Spring 2013

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February 10, 2013

Request water quality sample data from Drew Hart

January 31, 2013

Review similar problems from CEE 6530 and background information

February 8, 2013

- Review previous homework/test problems.
- Review the studies on the scaling problem conducted by SANAA.
- Review the design recommendations for an AguaClara water treatment plant including jar test analysis and dosing recommendations provided by SANAA.
- Review the example solution and recommendations for monitoring scaling provided by Professor Lion.

Determine quantity of acid to add

February 15, 2013

- Use knowledge gained from 6530 to analyze how much acid must be added to the Las Vegas water to move it away from supersaturation and to prevent precipitation in the distribution system. The composition of the groundwater should be assumed to be rainwater that is in equilibrium with calcium carbonate at a given input temperature. Thus the initial pH of the groundwater should be a calculated value. The temperature of the water in the distribution system is another important input. The system of equations should calculate the amount of acid that must be added to keep the water from precipitating. The required dose of aluminum sulfate should also be calculated. It may be possible to create a simple algebraic equation to solve this problem. Explore the options for creating a simple

equation because simple equations provide insight into what is controlling the process.

Discuss results with Professor Lion

February 22, 2013

Write-Up of Results

February 22, 2013

- Include all calculations/documentation in a Mathcad file.