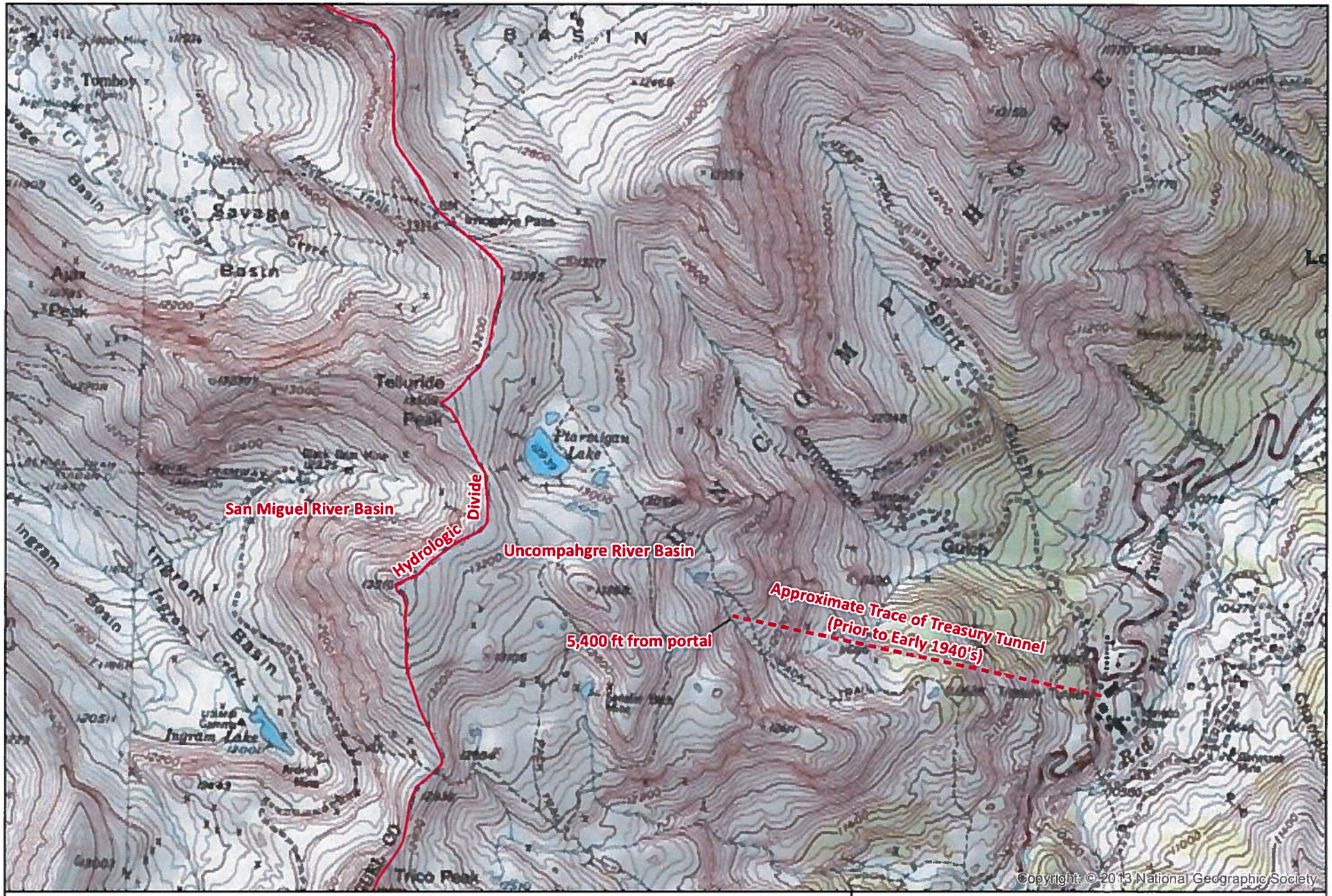
Hillebrand, J.R., 1968. The Idarado Mine, in San Juan, San Miguel, La Plata Region (New Mexico and Colorado), Shomaker, J. W.; [ed.], New Mexico Geological Society 19th Annual Fall Field Conference Guidebook.

King, W.H. and P.T. Allsman, 1950. Reconnaissance of Metal Mining in the San Juan Region, Ouray, San Juan, and San Miguel Counties, Colorado; Colorado Bureau of Mines Information Circular7554.

Ouray Herald, 1906. Treasury Tunnel is Now Freed From Litigation and Will Drive Great Tunnel Without Delay. July 27 Edition.

Steiner, K.J., 1913. Report on the Property of the Treasurytunnel Mining Company. June 18.

Wolf, Harry J., 1905. Letter to Cooper Anderson, Esq. May 24.



N

Feet

0 1,250 2,500 5,000

Figure 1: Treasury Tunnel

Ouray County, CO

Western Water & Land, Inc.
Applications in Earth Science

REFERENCED EXHIBITS AVAILABLE UPON REQUEST

ATTACHMENT B

(1988) Livingston to Hope/Brown/Deere/Deckler, Page 4, stamped as received August 25, 1988 by the Colorado Mined Land Reclamation Division

8-24-88

MG77-403HR to: Pat Martinek

We had another meeting with the Idarado ppl people on August 8th and then a state meeting on the 17th. You're welcome to come along on any future meetings. Here's a summary of ~~this~~ my thoughts as of a week ago. Please call me at 894-2285. Peggy L.

TO: Michael R. Hope
Diane M. Brown
Don Deere
Jeff Deckler

FROM: Margaret J. Livingston

Date: August 16, 1988

Re: Idarado's settlement proposal and our settlement strategy

Here are some things to consider during our August 17th meeting.

I. Idarado's latest proposals

During our August 8, 1988 meeting at Sherman and Howard, Idarado presented a "Reclamation Plan" (nicely presented in a blue binder). As discussed below, it does not appear to offer any more than what Idarado offered at trial (and in its April 1988 Status Report filed with the court and during the July trip 1988 to the Idarado site).

Idarado's August 8th Reclamation Plan was supposed to cover just what Idarado proposed to do on the Telluride side. However, Chip Clark orally offered that if we would (1) settle for vegetating and contouring the Red Mountain tailings ponds (instead of consolidating and capping them) and (2) go after the third party defendants, then Idarado would not ask for a release of liability. (This is discussed in the sections on tailings ponds and on third party liability.)

A. Millsite cleanups/PCB's, organics & lead

As you remember, Idarado wants us to settle for the PCB cleanup it is doing according to its post-trial consent decree with the EPA. The "action level" that Idarado agreed to was 10 ppm. (Apparently Idarado offered during trial to do what it has done according to the EPA consent decree. check pp. 3861 and 3893)

During trial, we had asked for a cleanup to .1 to .4 ppm (p. 3923). This was based on Dr. Ellen Mangione's testimony that PCB levels of .1 and .6 ppm were associated with increased cancer risks.

According to Dan Bench of the EPA, EPA's policy has been to clean up PCB's to background level (see around p. 938 ff). However, Dan Bench has told me that EPA has never been clear on exactly what background level is, and the tests for PCB's apparently only have a 1 or 2 ppm detection limit.

Idarado's cleanup plan is based on a new EPA policy that softened PCB cleanup standards. The new policy was dated April of 1987, which is when the trial began. Idarado of course argued that the newer, more lenient PCB policy ought to be followed. (p. 3855; Exhibit O-62) The new EPA policy has different standards for different areas, and Idarado says that it is cleaning up the millside according to the residential area standards.

The state argued that this policy should not apply to spills that occurred before the policy was adopted. (p. 3931) Dan Bench has told me that EPA's policy is unclear as to whether it applies to pre-policy spills.

This leaves us with (1) the legal question of whether the pre-policy spills are covered by the new policy and (2) the technical question of whether EPA's new policy is sufficiently protective. Although I have asked Jeff Deckler to look into the question of what policy is best from a technical viewpoint, he and I think ~~we should~~ he needs the support of others in CDH, especially the epidemiologists.

Since the last memo (August 8th) I asked Department of Justice attorney to send us a 1988 consent decree relating to a Morton Thiokol facility in New Jersey. Apparently with the same 1986 EPA guidance on PCB's that Dr. Mangione cited at trial (Exh. 1472, p. 3904) the state of New Jersey decided on an action level of 5 ppm, and DOJ went along. (It is interesting that this consent decree is after the 1987 EPA policy.)

The PCB question covers both the millsite and underground areas. As far as I can tell, the parties are in agreement on the underground PCB areas, except possibly on the question of the state monitoring Idarado's compliance. (check about page 964 --Charlotte's trial stipulation and additional request for monitoring; check also around p. 3866; on verification check around p. 3880).

The millsite has not only PCB's but also lead, acetone, and various organics. Chris Lane told the court that TCA's and acetone were being cleaned up to less than one part per billion (p. 3853-4). (Sometimes TCA's and other organics seem to be lumped together with PCB's. Pages 2 and 3-2 of the Remedial Investigation refer to 1,1,1 trichloroethane and acetone as if they are just types of PCB's. Other places, such as pages 1-19 and 7-8 of the RI, Stipulation No. 531, and Chris Lane's statement on

page 3853-54 of the transcript refer to them as separate items. I've asked Jeff about this.) Assuming that the TCA's and other organics are different from PCB's, we also need to figure out from a technical perspective whether we can accept what Idarado has already done.) (check p. 396)

The millsite cleanup may be one of the few parts of our cleanup plan that isn't related to other parts. We had originally planned to have contaminated soil from the millsite put on top of tailings pile 5-6 and under the future cap. However, Idarado has disposed of the Pandora millsite soil in another way. Cleaning up underground transformers shouldn't affect any other parts of the remedy.

B. Plugging portals

During trial, the parties stipulated that Idarado would plug all of the High Country mine portals except the Stillwell, Treasury, Black Bear, and Barstow. (p. 3526; more specific language was promised on page 3527, but I haven't been able to find any yet.)

According to Idarado's April "status report," Idarado now intends to plug the Black Bear, Columbia 300 level, Lower Japan, and Tomboy portals. It is trying to get access to the following portals so that it can design plugs for them: Lower Barstow, Smuggler Mine, Ophir (the one with beer in it), and Imogene. It is beginning design investigation for the Bullion and Pennsylvania Tunnels.

There may be at least two inconsistencies between Idarado's current plans and the trial stipulation:

(i) Idarado now plans to plug the Black Bear and Barstow portals, which weren't in the stipulation. We should object pretty soon if we have an objection to Idarado plugging the Black Bear and Barstow tunnels. (I think I remember Mac saying on August 8th that Idarado had already poured concrete for the Black Bear portal. Does anyone else remember this?)

(ii) there are 23 portals (see Table 5.2 of ROD and the pre-trial written stipulations), meaning that a stipulation to plug all but four means that 19 are to be plugged. However, the Status Report mentions only ten. This must mean Idarado isn't plugging the other 9 (at least this year). The missing ones appear to include the Argentine, the 11,796 adit, and 11,967 adit, the Andrus, the Bobtail, the Cimarron, Liberty Bell, Montana (get more) (check notes: were they also plugging Cincinnati up by Tomboy ruins?) (also, are the upper and lower Barstow portals one or two portals?) (also, the August 1988 reclamation plan says the Smuggler is two portals; if Smuggler was two portals in the April 1988 Status Report this would mean the Status Report

proposed plugging eleven portals, since the Status Report includes the Imogene -- the Imogene is a Red Mountain side tunnel rather than a High Country portal) Anyone have more information on whether we're talking about the same portals?

Our plan at trial may have included plugging some portals not on Idarado's property. Exhibit 1408 says "selected portals plugged," with arrows pointing to property that Idarado says is owned by Baumgartner. (Exhibit 1399 also says "selected portals plugged," and it doesn't have arrows pointing anywhere.)

Because the design details of plugging apparently have not been worked out (p. 3633), we should request the appropriate review of designs and specifications and "as built" construction reports. This is so that we could oversee such construction details as to whether the plugs are thick enough and put in the correct place in the tunnel. Pat Martinek has agreed to do this. Probably we also need a professional engineer to do this.

As mentioned previously, Idarado's apparent motivation in wanting to plug the tunnels on the Red Mountain side is to leave no portals discharging into the Red Mountain Creek. (This is what Mac DeGuire testified to on page 3141.) By offering to plug the Red Mountain portals and to divert water over to the Telluride side, Idarado is apparently hoping that it can eliminate its point source discharges on the Red Mountain side. This, it hopes, will get Idarado out of having to pay over $14,000,000 for the Ironton Park Reservoir.

However, even if the portal discharges are eliminated, there is still water contamination from Idarado's waste rock piles and tailings ponds. (see page 3319, Al Medine's testimony; see also page 11-22 of the Remedial Investigation, saying that nonpoint sources are 75% of the zinc problem.) Plugging the portals will not do anything to help the nonpoint pollution problem.

It is obvious that Idarado's plugging program is intended to help Idarado claim that it has eliminated all discharges from its property on the Red Mountain side. (To eliminate all discharges Idarado will also have to take care of its nonpoint sources). Idarado is probably hoping that by the time the judge announces a decision, it will have completed its plans to plug portals and to divert around waste rock piles. Then it will claim that any cleanup plan ordered by the judge (particularly an expensive one such as treating the water downstream) will be moot.

As you remember, Idarado sued 5 third party defendants that it claims are also responsible for discharges into Red Mountain Creek above the proposed Ironton Reservoir. (See the separate heading below about third party defendants.)

C. Diverting surface water around the inflow point in the Flat Vein.

Idarado showed us it was doing this, but this is what it agreed to do during trial. (p. 3527). So far, nobody from the state has objected to Idarado doing this.

D. Internal mine diversion

At trial, Idarado offered to do piping, ditching, and damming inside the mines. (p. 3549 and 3650)

I asked Dave Baker and Nancy Shea for a written explanation of what water is getting diverted where. Probably this request ought to be followed up in writing.

During our August 8th meeting, Idarado claimed that the flow at the Black Bear level is very minimal. (Dave Baker said it was about 10 gpm.) This is significant because we've proposed to divert the about 120 gpm from the Black Bear level, which is some of the most foul water on the site, to the Treasury side. (See p. 3311, regarding about 120 gpm from the Black Bear level -- check number -- 1200?) This now comes out of the Telluride side. Idarado of course does not want this diversion because it would wreck its plans to eliminate all discharges on the Red Mountain side. It seems to be that Idarado is trying to get us to accept its Black Bear plan by telling us that it isn't much water anyway. We need to confirm with Don Deere just how much water is flowing out the Black Bear. Also, Nancy Shea assured us that Idarado could track the Black Bear diversion. We probably need to ask Idarado for a written report on where the Black Bear water is going.

E. Diverting around waste piles

We agree with the concept of diverting around waste piles, but we should get a more specific understanding of exactly which ones are to be diverted. Don Deere is looking for a map with numbered waste piles that was used during previous settlement discussions.

According to Don, the Record of Decision called for diverting around waste piles on Idarado and non-Idarado property in the Red Mountain Creek drainage. The actual wording of the ROD is not that explicit (e.g., pages 37 and 38 just say "waste pile Nos." with no following number). There are various references to waste rock in the "Red Mountain Creek area" or the "Red Mountain Valley" that do not specify whether they do or do not include non-Idarado property.

The two major waste rock piles that Idarado is diverting around are shown on Fig. 2B of the August Reclamation Report. Are these the same ones that Al Medine referred to collecting information on? (see p. 618)

F. Treating the surface water discharges

1. Marshall Creek (p. 3369, 3205) We want a settlement pond to treat what comes out of here. It would be put where tailings ponds 1-4 now are. Therefore, if we agree not to move tailings ponds 1-4 we need to decide either that we can move the Marshall Creek water settlement pond or that we don't need to treat this water.

Dave Baker told me that the high country work Idarado is doing this summer ought to reduce the metal discharges in Marshall Creek by 50-60% and that the Marshall Creek water does not need to be treated in his opinion. By comparison, the ROD (p. 99) predicted that the Marshall Creek settlement pond would achieve 50 to 95% reduction in the surface water. (Compare pp. 3-36 and 3-37 of RI)

To check any groundwater quality improvement after Idarado finishes its 1988 plugging and diversion program, we should probably agree on which monitoring wells Idarado should use.

2. Meldrum Tunnel. Idarado showed us its new weep line for the Meldrum Tunnel. It offered an upgraded weepline during tria. (p. 3411) We were not asking for the Meldrum Tunnel discharge to be treated anyway (p. 3352), so probably we could stipulate that the weepline is appropriate for the Meldrum Tunnel.

3. Mill level discharge. Idarado wants to use its existing series of four ponds, which are sometimes called "infiltration lagoon." (p. 3411.) During our August 8th meeting, Idarado said it was expanding its current infiltration units by 25% and pulling out the dam between infiltration ponds 2 and 3. Do we have any objection to Idarado doing this?

On August 8th, Don Deere suggested a bond for maintaining Idarado's treatment ponds, but Mac DeGuire said this was unnecessary because of Idarado's NPDES permit.

4. Treasury Tunnel discharge. Our plan is to treat this in the proposed Ironton Reservoir, with the rest of the Red Mountain water. This would be a passive system under which lime would be added and the metals would attach to iron and aluminum in the water and settle out. As mentioned above, Idarado wants to eliminate all discharges from the Treasury Tunnel as part of its plan to not pay for the Ironton Reservoir.

6. Isolating and Stabilizing the Tailings Ponds

So far Idarado's only offers on the tailings ponds (both on the Telluride and Red Mountain sides) has been to vegetate them (to prevent water from flowing through and spreading metal contamination) and to put up flood protection so they don't wash away during a 500 year flood. All tailings piles would stay just where they are. The buried tailings pile would have nothing done to it except diverting a highway culvert that Idarado complains is the source of the pond we keep seeing in the Idarado millyard (at the same place there used to be a lake).

Our program was more extreme in that we proposed to consolidate the ponds. On the Telluride side, Ponds 1-4 would be dug up and put on top of 5-6. On the Red Mountain side, Ponds 1-3 and the buried pond would be dug up and put on top of 4. The consolidated ponds would each have a three layer cap and protection against the maximum probable flood. Our three layer cap would consist of (1) an "impermeable" layer to stop water from flowing through, consisting of a mixture of bentonite and tailings from the ponds to be moved, (2) an erosion resistant layer, and (3) a soil layer. Each layer would be about two feet thick.

1. Isolating the tailings

We want to isolate the tailings so that they don't blow off, they don't allow water to seep through them, and they don't come into direct contact with people.

Idarado believes its direct vegetation program is enough to isolate the tailings.

As previously mentioned, Idarado wants to be far enough along with its vegetation programs by the time the judge issues a ruling that the judge won't have the heart to make Idarado rip up its nice grass (what Nancy Shea calls a golf course). One question I've got then is why Idarado hasn't already laid back its slopes on Tailings Ponds 1-4. (I think Mac DeGuire said on August 8th that this hadn't been done.) Presumably they'd have to rip up their vegetation whenever they recontour the slopes.

Idarado wants a signed agreement by January 1st in order to have time to put down seeds next year.

As mentioned previously, in July we were shown grass on Tailings Pond #1 (Telluride side) that appeared to average about 3 feet in height. (We were even given Idarado's seed mix.) The vegetation appeared fairly even across the top of the pond. The side slopes were more spotty. The vegetation on the side slopes was held in place by netting. There is straw and matting under

the netting. Nancy Shea told me the netting was light excelsior (85%), medium excelsior (72%), and jute (55%). After 3 or 4 years, the excelsior dissolves.

The grass on Tailings Pond #1 looked pretty good. However, David Holm testified that one year is not long enough to know what will happen long term (p. 4159). Even though the grass looked good enough to me to wonder whether it would in fact hold up for a longer time, I would like to get some more opinions from Dave Holm and/or Pat Martinek as to whether the grass on Tailings Ponds 1-4 showing more promise than other grass of this age. (Dave Holm also said that five years isn't enough to judge the success of vegetation (p. 1596) and that only one inch of soil forms every hundred years. (p. 1597). This makes me dubious about any attempt to decide future success based on what we've seen so far on Ponds 1-4.)

check p. 1594: 6 inches of treated tailings not enough?

Judge Carrigan seemed to agree with our doubts about how long Idarado's vegetation will last without constant fertilization, watering, and other care. (p. 1732). He seemed to think that the state's proposal for topsoil was essential (p. 1725-26).

However, the Judge was also doubtful that our lowest layer (the impermeable mixture of bentonite and tailings from higher ponds) was really necessary to keep water from filtering through the tailings ponds (pp. 1718 and 1726-7). However, even if we did abandon the impermeable layer on some parts of the ponds, it may still be necessary on the sides (1728, Junge; Deere said it might not be necessary to cover the entire surface of the ponds with an impermeable layer, p. 1608) Even Redente's testimony indicates that an impermeable layer may be needed for the sides, because he predicted that a 2 to 1 slope on the sides would have only a 50-60% groundcover.

Idarado feels that its plan and ours are about the same on preventing water from filtering through the tailings ponds and picking up metals contamination. It said that the difference in effectiveness between its diversion/vegetation program and our cap is only about 90% vs. 95%. (cites) McWhorter testimony that Idarado's plan will reduce seepage by 98% (leaving 12 gpm) and the state's will reduce seepage by 99.5% 9 (leaving 4 gpm). We need to decide whether we can really take care of seeps without the impermeable layer. The seeps sounded huge on page 3-32 of the RI.

The consequences of not having an impermeable layer are that (1) we would not have the top of the big tailings pile as a place to put the piles that we move, and (2) we would not be able to get at the soil under Telluride ponds 1-4 that we plan to use as the vegetation growth layer of our cap (p. 1111).

The first consequences relates more to the stability of the ponds (see below) than to isolating them. As mentioned below, the ponds that are in the most instable positions are Telluride ponds 1-4 and Red Mountain Pond 2. We want to move the buried tailings pond not because it would wash away in a flood, but because a spring flows through it and contaminates the groundwater.

The second consequence only hurts us if we cannot find enough soil growth layer without getting the soil underneath Ponds 1-4.

2. Stabilizing the tailings

As mentioned above, an important reason for moving the upper tailings down is to prevent them from being washed away. Conceivably, we could leave Red Mountain Tailings Ponds i and 3 in place, because Tailings Ponds 1 and 3 on Red Mountain are in relatively stable positions (p. 1767, Junge). The most unstable ponds are Red Mountain Pond #2 (p. 1996, Deere) and all four top ponds on the Telluride side.

For fairly obvious reasons, Judge Carrigan didn't believe that direct vegetation alone would do much to stabilize the piles (p. 1982). The defendants have offered to put a 500 year flood protection around their tailings ponds. This presents the questions (1) how much rip rap is really needed to protect against a 500 year flood? and (2) With the rip rap, how essential is our six-foot thick cap?

I think we need to seriously consider for each pond what kind of rip rap and/or cap is needed to keep it stabilized in place, because Judge Carrigan sometimes sounded critical of consolidation (p. 1701?) and the $2,500,000 price tag for consolidating (just Telluride side? p. 1701)

Although Judge Carrigan seemed to think that 6 feet was a bit thick (p. 4005), I'm not terribly sure whether he was as critical of our vegetative cover and erosion resistant layers as he was of our impermeable layer. (Anyone with a better memory?)

Idarado seems willing to provide for 500 year flood protection. (p. 1675, 1698, 1752; also confirmed orally by Nancy Shea in July of 1988) Judge Carrigan also seemed to like 500 years (p. 1713). He seemed to be impressed by our figure that the ponds had a 63% chance of failing in the next 100 years if we merely provided 100 year protection. (around 1720 or 30)

Going to a 500 year flood plan (instead of probably maximum flood) means that it becomes cheaper not to consolidate the piles. Sticking with the probable maximum flood means that it is cheaper to consolidate. (p. 1033, Rahe; conversation with Don Deere).

The consensus around these days seems to be that Judge Carrigan also thought our PMF argument was too extreme and that we can probably concede this point. But before we do, I'd like to straighten out just how big these floods are and how sure we are of how much rip rap we need for what kind of flood event.

The Defendants claimed 10 feet of rip rap is needed for a 100-500 year flood and 15 feet is needed for the probable maximum flood. (p. 1225); Rahe says to go from 100 to 500 year flood only need 20% more rip rap (p. 1733); Don says for a probable maximum flood the rip rap needs to be only 50 feet high or 25 feet above river bottom, which is 10 to 15 feet higher than the existing erosion control berm. (I didn't understand this.) Amount of rip rap needed: p. 1072? Idarado offered 2 to 4 inches? (p. 1148)

Maybe I'm just missing something, but just how high is the water in a probable maximum flood? I think DeGuire said off in the jury room conference that it'd be 10 times the 500 year flow (p. 1733).

Don Deere suggested something during the break in our meeting on August 8th. I think it was a 3 foot cap on the top of Pond 5-6 (1 foot on top and 2 feet underneath) and a 4 foot cap along the sides of the ponds. Could we get more details?

3. Conditional decrees

a. Condition of complying with our plan

During our August 8th meeting, I suggested letting Idarado proceed with vegetating on the condition that we now provide set mandatory goals (e.g., going down to a certain level of metals in the stream and attaining a certain thickness and variety of vegetation) that Idarado would have to meet by a certain time, with the consequence of not meeting them being that Idarado would then have to go with our program.

(Note this is different from what Nancy Shea said in one of the closing arguments about the state always being able to go back to court and ask for relief all over again if Idarado's plan wasn't working. She may be hoping CERCLA would be repealed by then.)

Although Nancy Shea had sounded receptive to this idea during a conversation on the tailings pond in July, we didn't get a very positive response on August 8th. Chip Clark objected that Idarado could be coming along well but not meeting our goals yet by the cutoff time. (Charlotte tells me that Idarado rejected a similar plan just before trial.)

However, maybe this idea could be developed more. Chip Clark did say this proposal "would seem to follow logically to a degree." Dr. Redente predicted during trial (p. 1930) that even though you wouldn't necessarily have completed a vegetation program in four years, four years would be enough time to tell whether it was successful. If we could get specific enough criteria from him as to what to look for in four years, we could propose that (i) within four years the vegetation has to have attained whatever Dr. Redente now tells us is a sign of success, and (ii) within some longer period the vegetation's thickness and diversity, the stream's quality, and the soil's thickness have to be at a certain level we would set now. (Note that the period to check on soil formation should be 10-15 years. p. 1325-26.)

Judge Carrigan seemed to favor a conditional decree on the buried tailings pond p. 2006). This involve first arranging to divert the highway culvert and then requiring Idarado to dig it up and move it when the spring in it continues to form a lake.

b. Condition of bond and/or penalties

During trial, Judge Carrigan suggested that Idarado post a bond or set up a perpetual care trust if it wanted to go with its vegetation-only plan (pp. 1682, 1686-7). Mac DeGuire sounded receptive to offering a bond or other security (p. 1865) However, DeGuire may only have been talking about a bond sufficient in an amount to pay somebody for looking after the plants. I'd like a bond that is high enough to ensure against the tailings ponds becoming unstable and possibly washing into the river. Judge Carrigan also seemed in favor of this, based on his question that whether Idarado could provide a funding source sufficient to ensure the stability of the tailings ponds if he were not to require Idarado to move them (p. 1693).

As Judge Carrigan suggested, whatever we agree to (if anything) should have specific provisions for monitoring erosion, vegetation, soil thickness, ground water and surface water quality, how to correct construction defects in riprap, how to repair gullies, etc. (p. 1735).

4. Miscellaneous questions

The land under Tailings Ponds 1-4 apparently has a very shallow water table. This means that the land under Ponds 1-4 is not suitable for use as a settlement pond. (p. 1032) However, in my opinion, the shallow water table presents a case for moving the tailings, because any seepage through Ponds 1-4 could get into the groundwater relatively easily. Is the water table under Tailings Ponds 5-6 any deeper? (If the water table were not so shallow, the land might be suitable for a settlement pond, meaning that we wouldn't have to evict Royer Gulch).

If the Telluride tailings ponds aren't going to be capped, then we would need another place to put whatever lead-contaminated soils from Telluride. (p. 3877-78)

(P.S. Who was it who said during our July trip that the Red Mountain tailings were not more acidic than the Telluride ones? Both Rahe and Al Medine testified the Red Mountain tailings, or at least the water seeping out of them, was acidic. pp. 1762, 1788, 1790-91).

III. THIRD PARTY DEFENDANTS

A. Idarado's proposals

On August 8th, Idarado made the same pitch that Nancy Shea made at the site in July. Idarado wants the state to take action against the third party defendants.

Idarado apparently wants to prove that its source control program will eliminate the need for Ironton Park and maybe even offer the advantage of not "writing off" Red Mountain Creek down to the Ironton Reservoir. Idarado feels very strongly that it is not responsible for discharges from property that it does not own.

Chip Clark proposed that if the state would (1) promise Idarado that it would not have to move the Red Mountain tailings ponds and (2) go after the third party defendants, then Idarado would agree to recontour and vegetate the Red Mountain tailings ponds without insisting on a release from the state's claims that Idarado is liable for cleaning up Red Mountain Creek and paying for the Ironton Park Reservoir.

In other words, Idarado apparently feels it does not need a release to get out of joint and several liability at some future date because by the time we go to court to try to get Idarado to pay for Ironton, Idarado will be able to prove that it will have stopped all point and nonpoint discharges from its property.

This means that we have the (1) factual question of whether Idarado could actually stop all discharges from its property and (2) the legal question of whether a defendant can get out of joint and several liability by doing this.

Idarado seems very confident that it can get out of joint and several liability if it can only eliminate its own metals contribution to Red Mountain Creek. I have asked Bob Marquart to find out if there is any precedent under CERCLA for doing this. (I suspect there aren't any cases on point.)

The third party question is closely related to what is a "facility?" Idarado has refused to admit that anything other than land upon which it has patented or unpatented mining claims is a CERCLA "facility." The third party defendants are picking up on this and arguing that they are not polluting Idarado's land -- not that they're not polluting the Red Mountain watershed.

B. Which third party contributions are the most serious?

Apparently the state has done very little work on determining the amount of metals loads from the third parties.

1. Nonpoint Sources

Although we know that nonpoint sources are a big problem (e.g., Al Medine's testimony that at the beginning of Ironton, nonpoint sources are almost half of the metals load, p. 558), we don't seem to know a lot about how to attribute nonpoint source contribution on the Red Mountain side. Don Deere has told me that sampling metals runoff from non-Idarado property was not within his scope of work.

Cataloguing the nonpoint sources would obviously involve a lot of work. Al Medine called this difficult or impossible (p. 614). Idarado owns some property east of the Red Mountain Creek, (p. 1969), and it has scattered mining claims all over Red Mountain. (p. 1962)

Idarado's expert testified that Idarado's loading analysis didn't attribute anything east of Red Mountain Creek or downstream of Spirit Gulch to Idarado (p. 1961-62). He also said that the Idarado mine complex had the largest relative contribution from nonpoint sources (p. 1967). The nonpoint analysis was done by a residual calculation of determinine metals in the stream and subtracting known point sources (p. 1963).

The nonpoint sources include waste rock runoff and runoff and seeps from the tailings ponds. On the Red Mountain side, Idarado owns all of the tailings ponds built after the 1940's and

about 80% of all of the tailings ponds. (somewhere between p. 331 and 377; possibly contradicted by testimony of Mac DeGuire that he doesn't know where some of the tailings on pond #2 came from, p. 1822)

Because the other 20% of the Red Mountain tailings were apparently built before 1940, it would be difficult to find those responsible for the other 20%. Also, because there is apparently no plan to remove the tailings that are along Red Mountain Creek rather than in piles (p. 3699), some treatment system like Ironton becomes more necessary than it would be if we were removing every bit of the tailings. Idarado's expert estimated that 80% of Idarado's metals contribution came from the tailings ponds, and I presume from the wording that he meant the numbered ponds and possibly the buried pond rather than any other miscellaneous ponds along the Creek (p. 1967).

Al Medine testified that there were significant nonpoint loads into Red Mountain Creek near Tailings Ponds 1-3 (p. 1794). I think he meant to testify that the buried tailings pond in the millyard is a significant nonpoint source, but the wording didn't quite come out this way (p. 1793-94). As you will see below in the list of possible point sources, the Genessee Mine is near the Idarado's Red Mountain millyard. (They are on opposite sides of Red Mountain Creek.) Al Medine stated that you could not tell with certainty what load was coming from what particular source, but there are more tailings on the Idarado side than on the Genessee side (p. 1800). Presumably this means that Idarado is a bigger nonpoint source than the Genessee at this point along Red Mountain Creek. By contrast, McWhorter said that "a large fraction of the nonpoint contribution comes from the Genessee Mine area as opposed to the Idarado area."

2. Point Sources

From looking at a U.S.G.S. topo map and a may labelled Fig. 8.2-1 from the Remedial Investigation, it looks like there are the following mines and/or portals in the Red Mountain Creek drainage.

The sequence is from the top point down through Ironton Park. Mines are listed under the gulch (or tributary) that seems to be the logical path for any discharge.

References below to Plate I are to Plate I of the Remedial Investigation. This is a map of claims that appears to also be Attachment 3 in the small notebook of stipulations. When a mine is labelled "non-Idarado" it is because it doesn't appear to be inside any of the mining claims outlined on Plate I.

My copies of Plate I and Attachment 3 are xeroxes. I'm on the lookout for a nice clear blueprint copy. Please let me know if you can find one.

References to points such as "RMC-2" or "RO-6" are to these points in Fig. 8.2-1 of the Remedial Investigation.

The mines with asterisks are the ones that Idarado named in its third party complaint. Unless otherwise noted, the owner of each asterisked mine is assumed to be what Idarado alleged.

Note that there are a number of mines that Idarado has not named in its third party complaint. This could be because they are (1) really owned by Idarado and/or (2) not discharging much water.

a. Above the Idarado Mill (National Bell drainage)

Enterprise Mine	--	non Idarado
Hero Mine	--	non Idarado
*Hudson Mine	--	Baumgartner according to the third party complaint, but the third party complaint erroneously puts the Hudson Mine in the Champion Gulch drainage
National Bell Mine	--	non Idarado
Senator Beck Mine	--	Idarado (see Plate I)

The point at which Red Mountain Creek enters Idarado's property is apparently "RMC-2." Nancy Shea et al. took us to this point for lunch and told us that the water upstream from Idarado is bad. I think I remember Mac DeGuire saying that the pH of water coming onto Idarado property at this point was 2 or 3. However, according to the R.I., the pH of Red Mountain Creek just above National Bell mine is 5.2. The R.I. also says that there is very little contamination from the National Bell and its tributary (page 11-23 and Fig. 11.1-16).

Mac DeGuire testified that none of the Idarado claims above National Bell had any discharges. (p. 1876) I don't know whether the state has verified if this is true.

Don Deere says that National Bell itself is not a significant bad discharge, but the two unnamed portals (one of which I think was the Enterprise mine) do appear to be bad. Pat Davies testified that the primary metal the National Bell put into the stream was copper. (p. 922-23)

Don said that our July tour with Mac DeGuire et al. was the first time he had seen two of the highest portals on the Red Mountain side. (Apparently the Remedial Investigation was not necessarily supposed to cover non-Idarado sources.)

The Senator Beck mine is on a list in the stipulations book as a "patented producing" mine. If it turns out to be a discharging mine, then we've got at least a partial answer to Idarado's claim that the Red Mountain Creek is trashed before it goes by point RMC-2 (see below).

b. At the Idarado Mill

Treasury Tunnel -- Idarado

Idarado Mine -- Idarado

*Genessee Mine -- Baumgartner

c. Commodore and Spirit Gulches

Barstow Mine -- Idarado

Imogene Mine -- Idarado

(Imogene is not considered a major discharge point according to page of the Remedial Investigation. Commodore and Spirit Gulches combine into one Gulch that runs under Route 550 next to tailings pile #2.)

d. Governor Gulch

(apparently no mines here unless Mountain King flows into this gulch instead of Galena Mine Gulch)

e. Champion Gulch (RMC-6)

*Genessee Mine -- Baumgartner

*Guston -- Baumgartner

*Cora Belle Mine -- Baumgartner

*Joker -- Baumgartner

American Girl -- Idarado (Plate I)

Genessee is listed twice because it is immediately across Red Mountain Creek from the Idarado mine but it appears to be in the Champion Gulch drainage.

f. Galena-Lion Gulch

*Mountain King Mine -- Natural Resources & Land

g. not close to any gulch that I can tell

Silver Bell Mine

The Silver Bell No. 4 mine is on the stipulation list as one of Idaistrado's "patented nonproducing claims. (Note that the third party complaint cites a Silver Bell mine that appears to be in the San Miguel drainage.)

h. McIntyre Gulch

Greyhound Mine

i. an unnamed tributary with an unnamed portal

j. Corkscrew Gulch

*Midnight Mine -- Kerr-McGee

*Carbonate Mine -- Kerr-McGee

On October 15, 1985, the defendants voluntarily dismissed Kerr-McGee from their third party complaint. No reason was given. Possible reasons are (1) Kerr-McGee has already paid off Idarado, et al., (2) Kerr McGee didn't really own the mines or mining rights, but this is unlikely because the defendants then should have substituted the proper onwer, or (3) these mines don't discharge very much, which is conceivable because the R.I. says there are "minimal loadings" below RM04 (i.e., Corkscrew Gulch).

NOTE: Between National Bell and Corkscrew Gulch is where the majority ofthe metals enter Red Mountain Creek, according to page 11-20 of the R.I. Corkscrew Gulch is still above Tailings Pond #4.

k. Monument Gulch

Beaver & Belfast Mine

*Larson Brothers Mine -- Kenneth N. Gerard

Monument Gulch flows parallel to the long side of Tailings Pond 4 and Route 550 and then enters Red Mountain Creek in about the middle of the Ironton wetlands.

The owner of the Larson Brothers Mine (Kenneth N. Garard) filed an answer claiming that the mine discharged only 3 to 4 gallons per minute and that the discharge was of "drinkable quality." (My recollection was of bright orange, however.)

l. Gray Copper Gulch

Vernon Mine

*Silver Mountain Mine -- Joseph McClellan

The owner of the Silver Mountain Mine (Joseph McClellan) claimed that there had been no mining there in 44 years, although the property had been leased to a Bakers Park Mining and Milling Company in 1980 and 1981.

(which individual third party defendant died?)

m. Avarado Gulch

Lost Day Mine (maybe this belongs with Gray Copper Gulch)

As you can see, this "loading analysis" isn't complete yet. Questions to go include:

(find Exhibit 1428, page 604 Dr. Medine's loading analysis)

check page 621: Al Medine not aware of any discharging portals or apparent nonpoint sources on Idarado side (?) across from Genessee: was this backwards?

(page 630 Medine agrees with defendant's computation of point sources)

According to the FS, only the Joker Tunnel was the only non-Idarado point source sampled during the Remedial Investigation. But compare p. 643-44: sampled all major point sources except Genessee, which Al Medine didn't see draining.

(more research needed on past owners of these mines, especially those who made money on mining; maybe Asarco was past owner?; also p. 1971 implies that Idarado sold off mining claims during the course of the lawsuit -- were these sold before or after Plate I was drawn?)

I've asked Pat Martinek (from Mined Land Reclamation) and Jon Kubik (from Water Quality Control) to check their files for any information on discharges from these mines.

C. Financial status of third party defendants

For the reasons stated in my August 9th memo, I am still dubious about Idarado's claims that it doesn't know about the financial status of the third party defendants.

1. Baumgartner

Dun & Bradstreet gave me its financial profile of Baumgartner Oil. Soon after being named as a third party defendant, the company incorporated. Its liabilities exceed its assets.

The D&B profile didn't include a look at Mr. Baumgartner's individual assets. The timing of his incorporation raises the question of whether we should try to pierce the corporate veil. However, Baumgartner doesn't appear to be the only person associated with this corporation. There is someone else named Fine.

Baumgartner could very well have insurance, but I'm not sure how to get this information short of discovery (which implies we would sue Baumgartner if we, rather than Idarado, would do the discovery).

2. Kerr-McGee

We can assume this company is relatively well off, but unfortunately it's not a party any more.

3. Natural Resources and Land

This company was represented by Carolyn Buchholz's old firm! Bet our Chinese wall prevents us from asking her if they paid their bills.

4. Kenneth N. Garard

5. Joseph McClellan

(one pro se; one died?)

D. Should we or Idarado plug portals and/or divert around waste piles on third party defendants' property?

The parties are in agreement that something ought to be done on the third parties' property. As mentioned above, our ROD and ane trial exhibits assumed without explicitly stating that this should be done.

As mentioned in a previous memo, whatever mechanism we use to get access to Idarado's property should not drag us into another trial on the remedy (unless we later decide we want this). Presumably the mechanisms for us to get access include suing the third parties under CERCLA and settling for access, using state law and/or common law remedies such as nuisance, and using administrative remedies such as the permitting process.

I assume that the cost of plugging and diversion on third party property would be comparable to what it would be on Idarado's property. At this point, we don't know exactly where the source problems are on the third party property. Some of it at least is at a higher elevation than the Treasury Tunnel, so it would be accessible for a shorter period during the summer. I assume that plugging and diversion even on relatively inaccessible property is probably a lot less than $15,000,000 (the assumed Ironton Reservoir cost). Otherwise, I don't think Idarado would be as enthusiastic as it is about doing it.

As mentioned previously, I think (from my conversation with Nancy Shea) that Idarado might be so desperate to get out of the Ironton Park expenditure that it might be willing to get out of paying for plugging and diversion on others' property.

Don Deere tells me that the state's cost figures for plugging and diversion included the costs for portals and waste piles on non-Idarado property. (He also tells me that the defendants were provided detailed price breakdowns that referred specifically to non-Idarado property, so they were presumably aware that the ROD costs included the costs of work on non-Idarado property.)

D. Can plugging and/or diversion throughout Red Mountain Valley replace the Ironton Park Reservoir?

Unfortunately, Don Deere believes that there are so many nonpoint sources that Red Mountain Creek could not be improved just by diverting water around a few places where it can pick up metals and by plugging a few portals. (I also got this idea from Al Medine's trial testimony.) Since our ROD assumed both treatment at Ironton Park AND diverting and plugging on non-Idarado property, our previous position has been that plugging, diversion, and downstream treatment all are necessary.

This means that it is imperative that we keep our options open to compel the defendants to pay for the Ironton Reservoir if the plugging and diversion program doesn't work.

C. Highway Dept. as a "third party"

Idarado had the nerve to sue the highway department. Judge Carrigan strongly suggested that the state do something about the culverts that have discharged water onto Idarado's land. He didn't buy our argument that the highway department is a source of water rather than hazardous materials. (p.) check highway department for what's been done since trial.

III. WHAT IDARADO HASN'T OFFERED

A. Water treatment on Red Mountain side

B. Consolidating the tailings ponds

C. Capping the tailings ponds.

D. Removing Society Turn or other San Miguel streamside tailings

E. Cleaning up lead in Telluride soil

(note one minor improvement in the August 1988 Reclamation plan is that Idarado is offering to restock the San Miguel; this must not cost much money)

IV. SUGGESTIONS

A. Insurance

We should find out how much insurance the defendants and third party defendants have. (Chris Lane referred to Idarado having adequate insurance "for reasonable costs of remediation" during an April 2, 1987 motions hearing. Charlotte thinks Idarado has more insurance than she was told about during discovery, and she believes it is enough to cover the ROD's remedy. Charlotte also believes that Newmont is litigating with its insurance company over coverage.)

B. Funding additional third party work

As mentioned in my August 9th memo, if Idarado is so eager to have us go after the third party defendants, then it may be willing to pay us for our work in doing so.

As you remember, Mike has said that the only way we could get funding for Don Deere to do technical review of Idarado's settlement proposals would be to have Idarado pay for it. The mechanism would be similar to Eagle or Globe, in which I understand that we get money from the defendants and then we pay our consultant.

Do you think it would be worthwhile to have an agreement of this sort that is restricted to having Idarado pay us to do research on third party defendants and their contributions? Perhaps the idea of having Idarado pay us for third party work would fit into this agreement.

I'm still not wild about the idea of the defendants paying directly for our consultants. It's as if we feel we owe them some concessions if they do this. However, evidently we can eventually get it back as a response cost and the concensus is that it has worked so far in Globe and Eagle.

(Don Deere has suggested looking into Superfund as a source of money if we can't get the third-party defendants to pay.)

D. Ridgway Reservoir

As mentioned before, we ought to seriously consider what we will ask Idarado to do about cleaning up the sediments. (This is in addition to treating the incoming water and preventing a future problem.)

E. Bench plant for Ironton Reservoir

Don Deere has suggested a small prototype of the Ironton Reservoir that would cost about $100,000. (This would demonstrate that it will work well and not create the sludge problems that Nancy Shea et al. go on about.) I interpreted one of Chip Clark's remarks on August 8th to mean that Idarado might be willing to pay for this, but Don didn't interpret it that way.

ATTACHMENT C

Surface Water Analytical Results

Surface Water Analytical Results
Ouray Hydro, Inc.

Parameter	Units	RMC-CR20	Treasury Tunnel Seep	Power Pond
Physical (field parameters)				
Flow rate	cfs; gpm	5.81 cfs[1]	<10 gpm	9.06 cfs[1]
Temperature	ºc	0.91	3.19	-0.03
pH	s.u.	2.31	6.97	4.57
Specific Conductance	µS/cm	1401	1427	805
Dissolved Oxygen	mg/L	15.75	13.89	22.1
Oxidation Reduction Potential	RmV	551.7	179.2	315.3
Turbidity	n.t.u.	91.51	5.36	107.4
Laboratory Parameters				
Acidity as CaCO3	mg/L	430	< 10 U	80
Bicarbonate as CaCO3	mg/L	< 2 U	71	< 2 U
Carbonate as CaCO3	mg/L	< 2 U	< 2 U	< 2 U
Cation-Anion Balance	%	-4.1	0.6	-4.2
Conductivity @25C	umhos/cm	1390	1360	767
Hardness as CaCO3	mg/L	423	642	360
Hydroxide as CaCO3	mg/L	< 2 U	< 2 U	< 2 U
pH	su	3.1 H	7.9 H	4.5 H
pH measured at	°C	21	21	21
Residue, Filterable (TDS) @180C	mg/L	1230	1170	660
Residue, Non-Filterable (TSS) @105C	mg/L	57	48	46
Sum of Anions	meq/L	19.2	16.8	9.9
Sum of Cations	meq/L	17.7	17	9.1
TDS (calculated)	mg/L	1220	1130	648
TDS (ratio - measured/calculated)		1.01	1.04	1.02
Total Alkalinity	mg/L	< 2 U	71	< 2 U
Inorganics				
Chloride	mg/L	2.91 B	< 1 U	1.62 B
Fluoride	mg/L	0.54 B	0.8 B	0.72 B
Nitrate as N, dissolved	mg/L	0.07 B	< 0.02 U	0.05 B
Nitrate/Nitrite as N, dissolved	mg/L	0.07 B	< 0.02 U	0.05 B
Nitrite as N, dissolved	mg/L	< 0.01 U	< 0.01 U	< 0.01 U
Phosphorus, ortho dissolved	mg/L	< 0.01 U	< 0.01 U	0.01 B
Sulfate	mg/L	911	728.4	466.5
Sulfide as S	mg/L	< 0.02 U	< 0.02 U	< 0.02 U
Metals				
Aluminum, dissolved	mg/L	55.2	0.06 B	13.3
Calcium, dissolved	mg/L	151	242	132
Copper, dissolved	mg/L	1.77	0.1664	0.3939
Iron, dissolved	mg/L	48.7	0.02 B	0.84
Iron, Ferric	mg/L	46	< 0.02 U	0.1 B
Iron, Ferrous	mg/L	2.7 H	0.1 H	0.7 H
Lead, dissolved	mg/L	0.0756	0.0055	0.0093
Magnesium, dissolved	mg/L	11	9.1	7.3
Manganese, dissolved	mg/L	1.96	1.27	1.06
Potassium, dissolved	mg/L	1 B	2	1.1 B
Silica, dissolved	mg/L	26.8	9.4	16.5
Sodium, dissolved	mg/L	5.7	88.5	5.2
Zinc, dissolved	mg/L	2.49	4.84	0.78

[1] Measured with Marsh McBirney flow meter