

COMMITTEE REPORTS

WATER COMMITTEE

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The water committee's third quarter goal was to address disposal, water management, and water treatment. These topics were originally requested by members at the beginning of this year. To accomplish these goals, several industry experts were brought in to present, including Laura Capper, of Capstone Resources; Georgi Watson, of Schlumberger; and Michael Dunkel, of Worley Parsons.

In July, we hosted Laura Capper whose firm focuses on disposal well data analytics. Laura began her presentation with an overview of the disposal approval process and recent guidelines published by the Railroad Commission. She also presented the methods employed to evaluate and normalize disposal wells over a specific field or basin. However, Laura's conclusion was most convicting. Laura presented scenarios of decreased allowable injection pressure gradients and the corresponding effects on disposal wells in the Midland Basin – many of which are at moderate to high pressures. The result was significant reduction in disposal capacity. Laura also presented three future scenarios based on low, current, and increased rig count. The forecast resulted in produced water volumes approaching and even exceeding available capacity depending on the activity level and amount of produced water reused.

In August, Georgi Water of Schlumberger gave a presentation focused on water treatment. Georgi began with introducing produced water and the common constituents that are typically present. She addressed the two methodologies of treatment: on the fly versus storage. The first assumes a substantial source of raw water available on the fly. Minimal treatment and no storage are used as this water is sent directly to the frac accompanied by a non-oxidative biocide. The second is water treated then stored in above ground tanks. Water is treated to prevent iron build up prior to storage in lined ponds. Georgi discussed the various treatment techniques that are used for each case and discussed target constituents of concern: mainly bacteria, iron, and hydrocarbons. Finally, Georgi presented general treatment economics and the potential of beneficial reuse of produced water.

In September, Michael Dunkel with Worley Parsons, an Advisian Company, gave a talk on the recent Ground Water Protection Council Produced Water Report that was published in June of this year. This large report encompassed three main topics: regulatory and legal frameworks, produced water use in the oilfield, and produced water use and research needs outside of the oilfield. Michael highlighted that each state regulates oil and gas individually and often very different from each other. Water rights and responsibilities vary state to state – affecting the water sourcing industry. Regulatory frameworks may need to evolve to facilitate reuse – New Mexico and Texas are an example with recent legislation. Another key point was that cost is a main driver for reuse in oilfield operations. Michael presented an overview of water management and each facet that plays a role: from sourcing to transport to disposal. Michael also addressed the pros and cons of the recent water “midstream” industry that has grown significantly. Most of the available produced water data (such as volumes produced and reused) is outdated, and company environmental reports are vague. It is tough to gauge the industry for an exact breakdown of water management. However, there is no doubt that reuse is increasing. Beneficial reuse – treatment to surface discharge standards for use in other industries – is currently minimal, less than one percent. The main constraint is cost. However, should costs or the market change, many opportunities exist: drought relief, fire protection, irrigation, municipal, etc. The ultimate goal of this report is to educate the public, regulators, and industry about water management.

Education was the primary third quarter goal for the PBPA Water Committee. With the annual meeting in October and holidays in November and December, the committee will not meet until the beginning of 2020. However, members were urged to attend the annual meeting. Our next meeting will be focused on dissecting the New Mexico “Produced Water” bill based during the 2019 session. While we originally viewed this bill as a win for the industry, concerns have been raised on certain aspects of this bill. A water rights attorney, former politician, and former deputy land commissioner will be brought in aid in the discussion and analysis of this bill with our members.