Borrego Springs Watermaster
Regular Board Meeting
April 16, 2025 @ 3:00 p.m.
*****IN PERSON at Borrego Springs Library*****

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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 includes items received between March 13, 2025 and April 9, 2025.

A. Correspondence Received

i. April 8, 2025 email from Diane Johnson .....**Page 4**

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 19, 2025 .....**Page 6**

B. Approval of March 2025 Financial Report .....**Page 13**

C. Receive and file January 2025 Watermaster Staff invoices

i. January 2025 RWG Invoice.....**Page 25**

ii. January 2025 Land IQ Invoice.....**Page 31**

iii. January 2025 West Yost Invoices

a. Technical and Administrative Services (not grant reimbursable).....**Page 52**

b. Grant Component 7 – Monitoring and Reporting.....**Page 59**

c. Grant Component 6 – Biological Restoration Study .....**Page 71**

IV. PRESENTATION ON THE GROUNDWATER DEPENDENT ECOSYSTEM PROJECT (HUXMAN, UCI)
Please click on this link or visit Watermaster's website to review the report attached to his public comment letter: SUPPLEMENTAL HANDOUT IV

V. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

A. Overview of Work Completed with SGM Grant Funding (ADAMS).... **Agenda Package Addendum**

B. 2nd Quarter WY 2025 Budget Status Review (ADAMS) ..... **Agenda Package Addendum**

C. Use of the BVHM to Evaluate Sustainability of Future Pumping in the Borrego Springs Subbasin (MALONE).....**Page 76**

D. WY 2026 Budget Scoping (ADAMS) ..... **Agenda Package Addendum**

VI. REPORTS

A. Legal Counsel Report – *verbal*

B. Technical Consultant Report.....**Page 114**
- Spring 2025 Semi-Annual Monitoring Report
- May 1, 2025 TAC meeting

C. Executive Director Reports .....**Page 116**
- SGM Grant Reimbursement Status
- Approach to Addressing DWR Comments on Judgment/GMP
- WY 2025 Pumping Assessments
- Annual Meter Verification Status
- BPA and Party Updates

D. Chairperson's Report – *verbal*

VII. APPROVAL OF AGENDA ITEMS FOR MAY 21, 2025 BOARD MEETING .....**Page 118**

VIII. BOARD MEMBER COMMENTS

IX. NEXT MEETINGS OF THE BORREGO SPRINGS WATERMASTER

A. Regular Board Meeting – Wednesday, May 21, 2025 at 3:00 pm

B. Regular Board Meeting – Wednesday, June 18, 2025 at 3:00 pm

X. ADJOURNMENT

To: Samantha Adams,

From: Diane Johnson, as a concerned resident of Borrego Springs

Re: DWR's Assessment of the Borrego Alternative to a GSP

[Please note that I am writing this as an individual, not as a member of the Board of the Borrego Water District.]

I. Summary

- First, congratulations to all for the Alternative being approved. And, as the March 25 Press Release notes, it was given very gratifying commendations for having already reduced pumping significantly.
- But later in the same paragraph, DWR staff states, "However … SGMA is not focused on elimination of overdraft alone. SGMA requires that quantified sustainable management criteria be determined for each of the applicable sustainability indicators so that objective metrics can be used to define and determine whether a basin is being sustainably managed. The eventual elimination of overdraft over two decades does not automatically equate to the absence or avoidance of undesirable results under SGMA."
- I am concerned that the Press Release is misleading to the public, in that it only tells the positive story that the Alternative was approved, without mentioning the Recommended Corrective Actions (RCAs) strongly suggested by DWR. DWR stipulates that the RCAs be completed and described in the resubmission of the Alternative by June 25, 2026, "to allow for full SGMA compliance within statutory timeframes."
- This short timeframe means that work on the RCAs must begin with WY2026, whose budget is being discussed right now. The Statement of Findings, p. 4 of 4, states "the Department … therefore recommends the Agency address them [the RCAs] in the next Periodic Evaluation." I believe that significant time and WM funds must be allocated in the next WY budget.

II. Specific notes

Overall comment by DWR: "Department staff have reviewed the GMP and have recommendations specific to the GMP to more closely align basin management with the requirements of SGMA and the GSP Regulations. A critical component of managing this Subbasin under the Borrego Alternative is reducing pumping to eliminate overdraft, but sustainable groundwater management under SGMA requires consideration of more than the elimination of overdraft over a set period of time. Accordingly, staff's recommended corrective actions are geared towards broadening the focus of management under the Borrego Alternative to encompass quantified definitions of sustainability that will allow for better management and monitoring of progress towards achieving sustainability as defined by SGMA." (p.2 of 42)

My overall comment: DWR says in effect, again and again, that more work needs to be done on the Alternative to the GSP, including making difficult decisions on how to more closely align the Judgment and the GMP on many topics. Sufficient funds to do that work must be budgeted.

Notes on certain issues:

- Note the term in the DWR comment above :"quantified definitions of sustainability." It, or a variation such as "quantify," appears 15 times in the PDF of the Assessment. It comes up in connection with the need to quantify Sustainability Indicators, Minimum Thresholds, and Management Objectives. It seems highly likely that significant effort will be required to address DWR's recommendations, first by the TAC and then by the WMB.
- RCA 5: Although the Summary of the RCAs at the front of the Filing from atty General Bonda speaks of "[crop] irrigation in relation to degradation of water quality," discussions of water quality are much broader than that, with DWR noting concerns for example in relation to lowering of groundwater levels as they affect municipal and domestic/de minimis wells, mitigation methods and quantified costs thereof, etc. Section 5.2.4 states, "Department staff conclude that the GMP does not clearly set quantitative minimum thresholds and a measurable objective for all components of the degraded water quality sustainability indicator." The A Presentation slide from the March 19 WMB meeting only notes on p. 31 of the PDF that the RCA is to "Quantify SMC related to protection of agriculture uses, and discuss how those limits will be used to track progress in the Subbasin and the associated impacts to beneficial uses and users of the Subbasin at those limits." That is a much more limited interpretation of RCA 5 than DWR's document itself demonstrates.

III. Conclusion

I believe I've made my point sufficiently – that the budget discussions that will be beginning with the April 9 meeting will recognize that – unfortunately but realistically – significant funds will be required to be spent in WY2026, because the RCAs listed by DWR require significant work.

Submitted 4/7/25 by Diane Johnson

MINUTES

BORREGO SPRINGS WATERMASTER BOARD MEETING

Conducted Virtually via GoToMeeting

Wedneseday, March 19, 2025, 4:00 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
	Jim Bennett – County of San Diego
Watermaster Staff Present	James M. Markman, Legal Counsel
	Samantha Adams, Executive Director, West Yost
	Andrew Malone, Lead Technical Consultant, West Yost
	Lauren Salberg, Staff Geologist, West Yost
Others Present	David Garmon
	Diane Johnson, BWD Board Member
	Geoff Poole, BWD General Manager
	George Peraza, DWR
	HK
	Jim Dax, Board Alternate – Community Representative
	Jonathan Abadesco, C.J. Brown & Company, CPAs
	Kathy Dice, Board Alternate - BWD
	Rich Pinel, Board Alternate – Recreational Sector
	Steve Anderson, BB&K, representing BWD
	Tammy Baker, BWD Board Member
	Travis Brooks, Land IQ
	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 19, 2025 Meeting.

I. **Opening Procedures**

A. Chair Duncan called the meeting to order at 4:00 PM at which time the meeting recording was started.

B. Chair Duncan led the meeting participants in the Pledge of Allegiance.

[1] https://borregospringswatermaster.com/past-watermaster-meetings/

C. Samantha Adams, Executive Director (ED) called roll and confirmed that a quorum of all members of the Board were present.

D. Approval of Agenda.

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

II. **Public Correspondence**

A. Correspondence Received. No correspondence was received.

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 19, 2025 agenda package. Board discussion included:

- Direction to update the location of the Co-generation plant on page 4 of 7 of the draft meeting minutes. The Co-generation plant was located in Coachella Valley, not Borrego Springs.

Motion: Motioned by Director Smith, seconded by Director Bennett 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 2024 Financial Audit.* ED Adams introduced Jonathan Abadesco from C.J. Brown & Company, CPAs. Mr. Abadesco summarized the Financial Audit for Water Year (WY) 2024 prepared by C.J. Brown & Company, CPAs and 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. The key points of discussion by the Board included:

- Director Smith thanked C.J. Brown & Company and West Yost for an efficient process to prepare the WY 2024 Financial Report and noted that this was the second year working with C.J. Brown & Company, CPAs.
- Vice Chair Bilyk thanked C.J. Brown & Company, CPAs for performing the audit and thanked Director Smith for his review.

Motion: Motioned by Vice Chair Bilyk, seconded by Director Smith, to approve the WY 2024 Financial Audit by C.J. Brown & Company, CPAs and include it with the Water Year 2024 Annual Report for the Borrego Springs Subbasin. *Motion carried unanimously by roll-call vote (5-0-0).*

B. *Consideration of Approval of WY 2024 Annual Report.* ED Adams provided an overview of the draft final WY 2024 Annual Report and memo included in the Agenda package. ED Adams summarized the comments received on the draft Annual Report and noted which comments were addressed in the draft final 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. There were no public comments. The key points of discussion by the Board included:

- Director Smith voiced that while the WY 2024 Annual Report is robust and informative, he hopes to reduce the length and costs of future Annual Reports.

Motion: Motioned by Vice Chair Bilyk, seconded by Director Jorgensen, to approve the Water Year 2024 Annual Report for the Borrego Springs Subbasin and file it with the Court and DWR. *Motion carried unanimously by roll-call vote (5-0-0).*

C. *Biological Restoration of Fallowed Lands Project.* Andy Malone provided a status update on the Biological Restoration of Fallowed Lands project, as presented 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. The key points of discussion by the Board included:

- The recommendations for alternative fallowing strategies identified in the draft final report are supported by sufficient scientific evidence.
- Land IQ has enough time to finalize the draft final report prior to the end of the Sustainable Groundwater Management (SGM) grant deadline.
- The construction of the sand fences has been completed.

No Board action was taken.

D. DWR Comments on the Borrego Springs Alternative Plan. ED Adams congratulated the Board on DWR's approval of the Borrego Springs Alternative Plan. She then provided a summary of memo included in the agenda package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Steve Anderson and Diane Johnson.

Public questions and comments, including Board and staff response if any, included:

- Steve Anderson, legal counsel for BWD, recommended the Board to adopt a policy to establish an emergency response if domestic wells go dry.
- DWR also commented on Recommended Action No. 5, which pertains to groundwater-quality and its Minimum Thresholds.

The key points of discussion by the Board included:

- Chair Duncan thanked Director Smith for developing a press release that shares the DWR's approval of the Alternative Plan.
- Suggested edits to the press release prior to its release, including:
  - Replacing "TBD" with the correct Alternative Directors
  - Adding a footnote that Alternative Director Leanne Crow is no longer an Alternative Director to the Watermaster Board.

Motion: Motioned by Vice Chair Bilyk seconded by Director Bennett, to approve the press release of the DWR's approval of the Borrego Springs Alternative Plan. *Motion carried unanimously by roll-call vote (5-0-0).*

Following the motion, Board discussion on the DWR assessment continued. The key points included:

- Director Jorgensen thanked everyone who was involved in the development of the Alternative Plan.
- Addressing the recommended action related to domestic wells will be challenging. In the original Groundwater Sustainability Plan (GSP), there was an acknowledgment that De Minimis wells may be impacted but there is limited information on the location and construction information of these wells.
- Should money and time be spent collecting more information on De Minimis wells or just move to developing a process to addressing impacts if they arise?
- Mr. Markman, Legal Counsel the Watermaster Board, shared that attempting to collect information on all domestic wells may be time-consuming and costly, based on his experience in other Basins. He agreed with Mr. Anderson's recommendation for the Watermaster to develop a policy to address impacts, should they arise.
- Mr. Malone stated that although West Yost has identified construction and location information for domestic wells, there are still gaps in our knowledge of the extent of domestic wells.
- Chair Duncan reminded the group the Watermaster is the responsible Party for addressing impacts to domestic wells.
- Discussion on the next steps and the actions taken by the Watermaster Board, West Yost staff, and the TAC. Director Bennett categorized the response to DWR's comments as: i) Comments that require clarification, ii) Comments that require technical information from the TAC, and iii) Comments that require policy decisions from the Board.
- The costs to address DWR's comments on the Alternative Plan should be considered in the development of the WY 2026 budget.

No additional Board action was taken. The Board directed staff to develop a strategy, schedule, and cost for addressing DWR's comments on the Alternative Plan and bring this information to the Board at the April Board meeting.

E. Consideration of Approval of the Agenda for the Next TAC Meeting. Mr. Malone presented the proposed agenda for the upcoming TAC meeting. 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.

Public questions and comments, including Board and staff response if any, included:

- The new agenda item related to the Borrego Valley Hydrologic Model (BVHM) is focused on investigating a model discrepancy which is causing wells to dry up in the projection scenarios.

The key points of discussion by the Board included:

- Chair Duncan requested that future TAC meetings not conflict with BWD Board meetings.
- It's premature to direct the TAC to address DWR's comments on the GMP before the Board has given approval to do so. This agenda topic should be deferred.

Motion: Motioned by Director Smith seconded by Vice Chair Bilyk, to approve the TAC meeting agenda to include all items except for TAC discussion of the DWR comments on the GMP, which should be deferred to a later meeting. *Motion carried unanimously by roll-call vote (5-0-0).*

F. *Progress Toward Completion of 5-Year GMP Assessment Report.* ED Adams provided a summary of the memo 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 or Board comments.

No Board action was taken.

V. **Reports.**

A. Legal Counsel Report. Mr. Markman reported on an ongoing legal debate related to if DWR or the Court has final say on technical issues, such as setting the Sustainable Yield. Mr. Markman reported that two judges appear to be leaning towards allowing the judge in an adjudication process make the determination (such as deciding if the Sustainable Yield is the value set through the SGMA process vs. the adjudication process). Mr. Markman continue to update the Board on this debate, as it is an ongoing discussion

B. Technical Consultant Report. Mr. Malone reported on the items listed in the agenda package memo (see slides 49 through 62 of the Board presentation slides). There were no additional topics discussed. Public comments were made by David Garmon, Tammy Baker, and Trey Driscoll.

Discussion on public questions and comments included:

- The first climate scenario simulated a repeat of the last 47-years of climate. This is one of four climate scenarios that will eventually be simulated.
- BWD is performing a pumping optimization study to evaluate if pumping can be moved to the North Management Area if there is a potable water supply. The model does not simulate shifting future BWD pumping from the Central to the North Management Area.
- The model deficiency is unlikely to impact the 2025 Sustainable Yield because the calculation of the Sustainable Yield uses net recharge absent of groundwater pumping.
- There is little data available on mountain-front recharge in the Basin. The model uses estimates of mountain-front recharge from the Basin Characterization Model (BCM), which were refined during model calibration.

Board questions and comments included:

- Why might the projected model results be considered a model discrepancy and not a realistic result of future pumping plans? While the Multi-Node Well (MNW2) package is functioning as intended by reducing pumping in response to simulated drawdown, the simulated drawdown may not reflect actual future groundwater-level responses. We want to investigate the discrepancy to make sure it's not a mistake in the model before the model is used to make decisions. Model discrepancies have been identified in the past, such as the Farm Process underestimating historical pumping. Greater confidence

in the model results is important before model projections are used to for management decisions.

- In addition to the Sustainable Yield, the BVHM is used to evaluate sustainability against Sustainable Management Criteria (SMC) at wells in the Basin using projected groundwater-levels. If model projections show that SMC (*i.e.* Minimum Thresholds) are projected to be exceeded, then management actions would be set to avoid drawdown and groundwater level declines.

C. Executive Director Reports. ED Adams reported on the items listed in the agenda package memo (see slides 63 through 65 of the Board presentation slides). There were no additional topics discussed. Board questions and comments included:

- There is one remaining Party out of compliance with the metering program. It is believed this Party uses the well for domestic uses and there is no reason to believe they are pumping above their Annual Allocation at this time. Alternative Director Jim Dax will communicate with this Party and discuss with ED Adams prior to the next Board meeting.

D. Chairperson's Report. NONE

VI. **Approval of Agenda Items for April 16, 2025 Board Meeting.** ED Adams reviewed the potential agenda items for the next Board meetings listed in the agenda package. The Board discussed items to be included on the April 16, 2025 Board meeting agenda, in addition to items listed in the Agenda package. Discussion included:

- Reminder that the April 2025 Board meeting will be held In-Person at the Borrego Springs Library.
- Request to add an agenda item for a presentation on the Groundwater Dependent Ecosystem (GDE) Study Report. As a reminder to the Board, one of the approved tasks for the redetermination of the 2030 Sustainable Yield is for the TAC to review and consider the results of the GDE study.
- ED Adams updated the proposed Agenda for the April 16, 2025 Board meeting on the meeting screen based on discussion, noting it now includes the following items:
  - Final BPA Party out of Compliance
  - Final Overview of Work Completed with SGM Implementation Grant Funding
  - 2nd Quarter WY 2025 Budget Status Review
  - WY 2026 Budget Scoping
  - Assessment Report and Addressing DWR Comments on the Judgment/GMP
  - Presentation of the GDE Report

Motion: Motioned by Chair Duncan seconded by Director Smith, to approve the April 16, 2025 agenda as presented on slide 69 of the Board presentation slides. *Motion carried unanimously by roll-call vote (5-0-0).*

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

- Board members thanked everyone working behind the scenes to coordinate with DWR and the efforts which led to DWR's approval of the Alternative Plan.

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 6:11 PM.

Recorded by:	Attest:
Lauren Salberg, Staff Geologist, West Yost	Shannon Smith, Secretary and Treasurer of the Board

12:47 PM

04/04/25

Accrual Basis

Borrego Springs Watermaster
Profit & Loss for Fiscal Year 2024-2025
October 2024 through March 2025

	Oct 24	Nov 24	Dec 24	Jan 25	Feb 25	Mar 25	TOTAL
Ordinary Income/Expense							
Income							
DWR Grant Reimbursement t	0.00	408,323.49	0.00	0.00	239,810.24	0.00	648,133.73
Pumping Assessment	(824.30)	164,335.46	0.00	0.00	0.00	0.00	163,511.16
Services Rendered	0.00	0.00	0.00	2,691.75	0.00	0.00	2,691.75
WY 2024 - Expected Grant Reimb v	0.00	(408,323.49)	0.00	0.00	(239,810.24)	0.00	(648,133.73)
WY 2025 - Expected Grant Reimb	136,962.85	49,880.97	62,393.97	224,085.28	212,398.73	202,775.65	888,497.45
Total Income	136,138.55	214,216.43	62,393.97	226,777.03	212,398.73	202,775.65	1,054,700.36
Expense							
Audit	0.00	0.00	6,448.00	806.00	0.00	844.00	8,098.00
Bank Service Charges	0.00	0.00	27.00	25.00	0.00	27.00	79.00
Consult Serv Land IQ-Grant Reim **	40,541.61	22,282.97	13,094.22	78,843.89	30,072.97	23,245.55	208,081.21
Consult Serv WY-Grant Reim **	96,421.24	27,598.00	49,299.75	132,526.39	182,325.76	177,815.10	665,986.24
Consulting Services *	27,124.75	27,751.35	18,892.27	17,707.75	11,272.19	11,814.48	114,562.79
Consulting Services- Meter Read	517.50	(155.25)	51.75	161.25	303.00	107.50	985.75
Insurance	3,579.54	3,579.54	3,579.54	3,579.54	3,579.54	3,579.54	21,477.24
Interest Expense	5,897.50	5,691.39	5,249.59	3,092.56	3,526.73	4,700.21	28,157.98
Legal	4,500.00	4,865.00	3,000.00	13,210.00	8,312.50	3,901.25	37,788.75
Meter Accuracy Test–Grant Reim **	0.00	0.00	0.00	12,715.00	0.00	1,715.00	14,430.00
Meter Read Expenses	0.00	0.00	0.00	1,188.22	0.00	0.00	1,188.22
Reimbursed to BWD for GSP	0.60	0.00	4.66	0.00	0.00	0.00	5.26
Total Expense	178,582.74	91,613.00	99,646.78	263,855.60	239,392.69	227,749.63	1,100,840.44
Net Ordinary Income	(42,444.19)	122,603.43	(37,252.81)	(37,078.57)	(26,993.96)	(24,973.98)	(46,140.08)
Net Income	**(42,444.19)**	**122,603.43**	**(37,252.81)**	**(37,078.57)**	**(26,993.96)**	**(24,973.98)**	**(46,140.08)**

* 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.

12:45 PM

04/04/25

Accrual Basis

Borrego Springs Watermaster
Balance Sheet for Fiscal Year 2024-2025
As of March 31, 2025

	Mar 31, 25
ASSETS	
Current Assets	
Checking/Savings	
US Bank	818,436.74
Total Checking/Savings	818,436.74
Accounts Receivable	
Accounts Receivable	5,726.09
Total Accounts Receivable	5,726.09
Other Current Assets	
Accrued Grant Reimburse 2024	295,964.79
Accrued Grant Reimburse 2025	888,497.45
Prepaid Expenses	7,159.04
Total Other Current Assets	1,191,621.28
Total Current Assets	2,015,784.11
TOTAL ASSETS	**2,015,784.11**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	741,689.90
Total Accounts Payable	741,689.90
Other Current Liabilities	
Accrued Payables	207,317.84
Total Other Current Liabilities	207,317.84
Total Current Liabilities	949,007.74
Total Liabilities	949,007.74
Equity	
Retained Earnings	1,112,916.45
Net Income	-46,140.08
Total Equity	1,066,776.37
TOTAL LIABILITIES & EQUITY	**2,015,784.11**

12:47 PM

04/04/25

Accrual Basis

Borrego Springs Watermaster
Expense Distribution Detail
March 2025

Type	Date	Num	Memo	Account	Amount
C.J. Brown & Company CPAs					
Bill	03/31/2025	3290	Audit services rendered during the month of March 2025	Audit	844.00
Total C.J. Brown & Company CPAs					844.00
Land IQ, LLC					
General Journal	03/01/2025	95R	Land IQ Estimate for February 1, 2025 to February 28, 2025	Consult Serv Land IQ-Grant Reim	(13,635.46)
Bill	03/26/2025	6649	Services from February 1, 2025 to February 28, 2025	Consult Serv Land IQ-Grant Reim	20,464.25
Bill	03/31/2025	LandIQ Int Mar25	March 2025 Final Interest, Including Payments	Interest Expense	
General Journal	03/31/2025	99	Land IQ Estimate for March 1, 2025 to March 31, 2025	Consult Serv Land IQ-Grant Reim	16,416.76
Total Land IQ, LLC					23,245.55
McCall's Meter Sales & Service					
Bill	03/19/2025	37444	Meter Accuracy Test–Grant Reimbursable	Meter Accuracy Test–Grant Reim	1,225.00
Bill	03/31/2025	37475	Meter Accuracy Testing–Grant Reimbursable	Meter Accuracy Test–Grant Reim	490.00
Total McCall's Meter Sales & Service					1,715.00
RWG Law					
General Journal	03/01/2025	95R	RWG Estimate for February 1, 2025 to February 28, 2025	Legal	(8,750.00)
Bill	03/14/2025	252151	Services rendered through February 28, 2025	Legal	7,901.25
General Journal	03/31/2025	99	RWG Estimate for March 1, 2025 to March 31, 2025	Legal	4,750.00
Total RWG Law					3,901.25
West Yost & Associates					
General Journal	03/01/2025	95R	WY Estimate for February 1, 2025 to February 28, 2025	Consulting Services	(11,489.00)
General Journal	03/01/2025	95R	WY Estimate for February 1, 2025 to February 28, 2025	Consulting Services- Meter Read	(356.75)
General Journal	03/01/2025	95R	WY Estimate for February 1, 2025 to February 28, 2025	Consult Serv WY-Grant Reim	(179,432.37)
Bill	03/26/2025	2062142	West Yost Consulting Services February 1, 2025 to February 28, 2025	Consulting Services	12,071.87
Bill	03/26/2025	2062142	West Yost Consulting Services February 1, 2025 to February 28, 2025	Consulting Services- Meter Read	356.75
Bill	03/26/2025	2062143	West Yost Consulting Services February 1, 2025 to February 28, 2025	Consult Serv WY-Grant Reim	76,340.00
Bill	03/26/2025	2062143	West Yost Vendor Portion – Well Tec Services	Consult Serv WY-Grant Reim	105,127.00
Bill	03/26/2025	2062143	West Yost Vendor Portion – Clinical Laboratory of San Bernardino	Consult Serv WY-Grant Reim	112.00
Bill	03/26/2025	2062144	West Yost Consulting Services February 1, 2025 to February 28, 2025	Consult Serv WY-Grant Reim	856.50
Bill	03/31/2025	Interest Mar25 Est	March 2025 Estimated Interest	Interest Expense	3,559.84
Bill	03/31/2025	Interest Mar25 Final	March 2025 Final Interest, Including Payments	Interest Expense	1,140.37
General Journal	03/31/2025	99	WY Estimate for March 1, 2025 to March 31, 2025	Consulting Services	11,231.61
General Journal	03/31/2025	99	WY Estimate for March 1, 2025 to March 31, 2025	Consulting Services- Meter Read	107.50
General Journal	03/31/2025	99	WY Estimate for March 1, 2025 to March 31, 2025	Consult Serv WY-Grant Reim	174,811.97
Total West Yost & Associates					194,437.29
TOTAL					**224,143.09**

Borrego Springs Watermaster

4/4/2025 12:46 PM

Register: US Bank

From 03/01/2025 through 03/31/2025

Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
03/05/2025	2186	West Yost & Associates	Accounts Payable		239,810.24	X		818,463.74
03/14/2025			Bank Service Charges	Service Charge	27.00	X		818,436.74

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2059873	8/31/2024	$ 42,064.50				$ 42,064.50
	9/19/2024		10.00%	$ 218.97	$ 42,064.50	$ 42,283.47
	9/30/2024		10.00%	$ 127.43	$ 42,283.47	$ 42,410.90
	10/28/2024	$ (741.38)	10.00%	$ 325.34	$ 41,669.52	$ 41,994.86
	10/31/2024		10.00%	$ 34.52	$ 41,994.86	$ 42,029.38
	11/8/2024		9.75%	$ 89.82	$ 42,029.38	$ 42,119.19
	11/12/2024	$ (345.58)	9.75%	$ 45.00	$ 41,773.61	$ 41,818.62
	11/30/2024		9.75%	$ 201.07	$ 41,818.62	$ 42,019.69
	12/19/2024		9.50%	$ 207.80	$ 42,019.69	$ 42,227.49
	12/31/2024		9.50%	$ 131.89	$ 42,227.49	$ 42,359.37
	1/29/2025	$ (3,441.63)	9.50%	$ 319.73	$ 38,917.74	$ 39,237.47
	1/31/2025		9.50%	$ 20.42	$ 39,237.47	$ 39,257.89
	2/27/2025	$ (268.34)	9.50%	$ 275.88	$ 38,989.55	$ 39,265.44
	2/28/2025		9.50%	$ 10.22	$ 39,265.44	$ 39,275.65
	3/24/2025	$ (39,520.99)	9.50%	$ 245.34	$ (245.34)	$ 0.00
2060199	9/30/2024	$ 17,084.00				$ 17,084.00
	10/31/2024		10.00%	$ 145.10	$ 17,084.00	$ 17,229.10
	11/8/2024		9.75%	$ 36.82	$ 17,229.10	$ 17,265.92
	11/12/2024	$ (286.71)	9.75%	$ 18.45	$ 16,979.21	$ 16,997.65
	11/30/2024		9.75%	$ 81.73	$ 16,997.65	$ 17,079.38
	12/19/2024		9.50%	$ 84.46	$ 17,079.38	$ 17,163.84
	12/31/2024		9.50%	$ 53.61	$ 17,163.84	$ 17,217.45
	1/29/2025	$ (277.06)	9.50%	$ 129.96	$ 16,940.39	$ 17,070.35
	1/31/2025		9.50%	$ 8.89	$ 17,070.35	$ 17,079.23
	2/27/2025	$ (124.50)	9.50%	$ 120.02	$ 16,954.73	$ 17,074.76
	2/28/2025		9.50%	$ 4.44	$ 17,074.76	$ 17,079.20
	3/24/2025	$ (17,185.89)	9.50%	$ 106.69	$ (106.69)	$ (0.00)

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2060200	9/30/2024	$ 43,078.25				$ 43,078.25
	10/31/2024		10.00%	$ 365.87	$ 43,078.25	$ 43,444.12
	11/8/2024		9.75%	$ 92.84	$ 43,444.12	$ 43,536.96
	11/12/2024	$ (722.94)	9.75%	$ 46.52	$ 42,814.02	$ 42,860.54
	11/30/2024		9.75%	$ 206.08	$ 42,860.54	$ 43,066.62
	12/19/2024		9.50%	$ 212.97	$ 43,066.62	$ 43,279.59
	12/31/2024		9.50%	$ 135.17	$ 43,279.59	$ 43,414.77
	1/29/2025	$ (698.61)	9.50%	$ 327.69	$ 42,716.16	$ 43,043.85
	1/31/2025		9.50%	$ 22.41	$ 43,043.85	$ 43,066.26
	2/27/2025	$ (313.93)	9.50%	$ 302.64	$ 42,752.33	$ 43,054.97
	2/28/2025		9.50%	$ 11.21	$ 43,054.97	$ 43,066.18
	3/24/2025	$ (43,335.19)	9.50%	$ 269.02	$ (269.01)	$ 0.00
2060589	10/31/2024	$ 29,146.60				$ 29,146.60
	11/8/2024		9.75%	$ 62.29	$ 29,146.60	$ 29,208.89
	11/30/2024		9.75%	$ 171.65	$ 29,208.89	$ 29,380.54
	12/19/2024		9.50%	$ 145.29	$ 29,380.54	$ 29,525.83
	12/31/2024		9.50%	$ 92.22	$ 29,525.83	$ 29,618.05
	1/29/2025	$ (728.86)	9.50%	$ 223.56	$ 28,889.19	$ 29,112.74
	1/31/2025		9.50%	$ 15.15	$ 29,112.74	$ 29,127.90
	2/27/2025	$ (212.33)	9.50%	$ 204.69	$ 28,915.57	$ 29,120.26
	2/28/2025		9.50%	$ 7.58	$ 29,120.26	$ 29,127.84
	3/24/2025	$ (29,309.79)	9.50%	$ 181.95	$ (181.95)	$ 0.00
2060590	10/31/2024	$ 69,680.24				$ 69,680.24
	11/8/2024		9.75%	$ 148.91	$ 69,680.24	$ 69,829.15
	11/30/2024		9.75%	$ 410.37	$ 69,829.15	$ 70,239.51
	12/19/2024		9.50%	$ 347.35	$ 70,239.51	$ 70,586.86
	12/31/2024		9.50%	$ 220.46	$ 70,586.86	$ 70,807.32
	1/29/2025	$ (6,404.42)	9.50%	$ 534.45	$ 64,402.90	$ 64,937.35
	1/31/2025		9.50%	$ 33.80	$ 64,937.35	$ 64,971.16
	2/27/2025	$ (44,670.61)	9.50%	$ 456.58	$ 20,300.55	$ 20,757.13
	2/28/2025		9.50%	$ 5.40	$ 20,757.13	$ 20,762.53
	3/24/2025	$ (20,892.22)	9.50%	$ 129.69	$ (129.69)	$ 0.00

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2060952	11/30/2024	$ 23,069.82				$ 23,069.82
	12/19/2024		9.50%	$ 114.09	$ 23,069.82	$ 23,183.91
	12/31/2024		9.50%	$ 72.41	$ 23,183.91	$ 23,256.32
	1/29/2025	$ (374.23)	9.50%	$ 175.54	$ 22,882.09	$ 23,057.62
	1/31/2025		9.50%	$ 12.00	$ 23,057.62	$ 23,069.62
	2/27/2025	$ (168.17)	9.50%	$ 162.12	$ 22,901.46	$ 23,063.58
	2/28/2025		9.50%	$ 6.00	$ 23,063.58	$ 23,069.58
	3/24/2025	$ (23,213.69)	9.50%	$ 144.11	$ (144.11)	$ (0.00)
2060953	11/30/2024	$ 58,791.75				$ 58,791.75
	12/19/2024		9.50%	$ 290.74	$ 58,791.75	$ 59,082.49
	12/31/2024		9.50%	$ 184.53	$ 59,082.49	$ 59,267.02
	1/29/2025	$ (10,605.70)	9.50%	$ 447.34	$ 48,661.32	$ 49,108.66
	1/31/2025		9.50%	$ 25.56	$ 49,108.66	$ 49,134.23
	2/27/2025	$ (358.16)	9.50%	$ 345.29	$ 48,776.06	$ 49,121.35
	2/28/2025		9.50%	$ 12.79	$ 49,121.35	$ 49,134.13
	3/24/2025	$ (49,441.05)	9.50%	$ 306.92	$ (306.92)	$ 0.00
2060954	11/30/2024	$ 4,754.25				$ 4,754.25
	12/19/2024		9.50%	$ 23.51	$ 4,754.25	$ 4,777.76
	12/31/2024		9.50%	$ 14.92	$ 4,777.76	$ 4,792.68
	1/29/2025	$ (77.12)	9.50%	$ 36.17	$ 4,715.56	$ 4,751.74
	1/31/2025		9.50%	$ 2.47	$ 4,751.74	$ 4,754.21
	2/27/2025	$ (34.66)	9.50%	$ 33.41	$ 4,719.56	$ 4,752.97
	2/28/2025		9.50%	$ 1.24	$ 4,752.97	$ 4,754.20
	3/24/2025	$ (4,783.90)	9.50%	$ 29.70	$ (29.70)	$ (0.00)
2061512	12/31/2024	$ 23,351.45				$ 23,351.45
	1/31/2025		9.50%	$ 188.41	$ 23,351.45	$ 23,539.86
	2/27/2025	$ (360.00)	9.50%	$ 165.42	$ 23,179.86	$ 23,345.28
	2/28/2025		9.50%	$ 6.08	$ 23,345.28	$ 23,351.36
	3/24/2025	$ (9,629.11)	9.50%	$ 145.87	$ 13,722.25	$ 13,868.11
	3/31/2025		9.50%	$ 25.27	$ 13,868.11	$ 13,893.38

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2061513	12/31/2024	$ 56,628.00				$ 56,628.00
	1/31/2025		9.50%	$ 456.90	$ 56,628.00	$ 57,084.90
	2/27/2025	$ (1,333.02)	9.50%	$ 401.16	$ 55,751.88	$ 56,153.04
	2/28/2025		9.50%	$ 14.62	$ 56,153.04	$ 56,167.65
	3/24/2025	$ (453.19)	9.50%	$ 350.86	$ 55,714.46	$ 56,065.32
	3/31/2025		9.50%	$ 102.15	$ 56,065.32	$ 56,167.46
2061514	12/31/2024	$ 2,109.25				$ 2,109.25
	1/31/2025		9.50%	$ 17.02	$ 2,109.25	$ 2,126.27
	2/27/2025	$ (32.52)	9.50%	$ 14.94	$ 2,093.75	$ 2,108.69
	2/28/2025		9.50%	$ 0.55	$ 2,108.69	$ 2,109.24
	3/24/2025	$ (17.02)	9.50%	$ 13.18	$ 2,092.22	$ 2,105.40
	3/31/2025		9.50%	$ 3.84	$ 2,105.40	$ 2,109.23
2061686	1/31/2025	$ 16,212.94				$ 16,212.94
	2/28/2025		9.50%	$ 118.15	$ 16,212.94	$ 16,331.09
	3/24/2025	$ (238.09)	9.50%	$ 102.01	$ 16,093.00	$ 16,195.02
	3/31/2025		9.50%	$ 29.51	$ 16,195.02	$ 16,224.52
2061687	1/31/2025	$ 111,238.53				$ 111,238.53
	2/28/2025		9.50%	$ 810.67	$ 111,238.53	$ 112,049.20
	3/24/2025	$ (1,714.74)	9.50%	$ 699.92	$ 110,334.46	$ 111,034.38
	3/31/2025		9.50%	$ 202.30	$ 111,034.38	$ 111,236.68
2061688	1/31/2025	$ 4,889.25				$ 4,889.25
	2/28/2025		9.50%	$ 35.63	$ 4,889.25	$ 4,924.88
	3/24/2025	$ (75.37)	9.50%	$ 30.76	$ 4,849.51	$ 4,880.27
	3/31/2025		9.50%	$ 8.89	$ 4,880.27	$ 4,889.17
2062142	2/28/2025	$ 12,428.62				$ 12,428.62
	3/31/2025		9.50%	$ 100.28	$ 12,428.62	$ 12,528.90
2062143	2/28/2025	$ 181,579.00				$ 181,579.00
	3/31/2025		9.50%	$ 1,465.07	$ 181,579.00	$ 183,044.07

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2062144	2/28/2025	$ 856.50				$ 856.50
	3/31/2025		9.50%	$ 6.91	$ 856.50	$ 863.41

Total Invoices (Less Pymts)	**$ 384,572.23**	
Current Month Interest (*Estimated*)		**$ 3,559.84**
Current Month Interest (*Final, including payments*)		**$ 4,700.21**
Prior Month Interest Adjustment		**$ -**
Adjusted Monthly Interest		**$ 1,140.37**
Total Interest Charges		**$ 16,384.60**

Grand Total	**$ 400,956.82**

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6189	7/31/2024	$ 37,799.66				$ 37,799.66
	8/31/2024		10.50%	$ 337.09	$ 37,799.66	$ 38,136.75
	9/19/2024		10.00%	$ 198.52	$ 38,136.75	$ 38,335.27
	9/30/2024	$ (647.27)	10.00%	$ 115.53	$ 37,688.00	$ 37,803.53
	10/31/2024		10.00%	$ 321.07	$ 37,803.53	$ 38,124.60
	11/8/2024		9.75%	$ 81.47	$ 38,124.60	$ 38,206.07
	11/14/2024	$ (17,094.23)	9.75%	$ 61.23	$ 21,111.84	$ 21,173.08
	11/19/2024	$ (830.17)	9.75%	$ 28.28	$ 20,342.91	$ 20,371.19
	11/30/2024		9.75%	$ 59.86	$ 20,371.19	$ 20,431.05
	12/19/2024		9.50%	$ 101.04	$ 20,431.05	$ 20,532.08
	12/31/2024		9.50%	$ 64.13	$ 20,532.08	$ 20,596.21
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 20,596.21	$ 20,596.21
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 20,596.21	$ 20,596.21
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 20,596.21	$ 20,596.21
6244	8/31/2024	$ 55,493.54				$ 55,493.54
	9/19/2024		10.00%	$ 288.87	$ 55,493.54	$ 55,782.41
	9/30/2024		10.00%	$ 168.11	$ 55,782.41	$ 55,950.52
	10/31/2024		10.00%	$ 475.20	$ 55,950.52	$ 56,425.72
	11/8/2024		9.75%	$ 120.58	$ 56,425.72	$ 56,546.30
	11/14/2024	$ (475.38)	9.75%	$ 90.63	$ 56,070.92	$ 56,161.55
	11/19/2024	$ (463.95)	9.75%	$ 75.01	$ 55,697.60	$ 55,772.61
	11/30/2024		9.75%	$ 163.88	$ 55,772.61	$ 55,936.49
	12/19/2024		9.50%	$ 276.62	$ 55,936.49	$ 56,213.11
	12/31/2024		9.50%	$ 175.57	$ 56,213.11	$ 56,388.68
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 56,388.68	$ 56,388.68
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 56,388.68	$ 56,388.68
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 56,388.68	$ 56,388.68

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6290	9/30/2024	$ 50,880.24				$ 50,880.24
	10/31/2024		10.00%	$ 432.13	$ 50,880.24	$ 51,312.37
	11/8/2024		9.75%	$ 109.65	$ 51,312.37	$ 51,422.03
	11/14/2024	$ (432.13)	9.75%	$ 82.42	$ 50,989.90	$ 51,072.31
	11/19/2024	$ (421.75)	9.75%	$ 68.21	$ 50,650.56	$ 50,718.78
	11/30/2024		9.75%	$ 149.03	$ 50,718.78	$ 50,867.81
	12/19/2024		9.50%	$ 251.55	$ 50,867.81	$ 51,119.36
	12/31/2024		9.50%	$ 159.66	$ 51,119.36	$ 51,279.02
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 51,279.02	$ 51,279.02
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 51,279.02	$ 51,279.02
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 51,279.02	$ 51,279.02
6353	10/31/2024	$ 40,790.41				$ 40,790.41
	11/8/2024		9.75%	$ 87.17	$ 40,790.41	$ 40,877.58
	11/30/2024		9.75%	$ 240.23	$ 40,877.58	$ 41,117.80
	12/19/2024		9.50%	$ 203.34	$ 41,117.80	$ 41,321.14
	12/31/2024		9.50%	$ 129.06	$ 41,321.14	$ 41,450.20
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 41,450.20	$ 41,450.20
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 41,450.20	$ 41,450.20
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 41,450.20	$ 41,450.20
6427	11/30/2024	$ 22,757.10				$ 22,757.10
	12/19/2024		9.50%	$ 112.54	$ 22,757.10	$ 22,869.64
	12/31/2024		9.50%	$ 71.43	$ 22,869.64	$ 22,941.07
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 22,941.07	$ 22,941.07
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 22,941.07	$ 22,941.07
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 22,941.07	$ 22,941.07
6487	12/31/2024	$ 46,546.27				$ 46,546.27
No Interest to Accrue	1/31/2025		0.00%	$ -	$ 46,546.27	$ 46,546.27
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 46,546.27	$ 46,546.27
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 46,546.27	$ 46,546.27

2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
25 Edelman, Suite 120
Irvine, CA 92618

Interest Schedule: 3/31/2025

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
6525	1/31/2025	$ 61,106.42				$ 61,106.42
No Interest to Accrue	2/28/2025		0.00%	$ -	$ 61,106.42	$ 61,106.42
No Interest to Accrue	3/31/2025		0.00%	$ -	$ 61,106.42	$ 61,106.42
6649	2/28/2025	$ 20,464.25				$ 20,464.25
	3/31/2025		0.00%	$ -	$ 20,464.25	$ 20,464.25

Total Invoices (Less Pymts)	**$ 315,473.01**	
Current Month Interest (*Estimated*)		**$ -**
Current Month Interest (*Final, including payments*)		**$ -**
Prior Month Interest Adjustment		**$ -**
Adjusted Monthly Interest		**$ -**
Total Interest Charges		**$ 5,299.10**
Grand Total		**$ 320,772.11**

James L. Markman

T 714.990.0901
F 714.990.6230
E jmarkman@rwglaw.com

1 Civic Center Circle, PO Box 1059
Brea, California 92822-1059
rwglaw.com

MEMORANDUM

Approved April 9, 2025

TO: Samantha Adams
Maria Mendoza-Tellez
Lauren Salberg
Leah Ehresman

FROM: James L. Markman

DATE: February 13, 2025

SUBJECT: RWG Invoice for services rendered through January, 2025

Per your request, below please find the summary of the attached invoice.

The services rendered in January, 2025 included substantial time on amending the Land IQ contract for the fallowing project and attendance at two rather than one Board meeting.

13056-0001\2742368v15.doc

RWG LAW

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

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

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

Invoice Date: February 12, 2025
Invoice Number: 251691
Matter Number: 13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through January 31, 2025

Time Detail

Date	Initials	Description	Hours
01/03/25	PMT	REVIEW AND APPROVE AUDIT LETTER	0.20
01/03/25	SLF	REPLY TO E-MAIL FROM MS. LEDBETTER REGARDING AUDIT LETTER	0.10
01/06/25	JCM	CONFERENCE WITH MR. MARKMAN REGARDING STATUS CONFERENCE; REVIEW DEADLINE TO FILE JOINT STATUS CONFERENCE STATEMENT; E-MAIL WITH MR. MARKMAN REGARDING SAME	0.50
01/07/25	JLM	REVIEW SB 1156 AND E-MAIL THEREON TO MR. BENNETT AND MS. ADAMS; TELEPHONE CALLS AND REVIEW MATERIALS ON NEW WELL AND JURISDICTION OVER PUMPER	4.50
01/09/25	JLM	WORK ON NEW PUMPER ISSUE; PROVIDE BROWN ACT TITLES; REVIEW E-MAILS ON STATE PARK MONITORING	0.70
01/10/25	JLM	REVIEW CLOSED SESSION MEMORANDUM ON LAND IQ	0.20
01/13/25	JLM	REVIEW BOARD MEETING AGENDA PACKET; E-MAILS ON NEW WATER PRODUCER	0.60
01/13/25	SLF	REVIEW BOARD AGENDA	0.10
01/14/25	JLM	REVIEW STATUS STATEMENT MATERIALS ON REQUIRED BOARD ACTION; COMPILE INFORMATION ON ROGUE PUMPER	1.50

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date: February 12, 2025
Invoice Number: 251691
Matter Number: 13056-0001

Date	Initials	Description	Hours
01/14/25	JCM	CONFERENCE WITH MR. MARKMAN REGARDING ROGUE PUMPER ON ASSESSOR PARCEL NUMBER 198-270-12-00	0.30
01/14/25	JCM	RESEARCH PUBLIC RECORDS TO IDENTIFY PROPERTY OWNER FOR ASSESSOR PARCEL NUMBER 198-270-12-00 IN CONNECTION WITH ROGUE PUMPING; REVIEW COURT ORDERED NOTICE OF IMPACT JUDGMENT REGARDING THE SUBJECT PARCEL; E-MAIL WITH MR. MARKMAN REGARDING PROPERTY OWNER MR. CARDIEL	0.60
01/15/25	JLM	ATTEND BOARD MEETING; E-MAILS ON STATE PARK RIGHT OF ENTRY CONTRACT	3.00
01/15/25	JCM	REVIEW E-MAIL SUMMARY FROM MS. ADAMS REGARDING WATERMASTER BOARD'S DIRECTION AND ACTIVITIES IN CONNECTION WITH DRAFTING STATUS CONFERENCE STATEMENT	0.30
01/16/25	JLM	TELEPHONE CALL FROM MS. ADAMS ON LAND IQ CONTRACT; REVIEW MATERIALS ON ILLEGAL PUMPING	0.30
01/16/25	JCM	REVIEW E-MAIL WITH MR. MARKMAN REGARDING RETURN RECEIPT OF PROPERTY OWNER MR. CARDIEL REGARDING COURT ORDERED NOTICE OF IMPACT JUDGMENT	0.10
01/23/25	JLM	DRAFT AND TRANSMIT CHANGE ORDER FOR LAND IQ CONTRACT	2.00
01/24/25	JCM	REVIEW E-MAIL FROM MS. SALBERG REGARDING ANNUAL REPORT	0.10
01/27/25	JLM	REVIEW STATEMENT IN ANNUAL REPORT	0.20
01/27/25	SLF	E-MAIL FROM MR. MALONE REGARDING ENVIRONMENTAL WORKING GROUP MEETING	0.10
01/28/25	JLM	REVISE LAND IQ CONTRACT; WORK ON ILLEGAL WELL PRODUCTION, INCLUDING LETTER TO PROPERTY OWNER	4.00
01/29/25	JLM	DRAFT STATUS CONFERENCE STATEMENT	1.50
01/29/25	JCM	REVIEW E-MAIL AND ATTACHMENTS FROM MR. KIM REGARDING PUBLIC SALE AND TAX CORRESPONDENCES RELATED TO PROPERTIES SUBJECT TO JUDGMENT	0.20
01/30/25	JLM	WORK ON COURT STATUS REPORT	0.20
01/31/25	JLM	REVIEW FINAL DRAFT OF AMENDMENT TO LAND IQ CONTRACT	0.20
Total			**21.50**

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date: February 12, 2025
Invoice Number: 251691
Matter Number: 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.

Timekeeper Summary

Name	Hours	Rate	Amount
JACOB C. METZ	2.10	275.00	577.50
JAMES L. MARKMAN	18.90	400.00	7,560.00
PETER M. THORSON	0.20	350.00	70.00
STEVEN L. FLOWER	0.30	350.00	105.00
Total	**21.50**		**$8,312.50**

Client: BORREGO SPRINGS WATERMASTER
Matter: GENERAL LEGAL SERVICES

Invoice Date: February 12, 2025
Invoice Number: 251691
Matter Number: 13056-0001

CONFIDENTIAL

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Current Legal Fees	$8,312.50
Current Client Costs Advanced	$0.00
Total Current Fees and Costs	**$8,312.50**

RWG LAW

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

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

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

Invoice Date:	February 12, 2025
Invoice Number:	251691
Matter Number:	13056-0001

Re: 13056-0001 GENERAL LEGAL SERVICES

For professional services rendered through January 31, 2025

Fees	8,312.50
Costs	0.00
Total Amount Due	**$8,312.50**

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

Description of Land IQ and UCI Invoices *Approved April 9, 2025*

January 2025

Total Amount Invoiced: **$61,106.42**

Amount Invoiced by Land IQ: **$13,151.25**

Description of Land IQ Expenses:

- Time billed by Land IQ staff on Component Administration, and Tasks 3, 4, 5 and 6.
- (see pages 3-5 of invoice).

Amount Invoiced by Fredericks: **$45,708.46**

- Time billed by Fredericks in January 2025 (see invoices on pg. 6 & 7)

Amount Invoiced by UCI: **$2,246.71**

Description of UCI Time & Expenses – Income and Expense Report: Total time and expenses of $2,246.71 (pg. 14 of invoice) were calculated as follows:

- Time billed by UCI staff on tasks 4 and 6 (see page 8).
- Summary of Labor Per Hour – monthly rate divided by working hours per month (see page 10 & 11).
    - Note: GAEL rates have been adjusted for F24-25.

SUMMARY OF LABOR PER HOUR (DETAILED)

Jan-25				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	36.800007	$ 1,196.15	$ 32.50	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	36.800007	$ 1,196.15	$ 32.50	$ 14.59

*GAELrates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

- UCPath Salaries by Fund Report (see page 15 & 16):
    - SWG2 – Salaries & Wages General Assistance: $2,392.30
    - BENF – Benefits: $(169.07)
    - GENX – General Expenses: $23.48
    - **Note:** The UCPath Salaries by Fund Report rounds to the nearest hundredth digit. This report is auto generated from UCI's payroll system and is limited on what adjustments can be made to it.

INVOICE

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

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

Invoice Date:	1/31/25
Total Amount:	$61,106.42
Invoice Number:	6525
Invoice Period:	01/01/25 - 01/31/25
Engagement:	Borrego Springs Watermaster

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	$55.00
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	$2,087.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study **Expenses**	$45,708.46
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	$2,477.50
Task 4: UCI (WY23/24) Farmland Fallowing Rehabilitation Strategies **Expenses**	$369.49
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	$7,011.25
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	$1,520.00
Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings **Expenses**	$1,877.22
TOTAL AMOUNT DUE	**$61,106.42**

INVOICE

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

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

Invoice Date:	1/31/25
Total Amount:	$61,106.42
Invoice Number:	6525
Invoice Period:	01/01/25 - 01/31/25
Engagement:	Borrego Springs Watermaster

SUMMARY OF FEES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Dana Hansen – Accounting Assistant	0.50	$110.00	$55.00
Task A. LIQ (WY23/24) Project Management	**0.50**		**$55.00**
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study			
Dana Hansen – Accounting Assistant	0.75	$110.00	$82.50
Laura Jackson – Accounting Assistant	1.75	$110.00	$192.50
Robert Travis Brooks – Project Ecologist	7.50	$160.00	$1,200.00
Joel Kimmelshue – Principal Scientist I	2.50	$245.00	$612.50
Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	**12.50**		**$2,087.50**
Task 4.: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies			
Stephanie Tillman – Senior Scientist II	4.50	$195.00	$877.50
Robert Travis Brooks – Project Ecologist	10.00	$160.00	$1,600.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	**14.50**		**$2,477.50**
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization			
Robert Travis Brooks – Project Ecologist	8.50	$160.00	$1,360.00
Justin Sitton – Project Analyst	34.25	$165.00	$5,651.25
Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	**42.75**		**$7,011.25**
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings			
Robert Travis Brooks – Project Ecologist	9.50	$160.00	$1,520.00
Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	**9.50**		**$1,520.00**
TOTAL FEES & EXPENSES	**79.75**		**$61,106.42**

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
1/28/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Draft Task 3 Report	4.00	$160.00	$640.00
1/10/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Budget Management	0.50	$160.00	$80.00
1/15/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Board Meeting Attendance and reporting to amend contract to accommodate Fredericks change oder request to finish their work.	3.00	$160.00	$480.00
1/2/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Coordination and communication with project partners and Fredericks; Budget Review	3.00	$160.00	$480.00
1/14/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Review of Task 5 Figure updates by Justin	2.00	$160.00	$320.00
1/22/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Updates to report	2.00	$160.00	$320.00
1/29/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Review Draft Report with UCI	3.00	$160.00	$480.00
1/27/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Draft Final Report for Andy to Send to EWG	8.00	$160.00	$1,280.00
1/19/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Prepare for EWG Meeting	0.50	$160.00	$80.00
1/22/25	2. Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	EWG Meeting	3.00	$160.00	$480.00
1/23/25	2. Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	EWG Meeting	3.00	$160.00	$480.00
1/19/25	2. Task 6: LIQ (WY23/24) Conduct Environmental Working Group (EWG) Meetings	Prepare for EWG Meeting	3.50	$160.00	$560.00
		Robert Travis Brooks	**35.50**		**$5,680.00**
Dana Hansen					
1/29/25	2. Task A. LIQ (WY23/24) Project Management	Project Management Support	0.50	$110.00	$55.00
1/23/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50
1/16/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.50	$110.00	$55.00
		Dana Hansen	**1.25**		**$137.50**
Laura Jackson					
1/24/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50

Date	Task	Description	Hrs	Rate	Amount
1/27/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50
1/31/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50
1/27/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50
1/21/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.50	$110.00	$55.00
1/8/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Project Management Support	0.25	$110.00	$27.50
		Laura Jackson	**1.75**		**$192.50**
Joel Kimmelshue					
1/15/25	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Prep for and calls with team re: Jake Fredericks project completion.	2.50	$245.00	$612.50
		Joel Kimmelshue	**2.50**		**$612.50**
Justin Sitton					
1/27/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Borrego Spring Data Finalization and Metadata	4.00	$165.00	$660.00
1/28/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Update Summary, Description, and Create deliverable layer	0.25	$165.00	$41.25
1/14/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Borrego Spring - Scoring Maps	8.50	$165.00	$1,402.50
1/15/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Borrego Spring - Scoring Maps	9.00	$165.00	$1,485.00
1/16/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Borrego Spring - Scoring Maps	8.50	$165.00	$1,402.50
1/17/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Borrego Spring - Scoring Maps	2.00	$165.00	$330.00
1/7/25	2. Task 5: LIQ (WY23/24) Farmland Fallowing Prioritization	Look into Borrego Springs Data	2.00	$165.00	$330.00
		Justin Sitton	**34.25**		**$5,651.25**
Stephanie Tillman					
1/9/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	mtg with Travis and Justin re Task 5 map	1.00	$195.00	$195.00
1/10/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	reviewed correspondence on hydrology analysis vis a vis County flood plain concerns	0.25	$195.00	$48.75
1/14/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	revised figure and text re floodplain considerations for tree treatments	1.00	$195.00	$195.00
1/14/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	reviewed new maps for Task 5	0.25	$195.00	$48.75
1/15/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	maps review	0.50	$195.00	$97.50
1/16/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	map review	0.25	$195.00	$48.75

INVOICE

Date	Task	Description	Hrs	Rate	Amount
1/28/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Reviewed Task 3 report	1.00	$195.00	$195.00
1/23/25	2. Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Figure revisions	0.25	$195.00	$48.75
		Stephanie Tillman	**4.50**		**$877.50**
		TOTAL FEES	**79.75**		**$13,151.25**

Date	Code	Task	Description	Amount
Land IQ Expenses				
1/30/25	Professional Services	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Frederick's Services Inc: Change Order. Invoice No. 2025-2	$29,179.70
1/31/25	Professional Services	2. Task 3: LIQ (WY23/24) Brush Pile Wildlife Sand Fence Case Study	Frederick's Services, Inc: Invoice #2025-3	$16,528.76
1/31/25	Professional Services	2. Task 4: UCI (WY23/24) Farmland Fallowing Rehabilitation Strategies	UCIrvine: January 1 - January 31, 2025 (Invoice No: 26579736-58786)	$369.49
1/31/25	Professional Services	2. Task 6: UCI (WY23/24) Conduct Environmental Working Group (EWG) Meetings	UCIrvine: January 1 - January 31, 2025 (Invoice No: 26579736-58786)	$1,877.22
			Land IQ Expenses	**$47,955.17**
			TOTAL EXPENSES	**$47,955.17**

TOTAL AMOUNT DUE **$61,106.42**

University of California, Irvine

Invoice No: 26579736-58786

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050

Date: 02/27/2025
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: 01/01/2025 to 01/31/2025

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Salaries and Wages	$150,061.38	$147,669.08	$2,392.30
Fringe Benefits	$52,407.39	$52,576.46	($169.07)
Supplies and Materials	$25,489.99	$25,489.99	$0.00
Equipment	$0.00	$0.00	$0.00
Travel	$85.42	$85.42	$0.00
Other Direct Costs	$2,821.66	$2,789.18	$23.48
Subawards	$0.00	$0.00	$0.00
	$230,865.84	$228,619.13	$2,246.71
Indirect Costs (0.000%)	$0.00	$0.00	$0.00
	$230,865.84	$228,619.13	$2,246.71
Current Invoice Total			**$2,246.71**

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

I certify to the best of my knowledge and belief that the information provided herein is true, complete, and accurate. I am aware that the provision of false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil, or administrative consequences including, but not limited to violations of U.S. Code Title 18, Sections 2, 1001, 1343 and Title 31, Sections 3729-3730 and 3801-3812.

Certified By

Griselda Duran
Manager, Contracts & Grants Accounting

☐ Attachment

UCI Decision Support

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2025 **Period(s) Selected:** 07 - JAN. 2025

Run Date/Time: 02/26/2025 4:56:11 PM
Page #: 1 of 1
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: Emilia Castaneda
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
Account - PC15547																	
Consolidation - SWG2																	
	07	EX	SWGN	1200	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897594	-	-	-	-	$0.00	($326.24)	$0.00
	07	EX	SWGN	1211	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897595	-	-	-	-	$0.00	$2,251.24	$0.00
	07	EX	SWGN	1285	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897596	-	-	-	-	$0.00	$467.30	$0.00
Consolidation Summary - SWG2 for period 07															**$0.00**	**$2,392.30**	**$0.00**
Consolidation - BENF																	
	07	EX	BENE	1627	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897597	-	-	-	-	$0.00	($467.30)	$0.00
	07	EX	BENE	1627	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897598	-	-	-	-	$0.00	($35.05)	$0.00
	07	EX	BENE	1685	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897599	-	-	-	-	$0.00	$333.28	$0.00
Consolidation Summary - BENF for period 07															**$0.00**	**($169.07)**	**$0.00**
Consolidation - GENX																	
	07	EX	SRVC	7065	IBI	UP	20250131	MONTHLY Check Date 01/31/2025	01/30/25	158897600	-	-	-	-	$0.00	$23.48	$0.00
Consolidation Summary - GENX for period 07															**$0.00**	**$23.48**	**$0.00**
Total Expense for period 07															**$0.00**	**$2,246.71**	**$0.00**

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 7 - January

Run Date/Time: 02/26/2025 4:58:23 PM
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
01/31/2025	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024	REG	1	M	6,672.00	6,672.00	(0.0476)	(8.38)	(321.45)	0.00
01/31/2025	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024	SKL	1	M	6,672.00	6,672.00	0.0119	2.10	80.36	0.00
01/31/2025	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024	REG	0.6	M	4,205.00	7,008.33	(0.0120)	(2.11)	(85.15)	0.00
01/31/2025	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025	REG	1	UC_FY	5,980.75	5,980.75	0.2000	36.80	1,196.15	0.00
01/31/2025	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024	REG	1	UC_FY	10,208.33	10,208.33	(0.0137)	(2.40)	(141.06)	0.00
01/31/2025	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025	REG	1	UC_FY	5,980.75	5,980.75	0.2000	36.80	1,196.15	0.00
01/31/2025	6191	486369	58786	SWG2	1285			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024	VAC	1	UC_FY	10,208.33	10,208.33	0.0137	2.40	141.06	0.00
01/31/2025	6191	486369	58786	SWG2	1285			PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024	VAC	1	M	6,672.00	6,672.00	0.0357	6.29	241.09	0.00
01/31/2025	6191	486369	58786	SWG2	1285			PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024	VAC	0.6	M	4,205.00	7,008.33	0.0120	2.11	85.15	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																					**73.60**	**2,392.30**	**0.00**
01/31/2025	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(10.58)
01/31/2025	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	(18.08)
01/31/2025	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	(6.39)
01/31/2025	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(141.06)
01/31/2025	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	(241.09)
01/31/2025	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	(85.15)
01/31/2025	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
01/31/2025	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(64.04)

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2025 **Period(s) Selected:** 7 - January

Run Date/Time: 02/26/2025 4:58:23 PM
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
01/31/2025	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	(109.46)
01/31/2025	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	(38.66)
01/31/2025	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025		1	UC_FY	5,980.75	5,980.75		0.00	0.00	272.72
BENF - BENEFITS																					**0.00**	**0.00**	**(169.07)**
01/31/2025	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
01/31/2025	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	01/31/2025	12/31/2024		1	UC_FY	10,208.33	10,208.33		0.00	0.00	(1.72)
01/31/2025	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	006239	FIELD RESEARCHER 4	01/31/2025	12/31/2024		1	M	6,672.00	6,672.00		0.00	0.00	(2.94)
01/31/2025	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	005189	FIELD RESEARCHER 3	01/31/2025	12/31/2024		0.6	M	4,205.00	7,008.33		0.00	0.00	(1.04)
01/31/2025	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	01/31/2025	01/31/2025		1	UC_FY	5,980.75	5,980.75		0.00	0.00	14.59
GENX - GENERAL EXPENSES																					**0.00**	**0.00**	**23.48**
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					**73.60**	**2,392.30**	**(145.59)**
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					**73.60**	**2,392.30**	**(145.59)**

UCIRVINE

Invoice No: 26579736-58786

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

Date: 02/27/2025
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: 01/01/2025-01/31/2025

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	$9,750.00	$9,750.00	$0.00
Labor - Task 1	$16,250.00	$16,250.00	$0.00
Labor - Task 2	$96,543.92	$96,543.92	$0.00
Labor - Task 3	$60,607.40	$60,607.40	$0.00
Labor - Task 4	$12,562.82	$12,193.33	$369.49
Labor - Task 5	$5,888.73	$5,888.73	$0.00
Labor - Task 6	$19,740.00	$17,862.78	$1,877.22
Direct Expense	$9,522.97	$9,522.97	$0.00
	$230,865.84	$228,619.13	$2,246.71
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$230,865.84	$228,619.13	$2,246.71
Current Invoice Total			**$2,246.71**

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 2025 UCI Activities

Task 4 Activities:

- Monthly refarm meeting
- Report review

Task 6 Activities:

- Monthly refarm meeting
- Data summary and analysis for EWG meeting
- Drone methodology and analysis coordination
- Drone flight planning

SUMMARY OF LABOR PER HOUR (DETAILED)

Jan-25				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	36.800007	$ 1,196.15	$ 32.50	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	36.800007	$ 1,196.15	$ 32.50	$ 14.59
		$ 2,392.30		**$ 29.18**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

SUMMARY OF LABOR PER HOUR

Jan-25				
Individual	**Time (h)**	**Salary Total**	**Rate (h)**	**GAEL***
Post-Doctoral Researcher 1 (Fiore)**	36.80	$ 1,196.15	$ 32.50	$ 14.59
Post-Doctoral Researcher 2 (Brigham)**	36.80	$ 1,196.15	$ 32.50	$ 14.59
		$ 2,392.30		**$ 29.18**

*GAEL rates have been adjusted for FY24-25: https://www.accounting.uci.edu/cost-analysis/campus-assessment.php#gael

**monthly rate divided by working hours per month

Certificate Of Completion

Envelope Id: 3D26EDED-C91A-4BDA-930C-E8D69C6B6F9A
Status: Completed
Subject: Complete with Docusign: 26579736_58786_LAND IQ_JAN 2025 INVOICE.pdf
Source Envelope:
Document Pages: 4
Signatures: 1
Certificate Pages: 2
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-08:00) Pacific Time (US & Canada)

Envelope Originator:
Ashley Vuong
415 Aldrich Hall
Irvine, CA 92697-1025
avuong6@uci.edu
IP Address: 99.48.30.232

Record Tracking

Status: Original
2/27/2025 9:16:58 AM
Holder: Ashley Vuong
avuong6@uci.edu
Location: DocuSign

Signer Events	Signature	Timestamp
Griselda Duran griseld@uci.edu C&G Accounting & Operations Manager UCI Account Security Level: Email, Account Authentication (None)	 Signature Adoption: Uploaded Signature Image Using IP Address: 172.90.87.71	Sent: 2/27/2025 9:20:46 AM Viewed: 2/27/2025 11:18:46 AM Signed: 2/27/2025 11:24:26 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
Daniel Nguyen dsnguyen@uci.edu Finance Manager, Office of Research UCI Account Security Level: Email, Account Authentication (None)	COPIED	Sent: 2/27/2025 9:20:46 AM

Electronic Record and Signature Disclosure:
Not Offered via Docusign

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	2/27/2025 9:20:46 AM
Certified Delivered	Security Checked	2/27/2025 11:18:46 AM
Signing Complete	Security Checked	2/27/2025 11:24:26 AM
Completed	Security Checked	2/27/2025 11:24:26 AM

Payment Events	Status	Timestamps

FREDERICK'S SERVICES, INC.
680 PALM CANYON DR.
PO BOX 1320
BORREGO SPRINGS, CA 92004
PH: 970-951-2199
jtfredericks@gmail.com

TO: LAND IQ
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

INVOICE #2025-2
DATE: 1/29/2025

	TOTAL AMOUNT	AMOUNT PAID INVOICE #1	AMOUNT DUE THIS INVOICE	BALANCE REMAINING
CHANGE ORDER #1 - Remove 9 palm trees	$9,105.80	$9,105.80		0.00
CHANGE ORDER #2 - Mark corners and replace missing stakes	$13,496.88	$11,968.12	$1,528.76	0.00
CHANGE ORDER #3 - Move remaining trees across block	$54,179.70	$0.00	$27,650.94	26,528.76
TOTAL ESTIMATED:	$76,782.38	$21,073.92	$29,179.70	$26,528.76

FREDERICK'S SERVICES, INC.
680 PALM CANYON DR.
PO BOX 1320
BORREGO SPRINGS, CA 92004
PH: 970-951-2199
jtfredericks@gmail.com

TO: LAND IQ
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

INVOICE #2025-3
DATE: 2/17/25

	TOTAL AMOUNT	AMOUNT PAID INVOICE #1	AMOUNT PAID INVOICE #2	AMOUNT DUE THIS INVOICE	BALANCE REMAINING
CHANGE ORDER #1 - Remove 9 palm trees	$9,105.80	$9,105.80	$0.00		0.00
CHANGE ORDER #2 - Mark corners and replace missing stakes	$13,496.88	$11,968.12	$1,528.76		0.00
CHANGE ORDER #3 - Move remaining trees across block	$54,179.70	$0.00	$27,650.94	$16,528.76	10,000.00
TOTAL ESTIMATED:	$76,782.38	$21,073.92	$29,179.70	$16,528.76	$10,000.00

Description of Services Rendered
Project 940-80-23-08
Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2025 - Invoice Period: January 1, 2025, to January 31, 2025

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.

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

TASK 3 - SAND FENCE CASE STUDY.

- Internal meetings
- Task coordination and communication with Fredericks Construction
- Attendance at January 15, 2025 Watermaster Board Meeting regarding change order to accommodate the change order from Fredericks Construction to complete construction of the sand fence case study.
- Draft of Task 3 Report
- Review of Draft Task 3 Report with UCI
- Services from subcontractor, Fredericks Construction, for sand fence study construction

TASK 4 - FALLOWING REHAB STRATEGIES.

- Internal meetings
- Edits to Task 4 Report based on feedback from EWG members

TASK 5 - FALLOWING PRIORITIZATION.

- Internal meetings
- Data analysis and report language writing

- Prepare models and output maps
- Update geodatabase and create metadata for distribution

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.

- Internal meetings
- Coordination with Watermaster staff for meeting
- Prepare materials for January 23, 2025 Meeting, including data summary and analysis
- Conduct January 23, 2025 Meeting

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ January 2025 **Invoiced by Category and Task** [(a)]

Task	Jan-25
Totals	**$61,106.42**
Category (a) Component Administration - Category 7	**$55.00**
Component Administration	$55.00
Category (d) Monitoring, Assessment	**$57,654.20**
Task 1 - Data Review	$0.00
Task 2 - Habitat Field Study	$0.00
Task 3 - Sand Fence Case Study	$47,795.96
Task 4 - Fallowing Rehab Strategies	$2,846.99
Task 5 - Fallowing Prioritization	$7,011.25
Category (e) Stakeholder Outreach	**$3,397.22**
Task 6 - EWG Meetings	$3,397.22

WEST YOST
Water. Engineered.

Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2025

Invoice Number: 2061686

Accounts Payable	Client Project:	Work Order No. 7
Borrego Springs Watermaster	WY Project No:	940-80-24-09
c/o West Yost Associates	Contract Amount:	339,833.00
23692 Birtcher Drive	Job Name:	WY 2025 Admin and Technical Services
Lake Forest, CA 92630		

Professional Services from January 1, 2025 to January 31, 2025

Approved April 9, 2025

Previously Billed :	**75,567.87**
Total This Period :	**16,212.94**
Total Amount Billed to Date including This Invoice :	**91,780.81**
Amount Remaining in Contract :	**248,052.19**

Professional Personnel

	Hours	Rate	Amount	
Eng/Scientist/Geologist Manager I				
Adams, Samantha	11.25	352.00	3,960.00	
Principal Eng/Scientist/Geologist II				
Malone, Andy	7.00	338.00	2,366.00	
Associate Eng/Scientist/Geologist I				
Salberg, Lauren	28.25	237.00	6,695.25	
Engineer/Scientist/Geologist II				
Kelty, Clay	.50	215.00	107.50	
Administrative IV				
Ehresman, Leah	1.25	168.00	210.00	
Administrative III				
Mendoza-Tellez, Maria	16.00	152.00	2,432.00	
Totals	64.25		15,770.75	
Total Labor				**15,770.75**

Reimbursable Expenses

Mileage			146.30	
Total Reimbursables			**146.30**	**146.30**

Reimbursable Expenses (Units)

Field Vehicles (Groundwater)			295.89	
Total Reimbursable Expenses (Units)				**295.89**

Total this Invoice **$16,212.94**

Project	940-80-24-09	WY 2025 Admin and Technical Services	Invoice	2061686

Description of Services:

Please see attached description of services

Outstanding Invoices

Number	Date	Balance
2060589	10/31/2024	29,146.60
2060952	11/30/2024	23,069.82
2061512	12/31/2024	23,351.45
Total		**75,567.87**

Please direct questions to:

Project Manager Samantha Adams
Principal Greg Chung GKC

Description of Services Rendered
Project 940-80-24-09
Watermaster Administrative and Technical Services – Portion of Services not Reimbursable by DWR Prop 68 Grant
Invoice Period: January 1, 2025 to January 31, 2025

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 2025 Regular Board Meeting:
    - Prepared meeting minutes from Special December 2024 Board meeting.
    - Prepared, reviewed, and formatted agenda package content. This work included:
        - Organized, compiled, and formatted the public correspondence and consent calendar items.
        - Performed work, including coordination, preparation, and/or review of staff memos or other materials to support the following agenda items:
            - Closed session with Legal Counsel on anticipated litigation
            - Biological Restoration of Fallowed Lands project
            - WY 2025 Budget Amendment and impact to Professional Service Agreements with Consultants
            - TAC and EWG meeting agendas
            - Technical Consultant report
            - Executive Director report
            - February 2025 Meeting Agenda
    - Compiled the final 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 15, 2025. The meeting was attended by Samantha Adams, Andy Malone, and Lauren Salberg.

- February 2025 Board Meeting Preparation:
  - Prepared punch list of action items for the Board meeting. Created meeting link and coordinated assignments for preparing the package.
  - Began work on agenda packet materials.

TAC MEETINGS (POST GRANT PERIOD – APRIL TO SEPTEMBER 2025)

- This task is not active until April 2025, or when grant funds are expended.

COURT HEARINGS

- Coordinated with Legal Counsel to provide detailed information and documents on the January 1, 2025 Judgment deadlines for reporting at the February status conference, including redetermination of 2025 Sustainable Yield, scope and work to redetermine the 2030 Sustainable Yield, and analysis of Carryover rules.

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

- Prepared the December 2024 Financial Report.
- Processed accounts receivable into QuickBooks.
- Processed accounts payable into QuickBooks.
- Drove to US Bank to deposit checks.
- Cut checks for accounts payable and requested signature.
- Communicated with vendors on reporting estimates of billings for inclusion in monthly financials.
- Supported preparation of the WY 2024 financial Audit, including generating 1099 forms, compiling financial documents as they are requested, and communicating regularly with and providing information to the 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:

  - Requirements to prepare and submit a Groundwater Pumping Report to the County of San Diego, including discussions with the County staff requesting the information.
  - Responded to a Party request for calculation on recharge calculated by the Borrego Valley Hydrologic Model.
- Fulfilled data request for fall 2024 groundwater quality results and well construction information for former West Coast Trees (now T2 Palms) wells to Rams Hill.
- Prepared the 2024 Rams Hill Groundwater Pumping Report to support required reporting to the County of San Diego.

As-needed administration of the terms of the Judgment, Rules & Regulations, and Groundwater Management Plan

- Coordinated with Legal Counsel on an unknown well in the Basin that may be pumping or using water in a manner in violation of the Judgment based on information received from the public.
- Updated Exhibit 4 to the Judgment based on Final Water Year 2024 Water Rights Accounting.
- Updated Watermaster website with signed minutes, resolutions, and policies.

General administration and project managements tasks

- Performed monthly project management tasks including budget, schedule, and scope of work progress evaluations.
- Processed contract paperwork associated with WY 2025 Budget amendments approved at the January 2025 Board meeting.

Maintain Website and Grant Communications (Post Grant Period – April to September 2025)

- This task is not active until April 2025, or when grant funds are expended.

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 2025 that are not reimbursable by the DWR Prop 68 Grant. The work performed in this reporting period included:

Groundwater Pumping Monitoring - Monthly Collection and Processing of Meter Read Data (Post Grant Period – April to September 2025)

- This task is not active until April 2025, or when grant funds are expended.

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

- Non-grant reimbursable costs included for this reporting period are:
  - Mileage for staff to travel to and around Borrego Springs to kick-off the well conversions on January 20, 2025.

- Mileage for staff to travel to and around Borrego Springs to conduct interviews with Well Tec staff to satisfy Labor Compliance Reporting requirements on January 27, 2025.

COOPERATOR DATA COLLECTION, DATA MANAGEMENT, AND REPORTING DATA TO DWR PORTALS (POST GRANT PERIOD – APRIL TO SEPTEMBER 2025)

- This task is not active until April 2025, or when grant funds are expended.

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

- Fulfilled data request for fall 2024 groundwater elevation data for the County of San Diego.
- Corresponded with a new De Minimis pumper in the Basin and gathered information on well construction and well use.
- Completed collaborative efforts with UCI to collect additional water quality samples and share well construction information to support their GDE study. This work will be reimbursed by UCI. This included:
  - Fulfilled data request for groundwater elevation contour shapefiles and rasters.
  - Reviewed anonymization of data in draft report
  - Prepared and sent invoice to UCI

ADDRESS AD HOC REQUESTS OF TAC FROM THE BOARD

- No work performed during the reporting period.

DEVELOP TAC SCOPE OF WORK AND BUDGET FOR WY 2026-2029

- 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 2025 that are not part of the DWR Prop 68 Grant.

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 sent December 2024 self-reporting of meter reads.

West Yost Budget Status Report for Technical and Administrative Services that are not Grant Reimbursable - WY 2025

As of January Billing Period (Month 4 of 12)

Task	Approved Budget	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Apr-25	May-25	Jun-25	Jul-25	Aug-25	Sep-25	Total Spent	Remaining Budget[1]	Estimated Cost to Complete	Estimated Total Cost at Completion	Estimated Remaining Budget at Completion	Notes
Totals	$337,397	$29,146.60	$23,069.82	$23,351.45	$16,212.94	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$91,780.81	$245,616.19	$241,180	$332,961	$4,436	
Task 1 - Meetings and Court Hearings	**$127,554**	**$8,261.75**	**$9,921.25**	**$13,118.45**	**$8,441.75**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$39,743.20**	**$87,810.80**	$88,114	$127,857	**($303)**	
Board Meetings	$106,600	$8,261.75	$9,921.25	$13,118.45	$7,939.00									$39,240.45	$67,359.55	$69,670	$108,910	($2,310)	
TAC Meetings (Post Grant Period - April to Sep. 2025)	$17,444	$0.00	$0.00	$0.00	$0.00									$0.00	$17,444.00	$17,444	$17,444	$0	
Court Hearings	$3,510	$0.00	$0.00	$0.00	$502.75									$502.75	$3,007.25	$1,000	$1,503	$2,007	
Task 2 - Watermaster Administration and Management	**$76,699**	**$8,013.00**	**$4,843.00**	**$4,910.25**	**$6,079.75**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$23,846.00**	**$52,853.00**	$55,796	$79,642	**($2,943)**	
Prepare Watermaster Budget for WY 2025	$11,580	$0.00	$0.00	$0.00	$0.00									$0.00	$11,580.00	$11,580	$11,580	$0	
Insurance, Accounting, and Financials Services	$24,564	$2,844.00	$2,969.00	$3,486.75	$2,426.00									$11,725.75	$12,838.25	$16,376	$28,102	($3,538)	run rate exxpected to decrease after Audit is complete in March; and after grant activity over
Maintain Website and Grant Communications (Post Grant Period -April to Sep. 2025)	$5,278	$0.00	$0.00	$0.00	$0.00									$0.00	$5,278.00	$5,278	$5,278	$0	
Track/Respond to Public Communications and Requests	$2,184	$0.00	$55.25	$0.00	$0.00									$55.25	$2,128.75	$1,456	$1,511	$673	
As-needed support to the BPA Parties	$11,016	$1,729.00	$221.00	$126.25	$1,049.00									$3,125.25	$7,890.75	$7,344	$10,469	$547	
As-requested admin. of the Judgment, Rules & Regs, and GMP	$10,779	$2,033.00	$797.25	$329.00	$1,389.75									$4,549.00	$6,230.00	$6,230	$10,779	$0	
General administration and project managements tasks	$11,298	$1,407.00	$800.50	$968.25	$1,215.00									$4,390.75	$6,907.25	$7,532	$11,923	($625)	
Task 3 - Technical Services	**$123,820**	**$12,664.85**	**$8,037.25**	**$5,219.25**	**$1,583.94**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$27,505.29**	**$96,314.71**	$89,092	$116,597	$7,223	
Address Ad Hoc Requests from the Board	$10,048	$0.00	$0.00	$0.00	$0.00									$0.00	$10,048.00	$10,048	$10,048	$0	
Groundwater Pumping Monitoring - Monthly Collection and Processing of Meter Read Data (Post Grant Period - April to Sep. 2025)	$12,003	$0.00	$0.00	$0.00	$0.00									$0.00	$12,003.00	$12,003	$12,003	$0	
Non Reimbursible for C7 Cat (d) Task 7/8: GW Level and QualMon	$59,870	$2,475.25	$0.00	$0.00	$0.00									$2,475.25	$57,394.75	$50,000	$52,475	$7,395	
Cooperator Data Collection, Data Management, and Reporting Data to DWR Portals (Post Grant Period - April to Sep. 2025)	$9,329	$0.00	$0.00	$0.00	$0.00									$0.00	$9,329.00	$9,329	$9,329	$0	
Non Reimubursible for C7 Cat (c) Task 5: Address Abandoned Wells	$1,000	$53.10	$0.00	$0.00	$442.19									$495.29	$504.71	$505	$1,000	$0	
As-needed support for implementation of the Judgment, Rules & Regs, and GMP	$16,298	$1,593.00	$3,498.00	$2,858.00	$1,141.75									$9,090.75	$7,207.25	$7,207	$16,298	$0	
Develop TAC Scope & Budget for WY 2026-2029	$15,272	$8,543.50	$4,539.25	$2,361.25	$0.00									$15,444.00	($172.00)	$0	$15,444	($172)	This task is complete.
Task 4 - Environmental Working Group	**$6,381**	**$0.00**	**$164.82**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$164.82**	**$6,216.18**	$6,216	$6,381	$0	
EWG Meetings	$6,381	$0.00	$164.82	$0.00	$0.00									$164.82	$6,216.18	$6,216	$6,381	$0	
Task 5 - Staff Services Billed to Watermaster to be Reimbursed by Parties with Manual-Read Meters	**$2,943**	**$207.00**	**$103.50**	**$103.50**	**$107.50**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$0.00**	**$521.50**	**$2,421.50**	$1,962	$2,484	$460	
Coordinate Manual-Read Metering with BWD/Parties	$2,943	$207.00	$103.50	$103.50	$107.50									$521.50	$2,421.50	$1,962	$2,484	$460	

WEST YOST
Water. Engineered.

Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2025

Invoice Number: 2061687

Accounts Payable	Client Project:	Work Order No. 7
Borrego Springs Watermaster	WY Project No:	940-80-24-10
c/o West Yost Associates	Contract Amount:	662,233.00
23692 Birtcher Drive	Job Name:	WY 2025 Component 7: Monitoring Reporting, and GMP Update
Lake Forest, CA 92630		

Approved April 9, 2025

Professional Services from January 1, 2025 to January 31, 2025

Previously Billed :	**185,099.99**
Total This Period :	**111,238.53**
Total Amount Billed to Date including This Invoice :	**296,338.52**
Amount Remaining in Contract :	**365,894.48**

Project	940-80-24-10	Comp 7 Monitoring Reporting & GMP Update	Invoice	2061687

Professional Personnel

	Hours	Rate	Amount	
Eng/Scientist/Geologist Manager I				
Adams, Samantha	27.50	352.00	9,680.00	
Principal Eng/Scientist/Geologist II				
Malone, Andy	31.50	338.00	10,647.00	
Associate Eng/Scientist/Geologist I				
Salberg, Lauren	97.75	237.00	23,166.75	
Engineer/Scientist/Geologist II				
Alonzo, Terrinda	2.25	215.00	483.75	
Kelty, Clay	58.00	215.00	12,470.00	
Engineer/Scientist/Geologist I				
Serafin, Leslie	16.00	185.00	2,960.00	
Field Monitoring Services				
Kelty, Clay	24.00	138.00	3,312.00	
Senior Tech Specialist I				
Lasick, Sheri	.75	308.00	231.00	
Technical Specialist I				
Jones, Katie	4.50	196.00	882.00	
Technical Analyst II				
Houghton, Cindy	3.50	168.00	588.00	
Lasick, Raven	.50	168.00	84.00	
Perea, Angélica	14.00	168.00	2,352.00	
Totals	280.25		66,856.50	
Total Labor				**66,856.50**

Subconsultants

Well Tec Services, Inc.			44,197.00	
Total Subconsultants			**44,197.00**	**44,197.00**

Reimbursable Expenses

Supplies/Permits/Publications/Equipment			140.03	
Total Reimbursables			**140.03**	**140.03**

Reimbursable Expenses (Units)

Precision Water Level Meter 700ft			45.00	
Total Reimbursable Expenses (Units)				**45.00**
		Total this Invoice		**$111,238.53**

Description of Services:

Please see attached description of services

Outstanding Invoices

Number	Date	Balance
2060590	10/31/2024	64,900.50
2060953	11/30/2024	49,139.75
2061513	12/31/2024	56,628.00
Total		**170,668.25**

Project	940-80-24-10	Comp 7 Monitoring Reporting & GMP Update	Invoice	2061687

Please direct questions to:

Project Manager	Samantha Adams
Principal	Greg Chung GKC

Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning
West Yost - January 2025 Invoiced by Category and Task

Category and Task	Jan-25
Total Invoice	**$111,238.53**
Category (a) Component Administration	**$5,834.50**
Component Administration	$5,834.50
Category (b) Planning, Design, Environmental	**$568.80**
Task 1 & 2: Documentation, Design Plans and Specifications	$568.80
Category (c) Construction, Implementation	**$63,439.98**
Task 3: Construction Management	$6,016.00
Task 5: Identify and Address Improperly Abandoned Wells	$57,423.98
Category (d) Monitoring, Assessment	**$40,135.50**
Task 6: Groundwater Pumping Monitoring - Annual Meter Verification	$768.50
Task 6: Groundwater Pumping Monitoring - Monthly Meter Reading	$2,329.00
Task 7 & 8: Groundwater Level and Quality Monitoring Program - Semi Annual Monitoring Events	$5,838.00
Task 9: Maintain and Enhance Data Management System	$138.75
Task 10: Annual Water Rights Accounting (Pumping Report)	$0.00
Task 10: Annual Report to the Court and DWR	$10,018.00
Task 11: Redetermination of the Sustainable Yield by 2025	$7,347.00
Task 12 - Prepare the 5-Year GMP Assessment	$13,696.25
Category (e) Stakeholder Outreach	**$1,259.75**
Task 13 Outreach - Technical Advisory Committee Working Meetings	$414.75
Task 13 Outreach - Stakeholder Open House	$845.00
Task 13 Outreach - Maintain Website and Grant Communications	$0.00

Description of Services Rendered
Project 940-80-24-10
Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning
Water Year 2025 - Invoice Period: January 1, 2025 to January 31, 2025

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 2025 tasks as of the end of December 2024.
- Updated budget status table.
- Confirmed total amount of DWR payments received compared to total amount requested from the most recent grant reimbursement.
- Corresponded with BWD throughout the month on grant requirements and logistics, reimbursement status, and completion reports.
- Executed Task Order agreement with Well Tec for field work to perform conversion of inactive/abandoned wells in the Basin.
- Began developing eighth quarterly grant status report and reimbursement request for the October 1 to December 31, 2024 reporting period.
- Prepared redline version of SGM grant and narrative on proposed changes to project budget and scope (Grant Amendment #2). Submitted amendment to BWD for review and submission to DWR.
- Reviewed DWR comments on Grant Amendment Request #2 and began preparing a response to comments document.

CATEGORY (B) PLANNING, DESIGN, ENVIRONMENTAL. The work performed for this task includes the planning, design, and environmental review portion of the Component 7 tasks. Component 7 includes one design task – conversion of abandoned wells. The work performed during the invoice period includes:

- Prepared revised cost estimate to complete conversion of abandoned wells project.
- Executed Task Order #3 with Well Tec to perform field work to convert and secure wells.

CATEGORY (C) CONSTRUCTION, IMPLEMENTATION. The work performed for this task includes the construction and implementation portion of the Component 7 tasks. Component 7 includes two construction and implementation tasks – construction management and the conversion of abandoned wells. The work performed during the invoice period includes:

CONSTRUCTION MANAGEMENT

- Roundtrip travel to/from Borrego Springs to meet with Well Tec and kick off field campaign to convert abandoned wells on January 20, 2025.
- Roundtrip travel to/from Borrego Springs on January 27, 2025 to conduct interviews with Well Tec staff to satisfy Labor Compliance Reporting requirements.

CONVERSION OF ABANDONED WELLS

- Finalized Entry Agreements and other access requirements with four well owners.
- Coordinated with Legal Counsel for their review of Right of Entry permits prior to executing agreements with select well owners requiring minor changes.
- Coordinated with well owners to schedule dates for well conversion activities to be performed at their well(s).
- The enclosed invoice from Well Tec is for their work to secure and rehabilitate the ten wells. Work completed in January 2025 includes:
    - Secured five (5) wells.
    - Video logged five (5) wells and began performing rehabilitation of all five wells. Of the five wells, two were fully rehabilitated in January 2025.
- Purchased two new locks to secure newly installed well lids.
- Continued to coordinate with the Department of Industrial Relations (DIR) to address Labor Compliance reporting.
- Coordinated with Well Tec to discuss field work, results of video logs, and discuss next steps to rehabilitate and convert the wells.
- Reviewed results of video logs of five wells.
- Worked on FAQ handout on abandoned wells in the Basin.

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

- Corresponded with pumpers and McCall Meters throughout the month to coordinate annual meter verification testing.

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.

- Followed-up with parties with malfunctioning smart meters to send in manual meter reads with photographs for December 2024.

- Cataloged and processed remaining December 2024 monthly meter reads.
- Calculated December 2024 pumping by well for remaining wells.
- Performed QA/QC of December 2024 pumping data.
- Processed into standard format and loaded final WY 2024 data into project DMS.

Groundwater Level and Quality Monitoring Program - Semiannual Monitoring Events

- Reviewed groundwater-quality results from the fall 2024 monitoring event.
- Began preparing text, tables, figures, and appendices for the fall 2024 semi-annual monitoring report.
- Cataloged, processed into standard formats, performed QA/QC, and loaded to HydroDaVE water level transducer data downloaded from the MW-1 well by West Yost staff, prior to well being secured by Well Tec.
- Continued preparation for the Spring 2025 monitoring event:
    - Obtained a quote from Clinical Laboratory for groundwater-quality sample analysis.
    - Obtained a quote for new transducer and direct read cables from In Situ.

Cooperator Data Collection, Data Management, and Reporting Data to DWR Portals

- Loaded newly identified well into HydroDaVE.

Annual Water Rights Accounting (Pumping Report)

- No work performed in this reporting period.

Annual Report to the Court and DWRS

- 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.
- Compiled the PDF of the draft WY 2024 Annual Report, published it to the Watermaster website, and noticed the review and hearing to the Watermaster Parties and Distribution list on January 28, 2025.

Redetermination of the Sustainable Yield of the Borrego Springs Subbasin

- Continued work to support development of projection scenarios and running the Borrego Valley Hydrologic Model (BVHM) through 2070, including:
    - Completed draft of Party-specific Pumping Plans of projected groundwater pumping on conversations with Pumpers to support development of projection scenarios to run with the BVHM.
    - Reviewed pumping projections and compared pumping projections to Carryover limits to determine if sufficient BPA and/or Carryover available to cover over-pumping by some Parties who indicated over-pumping will be remedied through transfers of BPA or Carryover.
    - Sent Pumping Plans to select Parties for review.

- Began adding new wells to the BVHM to simulate future pumping based on pumping projections.
- Began developing input file for multi-node well package (MNW2) to simulate future pumping.
- Continued summarizing future land use changes based on conversations with Pumpers to incorporate in the Farm Process (FMP) to simulate future land uses in model projections.

PREPARE THE 5-YEAR ASSESSMENT OF THE GMP

- Continued work on recommended updates to the Sustainable Management Criteria.
- Continued effort to characterize location of potential de minimis wells and their well depths, including development of a map comparing well depths to water levels in Fall 2024.
- Developed and ran script to process and generate time-series charts of groundwater-level measurements from transducers to highlight static groundwater-level measurements (*i.e.,* water level measurements not influenced by pumping) so the records can more effectively be compared to Sustainable Management Criteria.
- Reviewed approach to updating history of Storage change based on updated BVHM.
- Worked on developing text and figures for sections of the 5-year 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

- Coordinated with TAC members to schedule Regular TAC working meetings for February and March 2025.
- Prepared February 2025 TAC meeting agenda and distributed to the TAC and public distribution list via email.

STAKEHOLDER OPEN HOUSE

- Prepared PowerPoint Presentation slides on the redetermination of the 2025 Sustainable Yield for the January 8, 2025 Borrego Springs Community Sponsor Group meeting.
- Attended and presented at the Borrego Springs Community Sponsor Group meeting on January 8, 2025. The meeting was attended by Andy Malone.

MAINTAIN WEBSITE AND GRANT COMMUNICATIONS

- No work performed in this reporting period.

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TOTAL TAX:	10.07
INVOICE 83025 TOTAL:	140.03
VISA:	140.03

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TAP REFID:105030025674 01/20/25 06:33:14
CUSTOMER CODE: 940-80-24-10
TVR : 0000000000
AID : A0000000031010

STORE: 1050 TERMINAL: 30 01/20/25 06:33:40
OF ITEMS PURCHASED: 2
EXCLUDES FEES, SERVICES AND SPECIAL ORDER ITEMS

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Invoice

Date	Invoice #
1/31/25	208428

Well Tec Services, Inc.
P.O. Box 3375
Beaumont, CA 92223

(909) 754-7020
(951) 849-1601
rwelltec@aol.com

Bill To

West Yost
23692 Birtcher Drive
Lake Forest, CA 92630

Terms	P.O. No.	Project
Net 10	940-80-24-10-350	Borrego Springs

Item	Description	Qty/Hrs	Rate	Amount
Services	Bing Crosby Remove existing well cover, extend existing casing 24" above ground level and document change in reference point, construct 3'x3'x4" concrete cleaning pad around casing, secure new locking well cover, paint yellow	1	3,383.00	3,383.00
Services	Hayden Remove existing well cover, extend existing casing 24" above ground level and document change in reference point, construct 3'x3'x4" concrete cleaning pad around casing, secure new locking well cover, paint yellow	1	3,383.00	3,383.00
Services	Cameron 2 Remove existing well cover, extend existing casing 24" above ground level and document change in reference point, construct 3'x3'x4" concrete cleaning pad around casing, secure new locking well cover, paint yellow	1	3,383.00	3,383.00
Services	Viking Well Remove existing well cover, extend existing casing 24" above ground level and document change in reference point, secure new locking well cover, paint yellow	1	3,383.00	3,383.00
Services	MW-1 Remove existing well cover, extend existing casing 24" above ground level and document change in reference point, secure new locking well cover, paint yellow, add 4 bollards	1	3,625.00	3,625.00

Thank you for choosing Well Tec Services Inc.

Please be advised there will be a 3.3% charge per month on late invoices.

4% fee on all credit card transaction.

Total

Payments/Credits

Balance Due

Invoice

Date	Invoice #
1/31/25	208428

Well Tec Services, Inc.
P.O. Box 3375
Beaumont, CA 92223

(909) 754-7020
(951) 849-1601
rwelltec@aol.com

Bill To

West Yost
23692 Birtcher Drive
Lake Forest, CA 92630

Terms	P.O. No.	Project
Net 10	940-80-24-10-350	Borrego Springs

Item	Description	Qty/Hrs	Rate	Amount
Services	CDZ Nursery Remove existing well cover, video log, extend existing casing 24” above ground level and document change in reference point, construct 3’x3’x4” concrete cleaning pad around casing, secure new locking well cover, paint yellow	1	6,034.00	6,034.00
Services	808 Ghost Remove existing well cover, video log, extend existing casing 24” above ground level and document change in reference point, secure new locking well cover, paint yellow	1	6,034.00	6,034.00
Services	Army Well Remove existing well cover, video log, extend existing casing 24” above ground level and document change in reference point, construct 3’x3’x4” concrete cleaning pad around casing, secure new locking well cover, paint yellow	1	6,034.00	6,034.00
Services	Bauer Monitoring Well Remove existing well cover, video log, secure new locking well cover, paint yellow	1	6,034.00	6,034.00
Services	Airport 2 Video log	1	2,904.00	2,904.00

Thank you for choosing Well Tec Services Inc.

Please be advised there will be a 3.3% charge per month on late invoices.

4% fee on all credit card transaction.

Total	$44,197.00
Payments/Credits	$0.00
Balance Due	$44,197.00

West Yost Budget Status Report for Grant Component No. 7: Monitoring, Reporting, and Groundwater Management Planning - WY 2025

As of January Billing Period (Month 4 of 6)*

Task	Approved Budget	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Total Spent	Remaining Budget	Estimated Cost to Complete	Total Cost at Completion	Remaining Budget at Completion	Notes
Totals	$668,672	$69,680.24	$58,791.75	$56,628.00	$111,238.53	$0.00	$0.00	$296,338.52	$372,333.01	$308,381	$604,720	$63,951.76	
Category (a) Component Administration - Category 7	**$37,004**	**$2,998.75**	**$4,349.00**	**$10,256.25**	**$5,834.50**	**$0.00**	**$0.00**	**$23,438.50**	**$13,565.50**	$13,156	$36,595	$410	
Component Administration	$37,004	$2,998.75	$4,349.00	$10,256.25	$5,834.50			$23,438.50	$13,565.50	$13,156	$36,595	$410	
Category (b) Planning, Design, Environmental	**$3,002**	**$0.00**	**$1,489.75**	**$941.75**	**$568.80**	**$0.00**	**$0.00**	**$3,000.30**	**$1.70**	$0	$3,000	$2	
Planning, Design, Environmental	$3,002	$0.00	$1,489.75	$941.75	$568.80			$3,000.30	$1.70	$0	$3,000	$2	This task is complete.
Category (c) Construction, Implementation	**$203,273**	**$11,404**	**$731**	**$3,133**	**$63,440**	**$0**	**$0**	**$78,708**	**$124,565**	$139,984	$218,692	**($15,419)**	
Construction Management	$20,000	$0.00	$0.00	$0.00	$6,016.00			$6,016.00	$13,984.00	$13,984	$20,000	$0	
Address Abandoned Wells	$183,273	$11,403.75	$731.25	$3,133.25	$57,423.98			$72,692.23	$110,580.77	$126,000	$198,692	($15,419)	The grant budget has an additional $16k left in the budget. This WY 2025 overbudget amount is fully reimbursable under the grant. Overage in WY 2025 is primarily to pay for purchase and install of transducers in the new wells, plus some close out reporting costs. These overages could be billed to Category (d) GW Monitoring, but see note below for that task.
Category (d) Monitoring, Assessment	**$375,850**	**$45,603.99**	**$38,868.75**	**$36,271.00**	**$40,135.50**	**$0.00**	**$0.00**	**$160,879.24**	**$214,970.29**	$136,011	$296,890	$78,960	
Groundwater Pumping Monitoring - Annual Meter Verification	$6,434	$0.00	$386.75	$437.00	$768.50			$1,592.25	$4,841.75	$3,252	$4,844	$1,590	
Groundwater Pumping Monitoring - Monthly Meter Reading	$12,003	$2,609.25	$1,728.75	$1,677.00	$2,329.00			$8,344.00	$3,659.00	$3,659	$12,003	$0	
Groundwater Level and Quality Monitoring Program - Semi Annual Monitoring Events	$64,190	$18,532.74	$16,470.50	$3,113.50	$5,838.00			$43,954.74	$20,235.26	$3,500	$47,455	$16,735	Current estimated cost at completion assumes majority of Spring 2025 event is not reimbursed (our WY 2025 budget assumption). Because we are underbudget on Safe Yield and GMP Assessment, will request to DWR to use underbudget to cover the entire Spring 2025 event. This should be allowable based on flexibility within Categories. The full cost of the Spring event in Feb/March is about $35k-$45k
Data Management and Reporting Data to DWR Portals	$10,936	$0.00	$4,722.50	$939.50	$138.75			$5,800.75	$5,135.25	$5,135	$10,936	$0	
Annual Water Rights Accounting (Pumping Report)	$11,000	$8,541.25	$2,633.25	$0.00	$0.00			$11,174.50	($174.50)	$0	$11,175	($175)	This task is complete.
Annual Report to the Court and DWR	$40,188	$8,675.75	$7,945.25	$8,073.50	$10,018.00			$34,712.50	$5,475.50	$5,476	$40,188	$0	
Redetermination of the Sustainable Yield of the Borrego Springs Subbasin	$90,590	$7,245.00	$1,326.00	$7,522.75	$7,347.00			$23,440.75	$67,149.50	$47,989	$71,430	$19,161	
5-Year GMP Assessment	$140,508	$0.00	$3,655.75	$14,507.75	$13,696.25			$31,859.75	$108,648.53	$67,000	$98,860	$41,649	
Category (e) Stakeholder Outreach	**$49,543**	**$9,673.75**	**$13,353.00**	**$6,025.75**	**$1,259.75**	**$0.00**	**$0.00**	**$30,312.25**	**$19,230.75**	$19,231	$49,543	$0	
Outreach - Board Meetings on Grant Implementation	$0	$0.00	$0.00	$0.00	$0.00			$0.00	$0.00	$0	$0	$0	
Outreach - Technical Advisory Committee Working Meetings	$35,000	$8,191.50	$8,007.25	$6,025.75	$414.75			$22,639.25	$12,360.75	$12,361	$35,000	$0	
Outreach - Stakeholder Open House	$12,543	$1,482.25	$5,345.75	$0.00	$845.00			$7,673.00	$4,870.00	$4,870	$12,543	$0	
Outreach - Maintain Website and Grant Communications	$2,000	$0.00	$0.00	$0.00	$0.00			$0.00	$2,000.00	$2,000	$2,000	$0	

*Grant funding period in WY 2025 extends for six months (October 2024 through March 2025)

WEST YOST
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Remit Payment To:
PO Box 2158
Davis, CA 95617

January 31, 2025

Invoice Number: 2061688

Accounts Payable	Client Project:	Work Order No. 7
Borrego Springs Watermaster	WY Project No:	940-80-24-11
c/o West Yost Associates	Contract Amount:	20,812.00
23692 Birtcher Drive	Job Name:	WY 2025 Component 6: Biological Restoration of Fallowed Lands
Lake Forest, CA 92630		

Professional Services from January 1, 2025 to January 31, 2025

Approved April 9, 2025

Previously Billed :	**7,511.00**
Total This Period :	**4,889.25**
Total Amount Billed to Date including This Invoice :	**12,400.25**
Amount Remaining in Contract :	**8,411.75**

Professional Personnel

	Hours	Rate	Amount	
Eng/Scientist/Geologist Manager I				
Adams, Samantha	2.00	352.00	704.00	
Principal Eng/Scientist/Geologist II				
Malone, Andy	8.00	338.00	2,704.00	
Associate Eng/Scientist/Geologist I				
Salberg, Lauren	6.25	237.00	1,481.25	
Totals	16.25		4,889.25	
Total Labor				**4,889.25**
			Total this Invoice	**$4,889.25**

Description of Services:

Please see attached description of services

Outstanding Invoices

Number	Date	Balance
2060954	11/30/2024	4,754.25
2061514	12/31/2024	2,109.25
Total		**6,863.50**

Please direct questions to:

Project Manager Andy Malone
Principal Greg Chung GKC

Grant Component No. 6: Biological Restoration of Fallowed Lands - WY 2025 [(a)]

West Yost - January 2025 Invoiced by Category and Task

Task	Jan-25
Totals	**$4,889.25**
Category (a) Component Administration - Category 6	**$1,219.75**
Component Administration	$1,219.75
Category (d) Monitoring, Assessment	**$2,520.30**
Task 1 - Data Review	$0.00
Task 2 - Habitat Field Study	$0.00
Task 3 - Sand Fence Case Study	$2,351.30
Task 4 - Fallowing Rehab Strategies	$169.00
Task 5 - Fallowing Prioritization	$0.00
Category (e) Stakeholder Outreach	**$1,149.20**
Task 6 - EWG Meetings	$1,149.20

Notes:
(a) Does not include work performed by Land IQ

Description of Services Rendered
Project 940-80-24-11
Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2025 - Invoice Period: January 1, 2025 to January 31, 2025

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.
- Coordinated with Legal Counsel on preparation of a change order budget request to complete the project.

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.

- Coordinated internally and with Land IQ on the schedule, work completed to-date, budget, and challenges with sand fence contractor for Task 3.
- Supported development of budget to complete project through end of grant period (through March 31, 2025).
- Provided percent of total pumping, by sector, to UCI to support presentation on sand fence case study.

TASK 4 - FALLOWING REHAB STRATEGIES.

- Reviewed and distributed the draft Task 4-5 *Recommended Retired Farmland Rehabilitation Strategies* Report to the EWG for review.

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.

- Prepared and distributed agenda package for the January 23, 2025 EWG meeting.
- Attended the virtual EWG meeting on January 23, 2025. The meeting was attended by Andy Malone and Lauren Salberg.
- Prepared meeting minutes of the January 23, 2025 EWG meeting.
- Updated Watermaster website with presentation slides from January 23, 2025 EWG meeting.

West Yost Budget Status Report for Grant Component No. 6: Biological Restoration of Fallowed Lands - WY 2025 [a]

As of January Billing Period (Month 4 of 6) [b]

Task	Approved Budget (as Amended)	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25	Total Spent	Remaining Budget	Estimated Cost to Complete	Total Cost at Completion	Remaining Budget at Completion	Notes
Totals	$20,812	$647.50	$4,754.25	$2,109.25	$4,889.25	$0.00	$0.00	$12,400.25	$8,411.75	$5,258	$17,658	$3,153.75	
Category (a) Component Administration - Category 7	**$2,800**	**$55.25**	**$55.25**	**$55.25**	**$1,219.75**	**$0.00**	**$0.00**	**$1,385.50**	**$1,414.50**	$2,363	$3,749	**($949)**	
Task 1 - Component Administration	$2,800	$55.25	$55.25	$55.25	$1,219.75			$1,385.50	$1,414.50	$2,363	$3,749	($949)	There is sufficient funding left in grant to cover this overage.
Category (d) Monitoring, Assessment	**$12,012**	**$276.25**	**$1,112.50**	**$1,106.00**	**$2,520.30**	**$0.00**	**$0.00**	**$5,015.05**	**$6,996.95**	$2,895	$7,910	$4,102	
Task 1 - Data Review	$0	$0	$0.00	$0.00	$0			$0.00	$0.00	$0	$0	$0	This task is complete.
Task 2 - Habitat Field Study	$0	$0	$0.00	$0.00	$0			$0.00	$0.00	$0	$0	$0	This task is complete.
Task 3 - Sand Fence Case Study	$5,170	$0.00	$796.50	$1,106.00	$2,351.30			$4,253.80	$916.20	$885	$5,139	$31	
Task 4 - Fallowing Rehab Strategies	$3,140	$276.25	$316.00	$0.00	$169.00			$761.25	$2,378.75	$1,320	$2,081	$1,059	
Task 5 - Fallowing Prioritization	$3,702	$0.00	$0.00	$0.00	$0.00			$0.00	$3,702.00	$690	$690	$3,012	
Category (e) Stakeholder Outreach	**$6,000**	**$316.00**	**$3,586.50**	**$948.00**	**$1,149.20**	**$0.00**	**$0.00**	**$5,999.70**	**$0.30**	$0	$6,000	$0	
Task 6 - EWG Meetings	$6,000	$316.00	$3,586.50	$948.00	$1,149.20			$5,999.70	$0.30	$0	$6,000	$0	This task is complete. No additional EWG meetings are scheduled during the grant period.

Notes:

(a) - Does not includes work performed by Land IQ for Grant Component No. 6. Land IQ is contracted directly with WM and will be invoiced directly by Land IQ

Borrego Springs Watermaster
Board of Directors Meeting
April 16, 2025
AGENDA ITEM V.C

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: April 11, 2025

Subject: Use of the BVHM to Evaluate Sustainability of Future Pumping in the Borrego Springs Subbasin

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

Recommended Action

Board discussion. Provide input and direction to Staff on the preferred option for the recommended tasks described in this memo.

Fiscal Impact: TBD. The estimated costs to perform the recommended tasks range from about $240,000 to $260,000 (2025 dollars). Options are presented to incur costs in WY 2025 and 2026, or could be spread over multiple years and be executed in conjunction with other planned Watermaster tasks to potentially achieve efficiencies.

Background

As part of the scope of work for the Sustainable Groundwater Management (SGM) grant, the Borrego Valley Hydrologic Model (BVHM) was to be used to predict future groundwater conditions in the Basin (*i.e.*, future changes in groundwater-levels and groundwater storage) under future groundwater pumping plans and climatic conditions to assess the sustainability of Basin conditions under the pumping Rampdown to the 2025 Sustainable Yield by 2040 and beyond. Specifically, the BVHM projections were to be used to determine if the following Sustainability Goals defined in the GMP are expected to be met:

- Trends in groundwater levels are stable or increasing by 2040 and thereafter
- Groundwater levels are always at sufficient elevations to not cause Undesirable Results

Four BVHM projection scenarios were planned to test various future climate conditions. Upon executing the first BVHM projection, a discrepancy was identified in the BVHM which caused several wells in the South Management Area to "under-pump" their assigned pumping rates. Staff communicated the discrepancy to the TAC and Board in March, including its plan to pause the BVHM projections, investigate the discrepancy, and develop a recommended approach to fix the discrepancy and complete the BVHM projections.

Results and Interpretations

Staff performed the investigation, and prepared a technical memorandum (TM) entitled *Use of the BVHM to Evaluate Sustainability of Future Pumping in the Borrego Springs Subbasin* (enclosed) that:

- Documents the results and interpretations from the work performed to-date to evaluate the sustainability of the 2025 Sustainable Yield, including the description of the model discrepancy that was identified.
- Describes recommendations to fix the model discrepancy and complete the effort to evaluate the sustainability of the 2025 Sustainable Yield.

The key findings and preliminary interpretations in the TM are:

- **Under-Pumping Discrepancy in the BVHM**. The discrepancy (and unsuccessful efforts to fix it) likely reveal that the geology in this area of the Basin is complex and not well represented in the BVHM, nor is the BVHM well calibrated in this area. The discrepancy needs to be fixed to confidently use the BVHM to evaluate long-term sustainability, particularly in the Central and South Management Areas where pumping is expected to increase in the future compared to long-term history.
- **Potential Future Groundwater Levels.** Despite the discrepancy, certain interpretations can be made from the initial BVHM projection. These interpretations relate to potential future trends in groundwater levels:
    - ***North Management Area***. The decades-long decline in historical groundwater levels in the North Management Area will likely cease in the near term. Then, groundwater levels will gradually increase through 2040 as the pumping in this area is projected to decline during the Rampdown period. Groundwater levels will be relatively stable after 2040, which would be consistent with the Sustainability Goal for the Basin of stable or increasing groundwater levels by 2040 and thereafter.
    - ***Central and South Management Areas***. Groundwater levels in these areas may decline continuously through 2070, which would not be consistent with the Sustainability Goal for the Basin of stable or increasing groundwater levels by 2040 and thereafter. These groundwater-level declines may occur because of recent and planned increases in pumping from these areas.

The interpretations related to potential future groundwater levels are considered preliminary because of the recognized under-pumping discrepancy in the BVHM and the probability that the BVHM requires an update and recalibration to eliminate the under-pumping discrepancy. That said, these interpretations could be used to inform Watermaster policies, projects, and management actions to help achieve the Sustainability Goal for the Basin. For example, it would be reasonable to assume that there is a potential sustainability issue in the Central and South Management Areas in the future, and policies could be developed to protect against long-term declining groundwater levels.

Recommendations

The TM also provides a recommended scope of work to fix the under-pumping discrepancy and complete the BVHM projections, including options for implementing the scope of work:

Task 1. Use new information/data to update the update the hydrogeologic conceptual model (HCM) of the Basin, particularly in the Central and South Management Areas where the under-pumping discrepancy is located.

Task 2. Perform BVHM recalibration. After Task 2, the under-pumping discrepancy should be eliminated, and the BVHM could be used to simulate the pumping projections previously developed for WYs 2023 to 2070.

Task 3. Use the recalibrated BVHM to evaluate future Basin conditions under variable future climate conditions.

Task 4. Evaluate the BVHM projection results from Task 3 to characterize the sustainability of the 2025 Sustainable Yield, specifically for:

- Trends in groundwater levels and storage that are predominantly stable or increasing by 2040.
- Groundwater levels that are at sufficient elevations to not cause Undesirable Results (*i.e.,* comparison against Minimum Thresholds).

The estimated costs to perform Tasks 1 through 4 (based on 2025 rates) range from about $240,000 to $260,000.

There are two primary options for implementing these recommended tasks that are related to timing. Each option has advantages and disadvantages. The two options are:

1. Perform all four tasks immediately in WY 2025 and 2026.
    a. Advantages:
        i. Rapid improvements to the BVHM that the Watermaster could more confidently be used to assess sustainability and test policies and management actions that are designed to achieve sustainability by 2040.
        ii. The ability to more confidently report on the likelihood of achieving sustainability by 2040 (under the Rampdown to the 2025 Sustainable Yield) and thereafter in the Five-Year Assessment Report due to the DWR by June 25, 2026.
        iii. Long-term costs will likely be lower because the work is being completed sooner and hence will avoid longer-term inflation.

b. Disadvantages:

i. Immediate costs will be higher due to the condensed schedule.

ii. Identifying and acquiring grant funding to offset costs will take time and additional funding and is unlikely under the immediate schedule.[1]

iii. The BVHM may need an additional recalibration in WY 2029 for the 2030 redetermination of the Sustainable Yield, if results from the approved 2030 scope-of-work[2] indicate the need for BVHM recalibration following assessment of the Groundwater Dependent Ecosystem (GDE) study results and new monitoring data (pumping and water levels), which is due to be completed by the end of WY 2027.

2. Perform the four tasks incrementally as part of the scope to Redetermine the 2030 Sustainable Yield over WYs 2026 through 2029.

a. Advantages:

i. Immediate costs will be lower due to spreading the work out over four years.

ii. More time is available to identify and solicit grant funding to support the work.

iii. The work could be integrated into the planned Watermaster scope of work for the 2030 Sustainable Yield to assess new data and information (GDE study results and new monitoring data). Because this work may necessitate BVHM improvements and recalibration this approach may achieve efficiencies and avoid multiple recalibrations.

b. Disadvantages:

i. BVHM updates would occur in later years, limiting its usefulness to the Watermaster in the meantime as a tool to perform assessments of sustainability and to test proposed policies and management actions that are designed to achieve sustainability.

ii. More conservative and protective management strategies will likely be necessary given the higher uncertainty in future groundwater conditions,

[1] Costs to seek grant funding were not included in the scope of work to address the BVHM discrepancy.

[2] At its December 19, 2024 Special Board meeting, the Watermaster Board approved a scope of work and budget to redetermine the 2030 Sustainable Yield. The approved scope included two tasks using: 1) GDE study results, and 2) Monitoring Program Data (groundwater-levels and metered pumping). The scope is described in more detail in the Item IV.A of the Board meeting agenda package, available here: https://borregospringswatermaster.com/wp-content/uploads/2024/12/20241219_Board-Agenda-Package.pdf

namely due to a concern that the future pumping plan may not be sustainable in the Central and South Management Areas.

iii. Long-term costs may be greater due to inflation.

Next Steps

Staff will provide the Board with an overview of the TM and request direction on a preferred option to address the BVHM discrepancy so the path forward can be integrated into an overall plan/approach/cost to perform related tasks that Watermaster is also scoping, including (i) address the DWR's recommended corrective actions, (ii) finish the 5-year GMP Assessment Report, and (iii) begin work on the 2030 redetermination of the Sustainable Yield.

Following the Board meeting, the Technical Consultant will share Board feedback with the TAC at its May 1, 2025 meeting, which will assist the TAC recommending a scope and budget for WYs 2026 and 2027. The Technical Consultant will report TAC feedback to the Board. The scope of work and budget will be part of the draft WY 2026 Budget review planned for the May 21 Board meeting.

Enclosures

Technical Memorandum: *Use of the BVHM to Evaluate Sustainability of Future Pumping in the Borrego Springs Subbasin*

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TECHNICAL MEMORANDUM
USE OF THE 2022 BVHM TO EVALUATE SUSTAINABILITY OF FUTURE PUMPING IN THE BORREGO SPRINGS SUBBASIN

DATE: March 31, 2025

TO: Technical Advisory Committee
Borrego Springs Watermaster

FROM: Andy Malone, PG; Eric Chiang, PhD; Lauren Salberg, PG (West Yost)

SUBJECT: Use of the *2022 BVHM* to Evaluate Sustainability of Future Pumping in the Borrego Spring Subbasin

BACKGROUND AND OBJECTIVES

Section II.E of the Judgment requires the Sustainable Yield of the Borrego Springs Subbasin (Basin) 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 from the BVHM to update the Sustainable Yield. The Watermaster Board approved a redetermined Sustainable Yield of 7,952 acre-feet per year (afy) at its December 5, 2024 Board meeting (2025 Sustainable Yield).[1] The redetermined Sustainable Yield was based on the long-term, historical net recharge to the Basin as estimated by a recalibrated version of the BVHM[2], referred to herein as the *2022 BVHM* to distinguish it from prior calibrated versions.[3] The *2022 BVHM* was developed with funding from the Department of Water Resource (DWR) Sustainable Groundwater Management (SGM) grant program.

[1] In redetermining the 2025 Sustainable Yield, the Board also considered the range in estimates of the Sustainable Yield produced from an uncertainty analysis of the model calibration. The uncertainty analysis considered results from the ten best model realizations, which produced a range of Sustainable Yields from 7,568 afy to 8,078 afy and averaged 7,803 afy.

[2] The BVHM is referred to throughout this document in various contexts. When referring to the model generally, such as its features and use as a tool for simulating groundwater conditions, the model is referred to as the BVHM. There are several versions of the BVHM that have been developed over time, but the *2022 BVHM* is the focus of this TM. This version of the BVHM is the *Calibrated BVHM* extended through WY 2070 and used to run projection scenarios and simulate future Basin conditions. Note that the term "2022 BVHM" was used during the performance of Tasks 1-3 of the scope of work to redetermine the 2025 Sustainable Yield. The methods and results of performing Tasks 1-3 are documented in TMs available on the Watermaster's website at: https://borregospringswatermaster.com/technical-advisory-committee-meetings/.

[3] Task 4 of the scope of work to redetermine the 2025 Sustainable Yield involved the calibration of the BVHM (referred to the *Calibrated BVHM*, which had a simulation period of WYs 1930 to 2023). The methods and results of model calibration are documented in a TM available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2024/10/Task-4-TM_final.pdf

As part of the scope of work for the SGM grant, the *2022 BVHM* was to be used to predict future groundwater conditions in the Basin (i.e., future changes in groundwater-levels and groundwater storage), under future groundwater pumping plans and climatic conditions, to assess the sustainability of the pumping Rampdown to the 2025 Sustainable Yield by 2040 and through the planning and implementation horizon (to water year [WY] 2070).[4,5] The purpose of the evaluation is to identify if the Sustainability Goal for the Basin is met by 2040 and identify the potential for Undesirable Results that could occur for two of the applicable Sustainability Indicators defined in the Groundwater Management Plan (GMP) for the Borrego Springs Subbasin such as: Chronic Lowering of Groundwater Levels and Reductions in Groundwater in Storage. The GMP identifies groundwater-level and storage conditions that will occur when the Sustainability Goal for the Basin is met by 2040, which is planned to be compared to BVHM projections to determine if the following Sustainability Goals are expected to be met:

- Trends in groundwater levels are stable or increasing by 2040
- Groundwater levels are at sufficient elevations to not cause Undesirable Results

Additionally, the GMP defines that the Undesirable Result associated with chronic lowering of groundwater levels and reduction in groundwater storage is the loss of adequate water resources to support current and/or potential future beneficial uses and users. The evaluation for this potential Undesirable Result was to be accomplished by comparing the BVHM projections for groundwater levels and storage to the Sustainable Management Criteria (SMC) for chronic lowering of groundwater levels and reduction in groundwater storage (e.g., minimum thresholds at representative monitoring wells). Findings and conclusions from these evaluations would be used to demonstrate the likelihood of achieving sustainability by 2040 (and beyond), support adaptations to the GMP (if any), and would be documented in the 5-year Assessment of the GMP (GMP Assessment Report), which is due to the DWR on June 25, 2026.

As described later in this technical memorandum (TM), a discrepancy was discovered in the *2022 BVHM.* Wells in the multi-node well (MNW2) package were unable to pump their assigned rates in the future simulation (herein referred to as "under-pumping"). Because of this, the *2022 BVHM* simulation was unable to pump the projected groundwater volumes provided by some Pumpers.

[4] The Sustainable Yield is allocated to parties with Baseline Pumping Allocation, or BPA. There are two named parties to the Judgment that do not have BPA rights but are afforded non-de minimis pumping rights. These rights are not subject to the Rampdown and do not have Carryover rights. The total non-BPA water rights of the two parties is 42 afy. The pumping of these parties is *in addition to* the Sustainable Yield amount and was considered in both the calibration of the *2022 BVHM* and in developing pumping projections. When referring to assessment of the "sustainability of the 2025 Sustainable Yield", we also are considering the pumping pursuant to these non-de minimis rights afforded by the Judgment. This will be evident later in this TM as presented in Table 1, which shows a total allowable pumping that is about 42 afy greater than 7,952 afy.

[5] The phrase "assess the sustainability of the 2025 Sustainable Yield" is used through the report. This refers to assessing both the Rampdown to the Sustainable Yield by 2040 and the long-term sustainability of pumping at the 2025 Sustainable Yield through 2070.

Following identification of the discrepancy, this issue was presented to the Technical Advisory Committee (TAC) at its March 18, 2025 Ad-Hoc meeting.[6] West Yost staff informed the TAC that the recommended action was to pause modeling of future projections, investigate the issue further, and develop options and cost estimates to complete the work to assess the sustainability of the 2025 Sustainable Yield. The revised objectives of this effort are to investigate and document the under-pumping issue and provide the Watermaster Board with recommendations on how the information produced from the efforts to date can be used and options to complete the evaluation of sustainability of the 2025 Sustainable Yield.

The objectives of this TM are:

- To document the results and interpretations from the work performed to-date to evaluate the sustainability of the 2025 Sustainable Yield, including the description of the model discrepancy that was identified.
- To describe recommendations to complete the effort to evaluate the sustainability of the 2025 Sustainable Yield, for consideration by the TAC and Watermaster Board.

Organization of this Technical Memorandum

This TM includes the following sections:

- **Methods to Characterize Future Groundwater Conditions.** This section describes the methods that were employed to define future cultural and climatic conditions (including future pumping, land use, and climate) and then perform BVHM simulations over the 47-year projection period of WY 2023 to 2070.
- **Preliminary Results and Interpretations**. This section describes the results and interpretations of the *2022 BVHM* projections of future groundwater levels and storage. During this work, a discrepancy was identified in the *2022 BVHM* that likely influences the model results. This section describes the model discrepancy and the limitations that the discrepancy causes for the interpretation of the model results. Hence, the results and interpretations described herein are considered "preliminary" at this time.
- **Recommendations and Next Steps**. This section describes the recommended next steps to resolve the discrepancy in the *2022 BVHM* and evaluate the sustainability of the 2025 Sustainable Yield.

METHODS TO CHARACTERIZE FUTURE GROUNDWATER CONDITIONS

The *2022 BVHM* can be used to simulate future cultural and climatic conditions (i.e., changes in pumping, land use, and hydrology) and the resultant Basin response (i.e., changes in groundwater levels and storage). The *2022 BVHM* has a historical simulation period of October 1, 1929 through September 30, 2022 (WY 1930 to 2022). To predict future groundwater conditions in the Basin from WY 2023 to 2070 and evaluate for groundwater sustainability, it was necessary to (i) characterize changes in pumping, land use, and hydrology for the 47-year projection period and (ii) modify how the *2022 BVHM* simulates future pumping and return flows, as compared to the historical simulation.

[6] Meeting materials from March 18, 2025 Ad-Hoc TAC meeting are available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2025/03/20250318-TAC-presentation.pdf

The following major tasks were planned and attempted to be executed:

1. Develop projections of future cultural and climatic conditions (pumping, land use, and hydrology)
2. Reconfigure the *2022 BVHM* to assign all future pumping to the MNW2 package (i.e., eliminate the use of the Farm Process (FMP) to estimate pumping for agricultural wells)
3. Extend all *2022 BVHM* input files through WY 2070
4. Run the *2022 BVHM* through WY 2070 under various future climate scenarios

Each task is described below in more detail, including any changes in methods caused by the evaluation of the model results.

Projections of Future Cultural and Climatic Conditions

Projections of future cultural and climatic conditions from WY 2023 to 2070 are necessary input data for BVHM simulations and evaluations for potential future groundwater conditions. Projections of future cultural and climatic conditions were developed for:

- Groundwater pumping
- Land use
- Hydrologic conditions (streamflow, precipitation, and evapotranspiration [ET]) under various future climates

Each of the future conditions are described below.

Future Groundwater Pumping

The primary stress to the Basin is groundwater pumping. Therefore, in order to reasonably assess for the potential for Undesirable Results to occur, it is important to simulate the most probable spatial distribution and temporal progression of future pumping under the Rampdown to the 2025 Sustainable Yield by 2040 and thereafter.

Two data sources were used to develop the pumping projections:

- Metered pumping data (WY 2023 and 2024)
- Party-specific pumping projections (WY 2025 to 2070)

To develop the pumping projections for WY 2025 to 2070, Watermaster staff interviewed all major Pumpers in the Basin to discuss and understand how each Pumper plans to Rampdown pumping to the 2025 Sustainable Yield by 2040 and thereafter (based on their knowledge at the time). The approach also considered the availability and use of Carryover, which allows Pumpers to address Overproduction if they pump above their Annual Allocation in any year.[7]

[7] Refer to the Watermaster's Annual Report for a detailed discussion of Water Rights accounting in accordance with the Judgment, including definition of all relevant terms. The Watermaster's most recent annual report for WY2024 is available on its website at: https://borregospringswatermaster.com/wp-content/uploads/2025/03/R-940-Water-Year-2024-Annual-Report.pdf

For each major Pumper, an annual pumping plan was developed, based on the following:

- If a Pumper intends to remain in the Basin, their pumping plan must include future pumping for WYs 2025 to 2070 and identify:
  - Rampdown strategy, including how the Pumper intends to avoid Overproduction if their projected demands exceed their Annual Allocation (i.e. fallow land to reduce demands or purchase Carryover and/or Baseline Pumping Allocation (BPA)).
  - Which well(s) will be pumped to meet demands.
  - If a Pumper intends to fallow land, the pumping plans must identify which parcels will be fallowed and when.
- If a Pumper intends to cease pumping, their pumping plan must identify when the Pumper is expected to stop pumping, which may occur abruptly or slowly over time.
- For all Pumpers who intend to utilize Carryover, the Pumping Projection assumes that they purchase the amount eligible for purchase every year.

Not all Parties were interviewed, including Small Pumpers (< 10 afy) and Inactive Pumpers (Parties who have never pumped). For Small Pumpers, it was assumed that these Pumpers will continue pumping in the future at a rate similar to their historical average (based on metered data) and purchase Carryover to address any Overproduction. For Inactive Pumpers, it was assumed that these Pumpers will not pump in the future and their BPA rights will be transferred to active Pumpers who have indicated they will purchase BPA to meet future demands.

The following are conclusions from conducting interviews with major Pumpers regarding future pumping in the Basin were:

- Most Pumpers plan to stay in the Basin and will implement strategies to Rampdown to the 2025 Sustainable Yield, such as: fallowing land to reduce demands, purchasing Carryover and/or BPA from other Pumpers, or changing land use to a more water-efficient crop.
- All wells planned to be operated in the future are existing wells; no new wells are currently planned to be drilled and operated.[8]
- Approximately 24 wells will (or have already) cease operation between WYs 2023 through 2070.
- Only two Parties expect to increase pumping over the projection period and will purchase additional BPA to enable increased pumping. Pumping from these Parties is for recreational and municipal uses. All other Parties who plan to remain in the Basin plan to reduce pumping in accordance with the Rampdown.

The individual pumping plans were then aggregated to develop a Basin-wide Pumping Plan that accounts for all Parties in the Basin and to determine if the aggregate plan adheres to the Judgment. Specifically, the Basin-wide Pumping Plan was assessed to ensure that the aggregate BPA (24,293 afy) and non-De Minimis Rights (42 afy) remained constant over time (24,335 afy total), that no Party accumulated more

[8] The Borrego Water District has informed the Watermaster that they are planning to perform a pumping optimization study and that they may plan for new wells based on the outcome of that study. This is their preliminary projection minus the optimization study.

Carryover than allowed by the Judgment (2x BPA), and that sufficient Carryover balance is available for those Pumpers who have indicated Carryover as a mechanism to address Overproduction.

A memo was prepared for the TAC documenting the methods and assumptions used to develop the projections, and also included a discussion of their input and feedback during their February 25, 2025 meeting.[9]

Table 1 presents the aggregate pumping plan for all Parties in the Basin for WYs 2025 through 2070, the table identifies:

- Total BPA and Non-De Minimis Rights (a). This is the sum of the BPA or Non-De Minimis Rights of all Parties and remains constant over time at 24,335 afy.
- Annual Allocation under Rampdown to the 2025 Sustainable Yield (b). This is sum of the Annual Allocation of all Parties per the revised Rampdown for the 2025 Sustainable Yield, plus allowed pumping by two Parties with non-de minimis rights of 42 afy. From 2040 on, this number will be 7,996 afy.[10]
- Projected groundwater pumping (c). This is the sum of planned pumping of all Parties.
- Annual Allocation Minus Planned Pumping [(d) = (b) – (c)]. This column shows the amount of pumping that is less than or greater than the Annual Allocation in each year. If the number is positive, planned pumping is less than the Annual Allocation. If the number is negative, planned pumping is greater than the Annual Allocation.
- Carryover Balance (e). This is the sum of all Carryover held by the Parties.
- Carryover Needed by Over-Pumpers (f). This is the amount of Carryover needed by Parties to cover any planned pumping that exceeds the sum of their Annual Allocation and available Carryover in any year.
- Carryover Rebalance [(g) = (e) – (f)]. This is the final annual Carryover Balance after subtracting the amount needed by over-pumpers.

Figure 1 is a time-history chart that plots the pumping projections for WYs 2025 through 2070 from Table 1, along with the metered pumping data for WYs 2023 and 2024. As shown in Table 1, planned pumping is generally less the Annual Allocation each year, except for WYs 2044 through 2049 and WYs 2057 through 2070 in which projected pumping is greater than the Annual Allocation (ranging from 16 to 195 acre-feet [af] above the Annual Allocation). However, as shown in column (e) of Table 1, there is sufficient Carryover available for Parties to purchase and offset any Overproduction that may occur in these years.

[9] For more detailed information, see Agenda Item IV. of the February 25, 2025 TAC meeting agenda package, available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2025/02/20250225-TAC-Agenda-Package.pdf

[10] The Annual Allocation in each WY is determined by multiplying the Party's BPA by the Pumping Percentage in effect for that WY, based on the pumping Rampdown percentage to reach the 2025 Sustainable Yield of 7,952 afy by 2040. The Annual Allocation value for each Party is rounded to the nearest whole number. It also includes the addition of 42 af from two Non-BPA Parties who are not subject to the Rampdown. Thus, the total is 7,996 afy.

Table 1. Aggregate Basin-wide Pumping Plan for the Borrego Springs Subbasin (afy)
WY 2025 - 2070

Water Year	Total BPA + Non-De Minimis Rights *(a)*	Annual Allocation per Rampdown *(b)*	Planned Pumping *(c)*	Annual Allocation Minus Projected Pumping *(d) = (b) - (c)*	Carryover Balance *(e)*	Carryover Needed by Over-Pumpers *(f)*	Carryover Rebalance *(g) = (e) - (f)*
2025	**24,335**	**18,285**	**10,400**	**7,885**	**28,512**	**97**	**28,414**
2026	24,335	17,855	9,661	8,194	32,488	164	32,324
2027	24,335	17,439	8,984	8,455	36,353	171	36,182
2028	24,335	17,016	9,431	7,585	39,616	179	39,437
2029	24,335	16,599	9,366	7,233	41,780	198	41,582
2030	**24,335**	**16,161**	**8,805**	**7,356**	**42,398**	**124**	**42,274**
2031	24,335	15,350	8,842	6,509	44,804	130	44,674
2032	24,335	14,531	8,878	5,652	45,491	150	45,341
2033	24,335	13,715	8,915	4,800	45,978	165	45,813
2034	24,335	12,898	8,943	3,954	46,257	181	46,076
2035	**24,335**	**12,078**	**8,642**	**3,435**	**46,417**	**198**	**46,219**
2036	24,335	11,264	8,709	2,555	47,249	214	47,035
2037	24,335	10,445	8,738	1,708	47,284	231	47,052
2038	24,335	9,626	8,604	1,023	47,027	247	46,781
2039	24,335	8,812	8,633	180	46,681	263	46,418
2040	**24,335**	**7,996**	**7,896**	**100**	**46,018**	**121**	**45,897**
2041	24,335	7,996	7,925	71	45,600	121	45,479
2042	24,335	7,996	7,954	42	45,165	121	45,044
2043	24,335	7,996	7,983	13	44,710	121	44,589
2044	24,335	7,996	8,012	-16	44,234	121	44,113
2045	**24,335**	**7,996**	**8,040**	**-45**	**43,739**	**121**	**43,618**
2050	**24,335**	**7,996**	**7,812**	**183**	**40,962**	**121**	**40,841**
2051	24,335	7,996	7,841	154	40,720	121	40,599
2052	24,335	7,996	7,870	126	40,458	121	40,337
2053	24,335	7,996	7,899	97	40,175	121	40,054
2054	24,335	7,996	7,928	68	39,873	121	39,752
2055	**24,335**	**7,996**	**7,957**	**39**	**39,551**	**121**	**39,430**
2056	24,335	7,996	7,986	10	39,208	121	39,087
2057	24,335	7,996	8,015	-19	38,846	121	38,725
2058	24,335	7,996	8,044	-48	38,464	121	38,343
2059	24,335	7,996	8,072	-77	38,061	121	37,940
2060	**24,335**	**7,996**	**8,101**	**-106**	**37,639**	**121**	**37,518**
2061	24,335	7,996	8,110	-115	37,197	121	37,076
2062	24,335	7,996	8,119	-124	36,754	121	36,633
2063	24,335	7,996	8,128	-133	36,312	121	36,191
2064	24,335	7,996	8,137	-142	35,870	121	35,749
2065	**24,335**	**7,996**	**8,146**	**-151**	**35,427**	**121**	**35,306**
2066	24,335	7,996	8,155	-159	34,985	121	34,864
2067	24,335	7,996	8,164	-168	34,543	121	34,422
2068	24,335	7,996	8,173	-177	34,100	121	33,979
2069	24,335	7,996	8,182	-186	33,658	121	33,537
2070	**24,335**	**7,996**	**8,191**	**-195**	**33,216**	**121**	**33,095**

Notes

(a) The Judgment establishes separate, non-BPA pumping rights for two entities (Anza Borrego Desert State Park and the Borrego Springs Unified School District). These non-BPA rights are not subject to pumping Rampdown, Carryover, or transfer (to other Parties).

(b) The Annual Allocation in each WY is determined by multiplying the Party's BPA by the Pumping Percentage in effect for that WY, based on the pumping Rampdown percentage to reach the 2025 Sustainable Yield of 7,952 afy by 2040. The Annual Allocation value for each Party is rounded to the nearest whole number.

(c) Planned pumping is the sum of all Party plans based on conversations held with the major Pumpers in the Basin.

(d) This column shows the amount of pumping that is less than or greater than the Annual Allocation in each year. If the number is positive, planned pumping is less than the Annual Allocation. If the number is negative, planned pumping is greater than the Annual Allocation.

(e) The total Carryover account balance is the sum of all Carryover held by Parties based on their assumed elections.

(f) This is the amount of Carryover needed by Parties to cover any planned pumping that exceeds the sum of their Annual Allocation and available Carryover in any year

(g) The total amount of Carryover remaining after Carryover has been purchased and used by Parties who Overproduced during the water year.

Figure 1. Projections of Future Pumping in Borrego Springs, *WY 2023 - 2070*

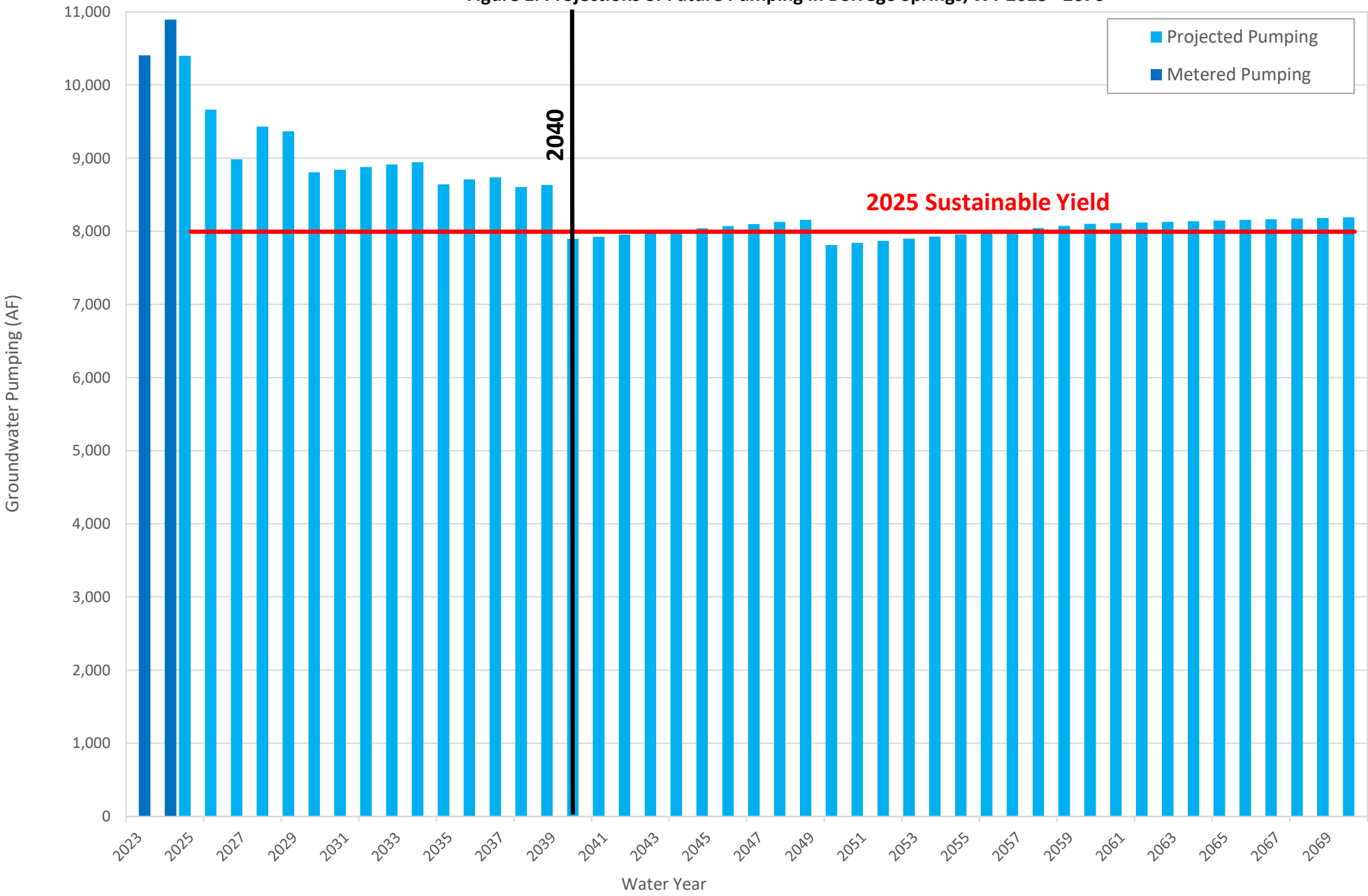


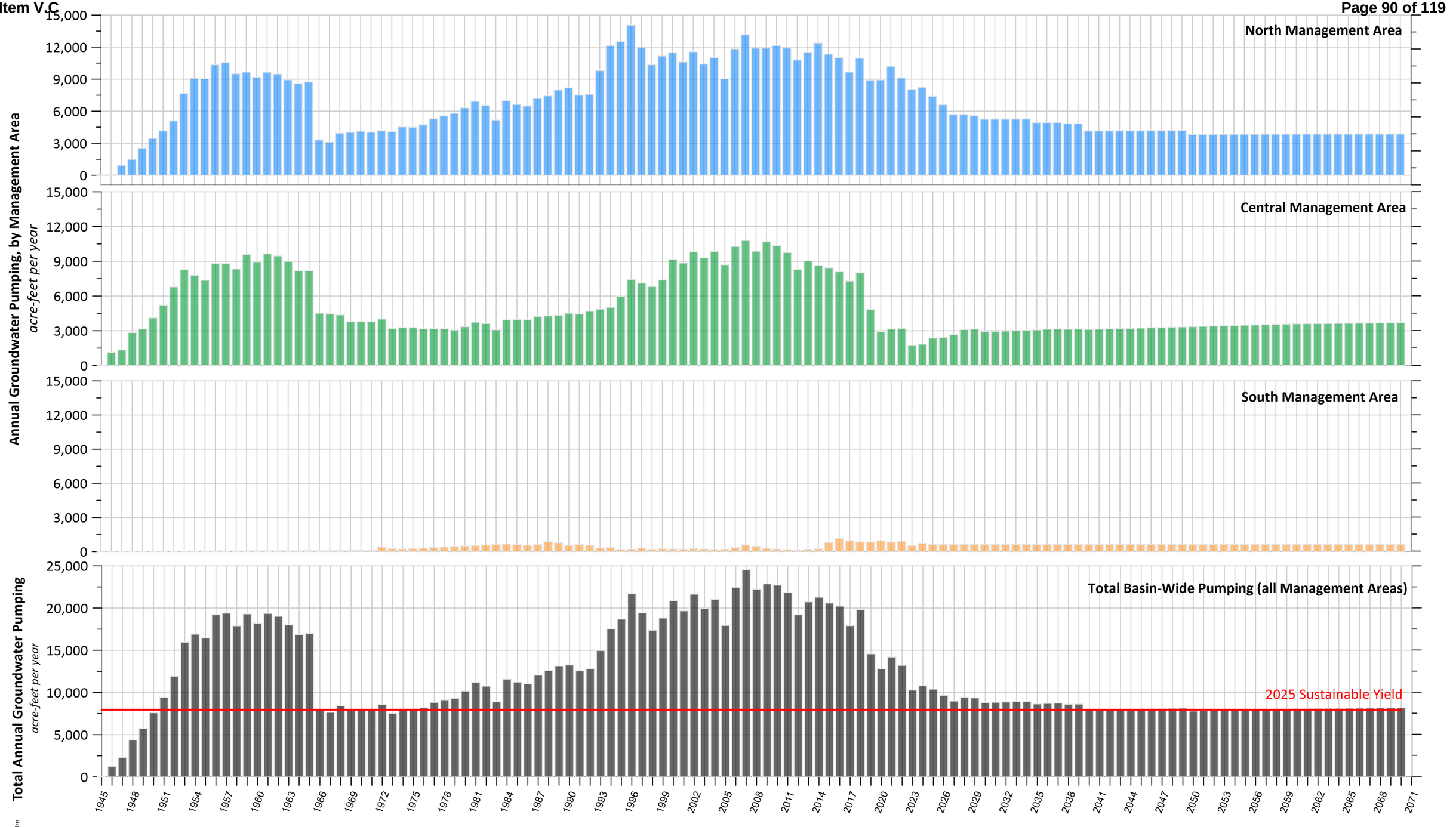
Figure 2 shows the time-history of pumping in the Basin for from WYs 1945 through 2070.[11] This figure identifies where pumping has and is expected to occur, relative to the three Management Areas defined in the GMP (North, Central, and South). The bottom bar chart shows the total pumping occurring in the Basin (i.e., the aggregate of pumping occurring in the North, Central, and South Management Areas). The pumping shown in this figure includes:

- Agricultural and recreational pumping estimated by the FMP during the historical model simulation period (WYs 1945 to 2022)
- Municipal and recreational pumping assigned in the MNW2 package during the historical model simulation period (WYs 1945 to 2022)
- All pumping (agricultural, recreational, and municipal) assigned in the MNW2 package during the projected model simulation period (WY 2030 through 2070)

The purpose of Figure 2 is to illustrate how pumping is changing over time in each Management Area. Historically, the majority of pumping occurred in the North Management Area, followed by the Central Management Area (areas of historical agricultural pumping). Pumping in these two management areas has always been significantly greater than pumping in the South Management Area. Pumping in the South Management Area was minimal and averaged 260 afy prior to WY 2015. In recent history, pumping in the Central Management Area has seen greater decreases in pumping volume relative to the North Management Area. Relative to current pumping levels as of WY 2023, the pumping projections show that:

- Pumping in the North Management Area is projected to decrease by approximately 4,100 afy from WYs 2023 to 2070.
- Pumping in the Central Management Area is projected to increase by approximately 2,000 afy from WYs 2023 to 2070. The increase in pumping in the Central Management Area is driven by a projected increase in municipal and recreational demands.
- Pumping in the South Management Area is projected to be constant at approximately 600 afy from WYs 2023 to 2070, which is higher than the historical average.

[11] The first 15 years of the BVHM (WYs 1930 to 1945) are considered a "spin-up" period; no groundwater pumping is simulated during this period. Figure 2 is a time-history chart from WYs 1945 to 2070, when pumping is simulated by the *2022 BVHM*.



Borrego Springs Watermaster

Figure 2

Pumping by Management Area
Simulated by the *2022 BVHM*
(WY 1945 - 2070)

WEST YOST - F2-3c_ManagedAreaStrmStrn

WEST YOST

Future Land Use

Return flows from irrigation are an important source of recharge to the Basin and are a component of the water budget used to determine the Sustainable Yield. The BVHM estimates return flows from irrigation and precipitation using the FMP. Land use in the FMP is important because it determines where irrigation is occurring, and therefore, where return flows are being generated.

Land use classifications for the projection period were updated in the FMP based on Pumper plans (see the *Future Groundwater Pumping* section on how the information was gathered from the pumpers). Based on the Pumper interviews:

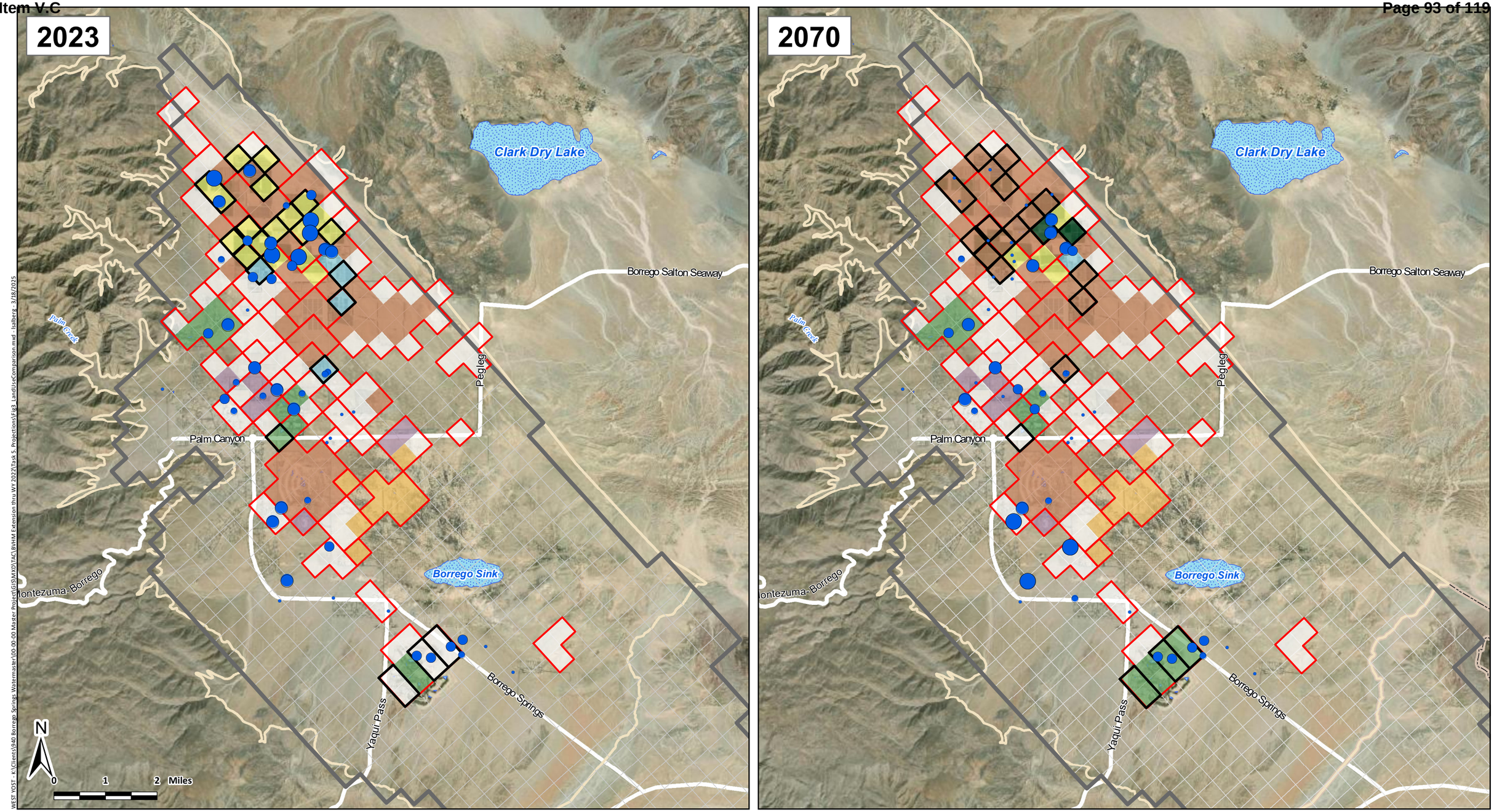
- The acreage of agricultural land uses will decrease as pumping is reduced to comply with the Rampdown. More than 1,200 acres of agricultural land is projected to be fallowed between WYs 2023 through 2070.
- The majority of agricultural Pumpers intend to reduce pumping to comply with the Rampdown and will do so through land fallowing, reducing the density of trees on farmed land, or replacing citrus trees with a more water-efficient crops (olives).
- Some agricultural Pumpers will end operations and cease pumping altogether before 2040.
- One recreational Pumper will expand the irrigated acreage of its golf course.

The delineation of farms (irrigated land areas for agriculture or recreation) in the FMP does not precisely align with the boundaries of the irrigated parcels in the Basin. This is due to the orientation and size of the grid cells in the BVHM (one grid cell is approximately 92 acres). Only one land use can be assigned to each grid cell in the FMP, so the goal is to have an approximation of the total irrigated area represented in the model, though it may be shifted slightly from the actual location. Best professional judgement was used to update the land use assigned to grid cells to reflect the change in irrigated area in the locations where changes are expected to occur.

In some cases, this approach required manually calculating return flows and directly assigning the return flow volume to the Unsaturated Zone Flow (UZF) package to ensure that all irrigation return flows were represented in the model. This adjustment accounts for return flows from grid cells that were fallowed in the FMP, but a portion of the grid contains land that will continue to be irrigated in the future. Return flows were estimated using an assumed irrigated efficiency (OFE) of 80 percent, meaning that approximately 20 percent of applied irrigation water was not used to meet crop demands and may become return flows. Return flows were estimated based on irrigation water supplied by nearby pumping wells, which pumped between 200 to 274 afy from WYs 2023 to 2070. Using these assumptions, total return flows assigned to the UZF package ranged from 40 to 55 afy. This process is functionally similar to how the FMP estimates return flows, where excess irrigation water percolates beyond the root zone and contributes to groundwater recharge. Note that the return flows assigned to the UZF package is water potentially available as recharge. Ultimately, it is dependent on the soil properties and UZF's assumptions about infiltration that determine the amount of return flows that will eventually become recharge (e.g., the fate of the return flows are dependent on the assumed aquifer properties in the location the water is applied).

Figure 3 shows a side-by-side comparison of the land use assigned in the FMP in WY 2023 and WY 2070, that reflects the land use changes planned by the Pumpers. Additionally, the figure identifies all wells that will pump in the projection scenarios. The wells are symbolized by the magnitude of annual pumping in each year. As shown in Figure 3:

- The majority of land fallowed in the Basin is in the North Management Area. In tandem, the well symbology illustrates that pumping in the North Management Area is reduced from WYs 2030 to 2070.
- The only expansion of irrigated acreage occurs in the South Management Area, where the Rams Hill golf course is projected to expand. It should be noted that pumping in the South Management Area remains constant over the projection period because the additional demands from the expanded golf course will be pumped from wells in the Central Management Area. The increased pumping by wells in the Central Management Area, specifically the south Central Management Area, is also illustrated by the well symbology.



Land Use Classification in BVHM Grid Cells

- Fallow
- Native
- Phreatophytes
- Palm
- Citrus
- Potatoes
- Golf Course
- Olives
- Urban
- Land Use Changed during Projection (WY 2023-2070)

Total Annual Pumping (AFY)

- 0 - 25
- 26 - 100
- 101 - 250
- 251 - 500
- 501 - 1,000

Other Features

- Boundary of Active Cells in the BVHM
- Water Balance Subregion in the FMP
- Borrego Springs Groundwater Subbasin

Prepared by:

WEST YOST

Borrego Springs Watermaster

Evaluation of Future Pumping in Borrego Springs

Figure 3

Land Use Changes in the *2022 BVHM*

October 2023 and September 2070

Future Hydrology and Climate

Hydrologic conditions, streamflow, precipitation, and ET are key components of the water budget that influence the availability of groundwater. Future estimates of these hydrologic conditions are necessary to simulate the Basin response to the future pumping and land use projections. Precipitation, ET, and streamflow are highly dependent upon climate conditions. Climate conditions are expected to change in the future, but when and how those changes will occur is uncertain. For this reason, multiple future hydrologies should be simulated to understand the range of potential Basin impacts under various climate conditions. Additionally, long-term climate change and shorter-term climatic variability have an important influence on the recharge to the Basin.

Considering the importance of climate, and the uncertainty around how it will change in the future and when, four climate scenarios were developed to simulate the potential range in Basin responses to projected changes in pumping and land use. The four scenarios are:

- ***Climate Scenario #1 - Repeat Hydrology*** (CS-1 RH). In this scenario, the past 47-years of historical climate data (WYs 1975 to 2022) are repeated to simulate the future 47-year period of WYs 2023 to 2070.
- ***Climate Scenario #2 - Repeated Hydrology with 2030 DWR Climate Change Factors*** (CS-2 RH30)**.** This scenario is similar to CS-1 RH, but the DWR's 2030 Climate Change factors are applied. The 2030 DWR Climate Change Factors are generated using the General Circulation Model (GCM) projections and are used to adjust the historical precipitation record to represent potential future conditions. The 2030 DWR Climate Change Factors are used to represent near-term climate change impacts (centered around the 2030s).
- ***Climate Scenario #3 - Repeated Hydrology with 2070 DWR Climate Change Factors*** (CS-3 RH70)**.** This scenario is similar to CS-1 RH, but the DWR's 2070 Climate Change factors are applied. Like the 2030 Climate Change Factors, the 2070 Climate Change Factors are generated using the GCM, but also are used to represent long-term climate change impacts (centered around the 2070s).
- ***Climate Scenario #4 - Drought Conditions through 2040*** (CS-4 D18)**.** This scenario represents a drought period through 2040 by repeating the driest 18-year period in the historical record starting in WY 2023. The "drought period" was determined through a statistical analysis of the 20th percentile of total precipitation over all 18-year periods in the historical climatic period.

For each of the four climate scenarios described above, input files of monthly precipitation, ET, and streamflow files were generated and used as inputs to the FMP.

Reconfigured Pumping Assignments in the BVHM and Assigned All Pumping

For the historical period WYs 1930 to 2022, the FMP was used to estimate groundwater pumping from agricultural and some recreational wells based on irrigation demands of the associated land use. Pumping was only prescribed in the MNW2 package for municipal and select recreational wells. For the projection period (WYs 2023 to 2070), pumping is prescribed for all wells, including agricultural wells, in the MNW2 package. A reconfiguration of the BVHM was performed to ensure that:

- The volume and spatial distribution of pumping were consistent with Pumper plans and the Rampdown schedule to the 2025 Sustainable Yield.

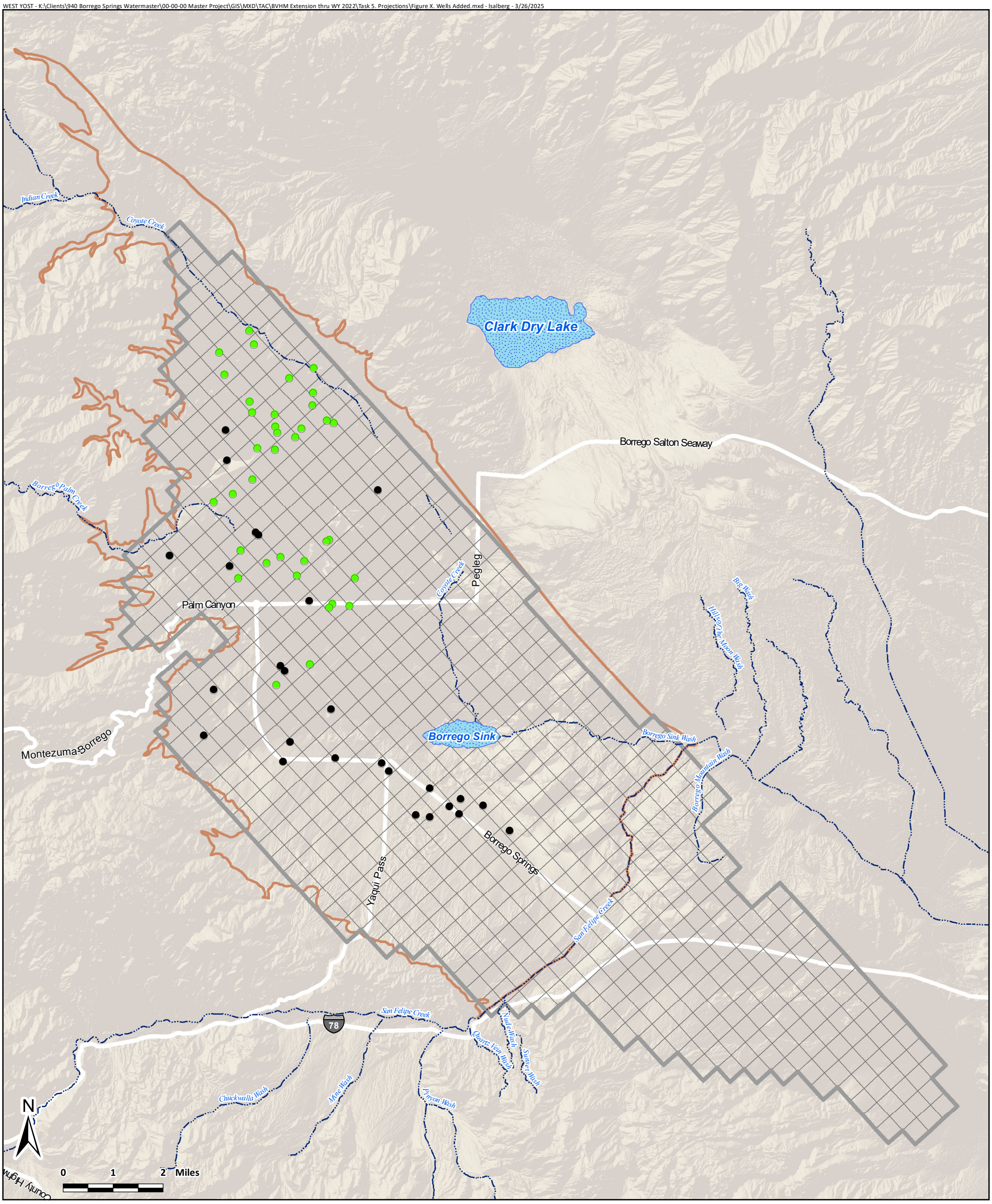
- Return flows from irrigation were estimated and generated using the FMP.
- Consistency was maintained between where pumping occurs in the MNW2 package and where it is applied to meet irrigation demands in the FMP.

The following steps were taken to reconfigure the *2022 BVHM*:

1. **Added new wells to the MNW2 package.** Pumpers identified which wells they plan to pump in the future (see *Future Groundwater Pumping* section). If a well that was planned to be operated in the future was not already defined in the MNW2 package (e.g., pumping was historically estimated by the FMP), the well was added to the model. The wells added to the MNW2 package reflect the following:
   - A grid cell assignment reflective of the actual location of the well in the Basin.
   - The well screens and aquifer layer(s) from which the well pumps, where well construction information was available.
   - If no well construction information was available, the construction information from nearby wells was assigned.

   A total of 37 wells were added to the MNW2 package. The location of wells added to the MNW2 package are shown in Figure 4, which also shows the location of wells assigned pumping in the MNW2 package in the historical period (prior to WY 2023).
2. **Assigned future pumping to wells in the MNW2 package.** Input files of future pumping assigned directly to the MNW2 package wells were prepared as follows:
   - Pumping is based on the Pumper Plans such that the aggregate volumes match those presented in Table 1.
   - Pumper plans were used to input when wells are expected to pump during the year, if and when wells are expected to be taken offline, and/or which parcels the wells will serve for irrigation (if applicable). Monthly pumping rates were assigned based on the historical distribution pumping based on monthly meter data, which for most wells (with the exception of municipal wells and some recreational wells) is generally available for WYs 2021 through 2024. The monthly distribution and percent of total annual pumping for each well was shared with two major Pumpers, Rams Hill and BWD, to confirm the assumptions. Each of these Pumpers has multiple wells that will be pumped in the projection period.
   - Maximum pumping for FMP wells was set to zero so that pumping was not simulated by the FMP to meet crop demands.
3. **Assigned external deliveries to the FMP to meet irrigation demands.** While the FMP no longer estimates groundwater pumping, it continues to estimate return flows from irrigation. To ensure consistency between FMP-estimated irrigation demands and groundwater pumping from MNW2 wells, external deliveries were assigned to farms in the FMP to meet irrigation demands and generate return flows. The external deliveries supplied to each water-balance subregion (or "farm") in the FMP match the groundwater pumped from wells in the MNW2 package. In summary, the workflow is: the FMP estimates irrigation demands, wells in the MNW2 package pump groundwater to meet the irrigation demands, and the groundwater pumped from the MNW2 package is delivered to the FMP via external deliveries. This approach maintains a connection between irrigation demands, groundwater pumping, and return flows in the BVHM despite removing the ability of the FMP to make estimates for groundwater pumping.

WEST YOST - K:\Clients\940 Borrego Springs Watermaster\00-00-00 Master Project\GIS\MXD\TAC\BVHM Extension thru WY 2022\Task 5. Projections\Figure X. Wells Added.mxd - lsalberg - 3/26/2025



Wells used in BVHM Projection Scenarios

- Well added to MNW2 Package for Projection Scenarios
- Well simulated in MNW2 in Calibration and Projection Scenarios

Extent of Active Layers in the BVHM

Boundary of Active Cells in the BVHM

Other Features

Borrego Springs Groundwater Subbasin (7-024.01)

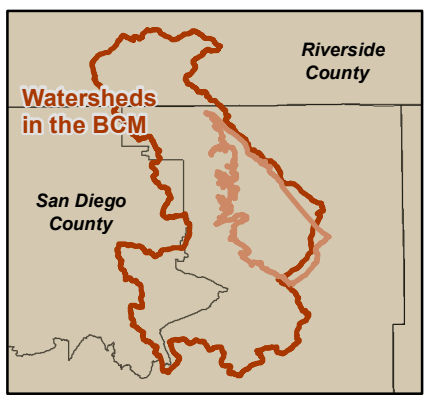


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Figure 4

Wells used in BVHM Projection Scenarios

Extended Model Input Files through WY 2070

Model input files were generated for all relevant model packages to develop a complete time history of inputs for WYs 1930 to 2070 for the first climate scenario (CS-1 RH). The future pumping, land use changes, and climate conditions were used to extend the FMP and the MNW2, streamflow routing (SFR), and UZF packages as described above. These packages rely on dynamic inputs that change over time (e.g., pumping, land use, streamflow, precipitation, and ET).

All other model packages rely on steady state inputs (e.g., they are assumed not to change over time) and therefore only required an extension of model files through WY 2070. The inputs extended through WY 2070 are consistent with the *2022 BVHM* and include the following packages:

- Flow and Head Boundary Package (FHB) – this package is used for specified head cells and specified flow cells whose properties can vary within a stress period. In the BVHM, this package is used to simulate subsurface inflow from the mountain blocks that bound the Basin. These rates are assumed to be constant over time.
- Time-Varying Constant Head Package (CHD) – this package is used to simulate specified head boundaries that can change within or between stress periods. In the BVHM, this package is used to simulate subsurface outflow from the Basin. These rates are assumed to be constant over time.
- Discretization Package (DIS) – this package is used to define the spatial and temporal structure of the BVHM, including the number of layers, rows, and columns in the model, and the stress periods.
- Output Control (OC) – this package is used to define the frequency and type of information that should be saved from each model run, including groundwater elevation, drawdown, and water budget components.

Ran the BVHM through WY 2070

After all appropriate model packages were extended and reviewed for quality assurance, the *2022 BVHM* was used to simulate future Basin conditions under scenario CS-1 RH for the entire simulation period of WYs 1930 to 2070.

PRELIMINARY RESULTS AND INTERPRETATIONS

This section describes the preliminary results of the initial *2022 BVHM* projection from WYs 2023 to 2070 using CS-1 RH (referred to as the initial BVHM projection). This was the only projection scenario that was run because of a discrepancy that was identified in the MNW2 package of the BVHM which caused several wells in the South Management Area to “under-pump” their assigned pumping rates. We communicated the discrepancy to the TAC and Board with recommendations to pause the BVHM projections, investigate the discrepancy, and develop a recommended approach to fix the discrepancy, and complete the BVHM projections.

The subsections below describe the under-pumping discrepancy, the results of efforts to understand and fix the under-pumping discrepancy, and the preliminary interpretations that can be drawn from the results of the initial BVHM projection (despite the under-pumping discrepancy).

Under-Pumping in the MNW2 Package

When the simulation of CS-1 RH was completed, the pumping volumes that were assigned to all wells in the MNW2 package were compared against the pumping volumes that were simulated. This comparison revealed that seven (7) wells located in the in the South Management Area "under-pumped" their assigned rates during the BVHM projection.

Summary of Under-Pumping Discrepancy

Table 2 shows the total under-pumping that occurred over the projection period (WYs 2023 to 2070) in Scenario CS-1 RH. For each year, Table 2 shows: the pumping volume assigned in the MNW2 package, the pumping volume pumped by the MNW2 wells, the difference between the assigned and pumped volume, and the percent difference in pumped volume. About 3 percent of the total pumping assigned in the MNW2 package was not pumped during the projection (a total of about -10,657 af of "under-pumping" occurred over the 47-year projection period, or about -222 afy).

Figure 5 is a map of the wells that under-pumped in Scenario CS-1 RH. The figure shows the wells symbolized by the magnitude of the average annual under-pumping. The wells that under-pumped are all located in the South Management Area.

Table 3 summarizes the average annual under-pumping by well in Scenario CS-1 RH. Under-pumping by well ranged from about -2 afy to -84 afy (7 to 84 percent less than the assigned pumping volume). Total under-pumping across all seven wells was about -232 afy, or about -42 percent of the total assigned average annual pumping of 552 afy. The under-pumping discrepancy appears to be most pronounced in wells with deeper screens, primarily across model Layer 3 in the South Management Area.

Table 3 shows that the under-pumping discrepancy is relatively minor in the context of total assigned pumping in the BVHM projection (-3 percent of total assigned pumping), but Table 2 shows that it represents a significant percentage of pumping from wells screened across Layer 3 in the South Management Area, so the discrepancy should not be discounted.

Efforts to Understand and Resolve the Under-Pumping Discrepancy

We inspected the model results and concluded that the under-pumping discrepancy at the seven wells in Table 3 was most likely related to excessive simulated drawdowns in the wells in the MNW2 package, primarily wells screened in model Layer 3. To better understand the under-pumping discrepancy, and potentially fix it, aquifer parameters were manually adjusted in BVHM Layer 3 near the wells that under-pumped, and then re-ran the BVHM over the entire historical and projection periods from WYs 1930 to 2070. The adjustments to the aquifer parameters greatly reduced the under-pumping discrepancy, but also caused significant changes in simulated groundwater levels in the Central and South Management Areas, which represents a "de-calibration" of the BVHM (i.e., simulated historical groundwater levels do not match the measured groundwater levels).

Table 2. Summary of Total Under-Pumping in the Initial BVHM Projection *(WY 2023 - 2070)*

Water Year	Pumping Assigned to MNW2 Wells *af* *(a)*	Volume Pumped by MNW2 Wells *af* *(b)*	Difference *af* *(c) = (b) - (a)*	Percent Difference *(d) = (c) / (a)*
2023	9,608	9,427	-181	-2%
2024	10,114	9,847	-267	-3%
2025	9,706	9,494	-212	-2%
2026	8,967	8,753	-214	-2%
2027	8,290	8,075	-215	-3%
2028	8,737	8,523	-214	-2%
2029	8,672	8,460	-212	-2%
2030	8,111	7,899	-213	-3%
2031	8,148	7,934	-214	-3%
2032	8,184	7,970	-214	-3%
2033	8,221	8,006	-215	-3%
2034	8,249	8,036	-213	-3%
2035	7,948	7,734	-214	-3%
2036	8,015	7,800	-215	-3%
2037	8,044	7,828	-215	-3%
2038	8,024	7,808	-216	-3%
2039	8,053	7,836	-216	-3%
2040	7,368	7,151	-217	-3%
2041	7,397	7,179	-218	-3%
2042	7,426	7,207	-218	-3%
2043	7,455	7,235	-219	-3%
2044	7,484	7,264	-220	-3%
2045	7,512	7,292	-221	-3%
2046	7,541	7,320	-221	-3%
2047	7,570	7,349	-222	-3%
2048	7,599	7,377	-222	-3%
2049	7,628	7,405	-223	-3%
2050	7,284	7,060	-224	-3%
2051	7,313	7,088	-225	-3%
2052	7,342	7,117	-225	-3%
2053	7,371	7,146	-225	-3%
2054	7,400	7,174	-225	-3%
2055	7,429	7,203	-226	-3%
2056	7,458	7,232	-226	-3%
2057	7,487	7,260	-227	-3%
2058	7,516	7,288	-227	-3%
2059	7,544	7,317	-228	-3%
2060	7,573	7,345	-228	-3%
2061	7,582	7,354	-228	-3%
2062	7,591	7,363	-229	-3%
2063	7,600	7,371	-229	-3%
2064	7,609	7,379	-230	-3%
2065	7,618	7,388	-231	-3%
2066	7,627	7,396	-231	-3%
2067	7,636	7,404	-232	-3%
2068	7,645	7,412	-233	-3%
2069	7,654	7,420	-233	-3%
2070	7,663	7,428	-234	-3%
Total	**378,011**	**367,353**	-10,657	**-3%**
Annual Average	**7,875**	**7,653**	**-222**	**-3%**

Table 3. Summary of Under-Pumping by Well, Initial BVHM Projection *(WY 2023 - 2070)*

Well Name	Depth of Well Screen (ft-bgs)	Model Layer(s) Penetrated by Well Screens	Average Annual Pumping Assigned to Well *afy* *(a)*	Average Annual Volume Pumped by Well *afy* *(b)*	Average Difference *afy* *(c) = (b) - (a)*	Average Percent Difference *(d) = (c) / (a)*
ID1-8	72 - 830	Layers 1-3	26	24	-2	-9%
RH-1	180 - 580	Layers 2-3	16	8	-8	-50%
RH-2	120 - 720	Layers 1-3	90	39	-51	-57%
RH-3	295 - 885	Layers 1-3	121	61	-59	-49%
RH-4	280 - 670	Layers 2-3	101	16	-84	-84%
RH-6	238 - 938	Layers 2-3	173	148	-25	-15%
CDZ	125 - 445	Layers 1-3	25	23	-2	-7%
		Total	**552**	**320**	**-232**	**-42%**

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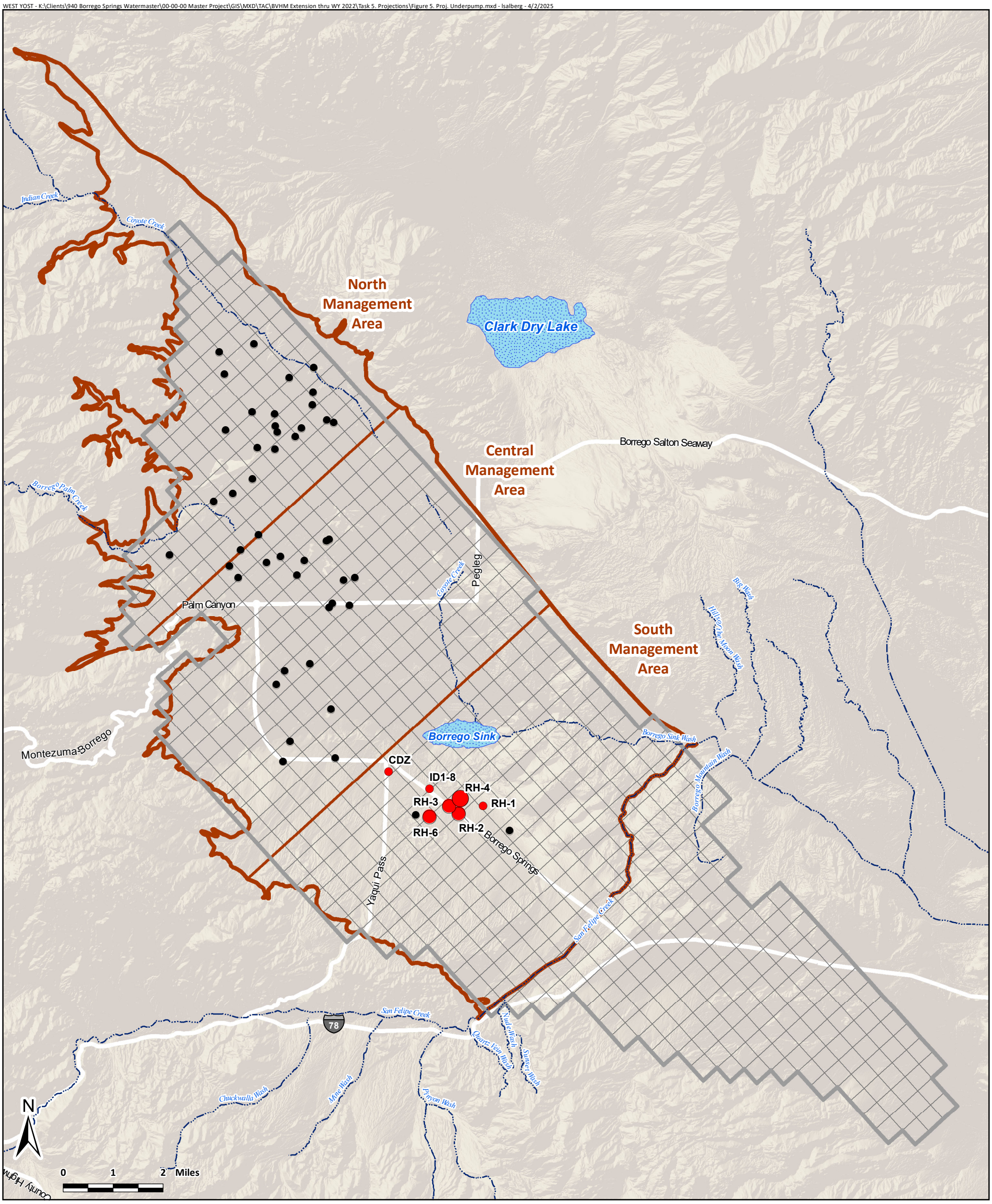

Wells used in BVHM Projection Scenarios

- Other wells in MNW2 package

Wells that Under-Pumped in Scenario CS-1 RH

Average Annual Under-Pumping (afy)

- < 10
- 10 - 25
- 25 - 60
- 60 - 85

Extent of Active Layers in the BVHM

Boundary of Active Cells in the BVHM

Other Features

Borrego Springs Subbasin with Management Area Divisions

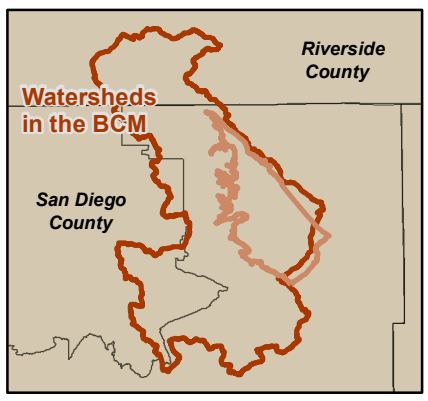

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Figure 5

Wells that Under-Pumped in the CS-1 RH Projection Scenario WY 2023 - 2070

The results described above indicate that the under-pumping discrepancy cannot be "fixed" with minor adjustments to model parameters. The under-pumping discrepancy (and the efforts to fix it) are likely revealing that the complex geology in this area of the Basin is not well represented in the BVHM, nor is the BVHM well calibrated in this area. A review of the hydrogeologic conceptual model in the BVHM was not performed as part of the scope to develop the *2022 BVHM*. A model calibration issue was identified in this area during the *2022 BVHM* calibration efforts[12] but was not considered a significant issue during the calibration because increased pumping from Layer 3 in this area was relatively recent and likely had little influence on the historical water budget of the Basin. However, in the CS-1 RH projection, the pumping from wells in this area that are screened across the Layer 3 is greater compared to the long-term history of this area, and hence, has a greater influence on the BVHM projections.

In conclusion, the area of the Basin where the under-pumping discrepancy occurs has complicated geology that is not well understood and is likely not well characterized in the BVHM, which hinders BVHM calibration and the use of the tool for understanding the impacts of future changes in pumping, land use, and climate.

Actions Required to Resolve the Under-Pumping Discrepancy

The recommended actions to resolve the under-pumping discrepancy in the BVHM are to: (i) perform a hydrogeologic investigation to better characterize the geologic structure and aquifer properties of the area; (ii) update the BVHM using the investigation results; and (iii) recalibrate the BVHM (see the *Recommendations* section below for a more in-depth discussion of the potential options and associated costs to do this work).

Preliminary Interpretations of the BVHM Projection Results

Despite the under-pumping discrepancy, some preliminary interpretations can be drawn from the results of CS-1 RH (particularly in the North Management Area), while some interpretations cannot be made with confidence because of the under-pumping discrepancy in the Central and South Management Areas where BVHM improvements are needed.

The remainder of this subsection describes the results of the initial BVHM projection and the interpretations that can and cannot be made from the analysis of the projection results.

Projected Groundwater Levels

The following figures are time-series charts of simulated groundwater levels at selected wells from the initial BVHM projection (WYs 2023 to 2070). Each chart also includes the results from the BVHM historical period (WYs 1930 to 2022) and observed groundwater-level measurements for context:

- **Figure 6a** – *Viking Well*. This chart is representative of simulated groundwater levels in the North Management Area. Groundwater levels in this area are projected to stabilize by 2025, gradually increase by about 30 feet from 2025 to 2045, and then remain relatively stable through 2070.

[12] See the section entitled *BVHM Calibration Results and Conclusions* of the TM documenting Task 4 to redetermine the 2025 Sustainable Yield for a description of the areas with complicated geology that are likely not well characterized in the model. This TM is available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2024/10/Task-4-TM_final.pdf

- **Figure 6b** – *ID4-5*. This chart is representative of simulated groundwater levels in the northern portion of the Central Management Area. Groundwater levels in this area are projected to gradually decline by about 10 feet from 2023 to 2040, and then remain relatively stable through 2070.
- **Figure 6c** – *ID1-12*. This chart is representative of simulated groundwater levels in the southern portion of the Central Management Area. Groundwater levels in this area are projected to gradually decline by about 20 feet from 2023 to 2040 and continue to decline at a slower rate and by about an additional 10 feet through 2070. The groundwater elevations do not stabilize in the projection period.
- **Figure 6d** – *MW-3*. This chart is representative of simulated groundwater levels in the shallow aquifer (Layers 1 and 2) of the South Management Area. Groundwater levels in this area are projected to gradually decline by about 25 feet at a relatively constant rate from 2023 to 2070. The groundwater elevations do not stabilize in the projection period.
- **Figure 6e** – *RH-6*. This chart is representative of simulated groundwater levels in the deep aquifer (Layer 3) of the North Management Area. Groundwater levels in this area are projected to gradually decline by about 75 feet at a relatively constant rate from 2023 to 2070. The groundwater elevations do not stabilize in the projection period.

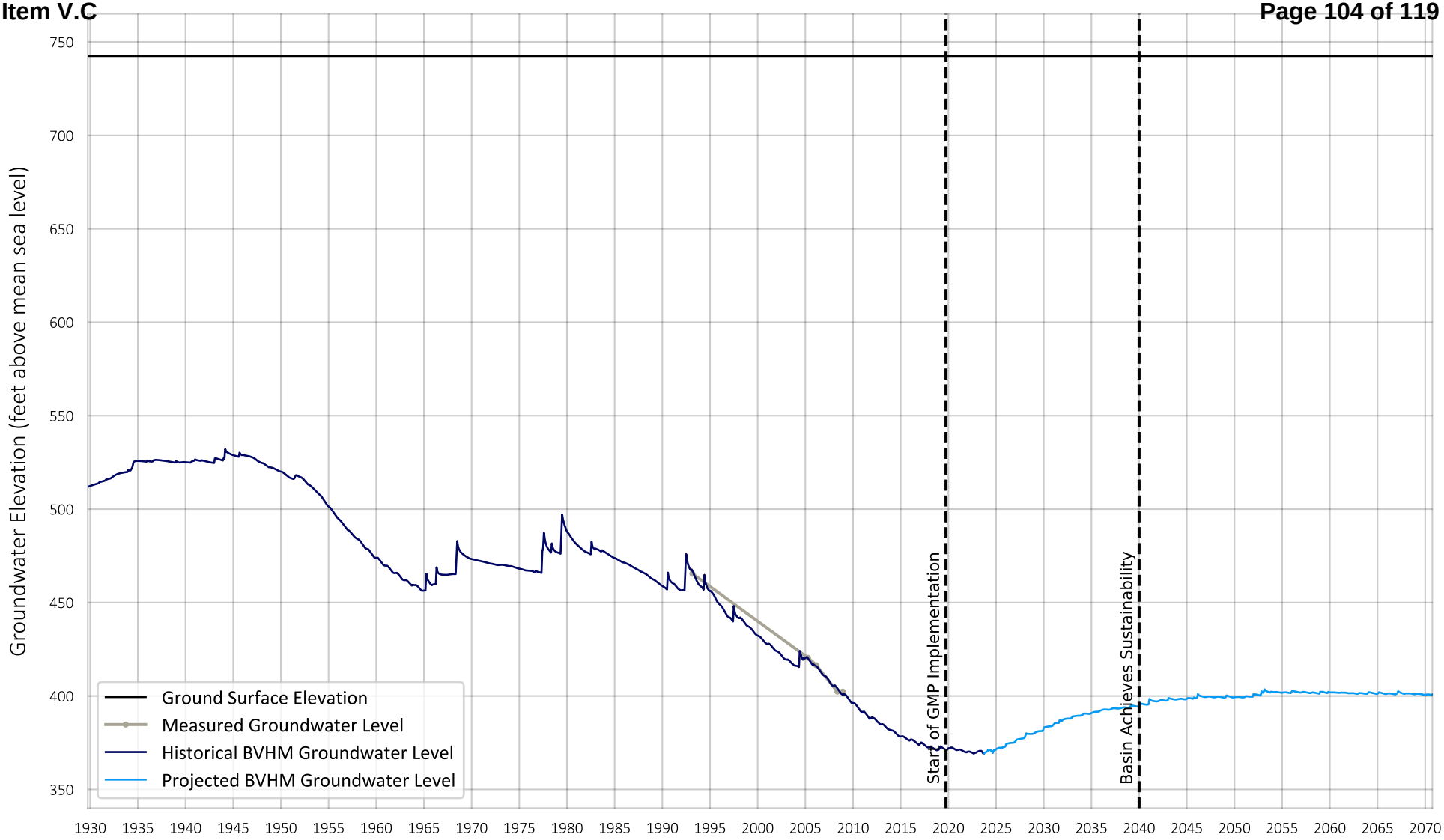
Preliminary Interpretations

The preliminary interpretations that can be made from scenario CS-1 RH are:

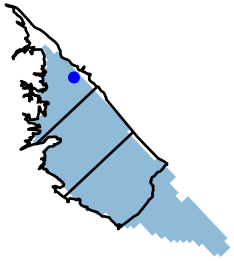
- **North Management Area**. The decades-long decline in historical groundwater levels in the North Management Area will likely cease in the near term. Then, groundwater levels will gradually increase through 2040 as the pumping in this area is projected to decline during the Rampdown period. Groundwater levels will likely be relatively stable after 2040. This outcome would be consistent with the Sustainability Goal for the Basin of stable or increasing groundwater levels by 2040 and thereafter.
- **Central and South Management Areas**. Groundwater levels in these areas may decline continuously through 2070, which would not be consistent with the Sustainability Goal for the Basin of stable or increasing groundwater levels by 2040 and thereafter. These groundwater-level declines may occur because of recent and planned increases in pumping from these areas.

Again, these interpretations are considered “preliminary” because of the recognized under-pumping discrepancy in the BVHM and the probability that the BVHM requires an update and recalibration to address the under-pumping discrepancy. That said, these interpretations could be used to inform future Watermaster policies, projects, and management actions to help achieve the Sustainability Goal for the Basin. For example, it would be reasonable to assume that there is a potential sustainability issue in the Central and South Management Areas in the future and policies could be developed to protect against long-term declining groundwater levels.

What should not be interpreted from the initial BVHM projection results are the magnitudes of the predicted changes in groundwater levels. This is particularly true in the South Management Area where the under-pumping discrepancy is located. This limits the ability of the Watermaster to (i) evaluate the sustainability of the 2025 Sustainable Yield (e.g., the results cannot be used to compare projected future groundwater levels to Minimum Thresholds, particularly in the Central and South Management Areas) and (ii) use BVHM projections to support the update of SMCs.



Well Location



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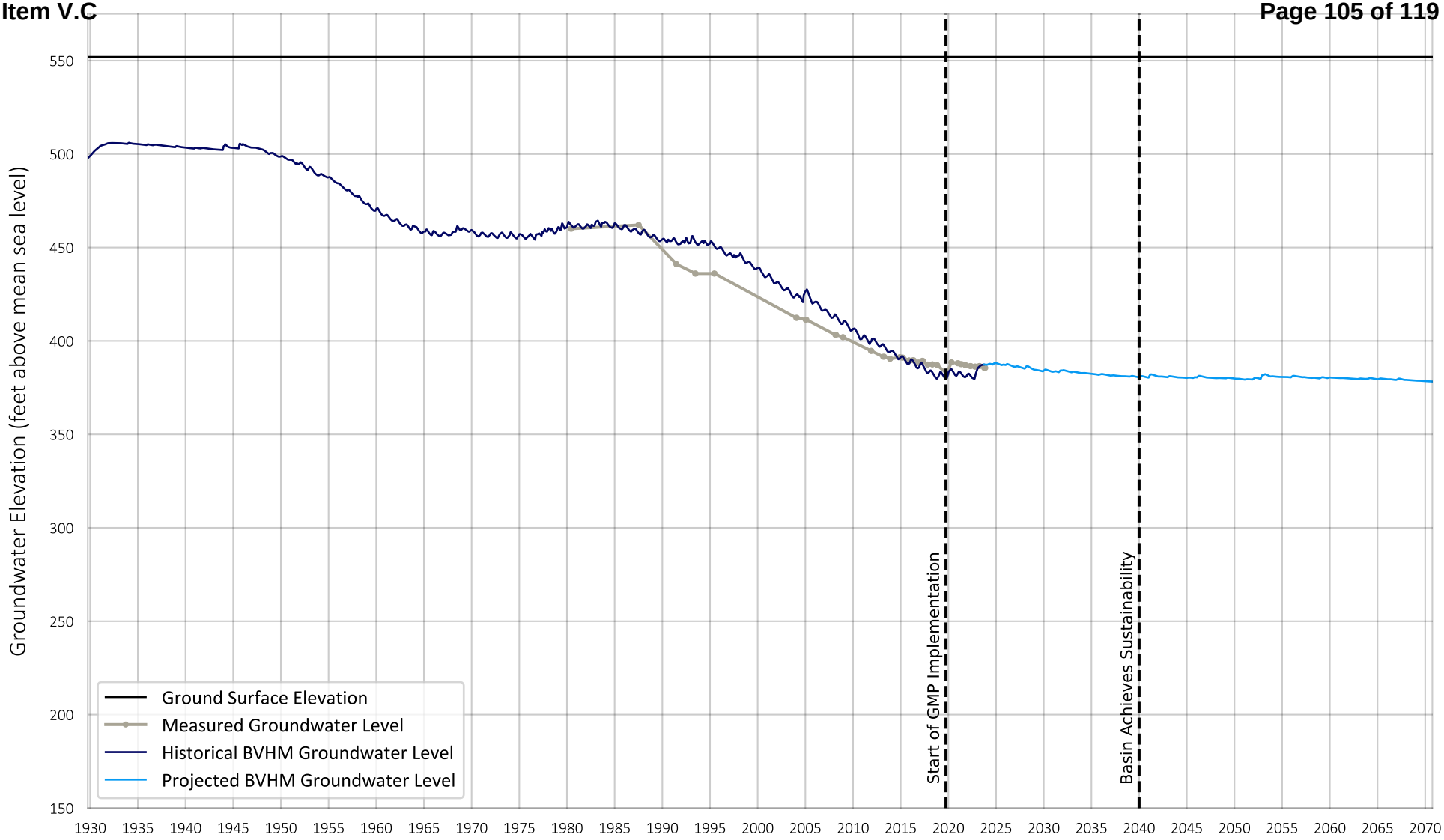
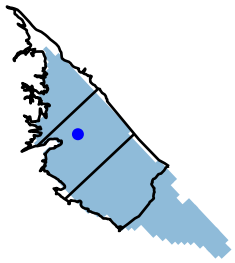
Water. Engineered.

Projected Groundwater Level
Well Name: Viking
Screen Interval (ft-bgs): 360 - 700

Figure 6a



Well Location



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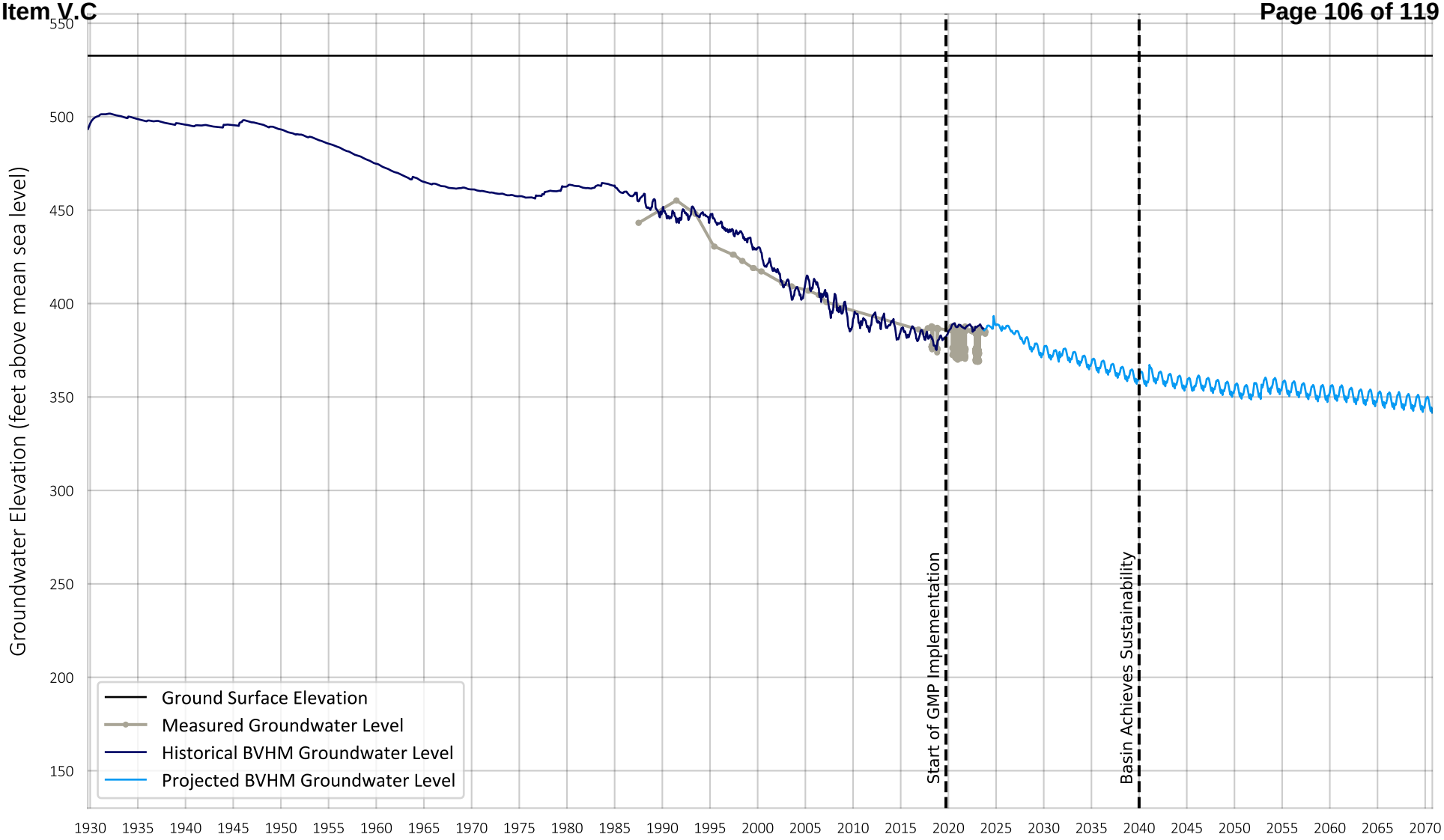
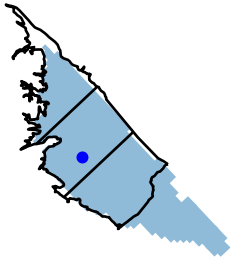
Projected Groundwater Level
Well Name: ID4-5
Screen Interval (ft-bgs): 520 - 640

Figure 6b



Well Location



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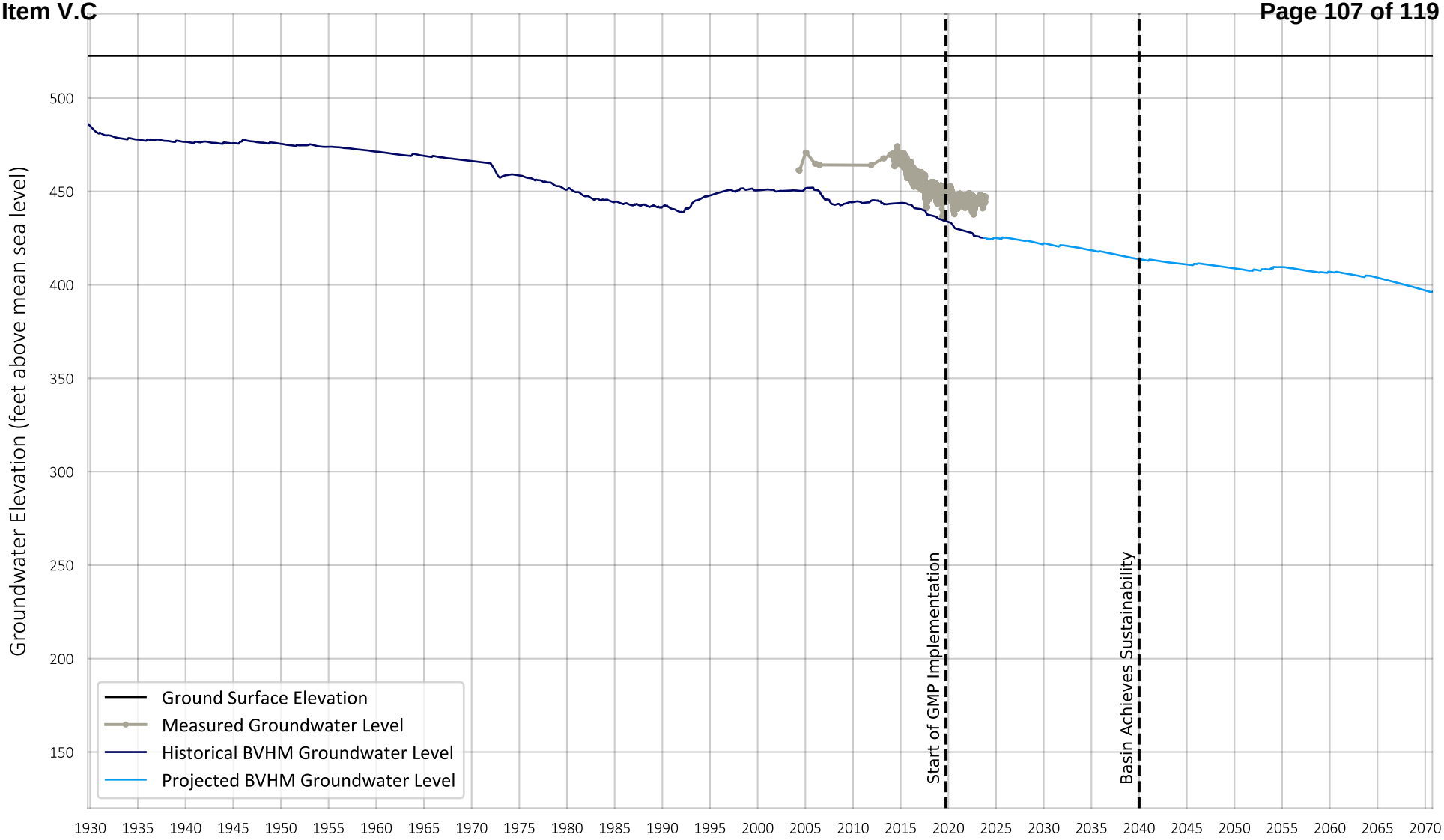
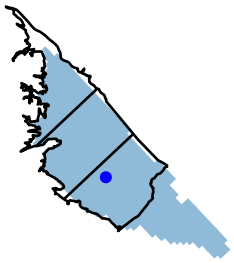
Water. Engineered.

Projected Groundwater Level
Well Name: ID1-12
Screen Interval (ft-bgs): 248 - 568

Figure 6c



Well Location



Prepared by:

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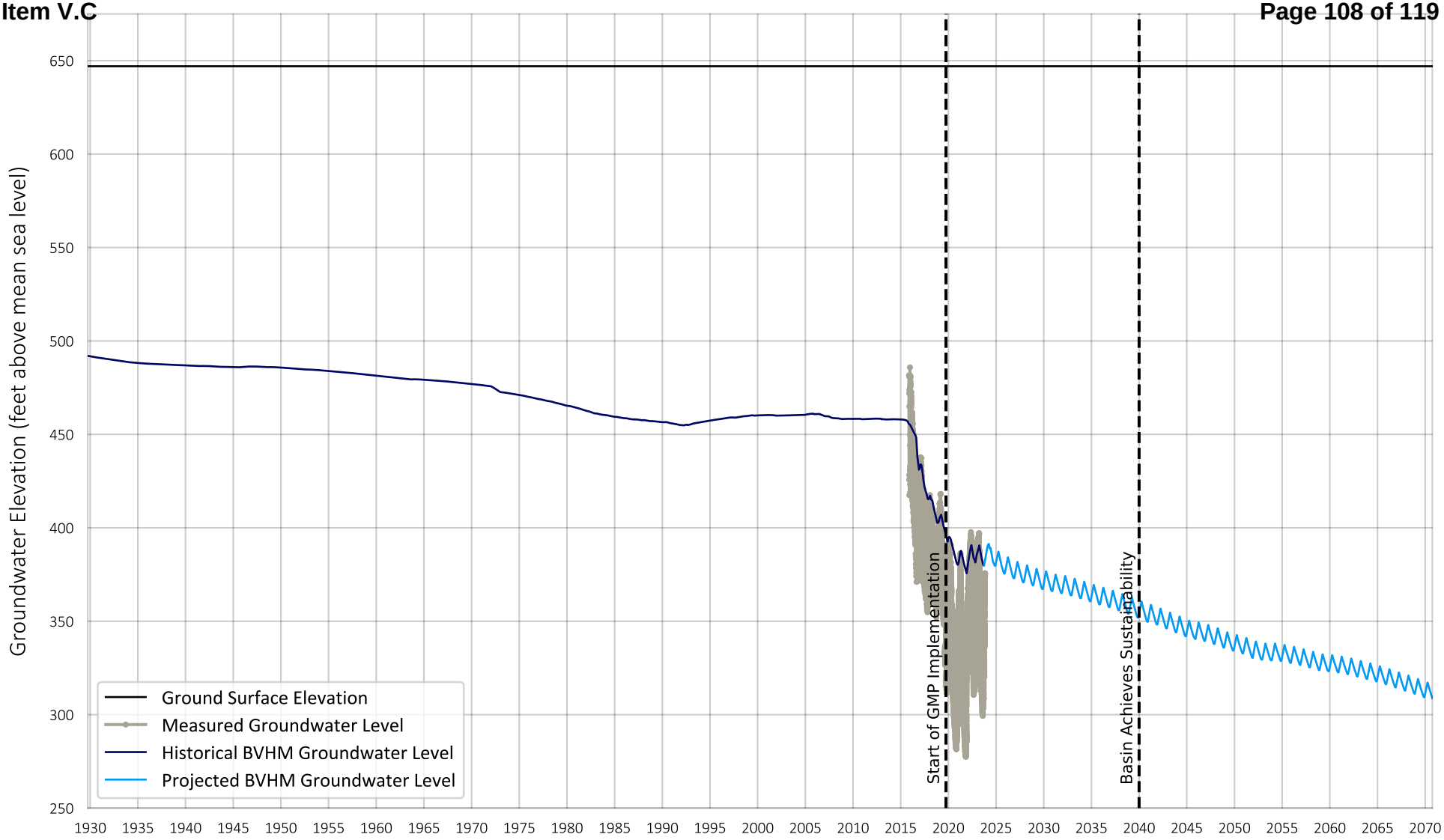
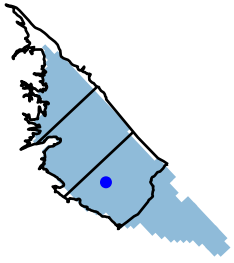
Water. Engineered.

Projected Groundwater Level
Well Name: MW-3
Screen Interval (ft-bgs): 175 - 331

Figure 6d



Well Location



Prepared by:

WEST YOST
Water. Engineered.

Projected Groundwater Level
Well Name: RH-6
Screen Interval (ft-bgs): 238 - 938

Figure 6e

RECOMMENDATIONS AND NEXT STEPS

This section provides Watermaster with recommendations and options to fix the under-pumping discrepancy in the BVHM and use the BVHM projection results to evaluate the sustainability of the Sustainable Yield.

The recommended scope of work to address the under-pumping discrepancy is shown in Table 4 as a line-item scope-of-work and cost estimate, and includes four main tasks:

Task 1. Update the Hydrogeologic Conceptual Model (HCM)

The HCM is a description of the geometry, structure, layering, and hydraulic/storage properties of the aquifer system sediments of the Basin. There are new data/information available that could be used to update the HCM, particularly in the South Management Area where the under-pumping discrepancy is located (e.g., Airborne Electromagnetic (AEM) surveys, new borehole/well information; pumping test results; high-frequency groundwater-level data recorded at wells, etc.). In addition, site-specific investigations and testing could be performed to better understand and characterize the hydrogeology of this portion of the Basin, if appropriate. These site-specific efforts are shown as an "optional" subtask in Table 4, and could include aquifer-system stress testing or analyses of existing pumping and high-frequency groundwater-level data that has been collected over the past several years in the South Management Area.

Once the new data/information is compiled, it could be compared against the current HCM in the BVHM and a proposal for BVHM updates could be prepared. The proposal would be run through the TAC/Board process for approval. With Board approval, the recommended updates to the BVHM would be made, and the BVHM would be used to re-run Scenario CS-1 RH to evaluate the effects of the updates on the projected groundwater levels and the under-pumping discrepancy. The BVHM results from this effort would be shared with the TAC and Board.

Task 2. Perform BVHM Recalibration

Model calibration is the process of adjusting model parameters during a historical model simulation to produce the best match between simulated and observed system responses, such as the time series of simulated and measured groundwater elevations at wells. The objective is to ensure that the model is an adequate simulator of the hydrology of the basin, including the water budget which is interpreted and used to estimate the Sustainable Yield.

To recalibrate the BVHM, input files would be prepared to perform calibration using manual adjustments and the parameter estimation code PESTPP-IES. Selected measured pumping and groundwater elevations would be used as calibration targets. During the model calibration, the values of aquifer parameters (such as hydraulic conductivity and storage coefficient) would be adjusted to minimize the differences between the model estimated and measured pumping and groundwater elevations. The calibration results would include a time series of simulated vs. measured values, along with calibration statistics and calculated residuals. The approach and results of the calibration would be documented in a TM and presented to the TAC. The TM would be finalized based on TAC comments.

Task 3. Use BVHM to Evaluate Future Basin Conditions under Variable Future Climate Conditions

After Task 2, the under-pumping discrepancy should be eliminated, and the BVHM could be used to simulate the pumping projections previously developed for WYs 2023 to 2070. The BVHM would be run through WY 2070 to predict future groundwater levels and storage in the Basin under the four future climate scenarios described in the *Future Hydrology and Climate* section (CS-1 RH, CS-2 RH30, CS-3 RH70, CS-4 D18).

Task 4. Evaluate BVHM Projection Results

In this task, the BVHM projection results from Task 3 would be evaluated to characterize the sustainability of pumping Rampdown to the Sustainable Yield. Specifically, the BVHM projection results would be analyzed for the following indications of sustainability:

a. *Trends in groundwater levels and storage are predominantly stable or increasing by 2040*. This analysis would be accomplished by preparing time-series charts of: (i) projected groundwater elevations for the Representative Monitoring Wells and (ii) projected total storage in the Basin. The time-series charts would be analyzed for stable or increasing trends by 2040 (and thereafter through 2070).

b. *Groundwater levels are at sufficient elevations to not cause Undesirable Results*. This analysis would be accomplished by comparing the 2040 projections for groundwater elevations and total storage against Minimum Thresholds.

These evaluations would be documented in a draft TM and presented to the TAC. The TM would be finalized based on TAC comments.

The potential outcomes of these evaluations are:

1. The BVHM projection results indicate that the pumping Rampdown to the **Sustainable Yield *is not sustainable***. This could be indicated by either BVHM projections of continuously declining groundwater levels after 2040 or the occurrence of undesirable results prior to or after 2040 (as defined above). In this case, the Watermaster would make policy and/or management decisions in efforts to achieve sustainability by 2040, and such decisions would likely need to be simulated and tested for sustainability with the BVHM (as a subsequent effort).
2. The BVHM projection results indicate that the pumping Rampdown to the **Sustainable Yield *is sustainable***. This would be indicated by BVHM projections of stable or increasing groundwater levels after 2040 and the absence of undesirable results prior to or after 2040 (i.e., no exceedances of Minimum Thresholds). In this case, no further BVHM simulations would be necessary.

The estimated cost to perform Tasks 1 through 4 (based on 2025 rates) ranges from about $240,000 to $260,000, depending on the inclusion of a $20,000 optional task to perform site-specific investigations in Task 1.[13]

[13] Note that this is a preliminary cost estimate that may be adjusted based on TAC input on the line-item scope of work.

Table 4. Cost Estimate for Tasks 1 through 4

Task No.	Task / Sub-Task	Labor Hours and Cost										Cost	
		Executive Director	Lead Technical Consultant	Principal Sci/Eng. II	Associate Sci/Geol/Eng. I	Staff Sci/Geo/Eng. II	Staff Sci/Geo/Eng. I	Field Technician	Administrative III/IV	Task Repetition Multiplier	Person Hours	Sub-Task	Total Cost
1	**Update the Hydrogeologic Conceptual Model (HCM)**	**8**	**80**	**34**	**220**	**74**	**74**	**48**	**5**	**10**	**543**		**$ 129,849**
1.1	***Evaluate new hydrogeologic information (pump test data, AEM survey data, well logs, etc.)***		***20***		***24***	***32***	***56***			***1***	***132***	***$29,634***	
1.1.1	Process and interpret AEM data		8		8	8	16			1	40	$9,226	
1.1.2	Collect and review new groundwater-level data, geologic data from well completion reports, pump test data, etc.		4		8	8				1	20	$4,945	
1.1.3	Prepare maps, charts, and hydrogeologic cross-sections		8		8	16	40			1	72	$15,463	
1.2	***Perform site-specific investigations to obtain new information (OPTIONAL)***		***12***	***2***	***16***	***24***		***48***		***1***	***102***	***$20,264***	
1.3	***Compare current HCM to new information***		***8***	***4***	***16***					***1***	***28***	***$7,691***	
1.3.1	Compare current aquifer parameters to new information		4	2	8					1	14	$3,845	
1.3.2	Compare current model structure to new information		4	2	8					1	14	$3,845	
1.4	***Propose recommended updates to HCM to the TAC***	***4***	***16***	***6***	***32***	***8***	***8***			***1***	***74***	***$19,491***	
1.4.1	Prepare draft TM	2	8	2	16	8	8			1	44	$11,044	
1.4.2	Conduct TAC meeting	1	4	2	8					1	15	$4,223	
1.4.3	Incorporate TAC comments into approach for revising HCM	1	4	2	8					1	15	$4,223	
1.5	***Update HCM in the BVHM***		***4***	***12***	***80***					***1***	***96***	***$24,332***	
1.6	***Run the BVHM with the updated HCM, compare water budgets, and check ability of wells to pump their assigned rates***		***4***	***4***	***20***					***1***	***28***	***$7,367***	
1.7	***Document results and present to the TAC***	***4***	***16***	***6***	***32***	***10***	***10***		***5***	***1***	***83***	***$21,070***	
1.7.1	Prepare draft TM and presentation	2	8	2	16	8	8		4	1	48	$11,660	
1.7.2	Conduct TAC meeting	1	4	2	8					1	15	$4,223	
1.7.3	Address TAC comments and finalize TM	1	4	2	8	2	2		1	1	20	$5,187	
2	**Perform BVHM Recalibration**	**4**	**26**	**20**	**152**	**10**	**0**	**0**	**5**	**9**	**302**		**$ 55,696**
2.1	***Prepare the input files for model calibration with PESTPP-IES***		***4***	***4***	***32***					***1***	***40***	***$10,247***	
2.2	***Calibrate the model***		***4***	***8***	***80***					***1***	***92***	***$23,049***	
2.3	***Prepare calibration results***		***2***	***2***	***8***					***1***	***12***	***$3,204***	
2.3.1	Develop time-series of simulated and measured values and other graphics		1	1	4					1	6	$1,602	
2.3.2	Generate calibration statistics and calculate residuals		1	1	4					1	6	$1,602	
2.4	***Document results***	***4***	***16***	***6***	***32***	***10***			***5***	***1***	***73***	***$19,197***	
2.4.1	Prepare a draft TM documenting the approach and results	2	8	2	16	8			4	1	40	$10,161	
2.4.2	Prepare for and conduct TAC meeting	1	4	2	8					1	15	$4,223	
2.4.3	Address TAC comments and finalize TM	1	4	2	8	2			**1**	1	18	$4,812	
3	**Use BVHM to Evaluate Future Basin Conditions under Variable Future Climate Conditions**	**0**	**2**	**4**	**24**	**0**	**0**	**0**	**0**	**12**	**120**		**$ 30,740**
3.1	***Create model input files for projection and climate scenarios***			***2***	***8***					***4***	***40***	***$10,247***	
3.2	***Run model through the projection period***				***8***					***4***	***32***	***$7,679***	
3.3	***QC model results***		***2***	***2***	***8***					***4***	***48***	***$12,814***	
4	**Evaluate BVHM Projection Results**	**5**	**29**	**6**	**42**	**0**	**24**	**0**	**5**	**17**	**165**		**$ 43,538**
4.1	***Generate time-series charts of groundwater-elevations at Rep. Monitoring Wells***		***1***		***2***					***4***	***12***	***$3,204***	
4.2	***Generate water budget***		***1***		***2***					***4***	***12***	***$3,204***	
4.3	***Calculate change in storage***		***1***		***2***					***4***	***12***	***$3,204***	
4.4	***Evaluate BVHM projection results for sustainability by 2040 and thereafter***	**1**	**4**		**4**					**4**	**36**	**$10,485**	
4.5	***Document results***	***4***	***22***	***6***	***32***		***24***		***5***	***1***	***93***	***$23,441***	
4.5.1	Prepare a draft TM documenting results and interpretations	2	12	2	16		16		4	1	52	$12,701	
4.5.2	Prepare for and conduct TAC meeting	1	4	2	8					1	15	$4,223	
4.5.3	Address TAC comments and finalize TM	1	6	2	8		8		1	1	26	$6,517	
	Total (without OPTIONAL task)	**17**	**125**	**62**	**422**	**60**	**98**	**0**	**15**		**1,028**		**$ 239,558**
	Total (with OPTIONAL task)	**17**	**137**	**64**	**438**	**84**	**98**	**48**	**15**		**1,130**		**$ 259,822**

Options for Implementation of Recommendations

There are two primary options for implementing the recommended tasks, and each option has advantages and disadvantages.

1. Perform all four tasks immediately in WYs 2025 and 2026.
    a. Advantages:
        i. Rapid improvements to the BVHM that the Watermaster could more confidently use to assess sustainability and test policies and management actions that are designed to achieve sustainability by 2040.
        ii. The ability to more confidently report on the likelihood of achieving sustainability by 2040 and thereafter (under the Rampdown to the 2025 Sustainable Yield) in the Five-Year Assessment Report due to the DWR by June 25, 2026.
        iii. Long-term costs will likely be lower because the work is being completed sooner and hence will avoid longer-term inflation.
    b. Disadvantages:
        i. Immediate costs will be higher due to the condensed schedule.
        ii. Identifying and acquiring grant funding to offset costs will take time and additional funding.
        iii. The BVHM may need an additional recalibration in WY 2029 for the 2030 redetermination of the Sustainable Yield, if results from the approved 2030 scope-of-work[14] indicate the need for BVHM recalibration following assessment of the Groundwater Dependent Ecosystem (GDE) study results and new monitoring data (pumping and water levels), which is due to be completed by the end of WY 2027.
2. Perform the four tasks incrementally as part of the scope to Redetermine the 2030 Sustainable Yield over WYs 2026 through 2029.
    a. Advantages:
        i. Immediate costs will be lower due to spreading the work out over four years.
        ii. More time is available to identify and solicit grant funding to support the work.
        iii. The work could be integrated into the planned Watermaster efforts to assess new data and information that may necessitate BVHM improvements and recalibration (e.g., GDE study results and new monitoring data), which may achieve efficiencies and avoid multiple recalibrations.

[14] At its December 19, 2024 Special Board meeting, the Watermaster Board approved a scope of work and budget to redetermine the 2030 Sustainable Yield. The approved scope included two tasks using: 1) GDE study results, and 2) Monitoring Program Data (groundwater-levels and metered pumping). The scope is described in more detail in the Item IV.A of the Board meeting agenda package, available here: https://borregospringswatermaster.com/wp-content/uploads/2024/12/20241219_Board-Agenda-Package.pdf

b. Disadvantages:

i. BVHM updates would occur in later years, limiting its usefulness to the Watermaster in the meantime as a tool to perform assessments of sustainability and to test proposed policies and management actions that are designed to achieve sustainability.

ii. More conservative and protective management strategies will likely be necessary given the higher uncertainty in future groundwater conditions, namely due to a concern that the future pumping plan may not be sustainable in the Central and South Management Areas.

iii. Long-term costs may be greater due to inflation.

Next Steps

This TM and its recommendations will be presented to the TAC and Board for input and direction.

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: April 11, 2025

Subject: Technical Consultant Report – April 2025

OVERVIEW

The purpose of the monthly Technical Consultant Report is to share information with the Board on the status of technical efforts being performed with guidance and input from the Technical Advisory Committee (TAC) and Environmental Working Group (EWG). Additional details and topics that may arise after publishing this report will be presented during the Board meeting.

At the April 16, 2025 Board meeting, I intend to report out on the following topics:

- Spring 2025 semi-annual monitoring event
- May 1, 2025 TAC meeting

SPRING 2025 SEMI-ANNUAL MONITORING EVENT

- The Spring 2025 semi-annual monitoring event was conducted on the week of March 17, 2025.
- *Groundwater-Level Monitoring*:
    a. Measured depth to water at 59 out of 60 wells in the monitoring network
        i. West Yost staff collected 51 measurements from 52 wells
        ii. Unable to measure Airport 2 well
        iii. BWD Field Staff Collected 8 water level measurements from their 8 wells
        iv. BWD has started monitoring the ID5-15 well by manual and transducer methods
    b. Installed new transducers for high-frequency monitoring in the following wells: Viking; ID4-4; ID4-3; ID4-10; Army; Hayden; Hanna Flowers
    c. Battery died in the RH-5 transducer. A new transducer was installed and the dead transducer was shipped to InSitu for data recovery.
    d. Awaiting transducer data collected by DWR for MW-6S and MW-6D
    e. Canvassed and measured depth to water at a private well in Old Borrego. This well could fill an identified gap in the monitoring network. The well was visited by West Yost staff with John Peterson. Well information has been added to the database. Staff is following up with the well owner re: Entry Permit.
    f. All data collected is being checked and uploaded to the database.
- *Groundwater-Quality Monitoring*:
    a. West Yost staff collected water-quality samples from 27 of 29 wells in the network
        i. This includes one new monitoring well: ID4-2

ii. Unable to collect samples from four wells, including:
    1. RH-4 (pump was not operational)
    2. Terry Well (owner passed away; need to renew permission to sample)
iii. Installed new sample tubing in five wells: MW-6S, MW-6D, MW-1, WWTP, ID4-2

b. BWD plans to collect water-quality samples from its nine pumping wells in April 2025

c. West Yost is awaiting lab results from Clinical Laboratories and BWD

- A report on results of the Spring 2025 semi-annual monitoring event will be presented in June 2025

AGENDA FOR MAY 1, 2025 TAC MEETING

Two topics will be covered at the TAC meeting (as approved at April regular meeting), focused on scope and budget for WY 2026: (1) next steps to address the BHVM discrepancy and (2) line item scope and budget to perform the first tasks to redetermine the 2030 Sustainable Yield, in accordance with the planning scope/budget approved by the Board in December 2024.

To: Board of Directors
From: Samantha Adams, Executive Director
Date: April 11, 2025
Subject: Executive Director Report – April 2025

Overview

The purpose of the monthly Executive Director (ED) Report is to share information with the Board on the status of key administrative items, including identifying recommended items for future discussion and action. At our April 16, 2025 Board meeting, I intend to report out on the following items. Some information for each item is provided herein, where available. Additional details and topics that arise after publishing this report may be presented during the meeting.

The April 2025 ED Report topics include:

- SGM Grant Reimbursement Status
- Approach to Addressing DWR Comments on Judgment/GMP
- WY 2025 Pumping Assessments
- Annual Meter Verification Status
- BPA and Party Updates

Status Updates

SGM Grant Status

- Status of outstanding Reimbursement Requests:
    - Reimbursement Request #7 is under review by DWR. The financial model assumes payment in June 2025.
    - Reimbursement Request #8 was submitted to DWR on February 14, 2025 and is pending DWR review. The financial model assumes payment in September 2025.
    - Reimbursement Request #9 is due by May 15, 2025. Grant funding is available for project management expenses through April 30, 2025 and so staff intend to complete the report in April.
- A draft Grant Completion Report was prepared and submitted to DWR pursuant to the grant agreement on December 31, 2024. DWR is reviewing the draft report and was expected to provide feedback in February 2025. No feedback has been received as of this writing. Staff is at the ready to complete the report by April 30.

Approach to Addressing DWR Comments on Judgment/GMP

At the April Board meeting, the Board requested staff to return with a proposed approach and scope to address the DWR Recommended Corrective Actions (RCAs) and identify funding available to cover this work. Due to the busy schedule completing all of the grant funded projects by March 31st, staff did not have sufficient time to complete our recommended approach. In our initial discussions, we've identified that the approach needs to be considered together in the context of: how/when we will address the BVHM discrepancy (see agenda item IV.C), completing the Five-Year Assessment, and initiating work on

the redetermination of the 2030 Sustainable Yield. As noted in the IV.C Agenda memo, staff plans to prepare an integrated plan/approach/cost to perform all of these related tasks to present at the May Board meeting.

With regard to budget, as shown in Agenda memo IV.A, Staff has identified about $69,000 that can be utilized in the current budget to advance this work starting in May without any financial impact to the Watermaster. There was an additional $100,000 to $125,000 in the projected WY 2026 budget that was earmarked for, or that could be dedicated to, these scope items.

In summary, a comprehensive approach and cost estimate will be presented in May.

WY 2025 Pumping Assessments

- Invoices for the second installment of the WY 2025 pumping assessment will be mailed in May. Payment is due June 30, 2025.

Annual Meter Verification Status

- Annual meter testing is complete. 100% of the 56 wells requiring testing have performed and passed the testing requirements to confirm meter accuracy. This is the first year we've achieved 100% compliance.

BPA and Party Updates

- As reported and discussed last month, there is one Party that remains out of compliance with the Judgment and is not in contact with the Watermaster. Per discussion, I have provided information about outstanding balances and metering requirements to Alternate Director Jim Dax to see how we might be able to get engaged. I will provide updates as they are available.

Insurance Renewal

- We have started the process to apply for our annual insurance renewal and expect to have a quote prepared and ready for review and approval at the May meeting.

Borrego Springs Watermaster
Board of Directors Meeting
April 16, 2025
AGENDA ITEM VII

To: Board of Directors

From: Samantha Adams, Executive Director

Date: April 11, 2025

Subject: Establishing Agenda for May 21, 2025 Regular Board Meeting

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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 and previously requested items by Board members, as listed below
3. List out additional items that have arisen during the April 2025 Board meeting (such as during public comment)
4. Call on Directors to request additional items for consideration of inclusion on the May or other future agenda
5. Consider motion(s) to approve the agenda (the agenda can be approved in a single motion or multiple motions to cover each item). The Agenda/items are approved by majority vote (3 of 5 directors)

Staff's Initial Agenda for May Regular Meeting

The May 21, 2025 Regular meeting (held virtually) 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 2025 includes the following business items for consideration and possible action:

1. Consideration of approval for insurance renewal
2. Report out from May TAC meeting
3. Addressing DWR Comments on the Judgment/GMP
4. Draft WY 2026 Budget
5. WY 2025 Mid-Year Pumping Report

Staff's Tentative Topics for June and July

June Agenda Topics

1. Consideration of approval of WY 2026 Budget
2. Consideration of approval of TAC agenda for June/July
3. Spring 2025 Semi-Annual Monitoring Report
4. Workshop: Addressing DWR Comments on the Judgment/GMP

July Agenda Topics

1. WY 2025 3rd Quarterly Budget Status Review
2. Consideration of approval of TAC agenda for July/August
3. Workshop: Addressing DWR Comments on the Judgment/GMP