

**Repository Project Focus Team Meeting**  
**Tuesday, February 7, 2006, 12:00 noon to 4:00 pm**  
**Fish and Game, 2750 Kathleen, Coeur d'Alene, Idaho DEQ**

**Attendees:** John Lawson, DEQ  
Ed Moreen, EPA  
Terry Harwood, Basin Commission  
Robbin Simmons, DEQ  
Tom Bourque, TerraGraphics  
Dave LePard, DWR  
Dave George, WDOE  
John Perfect, ITD  
Randy Connolly, Spokane Tribe  
Don Martin, EPA  
Brad Brandt, ACOE  
Paul Hansen, ACOE  
Bryan Helmich, F&G  
Mark Stromberg, DEQ  
Brad Corkill, EMF site property owner

**Abbrev.:** EPA=Environmental Protection Agency  
DEQ=Idaho Department of Environmental Quality  
ACOE=Army Corps of Engineers  
TG=TerraGraphics  
ITD=Idaho Transportation Department  
PFT=Repository Project Focus Team  
TLG=Technical Leadership Group  
EMF=East Mission Flats (proposed repository site)  
GG=Government Gulch (economic development site/proposed repository site)  
FEMA=Federal Emergency Management Agency  
BCR=Big Creek Repository  
SVNRT=Silver Valley Natural Resource Trustees  
PRP's=Principally Responsible Parties  
EDA=Economic Development Administration  
CDA=Coeur d'Alene

**Introductions**

**John Lawson began the meeting and each attendee provided a brief self-introduction in a round table format.**

Ed Moreen provided a brief intent statement for today's meeting as an opportunity to sit down once again with the PFT, bring the group up to date on various sites that have risen to the top through the screening process, and to have a purposeful technical discussion and receive feedback regarding the repository siting process and Big Creek Repository operations.

## **East Mission Flats Repository Site**

Lawson described what has been done on site in 2004 and 2005 including tasks from technical evaluation Phases 1 and 2 as guided by PFT members during past meetings. There have been a number of public outreach efforts and technical presentations made on the site, which include:

- Door-to-Door contact by EPA and DEQ staff to inform those neighbors closest to the proposed site about its possible siting.
- Presentation to the Citizens Coordinating Council
- Presentation to the Basin Information Forum
- Site Tour for the TLG

Other tasks which have been completed include:

- Property Survey
- Cost Estimate by IDEQ and Terragraphics.

Additional Technical Needs:

- Property needs to be platted
- Complete geotechnical and geochemical analyses
- EPA input on the draft design and draft cost estimate.
- Adjacent property owner drinking water well investigation.

Status

- IDEQ director has been presented with a draft cost estimate based on conceptual design.
- IDEQ is internally discussing the purchase of this site.
- Draft cost estimate shows that the purchase price would be ~1% of the total operation and closure costs.

### **Hydrologic Analysis.**

Moreen noted that some anecdotal information provided in the community meeting held last July indicated that the site was more prone to flooding than the information the team had at the time indicated. When the site was originally reviewed by the agencies and the county, the FEMA maps did not indicate that flooding would result in high water levels at the site, but additional investigations of the existing HEC-RAS model for Cataldo displayed deeper water levels at the site. In order to clarify this discrepancy, EPA, through an Interagency Agreement, tasked the ACOE to model flows at the site using the HEC-RAS model. The same model that was used by the ACOE to develop the Flood Information Studies and floodplain mapping on the Coeur d'Alene River, for FEMA. The ACOE task included modeling: flood water elevations, open channel flow dynamics, and a determination of floodplain impacts that would result from placing a repository at the EMF site. Paul Hansen is a civil engineer in the Hydrology and Hydraulics Section with the Seattle District Corps of Engineers, he ran the model for this exercise. Paul will walk the group through the model and his findings.

Hansen: The ACOE was tasked to:

- Determine hydraulic conditions at the EMF proposed repository site under a 100 year flood event.
- Determine the impacts on the flood plain from constructing a repository at the site.
- Determine impacts on the site given different design scenarios.

Model:

- Unsteady split-flow model.
- Cataldo FIS model was used and extended to Dudley reach.
- Used a high overbank roughness coefficient to account for the heavy brush and woody vegetation
- Calibration accuracy within 0.1 ft of the 1996 flood event using high water marks.
- Used 4 different conceptual design scenarios:
  - Fill 1 – repository to ~ elevation of Hwy 10.
  - Fill 2 – repository to ~ 10' above Hwy 10 elev.
  - Fill 3 – raise existing berm that runs between I-90 and Highway 10 to elevation 2148.
  - Constructing a new berm adjacent to the repository.

Findings:

- Flows in the CDA River are calculated to be 96,000 cfs during a 100 year event.
- Flows in the 1996 event, determined to be a 43 year event, were measured at ~70,000 cfs.
- Impacts on Floodplain:
  - Fill 1 & 2 scenarios: no significant impact on 100 year floodplain.
  - Berm adjacent with 2148 crest: raises floodplain below I-90 bridge by 0.2 feet and drops water level north of I-90 by 3.8 feet.
- Repository geometry has minimal effect on hydraulics.
- Flow velocities at site are low scour < 0.2 fps
- In a small event ~ 20 yr., culvert backwater can result in inundation of site.
- Site is vulnerable to inundation resulting from culverts blockage.
- Site impacts:
  - Inundation above 2148 is 1 day in 100 year event.
  - Inundation above 2138 is 4 days in 100 year event.
- Major flow into site occurs from water flowing from the south over I-90.

Discussion:

Bourque: On side channel, if you cut down most of the trees/vegetation, would roughness reflect the calibration of a similar site?

- Hansen: I estimated the roughness using aerial photos. The photos showed trees and bushes. If the trees were cut down, the roughness coefficient would need to be reduced.
- Stromberg: There is a weir that is kept high to keep wetland flooded.
- Lawson: Last week Brad (Corkill) cleared up one culvert with some old beaver activity and the water elevation dropped by approximately two feet.
- Hansen: Discusses a photo of the site which depicts the area as flooded from sub-drainage runoff. Photo was taken in January, 2006.
- Perfect: We have a concern about water backing over the freeway. The 1996 flood water just covered one lane of I-90. There was an older dike put in during the freeway construction to protect a mill that no longer exists.
- It is important for ITD to make sure that everyone understands the importance of the crown of the freeway. In the 1996 flood, water only encroached the northern-most lane. The southern lanes are a little higher. The road curves there.
- In 1996, the worst case scenario was water over the shoulder in the northern lanes. They still maintained two lanes. We don't want to do worse than that scenario. Also, if there is too much flow, we don't want the embankment washed away, causing freeway loss.
- Lawson: This is still a conceptual design. We are just trying to see if a repository will work.
- Harwood: What is the concern about the elevation of water against the repository? The flow is only 2 ft/sec. The whole place is contaminated. We don't know how much leaching there might be and we don't want failure but the whole area has 4 to 5 feet of contaminated material on it already.
- Lawson: And the contaminated material is of a much higher concentration than the materials that would be placed there.
- Moreen: Floods come from the river but there is also water contribution from sub-drainages. The berm might trap water there.
- Harwood: Is it possible to have a flood event with water flowing from west to east? I was thinking that it would run from east to west.
- Moreen: That recent photo from January showed standing water in the site from subdrainage flows and backed up by blocked culverts.
- Lawson: Water from rain and snow melt. Drainage culverts to the north get plugged so it backs up in the wetland area to the west and north.

Helmich: There are beaver problems with two of the culverts. Brad has a drainage structure out there.

Moreen: If the culverts are plugged, has there ever been a time when the river is so high that the water will flow backwards into the site?

Hansen: Yes, in 20 yr events it does this.

Harwood: So there would be a constant flow from the river to the swamp side and then it would reverse and flow backwards until it reaches equilibrium.

Bourque: Do you see these different flood event scenarios affecting ITD? Would the Interstate see any different impact with the berm than it does now? I am asking because of the ramp off I-90 to the site. We need guidance on the structure of the ramp. It could be a berm with culverts to let water out. Effects to the repository with that scenario are probably none.

Hansen: Yes, as long as you allow backflow.

Bourque: The berm on the downstream end would affect the ramp.

Harwood: What is the elevation/grade separation--on grade there versus the repository?

Bourque: We would probably keep it at 7%.

Harwood: You would probably have to have a relief structure.

Bourque: Yes. Now the berm Paul (Hansen) is speaking of has no relief structure if there was a 100 yr flood event driven by overflow of I-90 versus a side channel.

Perfect: In our current version of the STP, we have a project to rebuild parts of the CDA River structure and I suspect we would raise I-90 in that area. But our STP. is uncertain right now. Some projects have funds to develop but not construct. How we finalize the STP may result in other changes. The project may not get funded or go to design and construction for some time.

George: Any scenario where flow across berm cfs wasn't coming across freeway? Anything we can do to restrict water coming across the freeway from minor flood events we should do.

#### Design concepts presented by Tom Bourque

Bourque: Based on all of this, how do we approach repository design, costs, impacts, etc. Critical points are hydrology and protection.

- 1) ACOE design standards. Inundation – depth and scour.

- 2) Stable operating surface layer – seepage
- 3) Phased construction – material placement and internal surface water system

As far as seepage, what are the implications of different problems? We looked at how ACOE would build levee protection, e.g.: Kellogg levee. We would try to take incoming soil that is select and put on perimeter/compact and use like we would a levee design. We may have rip rap, vegetation, etc. The point is that as we move forward, we have a design reflective of the level of protection in recess, e.g.: a 100 yr flood. With these conceptual designs in mind, we are trying to put into cost estimates the areas we want to address. We need to discuss conceptual levee design. We want to place a perforated pipe into the levee to dewater and drop the saturation level. All dams leak. How do we best manage this?

Stromberg: How many pipes would you have?

Bourque: We are trying to delay seepage under the levee.

Stromberg: Does the interior of the “bathtub” have to be drained?

Bourque: We will need to address that. Will we always be managing water? What water do we manage at the site? What are we willing to pump, build, manage seasonally, etc.? Perimeter (Levee and repository cross-section). Perimeter toe – taking extra effort to reinforce. Repository getting hit by slow inundation from the Interstate. Other perimeter designed to deal with backwater.

Harwood: I am concerned about blowing the project out of proportion, cost-wise.

Bourque: We are trying to make an extra effort at the perimeter but still watch costs and not go overboard. We are looking at taking disposal materials and making sure we use them in the levee so that we don’t have to haul in clean fill, which would really inflate the cost of the repository and not fully utilize materials that we have available.

Harwood: What is the total volume?

Bourque: In the cost estimate and conceptual design we use the figure of 500,000cy for the whole repository and less than 10% of that would be the levee system.

Harwood: How many years of yard waste would we need to create that big berm around the site?

Lawson/Bourque: It is just a concept, not the final, decided-upon concept. We will need to decide whether we create an island or target particular areas of the site first.

Harwood: I am worried this will just end up an ICP property

Stromberg: There are 3,000 properties left to remediate from Rose Lake to Mullan.

Bourque: We looked at the RIFS and the ROD to see where projects happen and laid out where the repositories would need to go.

Stromberg: I agree with Terry (Harwood). We will fill up the BCR in 3 years if we don't get started. If we get Osburn Ponds site going we may never need this site for yards above Cataldo.

Lawson: The highest utility for this site will be for Eco and ICP wastes.

Moreen: We will discuss this topic later in the presentation, as we've taken a look at volume and geographic needs.

Bourque: We will be consolidating as we go along. We can realize consolidations by adjusting grade. Perhaps we can consolidate one area for five years and then close it. Or maybe open one separate portion of the repository as a place for ICP wastes only.

Lawson: Right now, conceptually, there are two points of access.

Lawson (to Perfect): How do we best approach this?

Perfect: Apply for an encroachment permit through ITD. Access is outside of 3 dot control. You could get a permit through us. Discussed access, controls, and traffic flow.

Moreen: Where is there encroachment?

Perfect: Technically on the county road. You can get a permit from us (ITD), as we control it still. There is very little traffic at the interchange, and you can possibly put traffic controls in to allow for direct access to the site for your haulers. I would suggest that you make the access road to the repository be as straight as possible rather than the right hand turn as you've conceptualized now. That would allow your haulers to move onto the site quicker.

Bourque: We are still working with an 18" rock layer over the footprint as the base of the structure. The purpose of this rock layer is: 1) it is helpful when operating heavy trucks a wet environment; 2) it acts as a capillary break for any water working up. According to a four day hydrograph, this is equivalent to approximately 2 inches of water in the whole area. We are going to phase the construction of this structure. Further discussion ensues.

A caveat to this whole discussion is that the working season is May through November. We only work during the dry season. The repository will be shut down when we would expect to have flood events, November through February. Summertime issues are dust control and traffic. The rain-on-snow high flow events that are common to Milo Creek occurred in May but the 96 and 97 flood events occurred in the winter. We are working on covers (evapotranspiration and store and release natural covers but we are still in the planning stage on the covers now as well.

Stromberg: I know that representatives from the CDA Tribe want the EMF repository to be lined but I think it is a bad idea. It will work like a bathtub and the saturated soils will fall apart.

Bourque: If it is lined, we will need an island with a levee, pump& treatment system, etc. We will have to worry about the rainy season and rain during operations because the cover will not be on. It will also significantly increase the cost.

Harwood: If we have to dredge the river, where would we place the dredging materials from Dudley, etc.? Perhaps this is a future ecological project. If you look at this project in terms of the ROD and long term planning, we want it to fit in.

Harwood: Who owns the site next to this one?

Stromberg: ASARCO.

Bourque: Talks about access and river flow. He also speaks about shear stress.

Stromberg: Is the EMF site expandable?

Lawson: There is a problem with the transmission lines located on the south side of the site and then there are wetlands to the north and west.

Harwood: What about expanding to the other side of the dredge road?

Lawson: This is not in the works now.

Stromberg: Regarding the liner, if we place 10 million cy, we are not going to have a liner.

Lawson: The soils are not acidic so there is not an acidic water regime going on. So metals are not mobilized or make them unstable to go into water. We can look at the top 2 to 4 feet of the native soil that is beneath the tailings and see some movement of Zn, Pb but after 50-100 years these metals essentially all stay in the top organic layer.

George: The berm would be material to stop fines from moving laterally? So if inundated for a while, when water recedes, we don't expect the fines to move out? There is currently no buffer zone so it is contaminated. It is an attractive nuisance to wildlife. Without the liner we would probably be making the underlying material better.

Lawson: All liners leak and require perpetual O&M.

George: We would be floating the liner in high water events.

Moreen: If there will only be a couple of inches of water, why do we need to put that dewatering system in? Do we really achieve any real benefit for our money?

- Bourque: The layer acts as an operating surface for the repository in the summer. It also acts as a capillary break to prevent wicking. Lastly, in a rain event, it would provide a way to continue operations and not slow work down.
- Lawson: There is some concern about groundwater in the area and we will be sampling wells to see what the groundwater is like now. A University of Idaho thesis indicates the repository is on a perched aquifer. The IDWR info indicates that wells are in the deep aquifer. The wells on the other side of the freeway by the Mission are the only down-gradient drinking water wells. There appears to be no connectivity between the drinking water sources and the flats (proposed repository site). Chances are if there was some connection the folks downstream would have found it out in their wells. The DEQ will be sampling these wells in the future, just to set a baseline.
- Harwood: Sherry Krulitz felt we weren't paying enough attention to homeowners and their water quality.
- Lawson: We will address that more in the design documents. The EMF operational and cost evaluations looked at Terragraphics conceptual design (not the final, decided-upon design) and put costs to it. The goal is \$20 to \$30/cy materials placed, cradle to grave and all complete. Also, a per-acre figure, so if stacked taller, costs would come down. It would be great if we could get below \$20/cy.
- Harwood: What is purchase price for the land?
- Lawson: It is around \$5,000/acre and there are about 19 acres in the parcel. We should have a decision from the Director of DEQ in a week or so.
- George: Regarding groundwater impact, is there any thought of monitoring wells as part of maintenance?
- Harwood: Krulitz is just concerned that residents' groundwater is being taken into consideration.
- LePard: We just need to keep people from drilling into shallow aquifers. We can advise them but we do not have authority to enforce.
- Connolly: What about a cover design? Is there a design for the cover yet? Will it be vegetated with grass? Will it be hydroseeded? These are important issues. We (Spokane Tribe) have areas that were revegetated with pine trees. The trees have put down tap roots and if the trees fall, it destroys the cap. So we go very deep on covers. Will the cover have a rounded off or flat top? Is it going to blend into the natural environment? It should have a good grade with no infiltration. It should be a clean cover. We need to be sensitive to what is going on with the Mission and the Tribe's (CDA Tribe) and citizens' concerns.
- Lawson: The final design on the cap will be determined with the design process. We don't want to go higher than the I-90. There currently is a good tree belt.

Perfect: What do EPA and IDEQ see ITD needs to do? Do you anticipate a more aggressive approach to keeping the culverts open or not?

Stromberg: It is not a problem right now, but if the site was in operation and until the berm was built, it would probably be best to clean up the culverts.

Helmich: The beavers are tenacious. It is very difficult to keep culverts clear.

### **10 minute break**

### **REPOSITORY SITING REALITIES presentation by Ed Moreen**

2006 Workplan calls for siting one new repository in the upper basin and one in the lower basin.

- Upper Basin will be able to use Big Creek Repository through 2008 and close in 2009 if able to negotiate raising the powerlines with Avista..
- An alternate site may be able to come on line in 2007 such as Osburn Ponds.
- Lower Basin site – EMF may be able to serve needs for lower and middle basin purposes.

What's pushing the repository siting process?

- Workplan targets.
- Upper basin repository needs estimated at ~ 200k yds<sup>3</sup> through 2007.
- Lower Basin repository needs:
  - High risk yards
  - ICP wastes
  - Rec. area or other lower Basin remedial action
  - Middle basin yards including those that are implemented in early season.

These lower basin needs could be accommodated at Big Creek.

IDEQ has pulled together a long-term repository needs estimate based on the ROD, the RI/FS, and experience in the box, as per cooperative agreement with EPA. The estimate is as follows:

- Residential Yards Program ~ 700k yds<sup>3</sup>
- Upper Basin work ~ 1.1 M
- Lower Basin work ~ 2.6 M
- ICP ~ 600 k (based on the box and extrapolated for the basin)
- Contingency ~ 500 k – 1 M (ROD does not contain contingency)
- Total est. quantity ~ 5.5 – 6.0 M yds<sup>3</sup>

These quantities display the need to have many more repositories and clearly show that the BCR and even another repository in addition to BCR is not, in itself, sufficient.

Another method useful in setting repository siting prioritizations is to use the centroid method. By estimating the source areas based upon the rod estimates, and mapping we can see the areas that will produce the greatest volumes in need of repository spaces. The slide shown displays concentric circles emanating out from small towns or other central locations that may house repository sites. There is a lack of repositories in the lower and middle basin, but there is clearly a need for one or more sites.

#### Repository needs:

- Math shows us that 5.5 or 6.0 M yds<sup>3</sup>/500k yds<sup>3</sup>/site = 10-12 sites
- Centroid method displays a hole in the lower or middle basin for repository sites and opportunities
- Basin work plan objective calls for a repository site in the lower to middle basin.

#### Sites Reviewed in lower and middle basin:

- Seaton Pit – rock quarry across the river from Dudley
- WWP site – former rock quarry adjacent to restored wetland 1.5 miles off of Hwy 3.
- Private property – not currently in use, considerable distance from Hwy 3, not contaminated.
- EMF – site is contaminated, technical evaluations generally complete, excellent access and willing seller.
- Other sites that are owned by State of Idaho or private parties. They do not typically provide a viable site, due to remote location and/or being on top of a mountain.

#### Conclusion:

EMF has undergone considerable technical evaluation, has a willing seller, and fills a known repository need.

#### **TIMING AND SITE OPERATIONAL CONSIDERATIONS by Ed Moreen**

Objective: Avoid tandem operations, optimize operations, and minimize costs.

#### Constraints:

- Budget will not support two full-blown repository operations like the BCR.
- Cleanup projects will mainly serve the upper basin in the next couple of years, but there will be other projects, such as those described above, that will be well served by a lower or middle basin repository.

#### Drivers:

- Eliminate duplicative and redundant efforts.
- Seek ways to optimize operational times:
  - Seasonal
  - Weekly
  - Limited days
  - Other options

Through careful planning we can extend life of other repositories, haul waste to the repository closest to the work area and minimizing haul costs and needs. These benefits can be achieved, but the repository operations need to be optimized to mesh well with the work areas.

#### Discussion:

- Connolly: Where does something like Blackwell Island fit in to this? He was concerned about pulling wastes out of the river and placing them on the bank adjacent in a development area.
- Moreen: It could fit into the Basin IC Program. We recognize that ICP repositories must be available and convenient for people to use in order to make the ICP work. In other words they're not going to drive long distances to deliver wastes. In this case, placing wastes under an area that is to be developed is not inconsistent with the box ICP, as long as the materials are handled, staged, and placed appropriately.
- Connolly: Pulling the contaminated materials from Blackwell Island and putting them on the shore is a classic problem. The property lies directly across from North Idaho College. According to the state dredging guide criteria, all property from North Idaho College and down is considered part of the Spokane River. This makes the site part of the Superfund Site and so it falls within the area of responsibility of EPA and the DEQ.
- Moreen: No permit has been issued yet, and in fact, the proponents have withdrawn their application.
- Harwood: Has anyone tried to look at sites by primary excavation areas? Have we looked at efficiency with regard to haul distances?
- Stromberg: Yes. The cost is \$3 per mile. This is compared to \$20-25 per cubic yard for operational and closure costs. The dollars get chewed up.
- Moreen: That cost applies if the trucks are traveling on Interstate 90, not Highway 3 or a secondary road.
- Stromberg: The longer the haul distance, the longer the turnaround time for each property remediated.
- Harwood: There are legitimate concerns about choosing only contaminated sites. When did this become a big concern?
- Moreen: The area of contamination is rooted in Areas OU1 and OU2 and is the basis of the Box ICP. Area of Contamination (AOC) is actually fundamentally rooted in CERCLA and related guidance. When we start looking at areas outside of the AOC, we leave the CERCLA umbrella and then have to comply with RCRA siting and operations requirements.
- Connolly: Someone at the Bureau of Mines did a study about using contaminated waste materials as backfill in mines.
- Moreen: Do you have any documentation on this that we can take a look at?

- Connolly: Yes. You add a little cement to the wastes to help stabilize the mix. It is called a paste back-fill.
- Stromberg: At the Homestake Mine, we put the waste mix slurries down with dams.
- Moreen: Do either Randy (Connolly) or Mark (Stromberg) know the costs for doing this or have any documents on it?
- Connolly/Stromberg: No.
- Lawson: This would be cheaper to do in an operating mine.
- Moreen: It would be extremely challenging to do in a flooded mine.
- Stromberg: I don't think it would be cost effective.
- Connolly: It can be a problem to do blind backfill of wastes into old sites close to excavation sites.
- Connolly: Do these sites take into account other sources of contamination such as the Hecla Ponds?
- Moreen: No. Moving the material from the Hecla Ponds was not part of the scope of the ROD.
- Bourque: If we are looking at the ICP needs and remedial actions, the key is to look at population centers and find repositories near these centers

### **10 minute break**

### **Osburn Ponds Site presented by Ed Moreen**

Another site being looked at is the Osburn Ponds site.

- Displayed an aerial photo that displayed the Osburn Ponds site and the Burns-Yaak site. The Burns-yaak site is a site that was negotiated settlement with a mine company and is the property of the Government's upon request. Osburn Ponds site is located north of I-90 and the South Fork of the Couer d'Alene River.

The Osburn Ponds site:

- Private ownership.
- The owner has indicated a willingness to negotiate.
- Inactive tailings pond, separated from an active pond another inactive tailings pond.
- Sits very close to the Osburn Fault

Technical analysis:

- Conceptual geotechnical evaluation completed in 2005 using data collected from a geoprobe through EPA Office of Research and Development and literature review.

Technical Needs:

- Geotechnical Analysis will be completed by CH2MHill to include:

- Settlement analysis
- Slope stability analysis
- Subsurface profile
- Groundwater issues that may pose a risk

Site Challenges:

- Site access is currently through a residential neighborhood, need to find an alternate route, options include:
  - Through the flats area where work was previously conducted by SVNRT.
  - Use of a former I-90 overpass that has been abandoned and may be retrofitted with additional spans and new landing.
- Site sits on a former municipal dump which may pose stability or environmental issues.
- Timing issues:
  - Requires negotiation with property owner who may be selling all or part of holdings.
  - Technical evaluations need to be completed prior to negotiations can begin.

Next Steps:

- Complete Geotechnical evaluation
- Perform preliminary technical evaluation of site including municipal dump impacts.
- Address access issues.

**10 minute break**

**Government Gulch Site presented by Ed Moreen**

Government Gulch sits in the Box, is part of OU-2. EPA and IDEQ performed the following work in Government Gulch in 1996-97:

- Removed 400,000 yds<sup>3</sup> of contaminated materials.
- Demolished buildings and reconstructed channel and 100 year floodplain in center of gulch after extensive removals.
- Focused on permanent source control and containment.
- Original plans called for in-place repositories and water quality remedies. The plan also called for contaminated soils and demolition debris to be placed in landfills at the Zinc Plant and the Phosphate Plant.
- EPA and IDEQ modified the ROD for OU2 ('96 ESD) to allow the materials to be combined and placed with the demolition debris and contaminated soils in the lead smelter closure. One of the benefits of this design would be reduced O&M costs of having 1 vs. 3 closure areas.
- EPA and IDEQ also negotiated a Phased approach in the State Superfund Contract:
  - Ph I. – removal and containment
  - Ph. II – Implementation after Ph I evaluation.

OU2 ROD also called for, which were deferred:

- Surface Water cutoff wall
- Conveyance of Government Creek through the Gulch
- Capture of Groundwater and surface water that picks up contamination and treatment in wetland treatment cells.

Challenge:

- Wetland treatment cells found to be ineffective in treating flows of this magnitude. What do we do with the contaminated flows that are captured?

Opportunity:

- EDA grant has resulted in installation of infrastructure in Government Gulch
  - Need higher grades and flat ground to utilize the infrastructure
  - Grant condition: 300 new jobs in area served
- Tremendous need for ICP and RA repositories.

Potential Solution:

- GG could provide needed capacity for repositories, while creating jobs and provide needed infill.

Path Forward:

- The first step is a feasibility study. We need an order of magnitude cost estimate for capturing and conveying the creek, and dealing with contaminated groundwater.

Bourque: Here is the fill scenario (power point presentation). The first part is the infrastructure. How would we parcel the site out and manage it. The second issue is that we will have material from yard remediations. Thirdly, there is a big bench along the length of gulch. We could ultimately fill well over 300,000 yards in GG by placing it on top of the bench for the majority of the length of the gulch.

Bourque Stage 1: What lessons have we learned from Milo Creek? Design-wise, it has a 7% slope. This meant a lot of energy. We needed energy conveyance. It was designed for a 100 yr storm event which meant a great deal of water. The Milo Creek plan was done under a Federal Emergency Disaster Plan designation. We are currently looking at potential development and refill/fill and looking at the extent that we need to do Phase 2. We need to look at redevelopment and repository needs. The site was transferred to the State and annexed by the City of Kellogg.

Harwood: One of the keys to this is infrastructure. If they (the City of Kellogg and others) default on the grant, then they will not be able to get other grants.

Lawson: Will the Basin Commission care if they are blurring the lines between Basin and Box?

Harwood/Moreen: Do not think they will be concerned about that.

Moreen: EPA has spent a great deal of money on this. EPA is concerned about having previously hauled contaminated materials out and now we are talking about hauling them back in. If we are able to secure funding, we need to deal with the issue of contaminated water and what to do with it. Implementation of additional remedies in Government Gulch will require modification of decision documents and a public review process.

LePard: Is this a CERCLA action?

Moreen: Yes. What would be involved in the permitting process?

LePard: None. If it's under CERCLA, there is no need to get a stream alteration permit.

Lawson: Requests that if anyone knows of any potential repository sites, to please contact himself or Ed Moreen. No Comments.

Moreen: Thank you to everyone for your participation.

Moreen/Lawson: We do not have another meeting scheduled at this point.

Harwood: When will we have further information about the Government Gulch and Osburn Ponds sites?

Lawson: Drilling needs to be done at Osburn Ponds. So possibly in May or June we will have enough information for another meeting and also have additional information on the East Mission Flats site.

General Comment: A copy of the power point presentation used in today's presentation can be obtained by contacting: John Lawson with the DEQ 208-373-0141 or [John.Lawson@deq.idaho.gov](mailto:John.Lawson@deq.idaho.gov), or Ed Moreen at 664-4588 or [moreen.ed@epa.gov](mailto:moreen.ed@epa.gov)

**Meeting ended at 4:00 pm**