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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

September 30, 2011

Bridget C. Bohac, Chief Clerk
Office of the Chief Clerk
Texas Commission on Environmental Quality
P.O. Box 13087, Mail Code 105
Austin, Texas 78711-3087

2011 SEP 30 PM 4:08
CHIEF CLERKS OFFICE
TEXAS COMMISSION
ON ENVIRONMENTAL
QUALITY

Re: Application by El Paso Water Utilities for Aquifer Exemption, 5X2700062

Dear Ms. Bohac:

Enclosed for filing, please find the original and seven copies of the Executive Director's Response to Public Comment in the above-referenced matter. By this letter, I am also providing a copy of the Response to Comments to all persons on the attached mailing list. If you have any questions about the attached filing, please do not hesitate to call me at 512-239-0612.

Sincerely,

A handwritten signature in black ink that reads "Don Redmond".

Don Redmond
Staff Attorney
Environmental Law Division

cc: Mailing list

Enclosure

APPLICATION BY EL PASO §
WATER UTILITIES §
FOR AQUIFER EXEMPTION §
5X2700062 §

BEFORE THE
TEXAS COMMISSION
ON ENVIRONMENTAL
QUALITY

2011 SEP 30 PM 4: 08
CHIEF CLERKS OFFICE

EXECUTIVE DIRECTOR'S RESPONSE TO PUBLIC COMMENT

The Executive Director of the Texas Commission on Environmental Quality (the Commission or TCEQ) files this Response to Public Comment received on the application by El Paso Water Utilities, (Applicant or EPWU) for an aquifer exemption related to Underground Injection Control (UIC) Authorization No. 5X2700062 (referred to herein as the application).

As required by Title 30 Texas Administrative Code (TAC), Section 55.253, before an application is approved, the Executive Director prepares a response (RTC) to all timely, relevant and material, or significant comments received during the comment period. This RTC addresses all timely public comments received, whether or not withdrawn. If you need more information about this application please call the TCEQ's Public Education Program at 1-800-687-4040. General information about the TCEQ can be found at our website at www.tceq.tx.gov. TCEQ's Office of the Chief Clerk received timely comments on the application from Mr. Juan Navar Sr., on behalf of Wonders of Ancient Cultures and Modern West, LLC. (Ancient Wonders, LLC), U.S. Representative Silvestre Reyes and Texas State Representative Chente Quintanilla.

BACKGROUND

Description of Facility

El Paso Water Utilities (EPWU) currently operates a groundwater desalination plant for public water supply and uses Class V injection wells for the disposal of the desalination concentrate wastewater. The injection wells are located within the property of the Fort Bliss Military Reservation, approximately 22 miles northeast of the Kay Bailey Hutchinson Desalination Plant in northeastern El Paso County, Texas, and approximately 12 miles north of U.S. Highway 180. TCEQ Underground Injection Control (UIC) Class V Authorization No. 5X2700062 authorizes three constructed injection wells and a fourth well that has not been drilled. EPWU has been operating these disposal wells since 2005. EPWU applied to the TCEQ for the designation of an exempt aquifer associated with their injection well operation.

Aquifer Exemption Application

An aquifer exemption is not a permit that is granted to an applicant. Rather, an aquifer exemption is a designation that a certain aquifer, or portion of an aquifer, is not considered as an underground source of drinking water (USDW) under the UIC program requirements. The approved aquifer exemption would enable EPWU to eliminate the step of diluting the desalination concentrate prior to disposal. If the

aquifer exemption is granted, EPWU can request modification of its Class V injection well authorization, to increase the concentration of constituents in the desalination concentrate authorized for disposal. Desalination concentrate consists of salts and other constituents that have been removed from groundwater and concentrated by the desalination process. Presently, in order to meet concentration limits for injection well disposal of wastewater containing certain constituents that have been concentrated by the desalination process, EPWU dilutes the desalination concentrate with fresh water prior to disposal. The approval of the aquifer exemption and subsequent revision to the Class V injection well authorization will conserve the amount fresh water that will be available for drinking water.

Although the groundwater in the formation in which EPWU injects the desalination concentrate is not used for consumption, it is currently classified as a USDW because it contains groundwater with a concentration of less than 10,000 milligrams per liter (mg/l) total dissolved solids. USDWs must be protected from injection well operation that would result in pollution of the water in the USDW. The designation of an exempt aquifer exemption would remove the receiving formations' status so that the aquifer would not be considered a USDW under the regulatory definition.

The state criteria for exempting an aquifer from USDW protection requirements are provided in 30 TAC § 331.13. An aquifer or portion of an aquifer may be designated as an exempted aquifer if it does not currently serve as a source of drinking water for human consumption, and until the exempt status is removed, it will not serve in the future as a source of drinking water for human consumption. EPWU's application demonstrates that the aquifer does not currently and will not serve in the future as a source of drinking water because its depth and quality make recovery of water for drinking water purposes economically or technologically impractical. An aquifer proposed for exemption under the requirements of 30 TAC § 331.13 must be approved first by the TCEQ and then by the U.S. Environmental Protection Agency (EPA) as a revision to the state's authorized UIC program before it is effective.

The proposed aquifer exemption extends over a rectangular area of 115 square miles, approximately 5.98 miles east to west and 19.2 miles north to south, in northeastern El Paso County. The subsurface formations for which the aquifer exemption is sought include the Fusselman, Montoya, and El Paso group approximately 2,480 feet in thickness, the top of which ranges from 1,000 to 4,000 feet below ground level.

Procedural Background

The application was received on August 21, 2008. Revisions to the application were received in April 2010 and April 2011. A combined Notice of Application and Preliminary Decision for an Aquifer Exemption and Notice of Public Meeting was issued by TCEQ on June 7, 2011. The notice was mailed to the application mailing list and newspaper published in English in the *El Paso Times* on June 21, 28 and July 5, 2011. The notice was also newspaper published in Spanish in *El Diario* on June 21, 28, and July 5, 2011. A public meeting was conducted by TCEQ at the Tech H2O Center in El Paso on July 14, 2011. The public comment period for the application ended on August 4, 2011.

This application is not subject to the procedural requirements adopted pursuant to House Bill 801, 76th Legislature, 1999.

Access to Rules, Laws and Records

TCEQ rules are available at the Texas Secretary of State website:

<http://www.sos.state.tx.us>

Texas Statutes are available at the Texas Constitution and Statutes website:

<http://www.statutes.legis.state.tx.us/Index.aspx>

Other useful information is available at the TCEQ Website:

<http://www.tceq.texas.gov/>

COMMENTS AND RESPONSES

COMMENT No. 1:

Mr. Juan Navar, Sr. commented that Ancient Wonders, LLC, and other adjacent landowners would be adversely affected because injected water will contaminate potable water that currently exists in one or more aquifers under Ancient Wonders, LLC's property.

RESPONSE No. 1:

For clarification, this comment may refer to continued operation of EPWU's authorized Class V waste disposal injection wells. The Executive Director is not reviewing an application or considering public comments regarding EPWU's present or continued Class V waste disposal operation. Class V injection wells are authorized by rule. Applications for Class V injection wells, authorized by rule, are not subject to public notice and comment requirements. The application under review is EPWU's application for an aquifer exemption.

An aquifer or a portion of an aquifer may be designated as an exempted aquifer if it does not currently serve as a source of drinking water for human consumption and it will not serve as a source of drinking water for human consumption in the future because it is situated at a depth or a location which makes recovery of water for drinking purposes economically or technically impractical or it is so contaminated that it would be economically or technically impractical to render that water fit for human consumption in accordance with 30 TAC §331.13.

The application demonstrates that the groundwater in the proposed exempted aquifer is not currently being used for drinking water. EPWU conducted a search of the state public water supply databases (TCEQ Public Drinking Water Section and New Mexico Environmental Department Drinking Water Bureau), water well records (driller's logs), public sources of data, and conducted an on-the-ground site survey. The application indicates that these searches and survey concluded that no public water supply systems in Texas or New Mexico utilize the aquifer proposed for exemption as a source of drinking water and that the aquifer has not been and is not currently utilized as a domestic, agriculture, or industrial supply of water.

The application demonstrates that the groundwater in the proposed exempted area will not be used for drinking water in the future because it is situated at a depth and location which makes recovery of water for drinking water purposes economically or technically impractical to render the water fit for human consumption. Data presented in the application also indicate that water in the aquifer proposed for exemption has a high concentration of radionuclides (gross alpha radiation concentration ranges from 412 to 774 picocuries per liter (pCi/l) and combined radium-226 and radium-228 concentration is approximately 19 pCi/l) and total dissolved solids (approximately 8,800 mg/l). These naturally-occurring concentrations would require treatment before use as drinking water. The application includes an economic analysis that indicates an approximate production (pumping and treatment) cost of \$3,000 per acre-foot of water in the exempted formations, in contrast with production costs ranging from \$300 to \$1,400 per acre-foot for alternate sources of drinking water in the region. Alternate sources of drinking water are available in the El Paso region that are of better quality with significantly lower production cost.

Because this comment may refer to continued operation of EPWU's authorized Class V waste disposal injection wells, the Executive Director is including here a description of the redundant safeguards that are the basis of the TCEQ's UIC program. The purpose of the TCEQ's UIC program is to prevent underground injection that may pollute fresh water in accordance with the Texas Water Code Chapter 27 and TCEQ rules found in 30 TAC Chapter 331. EPWU's Class V authorization is subject to terms and conditions that are imposed to protect fresh water from pollution, including: siting requirements; limits on injected water quality, injection volume, injection rate, and injection pressure; construction requirements; monitoring and reporting requirements; mechanical integrity requirements; the depth of the injection zone; the presence of a thick sequence of low permeability rocks as a confining zone above the injection zone; and the design, construction, and monitoring of the injection wells.

The Executive Director has reviewed the application and determined that it satisfies the requirement that the aquifer or portion of aquifer proposed to be exempted does not currently and will not in the future serve as a source of drinking water for human consumption.

COMMENT No. 2:

Mr. Juan Navar Sr. commented that a study by the University of Texas System (UT) study found a vast network of underground caverns and cracks in the bedrock that connect many of the aquifers and that aquifers in the area of the proposed aquifer exemption are not completely isolated from other aquifers in the area. Mr. Navar commented further that the UT study found that if contaminated water is injected under pressure into one aquifer, the contaminated water would be forced through the network of caverns and cracks into many nearby aquifers.

RESPONSE No. 2:

For clarification, this comment may refer to continued operation of EPWU's authorized Class V waste disposal injection wells. The Executive Director is not reviewing an

application or considering public comments regarding EPWU's present or continued Class V waste disposal operation. The application under review is EPWU's application for an aquifer exemption.

The application indicates that the Class V injection wells are sited to ensure that a confining zone with sufficient thickness overlies the injection zone where the fluids are injected in the proposed exempted aquifer.

EPWU is not authorized to inject into the sited Class V wells under pressure. EPWU's UIC Class V Authorization No. 5X2700062 authorizes an injection pressure of zero pounds per square inch (0 psi), meaning that the injection is not under pressure and is limited to gravity-feed. Please see the additional safeguards for fresh water supplies that are the basis of the TCEQ's UIC regulatory requirements described under Response No. 1 above. The Executive Director has not reviewed the UT study and has been unable to locate the referenced study.

The Executive Director has reviewed the application in accordance with the applicable rules and determined that it appropriately describes vertical confinement of the proposed exempted aquifer.

COMMENT No. 3:

Mr. Juan Navar Sr. commented that the ground is porous in the area and that contaminated water would possibly rise to the surface adversely affecting vegetation. Mr. Navar further commented that the high pressure injection proposed would increase the likeliness of contaminated water rising to the surface and adversely affecting vegetation.

RESPONSE No. 3:

For clarification, this comment may refer to continued operation of EPWU's authorized Class V waste disposal injection wells. The Executive Director is not reviewing an application or considering public comments regarding EPWU's present or continued Class V waste disposal operation. The application under review is EPWU's application for an aquifer exemption.

The application indicates that the top of the proposed exempted aquifer ranges from 1,000 to 4,000 feet below ground level and is 2,480 feet thick. The authorized Class V injection wells are sited to ensure that a confining zone with sufficient thickness overlies the injection zone where the fluids are injected. The application indicates that surface deposits within the area of the requested aquifer exemption are composed mainly of unconsolidated sand and silt, with some clay. These deposits are porous and would allow downward infiltration from the surface into subsurface units. However, the surface deposits are separated from the injection zone by layers of the confining zone, including the low permeability rocks of the Canutillo Formation and the Percha Shale. Therefore, the injected fluids, which are not injected under pressure, are effectively isolated by the low-permeability confining formation above the injection zone. Redundant safeguards incorporated into the TCEQ UIC regulations are designed to eliminate the potential for injected fluids to rise through the subsurface formations and

contaminate surface water or impact surface vegetation. Please see the description of these UIC safeguards under Response No. 1 above.

The Executive Director has reviewed the application in accordance with the requirements and determined that it appropriately describes the subsurface depth or elevation and thickness of the proposed exempted aquifer and that it appropriately describes vertical confinement of the proposed exempted aquifer.

COMMENT No. 4:

Mr. Juan Navar Sr. recommends denial of the application.

RESPONSE No. 4:

The Executive Director reviewed the application and determined that it meets the requirements of 30 TAC § 331.13 for the proposed designation of an exempted aquifer.

COMMENT NO. 5:

U.S. Representative Silvestre Reyes and Texas State Representative Chente Quintanilla expressed support for the approval of the aquifer exemption application.

Response No. 5:

The Executive Director acknowledges these comments supporting the application

COMMENT No. 6:

Mr. Juan Navar Sr. requests a contested case hearing on the application on behalf of Ancient Wonders, LLC.

RESPONSE No. 6:

Timely filed requests for a contested case hearing, that are not withdrawn, will be considered by the commission in accordance with 30 TAC §§55.254 and 55.255. The requestor(s) will be notified in writing when the request is scheduled for consideration. The TCEQ Commissioners will consider any such requests during a regularly scheduled Commission meeting that is open to the public, and make a determination as to whether or not the request will be granted. If a request is granted, the matter will be referred to the State Office of Administrative Hearings for a formal, legal proceeding, conducted in a manner similar to civil trials in state district court.

CHANGES MADE IN RESPONSE TO COMMENT

No changes to the draft aquifer exemption order have been made in response to public comment.

Respectfully submitted,
Texas Commission on Environmental Quality

Mark R. Vickery, P.G.
Executive Director

Robert Martinez, Director
Environmental Law Division

By 
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REPRESENTING THE
EXECUTIVE DIRECTOR OF THE
TEXAS COMMISSION ON
ENVIRONMENTAL QUALITY

TCEQ DOCKET NO.

APPLICATION BY EL PASO WATER UTILITIES FOR AN AQUIFER EXEMPTION

§
§
§

BEFORE THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DRAFT AQUIFER EXEMPTION ORDER

The Texas Commission on Environmental Quality (TCEQ) finds that:

1. On August 21, 2008, El Paso Water Utilities (EPWU) submitted an application to request designation of an exempted aquifer under 30 TAC Section 331.13.
2. The aquifer requested to be exempted consists of a portion of the Fusselman Formation, Montoya Group, and El Paso Group (hereinafter referred to as the Fusselman, Montoya, and El Paso group) with a combined thickness of approximately 2,480 feet and a top ranging from approximately 1,000 to 4,000 feet below ground as depicted in Figure 18 of the application providing a structure map on the top of the Fusselman. The area of the proposed exempt aquifer is a rectangle of approximately 115 square miles, extending approximately 19.2 miles from north to south and 5.98 miles from east to west and is located in El Paso County. The northwest corner of the proposed exempt aquifer is located at latitude 32° 00' 13.38" N, longitude 106° 11' 49.28" W; the southwest corner is located 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. Maps depicting the exempted aquifer area are attached.
3. The groundwater in the portion of the Fusselman, Montoya, and El Paso group described in Finding #2 contains a concentration of up to 8,800 mg/l total dissolved solids (TDS). Because the groundwater TDS concentration is less than 10,000 mg/l, according to 30 TEX. ADMIN. CODE §§ 331.2 and 331.13, this portion of the Fusselman, Montoya, and El Paso group is considered an underground source of drinking water unless it is designated an exempted aquifer.
4. EPWU currently operates a groundwater desalination plant for public water supply, with injection wells for safe management and disposal of the resulting desalination concentrate wastewater. EPWU requests the designation of the exempted aquifer in conjunction with the use of injection wells authorized under TCEQ Authorization No. 5X2700062 for injection of desalination concentrate that does not meet all primary and secondary drinking water standards.
5. The Class V injection wells associated with the proposed aquifer exemption were authorized by TCEQ on July 13, 2005 and are located on Fort Bliss Military Reservation approximately twelve miles north of State Highway 180 and 22 miles northeast of the Kay Bailey Hutchinson Desalination Plant in El Paso County, Texas. The Class V injection wells are located as follows: the well designated as JDF-1 at latitude 31° 59' 49" N, longitude 106° 06' 25" W; the well designated as JDF-2 at latitude 31° 58' 24" N, longitude 106° 06' 30" W; the well designated as JDF-3 at latitude 31° 59' 15" N, longitude 106° 06' 43" W; the well designated as JDF-4 at latitude 31° 59' 55" N, longitude 106° 07' 45" W; and the well designated as JDF-5 at latitude 31° 59' 13" N, longitude 106° 06' 05" W.
6. An exempted aquifer is an aquifer or a portion of an aquifer which meets the criteria for fresh

water but has been designated an exempted aquifer by the commission after notice and opportunity for hearing.

7. An aquifer or portion of an aquifer may be designated as an exempted 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 30 TAC §331.13(f), it will not in the future serve as a source for human consumption because:
 - (A) It is mineral, hydrocarbon or geothermal energy bearing with production capability;
 - (B) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technically 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.
8. EPWU has demonstrated that the portion of the Fusselman, Montoya, and El Paso group described in Finding #2 is not currently, nor has ever been, a source of drinking water for human consumption by conducting a data search and a ground investigation that showed that there are no water wells that withdraw water used for human consumption within the exempted aquifer.
9. EPWU has demonstrated that the portion of the Fusselman, Montoya, and El Paso group described in Finding #2 is situated at a depth (1,000 to 4,000 feet at top) which makes recovery of water for drinking water purposes economically or technically impractical.
10. The TCEQ also notes that water samples taken from the Fusselman, Montoya, and El Paso group exhibit a high concentration of certain radionuclides (gross alpha and radium 226 & 228).
11. Notice of the aquifer exemption was issued June 7, 2011, published in the *El Paso Times* on June 21, 28 and July 5, 2011 and *El Diario* on June 21, 28, and July 5, 2011, and mailed to the same recipients required for notice of an injection well permit application.
12. The notice described the process for submitting comments and requesting a hearing on the aquifer exemption.
13. A public meeting was held on Thursday, July 14, 2011, 7:00 p.m., at Tech H2O Center, 10751 Montana Ave., El Paso, Texas 79935.
14. The Executive Director of the Texas Commission on Environmental Quality provided a response to all timely, relevant and material, or significant public comments on the application.

Now, therefore, be it ordered by the Texas Commission on Environmental Quality that:

1. The portion of the Fusselman, Montoya, and El Paso group described in Finding #2 be designated as an exempted aquifer under 30 TAC § 331.13(c);
2. The Executive Director of the Texas Commission on Environmental Quality submit a program revision to the United States Environmental Protection Agency (EPA) under 40 CFR §§ 144.7, 146.4, and 145.32 to reflect this aquifer exemption designation for the Underground Injection Control program for the State of Texas; and
3. No designation of an exempted aquifer shall be final until approved by the EPA as part of the delegated Underground Injection Control Program.

Issue Date:

Texas Commission on
Environmental Quality

Bryan Shaw, Chairman

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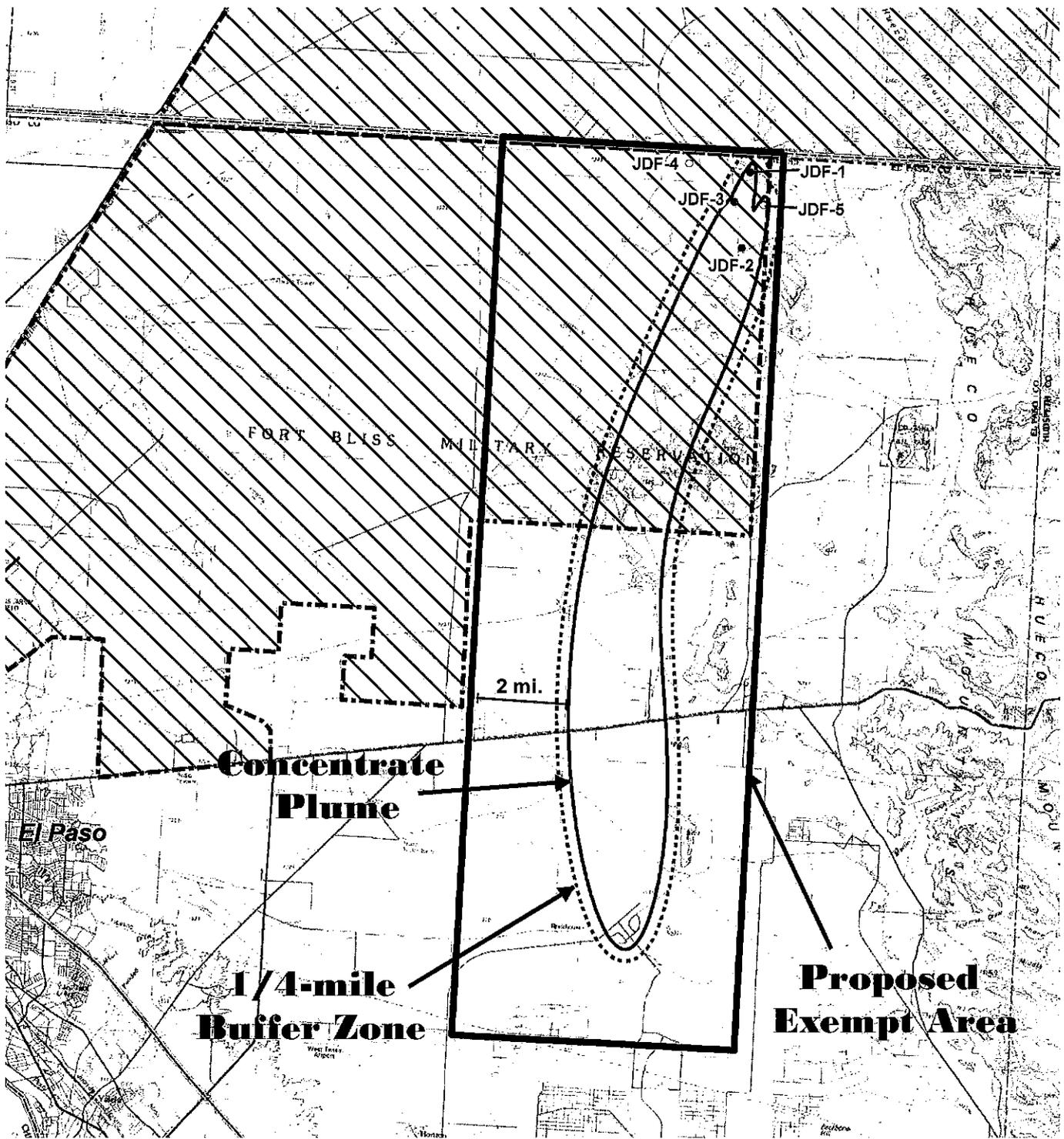
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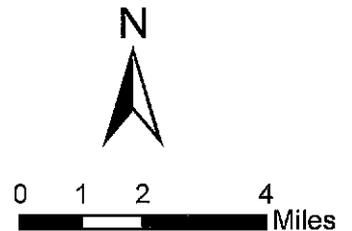
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Explanation

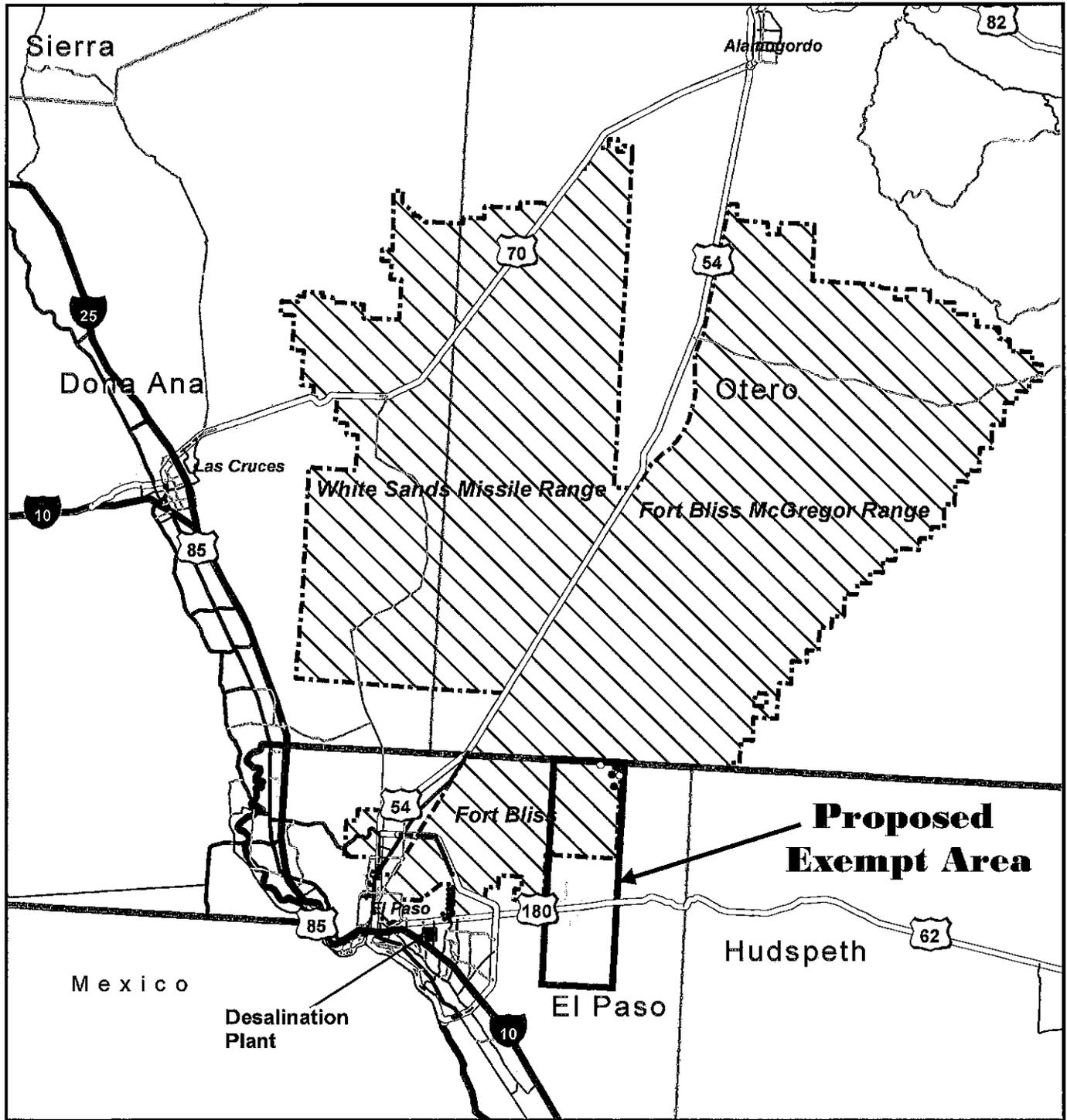
- Class V Injection Wells
- Authorized Injection Wells
- State Boundary
-  Fort Bliss
-  Proposed Exempt Area
-  Concentrate Plume
-  One-Quarter Mile Buffer Zone



PROPOSED EXEMPT AREA

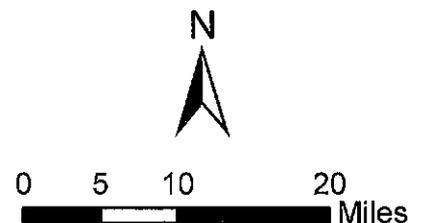
FIGURE 2





Explanation

- Authorized Injection Wells
- Class V Injection Wells
- Production Wells
- State Boundary
-  Fort Bliss
-  Urban Areas
-  Counties
-  Proposed Exempt Area



GENERAL LOCATION MAP

FIGURE 1

