MINUTES OF REGULAR MEETING **DRAFT**

CHAMPAIGN COUNTY CARBON SEQUESTRATION ACTIVITIES TASK FORCE
1776 East Washington Street
Urbana, IL 61802

DATE:	**May 29, 2025**	**PLACE:**	**Shields-Carter Meeting Room** **1776 East Washington Street**
TIME:	**4:00 p.m.**		**Urbana, IL 61802**

MEMBERS PRESENT: Christopher Stohr, Debra Feinen, Allen Wehrmann, Andrew Rehn, Lucas Stark, Eric Thorsland, Jon Cagle, Jen Locke, Steve Summers, Jeff Wilson, Julie Pryde, Ted Krachmer

MEMBERS ABSENT: Pam Richart, Bailey Conrady

STAFF PRESENT: John Hall, Jacob Hagman

OTHERS PRESENT: Steve Summers, Randall Locke, Matt Kaloupek, Daniel Hadley, Nathan Webb, Marc Miller, George Roadcap, Kisa Mwakanyamale-Gilkie

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1. Call to Order

Chris Stohr called the meeting to order at 4:01 p.m.

2. Roll Call and Declaration of Quorum

The roll was called, and a quorum was declared present.

Dr. Stohr welcomed Ted Krachmer, the Source Water Protection Manager for Illinois American Water and Iowa American Water. Mr. Krachmer said he typically works to protect surface water and manage the risk of contaminating drinking water. Illinois American Water has 20 wells in Champaign County that access the Mahomet Aquifer.

3. Approval of Agenda/Addendum

Mr. Thorsland motioned to approve the agenda, seconded by Mr. Cagle. The motion passed via voice vote.

4. Approval of Minutes from April 21, 2025

Dr. Stohr said he had a few minor corrections for the minutes and encouraged everyone to submit minor edits. Mr. Cagle motioned to approve the minutes, seconded by Mr. Stark. The motion passed via voice vote.

5. New Business – Water Resources of Champaign County

A. Mahomet Aquifer, a federally designated sole-source Aquifer for East Central Illinois.

Dr. Stohr said the focus of the meeting is water resources within Champaign County. Dr. Stohr stated

that Al Wehrmann was due to give a presentation, but he hadn't arrived at the meeting yet. Dr. Stohr said this agenda item would be moved to later in the meeting.

B. Helicopter-based Time-Domain Electromagnetics (HTEM) preliminary results of the Mahomet Aquifer boundaries and what is learned about water resources outside the federally designated sole source Aquifer.

Dr. Stohr said we would hear a presentation about Helicopter-based Time-Domain Electromagnetics (HTEM) preliminary results of the Mahomet Aquifer from Dr. Kisa Mwakanyamale-Gilkie. Dr. Mwakanyamale-Gilkie is a geophysicist with the Illinois State Geological Survey (ISGS), and she has prE.P.A.red a few slides for today's meeting.

Dr. Mwakanyamale-Gilkie stated the ISGS is still analyzing the results of the HTEM of the Mahomet Aquifer, and a final report will be presented to the Champaign County Board in December. Dr. Mwakanyamale-Gilkie said the presentation would show the Mahomet Aquifer at three different depths, showing various features like underground channels.

Dr. Mwakanyamale-Gilkie's first slide showed the helicopter's path over the county. Dr. Mwakanyamale-Gilkie said the helicopter didn't fly over Mahomet, Champaign, Urbana, St. Joseph, and Rantoul because of the city build-up. Dr. Mwakanyamale-Gilkie said the slide represented a cross-section of the county, and we were viewing the section from the side. Dr. Mwakanyamale-Gilkie stated the first elevation was about 400 feet above sea level. Dr. Mwakanyamale-Gilkie continued by saying that the image shows the bedrock and channels within the Mahomet Aquifer. Dr. Mwakanyamale-Gilkie said the different colors on the map represent different materials, such as coarse (sand and gravel) or fine (clay) materials, which show non-Aquifer materials within the Mahomet Aquifer. Dr. Mwakanyamale-Gilkie continued to point out that the volume of the Aquifer is different depending on where you are and the presence of non-Aquifer materials. Dr. Mwakanyamale-Gilkie said this is not new information, but it shows where and how big the non-Aquifer materials are.

Dr. Mwakanyamale-Gilkie's next slide showed the Mahomet Aquifer at about 564 feet above sea level. Dr. Mwakanyamale-Gilkie stated that this elevation clearly shows the Mahomet Aquifer, which is the closest to the boundary used since 2012. Dr. Mwakanyamale-Gilkie continued by saying that the different colors on the slide showed course materials within the Aquifer. Dr. Mwakanyamale-Gilkie stated that the channels could be seen, as well as the fine materials making up the channels themselves. Dr. Mwakanyamale-Gilkie stated they can't tell from the specific locations on the slides whether they have water in them; they are just made up of materials found in the Aquifer. Dr. Mwakanyamale-Gilkie indicated that one of the channels on the slide is outside the Aquifer, which is filled with Aquifer materials and has water. Dr. Mwakanyamale-Gilkie continued that they know the specific channel has water because the Village of Ogden has two wells and has been using them as their source of water since the 1990s, and they're using them as a water source.

Mr. Rehn asked about the black lines on the slide and if they were added to show the channels. Dr. Mwakanyamale-Gilkie said the results are from HTEM and that she is analyzing them. Dr. Mwakanyamale-Gilkie said the different colors represent the materials found in the Aquifer, and at the elevation shown, she knows they are within the Mahomet Valley. Mr. Rehn asked if the black line was her judgment of the channel. Dr. Mwakanyamale-Gilkie said it was to highlight the channel because we are looking down about 350 meters deep with the HTEM survey.

Mr. Thorsland asked how far below the surface the current slide was. Dr. Mwakanyamale-Gilkie said it

was about 172 meters below the surface.

Dr. Stohr said he noticed several tributaries that appear to be feeding into the Mahomet Aquifer and wondered how old the Mahomet Valley is. Nathan Webb from ISGS said the bedrock in the Mahomet Aquifer is over 300 million years old and is pre-Pennsylvanian Aquifer age. Dr. Stohr asked how long the Mahomet Valley had been forming. Mr. Webb said the age of the materials in the Mahomet Valley could be the same as the Illinois Basin, but the valley itself has been carved over millions of years and likely stripped some of the materials off the top of the Pennsylvanian Aquifer over time. Dr. Stohr referred Dr. Mwakanyamale-Gilkie to finish her presentation.

Dr. Mwakanyamale-Gilkie said the current slide shown is outside the Mahomet Valley and features the newest Quaternary (geological period) of materials. Dr. Mwakanyamale-Gilkie stated that even though the images were outside the Mahomet Valley, channels were still visible in the northwest corner of Champaign County. Dr. Mwakanyamale-Gilkie said these channels featured the same materials as the Aquifer, but she couldn't confidently say whether the channels held water. Dr. Stohr asked if the valleys were glacial. Dr. Mwakanyamale-Gilkie said they were.

Dr. Mwakanyamale-Gilkie said the current slide showed an elevation of 643 feet above sea level. Dr. Mwakanyamale-Gilkie stated this elevation shows the bedrock of the Mahomet Valley has the same materials as the Mahomet Aquifer. Dr. Mwakanyamale-Gilkie continued that the channels indicated on the slide are shallow, but because of the Pennsylvanian bedrock, the shallow channels can't connect to the Mahomet Aquifer.

Dr. Stohr asked if part of the area appears to show the type of material that would serve as a recharge area, and if that was known. Dr. Mwakanyamale-Gilkie said it's too soon to say for sure, but there is potential, but we won't know until the results have been finalized. Dr. Mwakanyamale-Gilkie finished her presentation.

Dr. Stohr thanked Dr. Mwakanyamale-Gilkie for her presentation and said the HTEM survey has provided more information and details than have been available for years. Dr. Stohr said he will be directing the Water Survey folks to Dr. Mwakanyamale-Gilki because they've been wondering about the recharge of the Mahomet Aquifer. Dr. Stohr continued that the information will help determine which areas are recharging and perhaps deserve additional protections. Dr. Stohr called on Dan Hadley to provide a statement.

Mr. Hadley said he works for the Illinois State Water Survey (ISWS) and does groundwater modeling and monitoring. Mr. Hadley stated they don't have a great handle on the locations of the recharge areas for the Mahomet Aquifer, but the HTEM results are helping the ISWS map the recharge areas. Mr. Hadley continued that some of the eastern Mahomet Aquifer has young groundwater, and they know that by testing tritium (age tracers) samples.

Mr. Rehn asked Dr. Mwakanyamale-Gilkie about the timeline for HTEM results. Dr. Mwakanyamale-Gilkie said they would be done by the end of the year. Dr. Stohr asked if anyone else on the task force had any questions, and Ms. Pryde said she is fascinated by the HTEM and compared it to an MRI of the Earth.

Mr. Rehn asked why some cross-sections have incomplete data at certain depths. Dr. Mwakanyamale-Gilkie said the data in those areas wasn't good because there was a lot of "noise" from items like buried pipes.

Dr. Stohr said that looking at the data, he sees a map for economic development because of the opportunity for greater availability of water resources that could be used for agriculture, commercial, or industrial purposes.

Al Wehrmann and Diane Feinen arrived at the meeting, and Dr. Stohr asked them to give their presentation about the Mahomet Aquifer's status as a sole-source Aquifer.

A. The Mahomet Aquifer is a federally designated sole-source Aquifer for East Central Illinois.

Ms. Feinen handed out copies of the executive summary of the Mahomet Aquifer Protection Task Force from 2018. Mr. Wehrmann said that about 10 years ago, there was concern about the disposal of hazardous waste in the Clinton Landfill, and one way to stop the disposal was to petition to get the Mahomet Aquifer a sole-source designation. Mr. Wehrmann said the petition was more of a report, about 60 pages long, and needed to address several issues.

Mr. Wehrmann said there was good participation in the report process, except Tazewell and Mason counties, which Mr. Wehrmann said likely needed the protections more than other counties since the Aquifer is virtually at the surface in those counties. Mr. Wehrmann stated the sole-source Aquifer program was established under the Safe Drinking Water Act in 1974 and to be designated as a sole-source Aquifer, you have to show that the Aquifer provides at least 50% of the drinking water and that the volume or the quantity of water from any alternative source is insufficient to replace the Aquifer itself. Mr. Wehrmann said they went through a process to show that sometimes it wasn't necessarily a volume-only, but an economic consideration.

Mr. Wehrmann said there are actually over 70 sole-source Aquifers designated across the United States. Mr. Wehrmann stated that several Aquifers exist in the Midwest, such as Wisconsin, Ohio, Indiana, and Michigan. Mr. Wehrmann continued that many of the sole-source Aquifers don’t cross state lines, and when they petitioned for the Mahomet Aquifer, the E.P.A. didn’t want to use the Illinois/Indiana line because they didn’t want a political boundary marking the edge of the Aquifer.

Mr. Wehrmann said the designation of the sole-source Aquifer is directed towards water quality, and any federally funded project is supposed to get E.P.A. review to see if said project would potentially contaminate the Aquifer. Mr. Wehrmann stated that if the project is considered to harm the Aquifer, the proposer of the project would have to modify the project so it doesn’t contaminate water. Mr. Wehrmann said projects like highways, sewers, housing, and water works are just some of the projects impacted since they use federal funds. Mr. Wehrmann continued that Illinois had stricter landfill requirements because of Illinois E.P.A. regulations. Mr. Wehrmann stated that only federally funded projects are reviewed, so if no federal funding is used or if the project is outside the Mahomet Aquifer, there is no additional review by the E.P.A..

Mr. Wehrmann said he spoke to many farmers during the report process and assured them that the sole-source designation wouldn’t impact crop subsidies, crop insurance, or Conservation Reserve projects since those weren't considered potentially contaminating activities.

Mr. Wehrmann said the sole-source Aquifer designation is only for federally funded projects. Mr. Wehrmann continued that our situation, where we're looking at carbon sequestration, if there's no federal funds and it's all privately funded, those projects don’t go through this review process by the U.S.

E.P.A., which was pointed out in the U.S. E.P.A. in response to public comment about the designation. Mr. Wehrmann said that the sole-source designation is a step towards protecting the Aquifer, but more can be done at the state and local levels, which is why the task force is meeting and the Champaign County Board can step in and make stricter requirements to protect the Aquifer if projects without federal funding are proposed. Mr. Wehrmann said that to get this designation, we had to define the Aquifer geologically and hydrologically, describe the area that's served by the Aquifer, and in our situation, Illinois American Water serves large areas that are not over the Aquifer or off the Aquifer. Mr. Wehrmann stated that the Mahomet Aquifer stretches across Indiana, and some geologists would suggest that it goes into Ohio and maybe as far east as West Virginia.

Mr. Wehrmann said that as you head farther east out of Illinois, the Aquifer valley becomes thinner and is filled with less sand and gravel, making the wells in that area less productive. Mr. Wehrmann stated there might be exceptions near Lafayette and Tippecanoe (both in Indiana) where the Mahomet Valley goes beneath the Wabash River. Mr. Wehrmann stated that there is a tremendous quantity of water wells at that junction.

Mr. Wehrmann showed a slide demonstrating the flow of the Mahomet Aquifer. Mr. Wehrmann said most of the water in the Mahomet Aquifer flows from east to west towards the Illinois River, but in parts of the east where there is higher ground, the water flows to the northeast into the Wabash River system.

Mr. Wehrmann said that the eastern edge of the Mahomet Aquifer was used as the hydrologic boundary. Mr. Wehrmann stated that the service area for Illinois American Water, which uses water from the Mahomet Aquifer, extends into Douglas, Coles, and Moultrie counties. Mr. Wehrmann said he estimates the Mahomet Aquifer used between 50 and 60 million gallons of water daily for community supply, which doesn't include industrial, commercial, or irrigation uses. Mr. Wehrmann stated irrigation uses would be greater because Mason and Tazewell counties have thousands of irrigation wells pumping a lot of water in the summer.

Mr. Wehrmann said the yield drops rapidly once you get outside the Mahomet Aquifer. Mr. Wehrmann stated that in the lower-third of Illinois, municipal and industrial water supplies are developed from other water sources because there isn't much groundwater in those areas, and using surface water reservoirs and pumping the water hundreds of miles. Mr. Wehrmann stated that wells in the Mahomet area yield 500 gallons while Champaign wells can produce 1,000 gallons a minute.

Mr. Wehrmann stated that if the Mahomet Aquifer becomes contaminated, no other locally available water sources would be economically feasible because of the cost of treatment facilities. Mr. Wehrmann continued that piping, depending on the size, will cost at least a million dollars per mile. Mr. Wehrmann said they went through an economic exercise to look at the costs and compare that to the median income of each community, and if it exceeded that median income, it would disqualify that community as having an alternative source.

Mr. Wehrmann said the rule of reasonable use is a legal consideration, but not considered a restraint in Illinois, so if you want to use water for drinking, you can use as much as you want. Mr. Wehrmann stated that water authorities have been formed over parts of the Mahomet Aquifer to protect it. Mr. Wehrmann said people in rural areas try to pump as much water as they want, claiming "It's my water, you can't have it" in response to protecting the Aquifer, but adding protections to the Mahomet Aquifer isn't taking water, so it's allowed.

Mr. Wehrmann said the sole-source Aquifer designation was done back in 2015, and the U.S. E.P.A.

added more area to the Mahomet Aquifer, including parts of McLean and Livingston County and part of the Bloomington-Normal areas, because they contribute to its recharge. Mr. Wehrmann ended his presentation.

Dr. Stohr asked about the HTEM map being different from the sole-source petition map and if a new petition would be needed to change the sole-source map. Mr. Wehrmann said they would need to return to the E.P.A. to change the boundary. Dr. Stohr asked if all the work for the sole-source petition was new. Mr. Wehrmann said the petition committee pulled publications from the ISWS and the ISGS over 60 years to assemble the petition. Mr. Wehrmann continued that the accepted elevation was 500 feet above sea level as the boundary for the Mahomet Aquifer, and new information could modify the boundary in certain areas.

Dr. Stohr asked Ms. Feinen to review the executive summary she had passed out. Ms. Feinen said that during the sole-source designation, there was increased recognition of the importance of the Mahomet Aquifer. Ms. Feinen said a gas leak in Mahomet impacted the Aquifer and people, resulting in people still receiving bottled water today. Ms. Feinen said the Mahomet Aquifer Protection Task Force was created in 2017, and Governor Rauner was able to appoint members to the task force. Ms. Feinen stated that the task force started meeting in the summer of 2018 and completed the report in December 2018. Ms. Feinen continued that about half of the Carbon Capture and Sequestration Task Force was on the original task force. Ms. Feinen said the original task force wasn't all environmentalists; the Illinois Manufacturers Association, the Illinois Farm Bureau, and elected officials also served.

Ms. Feinen said by the time the report came out in December 2018, the Illinois General Assembly had already taken some action on what to do if natural gas leaks occurred and how the response should go. Ms. Feinin stated the Task Force didn't have recommendations related to what the General Assembly covered, but they pointed out our concerns over natural gas storage and did recommend items like HTEM receive full funding. Ms. Feinen continued that the General Assembly didn't fund the $19.8 million, but funds were cobbled together from places like the Champaign County Board and federal grants.

Ms. Feinen said the Task Force also had recommendations for the collected HTEM data and how to use it. Ms. Feinen continued that part of the Task Force wanted to use the data proactively to allow further protections of the Mahomet Aquifer and incorporate it in items like landfill hearings and whether businesses could tap into the Aquifer to use certain amounts of water.

Ms. Feinen said the full report is available by searching Mahomet Aquifer Protection Task Force Report (or use the link https://www.mahometAquiferconsortium.org/s/MAHOMET_AQUIFER_PROTECTION_TASK_FORCE_FINDINGS_AND_RECOMMENDATIONS_2018_12_21.pdf). Ms. Feinen continued that the full report will show dissent within members over items such as the need for a perpetual task force, if a task force was needed to oversee implementation of recommendations. Ms. Feinen said there was dissent over water supply planning and other recommendations on the books. Ms. Feinen said the biggest need is for the Illinois E.P.A. to be adequately funded to implement and enforce said regulations. Ms. Feinen said the dissent over landfill siting, which is handled at the county level, and the Task Force was split over legacy landfills that were closed before new closing procedures were in place, and whether new cleanup was needed, which the Illinois Manufacturers Association dissented over. Ms. Feinen said there was disagreement on whether the natural gas storage recommendations went far enough, with State Senator Chapin Rose pushing for more proactive measures because of the possible impact on his constituents in Mahomet.

Ms. Feinen said the full report is 70 pages long, but the executive summary explains it well in layperson's terms.

Dr. Stohr said there are 213 legacy landfills over the Mahomet Aquifer, with some of those sites dating back over 100 years. Dr. Stohr continued that legacy landfills are unlined and thinly covered, including materials that are no longer allowed to be buried or even manufactured, and some landfill sites are multiple sites.

Mr. Wehrmann said the original Task Force report does not mention carbon sequestration because it wasn't on their radar then, but they recommend an ongoing task force for issues like that.

C. Glacial meltwater channels are the Sole water source outside the Mahomet Aquifer.

Dr. Stohr said he suggested moving on to the next topic in the interest of time.

D. Other buried valleys and water resources in and around Champaign County.

Dr. Stohr said he used to be a geologist with ISGS, and one of the last items he worked on was the glacial channels in Vermilion and Champaign counties. Dr. Stohr showed an image of a core, which is how subsurface samples are learned. Dr. Stohr stated that getting core samples is an expensive but valuable resource to learn about a specific point in the ground, and historically provided information that can now be collected using HTEM geophysics.

Dr. Stohr said another source of information is looking at outcrops along streams. Dr. Stohr showed a diagram, explained what a glacial front might look like, and showed braided streams, meltwater from a glacier creating a stream. Dr. Stohr stated braided streams have low relief, meander quite a bit, and provide some water for those outside the Mahomet Aquifer. Dr. Stohr showed an image of where the Wisconsin glacier stopped and explained that the upper sediments in that area are likely the most fertile farmland in the world. Dr. Stohr stated that glacial movements can also result in a lack of rich sediment, such as in the southern and western parts of Illinois.

Dr. Stohr said he studied three outcrops of glacial meltwater channels along the Middle Fork of the Vermilion River. Dr. Stohr stated that the Mahomet Aquifer exists within the outline of the glaciated areas of the Wisconsin glacier. Dr. Stohr showed an image and explained that the blue area of the image showed sand deposits, which have a little bit of gravel and only provide about 10 gallons per minute for rural residents and have a maximum thickness between 10 and 14 feet. Dr. Stohr stated that while these deposits are limited, they are easy to miss when drilling a hole for a well. Dr. Stohr said the limited water might still be used for laundry, cooking, and bathing, but they would need water from a drainage ditch if they wanted to use it for agriculture. Dr. Stohr stated that these locations are not designated as sole-source Aquifers, but they are the sole source for the rural residents. Dr. Stohr ended his presentation.

Dr. Stohr asked George Roadcap to join him and explain a few slides. Dr. Roadcap said the sediment deposits left by glacial activity were at higher elevations, and the state was heading further downhill. Dr. Roadcap stated that Champaign County doesn't have enough changes in topography to have surface water reservoirs and no perennial streams. Dr. Roadcap continued that all the rivers in Champaign County can go dry, which means there is no way to store water in Champaign County besides the Mahomet Aquifer. Dr. Stohr added that Champaign County is at the headwaters of two major valleys.

Dr. Stohr said the panel discussion would be next.

Mr. Locke with ISGS stated the panel members would answer questions submitted to Dr. Stohr beforehand. Mr. Locke said 10 questions were submitted beforehand, and the panel will do their best to answer those in the allotted time. Mr. Locke continued that additional time and research might be needed for some questions, and the new information would either be passed along to the Task Force or presented at a future meeting.

Mr. Locke asked, "How does ISGS assess the sustainability of the Mahomet Aquifer withdrawals for current and future use?" Mr. Locke asked Dan Hadley to address the question. Mr. Hadley said multiple components are used to understand water sustainability. Mr. Hadley said the first component was collecting annual water usage through the Illinois Water Inventory Program. Mr. Hadley continued that every high-capacity well throughout the state, including Champaign County, has to report what they use annually. Mr. Hadley stated that ISWS also knows approximately how much water the Mahomet Aquifer uses. Mr. Hadley said ISWS also tracks water levels through time with a series of monitoring wells in the county. Mr. Hadley said they have 68 monitoring wells, and 22 are monitored hourly. Mr. Hadley continued that information about the monitoring wells is available online.

Mr. Hadley said ISWS also monitors groundwater flow, combining water levels and geologic data to create a groundwater flow model and calibrate water levels using the information. Mr. Hadley said the information is used to access withdrawal rates, and they can observe current and project future levels using this flow model. Mr. Hadley asked if there were any questions from the Task Force about his answer.

Mr. Rehn asked how ISWS knows the reports are submitted, if there is any enforcement, and how confident they are in the reports. Mr. Hadley said there is a high percentage of reporting. Mr. Hadley continued that public water supply wells are legally obligated to file reports. Mr. Hadley stated there's no enforcement, but ISWS keeps asking for the information when reports aren't submitted. Mr. Hadley said irrigators should also be reporting, but not many do, which results in low confidence in how much water is being used for irrigation in the county.

Mr. Locke asked the second question, "What are the known risks to water quality in the Mahomet Aquifer?" Mr. Locke said the Mahomet Aquifer Protection Task Force summary was the best and most recent way the assessment has been done. Mr. Locke said that the Protection Task Force 2.0 was in the process of being reappointed, but has not been fully appointed, nor met or acted yet. Mr. Locke stated that what is known about the risks is that assessment from the protection task force is central to understanding those risks. Mr. Locke said the Protection Task Force was charged with developing a state plan to maintain the Mahomet Aquifer's groundwater quality, identifying potential contamination threats to the Aquifer's water quality, and actions that should be taken to ensure the long-term protection of the Aquifer. Mr. Locke said the Protection Task Force also made legislative recommendations to protect the Aquifer. Mr. Locke encourages this Task Force to read the executive summary and full report at the website provided earlier, but it is a dense read.

Ms. Pryde asked about monitoring landfills to see if anything from those sites leaks into the Mahomet Aquifer. Mr. Locke said there isn't a monitoring program for legacy landfills, but the ISWS does have a monitoring network throughout the Mahomet Aquifer. Mr. Locke stated that it is mostly for water levels, but some samples collected might be able to pick up water quality changes that impact water quality. Mr. Thorsland said that public water supplies are tested for a certain number of contaminants, but not all

contaminants are discovered if they aren't specifically tested for. Mr. Locke said he was a member of the Protection Task Force, and they were also tasked with developing a monitoring program for the Decatur storage site, but the greater focus was on natural gas storage and the 2016 leak from a natural gas storage well.

Mr. Locke said the third question was, "What and where are the threats to the sustainable water supply of the Mahomet Aquifer?" Mr. Locke said the Protection Task Force was addressing overuse of the Mahomet Aquifer along with contamination from surface activities, naturally occurring sources, and wells that had integrity issues. Mr. Locke stated these concerns aren't specific to CCS or natural gas storage wells, but all 24,000 wells drilled into the Mahomet Aquifer. Dr. Stohr said he contacted the US Air Force about the investigations being done at the former Chanute Air Force Base in Rantoul, and they noted a lot of occurrences of Polyfluoroalkyl (PFAs) at the surface. Dr. Stohr said the US Air Force started doing rotosonic drilling to observe the subsurface, but it will be years before the report is released.

Mr. Rehn asked about the sustainability of the Mahomet Aquifer and if more water is being extracted than is being replaced. Mr. Hadley said assessment of supply versus demand through the water planning program and Champaign County, on average, uses 30 million gallons of water daily, while the Mahomet Aquifer produces 40 million gallons daily. Mr. Rehn said that the more water you draw, the more the recharge increases. Mr. Rehn continued, asking whether the water was going down or holding steady when usage was steady. Mr. Hadley said it depends on where one is in the county. Mr. Hadley continued that at the Illinois American well field, water levels have dropped between 30 and 50 feet from pre-development conditions. Mr. Hadley stated that the drop-off leveled off in the 2010s and has slowly recovered around those wells. Mr. Hadley said water levels change in the county depending on the season, such as getting lower in the summer but recovering during winter and spring.

Mr. Thorsland said that since the Task Force was convened to develop an ordinance, the remaining questions should be from John Hall. Mr. Locke said they would work on getting to Mr. Hall's questions.

Mr. Hadley said question four was "Where are the recharge areas and what are the land uses in those locations?" Mr. Hadley said the Mahomet Aquifer is located in the western portion of Mason & Tazewell counties and the northern portion of Logan county. Mr. Hadley said the Aquifer in Mason and Tazewell is unconfined, which means Aquifer materials are present at the land surface, meaning the recharge area is those broad areas. Mr. Hadley continued that as you shift towards the east, the Aquifer becomes more confined, recharge areas become harder to define, and leakage from overlying materials tends to occur. Mr. Hadley stated that some local areas connect to sand, gravel, and surface water streams above the Aquifer. Mr. Hadley said that connections with certain areas of the Sangamon River and other creeks are known because of tritium samples. Mr. Hadley continued that with HTEM mapping, the hope is to understand where sandy material is located. Mr. Hadley said there are connections at the land surface to the underlying Glasford and Mahomet sands. Mr. Hadley continued that most recharge areas are rural, with land used for agriculture or forested.

Mr. Locke said the fifth question was "Is current monitoring sufficient to assure water quality and quantity?" Mr. Locke said a significant amount of monitoring occurs within the Mahomet Aquifer as part of the ISWS monitoring network, but the main focus is on water levels. Mr. Locke continued that limited water quality sampling is done, but it cannot cover all monitoring needs or desires. Mr. Locke said that if specific monitoring areas are a higher priority, those would likely need additional resources for additional sampling and use of monitoring devices, and the additional assessment could be made in a CCS-specific context. Mr. Locke said he believes the Task Force is interested in evaluating the potential

impact of CCS activities and what monitoring is needed for that CCS-specific context. Mr. Locke stated that Class VI well permitting requires monitoring to be done, which would set monitoring requirements to assess whether or not there's containment or any other random conditions at or around the CCS storage site. Mr. Locke continued that Class VI rules and additional stipulations set those requirements on monitoring within the Safe CCS Act.

Mr. Locke said the sixth question appeared from Mr. Hall and asked, "What authoritative mapping can Champaign County use to define the Mahomet Aquifer in an ordinance?" Mr. Locke said the official map is the 2012 Water Survey map. Mr. Locke continued that the map is the best they have. Mr. Locke said the HTEM information has a greater degree of resolution and will help with understanding the materials in the Aquifer, but any new mapping will need to go through additional reviews and comparisons with the 2012 map. Mr. Hadley said people will need to wait for the HTEM result and modify the sole-source boundary if they want to use the boundary to set an ordinance.

Ms. Feinen asked if there were any risks to the sole-source designation with any boundary changes. Mr. Wehrmann said he didn't think there would be any risks but would research those questions. Mr. Wehrmann stated that new technology would better define the boundary geologically and should be acceptable. Mr. Rehn said he didn't think redefining the Mahomet Aquifer boundary was the responsibility of the County. Mr. Locke said that on the topic of the best boundary, the 2012 Water Survey map is the best they currently have, and there might be additional maps in the future. Mr. Rehn said he wanted to know what was wrong with using the boundary as defined by the US E.P.A. designation. Mr. Locke said they looked at analyses from their colleague Daniel Abrams, and he said it's typically coincident with the sole-source boundary. Mr. Locke said that Mr. Wehrmann stated earlier that tributary areas were added after the designation. Mr. Locke stated that conversations between ISWS and ISGS wondered if the tributaries are connected. Mr. Wehrmann stated that what Mr. Locke said was his understanding, and he wasn't sure who introduced the additional information about tributaries and wondered if it was ISGS. Mr. Locke said ISGS doesn't have information showing the connection, and they are looking to understand the layers and if they show a direct connection, because some modeling shows a connection, but since ISGS isn't sure, they don't want to speculate.

Mr. Cagle said that since they don't have accurate data, does it make sense to outline a specific designation within the County because if it's stated that fill areas which were previously unknown because if they try to outline based on survey data and realize down the road that mistake was made, then they would need to go back and redefine the area every time. Mr. Cagle continued to wonder if it would make sense to do the boundary at the county level and be broadly sweeping or create a buffer zone.

Mr. Locke said that when ISGS is asked about boundaries, they go with the most vetted and assessed boundary, the 2012 Water Survey map. Mr. Locke continued that ISGS wasn't sure if the tributaries were recharge areas. Mr. Locke stated he would use the existing boundary, which means not needing a reevaluation. Mr. Rehn said that if the map hasn't been updated since 2012, the Task Force shouldn't expect to update it every 6 months, and when the HTEM work finishes and they have a new map, it isn't likely to change for a long time. Mr. Locke said nothing would likely change until new technology looks even deeper at the subsurface. Mr. Locke continued that HTEM is a groundbreaking methodology, and ISGS has never had one for assessment.

Mr. Thorsland said the 2012 Water Survey map is currently available, and in December, the HTEM map will be available. Mr. Thorsland continued that the ordinance needs to be completed because the temporary moratorium runs out in January 2026. Mr. Thorsland stated he is a "nuts and bolts" guy who

used to be on the Zoning Board and is the current Environment and Land Use Committee chair and he wants to know what needs to be done because the conversations is about how the Aquifer is important and how CCS under or around the Aquifer is bad. Mr. Thorsland continued and thanked those involved in getting the sole-source designation, but believes any ordinance should refer to the best boundary, allowing for changes as new information becomes available. Mr. Thorsland said that if the HTEM reports a new boundary for the Aquifer, that should be used because ordinances should be adaptable, so new ordinances aren't needed.

Mr. Thorsland said he believed a buffer zone is needed. Mr. Thorsland said that if the County creates a viable ordinance, other counties would likely use it since that has happened before, and they should strive to make something that can be a model for others. Mr. Thorsland said he liked the idea of a flexible ordinance with a simple buffer zone, using measurements like distance from the boundary or acreage by square meter.

Mr. Cagle said that the executive summary cited road salt as a possible contamination. Mr. Cagle continued that if road salt is going to be a contaminant, it could come from anywhere, which concerns him. Mr. Cagle stated he agreed that the Aquifer is important, but the ordinance needs to address the boundary in a way that makes sense.

Mr. Locke said some of the Protection Task Force was focused on contaminants from the surface down, so road salt and other applications at the surface are considered surface down, which is different from looking at possible contaminants from below the Aquifer and working up. Mr. Locke continued that there are different processes, application rates, types of mobility, and different potential sources. Mr. Locke stated that the surface is closer to potable water sources, so it's a more significant source of contaminants because of proximity and direct connection to the Aquifer.

Mr. Locke said people asked about buffers for the boundary. Mr. Locke stated that the Protection Task Force does not favor a buffer because they provide different areas, and buffers are related to uncertainty of information. Mr. Locke said uncertainty of information in this context might be the uncertainty of where the Aquifer is, but then that leads to how uncertain the boundary is. Mr. Locke stated that by automatically designating a number, you are saying there is specific uncertainty for that boundary, which is inconsistent because some areas have more information than others. Mr. Locke continued that by assigning a buffer, it would still be an approximation and an ad hoc assessment, and not a risk-based assessment. Mr. Locke said ISGS prefers scientific and risk-based assessments on any boundary designation.

Mr. Cagle asked about the accuracy of the resolution of HTEM once the data is finalized. Dr. Mwakanyamale-Gilkie said it depends on where you are. Dr. Mwakanyamale-Gilkie continued that you can get up to two meters resolution for shallow information, but the deeper you go, the less accurate the information will be. Dr. Mwakanyamale-Gilkie said that by the time you hit bedrock, the information will not be as good as at the Aquifer level.

Dr. Mwakanyamale-Gilkie said that questions were asked about areas in the data that were blocked out. Dr. Mwakanyamale-Gilkie stated that they don't show data below the 85% confidence level.

Mr. Wehrmann asked about the sE.P.A.ration between flight lines. Dr. Mwakanyamale-Gilkie said the flight line is 650 meters apart. Mr. Wehrmann said it would be hard to draw a buffer line that's 100 or 200 feet because the width of a pencil on the map will be greater than a buffer zone. Mr. Wehrmann continued that if the Task Force gets into the nitty gritty of permitting for CCS activity, this will

generate a lot of preliminary information, and there will be a need for drilling multiple holes to determine if there is Mahomet Aquifer material. Dr. Stohr said that he suspects that boring will be looking at depth rather than aerial, and it is within the realm of the Task Force and ordinance to specify that people getting permits demonstrate they are outside or a reasonable distance away from the Mahomet Aquifer.

Mr. Rehn said that he reads the ordinance language as a match for SB 1723, which was passed a few weeks ago and will likely be signed in the future. Mr. Rehn continued that SB 1723 bans injection through and storage under the Mahomet Aquifer. Mr. Rehn stated his reading of the definition of a sequestration facility, including the reservoir where the CO2 will be stored, which would not be under the footprint of the Mahomet Aquifer. Mr. Rehn said that when CO2 would end up is another side of the uncertainty. Mr. Rehn said that boundary information is important, but if the storage involves uncertainty, CO2 storage can shift over time.

Mr. Locke said the last question was, "Are the glacial meltwater channels hydrologically connected to the Mahomet Aquifer?" Mr. Locke said he believes this question is related to both glacial and erosional channels. Dr. Stohr said he believes the question is related to a second set of water resources related to his talk about glacial meltway channels outside the Aquifer. Mr. Locke said there isn't a simple "yes or no" answer because it depends on how the channel was created, the materials that fill it, and whether it directly connects to the Aquifer's main portion. Dr. Stohr said the Task Force needs to recognize that these channels are on top of the Illinois Basin and are outside the Mahomet Aquifer because those are water sources that other residents in Champaign County rely on. Dr. Stohr said he doesn't think HTEM has sufficient resolution to identify where the glacial meltway channels are. Dr. Mwakanyamale-Gilkie said it depends on the size of the channel and where it is located. Dr. Mwakanyamale-Gilkie said she talked about vertical resolution and distance between flight lines, but they have data points every 25 meters along the flight line. Dr. Mwakanyamale-Gilkie stated that if the discussion is about channels smaller than that, HTEM won't be able to resolve it, but if it is larger than 25 meters and located along the flight line, HTEM could resolve it.

Mr. Wehrmann said he understands what Dr. Stohr is saying, but believes he is distorting the definition of sole-source Aquifer as it is legally defined. Mr. Wehrmann said the definition is based on the necessary amount of water and that it is impossible to find another water source should the sole-source Aquifer become contaminated. Mr. Wehrmann said that for smaller issues, you could haul in water or do other things to provide a water supply. Mr. Wehrmann stated he believes Dr. Stohr was reaching to protect the Mahomet Aquifer.

Mr. Locke said he wanted to add a point about the well monitoring and assessment required as part of the Class VI permitting. Mr. Locke continued that when modeling is done on any sequestration site, there's an expectation that you are looking at not only the plume footprint, but the pressure that would increase in the subsurface and the potential for that pressure to move any fluid (brine and other non-potable water) and that would be called the area for review. Mr. Locke stated that any group applying due to the injection has to identify all wells within the review area that could become contaminated should water move from a deeper zone up the well. Mr. Locke said shallow groundwater monitoring is often conducted in an ongoing monitoring program, with periodic reporting to the US E.P.A. Mr. Locke said if a meltwater channel were in an area of review and has a well in it, that would be part of the assessment. Mr. Locke stated the petitioners wouldn't need to know about a channel being present, just about the wells in that area. Mr. Wehrmann said he agreed with Mr. Locke.

Dr. Stohr thanked Mr. Kaloupek for attending the meeting and will make his contact information

available to members of the Task Force.

Dr. Stohr said the meeting was over. Dr. Stohr said everyone on the Task Force was welcome to attend the Illinois Groundwater Association Spring/Summer meeting on June 6th at the iHotel and Conference Center. Dr. Stohr said several papers and talks about CCS, the Mahomet Aquifer, and groundwater modeling would be presented.

E. Discussion of availability, scarcity, risks.

Skipped

F. Discussion of topics and elements of proposed ordinance.

Skipped

6. Public Participation

Dr. Stohr called on Matt Kaloupek, who has worked for ADM for 20 years. Mr. Kaloupek said he wasn't at the meeting to persuade the Task Force. Mr. Kaloupek stated that ADM has no active projects in Champaign County; he was there to be part of the open dialogue and contribute as they have with multiple parties. Mr. Kaloupek said that as ADM has developed projects, they have years of experience operating CCS and have done a lot of work understanding the risks and benefits of CCS. Mr. Kaloupek said he was open to answering questions or receiving comments.

7. Next Meeting TBD

8. Adjournment at 5:57 pm