

**Borrego Springs Watermaster
Regular Board Meeting
April 18, 2024 @ 4:30 p.m.
Meeting Available by Remote Access Only***

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Instructions for Public Comment

The public may address the Board on items within the Watermaster's Jurisdiction that are included or not included on the meeting agenda.

To address the Board on items that are not included on the meeting agenda, the public may request to speak during ***Agenda Item II – Public Correspondence***. Comments may be limited to three minutes per speaker.

To address the Board on items that are included on the meeting agenda, the Board Chairperson will call for public comments immediately following the agenda item's staff report presentation and prior to Board discussion.

AGENDA

Items with supporting documents in the Board Package are denoted with a page number.

I. OPENING PROCEDURES (Chair)

- A. Call to Order and Begin Meeting Recording
- B. Pledge of Allegiance
- C. Roll Call
- D. Approval of Agenda

II. PUBLIC CORRESPONDENCE/COMMENT (Chair)

The Board may direct staff to include topics brought forward during Public Correspondence and Comment on a future meeting agenda. No action or discussion is otherwise taken by the Board. Written correspondence received between March 2, 2024 and April 10, 2024.

- A. Correspondence Received (none)
- B. Public Comment

III. CONSENT CALENDAR (Chair)*Action Item: All items may be approved with a single motion*

- A. Approval of Minutes: Regular Meeting – March 14, 2024 **Page 4**
- B. Approval of March 2024 Financial Report **Page 10**
- C. Receive and file November 2023 Land IQ Invoices **Page 20**
- D. Receive and file December 2023 Land IQ Invoices **Page 39**
- E. Receive and file January 2024 Watermaster Staff invoices
 - i. January 2024 RWG Invoice **Page 55**
 - ii. January 2024 Land IQ Invoice **Page 60**
 - iii. January 2024 West Yost Invoice
 - a. Technical and Administrative Services (not grant reimbursable) **Page 74**
 - b. Grant Component 7 – Monitoring and Reporting **Page 80**
 - c. Grant Component 6 – Biological Restoration Study **Page 88**
- F. Receive and file February 2024 Watermaster Staff invoices
 - i. February 2024 RWG Invoice **Page 92**
 - ii. February 2024 West Yost Invoice
 - a. Technical and Administrative Services (not grant reimbursable) **Page 96**
 - b. Grant Component 7 – Monitoring and Reporting **Page 101**
 - c. Grant Component 6 – Biological Restoration Study **Page 107**
- G. Approval of Nomination of Community Representative to the TAC **Page 112**

IV. CLOSED SESSION

CONFERENCE WITH LEGAL COUNSEL - Anticipated Litigation; Significant exposure to litigation pursuant to paragraph (2) of Subdivision (d) of Government Code section 54956.9 - Letter from D. Leibert dated February 8, 2024

V. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

All items listed are for Board discussion and are subject to possible action. Staff memos are provided in the agenda package (at the noted page numbers) and contain background information, staff recommendations (and alternatives), fiscal impacts (if any), and next steps.

- A. Policy on the use of “Best Available Science” (MARKMAN/ADAMS) **Page 132**
- B. Status Update on the Redetermination of the Sustainable Yield (MALONE) **Page 137**
- C. Watermaster Budget Status Report as of March 31, 2024 (ADAMS) **Page 148**
- D. Scoping Discussion for WY 2025 Budget (ADAMS) **Page 152**

VI. REPORTS

- A. Legal Counsel Report – *verbal*
 - a. Report out from March 2024 Court hearing on motion to amend Judgment
- B. Technical Consultant Report – *verbal*
 - a. Status update on the Biological Restoration of Fallow Lands project

- C. Executive Director Reports – *verbal*
 - a. Update on Prop 68 grant reimbursements
 - b. Update on DWR Groundwater Management Plan Review
- D. Chairperson's Report – *verbal*

VII. APPROVAL OF AGENDA ITEMS FOR MAY 9, 2024 BOARD MEETINGPage 160

VIII. BOARD MEMBER COMMENTS

IX. NEXT MEETINGS OF THE BORREGO SPRINGS WATERMASTER

- A. Open House – Thursday, May 9, 2024 at 1:30 to 4:00 pm – IN PERSON at the Borrego Springs Library, Community Room
- B. Regular Board Meeting – Thursday, May 9, 2024 at 4:30 pm – IN PERSON at the Borrego Springs Library, Community Room
- C. Regular Board Meeting – Thursday, June 13, 2024 at 4:30 pm

X. ADJOURNMENT

MINUTES
BORREGO SPRINGS WATERMASTER BOARD MEETING
Conducted Virtually via GoToMeeting
Thursday, March 14, 2024, 4:30 p.m.

The following individuals were present at the meeting:

Directors Present	Chair Dave Duncan – Borrego Water District (BWD)
	Vice Chair Tyler Bilyk – Agricultural Sector
	Secretary and Treasurer Shannon Smith – Recreational Sector
	Mark Jorgensen – Community Representative
	Leanne Crow, Board Alternate – County of San Diego
Watermaster Staff Present	Steven Flower, Legal Counsel, RWG
	Samantha Adams, Executive Director, West Yost
	Andrew Malone, Lead Technical Consultant, West Yost
Others Present	Christopher Baker, DWR
	David Garmon
	Diane Johnson, BWD Board Member
	Geoff Poole, BWD General Manager
	Gina Moran, BWD Board Member
	Jessica Clabaugh, BWD Finance Officer
	Jim Dax, Board Alternate – Community Representative
	Jonathan Abadesco, C.J. Brown & Company, CPAs
	Kathy Dice, Board Alternate - BWD
	Miles Krieger
	Rich Pinel, Board Alternate – Recreational Sector
	Rodney Bruce, Rams Hill
	Steve Anderson, BB&K, representing BWD
	Tammy Baker, BWD Board Member
	Travis Huxman, UCI
	Trey Driscoll, Intera, TAC Member representing BWD

Please visit the [Watermaster's Website](#)¹ to access the Agenda Packet, recording, and presentation for the March 14, 2024 Meeting.

I. Opening Procedures

- A. Chair Duncan called the meeting to order at 4:30 PM at which time the meeting recording was started.
- B. Chair Duncan led the meeting participants in the Pledge of Allegiance.
- C. Samantha Adams, Executive Director (ED) called roll and confirmed that a quorum of all members of the Board was present.
- D. Approval of Agenda.

Motion: Motioned by Director Jorgensen, seconded by Director Crow to approve the Agenda.
Motion carried unanimously by voice vote (5-0-0).

¹ <https://borregospringswatermaster.com/past-watermaster-meetings/>

II. Public Correspondence

A. Correspondence Received. Chair Duncan referenced the correspondence included in the agenda package addendum. Public comment was made by Travis Huxman and Kathy Dice.

- Travis Huxman, from the University of California Irvine (UCI) provided a summary of the update on the Groundwater Dependent Ecosystem (GDE) included as public correspondence, noting that he will present an update on the project on March 27, 2024 at the Borrego Springs Library.
- ED Adams confirmed that Mr. Huxman's email was received on March 4, 2024. The March 7, 2024 date listed in the agenda package addendum was a typo.
- The Board requested to agendize a presentation on the status update on the GDE project at a future meeting.

B. Public Comments. Chair Duncan called for public comments. There were no public comments.

III. Consent Calendar. Chair Duncan called for any discussion on the Consent Calendar items included in the March 14, 2024 agenda package. Discussion included.

- The second and third quarterly grant reimbursement request reports have been approved by DWR and have been submitted to the California state controller for payment.

Motion: Motioned by Vice Chair Bilyk, seconded by Director Crow to approve the Consent Calendar. *Motion carried unanimously by roll-call vote (5-0-0).*

IV. Items for Board Consideration and Possible Action

A. *Consideration of Approval of WY 2023 Financial Audit.* ED Adams introduced Jonathan Abadesco, from C.J. Brown & Company, CPAs. Mr. Abadesco summarized the Financial Audit for Water Year 2023 by C.J. Brown & Company, CPAs included in the Agenda Package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments.

Motion: Motioned by Director Smith, seconded by Vice Chair Bilyk, to approve the *WY 2023 Financial Audit* by C.J. Brown & Company, CPAs and include it with the Water Year 2023 Annual Report for the Borrego Springs Subbasin. *Motion carried unanimously by roll-call vote (5-0-0).*

B. *Consideration of Approval of the Water Year 2023 Annual Report.* ED Adams provided an overview of the final Annual Report and memo included in the Agenda package. ED Adams highlighted the comments received on the draft Annual Report and noted which were addressed in the Annual Report and which were outside the scope of the Annual Report and not addressed. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Trey Driscoll.

The key points of discussion included:

- Recommendation for the Watermaster to begin tracking and quantifying changes in land use (such as land fallowing). These changes in land use could then be compared to reductions in groundwater pumping to highlight that the pumping reduction is not due to seasonal fluctuations or increased efficiencies.

- Concern that adding a link to the Technical Memorandum (TM) describing the methodology to estimate the change in storage added to the Annual Report may create further confusion, which contradicts the purpose of adding the link to add clarity to the Annual Report.

Motion: Motioned by Vice Chair Bilyk, seconded by Director Smith, to approve the *Water Year 2023 Annual Report for the Borrego Springs Subbasin* and file it with the Court and DWR after removing the link to the storage change TM. *Motion carried unanimously by roll-call vote (5-0-0).*

C. *Discussion on the use of “Best Available Science”.* Chair Duncan opened the conversation by noting that the agenda and memo were confusing giving that the topic title and recommended action were inconsistent between the agenda and the staff memo. ED Adams noted that this was an oversight by Watermaster staff in updating the agenda to match the final staff memo. ED Adams proceeded to review the information included in the agenda package, which included proposed draft language for a policy on Best Available Science. Following the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Steve Anderson, Diane Wagner, Kathy Dice, Jim Dax, and David Garmon.

The key points of discussion included:

- ED Adams clarified that it was legal counsel and staff's recommendation to create a policy statement on Best Available Science. The development of a policy was not the specific ask of the Board when the agenda item was requested; this was the recommended solution to resolve the confusion about how the Watermaster will apply Best Available Science in its decision-making process. Staff's intent was to present the draft policy for Board discussion and consideration of approval if it met the needs of the Board.
- The effectiveness of the current processes that inform Watermaster of newly available data and science through public comment and correspondence, the TAC, the Environmental Working Group, and agenda setting process.
- Director Smith requested additional language from the Watermaster guidance documents should be added to the Policy, including Section IV.G of the Judgment; and that the Policy should be reordered to state the main purpose at the start of the Policy.
- Alternate Director Crow made a motion to approve the Policy as presented, with the recommended changes by Director Smith. However, following a request for guidance from Legal Counsel, the Board did not vote on the Motion. Specifically, Legal Counsel advised that due to the confusion of how the item was presented in the agenda compared to the staff memo the Watermaster should defer action on the Policy.
- The Board directed staff to bring a revised policy for consideration at the April 2024 Board meeting. Other suggestions for improvement of the next draft of the Policy included:
 - Format into a more formal Policy document
 - Include additional references to Judgment and Rules & Regulations to capture all instances of Best Available Science
 - Include definitions of Best Available Science within SGMA and State law

D. Overview and Discussion of Grant-Funded Work to Address Abandoned Wells. Andy Malone provided a summary of the memo included in the Agenda package and gave an overview of the process of addressing abandoned wells. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Jim Dax, David Garmon, and Tammy Baker.

The key points of discussion included:

- Well owners are not required to cooperate with the Watermaster's effort to address abandoned wells. In this case, Watermaster will provide resources on how to properly address abandoned wells based on State law.
- Abandoned wells are an issue of interest to the community and there have been efforts by the community to help Watermaster identify improperly abandoned wells in the Basin.
- Watermaster Staff has not performed a survey to identify all abandoned wells in the Basin.
- A summary of efforts taken by the County of San Diego to address abandoned wells reported to the DEHQ.
- The cost to abandon and/or convert a well are site-specific. Cost estimates will continue to be refined and will be shared with the public as part of outreach. Examples of costs from abandoned wells in the Basin have recently ranged from \$25,000 to \$45,000.
- Watermaster Staff is investigating the ability to use grant funding to abandon private wells and this may not be possible based on DWR guidelines on benefits to private property – thus Watermaster may focus efforts on conversion of abandoned wells to monitoring sites with cooperative owners.
- Existing wells have not been identified for all the areas of recommended improvement to the Groundwater Monitoring Program, such as within the Anza Borrego State Park. The first priority is to address areas with existing wells prior to considering construction of new wells.

No Board action was taken.

E. Status Update on the Redetermination of the Sustainable Yield. Mr. Malone provided a summary of the memo included in the Agenda package and described the process towards redetermining the Sustainable Yield. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments.

The key points of discussion included:

- Concern regarding the one-week period to review the interim deliverables, which were added to keep the Technical Advisory Committee (TAC) updated on the progress towards redetermining the Sustainable Yield.
- The one week review period is necessary to stay on schedule and the summary interim materials that will be sent to the TAC in advance of ad-hoc meetings will support achieving consensus on the Sustainable Yield recommendation at the conclusion of the work.

No Board action was taken.

V. Reports.

A. Legal Counsel Report. Discussion included:

- A court hearing will be held on March 21, 2024 to consider the motion to amend a Judgment to allow a Community Representative on the TAC. To date, no Parties have filed an opposition to the motion.
- Following the Court approval, a formal nomination letter and CV for Community Representative on the TAC will be included in the April agenda package.
- As discussed and directed at a prior meeting, the Community Representative that has been nominated by Director Jorgensen is allowed to participate in TAC activities, such as the upcoming Ad-Hoc TAC meeting, prior to the Board action to accept the formal nomination in April.

B. Technical Consultant Report. Mr. Malone reported on the following items included in the Agenda package (see [Board presentation slides](#)). Discussion included:

- The sand fence study is behind schedule and has been further delayed due to the difficulty in finding a subcontractor within the project budget.
- The schedule for performing the sand fence study assumed limited time to monitor the short-term effects of constructing the sand fences. The UCI research center is dedicated to supporting long-term monitoring of the sand fences utilizing student researchers.
- Leanne Crow will assume Jim Bennett's appointment to the subcommittee to review subcontractor proposals if he is not available.

C. Executive Director Reports. ED Adams reported on the following items:

- The fourth quarterly grant reimbursement request was submitted by BWD to DWR ahead of the deadline in February 2024.
- BWD staff is in regular communication with DWR regarding the status of review and payment on previous grant reimbursement requests.
- Status update on the WY 2024 meter accuracy testing.
- The April Board meeting has been rescheduled for April 18, 2024.

D. Chairperson's Report. NONE

VI. Approval of Agenda Items for April 18, 2024 Board Meeting. ED Adams reviewed the potential agenda items for the April Board meetings listed in the agenda package and the Board discussed.. As mentioned during public comment, the Board requested that the May meeting agenda include a presentation by UCI on the status of the GDE project. Following discussion, ED Adams updated the proposed Agenda for the April 18, 2024 meeting on the meeting screen, which included the following items:

- Consideration of Approval of Board Resolution Clarifying Carryover Transfers and Accounting
- Consideration of Approval of the May 1, 2024 TAC Meeting Agenda
- Q2 WY 2024 Budget status review
- WY 2025 Budget Scoping
- Policy on "Best Available Science"

- Status Update on the Redetermination of the Sustainable Yield
- Appointment of a public representative to the TAC (*Consent Calendar*)

Motion: Motioned by Vice Chair Bilyk seconded by Director Smith, to approve the April 18, 2024 agenda presented. *Motion carried unanimously by roll-call vote (5-0-0).*

VII. Board Member Comments. Chair Duncan called for comments.

- Director Smith commented that:
 - T2 Palms has officially been approved by the Court to intervene as a party to the Judgment and will pay the past due balances associated with the acquired Baseline Pumping Allocation (BPA).
 - The Watermaster Board's job is to defend the Judgment and this is the perspective he is taking when commenting on agenda items, noting that when he sounds defensive it is not meant to be personal.

VIII. Next Meetings of the Borrego Springs Watermaster. Chair Duncan reviewed the meetings listed in the agenda package.

IX. Adjournment

A. Chair Duncan adjourned the meeting at 7:28 PM.

Recorded by:
Lauren Salberg, Staff Geologist, West Yost

Attest:
Shannon Smith, Secretary and Treasurer of the Board

Borrego Springs Watermaster
Profit & Loss for Fiscal Year 2023-2024
October 2023 through March 2024

	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	TOTAL
Ordinary Income/Expense							
Income							
DWR Grant Reimbursement ^t	0.00	0.00	624,880.37	0.00	0.00	0.00	624,880.37
Meter Read Reimbursement	6,468.96	0.00	0.00	0.00	0.00	0.00	6,468.96
Pumping Assessment	0.00	229,005.63	0.00	0.00	0.00	0.00	229,005.63
WY 2022 - Expected Grant Reimb ^v	0.00	0.00	(235,348.89)	0.00	0.00	0.00	(235,348.89)
WY 2023 - Expected Grant Reimb ^v	0.00	0.00	(389,487.97)	0.00	0.00	0.00	(389,487.97)
WY 2024 - Expected Grant Reimb	69,263.28	83,812.42	74,465.68	71,316.06	65,187.58	42,383.97	406,428.99
Total Income	75,732.24	312,818.05	74,509.19	71,316.06	65,187.58	42,383.97	641,947.09
Expense							
Audit	0.00	0.00	0.00	0.00	6,272.00	784.00	7,056.00
Bank Service Charges	0.00	0.00	0.00	25.00	0.00	25.00	50.00
Consult Serv Land IQ-Grant Reim ^{**}	16,663.20	14,023.42	19,137.73	17,592.06	6,028.83	8,760.72	82,205.96
Consult Serv WY-Grant Reim ^{**}	52,600.08	69,789.00	55,327.95	53,724.00	46,958.75	33,623.25	312,023.03
Consulting Services *	15,973.00	16,179.45	14,698.54	17,746.25	12,799.75	12,614.25	90,011.24
Consulting Services- Meter Read	1,304.75	(131.50)	36.25	88.00	344.50	279.50	1,921.50
Insurance	3,339.42	3,339.42	3,339.42	3,339.42	3,339.42	3,339.42	20,036.52
Interest Expense	6,909.54	7,121.26	12,009.27	5,498.76	3,036.49	3,711.23	38,286.55
Legal	4,500.00	15,442.50	9,047.50	15,409.39	7,524.90	12,981.75	64,906.04
Meter Accuracy Test-Grant Reim ^{**}	0.00	0.00	0.00	0.00	12,200.00	0.00	12,200.00
Meter Read Expenses	1,688.68	0.00	0.00	0.00	0.00	894.53	2,583.21
Total Expense	102,978.67	125,763.55	113,596.66	113,422.88	98,504.64	77,013.65	631,280.05
Net Ordinary Income	(27,246.43)	187,054.50	(39,087.47)	(42,106.82)	(33,317.06)	(34,629.68)	10,667.04
Net Income	(27,246.43)	187,054.50	(39,087.47)	(42,106.82)	(33,317.06)	(34,629.68)	10,667.04

* Represents Consulting services by West Yost that are not grant reimbursable.

** Represents expenses that can be reimbursed with grant funding from DWR.

^t Reflects actual reimbursement received from DWR.

^v Reflects reversal of estimated reimbursement amounts in prior WYs.

Borrego Springs Watermaster
Balance Sheet for Fiscal Year 2023-2024
As of March 31, 2024

	<u>Mar 31, 24</u>
ASSETS	
Current Assets	
Checking/Savings	
US Bank	837,836.87
Total Checking/Savings	837,836.87
Accounts Receivable	
Accounts Receivable	47,172.04
Total Accounts Receivable	47,172.04
Other Current Assets	
Accrued Grant Reimburse 2023	261,195.99
Accrued Grant Reimburse 2024	406,428.99
Prepaid Expenses	6,678.82
Total Other Current Assets	674,303.80
Total Current Assets	1,559,312.71
TOTAL ASSETS	<u>1,559,312.71</u>
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	423,348.81
Total Accounts Payable	423,348.81
Other Current Liabilities	
Accrued Payables	69,587.47
Total Other Current Liabilities	69,587.47
Total Current Liabilities	492,936.28
Total Liabilities	492,936.28
Equity	
Retained Earnings	1,055,709.39
Net Income	10,667.04
Total Equity	1,066,376.43
TOTAL LIABILITIES & EQUITY	<u>1,559,312.71</u>

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04/10/24

Accrual Basis

Borrego Springs Watermaster Expense Distribution Detail

March 2024

Type	Date	Num	Memo	Account	Amount
Borrego Water Dist					
Bill	03/05/2024	202402	December 2023 Meter reads	Meter Read Expenses	894.53
Total Borrego Water Dist					
C.J. Brown & Company CPAs					
Bill	03/01/2024	20240229	Audit services thru February 2024	Audit	784.00
Total C.J. Brown & Company CPAs					
Land IQ, LLC					
General Journal	03/01/2024	55R	Land IQ Estimate for February 1, 2024 to February 29, 2024	Consult Serv Land IQ-Grant Reim	(12,175.75)
Bill	03/29/2024	5906	Services from February 1, 2024 to February 29, 2024	Consult Serv Land IQ-Grant Reim	12,341.25
Bill	03/31/2024	LandIQ Int Mar24 Est	March 2024 Estimated Interest	Interest Expense	573.33
General Journal	03/31/2024	58	Land IQ Estimate for March 1, 2024 to March 31, 2024	Consult Serv Land IQ-Grant Reim	8,595.22
Bill	03/31/2024	LandIQ Int Mar24	March 2024 Final Interest, Including Payments	Interest Expense	110.06
Total Land IQ, LLC					
RWG Law					
General Journal	03/01/2024	55R	RWG Estimate for February 1, 2024 to February 29, 2024	Legal	(6,000.00)
Bill	03/12/2024	246815	Services rendered through February 29, 2024	Legal	5,981.75
General Journal	03/31/2024	58	RWG Estimate for March 1, 2024 to March 31, 2024	Legal	13,000.00
Total RWG Law					
West Yost & Associates					
General Journal	03/01/2024	55R	WY Estimate for February 1, 2024 to February 29, 2024	Consulting Services	(13,450.50)
General Journal	03/01/2024	55R	WY Estimate for February 1, 2024 to February 29, 2024	Consulting Services- Meter Read	(346.00)
General Journal	03/01/2024	55R	WY Estimate for February 1, 2024 to February 29, 2024	Consult Serv WY-Grant Reim	(36,959.50)
Bill	03/15/2024	2057638	West Yost Consulting Services January 1, 2024 to January 31, 2024	Consulting Services	17,660.00
Bill	03/15/2024	2057638	West Yost Consulting Services January 1, 2024 to January 31, 2024	Consulting Services- Meter Read	89.00
Bill	03/15/2024	2057639	West Yost Consulting Services January 1, 2024 to January 31, 2024	Consult Serv WY-Grant Reim	60,274.75
Credit	03/15/2024	2057002	VOID West Yost Consulting Services January 1, 2024 to January 31, 2024	Consult Serv WY-Grant Reim	(59,754.00)
Credit	03/15/2024	2057002	VOID West Yost Vendor Portion-Clinical Laboratory of San Bernardino	Consult Serv WY-Grant Reim	(2,730.00)
Credit	03/15/2024	2057009	VOID West Yost Consulting Services from January 1, 2024 to January 31, 2024	Consulting Services	(17,596.00)
Credit	03/15/2024	2057009	VOID West Yost Consulting Services from January 1, 2024 to January 31, 2024	Consulting Services- Meter Read	(86.50)
Bill	03/15/2024	2057639	West Yost Vendor Portion - Clinical Laboratory of San Bernardino	Consult Serv WY-Grant Reim	2,730.00
Bill	03/29/2024	2057696	West Yost Consulting Services February 1, 2024 to February 29, 2024	Consulting Services	12,512.00
Bill	03/29/2024	2057696	West Yost Consulting Services February 1, 2024 to February 29, 2024	Consulting Services- Meter Read	311.50
Bill	03/29/2024	2057697	West Yost Consulting Services February 1, 2024 to February 29, 2024	Consult Serv WY-Grant Reim	34,663.75
Bill	03/29/2024	2057698	West Yost Consulting Services February 1, 2024 to February 29, 2024	Consult Serv WY-Grant Reim	1,206.25
Bill	03/31/2024	Interest Mar24 Est	March 2024 Estimated Interest	Interest Expense	2,588.91
General Journal	03/31/2024	58	WY Estimate for March 1, 2024 to March 31, 2024	Consulting Services	13,488.75
General Journal	03/31/2024	58	WY Estimate for March 1, 2024 to March 31, 2024	Consulting Services- Meter Read	311.50
General Journal	03/31/2024	58	WY Estimate for March 1, 2024 to March 31, 2024	Consult Serv WY-Grant Reim	34,192.00
Bill	03/31/2024	Interest Mar24 Final	March 2024 Final Interest, Including Payments	Interest Expense	438.93
Total West Yost & Associates					

* As requested, corrected January 2024 billing rates. Above values reflect the voided invoices and the correction.

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04/10/24

Accrual Basis

**Borrego Springs Watermaster
Expense Distribution Detail**

March 2024

Type	Date	Num	Memo	Account	Amount
TOTAL					73,649.23

Borrego Springs Watermaster

Register: US Bank

From 03/01/2024 through 03/31/2024

Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
3/14/2024			-split-	Deposit		X	\$ 2,505.78	\$ 852,817.21
3/14/2024	2138	Borrego Water Dist	Accounts Payable	December 2023 Meter reads	\$ 894.53			\$ 851,922.68
3/14/2024	2139	C.J. Brown & Company CPAs	Accounts Payable		\$ 7,056.00	X		\$ 844,866.68
3/14/2024	2140	Land IQ, LLC	Accounts Payable		\$ 659.49			\$ 844,207.19
3/14/2024	2141	McKeever Water Well & Pump Service, Inc.	Accounts Payable	Meter Accuracy Testing – Grant Reimbursable	\$ 350.00			\$ 843,857.19
3/14/2024	2142	West Yost & Associates	Accounts Payable		\$ 5,995.32	X		\$ 837,861.87
3/15/2024		West Yost & Associates	Accounts Payable	Zero transaction (Voided January WY invoice)		X		\$ 837,861.87
3/15/2024		West Yost & Associates	Accounts Payable	Zero transaction (Voided January WY invoice)		X		\$ 837,861.87
3/15/2024		West Yost & Associates	Accounts Payable	Zero transaction (Voided January WY invoice)		X		\$ 837,861.87
3/31/2024			Bank Service Charges	Service Charge	\$ 25.00	X		\$ 837,836.87

2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 3/31/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2056066	10/31/2023	\$ 16,390.75			\$ 16,390.75	
	12/1/2023		10.50%	\$ 146.17	\$ 16,390.75	\$ 16,536.92
	1/29/2024	\$ (436.36)	10.50%	\$ 280.67	\$ 16,100.56	\$ 16,381.23
	1/29/2024	\$ (26.85)	10.50%	\$ -	\$ 16,354.38	\$ 16,354.38
	1/31/2024		10.50%	\$ 9.41	\$ 16,354.38	\$ 16,363.79
	2/27/2024	\$ (224.82)	10.50%	\$ 127.10	\$ 16,138.97	\$ 16,266.07
	2/29/2024		10.50%	\$ 9.36	\$ 16,266.07	\$ 16,275.43
	3/26/2024	\$ (141.16)	10.50%	\$ 121.73	\$ 16,134.27	\$ 16,256.00
	3/31/2024		10.50%	\$ 23.38	\$ 16,256.00	\$ 16,279.38
2056069	10/31/2023	\$ 55,813.83			\$ 55,813.83	
	12/1/2023		10.50%	\$ 497.74	\$ 55,813.83	\$ 56,311.57
	1/10/2024	\$ (10,020.58)	10.50%	\$ 647.97	\$ 46,290.99	\$ 46,938.96
	1/29/2024	\$ (1,429.27)	10.50%	\$ 256.56	\$ 45,509.69	\$ 45,766.24
	1/31/2024		10.50%	\$ 26.33	\$ 45,766.24	\$ 45,792.57
	2/27/2024	\$ (382.02)	10.50%	\$ 355.68	\$ 45,410.55	\$ 45,766.23
	2/29/2024		10.50%	\$ 26.33	\$ 45,766.23	\$ 45,792.56
	3/26/2024	\$ (408.37)	10.50%	\$ 342.50	\$ 45,384.19	\$ 45,726.69
	3/31/2024		10.50%	\$ 65.77	\$ 45,726.69	\$ 45,792.47
2056298	11/30/2023	\$ 18,794.74			\$ 18,794.74	
	12/31/2023		10.50%	\$ 167.61	\$ 18,794.74	\$ 18,962.35
	1/29/2024	\$ (336.71)	10.50%	\$ 158.19	\$ 18,625.64	\$ 18,783.83
	1/31/2024		10.50%	\$ 10.81	\$ 18,783.83	\$ 18,794.64
	2/27/2024	\$ (156.69)	10.50%	\$ 145.98	\$ 18,637.95	\$ 18,783.93
	2/29/2024		10.50%	\$ 10.81	\$ 18,783.93	\$ 18,794.74
	3/26/2024	\$ (167.61)	10.50%	\$ 140.57	\$ 18,627.13	\$ 18,767.70
	3/31/2024		10.50%	\$ 26.99	\$ 18,767.70	\$ 18,794.69
2056299	11/30/2023	\$ 71,503.45			\$ 71,503.45	
	12/31/2023		10.50%	\$ 637.65	\$ 71,503.45	\$ 72,141.10
	1/29/2024	\$ (1,280.99)	10.50%	\$ 601.83	\$ 70,860.11	\$ 71,461.95
	1/31/2024		10.50%	\$ 41.12	\$ 71,461.95	\$ 71,503.06
	2/27/2024	\$ (6,742.01)	10.50%	\$ 555.37	\$ 64,761.05	\$ 65,316.43
	2/29/2024		10.50%	\$ 37.58	\$ 65,316.43	\$ 65,354.01
	3/26/2024	\$ (582.81)	10.50%	\$ 488.81	\$ 64,771.20	\$ 65,260.01
	3/31/2024		10.50%	\$ 93.87	\$ 65,260.01	\$ 65,353.88

2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 3/31/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2056300	11/30/2023	\$ 1,260.00			\$ 1,260.00	\$ 1,260.00
	12/31/2023		10.50%	\$ 11.24	\$ 1,260.00	\$ 1,271.24
	1/29/2024	\$ (22.57)	10.50%	\$ 10.61	\$ 1,248.67	\$ 1,259.27
	1/31/2024		10.50%	\$ 0.72	\$ 1,259.27	\$ 1,260.00
	2/27/2024	\$ (10.51)	10.50%	\$ 9.79	\$ 1,249.49	\$ 1,259.27
	2/29/2024		10.50%	\$ 0.72	\$ 1,259.27	\$ 1,260.00
	3/26/2024	\$ (11.24)	10.50%	\$ 9.42	\$ 1,248.76	\$ 1,258.18
	3/31/2024		10.50%	\$ 1.81	\$ 1,258.18	\$ 1,259.99
2056797	12/31/2023	\$ 12,374.50			\$ 12,374.50	\$ 12,374.50
	1/31/2024		10.50%	\$ 110.35	\$ 12,374.50	\$ 12,484.85
	2/27/2024	\$ (214.44)	10.50%	\$ 96.97	\$ 12,270.41	\$ 12,367.38
	2/29/2024		10.50%	\$ 7.12	\$ 12,367.38	\$ 12,374.50
	3/26/2024	\$ (110.35)	10.50%	\$ 92.55	\$ 12,264.15	\$ 12,356.70
	3/31/2024		10.50%	\$ 17.77	\$ 12,356.70	\$ 12,374.48
2056798	12/31/2023	\$ 47,204.00			\$ 47,204.00	\$ 47,204.00
	1/31/2024		10.50%	\$ 420.96	\$ 47,204.00	\$ 47,624.96
	2/27/2024	\$ (818.01)	10.50%	\$ 369.91	\$ 46,806.95	\$ 47,176.86
	2/29/2024		10.50%	\$ 27.14	\$ 47,176.86	\$ 47,204.00
	3/26/2024	\$ (420.96)	10.50%	\$ 353.06	\$ 46,783.04	\$ 47,136.10
	3/31/2024		10.50%	\$ 67.80	\$ 47,136.10	\$ 47,203.90
2056799	12/31/2023	\$ 1,016.00			\$ 1,016.00	\$ 1,016.00
	1/31/2024		10.50%	\$ 9.06	\$ 1,016.00	\$ 1,025.06
	2/27/2024	\$ (17.61)	10.50%	\$ 7.96	\$ 1,007.45	\$ 1,015.41
	2/29/2024		10.50%	\$ 0.58	\$ 1,015.41	\$ 1,016.00
	3/26/2024	\$ (9.06)	10.50%	\$ 7.60	\$ 1,006.94	\$ 1,014.54
	3/31/2024		10.50%	\$ 1.46	\$ 1,014.54	\$ 1,015.99
2057638	1/31/2024	\$ 17,749.00			\$ 17,749.00	\$ 17,749.00
	2/29/2024		10.50%	\$ 148.07	\$ 17,749.00	\$ 17,897.07
	3/26/2024	\$ (306.52)	10.50%	\$ 133.86	\$ 17,590.55	\$ 17,724.41
	3/31/2024		10.50%	\$ 25.49	\$ 17,724.41	\$ 17,749.90

2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630 **Interest Schedule:** 3/31/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2057639	1/31/2024 2/29/2024 3/26/2024 3/31/2024	\$ 63,004.75 \$ (3,813.14)	10.50% 10.50% 10.50%	\$ 525.61 \$ 475.17 \$ 86.58	\$ 63,004.75 \$ 59,717.22 \$ 60,192.40	\$ 63,530.36 \$ 60,192.40 \$ 60,278.98
2057003	1/31/2024 2/29/2024 3/26/2024 3/31/2024	\$ 1,390.00 \$ (24.10)	10.50% 10.50% 10.50%	\$ 11.60 \$ 10.48 \$ 2.00	\$ 1,390.00 \$ 1,377.50 \$ 1,387.98	\$ 1,390.00 \$ 1,401.60 \$ 1,387.98 \$ 1,389.98
2057696	2/29/2024 3/31/2024	\$ 12,823.50	10.50%	\$ 114.36	\$ 12,823.50	\$ 12,937.86
2057697	2/29/2024 3/31/2024	\$ 34,663.75	10.50%	\$ 309.12	\$ 34,663.75	\$ 34,972.87
2057698	2/29/2024 3/31/2024	\$ 1,206.25	10.50%	\$ 10.76	\$ 1,206.25	\$ 1,217.01
Total Invoices (Less Pymts)		\$ 327,079.76				
Current Month Interest (Estimated)				\$ 2,588.91		
Current Month Interest (Final, including payments)				\$ 3,022.94		
Prior Month Interest Adjustment				\$ 4.90		
Adjusted Monthly Interest				\$ 438.93		
Total Interest Charges				<u>\$ 9,541.62</u>		
Grand Total					<u>\$ 336,621.38</u>	

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
 c/o West Yost Associates
 23692 Birtcher Drive
 Lake Forest, CA 92630

Interest Schedule: 3/31/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
4708	5/31/2023	\$ 161,700.54			\$ 161,700.54	
	7/1/2023		10.25%	\$ 1,407.68	\$ 161,700.54	\$ 163,108.22
	8/1/2023		10.25%	\$ 1,419.94	\$ 163,108.22	\$ 164,528.16
	9/1/2023		10.50%	\$ 1,467.23	\$ 164,528.16	\$ 165,995.39
	10/2/2023		10.50%	\$ 1,480.32	\$ 165,995.39	\$ 167,475.70
	10/27/2023	\$ (25,230.83)	10.50%	\$ 1,204.45	\$ 142,244.87	\$ 143,449.32
	11/13/2023	\$ (25,000.00)	10.50%	\$ 701.53	\$ 118,449.32	\$ 119,150.85
	12/14/2023		10.50%	\$ 1,062.56	\$ 119,150.85	\$ 120,213.41
	1/4/2024	\$ (86,469.71)	10.50%	\$ 726.22	\$ 33,743.70	\$ 34,469.92
	1/4/2024	\$ (3,708.10)	10.50%	\$ -	\$ 30,761.82	\$ 30,761.82
	1/11/2024	\$ (25,000.00)	10.50%	\$ 61.95	\$ 5,761.82	\$ 5,823.77
	1/31/2024		10.50%	\$ 33.51	\$ 5,823.77	\$ 5,857.27
	2/29/2024		10.50%	\$ 48.86	\$ 5,857.27	\$ 5,906.14
	3/12/2024	\$ (5,906.14)	10.50%	\$ 20.39	\$ (0.00)	\$ 20.39
	3/31/2024		10.50%	\$ 0.11	\$ 20.39	\$ 20.50
5689	10/31/2023	\$ 19,593.79			\$ 19,593.79	
	12/1/2023		10.50%	\$ 174.73	\$ 19,593.79	\$ 19,768.52
	1/31/2024		10.50%	\$ 346.90	\$ 19,768.52	\$ 20,115.42
	2/29/2024		10.50%	\$ 167.81	\$ 20,115.42	\$ 20,283.23
	3/12/2024	\$ (689.44)	10.50%	\$ 70.02	\$ 19,593.79	\$ 19,663.81
	3/31/2024		10.50%	\$ 107.48	\$ 19,663.81	\$ 19,771.29
5737	11/30/2023	\$ 13,692.29			\$ 13,692.29	
	12/31/2023		10.50%	\$ 122.11	\$ 13,692.29	\$ 13,814.40
	1/31/2024		10.50%	\$ 123.19	\$ 13,814.40	\$ 13,937.59
	2/29/2024		10.50%	\$ 116.27	\$ 13,937.59	\$ 14,053.86
	3/12/2024	\$ (361.57)	10.50%	\$ 48.51	\$ 13,692.29	\$ 13,740.80
	3/31/2024		10.50%	\$ 75.10	\$ 13,740.80	\$ 13,815.91

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 3/31/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
5788	12/31/2023 1/31/2024 2/29/2024 3/12/2024 3/31/2024	\$ 17,655.58 \$ (306.05)	10.50% 10.50% 10.50% 10.50% 10.50%	\$ 157.45 \$ 148.60 \$ 62.00 \$ 96.84	\$ 17,655.58 \$ 17,813.03 \$ 17,961.63 \$ 17,717.59 \$ 17,814.43	\$ 17,655.58 \$ 17,813.03 \$ 17,961.63 \$ 17,717.59 \$ 17,814.43
5856	1/31/2024 2/29/2024 3/31/2024	\$ 10,327.83	10.50% 10.50% 10.50%	\$ 86.16 \$ 92.87	\$ 10,327.83 \$ 10,413.99 \$ 10,506.86	\$ 10,327.83 \$ 10,413.99 \$ 10,506.86
5906	2/29/2024 3/31/2024	\$ 12,341.25	10.50%	\$ 110.06	\$ 12,341.25	\$ 12,451.31
Total Invoices (Less Pymts)		\$ 62,639.44				
Current Month Interest				\$ 683.39		
Total Interest Charges					\$ 11,740.85	
Grand Subtotal						\$ 74,380.29

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date: 11/30/23
Total Amount: \$13,692.29
Invoice Number: 5737
Invoice Period: 11/01/23 - 11/30/23
Engagement: Borrego Springs Watermaster

Approved March 29, 2024

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	\$297.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	\$4,372.50
Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study Expenses	\$5,641.72
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	\$1,500.00
Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	\$1,880.57

TOTAL AMOUNT DUE **\$13,692.29**

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Laura McFadden	1.25	\$110.00	\$137.50
Robert Travis Brooks	1.00	\$160.00	\$160.00
Task A. LIQ (WY23/24) Project Management	2.25		\$297.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Robert Travis Brooks	11.00	\$160.00	\$1,760.00
Stephanie Tillman	13.75	\$190.00	\$2,612.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	24.75		\$4,372.50
TOTAL FEES & EXPENSES	27.00		\$13,692.29

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
11/28/23	Task A. LIQ (WY23/24) Project Management	Invoicing question and response from West Yost	0.50	\$160.00	\$80.00
11/8/23	Task A. LIQ (WY23/24) Project Management	Project Management	0.50	\$160.00	\$80.00
11/2/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	coordination on installing design	2.00	\$160.00	\$320.00
11/12/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Information request from Andy on behalf of Shannon Smith (watermaster board)	3.00	\$160.00	\$480.00
11/27/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Review of literature for examples of STM and feedback to UCI on guidelines for developing conceptual STMs for the project.	2.50	\$160.00	\$400.00
11/30/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Meeting with T2 Staff, Andy Malone, Jim Markman, and follow up discussion and coordination with Rodney Bruce; Prep for Friday field day	3.50	\$160.00	\$560.00
Robert Travis Brooks				12.00	\$1,920.00
Laura McFadden					
11/27/23	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	\$110.00	\$27.50
11/13/23	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	\$110.00	\$27.50
11/16/23	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	\$110.00	\$27.50
11/17/23	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.50	\$110.00	\$55.00
Laura McFadden				1.25	\$137.50
Stephanie Tillman					
11/14/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	project management and mtg scheduling	1.50	\$190.00	\$285.00
11/21/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	mtg scheduling	0.25	\$190.00	\$47.50
11/15/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	coordination with West Yost and Task 3 participants on requirements and schedule and review of communications from Travis re T2	1.00	\$190.00	\$190.00
11/24/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	project mtg scheduling	1.75	\$190.00	\$332.50
11/27/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	mtg coordination; budget tracking	0.75	\$190.00	\$142.50
11/28/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	coordination re entry permits, easements, etc.	3.50	\$190.00	\$665.00
11/30/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Travel time to Orange Co. for Task 3 meetings	5.00	\$190.00	\$950.00

Date	Task	Description	Hrs	Rate	Amount	
		Stephanie Tillman	13.75		\$2,612.50	
		TOTAL FEES	27.00		\$4,670.00	
Date	Code	Task	Description			Amount
Land IQ Expenses						
11/30/23	Professional Services	Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	UCIrvine: Invoice No: 22307329-58786			\$5,641.72
11/23/23	Professional Services	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Yellobee Studio: Borrego Springs Diagram (Invoice #3115)			\$1,500.00
11/30/23	Professional Services	Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study	UCIrvine: Invoice No: 22307329-58786			\$1,880.57
				Land IQ Expenses		\$9,022.29
				TOTAL EXPENSES		\$9,022.29



UCIRVINE

Contracts and Grants Accounting

 228 Aldrich Hall
 Irvine, CA 92697-1050
 Fax: (949) 824-3895

Invoice No: 22307329-58786

Date: 12/18/2023
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

 LAND IQ, LLC
 2020 L STREET, SUITE 210
 SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number:	225754
Project Title:	Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator:	Lulow, Megan
Project Title:	01/02/2023 to 03/31/2025

Billing Period: 11/01/2023-11/30/2023

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	\$5,837.45	\$5,837.45	\$0.00
Labor - Task 1	\$16,250.00	\$16,250.00	\$0.00
Labor - Task 2	\$50,041.14	\$44,399.42	\$5,641.72
Labor - Task 3	\$15,268.47	\$13,387.90	\$1,880.57
Labor - Task 6	\$3,700.00	\$3,700.00	\$0.00
Direct Expense	\$9,441.67	\$9,441.67	\$0.00
	\$100,538.73	\$93,016.44	\$7,522.29
Indirect Costs (0%)	\$0.00	\$0.00	\$0.00
	\$100,538.73	\$93,016.44	\$7,522.29
Current Invoice Total			\$7,522.29

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:


A5C03A9D5EAD46F...
 Griselda Duran
 Manager, Contracts & Grants Accounting

November 2023 UCI activities

Task 2 Activities:

- Monthly refarm meeting
- Updating project schedules based on the status of existing tasks and circumstances.
- Task coordination and communication among staff
- Admin and budget management & Coordination
- Data processing and statistical analyses of soil texture, type, and salinity of soil samples from 9 retired farmland sites and 7 natural reference sites
- Data processing and statistical analyses of vegetation data from 9 retired farmland sites and 7 natural reference sites
- Writing results and creating figures for soil and landscape structure data
- Drone analysis- review images, create metadata, crop to size of parcels (standard size for analysis)
- DEM analysis for production of variables to go in models-distance to active channel, average/min/max wind speeds, average/min/max elevations for each parcel
- Review drone methodology
- Drone processing and data capture meetings
- Data processing and statistical analyses of vegetation data from 9 retired farmland sites and 7 natural reference sites
- Writing results for the vegetation data and creating figures
- Plan and conduct drone flights of all the plots both in RGB and multispectral with DEM and DTM analysis.
- Meet and assist group field trips and staff to assist with the integration of drone data and downstream applications.

Task 3 Activities:

- Monthly refarm meeting
- Updating project schedules based on the status of existing tasks and circumstances.
- Task coordination and communication among staff
- Sand Fence methodology planning
- Sand fence methodology review)
- Admin and budget management & Coordination
- Review drone methodology
- Drone processing and data capture meetings
- Conduct preliminary drone flights

SUMMARY OF LABOR PER HOUR

Individual	November 2023			GAEL
	Time (h)	Salary Total	Rate (h)	
Post-Doctoral Researcher 1 (Fiore)*	38.43	\$ 1,216.83	\$ 31.66	\$ 12.29
Post-Doctoral Researcher 2 (Brigham)*	38.43	\$ 1,216.83	\$ 31.66	\$ 12.29
Research Associate 1 (Rood)**	28.12	\$ 1,119.48	\$ 39.82	\$ 11.30
Research Associate 2 (Coffey)*	42.36	\$ 1,311.64	\$ 30.96	\$ 13.25
Senior Scientist 2 (Lulow)*	9.54	\$ 530.51	\$ 55.61	\$ 5.36
*monthly rate divided by working hours per month			\$ 5,395.29	\$ 54.49

UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 5 - November

Run Date/Time: 01/31/2024 8:43:00 AM
Page #: 1 of 2

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	10/31/2023	REG	1	M	5,455.96	5,455.96	(0.0241)	(4.24)	(132.83)	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023	REG	1	M	5,455.96	5,455.96	0.2648	46.60	1,444.47	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023	REG	0.475	H	39.82	39.82	0.3988	14.36	571.65	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023	REG	0.475	H	39.82	39.82	0.3988	13.76	547.83	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	38.43	1,216.83	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023	REG	1	UC_FY	9,791.67	9,791.67	0.0542	9.54	530.51	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	38.43	1,216.83	0.00
11/30/2023	6191	486369	58786	SWG2	1285			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	10/31/2023	VAC	1	M	5,455.96	5,455.96	0.0241	4.24	132.83	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																				161.11	5,528.12	0.00	
11/30/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	39.79
11/30/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	98.38
11/30/2023	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	(132.83)
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	3.61
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	9.82
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	3.89
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	3.73
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	246.69
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	609.91



UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 5 - November

Run Date/Time: 01/31/2024 8:43:00 AM
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Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	297.26
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	284.87
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
BENF - BENEFITS																					0.00	0.00	1,939.68
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	5.36
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	13.25
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	5.77
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	5.53
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
GENX - GENERAL EXPENSES																					0.00	0.00	54.49
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					161.11	5,528.12	1,994.17
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					161.11	5,528.12	1,994.17

Contracts and Grants Accounting

228 Aldrich Hall
Irvine, CA 92697-1050

Date: 12/18/2023

Federal Tax ID: 95-2226406

Proposal Number: 105753

UC Fund Number: 58786

Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator: Lulow, Megan
Project Period: 01/02/2023 to 03/31/2025

Billing Period: 11/01/2023 to 11/30/2023

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Salaries and Wages	\$84,134.87	\$78,606.75	\$5,528.12
Fringe Benefits	\$30,542.15	\$28,602.47	\$1,939.68
Supplies and Materials	\$10,042.18	\$10,042.18	\$0.00
Equipment	\$0.00	\$0.00	\$0.00
Travel	\$0.00	\$0.00	\$0.00
Other Direct Costs	\$1,045.16	\$990.67	\$54.49
Subawards	\$0.00	\$0.00	\$0.00
	<hr/> \$125,764.36	<hr/> \$118,242.07	<hr/> \$7,522.29
Indirect Costs (0%)	\$0.00	\$0.00	\$0.00
	<hr/> \$125,764.36	<hr/> \$118,242.07	<hr/> \$7,522.29
Current Invoice Total			\$7,522.29

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By



Griselda Duran
Manager, Contracts & Grants Accounting

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 05 - NOV. 2023

 Run Date/Time: 01/31/2024 8:37:58 AM
 Page #: 1 of 2
 Run by: Daniel S Nguyen

 Chart: IR
 Org: 6191
 Org Title: OFFICE OF UCI-NATURE
 Account: PC15547
 Account Name: 486369-58786 UCI-Nature/LAND IQ

 Control Account - UC Account: UC58786 - 486369
 Agency Name: LAND IQ, LLC
 Fiscal Officer: Daniel S Nguyen
 Account Manager: Sinqui Musto
 Project Director: Megan E Lulow

 Sub Fund Grp Type: Private Contracts-Restricted
 Award #: -
 Award Begin Date: 01/03/2023
 Award End Date: 03/31/2025
 ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
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Account - PC15547

Consolidation - SWG2

05	EX	SWGN	1200	IBI	UP	20231111	BI-WEEKLY Check Date 11/22/2023	11/21/23	139813744	-	-	-	-	\$0.00	\$571.65	\$0.00
05	EX	SWGN	1200	IBI	UP	20231125	BI-WEEKLY Check Date 12/06/2023	12/05/23	140389251	-	-	-	-	\$0.00	\$547.83	\$0.00
05	EX	SWGN	1200	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133616	-	-	-	-	\$0.00	\$1,311.64	\$0.00
05	EX	SWGN	1211	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133617	-	-	-	-	\$0.00	\$2,964.17	\$0.00
05	EX	SWGN	1285	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133618	-	-	-	-	\$0.00	\$132.83	\$0.00

Consolidation Summary - SWG2 for period 05

\$0.00 \$5,528.12 \$0.00

Consolidation - BENF

05	EX	BENE	1627	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133619	-	-	-	-	\$0.00	(\$132.83)	\$0.00
05	EX	BENE	1627	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133620	-	-	-	-	\$0.00	\$138.17	\$0.00
05	EX	BENE	1678	IBI	UP	20231111	BI-WEEKLY Check Date 11/22/2023	11/21/23	139813745	-	-	-	-	\$0.00	\$3.89	\$0.00
05	EX	BENE	1678	IBI	UP	20231125	BI-WEEKLY Check Date 12/06/2023	12/05/23	140389252	-	-	-	-	\$0.00	\$3.73	\$0.00
05	EX	BENE	1678	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133621	-	-	-	-	\$0.00	\$13.43	\$0.00
05	EX	BENE	1685	IBI	UP	20231111	BI-WEEKLY Check Date 11/22/2023	11/21/23	139813746	-	-	-	-	\$0.00	\$297.26	\$0.00
05	EX	BENE	1685	IBI	UP	20231125	BI-WEEKLY Check Date 12/06/2023	12/05/23	140389253	-	-	-	-	\$0.00	\$284.87	\$0.00
05	EX	BENE	1685	IBI	UP	20231130	MONTHLY Check Date 12/01/2023	11/30/23	140133622	-	-	-	-	\$0.00	\$1,331.16	\$0.00

Consolidation Summary - BENF for period 05

\$0.00 \$1,939.68 \$0.00

Consolidation - GENX

05	EX	SRVC	7065	IBI	UP	20231111	BI-WEEKLY Check Date 11/22/2023	11/21/23	139813747	-	-	-	-	\$0.00	\$5.77	\$0.00
05	EX	SRVC	7065	IBI	UP	20231125	BI-WEEKLY Check Date 12/06/2023	12/05/23	140389254	-	-	-	-	\$0.00	\$5.53	\$0.00
05	EX	SRVC	7065	IBI	UP		MONTHLY Check Date	11/30/23	140133623	-	-	-	-	\$0.00	\$43.19	\$0.00

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 05 - NOV. 2023

Run Date/Time: 01/31/2024 8:37:58 AM
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 Run by: Daniel S Nguyen

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
							20231130	12/01/2023									
Consolidation Summary - GENX for period 05																	
Total Expense for period 05																	
															\$0.00	\$54.49	\$0.00
															\$0.00	\$7,522.29	\$0.00

OTHER DIRECT COSTS FOR NOVEMBER 2023:
 GAEL NOT INCLUDING TO BENEFITS"

$$\$5.77 + \$5.53 + \$43.19 = \$54.49$$

Description of Total Assessment Rates:

Gael is UCI's acronym for (General, Automobile, and Employment Practices Liability), which is an automatic assessment to cover various liability and related loss prevention programs for all UC employees <https://accounting.uci.edu/cost-analysis/campus-assessment.html#gael>. Rates are assessed based on salaries of employee and on funding source, using the following rates:

FY 2023-24 *	
Gael Rates	0.886%
Prop 2	0.118%
Total Assessment Rates	1.01%

The total assessment rate of 1.01% is calculated as the sum of the Prop 2 and Gael rates (listed above) and is applied to personnel salaries (prior to other benefits applied).

In the November 2023 invoice, ODCs are listed as the total assessment rates, calculated as follows:

- Total personnel salaries (pre-benefit) = \$5,395.29
- Total assessment rate = \$54.49 (1.01% x \$5,395.29)

UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 5 - November

Run Date/Time: 01/31/2024 8:43:00 AM
Page #: 1 of 2

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	10/31/2023	REG	1	M	5,455.96	5,455.96	(0.0241)	(4.24)	(132.83)	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023	REG	1	M	5,455.96	5,455.96	0.2648	46.60	1,444.47	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023	REG	0.475	H	39.82	39.82	0.3988	14.36	571.65	0.00
11/30/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023	REG	0.475	H	39.82	39.82	0.3988	13.76	547.83	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	38.43	1,216.83	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023	REG	1	UC_FY	9,791.67	9,791.67	0.0542	9.54	530.51	0.00
11/30/2023	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	38.43	1,216.83	0.00
11/30/2023	6191	486369	58786	SWG2	1285			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	10/31/2023	VAC	1	M	5,455.96	5,455.96	0.0241	4.24	132.83	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																				161.11	5,528.12	0.00	
11/30/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	39.79
11/30/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	98.38
11/30/2023	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	(132.83)
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	3.61
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	9.82
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	3.89
11/30/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	3.73
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	246.69
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	609.91

UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 5 - November

 Run Date/Time: 01/31/2024
 Page #: 2 of 2

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	297.26
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	284.87
11/30/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
BENF - BENEFITS																					0.00	0.00	1,939.68
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	11/30/2023	11/30/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	5.36
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	11/30/2023	11/30/2023		1	M	5,455.96	5,455.96		0.00	0.00	13.25
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/11/2023	11/11/2023		0.475	H	39.82	39.82		0.00	0.00	5.77
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	11/25/2023	11/25/2023		0.475	H	39.82	39.82		0.00	0.00	5.53
11/30/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	11/30/2023	11/30/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
GENX - GENERAL EXPENSES																					0.00	0.00	54.49
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					161.11	5,528.12	1,994.17
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					161.11	5,528.12	1,994.17

Certificate Of Completion

Envelope Id: 663338F51D0843389D4BE2928AD96B95 Status: Completed
 Subject: Complete with DocuSign: 22307329_58786 LANDIQ_NOVEMBER 2023 INVOICE.pdf
 Source Envelope:
 Document Pages: 3 Signatures: 1 Envelope Originator:
 Certificate Pages: 1 Initials: 0 Ashley Vuong
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 EnvelopeId Stamping: Enabled Irvine, CA 92697-1025
 Time Zone: (UTC-08:00) Pacific Time (US & Canada) avuong6@uci.edu
 IP Address: 99.48.30.232

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Status: Original Holder: Ashley Vuong Location: DocuSign
 12/19/2023 7:26:09 AM avuong6@uci.edu

Signer Events

Griselda Duran DocuSigned by:
 griseld@uci.edu 
 C&G Accounting & Operations Manager A5C03A9D5EAD46F...
 UCI Account
 Security Level: Email, Account Authentication
 (None)

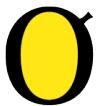
Signature Adoption: Uploaded Signature Image
 Using IP Address: 172.90.87.71

Sent: 12/19/2023 7:30:08 AM
 Viewed: 12/21/2023 10:56:52 AM
 Signed: 12/21/2023 11:00:52 AM

Electronic Record and Signature Disclosure:

Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	12/19/2023 7:30:08 AM
Certified Delivered	Security Checked	12/21/2023 10:56:52 AM
Signing Complete	Security Checked	12/21/2023 11:00:52 AM
Completed	Security Checked	12/21/2023 11:00:52 AM
Payment Events	Status	Timestamps



Yellowbee Studio
6849 Peachtree Dunwoody Rd, B3-200
Atlanta, GA 30328
(404) 335-7223
ascheel@yellowbee.com

BILL TO

Land IQ
2020 L Street, Suite 210
Sacramento, California 95811

INVOICE # 3115
DATE 11/23/2023

TERMS Net 30

ACTIVITY	AMOUNT
Graphic Design Borrego Springs Diagram. Artistic creation of diagram. Deliverable: High resolution PDF	1,500.00
Graphic Design 2023 IQ CARU Proposal. Document Update of content and graphics. Source and purchase of imagery as needed. Deliverable: High resolution PDF	850.00
	BALANCE DUE \$2,350.00

Description of Services Rendered
Project 940-80-23-08

Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2024 - *Invoice Period: November 1, 2023 to November 30, 2023*

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- Data Management
- Data Analysis
- Draft summary of results
- Processing drone data

TASK 3 - SAND FENCE CASE STUDY.

- Coordinate and meetings with T2 Borrego, BWD, and Borrego Watermaster regarding implementation of the Case Study Design.
- Update to Watermaster Board on Status of Task 3
- Literature review on state-and-transition models to assist data analysis
- Methodology and specifications

TASK 4 - FALLOWING REHAB STRATEGIES.

- No work performed in this reporting period.

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

Description of Services
940-80-23-08 (WY 2024)
Page 2

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.

Land IQ Month YEAR Invoiced by Category and Task ^(a)

Task	Nov-23
<i>Totals</i>	\$13,692.29
Category (a) Component Administration - Category 7	\$297.50
Component Administration	\$297.50
Category (d) Monitoring, Assessment	\$13,394.79
Task 1 - Data Review	\$0.00
Task 2 - Habitat Field Study	\$5,641.72
Task 3 - Sand Fence Case Study	\$7,753.07
Task 4 - Fallowing Rehab Strategies	\$0.00
Task 5 - Fallowing Prioritization	\$0.00
Category (e) Stakeholder Outreach	\$0.00
Task 6 - EWG Meetings	\$0.00

Notes:

(a) Does not include work performed by West Yost

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date: 12/31/23
Total Amount: \$17,655.58
Invoice Number: 5788
Invoice Period: 12/01/23 - 12/31/23
Engagement: Borrego Springs Watermaster

Approved March 29, 2024

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	\$510.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	\$9,092.50
Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study Expenses	\$5,890.24
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	\$255.45
Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	\$1,907.39

TOTAL AMOUNT DUE **\$17,655.58**

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Laura McFadden	1.00	\$110.00	\$110.00
Robert Travis Brooks	2.50	\$160.00	\$400.00
Task A. LIQ (WY23/24) Project Management	3.50		\$510.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Robert Travis Brooks	21.50	\$160.00	\$3,440.00
Stephanie Tillman	29.75	\$190.00	\$5,652.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	51.25		\$9,092.50
TOTAL FEES & EXPENSES	54.75		\$17,655.58

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
12/21/23	Task A. LIQ (WY23/24) Project Management	Review UCI Invoices, and prepare monthly report for Nov	1.50	\$160.00	\$240.00
12/5/23	Task A. LIQ (WY23/24) Project Management	Project management	0.50	\$160.00	\$80.00
12/7/23	Task A. LIQ (WY23/24) Project Management	Billing questions	0.50	\$160.00	\$80.00
12/7/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Call with Cathy Milkey, Rodney Bruce, and Becky regarding T2 fallowing experience; prep for Board Meeting next week to update on progress of project	1.50	\$160.00	\$240.00
12/1/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Travel to Borrego Springs with ST and meetings with Geoff (BWD)/David Bauer and Tyler Bylik	11.00	\$160.00	\$1,760.00
12/2/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Return Travel from Borrego Springs; and field check	4.00	\$160.00	\$640.00
12/14/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Prepare slides and present update of project at Watermaster Board Meeting.	2.50	\$160.00	\$400.00
12/15/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Work on specs for RFP	2.50	\$160.00	\$400.00
			Robert Travis Brooks	24.00	\$3,840.00
Laura McFadden					
12/21/23	Task A. LIQ (WY23/24) Project Management	Project Management Support	1.00	\$110.00	\$110.00
			Laura McFadden	1.00	\$110.00
Stephanie Tillman					
12/4/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	coordination re potential March EWG; expenses	1.00	\$190.00	\$190.00
12/5/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	wrote up field notes from site visit and sent to Travis	1.00	\$190.00	\$190.00
12/2/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	travel time from Borrego Springs - Santa Anna - Sac office	5.00	\$190.00	\$950.00
12/1/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Meetings with Rodney Bruce/Rams Hill; Tyler Bilyk/Watermaster/Roadrunner Nursery; Geoff Poole/BWD; David Bauer re Task 3 study	8.00	\$190.00	\$1,520.00
12/18/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Reviewed emails re treatments and responded; organized project files; revisions to RFP docs; revised spec doc and made spec tables; sent clarifications and spec tables to Laurel for review	3.50	\$190.00	\$665.00
12/20/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	revised spec tables and sent to Travis; revised spec doc per Laurel's corrections; sent subcontract modifications to Mica; revised all RFP docs and sent to Travis	2.50	\$190.00	\$475.00
12/6/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	travel for site visit	3.25	\$190.00	\$617.50

Date	Task	Description	Hrs	Rate	Amount
12/7/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Call with Travis and Cathy Milkey re T2 fallowing experience	1.00	\$190.00	\$190.00
12/12/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	initial review of materials for RFP	0.50	\$190.00	\$95.00
12/13/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	finished reviewing RFP main body; drafted SOW for RFP, price sheet, and agreement	3.50	\$190.00	\$665.00
12/14/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	compiled and sent draft Task 3 RFP docs to Travis for review	0.25	\$190.00	\$47.50
12/15/23	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	communication/coordination with D. Bauer and Travis re Task 3 construction	0.25	\$190.00	\$47.50
		Stephanie Tillman	29.75		\$5,652.50
		TOTAL FEES	54.75		\$9,602.50

Date	Code	Task	Description	Amount
Land IQ Expenses				
12/31/23	Professional Services	Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	UCIrive: Invoice No. 22533222-58786	\$5,890.24
12/31/23	Professional Services	Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study	UCIrive: Invoice No. 22533222-58786	\$1,907.39
Land IQ Expenses				\$7,797.63

Robert Travis Brooks

12/1/23	Mileage-Auto 2023	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	One-way travel (200 miles total) to Borrego Springs for Field Meetings with Landowners and potential contractors for the sand fence study. START MILEAGE: 238,881 END MILEAGE: 239,081 with driver Travis Brooks	\$131.00
12/2/23	Mileage-Auto 2023	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	One-way travel (190 miles total) from Borrego Springs for Field Meetings with Landowners and potential contractors for the sand fence study. START MILEAGE: 239,081 END MILEAGE: 239,271 with driver Travis Brooks	\$124.45
Robert Travis Brooks				\$255.45
TOTAL EXPENSES				\$8,053.08

TOTAL AMOUNT DUE **\$17,655.58**

LAND IQ PERSONAL VEHICLE USAGE LOG

Date	Project Name	Phase/Task	Total Mileage	Mileage Rate	Total Amount	Driver	Location	Purpose
12/1/2023	Borrego Springs Watermaster	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	200	0.655	\$ 131.00	Travis Brooks	Oneway travel from LA Office (3791 Wade St, Los Angeles) to Borrego Springs	Oneway travel to Borrego Springs for Field Meetings with Landowners and potential contractors for the sand fence study. START MILEAGE: 238,881 END MILEAGE: 239,081
12/2/2023	Borrego Springs Watermaster	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	190	0.655	\$ 124.45	Travis Brooks	Oneway travel from Borrego Springs to LA Office (3791 Wade St, Los Angeles)	Oneway travel from Borrego Springs for Field Meetings with Landowners and potential contractors for the sand fence study. START MILEAGE: 239,081 END MILEAGE: 239,271
				TOTAL	\$ 255.45			



UCIRVINE

Contracts and Grants Accounting

 228 Aldrich Hall
 Irvine, CA 92697-1050
 Fax: (949) 824-3895

Invoice No: 22533222-58786

 Date: 01/19/2024
 Federal Tax ID: 95-2226406
 Proposal Number: 105753
 UC Fund Number: 58786
 Reference:

 LAND IQ, LLC
 2020 L STREET, SUITE 210
 SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number:	225754
Project Title:	Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator:	Lulow, Megan
Project Title:	01/02/2023 to 03/31/2025

Billing Period: 12/01/2023-12/31/2023

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	\$5,837.45	\$5,837.45	\$0.00
Labor - Task 1	\$16,250.00	\$16,250.00	\$0.00
Labor - Task 2	\$55,931.38	\$50,041.14	\$5,890.24
Labor - Task 3	\$17,175.86	\$15,268.47	\$1,907.39
Labor - Task 6	\$3,700.00	\$3,700.00	\$0.00
Direct Expense	\$9,441.67	\$9,441.67	\$0.00
	\$108,336.36	\$100,538.73	\$7,797.63
Indirect Costs (0%)	\$0.00	\$0.00	\$0.00
	\$108,336.36	\$100,538.73	\$7,797.63
Current Invoice Total			\$7,797.63

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:

 A5C03A9D5EAD46F...

Griselda Duran
 Manager, Contracts & Grants Accounting

December 2023 UCI activities

Task 2 Activities:

- Monthly refarm meeting
- Admin previous monthly activity summaries
- Task coordination Land IQ and communication among staff
- Admin and budget management & Coordination
- Finalizing figures and draft report of landscape structure and function from 9 retired farmland sites and 7 natural reference sites
- Finalizing figures and draft report of soil texture, type, and salinity from 9 retired farmland sites and 7 natural reference sites
- Correspondence about 4band drone imagery for image classification
- Worked with drone images in ArcGIS Pro to get them all into a mosaic dataset for analysis
- Finalizing figures and draft report of the vegetation community from 9 retired farmland sites and 7 natural reference sites
- Research 4band analysis and reprocess as reupload processed files of drone plots using multispectral 4 band method

Task 3 Activities:

- Monthly refarm meeting
- Admin previous monthly activity summaries
- Task coordination Land IQ and communication among staff
- Sand Fence methodology review adjustments and finalizing RFP
- Admin and budget management & Coordination
- Communication with LandIQ and UCI team regarding sand fence treatments, updates to sand fence drawings and specs
- Calculating porosity of constructed sand fence examples
- Correspondence about drone specs and ability to do sand fence analysis
- Correspondence about 4band drone imagery for image classification
- Research drone specifications and DSM/DTM modeling correspondence about sand fence analysis
- Research 4band analysis and reprocess as reupload processed files of drone plots using multispectral 4 band method

SUMMARY OF LABOR PER HOUR

Individual	December 2023				GAEI
	Time (h)	Salary Total	Rate (h)		
Post-Doctoral Researcher 1 (Fiore)*	36.69	\$ 1,216.83	\$ 33.17	\$ 12.29	
Post-Doctoral Researcher 2 (Brigham)*	36.69	\$ 1,216.83	\$ 33.17	\$ 12.29	
Research Associate 1 (Rood)**	28.72	\$ 1,143.28	\$ 39.82	\$ 11.54	
Research Associate 2 (Coffey)*	45.13	\$ 1,465.58	\$ 32.47	\$ 14.80	
Senior Scientist 2 (Lulow)*	9.10	\$ 530.51	\$ 58.30	\$ 5.36	
* monthly rate divided by working hours per month				\$ 5,573.03	\$ 56.29

Certificate Of Completion

Envelope Id: 30921DF06A4C467CBA1BE62ED31115E1 Status: Completed
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 Source Envelope:
 Document Pages: 3 Signatures: 1 Envelope Originator:
 Certificate Pages: 1 Initials: 0 Ashley Vuong
 AutoNav: Enabled 415 Aldrich Hall
 Envelope Stamping: Enabled Irvine, CA 92697-1025
 Time Zone: (UTC-08:00) Pacific Time (US & Canada) avuong6@uci.edu
 IP Address: 99.48.30.232

Record Tracking

Status: Original Holder: Ashley Vuong Location: DocuSign
 1/19/2024 4:14:33 PM avuong6@uci.edu

Signer Events	Signature	Timestamp
Griselda Duran griseld@uci.edu C&G Accounting & Operations Manager UCI Account Security Level: Email, Account Authentication (None)	 A5C03A9D5EAD46F...	Sent: 1/19/2024 4:15:15 PM Viewed: 1/19/2024 4:42:59 PM Signed: 1/19/2024 4:47:10 PM

Electronic Record and Signature Disclosure:

Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
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Certified Delivered	Security Checked	1/19/2024 4:42:59 PM
Signing Complete	Security Checked	1/19/2024 4:47:10 PM
Completed	Security Checked	1/19/2024 4:47:10 PM
Payment Events	Status	Timestamps

Contracts and Grants Accounting

228 Aldrich Hall
Irvine, CA 92697-1050

Date: 01/30/2024

Federal Tax ID: 95-2226406

Proposal Number: 105753

UC Fund Number: 58786

Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator: Lulow, Megan
Project Period: 01/02/2023 to 03/31/2025

Billing Period: 12/01/2023 to 12/31/2023

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Salaries and Wages	\$71,367.93	\$65,794.90	\$5,573.03
Fringe Benefits	\$25,969.82	\$23,801.51	\$2,168.31
Supplies and Materials	\$10,042.18	\$10,042.18	\$0.00
Equipment	\$0.00	\$0.00	\$0.00
Travel	\$0.00	\$0.00	\$0.00
Other Direct Costs	\$956.43	\$900.14	\$56.29
Subawards	\$0.00	\$0.00	\$0.00
	<hr/> \$108,336.36	<hr/> \$100,538.73	<hr/> \$7,797.63
Indirect Costs (0%)	\$0.00	\$0.00	\$0.00
	<hr/> \$108,336.36	<hr/> \$100,538.73	<hr/> \$7,797.63
Current Invoice Total			\$7,797.63

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By



Griselda Duran
Manager, Contracts & Grants Accounting

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 06 - DEC. 2023

Run Date/Time: 01/19/2024 3:53:29 PM
 Page #: 1 of 2
 Run by: Ashley Vuong

Chart: IR
 Org: 6191
 Org Title: OFFICE OF UCI-NATURE
 Account: PC15547
 Account Name: 486369-58786 UCI-Nature/LAND IQ

Control Account - UC Account: UC58786 - 486369
 Agency Name: LAND IQ, LLC
 Fiscal Officer: Daniel S Nguyen
 Account Manager: Sinqui Musto
 Project Director: Megan E Lulow

Sub Fund Grp Type: Private Contracts-Restricted
 Award #: -
 Award Begin Date: 01/03/2023
 Award End Date: 03/31/2025
 ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
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Account - PC15547

Consolidation - SWG2

06	EX	SWGN	1200	IBI	UP	20231209	BI-WEEKLY Check Date 12/20/2023	12/19/23	141058398	-	-	-	-	\$0.00	\$571.64	\$0.00
06	EX	SWGN	1200	IBI	UP	20231223	BI-WEEKLY Check Date 01/03/2024	01/04/24	141628897	-	-	-	-	\$0.00	\$571.64	\$0.00
06	EX	SWGN	1200	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628898	-	-	-	-	\$0.00	\$1,465.58	\$0.00
06	EX	SWGN	1211	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628899	-	-	-	-	\$0.00	\$2,964.17	\$0.00

Consolidation Summary - SWG2 for period 06

\$0.00 \$5,573.03 \$0.00

Consolidation - BENF

06	EX	BENE	1627	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628900	-	-	-	-	\$0.00	\$149.71	\$0.00
06	EX	BENE	1678	IBI	UP	20231209	BI-WEEKLY Check Date 12/20/2023	12/19/23	141058399	-	-	-	-	\$0.00	\$3.88	\$0.00
06	EX	BENE	1678	IBI	UP	20231223	BI-WEEKLY Check Date 01/03/2024	01/04/24	141628901	-	-	-	-	\$0.00	\$3.89	\$0.00
06	EX	BENE	1678	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628902	-	-	-	-	\$0.00	\$13.58	\$0.00
06	EX	BENE	1685	IBI	UP	20231209	BI-WEEKLY Check Date 12/20/2023	12/19/23	141058400	-	-	-	-	\$0.00	\$297.26	\$0.00
06	EX	BENE	1685	IBI	UP	20231223	BI-WEEKLY Check Date 01/03/2024	01/04/24	141628903	-	-	-	-	\$0.00	\$297.25	\$0.00
06	EX	BENE	1685	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628904	-	-	-	-	\$0.00	\$1,402.74	\$0.00

Consolidation Summary - BENF for period 06

\$0.00 \$2,168.31 \$0.00

Consolidation - GENX

06	EX	SRVC	7065	IBI	UP	20231209	BI-WEEKLY Check Date 12/20/2023	12/19/23	141058401	-	-	-	-	\$0.00	\$5.78	\$0.00
06	EX	SRVC	7065	IBI	UP	20231223	BI-WEEKLY Check Date 01/03/2024	01/04/24	141628905	-	-	-	-	\$0.00	\$5.77	\$0.00
06	EX	SRVC	7065	IBI	UP	20231231	MONTHLY Check Date 01/02/2024	01/04/24	141628906	-	-	-	-	\$0.00	\$44.74	\$0.00

Consolidation Summary - GENX for period 06

\$0.00 \$56.29 \$0.00

Total Expense for period 06

\$0.00 \$7,797.63 \$0.00

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 06 - DEC. 2023

Run Date/Time: 01/19/2024 3:53:29 PM
 Page #: 2 of 2
 Run by: Ashley Vuong

Chart: IR
 Org: 8525
 Org Title: CONTROL - CONTRACTS & GRANTS
 Account: UC58786
 Account Name: LAND IQ 225754 LULOW G0 CR 3/25

Control Account - UC Account: UC58786 --
 Agency Name: LAND IQ, LLC
 Fiscal Officer: Ashley Vuong
 Account Manager: Beata I Najman
 Project Director: Megan E Lulow

Sub Fund Grp Type: Private Contracts-Restricted
 Award #: -
 Award Begin Date: 01/02/2023
 Award End Date: 03/31/2025
 ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
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Account - UC58786

Consolidation - INCO

06	IN	INCM	R012	CINV	01	22307329	105753 [avuong6] UC58786-November 2023	12/18/23	141044033	-	-	-	-	\$0.00	\$7,522.29	\$0.00	
06	IN	INCM	R012	CINV	01	22317872	105753 [avuong6] UC58786-REVRS AUG 2023	12/19/23	141101587	-	-	-	-	\$0.00	(\$32,250.17)	\$0.00	
06	IN	INCM	R012	CINV	01	22329226	105753 [avuong6] UC58786-AUG2023 REVISED	12/20/23	141145214	-	-	-	-	\$0.00	\$7,024.54	\$0.00	
Consolidation Summary - INCO for period 06															\$0.00	(\$17,703.34)	\$0.00
Total Income for period 06															\$0.00	(\$17,703.34)	\$0.00

UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 6 - December

Run Date/Time: 01/31/2024
Page #: 1 of 2 8:43:00 AM

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
12/31/2023	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	12/31/2023	12/31/2023	REG	1	M	5,455.96	5,455.96	0.2686	45.13	1,465.58	0.00
12/31/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/09/2023	12/09/2023	REG	0.475	H	39.82	39.82	0.3988	14.36	571.64	0.00
12/31/2023	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/23/2023	12/23/2023	REG	0.475	H	39.82	39.82	0.3988	14.36	571.64	0.00
12/31/2023	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2023	12/31/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	36.69	1,216.83	0.00
12/31/2023	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2023	12/31/2023	REG	1	UC_FY	9,791.67	9,791.67	0.0542	9.10	530.51	0.00
12/31/2023	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	12/31/2023	12/31/2023	REG	1	UC_FY	5,572.33	5,572.33	0.2184	36.69	1,216.83	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																			156.31	5,573.03	0.00		
12/31/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2023	12/31/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	39.79
12/31/2023	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	12/31/2023	12/31/2023		1	M	5,455.96	5,455.96		0.00	0.00	109.92
12/31/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2023	12/31/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	3.61
12/31/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	12/31/2023	12/31/2023		1	M	5,455.96	5,455.96		0.00	0.00	9.97
12/31/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/09/2023	12/09/2023		0.475	H	39.82	39.82		0.00	0.00	3.88
12/31/2023	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/23/2023	12/23/2023		0.475	H	39.82	39.82		0.00	0.00	3.89
12/31/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2023	12/31/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
12/31/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2023	12/31/2023		1	UC_FY	9,791.67	9,791.67		0.00	0.00	246.69
12/31/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	12/31/2023	12/31/2023		1	M	5,455.96	5,455.96		0.00	0.00	681.49
12/31/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/09/2023	12/09/2023		0.475	H	39.82	39.82		0.00	0.00	297.26
12/31/2023	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/23/2023	12/23/2023		0.475	H	39.82	39.82		0.00	0.00	297.25
12/31/2023	6191	486369	58786	BENF	1685		CBR	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-	12/31/2023	12/31/2023		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28



UCPath Salaries by Fund Report

Fiscal Year: 2024 Period(s) Selected: 6 - December

Run Date/Time: 01/31/2024
Page #: 2 of 2 8:43:00 AM

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount		
							Assessment - Expense			Marie		EMPLOYEE													
BENF - BENEFITS																							0.00	0.00	2,168.31
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	12/31/2023	12/31/2023		1	UC_FY	5,572.33	5,572.33			0.00	0.00	12.29	
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	12/31/2023	12/31/2023		1	UC_FY	9,791.67	9,791.67			0.00	0.00	5.36	
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	12/31/2023	12/31/2023		1	M	5,455.96	5,455.96			0.00	0.00	14.80	
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/09/2023	12/09/2023		0.475	H	39.82	39.82			0.00	0.00	5.78	
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	12/23/2023	12/23/2023		0.475	H	39.82	39.82			0.00	0.00	5.77	
12/31/2023	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	12/31/2023	12/31/2023		1	UC_FY	5,572.33	5,572.33			0.00	0.00	12.29	
GENX - GENERAL EXPENSES																							0.00	0.00	56.29
PC15547 - 486369-58786 UCI-Nature/LAND IQ																							156.31	5,573.03	2,224.60
58786 - LAND IQ 225754 LULOW G0 CR 3/25																							156.31	5,573.03	2,224.60

Description of Services Rendered
Project 940-80-23-08

Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2024 - *Invoice Period: December 1, 2023 to December 31, 2023*

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- Internal meetings
- Data management and analysis
- Report figure drafts
- High-resolution drone imagery processing and classification analysis

TASK 3 - SAND FENCE CASE STUDY.

- Coordinate and meetings with T2 Borrego, BWD, and Borrego Watermaster regarding implementation of the Case Study Design.
- Field visit in Borrego Springs to meet with interested parties in Sand Fence Case Study, including representatives of BWD (Geoff Poole), T2 Borrego (Rodney Bruce), David Bauer, Roadrunner Nursery (Tyler Bylik), and local contractors introduced by T2 Borrego.
- Update specifications for Case Study Design to include in RFP to be released in January to construct the case study.
- High-resolution drone imagery processing and classification analysis
- Project status update at Watermaster Board Meeting

TASK 4 - FALLOWING REHAB STRATEGIES.

- No work performed in this reporting period.

Description of Services
940-80-23-08 (WY 2024)
Page 2

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ Month YEAR Invoiced by Category and Task ^(a)

Task	Dec-23
<i>Totals</i>	\$17,655.58
Category (a) Component Administration - Category 7	\$510.00
Component Administration	\$510.00
Category (d) Monitoring, Assessment	\$17,145.58
Task 1 - Data Review	\$0.00
Task 2 - Habitat Field Study	\$5,890.24
Task 3 - Sand Fence Case Study	\$11,255.34
Task 4 - Fallowing Rehab Strategies	\$0.00
Task 5 - Fallowing Prioritization	\$0.00
Category (e) Stakeholder Outreach	\$0.00
Task 6 - EWG Meetings	\$0.00

Notes:

(a) Does not include work performed by West Yost



T 213.626.8484
 F 213.626.0078
 Fed. I.D. No. 95-3292015

350 South Grand Avenue
 37th Floor
 Los Angeles, CA 90071

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BORREGO SPRINGS WATERMASTER
 C/O SAMANTHA ADAMS, EXECUTIVE DIRECTOR
 WEST YOST
 23692 BIRTCHER DRIVE
 LAKE FOREST, CA 92630

Invoice Date: February 07, 2024
 Invoice Number: 246348
 Matter Number: 13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through January 31, 2024

[Approved April 8, 2024](#)

Time Detail

Date	Initials	Description	Hours
01/03/24	BTK	TELEPHONE CALL FROM FIRST AMERICAN TITLE REGARDING REMOVAL OF NOTICE OF IMPACT OF JUDGMENT; EXCHANGE INTERNAL MEMORANDA REGARDING WATERMASTER POSITION WITH RESPECT TO TITLE COMPANY'S REQUEST FOR REMOVAL OF NOTICE OF IMPACT OF JUDGMENT	0.20
01/03/24	JLM	TELEPHONE CONFERENCE WITH MS. ADAMS ON CARRYOVER ISSUES; E-MAILS ON FALLOWING PROJECTS; E-MAILS ON APPOINTMENT TO T.A.C.	2.50
01/03/24	JCM	E-MAIL COMMUNICATIONS WITH MR. MARKMAN AND MS. SALBERG REGARDING DRAFTING DESCRIPTION OF THE COURT SERVICE LIST FOR THE BORREGO SPRINGS ANNUAL REPORT	0.20
01/03/24	JCM	E-MAIL COMMUNICATION FROM MR. KIM REGARDING RESPONSE TO FIRST AMERICAN TITLE REGARDING NOTICE OF IMPACT OF JUDGMENT	0.10
01/04/24	JLM	REVIEW AND EXECUTE FALLOWING CONTRACTS; REVIEW SPECS FOR SUBCONTRACTOR'S FALLOWING WORK; E-MAIL ON RESOLUTION OF CARRYOVER TRANSFER	2.50
01/04/24	JCM	REVIEW CONFORMED COURT COPIES OF MOTION TO AMEND JUDGMENT REGARDING TECHNICAL ADVISORY COMMITTEE MEMBERSHIP AND SUPPORTING DOCUMENTS; UPDATE CASE FILES REGARDING SAME	0.20

Client: BORREGO SPRINGS WATERMASTER
 Matter: GENERAL LEGAL SERVICES

Invoice Date:
 Invoice Number:
 Matter Number:

February 07, 2024
 246348
 13056-0001

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<u>Date</u>	<u>Initials</u>	<u>Description</u>	<u>Hours</u>
01/05/24	JCM	DRAFT DESCRIPTION FOR BORREGO SPRINGS ANNUAL REPORT REGARDING PURPOSE OF COURT SERVICE LIST AND PROCESS FOR PARTIES TO UPDATE CONTACT INFORMATION WITH COURT; E-MAIL COMMUNICATION WITH MS. SALBERG REGARDING SAME; REVIEW RULES, REQUIREMENTS, AND FORMS FOR UPDATING CONTACT INFORMATION WITH THE COURT	0.70
01/09/24	JLM	REVIEW BOARD MEETING PACKET; REVIEW PROPOSED SUBCONTRACT FOR FOLLOWING WORK	1.10
01/10/24	JCM	TELEPHONE CALL WITH MS. SNELL OF FIRST AMERICAN TITLE FIRST REGARDING NOTICE OF IMPACT OF JUDGMENT	0.20
01/11/24	JLM	ATTEND BOARD MEETING	3.50
01/12/24	BTK	TELEPHONE CALL FROM FIRST AMERICAN TITLE REGARDING NOTICE OF IMPACT OF JUDGMENT RECORDATION ON PARCEL WITHIN BASIN; REVIEW RESPONSE MEMORANDUM FROM MR. METZ REGARDING LEGAL EFFECT OF NOTICE AND PENDING NO LIEN ON SUBJECT PROPERTY	0.20
01/15/24	JLM	E-MAILS ON PROPERTY TRANSFER	0.30
01/15/24	JCM	E-MAIL TO MS. SNELL OF FIRST AMERICAN TITLE FIRST EXPLAINING NOTICE OF IMPACT OF JUDGMENT	0.10
01/16/24	JLM	REVIEW TENAJU PARK TRANSFER DOCUMENTS; E-MAILS ON CARRYOVER POLICY	0.70
01/17/24	JLM	E-MAILS ON FOLLOWING AGREEMENT AND POTENTIAL WATER RIGHTS TRANSFER	0.70
01/19/24	JLM	REVIEW DOCUMENTS FROM PUMPERS ON CARRYOVER POLICY; DRAFT AND TRANSMIT RESOLUTION ON CARRYOVER FOR BOARD MEETING	1.90
01/22/24	JLM	E-MAILS ON SUBCONTRACTOR'S INSURANCE	0.30
01/23/24	JLM	E-MAIL ON WATERMASTER APPROVAL OF COMPANIES DOING FOLLOWING PROJECT; REVIEW FORM ON ENTRY PERMIT FOR MONITORING AND E-MAIL TO MR. MALONE THEREON	2.00
01/25/24	JLM	E-MAILS ON APPROVING CONTRACTORS FOR FOLLOWING STUDY	0.20
01/31/24	JLM	REVIEW AND CIRCULATE REVISED CARRYOVER RESOLUTION	0.40
Total			18.00

Item III.E.i

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date:
Invoice Number:
Matter Number:

Page 57 of 161
February 07, 2024
246348
13056-0001

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Timekeeper Summary

Name	Hours	Rate	Amount
B. TILDEN KIM	0.40	350.00	140.00
JACOB C. METZ	1.50	275.00	412.50
JAMES L. MARKMAN	16.10	400.00	6,440.00
Total	18.00		\$6,992.50

Cost Detail

Date	Description	Amount
01/16/24	FIRST LEGAL NETWORK, LLC - ATTORNEY SERVICE - FILING / OCSC-SANTA ANA 12/08/23	32.25
01/17/24	DUPLICATION	0.15
Total		\$32.40

Item III.E.i

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date:
Invoice Number:
Matter Number:

Page 58 of 161
February 07, 2024
246348
13056-0001

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Current Legal Fees.....	\$6,992.50
Current Client Costs Advanced.....	\$32.40
Total Current Fees and Costs.....	\$7,024.90



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BORREGO SPRINGS WATERMASTER
C/O SAMANTHA ADAMS, EXECUTIVE DIRECTOR
WEST YOST
23692 BIRTCHER DRIVE
LAKE FOREST, CA 92630

Invoice Date: February 07, 2024
Invoice Number: 246348
Matter Number: 13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through January 31, 2024

Fees	6,992.50
Costs	32.40
Total Amount Due	\$7,024.90

TERMS: PAYMENT DUE UPON RECEIPT

PLEASE RETURN THIS PAGE WITH YOUR REMITTANCE TO

RICHARDS, WATSON & GERSHON
350 South Grand Avenue, 37th Floor
Los Angeles, CA 90071

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date: 1/31/24
Total Amount: \$10,327.83
Invoice Number: 5856
Invoice Period: 01/01/24 - 01/31/24
Engagement: Borrego Springs Watermaster

Approved April 8, 2024

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	\$245.00
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	\$640.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	\$160.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	\$1,998.75
Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study Expenses	\$5,820.00
Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study Expenses	\$1,464.08
TOTAL AMOUNT DUE	\$10,327.83

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date: 1/31/24
Total Amount: \$10,327.83
Invoice Number: 5856
Invoice Period: 01/01/24 - 01/31/24
Engagement: Borrego Springs Watermaster

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Laura McFadden	1.50	\$110.00	\$165.00
Robert Travis Brooks	0.50	\$160.00	\$80.00
Task A. LIQ (WY23/24) Project Management	2.00		\$245.00
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study			
Robert Travis Brooks	4.00	\$160.00	\$640.00
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	4.00		\$640.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Robert Travis Brooks	1.00	\$160.00	\$160.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	1.00		\$160.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies			
Stephanie Tillman	10.25	\$195.00	\$1,998.75
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	10.25		\$1,998.75
TOTAL FEES & EXPENSES	17.25		\$10,327.83

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
1/30/24	Task A. LIQ (WY23/24) Project Management	Monthly invoice	0.50	\$160.00	\$80.00
1/19/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Review of study design documents and coordination for sand fence study	2.00	\$160.00	\$320.00
1/30/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Project support	2.00	\$160.00	\$320.00
1/12/24	Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Review of Docs	1.00	\$160.00	\$160.00
			Robert Travis Brooks	5.50	\$880.00
Laura McFadden					
1/17/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	\$110.00	\$27.50
1/30/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	1.00	\$110.00	\$110.00
1/2/24	Task A. LIQ (WY23/24) Project Management	Project Management Support	0.25	\$110.00	\$27.50
			Laura McFadden	1.50	\$165.00
Stephanie Tillman					
1/8/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	communication with Travis and Megan re RFP comments	0.25	\$195.00	\$48.75
1/9/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	coordinated review of RFP subcontract	0.25	\$195.00	\$48.75
1/10/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	coordination with team on RFP doc finalization	0.50	\$195.00	\$97.50
1/4/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	RFP coordination	0.25	\$195.00	\$48.75
1/5/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	communication with Travis and Andy re RFP schedule	0.25	\$195.00	\$48.75
1/2/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	reminder to Mica to review subcontract language	0.25	\$195.00	\$48.75
1/3/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	communication with Travis re RFP review; finalized and assembled RFP docs and sent to Andy to review	1.00	\$195.00	\$195.00
1/16/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	budget tracking	0.25	\$195.00	\$48.75
1/22/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	RFP finalization coordination	0.75	\$195.00	\$146.25

Date	Task	Description	Hrs	Rate	Amount
1/23/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	mtg w/Travis re RFP dates and finalization; finalized docs and sent to Travis for review; communication with Andy re RFP schedule; reviewed prevailing wage info	2.00	\$195.00	\$390.00
1/24/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	RFP coordination with Andy and Travis; sent RFP to landowners and contractors	1.25	\$195.00	\$243.75
1/25/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	coordination with Andy re RFP approval	0.25	\$195.00	\$48.75
1/30/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	project scheduling for construction	0.25	\$195.00	\$48.75
1/11/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	coordination with UCI team re revisions to RFP docs - specs; revisions to specs	1.00	\$195.00	\$195.00
1/12/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	finalized RFP docs and sent status update to Travis; sent RFP docs to landowners	1.75	\$195.00	\$341.25
		Stephanie Tillman	10.25		\$1,998.75
		TOTAL FEES	17.25		\$3,043.75

Date	Code	Task	Description	Amount
Land IQ Expenses				
1/31/24	Professional Services	Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	UCI: January 1-January 31, 2024 (Invoice No: 22927374-58786)	\$5,820.00
1/31/24	Professional Services	Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study	UCI: January 1-January 31, 2024 (Invoice No: 22927374-58786)	\$1,464.08
			Land IQ Expenses	\$7,284.08
			TOTAL EXPENSES	\$7,284.08
TOTAL AMOUNT DUE				\$10,327.83



UCIRVINE

Contracts and Grants Accounting

 228 Aldrich Hall
 Irvine, CA 92697-1050
 Fax: (949) 824-3895

Invoice No: 22927374-58786

 Date: 02/27/2024
 Federal Tax ID: 95-2226406
 Proposal Number: 105753
 UC Fund Number: 58786
 Reference:

 LAND IQ, LLC
 2020 L STREET, SUITE 210
 SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number:	225754
Project Title:	Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator:	Lulow, Megan
Project Title:	01/02/2023 to 03/31/2025

Billing Period: 01/01/2024-01/31/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	\$5,837.45	\$5,837.45	\$0.00
Labor - Task 1	\$16,250.00	\$16,250.00	\$0.00
Labor - Task 2	\$61,751.38	\$55,931.38	\$5,820.00
Labor - Task 3	\$18,639.94	\$17,175.86	\$1,464.08
Labor - Task 6	\$3,700.00	\$3,700.00	\$0.00
Direct Expense	\$9,441.67	\$9,441.67	\$0.00
	\$115,620.44	\$108,336.36	\$7,284.08
Indirect Costs (0%)	\$0.00	\$0.00	\$0.00
	\$115,620.44	\$108,336.36	\$7,284.08
Current Invoice Total			\$7,284.08

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:

 A5C03A9D5EAD46F...

Griselda Duran
 Manager, Contracts & Grants Accounting

January 2024 UCI activities

Task 2 Activities:

- Monthly refarm meeting
- Task coordination and communication among staff and Land IQ
- Admin and budget management & coordination
- Finalizing figures and draft report of the vegetation community from 9 retired farmland sites and 7 natural reference sites
- Facilitate and review vegetation results
- Discussion of March field work dates and amendments to reservation
- Finalizing figures and draft report of soil texture, type, and salinity from 9 retired farmland sites and 7 natural reference sites
- Finalizing figures and draft report of landscape structure and function from 9 retired farmland sites and 7 natural reference sites
- Finalizing drone methods and figures for report
- Meeting to bring drone and ground measurements results together and next steps with heterogeneity in landscape

Task 3 Activities:

- Monthly refarm meeting
- Task coordination and communication among staff and Land IQ
- Provided feedback on the Sand Fence RFP
- Sand Fence methodology review adjustments and finalizing RFP
- Admin and budget management & coordination
- Discussions among team members on sand fence treatments and sampling
- Sand fence sampling porosity design and protocol discussions
- Multiple pilot photo days refining porosity measurements and criteria
- Created protocol and drive folder for porosity calculations
- Calculated porosity from images of sample fences on site
- Discussion of drone capabilities relative to sand fence

SUMMARY OF LABOR PER HOUR

Individual	January 2023			GAEL
	Time (h)	Salary Total	Rate (h)	
Post-Doctoral Researcher 1 (Fiore)*	40.18	\$ 1,216.83	\$ 30.28	\$ 12.29
Post-Doctoral Researcher 2 (Brigham)*	40.18	\$ 1,216.83	\$ 30.28	\$ 12.29
Research Associate 1 (Rood)**	29.92	\$ 1,190.92	\$ 39.81	\$ 12.03
Research Associate 2 (Coffey)*	49.43	\$ 1,495.45	\$ 30.25	\$ 15.10
Senior Scientist 2 (Lulow)*	9.54	\$ 530.51	\$ 55.61	\$ 5.36
*monthly rate divided by working hours per month		\$ 5,650.54		\$ 57.07



KFS Fund Summary Report

FS0150D

Fiscal Year: 2024 As of: 07 - JAN. 2024

This period is Closed. The closing date for this period is 02/07/2024

Run Date/Time: 03/01/2024 11:34:17 AM
 Page #: 1 of 1
 Run by: Griselda Duran

Control Account: IR-UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Control Account	Org	Account	Account / Object Name	Consolidation	Object	MTD Actuals	ITD Budget	ITD Actual	YTD Budget	YTD Actuals	Encumbrances	Variance W/ Encumbrance
ASSETS												
UC58786	8525	UC58786	CA-A/R PRIVATE CONTRACTS	ASTS	J294	\$773.09	\$0.00	\$32,434.23	\$0.00	\$32,434.23	\$0.00	(\$32,434.23)
			UC58786 LAND IQ 225754 LULOW G0 CR 3/25			\$773.09	\$0.00	\$32,434.23	\$0.00	\$32,434.23	\$0.00	(\$32,434.23)
			8525 CONTROL - CONTRACTS & GRANTS			\$773.09	\$0.00	\$32,434.23	\$0.00	\$32,434.23	\$0.00	(\$32,434.23)
UC58786 ASSETS						\$773.09	\$0.00	\$32,434.23	\$0.00	\$32,434.23	\$0.00	(\$32,434.23)
INCOME												
UC58786	8525	UC58786	PRIVATE RESTRICTED CONTRACTS INCOME	INCO	R012	\$7,797.63	\$239,400.00	\$108,336.36	\$0.00	\$45,765.20	\$0.00	(\$131,063.64)
			UC58786 LAND IQ 225754 LULOW G0 CR 3/25			\$7,797.63	\$239,400.00	\$108,336.36	\$0.00	\$45,765.20	\$0.00	(\$131,063.64)
			8525 CONTROL - CONTRACTS & GRANTS			\$7,797.63	\$239,400.00	\$108,336.36	\$0.00	\$45,765.20	\$0.00	(\$131,063.64)
UC58786 INCOME						\$7,797.63	\$239,400.00	\$108,336.36	\$0.00	\$45,765.20	\$0.00	(\$131,063.64)
EXPENSES												
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	SWG2		\$5,650.54	\$212,900.00	\$77,543.39	\$0.00	\$39,155.61	\$0.00	\$135,356.61
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	BENF		\$1,576.72	\$0.00	\$27,958.68	\$0.00	\$13,343.73	\$0.00	(\$27,958.68)
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	SUPL		\$0.00	\$10,500.00	\$10,042.18	\$0.00	\$988.44	\$0.00	\$457.82
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	TRVL		\$0.00	\$5,000.00	\$0.00	\$0.00	\$0.00	\$0.00	\$5,000.00
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	GENX		\$56.82	\$11,000.00	\$1,158.27	\$0.00	\$643.58	\$0.00	\$9,841.73
			PC15547 486369-58786 UCI-Nature/LAND IQ			\$7,284.08	\$239,400.00	\$116,702.52	\$0.00	\$54,131.36	\$0.00	\$122,697.48
			6191 OFFICE OF UCI-NATURE			\$7,284.08	\$239,400.00	\$116,702.52	\$0.00	\$54,131.36	\$0.00	\$122,697.48
UC58786 EXPENSES						\$7,284.08	\$239,400.00	\$116,702.52	\$0.00	\$54,131.36	\$0.00	\$122,697.48

UC58786 SUMMARY	MTD Actuals	ITD Budget	ITD Actual	YTD Budget	YTD Actuals	Encumbrances	Variance W/ Encumbrance
ASSETS	\$773.09	\$0.00	\$32,434.23	\$0.00	\$32,434.23	\$0.00	(\$32,434.23)
INCOME	\$7,797.63	\$239,400.00	\$108,336.36	\$0.00	\$45,765.20	\$0.00	(\$131,063.64)
EXPENSES	\$7,284.08	\$239,400.00	\$116,702.52	\$0.00	\$54,131.36	\$0.00	\$122,697.48
Fund Total:	\$1,286.64	\$0.00	\$24,068.07	\$0.00	\$24,068.07	\$0.00	(\$40,800.39)

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 07 - JAN. 2024

 Run Date/Time: 03/01/2024 12:39:04 PM
 Page #: 1 of 3
 Run by: Griselda Duran

 Chart: IR
 Org: 6191
 Org Title: OFFICE OF UCI-NATURE
 Account: PC15547
 Account Name: 486369-58786 UCI-Nature/LAND IQ

 Control Account - UC Account: UC58786 - 486369
 Agency Name: LAND IQ, LLC
 Fiscal Officer: Daniel S Nguyen
 Account Manager: Sinqui Musto
 Project Director: Megan E Lulow

 Sub Fund Grp Type: Private Contracts-Restricted
 Award #: -
 Award Begin Date: 01/03/2023
 Award End Date: 03/31/2025
 ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
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Account - PC15547

Consolidation - SWG2

07	EX	SWGN	1200	IBI	UP	20240106	BI-WEEKLY Check Date 01/17/2024	01/17/24	142087585	-	-	-	-	\$0.00	\$555.76	\$0.00
07	EX	SWGN	1200	IBI	UP	20240120	BI-WEEKLY Check Date 01/31/2024	01/30/24	142501831	-	-	-	-	\$0.00	\$635.16	\$0.00
07	EX	SWGN	1200	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845965	-	-	-	-	\$0.00	\$1,495.45	\$0.00
07	EX	SWGN	1211	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845966	-	-	-	-	\$0.00	\$2,939.78	\$0.00
07	EX	SWGN	1285	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845967	-	-	-	-	\$0.00	\$24.39	\$0.00

Consolidation Summary - SWG2 for period 07

\$0.00 \$5,650.54 \$0.00

Consolidation - BENF

07	EX	BENE	1627	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845968	-	-	-	-	\$0.00	(\$24.39)	\$0.00
07	EX	BENE	1627	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845969	-	-	-	-	\$0.00	\$150.12	\$0.00
07	EX	BENE	1678	IBI	UP	20240106	BI-WEEKLY Check Date 01/17/2024	01/17/24	142087586	-	-	-	-	\$0.00	\$3.78	\$0.00
07	EX	BENE	1678	IBI	UP	20240120	BI-WEEKLY Check Date 01/31/2024	01/30/24	142501832	-	-	-	-	\$0.00	\$4.32	\$0.00
07	EX	BENE	1678	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845970	-	-	-	-	\$0.00	\$13.78	\$0.00
07	EX	BENE	1685	IBI	UP	20240106	BI-WEEKLY Check Date 01/17/2024	01/17/24	142087587	-	-	-	-	\$0.00	\$11.12	\$0.00
07	EX	BENE	1685	IBI	UP	20240120	BI-WEEKLY Check Date 01/31/2024	01/30/24	142501833	-	-	-	-	\$0.00	\$12.70	\$0.00
07	EX	BENE	1685	IBI	UP	20240131	MONTHLY Check Date 02/01/2024	02/05/24	142845971	-	-	-	-	\$0.00	\$1,405.29	\$0.00

Consolidation Summary - BENF for period 07

\$0.00 \$1,576.72 \$0.00

Consolidation - GENX

07	EX	SRVC	7065	IBI	UP	20240106	BI-WEEKLY Check Date 01/17/2024	01/17/24	142087588	-	-	-	-	\$0.00	\$5.62	\$0.00
07	EX	SRVC	7065	IBI	UP	20240120	BI-WEEKLY Check Date 01/31/2024	01/30/24	142501834	-	-	-	-	\$0.00	\$6.41	\$0.00
07	EX	SRVC	7065	IBI	UP		MONTHLY Check Date	02/05/24	142845972	-	-	-	-	\$0.00	\$44.79	\$0.00

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 07 - JAN. 2024

Run Date/Time: 03/01/2024 12:39:04 PM
 Page #: 2 of 3
 Run by: Griselda Duran

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
							20240131	02/01/2024									
Consolidation Summary - GENX for period 07															\$0.00	\$56.82	\$0.00
Total Expense for period 07															\$0.00	\$7,284.08	\$0.00

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 Period(s) Selected: 07 - JAN. 2024

 Run Date/Time: 03/01/2024 12:39:04 PM
 Page #: 3 of 3
 Run by: Griselda Duran

 Chart: IR
 Org: 8525
 Org Title: CONTROL - CONTRACTS & GRANTS
 Account: UC58786
 Account Name: LAND IQ 225754 LULOW G0 CR 3/25

 Control Account - UC Account: UC58786 --
 Agency Name: LAND IQ, LLC
 Fiscal Officer: Ashley Vuong
 Account Manager: Beata I Najman
 Project Director: Megan E Lulow

 Sub Fund Grp Type: Private Contracts-Restricted
 Award #: -
 Award Begin Date: 01/02/2023
 Award End Date: 03/31/2025
 ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
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Account - UC58786

Consolidation - INCO

07	IN	INCM	R012	CINV	01	22533222	105753 [avuong6] UC58786-December 2023	01/30/24	142661797	-	-	-	-	\$0.00	\$7,797.63	\$0.00
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Consolidation Summary - INCO for period 07

Total Income for period 07	\$0.00	\$7,797.63	\$0.00
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Description of Services Rendered
Project 940-80-23-08

Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2024 - *Invoice Period: January 1, 2024 to January 31, 2024*

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- Internal meetings
- Data management and analysis
- Report figures finalization and draft report

TASK 3 - SAND FENCE CASE STUDY.

- RFP for Contractor to Build Sand Fence Study Released and communication with interested parties
- Discussion of monitoring methodology and draft adjusted monitoring schedule to account for the delay in construction of the sand fence study to allow for the land owners and the Watermaster to develop suitable easement agreements for the study.

TASK 4 - FALLOWING REHAB STRATEGIES.

- Support for Sand Fence Case Study development, and documenting farmer, contractor, and project partner feedback on fallowing strategies for incorporation into notes for future report.

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

Description of Services
940-80-23-08 (WY 2024)
Page 2

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ Month YEAR Invoiced by Category and Task ^(a)

Task	Jan-24
<i>Totals</i>	\$10,327.83
Category (a) Component Administration - Category 7	\$245.00
Component Administration	\$245.00
Category (d) Monitoring, Assessment	\$10,082.83
Task 1 - Data Review	\$0.00
Task 2 - Habitat Field Study	\$6,460.00
Task 3 - Sand Fence Case Study	\$1,624.08
Task 4 - Fallowing Rehab Strategies	\$1,998.75
Task 5 - Fallowing Prioritization	\$0.00
Category (e) Stakeholder Outreach	\$0.00
Task 6 - EWG Meetings	\$0.00

Notes:

(a) Does not include work performed by West Yost



Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2024
Invoice Number: 2057638

Accounts Payable Borrego Springs Watermaster c/o West Yost Associates 23692 Birtcher Drive Lake Forest, CA 92630	Client Project: WY Project No: Contract Amount: Job Name:	Work Order No. 6 940-80-23-06 211,584.00 WY 2024 Admin and Technical Services
--	--	--

Approved April 8, 2024

Professional Services from January 1, 2024 to January 31, 2024

Previously Billed :	47,559.99
Total This Period :	17,749.00
Total Amount Billed to Date including This Invoice :	65,308.99
Amount Remaining in Contract :	146,275.01

Professional Personnel

	Hours	Rate	Amount
Vice President Chung, Greg	.25	348.00	87.00
Eng/Scientist/Geologist Manager I Adams, Samantha	14.50	329.00	4,770.50
Principal Eng/Scientist/Geologist II Malone, Andy	4.00	316.00	1,264.00
Associate Eng/Scientist/Geologist I Salberg, Lauren	20.25	221.00	4,475.25
Engineer/Scientist/Geologist II Salberg, Lauren	10.25	207.00	2,121.75
Engineer/Scientist/Geologist I Kelty, Clay	1.00	178.00	178.00
Administrative IV Ehresman, Leah	4.00	157.00	628.00
Administrative III Mendoza-Tellez, Maria	29.75	142.00	4,224.50
Totals	84.00		17,749.00
Total Labor			17,749.00
		Total this Invoice	\$17,749.00

Description of Services:

See attached description of services

Project	940-80-23-06	WY 2024 Admin and Technical Services	Invoice	2057638
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Outstanding Invoices

Number	Date	Balance
2056066	10/31/2023	16,390.75
2056298	11/30/2023	18,794.74
2056797	12/31/2023	12,374.50
Total		47,559.99

Please direct questions to:

Project Manager Samantha Adams
Principal Greg Chung

**Description of Services Rendered****Project 940-80-23-06****Watermaster Administrative and Technical Services – Portion of Services not Reimbursable by DWR Prop 68 Grant***Invoice Period: January 1, 2024 to January 31, 2024*

The services billed in this invoice are those Watermaster administrative and technical services that are not reimbursable through the DWR Prop 68 grant.

TASK 1 – MEETINGS AND COURT HEARINGS

The work performed for this task includes preparing for and attending Watermaster Board Meetings and Court Hearings. The work performed in this reporting period included:

BOARD MEETINGS

- Corresponded with Watermaster Board officers and legal counsel throughout the month to coordinate meeting agenda items and other Watermaster activities.
- January 2024 Regular Board Meeting:
 - Prepared meeting minutes from December 2023 Board meeting.
 - Prepared agenda package content. This work included:
 - Organized, compiled, and formatted the public correspondence and consent calendar items.
 - Performed work, including coordination and preparation of staff memos or other materials, if needed, to support the following agenda items:
 - WY 2023 Annual Report Status
 - Watermaster Budget Status
 - Status update on the Redetermination of the Sustainable Yield
 - Status update on the Five-Year Assessment of the GMP
 - Setting agenda for the February 8, 2024 regular meeting
 - Compiled the agenda package and distributed via the stakeholder distribution list and Watermaster website.
 - Prepared PowerPoint Presentation to support the Board meeting discussion.
 - Responded to questions from Board members via email and phone calls regarding the Board package items.
 - Attended the virtual Board meeting on January 11. The meeting was attended by Samantha Adams, Andy Malone, and Lauren Salberg.
- February 2024 Board Meeting Preparation:
 - Prepared draft agenda for the February 2024 Board meeting.

Description of Services

940-80-23-06

Page 2

- Prepared punch list of action items for the Board meeting. Created meeting link and coordinated assignments for preparing the package.
- Began preparation of staff memos to support the following agenda items:
 - Approval of sand fence contractor
 - Hearing for WY 2023 Annual Report

COURT HEARINGS

- No work performed during the reporting period.

TASK 2 – WATERMASTER ADMINISTRATION

The Executive Director, with support from staff, will organize, oversee, and/or perform the administrative and management aspects of running the Watermaster and administering the Judgment, Rules and Regulations, and GMP. The work performed in this reporting period included:

PREPARE THE WATERMASTER ANNUAL BUDGET

- No work performed during the reporting period.

INSURANCE, ACCOUNTING, AND FINANCIAL SERVICES

- Processed accounts receivable into QuickBooks.
- Processed accounts payable into QuickBooks.
- Drove to US Bank to deposit checks.
- Cut checks for accounts payable and mailed for signature.
- Prepared December 2023 Financial Report to the Board.
- Communicated with vendors on reporting estimates of January billings for inclusion in January monthly financials.
- Supported preparation of the WY 2023 financial Audit, including filing 1099, compiling financial documents as they are requested, and communicating regularly with Auditors.

RESPOND TO AND TRACK PUBLIC INFORMATION REQUESTS

- No work performed during the reporting period.

AS-NEEDED SUPPORT TO THE BPA PARTIES

- Provided general as-requested support to BPA parties throughout the month by performing outreach, responding to emails, and taking phone calls on the following topics:
 - Past due payments on WY 2024 Assessments
 - WY 2023 overproduction and strategies to reduce pumping in WY 2024
- Fulfilled data request for fall 2023 groundwater elevation data for the County of San Diego.

Description of Services

940-80-23-06

Page 3

AS-NEEDED ADMINISTRATION OF THE TERMS OF THE JUDGMENT, RULES & REGULATIONS, AND GROUNDWATER MANAGEMENT PLAN

- Per the request of the Board, worked with Legal Counsel and legal representatives of Parties to the Judgment to review and consider Judgment amendments or policy options to address Carryover rules.

GENERAL ADMINISTRATION AND PROJECT MANAGEMENTS TASKS

- Performed monthly project management tasks including budget, schedule, and scope of work progress evaluations.

TASK 3 – TECHNICAL SERVICES

The objective of this task is for the Technical Consulting team to perform the technical services required by the Judgment, Rules and Regulations, and GMP for WY 2023 that are not reimbursable by the DWR Prop 68 Grant. The work performed in this reporting period included:

NON-REIMBURSABLE COSTS FOR GROUNDWATER MONITORING PROGRAM.

- There are no non-grant reimbursable costs in this reporting period.

NON-REIMBURSABLE COSTS FOR ADDRESSING ABANDONED WELLS

- There are no non-grant reimbursable costs in this reporting period.

AS-NEEDED TECHNICAL SUPPORT FOR IMPLEMENTATION OF THE JUDGMENT, RULES AND REGULATIONS, AND GROUNDWATER MANAGEMENT PLAN

- Coordinated with DWR and prepared for a meeting to discuss the Borrego Springs Watermaster and Groundwater Management Plan.
- Prepared the 2023 Rams Hill Groundwater Pumping Report and submitted report to the County of San Diego.
- Coordinated with well owners to request permission to share historical groundwater level measurements with the University of California Irvine (UCI) to support the Groundwater Dependent Ecosystem (GDE) project.
- Submitted historical groundwater level data to UCI after obtaining owner's permission.

ADDRESS AD HOC REQUESTS OF TAC FROM THE BOARD

- No work performed during the reporting period.

TASK 4 – ENVIRONMENTAL WORKING GROUP

The objective of this task is to support the activities of the EWG in WY 2024 that are not part of the DWR Prop 68 Grant. The work performed in this reporting period included:

EWG MEETINGS.

- No work performed during the reporting period.

TASK 5 - STAFF SERVICES BILLED TO WATERMASTER RELATED TO MANUAL-READ METERS

The objective of this task is to coordinate the monitoring and collection of meter data from the parties with manual-read meters. This work is reimbursed by only those Parties with manual-read meters. The work performed in this reporting period included:

Description of Services

940-80-23-06

Page 4

- Sent email reminders to pumpers to perform January 2024 meter read.



Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2024
Invoice Number:

2057639

Accounts Payable	Client Project:	Work Order No. 6
Borrego Springs Watermaster	WY Project No:	940-80-23-07
c/o West Yost Associates	Contract Amount:	893,098.00
23692 Birtcher Drive	Job Name:	WY 2024 Component 7: Monitoring Reporting, and GMP Update
Lake Forest, CA 92630		

Professional Services from January 1, 2024 to January 31, 2024

Approved April 8, 2024

Previously Billed :	174,521.28
Total This Period :	63,004.75
Total Amount Billed to Date including This Invoice :	237,526.03
Amount Remaining in Contract :	655,571.97

Professional Personnel

	Hours	Rate	Amount
Eng/Scientist/Geologist Manager I Adams, Samantha	10.00	329.00	3,290.00
Principal Eng/Scientist/Geologist II Chiang, Eric	17.50	316.00	5,530.00
Malone, Andy	28.50	316.00	9,006.00
Associate Eng/Scientist/Geologist I Salberg, Lauren	95.00	221.00	20,995.00
Sather, Lauren	.50	221.00	110.50
Engineer/Scientist/Geologist II Salberg, Lauren	23.25	207.00	4,812.75
Engineer/Scientist/Geologist I Kelty, Clay	76.25	178.00	13,572.50
Administrative II Hanna-Pickering, Alissa	10.00	118.00	1,180.00
Technical Specialist IV Lasick, Sheri	.50	262.00	131.00
Technical Specialist I Jones, Katie	9.00	183.00	1,647.00
Totals	270.50		60,274.75
Total Labor			60,274.75

Subconsultants

Clinical Laboratory of San Bernardino, I	2,730.00
Total Subconsultants	2,730.00

Project	940-80-23-07	Comp 7 Monitoring Reporting & GMP Update	Invoice	2057639
Total this Invoice				\$63,004.75

Description of Services:

See attached description of services

Outstanding Invoices

Number	Date	Balance
2056069	10/31/2023	45,793.25
2056299	11/30/2023	65,358.45
2056798	12/31/2023	47,204.00
Total		158,355.70

Please direct questions to:

Project Manager Samantha Adams
Principal Greg Chung

Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning
West Yost - January 2024 Invoiced by Category and Task

Category and Task	Jan-24
<i>Total Invoice</i>	\$63,004.75
Category (a) Component Administration	\$3,953.50
Component Administration	\$3,953.50
Category (b) Planning, Design, Environmental	\$0.00
Task 1: Envionmental Documentation/Permitting	\$0.00
Task 2: Design Plans and Specifications (SW Station)	\$0.00
Category (c) Construction, Implementation	\$1,591.00
Task 5: Identify and Address Improperly Abandoned Wells	\$1,591.00
Category (d) Monitoring, Assessment	\$55,312.25
Task 6: Groundwater Pumping Monitoring - Annual Meter Verification	\$357.25
Task 6: Groundwater Pumping Monitoring - Monthly Meter Reading	\$1,700.25
Task 7 & 8 Groundwater Level and Quality Monitoring Program - Semi Annual Monitoring Events	\$10,013.50
Task 10 Maintain and Enhance Data Management System	\$1,287.50
Task 11 Annual Water Rights Accounting (Pumping Report)	\$0.00
Task 11 Annual Report to the Court and DWR	\$18,696.00
Task 12 Redetermination of the Sustainable Yield by 2025	\$12,000.75
Task 13 Prepare the 2025 GMP Update	\$11,257.00
Category (e) Stakeholder Outreach	\$2,148.00
Task 14 Outreach - Board Meetings on Grant Implementation	\$0.00
Task 14 Outreach - Technical Advisory Committee Working Meetings	\$2,148.00
Task 14 Outreach - Stakeholder Open House	\$0.00
Task 14 Outreach - Maintain Website and Grant Communications	\$0.00



Description of Services Rendered

Project 940-80-23-07

Grant Component No. 7: Monitoring, Reporting, and
Groundwater Management Planning

Water Year 2024 - Invoice Period: January 1, 2024 to January 31, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 7 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress for WY 2024 tasks as of the end of December 2023.
- Updated budget status table.
- Began developing quarterly grant status report and reimbursement request for the October 1 to December 31, 2023 reporting period.
- Corresponded with BWD throughout the month on grant reimbursement status and report reviews.

CATEGORY (C) CONSTRUCTION, IMPLEMENTATION. The work performed for this task includes the construction and implementation portion of the Component 7 tasks. Component 7 includes one construction and implementation task – implementation of the surface water monitoring station at Coyote Creek. The work performed during the invoice period includes:

ADDRESS ABANDONED WELLS (CONVERSION OR ABANDON)

- Began preparation of data confidentiality agreements for owners of inactive/abandoned wells participating in the groundwater monitoring program.
- Reviewed well assessment report for the Viking well.
- Identified next steps for adding abandoned wells to the monitoring network and monitoring during the spring 2024 monitoring event.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 7 tasks. The work performed in this reporting period included:

GROUNDWATER PUMPING MONITORING - ANNUAL METER VERIFICATION

- Check in with Parties and vendor on the status of completing meter verification testing.

Description of Services
940-80-23-07 (WY 2024)
Page 2

GROUNDWATER PUMPING MONITORING - MONTHLY COLLECTION AND PROCESSING OF METER READ DATA

NOTE: THIS TASK DOES NOT INCLUDE WORK TO COORDINATE OR PERFORM METER READING SERVICES AT MANUAL-READ METERS – THAT WORK IS PAID FOR BY THE PUMPERS WITH MANUAL-READ METERS.

- Cataloged and processed December 2023 monthly meter reads.
- Communicated with Parties on questions regarding telemetry meter read values.
- Calculated December 2023 pumping by well.
- Performed QA/QC of December 2023 pumping data.

GROUNDWATER LEVEL AND QUALITY MONITORING PROGRAM - SEMIANNUAL MONITORING EVENTS

- Reimbursable expenses billed this period include laboratory analysis of groundwater quality samples collected during the fall 2023 semi-annual monitoring event (Clinical Laboratory – see enclosed invoice).
- Reviewed and analyzed results of the fall 2023 monitoring event.
- Prepared text, tables, figures, and appendices for the fall 2023 semi-annual monitoring report.
- Corresponded with County of San Diego staff regarding monitoring of a County-owned well.
- Began preparing for the Spring 2024 monitoring event by:
 - Scheduling the sampling subcontractor (Blaine Tech)
 - Discussing and developing list of wells to new wells to monitor for groundwater level and quality and the specific steps to take prior to monitoring

COOPERATOR DATA COLLECTION, DATA MANAGEMENT, AND REPORTING DATA TO DWR PORTALS

- Digitized and loaded well construction information for nine private wells to DMS.
- Performed QA/QC of fall 2023 groundwater level measurements of two BWD wells.
- Reviewed updated database with new information obtained for reference points of wells sampled and canvassed in the field during November 2023.
- Submitted revisions to fall 2023 groundwater level data to the DWR Monitoring Network Module (MNM) and communicated with DWR regarding collapsed monitoring well that can no longer be monitored/reported.
- Performed QA/QC and corrected incorrect data in the historical data inherited from the GSA.
- Processed and uploaded historical groundwater elevation data for private wells in the Basin received from DWR.

ANNUAL WATER RIGHTS ACCOUNTING (PUMPING REPORT)

- No work performed in this reporting period.

ANNUAL REPORT TO THE COURT AND DWR

- Finalized the text, tables, figures, and appendices of the Annual report and submitted for technical and editorial review.
- Completed technical and editorial review of Annual Report.

Description of Services
940-80-23-07 (WY 2024)
Page 3

- Compiled the PDF of the WY 2023 Annual Report, published it to the Watermaster website, and noticed the review and hearing to the Watermaster Parties and Distribution list on January 25, 2024.

REDETERMINATION OF THE SUSTAINABLE YIELD OF THE BORREGO SPRINGS SUBBASIN

- Prepared a memo on the status update of the Redetermination of the Sustainable Yield.
- Began work on Task 4 – *Model Recalibration*, including:
 - Identified wells and calibration data used by the USGS
 - Began selecting calibration targets
 - Prepared observation file

PREPARE THE 2025 GROUNDWATER MANAGEMENT PLAN UPDATE

- Prepared summary tables of the Sustainable Management Criteria for Representative Monitoring Wells.
- Held meeting with Trey Driscoll to discuss the methods used to develop the Sustainable Management Criteria in the GMP.
- Prepared figures presenting historical and current data compared to Sustainable Management Criteria and model results.
- Began development of Section 5 of the GMP Assessment Report.
- Prepared a staff memo on the status update of the GMP Assessment Report.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 7 tasks. The work performed in this reporting period included:

TECHNICAL ADVISORY COMMITTEE MEETINGS

- Reviewed and communicated with TAC members via email and phone calls to address TAC comments on Tasks 4 and 5 to Redetermine the Sustainable Yield.
- Developed and sent a response to TAC comments on Tasks 4 and 5 to Redetermine the Sustainable Yield to the entire TAC.
- Coordinated with TAC members to schedule May working meeting.
- Prepared draft TAC agenda for May 2024 working meeting.

STAKEHOLDER OPEN HOUSE

- No work performed in this reporting period.

MAINTAIN WEBSITE AND GRANT COMMUNICATIONS

- No work performed in this reporting period.

Clinical Laboratory of San Bernardino, Inc.
P.O. Box 329 San Bernardino, CA 92402

INVOICE

Invoice To:	Invoice Number	Remit To:
Veva Weamer	2400089-	Accounts Receivable
West Yost Associates		Clinical Laboratory of San Bernardino
23692 Birtcher Drive		P.O. Box 329
Lake Forest, CA 92630		San Bernardino, CA 92402

PO Number	Received
	11/17/23

Client	Terms
Veva Weamer	NET 30
West Yost Associates	

Project Manager	
Jeanette Hernandez	

Date	Workorder/Analysis/Description	Matrix	Quantity	Unit Cost	Extended Cost
Clinical Laboratory of San Bernardino					
11/17/23	23K1883 General Mineral Panel [8 day]	Water	2	\$90.00	\$180.00
	Nitrate EPA 300.0 [8 day]	Water	2	\$0.00	\$0.00
	Nitrite as N EPA 300.0 [8 day]	Water	2	\$5.00	\$10.00
	Arsenic EPA 200.8 [8 day]	Water	2	\$10.00	\$20.00
11/17/23	23K1884 Arsenic EPA 200.8 [8 day]	Water	6	\$10.00	\$60.00
	General Mineral Panel [8 day]	Water	6	\$90.00	\$540.00
	Nitrate EPA 300.0 [8 day]	Water	6	\$0.00	\$0.00
	Nitrite as N EPA 300.0 [8 day]	Water	6	\$5.00	\$30.00
11/17/23	23K1885 Nitrite as N EPA 300.0 [8 day]	Water	4	\$5.00	\$20.00
	Arsenic EPA 200.8 [8 day]	Water	4	\$10.00	\$40.00
	General Mineral Panel [8 day]	Water	4	\$90.00	\$360.00
	Nitrate EPA 300.0 [8 day]	Water	4	\$0.00	\$0.00
11/17/23	23K1886 General Mineral Panel [8 day]	Water	7	\$90.00	\$630.00
	Nitrate EPA 300.0 [8 day]	Water	7	\$0.00	\$0.00
	Nitrite as N EPA 300.0 [8 day]	Water	7	\$5.00	\$35.00
	Arsenic EPA 200.8 [8 day]	Water	7	\$10.00	\$70.00
11/17/23	23K1887 Arsenic EPA 200.8 [8 day]	Water	4	\$10.00	\$40.00
	General Mineral Panel [8 day]	Water	4	\$90.00	\$360.00
	Nitrate EPA 300.0 [8 day]	Water	4	\$0.00	\$0.00

Should you have any questions regarding invoice please contact Dolores Falcon

INVOICE

Invoice To:

Veva Weamer
 West Yost Associates
 23692 Birtcher Drive
 Lake Forest, CA 92630

Invoice Number

2400089-

Remit To:

Accounts Receivable
 Clinical Laboratory of San Bernardino
 P.O. Box 329
 San Bernardino, CA 92402

PO NumberReceived

11/17/23

Client

Veva Weamer
 West Yost Associates

Terms

NET 30

Project Manager

Jeanette Hernandez

Date	Workorder/Analysis/Description	Matrix	Quantity	Unit Cost	Extended Cost
Clinical Laboratory of San Bernardino					
	Nitrite as N EPA 300.0 [8 day]	Water	4	\$5.00	\$20.00
11/17/23	23K1889 Nitrite as N EPA 300.0 [8 day]	Water	3	\$5.00	\$15.00
	Arsenic EPA 200.8 [8 day]	Water	3	\$10.00	\$30.00
	General Mineral Panel [8 day]	Water	3	\$90.00	\$270.00
	Nitrate EPA 300.0 [8 day]	Water	3	\$0.00	\$0.00

Invoice Total: **\$2,730.00**



Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2024
Invoice Number: 2057003

Accounts Payable	Client Project:	Work Order No. 6
Borrego Springs Watermaster	WY Project No:	940-80-23-08
c/o West Yost Associates	Contract Amount:	18,106.00
23692 Birtcher Drive	Job Name:	WY 2024 Component 6: Biological Restoration of Fallowed Lands
Lake Forest, CA 92630		

Professional Services from January 1, 2024 to January 31, 2024

Approved April 8, 2024

Previously Billed :	3,045.00
Total This Period :	1,390.00
Total Amount Billed to Date including This Invoice :	4,435.00
Amount Remaining in Contract :	13,671.00

Professional Personnel

	Hours	Rate	Amount
Principal Eng/Scientist/Geologist II			
Malone, Andy	3.00	316.00	948.00
Associate Eng/Scientist/Geologist I			
Salberg, Lauren	2.00	221.00	442.00
Totals	5.00		1,390.00
Total Labor			1,390.00
		Total this Invoice	\$1,390.00

Description of Services:

See attached description of services

Outstanding Invoices

Number	Date	Balance
2056300	11/30/2023	1,260.00
2056799	12/31/2023	1,016.00
Total		2,276.00

Please direct questions to:

Project Manager Andy Malone
Principal Greg Chung

GKC

Grant Component No. 6: Biological Restoration of Fallowed Lands - WY 2024^(a)

West Yost - January 2024 Invoiced by Category and Task

Task	Jan-24
<i>Totals</i>	\$1,390.00
Category (a) Component Administration - Category 6	\$442.00
Component Administration	\$442.00
Category (d) Monitoring, Assessment	\$948.00
Task 1 - Data Review	\$0.00
Task 2 - Habitat Field Study	\$0.00
Task 3 - Sand Fence Case Study	\$948.00
Task 4 - Fallowing Rehab Strategies	\$0.00
Task 5 - Fallowing Prioritization	\$0.00
Category (e) Stakeholder Outreach	\$0.00
Task 6 - EWG Meetings	\$0.00

Notes:

(a) Does not include work performed by Land IQ



Description of Services Rendered

Project 940-80-23-08

Grant Component No. 6: Biological Restoration of Fallowed Lands

Water Year 2024 - Invoice Period: January 1, 2024 to January 31, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the West Yost portion of the total scope of work. The remainder of the scope of work is being performed by Land IQ and its subconsultant UCI.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.
- Updated budget status table.
- Communicated Board-requested changes to Land IQ and UCI monthly invoices.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period.

TASK 2 - HABITAT FIELD STUDY.

- No work performed in this reporting period.

TASK 3 - SAND FENCE CASE STUDY.

- Finalized Easement Agreements.
- Prepared a memo on the process for Watermaster-approval of a subcontractor to construct the sand fences.
- Coordinated with Land IQ, Legal Counsel, Watermaster Board members, and landowners on finding a subcontractor to construct sand fences through a Request for Proposal (RFQ) process.
- Posted the RFP for sand fence contractor to the Watermaster's Environmental Working Group website.

Description of Services
940-80-23-08 (WY 2024)
Page 2

TASK 4 - FALLOWING REHAB STRATEGIES.

- No work performed in this reporting period.

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.



T 213.626.8484
 F 213.626.0078
 Fed. I.D. No. 95-3292015

350 South Grand Avenue
 37th Floor
 Los Angeles, CA 90071

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Approved April 10, 2024

BORREGO SPRINGS WATERMASTER
 C/O SAMANTHA ADAMS, EXECUTIVE DIRECTOR
 WEST YOST
 23692 BIRTCHER DRIVE
 LAKE FOREST, CA 92630

Invoice Date: March 12, 2024
 Invoice Number: 246815
 Matter Number: 13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through February 29, 2024

Time Detail

Date	Initials	Description	Hours
02/01/24	JLM	LETTER TO T.A.C. MEMBER APPOINTEES; REVIEW "BEST SCIENCE" MATERIALS	0.50
02/02/24	JLM	TELEPHONE CALL ON DWR ALTERNATE PLAN PROCESS	0.60
02/05/24	JLM	REVIEW MS. ADAMS' REPORT ON DWR ALTERNATE PLAN PROCESS	0.70
02/06/24	JLM	REVIEW BOARD MEETING PACKET; REVIEW MS. STAPLES' EDITS ON CARRYOVER RESOLUTION	2.00
02/08/24	JLM	ATTEND BOARD MEETING	3.30
02/09/24	JLM	REVIEW AWARE COMMENTS ON CARRYOVER POLICY DRAFTS AND UNDERESTIMATES OF RETURN FLOW; TELEPHONE CALL FROM MS. ADAMS ON DWP PROCESS	1.60
02/15/24	JLM	REVIEW COURT DOCKET ON HEARING ON T-2 INTERVENTION; TELEPHONE CALL TO MR. METZ THEREON	0.30
02/15/24	JCM	CONFERENCE WITH MR. MARKMAN REGARDING HEARING ON T2 PALMS LLC'S APPLICATION FOR INTERVENTION AS DEFENDANT TRANSFEREE	0.20
02/16/24	JLM	E-MAILS ON CARRYOVER ISSUE	0.40
02/21/24	JLM	REVIEW LIEBERT LETTER; TELEPHONE CALL TO MS. ADAMS THEREON AND ON CARRYOVER POLICY	0.80

Item III.F.i**Page 93 of 161**Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICESInvoice Date:
Invoice Number:
Matter Number:March 12, 2024
246815
13056-0001**CONFIDENTIAL**

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<u>Date</u>	<u>Initials</u>	<u>Description</u>	<u>Hours</u>
02/23/24	JLM	REVIEW T2 REPLY BRIEF ON MOTION TO INTERVENE	0.80
02/23/24	JCM	E-MAIL WITH MR. MARKMAN REGARDING HEARING ON T2 PALMS LLC'S APPLICATION FOR INTERVENTION AS DEFENDANT TRANSFEREE	0.10
02/28/24	JLM	E-MAILS ON "BEST AVAILABLE SCIENCE" RULE	0.30
02/28/24	JCM	CONFERENCE WITH MR. MARKMAN REGARDING HEARING ON T2 PALMS LLC'S APPLICATION FOR INTERVENTION AS DEFENDANT TRANSFEREE	0.20
02/29/24	JLM	ATTEND ZOOM MEETING ON USE OF "BEST AVAILABLE SERVICE"; ATTEND COURT HEARING ON DOLJANIN-T3 TRANSFER	1.50
02/29/24	JCM	PREPARE FOR AND ATTEND HEARING ON T2 PALMS LLC'S APPLICATION FOR INTERVENTION AS DEFENDANT TRANSFEREE; REVIEW APPLICATION, OPPOSITION FILED MR. DOLJANIN, REPLY BY T2 PALM'S AND DECLARATIONS AND EXHIBITS IN SUPPORT; CONFERENCE WITH MR. MARKMAN REGARDING SAME	2.40
Total			15.70

Timekeeper Summary

<u>Name</u>	<u>Hours</u>	<u>Rate</u>	<u>Amount</u>
JACOB C. METZ	2.90	275.00	797.50
JAMES L. MARKMAN	12.80	400.00	5,120.00
Total	15.70		\$5,917.50

Cost Detail

<u>Date</u>	<u>Description</u>	<u>Amount</u>
02/09/24	FIRST LEGAL NETWORK, LLC - ATTORNEY SERVICE - E-FILING/OCSC-SANTA ANA 12/18/23	32.25
02/14/24	FIRST LEGAL NETWORK, LLC - FIRST LEGAL NETWORK, LLC- ATTORNEY SERVICE - E-FILING/OCSC-SANTA ANA 12/2/23	32.00
Total		\$64.25

Item III.F.i

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date:
Invoice Number:
Matter Number:

Page 94 of 161

March 12, 2024
246815
13056-0001

CONFIDENTIAL

This material is subject to the attorney-client privilege and/or attorney work product protection, or otherwise is privileged or confidential. Do not disclose the contents hereof. Do not file with publicly-accessible records.

Current Legal Fees.....	\$5,917.50
Current Client Costs Advanced.....	\$64.25
Total Current Fees and Costs.....	\$5,981.75



T 213.626.8484

F 213.626.0078

Fed. I.D. No. 95-3292015

350 South Grand Avenue

37th Floor

Los Angeles, CA 90071

CONFIDENTIAL

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BORREGO SPRINGS WATERMASTER
C/O SAMANTHA ADAMS, EXECUTIVE DIRECTOR
WEST YOST
23692 BIRTCHER DRIVE
LAKE FOREST, CA 92630

Invoice Date: March 12, 2024
Invoice Number: 246815
Matter Number: 13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through February 29, 2024

Fees	5,917.50
Costs	64.25
Total Amount Due	\$5,981.75

TERMS: PAYMENT DUE UPON RECEIPT

PLEASE RETURN THIS PAGE WITH YOUR REMITTANCE TO

RICHARDS, WATSON & GERSHON
350 South Grand Avenue, 37th Floor
Los Angeles, CA 90071



Remit Payment To:
PO Box 2158
Davis, CA 95617

February 29, 2024

Invoice Number:

2057696

Accounts Payable	Client Project:	Work Order No. 6
Borrego Springs Watermaster	WY Project No:	940-80-23-06
c/o West Yost Associates	Contract Amount:	211,584.00
23692 Birtcher Drive	Job Name:	WY 2024 Admin and Technical Services
Lake Forest, CA 92630		

Approved April 10, 2024

Professional Services from February 1, 2024 to February 29, 2024

Previously Billed :	65,308.99
Total This Period :	12,823.50
Total Amount Billed to Date including This Invoice :	78,132.49
Amount Remaining in Contract :	133,451.51

Professional Personnel

	Hours	Rate	Amount
Eng/Scientist/Geologist Manager I Adams, Samantha	14.25	329.00	4,688.25
Principal Eng/Scientist/Geologist II Malone, Andy	4.50	316.00	1,422.00
Associate Eng/Scientist/Geologist I Salberg, Lauren	18.50	221.00	4,088.50
Engineer/Scientist/Geologist I Kelty, Clay	1.75	178.00	311.50
Administrative IV Ehresman, Leah	2.75	157.00	431.75
Administrative III Mendoza-Tellez, Maria	13.25	142.00	1,881.50
Totals	55.00		12,823.50
Total Labor			12,823.50
		Total this Invoice	\$12,823.50

Description of Services:

See attached description of services

Project	940-80-23-06	WY 2024 Admin and Technical Services	Invoice	2057696
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Outstanding Invoices

Number	Date	Balance
2056066	10/31/2023	16,390.75
2056298	11/30/2023	18,794.74
2056797	12/31/2023	12,374.50
2057638	1/31/2024	17,749.00
Total		65,308.99

Please direct questions to:

Project Manager Samantha Adams
Principal Greg Chung

GKC

**Description of Services Rendered****Project 940-80-23-06****Watermaster Administrative and Technical Services – Portion of Services not Reimbursable by DWR Prop 68 Grant***Invoice Period: February 1, 2024 to February 29, 2024*

The services billed in this invoice are those Watermaster administrative and technical services that are not reimbursable through the DWR Prop 68 grant.

TASK 1 – MEETINGS AND COURT HEARINGS

The work performed for this task includes preparing for and attending Watermaster Board Meetings and Court Hearings. The work performed in this reporting period included:

BOARD MEETINGS

- Corresponded with Watermaster Board officers and legal counsel throughout the month to coordinate meeting agenda items and other Watermaster activities.
- February 2024 Regular Board Meeting:
 - Prepared meeting minutes from January 2024 Board meeting.
 - Prepared agenda package content. This work included:
 - Organized, compiled, and formatted the public correspondence and consent calendar items.
 - Performed work, including coordination and/or preparation of staff memos or other materials, if needed, to support the following agenda items:
 - WY 2023 Annual Report Hearing
 - Contractor for Sand Fence Construction
 - Fall 2023 Semi-Annual Monitoring Report
 - Status update on the Redetermination of the Sustainable Yield
 - March Regular Meeting Agenda
 - Compiled the agenda package and distributed via the stakeholder distribution list and Watermaster website.
 - Prepared PowerPoint Presentation to support the Board meeting discussion.
 - Responded to questions from Board and Legal Counsel members via email and phone calls regarding the Board package items.
 - Attended the virtual Board meeting on February 8. The meeting was attended by Samantha Adams, Andy Malone, and Lauren Salberg.

Description of Services

940-80-23-06

Page 2

- March 2024 Board Meeting Preparation:
 - Prepared punch list of action items for the Board meeting. Created meeting link and coordinated assignments for preparing the package.
- Coordinated with Board to reschedule April Regular Board meeting date.

COURT HEARINGS

- No work performed during the reporting period.

TASK 2 – WATERMASTER ADMINISTRATION

The Executive Director, with support from staff, will organize, oversee, and/or perform the administrative and management aspects of running the Watermaster and administering the Judgment, Rules and Regulations, and GMP. The work performed in this reporting period included:

PREPARE THE WATERMASTER ANNUAL BUDGET

- No work performed during the reporting period.

INSURANCE, ACCOUNTING, AND FINANCIAL SERVICES

- Processed accounts receivable into QuickBooks.
- Processed accounts payable into QuickBooks.
- Drove to US Bank to deposit checks.
- Cut checks for accounts payable and mailed for signature.
- Prepared January 2024 Financial Report to the Board.
- Communicated with vendors on reporting estimates of billings for inclusion in February monthly financials.
- Supported preparation of the WY 2023 financial Audit and communicated regularly with Auditors.

RESPOND TO AND TRACK PUBLIC INFORMATION REQUESTS

- Receive, file, and acknowledge/respond to three public correspondence letters.
- Respond to an inquiry regarding the Watermaster's Groundwater Management Plan.

AS-NEEDED SUPPORT TO THE BPA PARTIES

- Provided general as-requested support to BPA parties throughout the month by performing outreach, responding to emails, and taking phone calls on the following topics:
 - Past due payments on WY 2024 Assessments
- Prepared hydrographs of Rams Hill wells at the request of the well owner.
- Provided groundwater-quality and groundwater-level data from the fall 2023 semi-annual monitoring report to well owners, at the request of the owner.

Description of Services

940-80-23-06

Page 3

AS-NEEDED ADMINISTRATION OF THE TERMS OF THE JUDGMENT, RULES & REGULATIONS, AND GROUNDWATER MANAGEMENT PLAN

- Respond to an inquiry about applications for construction of new de minimis pumping wells.

GENERAL ADMINISTRATION AND PROJECT MANAGEMENTS TASKS

- Performed monthly project management tasks including budget, schedule, and scope of work progress evaluations.

TASK 3 – TECHNICAL SERVICES

The objective of this task is for the Technical Consulting team to perform the technical services required by the Judgment, Rules and Regulations, and GMP for WY 2023 that are not reimbursable by the DWR Prop 68 Grant. The work performed in this reporting period included:

NON-REIMBURSABLE COSTS FOR GROUNDWATER MONITORING PROGRAM.

- There are no non-grant reimbursable costs in this reporting period.

NON-REIMBURSABLE COSTS FOR ADDRESSING ABANDONED WELLS

- There are no non-grant reimbursable costs in this reporting period.

AS-NEEDED TECHNICAL SUPPORT FOR IMPLEMENTATION OF THE JUDGMENT, RULES AND REGULATIONS, AND GROUNDWATER MANAGEMENT PLAN

- Prepared for and met with DWR on February 1, 2024 to discuss the work performed to date by the Watermaster and discuss their proposed process for reviewing the Groundwater Management Plan. The meeting attendee was Samantha Adams.
- Prepared a summary email to the Watermaster Board reporting out on February 1st discussion with DWR.

ADDRESS AD HOC REQUESTS OF TAC FROM THE BOARD

- No work performed during the reporting period.

TASK 4 – ENVIRONMENTAL WORKING GROUP

The objective of this task is to support the activities of the EWG in WY 2024 that are not part of the DWR Prop 68 Grant. The work performed in this reporting period included:

EWG MEETINGS.

- No work performed during the reporting period.

TASK 5 - STAFF SERVICES BILLED TO WATERMASTER RELATED TO MANUAL-READ METERS

The objective of this task is to coordinate the monitoring and collection of meter data from the parties with manual-read meters. This work is reimbursed by only those Parties with manual-read meters. The work performed in this reporting period included:

- Followed-up with parties with manual read meters who had not yet send January self-reporting of meter reads.
- Sent email reminders to pumpers to perform February 2024 meter read.



Remit Payment To:
PO Box 2158
Davis, CA 95617

February 29, 2024

Invoice Number:

2057697

Accounts Payable	Client Project:	Work Order No. 6
Borrego Springs Watermaster	WY Project No:	940-80-23-07
c/o West Yost Associates	Contract Amount:	893,098.00
23692 Birtcher Drive	Job Name:	WY 2024 Component 7: Monitoring Reporting, and GMP Update
Lake Forest, CA 92630		

Professional Services from February 1, 2024 to February 29, 2024Approved April 10, 2024

Previously Billed :	237,526.03
Total This Period :	34,663.75
Total Amount Billed to Date including This Invoice :	272,189.78
Amount Remaining in Contract :	620,908.22

Professional Personnel

	Hours	Rate	Amount
Eng/Scientist/Geologist Manager I Adams, Samantha	10.25	329.00	3,372.25
Principal Eng/Scientist/Geologist II Chiang, Eric	17.00	316.00	5,372.00
	12.50	316.00	3,950.00
Associate Eng/Scientist/Geologist I Salberg, Lauren	63.25	221.00	13,978.25
	1.75	221.00	386.75
Engineer/Scientist/Geologist II Alonzo, Terrinda	1.75	207.00	362.25
Engineer/Scientist/Geologist I Kelty, Clay	26.75	178.00	4,761.50
Administrative II Hanna-Pickering, Alissa	6.00	118.00	708.00
Technical Specialist IV Lasick, Sheri	2.75	262.00	720.50
Technical Specialist I Jones, Katie	5.75	183.00	1,052.25
Totals	147.75		34,663.75
Total Labor			34,663.75
		Total this Invoice	\$34,663.75

Description of Services:

See attached description of services

Project	940-80-23-07	Comp 7 Monitoring Reporting & GMP Update	Invoice	2057697
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Outstanding Invoices

Number	Date	Balance
2056069	10/31/2023	45,793.25
2056299	11/30/2023	65,358.45
2056798	12/31/2023	47,204.00
2057639	1/31/2024	60,274.75
Total		218,630.45

Please direct questions to:

Project Manager Samantha Adams
Principal Greg Chung

GKC

Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning
West Yost - February 2024 Invoiced by Category and Task

Category and Task	Feb-24
<i>Total Invoice</i>	\$34,663.75
Category (a) Component Administration	\$4,968.50
Component Administration	\$4,968.50
Category (b) Planning, Design, Environmental	\$0.00
Task 1: Envionmental Documentation/Permitting	\$0.00
Task 2: Design Plans and Specifications (SW Station)	\$0.00
Category (c) Construction, Implementation	\$2,443.75
Task 5: Identify and Address Improperly Abandoned Wells	\$2,443.75
Category (d) Monitoring, Assessment	\$26,027.25
Task 6: Groundwater Pumping Monitoring - Annual Meter Verification	\$2,117.75
Task 6: Groundwater Pumping Monitoring - Monthly Meter Reading	\$1,543.75
Task 7 & 8 Groundwater Level and Quality Monitoring Program - Semi Annual Monitoring Events	\$3,105.75
Task 10 Maintain and Enhance Data Management System	\$323.75
Task 11 Annual Water Rights Accounting (Pumping Report)	\$0.00
Task 11 Annual Report to the Court and DWR	\$3,018.25
Task 12 Redetermination of the Sustainable Yield by 2025	\$13,584.50
Task 13 Prepare the 2025 GMP Update	\$2,333.50
Category (e) Stakeholder Outreach	\$1,224.25
Task 14 Outreach - Board Meetings on Grant Implementation	\$0.00
Task 14 Outreach - Technical Advisory Committee Working Meetings	\$1,224.25
Task 14 Outreach - Stakeholder Open House	\$0.00
Task 14 Outreach - Maintain Website and Grant Communications	\$0.00



Description of Services Rendered

Project 940-80-23-07

Grant Component No. 7: Monitoring, Reporting, and
Groundwater Management Planning

Water Year 2024 - Invoice Period: February 1, 2024 to February 29, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 7 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress for WY 2024 tasks as of the end of January 2024.
- Updated budget status table.
- Completed the fourth quarterly grant progress report and reimbursement request for the October 1, 2023 through December 31, 2023 period. Submitted report materials to BWD Board.
- Corresponded with BWD throughout the month on grant requirements, reimbursement status, and quarterly report reviews.
- Requested and reviewed standard contract of a potential subcontractor (Well Tec) and compared to DWR grant requirements.

CATEGORY (C) CONSTRUCTION, IMPLEMENTATION. The work performed for this task includes the construction and implementation portion of the Component 7 tasks. Component 7 includes one construction and implementation task – implementation of the surface water monitoring station at Coyote Creek. The work performed during the invoice period includes:

ADDRESS ABANDONED WELLS (CONVERSION OR ABANDON)

- Developed step-wise approach to addressing inactive/abandoned wells in the Basin and defined next steps for assessing and adding inactive/abandoned wells to the monitoring network.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 7 tasks. The work performed in this reporting period included:

GROUNDWATER PUMPING MONITORING - ANNUAL METER VERIFICATION

- Notified Parties to complete testing if results not received.

Description of Services
940-80-23-07 (WY 2024)
Page 2

- Compiled and reviewed all meter test results to assess compliance with accuracy standards. Completed tracking sheet to document all meter test outcomes.
- Communicated with meter verification vendors.

GROUNDWATER PUMPING MONITORING - MONTHLY COLLECTION AND PROCESSING OF METER READ DATA

NOTE: THIS TASK DOES NOT INCLUDE WORK TO COORDINATE OR PERFORM METER READING SERVICES AT MANUAL-READ METERS – THAT WORK IS PAID FOR BY THE PUMPERS WITH MANUAL-READ METERS.

- Cataloged and processed January 2024 monthly meter reads.
- Communicated with Parties on questions regarding telemetry meter read values.
- Communicated with McCrometer Meters regarding issues with telemetry systems not reporting meter read data to the data portal.
- Calculated January 2024 pumping by well.
- Performed QA/QC of January 2024 pumping data.

GROUNDWATER LEVEL AND QUALITY MONITORING PROGRAM - SEMIANNUAL MONITORING EVENTS

- Finalized the fall 2023 semi-annual monitoring report.
- Communicated with well owners to describe groundwater monitoring program participation and execute entry agreements with well owners.
- Began preparation of entry agreements for owners of wells newly participating in the groundwater monitoring program.
- Continued preparation for the Spring 2024 monitoring event:
 - Obtained a quote from Clinical Laboratory for groundwater-quality sample analysis.
 - Refined list of new wells to monitor for groundwater level and quality and the specific steps to take prior to monitoring.
 - Began communicating with well owners about monitoring schedules.

COOPERATOR DATA COLLECTION, DATA MANAGEMENT, AND REPORTING DATA TO DWR PORTALS

- Prepared for and participated in a phone call with DWR to discuss resolving a duplicate well in DWR's Monitoring Network Module (MNM) portal.

ANNUAL WATER RIGHTS ACCOUNTING (PUMPING REPORT)

- No work performed in this reporting period.

ANNUAL REPORT TO THE COURT AND DWR

- Documented the comments received during the February 8, 2024 public hearing to receive comments on the Annual Report.
- Reviewed and cataloged all written comments received on the draft Annual Report circulated on January 25, 2024.
- Created Appendix H of the Annual Report to document all verbal and written comments and the response to the comments.

Description of Services
940-80-23-07 (WY 2024)
Page 3

- Updated the text, tables, figures, and appendices of the draft final Annual report based on the comments received. Submitted it for editorial review.

REDETERMINATION OF THE SUSTAINABLE YIELD OF THE BORREGO SPRINGS SUBBASIN

- Continued work on Task 4 – *Model Recalibration*, including:
 - Compared well construction information in database to model layers in the Borrego Valley Hydrologic Model (BVHM).
 - Prepared the version of the BVHM to calibrate in Task 4, ran the BVHM through WY 2022, and prepared water budget table. Additionally, the water budget from this version of the BVHM to prior versions of the BVHM, including the versions generated in Task 1, Task 2, and Task 3 of the approved scope-of-work.
 - Began performing a literature review of historical irrigation practices to develop and constrain historical On-Farm Efficiencies (OFE) values.
 - Selected model calibration targets and data.
 - Selected parameters and pilot points for model recalibration.
 - Began developing summary materials (memos, figures, and tables) on the preparatory work for BVHM recalibration to share with the TAC for review and comment.

PREPARE THE 2025 GROUNDWATER MANAGEMENT PLAN UPDATE

- Began working on text of GMP Assessment Report.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 7 tasks. The work performed in this reporting period included:

TECHNICAL ADVISORY COMMITTEE MEETINGS

- Reviewed and communicated with TAC members and their appointees via phone calls to address TAC comments on the methods to Redetermine the Sustainable Yield, and the process, schedule, and the expectations of TAC participation during the process to redetermine the Sustainable Yield.
- Prepared draft TAC agenda and scheduled May 2024 working meeting.

STAKEHOLDER OPEN HOUSE

- No work performed in this reporting period.

MAINTAIN WEBSITE AND GRANT COMMUNICATIONS

- No work performed in this reporting period.



Remit Payment To:
PO Box 2158
Davis, CA 95617

February 29, 2024

Invoice Number:

2057698

Accounts Payable	Client Project:	Work Order No. 6
Borrego Springs Watermaster	WY Project No:	940-80-23-08
c/o West Yost Associates	Contract Amount:	18,106.00
23692 Birtcher Drive	Job Name:	WY 2024 Component 6: Biological Restoration of Fallowed Lands
Lake Forest, CA 92630		

Professional Services from February 1, 2024 to February 29, 2024

Approved April 10, 2024

Previously Billed :	4,435.00
Total This Period :	1,206.25
Total Amount Billed to Date including This Invoice :	5,641.25
Amount Remaining in Contract :	12,464.75

Professional Personnel

	Hours	Rate	Amount
Principal Eng/Scientist/Geologist II			
Malone, Andy	1.00	316.00	316.00
Associate Eng/Scientist/Geologist I			
Salberg, Lauren	2.25	221.00	497.25
Technical Specialist IV			
Lasick, Sheri	1.50	262.00	393.00
Totals	4.75		1,206.25
Total Labor			1,206.25
		Total this Invoice	\$1,206.25

Description of Services:

See attached description of services

Outstanding Invoices

Number	Date	Balance
2056300	11/30/2023	1,260.00
2056799	12/31/2023	1,016.00
2057003	1/31/2024	1,390.00
Total		3,666.00

Please direct questions to:

Project	940-80-23-08	Component 6: Biological Restoration	Invoice	2057698
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Project Manager	Andy Malone
Principal	Greg Chung

CKC

Grant Component No. 6: Biological Restoration of Fallowed Lands - WY 2024^(a)

West Yost - February 2024 Invoiced by Category and Task

Task	Feb-24
<i>Totals</i>	\$1,206.25
Category (a) Component Administration - Category 6	\$890.25
Component Administration	\$890.25
Category (d) Monitoring, Assessment	\$316.00
Task 1 - Data Review	\$0.00
Task 2 - Habitat Field Study	\$0.00
Task 3 - Sand Fence Case Study	\$316.00
Task 4 - Fallowing Rehab Strategies	\$0.00
Task 5 - Fallowing Prioritization	\$0.00
Category (e) Stakeholder Outreach	\$0.00
Task 6 - EWG Meetings	\$0.00

Notes:

(a) Does not include work performed by Land IQ



Description of Services Rendered

Project 940-80-23-08

Grant Component No. 6: Biological Restoration of Fallowed Lands

Water Year 2024 - Invoice Period: February 1, 2024 to February 29, 2024

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the West Yost portion of the total scope of work. The remainder of the scope of work is being performed by Land IQ and its subconsultant UCI.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.
- Updated budget status table.
- Communicated Board-requested changes to Land IQ and UCI monthly invoices.
- Completed the fourth quarterly grant progress report and reimbursement request for the October 1, 2023 through December 31, 2023 period. Submitted report materials to BWD Board.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period.

TASK 2 - HABITAT FIELD STUDY.

- No work performed in this reporting period.

TASK 3 - SAND FENCE CASE STUDY.

- Prepared a memo on the process for Watermaster-approval of a subcontractor to construct the sand fences.

TASK 4 - FALLOWING REHAB STRATEGIES.

- No work performed in this reporting period.

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

Item III.F.ii.c

Description of Services
940-80-23-08 (WY 2024)
Page 2

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM III.G**

To: Board of Directors
From: Samantha Adams, Executive Director
Date: April 15, 2024
Subject: Consideration of Approval of the Nomination of Dr. Russell Detwiler to the TAC

Recommended Action **Provide Direction to Staff** **Information and Discussion**
 Fiscal Impact **Cost Estimate: \$**

Recommended Action

Approve Director Jorgensen's nomination of Dr. Russell Detwiler to the TAC as the Community Representative.

Fiscal Impact: None. The Judgment amendment specifies that costs associated with the Community Representative TAC member are not the responsibility of the Watermaster.

Background and Previously Related Actions by the Board

At its September 14, 2023, the Watermaster Board voted to amend the Judgment to expand participation on the Technical Advisory Committee (TAC) to allow for a qualified member to represent the community of Borrego Springs. The Court heard and approved the motion to amend the Judgment on March 21, 2024.

Discussion and Next Steps

The enclosed letter contains Director Jorgensen's formal nomination of Dr. Russell Detwiler to the TAC as the Community Representative. The letter describes Dr. Detwiler's qualifications, which were reviewed and confirmed by Watermaster Staff and Legal Counsel to meet the eligibility requirements for TAC participation specified in the Judgment. Dr. Detwiler has already began participating in the TAC, at Board direction, including attendance at the March 29, 2024 Ad-Hoc TAC meeting to discuss the Redetermination of the Sustainable Yield.

Enclosures

Nomination of a Community Representative to the Technical Advisory Committee Letter from Director Jorgensen

April 2, 2024

Borrego Springs Watermaster
C/O West Yost Associates
23962 Birtcher Drive
Lake Forest, California 92630

SUBJECT: Nomination of a Community Representative to the Technical Advisory Committee

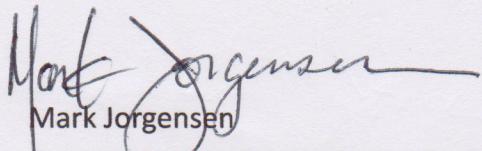
Dear Borrego Springs Watermaster Board of Directors:

The Judgment was amended by the Court on March 21, 2024 to allow the community of Borrego Springs to appoint a representative to the Technical Advisory Committee (TAC), referred herein as the "Community Representative". As the appointed Director representing the Borrego Springs community, I want to extend my appreciation for the Watermaster Board's support for amending the Judgment and allowing community representation on the TAC. The purpose of this letter is to formally nominate Dr. Russell Detwiler, PhD as the Community Representative to the TAC.

Dr. Detwiler has over 25 years of experience in hydrogeology and is currently an Associate Professor in the Department of Civil and Environmental Engineering at the University of California, Irvine. His professional experiences include developing groundwater flow and transport models, serving as a technical reviewer of hydrogeological modeling studies, authoring research papers on hydrogeological modeling, and developing and using flow and transport models. Additional information regarding his experience and qualifications is provided in his CV (attached). Watermaster Staff and Legal Counsel reviewed Dr. Detwiler's qualifications and confirmed he meets the Judgment eligibility requirements to participate on the TAC.

Thank you again for the opportunity to appoint a Community Representative to the TAC. We look forward to your approval of Dr. Detwiler's nomination.

Sincerely,



Mark Jorgensen

Borrego Springs Watermaster Board Member, Community Representative

Attachment(s):

Russell Detwiler CV

Russell L Detwiler
University of California, Irvine
Irvine, CA 92697-2175
Civil and Environmental Engineering
(949) 824-7152
Email: detwiler@uci.edu
<https://detwiler.eng.uci.edu/>

Introduction

Russell Detwiler is an Associate Professor in the Department of Civil and Environmental Engineering at the University of California, Irvine and previously worked as a Staff Scientist at Lawrence Livermore National Laboratory in Livermore, California. He earned a Ph.D. in Civil Engineering in 2000 from the University of Colorado, Boulder.

Prof. Detwiler has over 30 years of hydrogeology experience including fundamental studies of flow and transport processes at scales ranging from the pore scale to the field scale and applied problem solving. He has published over 40 research articles and book chapters describing his research, which integrates laboratory experiments, field observations, and computational modeling. These efforts have contributed significantly to the understanding of subsurface flow and transport processes in complex media.

For the past 15 years, Prof. Detwiler has shared his research expertise with students through regular teaching of courses on fluid mechanics, groundwater hydrology and computational modeling. He also serves as an Associate Editor for Water Resources Research, which publishes research papers on a wide range of topics related to hydrology and water resources.

PROFESSIONAL EXPERIENCE

Education

PhD, University of Colorado, 2000.
Civil Engineering
Advisors: Rajaram, H., Glass, R. J.

BS, University of Vermont, 1988.
Major: Civil Engineering

Professional Positions

Associate Professor, Civil and Environmental Engineering, UC Irvine (2013-present)
Assistant Professor, Civil and Environmental Engineering, UC Irvine (2008-2013).
Deputy Group Leader, Experimental Geophysics Group, Lawrence Livermore National Laboratory. (November 2007 - August 2008).
Staff Scientist, Experimental Geophysics Group, Lawrence Livermore National Laboratory. (November 2001 - November 2007).
Research Associate, Civil, Environmental, and Architectural Engineering Department, University of Colorado. (December 2000 - November 2001).
Research Assistant, Civil, Environmental, and Architectural Engineering Department, University of Colorado. (September 1995 - December 2000).
Project Manager, Timmerhus, Inc.. (September 1992 - September 1995).
Project Engineer, GEO Engineering, Inc.. (June 1990 - September 1992).
Water Supply Engineer, United States Peace Corps. (August 1988 - March 1990).
Assistant Engineer, Wagner, Heindel, and Noyes, Inc.. (January 1987 - May 1988).

Professional Memberships

InterPore. (2018 – Present).
Association of Environmental Engineering and Science Professors. (2018 – Present)
American Geophysical Union. (1996 - Present).

Awards and Honors

Mid-Career Faculty Innovation in Teaching, Samuel School of Engineering. (June 2014).
American Rock Mechanics Association. (June 2010).
Best Paper Award for "Measuring coupled geochemical alteration and geomechanical deformation in discrete variable-aperture fractures" by R.L. Detwiler presented at the 42nd U.S. Rock Mechanics Symposium
Geothermal Resources Council. (September 2006).
Best Paper Award for "Rapid fluid flow experiments in Desert Peak quartz monzonite" by S.R. Carlson, J.R. Roberts, L.R. Benedetti, and R.L. Detwiler (presenter).

RESEARCH

Publications

Journal Articles, Peer-Reviewed

Maple, M., M. Colyar, R. L. Detwiler, and T. Gallien (in review), Observations and Numerical Modeling of Coastal Groundwater Response to Tides, Waves and Dual Boundary Forcing, *Water Resources Research*, in review.

Liao, Z., R.L. Detwiler, E.S. Cookson, W. Lei, Y.-F. Chen (in review), Visualization of two-phase fluid flow in fractured porous media, *Water Resources Research*, in review, (doi:10.22541/essoar.169203073.38728694/v1).

Zhang, R. J., Z. B. Yang, R. L. Detwiler, D. Li, G. Ma, R. Hu, and Y.-F. Chen (2023), Liquid cohesion induced particle agglomeration enhances clogging in rock fractures, *Geophysical Research Letters*, (doi:10.1029/2022GL102097).

Cookson, E. S. and R. L. Detwiler (2022), Global patterns and temporal trends of perfluoroalkyl substances in municipal wastewater: A meta-analysis, *Water Research*, (doi:10.1016/j.watres.2022.118784).

Jones, T. A., and R. L. Detwiler (2019), Mineral precipitation in fractures: Using the level set method to quantify the role of mineral heterogeneity on transport properties, *Water Resources Research*, (doi:10.1029/2018wr024287).

Manheim, D. C., and R. L. Detwiler (2019), Accurate and reliable estimation of kinetic parameters for environmental engineering applications: A global, multi objective, Bayesian optimization approach, *MethodsX*, 6, 1398–1414 (doi: 10.1016/j.mex.2019.05.035).

Manheim, D. C., R. L. Detwiler, S. Jiang (2019), Application of unstructured kinetic models to predict microcystin biodegradation: Towards a practical approach for drinking water treatment, *Water Research*, (doi: 10.1016/j.watres.2018.11.014).

Medina, R., R. L. Detwiler, R. Prioul, W. Xu, and J. E. Elkhouri (2018), Settling and mobilization of sand-fiber proppants in a deformable fracture, *Water Resources Research*, (doi: 10.1029/2018WR023355).

Medina, R., R. L. Detwiler, R. Prioul, W. Xu, and J. E. Elkhouri (2018), Effect of flow geometry on the evolution of concentrated suspensions flowing through a fracture, *International Journal of Multiphase Flow*, 108, 80–92, (doi: 10.1016/j.ijmultiphaseflow.2018.06.014).

Azizian, M., F. Boano, P. L. M. Cook, R. L. Detwiler, M. A. Rippy, and S. B. Grant (2017), Ambient groundwater flow diminishes nitrate processing in the hyporheic zone of streams, *Water Resources Research*, 53(5), 3941–3967, (doi: 10.1002/2016wr020048).

Jones, T. A., and R. L. Detwiler (2016), Fracture sealing by mineral precipitation: The role of small-scale mineral heterogeneity, *Geophysical Research Letters*, pp. n/a–n/a, (doi: 10.1002/2016GL069598).

Yeo, I. W., Lee, S. H., Lee, K.-K., Detwiler, R. L. (2015). Tail shortening with developing eddies in a rough-walled rock fracture. *Geophysical Research Letters*. AGU Publications. (doi: 10.1029/2015gl065116).

Arshadi, M., Rajaram, H., Detwiler, R. L., Jones, T. (2015). High-resolution experiments on chemical oxidation of DNAPL in variable-aperture fractures. *Water Resources Research*, 51(4), 2317–2335. AGU Publications. 1944-7973. (doi: 10.1002/2014WR016159).

Elkhouri, J. E., Detwiler, R. L., Ameli, P. (2015). Will a caprock fracture self heal? *Earth and Planetary Science Letters*, 417, 99-106. (doi: 10.1016/j.epsl.2015.02.010).

Medina, R., Elkhouri, J. E., Morris, J. P., Prioul, R., Desroches, J., Detwiler, R. L. (2015). Flow of concentrated suspensions through fractures: small variations in solid concentration cause

significant in-plane velocity variations. *Geofluids*, 15(1-2), 24–36. 1468-8123. doi: 10.1111/gfl.12109.

Lochbühler, T., Breen, S. J., Detwiler, R. L., Vrugt, J. A., Linde, N. (2014). Probabilistic electrical resistivity tomography of a CO₂ sequestration analog. *Journal of Applied Geophysics*, 107, 80 - 92. 0926-9851. (doi: 10.1016/j.jappgeo.2014.05.013).

Ameli, P., Elkhouri, J., Morris, J., Detwiler, R. L. (2014). Fracture Permeability Alteration due to Chemical and Mechanical Processes: A Coupled High-Resolution Model. *Rock Mechanics and Rock Engineering*, 47, 1563-1573. Springer Vienna. (doi: 0.1007/s00603-014-0575-z).

Ameli, P., Elkhouri, J. E., Detwiler, R. L. (2013). High-resolution fracture aperture mapping using optical profilometry. *Water Resources Research*, 49(10), 7126-7132. (doi: 10.1002/wrcr.20501).

Elkhouri, J. E., Ameli, P, and Detwiler R.L., (2013). Dissolution and deformation in fractured carbonates caused by flow of CO₂-rich brine under reservoir conditions. *International Journal of Greenhouse Gas Control*, (doi: 10.1016/j.ijggc.2013.02.023).

Yang, Z., Niemi, A., Fagerlund, F., Illangasekare, T., and Detwiler, R. L. (2013), Dissolution of dense non-aqueous phase liquids in vertical fractures: effect of finger residuals and dead-end pools, *Journal of Contaminant Hydrology*, (doi:10.1016/j.jconhyd.2013.03.006).

Zafarani, A. and Detwiler, R. L. (2013). An efficient time-domain approach for simulating Pe-dependent transport through fracture intersections. *Advances in Water Resources*. (doi:10.1016/j.advwatres.2012.11.011).

Breen, S. J., Carrigan, C. R., LaBrecque, D. J., Detwiler, R. L. (2012). Bench-scale experiments to evaluate electrical resistivity tomography as a monitoring tool for geologic CO₂ sequestration. *International Journal of Greenhouse Gas Control*.

Morris, J. P., Detwiler, R. L., Friedmann, J. J., Vorobiev, O. Y., Hao, Y. (2011). The large-scale geomechanical and hydrological effects of multiple CO₂ injection sites on formation stability. *International Journal of Greenhouse Gas Control*, 5, 69-74. (doi:10.1016/j.ijggc.2010.07.006).

Shin, H.-M., Vieira, V. M., Barry, R. P., Detwiler, R. L., Sanders, B. F., Steenland, K., Bartell, S. M. (2011). Environmental Fate and Transport Modeling for Perfluorooctanoic Acid Emitted from the Washington Works Facility in West Virginia. *Environmental Science and Technology*, 45, 1435-1442. (doi.org/10.1021/es102769t).

Detwiler, R. L. (2010). Permeability alteration due to mineral dissolution in partially saturated fractures. *Journal of Geophysical Research - Solid Earth*, 115, B09210. (doi:10.1029/2009JB007206).

Sanders, B. F., Schubert, J. E., Detwiler, R. L. (2010). ParBreZo: A parallel, unstructured grid, Godunov-type, shallow-water code for high-resolution flood inundation modeling at the regional scale. *Advances in Water Resources*, 33, 1456-1467. (doi:10.1016/j.advwatres.2010.07.007).

Detwiler, R. L., Rajaram, H., Glass, R. J. (2009). Interphase mass transfer in variable aperture fractures: Controlling parameters and proposed constitutive relationships. *Water Resources Research*, 45, W08436. (doi:10.1029/2008WR007009).

Detwiler, R. L. (2008). Experimental observations of coupled geochemical alteration and mechanical deformation in rough-walled fractures. *Journal of Geophysical Research - Solid Earth*, 113, B08202. (doi:10.1029/2008JB005697).

Detwiler, R. L., Rajaram, H. (2007). Predicting dissolution patterns in variable aperture fractures: Evaluation of an enhanced depth-averaged computational model. *Water Resources Research*, 43, W04403. (doi:10.1029/2006WR005147).

Detwiler, R. L., Rajaram, H., Glass, R. J. (2005). Saturated relative permeability of variable-aperture fractures. *Physical Review E*, 71, 031114. (doi:10.1103/PhysRevE.71.031114).

Glass, R. J., Rajaram, H., Detwiler, R. L. (2003). Immiscible displacements in rough-walled fractures: Competition between roughening by random aperture variations and smoothing by in-plane curvature. *Physical Review E*, 68, 061110. (doi:10.1103/PhysRevE.68.061110).

Detwiler, R. L., Glass, R. J., Bourcier, W. L. (2003). Experimental observations of fracture dissolution: The role of Peclet number on evolving aperture variability. *Geophysical Research Letters*, 30(12), 1648. (doi:10.1029/2003GL017396).

Detwiler, R. L., Mehl, S., Rajaram, H., Cheung, W. W. (2002). Comparison of an algebraic multigrid algorithm to two iterative solvers used for modeling ground water flow and transport. *Ground Water*, 40(3), 267-272.

Detwiler, R. L., Rajaram, H., Glass, R. J. (2002). Experimental and simulated solute transport in a partially-saturated, variable-aperture fracture. *Geophysical Research Letters*, 29(8). (doi:10.1029/2001GL013508).

Detwiler, R. L., Rajaram, H., Glass, R. J. (2001). Nonaqueous-phase-liquid dissolution in variable-aperture fractures: Development of a depth-averaged computational model with comparison to a physical experiment. *Water Resources Research*, 37(12), 3115–3129.

Nicholl, M. J., Detwiler, R. L. (2001). Simulation of flow and transport in a single fracture: Macroscopic effects of underestimating local head loss. *Geophysical Research Letters*, 22(23), 4355-4358.

Glass, R. J., Rajaram, H., Nicholl, M. J., Detwiler, R. L. (2001). The interaction of two fluid phases in fractured media. *Current Opinion in Colloid & Interface Science*, 6, 223-235.

Detwiler, R. L., Rajaram, H., Glass, R. J. (2000). Solute transport in variable-aperture fractures: An investigation of the relative importance of Taylor dispersion and macrodispersion. *Water Resources Research*, 36(7), 1611–1625.

Nicholl, M. J., Rajaram, H., Glass, R. J., Detwiler, R. L. (1999). Saturated flow in a single fracture: Evaluation of the Reynolds equation in measured aperture fields. *Water Resources Research*, 35(11), 3361-3373.

Detwiler, R. L., Pringle, S. E., Glass, R. J. (1999). Measurement of fracture aperture fields using transmitted light: An evaluation of measurement errors and their influence on simulations of flow and transport through a single fracture. *Water Resources Research*, 35(9), 2605–2617.

Book Chapters, Peer-Reviewed

Detwiler, R. L. and J. P. Morris (2019). Fracture, initiation, propagation, and permeability evolution. In *Geological Carbon Storage: Subsurface Seals and Caprock Integrity*, Geophysical Monograph 238, First Edition. Edited by S. Vialle, J. Ajo-Franklin, and J.W. Carey, American Geophysical Union.

Medina, R., J. E. Elkhouri, J. P. Morris, R. Prioul, J. Desroches, and R. L. Detwiler (2017). Flow of concentrated suspensions through fractures: small variations in solid concentration cause significant in-plane velocity variations. In *Crustal Permeability*, Ed. T. Gleeson and S. E. Ingerbritsen, John Wiley & Sons Ltd.

Conference/Workshop/Symposium Proceedings, Peer-Reviewed

Ricardo, M., Detwiler, R. L., Prioul, R., Xu, W., Ortega, A. (2016). Effect of confining stress on sand-fiber proppant placement in a deformable fracture [Conference]. 50th U.S. Rock Mechanics Geomechanics Symposium.

Ricardo, M., Detwiler, R. L., Prioul, R., Morris, J. P., Desroches, J., Ortega, A. (2015). Flow of high solid volume fraction fluids through fractures and around obstructions. 49th U.S. Rock Mechanics Geomechanics Symposium.

Jones, T., Detwiler, R. L. (2015). Fracture aperture alteration induced by calcite precipitation. 49th U.S. Rock Mechanics Geomechanics Symposium.

Ricardo, M., Elkhouri, J., Detwiler, R. L., Morris, J. P., Prioul, R., Desroches, J. (2014). Flow of dense suspensions through fractures: Experimental and computational observation of velocity-field heterogeneity. *48th U.S. Rock Mechanics Geomechanics Symposium*.

Detwiler, R. L., Morris, J. P. (2014). Transmissivity anisotropy in rough-walled fractures: The combined influence of shear offset and normal deformation. *48th U.S. Rock Mechanics Geomechanics Symposium*.

Ameli, P., Elkhouri, J. E., Detwiler, R. L., Morris, J. P. (2013). Micro-scale simulation of fracture alteration caused by coupled chemical and mechanical processes [Conference]. 47th U.S. Rock Mechanics Geomechanics Symposium.

Bruno, M. S., Serajian, V., Lao, K., White, A., Elkhouri, J., Detwiler, R. L. et al. (2012). Advanced Horizontal Well Recirculation Systems for Geothermal Energy Recovery in Sedimentary Formations. *Geothermal Resources Council Annual Meeting*.

Ozyurtkan, M. H., Detwiler, R. L., Radonjic, M. (2012). Image-based evaluation of the effect of CO₂-rich brine on the pre-existing fracture system within wellbore cement under dynamic flow-through conditions. *46th U.S. Rock Mechanics Geomechanics Symposium*.

Morris, J. P., Detwiler, R. L., Friedmann, J. J., Vorobiev, O. Y., Hao, Y. (2008). The large-scale effects of multiple CO₂ injection sites on formation stability. *9th International Conference on Greenhouse Gas Control Technologies*, Washington, DC.

Detwiler et al. (2008). Measuring coupled geochemical alteration and geomechanical deformation in discrete variable-aperture fractures. *42nd U.S. Rock Mechanics Symposium*, San Francisco, California.

Carlson et al. (2006). Rapid fluid flow experiments in desert peak quartz monzonite. *Geothermal Resources Council Annual Meeting*.

Carlson et al. (2005). Fracture permeability evolution in desert peak quartz monzonite. *Geothermal Resources Council Annual Meeting*.

Viani et al. (2005). Simulating injectate/rock chemical interaction in fracture desert peak quartz monzonite. *Geothermal Resources Council Annual Meeting*.

Carlson et al. (2004). Fracture permeability evolution in rock from the Desert Peak EGS site. *Geothermal Resources Council Annual Meeting*.

Halleck, P. M., Karacan, C. O., Hardesty, J. T., Detwiler, R. L. (2004). Changes in Perforation-Induced Formation Damage With Degree of Underbalance: Comparison of Sandstone and Limestone Formations. *SPE International Symposium and Exhibition on Formation Damage Control*, (pp. SPE 86541). Lafayette, Louisiana.

Detwiler, R. L., Morris, J. P., Karacan, C. O., Halleck, P. M., Hardesty, J. T. (2004). Evaluation of the Relative Importance of Parameters Influencing Perforation Cleanup. *SPE International Symposium and Exhibition on Formation Damage Control*, (pp. SPE 86538). Lafayette, Louisiana.

Roberts, J. J., Detwiler, R. L., Ralph, W., Bonner, B. P. (2002). Fracture surface area effects on fluid extraction and the electrical resistivity of geothermal reservoir rocks. *Geothermal Resources Council Annual Meeting*.

Conference/Workshop/Symposium Proceedings, Other

Detwiler, R. L., Roberts, J. J., Ralph, W., Bonner, B. P. (2003). Modeling fluid flow and electrical resistivity in fractured geothermal reservoir rocks. *28th Annual Workshop on Geothermal Reservoir Engineering*, Stanford, California.

Detwiler, R. L., Glass, R. J., Rajaram, H., Nicholl, M. J. (2002). Saturated relative permeability of variable-aperture fractures. *International Groundwater Symposium*.

Detwiler, R. L., Rajaram, H., Glass, R. J. (2001). Dissolution of entrapped nonaqueous phase liquids

from variable aperture fractures: Comparison of high-resolution computational simulations to a physical experiment. *Fractured Rock 2001*.

Technical Reports

Detwiler, R. L., Elkhouri, J. E., Ameli, P. *Characterization of reactive transport of CO₂-rich fluids in fractured carbonate reservoirs: Experimental results and numerical simulations of fracture alteration caused by reactive fluid flow and mechanical deformation*. Petroleum Technology Research Centre. Regina, Saskatchewan.

Pawloski et al. (2008). *Evaluation of Hydrologic Source Term Processes for Underground Nuclear Tests in Yucca Flat, Nevada Test Site: Introduction and Executive Summary* (LLNL-TR-403428). 84. Lawrence Livermore National Laboratory.

Tompson et al. (2008). *Evaluation of Hydrologic Source Term Processes for Underground Nuclear Tests in Yucca Flat, Nevada Test Site: Saturated Tests* (LLNL-TR-403429). 127. Lawrence Livermore National Laboratory.

Presentations

Invited Presentations

Detwiler, R. L. and Jones, T. A., Mineral precipitation in fractured rock: The role of heterogeneity on evolving transport properties, Mult-scale Materials Under the Nanoscope, Annual Workshop of GDRI-M₂UN, Georgetown University, Washington D.C., December 3-5, 2018 (invited).

Detwiler, R. L. and T.A. Jones, "Mineral precipitation in fractures: The role of aperture and mineral heterogeneity on the evolution of transport properties", Nanjing University, Nanjing, China. (October 28, 2018).

Detwiler, R. L., "Alteration of fractured rock by coupled chemical and mechanical processes: Challenges to effective geologic carbon sequestration", China University of Geosciences, Wuhan, China. (October 25, 2018).

Detwiler, R. L., "Challenges associated with subsurface fluid injection: Quantifying the influence of coupled geochemical and geomechanical alteration of fractured rocks", State Key Laboratory of Water Resources and Hydropower Engineering Science, Wuhan University, Wuhan, China. (October 22, 2018).

Jones, T., R. L. Detwiler, "Fracture sealing caused by mineral precipitation: The role of aperture and mineral heterogeneity on precipitation-induced permeability loss", American Geophysical Union Fall Meeting, New Orleans, Louisiana. (December 11, 2016 – December 15, 2017).

Detwiler, R. L., "Coupled mechanical and geochemical alteration: The role of mineral heterogeneity on evolving fracture permeability", American Geophysical Union Fall Meeting, San Francisco, California. (December 12, 2016 – December 16, 2016).

Detwiler, R. L., "Modeling flow and reactive transport in fractured media", Enzo Levi School, Fluid Dynamic Division of the Mexican Physical Society, Mexico City, Mexico. (May 17, 2016 – May 18, 2016).

Detwiler, R. L., J. Elkhouri, P. Ameli, T. Jones, "Alteration of fracture permeability by coupled chemical and mechanical processes: Challenges to effective geologic carbon sequestration", Enzo Levi School, Fluid Dynamic Division of the Mexican Physical Society, Mexico City, Mexico. (May 17, 2016 – May 18, 2016).

Detwiler, R. L., J. Elkhouri, P. Ameli, T. Jones, "Reactive alteration of fractured rock: Can a fractured caprock self-heal", Van Tuyl Lecture Series, Colorado School of Mines, Golden, Colorado. (October 1, 2015).

Detwiler, R. L., A. Zafarani, M. Brutz, H. Rajaram, A. Chaudhuri, "Scale-Dependent Fracture-Matrix Interactions and Their Impact on Radionuclide Transport", Annual Subsurface Biogeochemical Research PI Workshop, US Department of Energy, Office of Science, Potomac, Maryland. (May 13, 2013 - May 15, 2013).

Detwiler, R. L., "Laboratory measurement of permeability alteration under reservoir conditions: Implications for field-scale systems", Induced Seismicity Consortium Semi-Annual Review, University of Southern California, Los Angeles. (July 23, 2015 - July 24, 2015).

Detwiler, R. L., Elkhouri, J. E., and Ameli, P., American Geophysical Union Fall Meeting, "Coupled chemical alteration and mechanical deformation in fractures: Insights from laboratory-scale imaging", San Francisco, California. (December 3, 2012 – December 7, 2012)

Detwiler, R. L., Elkhouri, J., Ameli, P., Gordon Research Conference on Feedback Processes in Rock Deformation, "Deformation caused by mineral dissolution in fractures: Insights from physical experiments and a path towards predictive models", Proctor Academy, Andover, New Hampshire. (August 19, 2012 – August 24, 2012).

Detwiler, R. L., Elkhouri, J., Ameli, P., Geochemical Dynamics Symposium, "Quantifying coupled chemical-mechanical alteration of fractured rocks," US Department of Energy, Office of Basic Energy Sciences, Gaithersburg, Maryland. (September 7, 2011 - September 9, 2011).

Detwiler, R. L., Rajaram, H., Zafarani, A., Chaudhuri, A., Brutz, M., Annual Subsurface Biogeochemical Research PI Workshop, "Scale-Dependent Fracture-Matrix Interactions and Their Impact on Radionuclide Transport," US Department of Energy, Office of Science, Lansdowne, Virginia. (April 26, 2011 - April 28, 2011).

Detwiler, R. L., Elkhouri, J., Ameli, P., PRISM-7: IEA GHG Weyburn-Midale CO₂ Monitoring and Storage Project, "Characterization of reactive transport of CO₂-rich fluids in fractured carbonate reservoirs," Petroleum Technology Research Centre, Calgary, Alberta. (November 30, 2010 - December 2, 2010).

Detwiler, R. L., Gordon Research Conference on Flow and Transport in Permeable Media, "Beyond the pore scale: Imaging reactive transport in fractures to identify emergent behavior," Bates College, Lewiston, Maine. (July 11, 2010 - July 16, 2010).

Detwiler, R. L., Thomas, J. M., PRISM-6: IEA GHG Weyburn-Midale CO₂ Monitoring and Storage Project, "Characterization of reactive transport of CO₂-rich fluids in fractured carbonate reservoirs," Petroleum Technology Research Centre, Saskatoon, Saskatchewan. (June 22, 2010 - June 24, 2010).

Detwiler, R. L., "Fracture alteration caused by mineral dissolution: High-resolution experiments and simulations," Institute of Geophysics and Planetary Physics Seminar Series, UC Santa Cruz. (May 21, 2010).

Detwiler, R. L., Rajaram, H., Annual Subsurface Biogeochemical Research PI Workshop, "Scale-Dependent Fracture-Matrix Interactions and Their Impact on Radionuclide Transport," US Department of Energy, Office of Science, Lansdowne, Virginia. (April 20, 2010 - April 23, 2010).

Detwiler, R. L., Rajaram, H., Annual Subsurface Biogeochemical Research PI Workshop, "Scale-Dependent Fracture-Matrix Interactions and Their Impact on Radionuclide Transport," US Department of Energy, Office of Science, Washington, DC. (March 29, 2010 - March 31, 2010).

Detwiler, R. L., Geophysics and Subsurface Fluid Flow Symposium, "Permeability Alteration Due to Mineral Dissolution in Partially-Saturated Fractures," US Department of Energy, Office of Basic Energy Sciences, Gaithersburg, Maryland. (March 11, 2010 - March 12, 2010).

Detwiler, R. L., PRISM-5: IEA GHG Weyburn-Midale CO₂ Monitoring and Storage Project, "Characterization of reactive transport of CO₂-rich fluids in fractured carbonate reservoirs," Petroleum Technology Research Centre, Ottawa, Ontario. (January 6, 2010 - January 8, 2010).

Detwiler, R. L., Elkhouri, J., Ameli, P., Computational and Numerical Geosciences Symposium, "Reactive transport and aperture alteration in single fracture and discrete fracture networks," US Department of Energy, Office of Basic Energy Sciences, Gaithersburg, Maryland. (May 3, 2007 - May 4, 2007).

Detwiler, R. L., Ezzedine, S., Rajaram, H., Symposium on Flow and Transport: Characterization and Modeling from Pore to Reservoir Scale, "Dissolution of single fractures: The role of aperture variability and reactive fluid flow on permeability evolution," US Department of Energy, Office of Basic Energy Sciences, Gaithersburg, Maryland. (September 24, 2004 - September 25, 2004).

Durham, W., Detwiler, R. L., Bourcier, W., Burton, E., Multiscale Reservoir Symposium, "Reactive transport of CO₂-rich fluids and precipitation and dissolution in rock fractures," US Department of Energy, Office of Basic Energy Sciences, Berkeley, California. (December 2001).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Spring Meeting, "An investigation of factors controlling NAPL dissolution in rough-walled fractures," Boston, Massachusetts. (May 29, 2001 - June 2, 2001).

Detwiler, R. L., Rajaram, H., Glass, R. J., Division of Environmental Science and Engineering, "Development of an effective computational model of nonaqueous-phase-liquid dissolution (NAPL) in rough-walled fractures," Colorado School of Mines, Golden, Colorado. (January 2001).

Detwiler, R. L., Rajaram, H., Glass, R. J., Centre for Water Research, "Dissolution of non-aqueous phase liquids from variable aperture fractures," University of Western Australia, Perth, Australia. (June 2000).

Detwiler, R. L., Rajaram, H., Glass, R. J., Applied Mathematics Department, "Solute transport in variable-aperture fractures: An investigation of the relative importance of Taylor dispersion and macrodispersion," University of Colorado, Boulder, Colorado. (April 1999).

Contributed Presentations

Detwiler, R. L. and Jones, T. A., The role of mineral heterogeneity on precipitation and evolving transport properties, American Geophysical Union Fall Meeting, San Francisco, California. (December 9, 2019 – December 13, 2019).

Detwiler, R. L., M. A. Colyar, and T. Gallien, The role of wave setup and overtopping on near-coastal groundwater flow, American Geophysical Union Fall Meeting, Washington, D. C. (December 10, 2016 - December 14, 2018).

Detwiler, R. L. and T. A. Jones, Mineral precipitation in fractures: Relative length-scales of aperture and mineral heterogeneity control transport-property evolution, American Geophysical Union Fall Meeting, Washington, D. C. (December 10, 2016 - December 14, 2018).

Detwiler, R. L., T. Jones, "Mineral precipitation in fractures: The role of aperture and mineral heterogeneity on the evolution of transport properties", InterPore 10th Annual Meeting and Jubilee, New Orleans, Louisiana. (May 14, 2018 – May 17, 2018).

Azizian, M., F. Boano, P. Cook, R. L. Detwiler, M. Rippy, S. B. Grant, "Groundwater flow diminishes nitrate processing in the hyporheic zone of streams" EGU General Assembly. (April 4, 2018 – April 13, 2018).

Azizian, M., S. B. Grant, M. Rippy, R. L. Detwiler, F. Boano, P. Cook, "Ambient groundwater flow diminishes nitrogen cycling in streams", American Geophysical Union Fall Meeting, New Orleans, Louisiana. (December 11, 2017 – December 15, 2017).

Rajaram, H., A. Chaudhuri, R. L. Detwiler, "Reactive Alteration of Rough-Walled Fractures in Gradient and Kinetic Regimes with Applications", InterPore 10th Annual Meeting and Jubilee, New Orleans, Louisiana. (May 14, 2018 – May 17, 2018).

Medina, R., R. L. Detwiler, R. Prioul, W. Xu, A. Ortega, "Fiber-laden proppant placement in a deformable fracture: Influence of fracture-surface roughness", American Geophysical Union Fall Meeting, San Francisco, California. (December 12, 2016 – December 16, 2016).

Jones, T., R. L. Detwiler, "Predicting mineral precipitation in fractures: The influence of local heterogeneity on the feedback between precipitation and permeability", American Geophysical Union Fall Meeting, San Francisco, California. (December 12, 2016 – December 16, 2016).

Jones, T., R. L. Detwiler, "Experimental Observations of Calcite Precipitation in Fractures: The Role of Physical and Chemical Heterogeneity on the Persistence of Preferential Flow Paths", American Geophysical Union Fall Meeting, San Francisco, California. (December 14, 2015 – December 18, 2015).

Yeo, I-W., S. Lee, K. Lee, R. L. Detwiler, "Growing eddies reduce tailing in rough-walled fracture", American Geophysical Union Fall Meeting, San Francisco, California. (December 14, 2015 – December 18, 2015).

Medina, R., R. L. Detwiler, R. Prioul, W. Xu, A. Ortega, "Proppant distribution in a fracture subjected to normal stress", American Geophysical Union Fall Meeting, San Francisco, California. (December 14, 2015 – December 18, 2015).

Medina, R., J. Morris, R. Prioul, J. Desroches, R. L. Detwiler, "Flow of concentrated suspensions through fractures: Significant in-plane velocity variations caused by small variations in solid concentration", American Geophysical Union Fall Meeting, San Francisco, California. (December 15, 2014 - December 19, 2014).

Wang, J., R. Bras, R. L. Detwiler, T. Illangasekare, T. Sakaki, "A Non-classical Hydrostatic Equation for Unsaturated Porous Media", American Geophysical Union Fall Meeting, San Francisco, California. With (December 9, 2013 - December 13, 2013).

Elkhouri, J., P. Ameli, R. L. Detwiler, "Chemical and Mechanical Alteration of Fractured Caprock Under Reactive Flow", American Geophysical Union Fall Meeting, San Francisco, California. (December 9, 2013 - December 13, 2013).

Medina, R., J. Elkhouri, L. Shannon, J. Morris, R. Prioul, J. Desroches, R. L. Detwiler, "Flow and Geometry Control the Onset of Jamming in Fractures with High Solid-Fraction Fluids", American Geophysical Union Fall Meeting, San Francisco, California. With (December 9, 2013 - December 13, 2013).

Jones, T., R. L. Detwiler, "Fracture-aperture alteration induced by calcite precipitation", American Geophysical Union Fall Meeting, San Francisco, California. With (December 9, 2013 - December 13, 2013).

Arshadi, M., H. Rajaram, R. L. Detwiler, T. Jones, "High-Resolution Experiments on chemical oxidation of DNAPL in variable-aperture fractures: Delineation of three time regimes", American Geophysical Union Fall Meeting, San Francisco, California. With (December 9, 2013 - December 13, 2013).

Breen, S., T. Lochbuehler, R. L. Detwiler, N. Linde, "Probabilistic inversion of electrical resistivity data from bench-scale experiments: On model parameterization for CO₂ sequestration monitoring", American Geophysical Union Fall Meeting, San Francisco, California. With (December 9, 2013 - December 13, 2013).

Elkhouri, J., Detwiler, R. L., P. Ameli, "Evolution of fractured anhydrite under chemical and mechanical alteration", Association of Environmental Engineering and Science Professors, Golden, Colorado. (July 14, 2013 - July 16, 2013).

Detwiler, R. L., P. Ameli, J. Elkhouri, "Microscale simulation of fracture permeability evolution caused by coupled chemical and mechanical processes", Association of Environmental Engineering and Science Professors, Golden, Colorado. (July 14, 2013 - July 16, 2013).

Elkhouri, J. E., Detwiler, R. L., Serajian, V., and Bruno, M. S., American Geophysical Union Fall Meeting, "Recirculation System for Geothermal Energy Recovery in Sedimentary Formations: Laboratory Experiments and Numerical Simulations", San Francisco, California. (December 3, 2012 – December 7, 2012)

Ameli, P, Detwiler, R. L., Elkhouri, J. E., and Morris, J. P., American Geophysical Union Fall Meeting, "Chemical and Mechanical Alteration of Fractures: Micro-Scale Simulations and Comparison to Experimental Results", San Francisco, California. (December 3, 2012 – December 7, 2012)

Breen, S. J., Detwiler, R. L., and Carrigan, C. R., American Geophysical Union Fall Meeting, "Analysis of Lab-Scale Drainage and Imbibition Experiments with ERT and High Resolution CCD Imaging", San Francisco, California. (December 3, 2012 – December 7, 2012)

Zafarani, A. and Detwiler, R. L., American Geophysical Union Fall Meeting, "Solute Transport in Three-Dimensional Variable-Aperture Discrete Fracture Networks", San Francisco, California. (December 3, 2012 – December 7, 2012)

Breen, S. J., Detwiler, R. L., Carrigan, C. R., American Geophysical Union Fall Meeting, "Bench-Scale Experiments to Evaluate ERT as a Monitoring Tool for Geologic CO₂ Sequestration," San Francisco, California. (December 13, 2010 - December 17, 2010).

Ameli, P., Detwiler, R. L., American Geophysical Union Fall Meeting, "Micromechanical modeling of the normal deformation of rough-walled fractures: The influence of local damage events on macroscopic properties," San Francisco, California. (December 13, 2010 - December 17, 2010).

Detwiler, R. L., Zafarani, A., Engineering Mechanics Institute 2010, "Numerical modeling of solute transport at fracture intersections," University of Southern California, Los Angeles, California. (August 8, 2010 - August 11, 2010).

Detwiler, R. L., Renani, P., Engineering Mechanics Institute 2010, "Numerical modeling of the deformation of rough-walled fractures due to normal stress," University of Southern California, Los Angeles, California. (August 8, 2010 - August 11, 2010).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "CO₂ Dissolution in Variable Aperture Fractures: Controlling Parameters and Proposed Constitutive Relationships," San Francisco, California. (December 14, 2009 - December 18, 2009).

Shin, H.-M., Bartell, S. M., Vieira, V. M., Detwiler, R. L., Steenland, K., Ryan, P. B. (Presenter), International Society for Environmental Epidemiology Annual Conference, "Retrospective Exposure Estimation for Perflurooctanoic Acid in Eastern Ohio and Western West Virginia," Dublin, Ireland. (August 25, 2009 - August 29, 2009).

Detwiler, R. L., American Geophysical Union Fall Meeting, "Flow of a reactive fluid through partially saturated fractures: Experimental observations of the influence of entrapped phase geometry on evolving flow channels," San Francisco, California. (December 15, 2008 - December 19, 2008).

Detwiler, R. L., Fisher, S., American Geophysical Union Fall Meeting, "Experimental observations of coupled geochemical alteration and geomechanical deformation of discrete variable-aperture fractures," San Francisco, California. (December 10, 2007 - December 14, 2007).

Roberts, J. J., Harben, P., Detwiler, R. L., Sweeney, J., Carlson, S. R., 27th Oil Shale Symposium, "Early-phase in-situ RF heating of oil shale: Issues and modeling," Colorado School of Mines Colorado Energy Research Institute, Golden, Colorado. (October 15, 2007 - October 19, 2007).

Detwiler, R. L., Ezzedine, S. M., Rajaram, H., SIAM Conference on Mathematical and Computational Issues in the Geosciences, "Reactive transport and aperture alteration in single fracture and discrete fracture networks," Santa Fe, New Mexico. (March 18, 2007 - March 22, 2007).

Ezzedine, S. M., Detwiler, R. L., McNab, W. W., SIAM Conference on Mathematical and Computational Issues in the Geosciences, "Upscaling DNAPL dissolution mass transfer in porous media," Santa Fe, New Mexico. (March 18, 2007 - March 22, 2007).

Detwiler, R. L., Morris, J. P., Souheil, E., American Geophysical Union Fall Meeting, "Coupling micromechanics and fluid flow through discrete fracture networks: Quantifying effective permeability under variable stress conditions," San Francisco, California. (December 11, 2006 - December 15, 2006).

Souheil, E., Detwiler, R. L., McNab, W. W., American Geophysical Union Fall Meeting, "Dissolution under permanganate oxidation in a single fracture," San Francisco, California. (December 11, 2006 - December 15, 2006).

Danica, D. E., Wang, H. F., Strand, T. E., Detwiler, R. L., Glass, R. J., American Geophysical Union Fall Meeting, "Pore size distributions inferred from modified inversion percolation modeling of drainage curves," San Francisco, California. (December 11, 2006 - December 15, 2006).

Detwiler, R. L., Souheil, E. M., McNab, W. W., International Groundwater Symposium on Groundwater Hydraulics, "Multiscale multiphase mass transfer in porous media: Integrated numerical and experimental studies," Toulouse, France. (June 12, 2006 - June 14, 2006).

Souheil, E., Detwiler, R. L., McNab, W. W., American Geophysical Union Fall Meeting, "An integrated numerical and experimental study of DNAPL dissolution and mass transfer in porous media," San Francisco, California. (December 5, 2005 - December 9, 2005).

Bliss, M., Rajaram, H., Detwiler, R. L., Glass, R. J., American Geophysical Union Fall Meeting, "Dispersion in saturated and partially saturated variable-aperture fractures," San Francisco, California. (December 5, 2005 - December 9, 2005).

Rajaram, H., Detwiler, R. L., Glass, R. J., American Geophysical Union Fall Meeting, "Dissolution of DNAPLs from variable aperture fractures: parametric simulations and a proposed fracture-scale model of mass-transfer rates," San Francisco, California. (December 5, 2005 - December 9, 2005).

Danica, D. E., Wang, H. F., Strand, T. E., Glass, R. J., Detwiler, R. L., American Geophysical Union Fall Meeting, "Pore size distributions inferred from modified inversion percolation modeling of drainage curves," San Francisco, California. (December 5, 2005 - December 9, 2005).

Detwiler, R. L., Souheil, E., Rajaram, H., Morris, J. P., American Geophysical Union Fall Meeting, "The role of small-scale aperture variability on the formation of large-scale dissolution channels in rough-walled fractures exposed to reactive fluid flow," San Francisco, California. (December 5, 2005 - December 9, 2005).

Detwiler, R. L., Rajaram, H., Cheung, W. W., American Geophysical Union Fall Meeting, "The role of Peclet number on the alteration of variable aperture fractures by dissolution: A comparison of physical experiments with computational simulations," San Francisco, California. (December 8, 2003 - December 12, 2003).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "An investigation of the parameters controlling interphase mass transfer in variable aperture fractures," San Francisco, California. (December 6, 2002 - December 10, 2002).

Nicholl, M. J., Detwiler, R. L., American Geophysical Union Fall Meeting, "Simulation of flow and transport in a single fracture using the Reynolds equation: macroscopic effects of underestimating local head loss," San Francisco, California. (December 6, 2002 - December 10, 2002).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "An experimental and computational investigation of solute transport in satiated variable-aperture fractures," San Francisco, California. (December 10, 2001 - December 14, 2001).

Detwiler, R. L., Rajaram, H., Glass, R. J., SIAM Conference on Mathematical and Computational Issues in the Geosciences, "Use of a depth-averaged computational model to simulate NAPL dissolution from a single variable aperture fracture," Boulder, Colorado. (June 12, 2001 - June 16, 2001).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "Dissolution of entrapped nonaqueous phase liquids from variable aperture fractures: Comparison of high-resolution computational simulations to a physical experiment," San Francisco, California. (December 15, 2000 - December 19, 2000).

Detwiler, R. L., Rajaram, H., Glass, R. J., Gordon Conference for Modeling Flow in Permeable Media, "Dissolution of entrapped nonaqueous phase liquids from variable aperture fractures: Comparison of high-resolution computational simulations to a physical experiment," Andover, New Hampshire. (August 6, 2000 - August 11, 2000).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "An investigation of the influence of fluid-fluid interface conditions on solute transport through partially saturated fractures," San Francisco, California. (December 13, 1999 - December 17, 1999).

Nicholl, M. J., Rajaram, H., Glass, R. J., Detwiler, R. L., American Geophysical Union Fall Meeting, "Saturated flow in a single fracture: Evaluation of the Reynolds equation in measured aperture fields," San Francisco, California. (December 6, 1998 - December 10, 1998).

Detwiler, R. L., Rajaram, H., Glass, R. J., Micromechanics and Flow Symposium, "Solute dispersion in partially saturated variable aperture fractures," US Department of Energy, Office of Basic Energy Sciences, Santa Fe, New Mexico. (August 1998).

Detwiler, R. L., Rajaram, H., Glass, R. J., Gordon Conference for Modeling Flow in Permeable Media, "Solute dispersion in partially saturated variable aperture fractures," Andover, New Hampshire. (August 2, 1998 - August 7, 1998).

Detwiler, R. L., Rajaram, H., Glass, R. J., American Geophysical Union Fall Meeting, "Experimental study of solute dispersion in a single variable aperture fracture," San Francisco, California. (December 8, 1997 - December 12, 1997).

Detwiler, R. L., Rajaram, H., Glass, R. J., 4th SIAM Conference on Mathematical and Computational Issues in the Geosciences, "Velocity dependence of dispersion coefficients in saturated and partially saturated flow through variable aperture fractures," Albuquerque, New Mexico. (June 16, 1997 - June 19, 1997).

Contracts, Grants and Sponsored Research

Cost Reimbursement Contract

Detwiler, Russell L (Principal Investigator), "Observation of Mobile Gouge Material in a Transparent Variable-Aperture Fracture", Schlumberger Limited, \$355,000.00. (October 1, 2012 – December 31, 2016).

Detwiler, Russell L (Principal Investigator), "Advanced Horizontal Well Recirculation Systems for Geothermal Energy Recovery in Sedimentary Formations," Terralog Technologies USA, Inc, \$102,556.00. (September 30, 2011 - December 31, 2012).

Detwiler, Russell L (Principal Investigator), "Characterization of Reactive Transport of CO2-rich Fluids in Fracture Carbonate Reservoirs," Petroleum Technology Research Centre Inc., \$241,000.00. (October 1, 2009 - March 31, 2011).

Detwiler, Russell L (Principal Investigator), "Spatial Distribution and Kinetics of Dechlorinating Bacteria in Fine Grained Sediments," UC Lawrence Livermore Natl Lab, \$47,679.00. (April 14, 2009 - September 30, 2009).

Grant

Detwiler, Russell L (Principal Investigator), Civil and Environmental Engineering GAANN, Department of Education, \$758,490 (October 1, 2021 - September 30, 2024).

Detwiler, Russell L (Co-Principal Investigator), Bartell, Scott (Principal Investigator), Vieira, Veronica (Co-Principal Investigator), "UCI PFAS Health Study", Centers for Disease Control and Prevention, \$5,450,000.00 (\$1,125,000.00 to Detwiler). (September 30, 2019 – September 29, 2024).

Detwiler, Russell L (Co-Principal Investigator), Rajaram, Harihar (Principal Investigator), "Scale-Dependent Fracture-Matrix Interactions and Their Impact on Radionuclide Transport," DOE - Dept of Energy, \$545,597.00 (\$306,485 to UCI). (September 15, 2008 - March 14, 2013).

Detwiler, Russell L (Principal Investigator), "Multiphase Fluid Flow in Deformable Variable-Aperture Fractures," DOE - Dept of Energy, \$382,339.00. (February 1, 2009 - January 31, 2012).

Detwiler, Russell L (Principal Investigator), "Multiphase Fluid Flow in Deformable Variable-Aperture Fractures," DOE - Dept of Energy, \$59,559.00. (February 1, 2009 - January 31, 2012).

Detwiler, Russell L (Co-Principal Investigator), Nillson, Mikael (Principal Investigator), Miller, George (Co-Principal Investigator), "Project Title:Meeting the Current and Future Needs of Nuclear Energy Science and Technology -Introduction of a Nuclear Energy Program at University of California, Irvine," DOE - Dept of Energy, \$294,272.00. (July 20, 2009 - July 14, 2010).

TEACHING

Postdoctoral Research Supervision

March 2021 - March 2023, Stephen Breen

October 2010 – September 2013, Jean Elkhoury, Supervisor

January 2010 - July 2010, Matthew Thomas, Supervisor

Doctoral Dissertation

Ali Zafarani, 2014, "High-resolution analyses of anomalous transport in large-scale variable-aperture discrete fracture networks", PhD Dissertation.

Pasha Ameli, 2013, "Alteration of fractured rocks due to coupled chemical and mechanical processes: High-resolution simulations and experimental observations", PhD Dissertation.

Ricardo Medina, 2018, "Experimental investigation of multi-component suspensions flowing and settling in analog fractures", PhD Dissertation.

Trevor Jones, 2019, "The role of mineral heterogeneity on precipitation-induced alteration of transport properties in rough-walled fractures", PhD Dissertation.

Derek Manheim, 2019, "The role of engineered biological filtration in the elimination of algal toxins from drinking water", PhD Dissertation.

Esther Cookson, current student, PhD candidate.

Nezahat Gulucuk Barlas, current student.

Master Thesis

Sixue Wang, 2017, "Reactive transport and mineral precipitation in variable-aperture fractures: Comparison of a full three-dimensional model to a depth-averaged two-dimensional model", MS Thesis.

Roohollah Fakhartousi, 2016, "Effect of Pore Pressure Oscillations on Fracture Permeability Enhancement", MS Thesis.

Maia Colyar, 2016, "The influence of tides, waves, and overtopping on the near-shore water table", MS Thesis.

Stephen Breen, 2013, "Analysis of electrical resistivity tomography with applications to geologic CO₂ sequestration", MS Thesis.

MS Research Supervision

March 2018 – present, Wanxin He

September 2016 – March 2017, Chengjin Sun

March 2013 - June 2015, Darrik Baker

Undergraduate Research Supervision

January 2018 – June 2018, Daniel Price

March 2017 – March 2018, Jefferson Rivas

January 2016 – March 2016, Ulises Martinez
March 2015 – June 2016, Oliver Saeby
October 2013 – December 2015, Katherine Lai
October 2014 - June 2015, Luke Vogel
January 2013 - June 2015, Bridget Eckhardt
March 2012 - June 2015, Elena Sy Su
January 2014 - June 2014, Michael Wang
January 2014 - June 2014, Yun Xin
March 2013 - June 2014, James Libby
March 2013 - June 2014, Nicholas Lowe
January 2013 - June 2013, Pablo Shah
June 2011 – June 2013, Trevor Jones
April 2011 – June 2012, Alice Hahn
April 2011 – June 2012, Cecilia Dominguez
April 2010 - June 2011, Steven Breen
June 2010 - June 2011, Kelvin Qiu
June 2009 - March 2011, Andrew Tsai
June 2010 - January 2011, Gustav Quinn
June 2009 - December 2010, Kevin Yu
April 2010 - August 2010, Tae Oh
March 2010 - June 2010, Francesca Draper
June 2009 - June 2010, Yukihiro Takasue
March 2009 - December 2009, Sheena Shokoohi
July 2009 - September 2009, Ashley Woods
July 2009 - September 2009, Josel Erfe
March 2009 - June 2009, Steven Banh

SERVICE

Professional Service

Water Resources Research, Associate Editor, Appointed, International. (January 1, 2014 - Present).

Rock Mechanics and Rock Engineering, Co-Editor. (July 2015 – November 2016).

Ad Hoc Reviewer, Appointed, International, Water Resources Research; Journal of Contaminant Hydrology; Advances in Water Resources; Vadose Zone Journal; Journal of Geophysical Research - Solid Earth; Geophysical Research Letters; Environmental Science and Technology; Transport in Porous Media; Journal of Environmental Engineering; Mathematical Geology; Soil Science Society of America Journal; Earth and Planetary Science; Environmental and Engineering Geoscience. (July 2000 - Present).

American Rock Mechanics Association - 49th U.S. Rock Mechanics Geomechanics Symposium, Organizer. (July 2014 - July 2015).

National Academies of Sciences, Engineering, and Medicine. 2015. Report: Characterization, Modeling, Monitoring, and Remediation of Fractured Rock. Washington, DC: The National Academic Press, Reviewer, Appointed, International. (February 9, 2015 - March 1, 2015).

US Department of Energy, Early Career Award Review Panel, Reviewer, Appointed, National. (January 2015).

Canadian Natural Science and Engineering Research Council Senior Industrial Research Chair in Groundwater Contamination in Fractured Media, Referee, Appointed, International. (October 1, 2013 - November 1, 2014).

Session at American Rock Mechanics 47th Annual Geomechanics Symposium: Transport and Coupled Processes in Fractures and Along Interfaces, Organizer, San Francisco, California, International, Organized and chaired session; coordinated and communicated reviews of papers. (June 23, 2013 - June 26, 2013).

US Department of Energy, Early Career Award Review Panel, Reviewer, Appointed, National. (January 2013).

American Geophysical Union, Hydrology Section Unsaturated Zone Committee, Chair, Elected, International. (December 2009 – December 2012).

Pacific Northwest National Laboratory, Environmental Molecular Sciences Laboratory External Review Panel, Reviewer, Appointed, National. (October 2009 – October 2011).

American Geophysical Union, Hydrology Section Unsaturated Zone Committee, Member, International. (December 2005 – December 2009).

Ad Hoc Reviewer, Appointed, International. (July 2000 - Present).

Session at Fall Meeting of American Geophysical Union - H12A, H13C: Geologic CO₂ Sequestration: Capillary and Solubility Trapping of Supercritical CO₂, Organizer, San Francisco, California, International. (December 13, 2010 - December 17, 2010).

Session at Fall Meeting of American Geophysical Union - H33E: Environmental Vadose Zone Hydrology Posters, Organizer, San Francisco, California, International. (December 13, 2010 - December 17, 2010).

US Department of Energy, Early Career Award Review Panel, Reviewer, Appointed, National. (November 2010).

US DOE, Idaho National Laboratory, External review panel, Reviewer, Idaho Falls, Idaho, USA, Appointed, National. (June 8, 2010 - June 9, 2010).

American Geophysical Union, Hydrology Section Unsaturated Zone Committee, Co-Chair, Elected, International. (December 2007 - December 2009).

Session at Fall Meeting of American Geophysical Union - H13E: Integrity of CO₂ Sequestration Reservoirs: Mechanics Controlling Subsurface Trapping of CO₂ and CO₂ Flow within Fractures, Faults and Wellbore Interfaces, Organizer, San Francisco, California, International. (December 14, 2009 - December 18, 2009).

Session at Fall Meeting of American Geophysical Union - H31D: Physical, Chemical, and Biological Processes Controlling NAPL Source Zone Remediation, Organizer, San Francisco, California, International. (December 15, 2008 - December 19, 2008).

Session at Fall Meeting of American Geophysical Union - H41F, H53I: Quantifying pore scale processes in the subsurface, Organizer, San Francisco, California, International. (December 15, 2008 - December 19, 2008).

Session at SIAM Conference on Computational Issues in the Geosciences - MS37: Modeling reactive alteration in porous and fractured media, Organizer, Santa Fe, New Mexico, International. (March 18, 2007 - March 22, 2007).

US Department of Energy, Basic Energy Sciences workshop on Basic Research Needs for the Geosciences: Facilitating 21st Century Energy Systems, Panelist, Bethesda, Maryland, Appointed, International, Published a report recommending research needs.. (February 21, 2007 - February 24, 2007).

US Department of Energy, Office of Advanced Scientific Computing Research workshop on Computational Subsurface Sciences Workshop, Panelist, Bethesda, Maryland, Appointed, International, Published a report recommending research needs.. (January 9, 2007 - January 12, 2007).

Session at Fall Meeting of American Geophysical Union - H11C, H23G, H24A: Migration, degradation, remediation and down gradient effects of DNAPL source zones, Organizer, San Francisco, California, International. (December 11, 2006 - December 15, 2006).

Session at Fall Meeting of American Geophysical Union - H21H, H22A, H23A: Advances in characterizing and remediating nonaqueous phase liquid source zones: From pore scale to field scale, Organizer, San Francisco, California, International. (December 5, 2005 - December 9, 2005).

Session at SIAM Conference on Computational Issues in the Geosciences - MS16: Microscale modeling of dissolution in porous and fractured media, Organizer, Boulder, Colorado, International. (June 12, 2001 - June 16, 2001).

Department Service

Chair, Graduate Affairs Committee. (October 2018 – present).

Advisor, Civil and Environmental Engineering Graduate Program. (October 2018 – present).

Chair, Search Committee for Environmental / Water Chemistry position. (October 2017 – April 2018).

Advisor, Environmental Engineering Graduate Program. (October 2015 – September 2018).

Lead Faculty, ABET - Environmental Engineering Program. (January 2009 – June 2015).

Advisor, American Academy of Environmental Engineers, Student Chapter. (May 2011 - Present).

Technical Advisor, Engineers Without Borders, Student Chapter. (January 2010 - Present).

Member, Undergraduate Affairs Committee. (September 2008 – June 2015).

Advisor, Environmental Engineering Undergraduate Program. (January 2009 - September 2011).

Member, Department Scholarship Committee. (September 2009 - June 2010).

School Service

Member, Executive Committee. (October 2016 – June 2020).
Member, Graduate Studies Committee. (October 2015 – present).
Chair, Graduate Studies Committee. (October 2019 – June 2020).
Member, School of Engineering Space Audit Committee. (January 2016 – April 2016).
Member, ABET Accreditation Committee. (October 2008 – June 2015).
Member, Undergraduate Studies Committee. (September 2008 - September 2011).
Member, Working Group on Space. (January 2009 - April 2009).

University Service

Member, Council on Research, Computing and Libraries. (October 2016 - June 2019).
Chair, Council on Research, Computing and Libraries, Subcommittee on Computing (January 2018 - June 2019).
Member, University Committee on Academic Computing and Communications. (January 2017 – June 2019).

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM V.A**

To: Board of Directors
From: Jim Markman, Legal Counsel
Samantha Adams, Executive Director
Date: April 15, 2024
Subject: Policy Regarding the Use of Best Available Science (Consideration of Approval)

Recommended Action **Provide Direction to Staff** **Information and Discussion**
 Fiscal Impact **Cost Estimate: \$0**

Recommended Action

Approve the enclosed *Policy Regarding the Use of Best Available Science*

Fiscal Impact: None.

Background and Previously Related Actions by the Board

Recently there has been a misunderstanding amongst the Board and stakeholders concerning the Watermaster's use of "Best Available Science" to manage the Basin. The topic has been discussed in a number of past Watermaster meetings, and the Board requested staff to agendize the topic at the March 14, 2024 meeting. At the March meeting, legal counsel and staff recommended the Watermaster adopt a policy statement as to how it will employ the concept of Best Available Science, including draft policy principals for consideration of approval. The outcome of the March meeting discussion was to direct staff to bring a revised policy to the Board for consideration of approval.

Discussion

Enclosed is a revised draft *Policy Regarding the Use of Best Available Science* that was updated based on feedback received during the March Board meeting. The Policy includes the following elements (1) a statement of the purpose of the policy; (2) background on how the Watermaster's guidance documents, including the Judgment and Rules & Regulations, provide for the use of Best Available Science; and (3) the Policy principals for employing Best Available Science.

Staff recommends approval of the enclosed Policy. Alternatively, the Board could direct further changes to the Policy prior to approval.

Enclosure

Draft Policy Regarding the Use of Best Available Science

BORREGO SPRINGS WATERMASTER

POLICY REGARDING THE USE OF BEST AVAILABLE SCIENCE

I. PURPOSE

This Policy delineates how the Borrego Springs Watermaster employs the concept of “best available science” when administering and enforcing the Judgment. Consistent with state law, “best available science” is a standard used in service of policy decisions made by the Watermaster to ensure the quality and relevance of the technical information and data that inform those choices. Compliance with this policy will ensure the efficient use of the Watermaster’s limited resources and that technical information and data will be evaluated in a manner that is impartial, and without favor or prejudice to any Pumper or Party.

II. BACKGROUND

Best Available Science Under SGMA. The concept of “best available science” as it applies to the Watermaster is derived from the Sustainable Groundwater Management Act (SGMA), in which the Legislature declared:

“It is the policy of the state that groundwater resources be managed sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses. Sustainable groundwater management is best achieved locally through the development, implementation, and updating of plans and programs based on ***the best available science.***” (Water Code § 113, emphasis added.)

“Best available science” in the SGMA context means:

“...the use of sufficient and credible information and data, ***specific to the decision being made and the time frame available for making that decision,*** that is consistent with scientific and engineering professional standards of practice.” (23 C.C.R. § 351, emphasis added.)

Use of Best of Available Science by the Watermaster. The Judgement provides for the perpetual management of the Basin consistent with the substantive objectives of SGMA, and requires the Watermaster to use and rely on the best available science when exercising its duties:

“The ***Watermaster shall use,*** among other available data, BVHM runs and ***best available records and data to support the implementation of this Judgment.*** Where actual records of data are not available, Watermaster shall rely on and use sound scientific and engineering estimates for the BVHM runs. Watermaster may use preliminary records of measurements, and, if revisions are subsequently made, Watermaster may reflect such revisions in subsequent accounting.” (Judgment § IV.E.9, emphasis added.)

The Rules and Regulations of the Borrego Springs Watermaster (Rules & Regs.) similarly provide:

“The Watermaster shall carry out its duties, powers, and responsibilities in an impartial manner without favor or prejudice to any Management Area, Party, or purpose of use. In carrying out its charge, the Watermaster shall as required segregate and separately exercise in all respects the Watermaster powers delegated by the Court under the Judgment. In exercising its powers and fulfilling its duties, ***the Watermaster shall rely on and use the best available science, records, and data to implement the Judgment*** and these Rules and Regulations, consistent with the provisions of Section IV.E(9) of the Judgment.” (Rules & Regs. § 2.6.1, emphasis added.)

Use of Best Available Science by the TAC. The Judgment established the Technical Advisory Committee (TAC) to advise the Watermaster on technical matters and charges the TAC with:

“...making recommendations ***based on best science*** and data collected regarding the Water Budget and the avoidance of Undesirable Result, determined by the TAC based on best available data, including without limitation information generated from BVHM model runs.” (Judgment § IV.G.2, emphasis added.)

The Rules and Regulations provide that the TAC is charged with making its recommendations “based on best science” regarding “the matters described in the Judgment and other matters as directed by the Watermaster.” (Rules & Regs. § 3.5.3.)

Regarding the TAC’s decision-making process, the Judgement states:

“The Technical Advisory Committee will endeavor to decide all matters by consensus. If consensus cannot be achieved, the Technical Advisory Committee will present a report to the Watermaster describing the differences of opinion and arguments in support thereof, with a draft of the report circulated for comment and input by all Technical Advisory Committee members prior to submission of the report to Watermaster.” (Judgment § IV.G.1.)

Use of Best Available Science by the Watermaster Staff. The Judgment also authorizes the Watermaster to employ consultants as technical advisors to advise the Watermaster and the TAC (Judgement § IV.C). This includes the Watermaster Technical Consultant, who may also serve as Executive Director and is required to rely on and use the best available science.

“In exercising its powers and fulfilling its duties, the Watermaster Technical Consultant shall rely on and ***use the best available science, records, and data to support the implementation of the Judgment and these Rules and Regulations.***” (Rules & Regs. § 4.2.1, emphasis added.)

...

“The Watermaster Technical Consultant shall rely on and ***use the best available science***, records, and data to support the implementation of the Judgment, including BVHM model runs. Where actual records of data are not available, the Watermaster Technical Consultant shall rely on and use sound scientific and engineering estimates. The Watermaster Technical Consultant may use preliminary records of measurements and, if revisions are subsequently made, may reflect such revisions in subsequent accounting.” (Rules & Regs. § 4.2.7, emphasis added.)

The Watermaster Technical Consultant and all other technical advisors must be independent of any Party to the Judgment.

“In order to avoid a potential conflict of interest, the Watermaster Technical Consultant (interim or otherwise) must be independent (not under contract with any Party) and selected by the Watermaster with input from the Technical Advisory Committee through an arms-length RFP process, unless otherwise agreed to by a Supermajority Vote of the Watermaster. ***Any technical advisor, attorney, executive director, or similar employee or contractor performing services that concern technical or policy matters must be independent (not under contract with any Party) and selected by the Watermaster*** (and if a technical advisor, following input from the Technical Advisory Committee) through an arms-length RFP process unless otherwise agreed by a Supermajority Vote. Any other Watermaster employee or contractor may be employed by, or under contract with a Party, provided that he or she abides by any relevant Court orders, Watermaster determines that the employee or contractor will not be issuing technical or policy recommendations to Watermaster, and the retention of the employee or contractor is appropriate to perform services to Watermaster in the most effective and cost-efficient manner.” (Judgment § IV.C.)

III. POLICY

1. All technical issues relevant to the Watermaster’s administration and enforcement of the Judgement must be resolved through the application of the best available science.
2. Consistent with SGMA, technical information and data shall constitute the “best available science” only if it is:
 - a. Relevant to the decision being made by the Watermaster;
 - b. Available to the Watermaster within a reasonable time of the Watermaster’s decision; and
 - c. Consistent with scientific and engineering professional standards of practice.

3. In the event any Party or member of the public requests the Watermaster to adopt a new policy based on technical information or data newly brought to the attention of the Watermaster, the Watermaster may direct the TAC, the Watermaster Technical Consultant, or both to conduct their own independent review of the information or data before considering the request.
4. Technical information and data need not be generated by the TAC or the Watermaster's Technical Consultant to constitute the best available science, but the Watermaster shall not rely on or use any technical information or data generated by or for a Party or member of the public without an independent review and recommendation from the TAC, the Watermaster's Technical Consultant, or both.
5. To ensure efficient use of the Watermaster's limited resources, neither the TAC nor the Watermaster Technical Consultant shall take up any technical matter unrelated to a decision previously made or under consideration by the Watermaster absent direction from the Watermaster.
6. If the TAC fails in a given case to reach a consensus regarding whether any technical information or data constitutes the best available science, the Watermaster shall be informed in writing of the nature and basis of the disagreement.
7. The Watermaster shall consider the recommendations of the TAC and the Watermaster's Technical Consultant regarding the use of any technical information and data, but the Watermaster shall exercise its own independent judgement as to whether such information and data constitutes the best available science.

APPROVED BY THE BORREGO SPRINGS WATERMASTER

Date: _____

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM V.B**

To: Board of Directors
From: Andy Malone, Technical Consultant
Date: April 15, 2024
Subject: Status Update on the Redetermination of Sustainable Yield

<input type="checkbox"/> Recommended Action	<input type="checkbox"/> Provide Direction to Staff	<input checked="" type="checkbox"/> Information and Discussion
<input type="checkbox"/> Fiscal Impact	<input type="checkbox"/> Cost Estimate: \$	

Recommended Action

Board discussion.

Fiscal Impact: None.

Background and Previously Related Actions by the Board

Section II.E of the Judgment requires the Sustainable Yield to be redetermined by January 1, 2025 through a process that includes: collecting additional data, refining the Borrego Valley Hydrologic Model (BVHM), and using model runs to update the Sustainable Yield. The Watermaster Board approved a scope of work and budget for water year (WY) 2023 and 2024 to update the BVHM and Redetermine the Sustainable Yield by 2025.¹ The scope of work includes the following tasks:

- Task 1 – Compare FMP-estimated Pumping to Actual Pumping for WY 2022
- Task 2 – Update Water-Use Factors in the FMP
- Task 3 – Correct Errors Identified in the 2021 BVHM
- Task 4 – Model Recalibration
- Task 5 – Determine the Sustainable Yield

At the January 8, 2024 Regular Board meeting, the Board requested monthly status updates on the efforts to redetermine the Sustainable Yield at each Regular Board meeting in 2024.

Status Update on the Effort to Redetermine the Sustainable Yield by 2025

To-date, West Yost has completed Tasks 1 through 3 of the scope of work and is currently executing Task 4 – *Model Recalibration*.

¹https://borregospringswatermaster.com/wp-content/uploads/2023/02/TAC-Recommendation-Report_SY-2023-24_final.pdf

The following work was performed in March 2024:

- Prepared summary materials on the initial steps to perform Task 4 – *Model Recalibration* and distributed to the TAC for review. The materials included:
 - A table of the historical water budget for the Basin over the period 1945-2022 that was generated from running the version of the BVHM to be calibrated (“BVHM prior to calibration”). The materials also included a table that compared the water budget generated from this BVHM version to prior versions, including the versions generated in Task 1, Task 2, and Task 3 of the approved scope-of-work.
 - The recommended estimates of historical On-Farm Efficiency (OFE) to use during model recalibration. These OFE estimates were derived from a literature review and interviews with agricultural pumpers in the Basin.
 - A map of the wells selected to use during model recalibration and time-series charts of the groundwater-elevation data from these wells that will serve as calibration targets.
 - Figures and tables identifying the pilot points and initial model parameters for model recalibration.

The TAC was given one week² to review and provide comments on the summary materials. This interim review step was added to the process at the request of the TAC.

- Held an Ad-Hoc TAC meeting on March 29, 2024 to discuss the summary materials described above and the TAC comments received. The meeting topic that received the most attention (with various TAC opinions) was the use of the Farm Process (FMP) in the BVHM and the recommendation of one TAC member to use a new dataset known as OpenET in the scope of work. The use of OpenET was not planned for in the Board-approved scope of work developed by the TAC in February 2023, and the use of OpenET directly in the BVHM would require West Yost to stop work to prepare a revised scope of work, schedule, and budget. This would also result in the need to get an extension from the Court on the due date for the Redetermination and would likely result in not being able to complete all work using DWR grant funds. A compromise approach to utilizing OpenET was also presented at the meeting, which entailed using OpenET as a validation check on the ability of the FMP to estimate crop water demands. This approach can most likely be accommodated within the current schedule and budget.

By the end of the meeting, there was not a clear TAC consensus on the path forward regarding the use of OpenET. West Yost informed the TAC that the next step was to determine if there is consensus, and if not, a TAC recommendation to the Board will need to be prepared and presented at the April Board meeting. Following the meeting, West Yost sent an email to the TAC that: (i) summarized the Ad-Hoc TAC meeting and (ii) requested TAC written opinions and recommendations on the topic of utilizing OpenET. Specifically, each TAC member was asked if they:

² A shorter timeframe for review is necessary for this interim work product as compared to the two-weeks specified in the TAC Guidelines, which are available on the Watermaster’s website at: <https://borregospringswatermaster.com/wp-content/uploads/2023/03/Resolution-23-01-Guidelines-for-TAC-Process-Executed.pdf>

1. Recommend that OpenET be used to validate the ability of the FMP to estimate crop water demands.
2. Recommend that OpenET be directly used in the 2025 Redetermination of the Sustainable Yield.
3. Have any other input on this topic.

The TAC unanimously agreed that OpenET should be used to validate the ability of the FMP to estimate crop water demands (*i.e.*, Yes to question #1) and that OpenET should not be used directly in the 2025 Redetermination of the Sustainable Yield (*i.e.*, No to question #2). The TAC Comments Summary Table (attached) summarizes the TAC responses to these questions and the additional input received.

Upon reaching TAC consensus on the topic of utilizing OpenET, West Yost intends to proceed with the current scope-of-work to perform *Task 4 – BVHM Recalibration* with the addition of developing a method to use OpenET as a validation check on the ability of the FMP to estimate crop water demands. West Yost believes this additional work can fit within the current schedule and budget; however, there will be an approximate one-month delay in the schedule due to the pause in work prior to the Ad-Hoc TAC meeting to provide time for all TAC opinions to be heard and achieve consensus. Despite the delay, holding the Ad-Hoc TAC meeting and the associated actions to hear all TAC opinions were valuable for ensuring TAC consensus and making progress in the effort to Redetermine the Sustainable Yield by 2025. This delay will not prevent the TAC from meeting the Court-mandated deadline to redetermine the Sustainable Yield by January 1, 2025.

The next regular TAC meeting is scheduled for May 1, 2024. However, West Yost plans to re-purpose this meeting as an Ad-Hoc meeting to provide a progress report on Task 4 instead of presenting the model recalibration results (as initially planned). A regular TAC meeting will follow in June to discuss the results of *Task 4 – BVHM Recalibration*.

West Yost will continue to keep the TAC informed of the progress made under *Task 4 – BVHM Recalibration*. Preliminary results of model recalibration will be emailed to the TAC as soon as possible prior to developing a formal TM.

In April 2024, work continues to be focused on Task 4. The milestones for the remainder of April are:

- Perform model recalibration.
- Develop a methodology for using OpenET as a validation check on the calibration results.
- Prepare for the Ad-Hoc TAC meeting on May 1, 2024.
- Schedule a regular TAC meeting for June 2024 to review the results of model recalibration for Task 4.

Attachments

Summary of TAC Comments from the March 29, 2024 Ad-Hoc TAC Meeting

Responses to TAC Comments/Recommendations on use of OpenET Data during the 2025 Redetermination of the Sustainable Yield

Comments/Recommendations	TAC Members					
	AAWARE Bob Wagner	BWD Trey Driscoll	County of San Diego Jim Bennett	T2 Borrego Tom Watson	Roadrunner Club John Peterson	Borrego Springs Community Russell Detwiler
Do you recommend that OpenET data be used to validate the ability of the FMP to estimate crop demands?						
Yes	X	X	X	X	X	X
No						
Do you recommend that OpenET data be directly used in the 2025 Redetermination of the Sustainable Yield?						
Yes						
No	X	X	X	X	X	X
Additional Comments						
INTERA has extensive experience using OpenET in numerous settings. We would be delighted to provide additional technical input regarding best practices for use of OpenET. In addition, we recommend reaching out to the Watermaster subconsultant, LandIQ who has extensive experience using remotely sensed ET data to estimate consumptive use in various settings.		X				
Reliable data sources such as OpenET and Land-IQ are in use in other basins in California and have been accepted by the State Water Resources Control Board. Based on our experience on the west side of the Central Valley where climate is somewhat similar to Borrego (e.g., low precipitation, high ET), we recommend that the Watermaster consider inviting third party experts to brief the TAC and interested parties on the accuracy, benefits and acceptance of OpenET and Land-IQ.				X		

Lauren Salberg

From: Trey Driscoll <tdriscoll@intera.com>
Sent: Sunday, March 31, 2024 11:54 PM
To: Andy Malone; Lauren Salberg; Jim Bennett; John Peterson; Robert Wagner; Russ Detwiler; Tom Watson
Cc: Samantha Adams; Eric W.H. Chiang; Leonardo Urrego; Bob Abrams; Dave Peterson; Steven Humphrey; Tyler Hatch
Subject: RE: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration
Attachments: Memo-FMP Update_2023.09.15.pdf

Hi Andy,

Responses are as follows:

1. **Do you recommend that OpenET data be used to validate the ability of the FMP to estimate crop demands? Briefly describe your reasoning:** Yes. INTERA previously completed a preliminary comparison of actual evapotranspiration (ET) as measured by OpenET to metered pumping for selected agricultural areas in the Subbasin for WY 2021 and WY 2022 (see attached memo dated September 15, 2023). This analysis shows a good match between measured ET and metered pumping. With the pending release of OpenET data back to about 1985 on the Google Earth Engine (GEE) cloud computing platform, a common data set will be available to evaluate ET over a longer period of time in the Borrego Springs Subbasin. With all remotely sensed data that indirectly measure a parameter, there is some level of uncertainty. The level of uncertainty in the OpenET data should be quantified based on a comparison to metered pumping.
2. **Do you recommend that OpenET data be directly used in the 2025 Redetermination of the Sustainable Yield? Briefly describe your reasoning:** Not at this time. A comparison of OpenET to meter pumping for available water years should be performed at the field level. The uncertainty of OpenET data should be quantified based on comparison with the metered data. Historical OpenET data should be used to bracket historical pumping in the Borrego Springs Subbasin. Prior to 1985, OpenET data will not be available and the FMP should be used at this time to estimate pumping.
3. **Do you have any other input on this topic? If so, briefly describe:**

INTERA has extensive experience using OpenET in numerous settings. We would be delighted to provide additional technical input regarding best practices for use of OpenET. In addition, we recommend reaching out to the Watermaster subconsultant, LandIQ who has extensive experience using remotely sensed ET data to estimate consumptive use in various settings.

INTERA appreciates this opportunity to provide technical input. If you have any questions, please do not hesitate to contact me.

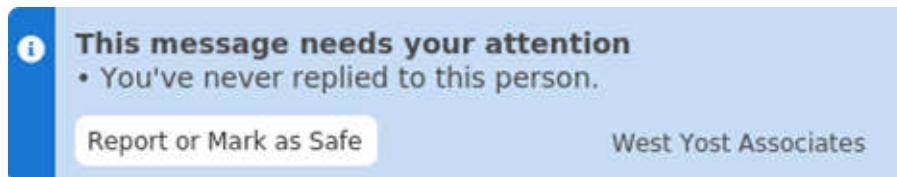
Have a terrific week y'all!

Cheers,
Trey
760.415.1425

From: Andy Malone <amalone@westyost.com>
Sent: Saturday, March 30, 2024 1:19 AM

Lauren Salberg

From: Leonardo Urrego-Vallowe <lurrego@wbecorp.com>
Sent: Monday, April 1, 2024 5:01 PM
To: Andy Malone; Lauren Salberg; Jim Bennett; John Peterson; Robert Wagner; Russ Detwiler; Tom Watson; Trey Driscoll
Cc: Samantha Adams; Eric W.H. Chiang; Bob Abrams; Dave Peterson; Michele Staples; Tyler Bilyk
Subject: RE: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration



Hello Andy and Borrego Springs TAC members,
Please see the response and recommendations on behalf of AWARE:

1. Do you recommend that OpenET data be used to validate the ability of the FMP to estimate crop demands? Briefly describe your reasoning:

Yes. OpenET data needs to be considered to compare and validate the actual ET calculated by crop coefficients and actual ET calculated by Open ET. If there is a discrepancy, the FMP parameters need to be redefined to match OpenET data. We recommend that West Yost considers the use of Google Earth Engine to obtain gridded monthly OpenET data for irrigated fields.

2. Do you recommend that OpenET data be directly used in the 2025 Redetermination of the Sustainable Yield? Briefly describe your reasoning:

Not at this time. We recommend using OpenET initially as a check rather than a replacement of the current recalibration.

3. Do you have any other input on this topic? If so, briefly describe:

Not at this time.

Thank you,

A. Leonardo Urrego-Vallowe
Staff Engineer
Wagner & Bonsignore Consulting Civil Engineers
2151 River Plaza Drive, Suite 100
Sacramento, CA 95833
Work: (916) 619-7440
Email: lurrego@wbecorp.com

From: Andy Malone <amalone@westyost.com>
Sent: Friday, March 29, 2024 5:19 PM
To: Lauren Salberg <lsalberg@westyost.com>; Jim Bennett <PDS.LUEGGroundWater@sdcounty.ca.gov>; John Peterson

Lauren Salberg

From: Russ Detwiler <detwiler@uci.edu>
Sent: Monday, April 1, 2024 3:30 PM
To: Andy Malone
Cc: Lauren Salberg; Jim Bennett; John Peterson; Robert Wagner; Tom Watson; Trey Driscoll; Samantha Adams; Eric W.H. Chiang; Leonardo Urrego; Bob Abrams; Dave Peterson
Subject: Re: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

Hi Andy,

Following are my responses. Note, as a new TAC member, these reflect my current developing understanding of the BVHM and efforts to date to improve the model:

1. **Do you recommend that OpenET data be used to validate the ability of the FMP to estimate crop demands? Briefly describe your reasoning:**

Yes. The work done to date to refine the FMP parameters, particularly ET_o and KC, relied upon literature review and interviews with farmers in the area to better constrain historical practices. This a reasonable approach towards better constraining a model that spans 9 decades, most of which precede alternative measures of agricultural ET. OpenET provides complementary estimates of ET. Both approaches include inherent uncertainties but because the recent Open ET estimates are derived from measurements, they can provide a reasonable check on ET estimated using the current FMP input parameters over recent years.

2. **Do you recommend that OpenET data be directly used in the 2025 Redetermination of the Sustainable Yield? Briefly describe your reasoning:**

I do not recommend this in the current iteration of the modeling effort. Because the OpenET data do not (and will not) exist for the entire model duration, this would require using different approaches for different model periods. It seems more efficient and more technically defensible to use the existing modeling framework and use the OpenET data to refine FMP input parameters during the years those data are available.

3. **Do you have any other input on this topic? If so, briefly describe:**

My responses address the technical aspects of this question. From my understanding there are significant logistical considerations that further support option 1.

On Fri, Mar 29, 2024 at 5:18 PM Andy Malone <amalone@westyost.com> wrote:

Borrego Springs TAC:

Thank you for attending today's Ad Hoc TAC meeting on the subject of **Task 4 – BVHM Recalibration**. The meeting presentation and recording have been posted to the website [here](#). The Board's intention for this meeting was to

Lauren Salberg

From: John Peterson <petersonenv@hotmail.com>
Sent: Monday, April 1, 2024 8:17 AM
To: Trey Driscoll; Andy Malone; Lauren Salberg; Jim Bennett; Robert Wagner; Russ Detwiler; Tom Watson
Cc: Samantha Adams; Eric W.H. Chiang; Leonardo Urrego; Bob Abrams; Dave Peterson; Steven Humphrey; Tyler Hatch
Subject: Re: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

I believe that the TAC should use Open ET as a calibration check later within the process to estimate crop demands. Thus the first question is yes for me.

I do not believe that we should step back at this point in the process to redefine the redetermination of sustainable yield. Thus the second question is no for me. I don't want to reengineer the wheel at this time.

Nothing more for me to add.

JP

John Peterson
Peterson Environmental Services
California Professional Geologist #3713 Certified Hydrogeologist #90
P.O. Box 512 Borrego Springs Ca. 92004
cell 858-220-0877

From: Trey Driscoll <tdriscoll@intera.com>
Sent: Sunday, March 31, 2024 11:54 PM
To: Andy Malone <amalone@westyost.com>; Lauren Salberg <lSalberg@westyost.com>; Jim Bennett <PDS.LUEGGroundWater@sdcounty.ca.gov>; John Peterson <petersonenv@hotmail.com>; Robert Wagner <rcwagner@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>; Tom Watson <tom.watson@aqulogic.com>
Cc: Samantha Adams <sadams@westyost.com>; Eric W.H. Chiang <echiang@westyost.com>; Leonardo Urrego <lurrego@wbecorp.com>; Bob Abrams <bob.abrams@aqulogic.com>; Dave Peterson <dpeterson@wbecorp.com>; Steven Humphrey <SHumphrey@intera.com>; Tyler Hatch <thatch@intera.com>
Subject: RE: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

Hi Andy,

Responses are as follows:

Lauren Salberg

From: LUEG, GroundWater, PDS <PDS.LUEGGroundWater@sdcounty.ca.gov>
Sent: Monday, April 1, 2024 2:53 PM
To: John Peterson; Trey Driscoll; Andy Malone; Lauren Salberg; LUEG, GroundWater, PDS; Robert Wagner; Russ Detwiler; Tom Watson
Cc: Samantha Adams; Eric W.H. Chiang; Leonardo Urrego; Bob Abrams; Dave Peterson; Steven Humphrey; Tyler Hatch
Subject: RE: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

Hi Andy,

Yes to the first question. County staff believe OpenET should be used as a validation check on the ability of the FMP to estimate crop demand going back to 1985.

West Yost should include in any recommendation to the Watermaster Board that this task can be included within established schedule and budget.

No to second question. See answer to first question for approach recommended.

We appreciate the TAC focus on improving the uncertainty related to agricultural water demand.

Thanks,



Jim Bennett, P.G., C.HG.
Water Resources Manager
County of San Diego
Planning & Development Services, Sustainability Planning Division
5510 Overland Avenue, Third Floor, San Diego, CA 92123
Phone: (619) 346-1476 | jim.bennett@sdcounty.ca.gov

From: John Peterson <petersonenv@hotmail.com>

Sent: Monday, April 1, 2024 8:17 AM

To: Trey Driscoll <tdriscoll@intera.com>; Andy Malone <amalone@westyost.com>; Lauren Salberg <lsalberg@westyost.com>; LUEG, GroundWater, PDS <PDS.LUEGGroundWater@sdcounty.ca.gov>; Robert Wagner <rcwagner@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>; Tom Watson <tom.watson@aquilogic.com>

Cc: Samantha Adams <sadams@westyost.com>; Eric W.H. Chiang <echiang@westyost.com>; Leonardo Urrego <clurrego@wbecorp.com>; Bob Abrams <bob.abrams@aquilogic.com>; Dave Peterson <dpeterson@wbecorp.com>; Steven Humphrey <SHumphrey@intera.com>; Tyler Hatch <thatch@intera.com>

Subject: [External] Re: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

I believe that the TAC should use Open ET as a calibration check later within the process to estimate crop demands. Thus the first question is yes for me.

Lauren Salberg

From: Tom Watson <tom.watson@aquilogic.com>
Sent: Tuesday, April 2, 2024 9:33 AM
To: Andy Malone; LUEG, GroundWater, PDS; John Peterson; Robert Wagner; Russ Detwiler; Trey Driscoll; Leonardo Urrego-Vallowe
Cc: Bob Abrams; Lauren Salberg; Samantha Adams
Subject: Response to Watermaster

Follow Up Flag: Follow up
Flag Status: Flagged

Andy,
Thanks for the presentation last week. Please see our response below.
Best,
Tom

From: Andy Malone <amalone@westyost.com>
Sent: Friday, March 29, 2024 5:19 PM
To: Lauren Salberg <lsalberg@westyost.com>; Jim Bennett <PDS.LUEGGroundWater@sdcounty.ca.gov>; John Peterson <petersonenv@hotmail.com>; Robert Wagner <rcwagner@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>; Tom Watson <tom.watson@aquilogic.com>; Trey Driscoll <tdriscoll@intera.com>
Cc: Samantha Adams <sadams@westyost.com>; Eric W.H. Chiang <echiang@westyost.com>; Leonardo Urrego <lurrego@wbecorp.com>; Bob Abrams <bob.abrams@aquilogic.com>; Dave Peterson <dpeterson@wbecorp.com>
Subject: TAC Opinions/Recommendations on Task 4 - BVHM Recalibration

Borrego Springs TAC:

Thank you for attending today's Ad Hoc TAC meeting on the subject of **Task 4 – BVHM Recalibration**. The meeting presentation and recording have been posted to the website [here](#). The Board's intention for this meeting was to attempt to achieve TAC consensus on the methods being employed to Redetermine the Sustainable Yield by 2025. The Board will receive a report from me on the outcome of the TAC meeting.

The TAC meeting was focused on reviewing TAC comments and West Yost responses to a packet of information (distributed before the meeting) on the preparatory work that West Yost has performed for BVHM recalibration. We covered several topics on this subject. The TAC meeting topic that received the most attention (with various TAC opinions) was the use of the Farm Process (FMP) in the BVHM and the recommendation of one TAC member to use a new dataset known as OpenET in the scope of work. The use of OpenET was not planned for in the Board-approved scope of work developed by the TAC in February, 2023.

To use Open ET directly in the BVHM to Redetermine the Sustainable Yield by 2025 will require West Yost to stop work in progress so a revised scope of work, schedule, and budget can be prepared and approved by the Board. This will result in the need to get an extension from the Court on the due date for the Redetermination and will likely result in not being able to complete all work using DWR grant funds.

A compromise approach to utilize OpenET was also presented at the meeting, which entailed using OpenET as a validation check on the ability of the FMP to estimate crop demands. This approach could most likely be accommodated with the current schedule and budget.

By the end of the meeting, there was not a clear TAC consensus on the path forward. We informed the TAC that the next step is to determine if there is consensus, and if not, a TAC recommendation to the Board will need to be prepared and presented at the April 18, 2024 Board meeting.

We request your written opinions on this topic and your brief recommendations for next steps. To submit your opinions and recommendations, please answer the following questions and REPLY ALL to this email:

1. **Do you recommend that OpenET data be used to validate the ability of the FMP to estimate crop demands? Briefly describe your reasoning:**

Yes, we recommend that OpenET be used as a data check against the modeled FMP estimate of crop demand for the 2025 update. If there is a discrepancy, the FMP parameters should be redefined to closely match OpenET data. Open ET is expanding the time period covered by its data. We further recommend that going forward the Watermaster take the necessary steps to segue from the modeled FMP crop demand to OpenET (or similar data) for the the 2030 update.

2. **Do you recommend that OpenET data be directly used in the 2025 Redetermination of the Sustainable Yield? Briefly describe your reasoning:**

No, not as this time. Based on the recent TAC meeting, it is unlikely the Watermaster could complete a complete redo of the relevant model elements in time to meet court mandated deadlines. Further, a reassessment at this time would result in an unreasonable impact to Subbasin technical and financial resources.

3. **Do you have any other input on this topic? If so, briefly describe:**

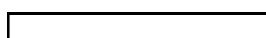
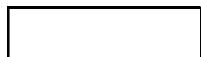
Yes, reliable data sources such as OpenET and Land-IQ are in use in other basins in California and have been accepted by the State Water Resources Control Board. Based on our experience on the west side of the Central Valley where climate is somewhat similar to Borrego (e.g., low precipitation., high ET), we recommend that the Watermaster consider inviting third party experts to brief the TAC and interested parties on the accuracy, benefits and acceptance of OpenET and Land-IQ.

We will use your responses to report to the Board at its April 18, 2024 meeting. We very much appreciate your prompt responses. Please REPLY ALL with your responses no later than Friday, April 5, 2024.

Have a great weekend.

Andy

Andy Malone
Principal Geologist II



direct: 949.600.7503

From: Lauren Salberg <lsalberg@westyost.com>

Sent: Monday, March 25, 2024 1:19 PM

To: Jim Bennett <PDS.LUEGGroundWater@sdcounty.ca.gov>; John Peterson <petersonenv@hotmail.com>; Robert Wagner <rcwagner@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>; Tom Watson <tom.watson@aqulogic.com>; Trey Driscoll <tdriscoll@intera.com>

Cc: Andy Malone <amalone@westyost.com>; Samantha Adams <sadams@westyost.com>; Eric W.H. Chiang

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM V.C**

To: Board of Directors
From: Samantha Adams, Executive Director
Date: April 15, 2024
Subject: Watermaster Budget Status Report as of March 31, 2024

Recommended Action **Provide Direction to Staff** **Information and Discussion**
 Fiscal Impact **Cost Estimate: \$**

Recommended Action

Board discussion

Fiscal Impact: None

Background and Previously Related Actions by the Board

On June 14, 2023, the Board adopted the initial water year (WY) 2024 Budget. On December 14, 2023, the Board amended the Budget to carry forward unspent, grant-reimbursable budget for two projects from the WY 2023 into the WY 2024 budget. The two projects with carry forward budget were Redetermination of the Sustainable Yield and Biological Restoration of Fallow Lands.

The purpose of this memo is to report the budget status to date as of March 31, 2024 as compared to the amended WY 2024 Budget.

Discussion

Table 1, enclosed, compares actual budget to date to the amended WY 2024 Budget. The table shows:

- The Watermaster budget categories and the relevant line items in the WY 2024 Budget, including: revenues, expenditures (administrative services, legal services, technical/engineering services, Environmental Working Group, services to Parties with manual read meters), liabilities on Payment Terms, and cash reserves
- The amended WY 2024 Budget amount for each category and the associated line-item detail
- The year-to-date values as of March 31, 2024
- The percent of budget expended to date for each category and line item as of March 31, 2024 (computed as actual divided by budget)
- The variance of actual compared to budget for each category and line item as of March 31, 2024 (computed as budget minus actual)

- Any pertinent notes that explain the budget status

As of March 31, 2024 (50% into WY 2024):

- A total of 37% of planned revenues has been accrued to date.
- A total of 38% of planned expenditures have been spent to date.
- Watermaster has a payment liability totaling \$411,002 which is about 55% of the maximum allowable liability under payment terms. The liability amount is expected to decrease when an additional \$219,000 in payments issued to West Yost and Land IQ in April 2024 clear.
- Cash reserves are \$837,837, which represents about 7.5 months of the average projected monthly operating expenditure.

Next Steps

The third quarterly WY 2024 budget status report will be presented in July 2024 for the period ending on June 30, 2024.

Enclosures

Table 1. Borrego Springs Watermaster Budget Status Report for WY 2024 as of March 31, 2024

Table 1. Borrego Springs Watermaster Budget Status Report for WY 2024
as of March 31, 2024

Revenues, Expenditures, and Reserves	Approved WY 2024 Budget (as Amended)	Actual WY 2024 Year-to-Date	Percent (%) of Budget	Variance to Date (Budget minus Actual)	Notes
Revenues	\$ 1,713,460	\$ 641,947.09	37%	\$ 1,071,512.91	See below note re: DWR Prop 68 Revenue
Pumping Assessments Invoiced	\$ 458,000	\$ 229,005.63	50%	\$ 228,994.37	Second installment of assessment to be invoiced in May 2024
payments received		\$ 226,184.55	49%		
Bad Debt (non-payment on Assessments)	\$ (4,000)	\$ -	0%	\$ (4,000.00)	Have not recorded bad debt
Overproduction Penalty Assessments	\$ -	\$ -		\$ -	
Revenues Collected for Pass thru Expenses	\$ 6,469	\$ 6,468.96	100%	\$ 0.04	Issued invoices in October 2023. Payment was due November 2023
payments received		\$ 5,660.34	87%		
DWR Prop 68 Grant Reimbursements Accrued	\$ 1,252,991	\$ 406,472.50	32%	\$ 846,518.50	
Total Expenditures	\$ 1,677,205	\$ 631,435.80	38%	\$ 1,045,768.86	
Administrative Services	\$ 402,861	\$ 215,474.96	53%	\$ 187,385.69	
Watermaster Staff Admin Services	\$ 280,284	\$ 137,845.89	49%	\$ 142,437.71	
Board Meetings	\$ 101,120	\$ 50,133.64	50%	\$ 50,985.96	
Technical Advisory Committee Meetings	\$ 45,326	\$ 27,254.75	60%	\$ 18,071.25	
Court Hearings	\$ 4,016	\$ 241.75	6%	\$ 3,774.25	
Stakeholder Outreach/Workshops	\$ 12,590	\$ 8,904.50	71%	\$ 3,685.50	
Administration and Management	\$ 72,628	\$ 32,453.00	45%	\$ 40,175.00	
Prop 68 Project Admin and Grant Reporting	\$ 44,604	\$ 18,858.25	42%	\$ 25,745.75	
Other Administrative or Vendor Services	\$ 122,577	\$ 77,629.07	63%	\$ 44,947.98	
Financial Audit	\$ 10,000	\$ 7,056.00	71%	\$ 2,944.00	
Insurance	\$ 40,474	\$ 20,036.52	50%	\$ 20,437.21	Note: This is a pre-paid expense - this reflects balance sheet amount
Misc. Expenses	\$ 2,500	\$ 50.00	2%	\$ 2,450.00	
Meter Accuracy Testing Vendors	\$ 13,500	\$ 12,200.00	90%	\$ 1,300.00	
Interest on Vendor Terms During Prop 68 Grant Period	\$ 56,103	\$ 38,286.55	68%	\$ 17,816.77	
Legal Services	\$ 100,000	\$ 64,906.04	65%	\$ 35,093.96	

Table 1. Borrego Springs Watermaster Budget Status Report for WY 2024
as of March 31, 2024

Revenues, Expenditures, and Reserves	Approved WY 2024 Budget (as Amended)	Actual WY 2024 Year-to-Date	Percent (%) of Budget	Variance to Date (Budget minus Actual)	Notes
Technical/Engineering Services	\$ 815,386	\$ 258,205.63	32%	\$ 557,180.37	
General Technical Consultant Services	\$ 403,556	\$ 158,467.63	39%	\$ 245,088.37	
Coordinate/Implement meter reading program	\$ 30,388	\$ 14,208.75	47%	\$ 16,179.25	
Groundwater Monitoring Program	\$ 111,151	\$ 61,714.88	56%	\$ 49,436.12	
Data Management and Reporting Data to DWR	\$ 19,890	\$ 9,621.25	48%	\$ 10,268.75	
Annual Report to the Court and DWR	\$ 50,936	\$ 52,279.25	103%	\$ (1,343.25)	
Address Inactive Wells via Abandonment/Conversion	\$ 175,551	\$ 16,038.25	9%	\$ 159,512.75	
As-needed technical support	\$ 15,640	\$ 4,605.25	29%	\$ 11,034.75	
Consulting Services with TAC Support/Input	\$ 411,830	\$ 99,738.00	24%	\$ 312,092.00	
Technical Work to Support Sustainable Yield Updates	\$ 271,328	\$ 74,599.00	27%	\$ 196,729.00	
5-Year Update of the GMP (required by DWR)	\$ 130,654	\$ 25,139.00	19%	\$ 105,515.00	
Address Ad Hoc Requests from the Board	\$ 9,848	\$ -	0%	\$ 9,848.00	
Environmental Working Group	\$ 352,489	\$ 88,344.46	25%	\$ 264,144.12	
Biological Restoration of Fallow Land	\$ 346,393	\$ 88,344.46	26%	\$ 258,048.12	
Ad Hoc EWG Meetings/Requests	\$ 6,096	\$ -	0%	\$ 6,096.00	
Services to Parties with Manual Read Meters	\$ 6,469	\$ 4,504.71	70%	\$ 1,964.29	
Liabilities on Payment Terms					
Beginning Balance	\$ 749,184	\$ -		\$ 749,184	
Year-End Balance	\$ 355,088	\$ 411,001.67	116%	\$ (55,913.67)	Payment liability is 55% of maximum allowable amount per terms
Cash Reserves					
Beginning Cash Reserves	\$ 889,614	\$ 889,614		\$ -	
Avg Target Cash Reserve for 7 Months Operation	\$ 786,468	\$ 837,836.87	107%	\$ (51,368.87)	
Number of Months of Operating Reserve	7.00	7.46	107%	\$ (0.46)	Seven months is target reserve during grant period

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM V.D**

To: Board of Directors
From: Samantha Adams, Executive Director
Date: April 15, 2024
Subject: Scoping Discussion for Water Year 2025 Budget

Recommended Action **Provide Direction to Staff** **Information and Discussion**
 Fiscal Impact **Cost Estimate: \$**

Recommended Action

Discuss and provide input to staff on the scope of work to include in the Water Year 2025 budget.

Fiscal Impact: TBD. Fiscal impact will be presented in May 2024 with the first draft of the budget.

Background

The purpose of this memo is to provide the Board with an overview of the draft scope of work components planned for the Water Year (WY) 2025 budget.

Section IV.E.(3) of the Judgment describes the process and schedule for publishing the annual budget and collecting assessments to fund it. The process and schedule are summarized in Exhibit 1 below.

Exhibit 1 Milestones and Schedule to Publish the WY 2025 Budget and Collect Assessments to Fund the Budget		
Judgment Defined Due Dates	Watermaster Planned Action Dates	Milestones
June 30	June 13, 2024	Watermaster publishes Budget for ensuing Water Year
July 31	July 31, 2024	Any challenge to the budget by a Party must be initiated by notice to the Watermaster
August 30	August 30, 2024	Mediation of any challenge to the budget is completed pursuant to Section VII.A(1) of Judgment
October 15	Oct. 15, 2024	Any challenge to the budget by a Party unresolved by mediation will be heard by the Court

Exhibit 1 Milestones and Schedule to Publish the WY 2025 Budget and Collect Assessments to Fund the Budget		
Judgment Defined Due Dates	Watermaster Planned Action Dates	Milestones
October 15	Oct. 15, 2024	Watermaster issues notice to each Party of: prior year pumping allocation and pumping, max amount eligible for carryover, estimate of the pumping assessment
October 31	Oct. 31, 2024	Court order is entered on any Party's challenge to budget heard by the Court
October 31	Oct. 31, 2024	Each Party informs Watermaster of its elections for: carryover, foregoing pumping, or resuming pumping
November	Nov. 29, 2024	Watermaster provides Pumping Assessment invoice to each Party for first installment of Pumping Assessment
December	Dec. 31, 2024	First installment of Pumping Assessment due
May 31	May 30, 2025	Watermaster provides Pumping Assessment invoice to each Party for second installment of Pumping Assessment
June 30	June 30, 2025	Second installment of Pumping Assessment due

The Judgment also defines a process by which the Technical Advisory Committee (TAC) advises the Watermaster on the scope of work and budget for technical work to determine Sustainable Yield. Section III.F provides that the TAC shall seek agreement with the Watermaster on the technical scope of work and budget on the following schedule:

Exhibit 2 Schedule for Technical Advisory Committee Input to the Watermaster Budget Process for Technical Work through Water Year 2034	
Due Date	Milestone
June 1, 2021	Agreement on the scope and budget for technical work for October 1, 2021 through September 30, 2023
January 1, 2025	Agreement on the scope and budget for technical work for October 1, 2025 through September 30, 2029.
January 1, 2030	Agreement on the scope and budget for technical work for October 1, 2030 through September 30, 2034.

The TAC has provided detailed input on the scope of work and budget for technical work that will be to redetermine the Sustainable Yield by January 1, 2025 and through the conclusion of the DWR Sustainable Groundwater Management implementation grant (SGM grant). This work will include presenting an initial scope and budget to perform work through September 30, 2029.

Discussion

The Watermaster budget is broken down into the following categories: revenues, expenditures, liabilities on Payment terms, and cash reserves. A list of the line-item components each budget category that are proposed to be included in the WY 2025 Budget follows. The enclosed Table 1 from the Amended WY 2024 Budget includes the initial WY 2025 budget projection. This projection will be refined following the April Regular Board meeting discussion and will be presented as a draft budget in May.

Revenues. Based on the budget projection included in the Amended WY 2024 Budget (see enclosed Table 1), total revenues are planned to be about \$853,217 in WY 2025. WY 2025 Revenues will be derived from four sources, as follows.

- Pumping Assessments. Based on the budget projection and financial model prepared in support of the amended WY 2024 Budget that was approved by the Board in December 2023, the anticipated Pumping Assessment for WY 2025 was \$250,000, which is about \$200,000 less than in WY 2024. The assessment may need to be adjusted based on the actual WY 2025 budget and in consideration of the cash reserve policy to maintain at least 7 months of cash reserves in the bank.
- Overproduction Penalty Assessments. This is revenue received from any Pumpers who exceed their pumping limits defined in the Judgment. It is not yet known the amount of Overproduction, if any, that will occur in WY 2024. The amount will not be known until the start of WY 2025 when the Water Rights Accounting for WY 2024 is completed. As part of the WY 2025 Budget approval, the Board will need to establish the Overproduction Penalty Assessment Rate. In WY 2024, the rate was \$500 per acre-foot of Overproduction (the minimum allowed by the Judgment). Staff recommends the Overproduction Penalty Assessment Rate remain at \$500 per acre-foot in WY 2025.
- DWR Prop 68 Grant Funds. The grant-related revenue will be based on Watermaster staff's best estimate of the timing of reimbursement payments by the DWR, assuming a 6-month lag between submittal of each quarterly reimbursement request and an additional 2-month delay to receive the funds from BWD.
- Revenues for Pass-thru Expenses. In WY 2025 pass thru revenues will include collection of fees from Parties with manual-read meters for Watermaster services related to reading the meters.

Expenditures. The projected total expenditure for WY 2025 as shown in the amended WY 2024 Budget projection was \$1.10 million. The expenditures assumed the following work. **Tasks that are grant-reimbursable through March 30, 2025 (partial or full) are shown as bold text.**

- Administrative Services. – Staff has no recommended changes to the scope of work for WY 2025. The scope includes:
 - Watermaster Staff administrative services provided by West Yost: Board meetings, **TAC meetings**, Court hearings, **stakeholder outreach meetings**, administration and management (budget development, financial services, management of records, **website improvements**, support to BPA parties, as-needed support for

implementation of the Judgment, project management), and **grant management and reporting**.

- Other administrative expenses: financial audit, liability insurance, miscellaneous expenses, and **meter accuracy testing**.
- Interest expenses on Payment Terms with West Yost and Land IQ
- Legal Services (provided by RWG). This is for all as-needed legal services from RWG Law, which includes at a minimum attending and support of all Watermaster Board meetings and Court hearings. Legal services will continue to be provided as-needed in WY 2025.
- Technical and Engineering Services (provided by West Yost). The planned scope of work for WY 2025 is similar to WY 2024 and includes:
 - General Technical Consultant services (Staff has no recommended changes to the planned scope of work as assumed in amended WY 2024 Budget):
 - **Coordinate and implement meter reading and verification program**
 - **Implement the Groundwater Monitoring Plan**
 - **Database management, including reporting of data to the DWR Monitoring Network Module (MNM)**
 - **Prepare the WY 2024 Water Rights Accounting Report and Annual Report to the Court/DWR**
 - As-needed technical services
 - Technical work enabled and funded by the Prop 68 Grant. This includes tasks that would not otherwise be performed absent the grant. The scope of work for WY 2025 is based on the scope assumed in the Prop 68 grant agreement with DWR.
 - **Address inactive wells via proper abandonment or conversion to monitoring wells**
 - TAC-supported technical work.
 - The budget projection assumed the following work in WY 2025 (Staff has no recommended changes to the planned scope of work as assumed in amended WY 2024 Budget):
 - **Complete the Redetermination of the Sustainable Yield**
 - **Five-year update of the Groundwater Management Plan**
 - Address ad-hoc requests from the Board
 - The budget projection does not include any additional work that the TAC may recommend implementing after completing the Redetermination of the Sustainable Yield in January 2025. The Board should provide direction if the TAC-recommended work should start in WY 2025, or be deferred until WY 2026. If work should begin in WY 2025, it may need to be included as a budget-level estimate as the TAC recommended scope of work will not be developed by the time the WY 2025 budget needs to be approved in June 2024.

- Additional recommended work for consideration based on the *Groundwater Monitoring Plan for the Borrego Springs Subbasin*:
 - Increase sampling budget to accommodate additional monitoring wells identified through canvassing efforts in WY 2024. Per the monitoring plan, the additional cost of monitoring could be as much as an additional \$20,000 per year, depending on how many wells are added and when.
 - Conduct feasibility study for new monitoring well construction in State Park. It is anticipated that the data gap in this area cannot be filled with an existing well. This feasibility work was estimated to cost about \$25,000.
 - Verify/establish reference point elevations at wells in the monitoring network, including GPS elevation surveys. This work was estimated to cost about \$15,000.
- Environmental Working Group. This includes the completion of the **Biological Restoration of Fallowed Lands project** and as-requested EWG meetings. Consulting services for the EWG work are provided by Land IQ and West Yost. The final project may have recommendations for next steps. The Board should provide direction if the recommended work should start in WY 2025, or be deferred until WY 2026. If work should begin in WY 2025, it may need to be included as a budget-level estimate as the EWG recommended scope of next steps will not be developed by the time the WY 2025 budget needs to be approved in June 2024.
- Services to Parties with Manual-Read Meters. This work includes Watermaster staff services (provided by West Yost) and contract services by the BWD to perform the manual meter reading in the field. This work is funded solely by Parties with manual-read meters.

Liabilities on Payment Terms. Based on the financial model prepared by Staff, it is anticipated that the total liability on Payment Terms will be paid off during WY 2025.

Cash Reserves. Watermaster staff will use the financial model to project the reserve needed to maintain 7-months leading operating expenses in WY 2025 once the draft budget is prepared.

Next Steps

Staff is seeking Board discussion and input on the scope of work to include for WY 2025, including discussion of any items not described in this memo. The draft WY 2025 budget will be developed based on input and will be presented for discussion at the May 9, 2024 Board meeting.

Enclosures

Table 1 from Amended WY 2024 Budget: *Five-Year Projection of Borrego Springs Watermaster Operating Budget: Water Years 2024 through 2028 - Assuming Payment Terms from West Yost Associates, 8-Month Delay in DWR Grant Request Reimbursements, and Target for 7-month Operating Reserve*

Amended WY 2024 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2024 through 2028)
Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target

Revenues, Expenditures, and Reserves	WY 2023 Budget	Actual WY 2023	Amended WY 2024	Projected Budget ¹			
				WY 2025	WY 2026	WY 2027	WY 2028
Revenues²	\$ 649,281	\$ 1,544,962	\$ 1,713,460	\$ 853,217	\$ 256,863	\$ 517,069	\$ 517,281
Pumping Assessments Collected	\$ 658,000	\$ 649,021	\$ 458,000	\$ 250,000	\$ 250,000	\$ 510,000	\$ 510,000
Bad Debt (non-payment on Assessments)	\$ (15,000)		\$ (4,000)	\$ -	\$ -	\$ -	\$ -
Overproduction Penalty Assessments	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenues Collected for Pass thru Expenses	\$ 6,281	\$ 6,895	\$ 6,469	\$ 6,664	\$ 6,863	\$ 7,069	\$ 7,281
DWR Prop 68 Grant Reimbursements ³	\$ -	\$ 889,046	\$ 1,252,991	\$ 596,553	\$ -	\$ -	\$ -
Total Expenditures⁴	\$ 1,241,730	\$ 981,677	\$ 1,677,205	\$ 1,097,870	\$ 556,837	\$ 548,640	\$ 563,825
Administrative Services	\$ 333,973	\$ 306,503	\$ 402,861	\$ 376,848	\$ 244,290	\$ 227,317	\$ 233,461
Watermaster Staff Admin Services	\$ 237,772	\$ 220,480	\$ 280,284	\$ 263,872	\$ 188,242	\$ 193,890	\$ 199,706
Board Meetings	\$ 92,508	\$ 88,542	\$ 101,120	\$ 104,153	\$ 80,000	\$ 82,400	\$ 84,872
Technical Advisory Committee Meetings	\$ 29,590	\$ 27,511	\$ 45,326	\$ 30,000	\$ 23,175	\$ 23,870	\$ 24,586
Court Hearings	\$ 5,668	\$ 1,198	\$ 4,016	\$ 4,136	\$ 4,261	\$ 4,388	\$ 4,520
Stakeholder Outreach/Workshops	\$ 12,206	\$ 12,169	\$ 12,590	\$ 12,954	\$ 6,000	\$ 6,180	\$ 6,365
Administration and Management	\$ 67,800	\$ 58,473	\$ 72,628	\$ 72,628	\$ 74,807	\$ 77,051	\$ 79,363
Prop 68 Project Admin and Grant Reporting	\$ 30,000	\$ 32,587	\$ 44,604	\$ 40,000	\$ -	\$ -	\$ -
Other Administrative or Vendor Services	\$ 93,226	\$ 83,048	\$ 122,577	\$ 112,976	\$ 56,048	\$ 33,427	\$ 33,755
Financial Audit	\$ 8,555	\$ 8,425	\$ 10,000	\$ 10,300	\$ 10,609	\$ 10,927	\$ 11,255
Insurance	\$ 35,651	\$ 33,197	\$ 40,474	\$ 41,688	\$ 42,939	\$ 20,000	\$ 20,000
Misc. Expenses	\$ 5,000	\$ -	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500	\$ 2,500
Meter Accuracy Testing Vendors	\$ 13,000	\$ 12,600	\$ 13,500	\$ 14,000	\$ -	\$ -	\$ -
Interest on Vendor Terms During Prop 68 Grant Period⁵	\$ 31,020	\$ 28,826	\$ 56,103	\$ 44,488	\$ -	\$ -	\$ -
Pass Through Expenses	\$ 2,975	\$ 2,975	\$ -	\$ -	\$ -	\$ -	\$ -
Reimbursement to Settling Parties	\$ 716	\$ 716	\$ -	\$ -	\$ -	\$ -	\$ -
Reimbursement to BWD for GSP	\$ 2,259	\$ 2,259	\$ -	\$ -	\$ -	\$ -	\$ -
Legal Services	\$ 100,000	\$ 78,829.12	\$ 100,000	\$ 103,000	\$ 106,090	\$ 109,273	\$ 112,551

Amended WY 2024 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2024 through 2028)
Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target

Revenues, Expenditures, and Reserves	WY 2023 Budget	Actual WY 2023	Amended WY 2024	Projected Budget ¹			
				WY 2025	WY 2026	WY 2027	WY 2028
Technical/Engineering Services	\$ 417,406	\$ 331,047	\$ 815,386	\$ 453,880	\$ 179,594	\$ 184,981	\$ 190,531
General Technical Consultant Services	\$ 203,762	\$ 196,029	\$ 403,556	\$ 366,736	\$ 169,146	\$ 174,220	\$ 179,447
Coordinate/Implement meter reading program	\$ 30,893	\$ 28,753	\$ 30,388	\$ 31,634	\$ 26,889	\$ 27,696	\$ 28,526
Groundwater Monitoring Program	\$ 87,180	\$ 90,524	\$ 111,151	\$ 101,940	\$ 60,000	\$ 61,800	\$ 63,654
Data Management and Data Reporting	\$ 18,083	\$ 11,933	\$ 19,890	\$ 16,567	\$ 14,910	\$ 15,357	\$ 15,818
Annual Report to the Court and DWR	\$ 52,442	\$ 53,028	\$ 50,936	\$ 49,276	\$ 50,755	\$ 52,277	\$ 53,846
Address Inactive Wells via Abandonment/Conversion	\$ -	\$ 2,885	\$ 175,551	\$ 151,210	\$ -	\$ -	\$ -
As-needed technical support	\$ 15,164	\$ 8,907	\$ 15,640	\$ 16,109	\$ 16,592	\$ 17,090	\$ 17,603
Grant services	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Consulting Services with TAC Support/Input	\$ 213,644	\$ 135,018	\$ 411,830	\$ 87,144	\$ 10,448	\$ 10,761	\$ 11,084
Technical Work to Support Sustainable Yield Updates	\$ 146,322	\$ 75,234	\$ 271,328	\$ 17,655	\$ -	\$ -	\$ -
Development of Work Plan for an Expanded Groundwater Quality & Level Monitoring Workplan	\$ 46,392	\$ 49,013	\$ -	\$ -	\$ -	\$ -	\$ -
TSS Grant Implementation (new monitoring well)	\$ 11,000	\$ 10,771	\$ -	\$ -	\$ -	\$ -	\$ -
5-Year Update of the GMP (required by DWR)	\$ -	\$ -	\$ 130,654	\$ 59,346	\$ -	\$ -	\$ -
Address Ad Hoc Requests from the Board	\$ 9,930	\$ -	\$ 9,848	\$ 10,143	\$ 10,448	\$ 10,761	\$ 11,084
Environmental Working Group	\$ 384,070	\$ 257,748	\$ 352,489	\$ 157,479	\$ 20,000	\$ 20,000	\$ 20,000
Biological Restoration of Fallowed Lands	\$ 378,301	\$ 257,748	\$ 346,393	\$ 151,200	\$ -	\$ -	\$ -
\$ -	\$ -	\$ -			\$ -	\$ -	\$ -
Ad Hoc Requests and EWG Meetings	\$ 5,769	\$ -	\$ 6,096	\$ 6,279	\$ 20,000	\$ 20,000	\$ 20,000
Services to Parties with Manual Read Meters	\$ 6,281	\$ 7,551	\$ 6,469	\$ 6,664	\$ 6,863	\$ 7,069	\$ 7,281

Amended WY 2024 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2024 through 2028)
Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target

Revenues, Expenditures, and Reserves	WY 2023 Budget	Actual WY 2023	Amended WY 2024	Projected Budget ¹			
				WY 2025	WY 2026	WY 2027	WY 2028
Liabilities on Payment Terms⁶							
Beginning Balance	\$ -	\$ -	\$ 749,184	\$ 355,088	\$ -	\$ -	\$ -
Minimum Monthly Balance	\$ -	\$ -	\$ 280,718	\$ -	\$ -	\$ -	\$ -
Maximum Monthly Balance	\$ 877,108	\$ 749,184	\$ 750,000	\$ 631,781	\$ -	\$ -	\$ -
Year-End Balance	\$ 877,108	\$ 749,184	\$ 355,088	\$ 91,970	\$ -	\$ -	\$ -
Cash Reserves⁷							
Beginning Cash Reserves	\$ 523,518	\$ 523,518	\$ 889,614	\$ 612,825	\$ 612,825	\$ 489,325	\$ 459,686
Year-End Cash Reserve Balance	\$ 810,229	\$ 889,614	\$ 612,825	\$ 612,825	\$ 489,325	\$ 459,686	\$ 424,230
<u>Average Reserve Needed During the Year to Maintain Target Operating Expenses (7-9 months)</u>	<u>\$ 723,330</u>		<u>\$ 786,468</u>	<u>\$ 612,825</u>	<u>\$ 416,091</u>	<u>\$ 414,327</u>	<u>\$ 422,869</u>
Minimum Month-End Reserve Balance	\$ 581,550		\$ 603,744	\$ 583,276	\$ 425,475	\$ 387,563	\$ 387,563
Average Month-End Reserve Balance	\$ 691,162		\$ 773,773	\$ 603,777	\$ 521,248	\$ 477,626	\$ 479,527
Variance from Desired Reserve	\$ (32,168)		\$ (12,695)	\$ (9,048)	\$ 105,157	\$ 63,298	\$ 56,658

Notes

1-- The projected budget is estimated based on Staff's best professional judgement as to how the cost of each line item will change over time. Some tasks increase at an assumed inflation rate of 3%; some tasks decrease in cost with efficiencies, followed by annual inflation increases; and some tasks fluctuate year to year based on the level of effort for non-routine work such as Sustainable Yield updates. For grant funded work, the projection matches the total allowable grant reimbursement.

2-- Revenues shown are the amounts invoiced by Watermaster to pumpers, or in the case of the DWR grant, they are the amounts that are eligible for reimbursement, during the Water Year. In the case of the DWR Reimbursements, payment on the reimbursement requests are actually delayed by 8 months from request date. This delay in payment is taken into consideration in the financial model to determine when to defer or pay on vendor invoices to maintain the target cash reserves.

3-- A total of \$2,738,590 was awarded for Watermaster projects. See also Note 2.

4-- Expenditures in green are **partially reimbursed** by the Prop 68 grant. Expenditures in blue are **fully reimbursed** by the Prop 68 grant. Expenditures in bold purple text are **costs that would not have been incurred** absent the Prop 68 grant. Expenditures in bold red text are amended compared to the original WY 2024 Budget.

5-- Combined interest to West Yost and Land IQ under proposed Payment Terms allowing an outstanding balance of up to \$550,000 per vendor in any 30-day period.

6-- Reflects balances owed to West Yost and Land IQ under Payment Terms allowing outstanding balances of \$550,000 and \$200,000, respectively, in any 30-day period.

7-- The cash reserve projections are based on the monthly financial model prepared by Watermaster Staff to support extended payment terms with West Yost and Land IQ, based on expected timing of receipt of payment on Watermaster assessments and reimbursement requests and deferred payments to West Yost and Land IQ.

**Borrego Springs Watermaster
Board of Directors Meeting
April 18, 2024
AGENDA ITEM VII**

To: Board of Directors
From: Samantha Adams, Executive Director
Date: April 15, 2025
Subject: Establishing Agenda for May 9, 2024 Regular Board Meeting

Process

To set the May agenda, the Board will:

1. Review the initial May agenda topics planned by Staff, as listed below
2. Review the June and July tentative topics planned by Staff
3. List out additional items that have arisen during the April 18, 2024 Board meeting (such as during public comment)
4. Call on Directors to request additional items for consideration of inclusion on the May 2024 or other future agenda
5. Consider motion(s) to approve the agenda (agenda can be approved in a single motion or multiple motions to cover each item by majority vote)

Staff's Initial Agenda for May Regular Meeting

The May 9, 2024 Regular meeting (held In-Person at the Borrego Springs Library) will include all standard items of: public correspondence, consent calendar (meeting minutes, financial reports, staff invoices, etc.), verbal Staff and Chair reports, establishing the agenda for the subsequent meeting, Board member comments, listing of future meeting dates, and adjournment. In addition to the standard items, the initial agenda planned by Staff for May 2024 includes the following business items for consideration and possible action or discussion/direction to staff:

1. Presentation by UCI on the Groundwater Dependent Ecosystems Project (discussion)
2. Consideration of Approval of Board Resolution on Carryover Transfers and Accounting (action)
3. Consideration of Approval of a Well Subcontractor for Conversion of Abandoned Wells (action)
4. Consideration of Approval of June TAC meeting agenda (action)
5. Draft WY 2025 Budget (discussion, direction to staff)
6. WY 2024 Mid-Year Pumping Report (discussion)
7. Status Update on the Redetermination of the Sustainable Yield (discussion)

Staff's Tentative Topics for June and July***Tentative June Agenda Topics***

1. Consideration of Approval of the WY 2025 Budget
2. Spring 2024 Semi-Annual Monitoring Report (*pending receipt of all results in-time*)
3. Status Update on the Redetermination of the Sustainable Yield
4. Status Update on the 5-year Assessment of the Groundwater Management Plan

Tentative July Agenda Topics

1. Approval of next EWG Meeting Agenda
2. WY 2024 3rd Quarterly Budget Status Review
3. Status Update on the Redetermination of the Sustainable Yield

Tentative Topics for Future Meetings Suggested by Board at Prior Meetings

1. Risk associated with high banking balance relative to FDIC insured amount