

**Technical Leadership Group (TLG)**  
**Meeting DRAFT Summary Notes**  
April 10, 2014 ~ Kootenai Title, Coeur d'Alene

**Attendees (Signed in)**

Bill Adams (EPA)	Randy Connolly (Spokane Tribe)	Jason Minzghor (ITD)
Jerry Boyd (BEIPC-CCC)	Craig Cooper (IDEQ)	Ed Moreen (EPA)
Jamie Brunner (IDEQ)	Rene Gilbert (EPA)	Jan Olsen (IDEQ)
Glory Carlile (BEIPC)	Denna Grangaard (IDEQ)	Rusty Shepard (Kootenai Co.)
Don Carpenter ((IDEQ)	Terry Harwood (BEIPC)	Susan Spalinger (Terra Graphics)
Phillip Cernera	Laura Laumatia (CDA Tribe)	Rebecca Stevens ( CDA Tribe)
Dale Chess (CDAT)	Caj Matheson (Restoration Partnership)	Mike Stevenson ((BLM)
		Sandra Treccani (WA Ecology)

**Call to Order/Introductions:**

The meeting was called to order at 10:00 a.m. with welcome and introductions by the TLG Chair, Sandra Raskell (CDA Tribe).

**Changes to Draft TLG February 6, 2014 Conference Call summary notes:**

Brunner noted that her name was spelled wrong under LMP update and that in the .2<sup>nd</sup> sentence should be “working to brand as Collaborative”. Clarifications were made on page 2 regarding the Mica Bay Homeowners Association and on page 6 adding that there was beach sampling in 2001 or 2002. On page 5 when it was asked about the ICP and areas outside the boundaries of Harrison, Harwood answered that the caveat is that if there are contaminated areas outside the area then it would be addressed. Discussion included if there was new development after March 2007 then the developer is responsible. Sampling then is at your own expense, but Harwood said to refer them and any other questions to him.

**Approval of Draft TLG February 6, 2014 Conference Call summary notes:**

Stevens moved and Brunner 2<sup>nd</sup> to accept the minutes with the above discussed changes. M/S/C

**Coeur d'Alene LMP ELCOM/CAEDYM Update (Dale Chess, CDA Tribe)**

Dale Chess (CDA Tribe) shared that he works closely with Craig Cooper with LMP sampling. He provided an update to the LMP ELCOM/CAEDYM model beginning with a brief history of the ELCOM/CAEDYM model stating that this model was used throughout the world. He reported that they have been sampling since 2008 and he showed slides from 2010 data that revealed different levels of Zooplankton as a key component of cycling nutrients and metals in the CDA Lake and that continues to cycle zinc in the system.

They have improved resolution of the model since the 2007 Aussie model as well as increased the weather stations using the wind conditions data to drive the model. They have also benefited lots by the BEMP site data that really improved our ability to estimate loading into the Lake.

**Additional LMP Lake Work:** IDEQ has been collecting bacteria looking for that potential nutrient loading and also looking at Zooplankton production: It was asked if they are planning to do any work regarding “fish” and the oxygen at the bottom of the lake as an indicator of the health of the Lake. Chess responded that there are other indicators that show the stress in the lake than the fish and that it would take a long time to determine that.

He showed current base line to model results with temperature profiles from April to September 2010. Model indicates a little more mixing than is actually happening and the dramatic difference in temperatures. Chess stated that generally the measurements are low but right within the dynamics of the chlorophyll except it also shows some peaks. The sensitivity analysis which would separate the variables has not been done yet and would need multiple years. He added that they have looked at zinc with the base line and showed that it has decreased by 10 fold. However, the model is not capturing the flux of the sediment components or showing the

flux throughout the season. Zooplankton has shifted with each part of the layers of the Phytoplankton and has their own calibrations. The model predicts a significant increase in decomposition – organic material resulting in zinc sinking to the bottom of the lake.

**Future Direction for Model:** There are plans to continue to tweak and refine the baseline of the model and simulate different types of nutrients. Craig Cameron noted that we need to work with the University center because it is a challenge to actually put it all to work. Chess agreed that it is a slow process. He concluded that we have a working model that has been vastly improved over what the “Aussies” did but they did not capture the entire growing season in the Lake.

Laura Laumatia (CDA Tribe) announced that the Tribe has been working with North Idaho College on developing a Restoration Plan committee and invited anyone interested as members for input about watershed restoration and water quality.

### **Restoration Partnership Update:**

Caj Matheson (CDA Tribe) gave an update on the Restoration Partnership (RP). He handed out their 2013 Accomplishments report for review. He reported that most of the year was in the planning process toward the development of the RP plan. They recently revised the outreach plan and are still working on certain projects that were started on the interim RP. They are also doing work on their website and on the Restoration pilot project initiated by EPA. This wetland restoration project is serving the most diverse water fowl with a tremendous amount of success bringing in the Tundra Swans. He reported that migration this year coincided with a flood event and that one of the different things done this year was to set up some decoys that attracted the swans. They are figuring out what would make a great habitat for the swans and he shared that the project is not completed and they are still working on it.

Matheson stated that restoration takes time in order to see these types of impact. They appreciate the level of partnership that helps to make this happen and that to continue the coordination efforts are really important. Harwood added that these efforts are not only taking care of the mining damage but also taking care of natural restoration.

### **Repository Cover Design Modeling Evaluation:**

Don Carpenter, (IDEQ) reported on evaluations and modeling being conducted to determine the repository cap design performance criteria. Permeability testing was conducted using double-ring infiltrometer to determine the in-situ hydraulic conductivity of EMFR and BCR. In general the hydraulic conductivity at both repositories was 1 to 2 orders of magnitude greater than the hydraulic conductivity thought to prevent infiltration of precipitation into the repository ( $1 \times 10^{-5}$  cm/sec).

To determine the volume of leachate discharging through the base of the repository, the results of permeability testing were used as inputs to EPA’s Hydrologic Evaluation of Landfill Performance (HELP) Model. Model results predict that on average approximately 12.5 inches of leachate (35% of total precipitation) will be discharged out the base of the repositories each year.

To determine future water quality impacts, the results of HELP modeling, a range of measured leachate concentrations, and site specific hydrogeology, hydraulics and geochemistry will be used as inputs to fate and transport modeling. This modeling will be conducted in the summer of 2014 and results will be evaluated to determine if unacceptable impacts will occur.

### **Remedy Protection Program Overview – (Outside of Box – Bill Adams, EPA, Box work – Terry Harwood, BEIPC)**

Bill Adams reported on the 2014 Projects that are underway: Shields Gulch in Osburn project features replacing the existing channel at Silver Hills School and rerouting Meyer Creek with subsurface pipe. Coordination and outreach activities include talking with residents and informational meetings and that those

most impacted will receive the most information. The two streams will become a culvert with increased capacity and have been hydraulically modeled.

Terry Harwood (BEIPC) presented an update about the Box work reporting that Little Pine Creek in Pinehurst has 23 parcels and is in the 60% design stage. He is hoping that most of the property owners will be cooperative. Competitive bids have completely changed the process and lowered the cost. For example, Grouse Creek project in Smeltonville was done last year for \$600,000 when the initial amount was going to be about \$1.2 million. He also reported on the Portland Road Drainage project in Kellogg stating that since the snow melt makes water go downhill into Kellogg there are plans to put in a drainage system. It is currently in the 30% design stage. He added that contractors can bid the jobs and not be an Idaho licensed contractor but if they get the job must become licensed in Idaho.

### **Design & Project Updates Ninemile Canyon:**

Bill Adams gave an overview on projects primarily in the Ninemile drainage area. In Interstate Callahan (IC) Rock Dumps they are removing everything there, basically taking everything down to the native surface. They are still reviewing bids and contractor has not been selected yet for the additional work at the Waste Consolidation Area (WCA). Work will begin to include road work and development using the best practices and they will also be doing site restoration. Upper Rock Dump area is not a full restoration but things will be done to make the channel stable.

Additional Monitoring Activities that the Trust is doing includes looking at the Tamarack site to figure out where the loading is occurring at that site. They need to locate the sources to figure out how to tackle that site.

After they are done with IC they will begin at the Success site. They want to test the integrity of the slurry wall although their sense is that it is not intact and probably not very useful at all. Pump testing will also be done. Adams said that Success #1 and #2 are not in the RODA now as they were taken out but because of the potential efficiency they are going to grab some deposit samples there. They are not a big impact to water quality but they are looking at them to determine what to do.

Regarding surface water cleanup levels, he stated that once we get lead down, zinc levels are still elevated and they are doing leaching tests to see what we get out of those samples. There is not a specific cleanup level for zinc so they are considering how far do you chase it on the sides and how far down, and at excavation to 530 mg/kg Lead: How long does that take to reach the goal? What are we achieving? Are we meeting the water quality standards? Is the ultimate goal to establish fish? It is estimated to be a 4 year construction project and they are putting a lot of resources into the project. He also said that another challenge is that the more cutting into the slope the steeper it is and creates more of a challenge to plant on it resulting in construction and safety concerns.

### **Reconstruction of EFN Creek:**

There is still work up above that site that needs to occur. Some options are to use the existing model that has been developed in terms of restoration of the stream. One of the concerns in doing this stream work that some question is that it be consistent with the rest of the surrounding features. They are leaning toward working on the design now with a configuration that makes sense that includes putting the road over to one side and restoring to natural configuration. Then they will monitor effectiveness and risk of recontamination.

### **Central Impoundment Area (CIA) Groundwater Collection System and Central Treatment Plant (CTP)**

#### **Status:**

Ed Moreen (EPA) made a presentation on the Groundwater Collection System reporting that the typical concept designs have to be put into a design and out to contract. There is a need to understand the characteristics of the ground and that Modeling is very important because it helps to understand the flow line that also led to determining the need for a barrier wall. It will be 6200 ft. in length and the system covers over 220 acres. The system will run with both a wall, 2 to 3 ft. in width underground and pumped wells. He said that they will need

to upgrade the initial plans not only for additional piping to pump the water but also to accommodate for future expansion in the plan.

Regarding the future expansion, Moreen explained that it is to accommodate for additional space layout. Top of the wall will be 2 feet below the ground surface. There will be 19 wells but he does not know how many pumping stations yet. He said that there will be the extraction wells and additional monitoring wells. There are plans to install 6 monitoring wells and additional wells next to I90. They have completed pilot studies mixing the groundwater with the Bunker Hill mine. CTP removes a million lbs. of metal from that mine. He said that they continue to feed their basis of design with all this information they are gathering and they are drafting an Explanation of Significant Difference (ESD) and working with CORPS of engineers.

### **Lower Basin Pilot Project:**

Ed Moreen (EPA) reported on the Pilot Projects that focused on the reduced risk of contamination to people, and to wildlife. Kahnderosa Campground project was selected as they wanted to do something about the riverbanks. It also served as a visible example of innovative riverbank stabilization techniques that offer a different alternative for riprap. The site also provides easy access and great linkage with the Basin remediation program and has a lower risk of recontamination. The design will cover the beach area in that they will be creating an access pathway. In addition, the Bank Isolation Project Objectives were low maintenance and low risk of recontamination. He also agreed with Rebecca Steven's suggestion that it would be a good demonstration project or a workshop but a number of things have to come together though to do this.

### **Lower Basin 2013 Sampling Results:**

Ed Moreen (EPA) reported that they are trying different methods of profiling and different imaging but were not really able to get the definition sought. Mapping using High-Resolution Bathymetry took another look at various bed forms. Sediment coring data was used for sediment transport model and CSM enhancement showed various concentrations. Another look comparing surface layer vs. maximum lead in the core showed the deeper cores in this area have higher concentration. Detailed ADCP (flow velocity) measurements were collected in the river channel to aid model calibration. They continue to update the conceptual model and have developed a 3D model of the riverbed.

### **ITD Bridge and Surface Construction**

Jason Minzghor from the Idaho Transportation Department reported on activities for the spring and summer including the following in the Silver Valley:

I-90 Elizabeth Park road to Osburn guardrail project will grind and pave back two hot mix asphalt lifts on 6.5 miles of I90. The metal guardrail will be replaced and the roadway will get a chip seal. The project will start in the spring with an estimated cost of \$32 million. Another project is the Pinehurst bridges which is an estimated \$11.4 million project. Plans for detouring traffic will be coordinated with the working on streets in Smeltonville at the same time. An estimated \$3 million project in Mullan includes 2 bridges and a spillway and they will try to keep the wall. Harwood added that the reason we are doing the road in Mullan is because it is a business route.

### **Blood/Soil/Dust Lead Relationship:**

Susan Spalinger with Terra Graphics reported on the Blood/Soil/Dust Lead Relationship giving a brief history of the Bunker Hill, mining and smelting activities. She said that in 1989 they began the program to bring the blood levels down. Monetary incentive resulted in high level of participation. They estimated about 50 percent of child level participation was tested in this period of a couple of years.

### **Intervention and Remediation:**

She showed graphs with Smeltonville as the example of yard lead levels, community wide average, and houses dust/lead concentration. Neighborhood Soil Lead Concentration was tested in a 200 ft. radius around the homes.

Data Collected in Combined Intervention/Remediation Program:

The database was used to validate the model. The approach that was taken was to use the data collected and identified (about 300 samples) and then they had them reanalyzed. Their conclusions were that the results did not significantly impact the study and Harwood affirmed that the original approach ended up being pretty sound. Another comment suggested that when doing the first risk assessment they probably underestimated the risk from recreational exposure.

Meeting Adjourned at 3:40