



Douglas A. Ducey
Governor

State of Arizona
Oil and Gas Conservation Commission

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Marta Hodan, Oil and Gas Administrator

Commissioners:
Frank Thorwald, Chair
J. Dale Nations, Ph.D., Vice Chair
Stephen R. Cooper
William C. Feyerabend

MINUTES OF MEETING

July 16, 2021

PRESENT:

Mr. Frank Thorwald,	Chairman, Arizona Oil & Gas Conservation Commission (AOGCC)
Dr. Dale Nations,	AOGCC Vice Chairman
Mr. Bill Feyerabend,	AOGCC Member
Mr. Stephen Cooper,	AOGCC Member
Mr. Jay Skardon,	AOGCC Counsel, Office of the Attorney General
Ms. Marta Hodan,	AOGCC Program Administrator
Ms. Tawnya Cook,	Arizona Department of Environmental Quality

CALL TO ORDER

Mr. Thorwald called the AOGCC Meeting of July 16, 2021 to order at 10:05 a.m. via virtual meeting at the Arizona Department of Environmental Quality (ADEQ), Phoenix, AZ. No one reported any conflicts of interest and the roll call confirmed a sufficient number were present for a quorum.

ARIZONA PRODUCTION TRENDS (1:32)

Mr. Jim Ballard, a semi-retired petroleum geologist, gave a brief presentation on Arizona production trends. Mr. Ballard explained that the Annual Production summaries are available online from the 1950's – 2014. This new summary will bring them up to date through 2020. The summary lists all production during this period. Over the last few years there have been some significant changes in Arizona's production.

Mr. Ballard explained that there are 2 areas of oil and gas production – DBK to the North and Pinta Dome to the South. DBK is still Arizona's largest producer – producing significant oil, helium gas and regular methane gas over the last 7 years. Production has not been uniform over the years. In 2014 it was nearly all oil to nearly all helium gas in 2020. He discussed the value of barrels of oil, which is just under 7 million dollars, whereas the gross value of helium gas is well over 9 million dollars. The trend shows a decrease in oil wells and oil production, as well as methane gas production, and an increase in helium gas wells and helium production. In 2014 there were 30 wells producing some amount of oil in DBK, and now that number is 8. Oil production in 2014 was 154 barrels per day, and now it is down to 15. After 2014, all methane gas wells have been shut-in and no methane gas being produced today. There were 2 producing helium wells in 2003 and today there are 9 producing wells. In 2017, there were 7 wells – 6 at Pinta Dome and 1 at Navajo Springs. In 2020, the Pinta Dome well count has gone down to 3 and there are now 4 wells at Navajo Springs. Helium production concentrations average approximately 8.2%, methane production is almost non-existent, CO₂ is very low and the remainder is predominantly nitrogen gas.

AZGA/UofA – ONGOING AND UPCOMING PROJECT UPDATES (12:09)

Mr. Brian Gootee, research geologist at the Arizona Geologic Survey (AZGA) gave a brief presentation. Mr. Gootee explained that one of the projects that is being worked on addresses underground storage potential of carbon dioxide. This project began in 2019 and will run through 2024.

CUSP (Carbon Utilization Storage Partnership) – Arizona is one of 13 states and 4 national labs that are a part of this DOE project. The goal of the project is to address storage potential in each state – Arizona has about 3-5 basins that we are focusing on. The workflow is to identify CO₂ emissions sources. The overarching goal is to get CO₂ transport and storage in the United States to be the most efficient way to store the material.

Mr. Gootee explained the EPA values for CO₂ emissions for the year 2019. The yellow lines are the CO₂ emissions values from 2019 reporting year. The red lines are natural gas pipelines and the black is Kinder Morgan petroleum. The values inside the yellow circles represent the type of emission source. The goal of this project is to find the intersection where the CO₂ sources with the transportation right of way and identify the best place to store it. There may be storage opportunities in Northern or Eastern Arizona, but without the right-of-way the cost of building pipelines becomes an issue. They are not going to research locations that are not immediately next to the source.

Mr. Gootee went over a report that shows the colored footprint of basins in Arizona that have storage below 800 meters depth below land surface, or about 2600 feet. The last slide that Mr. Gootee

discussed was one that really identified what they are trying to do. The outlines in purple are basins that have formed in the last 50 million years. The outline in green in the Holbrook basin that they are exploring currently. The blue polygons are the basins they studied in 2012. The yellow are CO2 sources. The yellow outlines are adjacent to the purple basins that they are evaluating as part of this project. Mr. Gootee covered what basins the project is currently focusing on. They expect to deliver some reports and are working on focused projects as well. They have been in discussions with SRP, APS and TEP with regard to power generation transitioning from natural gas to other types of fuels.

They feel that they can demonstrate that there is potential for storage in some places in the state and hopefully will be able to test the hypothesis in the future.

There was discussion about a study the AZDOT did over the course of 4 years that covered all modes of transport in the state, which might be helpful to this project. There was discussion surrounding whether or not anyone is looking at reservoir characteristics in the areas that the project is focused on. Mr. Gootee explained that their approach is to continue to apply to DOE for funding opportunities, but more importantly to work with energy partners and private energy stakeholders to identify areas for additional work and identify funding sources for drilling test wells.

There was also discussion regarding the State and Federal statutes and rules regarding injection wells, as well as discussion around whether or not the project would include looking at salt cavern storage for natural gas.

Mr. Thorwald brought up helium production with CO2. There was discussion surrounding the areas north of Springerville, along the New Mexico border, what potential the wells hold and if they would be looking at that area.

Mr. Gootee described a second project that they are working on regarding mapping – something they do every year. This last cycle they were mapping big sandy valleys. Primarily those efforts are aimed at identifying rare elements as well as lithium in ground water.

DISCUSSION AND APPROVAL OF MEETING MINUTES

Dr. Nations moved, seconded by Mr. Thorwald, that:

THE MINUTES OF MAY 21, 2021 PUBLIC MEETING BE ACCEPTED AS PRESENTED

Motion carried unanimously.

REPORT BY THE OIL AND GAS ADMINISTRATOR

Rare Earth Exploration LLC 12-1 State and 28-1 State: Still working to get bids for these wells reviewed. We have received bids for the work on the wells from 2 vendors. We are in the process of selecting one, however, the delay is that both bids exceed the value of the bond. We are looking at what action we can take in order to sort the difference out.

Pollard Helium 36-1: The plug & abandonment was completed by Pinta South in June. All the necessary paperwork has been submitted to the Commission and has been approved. We notified the bond company that the work was successfully completed and informed them they are allowed to release the bond.

Myriad Resources Aztec 3-1: The well has been successfully completed – Ms. Hodan is currently waiting on the completion paperwork to be submitted.

Desert Mountain Energy 11-1 fee: The well recently reached total depth and is currently waiting on completion.

Arizona Energy Partners 2-1 MS: Just set surface casing and cemented it in to place. They are expecting to drill the intermediate section either today or this weekend, they are just waiting on mud loggers to arrive on-site.

Kinder Morgan: Kinder Morgan recently conducted mechanical integrity tests on 22 of their wells in the St. Johns area. 21 of those wells were successfully tested to 500 psi and passed (they held it for 30 minutes). One well, 10-29-31, did experience a loss of pressure over the 30-minute period. Kinder Morgan has filed all the paperwork regarding the tests and are in the process of remediation work to identify the problem on that well and make the repairs. They will submit all paperwork regarding the repairs upon completion.

Website redesign: Still working with ADEQ's IT team to get the website redesigned. Ms. Hodan had meetings scheduled for this week, but unfortunately, they were pushed to the following week. One item of note – when the website is redesigned it will include the ability to have the recordings of the meetings posted online.

Agency collaboration: We have been working with Department of Water Resources and ADEQ's Water Division regarding water protection and to work together to align our rules and requirements, specific to things like drilling, completions, plugging and more. This is in regard to water wells and casing and plugging requirements.

EPA Discussions: There have been discussions with EPA regarding injection, injection requirements and what they constitute different types of injection wells. We are trying to understand how the State's regulations in terms of injection compare to EPA requirements, and where helium wells fit in to EPA's injection well standards.

NM Produced Water Research Consortium: AZOGCC has recently joined this consortium as a new member – it is a free membership for State Agencies. This consortium consists of other State Agencies as well – Texas, Oklahoma and Utah. The purpose is to begin to understand alternative fit for purpose uses for produced water. The link for interested parties is <https://nmpwrc.nmsu.edu/>. Ms. Hodan also encourages Operators to look in to membership.

Fall Intern Update: We have selected a candidate, DEQ is in the process of getting an offer letter out to the candidate. Plans for the intern are to help building out the GIS platform on the website. The intern will also help create additional content for the redesigned website.

Web portal: There are no updates at this time.

Rules update: Still working through the rule language. We have met with GRRC to understand the process and what needs to be submitted. We are working with the Governor’s Office and with DEQ resources in order to help draft the exception memo in order to get rule language submitted.

Additionally, the 5-Year Rule Review is this year and is due to GRRC at the end of November.

Procedures manual/ SOPs: Still a work in progress and the fall intern will likely assist with this.

REPORT BY THE AOGCC CHAIRMAN

IOGCC: Mr. Thorwald has been attending online meetings and holding regular discussions, including orphaned and abandoned wells, hydrogen and CO2 storage and alternatives for produced water. There is a meeting in Colorado Springs next month that Mr. Thorwald plans to attend.

ONHIR Communications/Request: We have continued to have communications with ONHIR. The AG’s Office (Mr. Jay Skardon) has put together a draft Intergovernmental Agreement which has been sent to them.

Report by Vice Chairman Dale Nations: Nothing to report at this time.

ADEQ: We have been meeting with ADEQ regularly on the characterization of injection and what rules they have in regards to Oil & Gas.

Budget: Still looking at federal grants and what opportunities are available.

Legislation affecting the Arizona Oil and Gas Conservation Commission: There is legislation circulating US Congress relating to orphaned and abandoned wells – if this passes, it will allow Arizona to apply for federal funds to locate any orphaned and abandoned wells within the state. It would potentially be as much as \$5 million, and there would be additional funding for the plugging of any of the orphaned and abandoned wells.

CALL TO THE PUBLIC

Mr. Joe Dixon asked for clarification surrounding the potential money from the legislation regarding orphaned and abandoned wells. Mr. Thorwald answered him, and clarified that we do not answer back to the public during this time, however he can answer the questions Mr. Dixon was asking because Mr. Dixon is with the AZ State Land Department. He also asked if there were plans to publish the information that Mr. Jim Ballard presented to the website, which was confirmed.

Mr. Mike Conway with the Arizona Geological Survey asked what happens to the 13% concentration of CO2 coming out of the helium wells. Mr. Thorwald explained the wells are not in production at this moment, however it will be something that will be happening in the future, so we are trying to get ahead of it.

Mr. John Stuckey of Protect Our Water Arizona commented on the term “produced water” and his concerns surrounding it. He suggested that when communicating with the public the Commission should be much more specific as to what the phrase means.

ADJOURN

Mr. Cooper moved, seconded by Mr. Thorwald that

THE MEETING BE ADJOURNED

Motion carried unanimously. The meeting adjourned at 11:07 a.m.

REVIEWED



FRANK THORWALD
CHAIRMAN

9/17/2021

DATE

GUESTS IN ATTENDANCE

David Haag, AZ State Land

Dr. Kevin L. Gibson

James Olson

Jim Ballard

Joe Dixon, AZ State Land

John Stuckey, Protect Our Water Arizona

Jothi Beljan, AGs Office

Lisa Thompson

Lou Rozs

Michael Conway, AZ Geological Survey

Mike Olesko

Mitchell Mignola

Patrick Kane

Tim Demko

Todd

Thomas White

Brian Gootee, AZ Geological Survey

Brittany Rothe

Wayne Pearce

Max Maxwell