

**COMMISSIONERS' MINUTES  
KITITAS COUNTY, WASHINGTON  
COMMISSIONER'S CONFERENCE ROOM  
SPECIAL MEETING**

**FRIDAY**

**1:30 P.M.**

**NOVEMBER 15, 2013**

Board members present: Vice-Chairman Paul Jewell and Commissioner Gary Berndt.

Others Present: Lindsey Ozbolt, Kittitas County CDS Planner 1; Robin Reed, Kittitas Co. Public Health Admin, Erin Moore, Kittitas County Public Health Permit Tech; Debbie Myers, Kittitas County Commissioners Clerk; Kevin Lindsay, GSI Water Solutions; Andy Ganszek, USGS; Mark Savoca, USGS; Steve Hinkle, USGS; Mike Johnston, Daily Record.

**SPECIAL MEETING**

**USGS UPDATE**

**COMMISSIONERS**

Andy Ganszek gave an overview of the hydrology of the Upper Kittitas County which helps determine the extent of ground water and surface water continuity. He discussed the distinction between unconsolidated sediments and bedrock, where water moves through fractures in the rock. He went over a chart that showed seasonal fluctuations in groundwater levels near the KRD, Lake Kachess and Lake Cle Elum. There was discussion on lake levels during the summer months and how the water tables can vary. He discussed groundwater movement within fractured bedrock, flow through fractures, varying aquifer properties and limited storage within aquifers.

They discussed a gaining reach, which is water coming in to the system; and a losing reach, which is water leaving the system, and the effect wells have on gaining and losing reaches.

Mr. Ganszek discussed groundwater and surface water interactions and the contract between the temperature of water in the stream and water in the ground. He also discussed water budgets, which is an accounting of water within the basin, and water budget subbasins; and how plants, evaporation, recharges and precipitation have an effect on them.

Steve Hinkle gave an overview of the geochemical framework in the area. He discussed the isotopes of water (which are useful tracers of water) and carbon dating water. He also said water picks up gasses from the atmosphere.

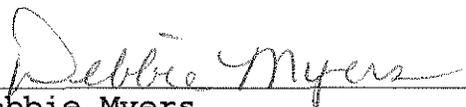
He discussed the water rainout effect, groundwater from wells, and how rainwater is isotopically lighter as it moves east by dropping the heavier isotopes closer to the Cascade Crest.

Mr. Hinkle discussed the age of water in wells, that there is an active flow system in the upper few hundred feet, and that the deepest wells yield older water and are only slowly flushed. There was discussion on the depth of water in wells, the affect on stream water and the cumulative effect. He also said as water moves through aquifers it changes, and that we have some very old water in this basin.

The USGS representatives stated the survey update should be available for review sometime after Thanksgiving and that there will be a presentation to the public sometime after the first of the year.

Meeting was adjourned at 3:07 p.m.

CLERK

  
Debbie Myers

KITTITAS COUNTY COMMISSIONERS  
KITTITAS COUNTY, WASHINGTON

  
Paul Jewell, Vice-Chairman