

# Board Contract Summary

BC 15 \_100

For use with Expenditure Contracts submitted to the Board for approval. Complete information below, print, obtain signature of authorized departmental representative, and submit this form, along with attachments, to the appropriate departments for signature. See also: Auditor-Controller Intranet Policies->Contracts.

D1.	Fiscal Year .....	FY 15-16
D2.	Department Name .....	PW/Water Agency
D3.	Contact Person .....	Fray Crease
D4.	Telephone .....	ext. 3542

K1.	Contract Type (check one): <input checked="" type="checkbox"/> Personal Service <input type="checkbox"/> Capital	
K2.	Brief Summary of Contract Description/Purpose .....	San Antonio Groundwater Basin Study
K3.	Department Project Number .....	WA8236
K4.	Original Contract Amount .....	\$ 673,950
K5.	Contract Begin Date .....	11/01/14
K6.	Original Contract End Date .....	10/31/19
K7.	Amendment? (Yes or No) .....	Yes
K8.	- New Contract End Date .....	10/31/20
K9.	- Total Number of Amendments .....	1
K10.	- This Amendment Amount .....	\$ 246,398
K11.	- Total Previous Amendment Amounts .....	\$ N/A
K12.	- Revised Total Contract Amount .....	\$ 920,348

B1.	Intended Board Agenda Date .....	11/8/15
B2.	Number of Workers Displaced (if any) .....	N/A
B3.	Number of Competitive Bids (if any) .....	N/A
B4.	Lowest Bid Amount (if bid) .....	N/A
B5.	If Board waived bids, show Agenda Date .....	N/A
	and Agenda Item Number .....	N/A
B6.	Boilerplate Contract Text Changed? (If Yes, cite Paragraph) .....	N/A

F1.	Fund Number .....	3050
F2.	Department Number .....	054
F3.	Line Item Account Number .....	7460
F4.	Project Number (if applicable) .....	WA8236
F5.	Program Number (if applicable) .....	3012
F6.	Org Unit Number (if applicable) .....	
F7.	Payment Terms .....	net 60

V1.	Auditor-Controller Vendor Number .....	003601
V2.	Payee/Contractor Name .....	DOI USGS
V3.	Mailing Address .....	P.O. Box 71362
V4.	City State (two-letter) Zip (include +4 if known) .....	Philadelphia, PA 19176-1362
V5.	Telephone Number .....	(916) 278-3040
V6.	Vendor Contact Person .....	Tammy Seubert
V7.	Workers Comp Insurance Expiration Date .....	N/A
V8.	Liability Insurance Expiration Date .....	N/A
V9.	Professional License Number .....	
V10.	Verified by (print name of county staff) .....	

V11 Company Type (Check one): ☐ Individual ☐ Sole Proprietorship ☐ Partnership ☒ Corporation

I certify information is complete and accurate; designated funds available; required concurrences evidenced on signature page.

Date: 10/30/15 Authorized Signature: [Signature]

**Amendment No. 1**Form 9-1366  
(April 2015)**U.S. DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY****JOINT FUNDING AGREEMENT**

FOR

WATER RESOURCES INVESTIGATIONS

Customer #: 6000000816  
Agreement #: 15WSCA600081610.A1  
Project #:  
TIN #: 96-6002833  
Fixed Cost  
Agreement NO

**THIS AGREEMENT is entered into as of the, 14 day of October, 2015 by the U.S. GEOLOGICAL SURVEY, UNITED STATES DEPARTMENT OF THE INTERIOR, party of the first part, and the SANTA BARBARA COUNTY WATER AGENCY (SBCWA), party of the second part.**

1. The parties hereto agree that subject to availability of appropriations and in accordance with their respective authorities there shall be maintained in cooperation the study "Geohydrology and Water Availability of San Antonio Creek Valley, California" herein called the program. The USGS legal authority is 43 USC 36C; 43 USC 50; and 43 USC 50b.

2. The following amounts shall be contributed to cover all of the cost of the necessary field and analytical work directly related to this program. 2(b) includes In-Kind Services in the amount of \$0.00

- (a) by the party of the first part during the period

Amount	Date	to	Date
\$0.00	November 1, 2014		October 31, 2020

- (b) by the party of the second part during the period

Amount	Date	to	Date
\$246,398.00	November 1, 2014		October 31, 2020

USGS DUNS is 1761-38857. The amounts in 2(a) and 2(b) above are for the Federal Fiscal Year 2016 (FFY16) of this amendment only. Total USGS funding for this agreement, including this amendment is \$104,978.00. Total SBCWA funding for this agreement, including this amendment is \$920,348.00. Total cost of this agreement is \$1,025,326.00.

- (c) Contributions are provided by the party of the first part through other USGS regional or national programs, in the amount of: \$0.00

Description of the USGS regional/national program:  
no additional contribution

- (d) Additional or reduced amounts by each party during the above period or succeeding periods as may be determined by mutual agreement and set forth in an exchange of letters between the parties.
- (e) The performance period may be changed by mutual agreement and set forth in an exchange of letters between the parties.
3. The costs of this program may be paid by either party in conformity with the laws and regulations respectively governing each party.
4. The field and analytical work pertaining to this program shall be under the direction of or subject to periodic review by an authorized representative of the party of the first part.
5. The areas to be included in the program shall be determined by mutual agreement between the parties hereto or their authorized representatives. The methods employed in the field and office shall be those adopted by the party of the first part to insure the required standards of accuracy subject to modification by mutual agreement.
6. During the course of this program, all field and analytical work of either party pertaining to this program shall be open to the inspection of the other party, and if the work is not being carried on in a mutually satisfactory manner, either party may terminate this agreement upon 60 days written notice to the other party.

9-1366 (Continuation)

Customer #:

6000000816

Agreement #:

15WSCA600081610 A1

7. The original records resulting from this program will be deposited in the office of origin of those records. Upon request, copies of the original records will be provided to the office of the other party.
8. The maps, records, or reports resulting from this program shall be made available to the public as promptly as possible. The maps, records, or reports normally will be published by the party of the first part. However, the party of the second part reserves the right to publish the results of this program and, if already published by the party of the first part shall, upon request, be furnished by the party of the first part, at costs, impressions suitable for purposes of reproduction similar to that for which the original copy was prepared. The maps, records, or reports published by either party shall contain a statement of the cooperative relations between the parties.
9. USGS will issue billings utilizing Department of the Interior Bill for Collection (form DI-1040). Billing documents are to be rendered QUARTERLY. Payments of bills are due within 60 days after the billing date. If not paid by the due date, interest will be charged at the current Treasury rate for each 30 day period, or portion thereof, that the payment is delayed beyond the due date. (31 USC 3717; Comptroller General File B-212222, August 23, 1983).

<b>U.S. Geological Survey</b> <b>United States</b> <b>Department of the Interior</b> <u>USGS Point of Contact</u>		<b>Santa Barbara County Water Agency</b>  <u>Customer Point of Contact</u>	
Name:	Irene Rios, Budget Analyst	Name:	Thomas Fayram
Address:	4165 Spruance Rd., Ste 200, San Diego, CA 92101	Address:	130 East Victoria Street, Ste 200, Santa Barbara, CA 93101
Telephone:	619-225-6156	Telephone:	805-568-6436
Email:	iaros@usgs.gov	Email:	trayram@cosbpw.net

Signatures and Date

Signature:

Date:

Signature:

Date:



10-15-15

See Page 3 for SBCWA Signatures

Name:

Eric G. Reichard

Name:

Title:

Director, USGS California Water Science Center

Title:



Customer No. 6000000816  
Agreement No. 15WSCA600081610.A1  
TIN #: 95-6002833

**Signature Page Continued - Page 3**

SANTA BARBARA COUNTY WATER AGENCY

By: \_\_\_\_\_  
Chair, Board of Directors

Date: \_\_\_\_\_

ATTEST:  
MONA MIYASATO  
CLERK OF THE BOARD

APPROVED AS TO FORM:  
MICHAEL C. GHIZZONI  
COUNTY COUNSEL

BY: \_\_\_\_\_  
Deputy

BY:   
Deputy

APPROVE AS TO ACCOUNTING FORM:  
ROBERT W. GEIS, CPA  
AUDITOR-CONTROLLER

BY:   
Deputy

APPROVE:  
SCOTT D. MCGOLPIN  
PUBLIC WORKS DIRECTOR

BY:   
\_\_\_\_\_

APPROVE AS TO FORM:  
RAY AROMATORIO, ARM, AIC  
RISK MANAGER

BY:   
Risk Manager



# United States Department of the Interior

U.S. GEOLOGICAL SURVEY  
California Water Science Center  
6000 J. Street, Placer Hall  
Sacramento, California  
Phone: (916) 278-3026 Fax: (916) 278-3045  
<http://water.wr.usgs.gov>

October 14, 2015

Mr. Thomas D. Fayram  
Deputy Director of Public Works, Water Resources  
Santa Barbara County Water Agency  
130 East Victoria Street, Suite 200  
Santa Barbara, CA. 93101

Attention: Mr. Dennis Gibbs

Dear Mr. Fayram:

This letter confirms discussions between our respective staffs, concerning the continuation of the cooperative water resources program between the Santa Barbara County Water Agency (SBCWA) and the U.S. Geological Survey (USGS), during the period October 1, 2013 to October 31, 2019.

The purpose of this amendment is to increase agreement funding and extend the performance end date from October 31, 2019 to October 31, 2020.

As described in The study, *Geohydrology and Water Availability of the San Antonio Creek Valley* (study) is a cooperative study between the County of Santa Barbara, Vandenberg Air Force Base (VAFB), and the U.S. Geological Survey (USGS). The objectives of the study are to:

- 1) refine the geohydrologic framework of the San Antonio Creek Valley;
- 2) quantify the hydrologic budget of the valley; and
- 3) develop hydrologic modeling tools to evaluate and aid in managing the groundwater resource.

The study will provide hydrologic information needed by Santa Barbara County Water Agency and VAFB to better understand the potential impacts of increasing groundwater use on groundwater levels, stream-aquifer interaction, and water quality, and help develop a management and monitoring plan to evaluate the potential hydrologic effects of future groundwater development on different parts of the valley.

The study was originally planned as a five year project starting October 1, 2013 and ending September 30, 2018. Project costs were calculated based on the anticipated 2013-2018 study period. The start of the study was delayed one year from the original plan to allow Santa Barbara County to obtain additional input on the planned study from stakeholders and San Antonio Creek basin residents. Agreements between Santa Barbara County and the USGS and VAFB and the USGS to fund the study were signed in the fall of 2014; the agreements specified a study period from October 2014 (start of Federal Fiscal Year (FFY) 2015) through September 30, 2019 (end of FFY 2019). Following the signing of the agreement with Santa Barbara County, the USGS commenced work on the study in cooperation with Santa Barbara County and VAFB.

The initial phases of the study include the expansion of an existing groundwater monitoring network and the installation of monitoring wells, streambed water and temperature sensors, and other hydrologic equipment throughout the study area. Much of this work requires access to private land and the county established a consultation committee (San Antonio Stakeholders Consultation Group) composed of local stakeholders and stakeholder representatives to facilitate access to private property.



## **Mr. Thomas D. Fayram, Deputy Director, Santa Barbara County Water Agency**

The consultation committee has determined that access to private property will be administered under access agreements between the property owner, the County of Santa Barbara, and the USGS. The creation of the access agreements has been a collaborative process, and has taken much of FFY15 to accomplish. At the request of the county, USGS staff attended several consultation committee meetings in the spring and summer of FFY15 to describe planned new data collection and analysis and answer questions about the study. As such, much of the work that was initially planned for FFY15 will not commence until FFY16 (October 1, 2015 – September 30, 2016). Consequently, intensive data collection activities are beginning approximately two years after they were originally planned to begin and the original planned budget does not include the increases in costs that occurred during that two-year period. In addition, substantially more time than was originally expected was spent on answering information requests, communications (written and oral presentations), and analysis to support those information requests. The attached budget revisions (Table 1) reflect additional costs to the study due to the delay in commencement aspects of the study as well as costs incurred as a result of USGS staff liaising with the consultation committee.

The study includes five main tasks: (1) data compilation, (2) new data acquisition, including an assessment of water quality, (3) model development, (4) analysis of water availability, and (5) report preparation. Work has commenced, in part, on tasks 1, 2, and 3; however most project activities have been moved back a total of two fiscal years (one year at the request of the county and a second year primarily waiting on consultation committee actions). At the request of Santa Barbara County, the project timeline has been extended to FFY 2020 (project now ending September 30, 2020) to accommodate delays in commencement of work. Costs associated with tasks that have been delayed have been increased by 3% (Table 1). Work started to date under tasks 1, 2, and 3 includes the following:

- 1) Existing climate, land-use, geologic, water-quality, and geodetic data have been compiled and assembled into a Geographic Information System (GIS) (Task 1).
- 2) Existing water-quality data have been compiled (Task 1).
- 3) A previously operated gage at San Antonio Creek near Casmalia (11136100) has been reinstalled and is currently operating during the study (Task 2).
- 4) Multiple-well site 16C1-4 has been instrumented with pressure transducers and is transmitting water level data in real time (Task 2).
- 5) Four of eight shallow proposed monitoring wells have been sited and permits have been prepared and submitted; auger-drilling activities are tentatively scheduled for October 2015 (Task 2). In addition, two deep proposed monitoring wells have been tentatively sited pending completion of property access agreements.
- 6) Stream-bed electrical resistance sensors have been constructed and are awaiting deployment pending the completion of property access agreements (Task 2).
- 7) The frequency of measurements in wells that are part of the existing groundwater-level monitoring network has been increased from yearly to quarterly (first quarterly measurements to be made in September 2015 (Task 2).
- 8) Construction of the 3-dimensional geohydrologic framework for the groundwater model has commenced (Task 3).

The updated project timeline is presented in Table 2 and individual cooperator costs (County of Santa Barbara and VAFB) and estimated federal matching funds (FMF) are presented in Table 3. The USGS is committed to the proposed funding level for the first year of the study. However, due to a number of potential variables (inflation, fiscal policy changes currently taking place within the USGS that will likely affect our costing structure, modification of the project work during the lifespan of the study), we would like the opportunity to review the budgets for the future years of this study prior to the beginning of each new fiscal year, and to discuss any program or financial changes throughout the study period.

**Mr. Thomas D. Fayram, Deputy Director, Santa Barbara County Water Agency**

Total costs for the proposed program with SBCWA for Federal Fiscal Year 16 (FFY16) is \$246,398.00. Of this total, SBCWA will contribute \$246,398.00. The USGS is not able to contribute new FMF from FFY16 funds. However, the obligated FMF balance (unspent) from FFY15 of \$64,942 remains available, and will be applied to FFY16 costs. VAFB has provided funding for FFY15 and it is anticipated that they will provide funding for FFY16; if VAFB is unable to contribute in FFY16 or future years, the study will be scaled back accordingly.

Enclosed are two originals of Joint Funding Agreement (JFA) 13WSCA600081610 Amendment 1 for your approval. Work performed with funds from this agreement will be conducted on a reimbursable basis. If you are in agreement with this proposed program, please return one signed JFA to our office. The second JFA is for your records.

The USGS is required to have an agreement in place prior to any work being performed on a project. Your immediate response to returning the signed JFA will allow us to begin work on this study.

If you have any questions concerning this program, please contact David O'Leary, in our San Diego Projects Office, at (619) 225-6157. If you have any administrative questions, please contact Irene Rios, in our San Diego Office, at (619) 225-6156.

Sincerely,



Eric G. Reichard  
Director, USGS California Water Science Center

Enclosures

cc: Claudia Faunt, USGS CA WSC  
David O'Leary, USGS CA WSC



**Table 1. Geohydrology and Water Availability of the San Antonio Creek Valley, California - Costs**

		Federal Fiscal Year		FFY15		FFY16		FFY17		FFY18		FFY19		FFY20		TOTAL		Overall Increase
		DATES	10/1/2014 - 9/30/2015	10/1/2014 - 9/30/2015	10/1/2016 - 9/30/2016	10/1/2016 - 9/30/2017	10/1/2017 - 9/30/2018	10/1/2018 - 9/30/2019	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	10/1/2019 - 9/30/2020	
#	Task	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	
1	Data Completion (total)	\$72,000	\$32,067	\$0	\$82,969	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$72,000	\$115,036	60%
	Budgeted costs	\$72,000	\$10,867	\$0	\$61,133	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$72,000	\$72,000	
2	Information requests, communications, and analysis	\$0	\$21,200	\$0	\$21,836	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$43,096	
A	New Data Acquisition	\$541,950	\$42,408	\$358,479	\$701,150	\$144,385	\$189,686	\$0	\$148,716	\$0	\$0	\$0	\$0	\$0	\$0	\$1,044,814	\$1,081,960	4%
i	Drilling & well installation	\$376,000	\$1,000	\$0	\$386,250	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
ii	Two multiple well monitoring sites	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
B	Auger drilling of shallow wells	\$0	\$2,004	\$135,000	\$152,996	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
i	Groundwater levels	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
ii	Well casing	\$2,610	\$0	\$0	\$2,688	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,610	\$2,688	
iii	Expanded GW level monitoring	\$10,440	\$2,104	\$10,753	\$10,753	\$11,066	\$11,066	\$0	\$11,398	\$0	\$0	\$0	\$0	\$0	\$0	\$32,260	\$35,322	
iv	GW level recorders	\$63,100	\$0	\$27,431	\$64,993	\$78,230	\$78,254	\$0	\$79,077	\$0	\$0	\$0	\$0	\$0	\$0	\$118,762	\$122,325	
C	Measuring point elevations-GPS	\$0	\$0	\$19,300	\$19,300	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$19,300	\$19,300	
D	Streamflow gauging	\$17,800	\$17,800	\$10,094	\$10,094	\$10,388	\$10,388	\$0	\$10,700	\$0	\$0	\$0	\$0	\$0	\$0	\$38,282	\$48,982	
i	Groundwater/surface-water interaction	\$34,000	\$0	\$16,000	\$35,020	\$13,100	\$16,480	\$0	\$13,493	\$0	\$0	\$0	\$0	\$0	\$0	\$63,100	\$64,993	
ii	Temperature monitoring - GW/STW fluxes	\$38,000	\$19,500	\$16,000	\$19,055	\$3,900	\$16,480	\$0	\$9,167	\$0	\$0	\$0	\$0	\$0	\$0	\$62,990	\$64,202	
iii	Streamflow duration & location	\$0	\$0	\$8,200	\$0	\$0	\$8,446	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,200	\$8,446	
E	Water-Quality sampling	\$0	\$0	\$70,000	\$0	\$68,000	\$72,100	\$0	\$70,040	\$0	\$0	\$0	\$0	\$0	\$0	\$138,000	\$142,140	
F	Hydraulic properties & profiles data	\$0	\$0	\$21,000	\$0	\$0	\$21,630	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
i	Collect new slug & aquifer tests	\$0	\$0	\$4,200	\$0	\$0	\$4,841	\$0	\$4,842	\$0	\$0	\$0	\$0	\$0	\$0	\$21,000	\$21,630	
ii	Flow & temperature logging	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
3	Model Development	\$60,000	\$1,519	\$50,000	\$60,235	\$80,000	\$53,500	\$5,000	\$82,400	\$15,450	\$0	\$5,150	\$0	\$0	\$0	\$195,000	\$200,804	3%
4	Water Availability Analysis	\$0	\$0	\$0	\$0	\$15,000	\$0	\$30,000	\$15,450	\$0	\$0	\$30,900	\$0	\$0	\$0	\$45,000	\$46,350	3%
5	Reporting	\$0	\$0	\$0	\$0	\$79,000	\$55,620	\$60,050	\$81,370	\$13,450	\$0	\$61,852	\$0	\$0	\$0	\$206,500	\$212,695	3%
i	Project Website	\$0	\$0	\$54,000	\$0	\$79,000	\$5,150	\$5,000	\$5,150	\$2,500	\$0	\$5,150	\$0	\$0	\$0	\$17,500	\$18,025	
ii	Water quality article	\$0	\$0	\$0	\$0	\$19,100	\$0	\$19,700	\$19,673	\$0	\$0	\$20,291	\$0	\$0	\$0	\$38,800	\$39,964	
iii	Hydrologic Setting SIR	\$0	\$0	\$39,000	\$0	\$39,900	\$40,170	\$10,350	\$41,097	\$3,450	\$0	\$10,661	\$0	\$0	\$0	\$92,700	\$95,481	
iv	Hydrologic modeling / water availability SIR / fact sheet	\$0	\$0	\$10,000	\$0	\$15,000	\$10,300	\$25,000	\$15,450	\$7,500	\$0	\$25,750	\$0	\$0	\$0	\$57,500	\$59,225	
TOTAL		\$673,950	\$75,994	\$462,479	\$844,354	\$318,385	\$296,806	\$95,050	\$327,936	\$13,450	\$97,902	\$0	\$13,854	\$1,563,314	\$1,656,845			6%



**Table 2. Geohydrology and Water Availability of the San Antonio Creek Valley, California - FFY16 Amendment**

Federal Fiscal Year		FFY15			FFY16	
DATES		10/1/2014 - 9/30/2015			10/1/2014 - 9/30/2016	
#	Task	Committed	Spent	Funds Remaining*	Projected Costs	FFY16 Amendment
1	<b>Data Compilation (total)</b> Budgeted costs Information requests, communications, and analysis	\$72,000 \$72,000 \$0	\$32,067 \$10,867 \$21,200	\$39,933 \$61,133 -\$21,200	\$82,969 \$61,133 \$21,836	\$43,036 \$0 \$43,036
2	<b>New Data Acquisition</b>	\$541,950	\$42,408	\$499,542	\$701,150	\$201,608
A	Drilling & well installation					
i	Two multiple well monitoring sites	\$376,000	\$1,000	\$375,000	\$386,250	\$11,250
ii	Auger drilling of shallow wells	\$0	\$2,004	-\$2,004	\$152,996	\$155,000
B	Groundwater levels					
i	Well canvassing	\$2,610	\$0	\$2,610	\$2,688	\$78
ii	Expanded GW level monitoring	\$10,440	\$2,104	\$8,336	\$10,753	\$2,417
iii	GW level recorders	\$63,100	\$0	\$63,100	\$64,993	\$1,893
iv	Measuring point elevations-GPS	\$0	\$0	\$0	\$19,300	\$19,300
C	Streamflow gaging	\$17,800	\$17,800	\$0	\$10,094	\$10,094
D	Groundwater/surface-water interaction					
i	Temperature monitoring - GW/SW fluxes	\$34,000	\$0	\$34,000	\$35,020	\$1,020
ii	Streamflow duration & location	\$38,000	\$19,500	\$18,500	\$19,055	\$555
iii	Streambed infiltration tests	\$0	\$0	\$0	\$0	\$0
E	Water-Quality sampling	\$0	\$0	\$0	\$0	\$0
F	Hydraulic properties & profiles data	\$0	\$0	\$0	\$0	\$0
i	Collect new slug & aquifer tests	\$0	\$0	\$0	\$0	\$0
ii	EM & temperature logging	\$0	\$0	\$0	\$0	\$0
3	<b>Model Development</b>	\$60,000	\$1,519	\$58,481	\$60,235	\$1,754
4	<b>Water Availability Analysis</b>	\$0	\$0	\$0	\$0	\$0
5	<b>Reporting</b>	\$0	\$0	\$0	\$0	\$0
i	Project Website	\$0	\$0	\$0	\$0	\$0
ii	Water quality article	\$0	\$0	\$0	\$0	\$0
iii	Hydrogeologic Setting SIR	\$0	\$0	\$0	\$0	\$0
iv	Hydrologic modeling / water availability SIR / fact sheet	\$0	\$0	\$0	\$0	\$0
<b>TOTAL</b>		<b>\$673,950</b>	<b>\$75,994</b>	<b>\$597,957</b>	<b>\$844,354</b>	<b>\$246,398</b>

\*Funds remaining from FFY15 are "carried over" to FFY16.





**Table 4. Geohydrology and Water Availability of the San Antonio Creek Valley, California - Study Cooperators and Contributors**

Task #		Task Description	Federal Fiscal Years (FFY):				FFY15*				FFY16***			
			Organization:											
1			SB Co	USGS**	VAFB	Total	SB Co	USGS**	VAFB	Total				
Data Compilation (total)			\$32,067	\$16,000	\$17,500	\$65,567	\$82,969	\$0	\$0	\$100,084				
Originally budgeted costs			\$10,867	\$4,000	\$17,500	\$32,367	\$61,133	\$0	\$0	\$72,748				
Information requests, communications, and analysis			\$21,200	\$12,000	\$0	\$33,200	\$21,836	\$0	\$0	\$27,336				
2														
New Data Acquisition			\$42,408	\$20,500	\$112,613	\$175,717	\$701,150	\$38,811	\$117,927	\$887,240				
A														
Drilling & well installation														
i														
Two multiple well monitoring sites			\$1,000	\$500	\$0	\$1,500	\$386,250	\$15,500	\$0	\$404,740				
ii														
Auger drilling of shallow wells			\$2,004	\$1,000	\$0	\$3,004	\$152,996	\$4,950	\$0	\$169,780				
B														
Groundwater levels														
i														
Well canvassing			\$0	\$0	\$0	\$0	\$2,688	\$870	\$0	\$3,575				
ii														
Expanded GW level monitoring			\$2,104	\$1,000	\$3,480	\$6,780	\$10,753	\$2,480	\$3,584	\$17,886				
iii														
GW level recorders			\$0	\$0	\$34,533	\$34,533	\$64,993	\$7,011	\$18,015	\$90,157				
iv														
Measuring point elevations-GPS			\$0	\$0	\$0	\$0	\$19,300	\$0	\$8,300	\$33,197				
C														
Streamflow gaging			\$17,800	\$8,000	\$42,600	\$68,400	\$10,094	\$0	\$23,278	\$35,896				
D														
Groundwater/surface-water interaction														
i														
Temperature monitoring - GW/SW fluxes			\$0	\$0	\$20,000	\$20,000	\$35,020	\$8,000	\$10,000	\$53,250				
ii														
Streamflow duration & location			\$19,500	\$10,000	\$12,000	\$41,500	\$19,055	\$0	\$5,000	\$29,009				
iii														
Streambed infiltration tests			\$0	\$0	\$0	\$0	\$0	\$0	\$5,100	\$5,100				
E														
Water-Quality sampling			\$0	\$0	\$0	\$0	\$0	\$0	\$39,000	\$39,000				
F														
Hydraulic properties & profiles data														
i														
Collect new slug & aquifer tests			\$0	\$0	\$0	\$0	\$0	\$0	\$3,000	\$3,000				
ii														
EM & temperature logging			\$0	\$0	\$0	\$0	\$0	\$0	\$2,650	\$2,650				
3														
Model Development			\$1,519	\$536	\$20,000	\$22,055	\$60,235	\$26,131	\$25,000	\$112,702				
4														
Water Availability Analysis			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
5														
Reporting			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
i														
Project Website			\$0	\$3,000	\$0	\$3,000	\$0	\$0	\$24,800	\$37,300				
ii														
Water quality article			\$0	\$3,000	\$0	\$3,000	\$0	\$0	\$2,500	\$15,000				
iii														
Hydrogeologic Setting SIR			\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
iv														
Hydrologic modelling / water availability SIR / fact sheet			\$0	\$0	\$0	\$0	\$0	\$0	\$17,300	\$17,300				
TOTAL			\$75,994	\$40,036	\$150,113	\$266,339	\$844,354	\$64,942	\$167,727	\$1,137,327				

FFY15 costs are estimates pending end-of-fiscal year (federal) closeout

\*FFY15 costs are estimates pending end-of-fiscal year (federal) closeout.

\*\*Federal matching funds (USGS) for future fiscal years are subject to availability.

\*\*\*Federal matching funds (USGS) for FFY16 have been carried over from FFY15.