

**TIER-1 APPLICATION TO THE NEW MEXICO INTERSTATE STREAM COMMISSION
FOR NEW MEXICO UNIT OR WATER UTILIZATION ALTERNATIVE
UNDER THE ARIZONA WATER SETTLEMENTS ACT**

APPLICANT INFORMATION (PRINT OR

DATE: July 14, 2011

1. Legal Name: Carol W. Pittman (for the San Augustin Water Coalition)	2. Organization: San Augustin Water Coalition
3. Address (street, city, county, state, and zip code): San Augustin Water Coalition P O Box 613 Datil NM 87821 Catron County	4. Name, email, and phone number of contract person: Carol Pittman pittray@gilanet.com 575-772-5866
5. TYPE OF APPLICATION (check one): <input type="checkbox"/> Final <input type="checkbox"/> Preliminary for review <input checked="" type="checkbox"/> Revised	6. TYPE OF APPLICANT (CHECK BOX): <input type="checkbox"/> local governments or municipalities <input type="checkbox"/> soil and water conservation districts, irrigation districts or commissions, acequias, or other political subdivision of the State of New Mexico <input type="checkbox"/> institutions of higher education or a consortium of such institutions <input checked="" type="checkbox"/> non-profit organizations or associations <input type="checkbox"/> private individual/s <input type="checkbox"/> federal agency (ies) <input type="checkbox"/> Other (specify)
7. BRIEF PROJECT DESCRIPTION: The application is to fund a groundwater study to determine whether the approximately 244 square mile Augustin Plains basin provides substantial flows to the Gila River system. The magnitude and course of these flows should be determined before new river uses are decided.	
8. AREAS AFFECTED (describe by county, municipality, township, etc. as applicable): This proposal affects all of the 4 county region affected by the Gila River system. Parts of Catron and Grant Counties directly depend on its water for irrigation, ranching, and domestic use. A wider area depends on the underground water resources related to the Gila River.	
9. TOTAL FUNDING REQUESTED (in \$1,000):	
2012: \$220	2013:
2012:	2013:
10a. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED REQUIREMENTS AND ASSURANCES IF THE PROPOSAL IS ACCEPTED.	
10b. TYPED OR PRINTED NAME OF AUTHORIZED REPRESENTATIVE: Carol Pittman	11. TITLE: Communications Officer
	12. PHONE NUMBER: 575-772-5866
13. SIGNATURE: /s/ Carol Pittman	DATE: July 14, 2011

14. Evaluation criteria. Comprehensive responses to criteria A through D should be supported where possible by the best available science and scientific data, studies, models, and, where applicable, cite state, regional, or other water plans. Where such data and information is not available, applications should include best estimates and describe how such information would be obtained. Applications that do not include the requested information will not satisfy Tier-1 standards and, therefore, will not be eligible for Tier-2 consideration. Use Form 14a if needed. Print or type only.

A. State whether the proposal is for the “New Mexico Unit,” a “water utilization alternative,” or both.

Water utilization alternative.

“Under the Settlement Act, the United States will allocate at least \$66M ...towards a New Mexico Unit of the Central Arizona Project...or ‘other water utilization alternatives to meet water supply demands in the Southwest Water Planning Region of New Mexico.’ PL 108-451, Sections 107(a) and 212(1). Funds available under the Act may be used towards costs associated with planning and environmental compliance activities...” (underlining added) [Letter from Estevan Lopéz, October 1, 2010 to Topper Thorpe and Martha Schuman.]

See 14A

B. Describe how the proposal will meet a “water supply demand” in the Southwest New Mexico Water Planning Region, comprised of Catron, Grant, Hidalgo and Luna Counties.

Before 14,000 acre feet a year of water from the Gila River is committed to any projects it should be assured that the water is available now and will be available in the future. In view of pressure to exploit the apparently large store of ground water in the San Augustin basin for use in more rapidly developing parts of New Mexico, and in view of the basin’s probable important connections to the Gila and San Francisco systems, this continued availability of Gila River water cannot be taken for granted. A “water supply demand” can only be met if the water is actually present in the river system and supplemented by additional flows from the San Augustin basin. We can only have assurance the flow will be available in the future if we understand the interconnection of the San Augustin basin and the Gila River system. The San Augustin Water Coalition therefore requests a study of the Augustin Plains probable connectivity to the adjacent river systems and especially its influence on the Gila River system. The basin has more than a dozen mapped fault features that cut across the basin divide to other watersheds.

In a 1973 study, Blodget and Titus estimated that 100,000 acre feet of water flows into the San Augustin basin each year. Since the basin is at steady state, since there are no significant surface flows out, and since the water table is deep enough that there is not large evaporative loss, this indicates that something like 100,000 acre feet of water must be flowing underground out of the basin each year. Much of this water may go to the Gila/San Francisco River system. The San Augustin Water Coalition (SAWC) is seeking funding for a hydrologic study of all potential fracture/fault systems that may partially drain the aquifer.

It seems reasonable to take the time now to study the dynamics of water flows to the Gila River system. Such knowledge may well indicate directions that water use planning should take, and which cannot now be appreciated. The terms of funding of \$66M apparently do not require that monies left over at the end of the fiscal year be returned to the Federal Government (as is often the case with Federal funds). It seems prudent, therefore, to understand the system before irrevocably obligating resources to projects that could prove unsustainable in the light of fuller knowledge.

To obtain that fuller knowledge, SAWC would engage the services of Balleau Groundwater, Inc., or a similar team of experts. A description of such services as described by Balleau Groundwater is included with this application.

See 14A

C. Describe how the proposal considers the Gila environment and describe how any negative impacts might be mitigated.

It is the purpose of this proposal to determine the connectivity of the Augustin Plains aquifer to the Gila River system. The study of the aquifer will provide information vital to the present and long-term management of these water resources.

The Dan Blodget-Frank Titus water budget study of the 70s , while of much value, is not as comprehensive or as well-grounded as today's methodology will allow. If there is substantial flow to the Gila system, the magnitude and properties of flow to the Gila River should be known before decisions are made concerning expanded use of Gila River water (or exploitation of the Augustin Plains ground water). The Balleau Groundwater, Inc. Description of Services describes a reasonable approach to understanding the hydrologic connection of the San Augustin basin with the adjacent Gila River basin. **See 14A B and C ¶4.**

This proposal is based on the theory that there is significant underground flow from the Augustin Plains basin to the Gila River system, and knowledge of that flow is essential for protection of the Gila River system and its environment. This underground flow may be crucial in view of climate change and continuing drought conditions.

D. Describe how the proposal considers the historic uses of and future demands for water in the Southwest New Mexico Water Planning Region and the traditions, cultures and customs affecting those uses.

The Gila River and the associated Gila Wilderness Area play an important role in the lives of people beyond southwest New Mexico and even beyond the southwestern United States. The Gila River is a uniquely free-flowing river and tourists flock to the area to experience a little bit of what once existed throughout our land. Local people have depended on the waters from the Gila and San Francisco Rivers for agricultural purposes since long before the arrival of European settlers. The area provides important recreational opportunities, including camping, hiking, fishing and hunting, bringing people from all over the country as well as from the local and regional populations. These traditional values and recreational opportunities should be preserved for future generations.

These values and uses of the Gila River system can only be preserved or enhanced if the system is understood. The Augustin Plains basin may contribute important flows of water by underground fracture flow to the Gila and San Francisco Rivers. Without an understanding of this system, errors could be made that compromise the existing uses of Gila water, and certainly compromise any future enhancements.

Exhibit A. Interstate Stream Commission Gila Policy Statement, September 2004, and 2004 Arizona Water Settlements Act, Section 212 (i)

INTERSTATE STREAM COMMISSION GILA POLICY STATEMENT, SEPTEMBER 2004:

The Interstate Stream Commission recognizes the unique and valuable ecology of the Gila Basin. In considering any proposal for water utilization under Section 212 of the Arizona Water Settlements Act, the Commission will apply the best available science to fully assess and mitigate the ecological impacts on Southwest New Mexico, the Gila River, its tributaries and associated riparian corridors, while also considering the historic uses of and future demands for water in the Basin and the traditions, cultures and customs affecting those uses.

2004 ARIZONA WATER SETTLEMENTS ACT, SECTION 212 (i)

(i) NEW MEXICO UNIT FUND- The Secretary shall deposit the amounts made available under paragraph (2)(D)(i) of section 403(f) of the Colorado River Basin Project Act (43 U.S.C. 1543(f)) (as amended by section 107(a)) into the New Mexico Unit Fund, a State of New Mexico Fund established and administered by the New Mexico Interstate Stream Commission. Withdrawals from the New Mexico Unit Fund shall be for the purpose of paying costs of the New Mexico Unit or other water utilization alternatives to meet water supply demands in the Southwest Water Planning Region of New Mexico, as determined by the New Mexico Interstate Stream Commission in consultation with the Southwest New Mexico Water Study Group or its successor, including costs associated with planning and environmental compliance activities and environmental mitigation and restoration.

FORM 14A

USE THIS FORM TO COMPLETE ANSWERS TO CRITERIA 1 THROUGH 4. NUMBER EACH ADDITIONAL RESPONSE WITH THE CORRESPONDING CRITERIA NUMER AND SUB-CRITERIA. USE AS MANY PAGES AS NEEDED.

14.A. (continued) “While Arizona v. California dealt specifically only with surface water rights, the decree limited the extent to which groundwater use in the Gila/San Francisco basin could deplete the surface water of the stream system. That surface water prohibition limits the nature and extent of development of new groundwater in the basin to those uses which ultimately consume no water, or those in area where groundwater use will not affect surface flows (i.e., *an aquifer not hydrologically connected to the stream system*).” (italics added) (From the Catron County Water Plan, Part II, Chapter 1, Legal Framework for the Catron County Water Plan, Section B.1. Date not shown.)

To what extent is the Augustin Plains aquifer “hydrologically connected to the stream system”? The study requested seeks to answer that question.

14.B and C (continued) Description of Services by Dave Romero of Balleau Groundwater, Inc.:

In the event that you were to hire our firm, the general services that we would provide are as follows:

1. **Compilation of Existing Data** – This phase of the work would involve gathering available data regarding the hydrology and geology of the basin. We would access data and reports from the U.S. Geological Survey, the NM Bureau of Geology (formerly the NM Bureau of Mines and Mineral Resources), the NM Office of the State Engineer, the NM Environment Department, the NM Oil Conservation Division and any available studies from research at Universities. Alongside data and information publicly available from state agencies, we would coordinate with the technical experts retained by the Augustin Plains Ranch, LLC to inspect any available data and reports that they relied on to formulate any of their technical opinions. Some of the publicly available data is already compiled in our electronic library of southwestern hydrogeologic data. Field visits would be conducted at necessary.
2. **Interpretation of Compiled Data** – After the data is compiled, we would organize the data into our Geographic Information System (GIS) database to facilitate interpretation of spatial and temporal patterns that formulate a basis for opining on how the regional hydrogeologic system behaves. The GIS approach is a state-of-the-art electronic method to systematically overlay various datasets to uncover patterns that otherwise are not apparent. We would inspect models of the aquifer system developed by others, or develop our own model if others do not exist, or are not suitable for an assessment of hydrologic effects resulting from the proposed groundwater use.
3. **Interpretation of Aquifer Responses (Testing)** – This phase of work involves inspecting test data from previously conducted aquifer tests. If tests have not been conducted, we would propose our own test program. Controlled aquifer testing reveals how water levels drawdown when a well is pumped, and how the water levels recover when the pump is shut off. We would be particularly interested in results from controlled aquifer testing as it provides information on how the aquifer responds to groundwater withdrawals.

4. Analysis of the Regional Aquifer System – This phase of work involves using models to analyze the regional aquifer system. The analysis would involve inspecting how the regional aquifer system and hydrologic cycle behaves in its natural state, how the state has changed from historical groundwater use and how the state of the system can be expected to change from the proposed groundwater use by Augustin Plains Ranch, LLC. We would evaluate two future conditions, one with the proposed groundwater use and one without the proposed groundwater use. The approach will provide for isolating the new hydrologic effect caused by the proposed groundwater use. The analysis will take into account regional water use of others and will quantify how the water supply of others will be affected by the proposed water use. The analysis will make use of existing models if they exist and if they are appropriate for the task at hand. Otherwise we will develop an appropriate model. Inherent in the development of the groundwater flow model (or use of an existing model), an assessment of hydrologic communication with the adjacent Gila River basin will be conducted.

5. Reporting of Results – The end result will be reports and documentation suitable for use as exhibits at a State Engineer Hearing on the subject application for water use, or for use in a higher level court should the matter progress along that line. The reports would document our opinions on hydrologic effects resulting from the proposed water use, which would be based on the data and analysis conducted in prior phases of work. The reports could be submitted as direct exhibits.

6. Development of Rebuttal Exhibits – Other parties will submit exhibits as part of the hearing process. We would review the exhibits of other parties and develop rebuttal exhibits as necessary. The scope for this phase of work is uncertain because it involves responding to information submitted by other parties.

7. Expert Witness Testimony – We would be prepared to provide data-based testimony at the State Engineer Hearing or in another court of law to the extent that it is necessary.

This work would be conducted in close coordination with you and with your attorney.

Dave Romero, P.H.Balleau Groundwater, Inc.,

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