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November 14, 2011

Via Hand-Delivery

Bridget C. Bohac, Chief Clerk
Office of the Chief Clerk - MC 105
Texas Commission on Environmental Quality
12100 Park 35 Circle
Building F, 1st Floor
Austin, TX 78759

TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY
2011 NOV 14 AM 10:25
CHIEF CLERKS OFFICE

Re: TCEQ Docket No. 2011-1814-UIC; Application by El Paso Water Utilities Public Service Board for Aquifer Exemption; Authorization No. 5X2700062

Dear Ms. Bohac:

Enclosed for filing in connection with the above-referenced matter is the original and eight (8) copies of El Paso Water Utilities Public Service Board's Response to Hearing Request. Please file-stamp the extra copy and return to my office via our runner.

By copy of this letter, all parties on the attached Mailing List are being served with a copy of this filing.

Please do not hesitate to contact me should you have any questions.

Sincerely,



William D. Dugat III

WDD/dfb
Enclosure(s)

cc: Mailing List

MAILING LIST
EL PASO WATER UTILITIES PUBLIC SERVICE BOARD
TCEQ DOCKET NO. 2011-1814-UIC
AUTHORIZATION NO. 5X2700062

*Via facsimile on November 14, 2011
to the following parties:*

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*Via federal express on November 11, 2011
for delivery on November 14, 2011 to the
following party:*

REQUESTER(S):
Juan M. Navar, Sr.
10828 Sombra Verde Drive
El Paso, TX 79935-3623
915-591-0672

EL PASO WATER UTILITIES
PUBLIC SERVICE BOARD'S
APPLICATION FOR AN
AQUIFER EXEMPTION
AUTHORIZATION NO. 5X2700062

§
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§
§

BEFORE THE TEXAS
COMMISSION ON
ENVIRONMENTAL QUALITY

2011 NOV 14 AM 10:25
CHIEF CLERKS OFFICE
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**EL PASO WATER UTILITIES PUBLIC SERVICE BOARD'S
RESPONSE TO HEARING REQUEST**

TO THE HONORABLE COMMISSIONERS:

El Paso Water Utilities Public Service Board ("EPWU") files this Response to the Hearing Request filed with the Texas Commission on Environmental Quality ("TCEQ" or "Commission") by Mr. Juan Navar, Sr., on behalf of the Wonders of Ancient Cultures and Modern West LLC ("Ancient Wonders") for a contested case hearing on the above-referenced application. EPWU respectfully requests that the Commissioners deny the request and grant EPWU's application for an aquifer exemption.

I.
INTRODUCTION

On August 26, 2008, EPWU filed an application for an aquifer exemption in connection with the operation of EPWU's Kay Bailey Hutchison Desalination Plant. The plant converts brackish groundwater from the Hueco Bolson and produces up to 27.5 million gallons of fresh water daily for use by the City of El Paso and Fort Bliss.¹ The Hueco Bolson is a major water source for the El Paso region, including the City of El Paso, Fort Bliss, and Ciudad Juarez, Mexico. This underground water resource contains significant quantities of brackish water that had historically been unused. The desalination plant allows a reduction in withdrawals of fresh water from the Hueco Bolson Aquifer and is a critical component of the water supply portfolio

¹ See Exhibit 1, Affidavit of Brad Cross, P.G. and Exhibit 4, Affidavit of Scott Reinert, P.E.

for the El Paso area. Under drought conditions, brackish groundwater from the Hueco Bolson and operation of the plant will be maximized to make up for the shortage of surface water. In addition to drought protection, the Kay Bailey Hutchison Plant will be used to provide for growth, meet peak demands, and be used if there is a supply disruption.²

Concentrated brine formed from the salt removed from the brackish water drawn from the Hueco Bolson is disposed in three deep injection wells (authorization is for five wells to be drilled) located 22 miles northeast of the plant.

On July 13, 2005, TCEQ authorized ("TCEQ Authorization") EPWU to construct and operate the five Class V injections wells to be completed in subsurface formations known as the Fusselman Dolomite, the Montoya Dolomite and the El Paso Group ("Fusselman-Montoya-El Paso Group").³ The native Fusselman-Montoya-El Paso Group formation water exceeds national and state primary drinking water standards for arsenic, gross alpha (less Ra and U), nitrite, and radium. Moreover, the formation water is brackish with total dissolved solids between 8,260 mg/l and 8,780 mg/l.⁴

The TCEQ Authorization requires that the desalination concentrate that is injected "not exceed any national or state primary drinking water standards."⁵ Under current operations, the concentrate is diluted with potable water to meet the requirements of the TCEQ Authorization.⁶

EPWU recognizes that as water demand increases in the future, the volume of concentrate to be injected will increase, and using fresh water to meet the primary drinking water

² See Exhibit 4, Affidavit of Scott Reinert, P.E.

³ See Exhibit 2, TCEQ July 13, 2005 authorization letter.

⁴ See Exhibit 1, Affidavit of Brad Cross, P.G.

⁵ See Exhibit 2, TCEQ July 13, 2005 authorization letter.

⁶ The only parameters of concern in the concentrate that do not meet primary drinking water standards are arsenic and gross alpha (less Ra and U). As noted above, the native Fusselman-Montoya-El Paso Group formation water contains arsenic and gross alpha that already do not meet primary drinking water standards.

standard becomes problematic.⁷ EPWU requests an “aquifer exemption” designation for the Fusselman-Montoya-El Paso Group formation. Designation of the formation as an exempt aquifer would enable EPWU to request modification of its Class V injection well authorization, increase the concentration in the desalination concentrate, and thereby eliminate the need to dilute the concentrate prior to injection.⁸

Although the native Fusselman-Montoya-El Paso Group water has an overall poorer quality than the desalination concentrate and the formation is not used for consumption, it is considered an underground source of drinking water (“USDW”) because it contains groundwater with a concentration of less than 10,000 mg/l total dissolved solids.⁹ The designation of exempt aquifer would remove from the formation the designation and regulatory requirements associated with a USDW.

TCEQ’s “exempt aquifer rule,” 30 Tex. Admin. Code § 331.13, provides that a USDW may be exempted if (1) the aquifer does not currently serve as a source of drinking water and (2) the aquifer cannot now and will not serve as a source of drinking water based upon certain criteria.¹⁰ The siting, construction and operation of El Paso’s injection wells are not considered in the decision to exempt the aquifer.

EPWU published and mailed notice of the aquifer exemption and TCEQ conducted a public meeting on July 14, 2011. Ancient Wonders filed the only request for a contested case hearing. As explained below, the request should be denied and the application granted.

⁷ See Exhibit 4, Affidavit of Scott Reinert, P.E.

⁸ *Id.*

⁹ 30 TEX. ADMIN. CODE § 331.2(107).

¹⁰ 30 TEX. ADMIN. CODE § 331.13.

II.
THERE IS NOT A RIGHT TO A CONTESTED CASE FOR AN
AQUIFER EXEMPTION ASSOCIATED WITH A CLASS V INJECTION WELL

Ancient Wonders is not entitled to a contested case for an aquifer exemption associated with a Class V injection well. The “exempt aquifer rule” provides that there is an opportunity for a “public hearing” in connection with the Commission designation of an exempt aquifer.¹¹ The term “public hearing” is not defined under the “exempt aquifer rule.” However, the TCEQ’s notice requirements make it clear that a right to a contested case hearing (as opposed to a public hearing akin to a public meeting) is only available if there is an associated injection well application for which the opportunity to request a contested case hearing is also available.¹² The aquifer exemption notice requirements direct applicants to the notice requirements for an injection well permit to satisfy public notice.¹³ That is, the Commission has tied the aquifer exemption notice and hearing requirements to those of an injection well application because requests for aquifer exemptions routinely accompany applications for injection well permits.

EPWU’s injection wells are Class V wells. There is neither notice nor opportunity for hearing in connection with a Class V injection well authorization. Instead, injections into Class V wells are authorized by rule upon receipt of an approval letter from TCEQ after filing a complete and compliant authorization form.¹⁴ Because there is no notice or opportunity for contested case hearing for a Class V injection well, there is no opportunity for a contested case

¹¹ 30 TEX. ADMIN. CODE § 331.13(a).

¹² 30 TEX. ADMIN. CODE § 39.655.

¹³ 30 TEX. ADMIN. CODE § 39.655(b), (c) and (d). For example, notice of contested case hearing on Aquifer Exemption shall be published in a newspaper or *newspapers in the same manner as required for* the notice of contested case hearing for *an injection well permit application* associated with the proposed aquifer exemption under § 39.651(f) of this title. This notice must contain the text as required by § 39.423 of this title (relating to Notice of Contested Case Hearing). The chief clerk shall mail this notice to the persons required to receive the Notice of Contested Case Hearing for an injection well permit application associated with the proposed aquifer exemption under § 39.651(f) of this title.

¹⁴ 30 TEX. ADMIN. CODE § 331.9 (b).

hearing on EPWU's request for aquifer exemption associated with its already-authorized Class V wells.

To satisfy the requirement for a "public hearing" under the "aquifer exemption rule," the Commission designation of the aquifer exemption should occur at a properly posted and noticed meeting of the Commissioners—the meeting to be held December 7, 2011.¹⁵ The record of such hearing is similar to the record associated with a Commission rulemaking and would include the Application, the comments received in connection with the July 14, 2011 public meeting, the Executive Director's Response to Comments, the Applicant's Response to the hearing request, and replies to the responses.

III.
ANCIENT WONDERS DOES NOT SATISFY THE LEGAL
REQUIREMENTS FOR A CONTESTED CASE ON EPWU'S AQUIFER EXEMPTION

Even if the contested case process applies to EPWU's request for aquifer exemption, Ancient Wonders has failed to satisfy the requirements of an "affected person" and its request should be denied.

To be granted a contested case hearing, a person or entity must be an "affected person," meaning it has "a personal justiciable interest related to a legal right, duty, privilege, power, or economic interest affected by the application" that is not "common to members of the general public."¹⁶ The person must describe, briefly but specifically, how and why he or she will be

¹⁵ The Commission uses the agenda hearing to satisfy "hearing and notice" requirements in other instances. For example, § 13.248 of the Water Code provides that "contracts between retail public utilities designating areas to be served and customers to be served by those retail public utilities, when approved by the commission *after public notice and hearing*, are valid and enforceable and are incorporated into the appropriate areas of public convenience and necessity." The Commission approves these contracts pursuant to § 13.248 at Commissioners' agenda with appropriate notice provided under the Open Meetings Act.

¹⁶ The EPWU application for aquifer exemption does not result in the issuance of a permit and is not subject to the procedural requirements adopted by the Commission under H.B. 801, 76th Legislature 1999. Affected party status is determined under 30 Tex. Admin. Code, Chapter 55, Subchapter G.

affected by the change proposed in the application.¹⁷ An interest common to members of the general public does not qualify as a personal justiciable interest.¹⁸ The Commission is instructed to consider a list of non-exclusive factors in determining whether a person is an affected person, including:

- (1) whether the interest claimed is one protected by the law under which the application will be considered;
- (2) the distance restrictions or other limitations imposed by law on the affected interest;
- (3) whether a reasonable relationship exists between the interest claimed and the activity regulated;
- (4) the likely impact of the regulated activity on the health, safety, and use of property of the person;
- (5) likely impact of the regulated activity on the use of the impacted natural resource by the person; and
- (6) for governmental entities, their statutory authority over or interest in the issues relevant to the application.¹⁹

A protestant must show a concrete and particularized, legally protected interest that is actual or imminent, rather than conjectural or hypothetical, or an “injury in fact.”²⁰ Only legally protected interests that are sufficiently particularized and that will actually or imminently be affected by the application are sufficient to confer standing.²¹

The issues raised by Ancient Wonders in its hearing request are summarized as follows:

- (1) Injected water will contaminate potable water that currently exists in one or more aquifers under its property;

¹⁷ *Id.*

¹⁸ *Id.* § 55.256(a).

¹⁹ 30 TEX. ADMIN. CODE § 55.256(c).

²⁰ *Save our Springs Alliance, Inc. v. City of Dripping Springs*, 304 S.W.3d 871, 878 (Tex. App. – Austin 2010, pet. denied) (citing *Lujan v. Defenders of Wildlife*, U.S. 555, 560-61 (1992)).

²¹ *Id.*

- (2) Contaminated water injected under pressure into one aquifer would be forced through a network of caverns and cracks into many nearby aquifers²²; and
- (3) High pressure injection will increase the likelihood of contaminated water rising to the surface or near-surface through the porous ground adversely affecting vegetation.

In general, each of these issues relates to the operation of EPWU's Class V injection wells. As already noted, Class V injection wells are not subject to notice and comment requirements.²³ The operation of these wells is not a consideration in whether to grant an aquifer exemption. As demonstrated by an analysis of the "affected person" criteria, Ancient Wonders does not have a personal justiciable interest affected by the application.

A. The interests claimed by Ancient Wonders are not interests protected under the aquifer exemption rule.

Ancient Wonders' hearing request must be evaluated in the context of the law ("aquifer exemption rule") under which the aquifer exemption application is considered. The "aquifer exemption rule" provides that an "aquifer or a portion of an aquifer may be designated as an exempt aquifer if the following criteria are met:

- (1) It does not currently serve as a source of drinking water for human consumption; and
- (2) Until exempt status is removed according to procedures in subsection (f) of this section, it will not in the future serve as a source of drinking water for human consumption because:
 - (a) It is mineral, hydrocarbon or geothermal energy bearing with production capability;

²² Ancient Wonders cites an unnamed University of Texas System study for the proposition that the area affected by the application is not completely isolated. Without more, EPWU has been unable to locate the purported study.

²³ Although Class V wells are not subject to notice and public comment, the siting, operation and construction of EPWU desalination facility included significant public involvement as part of a federal environmental impact statement conducted by the U.S. Army in connection of its lease of property on Ft. Bliss for the project. See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G. and Exhibit 4, Affidavit of Scott Reinert, P.E.

- (b) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technologically impractical;
- (c) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or,
- (d) It is located above a Class III well mining area subject to subsidence or catastrophic collapse.

These factors make no mention of injection wells or the potential impact of injection wells. Whether an injection well is contemplated or actually operating is irrelevant to the determination of whether an aquifer should be designated as “exempt.” The only inquiry is whether the aquifer currently serves as a source of drinking water and whether the aquifer cannot now and will not serve as a source of drinking water based upon certain criteria. Ancient Wonders never contends that the aquifer proposed for exemption is or could become a source of drinking water for human consumption.

EPWU seeks an exemption of an aquifer that is 2,480 feet thick and that ranges in depth between 2,222 and 2,890 feet below ground level. There are no public or private water supply systems utilizing this water.²⁴ This is the first criteria for granting an aquifer exemption and nothing in Ancient Wonders’ hearing request (i.e., alleged impact from injection) challenges or raises an issue related to this criterion.

EPWU’s application demonstrates satisfaction of the second criteria that the proposed exempt aquifer will not in the future serve as a source of drinking water, because its depth and quality makes recovery of the water for drinking water purposes economically and technologically impractical.²⁵ The depth of the proposed exempt aquifer makes it impractical to

²⁴ To evaluate the production and use of the groundwater from the proposed exempt aquifer, EPWU conducted an on-the-ground site survey as well as a literature review and file search of the Texas Water Development Board, TCEQ, Texas Railroad Commission, New Mexico Environmental Department, and New Mexico Energy, Minerals and Natural Resources Department. *See* Exhibit 1, Affidavit of Brad Cross, P.G.

²⁵ *See* Exhibit 1, Affidavit of Brad Cross, P.G.

recover for human consumption. Moreover, the groundwater in the proposed exempt aquifer does not meet primary water quality standards for arsenic, gross alpha (less Ra and U), nitrite and radium and total dissolved solids are in excess of 8,000 mg/l. Even if injection of concentrate were not occurring, water from the proposed aquifer would require treatment and injection of the concentrate would not render the groundwater either less treatable or more costly to treat than it already is. The energy cost to pump from over 2,222 to 2,890 feet coupled with the disposal of the brine concentrate make production of the proposed exempt aquifer economically impracticable (production cost of \$3000 per acre-foot) to render the water fit for human consumption.²⁶ Ancient Wonders does not raise an issue related to or contest this aquifer exemption criterion in its hearing request.

In short, what the Commission considers in granting an aquifer exemption does not include the construction or operation of EPWU's injection wells and their potential impact, which is the focus of the Ancient Wonders' claims in its hearing request.²⁷

B. There are no distance restrictions or other limitations imposed by the aquifer exemption rule on any interest of Ancient Wonders.

Neither is Ancient Wonders' affected interest within a distance restriction or other limitation imposed by law. Ancient Wonders indicates that its property is located approximately one-half mile from EPWU's injection well sites. There are no applicable distance restrictions or other limitations imposed by law for an aquifer exemption designation. If the location of the

²⁶ See Exhibit 1, Affidavit of Brad Cross, P.G.

²⁷ While the injection wells are not the focus of the consideration of an aquifer exemption, EPWU points out that the construction of the wells is robust—each Class V well is constructed in compliance with the more stringent casing and cementing requirements of Class I injection wells. State and federal regulations require that the wells be pressure cemented from the land surface to the top of the injection zone. The wells are also continuously monitored. Furthermore, EPWU must demonstrate mechanical integrity. The wells must be pressure tested every five years and the bottom-hole cement is tested once every five years using a radioactive tracer survey. Therefore, no fluid migration can occur between the top of the injection zone (2,222 and 2,890 feet below ground level) and land surface.

injection wells in relation to Ancient Wonders' property were a relevant distance restriction in an aquifer exemption, under TCEQ rules, the "area of review" for a Class V well authorization is defined as an area determined by a radius of at least ¼ miles from the existing wellbore.²⁸

Assuming that the "area of review" is relevant, admittedly, Ancient Wonders' property is located double the distance from the "area of review."

C. Ancient Wonders' interests are neither related to nor impacted by the proposed aquifer exemption.

The remaining relevant factors the Commission considers in determining affected person status are insufficient to grant Ancient Wonders' hearing request. These factors are related and addressed together.

The factors are the existence of a reasonable relationship between the interest claimed and the regulated activity and the likely impact of the regulated activity on the requestor's health, safety and use of property and natural resources. In each instance, the regulated activity is whether to exempt the aquifer associated with the Fusselman-Montoya-El Paso Group formation from regulation as an underground source of drinking water. Ancient Wonders does not claim this aquifer as a source of its potable water or that is linked and could cause contamination of potable water. The Fusselman-Montoya-El Paso Group formation has no hydrological connection with the potable water found in the Hueco Bolson aquifer used by Ancient Wonders and others in the El Paso region. The formation is sandwiched between an upper confining zone of over 1,000 feet of continuous low-permeability shale and limestone and confining strata beneath the lower most injection interval of approximately 250 feet of Bliss Sandstone consisting of sandstone, quartzite, and siltstone.²⁹

²⁸ 30 TEX. ADMIN. CODE § 331.42(a)(5).

²⁹ See Exhibit 1, Affidavit of Brad Cross, P.G and Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

Ancient Wonders attempts to make a connection between the proposed exempt aquifer and potable water, as well as the impact on “vegetation in the area” by claiming that contaminated water injected into the ground under “high pressure” will contaminate other aquifers and appear at or near the surface travelling through the porous ground. Again, the EPWU injection wells are not a consideration in whether to grant an aquifer exemption. But even if the injection wells were a relevant consideration, the TCEQ Authorization requires that the surface injection pressure not exceed 0.0 pounds per square inch.³⁰ That is, EPWU is not authorized to inject under pressure.³¹ Moreover, well logs of the area (including well logs of wells owned by the Navar family) demonstrate the predominance of non-porous clay in the shallow subsurface.³²

Finally, EPWU notes that this is not the Navar³³ family’s first “protest” of EPWU’s desalination facility. On September 27, 2004, members of the Navar family provided a comment letter on the Draft Environmental Impact Statement (EIS) that was written for the project by Fort Bliss.³⁴ In those comments, the Navar family acknowledged the presence of impermeable rock between the injection zone and the Hueco Bolson aquifer. However, they asserted that the fractures in the rock would result in “the upward flow of the injected concentrate or the

³⁰ See Exhibit 2, TCEQ July 13, 2005 authorization letter.

³¹ The concentrate is disposed by simply opening a valve at the well head, and the concentrate enters the well bore by gravity. The rise in groundwater level in the wells varies, and ranges from 2 feet to about 150 feet during operation. This rise in groundwater level in the well ceases immediately after flow, and the water level in the well returns to a static condition within a couple of hours after flow stops. See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

³² See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

³³ Mr. Navar signed the Ancient Wonders’ protest letter of the aquifer exemption.

³⁴ The Navar family met with EPWU representatives between September 27, 2004 and the end of 2004 to discuss the concerns in their letter. They offered to sell their land to EPWU, but EPWU management believed that the asking price was too high. See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

downward flow of the drinking water.”³⁵ In response to this comment, Fort Bliss noted that the high transmissivity of the injection zone would result in minimal rise in groundwater levels in the injection zone, thus providing no means for movement of injectate through about 1,000 feet of impermeable shale that overlies the injection zone.³⁶ As already noted, concentrate disposal is accomplished without the use of pumps because of the high transmissivity. This transmissive injection zone is overlain by about 1,000 feet of essentially impermeable shale.³⁷

IV. CONCLUSION

EPWU’s Kay Bailey Hutchison Desalination Plant is a vital part of the El Paso region’s drought-prone water supply. The use of potable water to dilute brine concentrate injected into a geologic formation of poorer water quality than the injectate does not make sense. Granting an aquifer exemption will allow the best use of the water resources and have no impact on Ancient Wonders’ interest.

Because Ancient Wonders is not entitled to a contested case hearing on an aquifer exemption application associated with a class V injection well and because Ancient Wonders is not an “affected person,” EPWU urges the Commission to deny the hearing request and grant the aquifer exemption.

³⁵ See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

³⁶ *Id.*

³⁷ At the time of the draft EIS, the responses by Fort Bliss were based on the results of tests and modeling results. The Kay Bailey Hutchison Desalination Plant, including the injection wells has successfully operated since 2007 has demonstrating the efficacy of the injection wells, and operational data has shown that there is minimal rise in the groundwater levels during operation and a return to static conditions soon after cessation of operation. See Exhibit 3, Affidavit of William Hutchison, PhD, P.E., P.G.

Respectfully submitted,

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By: 
William D. Dugat III
State Bar No. 06173600

**ATTORNEYS FOR EL PASO WATER
UTILITIES PUBLIC SERVICE BOARD**

CERTIFICATE OF SERVICE

I hereby certify by my signature below that a true and correct copy of the above and foregoing document was forwarded to the parties by the delivery method and on the date as shown on the attached Mailing List.


William D. Dugat III

MAILING LIST
EL PASO WATER UTILITIES PUBLIC SERVICE BOARD
TCEQ DOCKET NO. 2011-1814-UIC
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10828 Sombra Verde Drive
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Exhibit 1

TCEQ DOCKET NO. 2011-1814-UIC

EL PASO WATER UTILITIES	§	BEFORE THE TEXAS
PUBLIC SERVICE BOARD'S	§	
APPLICATION FOR AN	§	COMMISSION ON
AQUIFER EXEMPTION	§	
AUTHORIZATION NO. 5X2700062	§	ENVIRONMENTAL QUALITY

**AFFIDAVIT OF BRAD CROSS, P.G.
IN SUPPORT OF EL PASO WATER UTILITIES PUBLIC SERVICE BOARD'S
APPLICATION FOR AN AQUIFER EXEMPTION**

STATE OF TEXAS §
 §
COUNTY OF TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared Brad Cross, who swore on oath that the following facts are true:

My name is Brad Cross. I am over the age of eighteen (18) years. I have never been convicted of a felony or a misdemeanor involving moral turpitude and I am competent to make this Affidavit. I have personal knowledge of all the facts stated in this Affidavit, all of the information is true and correct, and I am in all respects qualified to make the affidavit. I am a registered professional geoscientist in the State of Texas and a hydrogeologist with LBG-Guyton Associates in Austin, Texas. I am the lead geologist responsible for assisting El Paso Water Utilities Public Service Board ("EPWU PSB") in the preparation and filing of an Aquifer Exemption Application No. 5X2700062. I also have reviewed the letter from Juan M. Navar, Sr. on behalf of Wonders of Ancient Cultures and Modern West, LLC, which alleges three concerns in connection with the Aquifer Exemption Application. I am authorized to make this Affidavit.

The Kay Bailey Hutchison Desalination Plant converts brackish water from the Hueco Bolson to potable water for use by the City of El Paso and Fort Bliss. This underground water resource contains significant quantities of brackish water that had historically been unused. The desalination plant allows a reduction in withdrawals of fresh water from the Hueco Bolson Aquifer and is a critical component of the water supply portfolio for the El Paso area.

Operation of the plant is consistent with EPWU PSB conjunctive use of surface water from the Rio Grande and local groundwater. Specifically, during times of “full” river allocation, groundwater pumpage from the Hueco Bolson and operation of the plant will be minimal. Under “drought” conditions, groundwater from the Hueco Bolson and operation of the plant will be maximized to make up for the shortage of surface water. In addition to drought protection, the plant will be used to provide for growth, meet peak demands, and be used if there is a disruption in other supplies.

The Plant treats brackish water drawn from the Hueco Bolson, referred to as “feed” water, using reverse osmosis (RO) technology. RO uses semipermeable membranes to remove dissolved solids (primarily salts) from brackish water, producing fresh water. The result is two water streams: fresh water (called “permeate”) and a concentrated brine formed from the salt removed from the brackish feed water (called “concentrate”). Permeate has a very low salinity, is very pure and is mixed with brackish “blend” water, also drawn from the Hueco Bolson, prior to distribution in the public water supply. The blended water is called “finished” water and complies with federal and state drinking water standards.

The desalination plant is capable of producing 27.5 million gallons of fresh water daily. Concentrate disposal from the plant is currently accomplished through three deep injection wells that were authorized by Texas Commission on Environmental Quality (“TCEQ”) on July 13,

2005. The injection wells are located approximately 22 miles northeast of the plant and are constructed in compliance with the more stringent casing and cementing requirements of Class I injection wells. EPWU PSB received authorization from TCEQ to construct and operate up to five Class V injection wells completed in the Fusselman Dolomite, the Montoya Dolomite, and the El Paso Group. The Fusselman-Montoya-El Paso Group consists of fractured limestone and dolomite. Electric logs indicate the top of the proposed exempt aquifer ranges in depth from 2,222 to 2,890 feet below ground level ("BGL"). The proposed exempt aquifer has a thickness of approximately 2,480 feet. The upper confining zone for the proposed exempt aquifer consists of over 1,700 feet of continuous low-permeability shale and limestone. The confining strata beneath the lowermost injection interval is the Bliss Sandstone. The Bliss Sandstone is approximately 250 feet thick and consists of sandstone, quartzite, and siltstone.

The Fusselman-Montoya-El Paso Group is considered an underground source of drinking water (USDW) because the Total Dissolved Solids ("TDS") of the natural formation water is below 10,000 mg/L. The current Class V injection well authorization prohibits injecting water that does not meet primary drinking water standards, even if the formation water exceeds the primary drinking water standard for that particular parameter. Native Fusselman-Montoya-El Paso Group water samples demonstrate that the water quality does not meet national and state primary drinking water standards for arsenic, gross alpha (less Ra and U), nitrate, and radium. In addition, the formation water is brackish with a TDS of over 8,000 mg/L.

Under current operations, the chemical composition of the dilute and non-hazardous desalination concentrate (injectate) has a TDS less than 6,000 mg/L. Thus, the concentrate has an overall higher quality than the native Fusselman-Montoya-El Paso Group water. The only parameters of concern that do not meet primary drinking water standards are arsenic and gross

alpha (less Ra and U). As noted above, the native Fusselman-Montoya-El Paso Group formation water contains arsenic and gross alpha that already do not meet primary drinking water standards.

Currently, the concentrate is being diluted in order to meet the requirements of authorization (i.e., arsenic and gross alpha concentrations below primary drinking water standards). While the plant is currently generating only 700 gallons per minute of concentrate, EPWU PSB recognizes that as water demand increases over the years, the volume of concentrate will also increase, raising the question of how to address the primary drinking water standard issue.

The most viable option in dealing with injecting concentrate that does not meet primary drinking water standards for one or more parameters is an "aquifer exemption." The U.S. Environmental Protection Agency (EPA) and TCEQ can jointly approve an aquifer exemption by finding that this use (injecting concentrate) in a USDW aquifer may be more important than or otherwise take precedence over, the use of the aquifer as a potential source of water supply for human consumption.

The limits of the requested exempt aquifer are defined vertically as the top of the Fusselman Dolomite to the base of the El Paso Group. The horizontal limit of the proposed exempt aquifer is defined by the lateral extent of the simulated plume and represents a concentration reduction factor of 1,000 times from the original injectate. The plume is based on a constant injection of 3 million gallons per day over a 50-year injection period. The plume is approximately elliptical in shape with the width of the plume varying from 0.5 to 2 miles and with a length of 17 miles. In an effort to be conservative, a buffer zone has been added around the simulated plume. The aerial extent of the proposed exempt area is rectangular in shape with

the northwest corner of the exemption being located at latitude 32° 00' 13.38" N, longitude -106° 11' 49.28" W; the southwest corner at latitude 31° 43' 30.00" N, longitude -106° 11' 49.28" W; the southeast corner at latitude 31° 43' 30.00" N, longitude -106° 05' 42.12" W; and the northeast corner at latitude 32° 00' 12.74" N, longitude -106° 05' 42.12" W. The total area included in the proposed exemption (simulated plume plus rectangular buffer zone) is approximately 115 square miles, approximately 5.98 miles east to west and 19.2 miles north to south, and is located in El Paso County, Texas.

The aquifer exemption may be granted under EPA 40 CFR §146.4 and TCEQ 30 TAC 331.13 if the aquifer is not a source of drinking water and will not serve as a source of drinking water in the future because it has a TDS level above 3,000 mg/L and less than 10,000 mg/L and is not reasonably expected to supply a public water system. The exemption may also be granted because it too deep or too remote which makes recovery of water for drinking water purposes economically or technically impractical. A search of water well records, public sources of data, and an on-the-ground site survey in the area indicates that the proposed exempt aquifer has not been nor is currently utilized as a domestic, agriculture, or industrial supply of water. Because the depth of the proposed exempt aquifer ranges from 2,222 to 2,890 feet, use of the aquifer as a water resource is economically and technically impractical. The water quality of the injected fluids does not significantly affect the existing groundwater quality of the proposed exempt aquifer. Regardless of current or projected concentrate disposal levels, the same membrane treatment would be required prior to using the groundwater as a source of drinking water.

Alternative sources of drinking water (Rio Grande, Hueco Bolson, Mesilla Bolson, Capitan Reef Aquifer, Dell City, Antelope Valley, and Wildhorse Ranch) are available. These alternative sources have a higher quality (1,000 to 3,000 mg/L TDS as compared to over 8,000

mg/L TDS) and can be produced at a significantly less cost per acre-foot (\$163 to \$1,400 per acre-foot as compared to \$3,000 per acre-foot).

Favorable hydrogeologic conditions exist for the storage and containment of brines injected into the aquifer. (The aquifer has sufficient porosity and permeability to support injection for the fifty-year operation of the desalination facility.) Sufficient vertical confinement is also maintained throughout the proposed exemption area. The aquifer not only produces hydrocarbons in West Texas and Southeast New Mexico but also is utilized as an injection zone for disposal of oilfield brine in these areas.

Brad Cross

Brad Cross, P.G.
Associate
LBG-Guyton Associates

SWORN TO AND SUBSCRIBED before me on this 11th day of November, 2011.

Denise Fregeolle-Burk

Notary Public in and for the State of Texas
Printed Name: Denise Fregeolle-Burk
My commission expires: 5-13-14

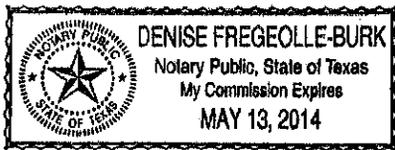


Exhibit 2

Kathleen Hartnett White, *Chairman*
R. B. "Ralph" Marquez, *Commissioner*
Larry R. Soward, *Commissioner*
Glenn Shankle, *Executive Director*



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JUL 15 2005

LBG-Guyton Associates

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 13, 2005

Mr. William R. Hutchison, P.G.
El Paso Water Utilities
1154 Hawkins Blvd.
El Paso, Texas 79961

Re: Authorization and Registration of Class V Injection Wells
TCEQ Authorization No. 5X2700062, WWC10918724, CN602812521
Joint Desalination Facility

Dear Mr. Hutchison:

The Underground Injection Control (UIC) staff has completed its review of the injection well application submitted by LBG-Guyton Associates dated March 8, 2005 and amendments dated May 12, 2005 and June 20, 2005 addressing the use of five Class V injection wells to inject discharge water from a desalination plant used to convert brackish groundwater to potable water. Based on this review, authorization by rule is hereby given for the construction and operation of the Class V injection wells for this site contingent upon the operator's compliance with the applicable provisions of 30 TAC Chapter 331, the plans and specifications in the application and its amendments, and the following conditions:

1. After completion of well construction and prior to initiation of injection operations, a well completion report shall be submitted to and approved by the UIC staff at Mail Code MC-130. This report shall include as built drawings and material specifications properly sealed by a licensed engineer, a log of daily activities in construction and testing of the well, copies of all well logs, core analysis, formation water sample analysis, pressure test data for casings and the injection zone, the results of mechanical integrity testing of the well, and the latitude and longitude of the well.
2. The initial formation water analysis shall determine background water quality for reference in future monthly sampling of injected wastewater, and shall include those constituents listed in 30 TAC §§290.104(b), 290.105, and 290.108 and also gross beta and lead.
3. After construction and prior to startup of the disposal wells, the injected waste stream shall be sampled at the point of injection and analyzed for the same chemical and physical parameters specified in Condition 2 above. The sampling and analysis shall be repeated monthly and submitted quarterly to the commission's UIC staff at Mail Code MC-130. The injected waste stream shall not exceed any national or state primary drinking water standards.
4. If the concentrations of individual chemical parameters of the injectate at any time exceed the limits specified in the above Condition 3, the operator shall notify the UIC staff and cease injection until the concentration is brought back into compliance with the requirements of Condition 3.

Mr. William R. Hutchison, P.G.

Page 2

July 13, 2005

5. The operating surface injection pressure shall not exceed 0.0 psig and the maximum instantaneous rate of injection shall not exceed 1,100 gpm for any individual well. The average rate of injection shall not exceed 2,100 gpm for all wells combined. Maximum monthly and yearly injection volume for all wells combined shall not exceed 93,744,000 and 1,103,760,000 gallons respectively.
6. Continuous monitoring and digital recording of injection pressure, injection rate, and injection volume shall be conducted and reported quarterly to the UIC staff at Mail Code MC-130.
7. Mechanical integrity shall be demonstrated on an annual basis determined by the anniversary date of the original mechanical integrity testing on the well. The annual testing of the well shall also include a pressure falloff test, with measurement of static bottom hole pressure and fluid level.
8. Closure (plugging) of the injection well shall comply with standards provided in 30 TAC §331.133. Closure reports including details of work performed, any test data collected, and a summary of the well history and injected volume shall be submitted to the UIC staff at Mail Code MC-130 within 60 days of completion of injection.
9. Any spills and releases during well construction, workover, maintenance treatments, testing, waste disposal or closure shall be collected and managed in an appropriate manner according to Commission rules.
10. Changes in well design, construction, operation, location, or status shall be reported to and approved by the UIC staff at Mail Code MC-130.

If you have any questions about this matter, please contact me at (512) 239-6075. If you will be corresponding by mail, please use mail code (MC-130).

Sincerely,



Bryan Smith, Project Manager
UIC Permits Team
Industrial and Hazardous Waste Permits Section
Texas Commission on Environmental Quality

BSS/ff

cc: ✓ Mr. John Ashworth, LBG-Guyton Associates, Austin
✓ Mr. Brad Cross, LBG-Guyton Associates, Austin

Exhibit 3

TCEQ DOCKET NO. 2011-1814-UIC

EL PASO WATER UTILITIES	§	BEFORE THE TEXAS
PUBLIC SERVICE BOARD'S	§	
APPLICATION FOR AN	§	COMMISSION ON
AQUIFER EXEMPTION	§	
AUTHORIZATION NO. 5X2700062	§	ENVIRONMENTAL QUALITY

**AFFIDAVIT OF WILLIAM R. HUTCHISON, Ph.D., P.E., P.G.
IN SUPPORT OF EL PASO WATER UTILITIES PUBLIC SERVICE BOARD'S
APPLICATION FOR AN AQUIFER EXEMPTION**

STATE OF TEXAS §
 §
COUNTY OF TRAVIS §

BEFORE ME, the undersigned authority, on this day personally appeared William R. Hutchison, who swore on oath that the following facts are true:

My name is William R. Hutchison. I am over the age of eighteen (18) years. I have never been convicted of a felony or a misdemeanor involving moral turpitude, and I am competent to make this Affidavit. I have personal knowledge of all the facts stated in this Affidavit, all of the information is true and correct, and I am in all respects qualified to make the affidavit. I hold a Ph.D. from the University of Texas at El Paso. I am a professional engineer licensed in the State of Texas, and a professional geoscientist licensed in the State of Texas. I have 28 years of experience as a hydrogeologist. From 2001 to 2009, I was the Water Resources Manager for El Paso Water Utilities Public Service Board (EPWU PSB), and I am currently an Associate with LBG-Guyton Associates in Austin, Texas. During my time at EPWU PSB, I was responsible for all aspects of the siting, permitting, construction, testing, and initial operation of the production and injection wells associated with the Kay Bailey Hutchison Desalination Plant. As part of that responsibility, I provided management oversight and completed much of the

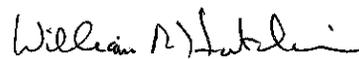
technical work in the preparation and filing of an Aquifer Exemption Application No. 5X2700062. I also have reviewed the July 13, 2011 letter from Juan M. Navar, Sr. on behalf of Wonders of Ancient Cultures and Modern West, LLC, which alleges three concerns in connection with the Aquifer Exemption Application. I am authorized to make this Affidavit.

On September 27, 2004, members of the Navar family provided a comment letter on the Draft Environmental Impact Statement (EIS) that was written for the project by Fort Bliss. In those comments, the Navar family acknowledged the presence of impermeable rock between the injection zone and the Hueco Bolson. However, they asserted that the fractures in the rock would result in "the upward flow of the injected concentrate or the downward flow of the drinking water". In response to this comment, Fort Bliss noted that the high transmissivity of the injection zone would result in minimal rise in groundwater levels in the injection zone, thus providing no means for movement of injectate through about 1,000 feet of impermeable shale that overlies the injection zone. The transmissivity is so high, in fact, that concentrate disposal is accomplished without the use of pumps. The disposal of the concentrate is done by simply opening a valve at the well head, and the concentrate enters the well bore by gravity. The rise in groundwater level in the wells varies, and ranges from 2 feet to about 150 feet during operation. This rise in groundwater level in the well ceases immediately after flow, and the water level in the well returns to a static condition within a couple of hours after flow stops.

I also recall that the Navar family met with EPWU PSB representatives between September 27, 2004 and the end of 2004 to discuss the concerns in their letter. I recall that they offered to sell their land to EPWU PSB, but that EPWU PSB management believed that the asking price was too high.

In his July 13, 2011 letter, Juan Navar asserts that the “ground is so porous in this area, it is possible that the contaminated water will rise to the surface, or near enough the surface to adversely affect the vegetation in the area”. Further, Mr. Navar asserts that the concentrate is injected into the ground under high pressure. The Hueco Bolson in the area of concern is not “highly porous”. Well logs of the area (including well logs of wells owned by the Navar family) demonstrate the predominance of clay in the shallow subsurface (less than 1,000 feet deep) in the area. Also, the concentrate is not injected under high pressure, it is simply gravity fed into the well. As noted above, rises in groundwater levels are minimal and transitory during operation of the well, and return to static conditions shortly after cessation of injection.

In summary, the highly transmissive injection zone is overlain by about 1,000 feet of essentially impermeable shale as noted in the well logs of the injection wells. Injection is by gravity, and the rises in groundwater levels are small and brief (only during well operation). As noted in several documents submitted to TCEQ, the location of the wells was ideal in terms of the geology for this type of injection well. The Navar family had provided similar comments on this project since 2004, the comments were considered and responses were given in the EIS. At the time, the responses were based on the results of tests and modeling results. Operation of the wells since 2007 has demonstrated the efficacy of the injection wells, and operational data has shown that there is minimal rise in the groundwater levels during operation and a return to static conditions soon after cessation of operation.



William R. Hutchison, Ph.D., P.E., P.G.
Associate
LBG-Guyton Associates

SWORN TO AND SUBSCRIBED before me on this 11th day of November, 2011.

Denise Fregeolle-Burk

Notary Public in and for the State of Texas

Printed Name: Denise Fregeolle-Burk

My commission expires: 5-13-14

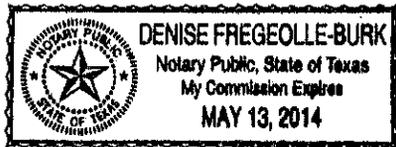


Exhibit 4

TCEQ DOCKET NO. 2011-1814-UIC

EL PASO WATER UTILITIES	§	BEFORE THE TEXAS
PUBLIC SERVICE BOARD'S	§	
APPLICATION FOR AN	§	COMMISSION ON
AQUIFER EXEMPTION	§	
AUTHORIZATION NO. 5X2700062	§	ENVIRONMENTAL QUALITY

**AFFIDAVIT OF SCOTT REINERT P.E.
IN SUPPORT OF EL PASO WATER UTILITIES PUBLIC SERVICE BOARD'S
APPLICATION FOR AN AQUIFER EXEMPTION**

STATE OF TEXAS §
 §
COUNTY OF EL PASO §

BEFORE ME, the undersigned authority, on this day personally appeared Scott Reinert, P.E., who swore on oath that the following facts are true:

My name is Scott Reinert. I am over the age of eighteen (18) years. I have never been convicted of a felony or a misdemeanor involving moral turpitude and I am competent to make this Affidavit. I have personal knowledge of all the facts stated in this Affidavit, all of the information is true and correct, and I am in all respects qualified to make the affidavit. I am a registered professional engineer in the State of Texas and the Water Resources Manager for El Paso Water Utilities Public Service Board ("EPWU PSB") for 12 years. I am authorized to make this Affidavit. As part of my duties and responsibilities, I oversee the EPWU PSB's Kay Bailey Hutchison Desalination Plant, including the deep injection wells associated with the Plant. I am responsible for preparation of the Aquifer Exemption Application.

The Kay Bailey Hutchison Desalination Plant located in El Paso, Texas converts brackish water from the Hueco Bolson into a potable drinking water supply for the City of El Paso and Fort Bliss. The plant will be used to minimize the intrusion of brackish water into our fresh

groundwater. The water produced at the plant is a key component in the long term water supply needs for the City of El Paso and Fort Bliss. The plant started operation in September of 2007.

The plant has a design capacity of 27.5 million gallons per day of drinking water. The plant is currently producing approximately 3 million gallons of water per day. At design capacity, the plant would be producing 3 million gallons per day of concentrate. The concentrate is disposed of using deep well injection. EPWU received authorization to complete Class V injection wells in 2005.

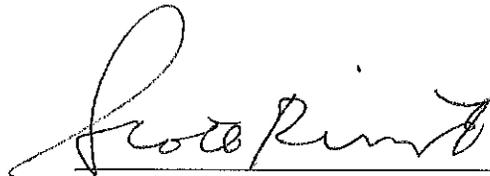
The injection wells are located on the Fort Bliss Military Reservation, approximately 22 miles northeast of the Kay Bailey Hutchison Desalination Plant. Concentrate from the plant is pumped through a pipeline to the injection wells. The injection well facility consists of three injection wells that are completed to depths of nearly 4000 feet beneath ground surface. These injection wells are completed according to TCEQ UIC Class I Standards. Adjacent to each of the well sites is a regulating tank with a capacity of 300,000 gallons. Operation control of the injection wells is through radio communication from operators at the plant.

All of the pipelines, wells, and reservoirs are located on Fort Bliss, which is federal property. The location on federal property triggered the requirement that the desalination plant and all its pipelines, wells, and storage tanks to be evaluated under NEPA and the subject of an Environmental Impact Statement.

The Final Environmental Impact Statement ("FEIS") was issued in December of 2004. The official title of the FEIS is "Proposed Leasing of Lands at Ft. Bliss, TX for the Proposed Siting, Construction and Operation by the City of El Paso of a Brackish Water Desalination Plant and Support Facilities." The public hearing for the EIS was held in El Paso, Texas on September 8, 2004.

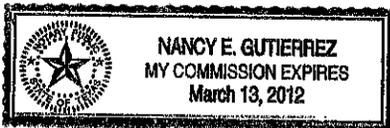
El Paso Water Utilities is seeking an aquifer exemption as a waiver to the requirement that the concentrate that is being injected meets primary drinking water standards. In order to meet these requirements, the concentrate is being diluted with fresh water so that it will meet primary drinking water standards. On average, EPWU uses approximately 15 million gallons of fresh groundwater per month to dilute the concentrate.

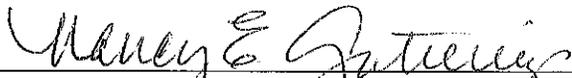
As EPWU will ultimately increase the amount of water being produced from the desalination plant, the amount of the concentrate that is being produced will also increase. Dilution is no longer a compliance strategy with increased production of concentrate.



Scott Reinert, P.E.
Water Resources Manager
El Paso Water Utilities Public Service Board

SWORN TO AND SUBSCRIBED before me on this 10th day of November, 2011.





Notary Public in and for the State of Texas
Printed Name: Nancy E. Gutierrez
My commission expires: March 13, 2012