

INDIAN WELLS VALLEY GROUNDWATER AUTHORITY POLICY ADVISORY COMMITTEE

Ridgecrest City Hall

100 W. California Ave., Ridgecrest, CA 93555

760-499-5002

A G E N D A

Thursday, September 6, 2018 6:00 p.m.

In compliance with the Americans with Disabilities Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, please contact Alan Christensen at (661) 868-3183. Requests must be made as early as possible and at least one full business day before the start of the meeting. Documents and material relating to an open session agenda items that are provided to the IWVGA PAC Committee prior to a regular meeting will be available for public inspection and copying at Indian Wells Valley Water District, 500 Ridgecrest Blvd, Ridgecrest, CA 93555, or online at www.co.kern.ca.us/groundwater/.

Statements from the Public

The public will be allowed to address the Committee during Public Comments about subjects within the jurisdiction of the IWVGA Policy Advisory Committee and that are NOT on the agenda. No action may be taken on off-agenda items unless authorized by law. Questions posed to the Committee may be answered after the meeting or at future meeting. Dialog or extended discussion between the public and the Committee or staff will be limited in accordance with the Brown Act. The Public Comments portion of the meeting shall be limited to three (3) minutes per speaker. Each person is limited to one comment during Public Comments.

All remarks and questions should be addressed to the Committee as a whole and not to any individual member or staff. There will be time after each action item on the agenda to receive comments from the public. Again each speaker will be limited to three (3) minutes. Speakers should be brief and limit their comments to the specific subject being discussed. Persons will be limited to one comment per person unless directed by the Chair.

1. CALL TO ORDER AND ROLL CALL

2. APPROVAL OF AUGUST 2, 2018 PAC MEETING MINUTES

3. PUBLIC COMMENTS

This time is reserved for the public to address the Committee about matters NOT on the agenda. No action will be taken on non-agenda items unless authorized by law. Comments are limited to three minutes per person.

4. PRESENTATION / DISCUSSION OF WATER ALLOCATION CONCEPTA BY IWVGA SPECIAL COUNSEL MR. JIM MARKMAN

Committee / public discussion / comments / any recommended action

5. COMMITTEE MEMBER ANNOUNCEMENTS OR COMMENTS

6. ADJOURN TO OCTOBER 3, 2018 MEETING AT 6 P.M. AT IWVWD

Please Review and familiarize yourself with BMPs for Sustainable Groundwater Management on DWR website and handout on Sustainable Management Criteria dated July 12, 2018 prepared for TAC.

Water Allocation Concepts for IWVGA Policy Advisory Committee

September 6, 2018

Presentation Overview

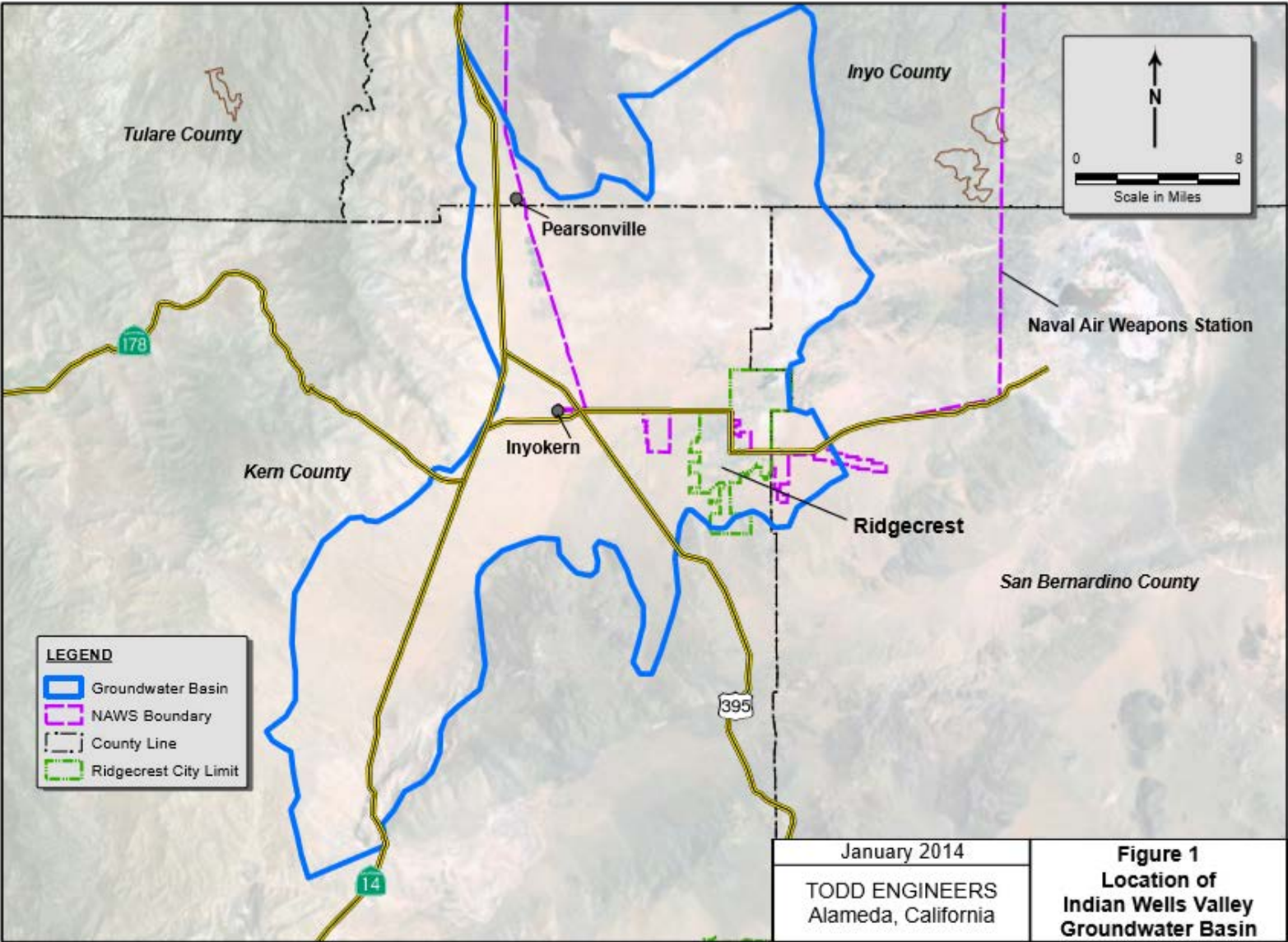
- ▶ PAC Member Introductions
- ▶ Review of Meeting Goals (Markman)
- ▶ Current Basin Understanding/Knowledge (Johnson)
 - ▶ Basin Overview
 - ▶ Water Balance
 - ▶ Extraction by Category
 - ▶ Hydrographs – Loss of Basin Storage
 - ▶ Source of Water/Conservation
- ▶ Work in Progress/GSP Development Schedule (Johnson)
- ▶ Legal Allocation Concepts (Markman)
 - ▶ Types/Priority of Water Production Rights
 - ▶ Impact of Prescription on Types and Priority of Water Production Rights
 - ▶ Concepts (Techniques) to Utilize to Achieve Sustainability
- ▶ Review Findings and Goals/Assignments for Second Meeting (Markman)

PAC Meeting Goals

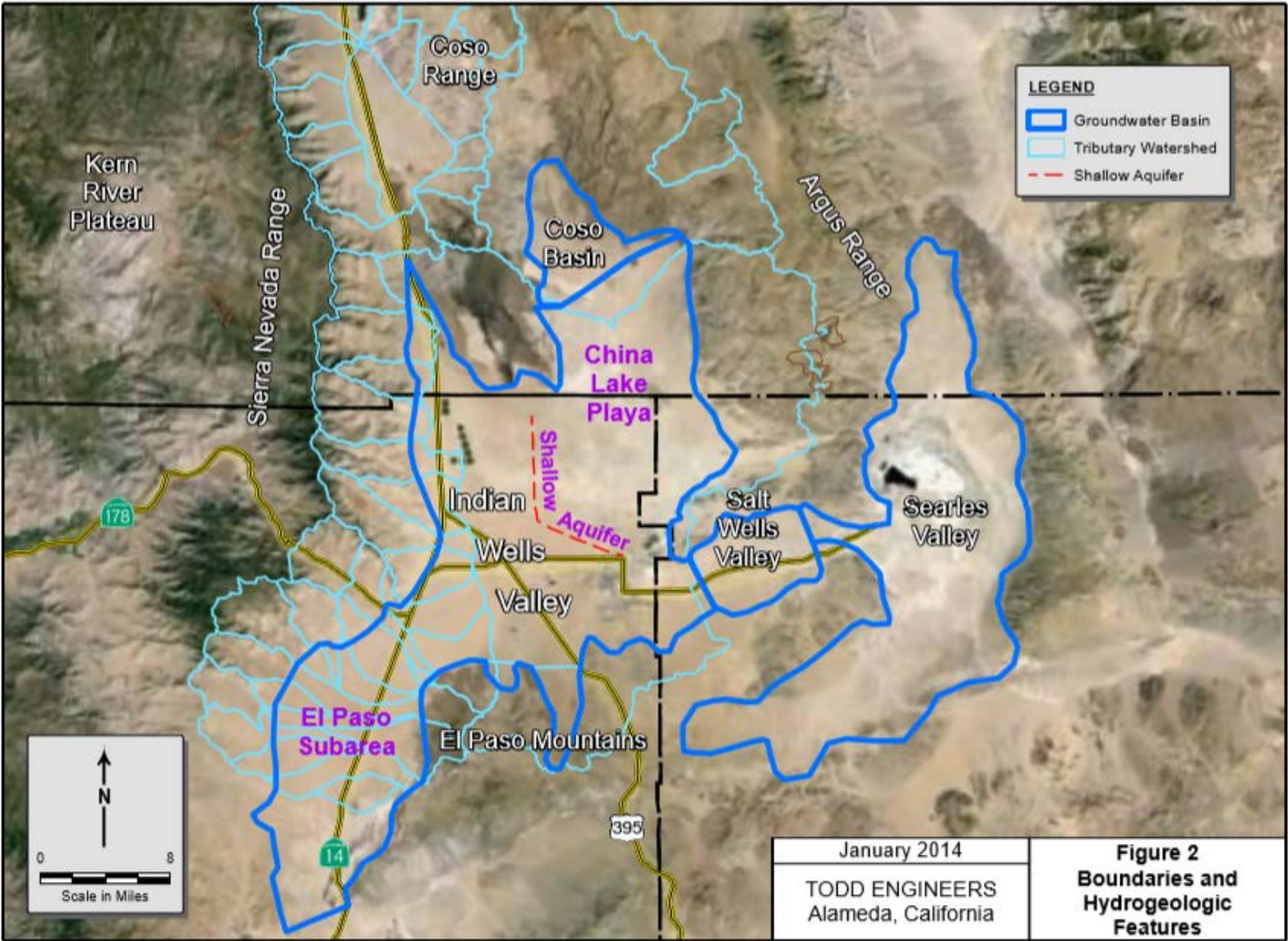
- ▶ Begin with Science –
 - ▶ Review tentative conclusions concerning supply and production history, including data.
 - ▶ Review what is needed to enhance the scientific knowledge base needed to deal with water production allocations.
- ▶ Water Rights Review and Application
 - ▶ Present water production rights priority concepts based on applicable provisions of federal and state law.
 - ▶ Discuss overdraft and prescription and their effect on water production priorities.
 - ▶ Discuss some concepts which have been implemented to balance basin water supply with consumption.
 - ▶ Determine how PAC may be able to aid in facilitating an acceptable water production allocation plan.

Current Basin Understanding/Knowledge

Basin Overview



Basin Overview



Estimated Water Balance (TAC Model Ad-Hoc)

Water Balance Component	Current Draft DRI Estimate (AFY)
<i>Inflows</i>	
Natural Inflow/Recharge	7,650
<i>Outflows</i>	
Pumping	25,000 *
Playa ET	2,800
Outflow to Salt Wells Valley	60
Change in Storage	20,210 deficit

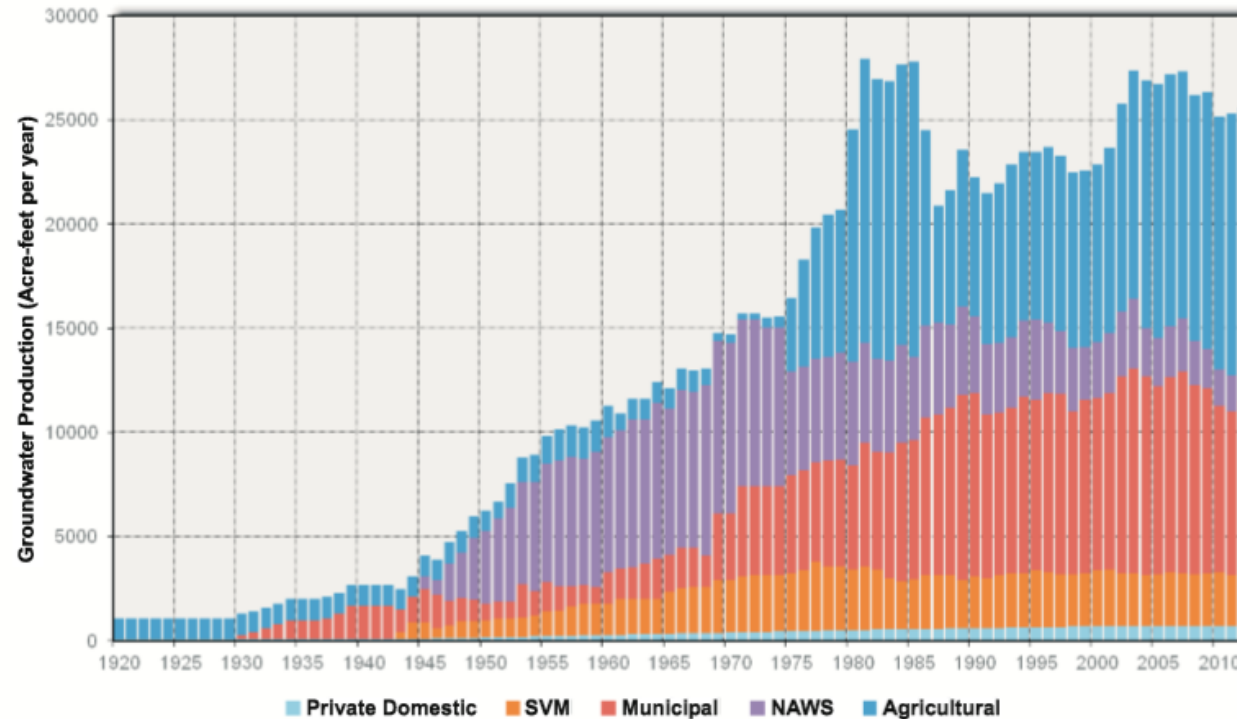
*Being verified.

Groundwater Extraction/Pumping

Producer Category	2015 Production (AFY)	Average Production - 1975-2015 (AFY)	Water Right
Agriculture	12,657	10,350	Overlying
Industrial (Searles)	2,518	2,638	Appropriative
Municipal (Water District/Inyokern CSD)	7,141	7,115	Appropriative
Irrigation (City)	427	410	Overlying
Federal (Navy)	1,442	3,369	Federal Reserve Right
Private Domestic	1,100	2,491	Overlying
TOTAL	25,285	26,373	

From Indian Wells Valley Cooperative Groundwater Management Group

Outflows - Groundwater Extraction/Pumping



Data sources:
1920-1974: Berenbrock and Martin (1991)
1975-2012: IWWWD

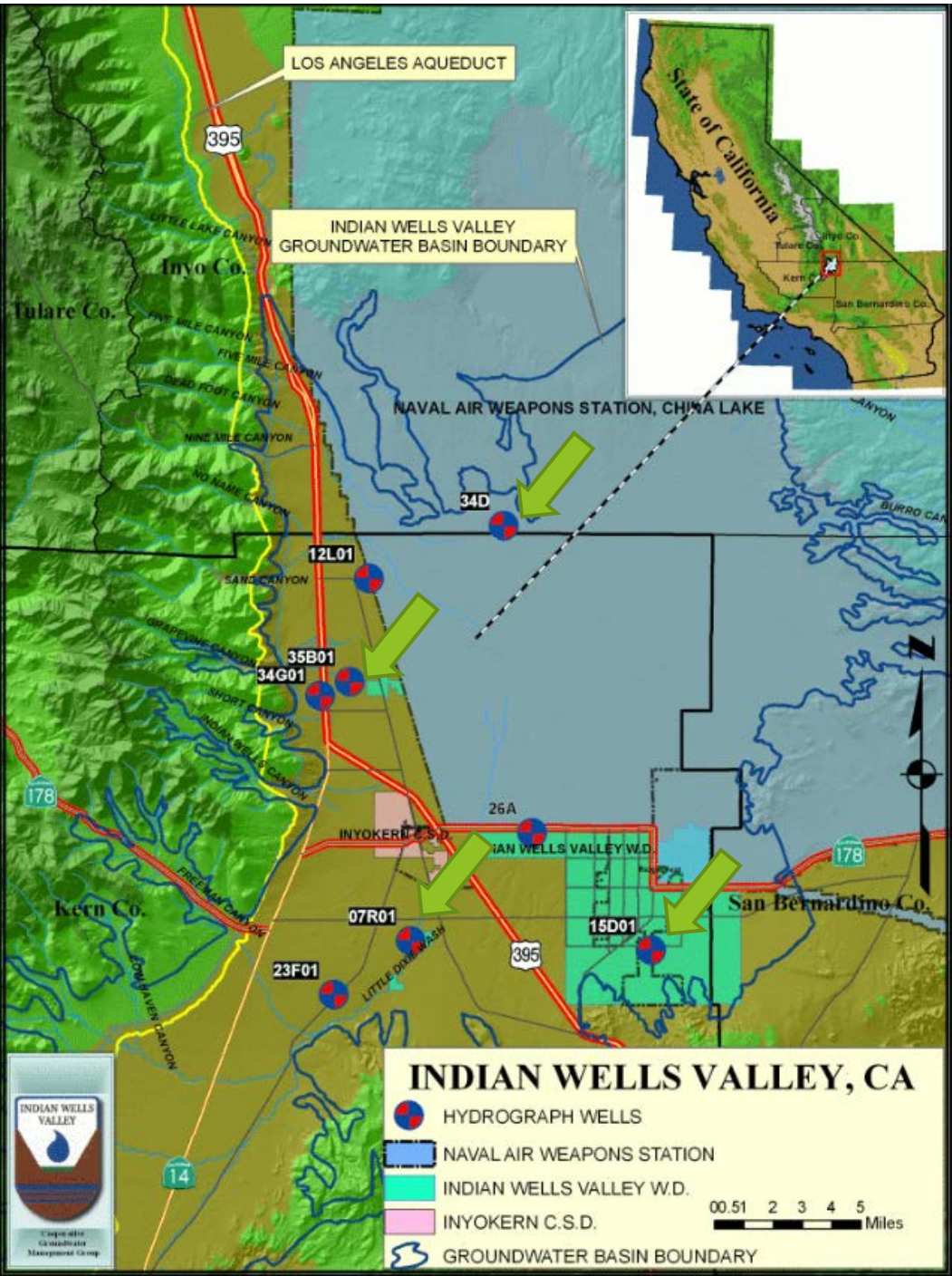
SVM = Searles Valley Minerals
NAWS = Naval Air Weapons Station China Lake

January 2014

TODD ENGINEERS
Alameda, California

Figure 9
Groundwater
Production
1920 - 2012

Hydrographs

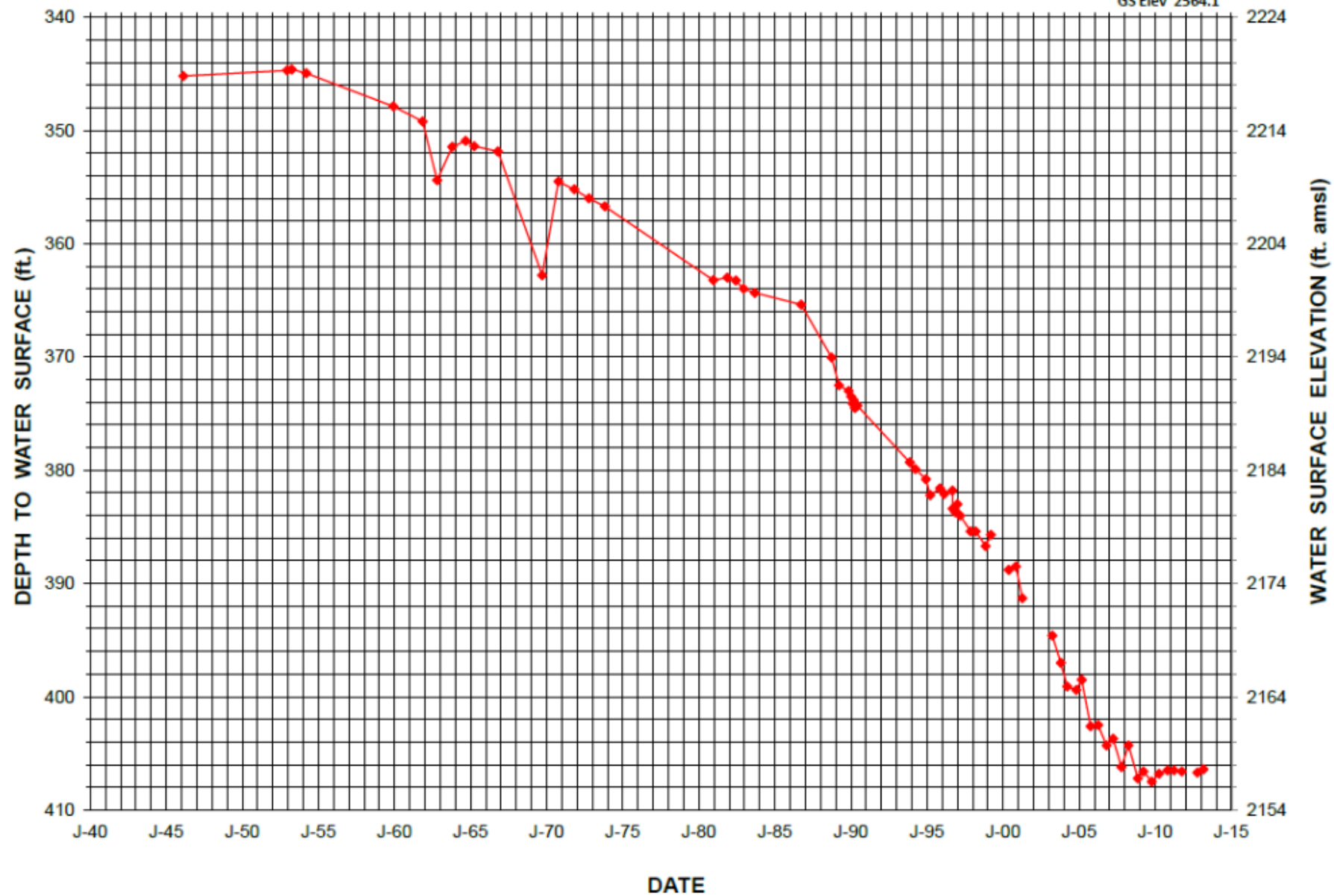




KCWA
Groundwater
Database

INYO WELL 27S/39E-07R01

GS Elev 2564.1

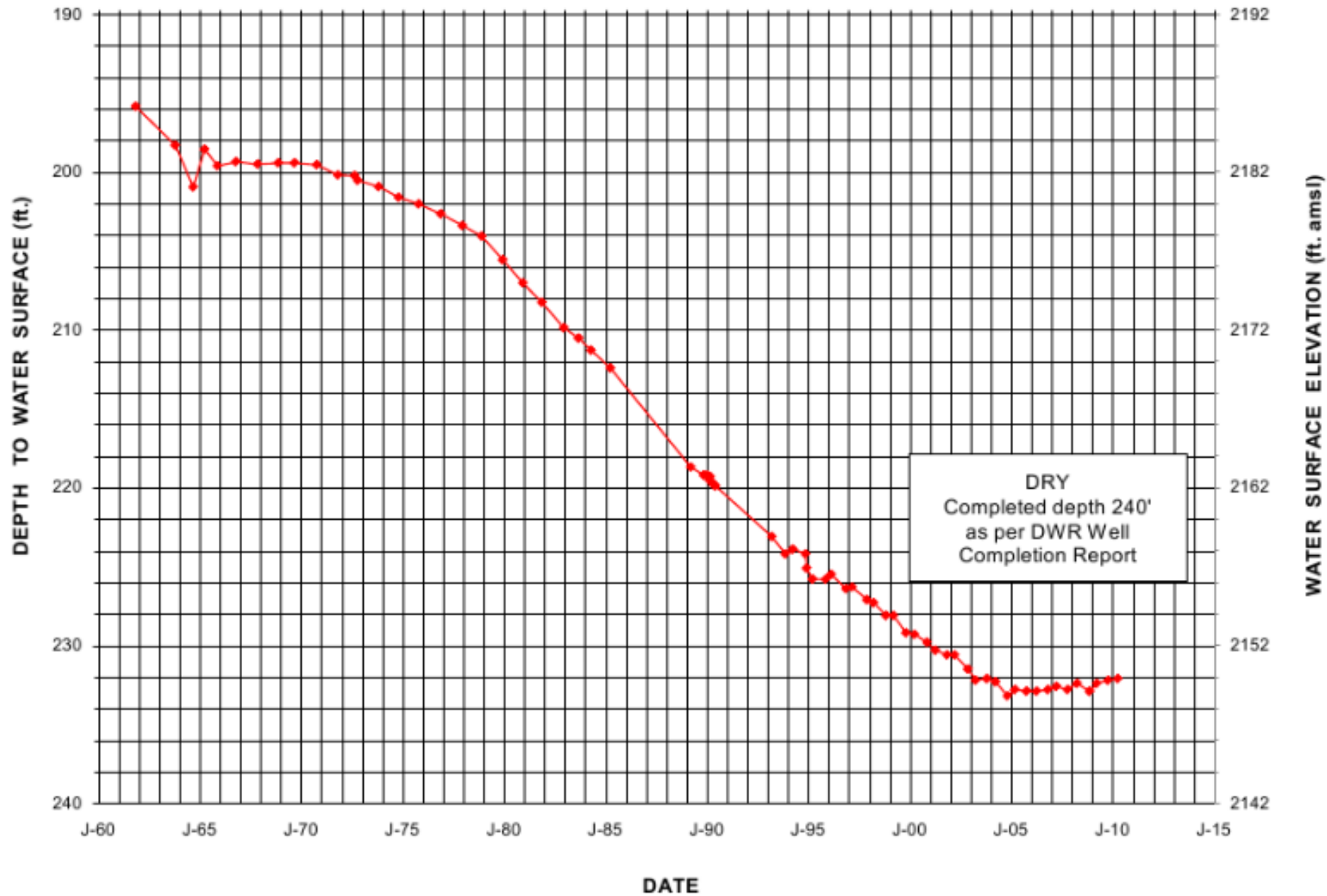




KCWA
Groundwater
Database

27S/40E-15D01 BUCKET WELL

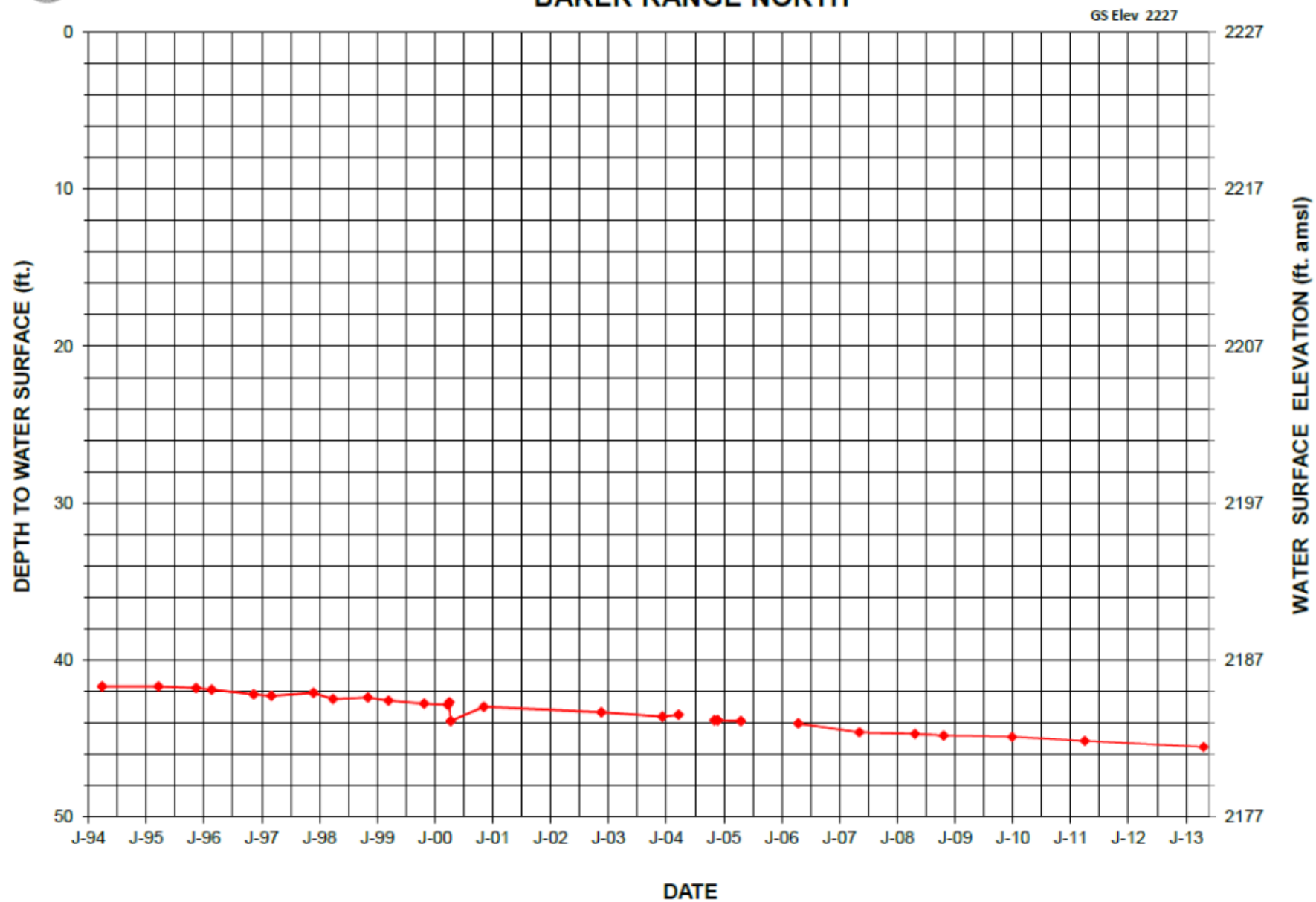
G5 Elev 2382.2





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Database

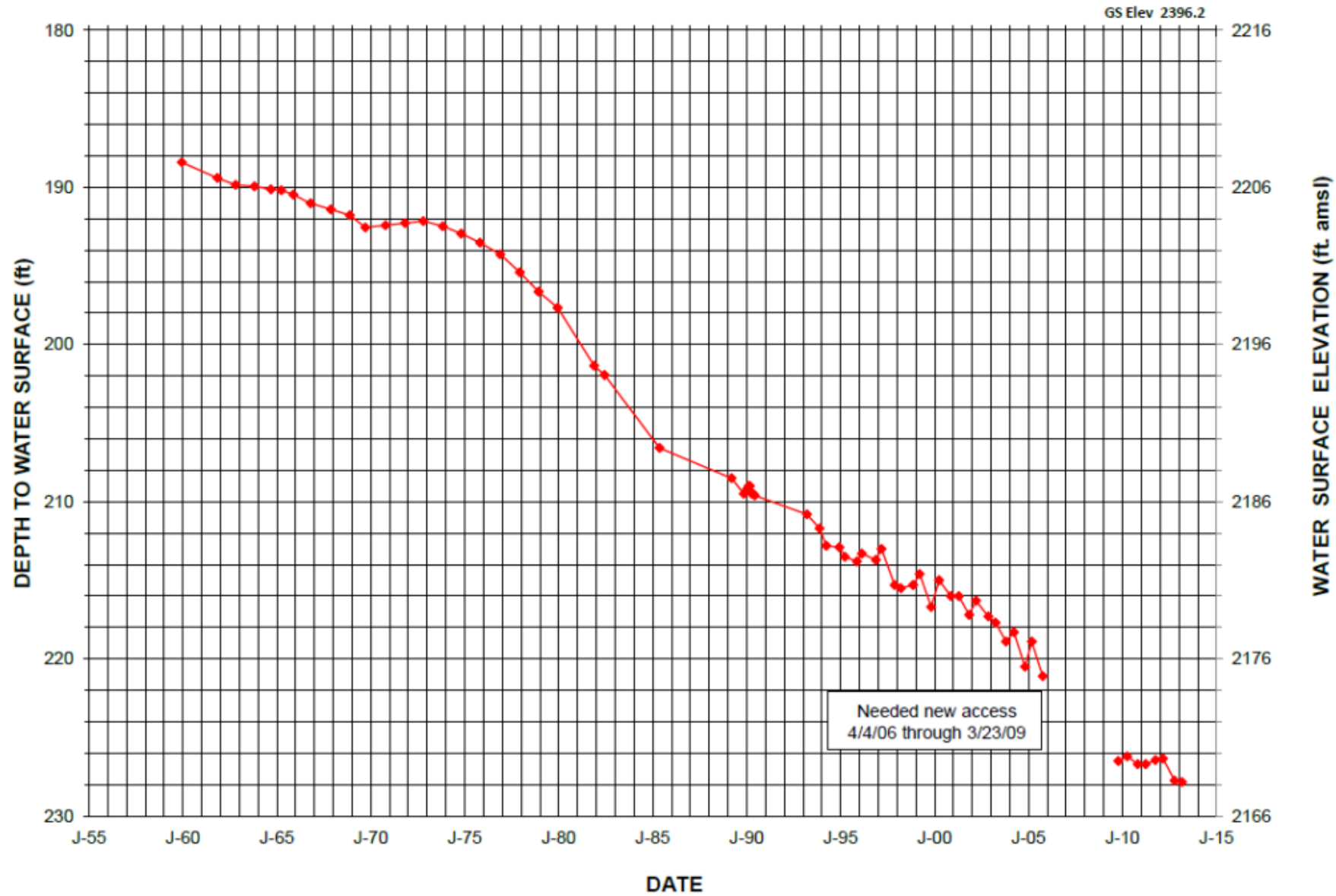
24S/39E-34D BAKER RANGE NORTH





KCWA
Groundwater
Database

25S/38E-35B01



Potential Sources of New Water/Conservation

- ▶ Recycled Water
- ▶ Imported Water
- ▶ Brackish Water
- ▶ Conservation (Domestic, Industrial, Agricultural)

Work in Progress

- ▶ Well Registration/Pumping Fee
 - ▶ Pumping Fee adopted July 19, 2018
 - ▶ Non-De Minimis Well Registration by August 20, 2018
 - ▶ First month subject to fee: September, 2018
- ▶ Basin Modeling
 - ▶ Hydrogeologic Conceptual Model
 - ▶ Numerical Modeling: calibration, baseline, model run scenarios
- ▶ Projects and Management Actions (TAC and PAC)
 - ▶ Recycled Water Study
 - ▶ Alternative Water Study
 - ▶ Conservation
 - ▶ Brackish Water Study

GSP Development Schedule (Key Topics)

- ▶ September – November 2018: Development of Modeling Scenarios of Management Actions
- ▶ October 2018: HCM, Water Balance, Historical Model Calibration Complete
- ▶ November 2018 – March 2019: Modeling of Management Action
- ▶ April 2019: Final Recommendations of Management Actions

Legal Allocation Concepts

Types and Priorities of Water Production Rights

- ▶ Federal Reserved Rights to the Military Base
- ▶ Overlying Rights – Right to Safe Yield
- ▶ Appropriative Rights – Right to Surplus
- ▶ Theoretical Effect of Overproduction
- ▶ Impact of other statutory language on water production rights priorities (domestic use v. irrigation and other use; police powers v. proprietary production rights.)

Impact of Water Production Constituting Adverse Possession (Invasion) of Safe Yield

- ▶ Prescriptive Rights
- ▶ Self Help Rights
- ▶ Federal Reserved Rights for the Military Base (Not Disturbed)
- ▶ Impact on New Overlying Production

Concepts (Techniques) Applied to Achieve Sustainability Concepts

- ▶ Transferability
- ▶ Ramp Down
- ▶ Required Water Production Reduction
- ▶ Creating and Allocating Costs of Supplemental Water

Next PAC Meeting

- ▶ Goals
- ▶ Review Findings
- ▶ Assignments

Discussion

Donna Thomas

From: Nick Panzer <nicholascpanzer@yahoo.com>
Sent: Saturday, August 18, 2018 6:58 AM
To: Donna Thomas
Cc: Tom Mulvihill; Peggy Breeden; Steve Johnson
Subject: PAC Meeting on September 6, 2018
Attachments: Questions for Jim Markman.docx

Donna

This is a reminder that I will miss the September 6 meeting due to a firm, out-of-town commitment that predates the adoption of our 2018 PAC meeting schedule. Tom Mulvihill will provisionally sit in for me—the provision being that Mr. Markman is able to address “allocation” as scheduled. Tom knows that he will have no vote, nor count toward a quorum, but may otherwise fully participate in the proceedings on my behalf.

Concerning Mr. Markman's presentation (facilitate discussion?) on “allocation,” I do not know what to expect from him given that we have not received an outline of his topic. Therefore, I have prepared the attached document, “Provisional Questions for Mr. Markman.” I label my questions “provisional” because I anticipate that Mr. Markman will answer them in the course of his direction. However, in the event that he does not so answer them, I wrote them out in case any PAC member or Tom wishes to address them to Mr. Markman. Please include the attached item in the advance agenda packet for our 9/6 meeting, along with this email explanation. Also, feel free to send these questions in advance to Mr. Markman (or any others, such as TAC) as you may deem appropriate.

Nick

Cc Breeden, Mulvihill, Johnson

Provisional Questions for Mr. Markman

September 6, 2018 PAC Meeting

by

Nick Panzer, PAC Member Representing Residential Customers of Public Water Agencies

In light of the following California Water Code (C), Regulation (R), and SB/AB Sections:

C106 General State Policy. It is hereby declared to be the established policy of this State that the use of water for domestic purposes is the highest use of water and that the next highest use is for irrigation.

C106.3.(a) General State Policy. It is hereby declared to be the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes.

C10720.1.(b) General Provisions. In enacting [SGMA], it is the intent of the Legislature to do all of the following:To enhance local management of groundwater consistent with rights to use or store groundwater.....It is the intent of the Legislature to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater.

R350.4(g) General Principles. The department shall consider the state policy regarding the human right to water when implementing these regulations.

SB 1168 Chapter 346, SECTION 1.(b)(4) and (5) and corresponding section of AB 1739. It is the intent of the Legislature to do all of the following:....To respect overlying and other proprietary rights to groundwater....To recognize and preserve the authority of cities and counties to manage groundwater pursuant to their police powers.

How much leeway does the GA have to prioritize groundwater uses (excepting federal uses) and implement GSP management actions (e.g., pumping allocations or progressive extraction fees) to enforce such priorities? For example:

1. May the GSP prioritize health and safety uses of groundwater at home and work (C106.3.(a) and R350.4(g) above) over "irrigation" uses of groundwater by **any** irrigation use sector such as residential, agricultural, governmental, and commercial (C106 above)?
2. How does "preserving the security of water rights in the state to the greatest extent possible consistent with sustainable management of groundwater" (C10720.1.(b) above) **square with** California's "human right to water" policies (C106, C106.3.(a), and R350.4(g) above)?
3. Do "city and county police powers" such as health and safety (SB1168 above) override "overlying and other proprietary rights to groundwater" (SB 1168 above)?

Groundwater Authority Board Members:

I, Rodney Stiefvater, hereby resign from the Indian Wells Valley Groundwater Authority Policy Advisory Committee (PAC) as a representative for Large Agriculture for Mojave Pistachios.

Joshua Nugent is my recommendation for the Large Agriculture representative for Mojave Pistachios on the PAC. Joshua has attended the PAC and Groundwater Authority meetings regularly and will be an advocate for the sustainable future of the Indian Wells Valley.

Thank you and feel free to contact me with any questions or concerns at my office (661) 829-5109 or through email: rod@rtsag.com.

Regards,


Rodney Stiefvater Date

Sustainable Management Criteria

INDIAN WELLS VALLEY GROUNDWATER AUTHORITY
Technical Advisory Committee Meeting

July 12, 2018

Stetson Engineers Inc.

Overview

- ▶ Sustainable Management Criteria
- ▶ Sustainability Indicators
- ▶ Undesirable Results
- ▶ Minimum Thresholds
- ▶ Measurable Objectives
- ▶ Interim Milestones
- ▶ Management Areas
- ▶ Sustainability Goal
- ▶ Key Takeaways

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Sustainable Management Criteria

- ▶ Sustainability Management Criteria: sustainability goal, undesirable results, minimum thresholds, and measurable objectives
- ▶ DWR Guidance:
<https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Best-Management-Practices-and-Guidance-Documents>

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Sustainability Indicators

- ▶ Effects caused by groundwater conditions
 - ▶ Chronic Lowering of Groundwater Levels
 - ▶ Reduction of Groundwater Storage
 - ▶ Seawater Intrusion
 - ▶ Degraded Water Quality
 - ▶ Land Subsidence
 - ▶ Depletion of Interconnected Surface Water

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Undesirable Results

- ▶ When any of the six sustainability indicators become “significant and unreasonable” the effects caused by the groundwater conditions become undesirable results
- ▶ DWR default position for GSP: all six sustainability indicators apply to every basin
- ▶ Evidence must be provided that an indicator does not exist and could not occur in basin (i.e. seawater intrusion for the Indian Wells Valley)

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Undesirable Results

- ▶ Required Components for description of undesirable results
 - ▶ The cause of groundwater conditions occurring that would lead to or has led to undesirable results based on information described in the basin setting
 - ▶ The criteria used to define when and where the effects of the groundwater conditions cause undesirable results (i.e. significant and unreasonable effects) for each applicable sustainability indicator.
 - ▶ Based on minimum threshold exceedances (discussed later)
 - ▶ The potential effects of the undesirable result on beneficial uses and users of groundwater, land uses, and property interests.

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Minimum Thresholds

- ▶ Quantitative value that represents groundwater conditions at a representative monitoring site
- ▶ Representative monitoring site:
 - ▶ Subset of complete monitoring network
 - ▶ Can be used for one sustainability indicator or multiple sustainability indicators
 - ▶ Only selected after determining what constitutes significant and unreasonable conditions in a basin.
- ▶ Minimum thresholds are established such that an undesirable result may occur if exceeded.
- ▶ Minimum thresholds must be set for each sustainability indicator

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Minimum Thresholds

- ▶ Required Components to document/establish minimum thresholds
 - ▶ Model information and basin setting information relied upon to justify threshold
 - ▶ Description of the relationship between minimum thresholds for different sustainability indicators
 - ▶ Description of how the selected minimum threshold will avoid causing undesirable results in adjacent basins or impact their sustainability
 - ▶ Description of how groundwater conditions at a selected minimum threshold could affect beneficial uses and users
 - ▶ Description of relevant standards that pertain to the sustainability indicator and justify any differences between the selected minimum threshold and those standards.
 - ▶ How each minimum threshold will be quantitatively measured (monitoring network)

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Minimum Thresholds: Metrics

Sustainability Indicators						
Metric(s) Defined in GSP Regulations	• Groundwater Elevation	• Total Volume	• Chloride concentration isocountour	• Migration of Plumes • Number of supply wells • Volume • Location of isocountour	• Rate and Extent of Land Subsidence	• Volume or rate of surface water depletion

Source: DWR

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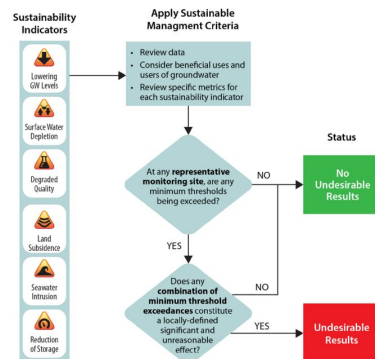
Minimum Thresholds: Groundwater Levels as Proxy

- ▶ Groundwater elevations can be used as a proxy metric for any (or potentially all) of the sustainability indicators when setting minimum thresholds
- ▶ Significant correlation between groundwater levels and the other metrics must be demonstrated
- ▶ Two Options:
 1. Demonstrate that setting a groundwater level minimum threshold satisfies the minimum threshold requirements for both chronic lowering of groundwater levels and other sustainability indicators at a given site.
 2. Use a groundwater level minimum threshold solely for establishing a threshold for another sustainability indicator, but not to satisfy the minimum threshold requirements for chronic lowering of groundwater.

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Applying Minimum Thresholds



Source: DWR

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Measurable Objectives

- ▶ Quantitative goals that reflect the basin's desired groundwater conditions
- ▶ Set for each sustainability indicator at the same representative monitoring sites and using the same metrics as minimum thresholds.
- ▶ Should be set so there is a reasonable margin of operational flexibility between the minimum threshold and measurable objective that will accommodate droughts, climate change, conjunctive use operations, or other groundwater management activities.

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Interim Milestones

- ▶ Defined in five-year increments at each representative monitoring site using the same metrics as the measurable objective
- ▶ Used by the Authority and the DWR to track progress toward meeting the basin's sustainability goal.

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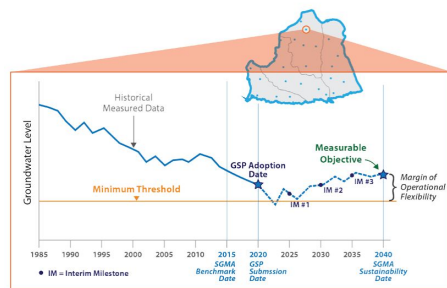
Management Areas

- ▶ The Authority can define either natural or jurisdictional boundaries as management areas
 - ▶ Based on either water use sector, water source, geology, or aquifer characteristics
- ▶ Management areas can have different minimum thresholds and different measurable objectives (must be justified to DWR)

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Relationship between Criteria



Source: DWR

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Sustainability Goal

- ▶ Qualitative description of the Authority's objectives and desired conditions of the groundwater basin, how the basin will get to that desired condition, and why the measures planned will lead to success.
- ▶ Can only be finalized after minimum thresholds and undesirable results have been defined, projects and management actions have been identified, and the projected impact of those projects and management actions on groundwater conditions have been evaluated.
- ▶ Completion of the sustainability goal will likely be one of the final components of GSP development.

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Key Takeaways

- ▶ Sustainable conditions within a basin are achieved when GSAs meet their sustainability goal and demonstrate the basin is being operated within its sustainable yield.
- ▶ Sustainability goal is met by avoiding undesirable results.
- ▶ The basin setting should be understood (Hydrogeological Conceptual Model) prior to defining the sustainable management criteria.
 - ▶ Scheduled to be completed October 2018
- ▶ Undesirable results must be eliminated through the implementation of projects and management actions.
- ▶ Establishing the sustainable management criteria will be an iterative process and finalized after the scenarios of management actions are modeled.
 - ▶ Modeling scheduled to begin November 2018

Thank You