

# Minutes March 1, 2000 WCRC Meeting

Meeting held in the Creede Town Hall  
 Called to order by Chairman Zeke Ward at 1:05 PM

Those Attending: Name	Affiliation	E-Mail
John Howard	Resident Resident	<a href="mailto:jhoward375@aol.com">jhoward375@aol.com</a>
Glen Miller	Resident Resident	<a href="mailto:miller@amigo.net">miller@amigo.net</a>
Zeke Ward	Resident Homestake	<a href="mailto:redmtn@fone.net">redmtn@fone.net</a>
Allen Cox	e Mining Trout	<a href="mailto:racox@homestake.com">racox@homestake.com</a>
Larry Bussey	Unlimited Resident	Box 503 Alamosa 81101
Chuck Barnes	Water Management	<a href="mailto:chwagon@amigo.net">chwagon@amigo.net</a>
Jerry Rowe	Consultants NRCS	<a href="mailto:row@wmcidenvr.com">row@wmcidenvr.com</a>
Steve Russell	Colorado Geologic	<a href="mailto:stephen.russell@co.usda.gov">stephen.russell@co.usda.gov</a>
Bob Kirkham	Survey EPA Forest	<a href="mailto:rmk@amigo.net">rmk@amigo.net</a>
Peter Ismert	Service Resident R	<a href="mailto:ismert.peter@epa.gov">ismert.peter@epa.gov</a>
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Bonnie Wardell		Box 223 Creede
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Gerold Schlough		Box 216 Creede
Kathllen Reilly		<a href="mailto:kathleen.reilly@state.co.us">kathleen.reilly@state.co.us</a>
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## Chairmans Report (Zeke Ward)

Zeke spoke of progress on the [city flume](#). The Willow Creek Reclamation Committee is endeavoring to advise the city on the options that are available involving various costs, methods, and funding sources. We will probably not have an official Willow Creek Committee recommendation but will just explain the options. There is a town board meeting this Monday night (March 6<sup>th</sup>) in which this matter will be discussed. Dave Suhr of Creede Resources (Hecla) has offered to donate \$500 toward a [willow planting](#) project in the floodplain to see if an introduction of willows would be successful. Because the area has been disturbed less than 10 years ago there are no willows growing now. Since it is called Willow Creek there ought to be willows. Zeke said that within the TAC committee meeting this morning it was discussed that this willow planting project would enable us to develop some good information and involve participation from the community. Also, planting willows on the lower part of the floodplain wouldn't be affected much by the construction of the winding stream channel since not much

construction is needed down there. Coordinator's Report (Glen Miller)

High Flow sampling event:

Glen spoke that the next meeting (April 5<sup>th</sup>) is going to largely be dedicated to planning our May high flow sampling event but that he would like to point a few things out now, so we can be thinking between now and then.

Perry Alspaugh has frequently mentioned the probable high error in some of our flow measures. Another concern is that East and Mainstem Willow will be very hard if not impossible to stand in with a flowmeter because of the depth and swiftness of the water in the Spring. Various suggestions were put forth and more thinking will be done between now and April 5<sup>th</sup>. Bruce Stover spoke of measuring water flows on the Animas and the quality control measures used with flowmeters. The only way to reduce the percent error overall would be to use salt tracers because this method also shows the amount flowing in the gravel and through the rocks. Flow measures from tracers can also be used to help calibrate measurements from flowmeters. Alluvial Groundwater:

Glen spoke of the need to take another sample from our recently constructed test wells on lower Willow Creek, also Dr. Howard's well and some older wells in the area that Stephen Wardell has pointed out. MFG has offered to train a local sampling volunteer group in the quality procedure for taking these samples for the price of \$1500.00. Bruce Stover says that its not that complicated. You basically need to have the depth of the water (the saturated zone) and the diameter of the well and then calculate how much water needs to be purged and do this several times. Then draw the sample and treat is as we did normal samples from the creek. Bruce has a manual on how to do this that he will send. John Howard advised that we look at the manual and see whether we can do this ourselves or whether we will need professional training. Zeke pointed out that we are trying to stretch our resources as much as possible by learning how to do as much of these things as we can by ourselves. Also, that keeping a record of water levels in these wells is very important and might provide us with as good of data as an alluvial salt tracer study at only a fraction of the cost and that for sure, a combination of methods would give us a real good indication of what the underground water is doing. Many people voiced that we will need to buy our own equipment and have it on hand such as pH meters, conductivity meter, electrical height measuring instrument, pump, hose, containers, etc. Glen said that we will also need quite a bit of equipment for our surface water "high flow" event in May and that he will talk to Barb Horn and research what is needed and some price options for our April 5<sup>th</sup> meeting. At our next meeting, we will discuss 1) Timing of the event 2) Volunteers 3) Team size and methods 4) Quality Control 5) Miscellaneous. Deep Groundwater:

It was discussed in the TAC meeting earlier this morning about a possible connection between the Bulldog workings on Windy Gulch and the workings on the Amethyst Vein. According to measurements taken by Homestake Mining which also accorded with Gerald Schlough's best guess, the workings at the 9000' level are completely flooded up to 9244'. This is higher than the Nelson workings that begin at 9175' and the Commodore 5 workings that begin at 9220'. However, there is a domestic well in the Bachelor area in between these workings that shows a level of 9430'. If all this information is accurate there cannot be a direct connection between the Bulldog workings and the Amethyst vein. Is was discussed that when the Bulldog 9000' level was being pumped (pumping ceased in 1986) that underground flow coming down the mountain would flow into these workings and be pumped out. Now, since these workings are flooded the water coming down the mountain is probably diverted into the Amethyst workings and this would explain the gradual increase of flow out of the Nelson adit since 1986. Sediment Testing:

Glen has just completed a grant proposal for testing sediments on the Willow floodplain. A program was developed and put on the Willow Creek web site. San Luis Valley Earthmovers has offered to let us use a backhoe free of charge for a week providing that we furnish the operator, fuel, etc. Glen pointed out that even though a program is developed (often in a hurry in order to accord with grant proposal deadlines) that nothing is completely planned, much less carried out without the full knowledge of the TAC and a 2/3 majority vote from the Willow Creek Committee. In other words, if something suddenly appears on the web, it is not set in stone. JB asked that if there is contamination in the sediment and its not getting in the water then who cares? If it is getting in the water then we will find it in the water. Laura Coppock (formerly Higgins) said that we

need to know about the soil in order to know what type of amendments to apply for re-vegetation. Also, we would not want to construct our winding stream channel on a contamination hot-spot. Steve Russell asked that if we are going to dig 20 sample pits for sediment analysis, are we going to put them random on a grid or what? The question was also brought up as to whether we need to test the sediment only in the areas where we intend to put the stream channel or do we need to test the general area? Les Dobson pointed out that groundwater moves all throughout the alluvium and if we put the stream channel in a certain place it will still be affected by groundwater flowing throughout the alluvium of the entire floodplain. Laura pointed out that in designing a stream channel, we should know the chemical conditions of the sediment, the groundwater, as well as understand all the geomorphological data possible. Steve said they are taking all that into consideration. Glen advised that we do stratified random sampling. Bruce being a geologist considers stratified to mean *layers underground*. Glen, who doesn't, as yet think in underground 3/D terms, says that surface stratification just means to him of mapping polygons of similar surface features and then taking random samples within those polygons. Samples would then be taken from layers of sediment to a depth, as Steve advises, of five feet. Laura suggested that we try and determine what the floodplain area looked like before mining started. She found a picture in the Denver Public Library and there should be other surviving bits of information available. Steve said that the committee will eventually have to decide if we want the stream to approximate its pre-mining natural state or if we want to modify it in order to take into consideration city plans for walk trails, picnic sites, county racetrack, etc. Steve said they could design a natural type channel but that it would probably be prone to flooding in the Spring like natural channels do. Zeke advised that we have to do what is necessary to make sure we don't have what we have now which is a braided channel and as JB points out, because of this, it is so shallow that fish couldn't live in it even if the water was clean. We have to design a channel that works. Zeke asked if it is necessary to take sediment samples at all or we could get good enough information from our test wells? Glen quickly pointed out that upon Jim Lewis's advise that before we backfill our test pits, that we stick a perforated PVC pipe into the groundwater and backfill around this so we can continue to monitor the groundwater from these sample sites. Zeke summarized that we develop the best plan that we can to characterize this area and realize that upon digging the first hole, everything might change. Soil Testing:

Kathleen Reilly asked about our plans for testing soils. Laura asked about any existing soil data that NRCS might have about the floodplain. Steve Russell said that they have some stuff but nothing very comprehensive. Glen pointed out that our above discussion has involved sediment sampling for characterizing potential contamination of our stream channel. So what about soil sampling for re-veg? When Dr. Mooray was here last fall, he said that he wouldn't prescribe a seed mix on anything until he knew the chemical condition of the soil. From this advice, Glen attempted to put together for review, a soil sampling task known as task 2.4 This is in addition to our field trial re-veg project that is known as task 3.1. Glen asks for comments from the committee regarding this program. JB advised that regardless of what any test numbers say, if we can get things to grow down there then that ought to be good enough. When do we know that plants will survive? Steve says that if they survive over the winter then things are looking pretty good. Glen bluntly asked, "Do we need to do soil testing as Dr. Mooray suggests or not?" We would have to, if we are going to deal Dr. Mooray. Glen wants a committee thumbs up or down before any time is spent writing grant proposals. The lab work has been priced out at around \$15,000. This sampling would only look at the top one foot of soil and wouldn't involve any elaborate machinery. Zeke asked if this soil information is needed now for re-veg. Steve said that we will convene a meeting of the re-veg committee this month and come up with a year 2000 re-veg program. Allen Cox of Homestake advised that maybe we test the surface soil for re-veg on the 20 sample sites that where we are doing deeper sediment testing and see what kind of variability we get. If there isn't much change then we wouldn't need to do anymore. If there is a lot of change then we could engage in a bigger soil characterization activity. Committee members seemed to think that this is a good idea. Steve asked how the samples would be taken? Laura advised that composite samples over the general area of each mapped polygon be extracted. Without a specific vote, it was decided that we go with this approach. Historical Characterization: Glen and Vince Spero will take information from Eric Twitty's report and put together a grant proposal to the State Historical Society for year 2000 work. This must be in by

April 1<sup>st</sup>. Biological Characterization: Laura just got the data and will go over it in March for the April 5<sup>th</sup> meeting. Solomon: Bob Kirkham spoke of the importance of being able to measure the flow discharge out of the Solomon adit. We were only able to estimate it during our September sampling event. We need to install some type of measuring device inside the adit. It would also be nice to have a way to measure the flow coming out of the wetlands. This would show if the plastic liners in the ponds are leaking. JB pointed out that according to our September metals loading data, it would appear that only about half of the contamination was coming from where we could measure at the wetlands and the other half was getting into East Willow by some other method. Commodore: Bruce explained the CDMG plan for fixing the rotten cribbing above the pipe to the splash pool. CDMG is going to do the engineering design for this "in house" as apposed to contracting it out. We are looking at using large diameter concrete sewer pipe or a new h.v.p.e. black plastic culvert type of pipe. Access to the Nelson adit will be made possible should it ever be decided to open that adit. Eric Twitty determined that the old cribbing has no significant historical value. TAC Committee Report (John Howard) John spoke that we have already covered most of the stuff that was discussed in the TAC meeting earlier today except that we feel it is important to have the property owners get involved or take the lead on the underground mine workings water characterization program. Zeke spoke of the appreciation the committee has for the visit and involvement of Allen Cox of Homestake Mining Company who arrived from their San Francisco office. Glen spoke about our GIS mapping program and the data repository. In order to do things perfect and right for our mapping needs, we need, according to Pete Magee (GIS expert in Alamosa), a similar system to the one they have which cost them over \$30,000. Since this is far beyond what we have in mind, Glen advises that we work with Pete and use his system and expertise on big map plotting, scanning, and digitizing but that we do the smaller stuff on our own. Glen already has a small 1x1 foot digitizer and a small plotter as well as a 17" high quality Sony monitor. With the purchase of Arcview 3.2 software, a small scanner, a color 13" x 19" ink jet printer, some computer upgrading, and a good working relationship with Pete Magee, we should be in business as far as mapping is concerned. JB asked if Glen's computer had the capacity to handle all this GIS stuff when it comes to memory, etc. Glen said no. We need a 20 Gig hardrive and 128 more megs of RAM as well as a better graphics accelerator card which should come to something over \$500 and I'll have those numbers available for the next meeting. Also, in order to produce reports, slide presentations, graphs, charts, and information newsletters; we need Adobe graphics and layout software. Glen said that he will have a detailed list by the next meeting but that regardless certain things are for sure needed such as a scanner and various upgrade and Adobe software programs. The total cost for this is estimated at around \$1350. Numerous pieces of water sampling equipment will also be needed but can be discussed at the next meeting. Chuck Barnes motioned that we approve the above mentioned \$1350 worth of purchases. Several people seconded and all were in favor. Zeke thanked everyone for coming and pointed out that the next meeting is on Wednesday April 5<sup>th</sup> at 1:00 PM at the Creede Town Hall. Meeting adjourned shortly after 3:00 PM

Minutes submitted by: \_\_\_\_\_ Approved and  
accepted: \_\_\_\_\_  
Glen Miller \_\_\_\_\_ Zeke Ward \_\_\_\_\_  
Project Watershed Coordinator Chairman