

SOAH DOCKET NO. 582-09-3064 and TCEQ DOCKET NO. 2008-1888-UIC
consolidated with
SOAH DOCKET NO. 582-09-6184 and TCEQ DOCKET NO. 2009-1319-UIC

APPLICATION OF URANIUM ENERGY §
CORP. FOR PERMIT NO. UR 03075 AND §
FOR AQUIFER EXEMPTION AND FOR §
PRODUCTION AREA AUTHORIZATION UR §
03075 PAA1 IN GOLIAD COUNTY, TEXAS §

BEFORE THE
STATE OFFICE OF
ADMINISTRATIVE HEARINGS

**GOLIAD COUNTY'S RESPONSIVE BRIEF AND EXCEPTIONS
TO THE ADMINISTRATIVE LAW JUDGE'S
PROPOSAL FOR DECISION AND ORDER**

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FOR PROTESTANT GOLIAD COUNTY, TEXAS

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**GOLIAD COUNTY'S RESPONSIVE BRIEF AND EXCEPTIONS TO THE
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COMES NOW Goliad County pursuant to Administrative Law Judge ("ALJ") Wilfong's cover letter and Proposal for Decision ("PFD") issued in the above referenced case on September 28, 2010, and asks that the Commission validate the findings of ALJ Wilfong and deny UEC's application for in situ mining. In his PFD, "the ALJ recommend[ed] that the applications either be denied or remanded for additional actions to be taken and additional evidence received."¹ The ALJ's request for additional testing and evidence is a clear finding that Uranium Energy Corporation ("UEC") failed to meet its burden of proof. Importantly, the applicant failed to demonstrate that the application is sufficiently protective of groundwater quality, and also failed to adequately characterize and describe the geology and hydrology at the proposed permit area, including fault lines. Accordingly, for the reasons identified by the ALJ, Goliad County respectfully requests that the Commission deny Class III Injection Well Permit No. UR03075 ("Mine Application"), the Permit Area Authorization ("PAA"), and Aquifer Exemption.

Moreover, for other important reasons that the ALJ inappropriately dismissed, Goliad County respectfully requests that the Commission deny UEC's applications. Specifically, Goliad County takes exception with the ALJ's recommendations with regard to a number of issues that were designated by the Texas Commission on Environmental Quality ("TCEQ"), including public

¹ PFD at 1.

interest considerations, aquifer exemption criteria and baseline conditions of the groundwater in the proposed mining permit.

I. PERMITS SHOULD BE DENIED

Goliad County won at the contested case hearing and asks the Commissioners of the Texas Commission on Environmental Quality to so rule. Goliad County used taxpayer money to hire experts and attorneys to protect their groundwater after being told by the UEC that Goliad County's concerns were baseless. Goliad County filed for a contested case hearing based upon its understanding that there are certain rules that the TCEQ and the State Office of Administrative Hearings ("SOAH") had passed – rules that represented the agreement between the governing bodies (TCEQ and SOAH) and those that are subject to such rules (Goliad County, the Goliad County Groundwater Conservation District, UEC) – rules that were intended to protect the citizens of Goliad County – rules that depend upon fair enforcement in order for there to exist an honest democracy. Fair enforcement of the applicable rules mandate denial of this permit.

Goliad County won because UEC did not prove its case to the satisfaction of ALJ Wilfong. Goliad County also won because the best evidence presented at the hearing indicated that a key geological feature was misunderstood and/or misrepresented by the applicant – an applicant that withheld key documentation from the TCEQ staff. Why should this applicant get another chance when it has unclean hands? Why should the citizens of Goliad County have to continue to spend taxpayer money to defend their groundwater when they in fact participated under the applicable rules and defeated the application under the applicable rules? Goliad County spent its tax money with the promise that rules would be enforced. Now is the time for those rules to be enforced.

In his PFD, ALJ Wilfong explained that, based on the evidence presented at hearing, he could not conclude that the proposed mining operations would sufficiently protect groundwater quality due to concerns about whether or not a fault is transmissive to groundwater. The key piece of evidence that led to this concern was evidence that had been developed in field testing conducted by the applicant and withheld from the Texas Commission on Environmental Quality. When the TCEQ's witness – permit engineer David Murry – was shown this information, he stated that it showed leakage across the fault;² was contrary to representations in the application;³ and the information was never provided as part of the application so he did not incorporate the data in his review of the application.⁴

Goliad County's opposition led to other crucial discoveries of the inadequacies in UEC's application—inadequacies that would have otherwise gone undetected. For example, it was discovered at hearing that (in addition to the critical evidence related to groundwater flow through the Northwest Fault), key evidence related to background water quality was never submitted to the TCEQ as part of UEC's application process. Evidence presented at hearing revealed a serious disparity in data collected to describe the "baseline" water quality at the site – a level that is critical for remediation and groundwater protection purposes. The ALJ has recommended – based on data developed by UEC but never submitted to the TCEQ prior to Goliad County's expert testimony – that the remediation table be amended to include these additional test values. At the least, this should be done.

The more important point is that this amended table was based on evidence that was never submitted to the TCEQ by UEC and that this evidence showed that the baseline concentrations for uranium and radium were inflated because of UEC's own actions. At hearing, Goliad County

² 7 TR. 1341:22 – 1342:2 (Murry).

³ 7 TR. 1347:3 – 7 (Murry).

⁴ 7 TR. 1340:12 – 18 (Murry).

presented evidence to show that the restoration table put forward by UEC was erroneous, and it was so determined by Judge Wilfong. This is not a simple error to be corrected but is rather another major flaw in the proof of the applicant's case.

Goliad County not only won at the hearing, but it won fairly and honestly. Goliad County has exhausted its budget of taxpayer dollars—dollars that were well spent because they led to exposure of fatal flaws in the applications—and it is now unconscionable to require Goliad County to participate in another hearing, just to allow the applicant more time to conduct more testing and provide more evidence that was not provided in its original application. In an implicit understanding of the inequity in remanding these applications, the ALJ recommended that “[i]f the Commission determines that such remand is not feasible or desirable then the ALJ recommends that the Mine Application and the PAA-1 Application be denied.”⁵

If UEC had submitted the 24-hour pump test to the Commission prior to the hearing as required by Commission rules, issues associated with this test could have been addressed by the staff prior to the hearing. UEC did not do this.

If UEC had submitted their additional test data showing a major change in the background water quality to the Commission staff as required by commission rules, the remediation table might have been changed before the hearing and the Commission staff would have been at liberty to evaluate this information. UEC did not do this.

Mr. Murry – the TCEQ's engineer – testified that it was a violation of the rules when UEC failed to submit key evidence to the staff.⁶ Why should this applicant – an applicant that chose to withhold data – an applicant that chose to violate Commission requirements on data submission - be allowed to “fix” this application? They are not the type of applicant that deserves any good

⁵ PFD at 138.

⁶ 7 TR. 1342:15 – 22 (Murry).

faith treatment by the Commissioners. They have dirty hands. Those dirty hands were clearly exposed in this hearing by the tax money and taxpayers of Goliad County. Their permit should be denied.

In the sections that follow, the details supporting a finding of denial are set out. Additionally, many other issues raised by Goliad County are also set out in subsequent sections because Goliad County disagrees with certain other findings of the ALJ.

II. RULES VIOLATIONS AND ETHICAL LAPSES BY UEC IN THIS HEARING

There are several key rules that were violated by UEC during the course of this hearing that are germane to the Commission's consideration of the ALJ's Proposal For Decision. One of these rules concerns the burden of proof. Others concern withholding information from the Commission – information germane to the truth of assertions in the application; information that had it been submitted would have avoided the suggestion of a remand.

It is undisputed that UEC has the burden of proof in this hearing. According to 30 T.A.C. § 80.17(a):

” the burden of proof is on the moving party by a preponderance of the evidence, except as provided in subsections (b) - (d) of this section [which do not apply to these uranium mining applications].”

This is the law applicable to this case and it is clear from Judge Wilfong's PFD that, in his opinion as the trier of facts, UEC did not meet its burden.

In the past, the Commissioners of TCEQ sometimes have requested additional evidence where unexpected or new issues arose during the hearing process. Goliad County accepts that there may be situations where additional evidence is desirable or warranted. However, this hearing is not one of those occasions. In fact, in this case, the blame falls totally upon UEC due to its failure to follow rules of conduct that require applicants to reveal all of its collected information to the TCEQ staff, particularly when that information may undermine a key assertion

by the applicant. You cannot just offer the information that supports your case. You have to submit it all, both good and bad and UEC did not do this. They deserve no special consideration.

30 T.A.C. § 305.125(19) states the following:

Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application, or in any report to the executive director, it shall promptly submit such facts and information.”

It is clear from the hearing that UEC violated that requirement in not one, but in at least two specific situations. The first involved the failure to submit the 24-hour fault pump test that led to the ALJ’s concern about leakage through the fault. In this regard, Mr. Murry testified that:

Q. (by Mr. Blackburn) Now – Again, does the Applicant have the option of withholding information and not seeking an amendment if that information is contrary to other representations the Applicant is making?

A. (by Mr. Murry) Based on the rule we’ve read, if they come across information that is contrary to what they submit in the application, they are obligated to tell us.

Q. Was such a communication received by TCEQ from UEC in this regard?

A. Not to me.⁷

This same situation occurred with regard to the additional test data that showed significantly lower levels of uranium in the baseline samples from rounds 2 and 3 of sampling than was the case in earlier sampling. Once again, UEC failed to formally submit such data to the TCEQ even though it was contrary to prior representations made by the applicant:

Q. (by Mr. Blackburn). Now, to your knowledge, is the Applicant under any obligation to bring information forward to the TCEQ that is contrary to representations made at an earlier time?

A. (by Mr. Murry). I would say “Yes”.

Q. But the Applicant did not bring this information about Round 3 testing to your attention, correct?

⁷ 7 TR. 1342:15 – 25 (Murry).

A. No. Again, it was --- we found it in the discovery documents.⁸

UEC should not get a second bite at the apple. They had a chance to be honest, to come clean and tell the truth. They chose to misrepresent information and mislead the commission staff, the affected public and all of us in the hearing the process. They got caught red-handed in their deceit. They deserve no special consideration. They merit no remand. They deserve denial.

And it gets worse. In the pre-hearing conference, a motion by Goliad County was heard whereby Goliad County sought to remove the key expert for UEC – Mr. Craig Holmes – because during his deposition, it was revealed that he had substantial stock options and a direct financial stake in the outcome of the SOAH hearing. At the pre-hearing conference on the Friday before the commencement of the hearing on the following Monday, ALJ Wilfong expressed concern about this financial arrangement. Subsequently, when Mr. Holmes testified on Monday morning, he stated that he had liquidated all of his stock options over the weekend. Of course, his pre-filed testimony was written and key evidence was withheld from the commission prior to this liquidation occurring.

The Texas Code of Professional Responsibility, Rule 3.04(b) states: “A lawyer shall not . . . pay, offer to pay, or acquiesce in the offer or payment of compensation to a witness or other entity contingent upon the . . . outcome of the case.” Clearly, Craig Holmes was offered as an expert witness in this case and stood to make significant amounts of money off of the redemption of stock options if this permit was to be issued. We are not filing a complaint against the attorneys representing UEC in this case at this time. However, we are challenging the believability and veracity of the key expert witness offered by UEC. And perhaps more importantly, he was the primary interface between the TCEQ staff and UEC. He had this information. He and UEC failed to file it with the TCEQ staff.

⁸ 7 TR. 1313:12 – 21 (Murry).

The point here is that UEC's conduct is against the rules and good practice. This is not the applicant that merits additional consideration.

III. NORTHWEST FAULT IMPROPERLY CHARACTERIZED (Issue G)

The ALJ correctly identified that there are unresolved questions with respect to the Northwest Fault at the proposed permit area. Goliad County strongly urges that the issues associated with the Northwest Fault—its transmissivity, and the unanswered questions surrounding the complexity of the fault system and the groundwater flow—warrant permit application denial. If the Commission disagrees with Goliad County and decides to reopen the hearing, Goliad County absolutely believes that, at a minimum, further testing should be done to ensure groundwater quality protection. Of course, any further testing should be conducted openly with the attendance of TCEQ staff and representatives from protesting parties.

The ALJ was justifiably concerned about groundwater contamination moving towards and beyond the fault both vertically and horizontally. To that end, the ALJ expressed that the Commission's rules are designed to "*prevent any underground injection that may pollute fresh water*,"⁹ and that circumstances causing pollution would be grounds for permit denial. Goliad County urges that these mandates should be followed.

As designated by the TCEQ, one of the primary issues of the contested hearing was for the applicant to ensure that its application demonstrated sufficient protection of groundwater. UEC simply did not meet its burden to ensure groundwater protection. Its representations (and indeed its withholding of information) with respect to the Northwest Fault underscore this important fact. Goliad County should not have to continue to litigate issues surrounding groundwater quality

⁹ PFD at 56 (emphasis in PFD).

when the County has successfully challenged the applicant's ability to protect the County's groundwater.

A. The Northwest Fault is transmissive, not sealed.

Evidence adduced at hearing indicated that the Northwest Fault is transmissive. Although UEC represented that the fault was sealed, this representation turned out to be false. At best, UEC presented conflicting viewpoints of the hydrologic properties of the Northwest Fault, and, at worst, UEC intentionally misrepresented the Northwest Fault as a single, sealing fault. UEC relied on the results of a 4-hour pump test. During discovery, Goliad County learned of a 24-hour pump test, also conducted by UEC, in June 2008. Importantly, the ED staff engineer, Mr. Murry, after reviewing the 24-hour pump test, testified in an unqualified fashion that there was "hydraulic communication" across the fault.¹⁰

Evidence contained in the 24-hour pump test was withheld from the TCEQ. TCEQ regulations aim to prevent such omissions. The Texas Administrative Code, 30 T.A.C. § 305.125(19), explicitly states that "[w]here the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in an application, or in any report to the executive director, it shall promptly submit such facts or information." Mr. Murry testified that "if [UEC] come[s] across information that is contrary to what they submit in the application they are obligated to tell [the TCEQ]." UEC did not provide the TCEQ with the new, contrary information. UEC did not even provide the results to TCEQ during discovery. In fact, UEC merely listed the pump test results in its 5th Supplemental Response to Request for Disclosures as available upon request by any party, but to the knowledge of Goliad County did not provide the actual results. UEC filed its 5th Supplemental response over one and a half years *after* conducting the 24-hour pump test. As the ALJ explained in the PFD, "[Mr. Murry] could

¹⁰ PFD at 55.

not explain why the test had not been provided to him by UEC, particularly in light of a rule that obligated UEC to provide contradictory evidence.”¹¹ UEC provided the results to Protestants only after making a specific request.

Moreover, this evidence was withheld from the UEC expert, Dr. Bennett. Without this withheld information, Dr. Bennett offered his opinion that the geology of the site was dominated by a graben bordered on the northwest by a sealing fault that controls and isolates this portion of the Gulf Coast Aquifer.¹² The existence of a sealing fault was key to Dr. Bennett’s opinion, yet he had not been given evidence collected by UEC demonstrating the fault was not sealing. At hearing, Dr. Bennett conceded that the 24-hour pump test is “certainly data that I would want to evaluate” and he “wish[ed] he could work with the data a little bit more.”¹³

B. The Northwest Fault is more complex than a simple, single fault, causing undue risk of vertically or horizontal injection fluid migration and creating a circumstance that may pollute fresh water.

The ALJ appropriately considered the importance of the Northwest Fault’s transmissivity, a consideration which led to the ALJ’s recommendation to deny the permits or conduct an additional hearing. Equally important, however, and underestimated by the ALJ, is the location, width, and stratigraphy associated with the “fault system”. Importantly, these factors also influence whether migration of contaminants into underground sources of drinking water will occur.

Again, the ALJ did express that the Commission’s rules are designed to “*prevent* any underground injection that *may pollute* fresh water”, and that circumstances causing pollution would be grounds for permit denial. Goliad County urges that these mandates should be followed;

¹¹ PFD at 56.

¹² UEC Exhibit 10 at 37:14 – 19 (Bennett).

¹³ 4 TR. 913:20 – 25 (Bennett).

the likelihood of pollution resulting from the characteristics of the Northwest Fault system should result in permit denial. The ALJ appeared to agree with Goliad County that “[the] assertion that more information is needed to precisely locate the fault, is undoubtedly true.”¹⁴ Yet, the ALJ failed to adequately consider the complexity of the Northwest Fault, which also contributes to the risk of injection fluids migrating both vertically and horizontally.

Specifically, UEC represented on its maps and cross-sections submitted to the TCEQ in its Mine Application that the Northwest Fault is a single fault.¹⁵ UEC witness Craig Holmes ultimately conceded in his rebuttal testimony that “in the text of the [In-Situ] Application...UEC indicated that the Northwest Fault likely has more than one offset.”¹⁶ At hearing, Craig Holmes referred to the fault more generally as the “Northwest Fault System.”¹⁷

Furthermore, UEC openly acknowledged during hearing that they had not characterized the Northwest Fault in great detail. Until UEC adequately characterizes the Northwest Fault system, UEC doesn’t even know whether it can feasibly mine at the proposed locations near the Northwest Fault. For example, UEC’s consultant and primary witness testified that “UEC will have to further delineate the NW Fault when it files its applications for PA-2, PA-3 and PA-4.”¹⁸ Mr. Underdown, UEC’s Vice President of Production and the only UEC employee to testify at hearing, candidly testified that UEC had not even made an initial determination as to how UEC was going to mine the areas near the Northwest Fault.¹⁹ Inability to mine any portion of the proposed areas could have a significant effect on the economic feasibility of the entire mining project. At this point, issuing a permit for a Class III injection well would be entirely premature.

¹⁴ PFD at 53.

¹⁵ 2 TR. 423:1 (Holmes).

¹⁶ 2 TR. 423:1 – 4 (Holmes).

¹⁷ 2 TR. 422:11 – 20 (Holmes).

¹⁸ UEC Exhibit 7, Issue G, Holmes Rebuttal at 5:18 – 19.

¹⁹ 1 TR. 199:6 – 202:17.

The characteristics of the Northwest Fault indicate that there is nothing to prevent horizontal migration of contaminants into an underground source of drinking water (“USDW”). UEC has no idea whether mining fluids will migrate vertically across the fault and contaminate an USDW. Accordingly, the ALJ adopted the same reasoning from “Issue G” for “Issue R” – that the ALJ did not have sufficient evidence to make the recommendation to the Commission that vertical or horizontal migration of mining fluids would not occur.²⁰

C. UEC has inadequately characterized groundwater flow, also creating a circumstance that may pollute fresh water of the State.

The ALJ did not adequately consider UEC’s failure to characterize the direction and speed of local groundwater flow at the proposed project site. The In-Situ Application states the local groundwater flow is to the southeast, and the flow rate is approximately 6.7 feet per year.²¹ However, UEC’s own witness, Van Kelley, offered pre-filed testimony entirely inconsistent and contrary to representations made in the In-Situ Application.

Mr. Kelley was hired by UEC solely to provide “expert testimony ... in the area of groundwater hydrogeology.” Mr. Kelley testified that the “groundwater flow within the graben is generally to the east.” Adding to the confusion, Mr. Kelley testified at hearing that the only two piezometric maps for Sand B that were included in the PAA Application indicate that some groundwater actually flows to the west in PA-1. In other words, the PAA Application indicates that the direction of groundwater flow in one part of the site is in the exact opposite direction testified to what Mr. Kelley opined in his pre-filed testimony and what he had concluded from his model. The piezometric maps in the PA-1 Application and Mr. Kelly’s interpretation of them at the hearing also directly contradict the information UEC included in the In-Situ Application that the flow is to the southeast.

²⁰ PFD at 109.

²¹ UEC Exhibit 6 at Holmes Exhibit 13, p. 6-14

Equally troubling, and indicative of various misrepresentation by UEC, Mr. Kelley had seen both maps prior to the hearing, yet did not mention the western flow direction anywhere in his pre-filed testimony, nor depict it in his B Sand model. In short, there is contradictory testimony regarding the direction of groundwater flow; it is not adequately described as required by the rules; and Mr. Kelly's review of the available information is questionable.

There is similar inconsistency with regard to the speed of groundwater flow. The In-Situ Application stated that the flow rate is approximately 6.7 feet per year. Mr. Kelley, again, UEC's own hydrogeology expert, testified in rebuttal that the flow rate in Sand B is actually 19 feet per year. Neil Blandford, on behalf of the Goliad County Groundwater Conservation District, testified that the water is migrating at approximately 40 feet per year. Mr. Blandford's testimony went unchallenged. Thus, the speed that the water is migrating remains an open question.

To make informed decisions regarding the effects of a uranium mining operation on nearby domestic water sources, it is imperative the Commission be provided adequate and accurate information detailing the direction and rate of flow. UEC's representation of a southeasterly flow at 6.7 feet per year is very different from 19 feet or 40 feet per year. Until these two variables are adequately characterized, there can be no way of knowing how many nearby citizens are in jeopardy and how quickly contaminated water may migrate. This important fact cannot be overlooked. UEC did not meet its burden and again demonstrated that it is not capable of being adequately protective of the County's groundwater.

D. Applicant UEC did not meet its burden to detail the geologic structure of the local setting.

TCEQ Rule 30 T.A.C. § 331.122(2)(D) states that an in-situ application is to include "maps and cross-sections, *detailing the geologic structure of the local setting.*" Additionally, TCEQ rule 30 T.A.C. § 331.122(2)(E) requires that an applicant provide a "generalized map and

cross-sections illustrating the regional geologic setting.” Goliad County reads these rules to require sufficient detail to understand and consider the geologic risks and overall feasibility inherent in developing a mine site. Goliad County strongly urges that such detail is missing here. The TCEQ Commissioners asked, in Issue G, whether the “application adequately characterize[s] and describe[s] the geology and hydrogeology in the proposed permit area, *including fault lines*, under the applicable rules.”²² UEC has fallen far short of accurately and honestly characterizing the Northwest Fault System. Goliad County has expended considerable resources to show that UEC did not meet this burden and should not have to relitigate the issue.

IV. BASELINE WATER QUALITY

The baseline water quality was at issue for the PAA, and for Issue C and Issue L of the Permit Application (Issue C and Issue L are addressed more fully later in this brief). The TCEQ rules unambiguously mandate that “groundwater in the production zone within the production area must be restored when mining is complete.”²³ And, “restoration must be achieved for all values in the restoration table of all parameters.”²⁴ Establishing an accurate baseline with representative samples is crucial because, after UEC is gone, the baseline will be the water quality that Goliad County will be forced to live with.²⁵ This, of course, assumes that UEC will even be successful in achieving restoration to baseline levels. Also, it is important to establish an accurate baseline water quality because water quality will decline significantly once mining occurs, which makes it imperative to know whether the operation will contaminate water that is naturally of poor quality or whether the operation will contaminate water usable for human consumption: as Mr. Holmes testified, at the time of cessation of mining, one would expect between 6 and 8 mg/L

²² TCEQ Interim Order, March 9, 2009 at p. 17 (Issue G).

²³ 30 T.A.C. § 331.107(a).

²⁴ 30 T.A.C. 331.107(a).

²⁵ 30 T.A.C. § 331.104(c).

of uranium in the groundwater, which is well above the current levels and is absolutely unsafe for human consumption.²⁶

Given other ethical lapses and regulatory violations, it should come as no surprise that Goliad County discovered, during the course of the hearing, that UEC manipulated the baseline water quality data in multiple ways. UEC misrepresented baseline water quality at the Goliad site to reflect far greater levels of uranium and radium than actually existed prior to UEC's presence at the site. Goliad County proved at hearing that the regional baseline submitted by UEC is not an honest and accurate description of Goliad's water quality. This is in large part due to scientific evidence presented by Goliad County that demonstrated that UEC's own actions contaminated the aquifer prior to baseline sampling.

A. The ALJ concluded that the PAA failed to comply with baseline water quality requirements; but, the ALJ's recommendations do not address the fundamental error that UEC's own actions contaminated the first two rounds of samples.

In the PFD, the ALJ agreed with one of the primary problems identified by Goliad County. The ALJ recognized that UEC failed to establish an accurate baseline for PAA-1.²⁷ The burden to adequately describe baseline conditions rested with UEC. The ALJ's conclusion is an independent basis for denial of the PAA-1 application. Specifically, the ALJ determined that the "PAA-1 Application fails to comply with the statutory and regulatory requirements for the baseline water quality table and the restoration table unless amended."²⁸ And, "UEC's proposal for restoration to baseline levels is too lenient."²⁹ The ALJ then ordered that the three rounds of sampling conducted by UEC must be averaged. Goliad County agrees that the baseline water quality established by UEC did not represent the true baseline quality in violation of the law.

²⁶ 2 TR. 525:1 – 16 (Holmes).

²⁷ PFD at 128.

²⁸ PFD at 128.

²⁹ PFD at 36.

However, Goliad County urges that the ALJ's attempt to remedy the violation did not address the fundamental error: the first two rounds of water quality samples were tainted by UEC's exploration and well development activities. As a result, these first two rounds should not be included as part of the basis for establishing baseline water quality, only the third round. Therefore, the ALJ took a step in the right direction, but did not go far enough to ensure that, should UEC initiate operations, Goliad County will have its groundwater restored to *accurate* pre-mining conditions.

B. UEC misrepresented baseline conditions and inadequately and inaccurately characterized the restoration values for uranium and radium.

UEC did not collect representative samples from the production area in the B sand ("PAA-1" or "PAA-B") and, therefore, failed to create an acceptable restoration table as required by 30 T.A.C. § 331.107(a). Rules require that each permit or production area authorization shall contain a restoration table for all parameters in the suite established in accordance with the requirements of § 331.104(b).³⁰ The samples used for establishing a restoration table must be "independent and representative water samples ... collected from the baseline wells completed in the production zone within the production area."³¹ Specifically, "a minimum of five baseline wells, or one baseline well for every four acres of production area, whichever is greater, shall be completed in the production zone within the production area."³²

Importantly, the original samples utilized in the PAA-1 Application were tainted by artificially elevated levels of uranium and radium caused by UEC's own exploration and well development activities. Furthermore, when characterizing the baseline water quality, UEC

³⁰ 30 T.A.C. § 331.107(a)(1).

³¹ 30 T.A.C. § 331.104(a)(3).

³² 30 T.A.C. § 331.104(c).

omitted water quality samples that were actually representative samples, and which demonstrated much better water quality within the proposed production area.

C. UEC's water quality data showed a drastic improvement in uranium and radium levels by the third sampling.

In its application, UEC proposed an uranium and radium baseline water quality at PAA-1 as 0.115 mg/L and 333.8 pCi/L, respectively.³³ UEC derived these numbers from samples taken from a combined eighteen wells: four Regional Baseline Wells ("RBLBs"), which were developed and sampled for purposes of establishing a regional baseline, but were also utilized in part to establish baseline water quality at the PAA-1 site; and 14 Pump Test Wells ("PTWs"), which were drilled for evaluating groundwater connectivity, but were also sampled for establishing background water quality within the PAA-1 site. Critically, two years after the sample data that was submitted in UEC's PAA Application, the same eighteen wells were sampled again—for a second and third time.³⁴ UEC did not include the new data. And, the new sampling results from the subsequent rounds of testing illustrated a remarkable difference and improvement in water quality that UEC never explained in its pre-filed direct or rebuttal testimony.

When the RBLBs and the PTWs were sampled for the second time, the average uranium concentration had dropped from 0.115 mg/L down to 0.029 mg/L.³⁵ The same eighteen wells were sampled for a third time four months later in 2009. Importantly, this final round of sampling

³³ UEC Exhibit 6 at Holmes Exhibit 20, Table 5.4 (PA-1 Application).

³⁴ Goliad County Exhibit 3, Sass Pre-filed at Exhibit – 12 (PTWs sample dates); Goliad County Exhibit 4, Darling Pre-filed at Exhibit 12 (RBLB sample dates).

The RBLBs were initially sampled on approximately July 12, 2007. PTWs 1 – 6 were sampled between April 29, 2008 and May 12, 2008. PTWs 7 – 13 were sampled between September 3, 2008 and September 9, 2008. PTW-14 was sampled on July 2, 2008. The RBLBs and the PTWs were sampled for the second time between July 14, 2009 and July 21, 2009, over a year after the samples used by UEC to establish the baseline proposed in the PAA Application.

³⁵ Goliad County Cross-Examination Exhibit 1.

detected an average uranium concentration of 0.005 mg/L, which is 23 times lower than the proposed baseline in the PA-1 Application.³⁶ In the third round of sampling, all 18 wells detected a lower concentration than in the first round of sampling. Dr. Galloway acknowledged that this “is a significant change.”³⁷ Dr. Erskine and Dr. Bennett both acknowledged that these changes indicated a trend.³⁸ Unbelievably, this data, and the change in concentration, is discussed at no point in the pre-filed or rebuttal testimony of Dr. Galloway, Dr. Erskine, Dr. Bennett or Mr. Holmes. This was a grave omission by UEC.

Moreover, and an equally grave omission, UEC never provided any of this sampling data to the TCEQ as part of its applications—even though 30 T.A.C. § 305.125(19) indicates such data is to be submitted if relevant and contrary to prior representations. UEC never amended its restoration table in its PAA-1 Application to incorporate this data.

UEC withheld relevant information contrary to its position, and, even worse, the evidence suggests that these latter rounds of sampling are actually representative of baseline conditions and that the samples in the PAA Application were elevated by UEC.

D. In drilling exploration boreholes and developing wells for testing, UEC solubilized uranium and liberated trapped radium, causing elevated levels in the groundwater that are not accurate representations of the water quality.

Of all the information discovered during this hearing process, Goliad County is most concerned about UEC’s failure to appreciate the sensitivity of uranium to oxygen being introduced into the subsurface—and what this means for how UEC should conduct its operations. All testifying experts agreed that, when oxygen is introduced into the subsurface and encounters ore-bearing sands, it will release uranium and radium into the groundwater. Dr. Galloway, one of

³⁶ *Id.*

³⁷ 1 TR. 66:1 – 8 (Galloway).

³⁸ 1 TR. 140:4 – 9 (Erskine); 4 TR. 859:2 – 3 (Bennett).

UEC's experts, explained that "when in reduced form, uranium will readily react with oxidants and thereby become oxidized. When uranium is oxidized, it becomes readily soluble.... Conversely, when in oxidized form, uranium will readily act with reductants and thereby become reduced. When uranium is reduced, it precipitates – in other words, it drops out of solution and into mineralized form."³⁹ Dr. Sass, a key expert for Goliad County, described this process in detail in his pre-filed testimony. In short, there is no disagreement about this chemical process. In fact, this is the process by which uranium is mined, a fact undoubtedly known to the mining applicant, UEC.⁴⁰

Both at hearing and in pre-filed testimony, extensive evidence was presented, demonstrating that actions taken by UEC introduced oxygen into the subsurface. The evidence showed that the oxygen thereby came into contact with the uranium ore and essentially initiated the in-situ mining process on a smaller scale.⁴¹ The evidence is compelling that UEC's actions caused reduced uranium to solubilize and artificially elevate uranium concentrations in the groundwater. This groundwater, with elevated soluble uranium levels, was then tested, and the results were included in the Application to set the Baseline Water Quality for the Restoration Table in its PAA-1 Application.

As time passed after the first sampling event, the soluble uranium encountered the natural reducing environment at the site⁴² and re-precipitated back into mineral ore. As a result, when sampled for the third time in November of 2009, approximately two years after the first round of sampling, *all 18 wells* experienced a drastic decrease in uranium concentrations. Each well

³⁹ UEC Exhibit 1, Galloway Pre-filed Direct at 15:7 – 11.

⁴⁰ UEC Exhibit 6, Holmes Pre-filed Direct at 8:12 – 18.

⁴¹ 7 TR. 1308:15 – 22 (Murry); 2 TR. 380:5 – 17 (Holmes); Goliad County Exhibit 3, Darling Pre-filed Exhibit 8; Goliad County Exhibit 3, Darling Pre-filed Exhibit 6 (Permit 123 Plugging Affidavit); 1 TR. 32:24 (Galloway).

⁴² 1 TR. 30:17 – 20 (Galloway).

detected uranium concentrations well below the Environmental Protection Agency (“EPA”) maximum concentration limit (“MCL” or “drinking water standard”) of 0.03 mg/L.

Goliad County’s expert witness, Dr. Sass, argued that the uranium that had previously been liberated by the oxidation process was reprecipitated due to reducing conditions naturally occurring in the subsurface at the site.⁴³ In other words, the uranium was oxidized, came into solution and then, over time, was precipitated back out of the water. This process is well established science, and it is direct proof that the actions of UEC led to the initial high concentrations of uranium.

The explanation by Goliad County expert, Dr. Sass, is fully supported by the water quality data. Dr. Sass stated that the oxidation process requires an oxidizing agent, which can occur through the process of drilling exploration boreholes and the RBL wells, which includes jetting with an air hose. Dr. Sass opined that it was this activity that increased the uranium and radium levels in the test wells at the site. It is worth revisiting Goliad County Cross-Examination Exhibit 1 from the hearing.⁴⁴ The decline in uranium concentration in the RBLBs and PTWs is uniform as seen below:

[See Table Below]

⁴³ 6 TR. 1144:3 – 9 (Sass).

⁴⁴ Goliad County has electronically recreated Goliad County Cross-Examination Exhibit 1 and is incorporated herein as depicted.

PTW	U-1 mg/l	U-2 mg/l	U-3 mg/l	Ra-1 pCi/l	Ra-2 pCi/l	Ra-3 pCi/l	1st Sample	2nd Sample	3rd Sample
1	0.032	<0.003	<0.003	17.0	38.0	16.0	4/29/08	7/14/09	11/16/09
2	0.009	0.014	0.004	17.0	17.0	10.0	4/29/08	7/15/09	11/10/09
3	0.009	0.03	<0.003	38.0	36.0	38.0	5/8/08	7/16/09	11/16/09
4	0.059	0.09	0.004	196.0	217.0	213.0	5/8/08	7/16/09	11/10/09
5	0.005	<0.0030	<0.003	357.0	549.0	830.0	5/12/08	7/21/09	11/16/09
6	0.010	<0.0030	<0.003	202.0	253.0	253.0	5/12/08	7/20/09	11/10/09
7	0.804	0.010	0.005	1684.0	2000.0	1590.0	9/9/08	7/20/09	11/10/09
8	0.134	0.019	0.010	397.0	326.0	311.0	9/3/08	7/15/09	11/10/09
9	0.135	0.010	<0.003	394.0	343.0	306.0	9/8/08	7/14/09	11/16/09
10	0.099	0.020	<0.003	68.0	359.0	63.0	9/8/08	7/13/09	11/16/09
11	0.166	0.007	0.003	296.0	55.0	386.0	9/10/08	7/9/09	11/16/09
12	0.163	0.07	0.003	477.0	345.0	392.0	9/9/08	7/16/09	11/10/09
13	0.156	0.0160	0.006	10.0	324.0	208.0	9/9/08	7/20/09	11/16/09
14	0.086	0.005	0.007	224	198.0	157.0	7/2/08	7/15/09	11/10/09
RBLB									
1	0.062	0.07	0.013						
3	0.080	0.150	0.008						
4	0.006	0.004	<0.003						
5	0.060	0.005	0.003						
AVERAGE	0.115	0.029	0.005						
RANGE OF	0.009 -	<0.0030-	<0.003-						
U VALUES	0.804	0.150	0.01						

Notably, Mr. Murry from the TCEQ also testified that the numbers had changed from Round 1 to Round 2 and Round 3.⁴⁵ Mr. Murry did not evaluate the new data because UEC did not submit it to the agency. It was instead provided during discovery,⁴⁶ further revealing the failure of UEC to timely provide new information to the TCEQ staff. Importantly, because this information was not provided to Mr. Murry, he was unable to consider it in his permit review.⁴⁷

In his pre-filed direct testimony, UEC expert Dr. Phil Bennett opined that the uranium levels in the RBLs “are naturally derived contaminants in the water that occur when groundwater under natural gradient flows into the mineralized areas and comes into contact with the uranium

⁴⁵ 7 TR. 1316:21 – 23 (Murry).

⁴⁶ 7 TR. 1313:1 – 4 (Murry).

⁴⁷ 7 TR. 1312:21 – 24 (Murry).

minerals that are in place there.”⁴⁸ A couple of months after submitting this testimony, Dr. Bennett was confronted with a second and third round of sampling data showing a drastic decline across the board. The question arose, if the first round were naturally occurring levels of uranium, how could later rounds show a uniform drastic decrease? Nowhere in his pre-filed or rebuttal testimony does he explain the inconsistency. When questioned at hearing about the subsequent data, Dr. Bennett simply answered, “I believe I had received [rounds two and three before my rebuttal], but again, *I have not had a chance to look at it.*”⁴⁹ It is disconcerting that UEC’s hired geochemist, responsible for opining on groundwater quality, failed to look at subsequent data that contradicts evidence in his prior testimony. Regardless, the test data is clear that significant differences exist between the first and third round of testing.

1. UEC introduced oxygen into the subsurface by jetting the RBL wells

Goliad County explained the reason behind the significant differences, namely, UEC caused them when drilling exploration boreholes and developing wells for sampling water quality. According to Goliad County’s pre-filed testimony as well as testimony from the hearing, several pathways were formed by which oxygen was introduced into the baseline wells at the location of the uranium ore-bearing sands, prior to the wells being tested. Mr. Murry, the TCEQ permit engineer, explained that prior to sampling water quality, “an air line is lowered into the casing, and the well screen is jetted with air to remove any scale or mud from the screen.”⁵⁰ Logically, injection of air (which contains oxygen) will solubilize any uranium it comes into contact with. At the hearing, Mr. Underdown, an UEC employee, testified that UEC “ran a 1-inch polyethylene line down to about probably 90 feet below surface” for purposes of air jetting the wells.⁵¹ The

⁴⁸ UEC Exhibit 10, Bennett Pre-filed Direct at 33:13 -15.

⁴⁹ 4 TR. 838:1 – 8 (Bennett)(emphasis added).

⁵⁰ Executive Director’s Exhibit 1, Exhibit 17 – Response to Comments, Response 18 (Murry).

⁵¹ 1 TR. 216:6 – 14 (Underdown).

evidence also showed that Harry Anthony, Mr. Underdown's boss, sent a memo regarding the most efficient way to accomplish jetting.⁵²

Regardless of the depth of the air hose, if the purpose of jetting is to "remove any scale ore mud from the screen,"⁵³ then air must reach the screen, which is the location of withdrawal of the test water and is also the location of the uranium. Mr. Murry precisely testified: "Air would have been introduced at the screen level."⁵⁴

At his deposition, even UEC expert Craig Holmes testified in no uncertain terms that jetting the well would increase the concentration of uranium detected in a sample from that well. When asked if human activities could have caused more of that uranium to be released, Mr. Holmes testified under oath, "there could be when you're developing a well, completing a well, especially for the first set. There are completion activities going on the cleaning up the well ... and that's different from later sampling because the wells have been in existence for some time. ... There's no further development ... of the wells such as jetting."⁵⁵ Craig Holmes clearly described how contamination could have been introduced "especially for the first set [of sampling]"⁵⁶.

This is exactly what happened when UEC developed its wells at the proposed project site. Oxygen was introduced, and the uranium concentration detected in a sample well increased.

2. UEC caused elevated radium levels in the RBL wells and in the aquifer

UEC's actions caused not only increased concentrations of uranium, but also increased concentrations of the radium. As Dr. Sass testified, "when uranium becomes soluble, any decay products such as radium are freed from the ore body and, therefore, become soluble. Thus,

⁵² GCGCD Cross-Examination Exhibit 1 (Harry Anthony email).

⁵³ Executive Director's Exhibit 1, Exhibit 17 – Response to Comments, Response 18 (Murry) (emphasis added).

⁵⁴ 7 TR. 1308:15 – 22 (Murry).

⁵⁵ 2 TR. 380:5 – 17 (Holmes).

⁵⁶ *Id.*

radium can enter groundwater by dissolution of uranium ore.”⁵⁷ UEC’s own witness agreed with this process. In his pre-filed rebuttal testimony, Dr. Erskine stated, “some of the radium-226 does remain trapped within the crystal structure and it may in fact be liberated as the result of ore being solubilized through oxidation.”⁵⁸ On cross-examination, Dr. Erskine again agreed that, “if uranium ore is oxidized, whether artificially or intentionally, ... it will release trapped radium.”⁵⁹

Goliad County did not quantify the amount of radium that was released as a result of UEC’s actions because as Dr. Sass stated in his pre-filed testimony, “unlike uranium, radium remains in solution and does not precipitate back out.”⁶⁰ In other words, because radium is not redox sensitive, the radium will not reduce back towards its natural levels as it encounters reductants. Therefore, Goliad County and the TCEQ cannot now know, and will never know, the true baseline levels of radium within the proposed permit boundary because of UEC’s oxidizing activity prior to sampling. Even so, what is certain is that the radium levels suggested as regional baseline (and PAA-1 baseline) are inflated by liberated radium.

In sum, baseline water quality was briefed in detail in Goliad County’s Closing Argument; a shortened version has been provided here to the Commission. The bottom line is that the third round of water sampling detected an average uranium concentration of 0.005 mg/L. For the foregoing reasons, the ALJ’s recommendation to average sampling rounds 1 and 2 with sample round 3 is inappropriate and does not represent the true baseline water quality. Importantly, the ALJ’s recommendation does nothing to address the artificially elevated levels of uranium and radium contained within the earlier sampling rounds. Curiously, at no point in the PFD does the ALJ offer analysis on the impacts of UEC’s exploration and well development activities. UEC

⁵⁷ Goliad County Exhibit 3, Sass Pre-filed Testimony at 10:10 – 12.

⁵⁸ at 10:10 – 12 (Erskine Prefiled Rebuttal).

⁵⁹ 1 TR. 144:4 – 9 (Erskine).

⁶⁰ Goliad County Exhibit 3, Sass Pre-filed Testimony at 10:16.

should not be rewarded for its duplicitous behavior, which has already jeopardized the sole source of drinking water in Goliad County. Accordingly, Goliad County respectfully urges this Commission to deem an additional hearing infeasible and undesirable and to deny the PAA Application. At a minimum, Goliad County respectfully requests that the Commission find that UEC failed to create a restoration table that reflects *representative* samples from the production area as required by 30 T.A.C. § 331.107(a)(1) and 30 T.A.C. § 331.104(a)(3).

V. ALL OTHER EXCEPTIONS TO THE PFD REGARDING THE ADDITIONAL ISSUES DESIGNATED BY TCEQ FOR APPLICATION FOR PROPOSED CLASS III INJECTION WELL PERMIT NO. UR03075 AND AQUIFER EXEMPTION

In its closing argument, Goliad County submitted extensive briefing on nearly every issue designated by the Commission. For purposes of exceptions, below, Goliad County has provided the Commission with the most salient points as a brief summary of those arguments. Goliad County strongly urges the Commission that the ALJ's recommendations on the following issues were inappropriate and that issuing either the Class III injection well permit or the PAA permit would be in violation of TCEQ regulations.

A. Whether the use and installation of the injection wells are in the public interest under Texas Water Code § 27.051(a). Public interest in regard to this issue includes whether UEC's mining operation or restoration will adversely impact the public interest by unreasonably reducing the amount of groundwater available for permitting by the Goliad County Groundwater Conservation District.

The use of injection wells for in situ uranium mining in Goliad County is not in the public interest. The ALJ erred in determining to the contrary. The ALJ correctly advocated a "broad" interpretation of the term "public interest" but then incorrectly, narrowly focused on the positive aspects of uranium development, without equally weighing the negative aspects of mining.

1. The ALJ determined uranium should be developed for energy, but the viability of nuclear power is unclear.

Specifically, the ALJ determined that uranium should be developed to assist with the country's energy needs. The ALJ determined "[i]t is in the public interest for this natural resource to be produced to meet the energy needs of the United States, and for the mineral owners to realize the economic benefits of uranium production on their property."⁶¹ As an initial matter, this is an unreasonably unbalanced statement.

2. Energy needs should be balanced against water needs.

Moreover, water quality and quantity is an equally critical public interest issue in this part of the county. This should be balanced against the possibility of energy development (especially less-viable energy development, as is the case here). As most Texans know, water is an increasingly scarce resource as industry, municipalities and farmers are all among the competing users. In short, good clean water is at least as precious as viable energy.

The ALJ actually recognized this, in making a "caveat"—that if the Northwest fault is transmissive and the groundwater cannot be protected, then the mining is not in the public interest.⁶² It appears, however, that the ALJ overlooked the impact that uranium mining will have on the groundwater within the proposed mining boundary regardless of the transmissivity of the Northwest Fault. Neither the ALJ nor ED adequately assessed the negatives associated with uranium mining when evaluating whether permitting UEC's requested operations was in the public interest as defined by TEX. WATER CODE § 27.051(a).

⁶¹ PFD at 22.

⁶² PFD at 23.

3. The ED, in making a public interest recommendation, did not consider the negative aspects of uranium mining.

As the ALJ pointed out, Protestants relied on testimony by Mr. Murry to demonstrate that the ED failed to conduct a sufficient balancing approach between the benefits and negative aspects associated with in situ uranium mining.⁶³ However, the ALJ incorrectly concluded that Protestants ignored some of Mr. Murry's testimony. In fact, Mr. Murry's testimony was at best ambiguous as to whether or not he considered negative impacts of in situ mining, and, at worst, his testimony exposes a complete failure by the ED to consider anything other than information submitted by UEC.

Specifically, Mr. Murry testified as follows:

Q: (by Mr. Blackburn). Now, did you consider the fact that there could be some negative aspects to the public interest?

A: (by Mr. Murry). No.

...

Q: (by Mr. Blackburn). So all you considered in your review were positive aspects provided by the applicant, correct?

A: (by Mr. Murry). Correct.⁶⁴

Mr. Murry unequivocally admits that he only considered what was included in UEC's application. The ALJ suggests such an admission was outweighed by Mr. Murry's later statement that he "also considered the comments from the public and still came to the conclusion that [granting the application] was in the public interest."⁶⁵ While these statements are difficult to reconcile, what is more important is that Mr. Murry testified that he considered the negative comments from the public only in a "general way".⁶⁶

⁶³ PFD 24.

⁶⁴ 6 TR. 1233:21 – 1234:10 (Murry).

⁶⁵ PFD at 23.

⁶⁶ 6 TR. 1234:20 – 23 (Murry).

Taking the testimony in its entirety, it is clear that Mr. Murry did not balance the negative aspects of in situ mining against the positives—namely, he did not consider any contamination of groundwater. If Mr. Murry did consider the negative aspects of uranium mining, his testimony makes clear it was on a very limited basis. Without allocating appropriate weight to the negative aspects compared to the possible benefits of job creation and energy supply, the ED cannot have made a valid public interest evaluation.

4. The proposed site at Goliad County contains clean water; other sites are better suited for mining because they do not contain clean water.

Importantly, Texas possess other uranium deposits that are located within aquifers where the water quality, unlike at the proposed mining site in Goliad County, is unsuitable for human consumption based on concentrations of lead, total dissolved solids and arsenic. The ALJ and ED did not appropriately consider these factors. The ALJ ultimately concluded that UEC appropriately described regional water quality. However, as explained in further detail above in Section IV, the ALJ did not analyze whether the first round of water quality samples were actually representative of water quality within the proposed mining boundary. As such, the proposed mining will contaminate water that is of far better quality than being represented in the permit applications and was likely usable for human consumption prior to the presence of UEC.

Goliad County urges that clean, usable water is a natural resource that the state of Texas places an equal, if not higher, premium than uranium. The state of Texas has spent energy and legislative effort attempting to ensure water is a sustainable resource for Texans. It is not in the public interest of the State, and certainly not of the citizens of Goliad County, to sacrifice the groundwater (the sole source of available water in the area) for an undetermined amount of energy supply.

Accordingly, Goliad County respectfully requests that the Commission deny the applications for a Class III injection well and corresponding PAA Application.

B. Does the Applicant's compliance history require denial of the application under Tex. Water Code § 27.051(e) and 30 T.A.C. Chapter 60?

The ALJ recommended that “UEC’s compliance history does not require denial of UEC’s Mine Application under Tex. Water Code 27.051(a) and 30 T.A.C. ch. 60”.⁶⁷ However, the ALJ’s misunderstood Goliad County’s primary evidence of UEC’s poor compliance history. Goliad County explained that UEC failed to plug exploration boreholes and regional baseline wells within the 48-hour requirement. As Dr. Darling testified, “[another condition] of Permit 123, Permit 123A and 123B is that ‘each borehole shall be plugged within seven days after drilling, unless an aquifer is encountered, in which case the exploration borehole shall be plugged within 48 hours after drilling.’ This requirement is taken directly from Title 16, Chapter 11, Section 11.138(4)(C).”⁶⁸ Dr. Darling further testified that “according to UEC’s plugging affidavits, 139 exploration boreholes were left open longer than 48 hours. A large number of exploration boreholes were left unplugged for a week or longer.”⁶⁹

The ALJ appears to have dismissed the numerous violations because allegedly, “the violations were promptly rectified to the satisfaction of the TRC; no enforcement orders were issued; and no penalties were assessed.”⁷⁰ However, this was speculative; no evidence was presented by UEC that corrective action was taken towards unplugged boreholes – some of which were reported to be open for multiple weeks. UEC did present some evidence responsive to the Notice of Violation issued by the Railroad Commission, but offered nothing to demonstrate

⁶⁷ PFD at 26.

⁶⁸ Goliad County Exhibit 4, Darling Pre-filed Testimony at 11:14 – 17.

⁶⁹ *Id.* at 11:25 – 27.

⁷⁰ PFD at 32.

reactive measures to the improperly plugged boreholes. Moreover, it is unreasonable to dismiss UEC's accountability for the more than 150 Texas Railroad Commission regulatory violations simply because they went undiscovered by the Railroad Commission. As such, Goliad County respectfully recommends that UEC's compliance history requires denial of the permit because of the extensive list of regulatory violations that impacted groundwater quality.

C. Does the application adequately and accurately describe baseline conditions of the groundwater in the proposed permitted area under applicable requirements of 30 T.A.C. Chapter 331?

With good reason, the Commission designated the issue of whether UEC adequately and accurately described the conditions of the groundwater in the proposed permitted area. Accurately establishing baseline conditions for the proposed mining area is crucial for evaluating whether a uranium operation should be permitted. The Commission needs to know the water quality in the area of proposed mining before it can make an informed decision about allowing that water to become contaminated. In fact, UEC adopted this approach in its Class III injection well permit application, arguing that the "Permit Area Water Quality" "has very poor water quality with respect to uranium and radium-226."⁷¹ However, as described above, UEC misrepresented baseline water quality at the Goliad site to reflect far greater levels of uranium and radium than actually existed prior to UEC's presence.

There are multiple problems that render UEC's description of baseline water quality inadequate and inaccurate. First, there is a problem with the location of the 20 RBL wells. Simply stated, they do not represent the "permit area" as required by 30 T.A.C. § 331.2(13). All twenty wells used for determining regional baseline water quality were located in the proposed production areas, which only encompass a combined 156.631 acres. The permit area is

⁷¹ UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 13 at 5-16 (Mine Application).

approximately 1,139 acres in size.⁷² This small area accounts for just over ten percent of the entire permit boundary, but UEC represents in the In-Situ Application that this average is representative of the regional baseline water quality for the *entire* 1,139 acres at the proposed project site.

Second, as explained above, UEC introduced oxygen into the subsurface during exploration and well development activities. As a result, uranium was oxidized and solubilized into the groundwater, while simultaneously liberating trapped radium. That is, UEC's activities contributed to the elevated levels of uranium and radium.

Moreover, UEC calculated its "Permit Area Water Quality" for uranium by averaging the uranium concentrations from each of the 20 RBL wells. UEC calculated that the regional baseline for uranium concentration was 0.401 milligrams per liter ("mg/L") throughout the proposed permit boundary. UEC argues in its In-Situ Application that "the average uranium level is 13.4 times higher than the [drinking water] standard."⁷³ However, scratching just below the surface of UEC's 0.401 mg/L determination, it becomes clear that this average is extremely misrepresentative of actual groundwater conditions.

For example, one of those RBL wells detected 6.68 mg/l of uranium - approximately 23 times higher than the next highest detected level of all 20 RBLs. According to UEC's primary witness, Craig Holmes, the uranium concentration detected at RBLC-2 is a level that one would expect to see *post mining*. This measure is clearly an outlier and significantly misrepresented the true baseline conditions at the proposed permitted area.

Finally, Goliad County strongly disagrees with the ALJ's conclusion that a regional baseline is not required to be established under 30 T.A.C. Chapter 331. "Establishment of

⁷² UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 3.

⁷³ UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 13 at 5-16 (In-Situ Application).

Baseline and Restoration Values” is set forth in 30 T.A.C. § 331.104. As defined by 30 T.A.C. § 331.2(13), a “baseline well” is “a well from which groundwater is analyzed to define baseline quality in the *permit area* (regional baseline well).”

For the foregoing reasons, Goliad County strongly urges the Commission find that UEC did not adequately and accurately describe baseline conditions of the groundwater in the proposed permitted area under applicable requirements of 30 T.A.C. Chapter 331 and deny the Class III injection well permit application.

D. Does the application meet all applicable criteria of 30 T.A.C. § 331.122, related to required consideration by the Commission prior to issuing a Class III Injection Well Area Permit?

The ALJ correctly identifies Goliad County’s arguments regarding UEC’s failure to meet all applicable criteria of 30 T.A.C. § 331.122. Specifically, Goliad County argued that the proposed injection wells and proposed production areas should be depicted in the application and not just the general mineral bearing sands. Goliad County further argued that the over 1,000 exploration boreholes that clearly meet the definition of a “well” should be depicted in the application for the TCEQ to consider in its review of the application. The ALJ appears to dismiss Goliad County’s argument primarily on the notion that the ED interprets 30 T.A.C. § 331.122 “as not requiring the exact location of every future injection well, or the locations of plugged boreholes.”⁷⁴ However, the ED offered no statutory or legal basis for its interpretation. As the ALJ points out, the rule reads, it clearly encompasses the location of “all wells” and “if production area authorizations are required ... the proposed production areas must be shown on a map.”⁷⁵

⁷⁴ PFD at 39.

⁷⁵ PFD at 38.

These violations show that the applicant has failed to meet fundamental requirements of the rules with regard to proposed production areas, production wells, artificial penetrations by exploration boreholes and faults, known or suspected. These specific problems are notable on their own account and correlate with other deficiencies described in other sections, including containment of mining fluids and whether the application is protective of underground sources of drinking water. For these reasons, the applications should be denied.

E. Has the Applicant demonstrated that the proposed exempted aquifer meets the applicable criteria of 30 T.A.C. § 331.13?

The ALJ incorrectly interprets the definition of “currently” used for purposes of obtaining an aquifer exemption. The ALJ also fails to address the notion that the water within the requested exemption is likely suitable for human consumption, which means that the water may at some point in the future be used as a source for human consumption. As Goliad County argued in its Closing Argument, 30 T.A.C. § 331.13(c)(2) requires an applicant to demonstrate that the aquifer, “until exempt status is removed ..., it will not in the future serve as a source drinking water for human consumption”. In other words, simply because there is commercial grade ore within a requested exemption, does not translate into an automatic satisfaction of 30 T.A.C. § 331.13. Even if the groundwater within UEC’s proposed exemption were proven to be indefinitely unusable due to commercial grade ore, UEC has requested an exemption for a size of the aquifer far greater than the represented commercial grade ore.

1. Proposed exemption currently serves or will serve in the future as a source of water for human consumption

The ALJ suggests that Protestants used a self-serving definition of “currently” in order to include wells outside the specific exemption request down-gradient that will at some future time receive water from within the exemption area. However, Goliad County’s testimony by Dr.

Clark, an expert geologist, regarding the definition of “currently” was supported by EPA documents. Specifically, the EPA stated, “the intent of the exemption of mineral, oil or geothermal producing portions of aquifers from designation as underground sources of drinking water is to allow current production in such aquifers to continue undisrupted by these regulations. *The exemption is not intended as a green light to exempt any aquifer or its portion which merely has the potential to be used in the future for production purposes.*”⁷⁶ Two years later, the Agency did consider exempting aquifers for areas not yet producing minerals, but made very clear “[it] still wants to prevent the possibility of wholesale exemption of aquifers over large areas of the country simply because they are mineral bearing.”⁷⁷

The portion of the aquifer requested for exempt status is a part of the Evangeline Aquifer and currently serves as a source of drinking water to many. Mr. Holmes testified that the closest water wells used for domestic purposes are only 75 to 80 feet east of the requested exemption boundary.⁷⁸ The applicant’s own witness, Dr. Bennett, testified that the Braquet well, which is screened in the B-Sand approximately 75 to 80 feet east of the proposed exemption, is hydraulically connected back into the PA-1 mining area.⁷⁹

In addition to testimony regarding a hydraulic connection between the mining area and off-site water wells, Neil Blandford, the expert hydrologist presented by the GCGCD offered unchallenged testimony that “the water supply for these domestic wells is obtained from the portion of aquifer upgradient of the wells”⁸⁰ and that “based on the hydraulic properties of the Sand B aquifer, water within the proposed exemption zone will reach the Braquet wells within a

⁷⁶ County Exhibit 1, Clark Pre-filed Testimony at Exhibit 30 (44 Tex. Reg. 78 (April 20, 1979) at 23743).

⁷⁷ County Exhibit 1, Clark Pre-filed Testimony at Exhibit 30 (46 Tex. Reg. 190 (October 1, 1981) at 46245).

⁷⁸ 2 TR. 310:23 – 25 (Holmes).

⁷⁹ 4 TR. 927:5 – 9 (Bennett).

⁸⁰ GCGCD Direct Exhibit 3, Blandford Pre-filed Testimony at 12:9 - 10.

period of 2 years.”⁸¹ Even Mr. Murry, the witness for the Executive Director, agreed that a “well, one foot or even further away if we pump it, it can draw water from the exempted area or certainly eventually water from the exempted area will flow to that well.”⁸² The pattern of movement of groundwater from the exempt area to off-site drinking water wells is well established.

However, TCEQ did not find that connection to be sufficient to disallow the aquifer exemption. Despite the TCEQ’s firm understanding that the Braquet well will ultimately produce water from the proposed exempted area, Mr. Murry’s ultimate conclusion regarding whether the exemption criteria was violated by this fact was simply “that’s not the way we look at it”⁸³ and that “it’s just basically based on physical location of the well.”⁸⁴ When asked on cross-examination where in the rules he bases his interpretation that water wells must physically be located within the proposed exemption, he answered, “that is not in the rules.”⁸⁵ It is simply absurd to think that the Safe Drinking Water Act was designed to allow for such clear manipulation such that a well located just one foot outside the requested exempted area, would be denied the protection of a federal law designed to protect underground sources of drinking water.

2. Applicant has not demonstrated water outside proposed production areas are so contaminated that it would be economically or technologically impractical to render the water fit for human consumption

Although the applicant did not appear to rely on 30 T.A.C. § 331.13(c)(2)(C),⁸⁶ the same analysis as indicated above would be appropriate. The only water quality data that the applicant has purported to gather was from the uranium-bearing zones from each of the specific sands. The

⁸¹ *Id.* at 12:11 – 14.

⁸² 7 TR. 1367:4 – 10 (Murry).

⁸³ 7 TR. 1367:4 (Murry).

⁸⁴ 7 TR. 1367:13 – 17 (Murry).

⁸⁵ 7 TR. 115:18 – 19 (Murry).

⁸⁶ 2 TR. 308:4 – 6 (Holmes).

applicant has no water quality data from the majority of the proposed aquifer exemption area that does not contain production-level mineral deposits. Therefore, to the extent that the existing water quality data is proposed to be utilized in support of an aquifer exemption, it can only support an exemption for the mineralized portions of the various sands and not for the entire area shown in the application. The ALJ does not address how UEC demonstrated the entire 423-acre exemption contains water that is unusable due to existence of commercial grade ore that only accounts for 140 acres. Similarly, with water quality data only from isolated locations and none from the majority of the requested acres, the ALJ improperly concluded none of the water could be a future source for human consumption.

Accordingly, Goliad County respectfully requests the Commission to deny the request for an aquifer exemption for failing to satisfy the requirements of 30 T.A.C. § 331.13. At an absolute minimum, Goliad County respectfully request that it decrease the size of the requested exemption to appropriately reflect the existence of commercial grade ore and the location of the water quality samples.

3. All proposed aquifer exemptions must be delineated by a licensed professional geoscientist or a licensed professional engineer. 30 TEX. ADMIN. CODE § 305.49(a)(9)

Finally, 30 T.A.C. § 305.49(a)(9) requires that the aquifer exemption request contain “a complete delineation by a licensed professional geoscientist or a licensed professional engineer of any aquifer or portion of an aquifer for which exempt status is sought ...”. The testimony is clear that the section of the Mine Application addressing the aquifer exemption – Chapter 14 – was written by Craig Holmes.⁸⁷ The map that is contained in the application delineating the aquifer exemption request, Figure 1-3, was created at the direction of Craig Holmes.⁸⁸ This map was not

⁸⁷ 2 TR. 329:1 – 4 (Holmes).

⁸⁸ 2 TR. 296:11 – 12 (Holmes).

sealed by a registered geoscientist or professional engineer. Mr. Holmes testified at hearing, “I configured [the Alta Mesa] aquifer exemption boundary and I’ve worked with mining officials, you know, companies on aquifer exemption boundaries in the older days. But yeah, *the two that I would put more into my name* would be the Alta Mesa and UEC’s [Goliad Project exemption].”⁸⁹

The evidence in the record demonstrates that Mr. Holmes was responsible for determining and delineating the boundary for the aquifer exemption. However, the ALJ offered no analysis on whether the aquifer exemption was delineated in compliance with 30 T.A.C. § 305.49(a)(9). Goliad County urges that for the foregoing reasons, the requested aquifer exemption be denied.

F. Is the application sufficiently protective of groundwater quality?

The ALJ concluded that until the issue of transmissivity of the Northwest Fault is resolved, the application may not be sufficiently protective of groundwater quality. The ALJ’s recommendation translates into a direct failure by the applicant to meet its burden of proof. As such, and for the reasons articulated in Section III of this brief regarding Issue G, Goliad County strongly urges this court to deny the permit applications on the grounds that they are not sufficiently protective of groundwater. Moreover, Goliad County urges the Commission to find that this application is not sufficiently protective of groundwater quality for the reasons articulated in Sections V.L. (Issue L), V.R. (Issue R) and V.T. (Issue T) of this brief.

The applicant had its opportunity to provide sufficient proof at hearing and failed to do so. For the reasons articulated throughout this brief, the applicant should not be afforded a second chance to meet its burden.

⁸⁹ 2 TR. 299: 13 – 19 (Holmes); See also Holmes Depo. at 179:4 - 19.

G. Does the application adequately characterize and describe the geology and hydrology in the proposed permit area, including fault lines, under the applicable rules?

This issue is addressed in Section III of this brief.

H. Do the geologic and hydraulic properties of the proposed permit area indicate that the Applicant will be able to comply with rule requirements?

The ALJ concluded that until the issue of transmissivity of the Northwest Fault is resolved, the application may not be sufficiently protective of groundwater quality. The ALJ's recommendation translates into a direct failure by the applicant to meet its burden of proof. As explained in Section III of this brief, there is serious question as to the geologic and hydrologic properties of the Northwest Fault. The import of the unknown characteristics may be that the mineral deposits along the Northwest Fault may not be able to be mined in a manner that meets the monitoring requirement if not the requirement that mining fluid be contained. Until UEC sufficiently characterizes the "Northwest Fault System", it has no idea whether it will be able to confine mining solution as required by 30 T.A.C. § 331.102 or satisfy the monitoring requirements set forth in 30 T.A.C. § 331.103. The applicant had its opportunity to provide sufficient proof at hearing and failed to do so. For the reasons articulated throughout this brief, the applicant should not be afforded a second chance to meet its burden.

I. Does the Applicant meet the applicable requirements for financial assurance under Texas Water Code §§ 27.051, 27.073, and 30 T.A.C. Chapter 37 and 331?

Goliad County agrees with the ALJ that the financial assurance should be recalculated to reflect the cost of restoration to appropriate baseline conditions. According to the ALJ, those conditions are the average of the three rounds of sampling. Although Goliad County strongly disagrees with that proposition, it still agrees that financial assurance should be recalculated to reflect those levels should the Commission adopt the ALJ's analysis.

J. Is the application sufficiently protective of surface water quality?

The TCEQ designated as an issue for the Class III injection well whether the application is protective of surface water quality. The time to address these concerns is now. The Commission needs all relevant information to make its decision regarding the entire project. Cross-sections A-A' and D''-D''' in the In-Situ Application make it clear that Sand A and Fifteen Mile Creek are at the same elevation in several places, and thus are connected.⁹⁰ This means that groundwater passing through Sand A, and down gradient from ore body in the A sand, re-enters the surface water system to the north in a short time and to the east in a somewhat longer time. The fact that the area is reducing does not translate into an absolute barrier for migration of harmful concentrations of uranium and radium. Post mining concentrations are estimated to be more than one hundred times as high as UEC's proposed background levels. Depending on the success of restoration, very high concentrations will remain for migration to 15 Mile Creek after sand A is mined. Just as the ALJ determined the geologic and hydrologic properties of the Northwest Fault must be determined now, so must the geologic and hydrologic properties of sand A and the 15 mile creek.

K. Are local roadways sufficient to handle traffic to and from the proposed facility?

Goliad County did not contest this issue.

L. Whether UEC's proposal for restoration of groundwater to baseline levels as contained in the permit application is reasonable and adequate?

The ALJ concluded that Goliad County overstated the facts regarding TCEQ's history pertaining to issuing amendments to restoration levels.⁹¹ Interestingly, the ALJ offers no basis for his analysis. Of the 76 production area authorizations issued in Texas, an approximate 51

⁹⁰ UEC Exhibit 6, Holmes Pre-filed Testimony at Exhibit 13, Figures 6.11c and 6.8

⁹¹ PFD at 86.

operators have applied for and received amendments to the originally established baseline water quality.⁹² Dr. Bruce Darling, an expert for Goliad County, offered unchallenged testimony that the TCEQ records indicate that the agency has *never* denied an application for amended levels for restoration.⁹³

The records show that amended restoration levels are major alleviations of clean-up obligations. For example, Dr. Darling's testimony identified the highest increase of cleanup standards for uranium was an 8,000 % increase.⁹⁴ The vast majority of the 51 amendments allotted for at least a doubling and tripling the amount of permitted contamination to be left in the groundwater.⁹⁵ The overwhelming evidence demonstrates that post mining water quality at that location will be significantly deteriorated. Goliad County has not overstated the facts. Goliad County's testimony was derived directly from TCEQ records, provided by Mr. Murry at an earlier date. The reality is 51 requests for amendments have been submitted to the TCEQ and 51 amendments have been granted. No evidence was presented to suggest UEC's mining operation would result any differently.

The ALJ also indicated that UEC presented evidence demonstrating that restoration technology has improved, but that Protestants inexplicably ignored such evidence. However, Protestants did not ignore such evidence, but rather focused on the Mine Application which notes that the restoration technology "for restoring groundwater back to levels consistent with baseline involves using native *groundwater sweep* and *reverse osmosis*."⁹⁶ These proposed techniques for restoration are the exact same that have been used for more than twenty years.⁹⁷ Attachment A to

⁹² Goliad County Exhibit 4 at 21:27 – 29 (Darling pre-filed).

⁹³ Goliad County Exhibit 4 at 22:2 – 4 (Darling pre-filed).

⁹⁴ Goliad County Exhibit 4, Darling Exhibit 13 at Attachment E, PAA Longoria-2.

⁹⁵ Goliad County Exhibit 4, Darling Exhibit 13 at Attachment E, generally.

⁹⁶ UEC Exhibit 6, Holmes Pre-filed Direct Testimony, Exhibit 13 at 12-1 (In-Situ Application) (emphasis added).

⁹⁷ Goliad County Exhibit 4, Darling Exhibit 13 at Attachment A, generally.

Dr. Darling's report regarding amendments issued by the TCEQ clearly documents that Reverse Osmosis and Groundwater Sweep have continuously proven unsuccessful at restoring groundwater to baseline at other mining sites.⁹⁸

Mr. Holmes and Mr. Underdown may have identified new methodologies of already existing technology, but even Mr. Murry of the TCEQ testified that "essentially, technology that has been used in the past will be used in this Class III restoration activity."⁹⁹ Nowhere does the Mine Application or UEC's testimony specify new technology that will prove more effective. Moreover, nowhere in the application and at no point during the hearing did UEC offer any evidence that newer methodologies have proven to have better restoration success.¹⁰⁰ Accordingly, there is no evidence to suggest the restoration efforts will prove any different at the Goliad County mining site. To make matters worse, Mr. Murry testified that once an amendment is issued, there is no longer a requirement to monitor groundwater quality or its migration pattern.¹⁰¹ Unbelievably, all down gradient well users will be left completely in the dark as to the safety of the water.

Goliad County respectfully requests the Commission conclude that UEC's proposal for restoration of groundwater to baseline levels as contained in the permit application is not reasonable and adequate.

M. Will the Applicant's proposed activities negatively impact livestock and wildlife, including endangered species?

In Dr. Reagor's testimony, he stated that he relied heavily on Craig Holmes and Bob Underdown helping him to understanding in-situ mining and the functioning of the mining plant.

⁹⁸ *Id.*

⁹⁹ 6 TR. 1243:12 - 19 (Murry).

¹⁰⁰ 2 TR: 412:1 - 17 (Holmes).

¹⁰¹ 6 TR. 154:1 - 4 (Murry).

Dr. Reagor believes that there is no danger to livestock and wildlife based on the hypothetical that contamination will not occur because there won't be a spill; and if there is, then it will be contained because of the design of the plant. Nowhere does he address the consequences if contamination actually results from a spill or if contaminated groundwater migrates off site. Dr. Reagor did not address the possibility of meat contamination or genetic mutations in either livestock or wildlife which affects both the beef as well as the replacement livestock producer. Dr. Reagor did testify, however, that the effect to cattle of consuming uranium "[is] primary to the kidneys ... then you're going to get all kind of abdominal effects, affecting other organs."¹⁰²

Moreover, in Mr. Murry's testimony, he candidly acknowledged that he is not an agriculture person and that he did not take into account negative effects on cattle if radioactive contaminants were ingested.¹⁰³ Mr. Murry's failure to address potential negative effects coupled with Dr. Reagor's narrow evaluation exposes that UEC failed to prove that the proposed mining activities will not negatively impact livestock and wildlife. The ALJ certainly did not consider these concerns in the analysis of this issue. The ALJ states that Dr. Reagor's testimony was substantially unchallenged. This is simply not the case. Although the cross-examination of Dr. Reagor was brief, it clearly exposed that his entire evaluation was premised on the guarantee that no contamination would occur. Unfortunately, that is not a guarantee as explained in more detail under Issue C and L.

N. Will the Applicant's proposed activities negatively impact the use of property?

Negative impacts to the use of property as a result of the proposed mining operations are not speculative. Mr. Kuhl openly acknowledged at hearing that the price of cattle would be impacted when someone finds out that cattle were drinking groundwater with uranium

¹⁰² 4 TR. 1029:7 – 15 (Reagor).

¹⁰³ 7 TR. 1298:4 – 21 (Murry).

concentrations above the EPA drinking water standard.¹⁰⁴ Regardless of whether cattle actually drank water containing the proposed restored 0.115 mg/L of uranium, the stigma would still be a negative impact from the mining operation. Mr. Kuhl also agreed this stigma associated with the groundwater would extend to residential property values around the site as well.¹⁰⁵

However, both of these issues pale in comparison to the potential negative impact associated with the likely failure of UEC to be able to restore the groundwater after mining. The evidence at the hearing was overwhelming that the groundwater contaminated by the mining activity would not and could not be fully restored. Additionally, as testified to by Mr. Murry, no long-term monitoring will be required if the amendment is granted to the restoration tables.

The ALJ's recommendation that UEC met its burden of proof with regard to Issue N appears to assume restoration efforts will be successful. As explained in Issue L, such an assumption is unwarranted. Accordingly, Goliad County urges this Commission reject the ALJ's recommendation that UEC sustained its burden of proof that proposed operations will not negatively impact the use of property.

O. Will the Applicant's proposed activities adversely affect public health and welfare?

The ALJ recommended that the proposed mining operations will not adversely affect public health and welfare.¹⁰⁶ The analysis offered by the ALJ in support of this recommendation is "subsumed within the public interest determination under Issue A." Goliad County points out that the ALJ's recommendation regarding Issue A included the caveat that uncertainty regarding the Northwest Fault could tip the public interest scale toward a finding that the proposed in situ uranium mining is not in the public interest. The hydrologic properties of the Northwest Fault are equally applicable to the public health and welfare. In other words, UEC failed to provide

¹⁰⁴ 5 TR. 1088:2 – 23 (Kuhl).

¹⁰⁵ 5 TR. 1041:10-1043:23 (Kuhl).

¹⁰⁶ PFD at 94.

sufficient evidence to satisfy its burden of proof assuring that the in situ uranium operations will not adversely affect public health and welfare. Accordingly, Goliad County urges the Commission to adopt the ALJ's reasoning regarding the lack of necessary information, deem an additional hearing on the merits as unreasonable and deny UEC's permit applications.

P. Whether the proposed mining is in the recharge zone of the Gulf Coast Aquifer (Evangeline component)?

The proposed mining will take place in the Goliad Formation. The Goliad Formation is a part of the Gulf Coast Aquifer. Geology witnesses, Dr. H.C. Clark and Dr. Galloway, agreed that the site is on the outcrop of the Goliad Formation.¹⁰⁷ Recharge to an aquifer takes place when precipitation falls on the outcrop and infiltrates downward until it meets the water table, where it then moves down gradient and is available to area water wells and as discharge to area streams. As Dr. Clark stated in his pre-filed testimony, his site visits and review of the drillers logs, Sand A, a component of the Goliad Formation at the site, outcrops at a number of places across the proposed mine permit site.¹⁰⁸ The In-Situ Application also acknowledges that "Sand A [is] at the surface in the central part of the permit area and no overlying clay is present."¹⁰⁹ The site is in the recharge zone of the Gulf Coast Aquifer and behaves no differently from the expected hydrogeologic response all across the outcrop of the Goliad Formation.

Q. Whether the Gulf Coast Aquifer is a confined aquifer in the areas of Goliad County where UEC will conduct UIC activities?

Goliad County does not contest this issue.

¹⁰⁷ UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 13 at 7-9 (In-Situ Application); UEC Exhibit 1, Galloway Pre-filed Direct at 29-10; Goliad County Exhibit 3, Clark Pre-filed Testimony at 21-14.

¹⁰⁸ Goliad Exhibit 1, Clark Pre-filed at 21:22- 22:27.

¹⁰⁹ UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 13 at 6-14; *Id.* at 7-21 (In-Situ Application).

R. Whether mining fluids will migrate vertically or horizontally and contaminate an USDW (underground source of drinking water)?

The ALJ recommended that until the issue of the transmissivity of the Northwest Fault is resolved, mining fluids may migrate vertically or horizontally and may contaminate a USDW.¹¹⁰ UEC did not meet its burden of proof on this issue. Under the TCEQ and SOAH rules, an applicant must provide sufficient evidence to satisfy the issues designated by the Commission. Considering the evidence presented at hearing, the Commission does not know whether mining fluids will migrate horizontally or vertically across the fault. Similarly, Mr. Underdown, UEC's Vice President of Production and the only UEC employee to testify at hearing, candidly testified that UEC had not even made an initial determination as to how UEC was going to mine the areas near the Northwest Fault.¹¹¹

Furthermore, as explained in Sections IV. and V.L. of this brief, UEC will be unsuccessful in restoring groundwater quality to baseline conditions and will obtain an amendment to restoration levels. Mr. Murry testified that once an amendment is issued, there is no longer a requirement to monitor groundwater quality or its migration pattern.¹¹²

Accordingly, Goliad County urges the Commission to deem an additional hearing unreasonable and adopt the ALJ's recommendation to deny UEC's permit applications.

S. Whether there are any USDWs within the injection zones proposed by UEC?

It is undisputed that USDWs exist within the injection zones proposed by UEC. Goliad County urges the Commission to adopt the ALJ's recommendation that "[t]here are USDWs within the injection zones proposed by UEC. As explained in Section V.T., below, the ALJ

¹¹⁰ PFD at 109.

¹¹¹ 1 TR. 199:6 – 202:17.

¹¹² 6 TR. 154:1 – 4 (Murry).

recommended that UEC did not provide sufficient evidence to demonstrate these USDWs will not be adversely impacted by UEC's proposed in situ uranium operations.

T. Whether any USDWs within Goliad County will be adversely impacted by UEC's proposed in situ uranium operations?

The ALJ recommended that until the issue of the transmissivity of the Northwest Fault is resolved, the evidence suggests that USDWs within Goliad County outside the proposed aquifer exemption area may be adversely impacted by UEC's proposed in situ uranium operations. Yet again, UEC has failed to satisfy its burden of proof on an issue designated by the Commission. Goliad County hereby incorporates by reference Section III of this brief regarding the failure to adequately characterize and describe the geologic principles of the proposed mining site.

Record evidence also demonstrates that USDWs will be adversely impacted by UEC regardless of the geologic and hydrologic properties. UEC has requested an aquifer exemption for 423 acres. The vast majority of the water within that acreage has not been sampled by UEC. Water quality data obtained by UEC from the proposed production areas and area of review indicate the vast majority of the water within the requested exemption is suitable for human consumption. Even the water samples taken directly in the heaviest concentrations suggest the water is suitable for human consumption with the exception of radium. However, as previously mentioned, there is no way of knowing the true baseline of radium concentrations due to UEC's careless exploration and well development activity. Yet, if an exemption is granted, then, by definition, this water within will be authorized to be contaminated.

It has been established that the water quality within a production zone will be significantly worse than pre-mining conditions. It has been firmly established that restoration of the water post mining has been an overwhelming failure. As such, Goliad County knows that once the USDWs

within the proposed mining boundary are contaminated with solubilized uranium, among other constituents, the damage is permanent.

Accordingly, Goliad County urges the Commission to deem an additional hearing unreasonable and adopt the ALJ's recommendation to deny UEC's permit applications. Goliad County further urges the Commission to deny the permit applications regardless of the geologic and hydrologic properties of the Northwest Fault on the grounds that USDWs unquestionably exist within the proposed mining areas and that they will undoubtedly experience a degradation of water quality due to mining activity.

U. Whether there is a "practical, economic and feasible alternative to an injection well reasonably available" within the meaning of that term as set forth in TWC § 27.051(d)(2)?

As stated by Tex. Water Code § 27.051(d)(2), the Commission, in determining if the use or installation of an injection well is in the public interest under Subsection (a)(1), shall consider, but shall not be limited to the consideration of ... whether there is a practical, economic, and feasible alternative to an injection well reasonably available. The Executive Director appeared to have not considered alternative sites in his evaluation of practicable and feasible alternatives to the proposed Goliad Project.¹¹³ Accordingly, the determination that this project has no practical, economic, and feasible alternative overlooked two primary components – clean water and opposition from concerned citizens.

The ALJ ultimately concluded that there is no practical, economic and feasible alternative to an injection well within the meaning of TEX. WATER CODE § 27.051(d)(2). However, as the ALJ appropriately noted in the PFD, "the public interest is an intentionally broad and undefined term in statute." Yet, the ALJ then turns around and adopts an inappropriate, narrow

¹¹³ 6 TR. 1237:7 – 12 (Murry).

interpretation of practical, economic and feasible alternative. Specifically, the ALJ concludes that the relevant inquiry is whether or not there is a better alternative means to mine the uranium than the in situ process. Goliad County disagrees with the ALJ's interpretation and urges this Commission to reject the ALJ's recommendation. Because the ED or ALJ did not evaluate alternative sites better suited for uranium mining as part of their analysis, Goliad County respectfully requests the Commission to deny UEC's permit applications.

VI. APPLICATION FOR PROPOSED PRODUCTION AREA AUTHORIZATION UR03075PAA1

As explained in Section IV.A., Goliad County agrees with the ALJ that UEC's proposed restoration table and Baseline Water Quality Table is too lenient. Goliad County also urges that by recommending averaging the three rounds of water quality samples, the ALJ has overlooked the fundamental error with the proposed Restoration Table and Baseline Water Quality Table. For those reasons, the PAA-1 application should be denied. However, the following section addresses Goliad County's exceptions to the ALJ's PFD regarding the additional designated issues for the PAA-1 Application.

A. Mine Plan

This issue was not contested by Goliad County.

B. Restoration Table and Baseline Water Quality Table

This issue is addressed in Section IV of this brief.

C. Control Parameter Upper Limits

The application form for a PAA states that an applicant may determine upper limits by either adding 25% or 5 mg/L to the highest detected concentration. For this application, the

acceptable method is not adding 25%, but rather adding 5 mg/L to the highest detected concentration.

The upper limit concentrations proposed by UEC for chloride and conductivity are unreasonably greater than the average concentrations detected. For example, the average chloride concentration in the overlying A Sand is 266 mg/L.¹¹⁴ However, the highest detected chloride concentration was 584 mg/L,¹¹⁵ over 300 mg/L higher than the average. UEC added an additional 25% of 584 mg/L, ultimately concluding 730 mg/L as the proposed upper control limit for chloride. UEC's methodology, although referenced in the application form, has created a buffer of almost 500 mg/L of chloride above the average concentrations that can be detected in the overlying A Sand without UEC having to declare an excursion event.

UEC has created a similar buffer with the upper control limit for conductivity in the overlying A Sand. The average conductivity in the A Sand was 1,520 µmhos.¹¹⁶ However, the highest detected conductivity at the overlying A Sand was 2,450 µmhos.¹¹⁷ UEC then added an additional 25% of 2,450 µmhos, ultimately concluding that 3,062 µmhos as the proposed upper control limit for conductivity. Using the highest detected value, which is far greater than the average level of conductivity in the A Sand, conductivity will essentially have to double during mining in order for UEC to declare an excursion.

A more reasonable approach to determine upper limits would be to add 5 mg/L to the highest detected concentrations. Instead of a 730 mg/L upper limit for chloride in the A Sand, the upper limit should be, at a maximum, 589 mg/L (584 mg/L + 5 mg/L). Although a significant buffer above the average concentration in the A Sand will still exist and excursions may still go

¹¹⁴ UEC Exhibit 6, Holmes Pre-filed Direct, Exhibit 20 at Table 6.1

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *Id.*

undetected, this method will minimize undetected excursions. The ALJ offered no analysis on which methodology was more appropriate. As the upper limits submitted by UEC are simply *proposed* upper limits, Goliad County respectfully request that the Commission lower any official upper limits that may be set.

D. Monitor Wells

Mr. Blandford ran simulations for migration of contaminants at the project site and concluded that “there is extremely little chance, if any, that horizontal excursions will be detected at any of the Production Zone monitor wells during the period of active mining, let alone be detected in sufficient time to actually allow for remedial action to be implemented.”¹¹⁸

Mr. Murry of the TCEQ agreed with Mr. Blandford’s opinion that, at those flow rates, contaminants would not reach the monitor wells 400 feet away.¹¹⁹ Mr. Murry also agreed that “if the monitoring is suspended, there would be no potential for detecting that movement until it reached a well off site.”¹²⁰ The end result from UEC’s proposed locations for monitor wells would be “that a large portion of the Production Zone aquifer between the Production Area and the monitor wells can be contaminated during the mining process, and there is no effective way to monitor whether this portion of the aquifer is restored to baseline conditions because there are no monitor wells in this interval. In fact, [Mr. Blandford] would expect that it will not be entirely restored, and the contaminated groundwater will continue to flow down gradient.”¹²¹ If UEC is going to have any ability to ensure control over contaminants, it is vital that the monitor well system be brought in closer than the maximum distance of 400 feet.

¹¹⁸ *Id.* at 39:19 – 22.

¹¹⁹ 7 TR. 1269:17 – 24 (Murry).

¹²⁰ 7 TR. 1269:25 – 1270:3 (Murry).

¹²¹ GCGCD Exhibit3, Blandford Pre-filed Testimony at 40:8 – 10.

Pursuant to 30 T.A.C. § 331.103(a), “designated production zone monitor wells shall be spaced no greater than 400 feet from the production area, as determined by exploratory drilling.” The wording of the rule clearly indicates that the Commission maintains some discretion as to whether to accept the placement by an applicant. Goliad County urges the Commission that if the permits are ultimately issued, at a minimum, it should require UEC to locate its monitor wells closer to the proposed mining area.

E. Cost Estimates for Aquifer Restoration and Well Plugging and Abandonment

Goliad County agrees with the ALJ that the financial assurance should be recalculated to reflect the cost of restoration to appropriate baseline conditions. According to the ALJ, those conditions are the average of the three rounds of sampling. Although Goliad County strongly disagrees with that proposition, it still agrees that financial assurance should be recalculated to reflect those levels should the Commission adopt the ALJ’s analysis.

F. Other Information Required to Evaluate the Application

Goliad County did not contest this issue.

G. Whether the Application for PAA1 complies with all Applicable Statutory and Regulatory Requirements?

Goliad County relies on its exceptions to Section XIII (Issue H) of the PFD, which is explained in detail in Section V.H. of this brief.

VII. TRANSCRIPTION COSTS

Goliad County believes “the financial ability of the party to pay the costs” is an important consideration in determining that Goliad County should pay no costs of the transcript, or at most a very limited amount. Goliad County’s participation was on behalf of its citizens. As a governmental entity all costs are covered directly from tax dollars. Goliad County allocated a

limited budget for hiring experts and legal counsel. Fortunately, Goliad County made this decision because without its participation, certain issues critical to the protection of its groundwater would never have come to light. Unfortunately, the contested case hearing exceeded anticipated costs and exhausted the appropriated funds. The ALJ improperly relied on the ability to hire legal counsel as an indication that the County has the financial ability to pay for the transcript. Goliad County's budget allocated for its participation pales in comparison to UEC's. Moreover, if these permits are ultimately issued, UEC stands to obtain a substantial financial benefit. Accordingly, Goliad County respectfully requests the Commission to allocate 100% of the transcription costs to UEC.

VIII. CONCLUSION

For the reasons set out in this responsive brief and exceptions to the ALJ's Proposal for Decision, Goliad County recommends denial of the In-Situ Application and the aquifer exemption request. As it is impossible to receive a PAA authorization without an in-situ permit, Goliad County urges the commission take no action on the PAA-1 request or, if action is necessary, to deny the request.

Respectfully submitted,

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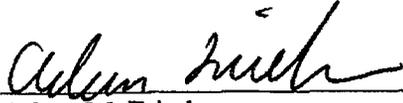
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CERTIFICATE OF SERVICE

On this 22nd day of 2010, a true and correct copy of the foregoing instrument was served on all attorneys and parties of record by the undersigned via regular U.S. Mail, and/or Certified Mail/Return Receipt Requested, and/or hand delivery, and/or facsimile transmission, and/or Federal Express Overnight Mail.


Adam M. Friedman

Richard R. Wilfong
Administrative Law Judge
State Office of Administrative Hearings
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Via E-Mail and Federal Express

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