

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF TEXAS  
AUSTIN DIVISION**

<b>GDF REALTY INVESTMENTS, LTD.,</b>	§	
<b>PARKE PROPERTIES I, L.P.,</b>	§	
<b>PARKE PROPERTIES II, L.P., and</b>	§	
	§	
<i>Plaintiffs,</i>	§	
	§	
vs.	§	<b>CIVIL ACTION NO. A 00CA369SS</b>
	§	
<b>GALE NORTON, Secretary, United States Department of Interior, and</b>	§	
<b>MARSHALL P. JONES, Jr., Acting</b>	§	
<b>Director, United States Fish and Wildlife Service.</b>	§	
	§	
<i>Defendants.</i>	§	

**AFFIDAVIT OF JAMES R. REDDELL**

BEFORE ME, the undersigned authority, on this day, personally appeared James R. Reddell, a person whose identity is known to me. After I administered an oath to him, upon his oath, he said:

“My name is James R. Reddell. I am capable of making this affidavit. The facts stated in this affidavit are within my knowledge and are true and correct.

1. I am Curator of Invertebrate Zoology at the Texas Memorial Museum, The University of Texas at Austin. One of my primary areas of research is cave-dwelling species and their habitat. I am also the Chairman of the Cave Subcommittee of the Natural Science Committee, Texas System of Natural Laboratories.

2. I have extensive research experience over the past forty years relating to caves, karst environments, and karst invertebrates. I have published numerous papers on these and other related topics. A true and correct copy of my Curriculum Vitae is attached as Exhibit 1.

3. I am very familiar with the property that is at issue in this lawsuit (“the Property”). I have performed several cave-related studies and surveys on the Property over the course of the past four decades. The Property is located on the southern margin of a geological area known as the Jollyville Plateau, which is part of the larger Edwards Plateau region of central Texas. The Property is characterized by karst topography, in which water percolating through limestone rock creates such geologic features as caves, sinkholes, and steep canyons. Thus, the property contains numerous sinkholes and caves including: Tooth Cave, Kretschmarr Cave, Root Cave, Gallifer Cave, Amber Cave and an assortment of karst features referred to as the Cave Cluster.

4. Some of the caves and sinkholes on the Property contain plant and animal life, including several species of cave invertebrates that have been listed as “endangered” by the United States Fish and Wildlife Service (“FWS”), pursuant to §4 of the ESA, 16 U.S.C. § 1533(a)(1). FWS has identified six listed endangered species on the Property.<sup>1</sup> Those six species of karst invertebrates are:

- a. **Bee Creek Cave Harvestman** (*Texella reddelli*), which is a very small eyeless arachnid (body about 2 to 3 mm in length) that lives its entire life underground in a karst environment. The final rule listing the Bee Creek Cave Harvestman as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.
- b. **Bone Cave Harvestman** (*Texella reyesi*), which is a very small eyeless arachnid (body about 1.4 to 2.7 mm in length) that lives its entire life underground in a karst environment. The final rule listing the Bone Cave Harvestman as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.
- c. **Tooth Cave Pseudoscorpion** (*Tartarocreagris texana*), which is a small eyeless arachnid (body about 4 mm in length) that lives its entire life

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<sup>1</sup> Based on my extensive experience researching the caves and sinkholes on the Property, it is my professional opinion that the Bee Creek Cave Harvestman is not found on the Property. Nevertheless, FWS has stated in the past that this species is found on the Property.

underground in a karst environment. The final rule listing the Tooth Cave Pseudoscorpion as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.

- d. **Tooth Cave Spider** (*Neoleptoneta myopica*), which is a very small arachnid (body about 1.6 mm in length) with rudimentary eyes that lives its entire life underground in a karst environment. The final rule listing the Tooth Cave Spider as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.
- e. **Tooth Cave Ground Beetle** (*Rhadine persephone*), which is a small insect (body about 7 to 8 mm in length) with rudimentary eyes that lives its entire life underground in a karst environment. The final rule listing the Tooth Cave Ground Beetle as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.
- f. **Kretschmarr Cave Mold Beetle** (*Texamaurops reddelli*), which is a very small eyeless insect (body less than 3 mm in length) that lives its entire life underground in a karst environment. The final rule listing the Kretschmarr Cave Mold Beetle as “endangered” pursuant to §4 of the ESA was adopted on September 16, 1988. 53 Fed. Reg. 36029.

4. I was the first, or at least one of the first, people to identify the karst invertebrates involved in this case. The scientific names of the Bee Creek Cave Harvestman (*Texella reddelli*) and the Kretschmarr Cave Mold Beetle (*Texamaurops reddelli*) are named after me. Because I have studied and observed these species for forty years and I have conducted or participated in the vast majority of the studies of these species, I am generally regarded as the leading expert on the species of karst invertebrates noted above.

5. The species evolved as separate species because of their isolation. The karst invertebrates are troglobites, meaning they are specially adapted to subterranean existence and spend their entire lives underground. During the course of climatic changes since the last Ice Age, the ancestors of these species retreated into caves. Over time the fault along the Balcones Fault Zone has created small areas of caves that are isolated and unconnected with other caves.

Over thousands of years these animals developed different characteristics from similar animals in other caves or cave clusters, even those a few miles away.

6. Since the species never leave their caves, their interaction with other species is extremely limited. They interact with other species in the caves and feed on material left in the caves by cave crickets or other species that sometimes enter the part of the cave nearest the surface, as well as organic material that falls into the caves.

7. The karst species at issue here are found only within the State of Texas. In fact, these karst invertebrates are only found in a few caves and sinkholes in Travis and Williamson Counties in the Edwards Plateau region of central Texas. Three of the karst invertebrates in particular — the Tooth Cave Pseudoscorpion, Tooth Cave Spider and Kretschmarr Cave Mold Beetle — have an even narrower distribution. These three species of karst invertebrate are only found in caves on parcels of land near the intersection of RR 620 and RR 2222, all of which is within Travis County.

8. The karst invertebrate species in question here do not leave the cave or sinkhole in which they are found. Because of their very small size and completely subterranean existence, there are no more than a handful of people who have ever seen these karst invertebrates.

9. The caves on the Property are small, hard to find, and are rarely visited by humans. There is no trade or commerce in these karst invertebrates or any parts of them. I am as familiar with these species as anyone, yet I am not aware of a single instance in which any of these karst invertebrates has been bought, sold, or traded by any person, and they have no known economic or commercial value. There are no tourists who visit the caves, and for over twelve years, the caves in which the species are found have been protected by preserves established by the landowners. The preserves are owned by the Texas System of Natural Laboratories

("TSNL") and the caves are protected by gates so that there are virtually no visitors. I am the Chairman of the Subcommittee on Caves for TSNL. There is very little funded research being done related to these species. I have attached true and correct copies of all of the significant research papers that have been published related to these karst invertebrate species as Exhibit 2. Attached hereto as Exhibit 3 is a true and correct copy of the summary of the existing research on these karst invertebrates by the U.S. Fish & Wildlife Service. A true and correct copy of the U.S. Fish & Wildlife Service Recovery Plan for these karst invertebrates is attached hereto as Exhibit 4.

10. In 1988, shortly after the United States Fish & Wildlife Service initiated the process of listing the karst invertebrate species at issue here as endangered, the landowners, with my help, voluntarily began the process of studying the karst invertebrates to set aside preserves to protect those species. Because I had performed extensive research on these species prior to their listing, the landowners asked for my assistance in setting aside preserves for the karst invertebrates. The landowners funded a study of the karst species and, after following the recommendations in that study, set aside preserves for the karst invertebrates by permanently dedicating the most ecologically sensitive caves, with a surrounding buffer zone, to TSNL. The landowners placed gates over the entrances to the most ecologically sensitive caves and deeded Amber Cave, Tooth Cave, Root Cave, Gallifer Cave, Kretschmarr Cave, along with several other sink holes and buffer zones surrounding the caves to TSNL.

11. Since the caves were deeded to TSNL, I have continued to work with the landowners in their efforts to preserve the karst invertebrates and work with FWS to develop or make use of the Property. During that time, I have performed additional extensive studies for the landowners, generally in response to requests made by FWS. After my extensive study of the

karst invertebrates, I made recommendations to the landowners that were incorporated into the seven §10(a) incidental take permit applications filed by the landowners. A true and correct copy of a map illustrating the seven §10(a) permit application and their orientation on the nine parcels of land that make up the Property is attached as Exhibit 5 and incorporated by reference. During the time that I have worked with the landowners, FWS has changed its position several times on what will cause “take” of the karst invertebrates and what the landowners are required to do to mitigate against that “take” and preserve the karst invertebrates on the Property.

12. Over the past ten years, FWS has changed from the position that large portions of the Property can be developed without causing take of the karst invertebrates (*i.e.*, adverse impacts or harm to the species) to the scientifically unsupportable position that the entire Property is largely undevelopable because of take of the karst invertebrates (combined with take of two endangered bird species — the Golden Checkcd Warbler and the Black Capped Vireo).

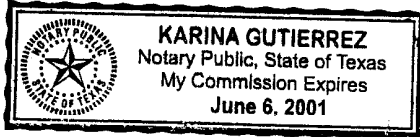
13. FWS’ position that use and development of the Property cannot be permitted because of harm to the karst invertebrates is indicated through the July 21, 1998 map provided by David Frederick, Field Supervisor of the Austin office of FWS. A true and correct copy of the July 21, 1998 FWS map is attached as Exhibit 6 and incorporated by reference.

14. The July 21, 1998 FWS map provided by David Frederick shows the entire upland portion of the Property labeled as “NON-DEVELOPMENT AREA”. The FWS map prohibits all development on tracts A, B, & G and on substantial portions of Tract C (40 of 74 undevelopable) and Tract D (37.3 of 47 undevelopable). In my professional opinion, FWS’ position that the uplands (those areas above the 1010 and 1030 contour lines) cannot be developed because such development will harm the karst invertebrates is not supported by sound science.

**"FURTHER AFFIANT SAYETH NOT."**

James Reddell  
James Reddell

SWORN TO and SUBSCRIBED before me by James Reddell on this the 27<sup>th</sup> day of  
March, 2001.



Karina Gutierrez  
Notary Public in and for the State of Texas