

## Mosier Watershed Council Meeting

Wednesday, July 25th, 2018

6:30-8:30PM

MINUTES

### Attendees:

Abbie Forrest, <i>SWCD</i>	Ken Lite, <i>Member</i>	Joe Carroll, <i>Resident</i>
Tatiana Taylor, <i>SWCD</i>	Robert Wallace, <i>Wy'East</i>	Linda Carroll, <i>Resident</i>
Theresa DeBardelaben, <i>ODA</i>	<i>RC&amp;D</i>	Karen Lamson, <i>SWCD</i>
Tessa Edelen, <i>DEQ</i>	Todd Stevens, <i>Member</i>	Wade Root, <i>Member</i>
Colleen Coleman, <i>Member</i>	Aurora Bouchier, <i>OWRD</i>	Jim Reed, <i>Member</i>
Kris McNall, <i>Co-Chair</i>	Karen Bailey, <i>Member</i>	Pete Dalke, <i>Member</i>
Bryce Molesworth, <i>Co- Chair</i>	Susan Gabay, <i>Member</i>	Mike Igo, <i>Member</i>
		David Sherrod, <i>USGS</i>

### Call to Order

Kris called the meeting to order at 6:30 and issued a round of introductions.

### Derailment Site Restoration and Status- *Colleen Coleman and Mike Igo*

Colleen Coleman and Mike Igo shared the progress being made with the Derailment Site restoration project. Colleen explained that the City of Mosier received more from the settlement than purely restoration of the site. She clarified that the settlement stated that the City will receive a park, public restrooms, and a decorative iron fence.

Mike Igo explained that we are now 25 months since the derailment, and the site is growing many weeds. Since the Fall of 2016 very little has changed except monitoring of adjacent wells and biosparging the system for groundwater cleanup. As recently as July 10<sup>th</sup>, hazard trees are still being noted on the north side of the tracks, likely killed by beetles. 13 trees have been removed from the area. The trees cannot be removed at this time, as it's too dry to run a chainsaw. Mike explained that the top priorities for the weed control is focus on the skeleton weed, knot weed, and the other noxious weeds. Mike hopes to see completion of this project sometime soon.

Colleen informed the council that negotiations with UP had started, and the team asked to replace vegetation on the north side of the damaged area. They also requested a pathway from downtown into Rock Creek Park's entrance. Colleen explained that Mike will be onsite to approve the plants being established. Colleen expressed the team's desire to make the park into a legacy park and to have the iron fence to match the design of Mosier's historic downtown. Negotiations with UP also include a public restroom, outside shower, and solar electricity for the park. Any disturbance to the vegetation will also be minimal, and construction will be specifically engineered to provide minimal impact.

Colleen discussed the members of the team for restoration project. She mentioned that Mark is the site restoration engineer, and approximately 3-4 weeks ago they walked the site and determined provisions.

Colleen explained the design process to the council. The team is waiting on the scope of work from Mark. Colleen is expecting a draft by this coming Friday and with her team of engineers

and landscapers, she wants to check that all provisions are met. The typical design process goes through steps of 30% completion, 60%, then 90%. Colleen is hopeful that the project will begin at the 60% stage because they already have a conceptual design.

Colleen informed the council that alongside the design process, the team is testing for PFAS or PFOS in the groundwater. These chemicals were used in fighting the derailment fire. She explained that the testing was delayed because EPA has been holding meetings across the country to determine baseline amounts, and to develop protocols to test for the chemicals. Currently, attorneys for UPRR are reviewing the testing plan.

Kris McNall inquired if the council could review the memo from UP. Colleen replied that the council could not until the team had heard back from UP. Colleen reminded the council that in the beginning of this process there was early resistance to Team Mosier. This resistance was due to the fact that once UP was required to test for PFOS in Mosier, they would most likely be required to test all over the country. Colleen mentioned that railroad is working to get a protocol to test for the chemical.

Colleen mentioned that she has asked for a scope of work regarding the testing. Colleen went on to give more background about the chemical. PFAS is the chemical that Teflon breaks down into. Kris noted that some studies have suggested that PFAS causes birth defects, and that it was used in the firefighting foam after the derailment. Kris clarified that there are multiple types of foam, and the new Mosier fire truck uses a foam similar to dawn dishwashing soap and is therefore does not pose the same health threats as PFAS.

Colleen encouraged the council and members to reach out with any questions or concerns. She mentioned she has substantial background in landscape architecture.

#### **Mosier Aquifer Levels- Aurora Bouchier, OWRD**

Aurora began her presentation by explaining to the council that she measured the experimental wells in the spring and fall, and time permitting in the winter and spring. She is continuing Ken Lite's research. One well is measured by Bob Wood, the Watermaster. Aurora mentioned that she has a pdf of the actual water level measured that she can send out to those interested.

Aurora explained that the water level trends of the wells are variable. Some wells were decreasing rapidly but are now steadily increasing water levels. Other wells are increasing more steadily and some have always been increasing. Aurora discussed the reoccurring trends and that they are not seeing increasing rates of decrease, most wells are seeing a decrease in the amount of decline being measured.

Aurora presented a graph showing the groundwater elevation of three wells in the Pomona aquifer. One well is an observational well. Aurora explained that she tries to be consistent in her monitoring of the observational wells, as a couple weeks can make a large change in basalt systems. Aurora explained that the low point in the graph is the fall reading, and the high points are spring readings. Aurora noted that there is some recovery in the red well, despite it being the most drastic curve. Aurora discussed the stratigraphy of the wells constructed in the Pomona. She presented a slide that draws out the levels of each well.

She went on to discuss the wells constructed in the Priest Rapids aquifer. Three wells had recorded water levels, indicated on the graph as red, green, and blue well. The green well showed recovery, the red well is static in groundwater levels, and the blue well is decreasing slightly.

The red well is still open to the upper portions of the Priest Rapid flow, although the well is not getting its water from that aquifer.

Aurora presented the observational well data. Data from the 1970's shows decline at approximately one meter a year. Decline tapered off from 2004 to 2009 and started back again from 2009 to 2017. Currently the decline of the water levels in the observational wells has slackened. There are two observational wells. One is open in the Lolo flow of the Priest Rapids, the other is open in the Pomona. Aurora noted that the Pomona well is greatly affected by fluctuations of the Columbia River. The Columbia is often greatly affected by precipitation.

*Ken Lite explained that the upper system in Mosier is not as well off as the lower system, and that deeper wells are more adept to these conditions.* Joe Carroll inquired if any of the recent projects being implemented in Mosier Valley were helping the groundwater levels to stabilize. Aurora replied that it is too early in the data collection to decide if the projects are helping, and that more data will need to be analyzed to answer that question. Aurora mentioned that she expects a similar recovery curve after more data collection.

Colleen Coleman inquired if there is a tandem conservation plan for irrigation efficiency, along with the well repairs and replacements. Aurora answered that many orchardists have transferred to drip irrigation. Kris mentioned that this question has been discussed at previous meetings as well and is an ongoing project.

#### **Mosier Million Well Replacements- Erik Thomasser, OWRD & Ken Lite**

Erik presented to the council the work that has been done to date on the Mosier well replacement project.

Erik explained that the 1<sup>st</sup> well turned out to be more productive than the original, so the well is considered an upgrade. The 2<sup>nd</sup> well constructed produced half of what was needed. The team decided to drill a second well to fulfill the need and rehabilitate the water right to the new source. The Skakel well was more problematic. The well driller shanked his hammer bit and had to spend time and resources ordering a new one. The well driller moved the new well 10feet and was successful. The newly constructed well is the only productive one on the property. Erik explained that as of last week Mike has completed the abandonment for the McBride well. The Reed well is being replaced.

Erik showed the council a video of the Fade Well. The video showed fool's gold in the sides of the well. Erik explained that the location of the well is unique, and that this well might be similar to the bottom of the aquifer. The well contains lots of iron sulfide. Erik presented a video of the Evans well. This video showed particles passing by the casing, which was a good visual of active commingling. The video demonstrated the active pressure exchange between the two aquifers. This well was exceptionally productive and the landowner now has more water than he needs for irrigation.

Erik discussed the Reed well. The team used a foot of a donut shaped cement plug and stuck it to the wall of the borehole. Before the casing and with no pumping out of the well and the issue of commingling, the well was losing 15 gallons a minute. They performed a 4 hour flow test of the well after the casing. Erik explained that the well test shows 60 feet of total drawdown, and recovery was almost instantaneous (at 80% recovery).

Erik presented the upcoming projects for Mosier Million. The next step is to replace and abandon Wade's well. Erik explained that the well driller recently had shoulder surgery, and Duane

Person had been subcontracted. Wade's well will be similar to the Reed well, as they are both in the Priest Rapids aquifer. After the well has been drilled, the team will abandon the old well, improve the pump house, all within the next three weeks to a month.

Erik explained that Mosier Valley's morphology is unique because the flow structures of the aquifers are variable. Flow tops, flow bottoms, and water bearing interbeds can all contain water in the aquifers, but not always.

Erik presented more information regarding the Molesworth deep well. He showed the council a video of the well. Erik noted the amount of rock flakes in the well and explained that this flakey zone was where the bulk of the flow exchange was occurring. The flakes are made from lignite and came from the bottom of the well due to the pressure from the Grand Ronde. The majority of the issues in this well were caused by the gap developed from the pressure exchange. Erik mentioned that the issues were solved at a comparatively low cost. He mentioned an example of a deep well from British Columbia with a similar problem. In that situation they spent 3 years and \$7 million to fix a similar issue. For the Molesworth deep well the team used \$250,000 in additional money to correct the problems.

Erik discussed Bryce's decision to use a lineshaft pump rather than a submersible pump. The submersible pumps continued to burn out after five or less years, making them much less cost effective. The lineshaft pump allows for broadcasted live pumping data.

Erik mentioned that the lessons learned from Bryce's well will be valuable to apply to the construction of Wade's well. The team learned to not blast through sedimentary waterbeds in this watershed. 55 tons of concrete was pumped into Bryce's well that washed away. The team is hopeful that the grant application for Wade's well will be available in August and will be cost adjusted for construction costs.

Erik concluded that the construction of the deep wells is in sync with the goals of the Mosier Million projects. He hopes to see positive results in the future.

#### **Data from the Deep Well- Robert Wallace, Wy'East RC&D**

Robert explained to the council the remote monitoring system in place on Bryce's deep well. The lineshaft pump that Bryce installed allows for energy analysis for better irrigation efficiency. The electric motor turns the shaft, which runs the motor. A Variable Frequency Drive was also installed, which allows for water to be pumped at the exact need.

Robert presented the items measured at the Mosier Deep well. Flow is measured both in gallons per minute, and total flow in acre feet. Energy is measured in Kilowatts, and the motor speed is measured revolutions per minute. The pump discharge pressure is measured in pounds per square inch and final well water depth is recorded in feet from the surface. Robert also demonstrated how the program records data for future reference.

Robert discussed the SCADA Unit (Supervisory Control and Data Acquisition), which allows for remote control of the variable frequency drive, as the unit sends information to a cellular cloud. Robert presented the interface of the program and demonstrated how to manipulate the VFD. He mentioned that information is logged every five minutes. As Bryce adjusts flow, the water level in the well reacts accordingly. Robert explained that the system allows for alerts to be set. For example, they can set up an alert to notify if the well water drops too low. Pressures can also be adjusted by cell phone through the SCADA Unit. In the winter season, the unit will continue to log water levels in the well.

Bryce mentioned the steep learning curve to adjust to the system and that it had taken both him and his workers a period of time to adjust to the new system.

**Updates and Announcements**

Bryce suggested that the council should write a letter of thanks to the grange for allowing the council to use the facility for meetings. Abbie mentioned that she had already written a check for payment, so the council decided to use the \$25 as a donation to the grange.

*Kris adjourned the meeting at 8:30.*