

**Colorado River Dissolved Solids TMDL  
Stakeholder Meeting Summary  
June 1, 2005  
Ballinger, TX**

**STAKEHOLDERS PRESENT**

Bud Johnson	Coke County Soil and Water Conservation District
Allen Belk	Private oil interest in Coke County
Alicia Reinmund	Lower Colorado River Authority
Okla Thornton, Jr.	Colorado River Municipal Water District

**STAKEHOLDERS ABSENT**

Mike Arrott	Coke County Soil and Water Conservation District
CJ Robinson, Jr.	Runnels County Soil and Water Conservation District
Dennis McBeth	Runnels County Soil and Water Conservation District
Allen Frizzell	Enrich Oil Corp
Jim Studer	Buddy's Plants Plus
Bryan Davenport	Mueller's Supply Co.
Charles Sonnenberg	Bronte City Council Member
Roy Blair	Coke County Judge
Skipper Wheelless	Runnels County Commissioner
Michael Wiede	Farm Bureau
Tommy New	City of Ballinger
Scott King	Elementary Principal, Elm Creek Water Control District
Chuck Brown	Upper Colorado River Authority

**SUPPORT TEAM**

Kerry Niemann	TX Commission on Environmental Quality
Earlene Lambeth	TX Commission on Environmental Quality
Raed El Farhan	The Louis Berger Group
Alex Johnson	EA Engineering Science and Technology
Jeff Paine	UT Bureau of Economic Geology

**OTHERS PRESENT**

Ben Brooks	Texas State Soil & Water Conservation Board
Ronnie Vanicek	USDA – NRCS
Richard W. Strube	Runnels County Commissioner Precinct # 4
David Cowan	Lower Colorado River Authority
Don Horner	Railroad Commission of Texas
Bill Renfro	Railroad Commission of Texas
Patrick Finn	Railroad Commission of Texas
Robert Moore	Runnels County Commissioner Precinct # 1

# **AGENDA**

## **Upper Colorado River Stakeholders' Meeting**

**Council Chambers at City Hall  
700 Railroad Avenue  
Ballinger**

**June 1, 2005**

**7:00 - 9:00 PM**

**Objective: To update stakeholders on the TMDL Project and to solicit comments and suggestions.**

### **Welcome address and Introductions**

Earlene Lambeth, Public Participation Coordinator, TCEQ

### **TMDL Project Status and Review**

Kerry Niemann, TMDL Project Manager, TCEQ

### **Geophysical Investigations of Salinization along Colorado River**

Jeffrey G. Paine, Bureau of Economic Geology, UT Austin.

A summary of the results of the airborne geophysical survey performed in January 2005. The summary will include likely salinity source segments and salinity source types from geophysical data and water analyses.

### **Status and Report of TMDL Modeling**

Raed EL-Farhan, Louis Berger, Inc.

A summary and description of how the sources identified in the BEG study are represented and incorporated in the model. A summary of the model results including calibration and validation, and a summary of the calculated loads and the necessary reductions to meet the water quality standards.

### **Summary, Questions and Comments**

TCEQ, EA, Berger, and UT BEG

Earlene Lambeth of the TCEQ opened the fourth quarter meeting with introductions. Jeff Paine from the Bureau of Economic Geology at UT Austin presented the results of a study performed, “Geophysical Investigations of Salinization along Colorado River (TMDL Segment 1426), Coke and Runnels Counties, Texas”. The presentation and results can be seen at the following web site:

<http://www.tceq.state.tx.us/assets/public/implementation/water/tmdl/32-coloradoeleccon.pdf>

Questions & Comments for Jeff Paine:

Question: This represents an accumulative value? Right? You take the sample and what you are measuring is accumulative?

Answer: Each of the measurements is an instantaneous flow rate multiplied by whatever the constituent concentration and factored out by kilograms per day. We wanted to get to low flow conditions, that is why we waited until April to do that.

Question: How many times have you taken samples over a six-month period?

Answer: CRMWD has taken samples every month and we have looked at that data. We have been out about four or five different times doing sampling here and there on areas we were targeting to supplement what CRMWD was doing – looking at hot spots. EA had also done sampling but I believe that stopped in 2003. There has been plenty of sampling.

Question: Is this just a snapshot in time...it shows April 2005? I am curious about your high loading there. Did you catch that at the time you were just getting your run-off or do you know?

Answer: Yes, it was a lower flow time and after that initial pulse of TDS. It had not returned to its' normal base flow.

Comment: I suggest for Raed to be cautious about taking something like this because you might think the problem child is Elm Creek. When around Blair Ranch there is not a problem.

Response: I believe Raed will use 5 years or more averages. The important thing is that just happened to occur during our sampling this year has not been characteristic over the last ten year period...remember...we have been in a twelve year drought.

Question: Will salt cedar continue to put of salt while underwater...or will it die?

Answer: I would assume it would die. Salt cedar does take about 78 gallons of water per day but if submerged for a long period of time I would think it would not survive.

The meeting was then turned over to Raed EL-Farhan with the Louis Berger Group. Raed gave a brief review of the TMDL process and project to date. He the presented the stakeholder a presentation on the TMDL modeling that was being done on the project. Raed's presentation and can be seen at the following web site:

<http://www.tceq.state.tx.us/assets/public/implementation/water/tmdl/32-coloradomodeltmdl.pdf>

## Questions & Comments for Raed El-Farhan:

Comment: Raed's assumptions are the deep load is basically going to be the gypsum under the leaking oil wells and is going to produce sulphate, this is going to produce chloride, then the shallow loads – salt cedar – are going to produce chloride, and the brine pits are going to produce chloride. I am assuming there are no shallow loads of sulphate. Is that a reasonable assumption?

Response: Perhaps not.

Question: Then we should figure out a sulphate load for the surface? The drought is the headache. He said pray for rain and now it has not stopped!

Question: Did you say that the brine pit loading is an infinite source?

Answer: For the model – it is a fixed rate source. Now the sources are cut off, these are still residual sources. The washout value is going to decline with time.

Comment: The washout values are going to decline over time. The amount of salt is there, it is not going to increase and with time and rain, it is going to move out of the surface area and eventually go away. This does not exhaust the possibility of a salt load source.

Question: How would you account for the infiltration point of where the brine pits serve as a recharge pit for the shallow groundwater contamination?

Answer: When there is a rainfall event, some of that water will percolate in and eventually become some of the deep ground water. Most of that water will go through the shallow and come back to the interflow. Or, if it hits a hard surface, it is going to hit it and run off. Most of it is going to infiltrate and become part of the interflow.

Question: Does that mean that the model cannot predict natural conditions this small?

Answer: No, oh no. In the set up now we do not have enough sulphate concentration and that is what I am going to fix. This is work in progress.

Question: With regards to sulphate, I assume you are using sulphate because you are associating that with the natural conditions. Correct?

Answer: Yes

Comment: I would also suggest for us to be careful taking the discharge at that particular stream gauge and using it as a comparison for each one of those stations that covers the stream segments.

Answer: I agree, you are right; the flow is to show a trend. In the main stem we are seeing peaks. It is just to show that we were under severe drought conditions.

Question: Is there a possibility when the sulphate goes up, that the actual sulphate loading itself is actually the same? You might have the same number of grams of sulphate per day...it is just the flow raise is going down so milligrams per liter is going up.

Answer: Absolutely correct, and that is what the problem is. At this point, we have not put into the model any surface loading.

Comment: This is actually where the low flow/upstream & downstream samples from the hot spots would be great because you can postulate what is being added or what is the chemistry of the base flow contribution to the river.

Question: Can you take the flow and know how much chloride there is? During rainfall, there is less chloride going down the Colorado?

Answer: In rainfall conditions you do get dilutions. From concentrations, yes – there is dilution.

Question: So you are not showing any oil field influence other than the brine pits?

Answer: The chloride concentrations in the ground water. It is a combination of the two.

Question: When you title that as groundwater that includes the shallow subsurface zone as well?

Answer: Correct

Question: This is an example model, right? We don't have a handle on number of brine pits, how many source areas are there? These are assumptions for an example model.

Correct?

Answer: Correct

Question: When I saw those numbers for groundwater loading, I would have thought that the groundwater would have been actually much higher than what is coming in from Lake Spence? Maybe that is because I was looking at April only.

Answer: This is a good seven or eight year simulation. That is why I wanted to go past the drought.

Question: You said there were five significant outfalls?

Answer: Yes, we will look at their discharge monitoring record, average flows, and grade of flows. That will be a part of the point source.

Question: How is the TCEQ going to reconcile all the work for Lake Spence? I always thought we should look at this globally.

Answer: I am not the Project Manager for that TMDL but I can coordinate with him.

The next meeting for the Upper Colorado TMDL project will be held in the afternoon on October 13, 2005 in Ballinger.