

APPENDIX A
Preparation Checklist for GSP Submittal

****The column “Section(s) or Page Number(s) in the GSP” will be finalized after the final edits are complete.****

Appendix A - Preparation Checklist for GSP Submittal

GSP Regulation	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the
Article 3. Technical and Reporting Standards				
352.2		Monitoring Protocols	<ul style="list-style-type: none"> Monitoring protocols adopted by the GSA for data collection and management Monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, inelastic surface subsidence for basins for which subsidence has been identified as a potential problem, and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin 	
Article 5. Plan Contents, Subarticle 1. Administrative Information				
354.4		General Information	<ul style="list-style-type: none"> Executive Summary List of references and technical studies 	
354.6		Agency Information	<ul style="list-style-type: none"> GSA mailing address Organization and management structure Contact information of Plan Manager Legal authority of GSA Estimate of implementation costs 	
354.8(a)	10727.2(a)(4)	Map(s)	<ul style="list-style-type: none"> Area covered by GSP Adjudicated areas, other agencies within the basin, and areas covered by an Alternative Jurisdictional boundaries of federal or State land Existing land use designations Density of wells per square mile 	
354.8(b)		Description of the Plan Area	<ul style="list-style-type: none"> Summary of jurisdictional areas and other features 	
354.8(c)	10727.2(g)	Water Resource Monitoring and Management Programs	<ul style="list-style-type: none"> Description of water resources monitoring and management programs Description of how the monitoring networks of those plans will be incorporated into the GSP 	
354.8(d)				
354.8(e)			<ul style="list-style-type: none"> Description of how those plans may limit operational flexibility in the basin Description of conjunctive use programs 	

Appendix A - Preparation Checklist for GSP Submittal

354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	<ul style="list-style-type: none"> · Summary of general plans and other land use plans · Description of how implementation of the GSP may change water demands or affect achievement of sustainability and how the GSP addresses those effects · Description of how implementation of the GSP may affect the water supply assumptions of relevant land use plans · Summary of the process for permitting new or replacement wells in the basin · Information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management
354.8(g)	10727.4	Additional GSP Contents	<p>Description of Actions related to:</p> <ul style="list-style-type: none"> · Control of saline water intrusion · Wellhead protection · Migration of contaminated groundwater · Well abandonment and well destruction program · Replenishment of groundwater extractions · Conjunctive use and underground storage · Well construction policies · Addressing groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects · Efficient water management practices · Relationships with State and federal regulatory agencies · Review of land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity

Appendix A - Preparation Checklist for GSP Submittal

		<ul style="list-style-type: none"> · Impacts on groundwater dependent ecosystems
354.1	Notice and Communication	<ul style="list-style-type: none"> · Description of beneficial uses and users · List of public meetings · GSP comments and responses · Decision-making process · Public engagement · Encouraging active involvement · Informing the public on GSP implementation progress
Article 5. Plan Contents, Subarticle 2. Basin Setting		
354.14	Hydrogeologic Conceptual Model	<ul style="list-style-type: none"> · Description of the Hydrogeologic Conceptual Model · Two scaled cross-sections · Map(s) of physical characteristics: topographic information, surficial geology, soil characteristics, surface water bodies, source and point of delivery for imported water supplies
354.14(c)(10727.2(a)(5)	Map of Recharge Areas	<ul style="list-style-type: none"> · Map delineating existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas
10727.2(d)(4)	Recharge Areas	<ul style="list-style-type: none"> · Description of how recharge areas identified in the plan substantially contribute to the replenishment of the basin
354.16	10727.2(a)(1) 10727.2(a)(2) Current and Historical Groundwater Conditions	<ul style="list-style-type: none"> · Groundwater elevation data · Estimate of groundwater storage · Seawater intrusion conditions · Groundwater quality issues · Land subsidence conditions · Identification of interconnected surface water systems · Identification of groundwater-dependent ecosystems
354.18	10727.2(a)(3) Water Budget Information	<ul style="list-style-type: none"> · Description of inflows, outflows, and change in storage · Quantification of overdraft · Estimate of sustainable yield · Quantification of current, historical, and projected water budgets
10727.2(d)(5)	Surface Water Supply	<ul style="list-style-type: none"> · Description of surface water supply used or available for use for groundwater recharge or in-lieu use
354.2	Management Areas	<ul style="list-style-type: none"> · Reason for creation of each management area

			<ul style="list-style-type: none"> · Minimum thresholds and measurable objectives for each management area · Level of monitoring and analysis · Explanation of how management of management areas will not cause undesirable results outside the management area · Description of management areas
Article 5. Plan Contents, Subarticle 3. Sustainable Management Criteria			
354.24		Sustainability Goal	<ul style="list-style-type: none"> · Description of the sustainability goal
354.26		Undesirable Results	<ul style="list-style-type: none"> · Description of undesirable results · Cause of groundwater conditions that would lead to undesirable results · Criteria used to define undesirable results for each sustainability indicator · Potential effects of undesirable results on beneficial uses and users of groundwater
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	<ul style="list-style-type: none"> · Description of each minimum threshold and how they were established for each sustainability indicator · Relationship for each sustainability indicator · Description of how selection of the minimum threshold may affect beneficial uses and users of groundwater · Standards related to sustainability indicators · How each minimum threshold will be quantitatively measured
354.3	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measureable Objectives	<ul style="list-style-type: none"> · Description of establishment of the measureable objectives for each sustainability indicator · Description of how a reasonable margin of safety was established for each measureable objective · Description of a reasonable path to achieve and maintain the sustainability goal, including a description of interim milestones
Article 5. Plan Contents, Subarticle 4. Monitoring Networks			
354.34	10727.2(d)(1) 10727.2(d)(2)	Monitoring Networks	<ul style="list-style-type: none"> · Description of monitoring network · Description of monitoring network objectives

10727.2(e)	<ul style="list-style-type: none"> · Description of how the monitoring network is designed to: demonstrate groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features; estimate the change in annual groundwater in storage; monitor seawater intrusion; determine groundwater quality trends; identify the rate and extent of land subsidence; and calculate depletions of surface water caused by groundwater extractions 	
10727.2(f)	<ul style="list-style-type: none"> · Description of how the monitoring network provides adequate coverage of Sustainability Indicators · Density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends · Scientific rationale (or reason) for site selection · Consistency with data and reporting standards · Corresponding sustainability indicator, minimum threshold, measurable objective, and interim milestone · Location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used · Description of technical standards, data collection methods, and other procedures or protocols to ensure comparable data and methodologies 	
354.36	<p>Representative Monitoring</p>	<ul style="list-style-type: none"> · Description of representative sites · Demonstration of adequacy of using groundwater elevations as proxy for other sustainability indicators

		<ul style="list-style-type: none"> · Adequate evidence demonstrating site reflects general conditions in the area
354.38	Assessment and Improvement of Monitoring Network	<ul style="list-style-type: none"> · Review and evaluation of the monitoring network · Identification and description of data gaps · Description of steps to fill data gaps · Description of monitoring frequency and density of sites
Article 5. Plan Contents, Subarticle 5. Projects and Management Actions		
354.44	Projects and Management Actions	<ul style="list-style-type: none"> · Description of projects and management actions that will help achieve the basin's sustainability goal · Measureable objective that is expected to benefit from each project and management action · Circumstances for implementation · Public noticing · Permitting and regulatory process · Time-table for initiation and completion, and the accrual of expected benefits · Expected benefits and how they will be evaluated · How the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included. · Legal authority required · Estimated costs and plans to meet those costs · Management of groundwater extractions and recharge
354.44(b)(. 10727.2(d)(3)		<ul style="list-style-type: none"> · Overdraft mitigation projects and management actions
Article 8. Interagency Agreements		

357.4	10727.6	<p>Coordination Agreements - Shall be submitted to the Department together with the GSPs for the basin and, if approved, shall become part of the GSP for each participating Agency.</p>	<p>Coordination Agreements shall describe the following:</p> <ul style="list-style-type: none"> · A point of contact · Responsibilities of each Agency · Procedures for the timely exchange of information between Agencies · Procedures for resolving conflicts between Agencies · How the Agencies have used the same data and methodologies to coordinate GSPs · How the GSPs implemented together satisfy the requirements of SGMA · Process for submitting all Plans, Plan amendments, supporting information, all monitoring data and other pertinent information, along with annual reports and periodic evaluations · A coordinated data management system for the basin · Coordination agreements shall identify adjudicated areas within the basin, and any local agencies that have adopted an Alternative that has been accepted by the Department
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APPENDIX B
GSA Formation Documents



June 10, 2019

To Whom It May Concern,

Subject: Stakeholder Advisory Group Meeting, West San Jacinto Groundwater Management Area

Dear Sir/Ma'am:

Eastern Municipal Water District (EMWD) staff will hold a meeting to review and discuss comments for the West San Jacinto Groundwater Management Area 2018 Annual Report (2018 Annual Report), provide an update of the West San Jacinto Groundwater Sustainability Agency (GSA) Groundwater Sustainability Plan (GSP) development and discuss the project status for the Perris II Reverse Osmosis Treatment Facility (ROTF). The 2018 Annual Report summarizes data collected from well owners participating in the Groundwater Monitoring Program within the Management Area. The West San Jacinto GSA is developing a GSP to address management of the sustainability indicators prescribed by the Department of Water Resources. The Perris II ROTF project will discuss compliance with Proposition I funding as well as solicit feedback from the Stakeholder Group. We invite you to attend and appreciate your continued participation for the programs within the West San Jacinto Groundwater Management Area. The date/time and location of the meeting is shown below. Please contact us at your convenience if you have any questions or concerns. My contact information is grayr@emwd.org or 951-928-3777 x4514.

When: June 26, 2019, at 11:00 a.m.

Where: EMWD Board Room, 2270 Trumble Road, Perris, California, 92572

Sincerely,

Rachel M. Gray
Water Resources Planning Manager

Board of Directors
Ronald W. Sullivan, *President* Philip E. Paule, *Vice President* Stephen J. Corona Randy A. Record David J. Slawson

2270 Trumble Road • P.O. Box 8300 • Perris, CA 92572-8300

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**ACTION**

Board of Directors
April 17, 2019

SUBJECT:

Approve and Authorize West San Jacinto and Southwest San Timoteo Groundwater Basins Boundary Modifications

BACKGROUND:

The Sustainable Groundwater Management Act (SGMA) was signed into law on September 16, 2014. The intent of SGMA is to promote sustainable management of groundwater basins. SGMA requires that medium and high priority basins be managed by a Groundwater Sustainability Agency (GSA), and grants new and additional groundwater management authorities to GSAs. On December 7, 2016, EMWD's Board approved Resolution 2016-135 to become the GSA for the West San Jacinto Groundwater Basin. On June 7, 2017, EMWD's Board approved Resolution 2017-050 to become the GSA for the Southwest San Timoteo Groundwater Sub-basin.

Groundwater basin boundaries throughout California are established based on the limits of alluvial aquifers, and are described in a publication produced by the Department of Water Resources (DWR) called "Bulletin 118 California's Groundwater" (Bulletin 118). With the passage of SGMA, the basin boundaries described in Bulletin 118 have taken on greater significance. The San Jacinto Groundwater Basin, as defined in Bulletin 118 (Basin No. 8-005), has been identified by DWR as a "high priority" basin, making it subject to more aggressive deadlines in the SGMA regulations. The San Timoteo Groundwater Sub-basin, as defined in Bulletin 118 (Basin No. 8-002.08), has recently been reassigned by DWR as a "very low priority" basin and management action is voluntary based on the SGMA regulations.

SGMA established a process for local agencies to revise the boundaries of an existing Bulletin 118 basin to better represent the local groundwater aquifer and enhance management of the basin. EMWD submitted Bulletin 118 basin boundary modification requests to DWR for both the San Jacinto Groundwater Basin and the San Timoteo Groundwater Sub-basin before the June 30, 2019, deadline. The basin boundary modification requests were based on scientific justification that most accurately defined the sedimentary basin relative to the well-consolidated bedrock within and surrounding the exiting basin boundaries.

DWR finalized the approved basin boundary results on February 11, 2019. The San Timoteo Groundwater Sub-basin boundary modification request was fully approved by DWR. As such, the area encompassing the Southwest San Timoteo GSA has been removed from the sub-basin boundary. The Board is being requested to consider withdrawal of EMWD as the Southwest San Timoteo GSA because this sub-basin is no longer within EMWD's sphere of influence. The San Jacinto Groundwater Basin boundary modification request was approved in all areas except

the area encompassing Lake Perris. As a result of the basin boundary modification approval, the West San Jacinto GSA will be revised to reflect the modifications approved by DWR. The Board is also being requested to consider approval of the revised West San Jacinto GSA area, which excludes adjudicated areas of the basin and March Air Reserve Base.

FINANCIAL IMPACT:

None

STRATEGIC PLANNING GOAL/OBJECTIVE:

Water Supply Diversity and Reliability: Develop and implement a portfolio of projects and management techniques to achieve a reliable and cost-effective balance of water supplies utilizing imported, local and recycled water sources.

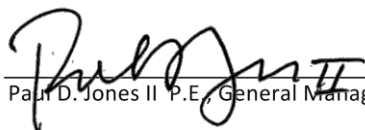
ENVIRONMENTAL IMPACT:

None

RECOMMENDATION:

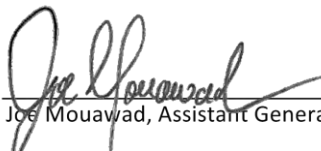
Approve and Amend Resolution 2016-135 to revise the West San Jacinto Groundwater Sustainability Agency Area to be consistent with the basin boundary modification as approved by DWR; and Rescind Resolution 2017-050 and withdraw EMWD as the Southwest San Timoteo Groundwater Sustainability Agency for the San Timoteo Sub-basin.

SUBMITTED BY:



Paul D. Jones II, P.E., General Manager

4/4/2019



Joe Mouawad, Assistant General Manager

3/28/2019

Attachment(s):

Presentation

History:

04/11/19 Board Planning Committee RECOMMENDED FOR APPROVAL
04/17/19 Board Meeting

Staff Contact: Rachel Gray

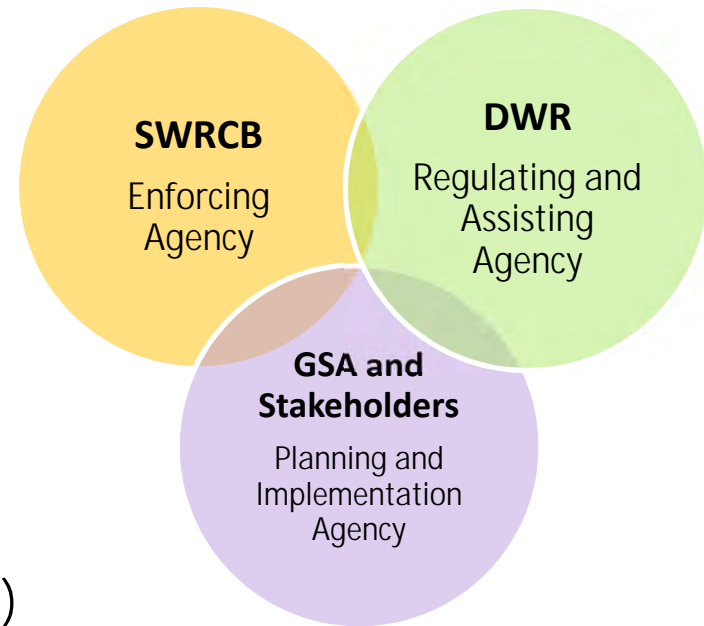


West San Jacinto and Southwest San Timoteo Groundwater Basins Boundary Modifications

Rachel M. Gray
April 11, 2019

Sustainable Groundwater Management Act

- The Sustainable Groundwater Management Act (SGMA) was signed into law on September 16, 2014
 - Purpose of SGMA: Sustainable management of groundwater in a manner that does not cause undesirable results
- SGMA grants new and additional groundwater management authorities to Groundwater Sustainability Agencies (GSA)
- On December 7, 2016, EMWD’s Board approved Resolution 2016-135 to become the GSA for the West San Jacinto Basin
- On June 7, 2017, EMWD’s Board approved Resolution 2017-050 to become the GSA for the Southwest San Timoteo Groundwater Sub-basin

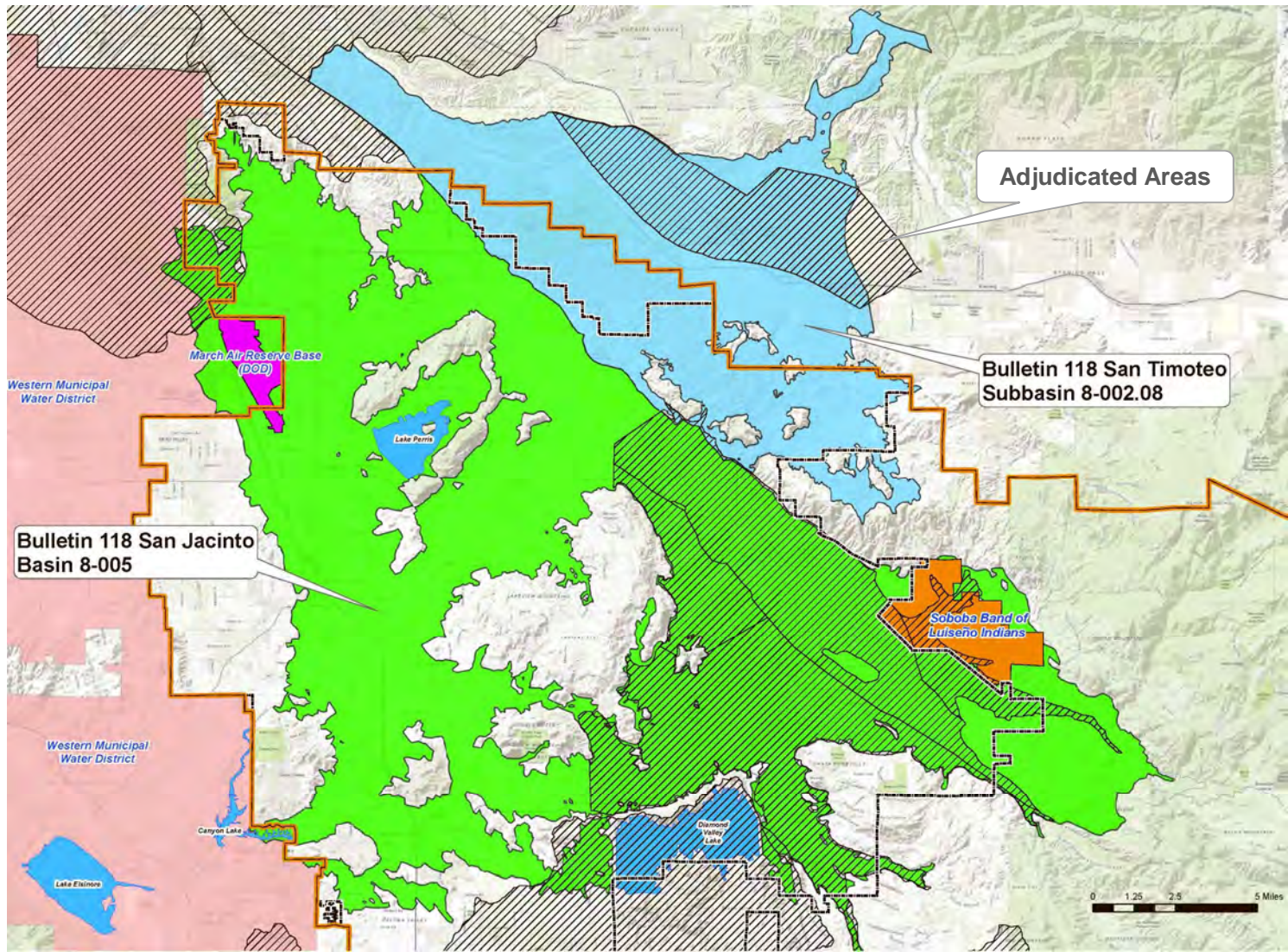


Bulletin 118 and the Sustainable Groundwater Management Act

- Existing groundwater basin boundaries are defined in DWR’s Bulletin 118 California’s Groundwater
- The San Jacinto Groundwater Basin, as defined in Bulletin 118 (Basin No. 8-005), is a “high priority” basin
- The San Timoteo Groundwater Subbasin, as defined in Bulletin 118 (Basin No. 8-002.08), has recently been assigned as a “very low priority” basin
- SGMA established a process for local agencies to revise the boundaries of an existing Bulletin 118 basin to better represent the local groundwater aquifer
- In June 2018, EMWD submitted Bulletin 118 Boundary modifications for the San Jacinto and San Timoteo Basins

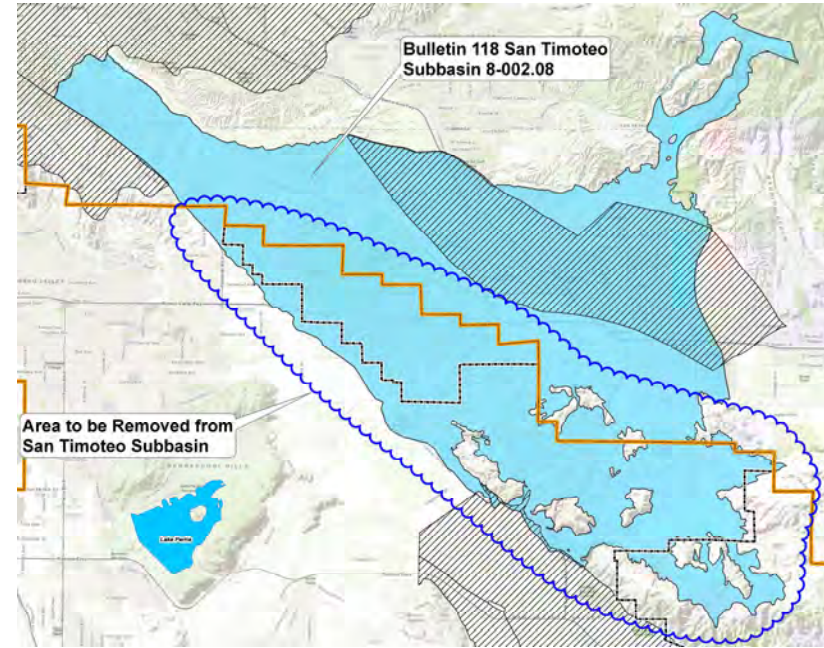
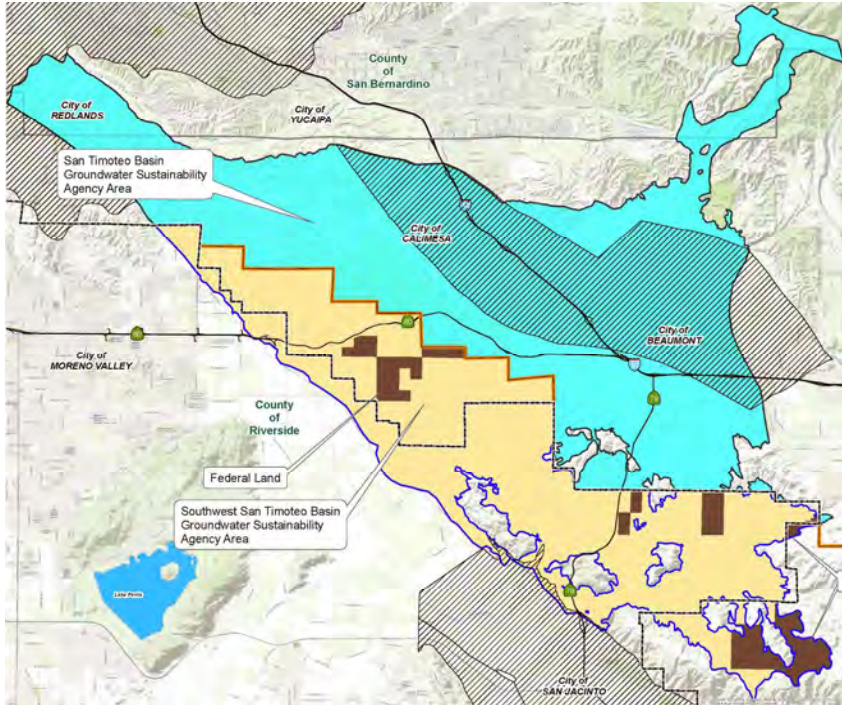


Existing San Jacinto and San Timoteo Bulletin 118 Groundwater Basin Boundaries



San Timoteo Groundwater Bulletin 118 Boundary Modification Basin Boundary Adjustment Area

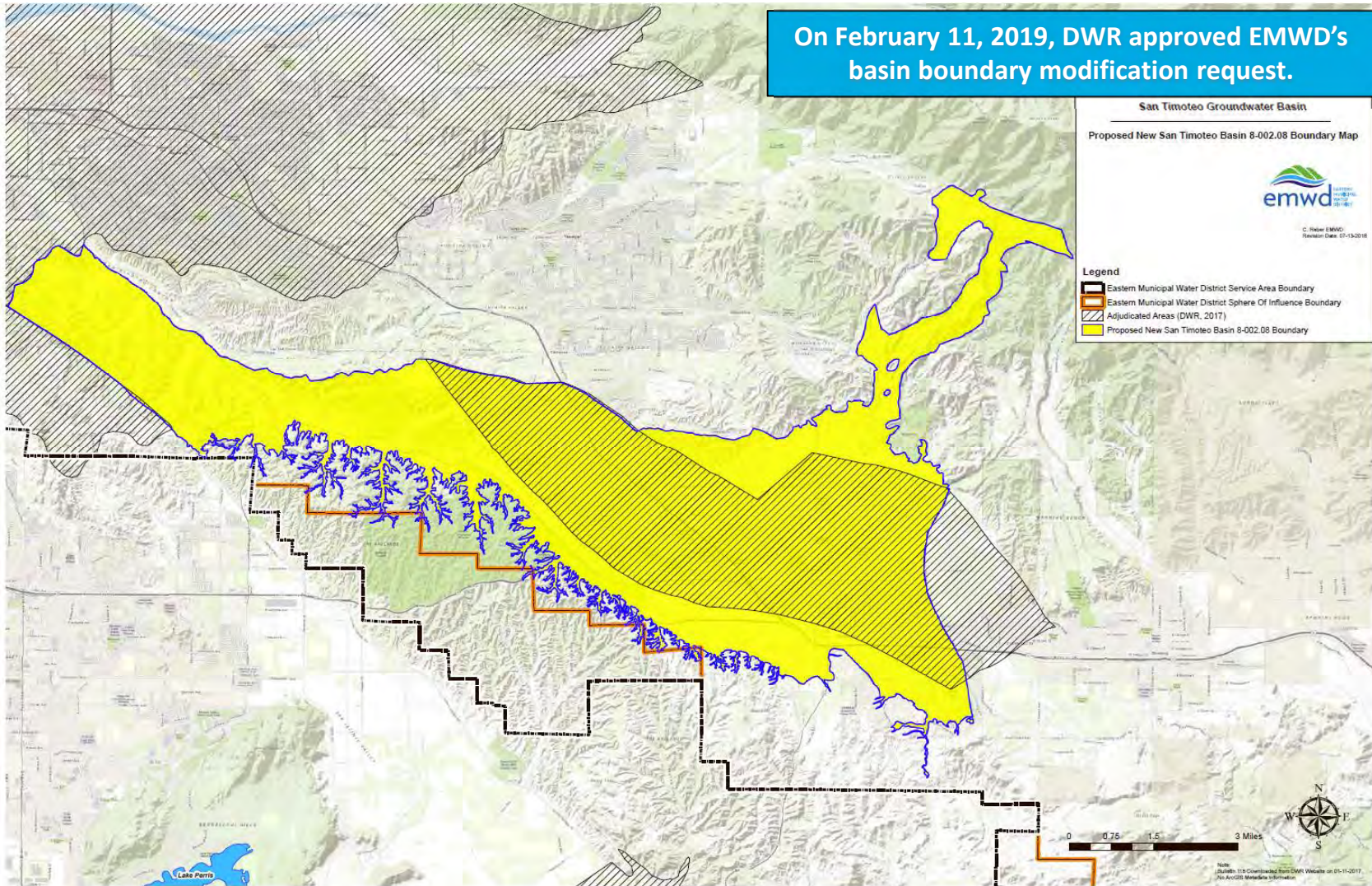
- Given the modified boundary of the Southwest San Timoteo Sub-basin, the basin is no longer within EMWD’s sphere of influence and therefore the District can no longer be a GSA



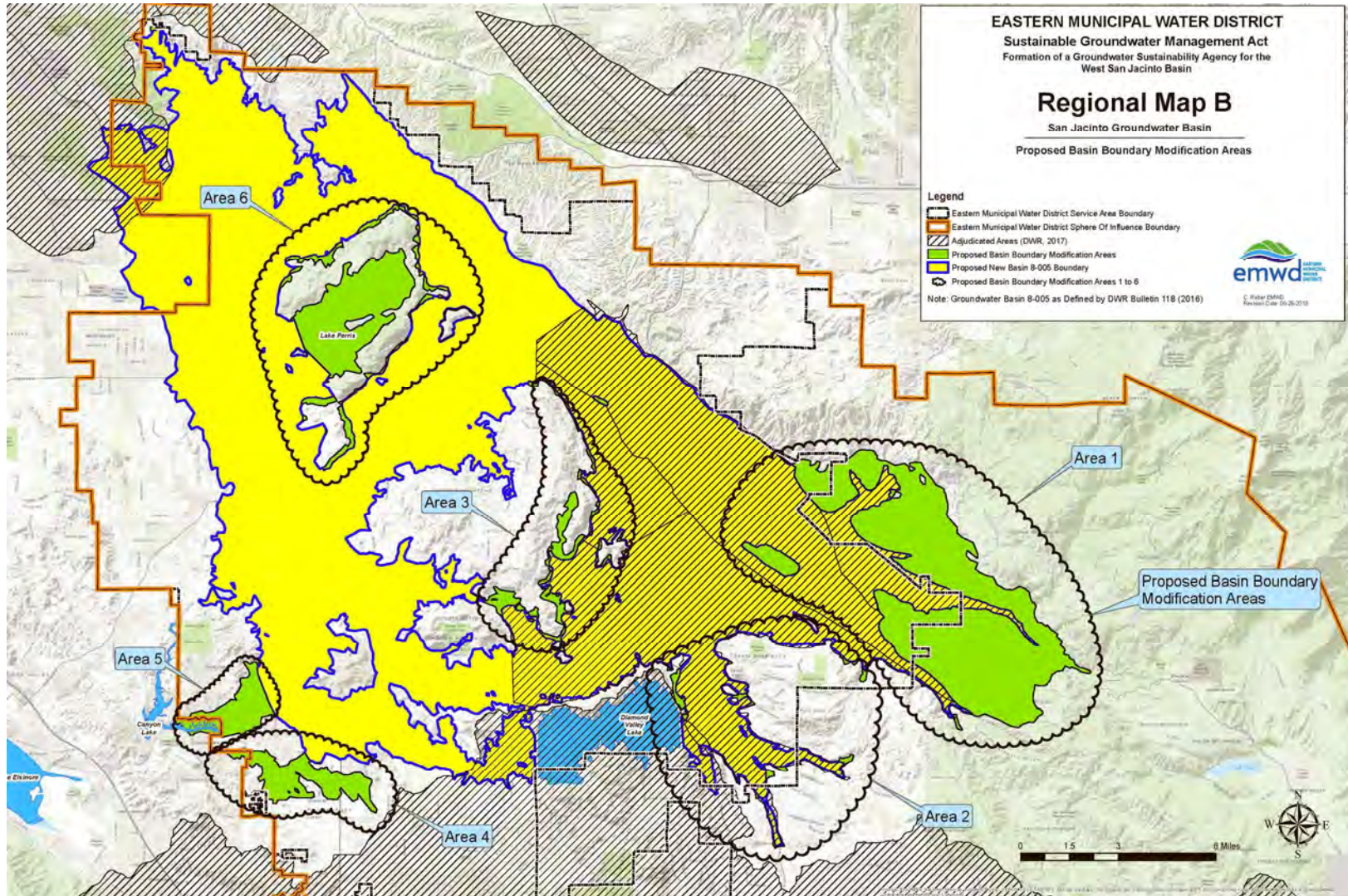
- In addition, preparation of a GSP for the Southwest San Timoteo Sub-basin is not anticipated due to a DWR ranking of “very low priority”



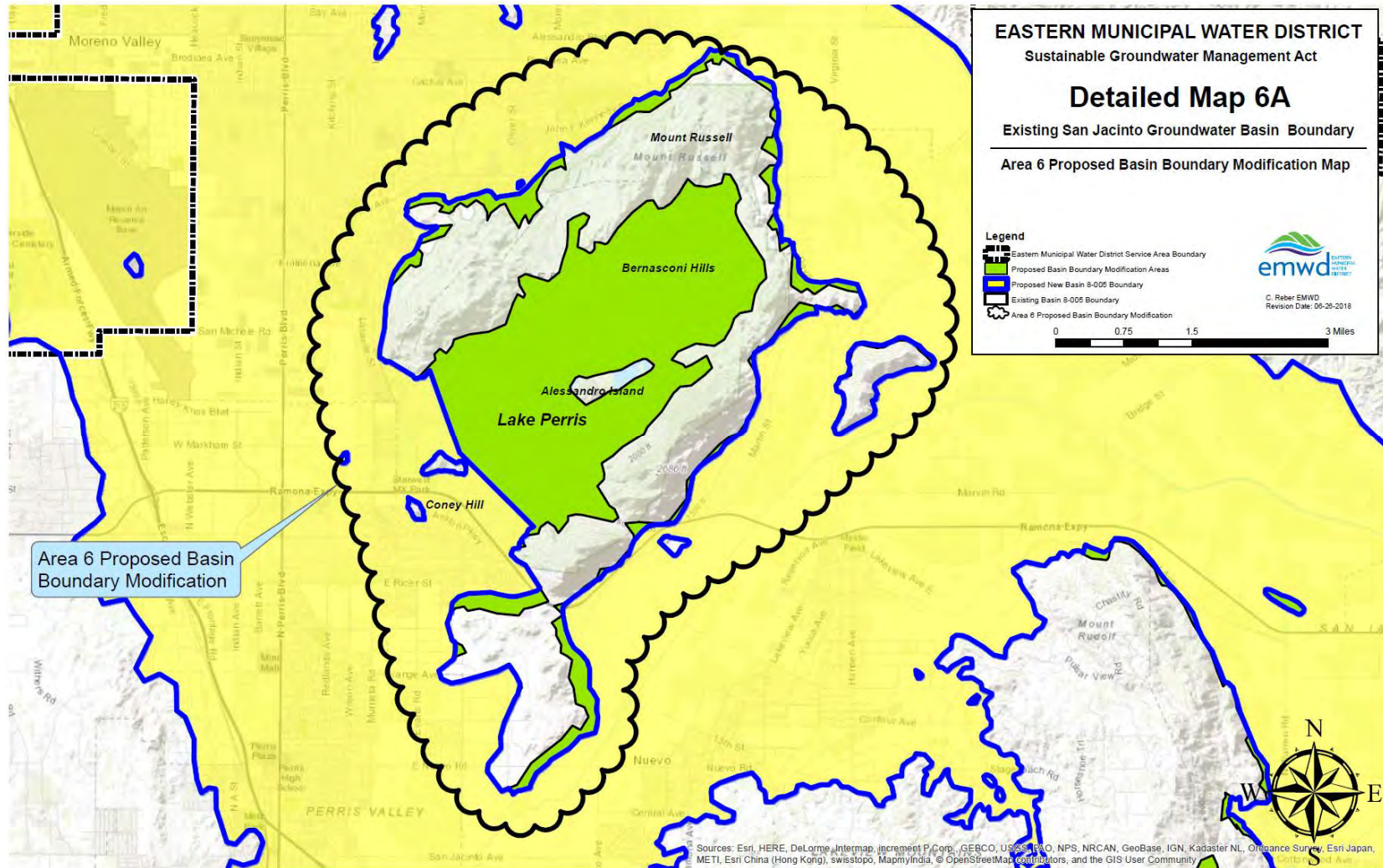
San Timoteo Groundwater Bulletin 118 Boundary Modification Revised San Timoteo Sub-basin Boundary



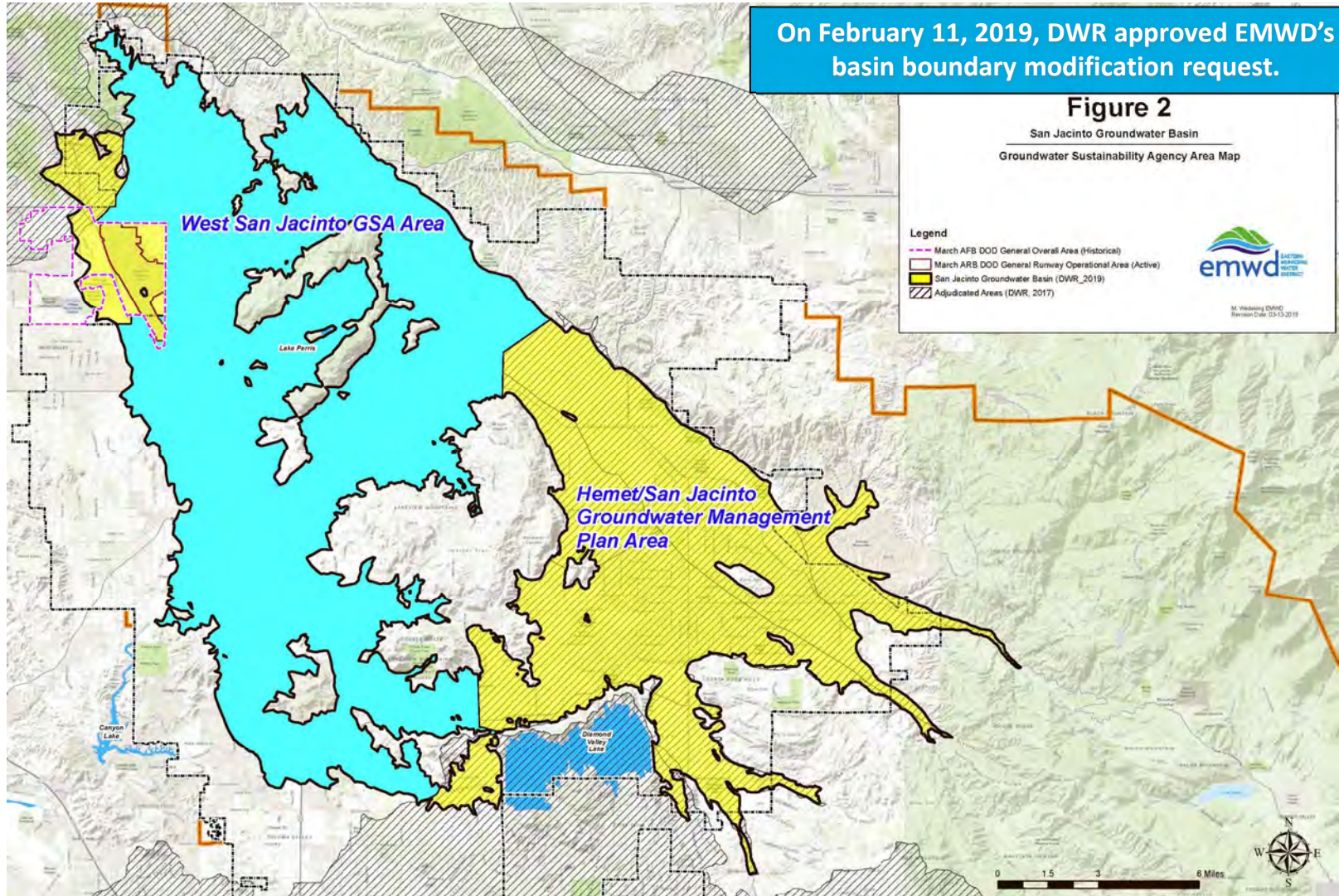
San Jacinto Groundwater Bulletin 118 Boundary Modification Basin Boundary Adjustment Areas



Area 6 – One Area was Not Approved



San Jacinto Groundwater Bulletin 118 Boundary Modification Revised San Jacinto Basin Boundary and West San Jacinto GSA Area



Recommendations

- Amend Resolution 2016-135 to revise the area shown for the West San Jacinto Groundwater Sustainability Agency Area to be consistent with the basin boundary modification as approved by DWR, excluding adjudicated areas and MARB; and
- Rescind Resolution 2017-050 and withdraw EMWD as the Southwest San Timoteo Groundwater Sustainability Agency for the San Timoteo Sub-basin.



Contact Information

Rachel M. Gray
Water Resources Planning Manager
(951) 928-3777 Ext. 4514

Email: grayr@emwd.org

Initial Notification of Potential Basin Boundary Modification Request

PRINT VIEW OF INITIAL NOTIFICATION

1. LOCAL AGENCY INFORMATION

Name:	Eastern Municipal Water District		
Address:	2270 Trumble Road		
City:	Perris	Zip:	92572
Phone(Work):	(951) 928-3777	Phone(Cell):	
Email:	grayr@emwd.org	Fax:	

2. LOCAL AGENCY POINT OF CONTACT INFORMATION

Name:	Rachel Gray		
Address:	2270 Trumble Road		
City:	Perris	Zip:	92572-8300
Phone(Work):	951-928-3777	Phone(Cell):	
Email:	grayr@emwd.org		

3. LINKS TO LOCAL AGENCY'S INTERNET WEBSITE

General information regarding potential basin boundary modification process is posted or will be posted.

<https://www.emwd.org/>

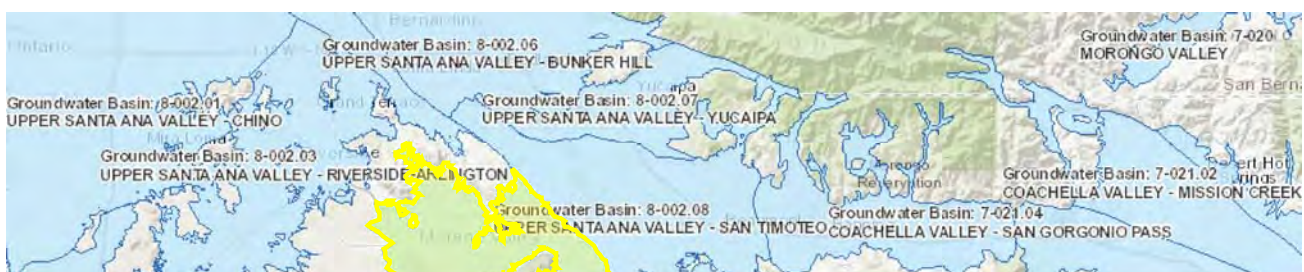
4. BRIEF DESCRIPTION OF POTENTIAL BASIN BOUNDARY MODIFICATION REQUEST

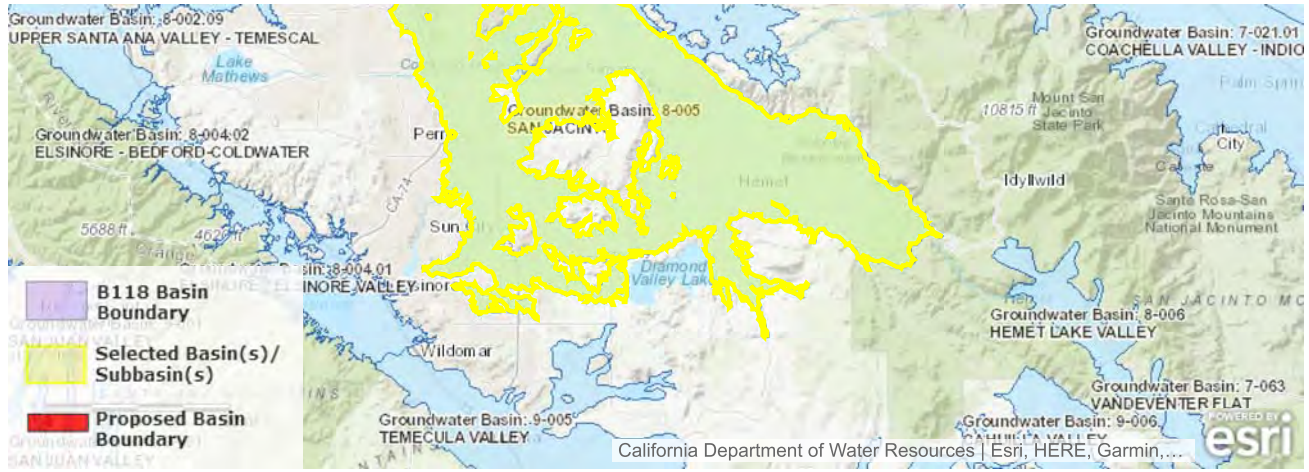
The West San Jacinto Groundwater Sustainability Agency (WSJGSA) for the western portion of the San Jacinto Groundwater Basin is the Eastern Municipal Water District (EMWD). Please be advised that the WSJGSA intends to request modifications of the boundary of the San Jacinto Groundwater Basin, Department of Water Resources (DWR) Bulletin 118 Basin No. 8-005 (Basin). The modification request is to eliminate areas of the existing Basin that lack viability and/or contribution to the local groundwater aquifer system. The modified boundary will cover areas underlain by permeable materials capable of providing significant quantities of groundwater to wells; eliminate areas underlain by the consolidated bedrock described as having very low water-yielding capability; and exclude areas that do not align with the DWR's definition of an alluvial basin. The proposed Basin boundary will coincide with the surface extent of unconsolidated young alluvium, old alluvium, alluvial fan, valley fill deposits, and other geologic formations having well understood and documented groundwater significance as mapped by the California Geological Survey. The proposed modification will not impact the sustainable management of the Basin because the areas identified for removal do not provide a significant source of water nor significant volumes of groundwater and there is no current or planned use for these areas that would constitute a significant contribution to water resources.

5. POTENTIAL BASIN(S)/SUBBASIN(S)

8-005 SAN JACINTO

6. MAP OR DOCUMENT OF POTENTIAL BASIN BOUNDARY MODIFICATION





Uploaded document: n/a

Created on 04/26/2018 at 7:53AM, last modified on 06/19/2018 at 8:05AM and page generated on 06/19/2018 at 8:05AM

RESOLUTION NO. 2018-082

A RESOLUTION OF THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT INITIATING A BASIN BOUNDARY MODIFICATION REQUEST FOR THE SAN JACINTO BASIN

WHEREAS, the Sustainable Groundwater Management Act of 2014 established a process for local agencies to request that the California Department of Water Resources revise the boundaries of exiting groundwater basins or subbasins as defined by California Department of Water Resources Bulletin 118, including the establishment of a new subbasin; and

WHEREAS, the Basin Boundary Emergency Regulation was developed through an extensive stakeholder outreach process and was adopted by the California Water Commission on October 21, 2015, and the provisions of which went into effect on November 16, 2015; and

WHEREAS, Eastern Municipal Water District overlies the San Jacinto Basin; and

WHEREAS, the Eastern Municipal Water District became the Groundwater Sustainability Agency over the western portion of the San Jacinto Basin; and

WHEREAS, Eastern Municipal Water District conducted an evaluation of existing mapping and descriptions for the Bulletin 118 San Jacinto Basin boundary and identified scientific justification to modify the boundaries of the San Jacinto Basin to align with the West San Jacinto Groundwater Sustainability Agency boundary and the Management Area of the Hemet-San Jacinto Watermaster on the east side, and wishes to file an application to address those issues for the purpose of facilitating regional groundwater management and planning; and

WHEREAS, the proposed boundary modification is consistent with the provisions of the Sustainable Groundwater Management Act of 2014.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

1. Each of the above recitals is true and correct.
2. That an application be made to the California Department of Water Resources to modify the Bulletin 118 boundary of the San Jacinto Basin.
3. The General Manager, and/or his designee, is hereby authorized and directed to collect the available data and prepare and submit such an application with the California Department of Water Resources.

4. This Resolution shall be effective upon its adoption.

DATED: June 20, 2018

/s/David J. Slawson
David J. Slawson, President

I hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by the Board of Directors of the Eastern Municipal Water District at its meeting held on June 20, 2018.

ATTEST:

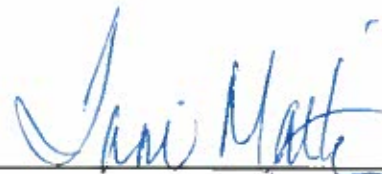
/s/Tami Martinez
Tami Martinez, Deputy Board Secretary

(SEAL)

STATE OF CALIFORNIA)
)ss.
COUNTY OF RIVERSIDE)

I, TAMI MARTINEZ, Deputy Secretary to the Board of Directors of Eastern Municipal Water District, do hereby certify that the foregoing **Resolution** was duly adopted by the Board of Directors of said District at the Regular Meeting of said Board held on the 20th day of June 2018, and that it was so adopted by the following vote:

AYES: Directors, Record, Paule, Slawson, Sullivan, and Kuebler
NOES: None
ABSTAIN: None
ABSENT: None



Tami Martinez, Deputy Secretary of the
Eastern Municipal Water District
and to the Board of Directors thereof

STATE OF CALIFORNIA)
)ss.
COUNTY OF RIVERSIDE)

I, TAMI MARTINEZ Deputy Secretary to the Board of Directors of Eastern Municipal Water District, do hereby certify that the above and foregoing is a full, true and correct copy of **Resolution No. 2018-082** of said Board, and that the same has not been amended or repealed.

DATE: June 20, 2018



Tami Martinez, Deputy Secretary of the
Eastern Municipal Water District
and to the Board of Directors thereof

(SEAL)

Groundwater Sustainability Agency Update and Bulletin 118 Boundary Modification

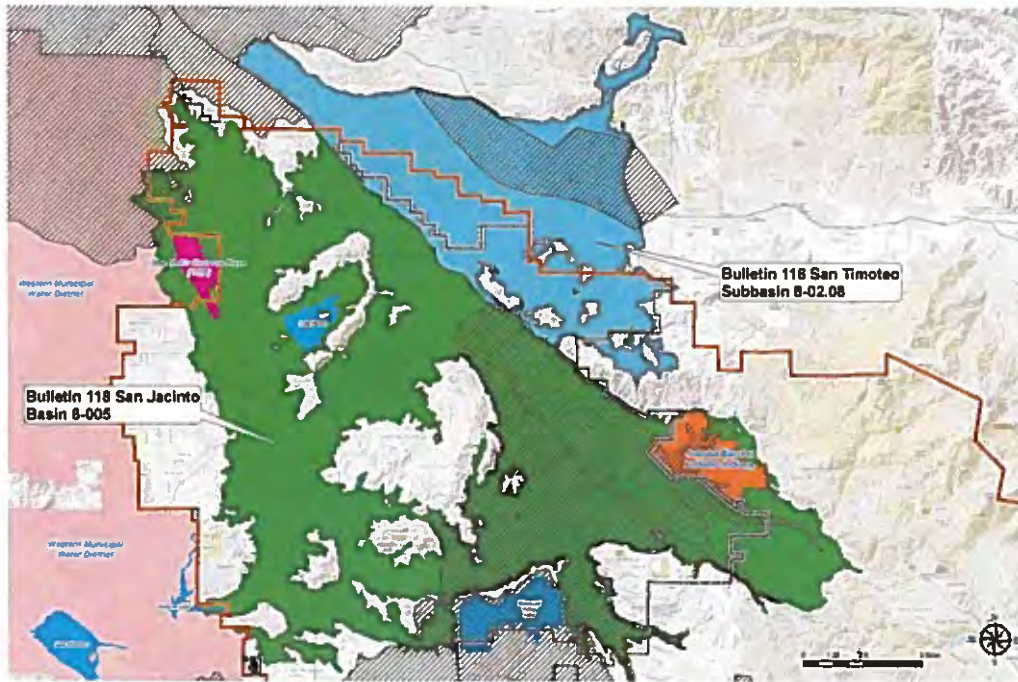
Kelley Gage
Brian Powell, P.E.
June 20, 2018

Sustainable Groundwater Management Act

- The Sustainable Groundwater Management Act (SGMA) was signed into law on September 16, 2014
 - Purpose of SGMA: Sustainable management of groundwater in a manner that does not cause undesirable results
- SGMA grants new and additional groundwater management authorities to Groundwater Sustainability Agencies (GSA)
- Eastern Municipal Water District (EMWD) became the GSA for the West San Jacinto Basin and Southwest San Timoteo Groundwater Basins in 2017



Existing San Jacinto and San Timoteo Bulletin 118 Groundwater Basin Boundaries



San Jacinto Basin – Stakeholder Involvement

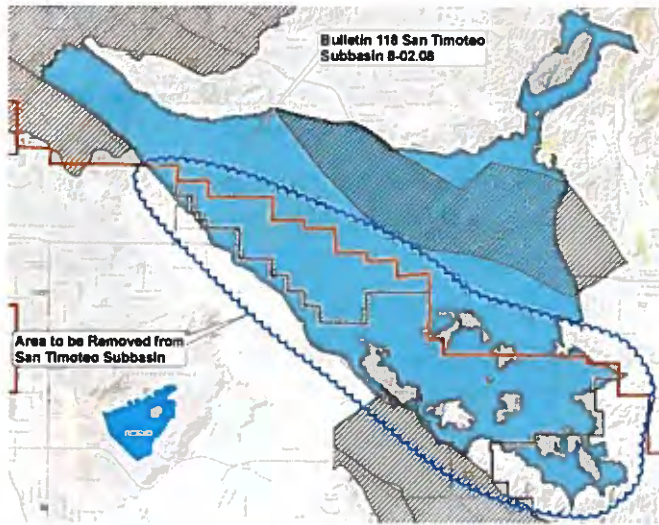


- As required by SGMA, EMWD invited stakeholders to a workshop to discuss EMWD’s proposed Bulletin 118 Boundary Modification and GSP preparation for the West San Jacinto Basin
- Stakeholders to the West San Jacinto GSA area and to the Watermaster area were invited to a workshop that was held on May 31, 2018
- Three stakeholders and one staff member from DWR attended
- All supported EMWD’s proposed actions

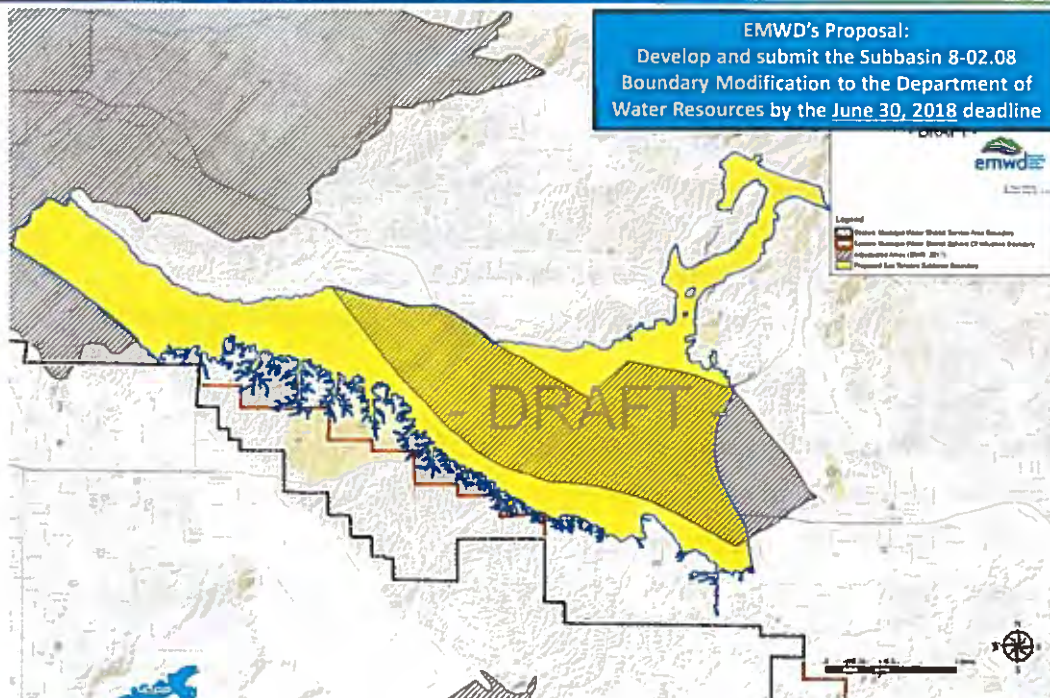


Southwest San Timoteo Groundwater Basin Bulletin 118 Proposed Boundary Modifications

- Proposed Southwest San Timoteo Subbasin boundary modifications will provide better alignment with aquifer
- Coordination on boundary modifications with subbasin stakeholders and DWR on-going
- Revised boundary may result in EMWD no longer being GSA in the San Timoteo Subbasin
- Preparation of a GSP for the San Timoteo Subbasin is not anticipated due to “very low priority” ranking



San Timoteo Groundwater Bulletin 118 Boundary Modification Proposed San Timoteo Subbasin Boundary



Recommendation

Adopt the proposed Resolutions which authorize the General Manager, and/or his designee, to prepare the necessary data, conduct investigations, and file such applications with the California Department of Water Resources to modify the boundaries of the San Jacinto Basin and San Timoteo Subbasin as defined in Bulletin 118.



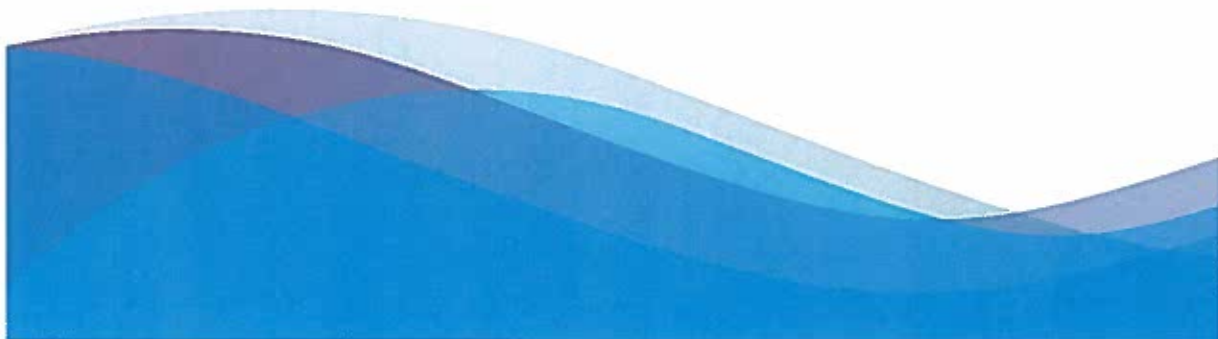
Contact Information

Kelley Gage
Senior Director of Water Resources
Planning
(951) 928-3777 Ext. 4561

Email: gagek@emwd.org

Brian Powell, P.E.
Director of Groundwater Management
and Facilities Planning
(951) 928-3777 Ext. 4278

Email: powellb@emwd.org



Groundwater Management Plan (Plan) in 1995. This Plan has been supported extensively throughout the management area and will serve as the foundation for the development and implementation of the Groundwater Sustainability Plan (GSP).

In accordance with Water Code Section 10723.2, the District conducted an extensive public outreach effort to ensure that the interests of all beneficial uses and users of groundwater would be considered in the formation of the GSA and development and implementation of the GSP. A list of all potential stakeholders was developed and used to conduct several one-on-one meetings with integral entities within the proposed GSA area to inform and build consensus for the District's intent to form a GSA for the western portion of the San Jacinto Groundwater Basin. In addition, the District held a public workshop concerning the formation of the GSA on September 27, 2016. Courtesy notices of this public workshop were mailed to:

- Box Springs Mutual Water Company
- California Department of Fish and Wildlife
- California Department of Water Resources
- City of Canyon Lake
- City of Menifee
- City of Moreno Valley
- City of Perris
- County of Riverside
- Edgemont Community Services District
- Elsinore Valley Municipal Water District
- Highland Fairview Properties
- Lake Elsinore and San Jacinto Watersheds Authority
- March Air Reserve Base, Department of Defense
- March Joint Powers Commission
- Mead Valley Municipal Advisory Council
- Metropolitan Water District of Southern California
- Motte Mutual Water Company
- Nuevo Water Company
- Private Groundwater Producers
- Regional Water Quality Control Board, Santa Ana Region
- Riverside County Flood Control and Conservation District
- San Jacinto River Watershed Council
- Santa Ana River Watermaster
- Santa Ana Watershed Project Authority
- Santa Margarita River Watermaster
- United States Army Corps of Engineers
- Valley Wide Recreation and Park District
- West San Jacinto Advisory Committee
- Western Municipal Water District
- Western Riverside County Agricultural Coalition

As part of the public workshop, the District provided an overview of the Sustainable Groundwater Management Act (SGMA) of 2014 to all of the workshop participants, which included information on the District's intent to become the GSA for the western portion of the San Jacinto Groundwater Basin. As part of this process, the District developed and distributed

Subject: Notice of Intent to Become a Groundwater Sustainability Agency

January 3, 2017

Page 3

a proposed governance structure to the stakeholders for the GSA (See Exhibit B). To ensure it is actively collaborating with the communities and interested parties it serves, the District will form an Advisory Community that will make recommendations to the District's publicly-elected Board of Directors, acting as the GSA. The Advisory Committee will include all interested stakeholders within the defined GSA area. The District has also received Letters of Support for its effort to be the GSA from stakeholders within the area (See Exhibit C).

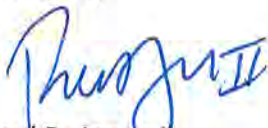
The District caused notice of its election to serve as a GSA to be published in the Press-Enterprise newspaper on October 30, 2016, and November 20, 2016 (See Exhibit D), in accordance with Water Code Section 10723(b) and Government Code Section 6066. The Press-Enterprise is a newspaper widely circulated throughout the proposed GSA management area.

On December 7, 2016, the District's Board of Directors held a public hearing concerning the formation of the GSA and unanimously approved Resolution No. 2016-135 (See Exhibit E), which directed District Staff to complete and submit this Notice of Intent to DWR. Additionally, no new bylaws, ordinances, or other authorities were adopted in conjunction with the establishment of the GSA.

Pursuant to Water Code Section 10723.8(a)(4) the District will consider the interests of all beneficial users of groundwater, as well as those responsible for implementing GSP's. The Advisory Committee, as described above and the District has committed to promptly establish, was carefully designed with stakeholder input to ensure that those parties listed in Water Code Section 10723.2 have an active, long-term role in development and operation of the GSA as well as implementation of the GSP. In addition, the District has communicated with all parties interested in the sustainable management of groundwater in the groundwater basin, and will continue to solicit feedback from those parties as the GSP is developed (See Exhibit F).

The District's, and other interested stakeholder's, roles and responsibilities will be further defined in the GSP. The District welcomes feedback during this process from the state and any of the agencies or organizations listed herein. If DWR requires anything further prior to the acceptance of this notification of the District's election to serve as the GSA for the western portion of the San Jacinto Groundwater Basin, please contact Mike Nusser, Water Resources Planning Manager, at (951) 928-3777 x4514, or nusserm@emwd.org.

Sincerely,



Paul D. Jones II
General Manager

MDN:mdn

Subject: Notice of Intent to Become a Groundwater Sustainability Agency

January 3, 2017

Page 4

Attachments:

Exhibit A – Map of GSA Area

Exhibit B – GSA Governance Structure

Exhibit C – Letters of Support from Stakeholders

Exhibit D – Notices of Public Hearing

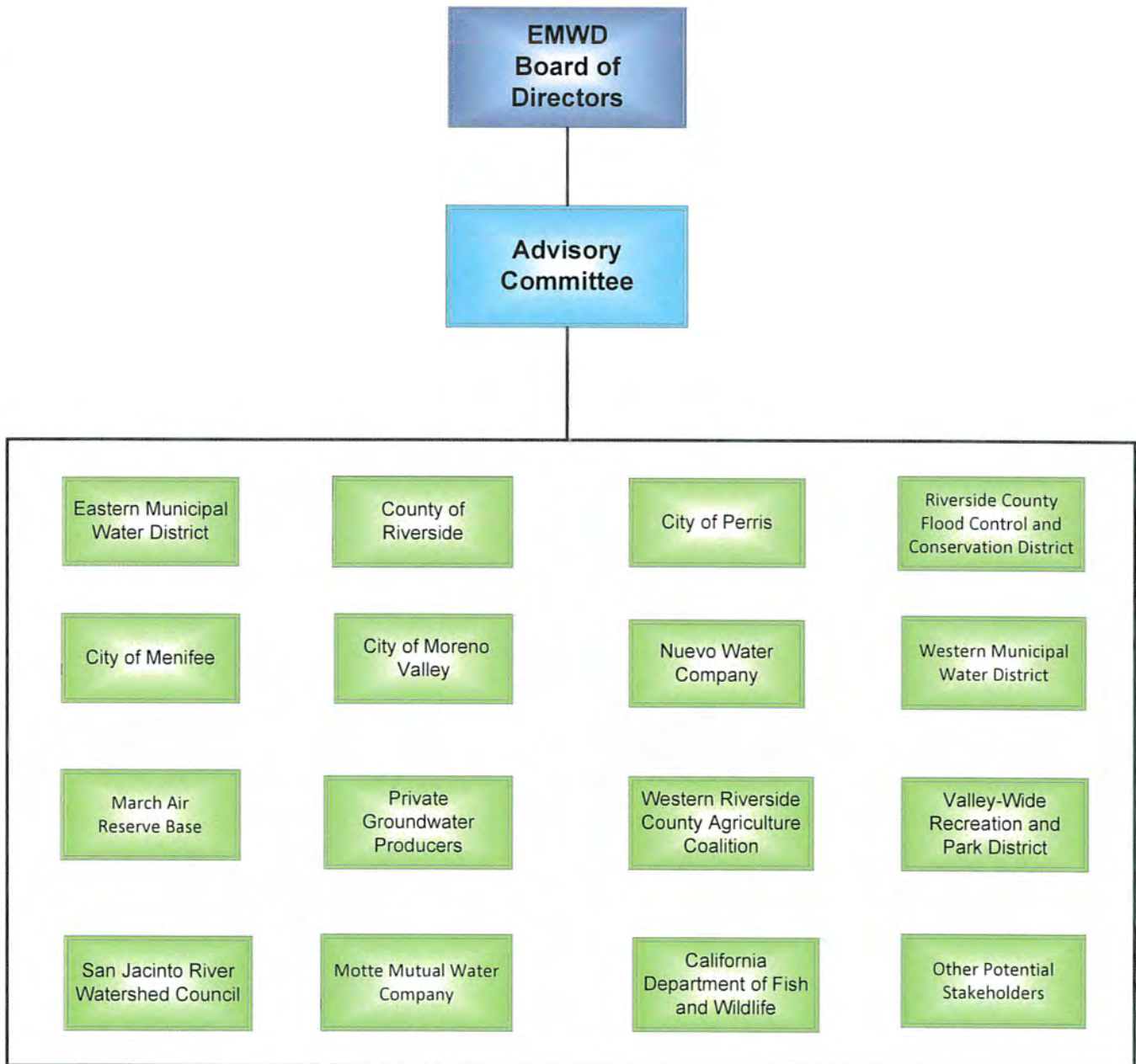
Exhibit E – Resolution

Exhibit F – List of Uses and Users of Groundwater

c: Joe Mouawad, EMWD
Kelley Gage, EMWD
Michael Nusser, EMWD

Eastern Municipal Water District Sustainable Groundwater Management Act

Proposed Governance Structure West San Jacinto Groundwater Sustainability Agency



-DRAFT-

Date: September 19, 2016

Note:
Private Groundwater Producers will elect a primary and an alternate representative to the Advisory Committee

MOTTE MUTUAL WATER

Motte Mutual Water
445 South D Street
Perris, CA 92570

November 3, 2016

Paul D. Jones II, P.E.
General Manager
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Dear Mr. Jones:


Motte Mutual Water had the pleasure of meeting with your agency on the Sustainable Groundwater Management Act (SGMA). After hearing the presentation and getting the opportunity to have our questions answered, Motte Mutual Water is in support of Eastern Municipal Water District (EMWD) forming and acting as the Groundwater Sustainability Agency (GSA) for the West San Jacinto Groundwater Basin Management Area in full compliance with the requirements of SGMA.

Water Code Section 10723(a) requires that "Any local agency or combination of local agencies overlaying a groundwater basin may elect to be a groundwater sustainability agency for that basin." And that a GSA "shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include [] all of the following: (a) Holders of overlying groundwater rights. [] (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. [] (g) The federal government []. []" (§ 10723.2)

The above statutory mandate makes it clear that Motte Mutual Water's interests will be considered in the development and operation of the GSA. We approve of the proposed governance structure of forming an Advisory Committee to the GSA Board. We understand that the proposed Advisory Committee will be comprised of the interested parties and stakeholders within the West San Jacinto Groundwater Basin Management Area and we look forward to participating on the committee. We also acknowledge that EMWD was instrumental in developing the Groundwater Management Plan in compliance with AB3030 and has been implementing the Plan since 1995. As such, EMWD is the most qualified agency to form and act as the GSA.

We appreciate your leadership in bringing the various organizations and parties together for this important effort.

Sincerely,



Mike Naggai
Manager, Motte Mutual Water



HIGHLAND FAIRVIEW
14225 Corporate Way
Moreno Valley, CA 92553
Tel: 951.867.5327

November 2, 2016

(Sent via email)

Paul D. Jones II, P.E.
General Manager
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Dear Mr. Jones:

After having the opportunity to hear your agency's presentation on the Sustainable Groundwater Management Act (SGMA) and answering the questions we had, Highland Fairview is in support of Eastern Municipal Water District (EMWD) forming and acting as the Groundwater Sustainability Agency (GSA) for the West San Jacinto Groundwater Basin Management Area in full compliance with the requirements of SGMA.

Water Code Section 10723(a) requires that "Any local agency or combination of local agencies overlaying a groundwater basin may elect to be a groundwater sustainability agency for that basin." And that a GSA "shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include all of the following: (a) Holders of overlying groundwater rights. (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. (g) The federal government." (§ 10723.2)

The above statutory mandate makes it clear that Highland Fairview's interests will be considered in the development and operation of the GSA. We approve of the proposed governance structure of forming an Advisory Committee to the GSA Board. We understand that the proposed Advisory Committee will be comprised of the interested parties and stakeholders within the West San Jacinto Groundwater Basin Management Area and we look forward to participating on the committee. We also acknowledge that EMWD was instrumental in developing the Groundwater Management Plan in compliance with AB3030 and has been implementing the Plan since 1995. As such, EMWD is the most qualified agency to form and act as the GSA.

We appreciate your leadership in bringing the various organizations and parties together for this important effort.

Sincerely,

Brian R. Hixson, P.E.
Vice President of Land Development

John V. Rossi
General Manager

Robert Stockton
Division 1

Thomas P. Evans
Division 2

Brenda Dennstedt
Division 3

Donald D. Galleano
Division 4

S.R. "Al" Lopez
Division 5



Securing Your Water Supply

November 10, 2016

Paul D. Jones II, P.E.
General Manager
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Dear Mr. Jones:


Upon hearing your agency's presentation on the Sustainable Groundwater Management Act (SGMA) and having our questions answered, Western Municipal Water District is in support of Eastern Municipal Water District (EMWD) forming and acting as the Groundwater Sustainability Agency (GSA) for the West San Jacinto Groundwater Basin Management Area in full compliance with the requirements of SGMA.

Water Code Section 10723(a) requires that, "Any local agency or combination of local agencies overlaying a groundwater basin may elect to be a groundwater sustainability agency for that basin." And that a GSA, "shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include all of the following: (a) holders of overlying groundwater rights; (b) municipal well operators; (c) public water systems; (d) local land use planning agencies; (e) environmental users of groundwater; and (g) the federal government." (Refer to § 10723.2.)

The above statutory mandate makes it clear that Western Municipal Water District's interests will be considered in the development and operation of the GSA. We approve of the proposed governance structure of forming an Advisory Committee to the GSA Board. We understand that the proposed Advisory Committee will be comprised of the interested parties and stakeholders within the West San Jacinto Groundwater Basin Management Area and we look forward to participating on the committee. We also acknowledge that EMWD was instrumental in developing the Groundwater Management Plan (the Plan) in compliance with AB3030 and has implemented the Plan since 1995. As such, EMWD is the most qualified agency to form and act as the GSA.

We appreciate your leadership in bringing the various organizations and parties together for this important effort.

Sincerely,


JOHN V. ROSSI
General Manager

Local 0 | Sunday, Oct. 30, 2016

FROM THE COVER | REGION

The Press-Enterprise

BLOGS

FROM PAGE 1

Valley Lake. "It's totally worth the drive once you get here."

DenOuden, who writes about healthy travel and being active, admitted she had low expectations for the community, but she was pleased to find hiking and biking trails.

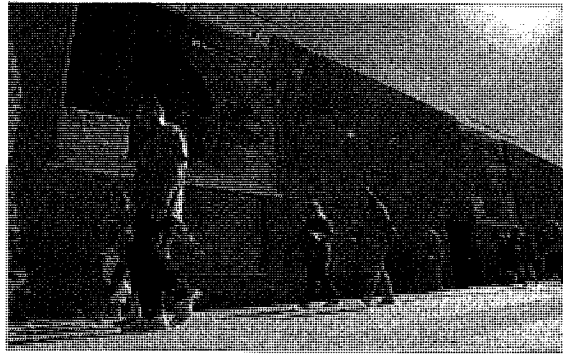
The visit Oct. 19-22 was the bloggers' second. A third is planned around the Ramona Pageant in April.

Trips are made at no cost to the city. The bloggers paid their travel expenses, and merchants and restaurants picked up the costs for lodging and food.

The bloggers had to apply for the trip and were picked based on the size of their readership. The only requirement was that they write at least two articles.

But there are no barriers on what they write. Although the tour doesn't include the more unsavory parts of the community, the bloggers can be honest about their experiences.

"I just want authentic experiences and reviews," said Leslie McLellan, who organized the event.



Bloggers and their tour of Hemet's Western Science Center, one of many locales they visited.

Travel and food blogger Deb Thompson of Michigan said if she isn't honest, she will lose readers, and she and the other bloggers depend on a large audience so they can sell advertisements on their sites.

Bringing in travel writers is nothing new for communities like Temecula and Riverside, which actively market their tourist locales like Old Town Temecula, the Temecula Valley Wine Country and the Mission Inn.

The San Jacinto Valley has limited experience in the field. The impetus for these trips started when Lake Arrowhead-based McLellan met Thompson at a conference.

McLellan, who is paid by Hemet as a tourism consultant, invited Thompson to the area. That ended up being a five-week trip, and Thompson has been back three times since.

Thompson said she touts the valley's weather and affordability. "The cost of visiting this region of Southern California is very reasonable," she said. "My dollars are going to go a lot further."

She spoke of Hemet being a hub, as it's located about an hour from many popular attractions including the beach, the mountains, Palm Springs, San Diego and Los Angeles. And there's another plus, bloggers say.

"People are always surprised how warm and caring the community is," Thompson said. "The people always draw me back."

Hemet City Councilwoman Linda Krupa is a member of a loose-knit tourism committee with McLellan, San Jacinto Mayor Andrew Kotyuk, former Hemet Councilwoman Lori VanArsdale and Hemet-San Jacinto Valley Chamber of Commerce President Michael Carlo.

Krupa said having the bloggers spread the word about the area results in increased tourism.

"It's an economic development engine that drives people to the valley." She said there is anecdotal evidence that people have visited the community after reading travel blogs as the city has increased its efforts to market itself on social media and through the website visitsanjacintovalley.com.

"People say there's no return on investment when you do social media; that's not true," McLellan said. "There was about \$65,000 worth of publicity the last time."

CONTACT THE WRITER: 951-368-9282 or cahult@scng.com

SCHOOL

FROM PAGE 1

said Dayanetra Rodriguez, a 14-year-old freshman. "There's no person here who doesn't have a friend. You always feel included."

'SENSE OF RESPECT'

Principal Matthew Luttringer, who went to Notre Dame, said the school's identity goes beyond its crucifixes, statues, religious services and theology classes.

"When you come on to our campus and take away everything that's Catholic, you would still know we're a Catholic school by the way the kids treat each other and treat the teachers," Luttringer said. "There's a sense of respect, a sense of pride, giving of each other and giving to the community."

Notre Dame opened in September 1956 as an all-boys school with 16 freshmen taught by priests who lived in the rectory that is now the administration office. Over the years, the campus doubled from two to four classroom buildings, along with the addition of a library and a gym. It became a co-ed campus in 1972.



Notre Dame High School students make their way to Mass at St. Catherine of Alexandria Catholic Church, across the street from campus in Riverside.

Enrollment fell about 20 percent during the Great Recession. Since then it has slowly picked up and held steady at about 500 students for the past two or three years, Healy said.

Recent upgrades include technology, science and fine-arts labs, along with new roofs and air-conditioning systems. The gym and locker room got a \$5 million renovation.

In 2013, Notre Dame became what Luttringer calls "an iPad school." Apple ta-

bles replaced textbooks, saving students money and expanding learning, he said. The school is moving to a classroom environment that blends online and traditional lessons. A block schedule allows 85-minute class periods four days a week, providing time for lectures, individualized instruction and group projects, Luttringer said.

Notre Dame has class sizes of 18 students per teacher, making it easier

for struggling students to get help. "It's a small-school environment, so you don't have to worry about not getting enough attention from the teacher," said David Puma, a 17-year-old senior who plays basketball and runs track and cross country.

ACADEMIES INTRODUCED

This year, the school began offering four academies: medical sciences; arts and innovation; global



STAFF GRAPHIC

ABOUT THE SCHOOL

Name: Notre Dame High School
Opened: 1956
Principal: Matthew Luttringer
Enrollment: 505 students
Tuition: \$7,500 a year
Details: Catholic campus offers 28 Advanced Placement and honors courses, 15 athletic teams and at least 14 clubs. 100 percent of students graduate and 86 percent attend a four-year university.
Address: 7085 Brackton Ave., Riverside
Phone: 951-275-5608
Website: notredameriverside.org

citizenship; and science, technology, engineering, arts and math. Biology students recently took a trip to the UC Riverside genetics lab, where they learned about DNA sequencing, Beauty said.

"The idea is to parallel our classroom content with experiences that bring that content to life," he said.

One of Luttringer's goals is to make Notre Dame, which has annual tuition of \$7,500, affordable for more families. About 1 in 5 students receives financial aid, he said.

"Every Catholic child in this city should have the opportunity to go to a Catholic high school if they want," he said. "I would like to see it so it's funded from others and not just the parents."

The school is increasing marketing efforts and hopes to get additional financial support to build enrollment and expand its presence in the community, Luttringer said.

Mariella Gallegas, a 17-year-old senior, appreciates the sacrifice her parents make to send her to Notre Dame.

"I feel like I've grown more as a person and as a student to be ready for the future that comes after high school," said Gallegas, who plans to study immigration law in college.

CONTACT THE WRITER: 951-368-9282 or stwalig@scng.com
Twitter: @ps_swall

emwd NOTICE OF PUBLIC HEARING FORMATION OF GROUNDWATER SUSTAINABILITY AGENCY FOR WEST SAN JACINTO GROUNDWATER BASIN. Notice is hereby given that the Board of Directors of Eastern Municipal Water District (EMWD) will conduct a public hearing on December 7, 2016, at 9 a.m., at 2270 Trumble Road, Perris, California, to hear comments from the public regarding EMWD's proposed application to be the Groundwater Sustainability Agency (GSA) for the western portion of the San Jacinto Groundwater Basin...

REGENCY THEATRES UNIVERSITY VILLAGE 10 15th & University Ave. 951-784-8310 \$5.50 SUNDAYS ALL MOVIES ALL DAY! 100% Moviegoing Again!

Kids get healthy food at produce market. A student at Highgrove Elementary School in the Riverside area receives a bag of healthy treats. Students had their choice of healthy snacks Wednesday at the Kids Produce Market at the Highgrove Elementary School. The farmers' market-style event at the Riverside-area school - put on by Feeding America - provided healthy produce to more than 800 low-income students and their families, according to a news release from the program. Wednesday's event also promoted the group's Give A Meal program and its partnership with Bank of America. For every dollar donated to the program, the bank will donate \$2. Information: bankofamerica.com/give

RESOLUTION NO. 2016-135

A RESOLUTION OF THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT ELECTING TO BECOME THE GROUNDWATER SUSTAINABILITY AGENCY FOR A WESTERN PORTION OF THE SAN JACINTO BASIN WITHIN THE BOUNDARIES AND SPHERE OF INFLUENCE FOR EASTERN MUNICIPAL WATER DISTRICT

WHEREAS, in September 2014, the Sustainable Groundwater Management Act (SGMA) was signed into law, with an effective date of January 1, 2015, and codified at California Water Code, Section 10720 et seq; and

WHEREAS, the legislative intent of SGMA is to, among other goals, provide for sustainable management of groundwater basins and sub-basins defined by the California Department of Water Resources (DWR), to enhance local management of groundwater, to establish minimum standards for sustainable groundwater management, and to provide specified local agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater; and

WHEREAS, Water Code Section 10723(a) authorizes a local agency with water supply, water management or local land use responsibilities, or a combination of local agencies, overlaying a groundwater basin to elect to become a Groundwater Sustainability Agency (GSA) under SGMA; and

WHEREAS, groundwater management of high and medium priority basins as designated by DWR is now required; and

WHEREAS, the service area of Eastern Municipal Water District (EMWD) overlies portions of the San Jacinto Basin (DWR Bulletin 118, Basin No. 8-005) which are unadjudicated and designated as a high priority basin by DWR; and

WHEREAS, California Water Code Section 10723.8 requires that a local agency electing to serve as a GSA notify DWR within 30 days of the local agency's election to become a GSA authorized to undertake sustainable groundwater management within a basin; and

WHEREAS, California Water Code Section 10723.8 mandates that 90 days following the posting by DWR of the local agency's notice of election to become a GSA, that entity shall presume to be the exclusive GSA for the area within the basin the agency is managing as described in the notice, provided that no other GSA formation notice covering the same area has been submitted to DWR; and

WHEREAS, in accordance with Water Code Section 10723(b) and Government Code Section 6066, a notice of public hearing was published in a newspaper of general circulation

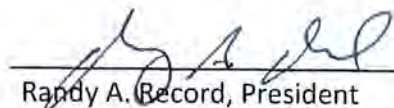
regarding EMWD's intent to become a GSA for a portion of the San Jacinto Basin, as described in the notice; and

WHEREAS, becoming a GSA supports EMWD's ongoing efforts to conduct groundwater management within the region and to ensure groundwater and drinking water sustainability within the area served by EMWD;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

1. EMWD hereby elects to be the GSA for the geographical area depicted on the map attached to this Resolution as Exhibit A, covering that portion of the unadjudicated San Jacinto Basin underlying (or within) the jurisdictional boundaries of EMWD.
2. EMWD staff is directed to submit to DWR, within 30 days of the approval of this Resolution, a map of the basin area EMWD intends to manage under SGMA, a copy of this Resolution, a list of interested parties developed pursuant to Section 10723.2 of the Act with an explanation of how their interests will be considered in the development and implementation of the agency's groundwater sustainability plan, and any other supporting documentation required by SGMA to support EMWD's formation of a GSA.
3. This Resolution shall be effective upon its adoption.

DATED: December 7, 2016


Randy A. Record, President

I hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by the Board of Directors of the Eastern Municipal Water District at its meeting held on December 7, 2016.

ATTEST:


Sheila Zelaya, Board Secretary

(SEAL)

Western Portion of the San Jacinto Basin

Initial List of Uses and Users of Groundwater for the West San Jacinto Groundwater Sustainability Agency

As required by the Sustainable Groundwater Management Act (SGMA) of 2014, Eastern Municipal Water District (District) will consider all beneficial uses and users of groundwater, as well as those responsible for implementing Groundwater Sustainability Plans (GSPs). An initial list of interested parties is provided in accordance with California Water Code section 10723.2 and 10723.8(a)(4). This list will continue to be updated during implementation of the District's GSP for the western portion of the San Jacinto Groundwater Basin.

- Holders of overlying groundwater rights:
 - Agricultural users: There are many agricultural wells within the GSA, most of whom have an existing relationship with the District. The District will communicate with landowners to assure that they understand their on-going opportunity to participate in the development of a GSP for the area.
 - Domestic well owners: There are some domestic wells within the GSA, however, the District anticipates that many will fall under SGMA's exclusions for de minimum extractors. As with agricultural users, the District will communicate with these landowners to assure that they understand their on-going opportunity to participate in development of a GSP for this area.
- Municipal Well Operators
 - Eastern Municipal Water District
 - Western Municipal Water District
- Public Water Systems
 - City of Perris
 - Motte Mutual Water Company
 - Nuevo Water Company
- Local Land Use Planning Agencies
 - Riverside County
 - Riverside County Flood Control and Conservation District
 - City of Moreno Valley
 - City of Perris
 - City of Menifee
 - Other Water and Irrigation Districts outside the GSA boundaries: The District provided courtesy notice of their intention to serve as the GSA to the City of Canyon Lake, Elsinore Valley Municipal Water District, Santa Margarita River Watermaster, and Hemet-San Jacinto Watermaster, and will continue to communicate with and solicit feedback from these neighboring agencies as the GSP is developed.
- Environmental Users of Groundwater
 - California Department of Fish and Wildlife:

Exhibit F

- Surface Water Users, If there is a hydrological connection between surface and groundwater bodies:
 - N/A
- The Federal Government, including, but not limited to, the Military and Managers of Federal Lands:
 - March Air Reserve Base, Department of Defense
 - March Joint Powers Authority
- California Native American Tribes:
 - N/A
- Disadvantaged Communities, including, but not limited to, those served by private domestic wells or small community water systems:
 - The District actively works with these communities through their Public and Governmental Affairs, and Grant and Loans, Departments. The District will continue to coordinate with all Disadvantaged Communities with the GSA Boundary.
- Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the GSA:
 - Eastern Municipal Water District participates in the California Statewide Groundwater Elevation Monitoring Program for the entire San Jacinto Groundwater Basin.

West San Jacinto Groundwater Sustainability Agency process to develop the Groundwater Sustainability Plan

The Eastern Municipal Water District (EMWD) became the Groundwater Sustainability Agency (GSA) for the western portion of the San Jacinto Groundwater Basin (8-005), referred to the West San Jacinto GSA, and is comprised of the EMWD Board of Directors. The San Jacinto Groundwater Basin (Basin) is a high priority basin, but is not critically overdrafted, as designated by the Department of Water Resources (DWR). The West San Jacinto GSA is responsible for developing a Groundwater Sustainability Plan (GSP) that meets the requirements of the Sustainable Groundwater Management Act and GSP regulations by the January 31, 2022 submittal deadline. The West San Jacinto GSA plans on hiring a consultant by the end of 2018 to develop the GSP.

Development of the GSP is anticipated to begin in 2019. The development of the GSP will include a Stakeholder Outreach Plan to include private and public water users and stakeholders in the GSA Area as well as in adjoining areas. Coordination effort will involve collaboration with the Hemet-San Jacinto Watermaster and stakeholders in adjoining basins. In order to achieve sustainability within the Basin, the West San Jacinto GSA recognizes that a collaborative effort is required to foster cooperation towards achieving groundwater sustainability. The planning process that will be utilized in the development of the GSP includes extensive stakeholder engagement to help ensure that the GSP reflects the groundwater-related needs of the entire Basin and encourages increased coordination with state and federal agencies.

Stakeholders will have the opportunity to participate in public stakeholder meetings to review materials included in draft sections of the GSP. This collaborative approach will enhance communication and transparency and provide input to the West San Jacinto GSA during the development of the GSP. In addition, stakeholders will have a variety of opportunities to discover and establish mutually beneficial partnerships through participation in meetings and conversations.

Interested parties may contact EMWD and participate in the development and implementation of the GSP by contacting Rachel Gray, Water Resources Planning Manager, at 951-928-3777 Ext 4514 or grayr@emwd.org.

RESOLUTION NO. 2016-034

**A RESOLUTION OF THE BOARD OF DIRECTORS OF
EASTERN MUNICIPAL WATER DISTRICT INITIATING A
BASIN BOUNDARY MODIFICATION REQUEST**

WHEREAS, the Sustainable Groundwater Management Act of 2014 established a process for local agencies to request that the California Department of Water Resources revise the boundaries of existing groundwater basins or subbasins as defined by California Department of Water Resources Bulletin 118, including the establishment of a new subbasin; and

WHEREAS, the Basin Boundary Emergency Regulation was developed through an extensive stakeholder outreach process and was adopted by the California Water Commission on October 21, 2015 and the provisions of which went into effect on November 16, 2015; and

WHEREAS, Eastern Municipal Water District overlies the San Jacinto Basin; and

WHEREAS, through a request of private pumpers in the basin, Eastern Municipal Water District conducted an evaluation of existing mapping and descriptions for the Bulletin 118 San Jacinto Basin boundary and identified administrative mapping and jurisdictional issues relating to the Domenigoni subbasin portion of the San Jacinto Basin, and wishes to file an application at the request of the private pumpers to address those issues for the purpose of facilitating regional groundwater management and planning; and

WHEREAS, the proposed boundary modification is consistent with the provisions of the Sustainable Groundwater Management Act of 2014,

NOW, THEREFORE, THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

1. Each of the above recitals is true and correct.
2. That an application be made to the California Department of Water Resources to modify the boundary of the San Jacinto Basin.
3. The General Manager, and/or his designee, is hereby authorized and directed to collect the available data and prepare and submit, in cooperation with the private pumpers, such an application with the California Department of Water Resources.
4. This Resolution shall be effective upon its adoption.

DATED: March 16, 2016



Randy A. Record, President

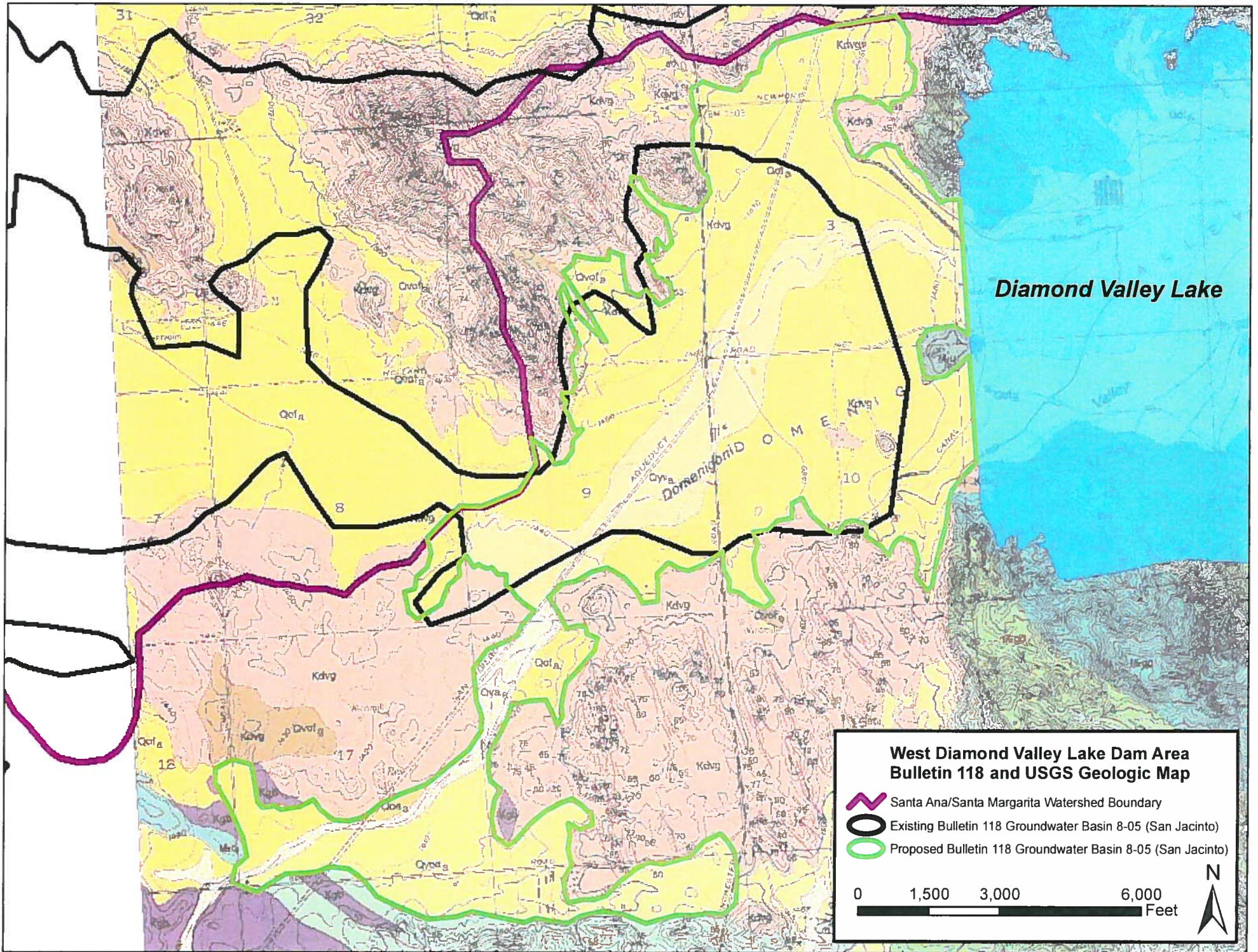
I hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by the Board of Directors of the Eastern Municipal Water District at its meeting held on March 16, 2016.

ATTEST:



Sheila Zelaya, Board Secretary

(SEAL)



PRINT VIEW OF INITIAL NOTIFICATION

1. LOCAL AGENCY INFORMATION

Name: Eastern Municipal Water District
Address: 2270 Trumble Road
City: Perris Zip: 92572
Phone(Work): (951) 928-3777 Phone(Cell):
Email: grayr@emwd.org Fax:

2. LOCAL AGENCY POINT OF CONTACT INFORMATION

Name: Michael Nusser ← **Current Contact: Rachel Gray**
Address: 2270 Trumble Road
City: Perris Zip: 92572
Phone(Work): (951) 928-3777 x4514 Phone(Cell):
Email: nusserm@emwd.org ← **Current Contact: grayr@emwd.org**

3. LINKS TO LOCAL AGENCY'S INTERNET WEBSITE

General information regarding potential basin boundary modification process is posted or will be posted.

<http://www.emwd.org>

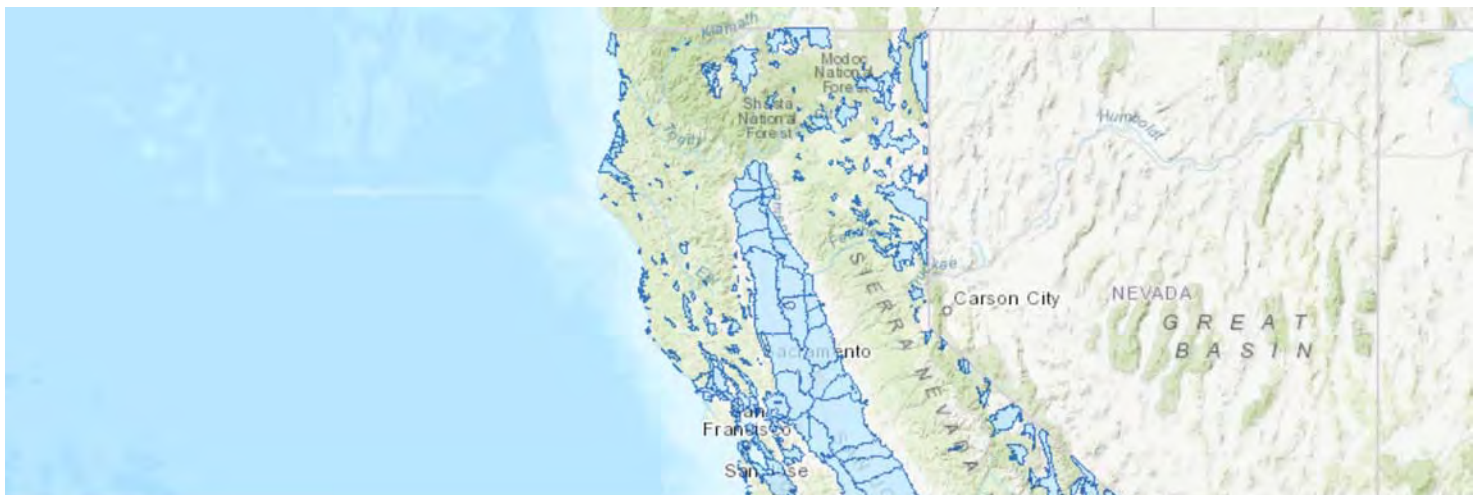
4. BRIEF DESCRIPTION OF POTENTIAL BASIN BOUNDARY MODIFICATION REQUEST

Extend the boundary in the southwestern portion of the basin just west of Diamond Valley Lake to include additional alluvial area.

5. POTENTIAL BASIN(S)/SUBBASIN(S)

8-005 SAN JACINTO

6. MAP OR DOCUMENT OF POTENTIAL BASIN BOUNDARY MODIFICATION





Uploaded document: GSA_Map_1_TOPO_20160302_PowerPoint.pdf

Created on 03/08/2016 at 7:51AM, last modified on 07/06/2017 at 11:20AM and page generated on 05/29/2019 at 12:01PM

BLOGS

FROM PAGE 1
Valley Lake. "It's totally worth the drive once you get here."

DenOuden, who writes about healthy travel and being active, admitted she had low expectations for the community, but she was pleased to find hiking and biking trails.

The visit Oct. 19-22 was the bloggers' second. A third is planned around the Ramona Pageant in April.

Trips are made at no cost to the city. The bloggers paid their travel expenses, and merchants and restaurants picked up the costs for lodging and food.

The bloggers had to apply for the trip and were picked based on the size of their readership. The only requirement was that they write at least two articles.

But there are no barriers on what they write. Although the tour doesn't include the more unsavory parts of the community, the bloggers can be honest about their experiences.

"I just want authentic experiences and reviews," said Leslie McLellan, who organized the event.



Bloggers end their tour of Hemet's Western Science Center, one of many locales they visited.

Travel and food blogger Deb Thompson of Michigan said if she isn't honest, she will lose readers, and she and the other bloggers depend on a large audience so they can sell advertisements on their sites.

Bringing in travel writers is nothing new for communities like Temecula and Riverside, which ac-

tively market their tourist locales like Old Town Temecula, the Temecula Valley Wine Country and the Mission Inn. The San Jacinto Valley has limited experience in the field. The impetus for these trips started when Lake Arrowhead-based McLellan met Thompson at a conference.

McLellan, who is paid by Hemet as a tourism consultant, invited Thompson to the area. That ended up being a five-week trip, and Thompson has been back three times since.

Thompson said she touts the valley's weather and affordability.

"The cost of visiting this region of Southern Califor-

nia is very reasonable," she said. "My dollars are going to go a lot farther."

She spoke of Hemet being a hub, as it's located about an hour from many popular attractions including the beach, the mountains, Palm Springs, San Diego and Los Angeles.

And there's another plus, bloggers say.

"People are always surprised how warm and caring the community is," Thompson said. "The people always draw me back."

Hemet City Councilwoman Linda Krupa is a member of a loose-knit tourism committee with McLellan. San Jacinto Mayor Andrew Kotyuk, former Hemet Councilwoman Lori VanArsdale and Hemet-San Jacinto Valley Chamber of Commerce President Michael Carle.

Krupa said having the bloggers spread the word about the area results in increased tourism.

"It's an economic development engine that drives people to the valley."

She said there is anecdotal evidence that people have visited the community after reading travel blogs as the city has increased its efforts to market itself on social media and through the website visitsanjacintovalley.com.

"People say there's no return on investment when you do social media; that's not true," McLellan said. "There was about \$65,000 worth of publicity the last time."

CONTACT THE WRITER: 951-368-9292 or cschultz@scng.com

SCHOOL

FROM PAGE 1
said Dayanerra Rodriguez, a 14-year-old freshman. "There's no person here who doesn't have a friend. You always feel included."

'SENSE OF RESPECT' Principal Matthew Luttringer, who went to Notre Dame, said the school's identity goes beyond its crucifixes, statues, religious services and theology classes.

"When you come on to our campus and take away everything that's Catholic, you would still know we're a Catholic school by the way the kids treat each other and treat the teachers," Luttringer said. "There's a sense of respect, a sense of pride, giving of each other and giving to the community."

Notre Dame opened in September 1956 as an all-boys school with 15 freshmen taught by priests who lived in the rectory that is now the administration office. Over the years, the campus doubled from two to four classroom buildings, along with the addition of a library and a gym.

In 2013, Notre Dame became what Luttringer calls "an iPad school." Apple ta-



Notre Dame High School students make their way to Mass at St. Catherine of Alexandria Catholic Church, across the street from campus in Riverside.

blets replaced textbooks, saving students money and expanding learning, he said.

The school is moving to a classroom environment that blends online and traditional lessons. A block schedule allows 85-minute class periods four days a week, providing time for lectures, individualized instruction and group projects, Luttringer said.

Notre Dame has class sizes of 18 students per teacher, making it easier

for struggling students to get help. "It's a small-school environment, so you don't have to worry about not getting enough attention from the teacher," said David Puma, a 17-year-old senior who plays basketball and runs track and cross country.

ACADEMIES INTRODUCED

This year, the school began offering four academies: medical sciences; arts and innovation; global



STAFF GRAPHIC

ABOUT THE SCHOOL

Name: Notre Dame High School
Opened: 1956
Principal: Matthew Luttringer
Enrollment: 505 students
Tuition: \$7,500 a year
Details: Catholic campus offers 28 Advanced Placement and honors courses; 15 athletic teams and at least 14 clubs; 100 percent of students graduate and 96 percent attend a four-year university
Address: 7085 Brockton Ave., Riverside
Phone: 951-275-5896
Website: notredameriverside.org

citizenship; and science, technology, engineering, arts and math.

Biology students recently took a trip to the UC Riverside genetics lab, where they learned about DNA sequencing, Beatty said.

"The idea is to parallel our classroom content with experiences that bring that content to life," he said.

One of Luttringer's goals is to make Notre Dame, which has annual tuition of \$7,500, affordable for more families. About 1 in 5 students receives financial aid, he said.

"Every Catholic child in this city should have the opportunity to go to a Catholic high school if they want," he said. "I would like to see it so it's funded from others and not just the parents."

The school is increasing marketing efforts and hopes to get additional financial support to build enrollment and expand its presence in the community, Luttringer said.

Mariella Gallegos, a 17-year-old senior, appreciates the sacrifice her parents made to send her to Notre Dame. "I feel like I've grown more as a person and as a student to be ready for the future that comes after high school," said Gallegos, who plans to study immigration law in college.

CONTACT THE WRITER: 951-368-9292 or tvstew@scng.com Twitter: @pe_swail

NOTICE OF PUBLIC HEARING
FORMATION OF GROUNDWATER SUSTAINABILITY AGENCY FOR WEST SAN JACINTO GROUNDWATER BASIN
Notice is hereby given that the Board of Directors of Eastern Municipal Water District (EMWD) will conduct a public hearing on December 7, 2016, at 9 a.m. at 2270 Trumble Road, Perris California, to hear comments from the public regarding EMWD's proposed application to be the Groundwater Sustainability Agency (GSA) for the western portion of the San Jacinto Groundwater Basin...

REGENCY THEATRES
UNIVERSITY VILLAGE 10
\$5.50 SUNDAYS
'MOVIES ALL DAY!'
EMERGENCY!
TOWNGATE CINEMAS 8

A student at Highgrove Elementary School in the Riverside area receives a bag of healthy treats.
Kids get healthy food at produce market
Students had their choice of healthy snacks Wednesday at the Kids Produce Market at Highgrove Elementary School. The farmers market-style event at the Riverside-area school - put on by Feeding America - provided healthy produce to more than 800 low-income students and their families, according to a news release from the program. Wednesday's event also promoted the group's Give A Meal program and its partnership with Bank of America. For every dollar donated to the program, the bank will donate \$2. Information: bankofamerica.com/give

Homeless ex-Marine, his family get new home

Rental is part of a program that helps vets find permanent residence.

By JOE NELSON
STAFF WRITER

For former Marine Darrin Snyder and his family, home used to be the Walmart parking lot, free campsites, cheap motels or anywhere else they could park their minivan and cargo trailer and stay the night.

Snyder, who traveled with his family to San Bernardino County from Virginia Beach in August in search of work as a recreational therapist with the California Department of Corrections and Rehabilitation, wanted more for his family, but he never expected what he got Thursday: a

spacious, five-bedroom, three-bath house in a quiet Victorville neighborhood, near La Mesa and Topaz roads.

"I think this is pretty awesome. Every time I look at all of this, I think it's a dream," said Snyder, 49, inside his new home Thursday. He was surrounded by representatives from the San Bernardino nonprofit Knowledge & Education for Your Success, which goes by the acronym KEYS. The nonprofit assists homeless or poverty-stricken families in finding homes.

Snyder is among the dozens of veterans recently placed in permanent housing by KEYS and its affiliate partners, including San Bernardino County Department of Behavioral Health and the Loma Linda Veterans Affairs hospital. It is part of an ongoing effort to house all the county's homeless veterans and

their families. The Snyder family's new home has a spacious backyard, a fireplace in the upstairs master bedroom and an intercom system that allows family members to communicate with one another from any room in the house.

Snyder, who served in the Marines from 1985 to 1988 and uses a wheelchair because of myriad ailments, including a herniated disk, two blown knees and diabetes, said the VA will be installing a stairlift in his new home so he can have access to the upstairs master bedroom. Until then, he plans to occupy the downstairs bedroom.

Also, the San Bernardino nonprofit Rolling Start, which provides resources and advocacy for disabled people, will have a wheelchair ramp built to access the house, Snyder said.

KEYS program manager Julie Burnett said the Snyder family is on a one-year lease, with an option to renew. KEYS picked up the tab for the security deposit and first month's rent of \$1,500, and then the need to continue assisting the Snyders financially will be assessed on a monthly basis.

Snyder is in the process of securing a job as a recreational therapist at Corcoran state prison's substance abuse treatment facility. He plans to commute to the prison, camp out in his 6-by-10 cargo trailer during the workweek and spend the weekends at his Victorville residence.

"I still get to come back to this place," Snyder said with a grin. Snyder's daughters were just as elated as he was about their new home.

"Motel hopping always



Marine veteran Darrin Snyder shares a moment in his new Victorville home Thursday with granddaughter Peyton as daughters Allie and Katie look on.

lutely sucks. I hope to never be in that situation ever again," said his oldest daughter, Carrie "Allie" Snyder, 22, holding her infant daughter Peyton outside their new home Thursday.

She said living in transition the past four months was an eye-opening experience. "It definitely gives you a whole new perspective and empathy for people living on the streets," Allie said.

Snyder's youngest daughter, Katie, said KEYS and its partner agencies went above and beyond what she and her family anticipated.

"They went way out of their way," said Katie Snyder, 20, noting that Heroes Warehouse Inc. in Fontana donated a couch, refrigerator, three queen size beds, a desk and three floor-to-ceiling bookshelves.

The Snyder family moved into the home just in time to enjoy the holidays. Although the Snyders plan to have Thanksgiving dinner at their church, they intend to enjoy Christmas at home.

"He's excited because he gets to decorate this year," Katie Snyder said of her father. Darrin Snyder said he's going to use the \$500 Visa gift card he just received for participating in the Detroit Marathon last month for Christmas presents. He said he has participated in many marathons, representing the Achilles Freedom Team for Wounded Veterans, which funded his trip to Detroit last month.

"Peyton's going to have a great Christmas this year," he said of his granddaughter.

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WELFARE FRAUD OFFENDERS CONVICTED
Dockets of the Riverside County Court system show the following persons were convicted of Welfare Fraud on the dates specified:

CONVICTIONS/DOCKETS RECEIVED TO BE PUBLISHED SUNDAY November 20 th , 2016	
RAFAELA ELIAS CONVICTED: 09/07/2016	RAQUEL ROMERO CONVICTED: 09/13/2016
JAZMINE MARIE MORALES CONVICTED: 09/14/2016	RIDGET BECERRA CONVICTED: 09/21/2016
BRITTANI DIANA GUINN CONVICTED: 09/21/2016	RICARDO LUNA JUAREZ AKA: RICARDO LUNA JUAREZ CONVICTED: 09/22/2016
JESSICA ELAINE SCOTT AKA: JESSICA ELAINE ROSTEN AKA: JESSICA ELAINE LOMELI AKA: JESSICA ELAINE GUERRERO CONVICTED: 09/19/2016	

*\$100 REWARD offered by the Riverside County Department of Public Social Services for information leading to the conviction on welfare fraud charges. To report suspected fraud, call (951) 928-5274. Eligibility for reward is determined by a review committee. Department of Public Social Services and District Attorney - employees and family members are not eligible. Fraud amount must be \$1000 or more. To report toll free on the State fraud hotline, call 1-800-344-8477. No reward on State hotline calls.

emwd EASTERN MUNICIPAL WATER DISTRICT
NOTICE OF PUBLIC HEARING
FORMATION OF GROUNDWATER SUSTAINABILITY AGENCY FOR WEST SAN JACINTO GROUNDWATER BASIN
Notice is hereby given that the Board of Directors of Eastern Municipal Water District (EMWD) will conduct a public hearing on December 7, 2016, at 9 a.m. at 2270 Trumble Road, Perris California, to hear comments from the public regarding EMWD's proposed application to be the Groundwater Sustainability Agency (GSA) for the western portion of the San Jacinto Groundwater Basin, which generally encompasses the areas of Moreno Valley, Perris, Menifee and surrounding unincorporated areas.
After the public hearing, EMWD's Board of Directors is anticipated to take a formal action to submit a notice of intent to the California Department of Water Resources to become the GSA for the aforementioned area. The notice of intent shall be posted pursuant to California Water Code Section 10723.8 and will include a description of the proposed boundaries of the portions of the San Jacinto Basin for which EMWD intends to manage as the GSA in accordance with the Sustainable Groundwater Management Act of 2014.
Said hearing will be conducted pursuant to Water Code Section 10723(b). Written comments may be submitted to Sheila Zelaya, Board Secretary, by the close of business on December 6, 2016. Please email comments to zelayas@emwd.org and written comments by mail to the following location:
Eastern Municipal Water District
Attention: Sheila Zelaya, Board Secretary
P.O. Box 8300
Perris, CA 92572-8300
Should you have questions, contact Kevin Pearson via email pearsonk@emwd.org or by phone (951) 928-3777 ext. 4219.

REGENCY THEATRES
UNIVERSITY VILLAGE 10
\$5.50 SUNDAYS
"ALL MOVIES, ALL DAYS"
THE EDGE OF SEVENTEEN
FANTASTIC BEASTS AND WHERE TO FIND THEM
FRANCOIS CHATEAU AND WHERE TO FIND THEM
ALMOST CHRISTMAS
DOCTOR STRANGE
HACKSAW RIDGE
TYLER PERRY'S BOO! A MADEA HALLOWEEN
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TOWNGATE CINEMAS 8
KEEPING UP WITH THE JONESSES
KEVIN HART: WHAT NOW?
THE ONE OF US
DEEPWATER HORIZON
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**Board of Directors
December 7, 2016**

SUBJECT:

Adopt a Proposed Resolution Authorizing an Application to the California Department of Water Resources to Establish Eastern Municipal Water District as the Groundwater Sustainability Agency for the Western Portion of the San Jacinto Basin

BACKGROUND:

In 2014, California lawmakers passed the Sustainable Groundwater Management Act (SGMA), which mandates that all groundwater basins within the state be managed to ensure long-term water supply reliability. Under SGMA, each high and medium priority basin, as identified by the California Department of Water Resources (DWR), must have a Groundwater Sustainability Agency (GSA) that will be responsible for groundwater monitoring and the development of a Groundwater Sustainability Plan (GSP) to ensure long-term groundwater sustainability and prevent overdraft.

The San Jacinto Basin is designated by DWR as a high priority basin and is therefore required to be managed by a GSA. High priority designations may be the result of pumping activities, water quality, and/or the reliance on the basin for drinking water supplies. In the case of the San Jacinto Basin, there is an elevated level of salinity within the basin that presents water quality issues and is the reason for the state designating it as high priority.

To reach compliance with this statewide mandate, staff recommends that Eastern Municipal Water District (EMWD) Board of Directors adopt a Resolution to become the GSA over the West San Jacinto Groundwater Basin Management Area. This area generally encompasses the cities of Moreno Valley, Perris, Menifee, and the surrounding unincorporated areas. Federal properties, including March Air Reserve Base, are exempt from SGMA.

EMWD's responsibilities as the GSA would be to oversee monitoring of wells, measure and assist in managing groundwater production, conduct studies, provide annual reports to DWR, and implement projects and programs to meet groundwater management goals and avoid long-term overdraft to achieve sustainability. EMWD is already performing these services at its own cost, and will continue to do so as the GSA. The GSA must also develop and implement the GSP, which must contain measurable objectives for the basin that will lead toward long-term sustainability and avoid undesirable results, such as seawater/brackish water intrusion, degraded water quality, subsidence, long-term overdraft, and reductions in groundwater storage.

To ensure that it is actively collaborating with the communities it serves, EMWD will form an advisory committee that will make recommendations to EMWD's Board of Directors, acting as

the GSA. The advisory committee will include other government agencies and water producers within the defined GSA area. Also, EMWD has conducted an extensive outreach effort to inform all stakeholders in and around the West San Jacinto Groundwater Basin Management Area of EMWD's intent to form a GSA for the area, and how their interests will be included as part of the advisory committee. EMWD has received several letters of support to become the GSA and they are attached as an exhibit to this report.

FINANCIAL IMPACT:

None

STRATEGIC PLANNING GOAL/OBJECTIVE:

Water Supply Diversity and Reliability: Develop and implement a portfolio of projects and management techniques to achieve a reliable and cost-effective balance of water supplies utilizing imported, local and recycled water sources.

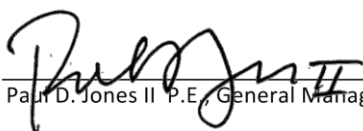
ENVIRONMENTAL IMPACT:

This item is not a project as defined in the California Environment Quality Act Code of Regulations, Title 14, Chapter 3, Section 15378.

RECOMMENDATION:

Adopt a Resolution which authorizes the General Manager, and/or his designee, to prepare the necessary data, conduct investigations, and file such application with the California Department of Water Resources to establish Eastern Municipal Water District as the Groundwater Sustainability Agency for the western portion of the San Jacinto Basin in accordance with the Sustainable Groundwater Management Act of 2014.

SUBMITTED BY:



Paul D. Jones II, P.E., General Manager

11/18/2016



Charles Bachmann, Assistant General Manager

11/14/2016

Attachment(s):

Exhibit A - Resolution

Exhibit B - Map

Exhibit C - Presentation

Exhibit D - Letters of Support

History:

11/23/16 Board Operations and Engineering Committee RECOMMENDED FOR
APPROVAL

12/07/16 Board Meeting

Staff Contact: Michael Nusser

RESOLUTION NO. 2016-135

A RESOLUTION OF THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT ELECTING TO BECOME THE GROUNDWATER SUSTAINABILITY AGENCY FOR A WESTERN PORTION OF THE SAN JACINTO BASIN WITHIN THE BOUNDARIES AND SPHERE OF INFLUENCE FOR EASTERN MUNICIPAL WATER DISTRICT

WHEREAS, in September 2014, the Sustainable Groundwater Management Act (SGMA) was signed into law, with an effective date of January 1, 2015, and codified at California Water Code, Section 10720 et seq; and

WHEREAS, the legislative intent of SGMA is to, among other goals, provide for sustainable management of groundwater basins and sub-basins defined by the California Department of Water Resources (DWR), to enhance local management of groundwater, to establish minimum standards for sustainable groundwater management, and to provide specified local agencies with the authority and technical and financial assistance necessary to sustainably manage groundwater; and

WHEREAS, Water Code Section 10723(a) authorizes a local agency with water supply, water management or local land use responsibilities, or a combination of local agencies, overlaying a groundwater basin to elect to become a Groundwater Sustainability Agency (GSA) under SGMA; and

WHEREAS, groundwater management of high and medium priority basins as designated by DWR is now required; and

WHEREAS, the service area of Eastern Municipal Water District (EMWD) overlies portions of the San Jacinto Basin (DWR Bulletin 118, Basin No. 8-005) which are unadjudicated and designated as a high priority basin by DWR; and

WHEREAS, California Water Code Section 10723.8 requires that a local agency electing to serve as a GSA notify DWR within 30 days of the local agency's election to become a GSA authorized to undertake sustainable groundwater management within a basin; and

WHEREAS, California Water Code Section 10723.8 mandates that 90 days following the posting by DWR of the local agency's notice of election to become a GSA, that entity shall presume to be the exclusive GSA for the area within the basin the agency is managing as described in the notice, provided that no other GSA formation notice covering the same area has been submitted to DWR; and

WHEREAS, in accordance with Water Code Section 10723(b) and Government Code Section 6066, a notice of public hearing was published in a newspaper of general circulation

regarding EMWD's intent to become a GSA for a portion of the San Jacinto Basin, as described in the notice; and

WHEREAS, becoming a GSA supports EMWD's ongoing efforts to conduct groundwater management within the region and to ensure groundwater and drinking water sustainability within the area served by EMWD;

NOW, THEREFORE, THE BOARD OF DIRECTORS OF EASTERN MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE, DETERMINE AND ORDER AS FOLLOWS:

1. EMWD hereby elects to be the GSA for the geographical area depicted on the map attached to this Resolution as Exhibit A, covering that portion of the unadjudicated San Jacinto Basin underlying (or within) the jurisdictional boundaries of EMWD.
2. EMWD staff is directed to submit to DWR, within 30 days of the approval of this Resolution, a map of the basin area EMWD intends to manage under SGMA, a copy of this Resolution, a list of interested parties developed pursuant to Section 10723.2 of the Act with an explanation of how their interests will be considered in the development and implementation of the agency's groundwater sustainability plan, and any other supporting documentation required by SGMA to support EMWD's formation of a GSA.
3. This Resolution shall be effective upon its adoption.

DATED: December 7, 2016



Randy A. Record, President

I hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by the Board of Directors of the Eastern Municipal Water District at its meeting held on December 7, 2016.

ATTEST:



Sheila Zelaya, Board Secretary

(SEAL)









EASTERN MUNICIPAL WATER DISTRICT
Sustainable Groundwater Management Act
Formation of a Groundwater Sustainability Agency for the
West San Jacinto Basin

Exhibit A

San Jacinto Basin

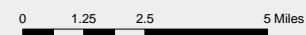
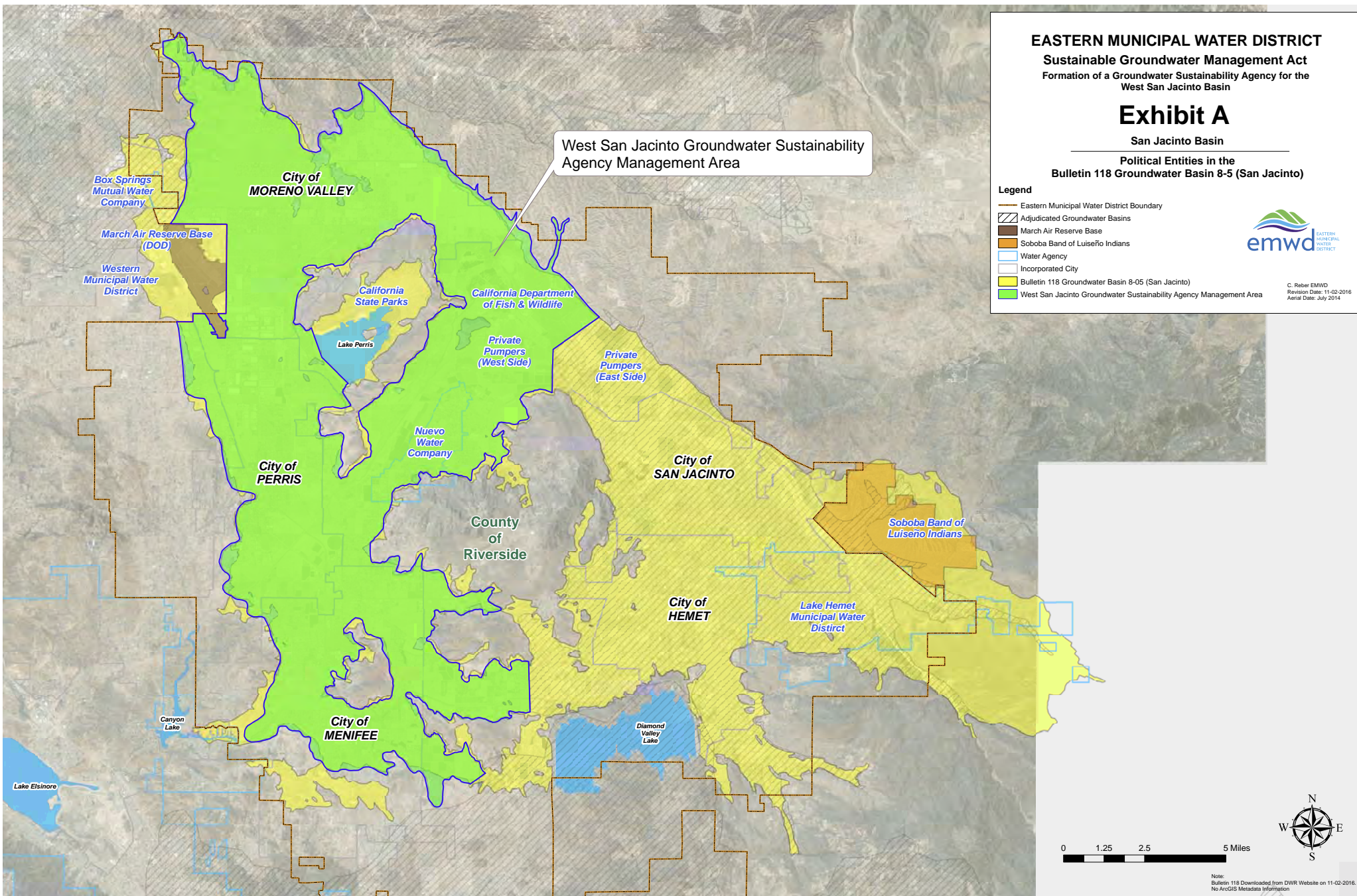
Political Entities in the
 Bulletin 118 Groundwater Basin 8-5 (San Jacinto)

Legend

-  Eastern Municipal Water District Boundary
-  Adjudicated Groundwater Basins
-  March Air Reserve Base
-  Soboba Band of Luiseño Indians
-  Water Agency
-  Incorporated City
-  Bulletin 118 Groundwater Basin 8-05 (San Jacinto)
-  West San Jacinto Groundwater Sustainability Agency Management Area



C. Reber EMWD
 Revision Date: 11-02-2016
 Aerial Date: July 2014



Note:
 Bulletin 118 Downloaded from DWR Website on 11-02-2016.
 No ArcGIS Metadata Information



Sustainable Groundwater Management Act

Public Hearing - Groundwater Sustainability Agency Formation

Michael D. Nusser
December 7, 2016

Overview of California Groundwater Management

- The lack of adequate rainfall and surface water supplies is forcing many water users to increase groundwater production
- Many groundwater basins within the state are experiencing water levels at their lowest levels ever and are in severe overdraft
- This decline has prompted state legislators to create legislation that leads to the sustainable management of California's 431 groundwater basins



Sustainable Groundwater Management Act

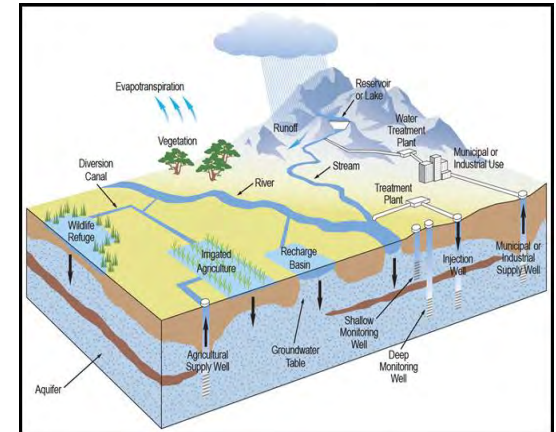
Sustainable Groundwater Management Act (SGMA)
was signed into law on September 16, 2014



Sustainable Groundwater Management Act

Under SGMA, groundwater management is no longer voluntary

- SGMA grants new and additional groundwater management authorities to Groundwater Sustainability Agencies (GSA)
- GSAs must develop and implement Groundwater Sustainability Plans (GSPs) that must contain measurable objectives for the groundwater basin that will reach sustainability goals
- State will now review whether local GSPs achieve sustainability
- State intervention in groundwater basin management is now possible if local agencies are not making adequate progress towards sustainability



Sustainable Groundwater Management Act

Forming a Groundwater Sustainability Agency is mandatory under SGMA (Water Code §10735.2)

- Basins that do not have a Groundwater Sustainability Agency formed by June 30, 2017, will be considered “probationary” by the State
- Local agencies have 180 days to remedy the deficiency (i.e., form a GSA)
- If not corrected, the State will intervene and develop and adopt an interim groundwater plan for the basin
 - State would establish its own reporting requirements
 - Collection of fees to implement the plan



Critical Dates for the Sustainable Groundwater Management Act



Jan 2016

- Regulations finalized for basin boundary adjustments



June 2016

- Regulations finalized for evaluating and implementing Groundwater Sustainability Plans



June 2017

- Local Groundwater Sustainability Agencies for high and medium priority basins must be formed

Jan 2020

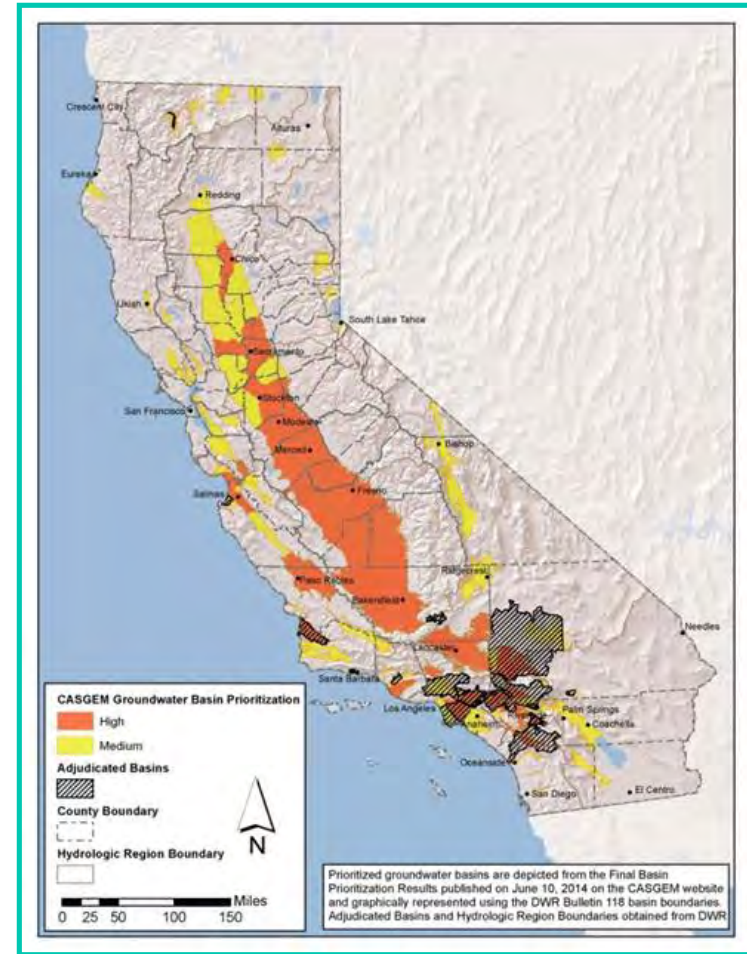
- Groundwater Sustainability Plans must be complete and approved by DWR

2040

- Basins must achieve sustainability goals

Sustainable Groundwater Management Act

- DWR Published the Final Groundwater Basin Prioritization Results in January 2015
 - California's 431 Groundwater Basins Categorized as High, Medium, Low, and Very Low Priority
 - 43 Basins Prioritized as High
 - 84 Basins Prioritized as Medium
- San Jacinto Basin is a High Priority Basin due to water quality/salinity
 - Required to have a Groundwater Sustainability Agency
 - Required to have a GSP
 - Groundwater sustainability must be achieved within 20 years



The 127 basins designated as High or Medium Priority include 96 percent of the annual groundwater use and 88 percent of the 2010 population overlying the groundwater basin area.

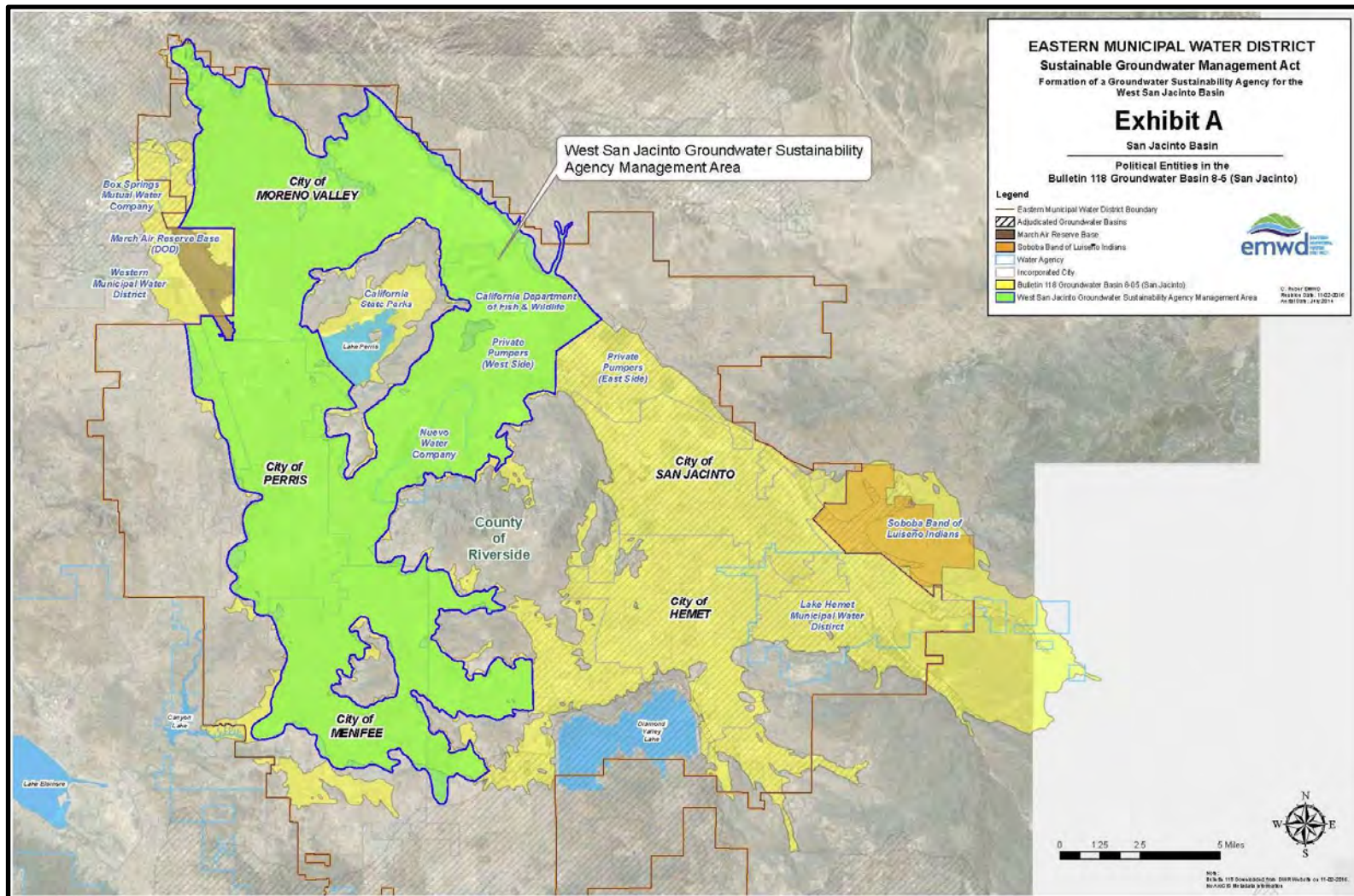
Formation of the West San Jacinto Basin Groundwater Sustainability Agency

EMWD is electing to become the GSA for the West San Jacinto Groundwater Basin Management Area:

- Recognized by DWR as the Regional water agency in the San Jacinto Basin
- State-designated agency for both the Groundwater Extraction Recordation and California Statewide Groundwater Elevation Monitoring (CASGEM) programs in the San Jacinto Basin
- Already actively managing the West San Jacinto through its voluntary AB 3030 Groundwater Management Plan, since 1995
- Implementing a salt and nutrient management program (Menifee and Perris Desalters, Inland Empire Brine Line, etc.)
- Actively pursuing federal, state, and local grant funding for the benefit of the region's groundwater management
- EMWD has and will continue to conduct these activities at its own expense

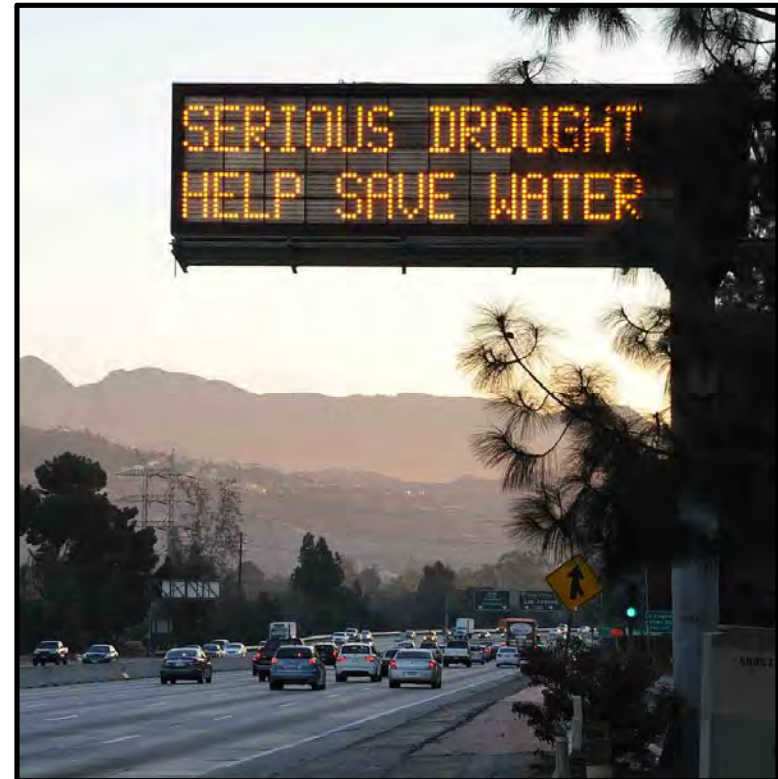


West San Jacinto Basin Groundwater Sustainability Agency Management Area



Groundwater Sustainability Agency Responsibilities

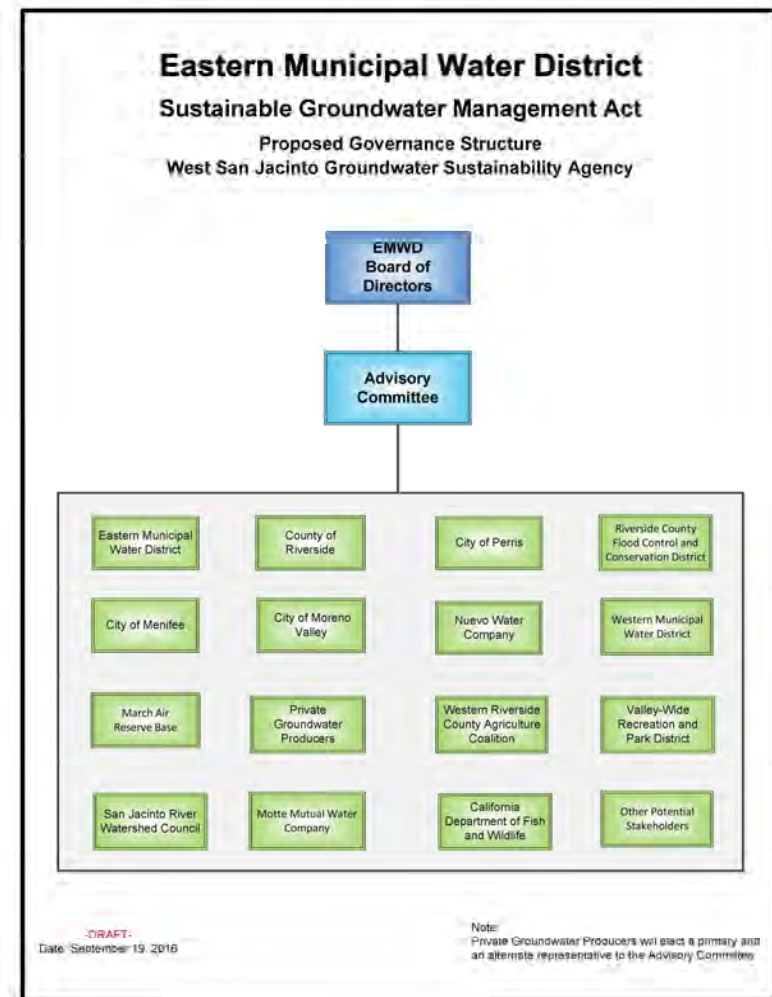
- Register and monitor wells
- Measure and/or manage groundwater extractions
- Conduct studies
- Implement projects and programs to meet groundwater management goals
- Develop and implement a GSP
- Submit annual reports to DWR
- Assess fees as necessary to cover the cost of groundwater management



EMWD currently monitors wells producing 25 acre-feet per year (AFY) or more. Private well owners using less than 2 AFY for domestic use are exempt from the reporting requirements of SGMA.

West San Jacinto Basin Groundwater Sustainability Agency Governance Structure

- Outreach & collaboration with stakeholders
 - Sept. 27, 2016 Workshop
 - Letters of Support from local agencies, water companies, private pumpers and other stakeholders
- Hold Public Hearing and Adopt Resolution Establishing EMWD as the West San Jacinto Basin Groundwater Sustainability Agency
- Governance Structure
 - EMWD Board of Directors acting as GSA
 - GSA Advisory Committee comprised of all interested stakeholders within WSJ Basin area providing input to GSP development



Formation of the West San Jacinto Basin Groundwater Sustainability Agency

Upon adoption of a Resolution forming a GSA by EMWD's Board of Directors

- Within 30 days, notify DWR of consensus that EMWD intends to become the GSA for the West San Jacinto Basin Groundwater Management Area
- DWR will post EMWD's intent on their public website
- Mandatory 90-day public review and comment period
- DWR accepts GSA if no protests received



Recommendation

Adopt a Resolution which authorizes the General Manager, and/or his designee, to prepare the necessary data, conduct investigations, and file such application with the California Department of Water Resources to establish Eastern Municipal Water District as the Groundwater Sustainability Agency for the western portion of the San Jacinto Basin in accordance with the Sustainable Groundwater Management Act of 2014.



Contact Information

Michael D. Nusser
Water Resources Planning Manager
(951) 928-3777 Ext. 4514

Email: nusserm@emwd.org



MOTTE MUTUAL WATER

Motte Mutual Water
445 South D Street
Perris, CA 92570

November 3, 2016

Paul D. Jones II, P.E.
General Manager
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Dear Mr. Jones:


Motte Mutual Water had the pleasure of meeting with your agency on the Sustainable Groundwater Management Act (SGMA). After hearing the presentation and getting the opportunity to have our questions answered, Motte Mutual Water is in support of Eastern Municipal Water District (EMWD) forming and acting as the Groundwater Sustainability Agency (GSA) for the West San Jacinto Groundwater Basin Management Area in full compliance with the requirements of SGMA.

Water Code Section 10723(a) requires that "Any local agency or combination of local agencies overlaying a groundwater basin may elect to be a groundwater sustainability agency for that basin." And that a GSA "shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include [] all of the following: (a) Holders of overlying groundwater rights. [] (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. [] (g) The federal government []. []" (§ 10723.2)

The above statutory mandate makes it clear that Motte Mutual Water's interests will be considered in the development and operation of the GSA. We approve of the proposed governance structure of forming an Advisory Committee to the GSA Board. We understand that the proposed Advisory Committee will be comprised of the interested parties and stakeholders within the West San Jacinto Groundwater Basin Management Area and we look forward to participating on the committee. We also acknowledge that EMWD was instrumental in developing the Groundwater Management Plan in compliance with AB3030 and has been implementing the Plan since 1995. As such, EMWD is the most qualified agency to form and act as the GSA.

We appreciate your leadership in bringing the various organizations and parties together for this important effort.

Sincerely,



Mike Naggar
Manager, Motte Mutual Water



HIGHLAND FAIRVIEW
14225 Corporate Way
Moreno Valley, CA 92553
Tel: 951.867.5327

November 2, 2016

(Sent via email)

Paul D. Jones II, P.E.
General Manager
Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92572

Dear Mr. Jones:

After having the opportunity to hear your agency's presentation on the Sustainable Groundwater Management Act (SGMA) and answering the questions we had, Highland Fairview is in support of Eastern Municipal Water District (EMWD) forming and acting as the Groundwater Sustainability Agency (GSA) for the West San Jacinto Groundwater Basin Management Area in full compliance with the requirements of SGMA.

Water Code Section 10723(a) requires that "Any local agency or combination of local agencies overlaying a groundwater basin may elect to be a groundwater sustainability agency for that basin." And that a GSA "shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include all of the following: (a) Holders of overlying groundwater rights. (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. (g) The federal government." (§ 10723.2)

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We appreciate your leadership in bringing the various organizations and parties together for this important effort.

Sincerely,

Brian R. Hixson, P.E.
Vice President of Land Development

APPENDIX C
Groundwater Monitoring Network

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

Appendix C
Groundwater Monitoring Network

Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					Elevation	Quality	Production
21 Gun Club	20301	03S02W34E01E	1997 - current	Agricultural/Irrigation	Biannual	-	-
21 Gun Club OC	25371	03S02W34E02	2004 - current	Monitoring	Biannual	-	-
AG Sod Barret	20834	04S03W06Q1	1964 - 1966, 1997 - current	Agricultural/Irrigation	Biannual	-	-
AG Sod Main House	20839	04S03W07J01	2007 - current	Agricultural/Irrigation	Biannual	-	-
AG Sod Perris/Orange	20860	04S03W19A01S	1994 - current	Agricultural/Irrigation	Biannual	-	-
AG Sod South of Perris/Orange	25377	04S03W19A02	2010 - current	Agricultural/Irrigation	Biannual	-	-
Agri 0.25 Miles South 74	21748	05S03W13H01S	1995 - current	Agricultural/Irrigation	Biannual	-	Monthly
Agri 74/Briggs	21744	05S03W13A01	1994 - current	Agricultural/Irrigation	Biannual	-	-
Agri Leon/Holland	20965	06S02W05N01E	1998 - current	Agricultural/Irrigation	Biannual	Annual	-
Agri Matthews	20947	05S03W24C01	1993 - current	Agricultural/Irrigation	Biannual	Annual	-
Aqua Bella 01	25693	03S03W21A02	2007 - current	Monitoring	Biannual	-	-
Aqua Bella 02	25694	03S03W21H01	2010 - current	Municipal	Biannual	-	-
Bean Reservoir/12th	21998	04S03W24B01S	1999 - current	Agricultural/Irrigation	Biannual	-	-
Boere Dairy 01	22610	06S02W06P01	1991 - current	Agricultural/Irrigation	-	-	Monthly
Boere Dairy 02	22611	06S02W06P03	1993 - current	Agricultural/Irrigation	-	-	Monthly
Boere Dairy 03	22613	06S02W06Q02	1993 - current	Agricultural/Irrigation	-	-	Monthly
Boere Dairy 04	22612	06S02W06P04	1993 - current	Agricultural/Irrigation	-	-	Monthly
Boere Dairy 05	22614	06S02W06R02	1993 - current	Agricultural/Irrigation	-	-	Monthly
Bootsma South	20573	04S02W03M	2002 - current	Agricultural/Irrigation	-	Annual	Monthly
Bootsma, John	20804	04S02W09C01R	2002 - current	Agricultural/Irrigation	-	Annual	Monthly
Bouris Newport East of Menifee	22705	05S03W36N03	2001 - current	Agricultural/Irrigation	Biannual	-	-
Box Springs MWC 17	20372	03S04W10A	1984 - current	Municipal	-	-	Monthly
Cactus II Feeder MW-1	25839	--	2018 - current	Monitoring	Biannual	-	-

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

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					Elevation	Quality	Production
Cactus II Feeder MW-2	25838	--	2018 - current	Monitoring	Biannual	-	-
Cal Trans ROW Nursery	25351	04S03W26A02	2004 - current	Monitoring	Biannual	Annual	-
Clark Domestic	21464	04S04W01G01S	1995 - current	Domestic	Biannual	-	-
Clark House	21461	04S04W01A01S	1952, 1995 - current	Agricultural/Irrigation	Biannual	-	-
DeVuyst Alfalfa OC	21907	04S03W13R01	2002 - current	Monitoring	Biannual	-	-
Double Bar S North	20296	03S02W30B1	2013 - current	Domestic	-	-	Monthly
Double Bar S South	20297	03S02W30B2	2013 - current	Agricultural/Irrigation	-	-	Monthly
EMWD 42 Reche Canyon	21912	02S03W34C001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD 45 New Maxwell	20275	02S04W36R002S	1994 - current	Monitoring	Biannual	Annual	-
EMWD 46 Edgemont 02	21057	03S03W06N003S	1968 - current	Monitoring	Biannual	Annual	-
EMWD 48 Edgemont 04	21094	03S04W01J001S	1995 - current	Monitoring	Biannual	-	-
EMWD 49 Fir	22661	03S03W06N005S	2001 - current	Monitoring	Biannual	-	-
EMWD 51 Bonge East	20850	04S03W16B001S	1942, 1997 - current	Monitoring	Biannual	Annual	-
EMWD 51 Bonge West	21404	04S03W16B002S	1959, 1997 - current	Monitoring	Biannual	Annual	-
EMWD 52 Follico	23027	04S03W18J002S	1972 - current	Monitoring	Biannual	-	-
EMWD 53 Menifee Test East	21803	05S03W36P02S	1994 - current	Monitoring	Biannual	-	-
EMWD 55 Perris II	20848	04S03W09P01	1993 - current	Municipal	Quarterly	Annual	Monthly
EMWD 56 New Perry	20836	04S03W06Q04	1994 - current	Municipal	Quarterly	Monthly	Monthly
EMWD 57 New Follico	20858	04S03W18J03S	1995 - current	Municipal	Quarterly	Monthly	Monthly
EMWD 59 Indian	25353	04S03W06C003S	2007 - current	Municipal	Quarterly	-	-
EMWD 72 Menifee 02	21796	05S03W35Q001S	1994 - current	Monitoring	Biannual	-	-
EMWD 73 Menifee 03	21828	06S03W02D001S	1994 - current	Monitoring	Biannual	-	-
EMWD 74 Menifee 04	21829	06S03W02E001S	1994 - current	Monitoring	Biannual	Annual	-
EMWD 75 Salt Creek	22701	05S03W33G002S	2001 - current	Desalination	Quarterly	Annual	Monthly

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

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					Elevation	Quality	Production
EMWD 76 McLaughlin	22702	05S03W16K001S	2001 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 77 Ethanac	22706	05S03W15A001S	2003 - current	Monitoring	Biannual	-	-
EMWD 81 Antelope/Watson	25406	05S03W11M003S	2004 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 82 Mapes/Sherman	25408	05S03W03P002S	2005 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 83 Ellis/Sherman	25412	05S03W03C002S	2006 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 84 Ellis/Bradley	25414	05S03W04A002S	2005 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 85 Murrieta/Salt Creek	25416	05S03W32H002S	2006 - current	Desalination	Quarterly	-	Monthly
EMWD 86 Murrieta/San Jacinto	25418	04S03W32A004S	2006 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 87 Nuevo/Olivas	25420	04S03W25D003S	2006 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 88 Pico/San Jacinto	25424	04S03W26Q003S	2006 - current	Desalination	Quarterly	Monthly	Monthly
EMWD 89 Ethanac II	25426	05S03W15C001S	2006 - current	Desalination	Quarterly	Annual	Monthly
EMWD 93 Nuevo/Menifee	25779	04S03W23R01S	2016 - current	Desalination	Biannual	Monthly	Monthly
EMWD 94 12th St.	25801	04S03W24B03S	2018 - current	Desalination	-	Annual	Monthly
EMWD 95 13th St.	25802	04S03W24F01S	2018 - current	Desalination	-	Monthly	Monthly
EMWD 96 Santa Rosa	25803	04S03W35F01S	2018 - current	Desalination	-	Monthly	Monthly
EMWD A1	21714	05S03W03N001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD A2	21789	05S03W33K001S	1994 - current	Monitoring	Biannual	-	-
EMWD A3	21782	05S03W32A01	1994 - current	Monitoring	Biannual	Annual	-
EMWD B1	21720	05S03W04M001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD B2	21730	05S03W09H02	1994 - current	Monitoring	Biannual	Annual	-
EMWD B3	21729	05S03W09E01	1993 - current	Monitoring	Biannual	Annual	-
EMWD B4	21731	05S03W09H03	1993 - current	Monitoring	Biannual	Annual	-

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

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EMWD B5	21719	05S03W04A001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD B6	22759	05S03W03C001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD B7	22763	05S03W03L001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD B8 Perris RWRP Open Casing	22666	05S03W09F002R	2000 - current	Monitoring	Biannual	Annual	-
EMWD C1	21786	05S03W32H001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD C2	21783	05S03W32B001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD C3	21784	05S03W32C001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD C4	21787	05S03W32L001S	1993 - current	Monitoring	Biannual	Annual	-
EMWD C5	21785	05S03W32G001S	1976, 1993 - current	Monitoring	Biannual	Annual	-
EMWD MVRWRP North	25514	03S03W32B	2006 - current	Monitoring	Biannual	Annual	-
EMWD MVRWRP South	25516	03S03W32Q	2006 - current	Monitoring	Biannual	Annual	-
EMWD Perris/Iris	25767	03S03W30A002S	2014 - current	Monitoring	Biannual	Annual	-
EMWD Skiland 01	21438	04S03W26N01	1988 - current	Monitoring	Biannual	Annual	-
EMWD Skiland 02	21437	04S03W26M01	1988 - current	Monitoring	Biannual	Annual	-
EMWD Skiland 05	21436	04S03W26C02	1965, 1967, 1988 - current	Monitoring	Biannual	Annual	-
EMWD Trumble MW-1	25742	--	2014 - current	Monitoring	Biannual	Annual	-
EMWD Trumble MW-3	25746	--	2014 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 01	21684	05S02W30G02S	1994 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 02	21685	05S02W30G03S	1994 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 03	20910	05S02W30B02S	1994 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 04	20909	05S02W30B01S	1994 - current	Monitoring	Biannual	Annual	-

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Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					Elevation	Quality	Production
EMWD Winchester Ponds 05	20908	05S02W30A01S	1997 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 06	21686	05S02W30H01S	1994 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 07	21687	05S02W30H02S	1994 - current	Monitoring	Biannual	Annual	-
EMWD Winchester Ponds 08	21688	05S02W30H03S	1994 - current	Monitoring	Biannual	Annual	-
Fish & Game 0.26 mi. West of Bridge	21044	03S02W35Q01E	1995 - current	Agricultural/Irrigation	Biannual	-	-
Fish & Game Abandoned	21022	03S02W29Q01R	1997 - current	Monitoring	Biannual	-	-
Fish & Game Bouris	21890	03S02W19A01	2002 - current	Agricultural/Irrigation	Biannual	Annual	-
Fish & Game Bouris Monitoring	21891	03S02W18R02	2002 - current	Monitoring	Biannual	-	-
Fish & Game Bridge St North of River	20564	04S02W02D01	1995 - current	Agricultural/Irrigation	Biannual	-	-
Fish & Game Cannery North of Rhodda	20562	04S02W02C02R	1996 - current	Agricultural/Irrigation	Biannual	-	-
Fish & Game Domestic	22678	03S02W32E01E	2008 - current	Domestic	Biannual	-	-
Fish & Game Fence	22676	03S02W29P02R	2002 - current	Monitoring	Biannual	-	-
Fish & Game New Domestic	22733	03S02W32D02	2003 - current	Domestic	-	Annual	-
Fish & Game Operating	21023	03S02W29Q02R	1967 - 1968, 1997 - current	Agricultural/Irrigation	Biannual	-	-
Fish & Game Pheasant	22677	03S02W29P01R	2002 - current	Monitoring	Biannual	-	-
Fish & Game Rhodda	21324	04S02W02C1	1952, 1968, 1973, 1995 - current - current	Agricultural/Irrigation	Biannual	-	-
Fish & Game South	21031	03S02W33P01E	1967 - 1968, 1997 - current	Monitoring	Biannual	Annual	-
Fish & Game Walker Duck Club	20293	03S02W28L01E	1996 - current	Agricultural/Irrigation	Biannual	-	Monthly

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

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Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					Elevation	Quality	Production
Fish & Game West	22680	03S02W31L01R	2000 - current	Monitoring	Biannual	Annual	-
Foxboro OC	25363	04S03W26K05R	2005 - current	Monitoring	Biannual	-	-
Goyenette Dairy (Ferriera)	21345	04S02W09D01E	1996 - current	Agricultural/Irrigation	-	Annual	Monthly
Hammerschmidt 02	20794	04S02W07J02R	1992 - current	Agricultural/Irrigation	Biannual	-	-
K & M Dairy New	22670	06S02W09E02R	2000 - current	Agricultural/Irrigation	Biannual	-	Monthly
K & M Dairy Old	22172	06S02W09E01R	2015 - current	Monitoring	Biannual	-	-
Lakeview Hot Springs	22681	04S03W12J	1999 - current	Agricultural/Irrigation	Biannual	-	-
Lauda Electric	21362	04S02W18C01S	1996 - current	Monitoring	Biannual	-	-
Marvo Holsteins	20572	04S02W03L	2002 - current	Agricultural/Irrigation	-	Annual	Monthly
Marvo Holsteins East (List)	20571	04S03W03J01R	1998, 2007 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
McAnally Farms	22682	04S02W09H01E	1995 - current	Agricultural/Irrigation	Biannual	-	Monthly
McCanna Ranch 01	25355	04S03W09H01	2004 - current	Municipal	-	Annual	Monthly
McCanna Ranch 02	25357	04S03W09H02	2004 - current	Municipal	-	Annual	Monthly
McCanna Ranch 03	25359	04S03W10E04	2004 - current	Municipal	-	Annual	Monthly
McCanna Ranch 04	25361	04S03W10M01	2004 - current	Municipal	-	Annual	Monthly
Menifee Lakes 01	21834	06S03W02H01R	1991 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
Menifee Lakes 02	21832	06S03W02G02R	1989 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
Menifee Lakes 03	21833	06S03W02G03R	1991 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
Menifee Lakes 04	21835	06S03W02J01E	1996 - current	Agricultural/Irrigation	Biannual	-	-
Moreno Highlands/Alta Dena Dairy 01	20285	03S02W07R01E	1999 - current	Agricultural/Irrigation	Biannual	-	-
Motte East	20807	04S02W10C1	1967 - current	Agricultural/Irrigation	Biannual	-	Monthly
Motte West	20808	04S02W10D1	1967, 1991 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
Mystic Duck Club	20294	03S02W28Q02R	1995 - current	Agricultural/Irrigation	Biannual	-	Monthly

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

Appendix C
Groundwater Monitoring Network

Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					Elevation	Quality	Production
Northeast of Grand/Briggs	22674	05S02W19N01E	1993 - current	Monitoring	Biannual	-	-
Nutrilit 02	21344	04S02W08Q01R	1967, 1993 - current	Agricultural/Irrigation	-	Annual	Monthly
Nutrilit 04	21342	04S02W08G01	1993 - current	Agricultural/Irrigation	-	Annual	Monthly
Nutrilit 07	20798	04S02W08A	1993 - current	Agricultural/Irrigation	Biannual	Annual	-
Nutrilit 08	21340	04S03W08E01	1995 - current	Agricultural/Irrigation	-	-	Monthly
NWC 04	20818	04S02W18A1	1965 - current	Monitoring	Biannual	Annual	-
NWC 11	21361	04S02W18B01S	1965 - current	Monitoring	Biannual	Annual	-
NWC 12	20795	04S02W07N01	1988 - current	Monitoring	Biannual	Annual	-
NWC 13	22481	04S02W07P02	2003 - current	Municipal	Biannual	Annual	-
NWC 14	20796	04S03W07P01S	1994 - current	Monitoring	Biannual	Annual	-
NWC 15	25752	04S02W08Q02	2023 - current	Municipal	Biannual	Annual	-
NWC Archibek aka Piester Well	21367	04S02W18K01E	1996 - current	Agricultural/Irrigation	-	Annual	Monthly
Offinga Dairy North	20802	04S02W09A01	1967-1968, 2003 - current	Agricultural/Irrigation	Biannual	Annual	Monthly
Offinga Dairy South	20805	04S02W09H	2002 - current	Agricultural/Irrigation	-	Annual	Monthly
Perris Properties Ellis	21457	04S03W33Q01	1981, 1987-88, 1993 - current	Monitoring	Biannual	Annual	-
Perris Properties Kmart	21456	04S03W33E01	1993 - current	Monitoring	Biannual	Annual	-
Perris Properties San Jacinto	22735	04S03W33D02	2003 - current	Monitoring	Biannual	Annual	-
Piester Pico	20879	04S03W35B01	1998 - current	Agricultural/Irrigation	Biannual	Annual	-
Ramona Hunt Club 02	20299	03S02W32	2013 - current	Agricultural/Irrigation	-	-	Monthly
Rheingans Middle	20904	05S02W22G02	1952-53, 2003 - current	Agricultural/Irrigation	Biannual	Annual	-
Rheingans North	20903	05S02W22G01R	1984 - current	Agricultural/Irrigation	-	-	Monthly
Rheingans South	22675	05S02W22G03R	2000 - current	Agricultural/Irrigation	Biannual	Annual	-

Groundwater Sustainability Plan for the San Jacinto Groundwater Basin

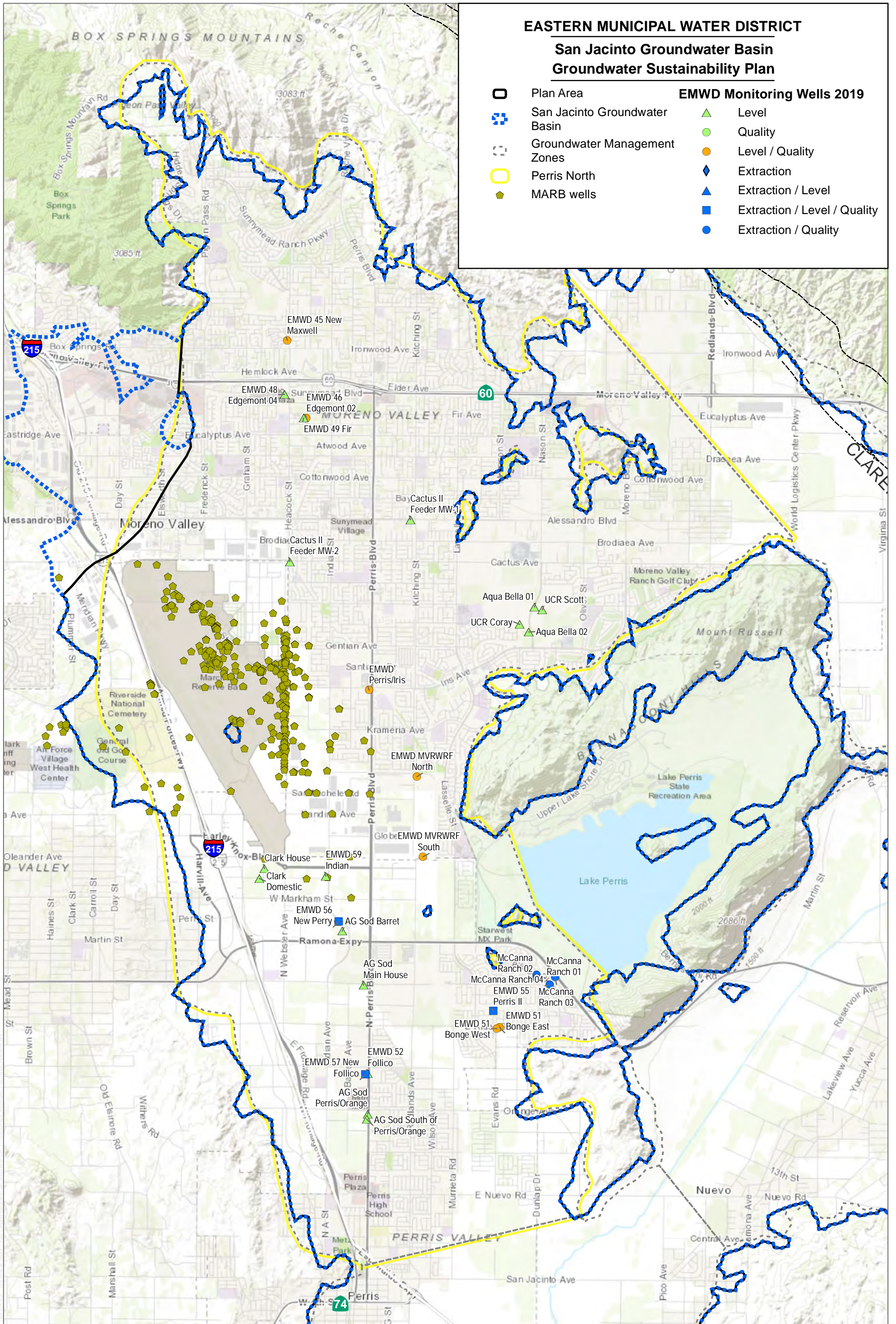
Appendix C
Groundwater Monitoring Network

Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					Elevation	Quality	Production
Rheingans South Ag	25538	05S02W22K01	2007 - current	Agricultural/Irrigation	Biannual	-	Monthly
Rheingans South Property Line	25733	05S02W22K02	2014 - current	Agricultural/Irrigation	Biannual	-	Monthly
Schvaneveldt, Blaine	22761	05S03W03K01E	1984 - current	Stock Watering	-	-	Monthly
Smith C Jackson	25757	05S03W10K01	2014 - current	Monitoring	Biannual	Annual	-
Smith C Mapes	21717	05S03W03R01S	1963 - current	Agricultural/Irrigation	Biannual	Annual	-
Smith C Mapes OC	21718	05S03W03R02S	1997 - current	Monitoring	Biannual	-	-
Smith C Nuevo/Olivas	21434	04S03W25C01E	1995 - current	Agricultural/Irrigation	Biannual	Annual	-
Smith C Rouse OC	20931	05S03W16P01S	1955 - 1958, 1995 - current	Monitoring	Biannual	Annual	-
Smith G Nuevo/Olivas	21999	04S03W25D	2003 - current	Agricultural/Irrigation	Biannual	-	-
Southern CA Edison	21746	05S03W13C01E	1993 - current	Monitoring	Biannual	Annual	-
Troost/Bootsma	20791	04S02W04J	1996 - current	Agricultural/Irrigation	-	Annual	Monthly
UCR Coray	20348	03S03W21A	1977, 1986, 1994 - current	Agricultural/Irrigation	Biannual	-	-
UCR Scott	21082	03S03W22D01S	1977, 1986, 1993 - current	Agricultural/Irrigation	Biannual	-	-
Underwood 0.5 Miles West of Menifee/McCall	21761	05S03W23C01E	1998 - current	Agricultural/Irrigation	Biannual	-	-
USGS Gilman Springs/Virginia	21015	03S02W08E01S	1941 - current	Monitoring	Biannual	-	-
USGS Sun City Golf Course Blue	22668	05S03W28K04	2003 - current	Monitoring	Biannual	-	-
USGS Sun City Golf Course Green	22668	05S03W28K03	2003 - current	Monitoring	Biannual	-	-
USGS Sun City Golf Course Red	22668	05S03W28K01	2003 - current	Monitoring	Biannual	-	-
USGS Sun City Golf Course Yellow	22668	05S03W28K02	2003 - current	Monitoring	Biannual	-	-

Appendix C
Groundwater Monitoring Network

Common Well Name ^a	Well Site ID	State Well Identification (SWID)	Period of Record	Well Use	Groundwater Monitoring Networks and Frequency		
					<i>Elevation</i>	<i>Quality</i>	<i>Production</i>
Walker Lakeview	21339	04S02W07Q01E	1996 - current	Monitoring	Biannual	-	-
Wilderness Lakes	21824	06S03W01J01R	1991 - current	Agricultural/Irrigation	-	Annual	Monthly

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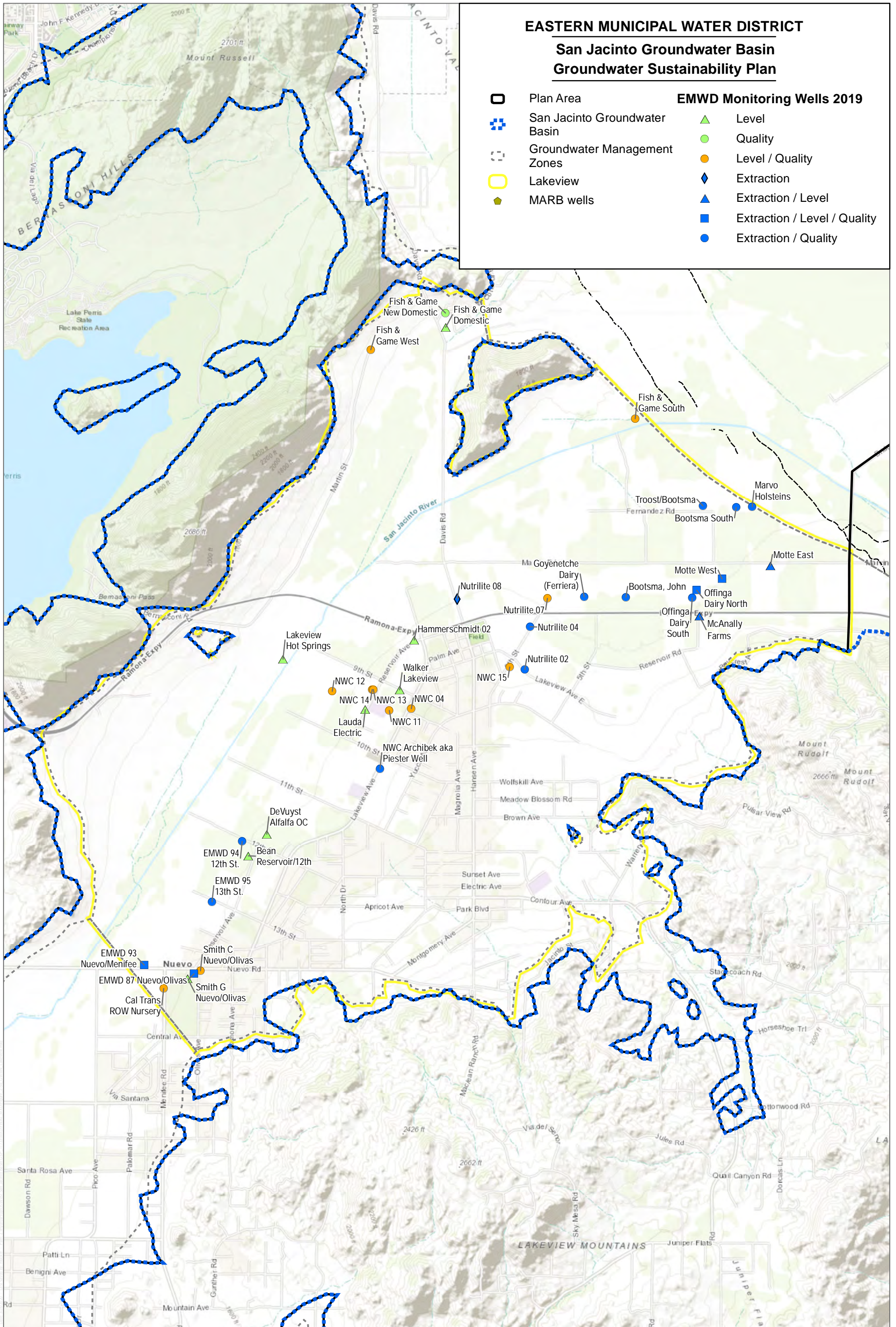
SOURCE: EMWD, ESRI



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FIGURE C-1 Groundwater Monitoring Network - Perris North Groundwater Management Zone

San Jacinto Groundwater Basin Groundwater Sustainability Plan



SOURCE: EMWD, ESRI



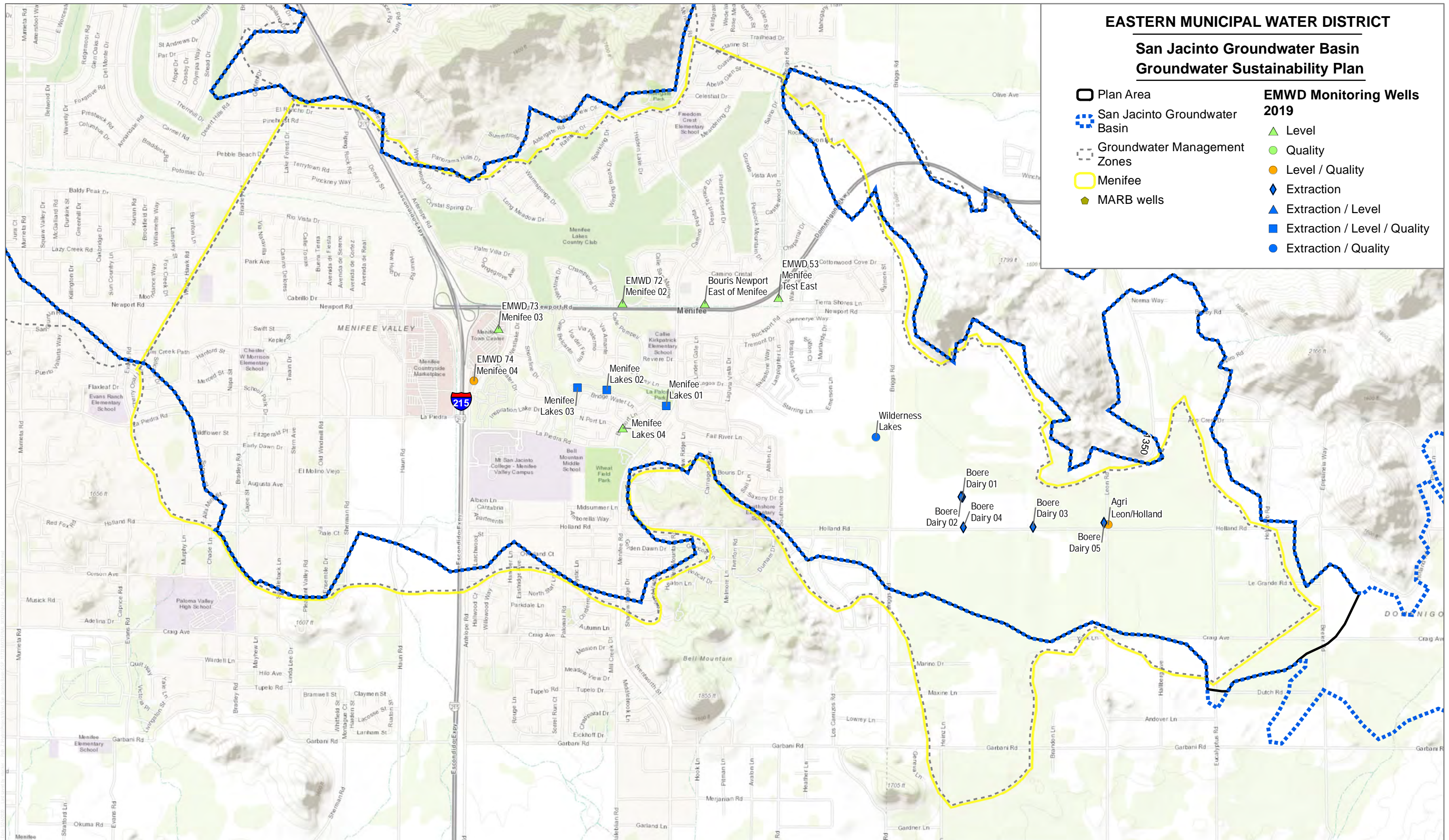
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FIGURE C-3
 Groundwater Monitoring Network - Lakeview Groundwater Management Zone
 San Jacinto Groundwater Basin Groundwater Sustainability Plan

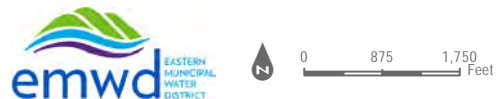
EASTERN MUNICIPAL WATER DISTRICT

San Jacinto Groundwater Basin Groundwater Sustainability Plan

- Plan Area
 - San Jacinto Groundwater Basin
 - Groundwater Management Zones
 - Menifee
 - MARB wells
-
- ### EMWD Monitoring Wells 2019
- Level
 - Quality
 - Level / Quality
 - Extraction
 - Extraction / Level
 - Extraction / Level / Quality
 - Extraction / Quality

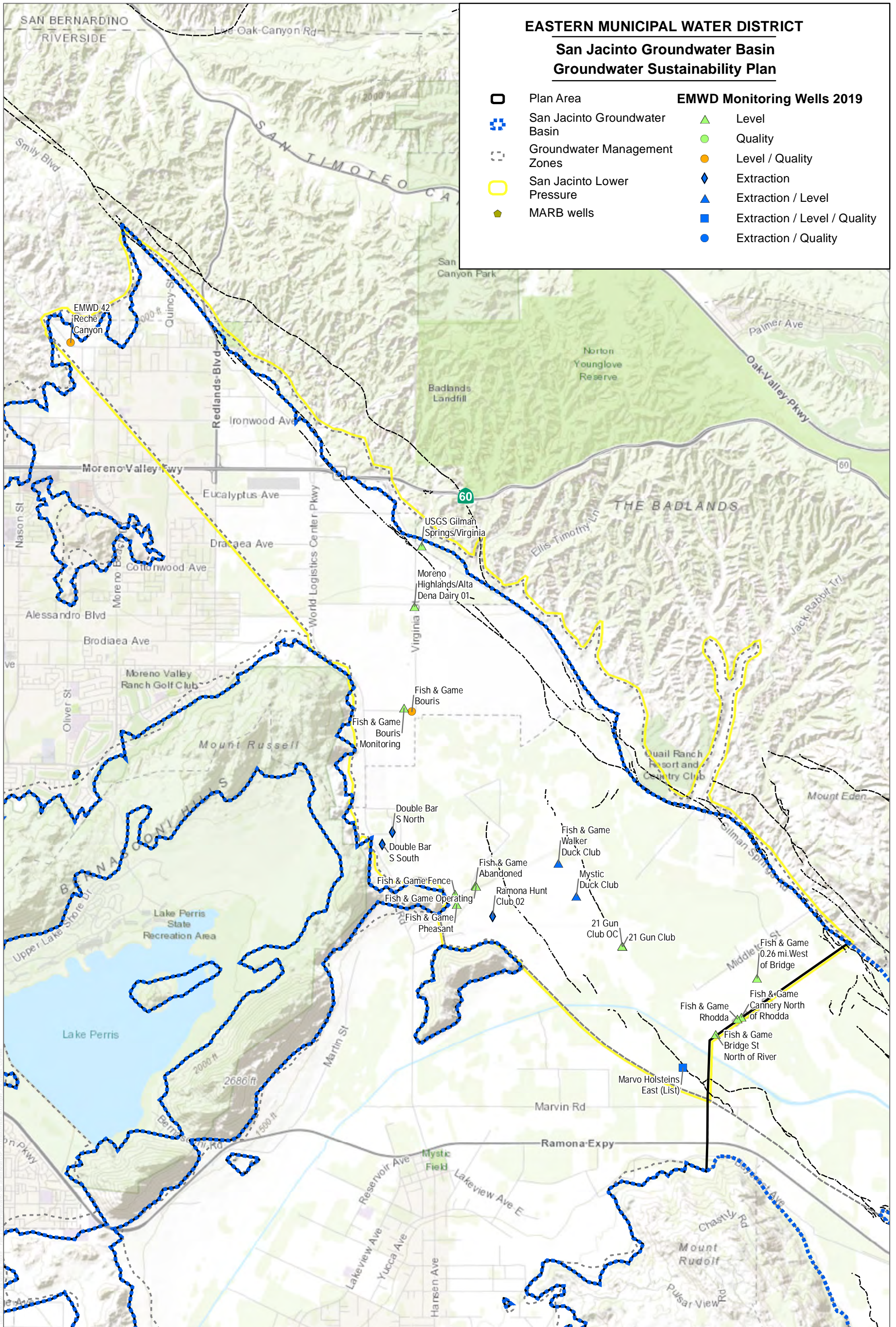


SOURCE: EMWD, ESRI



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FIGURE C-4
Groundwater Monitoring Network - Menifee Groundwater Management Zone
San Jacinto Groundwater Basin Groundwater Sustainability Plan



SOURCE: EMWD, ESRI



DRAFT Groundwater Monitoring Network - San Jacinto Lower Pressure Groundwater Management Zone

FIGURE C-5

APPENDIX D
Stipulated Judgement

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FILED
SUPERIOR COURT OF CALIFORNIA
COUNTY OF RIVERSIDE
APR 18 2013
D. Pollard

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.:
A California Municipal Water District,)	
	)	STIPULATED JUDGMENT
)	
Plaintiff,)	
vs.)	
)	
CITY OF HEMET;)	
CITY OF SAN JACINTO;)	
LAKE HEMET MUNICIPAL WATER)	
DISTRICT;)	
DOES 1 through 1,000, inclusive,)	
)	
Defendants.)	
)	

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FINDINGS

After consideration of the pleadings and the Stipulation for Entry of Judgment, the Court finds that:

1. **Complaint.** On May 16, 2012, Plaintiff Eastern Municipal Water District ("Eastern") filed a Complaint against Defendants Lake Hemet Municipal Water District ("Lake Hemet"), City of Hemet ("Hemet"), City of San Jacinto ("San Jacinto"), and DOES 1 through 1,000, inclusive. The Complaint requests a declaration of Plaintiff's and Defendants' individual and collective rights to Surface Water and Groundwater in the Canyon Subbasin, the San Jacinto Upper Pressure Subbasin downstream to Bridge Street, and the Hemet Basin ("Management Area") and the imposition of a Physical Solution to achieve the optimum, reasonable, beneficial use of the waters of the Management Area pursuant to section 2 of article X of the California Constitution. A map describing the boundaries of the Management Area is attached to this Judgment as Exhibit "A" and to the Complaint.

2. **Parties.**

A. **Eastern.** Eastern is a California municipal water district formed pursuant to the Municipal Water District Law, California Water Code Sections 71000-73001 (West 1966), with its principal place of business in Riverside County, California. Eastern diverts Surface Water from the San Jacinto River, and pumps Groundwater from the Management Area for use by its customers within its boundaries.

B. **Lake Hemet.** Lake Hemet is a California municipal water district formed pursuant to the Municipal Water District Law, California Water Code Sections 71000-73001 (West 1966), with its principal place of business in Riverside County, California. Lake Hemet diverts Surface Water from the Santa Jacinto River and its tributaries, and pumps Groundwater from the Management Area for use by its customers within its boundaries.

C. **Hemet.** Hemet is a California municipal corporation providing utility services pursuant to the California Constitution, article XI, section 9. Hemet pumps Groundwater from the Management Area for use by its customers within its boundaries.

1 **D. San Jacinto.** San Jacinto is a California municipal corporation providing
2 utility services pursuant to the California Constitution, article XI, section 9. San Jacinto pumps
3 Groundwater from the Management Area for use by its customers within its boundaries.

4 **E. Pumpers.** Does 1 through 1,000, inclusive, are Persons or entities who
5 own farms or other property within the Management Area, and pump Groundwater from the
6 Management Area.

7 **3. Answers and Stipulation for Judgment.** All defendants have filed Answers,
8 and all Parties have filed a Stipulation for Entry of Judgment.

9 **4. Sole Producers.** Other than the Soboba Band of Luiseño Indians, and certain
10 overlying users not Parties to this litigation, the Parties claim essentially all of the rights to
11 produce Surface Water and Groundwater in the Management Area.

12 **5. Importance of Surface Water and Groundwater.** Surface water and
13 Groundwater from the Management Area are important water supplies for agriculture, domestic
14 and municipal use. The Parties have a mutual and collective interest in the coordinated
15 management of such water resources to ensure that the common resource is used efficiently and
16 reasonably, and that it is sustained and replenished.

17 **6. Overdraft.** It is estimated that the Overdraft of the Management Area is
18 approximately 10,000 acre-feet per year. This estimate will be refined through further studies to
19 be completed pursuant to the Water Management Plan, including data on the several subbasins
20 within the Management Area. Studies confirm that in recent years the total Groundwater
21 production from the Management Area, including pumping by those Persons not Parties to this
22 litigation, has averaged approximately 54,800 acre-feet per year.

23 **7. Importance of Judgment.** The Parties have an interest in the Physical Solution
24 imposed by this Judgment to promote the efficient and coordinated management of Surface
25 Water and Groundwater, to avoid problems from Overdraft, to assist in protecting the rights of
26 the Soboba Band of Luiseño Indians, to sustain and enhance water resources, and to resolve
27 competing claims to Surface Water and Groundwater.

28 **8. Jurisdiction.** This Court has jurisdiction to enter this Judgment declaring and

1 adjudicating the rights of the Parties to the reasonable and beneficial use of Surface Water and
2 Groundwater in the Management Area, and to impose a Physical Solution pursuant to law,
3 including California Constitution, article X, section 2.
4

5 **JUDGMENT**
6

7 **IT IS ORDERED, ADJUDGED AND DECREED:**

8 **1. DEFINITIONS.**

9 **1.1 Adjusted Production Right** – the Base Production Right of each Public
10 Agency, as adjusted pursuant to Sections 3.2 to 3.2.5.

11 **1.2 Administrative Assessment** – an acre-foot charge to be levied against
12 each Public Agency for water pumped up to its Adjusted Production Right, including any unused
13 amount of such Right that is pumped in a following year (Carry-Over Credit). Such assessments
14 shall be used for Administrative Expenses, and for the purchase of Supplemental Water after
15 Administrative Expenses have been paid. No Administrative Assessment shall be levied on a
16 Party's pumping of its share of Imported, Supplemental, or Stored Water.

17 **1.3 Administrative Expenses** – Include, but are not limited to,
18 Watermaster's expenses for office rental, personnel, supplies, office equipment, general
19 overhead, preparing and collecting assessments, monitoring well pumping, measuring water
20 levels, sampling and analyzing water quality, compiling and interpreting collected data,
21 conducting special studies, litigation, and such other expenses as are reasonable and necessary
22 for the Watermaster to carry out its duties under the Physical Solution and Water Management
23 Plan.

24 **1.4 Advisor.** An independent engineering firm or qualified individual as
25 provided in Section 9.6.3.

26 **1.5 Annual Basin Yield** – the quantity of Groundwater that Watermaster
27 determines the Parties may Produce from the Management Area in a calendar year without a
28 replenishment obligation under the Physical Solution.

1 **1.6 Base Production Right** – a water right of a Public Agency or Class B
2 Participant.

3 **1.7 Carry-Over Credit** – a Public Agency’s or a Class B Participant’s credit
4 against the Replenishment Assessment in a Fiscal Year, based on the Agency’s Adjusted or Base
5 Production Right or share of Imported Water not produced in prior calendar years.

6 **1.8 Class A Participant** – a Private Pumper who stipulates to this Judgment
7 and participates in the Water Management Plan as defined in Sections 4.3 to 4.3.5.

8 **1.9 Class B Participant** – a Private Pumper who stipulates to this Judgment
9 and participates in the Water Management Plan as defined in Sections 4.4 to 4.4.6.

10 **1.10 Fiscal Year** – the period from July 1 through June 30 of the following
11 calendar year.

12 **1.11 Fruitvale Documents** –

13 **(a) Fruitvale Judgment** – The Judgment and Decree entered in the
14 Superior Court for the County of Riverside on June 4, 1954, in an action titled The City of San
15 Jacinto, et al. v. Fruitvale Mutual Water Company, et al., Case No. 51-546;

16 **(b) Fruitvale Mutual Water Company Sale of Assets to Eastern** –
17 That certain “Agreement for the Sale of Assets of the Fruitvale Mutual Water Company to
18 Eastern Municipal Water District” dated September 10, 1971 (“Purchase Agreement”);

19 **(c) Fruitvale Mutual Water Company Agency Agreements** – The
20 Agreement Between the City of San Jacinto and Eastern Municipal Water District dated
21 November 2, 1971, the Agreement Between Lake Hemet Municipal Water District and Eastern
22 Municipal Water District dated June 9, 1972, and the Agreement Between the City of Hemet and
23 Eastern Municipal Water District dated June 13, 1972, all providing for recognition of ownership
24 of stock in Fruitvale Mutual Water Company by the Cities and by Lake Hemet, and making
25 provision for the continued sale of water produced through the Fruitvale facilities by Eastern to
26 the Cities and to Lake Hemet.

27 **1.12 Groundwater** – all water within and beneath the ground surface of the
28 Management Area.

1 **1.13 Groundwater Degradation** (also “groundwater quality degradation” and
2 “water quality degradation,” “Degradation” and “Degraded Groundwater”) – Water
3 contamination as defined in state and/or federal law, and other conditions of reduced water
4 quality as determined by the Watermaster to be harmful or undesirable for the operation of the
5 Management Area.

6 **1.14 Imported Water** – An average of 7,500 acre feet annually of water sold
7 by The Metropolitan Water District of Southern California to Eastern pursuant to Section 4.4 of
8 the Soboba Band of Luiseño Indians “Settlement Agreement.”

9 **1.15 In-Lieu Water** – Groundwater that is not pumped, but which would have
10 otherwise been pumped by the holder of an Overlying or Appropriative Right within the
11 Management Area, by virtue of the pumper’s agreement with an Agency or the Watermaster to
12 receive and use Recycled Water or other nonpotable water in lieu of Groundwater.

13 **1.16 Management Area** –the Canyon, the San Jacinto Upper Pressure, and the
14 Hemet North and Hemet South Basins, as delineated on the map attached as Exhibit “A.”

15 **1.17 Metropolitan** – The Metropolitan Water District of Southern California.

16 **1.18 Natural Recharge** – Groundwater replenishment within the Management
17 Area occurring from precipitation on the surface, percolation from surface flows of the San
18 Jacinto River and its tributaries, spreading or injection of such surface flows, return flows from
19 irrigation, and subsurface inflows.

20 **1.19 New Pumper** – a Private Pumper who pumps for the first time after entry
21 of Judgment herein.

22 **1.20 Non-Participant** – a Private Pumper who elects not to participate in the
23 Management Plan, or to be a Party to this Judgment.

24 **1.21 Overdraft** – a condition whereby pumping in the Management Area
25 exceeds the Safe Yield thereof.

26 **1.22 Overlying Right** – the appurtenant right of an owner of land overlying the
27 Management Area to pump water from such land for beneficial use thereon.
28

1 **1.23 Party or Parties** – Eastern, Lake Hemet, Hemet, San Jacinto and the other
2 Persons listed in the attached Exhibit “B.”

3 **1.24 Person** – any individual, partnership, association, corporation, trust,
4 government agency or other organization.

5 **1.25 Physical Solution** – the Court decreed method of managing the water
6 supply of the Management Area to maximize the reasonable and beneficial use of the waters
7 thereof pursuant to the California Constitution, article X, section 2, to eliminate Overdraft
8 pursuant to the provisions of this Judgment, to protect the prior rights of the Soboba Tribe, and to
9 provide for the substantial enjoyment of all water rights recognizing their priorities.

10 **1.26 Private Pumper** – a Person who owns land with an Overlying Right or
11 other right in the Management Area and pumps more than 25 acre-feet per year. Private Pumper
12 includes New Pumpers.

13 **1.27 Public Agency or Agencies** – Eastern, Lake Hemet, Hemet and San
14 Jacinto.

15 **1.28 Recharge or Replenish** – to sink, spread or inject water directly or
16 indirectly underground in the Management Area.

17 **1.29 Recharge Right** – the rights of Eastern and Lake Hemet to pump and use
18 water previously replenished to the Management Area as provided in Section 6.7.4.

19 **1.30 Recycled Water** – treated wastewater which is processed and suitable for
20 controlled use in the Management Area, including Recharge.

21 **1.31 Replenishment Assessment** – a charge to be levied against each Public
22 Agency for each acre foot, or portion thereof, of Groundwater pumped in excess of the sum of its
23 respective Adjusted Production Right, its share of Imported Water, Stored Water, Supplemental
24 Water, and applicable Carry-Over Credits and Recharge Rights; and against each Class B
25 Participant for pumping in excess of its 1995-99 average production, i.e., its Base Production
26 Right. The rate of such assessments shall be determined by the Watermaster and shall be used
27 for Replenishment Expenses.
28

1 **1.32 Replenishment Expenses** – Watermaster expenses, including, but not
2 limited to, the acquisition of Supplemental Water supplies, development of In-Lieu Water
3 projects, acquisition or improvement of land, and for the construction, maintenance and
4 operation of facilities necessary to replenish Groundwater in the Management Area, or otherwise
5 to provide water to Parties within the Management Area.

6 **1.33 Safe Yield** – the long term, average quantity of water supply in the
7 Management Area that can be pumped without causing undesirable results, including the gradual
8 reduction of natural Groundwater in storage over long-term hydrologic cycles. The initial Safe
9 Yield of the Management Area is estimated to be approximately 45,000 acre feet per year.

10 **1.34 Settlement Agreement** – that Agreement titled “The Soboba Band of
11 Luiseño Indians Settlement Agreement” among the Soboba Tribe, the United States, as Trustee
12 for the Tribe, Eastern Municipal Water District, Lake Hemet Municipal Water District, and The
13 Metropolitan Water District of Southern California.

14 **1.35 Soboba Tribe (sometimes the “Tribe”)** – the Soboba Band of Luiseño
15 Indians.

16 **1.36 Soboba Action** – the lawsuit entitled Soboba Band of Mission Indians,
17 etc., v. Metropolitan, etc., et al, U.S. District Court, Central District of California, Case No.
18 00-84208 GAF (MANx).

19 **1.37 Storage Agreement** – an agreement between Watermaster and a Party to
20 store Supplemental Water (other than a Party’s share of Imported Water) by sinking, spreading,
21 injecting or in-lieu procedures in the Management Area, and to establish a manner of accounting
22 for the credit therefore and subsequently to recover such water, without payment of
23 Administrative or Replenishment Assessments.

24 **1.38 Storage Right** – a Party's right to store and pump Supplemental Water
25 (not required for a Party’s share of Imported Water) pursuant to a Storage Agreement.

26 **1.39 Stored Water** – Supplemental Water (other than a Party’s share of
27 Imported Water) stored by a Party pursuant to a Storage Agreement.
28

1 **1.40 Supplemental Water** – nontributary water imported into the Management
2 Area, including imported water (i.e., other than or in addition to Imported Water as defined in
3 Section 1.14), Recycled Water, In-Lieu Water, and other nonpotable water.

4 **1.41 Surface Water** – all water tributary to the Management Area and flowing
5 above the ground surface.

6 **1.42 Transfer** – a temporary or permanent authorized conveyance, assignment,
7 sale, contract or lease of part or all of a Public Agency’s Carry-Over Credit, Storage Right or
8 Recharge Right to any other Party, or a temporary assignment, contract, lease or sale of a Public
9 Agency’s share of Imported Water.

10 **1.43 Tribal Water Rights** – the Soboba Tribe’s rights to water set forth in
11 Section 4.1 of the Settlement Agreement and Section 5 of this Stipulated Judgment.

12 **1.44 Tunnel** – the San Jacinto Tunnel in Riverside County, California,
13 constructed by Metropolitan in the 1930s.

14 **1.45 Watermaster** – the Board with the powers and duties defined in Section
15 9.

16 **1.46 Water Management Plan** (sometimes the “Plan”) – the Plan adopted by
17 the Watermaster, as it may be modified from time to time, to implement the Physical Solution, to
18 ensure an adequate and reliable source of future water supply for the Management Area, and to
19 protect the prior rights of the Soboba Tribe.

20 **2. EXHIBITS.**

21 The following exhibits are attached to this Judgment and incorporated in it:

22 “A.” Map of the Management Area and the Management Area Watershed.

23 “B.” List of Parties to this Judgment.

24 “C.” Description of each Public Agency’s and Class A and Class B Participant’s
25 Base Production Right.

1 **3. PUBLIC AGENCIES' WATER RIGHTS.**

2 **3.1 Base Production Right.** The Public Agencies are owners of rights to
3 pump Groundwater from the Management Area as set forth in Exhibit "C." These rights are for
4 a calendar year and were calculated as follows:

5 **3.1.1 Eastern.** The Base Production Right of Eastern is based upon its
6 respective average pumping for calendar years 1995-1999, less an adjustment of 1800 acre-feet
7 representing a portion of a credit which it receives from Metropolitan for seepage into
8 Metropolitan's San Jacinto Tunnel, for Eastern's use of Fruitvale water elsewhere, and for use of
9 Fruitvale water by Lake Hemet, San Jacinto, and Hemet. The 1995-1999 period was chosen to
10 reflect recent production prior to the commencement of negotiations leading to this Stipulated
11 Judgment.

12 **3.1.2 Lake Hemet.** The Base Production Right of Lake Hemet is based
13 on its average production for calendar years 1995-1999.

14 **3.1.3 Hemet.** The Base Production Right of Hemet is based on its
15 average production for calendar years 1995-99, plus an adjustment of 900 acre feet per year
16 representing a portion of the seepage credit referenced in Section 3.1.1.

17 **3.1.4 San Jacinto.** The Base Production Right of San Jacinto is based
18 upon its average Production for calendar years 1995-1999, plus 500 acre-feet per year, and plus
19 an adjustment of 900 acre feet per year representing a portion of the seepage credit referenced in
20 Section 3.1.1. The 500 acre-feet per year has been added because San Jacinto's recent pumping
21 does not reflect its historic production, due to water purchases and other factors.

22 **3.1.5 Adjustments.** The Base Production Rights of Hemet and San
23 Jacinto each include 900 acre-feet per year that have been added to their respective amounts of
24 pumping for calendar years 1995-1999. These amounts have been added to provide Hemet and
25 San Jacinto a fair share of water from, and to resolve disputes regarding, Eastern's use of tunnel
26 seepage, Eastern's use of Fruitvale waters, and Lake Hemet's surface stream diversions. These
27 additional amounts of 900 acre-feet per year shall be treated as the first amounts pumped by
28 Hemet and San Jacinto, shall not be subject to reduction by the Watermaster as provided in

1 Sections 3.2 to 3.2.2, and shall not be subject to any Administrative or Replenishment
2 Assessments as provided in Sections 3.4 to 3.4.2, or to any other fee or charge imposed under the
3 Management Plan.

4 **3.2 Adjusted Production Rights.** It is the goal of the Physical Solution to
5 adjust the Base Production Rights of the Public Agencies over time on a pro-rata basis to a level
6 consistent with the Watermaster's determination of Safe Yield. The reduction will be based on
7 periodic demand, hydrology, Recharge, and the community's ability to pay for Supplemental
8 Water, and protection of the Tribal Water Rights. In order to implement this reduction in a
9 phased manner, each Public Agency's Base Production Right shall be subject to adjustment as
10 follows:

11 3.2.1 Subject to Section 3.1.5, a 10% reduction from each Base
12 Production Right in the first full year after entry of this Judgment.

13 3.2.2 Until Adjusted Production Rights are consistent with the Public
14 Agencies' share of Safe Yield, Watermaster shall determine the required reductions in Adjusted
15 Production Rights in each subsequent year to achieve Safe Yield within a reasonable period of
16 time as determined by the Watermaster, considering the extent of the Overdraft, the economic
17 impact on the Parties bound by this Judgment, and other relevant factors. The goal is to achieve
18 Safe Yield over a six (6) year period assuming an annual Overdraft of 10,000 acre feet. In the
19 event the extent of the Overdraft is greater or lesser than assumed, then the period of time
20 reasonably required to reach Safe Yield may be extended or reduced accordingly. However, in
21 no event shall any reduction be more than 10% of the Adjusted Production Rights of the prior
22 year.

23 3.2.3 A Public Agency Party may pump in excess of its Adjusted
24 Production Right, without any additional Administrative or Replenishment Assessment, by an
25 amount equal to its share of the 7,500 acre feet per year of Imported Water that is not used by the
26 Tribe provided such water has been previously delivered and is stored or will be delivered during
27 the current water year. The amount of the Tribe's unused portion of the 7,500 acre feet shall be
28 determined annually by the Watermaster. Shares of unused Imported Water shall be allotted to

1 the Public Agency Parties in proportion to Base Production Rights, and shall be acquired and
2 paid for pursuant to contract with Eastern.

3 3.2.4 A Base Production Right of a Public Agency serving the land of a
4 Class B Participant shall be increased in an amount equal to such Participant's Base Production
5 Right, adjusted and reduced pursuant to Sections 3.2.1 and 3.2.2, when the Participant's land is
6 converted from agricultural use to water service from the Public Agency, pursuant to Section
7 4.4.3.

8 3.2.5 The Adjusted Production Rights of the Public Agencies may be
9 increased by the Watermaster on a prorata basis to the extent that pumping by Class A
10 participants, or pumping by Persons not Parties to this Judgment, may decrease, and the
11 Watermaster finds that achieving the goal of maintaining the Management Area in a Safe Yield
12 condition can still be met.

13 **3.3 Allocation of Unused Imported Water.** A Public Agency's share of
14 Imported Water that is not used by the Soboba Tribe, as described in Section 3.2.3 shall be
15 subject to the following additional rules:

16 3.3.1 To the extent that a Public Agency does not use all of its share of
17 the Imported Water, the unused portion may be stored for its account for future use or transfer by
18 the Public Agency.

19 3.3.2 A Public Agency may lease, sell or otherwise transfer any portion
20 of the Public Agency's stored Imported Water or of the then current year's share of the Imported
21 Water to another Public Agency or to the Watermaster.

22 **3.4 Public Agency Production Assessments.** Public Agency pumping shall
23 be subject to the following assessments:

24 3.4.1 An Administrative Assessment as provided in Section 1.2. The
25 Administrative Assessment will be \$50.00 per acre-foot of a Party's Adjusted Production Right
26 pumped after entry of this Judgment. The Watermaster shall set the Administrative Assessment
27 rate annually thereafter. The first 900 acre feet per year of Adjusted Production Right pumped
28

1 by Hemet and San Jacinto and water pumped by a Public Agency pursuant to Section 3.4 above
2 shall not be subject to such assessment.

3 3.4.2 A Replenishment Assessment will be levied on each Public
4 Agency as provided in Section 1.31. However, a Public Agency may pump Groundwater in
5 excess of the sum of its Adjusted Production Right, its share of Imported Water, Supplemental
6 Water applicable Carry-Over Credits per Section 6.9.2, Recharge Rights, and production of
7 Stored Water, in order to meet increasing demands, provided that such excess extractions shall
8 be subject to Replenishment Assessments.

9 3.5 **Surface Rights.** Eastern holds License Number 016667 from the State
10 Water Resources Control Board to divert, spread and recover surface flows of the San Jacinto
11 River within the Management Area. Lake Hemet holds pre-1914 appropriative rights to divert
12 and store surface flows in Lake Hemet, and to divert surface flows tributary to but outside of the
13 Management Area from Strawberry Creek and from the North and South Forks of the San
14 Jacinto River. All Parties acknowledge such Eastern and Lake Hemet rights, and the fact that
15 they are not subject to any assessments under this Judgment; provided that any water pumped by
16 Eastern under its License shall be included in its Adjusted Production Right.

17 3.6 **Fruitvale Judgment, Sale of Assets, and Agreements.** The Court
18 hereby finds that Eastern purchased all of the water rights and assets of the Fruitvale Mutual
19 Water Company (“Fruitvale”) pursuant to the Agreement described in Section 1.11(b) hereof,
20 and is now the owner thereof. Eastern, as the successor in interest to Fruitvale, is also a
21 defendant in the action described in Section 1.11(a) hereof. The Court finds that the only other
22 remaining Party in such action is the plaintiff City of San Jacinto. The Court retained continuing
23 jurisdiction in such action, and Eastern has made annual reports pursuant to the Fruitvale
24 Judgment. Pursuant to stipulation between Eastern and San Jacinto, and in accord with the
25 Physical Solution and terms of this Judgment, the Court hereby finds that the rights and
26 obligations of the Fruitvale Judgment have been subsumed in, and superseded by, this Judgment
27 and are no longer enforceable; that the limitations upon the place and amounts of water use in the
28 Fruitvale Judgment, the Purchase Agreement (including the provisions regarding domestic water

1 rates within the Fruitvale Improvement District) and the Agency Agreements, all described in
2 Sections 1.11(a), (b) and (c) are no longer applicable or enforceable; and that the continuing
3 jurisdiction of the Court under the Fruitvale Judgment and the obligations of Eastern to report
4 thereunder, are hereby terminated; provided, however, that any service area agreements or
5 agreements related to mutual aid or system interties between any of the Public Agency Parties
6 are not affected by this Judgment.

7 **3.7 Fruitvale Agency Rights.** The water rights of Hemet, San Jacinto and
8 Lake Hemet under the several agreements with Eastern described in Section 1.11(c) hereof have
9 been incorporated in their respective Base Production Rights under this Judgment.

10 **4. PRIVATE PUMPERS' WATER RIGHTS**

11 **4.1 Recognition of Rights.** The Private Pumpers are owners of Overlying or
12 other water rights to pump from the Management Area. The Public Agencies recognize these
13 rights, and do not intend to take or adversely impact these rights without an agreement with the
14 owner of such rights. There is no intent to affect water use that is consistent with the historical
15 use of the Private Pumpers.

16 **4.2 Non-Participation.** A Private Pumper can elect not to participate in the
17 Water Management Plan and not to formally acknowledge its existence. Such Pumpers are
18 referred to as Non-Participants. Non-Participants shall continue to exercise whatever water
19 rights they may hold under California law unaffected by the Plan. However, the Parties do not
20 waive their rights to challenge any new or expanded use of water or water rights. Non-
21 Participants will not have the option of intervening as a Party under the Judgment at a later date.

22 **4.3 Class A Participation.** A Private Pumper can become a Party to the
23 Judgment as a Class A Participant under the following terms:

24 4.3.1 A Class A Participant who or which approves this Physical
25 Solution may vote for and/or be elected to serve as the Private Pumper representative on the
26 Watermaster, but other than as set forth in Sections 4.3.4 and 4.3.5, shall not otherwise have any
27 obligation for the implementation of the Physical Solution or the Water Management Plan.
28

1 4.3.2 A Class A Participant may, without any assessment by the
2 Watermaster, pump from the Participant's property within the Management Area the amount of
3 water that can be put to reasonable and beneficial use in the Participant's historic place of use or
4 as authorized under California law.

5 4.3.3 Unless the Watermaster determines otherwise, a Class A
6 Participant shall have the right to convert to Class B Participation during a grace period that shall
7 end 3 years after the entry of this Judgment and upon payment of the total assessments, without
8 interest, that the Class A Participant would have paid had the Class A Participant elected to be a
9 Class B Participant from the later of the initial production of Groundwater or the entry of the
10 Judgment herein. Conversely, the converting Participant will be given Carry-Over Credits to
11 which the Participant would have been entitled as a Class B Participant during said period
12 pursuant to Section 6.9.2 below; said Carry-Over Credits may be used to offset any
13 replenishment assessments, including any that would become due following the conversion.

14 4.3.4 A Class A Participant hereby authorizes the installation of water
15 meters, and the collection and reading of Groundwater production, level and water quality data
16 from the Class A Participant's well(s) by personnel authorized by the Watermaster. The
17 metering, meter reading, and other related monitoring efforts shall be at no cost to the Class A
18 Participant, and the Class A Participant shall receive copies of the reports and information
19 obtained upon request.

20 4.3.5 A Class A Participant shall describe or otherwise identify the
21 Participant's land and wells within the Management Area. The heirs, successors and assigns of
22 such land and wells shall succeed to the benefits of the Participant's rights under the Judgment,
23 and be bound by the obligations thereof, provided that such successor intervenes as a Party under
24 the Judgment. Absent such intervention, the successor will be treated as a Non-Participant.

25 **4.4 Class B Participation.** A Private Pumper can become a Class B
26 Participant on the following terms:

27 4.4.1 A Class B Participant's Base Production Right shall be equal to the
28 Participant's average annual production during the calendar years 1995 through 1999, less any

1 4.4.2 The Class B Participant approves this Physical Solution and may
2 vote for and/or be elected to serve as the Private Pumper's representative on the Watermaster.

3 4.4.3 Upon conversion of a Class B Participant's land from agricultural
4 to a use that requires water service from a Public Agency, the Public Agency shall credit, to the
5 extent legally permissible, the Class B Participant's Base Production Right, adjusted pursuant to
6 the percentage reductions in Sections 3.2.1 and 3.2.2, against any requirement then in effect for
7 any water supply assessment requirements, against any fees associated with water supply that the
8 Public Agency may then have in effect. The Public Agency serving the converted land shall
9 receive a credit added to its Base Production Right as set forth in Section 3.2.4.

10 4.4.4 Upon the sale of property to which or for which Base Production
11 Rights have been assigned by reason of the judgment herein, the Class B Participant may transfer
12 said rights to the purchaser on condition that the purchaser agrees in writing to be bound by thee
13 terms of the judgment as a Class B Participant.

14 4.4.5 The Class B Participant hereby authorizes the installation of meters
15 and the collection and reading of Groundwater production, water level and water quality data
16 from the Class B Participant's well(s) by personnel authorized by the Watermaster. The
17 metering, meter reading and other related monitoring efforts shall be at no cost to the Class B
18 Participant, and the Class B Participant shall receive copies of the reports and information
19 obtained upon request.

20 4.4.6 A Class B Participant shall describe or otherwise identify the
21 Participant's land and wells within the Management Area. The heirs, successors and assigns of
22 such land and wells shall succeed to the benefits of the Participant's rights under the Judgment,
23 and be bound by the obligations thereof, provided that such successor intervenes as a Party under
24 the Judgment. Absent such intervention, the successor will be treated as a Non-Participant. A
25 Class B Participant may transfer Base Production Rights to new or replacement land on terms
26 and conditions established by the Watermaster.

27 **4.5 In-Lieu Water Use.** In the event any Private Pumper receives
28 Supplemental Water from a Public Agency to serve an historic use in place of Groundwater, or

1 otherwise engages in an in-lieu program after entry of the Judgment herein, the Overlying Right
2 of the Private Pumper shall not be diminished by the receipt and use of such Supplemental Water
3 or by engaging in an in-lieu program. In the event a Class B Participant received In-Lieu Water
4 for use in place of Groundwater during the period 1995-99, for purposes of determining Base
5 Production Rights, said use shall be considered as Groundwater use.

6 **4.6 Future Production Participation.** Any New Pumper after the entry of
7 this Judgment may intervene in this action and Judgment only as a Class A Participant and may
8 not thereafter convert to Class B status.

9 **4.7 Replacement Wells.** Re-drilling of existing wells and the drilling of new
10 wells to replace existing wells will not be considered new production as provided in Section 4.6.

11 **5. TRIBAL WATER RIGHTS**

12 The Tribal Water Rights have been determined as part of a settlement among the
13 Soboba Tribe, the United States, Eastern, Lake Hemet and Metropolitan. The settlement is
14 reflected in a Settlement Agreement, Congressional legislation and appropriation of funds, and a
15 Judgment in the Soboba Action. Such settlement includes the following provisions, which shall
16 be effective only upon fulfillment of all of the conditions precedent set forth in Article 3 of the
17 Settlement Agreement, a copy of which is attached hereto.

18 **5.1 Senior Right.** The Soboba Tribe shall have a prior and paramount right,
19 superior to all others, to pump 9000 acre-feet per year (3000 acre feet from the Canyon Subbasin
20 and the remainder from a portion of the San Jacinto Upper Pressure Subbasin referred to as the
21 Intake Subbasin), for use on the Reservation, as defined in Article 2.20 of the Settlement
22 Agreement, and on lands now owned or hereafter acquired by the Soboba Tribe contiguous to the
23 Reservation or within the Canyon and Intake Subbasins; provided, however, that such use shall
24 be limited to amounts set forth in a development schedule from 2,900 acre feet per year to 4,100
25 acre-feet per year for the first 50 years after the Effective Date as set forth in Exhibit "I" to the
26 Settlement Agreement. The Tribe's right to pump applies to all Groundwater, whether
27 replenished by Natural Recharge or by Supplemental Water. In addition, the Tribe shall have the
28 right to purchase additional water from the Watermaster during the fifty years that its use is

1 limited according to Exhibit "T" to the Settlement Agreement at the rate then being charged to the
2 Public Agencies under the Water Management Plan. In the event the Soboba Tribe is unable,
3 except for mechanical failure of its wells, pumps or water facilities, to produce from its existing
4 wells or equivalent replacements up to 3,000 AFA production from the Canyon Subbasin and the
5 remainder of its Tribal Water Rights from the Intake Subbasin, Eastern and Lake Hemet shall
6 deliver any shortage to the Soboba Tribe as provided in Section 4.1C of the Settlement
7 Agreement. Pumping for such purpose shall not be subject to Administrative or Replenishment
8 Assessments, and shall not be counted as part of Adjusted Production Rights.

9 **5.2 Metropolitan Water.** The Soboba settlement provides, among other
10 matters, that Metropolitan will use its best efforts to deliver sufficient Imported Water to yield
11 7,500 acre-feet per year, based upon 15 year averages, for Recharge in the Management Area at
12 its untreated replenishment water rate, or any successor rate of equivalent price as provided in
13 Section 4.4A of the Settlement Agreement.

14 **5.3 Settlement Payment.** Subject to the Effective Date of the Settlement
15 Agreement and funding by the United States, Eastern pursuant to the terms set forth in the Water
16 Management Plan, will pay the Soboba Tribe \$17 million dollars pursuant to Article 4.7A of the
17 Settlement Agreement in consideration, in part, of the Tribe's agreement to limit its water use
18 according to Exhibit "T" to the Settlement Agreement for the first 50 years after the Effective
19 Date. Subject to contracts with Eastern, the Public Agencies shall have the right to pump and
20 use all Imported Water not used by the Tribe, and the unused portion of the Tribal Water Rights
21 shall be available for use by the Parties, pursuant to their rights herein.

22 **5.4 Capital Facilities.** Eastern on behalf of the Water Management Plan
23 participants will receive \$10 million from the United States, to be applied to the costs of
24 constructing and operating the Phase I capital facilities necessary to import and Recharge
25 Supplemental Water as described in the Plan.

26 **5.5 Public Agencies' Use of Facilities.** Additional grant funds from the State
27 of California or the United States may also be available for such capital facilities. The rights of
28

1 the Public Agencies to the use of such facilities will be affirmed by contract as set forth in
2 Sections 9.6.4(1) and 9.6.4(3).

3 **5.6 Acknowledgement of Soboba Tribe Settlement.** The Parties to this
4 Judgment hereby recognize the Tribal Water Rights, as set forth above, and the applicable
5 provisions of the Soboba Tribe Settlement Agreement, and acknowledge that protection of Tribal
6 Water Rights is one of the goals of the Water Management Plan.

7 **6. PHYSICAL SOLUTION.**

8 **6.1 Purpose and Objective.** Pursuant to California water law and the
9 California Constitution, article X, section 2, the Court adopts this Physical Solution to maximize
10 reasonable beneficial use of Surface Water, Groundwater and Supplemental Water for water
11 users in or dependent upon the Management Area, to eliminate Overdraft, to protect the prior
12 rights of the Soboba Tribe, and to provide the Parties with the substantial enjoyment of their
13 respective rights, including, the priorities thereof.

14 **6.2 Need for Flexibility.** In order to adapt to potential changes in hydrology,
15 land use, and social and economic conditions, the Physical Solution must provide some degree of
16 flexibility and adaptability. Accordingly, the Court retains broad jurisdiction to supplement the
17 discretion granted to the Watermaster herein.

18 **6.3 Rights to Groundwater.** Groundwater in the Management Area may
19 occur from: Natural Recharge; spreading operations of natural flows; Recharge with
20 Supplemental Water acquired with assessment funds; return flows, fallowing or in-lieu recharge
21 programs financed with assessment funds. All such Groundwater shall be available to support
22 the pumping of the Parties as allowed herein, and shall not be the property of any individual
23 Party. Subject to the provisions of Section 6.7.2, this Section does not preclude any Party,
24 pursuant to a Storage Agreement, from storing Supplemental Water at its own cost, retaining
25 title thereto, and pumping such water without assessment.

26 **6.4 Resolution of Priorities.** By reason of the long and continuous Overdraft
27 of the Management Area, the contribution of all Parties to the Overdraft, the economies that have
28 developed on the basis of the Overdraft, the severe economic disruption that could occur under

1 strict priorities and the doctrines of prescription and laches, the complexity of determining
2 appropriative priorities, and the need to make the maximum beneficial use of the water resources
3 of the State, the Parties are estopped and barred from asserting specific priorities or preferences
4 to the pumping of Groundwater in the Management Area, except as provided in this Judgment,
5 and the Court finds that the provisions of this Judgment provide for the substantial enjoyment of
6 the respective rights of the Parties.

7 **6.5 Water Management Plan.** The Watermaster will approve and implement
8 a Water Management Plan to enforce and implement the Physical Solution, and may modify
9 such Plan as conditions require, subject to the provisions of the Settlement Agreement. The Plan
10 will also facilitate and accommodate the settlement of the water rights of the Soboba Tribe, and
11 shall be subject to the approval of the Soboba Tribe and the United States as trustee for the Tribe.
12 The Parties agree that the Plan shall incorporate and serve to implement the following goals:

13 6.5.1 Groundwater levels within the Management Area have generally
14 been declining for a number of years, and the Management Area is presently in a condition of
15 Overdraft. The Watermaster shall calculate the Safe Yield of the Management Area on an
16 annual basis, at least until the Overdraft is substantially eliminated. The Plan will, within a
17 reasonable period, eliminate Groundwater Overdraft and provide for excess production by
18 implementing a combination of available water resources management elements. These
19 elements include: reduction in natural Groundwater production; enhanced Recharge with native
20 and/or Supplemental Water; increased use of Recycled Water; in-lieu replenishment; acquisition
21 and development of Supplemental Water; and water conservation programs.

22 6.5.2 The Management Area is expected to experience residential,
23 commercial, and industrial growth and development over the next decade. The estimated
24 amount of Supplemental Water that will be necessary to provide for and adequately serve this
25 new growth and development is 15,000 acre feet per year. The Water Management Plan shall
26 accommodate the orderly expansion of existing water production and service systems, and
27 provide a clear planning process for meeting these projected growth trends.

1 Area water resources, and to compile and analyze data on Groundwater production, water levels,
2 water quality and Groundwater in storage.

3 **6.6 Replenishment Program.** The Groundwater replenishment program shall
4 be administered by the Watermaster. The program shall include: the acquisition of Supplemental
5 Water; the collection and expenditure of Replenishment Assessments; the Recharge of the
6 Management Area; and the construction and operation of all necessary facilities, including but
7 not limited to, development of surface and subsurface percolation and injection facilities. In
8 addition, a source of Recharge Water for agencies contributing to the Settlement Payment
9 described in Section 5.3 will be Imported Water provided by Metropolitan under the Settlement
10 Agreement, and not used by the Soboba Tribe.

11 6.6.1 Priority for replenishment will be based on an equitable
12 apportionment of available replenishment water among the subbasins after full consideration of:

13 6.6.1.1 The Public Agency's participation in the payment in the
14 Settlement Payment described in Section 5.3.

15 6.6.1.2 Hydrologic conditions in the Management Area.

16 6.6.1.3 The Management Area's Water demands.

17 6.6.1.4 The availability of storage capacity to accommodate the
18 Natural Recharge of surface flows.

19 6.6.1.5 The availability of appropriate conveyance facilities.

20 6.6.1.6 The availability of Supplemental Water,

21 6.6.1.7 Protection of Tribal Water Rights.

22 6.6.2 The Watermaster is encouraged to take advantage of surplus
23 Imported Water from Metropolitan that occasionally may be available at low cost, and to use
24 available assessment funds to bank such Recharge Water against future production in excess of
25 Adjusted Production Rights.

26 6.6.3 The Public Agencies shall independently or jointly operate their
27 present facilities to maximize the existing spreading and Recharge operations of natural flow in
28

1 the Management Area. Such Recharge Water shall be available to support the pumping of all
2 users, and shall not be the property of the spreading Public Agency.

3 6.6.4 All water used to replenish any subbasin in the Management Area
4 shall meet the Regional Water Quality Control Board, Santa Ana Region requirements, and the
5 provisions of Article 4.2 of the Settlement Agreement, and may be used in any subbasin where
6 such requirements are met.

7 **6.7 Storage Rights.** Unused storage capacity may exist in the Management
8 Area, and this capacity will be managed by the Watermaster conjunctively with natural and
9 available Supplemental Water supplies.

10 6.7.1 Subject to availability of assessment funds and unused storage
11 capacity as determined by Watermaster, the Management Area may be Recharged when water is
12 available, to be drawn upon by the Public Agencies in later years when such Supplemental Water
13 may not be available.

14 6.7.2 Unused storage capacity, as determined by Watermaster, and
15 pursuant to a Storage Agreement, may be used for “put and take” operations with Supplemental
16 Water that is paid for by any Public Agency provided that:

17 6.7.2.1 Such operations do not interfere with the rights of any
18 other pumper, or with the use of the storage capacity for Recharge and storage under the Water
19 Management Plan.

20 6.7.2.2 The Watermaster shall have the first right to purchase any
21 water available for Recharge for use under the Plan.

22 6.7.2.3 Later recovery of Stored Water shall exclude losses, and shall not be subject to
23 either Administrative or Replenishment Assessments.

24 6.7.2.4 Such recovered water may be used anywhere within the
25 service area of the Party.

26 6.7.2.5 Such Stored Water may be transferred while still in
27 storage.
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1 6.7.3 Any conjunctive use programs within the Management Area for
2 the benefit of territory outside of the Management Area shall be subject to the Watermaster's
3 approval and the governance provisions herein. Any storage, conjunctive use programs by third
4 Parties, or in-lieu recharge programs financed with assessment funds, shall be subject to the
5 Watermaster's approval and the governance provisions herein; provided that Metropolitan has
6 the right under the Soboba Settlement Agreement to use up to 40,000 acre-feet of storage
7 capacity in the San Jacinto Upper Pressure Subbasin for the pre-delivery of water required under
8 Section 5.2.

9 6.7.4 Eastern and Lake Hemet have previously provided water for
10 replenishment of the Management Area. As of May 1, 2005 these amounts, less losses, were
11 12,694 acre-feet for Eastern and 950 acre-feet for Lake Hemet. Such Parties shall have Recharge
12 Rights to recover these amounts, less any future losses, without either Administrative or
13 Replenishment Assessments, and may use such Rights to offset excess pumping in lieu of
14 Replenishment Assessments. The water available under such Recharge Rights shall be pumped
15 within 15 years of the entry of this Judgment, but not more than 2000 acre-feet in a single year.
16 The Public Agencies shall notify the Watermaster when such Recharged Water is being pumped,
17 and in what amounts, and the Watermaster shall keep an accounting of the amounts remaining.
18 The use of such credits shall be interpreted and administered so as not to increase the
19 replenishment obligations or assessments of those Parties without such past credits, or after such
20 credits have been fully used.

21 6.7.5 The accounting for recovery of Stored Water or Recharge Water
22 from the Management Area shall not include any water that escapes therefrom and migrates
23 downstream beyond the Management Area. Losses will be calculated based upon best
24 engineering principles.

25 **6.8 Recycled Water.** The use of Recycled Water produced by Eastern can be
26 of substantial benefit in providing additional water in the Management Area. The Watermaster
27 shall have a right of first refusal to purchase all Recycled Water produced from treatment
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1 facilities serving the Management Area that is not subject to then existing contracts. Such
2 Recycled Water may be used for Recharge or direct use within the Management Area.

3 6.8.1 Each Public Agency may implement its own Recycled Water
4 program, for direct use, subject to the availability of Recycled Water. The Public Agency shall
5 be responsible for financing, operating and maintaining the facilities necessary for that program.
6 The Watermaster will support loan or grant applications, and the Public Agencies will work to
7 integrate Recycled Water into the Water Management Plan, to the extent economically feasible
8 while meeting regulatory standards.

9 6.8.2 Currently only Eastern has Recycled Water available for Recharge.
10 To the extent such Recycled Water is not acquired by the Watermaster for use under the Plan,
11 any such water recharged in the Management Area shall remain the property of Eastern and may
12 be pumped (less losses) without Replenishment Assessments.

13 **6.9 Assessment Program.** The Assessment Program contemplated by the
14 Water Management Plan and consisting of Administrative Assessments and Replenishment
15 Assessments as described in Sections 1.2, 1.30, and 3.4, respectively, shall be administered by
16 Eastern pursuant to a contract with the Watermaster pursuant to the provisions of Section
17 9.6.4(5).

18 6.9.1 All Assessments shall be used for Replenishment Expenses and
19 Administrative Expenses.

20 6.9.2 Subject to the limitations in this Judgment, each Public Agency
21 that produces less than its Adjusted Production Right and share of Imported Water, and any
22 Class B Participant producing less than its Base Production Right, shall have the following
23 Carry-Over Credit:

24 6.9.2.1 Carry-Over Credit shall be the difference in acre-feet
25 between a Public Agency's Adjusted Production Right and share of Imported Water and
26 Supplemental Water, and the Public Agency's actual production in a calendar year, or the Class
27 B Participant's Base Production Right and the Class B Participant's actual production in a
28 calendar year.

1 be owned and operated by Eastern, pursuant to the Plan and in a fiduciary capacity for the benefit
2 of all Parties under this Judgment, pursuant to Sections 5.4; 9.6.4(1); 9.6.4(3).

3 6.11.1 Financing of Water Management Plan facilities may be funded by
4 assessments, regional capital fees, loans and grants, contributions for Storage Rights by
5 Metropolitan or other third-parties, and municipal bonds. Responsibility for the costs of future
6 capital facilities necessary to implement the Plan, beyond the Phase I facilities, shall be
7 determined by the Watermaster and apportioned based on relative benefit to be derived by each
8 Public Agency.

9 6.11.2 Any of the participating Public Agencies may propose projects to
10 be included in the Water Management Plan to increase the Management Area water supply.
11 Such proposals, after evaluation by the Watermaster, shall be included or rejected. If the
12 Watermaster chooses to reject the proposal, the proposing Public Agency may implement the
13 rejected project at its own cost so long as it does not significantly impact the implementation of
14 the Management Plan and/or interfere with the ongoing production by the Public Agencies.

15 **7. INJUNCTION.**

16 Each Party and his, her or its officers, agents, employees, successors and assigns,
17 is enjoined and restrained from:

18 7.1 Producing water from the Management Area without payment of required
19 Administrative Assessments.

20 7.2 Producing water from the Management Area in excess of the Party's
21 Adjusted Production Right and share of Imported Water, or the Base Production Right in the
22 case of a Class B Participant, without payment of required Replenishment Assessments.

23 7.3 Transferring Production Rights except as authorized in this Judgment.

24 7.4 Recharging water in the Management Area except as authorized in this
25 Judgment.

26 7.5 Storing or exporting water except as authorized in this Judgment.
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1 **8. CONTINUING JURISDICTION.**

2 **8.1 Full Jurisdiction.** Full jurisdiction, power and authority is reserved to the
3 Court as to all matters contained in this Judgment, including expedited intervention by
4 successors in interest to Private Pumpers, except:

5 8.1.1 To redetermine Base Production Rights of the Public Agencies or
6 Class B Participants.

7 8.1.2 As otherwise limited by law.

8 **8.2 Motion to Interpret.** By motion to the Court, upon 30 days written
9 notice and after hearing, any Party or Watermaster may request the Court to make such further or
10 supplemental orders to interpret, enforce, carry-out or amend this Judgment. Any such motion
11 shall be reviewed de novo by the Court. Any such motion shall be served on all Parties and
12 Watermaster at the addresses on the Watermaster's notice list.

13 **9. WATERMASTER.**

14 **9.1 Composition.** The Watermaster shall consist of a board composed of one
15 elected official and one alternate selected by each of the Public Agencies and one Private
16 Pumper representative and one alternate selected by the Class A and Class B Private Pumpers.

17 **9.2 Terms.** Each member of the Watermaster shall serve until replaced by the
18 Public Agency or Private Pumpers that made the original appointment, provided, however, that
19 the election or removal of a Private Pumper representative shall be decided by a majority vote of
20 the Class A and Class B Participants attending a meeting called for that purpose by written notice
21 sent to each Class A and Class B Participant or their successors, by U. S. mail or electronic mail
22 at least ten (10) days before such meeting. Said notice shall include the date, time and location
23 of the meeting.

24 **9.3 Removal and Replacement.** Any Watermaster member may be removed
25 and replaced by the same procedure used in his or her appointment.

26 **9.4 Voting.** Each member of the Watermaster shall have one vote. Four
27 affirmative votes shall be required in order to constitute Watermaster action on each of the
28 following matters. (1) any change sought in the form of governance; (2) any change in voting

1 requirements; (3) retaining the services of legal counsel and Advisor; (4) establishing, levying,
2 increasing or decreasing all assessment amounts; (5) adopting or amending an annual budget; (6)
3 determining the extent of Overdraft and quantifying Safe Yield; (7) determining Adjusted
4 Production Rights; (8) decisions regarding the financing of Supplemental Water or facilities,
5 other than any financing provisions included in this Stipulated Judgment as provided in Sections
6 5.3, 5.4, 5.5 hereof; (9) decisions regarding ownership of facilities, other than ownership of the
7 Phase I facilities described in the Water Management Plan, which shall be owned by Eastern
8 Municipal Water District, subject to a right of use by those Parties participating in the financing
9 thereof; (10) policies for the management of the Management Area; (11) and any decision that
10 involves a substantial commitment by the Watermaster, including any contracts for conserved
11 water. All other actions by the Watermaster shall require three affirmative votes.

12 **9.5 Court Review.** Any action by the Watermaster, or any failure to act by
13 virtue of insufficient votes, may be reviewed by the Court on motion by any Party, with notice to
14 all other Parties. The Court's review shall be de novo, and the Court's decision shall constitute
15 action by the Watermaster.

16 **9.6 Powers and Duties.** In order to implement the provisions of this
17 Judgment, the Watermaster shall have the following duties and powers:

18 **9.6.1 Water Management Plan.** Watermaster shall develop and
19 implement a Water Management Plan, with such additions and modifications as may from time
20 to time be appropriate, and shall administer the provisions of this Judgment. The Water
21 Management Plan shall be subject to approval by the Court, by the Soboba Tribe, and by the
22 United States.

23 **9.6.2 Independent Counsel.** The Watermaster shall retain independent
24 legal counsel to provide such legal services as the Watermaster may direct.

25 **9.6.3 Advisor.** The Watermaster shall retain either an independent
26 engineering firm or qualified individual experienced in hydrology to evaluate and analyze the
27 data collected by Eastern, and any conclusions based thereon, and to make recommendations to
28 the Watermaster, referred to herein as "Advisor." The Advisor shall also provide general

1 coordination among Eastern, the Technical Advisory Committee and the Watermaster with
2 respect to their respective functions, and perform such executive functions as the Watermaster
3 may direct. The Watermaster reserves the right to refer any matter it may choose to any Person
4 it may select for assistance in carrying out its duties under this Judgment.

5 **9.6.4 Operations and Other Functions.**

6 **9.6.4.1 Operations – Phase I Facilities.** The Phase I Facilities
7 (including capital facilities and spreading basins, as more particularly defined in the Water
8 Management Plan) are either existing facilities of Eastern that will be expanded or improved as
9 part of the Water Management Plan, or are new facilities that will be integrated into Eastern's
10 existing facilities and will be owned by Eastern. Pursuant to the terms and conditions of
11 contracts to be entered into between Eastern and the Watermaster, and Eastern and the other
12 Public Agencies, Eastern shall construct, install, and operate the Phase I Facilities consistent with
13 the Water Management Plan.

14 **9.6.4.2 Operations – Other Facilities.** The Water Management
15 Plan anticipates the need for the construction and installation of other facilities in order to
16 accomplish the goals of the Judgment. Such facilities may be constructed, installed and operated
17 under contract with the Watermaster, by a member of the Watermaster or, in circumstances
18 approved by the Watermaster, by other responsible entities.

19 **9.6.4.3 Purchase of Water for Groundwater Recharge.** The
20 Soboba settlement requires Metropolitan to use its best efforts to deliver an average of 7500
21 acre-feet per year of Imported Water for Recharge of the Management Area. This supply is
22 dedicated first to satisfy the rights of the Soboba Tribe as provided in the Settlement Agreement.
23 Such portion of the supply that is not used by the Soboba Tribe will be available to those Parties
24 who have participated in the cost thereof. Subject to the approval of the Watermaster, Eastern
25 shall enter into a contract with Metropolitan for the purchase and delivery of such Imported
26 Water supply. Eastern shall also purchase as a member agency of Metropolitan, or otherwise
27 acquire, such additional supplies of water as may be directed by the Watermaster to implement
28 the Water Management Plan, subject to availability and transmission capacity. All such water

1 delivered by Metropolitan, or otherwise acquired by Eastern, and all Eastern facilities used to
2 deliver, recharge and recapture such water, shall be subject to rights of use by the Parties entitled
3 thereto. Such rights of use shall be confirmed in detail in written contracts with Eastern.

4 Recycled water is also available for direct and indirect Groundwater Recharge from Eastern's
5 wastewater treatment facilities serving the Management Area. The Watermaster shall have a
6 right of first refusal to purchase all Recycled Water produced from such plants that is not subject
7 to then existing contracts. The Watermaster is authorized to use its funds, or funds provided by
8 the Parties, to purchase Imported Water, Supplemental Water, or other water.

9 **9.6.4.4 Data Collection.** The Watermaster shall provide for the
10 collection and maintenance of all production, water level, water quality, and other technical data
11 necessary under or required by the Water Management Plan ("Data"). Pursuant to the terms and
12 conditions of a contract to be entered into between Eastern and the Watermaster, Eastern shall
13 collect and maintain all such Data and transmit such Data to the Watermaster, its Advisor, and
14 the Technical Advisory Committee as directed by the Watermaster. The foregoing clause does
15 not restrict the ability of the Watermaster to enter into other agreements with other members of
16 the Watermaster and/or private firms and individuals for the collection of Data.

17 **9.6.4.5 Accounting.**

18 **9.6.4.5.1 Financial Accounting.** The Watermaster shall
19 provide for the levy, billing, and collection of all assessments provided for under the Judgment,
20 for the payment of costs and expenses of the Watermaster, and for the performance of such
21 accounting and related functions as may be required in connection with those functions
22 ("Accounting Functions"). All funds collected shall be held in a segregated account. All
23 expenses and disbursements shall be separately accounted for. Pursuant to the terms and
24 conditions of a contract to be entered into between Eastern and the Watermaster, Eastern shall
25 initially perform the Accounting Functions for Watermaster. The foregoing clause does not
26 restrict the ability of the Watermaster to enter into other agreements with other members of the
27 Watermaster and/or private firms and individuals to provide some or all of the Accounting
28 Functions.

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9.6.4.5.2 Water Use, Storage and Transfers. The

Watermaster shall account for all production by Class A and Class B Participants and Public Agencies using information reported or obtained for that purpose. The Watermaster shall also account for Carry-Over Credits, including the transfer thereof where authorized, and for the use and/or storage and/or transfers of Imported Water by Public Agencies.

9.6.5 Technical Advisory Committee. There has been a Technical

Advisory Committee that has functioned throughout the development of the Water Management Principles and Plan, and this Stipulated Judgment. That Committee has been composed of such managerial and technical representatives as the individual Parties decide to appoint. Each Party has paid the costs of its own representatives, and shall continue to do so in the future. The Technical Advisory Committee shall continue to function, and to provide such technical assistance as the Watermaster may request. The Technical Advisory Committee shall make recommendations to the Watermaster’s Advisor and to the Watermaster on all matters requiring four votes for Watermaster action, and shall receive from Eastern all data associated with such matters for its review and evaluation. The Technical Advisory Committee and its members shall also function as a way to keep the City Councils, Boards of Directors and participating Private Pumpers fully informed about the implementation of this Judgment.

9.6.6 Reservation of Rights. The Watermaster reserves the right to

assume, on its own, any functions set forth in Section 9.6.4, except as provided in Section 9.6.4(1), and to undertake all other acts required to implement the Plan and this Judgment, so long as it is legally capable of performing such functions. The Watermaster, if it should choose, may also act through or in conjunction with the other Public Agencies, or through a Joint Powers Agency composed of all the Public Agencies hereunder. Except as specifically provided in Section 9.6.4(1) with respect to Eastern’s facilities used in Phase I, the Watermaster shall have no right to use or acquire the water facilities of any of the Parties, without their consent, provided that it is the intent of the Parties that their individual facilities will be available where appropriate to implement the Water Management Plan, upon terms equitable to all Parties, and consistent with their respective obligations to their own customers.

1 **9.6.7 Rules and Regulations.** The Watermaster may make such rules
2 and regulations as may be necessary for its own operations as well as for the operation of the
3 Plan and this Judgment, subject to Court approval. Meetings of the Watermaster shall be subject
4 to the Brown Act .

5 **9.6.8 Reports to Court.** The Watermaster shall file annually with the
6 Court, and serve on all Parties, a report regarding its activities during the preceding year,
7 including an audited statement of all accounts and financial activities.

8 **9.6.9 Notice to Parties.** Watermaster shall maintain a current list of the
9 Parties and their addresses for notice purposes. Rules for service shall be governed by the
10 California Code of Civil Procedure and the California Rules of Court. Each Party shall notify
11 Watermaster in writing of the name and address for its receipt of notice and service under this
12 Judgment. A Party may change this information by written notice to Watermaster. Notice shall
13 be deemed sufficient if directed to the most recent address provided by the Watermaster.

14 **9.7 Watermaster Records.** Watermaster's records shall be kept at the office
15 of Eastern unless changed by the Watermaster and approved by the Court. These records shall
16 be treated as public records under the Public Records Act. California Government Code sections
17 6250-6277 (West 1995 and Supp. 2002).

18 **10. MISCELLANEOUS.**

19 **10.1 Intervention After Judgment.** A New Pumper can intervene in this
20 action as a Class A Participant only, pursuant to Section 4.6. Any other Person who is an heir,
21 successor or assign of an existing Party, may become a Party to this action and Judgment, subject
22 to the conditions contained herein, by filing a petition in intervention. The petition may be filed
23 and approved ex parte with notice to the Watermaster. Such intervener shall thereafter be a Party
24 bound by this Judgment, and entitled to the rights and privileges accorded under this Judgment to
25 the Party such Person succeeds in this action.

26 **10.2 Loss of Rights.** No right adjudicated in this Judgment shall be lost by
27 non-use, abandonment, forfeiture or otherwise, except upon a written election by the owner of
28 the right filed with Watermaster, or by order of the Court upon noticed motion and after hearing.

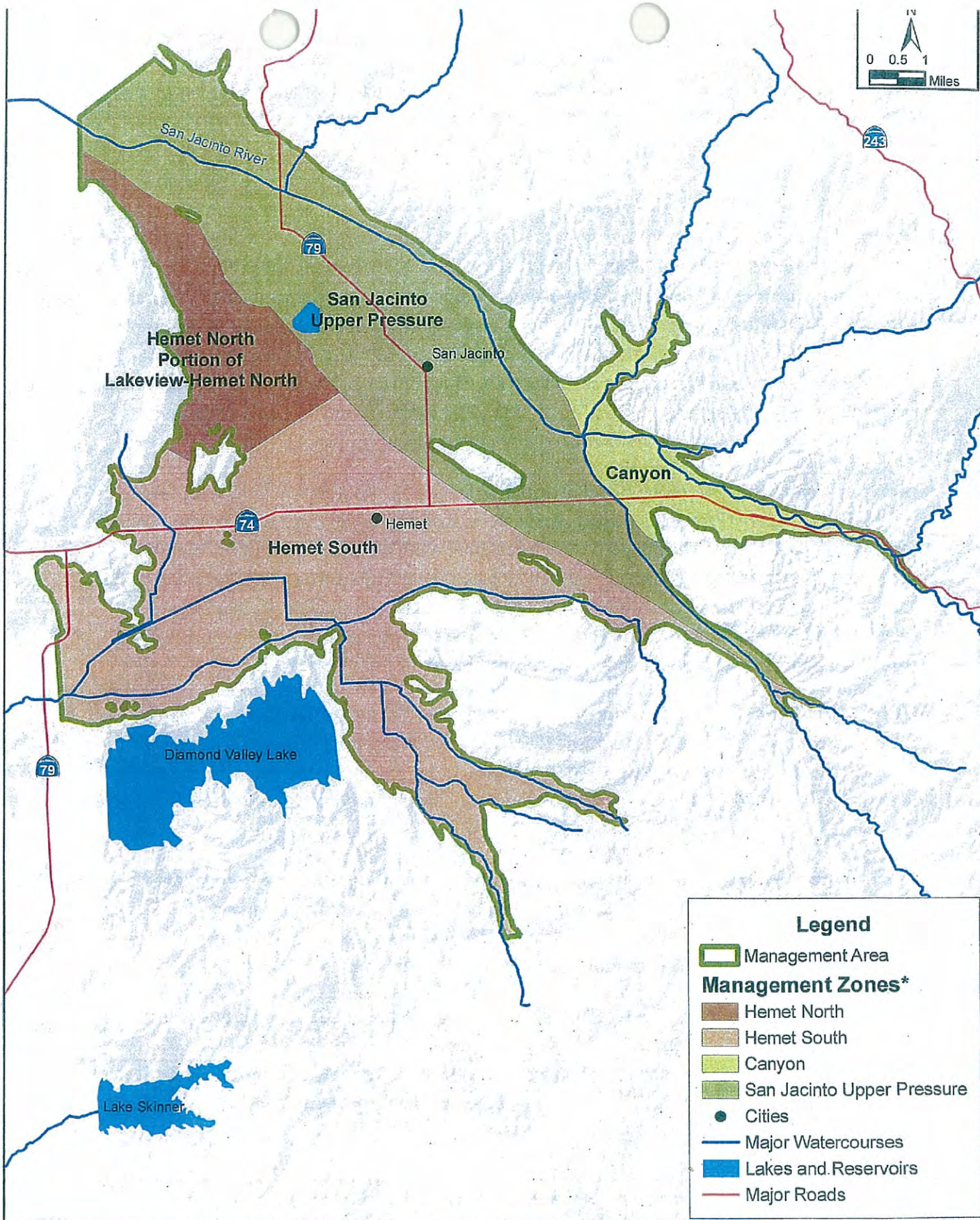
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10.3. Attorney's Fees and Costs. No Party shall recover any attorney's fees or costs in this proceeding from any Party.

DATED: 4/18, 201¹³/₂

M.P. PAULETTE D. BARKLEY
Commissioner, Superior Court of
~~California, Riverside County~~
JUDGE OF THE SUPERIOR COURT

EXHIBIT A



Legend

- Management Area
- Management Zones***
- Hemet North
- Hemet South
- Canyon
- San Jacinto Upper Pressure
- Cities
- Major Watercourses
- Lakes and Reservoirs
- Major Roads



Management Area and Management Zones

Hemet / San Jacinto Water Management Plan

*Source: EMWD

July 2006

Figure 1.1

EXHIBIT B

EXHIBIT B

List of Parties to this Judgment

A. Public Agencies

1. Eastern Municipal Water District ("Eastern")
2. Lake Hemet Municipal Water District ("Lake Hemet")
3. City of Hemet ("Hemet")
4. City of San Jacinto ("San Jacinto")

B. Class A Participants – (In Alphabetical Order)

1. Arlington Veterinary Laboratories, Inc.
2. Joseph William Bahan, Trustee of the Joseph William Bahan & Judith Ann Bahan Revocable Trust dated May 17, 1995
3. Judith Ann Bahan, Trustee of the Joseph William Bahan & Judith Ann Bahan Revocable Trust dated May 17, 1995
4. Michael D. Bahan
5. C & E DeVries Investment Co., L.P., a California Limited Partnership
6. De Anza Ranch, LP, a California Limited Partnership (Record)
7. Betsy Gless Demshki
8. John Demshki
9. Janet A. Gless, Trustee of The Gless Family Trust restated November 30, 1999
10. John J. Gless, Trustee of The Gless Family Trust restated November 30, 1999
11. Lillian A. Bahan Heideman, aka Lillian Agnes Miller, Trustee of the Lillian Agnes Miller Revocable Trust dated February 17, 1994
12. Patricia A. Jordan, Trustee of the Patricia A. Jordan Revocable Trust dated September 29, 1993

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13. Donald Francis Leuer, Trustee of the Leuer Family Revocable Trust dated June 10, 1997
14. Sharon E. Leuer, Trustee of the Leuer Family Revocable Trust dated June 10, 1997
15. Clifford J. Olsen
16. Elva I. Olsen, Trustee of The Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990
17. Robert D. Olsen, Trustee of The Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990
18. Sherry A. Olsen
19. Jacoba M. Oostdam, Trustee of the Peter & Jacoba Oostdam Family Trust
20. John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Katie Michelle Oostdam
21. John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Margie K. Oostdam
22. John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Melissa Oostdam
23. John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Jessica Lynn Oostdam
24. George R. Phillips, Trustee of the John & Sheryll Te Velde Children's Irrevocable Trust
25. Anne M. Record, Trustee of the Record Revocable Trust dated July 14, 2005
26. Randolph A. Record, Trustee of the Record Revocable Trust dated July 14, 2005
27. San Jacinto Fund, LLC, a Colorado Limited Liability Company
28. Six Bees, LLC, a California Limited Liability Company
29. Anne Sybrandy, Trustee of the Sid & Anne Sybrandy 2002 Trust
30. Sidney Sybrandy, Trustee of the Sid & Anne Sybrandy 2002 Trust
31. Yorba, LLC, a California Limited Liability Company

1 **C. Class B Participants – (In Alphabetical Order)**

- 2 1. Eric Jon Boersma
- 3
- 4 2. Julie Ann Boersma
- 5 3. Peter Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust dated
- 6 October 13, 1989
- 7 4. Rita Gayle Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust
- 8 dated October 13, 1989
- 9 5. Rabbi Eliezer Gross & Rex Johnson, Co-Trustees of the Amended & Restated
- 10 John and Dora Boruchin Administrative Trust dated December 23, 2013
- 11 6. Curci San Jacinto Investors, LLC, a Delaware limited liability company
- 12 7. The Lauda Family Limited Partnership, a California Limited Partnership
- 13 8. Nuevo Development Company, LLC, a Delaware limited liability company
- 14 9. Pastime Lakes Investment Co., LLC, a California Limited Liability Company
- 15 10. Rancho Diamante, LLC, a Delaware limited liability company
- 16 11. San Jacinto Spice Ranch, Inc.
- 17 12. San Jacinto Spice Ranch, Incorporated
- 18 13. Scott A.G. Properties, L.P., a California Limited Partnership
- 19 14. Scott AG Property, L.P., a California Limited Partnership
- 20 15. Unified Aircraft Services, Inc., a California Corporation
- 21 16. Donald Dick Van Dam, Trustee of the Donald Dick & Frances L. Van Dam
- 22 Revocable Family Trust
- 23 17. Frances L. Van Dam, Trustee of the Donald Dick & Frances L. Van Dam
- 24 Revocable Family Trust
- 25 18. Benjamin C. Warren, Trustee of the Warren Marital Trust dated October 2, 2010
- 26
- 27
- 28

EXHIBIT "B"
PUBLIC AGENCY PARTIES

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

11 EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.: RIC 1207274
12 A California Municipal Water District,)	
	)	STIPULATION FOR
13 Plaintiff,	)	ENTRY OF JUDGMENT
14 vs.)	
)	
15 CITY OF HEMET; et al.,)	
)	
16 Defendants.)	
)	
17)	

18
19 The parties hereto agree and stipulate as follows:

20 1. The following facts, considerations, and objectives, among others, provide the
21 basis for this Stipulation for Entry of Judgment:

22 a. On May 16, 2012, the Eastern Municipal Water District commenced this
23 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
24 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
25 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
26 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a
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1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3
4 3. The parties agree that jurisdiction over each of the parties has been established by
5 the allegations in the Complaint and that proper service of process of the Summons and
6 Complaint upon each of the defendants has occurred.

7
8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.

12
13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.

19
20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.


22
23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
26 The parties further agree that in the event this Stipulation becomes null and void under this
27 provision, all defendants will have thirty (30) days to file and serve amended responsive
28 pleadings.

1 8. The parties agree that this Stipulation may be executed in counterparts, each of
2 which will be filed with the Court.

3
4
5 DATED: 2/27, 2013

PLAINTIFF:

EASTERN MUNICIPAL WATER DISTRICT

6
7 By 
GERALD D. SHOAF

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9
10 DATED: 2/27, 2013

DEFENDANT:

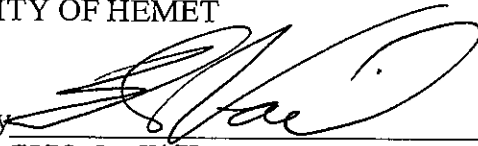
LAKE HEMET MUNICIPAL WATER DISTRICT

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12 By 
JEFFERY F. FERRE

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14
15 DATED: 2/27, 2013

DEFENDANT:

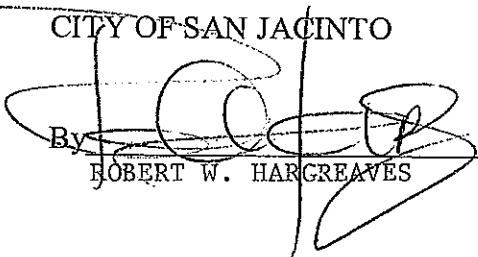
CITY OF HEMET

16
17 By 
ERIC S. VAIL

18
19
20 DATED: 2/27, 2013

DEFENDANT:

CITY OF SAN JACINTO

21
22 By 
ROBERT W. HARGREAVES

	PARTICIPANT'S NAME	CLASS A/B	STIPULATION (GROUP)	TAB
1	Arlington Veterinary Laboratories, Inc.	A	OLSEN	9
2	Joseph William Bahan, Trustee of the Joseph William Bahan & Judith Ann Bahan Revocable Trust dated May 17, 1995	A	BAHAN	1
3	Judith Ann Bahan, Trustee of the Joseph William Bahan & Judith Ann Bahan Revocable Trust dated May 17, 1995	A	BAHAN	1
4	Michael D. Bahan		BAHAN	1
5	C & E DeVries Investment Co., L.P., a California Limited Partnership	A	C & E DeVRIES	4
6	De Anza Ranch, LP, a California Limited Partnership	A	RECORD	13
7	Betsy Gless Demshki	A	GLESS	6
8	John Demshki	A	GLESS	6
9	Janet A. Gless, Trustee of The Gless Family Trust restated November 30, 1999	A	GLESS	6
10	John J. Gless, Trustee of The Gless Family Trust restated November 30, 1999	A	GLESS	6
11	Lillian A. Bahan Heideman, aka Lillian Agnes Miller, Trustee of the Lillian Agnes Miller Revocable Trust dated February 17, 1994	A	BAHAN	1
12	Patricia A. Jordan, Trustee of the Patricia A. Jordan Revocable Trust dated September 29, 1993	A	BAHAN	1
13	Donald Francis Leuer, Trustee of the Leuer Family Revocable Trust dated June 10, 1997	A	BAHAN	1
14	Sharon E. Leuer, Trustee of the Leuer Family Revocable Trust dated June 10, 1997	A	BAHAN	1
15	Clifford J. Olsen	A	OLSEN	9
16	Elva I. Olsen, Trustee of The Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990	A	OLSEN	9
17	Robert D. Olsen, Trustee of The Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990	A	OLSEN	9
18	Sherry A. Olsen	A	OLSEN	9
19	Jacoba M. Oostdam, Trustee of the Peter & Jacoba Oostdam Family Trust	A	OOSTDAM	10
20	John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Katie Michelle Oostdam	A	OOSTDAM	10
21	John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Margie K. Oostdam	A	OOSTDAM	10
22	John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Melissa Oostdam	A	OOSTDAM	10
23	John P. Oostdam, Trustee of the P & J Oostdam Grandchild's Trust for Jessica Lynn Oostdam	A	OOSTDAM	10
24	George R. Phillips, Trustee of the John & Sheryll Te Velde Children's Irrevocable Trust	A	SYBRANDY	17
25	Anne M. Record, Trustee of the Record Revocable Trust dated July 14, 2005	A	RECORD	13
26	Randolph A. Record, Trustee of the Record Revocable Trust dated July 14, 2005	A	RECORD	13
27	San Jacinto Fund, LLC, a Colorado Limited Liability Company	A	SAN JACINTO FUND	14
28	Six Bees, LLC, a California Limited Liability Company	A	BAHAN	1
29	Anne Sybrandy, Trustee of the Sid & Anne Sybrandy 2002 Trust	A	SYBRANDY	17
30	Sidney Sybrandy, Trustee of the Sid & Anne Sybrandy 2002 Trust	A	SYBRANDY	17
31	Yorba, LLC, a California Limited Liability Company	A	RECORD	13

EXHIBIT "B"
PRIVATE PUMPER PARTICIPANTS

	PARTICIPANT'S NAME	CLASS A/B	STIPULATION (GROUP)	TAB
32	Eric Jon Boersma	B	BOERSMA	2
33	Julie Ann Boersma	B	BOERSMA	2
34	Peter Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust dated October 13, 1989	B	BOERSMA	2
35	Rita Gayle Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust dated October 13, 1989	B	BOERSMA	2
36	Rabbi Eliezer Gross & Rex Johnson, Co-Trustees of the Amended & Restated John & Dora Boruchin Administrative Trust dated December 23, 2012	B	BORUCHIN	3
37	Curci San Jacinto Investors, LLC, a Delaware limited liability company	B	CURCI SAN JACINTO	5
38	The Lauda Family Limited Partnership, a California Limited Partnership	B	LAUDA FAMILY	7
39	Nuevo Development Company, LLC, a Delaware limited liability company	B	NUEVO DEVELOPMENT	8
40	Pastime Lakes Investment Co., LLC, a California Limited Liability Company	B	PASTIME LAKES	11
41	Rancho Diamante, LLC, a Delaware limited liability company	B	RANCHO DIAMANTE	12
42	San Jacinto Spice Ranch, Inc.	B	SAN JACINTO SPICE	15
43	San Jacinto Spice Ranch, Incorporated	B	SAN JACINTO SPICE	15
44	Scott A.G. Properties, L.P., a California Limited Partnership	B	SCOTT	16
45	Scott AG Property, L.P., a California Limited Partnership	B	SCOTT	16
46	Unified Aircraft Services, Inc., a California Corporation	B	WARREN	19
47	Donald Dick Van Dam, Trustee of the Donald Dick & Frances L. Van Dam Revocable Family Trust	B	VAN DAM	18
48	Frances L. Van Dam, Trustee of the Donald Dick & Frances L. Van Dam Revocable Family Trust	B	VAN DAM	18
49	Benjamin C. Warren, Trustee of the Warren Marital Trust dated October 2, 2010	B	WARREN	19

EXHIBIT "B"
PRIVATE PUMPER PARTICIPANTS

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.: RIC 1207274
14 A California Municipal Water District,)
15)
16) STIPULATION FOR
17) ENTRY OF JUDGMENT
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The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:

a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3
4 b. Each of the parties executing this Stipulation has a direct interest in the
5 quantity and quality of groundwater produced from within the Management Area.

6 c. The safe yield of the basins that comprise the Management Area is
7 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
8 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
9 Judgment) of the groundwater under the Management Area has been exceeded by the total
10 production therefrom, and a state of overdraft has existed continuously for at least five years.
11 Groundwater production during this period has been open, notorious, continuous, adverse,
12 hostile, and under a claim of right.

13
14 d. It is generally recognized and accepted that unmanaged downward decline
15 in water levels has severe adverse impacts on the rights of groundwater producers and on water
16 quality, will cause increased pumping lifts and may result in surface land subsidence.

17
18 e. It is apparent to the parties that protection of the rights of the parties and
19 of the public interest in maximizing the beneficial use of a limited resource—groundwater
20 supplies—within the Management Area requires the development, imposition and
21 implementation of a physical solution.

22
23 2. The parties agree that the physical solution represented by the Water Management
24 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
25 fair and equitable basis for protection of the groundwater supply within the Management Area
26 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
27 the mandate of the State Constitution establishing water policy within the State to maximize
28

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO

By _____

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DEFENDANTS/PUMPERS:

DATED: Dec 6, 2012

Michael D. Bahan
MICHAEL D. BAHAN

DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: _____, 2012

DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: _____, 2012

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

1 DEFENDANTS/PUMPERS:

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7 DATED: 12-5, 2012

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MICHAEL D. BAHAN


JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995


JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

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Patricia A. Jordan Revocable Trust Dated
September 29, 1993

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the Leuer Family Revocable Trust Dated
June 10, 1997

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

1 DEFENDANTS/PUMPERS:

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DATED: _____, 2012

MICHAEL D. BAHAN


DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: 12/9/, 2012



PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: _____, 2012

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June 10, 1997

DATED: _____, 2012

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June 10, 1997

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DEFENDANTS/PUMPERS:

DATED: _____, 2012

MICHAEL D. BAHAN

DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995


DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: 12-9, 2012



LILLIAN A. BAHAN HEIDEMAN, aka
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THE LILLIAN AGNES MILLER REVOCABLE
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June 10, 1997

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DEFENDANTS/PUMPERS:

DATED: _____, 2012

MICHAEL D. BAHAN

DATED: _____, 2012

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Revocable Trust dated May 17, 1995

DATED: _____, 2012

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Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995


DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012


LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: Dec. 6, 2012



DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 6, 2012

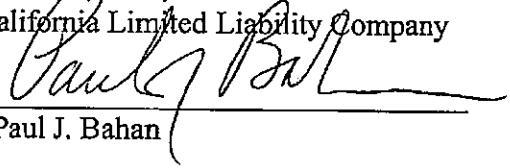


SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

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DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

By 
Paul J. Bahan

Its Trustee
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendants' Property and Wells Within the Management Area

Defendants, MICHAEL D. BAHAN; JOSEPH WILLIAM BAHAN, TRUSTEE OF THE JOSEPH WILLIAM BAHAN & JUDITH ANN BAHAN REVOCABLE TRUST DATED MAY 17, 1995; AND JUDITH ANN BAHAN, TRUSTEE OF THE JOSEPH WILLIAM BAHAN & JUDITH ANN BAHAN REVOCABLE TRUST DATED MAY 17, 1995; PATRICIA A. JORDAN, TRUSTEE OF THE PATRICIA A. JORDAN REVOCABLE TRUST DATED SEPTEMBER 29, 1993; LILLIAN A. BAHAN HEIDEMAN, aka LILLIAN AGNES MILLER, TRUSTEE OF THE LILLIAN AGNES MILLER REVOCABLE TRUST DATED FEBRUARY 17, 1994; DONALD FRANCIS LEUER, TRUSTEE OF THE LEUER FAMILY REVOCABLE TRUST DATED JUNE 10, 1997; & SHARON E. LEUER, TRUSTEE OF THE LEUER FAMILY REVOCABLE TRUST DATED JUNE 10, 1997; and SIX BEES, LLC, a California Limited Liability Company, by Paul J. Bahan, its Trustee _____, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

That portion of Tract 2 of the Partition of the Rancho San Jacinto Viejo more particularly described in the Partition Decree in the Superior Court of the State of California, in and for the County of San Diego, as the same is recorded in Book 43, Page 161 of Deeds, San Diego County Records, described as follows:

1 Beginning at a point in the Northerly line of said Rancho San Jacinto Viejo, from which Corner No. 42
2 of said Rancho bears North 65°38'30" East, 4,912.50 feet, said point being in the center line of that
3 certain 400 foot easement for river channel and bank protection works described in Parcel 1 in deed to
4 the County of Riverside recorded August 10, 1946 in Book 764, Page 469 of Official Records, Riverside
5 County Records.

6 Thence following the center line of said easement, South 59°47'30" East 1,555.10 feet, more or less,
7 to the beginning of a curve concave to the Northeast, having a central angel of 11°41' and a radius of
8 4,000 feet;

9 Thence along said curve 815.65 feet; thence South 71°28'30" East 2,248.43 feet, to the beginning of
10 a curve concave to the Southwest, having a central angle of 09°20' and a radius of 5,000 feet;

11 Thence along said curve 814.49 feet; thence South 62°08'30" East, 3,337.49 feet, to a point in the
12 Southwesterly line of that property conveyed to Gilman's Relief Hot Springs by deed recorded
13 September 24, 1929 in Book 825, Page 524 of Deeds, Riverside County Records;

14 Thence leaving said centerline and following the Southwesterly line of said Parcel, South 42° East
15 1,391.14 feet to a point on the Southerly line of said Tract; thence West, 13,591.52 feet, more or
16 less, to corner No. 3 of said Tract; thence North 2,640 feet to Corner No. 2 of said Tract; thence North
17 66° East 5,266.68 feet, more or less, to the point of beginning.

18 Excepting therefrom that portion lying West of the East line of Sanderson Avenue, as conveyed to the
19 County of Riverside by deeds recorded March 13, 1967 as Instrument Nos. 20719, 20720 and 20721.

20 Also excepting therefrom those portions in Ramon Expressway as conveyed to the County of Riverside
21 by deeds recorded November 14, 1969 as Instrument Nos. 117100 and 117101; and January 15,
22 1974 as Instrument Nos. 5586 and 5589.

23 Also excepting therefrom those portions as conveyed to the County of Riverside by Deed recorded
24 June 27, 1995 as Instrument No. 20681 of Official Records.

25 Assessor's Parcel Number: 430-160-001, Acres: 204.51

26 430-150-002, Acres: 4.51

27 430-120-013, Acres: 94.14

28 430-110-016, Acres: 20.03

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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S01W16F001S	Agri Bahan
04S01W16H001S	Agri Bahan East
04S01W16E001S	Agri Sanderson/River

DATED: Dec 6, 2012



 MICHAEL D. BAHAN

DATED: _____, 2012

 JOSEPH WILLIAM BAHAN, Trustee of the
 Joseph William Bahan & Judith Ann Bahan
 Revocable Trust dated May 17, 1995

DATED: _____, 2012

 JUDITH ANN BAHAN, Trustee of the
 Joseph William Bahan & Judith Ann Bahan
 Revocable Trust dated May 17, 1995

DATED: _____, 2012

 PATRICIA A. JORDAN, Trustee of the
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 September 29, 1993

DATED: _____, 2012

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 TRUST DATED FEBRUARY 17, 1994

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Description of Wells:

State Well Number

Popular Name or Reference Description

04S01W16F001S

Agri Bahan

04S01W16H001S

Agri Bahan East

04S01W16E001S

Agri Sanderson/River

DATED: _____, 2012

MICHAEL D. BAHAN

DATED: 12-5, 2012

Joseph William Bahan
JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: 12-5, 2012

Judith Ann Bahan
JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
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DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
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September 29, 1993

DATED: _____, 2012

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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S01W16F001S	Agri Bahan
04S01W16H001S	Agri Bahan East
04S01W16E001S	Agri Sanderson/River

DATED: _____, 2012

MICHAEL D. BAHAN


DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: 12/9/, 2012



PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

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Description of Wells:

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04S01W16F001S	Agri Bahan
04S01W16H001S	Agri Bahan East
04S01W16E001S	Agri Sanderson/River

DATED: _____, 2012

MICHAEL D. BAHAN

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JOSEPH WILLIAM BAHAN, Trustee of the
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DATED: _____, 2012

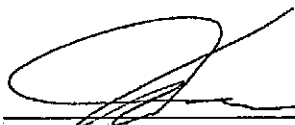
PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: 12-9, 2012

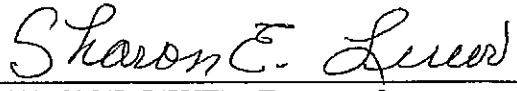
Lillian A. Bahan Heideman
LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

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DATED: Dec. 6, 2012


DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 6, 2012


SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

By _____
Paul J. Bahan

Its Trustee
(Office or Position)

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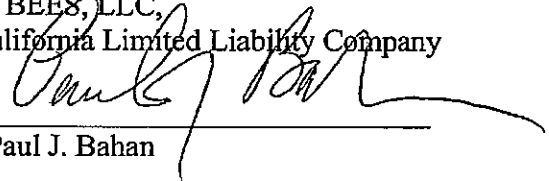
DATED: _____, 2012

DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: _____, 2012

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company
By 
Paul J. Bahan
Its _____ Trustee
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants MICHAEL D. BAHAN; JOSEPH WILLIAM BAHAN, TRUSTEE OF THE JOSEPH WILLIAM BAHAN & JUDITH ANN BAHAN REVOCABLE TRUST DATED MAY 17, 1995; AND JUDITH ANN BAHAN, TRUSTEE OF THE JOSEPH WILLIAM BAHAN & JUDITH ANN BAHAN REVOCABLE TRUST DATED MAY 17, 1995; PATRICIA A. JORDAN, TRUSTEE OF THE PATRICIA A. JORDAN REVOCABLE TRUST DATED SEPTEMBER 29, 1993; LILLIAN A. BAHAN HEIDEMAN, aka LILLIAN AGNES MILLER, TRUSTEE OF THE LILLIAN AGNES MILLER REVOCABLE TRUST DATED FEBRUARY 17, 1994; DONALD FRANCIS LEUER, TRUSTEE OF THE LEUER FAMILY REVOCABLE TRUST DATED JUNE 10, 1997; & SHARON E. LEUER, TRUSTEE OF THE LEUER FAMILY REVOCABLE TRUST DATED JUNE 10, 1997; and SIX BEES, LLC, a California Limited Liability Company, by Paul J. Bahan, its Trustee, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 1,398 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants X .
Class "B" Participants ____ .
(Select one)

DATED: Dec 6, 2012


MICHAEL D. BAHAN

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DATED: 12-5, 2012

Joseph William Bahan
JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: 12-5, 2012

Judith Ann Bahan
JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: _____, 2012

DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: _____, 2012

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

By _____
Paul J. Bahan

Its TRUSTEE
(Office or Position)

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DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: 12/9/, 2012



PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: _____, 2012

DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: _____, 2012

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

By _____
Paul J. Bahan

Its _____
TRUSTEE
(Office or Position)

1 DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

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JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

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8 DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

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12 DATED: 12-9, 2012

Lillian A. Bahan Heideman
LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

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DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

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SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

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23 DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

24
25 By _____
Paul J. Bahan

26
27 Its TRUSTEE
(Office or Position)

1 DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

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JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995


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PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993


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12 DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

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16 DATED: Dec. 6, 2012


DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

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20 DATED: Dec. 6, 2012


SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

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23 DATED: Dec. 4, 2012

SIX BEES, LLC,
a California Limited Liability Company

By _____
Paul J. Bahan

Its TRUSTEE
(Office or Position)

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DATED: _____, 2012

JOSEPH WILLIAM BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

JUDITH ANN BAHAN, Trustee of the
Joseph William Bahan & Judith Ann Bahan
Revocable Trust dated May 17, 1995

DATED: _____, 2012

PATRICIA A. JORDAN, Trustee of the
Patricia A. Jordan Revocable Trust Dated
September 29, 1993

DATED: _____, 2012

LILLIAN A. BAHAN HEIDEMAN, aka
LILLIAN AGNES MILLER, TRUSTEE OF
THE LILLIAN AGNES MILLER REVOCABLE
TRUST DATED FEBRUARY 17, 1994

DATED: _____, 2012

DONALD FRANCIS LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: _____, 2012

SHARON E. LEUER, Trustee of
the Leuer Family Revocable Trust Dated
June 10, 1997

DATED: Dec. 4, 2012

SIX BEES, LLC
a California Limited Liability Company

By 
Paul J. Bahan

Its TRUSTEE
(Office or Position)

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.: RIC 1207274
14 A California Municipal Water District,)	
15	)	STIPULATION FOR
16 Plaintiff,	)	ENTRY OF JUDGMENT
17 vs.)	
18)	
19 CITY OF HEMET; et al.,)	
20)	
21 Defendants.)	
22)	
23)	

24 The parties hereto agree and stipulate as follows:

25 1. The following facts, considerations, and objectives, among others, provide the
26 basis for this Stipulation for Entry of Judgment:

27 a. On May 16, 2012, the Eastern Municipal Water District commenced this
28 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.
10

11 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
12 be made and entered by the Court binding these stipulating parties in this action. Each Private
13 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
14 description of said defendant's property within the Management Area, including the acreage
15 thereof, and, as Exhibit "C," the signed form indicating said defendant's election to be classified
16 as a Class "A" or Class "B" Participant.
17

18 6. Accordingly, the parties request that the Court hold a hearing to determine
19 whether there is any objection to said proposed Judgment.
20

21 7. The parties agree that in the event that the Court is unwilling to enter a final
22 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
23 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
24 The parties further agree that in the event this Stipulation becomes null and void under this
25 provision, all defendants will have thirty (30) days to file and serve amended responsive
26 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET
By _____


DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO
By _____

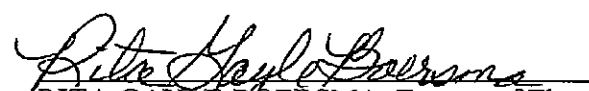
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DEFENDANTS/PUMPERS:

DATED: 7-16-12, 2012


PETER BOERSMA, Trustee of The Peter & Rita Gayle Boersma Family Trust Dated October 13, 1989

DATED: 7-16-12, 2012


RITA GAYLE BOERSMA, Trustee of The Peter & Rita Gayle Boersma Family Trust Dated October 13, 1989

DATED: 7-17, 2012


JULIE ANN BOERSMA

DATED: 7-16-, 2012


ERIC JON BOERSMA

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants, PETER BOERSMA, TRUSTEE OF THE PETER & RITA GAYLE BOERSMA FAMILY TRUST DATED OCTOBER 13, 1989; RITA GAYLE BOERSMA, TRUSTEE OF THE PETER & RITA GAYLE BOERSMA FAMILY TRUST DATED OCTOBER 13, 1989; JULIE ANN BOERSMA; and ERIC JON BOERSMA, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1 together with Lettered Lots, B, C, I, U and Parcel 3 together with Lettered Lots D, E, F, G, J, K, L, M, N, O, P, Q and R of Parcel Map No. 11978, as shown by map on file in Book 71, Pages 95 through 100, inclusive, of Parcel Maps, Records of Riverside County.

- Assessor's Parcel Number: 425-100-005, Acres: 71.86
- 425-100-017, Acres: 7.23
- 425-200-003, Acres: 18.12
- 425-200-023, Acres: 3.61
- 425-210-004, Acres: 12.51
- 425-220-003, Acres: 14.38
- 425-100-019, Acres: 6.89
- 425-220-013, Acres: 0.27

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Description of Wells:

State Well Number

Popular Name or Reference Description


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Boersma Dairy

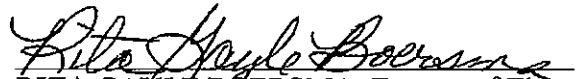
04S02W12N002S

Boersma Dairy Ag

DATED: 7-16-12, 2012


PETER BOERSMA, Trustee of The Peter
& Rita Gayle Boersma Family Trust Dated
October 13, 1989

DATED: 7-16, 2012


RITA GAYLE BOERSMA, Trustee of The
Peter & Rita Gayle Boersma Family Trust
Dated October 13, 1989

DATED: 7-17, 2012


JULIE ANN BOERSMA

DATED: 7-16-, 2012


ERIC JON BOERSMA

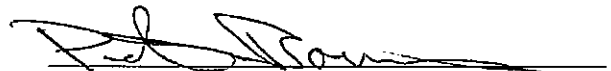
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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

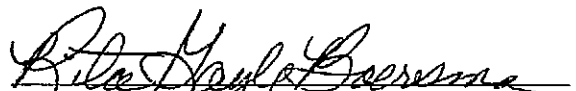
Defendants PETER BOERSMA, TRUSTEE OF THE PETER & RITA GAYLE BOERSMA FAMILY TRUST DATED OCTOBER 13, 1989; RITA GAYLE BOERSMA, TRUSTEE OF THE PETER & RITA GAYLE BOERSMA FAMILY TRUST DATED OCTOBER 13, 1989; JULIE ANN BOERSMA; and ERIC JON BOERSMA, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 195 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants ____
Class "B" Participants X
(Select one)

DATED: 7-16-12, 2012


PETER BOERSMA, Trustee of The Peter & Rita Gayle Boersma Family Trust Dated October 13, 1989

DATED: 7-16, 2012


RITA GAYLE BOERSMA, Trustee of The Peter & Rita Gayle Boersma Family Trust Dated October 13, 1989

DATED: 7-17, 2012


JULIE ANN BOERSMA

DATED: 7-16-, 2012


ERIC JON BOERSMA



3

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.: RIC 1207274
14 A California Municipal Water District,)
15)
16 Plaintiff,)
17 vs.)
18)
19 CITY OF HEMET; et al.,)
20)
21 Defendants.)
22)
23)
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26)
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STIPULATION FOR
ENTRY OF JUDGMENT

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:

a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

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state of overdraft and seeks correction of this condition by the Court through adjudication of certain rights to produce water therefrom.

b. Each of the parties executing this Stipulation has a direct interest in the quantity and quality of groundwater produced from within the Management Area.

c. The safe yield of the basins that comprise the Management Area is approximately 45,000 acre feet per year. For more than five years preceding the filing of the Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated Judgment) of the groundwater under the Management Area has been exceeded by the total production therefrom, and a state of overdraft has existed continuously for at least five years. Groundwater production during this period has been open, notorious, continuous, adverse, hostile, and under a claim of right.

d. It is generally recognized and accepted that unmanaged downward decline in water levels has severe adverse impacts on the rights of groundwater producers and on water quality, will cause increased pumping lifts and may result in surface land subsidence.

e. It is apparent to the parties that protection of the rights of the parties and of the public interest in maximizing the beneficial use of a limited resource—groundwater supplies—within the Management Area requires the development, imposition and implementation of a physical solution.

2. The parties agree that the physical solution represented by the Water Management Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a fair and equitable basis for protection of the groundwater supply within the Management Area and for satisfaction of groundwater rights within said Management Area and is in furtherance of the mandate of the State Constitution establishing water policy within the State to maximize

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3
4 3. The parties agree that jurisdiction over each of the parties has been established by
5 the allegations in the Complaint and that proper service of process of the Summons and
6 Complaint upon each of the defendants has occurred.

7
8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.

12
13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.

19
20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.

22
23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
26 The parties further agree that in the event this Stipulation becomes null and void under this
27 provision, all defendants will have thirty (30) days to file and serve amended responsive
28 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012

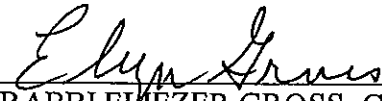
DEFENDANT:
CITY OF SAN JACINTO

By _____

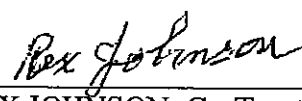
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DEFENDANTS/PUMPERS:

DATED: Feb. 26, 2013



RABBI ELMER GROSS, Co-Trustee
of the Amended & Restated John & Dora
Boruchin Administrative Trust dated
December 23, 2013, as the successor-in
interest to John Boruchin, Trustee for the
John & Dora Boruchin Living Trust
dated December 15, 1981



REX JOHNSON, Co-Trustee
of the Amended & Restated John & Dora
Boruchin Administrative Trust dated
December 23, 2013, as the successor-in
interest to John Boruchin, Trustee for the
John & Dora Boruchin Living Trust
dated December 15, 1981

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, the Amended and Restated John and Dora Boruchin Administrative Trust dated December 23, 2012, by Co-Trustee Rabbi Eliezer Gross and Co-Trustee Rex Johnson, as the successor-in-interest to John Boruchin, Trustee of the John and Dora Boruchin Living Trust dated December 15, 1981, certifies that the following is a description of the property and wells owned by said defendant within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1: (Assessor's Parcel Number: 436-080-001; Acres 6.86)

Farms Lot 130 of the lands of the San Jacinto Land Association, in the City of San Jacinto, County of Riverside, State of California, as shown by map on file in Book 8, Page 357 of Maps, San Diego County Records.

Parcel 2: (Assessor's Parcel Number: 436-080-002; Acres 84.22
436-080-006; Acres 4.17)

Parcel A of that certain Certificate of Compliance No. 04-01, in the City of San Jacinto, County of Riverside, State of California, recorded July 19, 2004 as Instrument No. 2004-0556773 of Official Records, more particularly described as follows:

A portion of Farm Lot 132 of the lands of the San Jacinto Land Association, in the City of San Jacinto, County of Riverside, State of California, as shown by map on file in Book 8, Page 357 of Maps, Record of San Diego County, California, more particularly described as follows:

Beginning at the Southwest corner of said Farm Lot 132, being also a point on the boundary line of that portion of land included within that certain final decree of condemnation recorded November 25, 1949 in Book 1126, Page 549 of Official Records;
Thence North 00°20'24" West along the boundary line of said final decree and the West line of said Farm Lot 132, a distance of 2640 feet to the Northwest corner of said Farm Lot 132;
Thence continuing along the boundary line of said Farm Lot 132 the following courses;
North 89°38'30" East, a distance of 779.07 feet to a point on the center line of De Anza Drive; South 45°22'21" East along centerline, a distance of 2637.00 feet to the Northeasterly corner of said Farm

1 Lot 132, being also a point of intersection with the centerline of Lyon Avenue; South 00°21'45" East
 2 along said centerline of Lyon Avenue, a distance of 776.20 feet to the Southeast corner of said Farm
 Lot 132; South 89°38'17" West, a distance of 325.00 feet;
 3 Thence North 42°53'15" West a distance of 276.14 feet to a point on the boundary line of said final
 decree;
 4 Thence along said boundary line following courses: South 47°06'45" West, a distance of 274.7 feet;
 South 00°32'16" East, a distance of 17.78 feet to the South line of said Farm Lot 132;
 5 Thence South 89°38'17" West along said South line of Farm Lot 132, a distance of 1930.99 feet to th
 point of beginning.

6 Excepting from said Farm Lot 132, the interest included within that certain final decree of
 condemnation recorded November 25, 1949 in Book 1126, Page 549 of Official Records.

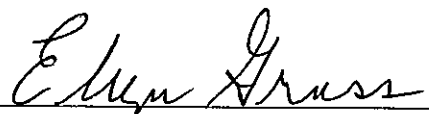
7 Also excepting from said Farm Lot 132 that portion of land conveyed to the Metropolitan Water District
 8 of Southern California, by deed recorded June 3, 1950 in Book 2484, Page 515 of Official Records.


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 10 **Description of Wells:**

11
 12 **State Well Number** **Popular Name or Reference Description**

13 None None

14
 15 DATED: Feb 26, 2013

16 
 17 RABBI ELIEZER GROSS, Co-Trustee
 of the Amended & Restated John & Dora
 Boruchin Administrative Trust dated
 18 December 23, 2013, as the successor-in
 interest to John Boruchin, Trustee for the
 19 John & Dora Boruchin Living Trust
 dated December 15, 1981

20
 21 
 22 REX JOHNSON, Co-Trustee
 of the Amended & Restated John & Dora
 Boruchin Administrative Trust dated
 23 December 23, 2013, as the successor-in
 interest to John Boruchin, Trustee for the
 24 John & Dora Boruchin Living Trust
 dated December 15, 1981

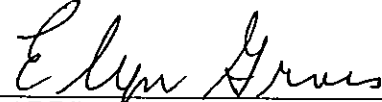
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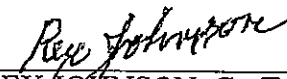
EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant, the Amended and Restated John and Dora Boruchin Administrative Trust dated December 23, 2012, by Co-Trustee Rabbi Eliezer Gross and Co-Trustee Rex Johnson, as the successor-in-interest to John Boruchin, Trustee of the John and Dora Boruchin Living Trust dated December 15, 1981, based on a collective assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment in the amount of 266 acre feet per year collectively for all properties described on Exhibit "B," said water being provided from a well on adjacent, non-owned property, hereby elects to be classified collectively in these proceedings as

Class "A" Participants ____.
Class "B" Participants XX.
(Select one)

DATED: FEB. 26, 2013


RABBI ELIEZER GROSS, Co-Trustee
of the Amended & Restated John & Dora
Boruchin Administrative Trust dated
December 23, 2013, as the successor-in
interest to John Boruchin, Trustee for the
John & Dora Boruchin Living Trust
dated December 15, 1981


REX JOHNSON, Co-Trustee
of the Amended & Restated John & Dora
Boruchin Administrative Trust dated
December 23, 2013, as the successor-in
interest to John Boruchin, Trustee for the
John & Dora Boruchin Living Trust
dated December 15, 1981



1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.:
14 A California Municipal Water District,)
15) STIPULATION FOR
16 Plaintiff,) ENTRY OF JUDGMENT
17 vs.)
18)
19 CITY OF HEMET; et al.,)
20)
21 Defendants.)
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29 The parties hereto agree and stipulate as follows:

30 1. The following facts, considerations, and objectives, among others, provide the
31 basis for this Stipulation for Entry of Judgment:

32 a. On May 16, 2012, the Eastern Municipal Water District commenced this
33 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
34 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
35 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
36 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.
10

11 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
12 be made and entered by the Court binding these stipulating parties in this action. Each Private
13 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
14 description of said defendant's property within the Management Area, including the acreage
15 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
16 as a Class "A" or Class "B" Participant.
17

18 6. Accordingly, the parties request that the Court hold a hearing to determine
19 whether there is any objection to said proposed Judgment.
20

21 7. The parties agree that in the event that the Court is unwilling to enter a final
22 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
23 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
24 The parties further agree that in the event this Stipulation becomes null and void under this
25 provision, all defendants will have thirty (30) days to file and serve amended responsive
26 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012
PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012
DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012
DEFENDANT:
CITY OF HEMET
By _____

DATED: _____, 2012
DEFENDANT:
CITY OF SAN JACINTO
By _____

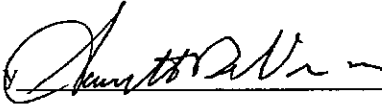
1 DEFENDANT/PUMPER:

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3 DATED: Sept 5, 2012

C & E DeVries Investment Co., L.P.,
a California Limited Partnership

4

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By 

6

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Garrett DeVries
(Print/Type Name)

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9

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Its General Partner
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant C & E De Vries Investment Co., L.P., a California Limited Partnership, by Garrett DeVries, its GENERAL PARTNER, certifies that the following is a description of the property and wells owned by said defendant within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1: (APN: 425-090-021, Acres 7.91), (APN: 425-200-018, Acres 2.96)

The East 130.32 feet of the following described property:

That portion of Lots A, C and D of the Map showing subdivision of Lot 4, San Jacinto Nuevo and Lot 3 of San Jacinto Viejo on file in Book 1, Pages 10 and 11 of Maps, Riverside County Records, described as follows:

Beginning at the Southwest corner of Block 18 of Consolidated Reservoir and Power Company's Subdivision of San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps, Riverside County Records; thence South 26°35'22" West, 675.33 feet; thence South 2003.97 feet to the Northerly line of Pico Road as conveyed to the County of Riverside by deed recorded July 10, 1930 in Book 869, Page 100 of Deeds, thence South 52°58'26" East on the Northeast line of said Pico Road, 4057.96 feet thence North 37°01'34" East, 10 feet to a point distant 40 feet from the center line of said Pico Road; thence North 00°19'10" West to a point on the North line of Lot C of said Subdivision; thence West on the North line of Lot C to the point of beginning.

Excepting therefrom that portion conveyed to Southern California Edison Company by deed recorded January 13, 1970 as Instrument No. 3152.

1 Also excepting therefrom that portion conveyed to the County of Riverside by deed recorded
2 January 27, 1970 as Instrument No. 7981.

3 Also excepting therefrom the East 1672.53 feet as measured along the North line of said land.

4 Parcel 2: (425-090-024, Acres 11.4), (425-090-003, Acres 50.24), (425-200-004, Acres 4.30)

5 That portion of Lots A, C and D of the Map showing Subdivision of Lot 4, San Jacinto Nuevo
6 and Lot 3 of San Jacinto Viejo on file in Book 1, Pages 10 and 11 of Maps, Riverside County
7 Records, described as follows:

8 Beginning at the Southwest corner of Block 18, of Consolidated Reservoir and Power
9 Company's Subdivision of San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83
10 of Maps, Riverside County Records; thence South $26^{\circ}35'22''$ West, 675.33 feet; thence South
11 2003.97 feet to the Northerly line of Pico Road as conveyed to the County of Riverside by deed
12 recorded July 10, 1930 in Book 869, Page 100 of Deeds; thence South $52^{\circ}58'26''$ East on the
13 Northeast line of said Pico Road, 4057.96 feet thence North $37^{\circ}01'34''$ East, 10 feet to a point
14 distant 40 feet from the center line of said Pico Road; thence North $00^{\circ}19'10''$ West to a point on
15 the North line of Lot C of said Subdivision; thence West on the North line of Lot C to the point
16 of beginning.

17 Excepting therefrom that portion conveyed to Southern California Edison Company by deed
18 recorded January 13, 1970 as Instrument No. 3152.

19 Also excepting therefrom that portion conveyed to the County of Riverside by deed recorded
20 January 27, 1970 as Instrument No. 7981.

21 Also excepting therefrom the East 1672.53 feet as measured along the North line of said land.

22 Also excepting therefrom the East 130.32 feet as deeded to Case DeVries and Evelyn DeVries,
23 as Trustee of the DeVries Family Trust established November 17, 1972 by deed dated December
24 5, 1977.

25 Parcel 3: (425-090-020, Acres 23.49), (425-200-017, Acres 9.19)

26 Those portions of Lots "A", "C" and "D" of the Map showing Subdivision of Lot 4, San Jacinto
27 Nuevo and Lot 3, San Jacinto Viejo on file in Book 1, Pages 10 and 11 of Maps, in the Office of
28 the County Recorder of Riverside County, as more particularly described in that certain Grant
Deed from Howard Lathrom also known as Howard B. Lathrom and Helen Lathrom, husband
and wife, to Southern California Edison Company, recorded January 13, 1970 as Instrument No.
3152, of Official Records, in the Office of the County Recorder of said County,

Assessor's Parcel Number: 425-090-003; 020; 021; 024; 425-200-004; 017; 018

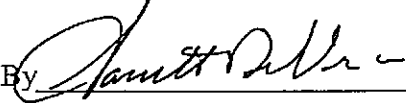
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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S02W12P001S	Mira Vista Dairy
04S02W12P002S	Mira Vista Dairy Barn
04S02W12P003S	Mira Vista Dairy House

DATED: Sept 5, 2012

C & E DeVries Investment Co., L.P.,
a California Limited Partnership

By 

Garrett De Vries
(Print/Type Name)

Its GENERAL PARTNER
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant C & E De Vries Investment Co., L.P., a California Limited Partnership, by
Garrett DeVries, its GENERAL PARTNER, based on a collective assignment to said defendant of
Base Production Rights under the proposed Stipulated Judgment in the amount of 116 acre feet
per year collectively for all properties described on Exhibit "B," hereby elects to be classified
collectively in these proceedings as

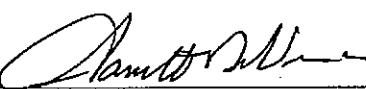
Class "A" Participant X.

Class "B" Participant _____.

(Select one)

DATED: Sept. 5, 2012

C & E DeVries Investment Co., L.P.,
a California Limited Partnership

By 

Garrett DeVries
(Print/Type Name)

Its GENERAL PARTNER
(Office or Position)

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,)
14 A California Municipal Water District,)

15 Plaintiff,)

16 vs.)

17 CITY OF HEMET; et al.,)

18 Defendants.)
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CASE NO.: RIC 1207274

STIPULATION FOR
ENTRY OF JUDGMENT

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:

a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

Stipulation for Judgment

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3
4 3. The parties agree that jurisdiction over each of the parties has been established by
5 the allegations in the Complaint and that proper service of process of the Summons and
6 Complaint upon each of the defendants has occurred.

7
8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.

12
13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.

19
20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.

22
23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
26 The parties further agree that in the event this Stipulation becomes null and void under this
27 provision, all defendants will have thirty (30) days to file and serve amended responsive
28 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012


DEFENDANT:
CITY OF HEMET
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO
By _____

1 DEFENDANT/PUMPER:
2

3 DATED: 11/15, 2012
4

CURCI SAN JACINTO INVESTORS, LLC,
A Delaware Limited Liability Company
Curci Investments, LLC Manager
By 

6 Michael T. Curci
7 Its Assistant Manager
8 (Office or Position)
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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, CURCI SAN JACINTO INVESTORS, LLC, a Delaware Limited Liability Company, by Michael T. Curci Assistant Manager Curci Investments LLC Manager, certifies that the following is a description of the property and wells owned by said defendant within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1 (Apn: 434-230-003; 9.52 Acres)

The North half of Farm Lot 92 of Lands of the San Jacinto Land Association, as shown by Map on file in Book 8, page 357 of Maps, Records of San Diego County, California.

Parcel 2 (Apn: 434-230-004; 9.52 Acres)

Lots 1 through 10 of S.J. Meads Subdivision of the South-half of Farm Lot 92 of the Lands of San Jacinto Land Association, as shown by Map of said Subdivision of file in Book 1, Page 40, of Maps, records of San Diego County, California.

Parcel 3 (Apn: 433-110-020; 1.26 Acres) and (portion of 433-110-040; 4.62 Acres)

Lots 1 through 8 of Olmstead's Subdivision of Tract VI, as shown by Map on file in Book 4, Page 261 of Maps, Records of San Diego County, California;

Except those portions within the land conveyed to the San Jacinto Spice Company by deed recorded November 16, 1971 as Instrument No. 131001 of Official Records of Riverside County, California.

1 Also excepting that portion of land granted to San Jacinto Unified School District by Corporation
2 Grant Deed recorded August 26, 2008 as Instrument No. 2008-0470195 of Official Records of
3 Riverside County.

4 Parcel 4 (Apn: 434-190-007; 6.99 Acres) and (434-190-008; 1.61 Acres)

5 Farm Lot 194 of Lands of the San Jacinto Land Association, as shown by Map on file in Book 8,
6 Page 357 of Maps, records of San Diego County, California.

7 Also excepting that portion of land granted to San Jacinto Unified School District by Corporation
8 Grant Deed recorded August 26, 2008 as Instrument No. 2008-0470195 of Official Records.

9 Parcel 5 (Apn: portion of 433-070-051; 11.84 Acres)

10 Lot 43 of Olmsted's Subdivision of Tract 6 of the Rancho San Jacinto Viejo, as shown by Map
11 on said subdivision on file in Book 4, Page 261 of Maps, records of San Diego County,
12 California;

13 Excepting that portion of Lot 43 lying Northeasterly of the Southwesterly right-of-way of
14 Ramona Expressway.

15 Also excepting that portion of land Granted to San Jacinto Unified School District by
16 Corporation Grant Deed recorded August 26, 2008 as Instrument No. 2008-0470195 of Official
17 Records of Riverside County.

18 Parcel 6 (Apons: 434-300-012; 3.81 Acres) and (434-300-016; 32.94 Acres)

19 The North half of Farm Lot 195 of Lands of the San Jacinto Land Association, as shown by Map
20 on file in Book 8, Page 357 of Maps, records of Riverside County, California.

21 Excepting therefrom that portion within the land conveyed to the County of Riverside in
22 document recorded December 16, 1982 as Instrument No. 217051.

23 Parcel 7 (Apn: portion of 434-300-017; 6.31 Acres)

24 That portion of Farm Lot 195 of Lands of San Jacinto Land Association, as shown by Map on
25 file in Book 8, Page 357 of Maps, records of Riverside County, California, more particularly
26 described as follows:

27 Beginning at a point on the West line of said Lot, 170 feet North of the Southwest corner of the
28 North half of the South half of said Lot; thence East, 594 feet; thence at right angles North, 70
29 feet; thence at right angles West, 594 feet to the West line of said Lot; thence South along said
30 West line, 70 feet to the point of beginning.

31 ~~Parcel 8 (Apn: portion of 434-300-017; 6.31 Acres)~~

SAME AS PARCEL 7 ABOVE

Stipulation for Judgment

1 The North 6 acres of the West 9 acres of the North half of the South half of Farm Lot 195 of
2 Lands of San Jacinto Land Association, as shown by map on file in Book 8, page 357 of Maps,
3 Records of Riverside County, California.
4 Excepting therefrom the Southerly 20 feet thereof.
5 Also excepting therefrom the Southerly 20 feet thereof.
6 Also excepting therefrom that portion lying within that portion of said Farm Lot 195 described as
7 follows:
8 Beginning at a point of the West line of said Lot, 17 feet North of the Southwest corner of the
9 North half of the South half of said Lot;
10 Thence East 594 feet;
11 Thence at right angles North, 70 feet;
12 Thence at right angles West, 594 feet to the West line of said Lot; thence South along said West
13 line, 70 feet to the point of beginning.
14 Parcel 9 (Apn: 434-300-013-0; 1.34 Acres)
15 That portion of Lot 195 as shown on Map of San Jacinto Land Association, on file in Map Book
16 8, Page 357, Records of San Diego County, California, being more particularly described as
17 follows:
18 Commencing at the East one-quarter corner of Section 26, Township 4 South, Range 1 West, San
19 Bernardino Base and Meridian, said East one-quarter corner also being the Northeast corner of
20 said Lot 195;
21 Thence South $89^{\circ} 40' 33''$ West, along the Northerly lien of said Lot 195, a distance of 353.44
22 feet to the True Point of Beginning.
23 Thence South $06^{\circ} 34' 05''$ East, a distance of 22.00 feet to the beginning of a tangent curve,
24 concave Easterly, having a radius of 1570.00 feet;
25 Thence Southerly along said curve through a central angle of $24^{\circ} 22' 34''$ an arc length of 667.95
26 feet;
27 Thence South $30^{\circ} 56' 45''$ East a distance of 214.21 feet to a point of intersection with the
28 Westerly right-of-way line of Camino Los Banos (60.00 feet wide);
Thence South $00^{\circ} 10' 03''$ East, along said Westerly right-of-way line, a distance of 117.25 feet;

1 Thence North 30° 56' 45" West, a distance of 314.95 feet to the beginning of a tangent curve,
2 concave Easterly, having a radius of 1630.00 feet;

3 Thence North 06° 34' 11" West, a distance of 28.56 feet to a point of intersection with said
4 Northerly line of Lot 195;

5 Thence North 89° 40' 35" East, along said Northerly line, a distance of 60.36 feet to the True
6 Point of Beginning.

7 Parcel 10: (Apn: 434-271-026; 9.52 Acres)

8 The North half of Lot 88 of Lands of San Jacinto Land Association, as shown by map on file in
9 Book 8, Page 357 of Maps, records of San Diego County, California;

10 Excepting the West 30 feet as conveyed to the County of Riverside for a right of way for public
11 highway and Public utility purposes, by deed recorded October 31, 1939 in Book 435, page 572
of Official Records of Riverside County, California.

12 Parcel 11 (Apn: 434-250-002; 19.05 Acres)

13 Farm Lot 90 of the Land of San Jacinto Land Association, as shown by map on file in Book 8,
14 page 357 of Maps, records of San Diego County, California;

15 Excepting therefrom a strip of land 30 feet in width for street purposes over the North side of the
16 East side thereof, as conveyed to the City of San Jacinto by deed recorded March 2, 1894 in
Book 11, page 158 of Deeds, Records of Riverside County, California.

17
18 **Description of Wells:**

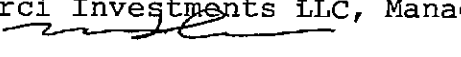
19
20 **State Well Number**

Popular Name or Reference Description

21 04S01W26H001S

Agri Alessandro

22
23 DATED: 11/15, 2012

CURCI SAN JACINTO INVESTORS, LLC,
A Delaware Limited Liability Company
Curci Investments LLC, Manager
By 

24
25
26 Michael T. Curci

27 Its Assistant Manager
(Office or Position)

28
Stipulation for Judgment

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant, CURCI SAN JACINTO INVESTORS, LLC, a Delaware Limited Liability Company, by Curci Investments, LLC, its Michael T. Curci ~~Assistant Manager~~ Manager, based on a collective assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment in the amount of 260 acre feet per year collectively for all properties described on Exhibit "B," hereby elects to be classified collectively in these proceedings as

Class "A" Participants ____.


Class "B" Participants xxx.

(Select one)

DATED: 11/15, 2012

CURCI SAN JACINTO INVESTORS, LLC,
A Delaware Limited Liability Company

By Curci Investments, LLC
Manager


Its Michael T. Curci
Assistant Manager
(Office or Position)



6

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

11 EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.:
12 A California Municipal Water District,)	
	)	STIPULATION FOR
13 Plaintiff,	)	ENTRY OF JUDGMENT
14 vs.)	
)	
15 CITY OF HEMET; et al.,)	
)	
16 Defendants.)	
)	
17)	

18
19 The parties hereto agree and stipulate as follows:

20 1. The following facts, considerations, and objectives, among others, provide the
21 basis for this Stipulation for Entry of Judgment:

22
23 a. On May 16, 2012, the Eastern Municipal Water District commenced this
24 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
25 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
26 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
27 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a
28

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof, and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012

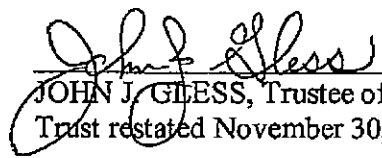
DEFENDANT:
CITY OF SAN JACINTO

By _____

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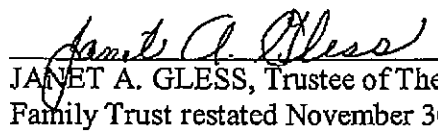
DEFENDANTS/PUMPERS:

DATED: April 13, 2013




JOHN J. GLESS, Trustee of The Gless Family
Trust restated November 30, 1999

DATED: April 13, 2013



JANET A. GLESS, Trustee of The Gless
Family Trust restated November 30, 1999

DATED: April 13, 2013



JOHN K. DEMSHKI
J.

DATED: April 13, 2013



BETSY GLESS DEMSHKI

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants JOHN J. GLESS and JANET A. GLESS, Trustees of The Gless Family Trust restated November 30, 1999, JOHN J. DEMSHKI, individually, and BETSY GLESS DEMSHKI, individually, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

ALL THAT CERTAIN REAL PROPERTY SITUATED IN THE COUNTY OF Riverside, STATE OF California, DESCRIBED AS FOLLOWS:

PARCEL A:

PARCEL 4160-1B, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN ON RECORD OF SURVEY, FILED MAY 10, 1962 IN BOOK 36, PAGE 69 OF RECORDS OF SURVEY, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.

ASSESSOR'S PARCEL NUMBER: 553-090-025, Acres: 2.05

PARCEL B:

THE NORTH HALF OF SECTION 21, TOWNSHIP 5 SOUTH, RANGE 1 EAST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA;

EXCEPTING THEREFROM THOSE PORTIONS GRANTED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, BY DEEDS RECORDED AUGUST 20, 1963 AS INSTRUMENT NO. 87257 AND OCTOBER 8, 1963 AS INSTRUMENT NO. 105764, BOTH OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA;

ALSO EXCEPTING THEREFROM THAT PORTION LYING NORTHERLY AND NORTH-EASTERLY OF THE SOUTHERLY LINE OF PARCEL 4030-20 AND 4030-20-A, AS CONVEYED TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, BY DEED RECORDED AUGUST 20, 1963 AS INSTRUMENT NO. 87257 OF OFFICIAL RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.


1 ASSESSOR'S PARCEL NUMBER: 555-140-001, Acres: 3.38
2 555-140-003, Acres: 117.45
3 555-140-008, Acres: 2.48
4 PARCEL C:
5 PARCEL 1 AND LOTS B AND F AS SHOWN BY PARCEL MAP NO. 28192, IN THE COUNTY OF RIVERSIDE,
6 STATE OF CALIFORNIA, ON FILE IN BOOK 192, PAGES 73 THROUGH 76, INCLUSIVE, OF PARCEL
7 MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.
8 ASSESSOR'S PARCEL NUMBER: 555-090-005, Acres: 78.62
9 PARCEL D:
10 PARCELS 2 THROUGH 4 AND LOTS A, C, D AND E, AS SHOWN BY PARCEL MAP NO. 28192, IN THE
11 COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, ON FILE IN BOOK 192, PAGES 73 THROUGH 76 OF
12 PARCEL MAPS, RECORDS OF RIVERSIDE COUNTY, CALIFORNIA.
13 ASSESSOR'S PARCEL NUMBER: 555-090-006, Acres: 86.87
14 555-090-007, Acres: 52.84
15 555-090-008, Acres: 29.31
16 555-090-009, Acres: 46.54
17 555-090-010, Acres: 22.16
18 555-090-011, Acres: 1.50
19 555-090-012, Acres: 2.85
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Description of Wells:

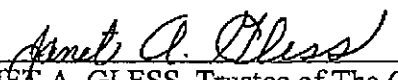
<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
05S01E21D003S	Gless East of Fairview
05S01E21D002S	Gless Fairview/Stetson
05S01E16N002S	Gless Flood Control Channel
05S01E20D001S	Gless House
05S01E20H003S	Gless North of Washburn
05S01E20G001S	Gless Old 125
05S01E20E002S	Gless Valencia
05S01E20J002S	Gless Wilson
05S01E21J001S	Gless Ranch East

DATED: April 13, 2013



JOHN J. GLESS, Trustee of The Gless Family
Trust restated November 30, 1999

DATED: April 13, 2013



JANET A. GLESS, Trustee of The Gless
Family Trust restated November 30, 1999

DATED: April 13, 2013



JOHN J. DEMSHKI
J.

DATED: April 13, 2013




BETSY GLESS DEMSHKI

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants JOHN J. GLESS and JANET A. GLESS, Trustees of The Gless Family Trust restated November 30, 1999, JOHN J. DEMSHKI, individually, and BETSY GLESS DEMSHKI, individually based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 2,093 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants .
Class "B" Participants .
(Select one)

DATED: April 13, 2013

JOHN J. GLESS, Trustee of The Gless Family Trust restated November 30, 1999

DATED: April 13, 2013

JANET A. GLESS, Trustee of The Gless Family Trust restated November 30, 1999

DATED: April 13, 2013

JOHN J. DEMSHKI
J.

DATED: April 13, 2013

BETSY GLESS DEMSHKI



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GERALD D. SHOAF, SBN 41084
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1950 MARKET ST.
RIVERSIDE, CA 92501
Telephone (951) 684-2520
Facsimile (951) 684-9583
Gshoaf@redwineandsherrill.com

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,)
A California Municipal Water District,)
)
Plaintiff,)
vs.)
)
CITY OF HEMET; et al.,)
)
Defendants.)
)
)

CASE NO.: RIC 1207274

STIPULATION FOR
ENTRY OF JUDGMENT

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:

a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
27
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.
10

11 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
12 be made and entered by the Court binding these stipulating parties in this action. Each Private
13 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
14 description of said defendant's property within the Management Area, including the acreage
15 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
16 as a Class "A" or Class "B" Participant.
17

18 6. Accordingly, the parties request that the Court hold a hearing to determine
19 whether there is any objection to said proposed Judgment.
20

21 7. The parties agree that in the event that the Court is unwilling to enter a final
22 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
23 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
24 The parties further agree that in the event this Stipulation becomes null and void under this
25 provision, all defendants will have thirty (30) days to file and serve amended responsive
26 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO


By _____

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DEFENDANT/PUMPER:

DATED: 10-1, 2012

THE LAUDA FAMILY LIMITED PARTNERSHIP,
a California Limited Partnership

By 
Jean Pierre Esquire, Managing Partner

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendants' Property and Wells Within the Management Area

Defendants, THE LAUDA FAMILY LIMITED PARTNERSHIP, a California Limited Partnership, by Jean Pierre Esquire, its Managing Partner, certifies that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1:

All those portions of Blocks 11, 13, 14, 17 and 18 of Consolidated Reservoir and Power Company's Subdivision of the San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps, Records of Riverside County, California, which lies Southerly of the center line of that certain 500 foot easement for river channel and bank protection works, as granted to the County of Riverside by deed recorded January 17, 1939 in Book 403, Page 373 of Official Records of Riverside County, California, the center line of said 500 foot strip being described as follows:

Beginning at a point on the Southerly boundary of said Block 13, from which point the Southeast corner of said Block bears North 89°49' East, 14.33 feet; Thence from said point of beginning North 59°47'30" West 83.0 feet;
Thence curving to the left on the arc of an 8000 foot radius curve through an angle of 20°02'30" for an arc distance of 2798.34 feet;
Thence North 79°50' West 907.86 feet;

1 Thence curving to the right on the arc of a 7000 foot radius curve through an angle of 24°10' for
2 arc distance of 2952.52 feet;
3 Thence North 55°40' West 1097.44 feet;
4 Thence curving to the left on the arc of a 3000 foot radius curve through an angle of 52°20' for
5 an arc distance of 2740.17 feet;
6 Thence South 72°00' West, 158.51 feet to a point on the Southerly prolongation of the Easterly
7 boundary of Block 19, as shown on said map, from which point the Northeast corner of said
8 Block 19 bears North 1715.27 feet.

9 The sidelines of said 500 foot strip of land are to be prolonged or shortened so as to terminate on
10 the Southerly and Easterly boundaries of said Block 13 and on the Easterly boundaries of Blocks
11 12 and 19.

12 Excepting therefrom an easement for road purposes over the South 20 feet of the West 4006.10
13 feet the hereindescribed property, and an easement for road purposes over a strip of land 40 feet
14 in width the center line being described as commencing at the Southwest corner of Lot 18;
15 Thence North 89°31' East 1280 feet;
16 Thence North 89°39' East 6998.89 feet to the point of beginning;
17 Thence North 3376 feet to the South line of Block 14.

18 Excepting from Block 14 that portion conveyed to the Southern California Edison Company by
19 deed recorded August 5, 1970 as Instrument No. 76772 of Official Records of Riverside County,
20 California.

21 Assessor's Parcel Number: 425-080-033; 286.65 Acres
22 430-060-020; 145.59 Acres

23 Parcel 2:

24 That portion of Lots A, B, C, D and F of the map showing subdivision of Lot 4 San Jacinto
25 Nuevo and Lot 3, San Jacinto Viejo, as shown by map on file in Book 1, Pages 10 and 11 of
26 Maps, records of Riverside County, California, described as follows:

27 Beginning at the most Easterly corner of said Lot C;
28 Thence South 89°50'00" West along the Northerly line of said Lot C, 8471.17 feet;
Thence continuing along said Northerly line South 89°37'30" West, 1033.85 feet;
Thence South 0°10'00" East, 1996.23 feet;
Thence North 89°50'00" East, 2270.71 feet;
Thence South 0°19'10" East, 3430 feet more or less, to the Northerly line of Pico Road, 60 feet
wide, as described in deed to the County of Riverside, recorded July 10, 1930 in Book 869, Page
100 of Deeds;
Thence North 89°40'50" East along said Northerly line of Pico Road, 1016.22 feet to the
Southeasterly corner of said Lot F;
Thence North 0°19'10" West, along the Easterly line of said Lot F, 2639.91 feet to the
Southeasterly line of aid Lot C;

1 Thence North 65°39'59" East along said Southeasterly line of Lot c, 6813.10 feet to the point of
 2 beginning.

3 Except that portion thereof conveyed to the County of Riverside, by deed recorded July 12, 1971
 4 as Instrument No. 76016 of Official Records of Riverside County, California.

5 Also excepting therefrom any portion of said land lying within that certain parcel described as
 6 "Parcel B" in deed to Charles J. Hughes, et ux, recorded August 6, 1971 as Instrument No. 88486
 of Official Records of Riverside County, California.

7 Also excepting therefrom that portion of Lot C of the map showing subdivision of Lot 4, San
 8 Jacinto Nuevo and Lot 3, San Jacinto Viejo, as shown by map on file in Book 1, Pages 10 and 11
 9 of Maps, records of Riverside County, California, described as follows:

10 Beginning at a Point in the which bears South 89°49' West, 14.33 feet from the Southeast corner
 11 of Block 13 as shown by map on file in Book 6, Page 83 of Maps, records of Riverside county,
 California;

12 Thence North 89°49' East along the South line of Lot 1 of Rancho San Jacinto Nuevo to the
 most Easterly corner of Lot C as shown by map on file in Book 1, Pages 10 and 11 of maps,
 13 records of Riverside County, California;

14 Thence South 65°38'30" West along the Northwest line of Rancho San Jacinto Viejo 1553 feet
 more or less to the center line of the easement for flood control and water conservation 500 feet
 15 wide as granted to the Riverside County Flood Control and Water Conservation District by deed
 recorded September 13, 1947 in Book 861, Page 351 of Official Records of Riverside County,
 16 California;

17 Thence North 59°47'30" West 1253.4 feet to the point of beginning.

18 Assessor's Parcel Number: 430-110-009; 34.60 Acres
 19 425-090-022; 46.59 Acres
 20 425-200-019; 54.01 Acres
 430-080-004; 122.00 Acres
 430-080-010; 152.11 Acres

21 Said land is situated in an unincorporated area of Riverside County.

22 Parcel 3:

23 All those portions of Blocks 11, 13, 14 and 18 of consolidated reservoir power Company's
 24 subdivision of the San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps,
 25 records of Riverside County, California, which lies Northerly of the center line of that certain
 500 foot easement for river channel and bank protection works, as granted to the County of
 26 Riverside by deed recorded January 17, 1939 in Book 403, Page 373 of Official Records of
 Riverside County, California.
 27
 28

1 Excepting from Block 11 that portion which lies North and West of the following described line:

2 Beginning 971.40 feet North of the intersection of the North line of Block 14 with the East line
3 of Block 19 as shown on said map;
4 Thence East 1978.89 feet;
5 Thence North to the Northeast line of said Block 11 to a point which bears North 46°01'00"
6 West 2770.80 feet from the Northwest corner of Block 17.

7 Also excepting from Blocks 13 and 14 that portion which lies East of the Westerly line of
8 Section 7, Township 4 South, Range 1 West, San Bernardino Base and Meridian.

9 Assessor's Parcel Number: 425-080-032; 84.95 Acres

10 Parcel 4:

11 That portion of Lots 2 and 3 lying within the projected lines of Section 31, Township 3 South,
12 Range 1 West, Section 36, Township 3 South, Range 2 West, Section 6, Township 4 South,
13 Range 1 West, and Section 1, Township 4 South, Range 2 West, of the Partition of the Rancho
14 San Jacinto Nuevo, Riverside County, (formerly San Diego County), State of California, as set
15 apart to Mrs. Helena Pedrorena De Wolfskill, J.W. Nance and Charles E. Mc Garry in decree of
16 Partition dated May 22, 1891 in the Superior Court of the State of California, in and for the
17 County of San Diego, a certified copy of which was recorded in Book 178, Page 381 of Deeds,
18 records of San Diego County, California, more particularly described as follows:

19 Commencing at a point in the Northerly line of Section 6, Township 4 South, Range 1 West, San
20 Bernardino Base and Meridian, said point being South 89°35'26" East 1192.64 feet, measured
21 along said Northerly line from a found 3-inch iron pipe with brass cap marked "U.S. Forest
22 Boundary Post No. 1-R, 1 W., T. 3 S. Sec. 31", set at the intersection of Northerly line with the
23 Easterly boundary of the Rancho San Jacinto Nuevo, said point also being North 89°35'26" West
24 637.94 feet, more or less, measured along said Northerly line from a found 3-1/2 inch iron pipe
25 with brass cap marked "U.S. Forest Boundary No. 2-Section. 31, 32, 6 & 5 T. 3 S., T. 4 S., R. 1
26 W. 1904" set at the Northeast corner of said Section 6;

27 Thence South 46°02'28" West to a point of intersection with the Southwest line of Gilman
28 Springs Road as conveyed to the State of California by deed recorded November 14, 1962 as
Instrument No. 104821 of Official Records of Riverside County, California, said point being the
true point of beginning;

Thence continuing South 46°02'28" West to the Northeast line of Block 11 of consolidated
reservoir and power Company's subdivision of San Jacinto Lake Tract as shown by map on file
in Book 6, Page 83 of Maps, Records of Riverside County, California;

Thence North 46°01' West along said Northeast line of Block 11 a distance of 2970 feet more or
less to the surveyed Southeast line of Strip 2 as conveyed to the Southern California Edison
Company by deed recorded November 18, 1970 as Instrument No. 115918 of Official Records of
Riverside County, California;

Thence North 42°11'16" East to the Southwest line of Gilman Springs Road;

1 Thence Southeast along the Southwest line of Gilman Spring Road, as described in deed
2 recorded December 15, 1926 in Book 544, Page 549 of Deeds and November 14, 1962 as
3 Instrument No. 104821, also being State Highway 79, a distance of 3470 feet more or less to the
point of beginning.

4 Excepting therefrom the Southeast 100 feet as conveyed to the Southern California Edison
5 Company as Strip 4 in the deed recorded November 18, 1970 as Instrument No. 115918 of
6 Official Records of Riverside County, California.

7 Assessor's Parcel Number: 430-050-010; 238.53 Acres
8 425-080-015; 149.13 Acres
9 423-240-008; 0.56 Acres
10 423-240-010; 75.29 Acres

11 Parcel 5:

12 That portion of Block 11 of Consolidated Reservoir and Power Company's Subdivision of San
13 Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps, Riverside County
14 Records, described as follows:

15 Commencing at the North corner of said Block 11; thence South 84°33' East 1079.4 feet; thence
16 South 0°06' West 687.1 feet; thence South 61°20' West 469.3 feet; thence South 19°11' West
17 1413.1 feet; thence South 10°32' East 2525.1 feet to the true point of beginning; the proceeding
18 five courses being along the East line of said Block 11; thence South 46°01' East 1802.1 feet;
19 thence South 462.37 feet; thence West 1800 feet more or less to the Northwest line of the 360
20 foot strip described as Parcel 1 in the Final Order of Condemnation recorded November 1, 1974
21 as Instrument No. 141120; thence North 42°11'16" East, along said Northwest line a distance of
22 1020 feet more or less to a point which bears South 10°32' East from the point of beginning;
23 thence North 10°32' West 950 feet more or less, to the point of beginning.

24 Assessor's Parcel Number: 425-080-018; 16.45 Acres
25 425-080-019; 11.74 Acres
26 425-080-038; 4.67 Acres

27 Parcel 6:

28 Parcel 1 of Parcel Map No. 12945, in the County of Riverside, State of California, recorded in
Book 68, Pages 71 and 72 of Parcel Maps, Riverside County Records.

Assessor's Parcel Number: 423-240-025; 18.92 Acres
423-240-026; 173.35 Acres
425-080-016; 101.52 Acres

1 Parcel 7:

2 That portion of Lots A, C and D of the map showing Subdivision of Lot 4 San Jacinto Nuevo and
3 Lot 3 San Jacinto Viejo, in the County of Riverside, State of California, as per map recorded in
4 Book 1, Pages 10 and 11 of Maps, in the Office of the County Recorder of said County,
5 described as follows:

6 Beginning at the Southwest corner of Block 18 of Consolidated Reservoir and Power Company's
7 Subdivision of San Jacinto Lake Tract as shown by map on file in Book 6, Page 83 of maps,
8 Riverside County Records; thence South $26^{\circ}35'22''$ West 675.53 feet; thence South 2003.97 feet
9 to the Northerly line of Pico Road as honeyed to the County of Riverside by deed dated July 10,
10 1930 in Book 869, Page 100 of Deeds; thence South $52^{\circ}58'26''$ East on the Northeast line of said
11 Pico Road, 4,057.96 feet; thence North $27^{\circ}01'34''$ East, 10.00 feet to a point distant 40.00 feet
12 from the center line of said Pico Road, said point being the true point of beginning; thence
13 Southeasterly on a curve having a radius of 1400.00 feet and being concave to the Northeast, a
14 radial line through last said point bearing South $37^{\circ}01'34''$ West, through a central angle of
15 $37^{\circ}20'44''$ a distance of 951.63 feet; thence North $89^{\circ}40'50''$ East, 1380.17 feet to the Southwest
16 corner of that certain parcel of land conveyed to Louis R Tavaglione, et ux, by deed recorded
17 March 1, 1965 as Instrument No. 22952; thence North $00^{\circ}19'01''$ West, 3,430.00 feet to an angle
18 point in that certain parcel of land conveyed to Louis R. Tavaglione, et ux; thence South
19 $89^{\circ}50'00''$ West, 2270.71 feet to a point which bears North $00^{\circ}19'00''$ West of the true point of
20 beginning; thence South $00^{\circ}19'00''$ East to the true point of beginning.

21 Except that portion conveyed to the County of Riverside by deed recorded January 27, 1970 as
22 Instrument No. 7980, of Official Records.

23 Assessor's Parcel Number: 425-090-023; 15.12 Acres
24 430-080-011; 18.80 Acres
25 425-200-020; 143.65 Acres

26 Parcel 8:

27 Those portions of Fractional Section 31, Township 3 South, Range 1 West of the Rancho San
28 Jacinto Nuevo, Fractional Section 36, Township 3 South, Range 2 West of said Rancho San
29 Jacinto Nuevo, and Section 1, Township 4 South, Range 2 West of said Rancho San Jacinto
30 Nuevo, described in Parcel 6 of the deed to Security Title Insurance Company recorded on
31 March 4, 1965 as Instrument No. 24855 of Official Records in the Office of the County Recorder
32 of said County, lying within a strip of land of varying width, the surveyed reference line of
33 which is described as follows:

34 Beginning at a point on the boundary line of said Rancho San Jacinto Nuevo, said point being
35 North $50^{\circ}24'19''$ West 2861.30 feet, measured along said boundary line from a found 3-inch iron
36 pipe with brass cap marked "U.S. Forest Boundary Post No. 1-R, 1 W., T. 3 S. Sec. 31", said
37 point also being South $50^{\circ}24'19''$ East 1571.89 feet, more or less, measured along said boundary
38

1 line from a 1-inch iron pipe set at Corner No. 3 in the boundary line of said Rancho San Jacinto
2 Nuevo; thence South 42°11'16" West 13.734.77 feet, more or less, to a point in the North-South
3 center line of Section 11, Township 4 South, Range 2 West, of said Rancho San Jacinto Nuevo,
4 last mentioned point being North 00°12'53" East 2225.89 feet, measured along said center line
5 from a found ¾-inch iron pipe and metal tag stamped "R.C.E.9876", set at the South one-quarter
6 corner of said Section 11, said last mentioned point also being South 00°12'53" West 3081.69
7 feet, more or less, measured along said center line from a found 2-inch iron pipe and metal tag
8 stamped "L.S. 3035" set at the North one-quarter corner of Section 11.

9 That portion of said strip of and varying width, within said Fractional Sections 31 and 36 shall be
10 340 feet wide, the side lines thereof being 110 feet right 230 feet left, measured at right angles,
11 respectively, from the hereinbefore described surveyed reference line, and that portion of said
12 strip of land of varying width within said Section 1 shall be 360 feet wide, the side lines thereof
13 being 130 feet right and 230 feet left, measured at right angles, respectively from the
14 hereinbefore described surveyed reference line.

15 The side lines of that portion of said strip of land 340 feet wide, shall be prolonged or shortened
16 so as to terminate in the boundary line of said Rancho San Jacinto Nuevo, EXCEPT therefrom
17 all oil, gas, minerals, and other hydrocarbon substances lying below a depth shown below but
18 with no right of surface entry, as provided in deeds of record

19 Depth: 500

20 Assessor's Parcel Number: 423-240-013
21 423-240-014
22 425-080-034

23 Parcel 9:

24 That portion of Lots 2 and 3 of the Partition of the Rancho San Jacinto Nuevo, Riverside County,
25 (formerly San Diego County), State of California, as set apart to Mrs. Helena Pedrorena de
26 Wolfskill, J.W. Nance and Charles E. McGarry in Decree of Partition dated May 22, 1891, in the
27 Superior Court of the State of California, in and for the County of San Diego, a certified copy of
28 which was recorded in Book 178, Page 381 of Deeds, San Diego County Records, described as
Parcel 6 in the deed to Security Title Insurance Company recorded on March 4, 1965 as
Instrument No. 24855 of Official Records in the Office of the County Recorder of said Riverside
County, lying within a strip of land 330 feet wide, the side lines thereof being 100 feet right and
230 feet left, measured at right angles, respectively, from the surveyed reference line which is
described as follows:

Beginning at a point in the Northerly line of Section 6, Township 4 South, Range 1 West, San
Bernardino Base and Meridian, said point being South 89°35'26" East 1192.64 feet, measured
along said Northerly line from a found 3-inch iron pipe with brass cap marked "U.S. Forest
Boundary Post No. 1-R, 1 W., T. 3 S. Sec. 31", set at the intersection of said Northerly line with

1 the Easterly boundary of the Rancho San Jacinto Nuevo, said point also being North 89°35'26"
2 West 637.94 feet, more or less, measured along said Northerly line from found 3-1/2 inch iron
3 pipe with brass cap marked "U.S. Forest Boundary No. 2-Sec. 31, 32, 6 & 5 T. 3 S., T 4 S., R. 1
4 W. 1904" set at the Northeast corner of said Section 6; thence South 46°02'28" West 17,544.71
5 feet, more or less to a point I the North-South center line of Section 14, Township 4 South,
6 Range 2 West of said Rancho San Jacinto Nuevo, said last mentioned point being South
7 00°00'06" West 1608.42 feet, measured along said center line from a found 3/4 -inch iron pipe
8 and metal tag stamped "R.C.E. 9876" set at the North one-quarter corner of said Section 14, said
9 last mentioned point also being North 00°00'06" East 3702.85 feet, more or less, measured along
10 said center line from a found 15 inch X 7 inch boulder with chiseled + on top and ¼ painted on
11 side, set at the South one-quarter corner of said Section 14.

12 EXCEPT therefrom all oil, gas, minerals, and other hydrocarbon substances lying below a depth
13 shown below but with no right of surface entry, as provided in deeds of record

14 Depth: 500

15 Assessor's Parcel Number: 425-080-035; 2.85 Acres

16 Parcel 10:

17 That portion of Block 14 of the consolidated Reservoir and Power Company's Subdivision of the
18 San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps, in the Office of the
19 County Recorder of said County, lying within a strip of land 330 feet wide, the side lines thereof
20 being 100 feet right and 230 feet left; measured at right angles, respectively, from the surveyed
21 reference line which is described as follows:

22 Beginning at a point in the he Northerly line of Section 6, Township 4 South, Range 1 West, San
23 Bernardino Base and Meridian, said point being South 89°35'26" East, 1192.64 feet, measured
24 along said Northerly line from a found 3 inch iron pipe with brass cap marked "U.S. Forest
25 Boundary Post No. 1-R, 1 W., T. 3 S. Sec. 31" set at the intersection of said Northerly line with
26 the Easterly boundary of the Rancho San Jacinto Nuevo, said point also being North 89°35'26"
27 West 637.94 feet, more or less, measured along said Northerly line from a found 3-1.2 inch iron
28 pipe with brass cap marked "U.S. Forest Boundary No. 2-Sec. 31, 32 & 5 T. 3 S., T. 4 S., R. 1
29 W. 1904" set at the Northeast corner of said Section 6; thence South 46°02'28" West 17.544.71
30 feet, more or less, to a point in the North-South center line of Section 14, Township 4 South,
31 Range 2 West, of said Rancho San Jacinto Nuevo, said last mentioned point being South
32 00°00'06" West, 1608.42 feet, measured along said center line from a found ¾ inch iron pipe
33 and metal tag stamped "R.C.E. 9876", set at the North one-quarter corner of said Section 14, said
34 last mentioned point also being North 00°00'06" East, 3702.85 feet more or less, measured along
35 said center line from a found 15 inch X 7 inch boulder with chiseled + on top and ¼ painted on
36 side, set at the South one-quarter corner of said Section 14.

37 EXCEPT therefrom all oil, gas, minerals, and other hydrocarbon substances lying below a depth
38 shown below but with no right of surface entry, as provided in deeds of record

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Depth: 500

Assessor's Parcel Number: 425-080-036; 0.80 Acres

Description of Wells:

State Well Number

Popular Name or Reference Description

04S02W13H001S

Lauda 01

04S01W18E001S

Lauda 02

04S01W07L001S

Lauda 03

04S02W01R002S

Lauda 07

04S02W01L003S

Lauda 09

04S02W12G001S

Lauda 10

04S01W07P002S

Lauda 11

04S02W13H002S

Lauda 12

04S02W01L002S

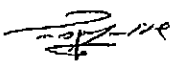
Lauda Power Tower

04S02W01R001S

Lauda Transformer

DATED: 10-1, 2012

THE LAUDA FAMILY LIMITED PARTNERSHIP,
a California Limited Partnership

By 
Jean Pierre Esquire, Managing Partner

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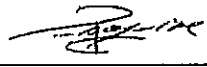
EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants, THE LAUDA FAMILY LIMITED PARTNERSHIP, a California Limited Partnership, by Jean Pierre Esquire, its Managing Partner, based on a collective assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment in the amount of 3,530 acre feet per year collectively for all properties described on Exhibit "B," hereby elects to be classified collectively in these proceedings as

Class "A" Participants _____
Class "B" Participants .
(Select one)

DATED: 10-1, 2012

THE LAUDA FAMILY LIMITED PARTNERSHIP,
a California Limited Partnership

By 
Jean Pierre Esquire, Managing Partner

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.: RIC 1207274
14 A California Municipal Water District,)
15)
16) STIPULATION FOR
17) ENTRY OF JUDGMENT
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The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:
 - a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3
4 b. Each of the parties executing this Stipulation has a direct interest in the
5 quantity and quality of groundwater produced from within the Management Area.

6 c. The safe yield of the basins that comprise the Management Area is
7 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
8 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
9 Judgment) of the groundwater under the Management Area has been exceeded by the total
10 production therefrom, and a state of overdraft has existed continuously for at least five years.
11 Groundwater production during this period has been open, notorious, continuous, adverse,
12 hostile, and under a claim of right.
13

14 d. It is generally recognized and accepted that unmanaged downward decline
15 in water levels has severe adverse impacts on the rights of groundwater producers and on water
16 quality, will cause increased pumping lifts and may result in surface land subsidence.
17

18 e. It is apparent to the parties that protection of the rights of the parties and
19 of the public interest in maximizing the beneficial use of a limited resource—groundwater
20 supplies—within the Management Area requires the development, imposition and
21 implementation of a physical solution.
22

23 2. The parties agree that the physical solution represented by the Water Management
24 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
25 fair and equitable basis for protection of the groundwater supply within the Management Area
26 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
27 the mandate of the State Constitution establishing water policy within the State to maximize
28

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3
4 3. The parties agree that jurisdiction over each of the parties has been established by
5 the allegations in the Complaint and that proper service of process of the Summons and
6 Complaint upon each of the defendants has occurred.

7
8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.

12
13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.

19
20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.

22
23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
26 The parties further agree that in the event this Stipulation becomes null and void under this
27 provision, all defendants will have thirty (30) days to file and serve amended responsive
28 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

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DEFENDANTS/PUMPERS:

DATED: July 16, 2012

NUEVO DEVELOPMENT COMPANY, LLC,
a Delaware Limited Liability Company

By: LEWIS OPERATING CORP., a California corporation
Its Manager

By *John M. Goodman*
John M. Goodman

(Print/Type Name)

Its Senior Vice President/CEO/CFO
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, NUEVO DEVELOPMENT COMPANY, LLC, a Delaware limited liability
* company, by John M. Goodman, its Senior VP/CEO/CFO, certifies that the following is a
description of the property and wells owned by said defendants within the Management Area:

*by Lewis Operating Corp., a California corporation, its Manager,

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Those portions in Blocks 3 and 4 of Amended Map No. 1 of Lakeview Tract, in the County of Riverside, State of California, as per map recorded in Book 2, Page 24 of Maps, in the Office of the County Recorder of said County, together with those portions of Lakeview and Reservoir Avenue, and East Boundary Road, described as follows:

Beginning at the intersection of the Westerly line of said Block 4 and the Northerly line of the land conveyed to the Metropolitan Water District of Southern California, by deed recorded January 18, 1972 in Book 1972, Page 7098, of Official Records;
Thence Easterly on last said Northerly line of the following courses and distances; South 87°39'51" East, 998.57 feet to the beginning of curve concave Southwesterly of 575 foot radius, having a central angle of 28°25'59";
Thence on said curve, 286.34 feet;
Thence South 59°10'52" East, 782 feet to the beginning of a curve concave Southwesterly, of 350 foot radius having a central angle of 15°54'24";
Thence on said curve, 97.17 feet;
Thence South 43°19'28" East, 753 feet to the East line of said Block 4;
Thence leaving the Northerly line of the land conveyed to said Metropolitan Water District of Southern California;
Thence North 00°07'09" East, 1,020 feet to a point on the Southerly line of the Ramona Expressway, as conveyed to the County of Riverside by deed recorded March 30, 1970 as Document No. 20122, of Official Records;

Said point being the beginning of a non-tangent curve concave Southwesterly of 5,000 foot radius, having a central angle of 29°27'05" a radial to said beginning bears North 29°27'32" East,
Thence Westerly on said curve, 2,493 feet;
Thence North 89°59'27" West, 230 feet to the West line of said Block 4;
Thence leaving the Southerly line of said Ramona Expressway, South 00°00'00" East, 328.35 feet to

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the beginning of a curve concave Westerly of 764.04 radius, having a central angle of 11°15'05";
Thence on said curve 150 feet to the point of beginning.

Excepting therefrom that portion as conveyed to Eastern Municipal Water District, a Municipal Corporation by deed recorded October 26, 2001 as Instrument No. 526892.

Assessor's Parcel Number: 425-120-011, Acres: 36.28

Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S02W11F001S	DeVuyst Café

DATED: July 16, 2012

NUEVO DEVELOPMENT COMPANY, LLC,
a Delaware Limited Liability Company
By: LEWIS OPERATING CORP., a California corporation
Its Manager

By *John M. Goodman*
John M. Goodman
(Print/Type Name)

Its Senior Vice President/CEO/CFO
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant NUEVO DEVELOPMENT COMPANY, LLC, a Delaware limited liability
* company, by John M. Goodman, its Senior VP/CEO/CFO, based on a collective
assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment
in the amount of 151 acre feet per year collectively for all properties described on Exhibit "B,"
hereby elect to be classified collectively in these proceedings as
*by Lewis Operating Corp., a California corporation, Its Manager

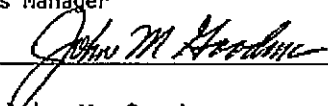
Class "A" Participants _____

Class "B" Participants XX

(Select one)

DATED: July 16, 2012

NUEVO DEVELOPMENT COMPANY, LLC,
a Delaware Limited Liability Company
By: LEWIS OPERATING CORP., a California corporation
Its Manager

By 
John M. Goodman
(Print/Type Name)

Its Senior Vice President/CEO/CFO
(Office or Position)



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1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.:
14 A California Municipal Water District,)
15 Plaintiff,) STIPULATION FOR
16 vs.) ENTRY OF JUDGMENT
17 CITY OF HEMET; et al.,)
18 Defendants.)
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29 The parties hereto agree and stipulate as follows:

30 1. The following facts, considerations, and objectives, among others, provide the
31 basis for this Stipulation for Entry of Judgment:

32 a. On May 16, 2012, the Eastern Municipal Water District commenced this
33 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
34 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
35 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
36 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

7 4. The parties agree that the proper venue for this matter is the California Superior
8 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
9 defendants appearing in this action have been filed, generally denying all allegations in the
10 Complaint except those expressly admitted.

12 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
13 be made and entered by the Court binding these stipulating parties in this action. Each Private
14 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
15 description of said defendant's property within the Management Area, including the acreage
16 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
17 as a Class "A" or Class "B" Participant.

19 6. Accordingly, the parties request that the Court hold a hearing to determine
20 whether there is any objection to said proposed Judgment.

22 7. The parties agree that in the event that the Court is unwilling to enter a final
23 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
24 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
25 The parties further agree that in the event this Stipulation becomes null and void under this
26 provision, all defendants will have thirty (30) days to file and serve amended responsive
27 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO
By _____

1 DEFENDANTS/PUMPERS:
2

3 DATED: July 15, 2012
4

Clifford J. Olsen
CLIFFORD J. OLSEN (Doe 2)

5
6 DATED: July 15, 2012
7

Sherry A. Olsen
SHERRY A. OLSEN (Doe 3)

8 DATED: July 20, 2012
9

Robert D. Olsen
ROBERT D. OLSEN, Trustee of the Robert
D. Olsen & Elva I. Olsen Revocable Trust
UDT February 27, 1990 (Doe 4)

10
11 DATED: July 20, 2012
12

Elva I. Olsen
ELVA I. OLSEN, Trustee of the Robert
D. Olsen & Elva I. Olsen Revocable Trust
UDT February 27, 1990 (Doe 5)

13
14 DATED: July 15, 2012
15

ARLINGTON VETERINARY LABORATORIES,
INC. (Doe 6)

16 By: Clifford J. Olsen
17 (Signature)

18 Clifford J. Olsen
19 (Print/Type Name)

20 Its Vice President/Treasurer
21 (Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants CLIFFORD J. OLSEN and SHERRY A. OLSEN, individually; ROBERT D. OLSEN and ELVA I. OLSEN, as Trustees of the Robert D. Olsen and Elva I. Olsen Revocable Trust UDT February 27, 1990; ARLINGTON VETERINARY LABORATORIES, INC., by CLIFFORD J. OLSEN, its Vice President, Tra., certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

(Legal descriptions may be attached)

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel A: (Portion of APN: 552-120-09, Acres: 7.54)

Parcel 1:

That portion of Lot 103 of Lands of the Fairview Land and Water Company, in the County of Riverside, State of California, as per map recorded in Book 6, Page 307 of Maps, in the Office of the County Recorder of San Bernardino County, California, described as follows:

Beginning at the Southwest corner of said Lot 103, said Southwest corner being the point of intersection of the centerline of Chicago Avenue with the center line of Chestnut Avenue, as shown on said map; thence along the center line of Chicago Avenue, North 00°05'00" East, 666.35 feet, to a point distant South 00°05'00" West 650.00 feet from the Northwest corner of said Lot, said Northwest corner being the point of intersection of the center line of Chicago Avenue with the center line of Almond Avenue, as shown on said map; thence parallel with the center line of Almond Avenue, South 89°51'00" East, 671.65 feet to a point distant North 89°51'00" West 651.00 feet from the East line of said Lot 103; thence parallel with said East line, South 00°05'00" West 665.97 feet, to a point on the center line of Chestnut Avenue; thence along the center line North 89°56'00" West 671.65 feet to the point of beginning.

Except therefrom that portion in Chestnut Street (Whittier Avenue).

Also except the East 196.00 feet.

Also except, that portion of said Lot 103, described as beginning at a point on the center line of Chestnut Avenue distant 381.85 feet South 89°56'00" East, along said line, from its point of intersection with the center line of original Chicago Avenue; thence South 89°56'00" East 70.00 feet on the center line of Chestnut Avenue; thence North 00°04'00" East 88.00 feet; thence North 89°56'00" West 70.00 feet; thence South 00°04'00" West 88.00 feet to the point of beginning.

Parcel 2: (Portion of APN: 552-120-09)

That portion of Lot 102 of the lands of the Fairview Land and Water Company, in the County of Riverside, State of California, as per map recorded in Book 6, Page 307 of Maps, in the Office of the County Recorder of San Diego County, California, described as follows:

Beginning at a point on the East line of said distant South $00^{\circ}05'00''$ West 650.00 feet from the Northeast corner of said Lot said Northeast corner being the point of intersection of the center line of Chicago Avenue with the center line of Almond Avenue, as shown on said Map; thence along said East line, South $00^{\circ}05'00''$ West 666.95 feet more or less, to the Southeast corner of said Lot, said Southeast corner being the point of intersection of the center line of Chicago Avenue with the center line of Chestnut Street, as shown on said map; thence along the center line of Chestnut Street, North $89^{\circ}56'00''$ West, 30.00 feet; thence North $00^{\circ}05'00''$ East, 300.00 feet; thence North $17^{\circ}18'00''$ West, 384.70 feet, to a point distant South $00^{\circ}05'00''$ West 650.00 feet from the North line of said Lot; thence parallel with said North line South $89^{\circ}51'00''$ East 144.93 feet to the point of beginning.

Also except, that portion in Chestnut Street (Whittier Avenue).

Parcel 3: (Well Site – APN: 552-120-08, Acres: 0.09)

That portion of Lot 103 of Lands of the Fairview Land and Water Company in the County of Riverside, State of California, as per map recorded in Book 6, Page 307 of Maps, in the Office of the County Recorder of San Diego County, California, described as follows:

Beginning at a point on the center line of Chestnut Avenue distant 381.85 feet South $89^{\circ}56'00''$ East, along said line, from its point of intersection with the center line of original Chicago Avenue; thence South $89^{\circ}56'00''$ East 70.00 feet, on the center line of Chestnut Avenue; thence North $00^{\circ}04'00''$ East 88.00 feet; thence North $89^{\circ}56'00''$ West 70.00 feet; thence South $00^{\circ}04'00''$ West 88.00 feet to the point of beginning.

Except that portion in Chestnut Street (Whittier Avenue).

Parcel B: (APN: 552-120-06, Acres: 2.87)

The Westerly 196 feet of the Easterly 847 feet of Lot 103 of the Fairview Land and Water Company, in the County of Riverside, State of California, as shown by map on file in Book 6, Page 307 of Maps, Records of San Diego County, California;

Excepting therefrom the Northerly 650 feet thereof.

Also excepting therefrom that portion thereof in Whittier Avenue (shown as Chestnut Avenue on said map).

Parcel C: (APN: 552-120-20, Acres: 7.42)

Parcel A of that certain Lot Line Adjustment No. 5110, in the County of Riverside, State of California, recorded April 8, 2008 as Instrument No. 2008-0174762 of Official Records, more particularly described as follows:

A portion of Lot 103 of the Lands of the Fairview Land and Water Company, as shown by map on file in Book 6, Page 307 of Maps, San Diego County Records, in Section 17, Township 5 South, Range 1 East, San Bernardino Base and Meridian, described as follows:

Beginning at the Northeast corner of Lot 103, on the centerline of Mayberry Avenue;
Thence along said centerline of Mayberry Avenue North $89^{\circ}51'00''$ West a distance of 77.38 feet;
Thence South $00^{\circ}09'00''$ West a distance of 97.14 feet to a tangent point of curve to the left;
Thence along said curve, having a radius of 1500.00 feet, a delta of $4^{\circ}40'46''$ and an arc length of 122.51 feet to a point of reverse curvature to the right;
Thence along said curve, having a radius of 1500.00 feet a delta of $11^{\circ}17'57''$ and an arc length of 295.81 feet to a point of reverse curvature to the left;
Thence along said curve, having a radius of 1500.00 feet, a delta of $11^{\circ}02'09''$ and an arc length of 288.92 feet;
Thence North $89^{\circ}51'00''$ West a distance of 382.00 feet to a non-tangent point of curve to the left a radial bearing to said point being South $85^{\circ}44'01''$ West;
Thence along said curve, having a radius of 1500.00 feet, a delta of $0^{\circ}15'47''$ and an arc length of 6.89 feet to a point or reverse curvature to the right;
Thence along said curve having a radius of 1500.00 feet, a delta of $0^{\circ}47'06''$ and an arc length of 20.55 feet;

Thence South 86°15'20" West on a radial line from said curve, a distance of 72.80 feet to a tangent point of curve to the right;
Thence along said curve having a radius of 300.00 feet, a delta of 3°53'40" and an arc length of 20.39 feet;
Thence North 89°51'00" West a distance of 94.25 feet to a point on the West line of the property described in a deed to Arlington Veterinary Laboratories, Inc., which was recorded August 6, 1962 as Instrument No. 74755 of Official Records, Riverside County, California;
Thence South 00°06'18" West a distance of 480.18 along said West line to a point on the centerline of Whittier Avenue;
Thence along said centerline of Whittier Avenue South 89°52'25" East a distance of 650.75 feet to the Southeast corner of said Lot 103;
Thence North 00°06'18" East a distance of 1316.14 feet along the East line of said Lot 103 to the point of beginning.

Excepting therefrom that portion of Mayberry (Almond) Avenue, Southerly 33 foot and excepting therefrom any portion thereof included in Whittier (Chestnut) Avenue.

Parcel D: (APN: 552-150-38, Acres: 14.19)

Parcel A of that certain Lot Line Adjustment No. 3239, in the County of Riverside, State of California, recorded December 4, 1990 as Instrument No. 439850 of Official Records, more particularly described as follows:

Beginning at the Southwest corner of Lot 104 of Map Book 6, Page 307, Riverside County Records, California, said point also identified on Record of Survey in Book 31, Pages 52 through 59 of Records of Survey, Riverside County Records, California;

Thence North 00°13'32" West a distance of 1315.82 feet to the Northwest corner of said Lot 104;
Thence North 89°51'03" East a distance of 495.97 feet to a point on the Westerly right of way line of the Bautista Channel as shown on said Record of Survey; .
Thence South 00°07'31" West along said Westerly right of way a distance of 493.59 feet to the beginning of a tangent curve concave Easterly having a radius of 2900.64 feet;
Thence Southeasterly along the arc of said tangent curve through a central angel of 13°35'50" a distance of 688.37 feet;
Thence North 88°33'22" West a distance of 221.35 feet;
Thence South 00°13'32" East a distance of 180.33 feet to the South line of said Lot 104;
Thence North 89°29'08" West along the South line of said Lot 104 a distance of 349.01 feet to the point of beginning.

Excepting therefrom any portion lying within Bautista Avenue.

Assessor's Parcel Number: 552-120-06, 08, 09, 20 and 552-150-38

Description of Wells:

State Well Number

05S01E17H001S

Popular Name or Reference Description

Arlington Veterinary Laboratories

DATED: July 15, 2012

Clifford J. Olsen
CLIFFORD J. OLSEN

DATED: July 15, 2012

Sherry A. Olsen
SHERRY A. OLSEN

DATED: July 20, 2012

Robert D. Olsen
ROBERT D. OLSEN, Trustee of the Robert
D. Olsen & Elva I. Olsen Revocable Trust
UDT February 27, 1990

DATED: July 20, 2012

Elva I. Olsen
ELVA I. OLSEN, Trustee of the Robert D.
Olsen & Elva I. Olsen Revocable Trust UDT
February 27, 1990

DATED: July 15, 2012

ARLINGTON VETERINARY
LABORATORIES, INC.

By Clifford J. Olsen
(Signature)

Clifford J. Olsen
(Print/Type Name)

Its Vicepresident / Treasurer
(Office or Position)

EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants CLIFFORD J. OLSEN and SHERRY A. OLSEN, as individuals; ROBERT D. OLSEN and ELVA I. OLSEN, as Trustees of the Robert D. Olsen and Elva I. Olsen Revocable Trust UDT February 27, 1990; and ARLINGTON VETERINARY LABORATORIES, INC., by CLIFFORD J. OLSEN, its Vice President/Treasurer, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 156 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants X.
Class "B" Participants ____.
(Select one)

DATED: July 15, 2012

Clifford J. Olsen
CLIFFORD J. OLSEN

DATED: July 15, 2012

Sherry A. Olsen
SHERRY A. OLSEN

DATED: July 20, 2012

Robert D. Olsen
ROBERT D. OLSEN, Trustee of the Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990

DATED: July 20, 2012

Elva I. Olsen
ELVA I. OLSEN, Trustee of the Robert D. Olsen & Elva I. Olsen Revocable Trust UDT February 27, 1990

DATED: July 15, 2012

ARLINGTON VETERINARY LABORATORIES, INC.

By Clifford J. Olsen
(Signature)

Clifford J. Olsen
(Print/Type Name)

Its Vice President/Treasurer
(Office or Position)

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1950 MARKET ST.
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Telephone (951) 684-2520
Facsimile (951) 684-9583
Gshoaf@redwineandsherrill.com

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.:
A California Municipal Water District,)	
	)	STIPULATION FOR
Plaintiff,	)	ENTRY OF JUDGMENT
vs.)	
)	
CITY OF HEMET; et al.,)	
)	
Defendants.)	
)	
)	

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:
 - a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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beneficial use and avoid waste, and provides due consideration of the public interest and of the environment.

3. The parties agree that jurisdiction over each of the parties has been established by the allegations in the Complaint and that proper service of process of the Summons and Complaint upon each of the defendants has occurred.

4. The parties agree that the proper venue for this matter is the California Superior Court for the County of Riverside. The parties further agree that the Answers on behalf of all defendants appearing in this action have been filed, generally denying all allegations in the Complaint except those expressly admitted.

5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may be made and entered by the Court binding these stipulating parties in this action. Each Private Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed description of said defendant's property within the Management Area, including the acreage thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified as a Class "A" or Class "B" Participant.

6. Accordingly, the parties request that the Court hold a hearing to determine whether there is any objection to said proposed Judgment.

7. The parties agree that in the event that the Court is unwilling to enter a final judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no binding effect upon any of the parties to this Stipulation, and shall be considered null and void. The parties further agree that in the event this Stipulation becomes null and void under this provision, all defendants will have thirty (30) days to file and serve amended responsive pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

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DEFENDANTS/PUMPERS:

DATED: 7-3, 2012

John P. Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR KATIE MICHELLE OOSTDAM

DATED: 7-3, 2012

John P. Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR JESSICA LYNN OOSTDAM

DATED: 7-3, 2012

John P. Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MARGIE K. OOSTDAM

DATED: 7-3, 2012

John P. Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MELISSA OOSTDAM

DATED: _____, 2012

PETER G. OOSTDAM, TRUSTEE OF THE
PETER & JACOBA OOSTDAM FAMILY
TRUST DATED APRIL 23, 1982

*

DATED: 7-3, 2012

Jacoba M. Oostdam
JACOBA M. OOSTDAM, TRUSTEE OF
THE PETER & JACOBA OOSTDAM
FAMILY TRUST DATED APRIL 23, 1982

* PETER G. OOSTDAM is deceased.
Dismissal filed July 25, 2012

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR KATIE MICHELLE OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR MARGIE K. OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR MELISSA OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR JESSICA LYNN OOSTDAM; PETER G. OOSTDAM, TRUSTEE OF THE PETER & JACOBA OOSTDAM FAMILY TRUST DATED APRIL 23, 1982; and JACOBA M. OOSTDAM, TRUSTEE OF THE PETER & JACOBA OOSTDAM FAMILY TRUST DATED APRIL 23, 1982, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

That portion of Section 13, Township 4 South, Range 2 West, San Bernardino Base and Meridian, in the County of Riverside, State of California, being a portion of Lot D, Subdivision 4, Rancho San Jacinto Nuevo, as shown by Map on file in Book 1, Pages 10 and 11 of Maps, Records of Riverside County, California, described as follows:

Beginning at the point of intersection of the Westerly line of Warren Road 60 feet wide with the Southwesterly line of the 200 foot right of way conveyed to the Metropolitan Water District of Southern California, a Municipal Corporation, by final Order of Condemnation recorded in Book 272, Page 30 of Official Records of Riverside County, California;

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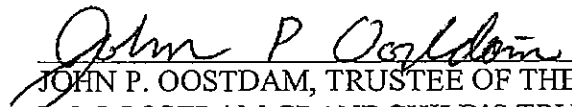
Thence along said Westerly line of Warren Road South 0°28'02" West, 978.14 feet;
Thence at right angles to said Westerly line North 89°31'58" West, 2,606.27 feet;
Thence at right angles North 0°28'02" East 2,030.30 feet to said Southwesterly line of the
Metropolitan Water District right of way;
Thence along said Southwesterly line South 67°32'55" East, 2,810.64 feet to the point of
beginning.

Assessor's Parcel Number: 425-200-025, Acres: 89.37

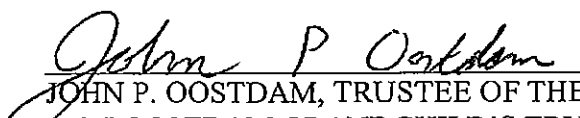
Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S02W13J001S	Oostdam Dairy North
04S02W13R001S	Oostdam Dairy South

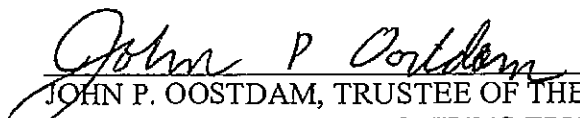
DATED: 7-3, 2012


JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR KATIE MICHELLE OOSTDAM

DATED: 7-3, 2012


JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR JESSICA LYNN OOSTDAM

DATED: 7-3, 2012


JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MARGIE K. OOSTDAM

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DATED: 7-3, 2012

John P Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MELISSA OOSTDAM

DATED: _____, 2012

PETER G. OOSTDAM, TRUSTEE OF THE
PETER & JACOBA OOSTDAM FAMILY
TRUST DATED APRIL 23, 1982

*

DATED: 7-3, 2012

Jacoba M Oostdam
JACOBA M. OOSTDAM, TRUSTEE OF
THE PETER & JACOBA OOSTDAM
FAMILY TRUST DATED APRIL 23, 1982

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

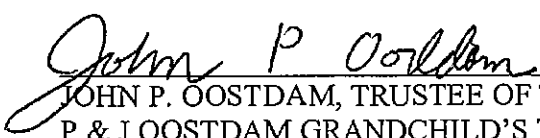
Defendants JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR KATIE MICHELLE OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR MARGIE K. OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR MELISSA OOSTDAM; JOHN P. OOSTDAM, TRUSTEE OF THE P & J OOSTDAM GRANDCHILD'S TRUST FOR JESSICA LYNN OOSTDAM; PETER G. OOSTDAM, TRUSTEE OF THE PETER & JACOBA OOSTDAM FAMILY TRUST DATED APRIL 23, 1982; and JACOBA M. OOSTDAM, TRUSTEE OF THE PETER & JACOBA OOSTDAM FAMILY TRUST DATED APRIL 23, 1982, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 259 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants X.

Class "B" Participants ____.

(Select one)

DATED: 7-3, 2012


JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR KATIE MICHELLE OOSTDAM

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DATED: 7-3, 2012

John P Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR JESSICA LYNN OOSTDAM

DATED: 7-3, 2012

John P Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MARGIE K. OOSTDAM

DATED: 7-3, 2012

John P Oostdam
JOHN P. OOSTDAM, TRUSTEE OF THE
P & J OOSTDAM GRANDCHILD'S TRUST
FOR MELISSA OOSTDAM

DATED: _____, 2012

PETER G. OOSTDAM, TRUSTEE OF THE
PETER & JACOBA OOSTDAM FAMILY
TRUST DATED APRIL 23, 1982

*

DATED: 7-3, 2012

Jacoba M Oostdam
JACOBA M. OOSTDAM, TRUSTEE OF
THE PETER & JACOBA OOSTDAM
FAMILY TRUST DATED APRIL 23, 1982

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GERALD D. SHOAF, SBN 41084
REDWINE AND SHERRILL
1950 MARKET ST.
RIVERSIDE, CA 92501
Telephone (951) 684-2520
Facsimile (951) 684-9583
Gshoaf@redwineandsherrill.com

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,)
A California Municipal Water District,)
)
Plaintiff,)
vs.)
)
CITY OF HEMET; et al.,)
)
Defendants.)
)

CASE NO.: RIC 1207274

STIPULATION FOR
ENTRY OF JUDGMENT

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:
 - a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO

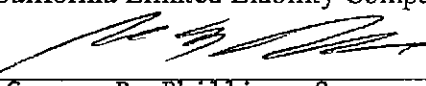
By _____

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DEFENDANT/PUMPER:

DATED: Oct 5, 2012

PASTIME LAKES INVESTMENT CO., LLC,
A California Limited Liability Company

By 
George R. Phillips, Sr.

Its Manager
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, PASTIME LAKES INVESTMENT CO., a California Limited Liability Company, by George R. Phillips, Sr, its Manager, certifies that the following is a description of the property and wells owned by said defendant within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1:

That portion of Lot 1 in Block 4 as shown on Amended Map No. 1 of Lakeview, County of Riverside, State of California, on file in Book 2, Page 24 of Maps, Riverside County Records, described as follows:

Beginning at the point of intersection of the Easterly line of Lakeview Avenue, as shown on said map with the Northerly line of the certain strip of land 80 feet in width conveyed to the County of Riverside by deed filed for record August 22, 1950 in Book 1198, Page 478, of Official Records, (now known as Pico Road); thence Easterly on the Northerly line of said strip of land, 198 feet; thence Northerly, parallel with the Easterly line of Lakeview Avenue 220 feet; thence Westerly, parallel with the Northerly line of said strip of land so conveyed to the County of Riverside, 198 feet to a point on the Easterly line of Lakeview Avenue, thence Southerly on the Easterly line of Lakeview Avenue, 220 feet to the point of beginning.

Parcel 2:

Blocks 1, 2, 3, and 4, in the County of Riverside, State of California, as shown by Amended Map No. 1 of Lakeview on file in Book 2, Page 24 of Maps, Riverside County Records; together with those portions of the vacated Alfalfa Road, the R.R. Reservation and Reservoir Avenue, adjoining said Blocks which would pass with a conveyance of said blocks by operation of law.

Excepting therefrom that portion thereof which lies South of the North line of Ramon Expressway as conveyed to the County of Riverside by deed recorded November 16, 1971 as Instrument No. 131222.

1 Also excepting from Lot 4 in Block 1 the following described portion thereof;

2 Beginning at the Northeast corner of said Lot 4; thence Westerly along the Northerly line of said Lot,
3 200; thence Southerly parallel with the Easterly line of said Lot, 100 feet; thence Easterly parallel with
4 the Northerly line of said Lot, 200 feet to a point on the Easterly line thereof; thence Northerly along
5 said Easterly line, 100 feet to the point of beginning.

6 Also excepting from Blocks 1, 2, 3 and 4 and Reservoir Avenue, vacated the portions thereof described
7 as follows:

8 Beginning at the intersection of the West line of lot 1 in said Block 4, with the North line of Pico Road
9 as conveyed to the County of Riverside by deed recorded August 229, 1950 in Book 1200, Page 466 of
10 Official Records; thence North along the West line of Lot 1, in Block 4; Lots 1 and 2 in Block 3; and Lot
11 1, in Block 1, to the Northwest corner of Lot 1, in Block 1; thence East along the North line of said
12 Block 1; 1070 feet to a point in the North line of Lot 2 in said Block 1; thence South to a Page in the in
13 the North line of Pico Road, as conveyed to the County of Riverside by deed referred to above which
14 point is 1100 feet East of the West line of said Block 4;
15 Thence West along the North line of said Pico Road, 1100 feet, more or less, to the point of beginning.

16 Parcel 3:

17 That portion of Blocks 1, 2, 3 and 4, as shown by Amended Map No. 1 of Lakeview, County of
18 Riverside, State of California, on file in Book 2, Page 24 of Maps, Riverside County Records; together
19 with those portions of the vacated Alfalfa Road, the R.R. Reservation and Reservoir Avenue, included
20 in the following described Parcel;

21 Beginning at a point in the West line of Lot 1 in said Block 4, 220 feet North of the North line of Pico
22 Road, as conveyed to the County of Riverside, by deed recorded August 29, 1950 in Book 1200, Page
23 466 of Official Records; thence North, along the West line of Lot 1 in Block 4, Lots 1 and 2 in Block 3,
24 and Lot 1 in Block 1, to the Northwest corner of Lot 1 in Block 1; thence East, along the North line of
25 said Lot 1, 1070 feet to a point in the North line of Lot 2 in said Block 1;
26 Thence South to a point in the North line of Pico Road, as conveyed to the County of Riverside, by the
27 deed referred to above, which point is 1100 feet East of the West line of said Block 4; thence West,
28 along the North line of said Pico Road, 902 feet, more or less, to a point 198 feet East of the West line
of said Block 4; thence North, parallel with the West line of said Block 4, 220 feet; thence West,
parallel with the North line of Pico Road, 198 feet to the point of beginning.

Excepting therefrom that portion thereof which lies South of the North line of Ramona Expressway as
conveyed to the County of Riverside by deed recorded November 16, 1971 as Instrument No. 131224.

Parcel 4:

That portion of Lot 4, Block 1 of Amended Map No. 1, of Lakeview, County of Riverside, State of
California, as recorded in Book 2, Page 24 of Maps, in the Office of the County Recorder of said
Riverside County, described as follows:

Beginning at the Northeast corner of said Block 1;
Thence Westerly along the North line of said Block 1 a distance of 200.00 feet;
Thence Southerly, parallel with the East line of said Block 1, a distance of 100.00 feet; thence
Easterly, parallel with the North line of said Block 1, a distance of 200.00 feet to a point in the East
line of said Block 1; thence Northerly, along the East line of said Block 1, a distance of 100.00 feet to
the point of beginning.

EXCEPT therefrom all oil, gas, minerals, and other hydrocarbon substances lying below a depth shown
below but with no right of surface entry, as provided in deed

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Depth: 500
Recorded: May 8, 1989 as Instrument No. 146722 of Official Records

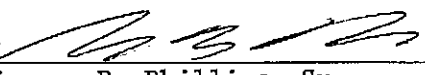
Assessor's Parcel Number: 425-110-004, Acres: 0.81
425-110-008, Acres: 75.12
425-110-009, Acres: 45.11
425-110-016, Acres: 0.46

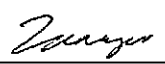
Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S02W11C001S	Pastime Lakes Dairy East
04S02W11D002S	Pastime Lakes Dairy Middle
04S02W11D001S	Pastime Lakes Dairy West

DATED: October, 2012

PASTIME LAKES INVESTMENT CO., LLC,
A California Limited Liability Company

By 
George R. Phillips, Sr.

Its 
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant, PASTIME LAKES INVESTMENT CO., a California Limited Liability Company, by George R. Phillips, Sr., its Manager, based on a collective assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment in the amount of 212 acre feet per year collectively for all properties described on Exhibit "B," hereby elects to be classified collectively in these proceedings as

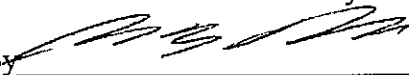
Class "A" Participants ____.

Class "B" Participants X.

(Select one)

DATED: October 5, 2012

PASTIME LAKES INVESTMENT CO., LLC,
A California Limited Liability Company

By 
George R. Phillips, Sr.

Its Manager
(Office or Position)

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

7 4. The parties agree that the proper venue for this matter is the California Superior
8 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
9 defendants appearing in this action have been filed, generally denying all allegations in the
10 Complaint except those expressly admitted.

12 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
13 be made and entered by the Court binding these stipulating parties in this action. Each Private
14 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
15 description of said defendant's property within the Management Area, including the acreage
16 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
17 as a Class "A" or Class "B" Participant.

19 6. Accordingly, the parties request that the Court hold a hearing to determine
20 whether there is any objection to said proposed Judgment.

22 7. The parties agree that in the event that the Court is unwilling to enter a final
23 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
24 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
25 The parties further agree that in the event this Stipulation becomes null and void under this
26 provision, all defendants will have thirty (30) days to file and serve amended responsive
27 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

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DEFENDANTS/PUMPERS:

DATED: June 28, 2012

RANCHO DIAMANTE INVESTMENTS, LLC,
a Delaware Limited Liability Company

By see Attachment

(Print/Type Name)

Its _____
(Office or Position)

Owner:

Rancho Diamante Investments, LLC, a California
limited liability company:

By: Member:

Strata/Benchmark Page Ranch, L.P., a California
limited partnership

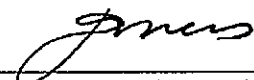
By: Strata Equity Holdings, LLC, a California
limited liability company, Co-Managing General Partner

By: Strata Equity Investments, Inc.,
a California corporation, Its Managing
Member

By: 

Carlos D. Michan, President

By: Benchmark Pacific Management, Inc.,
a California Corporation, Co-Managing
General Partner

By: 

Douglas M. Avis, President and Sec.

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, RANCHO DIAMANTE INVESTMENTS, LLC, a Delaware limited liability company, by Bonchawal Prathe, its Co-Managing G.P., certifies that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel A (ptn Apr: 465-140-021, Acres: 12.43)

The Westerly 55 feet of Lot East of Parcel Map 11761, in the County of Riverside, State of California, as per Map filed in Book 56, Pages 78 and 79, of Parcel Maps, in the Office of the County Recorder of said County, said 55 feet being measured at right angles, to the Westerly line of said Lot E.

Parcel B: (ptn Apr: 465-140-021)

That portion of the Northwest quarter of the Southwest quarter and that portion of the Southwest quarter of the Southwest quarter of Section 25, Township 5 South, Range 2 West, S.B.B.M., in the County of Riverside, State of California, lying Easterly of a line which is parallel with and 75 feet Westerly, measured at right angles or radially, from the following described traverse line:

Beginning at a point on the North line of said Southwest quarter of Section 25, said point being distant South 89° 24' 57" East along said North line 1230.90 feet from the Northwest corner of said Southwest quarter of Section 25; thence South 0° 20' 09" East 121.74 feet; thence South 0° 19' 29" East 2190.76 feet to a point herein designated "Point A" said Point "A" being also the beginning of a curve concave to the West, tangent to said last mentioned course, and having a radius of 500 feet; thence Southerly along said curve 305.57 feet; thence South 34° 41' 26" West tangent to said curve 15.93 feet to a point on the South line of said Southwest quarter of Section 25, said last mentioned point being distant South 88° 54' 06" East along said South line 1130.43 feet from the Southwest corner of said Southwest quarter of Section 25.

Excepting therefrom that portion of said Southwest quarter of the Southwest quarter of Section 25 lying Southerly of a line which is at right angles to said above-described traverse line at said "Point A" and Westerly of a line which is parallel with and 100 feet Easterly, measured radially, from said traverse line.

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Also excepting therefrom any portion lying within any public road.

Parcel C (apn: 465-140-035, Acres: 3.63)

Being a point on Parcel 2 together with a portion of Lots E and F as shown on Parcel Map No. 11761, recorded in Parcel Map in Book 56, Pages 78 and 79, records of Riverside County, California, located in Section 25, Township 5 South, Range 2 West, San Bernardino Base and Meridian.

A strip on land 125 feet in width, the Westerly line of said strip lying 55 feet Easterly of and parallel with the Easterly right of way of the Metropolitan Water District San Diego Canal, as shown on Record of Survey in Book 73, Pages 78 through 82, inclusive, records of Riverside County, California.

The side lines of said trip shall be prolonged or shortened so as to terminate at the Northerly terminus with the Southerly 50-foot right of way of Simpson Avenue as shown on said Parcel Map and at the Southerly terminus with the Southerly 30 foot right of way of Levie Road, as shown on said Parcel Map.

Parcels D (apn: 465-140-034, Acres: 7.82)

Parcel 2 together with Lettered Lots "E" and "F", as shown by Parcel Map No. 11761, on file in Book 56, Pages 78 and 79 of Parcel Maps, records of Riverside County, California.

Excepting therefrom that portion of Lettered Lot "E" conveyed to the Metropolitan Water District of Southern California, a public Corporation by deed recorded September 19, 1994 as Instrument No. 360934 of Official Records of Riverside County, California.

Also excepting therefrom that portion of said land conveyed to the Riverside County Flood Control and Water Conservation District by instrument recorded July 15, 1999 as Instrument No. 1999-315662 of Official Records.

Parcel E: (apn: 465-140-014, Acres: 12.84), (APN: 465-140-015, Acres: 12.55)

Parcels 3 and 4 together with Lettered Lots "G" through "I" as shown by Parcel Map No. 11761, on file in Book 56, Pages 78 and 79 of Parcel Maps, records of Riverside County, California.

Parcels F (apn: 465-140-001, Acres: 32.22)

The Northwest quarter of the Southwest quarter of Section 25, Township 5 South, Range 2 West, San Bernardino Base and Meridian, County of Riverside, State of California, according to the Official Plat thereof:

Except that portion thereof particularly described as follows;

Beginning at the Southwest corner of said Northwest quarter of Southwest quarter of Section 25; thence North along the West line of said Section, 16 rods;

Thence at a right angle Easterly, 14 rods;

Thence at a right angle Southerly 16 rods;

Thence at a right angle Westerly, 14 rods to the point of beginning.

Also except the Westerly 20 feet and the Northerly 30 feet thereof; as granted to County of Riverside for highway purposes;

Also except that portion lying Easterly of a line parallel with and 75 feet Westerly, measured at right angles or radial, from the following described line:

1 Beginning at a point on the North line of said Southwest quarter of Section 25, said point being distant
2 South 89° 24' 57" East, on said North line, 1,230.00 feet from the Northwest corner of said Southwest
3 quarter of Section 25:
4 Thence South 0° 20' 09" East, 121.74 feet;
5 Thence South 0° 10' 29" East, 2190.76 feet, to a point designated "Point A, being also the beginning
6 of a curve concave to the West, tangent to said last mentioned course, and having a radius of 500
7 feet;
8 Thence Southerly, along said curve, 305.37 feet; thence South 34° 41' 26" West tangent to said
9 curve, 15.93 feet, to a point on the South line of said Southwest quarter of Section 25, said last
10 mentioned point being distant South 88° 54' 06" East, along said South line, 1130.43 feet from the
11 Southwest corner of said Southwest quarter of Section 25.
12 Parcel G: (apn: 465-140-004, Acres: 9.00)
13 The Northwest quarter of the Southwest quarter of the Southwest quarter of Section 25, Township 5
14 South, Range 2 West, San Bernardino Base and Meridian, in the County of Riverside, State of
15 California, according to the Official plat thereof:
16 Except the Westerly 4 rods thereof.
17 Parcel H (apn: 465-140-024, Acres: 10.71)
18 Thee East half of the Southwest quarter of the Southwest quarter of Section 25, Township 5 South,
19 Range 2 West, San Bernardino Base and Meridian, in the County of Riverside, State of California,
20 according to the Official plat thereof:
21 Except the South 30 feet for road purposes:
22 Also except that portion lying Easterly of a line parallel with and 75 feet Westerly, measured at right
23 angles or radially, from the following described traverse line;
24 Beginning at a point on the North line of said Southwest quarter of Section 25, said point being distant
25 South 89° 24' 57" East, along said North line, 1,230.00 feet from the Northwest corner of said
26 Southwest quarter of Section 25;
27 Thence South 0° 20' 09" East, 121.74 feet;
28 Thence South 0° 19' 29" East, 2,190.76 feet, to a point designated "Point A", being also the beginning
of a curve concave to the West, tangent to said last mentioned course, and having a radius of 500
feet; thence Southerly along said curve, 305.57;
Thence South 34° 41' 26" West tangent to said curve 15.93 feet, to a point on the South line of said
Southwest quarter of Section 25, said last mentioned point being distant South 88° 54' 06" East, on
said South line, 1,130.43 feet from Southwest corner of said Southwest corner of said Southwest
quarter of Section 25;
Also except that portion as conveyed to the Metropolitan Water District in deed recorded October 6,
1987 as Instrument No. 289386 of Official Records of Riverside County, California;
Also excepting therefrom that portion condemned by the Metropolitan Water District by final order
condemnation recorded January 27, 1995 as Instrument No. 27553 of Official Records of Riverside
County, California.
Parcel I (apn: 465-140-022, Acres: 7.90)

Thence Southwest quarter of the Southwest quarter of the Southwest quarter of Section 25, Township

1 5 South, Range 2 West, San Bernardino Base and Meridian, in the County of Riverside, State of
 2 California, according to the Official plat thereof:
 3 Excepting therefrom that portion included within California Avenue and Olive Avenue;
 4 Also except the West 66 feet thereof:
 5 Also excepting therefrom that portion condemned by the Metropolitan Water District by document
 6 recorded January 27, 1995 as Instrument No. 27553 of Official Records of Riverside County,
 7 California.
 8 Together with that portion of Olive Avenue, that would pass by operation of law, vacated by
 9 Resolution No. 2002-72 recorded October 1, 2002 as Instrument No. 2002-546475 of Official Records.
 10 Parcel J (apn: 465-140-002, Acres: 1.28)
 11 That portion of the Northwest quarter of the Southwest quarter of and the Southwest quarter of the
 12 Southwest quarter of Section 25, Township 5 South, Range 2 West, San Bernardino Base and
 13 Meridian, according to the Official Plat thereof, described as follows:
 14 Beginning at the Southwest corner of said Section;
 15 Thence Northerly on the Westerly line of said Section 80 rods to the Southwest corner of the
 16 Northwest quarter of the Southwest quarter of said Section;
 17 Thence Northerly on the Westerly line to said Section, 16 rods;
 18 Thence Easterly, parallel with the Southerly line of said Northwest quarter of the Southwest quarter,
 19 14 rods;
 20 Thence Southerly, parallel with the Westerly line of said Section, 16 rods, to a point on the Southerly
 21 line of said Northwest quarter of the Southwest quarter;
 22 Thence Westerly on said Southerly line, 10 rods;
 23 Thence Southerly, parallel with the Westerly line of said Section 80 rods to a point on the Southerly
 24 line thereof;
 25 Thence Westerly on the Southerly line of said section, 4 rods to the point of beginning;
 26 Except the Westerly 20 feet thereof described by deed to the County of Riverside recorded January 16,
 27 1932 in Book 65, Page 23 of Official Records of Riverside County, California.
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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
05S02W25M003S	Ricketts 01
05S02W25M004S	Ricketts 02

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DATED: June 28, 2012

RANCHO DIAMANTE INVESTMENTS, LLC,
a Delaware Limited Liability Company

By SEE ATTACHMENT

(Print/Type Name)

Its _____
(Office or Position)

Owner:

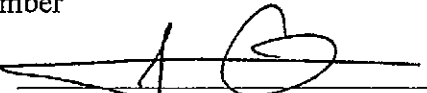
Rancho Diamante Investments, LLC, a California
limited liability company:

By: Member:

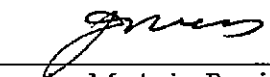
Strata/Benchmark Page Ranch, L.P., a California
limited partnership

By: Strata Equity Holdings, LLC, a California
limited liability company, Co-Managing General Partner

By: Strata Equity Investments, Inc.,
a California corporation, Its Managing
Member

By: 
Carlos D. Michan, President

By: Benchmark Pacific Management, Inc.,
a California Corporation, Co-Managing
General Partner

By: 
Douglas M. Avis, President and Sec.

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant RANCHO DIAMANTE INVESTMENTS, LLC, a Delaware limited liability company, by Benjamin J. Smith its Co Managing GP, based on a collective assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment in the amount of 166 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants _____.

Class "B" Participants .

(Select one)

DATED: Jan 28, 2012

RANCHO DIAMANTE INVESTMENTS, LLC,
a Delaware Limited Liability Company

By see Attachment

(Print/Type Name)

Its _____
(Office or Position)

Owner:

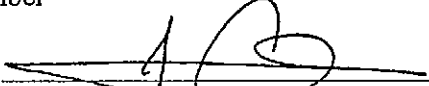
Rancho Diamante Investments, LLC, a California
limited liability company:

By: Member:

Strata/Benchmark Page Ranch, L.P., a California
limited partnership

By: Strata Equity Holdings, LLC, a California
limited liability company, Co-Managing General Partner

By: Strata Equity Investments, Inc.,
a California corporation, Its Managing
Member

By: 
Carlos D. Michan, President

By: Benchmark Pacific Management, Inc.,
a California Corporation, Co-Managing
General Partner

By: 
Douglas M. Avis, President and Sec.

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GERALD D. SHOAF, SBN 41084
REDWINE AND SHERRILL
1950 MARKET ST.
RIVERSIDE, CA 92501
Telephone (951) 684-2520
Facsimile (951) 684-9583
Gshoaf@redwineandsherrill.com

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.: RIC 1207274
A California Municipal Water District,)	
	)	STIPULATION FOR
	)	ENTRY OF JUDGMENT
vs.)	
)	
CITY OF HEMET; et al.,)	
)	
)	
Defendants.)	
)	
)	

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:
 - a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

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DEFENDANT/PUMPER:

DATED: December 19, 2012

Randolph A. Record
RANDOLPH A. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

DATED: December 19, 2012

Anne M. Record
ANNE M. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

DATED: December 19, 2012

De ANZA RANCH, LP,
A California Limited Partnership

By *[Signature]*

Its *PARTNER*
(Office or Position)

DATED: December 19, 2012

YORBA, LLC,
A California Limited Liability Company

By *Mike Record*

Its *MANAGING MEMBER*
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendants' Property and Wells Within the Management Area

Defendants, RANDOLPH A. RECORD, Trustee of the Record Revocable Trust dated July 14, 2005; ANNE M. RECORD, Trustee of the Record Revocable Trust dated July 14, 2005; De ANZA RANCH, LP, a California Limited Partnership, by Randolph A. Record, its Partner; and YORBA, LLC, a California Limited Liability Company, by Michael G. Record, its Managing Partner, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1: (Assessor's Parcel Number: 553-240-017, Acres: 19.55)

Parcel 10, as shown by Parcel Map 15498, in the City of San Jacinto, County of Riverside, State of California, on file in Book 92, Pages 6 through 14 of Parcel Maps, Records of Riverside County, California.

Parcel 2: (Assessor's Parcel Number: 436-080-005, Acres: 0.91)
(436-220-002, Acres: 2.91)
(436-220-003, Acres: 2.21)

1 That portion of Farm Lots 132 and 137 of the Lands of the San Jacinto Land Association, in the
2 City of San Jacinto, County of Riverside, State of California, as shown by map on file in Book 8,
3 Page 357 of Maps, Records of San Diego County, California, more particularly described as
4 follows:

5
6 Beginning at the Southeast corner of said Farm Lot 132, being also a point on the centerline of
7 Lyon Avenue; Thence South 89°38'17" West along the South line of said Farm Lot 132, a
8 distance of 325.00 feet; Thence North 42°53'15" West, a distance of 276.14 feet to a point on the
9 boundary line of that portion of land included within that certain Final Decree on Condemnation,
10 recorded November 23, 1949 in Book 1126, Page 54 of Official Records; Thence along said
11 boundary line the following courses; South 47°06'45" West a distance of 274.77 feet; South
12 00°32'16" East, a distance of 17.78 feet to said South line of Farm Lot 132; Continuing South
13 00°32'16" East, a distance of 326.50 feet; Thence North 89°38'15" East, a distance of 713.09
14 feet to the East line of said Farm Lot 137 and said centerline of Lyon Avenue; Thence North
15 00°21'45" West along said East line and said centerline, a distance of 326.49 feet to the
16 point of beginning.

17
18 Said description is pursuant to that certain Certificate of Compliance in accordance with Lot Line
19 Adjustment 04-01 recorded July 19, 2004 as Instrument No. 556773 of Official Records.

20 Parcel 3: (Assessor's Parcel Number: 436-070-006, Acres: 29.62)

21
22 That portion of Parcel B of Certificate of Compliance in the City of San Jacinto, County of Riverside,
23 State of California, recorded October 15, 1991 as Instrument No. 354897 of Official Records of said
County lying Westerly of the following described line:

24 Beginning at a point on the Northerly line of Farm Lot 115 of the lands of San Jacinto Land Association
25 shown by a map on file in Book 8, Page 357 of Maps, Records of San Diego County, California distant
26 North 89° 54' 04" West 1454.81 feet from the Northeast corner of said Lot; thence leaving said line,
27 South 5° 43' 14" East 990.62 feet; thence South 12° 31' 11" East 352.59 feet to the beginning of a
28 said curve concave Easterly having a radius of 570.00 feet; thence Southerly 198.85 feet along
said curve through a central angle of 19° 59' 18"; thence non-tangent from said curve, South 60° 32'
33" East 230.86 feet to the beginning of a non-tangent curve concave Northwesterly having a radius

1 of 1400.000 feet, a radial line to said point bears South 61° 53' 36" East; thence Southwesterly
2 405.29 feet along said curve through a central angle of 16° 35' 12"; thence tangent from said curve,
3 South 44° 41' 36" West 44.21 feet to the Southerly line of the North half of the Southeast quarter of
4 said Lot.

5 Except that portion included within record road as described in a deed to the County of Riverside
6 recorded March 28, 1911 in Book 327, Page 67 of Deeds, records of said County, lying Northerly of a
7 line parallel with and 20.00 feet South of the North line of said Lot.

8 Also except that portion included within Potter Road as described in deeds to the County of Riverside
9 recorded March 28, 1911 in Book 327, Page 67 of Deeds, and July 17, 1973 as Instrument No. 93197
10 of Official Records of said County, lying Southerly of a line parallel with and 20.00 feet South of the
11 North line of said Lot, Northerly of that portion of said Potter Road abandoned by resolution no. 74-27
12 of the Board of Supervisors of said County recorded February 3, 1974 as Instrument No. 16145 of said
13 of Official Records, and Easterly of the East line of the land included with Parcel A of Certificate of
14 Compliance recorded October 15, 1991 as Instrument No. 354897 of said Official Records.

15 Said legal description is based upon Lot Line Adjustment recorded July 6, 2006 as Instrument No.
16 2006-491499 of Official Records.

17 Parcel 4 (Assessor's Parcel Number: 436-070-018, Acres: 13.16)

18 That portion of Parcel A of Certificate of Compliance in the City of San Jacinto, County of Riverside,
19 State of California, recorded October 15, 1991 as Instrument No. 354897, of Official Records of said
20 County together with that portion of the Northeast quarter and the North half of the Southeast quarter
21 of Farm Lot 115 of the Land of San Jacinto Land Association shown by a map on file in Book 8, page
22 357 of Maps, records of San Diego County, California, lying Westerly of the following described line:

23 Beginning at a point on the Northerly line of said Farm Lot 115 distant North 89° 54' 04" West
24 1454.81 feet from the Northeast corner of said Lot: thence leaving said line, South 5° 43' 14" East
25 990.62 feet; thence South 12° 31' 12" East 352.59 feet to the beginning of a tangent curve concave
26 Easterly having a radius of 570.00 feet; thence Southerly 198.85 feet along said curve through a
27 central angle of 19° 59' 18"; thence non-tangent from said curve, South 60° 32' 33" East 230.86 feet
28 to the beginning of a non-tangent curve concave Northwesterly having a radius of 1400.000 feet, a
radial line to said point bears South 61° 53' 36" East; thence Southwesterly 405.29 feet along said
curve through a central angle of 16° 35' 12"; thence tangent from said curve, South 44° 41' 36" West
44.21 feet to the Southerly line of the North half of the Southeast quarter of said Lot.

Except that portion included within record road as described in a deed to the County of Riverside,
recorded March 28, 1911 in Book 327, Page 67 of Deeds, Records of said County, lying Northerly of a
line parallel with and 20.00 feet South of the North line of said Lot.

Also except that portion included within Potter Road as described in deeds to the County of Riverside
recorded March 28, 1911 in Book 327, Page 67 of Deeds and July 17, 1973 as Instrument No. 93197
of Official Records of said County, lying Southerly of a line parallel with and 20.00 feet South of the
North line of said Lot, Northerly of that portion of said Potter Road abandoned by Resolution No. 74-27
of the Board of Supervisors of said County recorded February 3, 1974 as Instrument No. 16145 of said
Official Records, and Easterly of the East line of the land included with Parcel A of Certificate of
Compliance recorded October 15, 1991 as Instrument No. 354897 of said Official Records.

Except that portion of conveyed to the City of San Jacinto by deed recorded February 15, 2008 as
Instrument No. 2008-076512 of Official Records.

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Said legal description is based upon Lot Line Adjustment recorded July 6, 2006 as Instrument No. 2006-0491498 of Official Records and July 6, 2006 as Instrument No. 2006-491499 of Official Records.

Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
05S01E13R002S	Record Doe Canyon
05S01E13Q001S	Record Doe Canyon West
04S01W21B001S	Record Potter/Record
04S01W21Q001S	Record DeAnza

DATED: December 19, 2012

Randolph A. Record
RANDOLPH A. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

DATED: December 19, 2012

Anne M. Record
ANNE M. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

DATED: December 19, 2012

De ANZA RANCH, LP,
A California Limited Partnership

By *Randolph A. Record*

Its *Partner*
(Office or Position)

DATED: December 19, 2012

YORBA, LLC,
A California Limited Liability Company

By *Mike Record*

Its *MANAGING MEMBER*
(Office or Position)

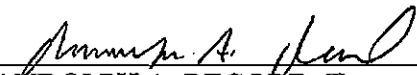
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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants, RANDOLPH A. RECORD, Trustee of the Record Revocable Trust dated July 14, 2005; ANNE M. RECORD, Trustee of the Record Revocable Trust dated July 14, 2005; De ANZA RANCH, LP, a California Limited Partnership, by Randolph A. Record, its Partner; and YORBA, LLC, a California Limited Liability Company, by Michael G. Record, its Managing Member, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 193 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as


Class "A" Participants X.
Class "B" Participants _____.
(Select One)

DATED: December 19, 2012



RANDOLPH A. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

DATED: December 19, 2012



ANNE M. RECORD, Trustee of the
Record Revocable Trust dated July 14, 2005

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DATED: December 19, 2012

De ANZA RANCH, LP,
A California Limited Partnership

By [Signature]

Its PARTNER
(Office or Position)

DATED: December 19, 2012

YORBA, LLC,
A California Limited Liability Company

By [Signature]

Its MANAGING MEMBER
(Office or Position)

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.: RIC 1207274
14 A California Municipal Water District,)	
	)	STIPULATION FOR
15 Plaintiff,	)	ENTRY OF JUDGMENT
16 vs.)	
)	
17 CITY OF HEMET; et al.,)	
)	
18 Defendants.)	
)	
)	

19 The parties hereto agree and stipulate as follows:

20 1. The following facts, considerations, and objectives, among others, provide the
21 basis for this Stipulation for Entry of Judgment:

22 a. On May 16, 2012, the Eastern Municipal Water District commenced this
23 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
24 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
25 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
26 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a
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1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.
12

13 d. It is generally recognized and accepted that unmanaged downward decline
14 in water levels has severe adverse impacts on the rights of groundwater producers and on water
15 quality, will cause increased pumping lifts and may result in surface land subsidence.
16

17 e. It is apparent to the parties that protection of the rights of the parties and
18 of the public interest in maximizing the beneficial use of a limited resource—groundwater
19 supplies—within the Management Area requires the development, imposition and
20 implementation of a physical solution.
21

22 2. The parties agree that the physical solution represented by the Water Management
23 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
24 fair and equitable basis for protection of the groundwater supply within the Management Area
25 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
26 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

1 DEFENDANT/PUMPER:
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4 DATED: 12/6, 2012

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SAN JACINTO FUND, LLC,
A Colorado Limited Liability Company
By San Jacinto Fund, LP
By AVE Management, LLC
By T. David E. Ramsey
Its Member
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendant, SAN JACINTO FUND, LLC, a Colorado Limited Liability Company, by San Jacinto Fund, LP, by AVF Management, LLC, by David Ramsay, its Member, certifies that the following is a description of the property and wells owned by said defendant within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel A:

That portion of Farm Lot 129 of Lands of San Jacinto Land Association City of San Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357 of Maps, Records of San Diego County, California, described as follows:

Beginning at the Southeasterly corner of said Lot 129 which corner is also the Northeasterly corner of Farm Lot 133 of said lands of San Jacinto Land Association as shown by map on file in Book 8, Page 357 of Maps, Records of San Diego County, California; thence Westerly along the Northerly line of said Lot 133, a distance of 561.00 feet; thence Northerly and parallel to the Easterly line of said Lot 129, a distance of 1,325.00 feet, more or less, to the Northeasterly line of said Lot 129; thence Southeasterly along the Northeasterly line of said Lot 129, a distance of 740.00 feet, more or less, to the most Northerly corner of Farm Lot 130 of Lands of San Jacinto Land Association as shown by map on file in Book 8, Page 357 of Maps, Records of San Diego County, California; thence Southerly along the Easterly line of said Lot 129, a distance of 750.00 feet, more or less, to the true point of beginning.

Parcel B:

All of Farm Lot 133 of Lands of San Jacinto Land Association in the City of San Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357 of Maps, Records of San Diego County, California.

1 Except that portion described as follows:
2 Beginning at the Northeasterly corner of said Lot 133;
3 Thence Westerly along the Northerly line of said Lot 133, a distance of 561.00 feet to the true point of
4 beginning; thence Southerly and parallel with the Easterly line of said Lot 133, a distance of 343.20
5 feet; thence Northwesterly in a direct line a distance of 645.00 feet, more or less, to a point on the
6 Northerly line of said Lot 133, distant Westerly thereon 1,122.00 feet from the Northeasterly corner of
7 said Lot 133; thence Easterly along said Northerly line of said Lot 133, a distance of 561.00 feet to the
8 true point of beginning.
9 Beginning at the Southeast corner of said Lot 133;
10 Thence North 00°22'45" West on the Easterly line, a distance of 161.12 feet; thence South 44°31'30"
11 West, a distance of 227.22 feet to a point on the South line of said Lot 133; thence North 89°41'15"
12 East, a distance of 160.40 feet, along the South line of said Lot 133 to the point of beginning.
13 Also except that portion conveyed to the County of Riverside by deed recorded September 4, 1968 as
14 Instrument No. 85681, of Official Records.
15 Parcel C:
16 The Southeasterly half of Farm Lot 7 of Lands of San Jacinto Land Association, in the City of San
17 Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357 of Maps,
18 Records of San Diego County.
19 Parcel D:
20 The Northwesterly Quarter of Farm Lot 9 of Lands of San Jacinto Land Association, in the City of San
21 Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357 of maps,
22 Records of San Diego County.
23 Parcel E:
24 The North 20 acres of Farm Lot 136 of Lands of San Jacinto Land Association, in the City of San
25 Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357 of Maps,
26 Records of San Diego County, California.
27 Except that portion described as follows:
28 Beginning at the Northeast corner of said Lot 136;
Thence South 330.80 feet;
Thence West at a right angle, 489.66 feet;
Thence at an angle 476.74 feet to a point, 160.40 feet West of the point of beginning.
Thence East 160.40 feet to the point of beginning.
Also except that portion conveyed to the County of Riverside by deed recorded September 4, 1968 as
Instrument No. 85681 of Official Records.

1 Parcel F:
 2 Farm Lot 129 and that portion of Farm Lot 133 of San Jacinto Land Association, in the City of San
 3 Jacinto, County of Riverside, State of California, as shown by map on file in Book 8, Page 357, of
 4 Maps, Records of San Diego County, California, more particularly described as follows:
 5 Commencing at the Northeasterly corner of said Lot 133;
 6 Thence Westerly along the Northerly line of said Lot 133, a distance of 561 feet to the true point of
 7 beginning;
 8 Thence Southerly and parallel with the Easterly line of said Lot 133, a distance of 343.2 feet;
 9 Thence Northwesterly in a direct line a distance of 645 feet more or less, to a point on the Northerly
 10 line of said Lot 133, distant Westerly thereon 1122 feet from the Northeasterly corner of said Lot 133;
 11 thence Easterly along said Northerly line of said Lot 133, a distance of 561 feet to the true point of
 12 beginning.

13 Except therefrom Parcels 1 through 4 and Lettered Lot (S) "A" through "P" all inclusive of Parcel Map
 14 29447, as shown by map on file in Book 206, Pages 44 through 49 inclusive, of Parcel Maps, Riverside
 15 County Records.

16 Note: Said land is also designated as a "Remainder Parcel" under the parcel map referred to above.

17 Assessor's Parcel Number: 436-030-001, Acres: 170.71
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 19 436-030- 002, Acres: 1.68
 20 436-040-006, Acres: 19.39
 21 436-040-008, Acres: 4.85
 22 436-170-001, Acres: 17.19

Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S01W20J001S	Record Flyway
04S01W21E002S	C&R Farms North
04S01W20J002S	C&R Farms South

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DATED: 12/6, 2012

SAN JACINTO FUND, LLC,
A Colorado Limited Liability Company
By San Jacinto Fund, LP
By AXF Management, LLC
By David E. Kersay
Its its Member
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendant, SAN JACINTO FUND, LLC, a Colorado Limited Liability Company, by
San Jacinto Fund, LP, by AVF Management, LLC
by T. David Ramsay, its Member, based on a collective
assignment to said defendant of Base Production Rights under the proposed Stipulated Judgment
in the amount of 596 acre feet per year collectively for all properties described on Exhibit "B,"
hereby elect to be classified collectively in these proceedings as

Class "A" Participants X.

Class "B" Participants ____.

(Select one)

DATED: 12/6, 2012

SAN JACINTO FUND, LLC,
A Colorado Limited Liability Company
By San Jacinto Fund LP
By AVF Management, LLC
By T. David E. Ramsay
Its Member
(Office or Position)

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

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11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.: RIC 1207274
14 A California Municipal Water District,)
15) STIPULATION FOR
16 Plaintiff,) ENTRY OF JUDGMENT
17 vs.)
18)
19 CITY OF HEMET; et al.,)
20)
21 Defendants.)
22)
23)
24)

25 The parties hereto agree and stipulate as follows:

26 1. The following facts, considerations, and objectives, among others, provide the
27 basis for this Stipulation for Entry of Judgment:

28 a. On May 16, 2012, the Eastern Municipal Water District commenced this
action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.

10 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
11 be made and entered by the Court binding these stipulating parties in this action. Each Private
12 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
13 description of said defendant's property within the Management Area, including the acreage
14 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
15 as a Class "A" or Class "B" Participant.

16 6. Accordingly, the parties request that the Court hold a hearing to determine
17 whether there is any objection to said proposed Judgment.

18 7. The parties agree that in the event that the Court is unwilling to enter a final
19 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
20 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
21 The parties further agree that in the event this Stipulation becomes null and void under this
22 provision, all defendants will have thirty (30) days to file and serve amended responsive
23 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:

DATED: _____, 2012

EASTERN MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF HEMET

By _____

DEFENDANT:

DATED: _____, 2012

CITY OF SAN JACINTO

By _____

1 DEFENDANTS/PUMPERS:

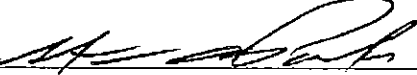
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3 DATED: Aug. 1, 2012

SAN JACINTO SPICE RANCH, INC.

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By 
Stephen Pastor, President
STEVEN

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8

9 DATED: Aug. 1, 2012

SAN JACINTO SPICE RANCH, INCORPORATED

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By 
Stephen Pastor, President
STEVEN

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants SAN JACINTO SPICE RANCH, INC., by Stephen Pastor, its President, and SAN JACINTO SPICE RANCH, INCORPORATED, by Stephen Pastor, its President, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1:

A portion of the San Jacinto Land Association, as shown by map on file in Book 8 of Maps, Page 357, San Diego County Records, a portion of Olmsted's Subdivision of Tract Vista of the Rancho San Jacinto Viejo as shown by map on file in Book 4 of Maps, Page 261, San Diego County Records, and a portion of the Hot Sulphur Springs Tract as shown by Map on file in Book 14 of Maps, Page 649, San Diego County Records, described as follows:

Beginning at the intersection of the Southeasterly line of said Hot Sulphur Springs Tract Subdivision with the Southwesterly line of the Riverside County Flood Control and Water Conservation District right of way, as said intersection is shown on Record of Survey on file in Book 33, Page 58, of Records of Survey, Riverside County Records; thence South 58°52'32" West along the said Southeasterly line of the Hot Sulphur Springs Tract, 960.89 feet to the most Southerly corner of said Hot Sulphur Springs Tract, 350.33 feet to an intersection with the centerline of Bath Avenue, as said Bath Avenue is shown on said map of Hot Sulphur Springs Tract; thence South 44°46'15" West along the Southwesterly prolongation of said centerline of Bath Avenue, 351.24 feet to an intersection with the West line of Farm Lot 197 of said San Jacinto Land Association; thence North 00°08'48" West along said West line and the Northerly prolongation thereof, 887.71 feet; thence North 89°51'12" East, 1,147.33 feet to an intersection with said Southwesterly line of the Riverside County Flood Control and Water Conservation District right of way; thence South 23°54'32" East along said Southwesterly line, 428.14 feet to the point of beginning.

Excepting therefrom all that portion thereof conveyed to the County of Riverside by Deed recorded January 7, 1987 as Instrument No. 2755, of Official Records of said Riverside County.

1 Also excepting therefrom all that portion thereof conveyed to the County of Riverside by Deed
 2 recorded January 7, 1987 as Instrument No. 2756, of Official Records of said Riverside County.

3 Also excepting therefrom the Westerly 30 feet of that portion of said land included within Lot 197 of
 4 the San Jacinto Land Association as described in Deed recorded June 18, 1913 in Book 377, Page 210
 5 of Deeds, records of said Riverside County.

6 Assessor's Parcel Number: 433-110-004, Acres: 5.84
 7 433-110-015, Acres: 4.81
 8 433-110-021, Acres: 0.76
 9 433-110-023, Acres: 0.02
 10 433-110-025, Acres: 1.03
 11 433-110-033, Acres: 2.86
 12 433-110-034, Acres: 1.02
 13 433-130-001, Acres: 1.41

14 Parcel 2:

15 Lot 197 of the Lands of the San Jacinto Lands Association as shown by map on file in Book 8, Page
 16 357 of Maps, Records of San Diego County, California, in the City of San Jacinto, County of Riverside,
 17 State of California.

18 Excepting therefrom the Westerly 30 feet thereof as described in Deed recorded June 18, 1913 in
 19 Book 377, Page 210 of Deeds, Records of said Riverside County.

20 Also excepting therefrom all that portion thereof described in Deed recorded September 15, 1960 in
 21 Book 2766, Page 576 of Official Records of said Riverside County.

22 Also excepting therefrom all that portion thereof conveyed to the Riverside County Flood Control
 23 District by Deed recorded April 26, 1962 in Book 3126, Page 568 of Official Records of said Riverside
 24 County.

25 Also excepting therefrom any portion thereof located within the Ramona Expressway.

26 Assessor's Parcel Number: 433-130-020, Acres: 77.27

27 Parcel 3:

28 Lots 19, 11 and 12 of Jose Estudillo's Subdivision of Tract 7 of the Rancho San Jacinto Viejo, as shown
 by map on file in Book 6, Page 304 of Maps, Records of San Diego County California, in the City of San
 Jacinto, County of Riverside, State of California.

Excepting therefrom all that portion conveyed to Riverside County Flood Control and Water
 Conservation District by deed recorded April 26, 1962 in Book 3126, Page 568 of Official Records of
 said County.

Also excepting therefrom all that portion thereof conveyed to the County of Riverside by Deed
 recorded January 7, 1987 as Instrument No. 2755, of Official Records of said Riverside County.

Assessor's Parcel Number: 433-120-025, Acres: 13.67
 433-120-026, Acres: 6.18
 433-120-027, Acres: 0.33


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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S01W25M001S	Agri Spice Ranch
04S01W25N002S	Agri Bath


DATED: Aug 1, 2012

SAN JACINTO SPICE RANCH, INC.

By 
Stephen Pastor, President
STEVEN

DATED: Aug 1, 2012

SAN JACINTO SPICE RANCH, INCORPORATED

By 
Stephen Pastor, President
STEVEN

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants SAN JACINTO SPICE RANCH, INC., by Stephen Pastor, its President, and SAN JACINTO SPICE RANCH, INCORPORATED, by Stephen Pastor, its President, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 265 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

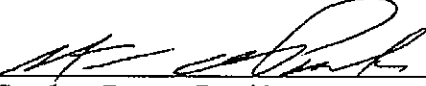
Class "A" Participants ____.

Class "B" Participants .

(Select one)

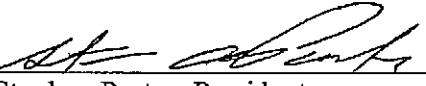
DATED: AUG 1, 2012

SAN JACINTO SPICE RANCH, INC.

By 
Stephen Pastor, President
STEVEN

DATED: AUG 1, 2012

SAN JACINTO SPICE RANCH, INCORPORATED

By 
Stephen Pastor, President
STEVEN

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3
4 b. Each of the parties executing this Stipulation has a direct interest in the
5 quantity and quality of groundwater produced from within the Management Area.

6 c. The safe yield of the basins that comprise the Management Area is
7 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
8 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
9 Judgment) of the groundwater under the Management Area has been exceeded by the total
10 production therefrom, and a state of overdraft has existed continuously for at least five years.
11 Groundwater production during this period has been open, notorious, continuous, adverse,
12 hostile, and under a claim of right.

13
14 d. It is generally recognized and accepted that unmanaged downward decline
15 in water levels has severe adverse impacts on the rights of groundwater producers and on water
16 quality, will cause increased pumping lifts and may result in surface land subsidence.

17
18 e. It is apparent to the parties that protection of the rights of the parties and
19 of the public interest in maximizing the beneficial use of a limited resource—groundwater
20 supplies—within the Management Area requires the development, imposition and
21 implementation of a physical solution.

22
23 2. The parties agree that the physical solution represented by the Water Management
24 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
25 fair and equitable basis for protection of the groundwater supply within the Management Area
26 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
27 the mandate of the State Constitution establishing water policy within the State to maximize
28

1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3
4 3. The parties agree that jurisdiction over each of the parties has been established by
5 the allegations in the Complaint and that proper service of process of the Summons and
6 Complaint upon each of the defendants has occurred.

7
8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.

12
13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.

19
20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.

22
23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
26 The parties further agree that in the event this Stipulation becomes null and void under this
27 provision, all defendants will have thirty (30) days to file and serve amended responsive
28 pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF SAN JACINTO
By _____

DATED: _____, 2012

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DEFENDANTS/PUMPERS:

DATED: 9/20, 2012

SCOTT A.G. PROPERTIES, L.P.,
a California Limited Partnership

By Star A Scott

Its Partner
(Office or Position)

DATED: 9/20, 2012

SCOTT AG PROPERTY, L.P.,
a California Limited Partnership

By Star A Scott

Its Partner
(Office or Position)

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants, SCOTT A.G. PROPERTIES, L.P., a California Limited Partnership, by Stan W. Deeths Partner; and SCOTT AG PROPERTY, L.P., a California Limited Partnership, by Stan W. Deeths Partner, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1:

That portion of Lots 2 and 3 lying within the projected lines of Sections 5 and 6, Township 4 South, Range 1 West, and Section 1, Township 4 South and Range 2 West of the partition of the Rancho San Jacinto Nuevo, in the County of Riverside, (formerly San Diego County), State of California, as set apart to Mrs. Helena Pedorena De Wolfskill, J.W. Nance and Charles E. McGarry in decree of partition dated May 22, 1891 in the Superior Court of the State of California, in and for the County of San Diego, a certified copy of which was recorded in Book 178, Page 381, of Deeds, San Diego County Records, described as follows:

Commencing at a point in the Northerly line of Section 6, Township 4 South, Range 1 West, San Bernardino Base and Meridian, said point being South 89°35'26" East 1,192.64 feet measured along said Northerly line from a found 3-inch iron pipe with brass cap marked "U.S. Forest Boundary Post No. 1, Range 1 West, Township 3 South, Section 31", set at the intersection of said Northerly line with the Easterly boundary of the Rancho San Jacinto Nuevo, said point also being North 89°35'26" West 637.94 feet, more or less, measured along said Northerly line from a found 3-1/2 inch iron pipe with brass cap marked U.S. Forest Boundary No. 2, Sections 31, 32

1 6 and 5, Township 3 South, Township 4 South, Range 1 West, 1904", set at the Northeast corner
2 of said Section 6; thence South 46°02'28" West to a point of intersection with the Southwest line
3 of Gilman Springs Road as conveyed to the State of California by deed recorded November 14,
4 1962 as Instrument No. 104821, said point being the true point of beginning; Thence continuing
5 South 46°02'28' West to the Northeast line of Block 11 of Consolidated Reservoir and Power
6 Company's Subdivision of San Jacinto Lake Tract, as per map recorded in Book 6, Page 83 of
7 Maps, in the Office of the County Recorder of Riverside County; Thence South 46°01' East,
8 along said Northeast line of Block 11, 400.00 feet, more or less to the Northwest corner of Block
9 17 of said Consolidated Reservoir and Power Company's Subdivision; Thence North 89°51'
10 East, along the North line of said Block 17, 1,320 feet; Thence South 132.00 feet; Thence North
11 89°53' East along the Northerly line of Block 17, 3,960.80 feet to the Northeasterly corner of
12 said Block 17, said Northeast corner being also Corner No. 11 of Lot 2 of said Rancho San
13 Jacinto Nuevo; Thence South 0°03' East along the Easterly line of Block 17, 498.00 feet to an
14 angle point in the Northerly line of said Block, said point being also Corner No. 12 of Lot 2 of
15 said Rancho San Jacinto Nuevo; Thence North 89°57' East, to the West line of Sanderson
16 Avenue conveyed to the County of Riverside by deed recorded March 3, 1967 as Instrument No.
17 17943; Thence North 0°00'47" East, 616.50 feet to the beginning of a tangent curve having a
18 radius of 1,100 feet and being concave Westerly; Thence Northerly along the arc of said curve
19 through a central angle of 13°42'04", 263.04 feet; Thence North 45°20'28" West, 64.53 feet;
20 Thence North 75°59' West, 179.42 feet to the beginning of a tangent curve having a radius of
21 424.24 feet and being concave Northeasterly; Thence Northwesterly along the arc of said last
22 described curve, through an angle of 37°15'55" 275.93 feet; Thence North 38°43'05" West,
23 300.14 feet to the point of beginning of a nontangent curve having a radius of 470.00 feet and
24 being concave Southwesterly, also from which point of beginning a radial line thereof bears
25 South 48°02'06" West; Thence, Northwesterly along the arc of said last described curve, through
26 an angle of 27°08'24", 222.63 feet to a point on the Southerly line of the right of way of State
27 Highway Route 177, last said point also being on a curve having a radius of 2,270.35 feet and
28 being concave Southerly, also from which point a radial line of said last described curve bears
South 13°24'45" West; Thence Northwesterly along the Southwesterly line of Gilman Springs
Road as conveyed to the State of California by deed recorded November 14, 1962 as Instrument
No. 104821 to the point of beginning.

20 Except the Northwest 330.00 feet thereof as conveyed to the Southern California Edison
21 Company as Strip 4 in the deed recorded November 18, 1970 as Instrument No. 115918 of
22 Official Records.

23 Also except that portion described as follows:

24 Beginning at a point in the West line of Sanderson Avenue as conveyed to the County of
25 Riverside, by deed recorded March 3, 1967 as Instrument No. 17943, of Official Records said
26 point being the Southerly terminus of that certain curve in said West line as described as being
27 concave Westerly and having a radius of 1,100.00 feet; Thence along said West line South
28 0°00'47" West 152.41 feet to the Southerly line of Section 5, Township 4 South, Range 1 West,
San Bernardino Base and Meridian; Thence along said Southerly line North 89°40'17" West,
2,268.00 feet; Thence at right angles North 0°19'43" East 1,144.56 feet to the Southerly line of

1 Gilman Springs Road as conveyed to the State of California by deed recorded November 14,
2 1962 as Instrument No. 104821; Thence Easterly along the Southerly line of Gilman Springs
3 Road as conveyed to the State of California by deed recorded November 14, 1962 as Instrument
4 No. 104821 and Easterly along the Southerly line of Gilman Springs Road and Southerly along
the West line of Sanderson Avenue as conveyed to the County of Riverside by deed recorded
March 3, 1967 as Instrument No. 17943, of Official Records, to the point of beginning.

5 Also except that portion as conveyed to the County of Riverside by deed recorded October 13,
6 1993 as Instrument No. 401588 of Official Records.

7 Also except that portion conveyed to the Riverside County Transportation Commission, recorded
8 December 11, 1996 as Instrument No. 467882 of Official Records.

9 Also except that portion conveyed to Stanley A. Scott and Linda F. Scott, husband and wife as
10 joint tenants, by document recorded December 11, 1996 as Instrument No. 467883 of Official
Records.

11 Excepting therefrom all that portion thereof conveyed to the County of Riverside by deed
12 recorded May 13, 2004 as Instrument No. 2004-0357577 of Official Records of said Riverside
13 County.

- 14 Assessor's Parcel Number: 430-050-017; 1.69 Acres
15 430-050-018; 7.23 Acres
16 430-050-030; 69.01 Acres
17 430-050-031; 308.23 Acres
18 430-060-023; 12.84 Acres
19 430-060-024; 0.68 Acres
20 430-060-025; 20.61 Acres
21 425-080-012; 0.52 Acres

22 Parcel 2:

23 All that portion of a strip of land, 330.00 feet wide, described and designated as Strip 4 in that
24 certain Grant Deed from Mono Power Company, a Corporation, to Southern California Edison
25 Company, a Corporation, recorded November 18, 1970 as Instrument No. 115918, of Official
26 Records, in the Office of the County Recorder of said County, lying Easterly of the Easterly
projected line of Section 1, Township 4 South, Range 2 West, of the partition of The Rancho San
Jacinto Nuevo, Riverside County, (formerly San Diego County), State of California, as set apart
to Mrs. Pedrorena De Wolkskill, J.W. Nance and Charles E. McGarry to Decree of Partition
dated May 22, 1891, in the Superior Court of the State of California, in and for the County of
San Diego, a certified copy of which was recorded in Book 178, Page 381 of Deeds, San Diego
County Records.

27 Excepting therefrom all that portion thereof conveyed to the County of Riverside by deed
28 recorded May 13, 2004 as Instrument No. 2004-0357577 of Official Records of said Riverside
County.

1 Assessor's Parcel Number: 430-050-014; 43.25 Acres

2 Parcel 3:

3
4 All those portions of Blocks 13, 14 and 17 of Consolidated Reservoir and Power Company's
5 Subdivision of the San Jacinto Lake Tract, as shown by map on file in Book 6, Page 83 of Maps,
6 Riverside County Records, which lies Northerly of the center line of that certain 500 foot
7 easement for river channel and bank protection works, as granted to the County of Riverside, by
8 deed recorded January 17, 1939 in Book 403, Page 373 of Official Records, the center line of
9 said 500 foot strip being described as follows:

10 Beginning at a point on the Southerly boundary of said Block 13, from which point the Southeast
11 corner of said Block bears North 89°48' East, 14.33 feet; thence from said point of beginning
12 North 59°47'30" West, 83.0 feet; thence curving to the left on the arc of an 8000 foot radius
13 curve through an angle of 20°02'30" for an arc distance of 2798.34 feet; thence North 79°50'
14 West, 907.86 feet; thence curving to the right on the arc of a 7000 foot radius curve through an
15 angle of 24°10' for an arc distance of 2952.52 feet; thence North 55°40' West, 1097.44 feet;
16 thence curving to the left on the arc of a 3000 foot radius curve through an angle of 52°20' for an
17 arc distance of 2740.17 feet; thence South 72°00' West 158.51 feet to a point on the Southerly
18 prolongation of the Easterly boundary of Block 19, as shown on said map, from which point the
19 Northeast corner of said Block 19 bears North 1715.27 feet.

20 The side lines of said 500 foot strip of land are to be prolonged or shortened so as to terminate on
21 the Southerly and Easterly boundaries of said Block 13 and on the Easterly boundaries of Blocks
22 12 and 19.

23 Excepting from Blocks 13 and 14 that portion lying West of the Westerly line of Section 7,
24 Township 4 South, Range 1 West, San Bernardino Base and Meridian.

25 Assessor's Parcel Number: 430-060-019; 213.77 Acres

26 Parcel 4:

27 That portion of Lot 1 of the Partition of the Rancho San Jacinto Nuevo and more particularly
28 shown on the Partition Map accompanying Partition Decree had in the Superior Court of the
State of California, in and for the County of San Diego and referred to in book 178, Page 381 of
Deeds, San Diego County Records and that portion of Tract 2 of the Partition of the Rancho San
Jacinto Viejo, more particularly described in the Partition Decree had in the Superior Court of
the State of California, in and for the County of San Diego, recorded in Book 43, Page 161 of
Deeds, San Diego County Records and that portion of Lot C of the map showing the Subdivision
of Lot 4, San Jacinto Nuevo and Lot 3, San Jacinto Viejo, on file in Book 1, Pages 10 and 11 of
Maps, Riverside County Records, described as follows:

Beginning at the Northwest corner of said Lot 1 (being Lot Corner 3 of said Lot 1); thence North
89°56'50" East on the Northerly line of said Lot 1, a distance of 3112.49 feet to the West line of

1 Sanderson Avenue as conveyed to the County of Riverside by deed recorded December 14, 1966
2 as Instrument No. 119265, said point being the Northwest corner of the parcel of land described
3 in said deed; thence South 0°00'47" West, 3083.85 feet; thence South 08°32'38" West, 101.12
4 feet; thence South 0°00'47" West, 690.81 feet to a point on the center line of that certain 400
5 foot easement for river channel and bank protection works, as granted to the County of Riverside
6 by deed recorded August 10, 1946 in Book 764, Page 469 of Official Records and as shown on
7 that Record of Survey on file in Book 46, Page 99 of Records of Survey; thence Northwest along
8 said center line to a point which bears South 89°49' West, 14.33 feet from the Southeast corner
9 of Block 13 as shown on the map of Consolidated Reservoir and Power Company's Subdivision
10 of San Jacinto Lake Tract on file in Book 6, Page 83 of Maps, Riverside County Records; thence
11 North 89°49' East, 14.33 feet to said Southeast corner of Block 13; thence North 00°11'00" East
12 on the East line of Blocks 13, 14 and 17 as shown on the map recorded in Book 6, Page 83 of
13 Maps, Riverside County Records, 2141.50 feet to the point of beginning.

10 Excepting therefrom, all that portion thereof conveyed to the County of Riverside by deed
11 recorded October 13, 1993 as Instrument No. 401590 and all that portion thereof conveyed to the
12 Riverside County Transportation Commission by deed recorded December 12, 1996 as
13 Instrument No. 469354 both of Official Records of said Riverside County.

13 Assessor's Parcel Number: 430-070-011; 140.69 Acres
14 436-110-014; 58.18 Acres
15 430-140-007; 3.46 Acres

17 **Description of Wells:**

19 <u>State Well Number</u>	20 <u>Popular Name or Reference Description</u>
21 04S01W06Q002S	22 Scott Dairy Domestic
23 04S01W08E001S	24 Scott Dairy River
25 04S01W08E002S	26 Scott Dairy River OC
27 04S01W08G001S	28 Scott Dairy Sanderson
04S01W08C001S	Scott Dairy Wolfskill
04S01W07A001S	Scott Dairy Yard

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DATED: 9/20, 2012

SCOTT A.G. PROPERTIES, L.P.,
a California Limited Partnership

By Stan A. Scott

Its Partner
(Office or Position)

DATED: 9/20, 2012

SCOTT AG PROPERTY, L.P.,
a California Limited Partnership

By Stan A. Scott

Its Partner
(Office or Position)

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants SCOTT A.G. PROPERTIES, L.P., a California Limited Partnership, by Stan A Scott's Partner; and SCOTT AG PROPERTY, L.P., a California Limited Partnership, by Stan A Scott's Partner, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 1,755 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants _____
Class "B" Participants _____
(Select one)

DATED: 9/20, 2012

SCOTT A.G. PROPERTIES, L.P.,
a California Limited Partnership

By Stan A Scott

Its Partner
(Office or Position)

DATED: 9/20, 2012

SCOTT AG PROPERTY, L.P.,
a California Limited Partnership

By Stan A Scott

Its Partner
(Office or Position)

1 GERALD D. SHOAF, SBN 41084
2 REDWINE AND SHERRILL
3 1950 MARKET ST.
4 RIVERSIDE, CA 92501
5 Telephone (951) 684-2520
6 Facsimile (951) 684-9583
7 Gshoaf@redwineandsherrill.com

8 Attorneys for Plaintiff
9 EASTERN MUNICIPAL WATER DISTRICT

10
11 SUPERIOR COURT OF THE STATE OF CALIFORNIA
12 IN AND FOR THE COUNTY OF RIVERSIDE

13 EASTERN MUNICIPAL WATER DISTRICT,) CASE NO.: RIC 1207274
14 A California Municipal Water District,)
15) STIPULATION FOR
16 Plaintiff,) ENTRY OF JUDGMENT
17 vs.)
18)
19 CITY OF HEMET; et al.,)
20)
21 Defendants.)
22)
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29 The parties hereto agree and stipulate as follows:

30 1. The following facts, considerations, and objectives, among others, provide the
31 basis for this Stipulation for Entry of Judgment:

32 a. On May 16, 2012, the Eastern Municipal Water District commenced this
33 action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley
34 described in Exhibit "A" to the Complaint on file herein and known as the "Management Area."
35 The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the
36 Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a
37

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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beneficial use and avoid waste, and provides due consideration of the public interest and of the environment.

3. The parties agree that jurisdiction over each of the parties has been established by the allegations in the Complaint and that proper service of process of the Summons and Complaint upon each of the defendants has occurred.

4. The parties agree that the proper venue for this matter is the California Superior Court for the County of Riverside. The parties further agree that the Answers on behalf of all defendants appearing in this action have been filed, generally denying all allegations in the Complaint except those expressly admitted.

5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may be made and entered by the Court binding these stipulating parties in this action. Each Private Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed description of said defendant's property within the Management Area, including the acreage thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified as a Class "A" or Class "B" Participant.

6. Accordingly, the parties request that the Court hold a hearing to determine whether there is any objection to said proposed Judgment.

7. The parties agree that in the event that the Court is unwilling to enter a final judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no binding effect upon any of the parties to this Stipulation, and shall be considered null and void. The parties further agree that in the event this Stipulation becomes null and void under this provision, all defendants will have thirty (30) days to file and serve amended responsive pleadings.

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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT

By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET

By _____

DATED: _____, 2012


DEFENDANT:
CITY OF SAN JACINTO

By _____


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DEFENDANTS/PUMPERS:


DATED: August 27, 2012


GEORGE R. PHILLIPS, Trustee of the
John & Sheryll Te Velde Children's
Irrevocable Trust

DATED: August 23, 2012


SIDNEY SYBRANDY, Trustee of the
Sid & Anne Sybrandy 2002 Trust

DATED: August 23, 2012


ANNE SYBRANDY, Trustee of the
Sid & Anne Sybrandy 2002 Trust

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants, GEORGE R. PHILLIPS, Trustee of the John & Sheryll Te Velde Children's Irrevocable Trust; SIDNEY SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust; and ANNE SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel 1: (Assessor's Parcel Number: 425-070-004; 425-070-005)

That portion of Block 12, 14 and 19 of Consolidated Reservoir and Power Company's Subdivision of San Jacinto Lake Tract as shown by map on file in Book 6, Page 83 of Maps, Records of Riverside County, California, described as follows:

Beginning at a point in the West line of said Block 12 at the Southeast corner of Block "B" as shown on said map, said point also being Corner No. 22 of Lot 3 of the Partition of Rancho San Jacinto Nuevo; thence North 0°23'25" West, 1425.80 feet to the most Northerly corner of that certain strip of land 500 feet in width described in easement to the Riverside County Flood Control and Water Conservation District recorded September 13, 1947 in Book 861, Page 351 of Official Records of Riverside County, California; thence South 60°08'17" East on the Northerly line of said 500 foot strip of land, 1314.91 feet to the beginning of a tangent curve therein; thence Easterly on a curve concave to the Northeast having a radius of 2250 feet through a central angle of 11°10'23" an arc length of 438.75 feet; thence South 0°23'25" East, 523.29 feet to the Southerly line of said 500 foot easement; thence Northwesterly on a curve concave to the Northeast, having a radius of 2750 feet through a central angle of 14°44'23" an arc distance of

1 707.46 feet (the initial radius line bears South 15°07'20" West); thence North 60°08'17" West,
2 177.79 feet; thence South 0°12'51" East, 1141.75 feet; thence North 66°36'54" West, 795.60
3 feet to the West line of said Block 12; thence North 0°12'51" West on said West line of Block
4 12, 400 feet to the point of beginning;

5 Excepting therefrom that portion which lies Westerly of a line which is described as follows:
6 Beginning at the most Westerly corner of Block 19; thence South 17°10' West , 122.8 feet to the
7 North corner of Block 12.

8 Parcel 2: (Assessor's Parcel Number: 425-070-024, 025, 026, 015, 017; 425-090-007, 009, 025)

9 That portion of Blocks 12, 14 and 19 of Consolidated Reservoir and Power Company's
10 Subdivision of San Jacinto Lake Tract, as shown by a map on file in Book 6, Page 83 of maps,
11 Riverside County Records; and that portion of Lots A, C and D of the subdivision of Lot 4 of
12 San Jacinto Nuevo and Lot 3 of San Jacinto Viejo, as shown by map on file in Book 1, Pages 10
13 and 11 of Maps, Riverside County Records, described as follows:

14 Beginning at the Southeast corner of Block 12 of said Consolidated Reservoir and Power
15 Company's Subdivision;

16 Thence South 26°35'22" West, 675.53 feet;
17 Thence South 2,003.97 feet to the Northerly line of Pico Road as conveyed to the County of
18 Riverside by deed recorded July 10, 1930 in Book 869, Page 100 of Deeds, Riverside County
19 Records;
20 Thence North 52°58'00" West, along said Northerly line of Pico Road, 3,722.48 feet (recorded
21 3745.11 feet);
22 Thence North 37°02'00" East, (recorded North 37°01'34" East) 10.00 feet, to the beginning of a
23 tangent curve concave to the Southwest having a radius of 5,040.00 feet, a radial line to the
24 beginning of said curve bears North 37°02'00" East;
25 Thence Northeasterly along the arc of said curve, through a central angle of 9°18'37" 818.98 feet
26 (recorded 819.10 feet) to a point on the West line of said Block 12; a radial line through said
27 point bears North 27°43'23" East (recorded North 27°42'52" East);
28 Thence North 00°12'40" West along said West line of said Block 12, 2,134.49 feet, more or less,
to the Southwesterly corner of that certain parcel conveyed to Frank Motte and Elizabeth Motte,
husband and wife by deed recorded March 13, 1963 as Instrument No. 24943;
Thence South 66°36'43" East along the Southerly line of said Motte Parcel 795.60 feet to the
most
Southerly corner of said Motte Parcel;
Thence North 00°12'40" West along the East line of said Motte Parcel, 1,141.43 feet to the
Southerly line of that certain strip of land, 500 feet in width, described in easement to the
Riverside County Flood Control and Water Conservation District, recorded September 13, 1947
in Book 861, Page 351, of Official Records Riverside County Records;
Thence South 60°08'08" East along the Southerly line of said strip of land 177.46 feet to the
beginning of a tangent curve concave to the North having a radius of 2750.00 feet; a radial line
to the beginning of said curve bears South 29°51'52" West;

1 Thence Easterly along the arc of said curve through a central angle of 14°44'23" 707.46 feet to a
2 point on said curve, a radial line through said point bears South 15°07'29" West;
3 Thence North 00°23'09" West 523.42 feet to a point on the Northerly line of said 500 foot wide
4 easement, said point also being on the arc of a curve concave to the North, having a radius of
5 2250.00 feet, a radial line through said point bears South 18°41'29" West;
6 Thence Easterly along the arc of said curve through a central angle of 36°39'47", 745.49 feet to
7 the end of said curve, a radial line through said end bears South 17°58'18" East;
8 Thence North 72°01'42" East, 1,075.66 feet to the East line of said Block 12;
9 Thence South along the East line of said Block 12, 3,528.18 feet to the point of beginning;

7 Excepting therefrom that portion lying within Old Pico Road, 20 feet in width, as same is shown
8 on said map on file in Book 6, Page 83 of Maps, Riverside County Records.

9 Also excepting therefrom that portion conveyed to the County of Riverside by deed recorded
10 January 27, 1970 as Instrument No. 7981;

11 Also excepting therefrom that portion conveyed to Mono Power Company by deed recorded
12 October 31, 1972 as Instrument No. 145165.

13 Parcel 3: (Assessor's Parcel Number: 425-070-014)

14 That portion of Lots "A", "C" and "D" of the subdivision of Lot 4 of San Jacinto Nuevo, as
15 shown by map on file in Book 1, Pages 10 and 11 of Maps, in the Office of the County Recorder
16 of said County, lying within a strip of land, three hundred thirty (330) feet wide, said strip of
17 land being described and designated as Strip 2 in that certain Grant Deed from Mono Power to
18 Southern California Edison Company, recorded October 31, 1972 as Instrument No. 145166 of
19 Official Records in the Office of the County Recorder of said County.

18 Parcel 4: (Assessor's Parcel Number: 425-070-021, 027, 028, 029)

19 That portion of Blocks 12, 14 and 19 of Consolidated Reservoir and Power Company's
20 Subdivision of the San Jacinto Lake Tract as shown by map on file in Book 6, Page 83 of map, in
21 the Office of the County Recorder of said County and that portion of Lots "A" and "D" of the
22 subdivision of Lot 4 of San Jacinto Nuevo, as shown by map on file in Book 1, Pages 10 and 11
23 of Maps, in the Office of the County Recorder of said County, lying within a strip of land of
24 varying width, the surveyed reference line of which is described as follows:

24 Beginning at a point in the boundary line of the Rancho San Jacinto Nuevo, said point being
25 North 50°24'19" West, 2861.30 feet, measured along said boundary line from a found 3 inch
26 iron pipe with brass cap marked "U.S. Forest Boundary Post No. 1-R, 1 W., T. 3 S. Sec. 31" said
27 point also being South 50°24'19" East, 1571.89 feet, more or less, measured along said boundary
28 line from a found 1 inch iron pipe set at Corner No. 3, in the boundary line of said Rancho San
Jacinto Nuevo; thence South 42°11'16" West, 13.734.77 feet more or less, to a point in the
North-South center line of Section 11, Township 4 South, Range 2 West, of said Rancho San
Jacinto Nuevo, last mentioned point being North 00°12'53" East, 2225.09 feet, measured along
said center line from a found ¾ inch iron pipe and metal tag stamped "R.C.E. 9876" set at the
South one-quarter corner of said Section 11, said last mentioned point also being South

1 00°12'53" West, 3081.69 feet more or less, measured along said center line from a found 2 inch
2 iron pipe and metal tag stamped "L.S. 3035" set at the North onequarter corner of said Section
3 11.

4 That portion of said strip of land of varying width, which extends from that certain course
5 described as having a bearing of North 72°01'42" East and a length of 1075.66 feet in that
6 certain deed to John B. Mainvil, recorded on May 20, 1965 as Instrument No. 58323 of Official
7 Records, in the Office of the County Recorder of said County, to the Westerly line of Section 12,
8 Township 4 South, Range 2 West, of said Rancho San Jacinto Nuevo, shall be three hundred
9 sixth (360) feet wide, the side lines thereof being one hundred thirty (130) feet right and two
10 hundred thirty (230) feet left, measured at right angles, respectively, from said surveyed
11 reference line.

12 The remainder of said strip of land of varying width shall be three hundred twenty (320) feet
13 wide, the side lines thereof being one hundred ten (110) feet right and two hundred ten (210) feet
14 left, measured at right angles, respectively, from said surveyed reference line.

15 Excepting therefrom that portion thereof lying Northerly of that certain course described as
16 having a bearing of North 72°01'42" East and a length of 1075.66 feet, in the certain deed to
17 John B. Mainvil, recorded on May 20, 1965 as Instrument No. 58323 of said Official Records.

18 Also excepting therefrom that portion thereof lying Southwesterly of the Northeasterly line of
19 Parcel 1 described in the deed to the County of Riverside recorded on January 27, 1970 as
20 Instrument No. 7981 of Official Records.

21 Also excepting therefrom that portion thereof lying within Old Pico Road 20 feet in width as
22 same is shown on said map on file in Book 6, Page 83 of Maps in the Office of the County
23 Recorder of said County.

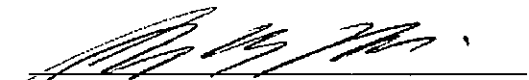
24 Also excepting all uranium, thorium, and other fissionable materials, all oil, gas petroleum,
25 asphaltum and other hydrocarbon substances and other minerals and mineral ores of every kind
26 and character, whether similar to these herein specified or not, within or underlying, or which
27 may be produced from the hereinbefore described land, together with the right to use that portion
28 only of said land which underlies a plane parallel to and five hundred (500) feet below the
present surface of said land, for the purpose of prospecting for, developing and/or extracting said
uranium, thorium, and other fissionable materials, oil, gas, petroleum, asphaltum, and other
mineral or hydrocarbon substances from said land, it being expressly understood and agreed that
said grantor, its successors and assigns, shall have no right to enter upon the surface of said land,
or to use said land or any portion thereof to said depth of five hundred (500) feet, for any
purpose whatsoever.

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Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S02W11J002S	Sybrandy Dairy
04S02W11J001S	Sybrandy Dairy Ag
04S02W12N002S	Sybrandy Dairy Southeast
04S02W11B002S	Quail Ranch Golf East
04S02W11B001S	Quail Ranch Golf West


DATED: August 27, 2012


GEORGE R. PHILLIPS, Trustee of the
John & Sheryll Te Velde Children's
Irrevocable Trust

DATED: August 23, 2012


SIDNEY SYBRANDY, Trustee of the
Sid & Anne Sybrandy 2002 Trust

DATED: August 23, 2012


ANNE SYBRANDY, Trustee of the
Sid & Anne Sybrandy 2002 Trust

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

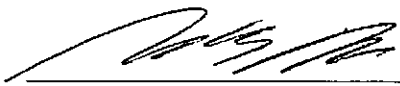
Defendants GEORGE R. PHILLIPS, Trustee of the John & Sheryll Te Velde Children's Irrevocable Trust; SIDNEY SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust; and ANNE SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 1,454 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants X.

Class "B" Participants ____.

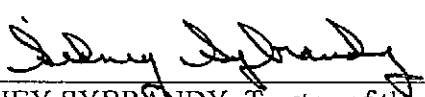
(Select one)

DATED: August 29, 2012



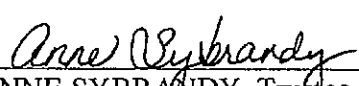
GEORGE R. PHILLIPS, Trustee of the John & Sheryll Te Velde Children's Irrevocable Trust

DATED: August 23, 2012



SIDNEY SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust

DATED: August 23, 2012



ANNE SYBRANDY, Trustee of the Sid & Anne Sybrandy 2002 Trust

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GERALD D. SHOAF, SBN 41084
REDWINE AND SHERRILL
1950 MARKET ST.
RIVERSIDE, CA 92501
Telephone (951) 684-2520
Facsimile (951) 684-9583
Gshoaf@redwineandsherrill.com

Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,)
A California Municipal Water District,)
)
Plaintiff,)
vs.)
)
CITY OF HEMET; et al.,)
)
Defendants.)
)

CASE NO.: RIC 1207274

STIPULATION FOR
ENTRY OF JUDGMENT

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:

a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 the mandate of the State Constitution establishing water policy within the State to maximize
2 beneficial use and avoid waste, and provides due consideration of the public interest and of the
3 environment.
4

5 3. The parties agree that jurisdiction over each of the parties has been established by
6 the allegations in the Complaint and that proper service of process of the Summons and
7 Complaint upon each of the defendants has occurred.

8 4. The parties agree that the proper venue for this matter is the California Superior
9 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
10 defendants appearing in this action have been filed, generally denying all allegations in the
11 Complaint except those expressly admitted.
12

13 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
14 be made and entered by the Court binding these stipulating parties in this action. Each Private
15 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
16 description of said defendant's property within the Management Area, including the acreage
17 thereof, and, as Exhibit "C," the signed form indicating said defendant's election to be classified
18 as a Class "A" or Class "B" Participant.
19

20 6. Accordingly, the parties request that the Court hold a hearing to determine
21 whether there is any objection to said proposed Judgment.
22

23 7. The parties agree that in the event that the Court is unwilling to enter a final
24 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
25 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
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1 The parties further agree that in the event this Stipulation becomes null and void under this
2 provision, all defendants will have thirty (30) days to file and serve amended responsive
3 pleadings.
4

5 8. The parties agree that this Stipulation may be executed in counterparts, each of
6 which will be filed with the Court.

7 PLAINTIFF:
8 DATED: _____, 2012 EASTERN MUNICIPAL WATER DISTRICT
9
10 By _____
11

12 DEFENDANT:
13 DATED: _____, 2012 LAKE HEMET MUNICIPAL WATER DISTRICT
14
15 By _____
16

17 DEFENDANT:
18 DATED: _____, 2012 CITY OF HEMET
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20 By _____
21

22 DEFENDANT:
23 DATED: _____, 2012 CITY OF SAN JACINTO
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25 By _____
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DEFENDANTS/PUMPERS:

DATED: December 12, 2012

Donald Dick Van Dam
DONALD DICK VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

DATED: December 12, 2012

Frances L. Van Dam
FRANCES L. VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants, DONALD DICK VAN DAM & FRANCES L. VAN DAM, Trustees of The Donald Dick & Frances L. Van Dam Revocable Family Trust, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel A:

Parcel 2 of Parcel Map No. 18393, in the City of San Jacinto, County of Riverside, State of California, as per plat recorded in Book 106 of Parcel Maps, Pages 62, 63 and 64, in the Office of the County Recorder of said County.

Assessor's Parcel Number: 432-180-004, Acres: 77.00

Parcel B:

That portion of Parcel 3 of Parcel Map 18393, in the city of San Jacinto, County of Riverside, State of California, as shown by map recorded in Book 106, Pages 62, 63 and 64, of Parcel Maps, in the Office of the County Recorder of said County, California, described as follows:

Beginning at the Northwest corner of said Parcel 3;
Thence South 00°25'29" East 149.20 feet; thence South 89°34'31" East, 55.45 feet to the true point of beginning; thence South 89°34'31" East 30.00 feet; Thence South 00°25'29" East 30.00 feet; thence North 89°34'31" West 30.00 feet; thence North 00°25'29" West 30.00 feet to the true point of beginning.

Said property is shown as "well lot" on said Parcel Map 18393.
Assessor's Parcel Number: 432-190-015, Acres: 0.02

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Parcel C:


A non-exclusive easement for ingress and egress and a right of way for the purpose of operating, using, maintaining, repairing, renewing, improving, enlarging, or re-drilling the water well located on the above described "well lot", and for the use, operation, maintenance, repair, improvement, reconstruction, replacement and renewal of the concrete water pipeline and water pipeline system presently running from and across said land, together with the right to install and/or replace said pipeline and other items necessary or convenient for the transportation and conveyance of water under across and through said land, together with the right to make any and all excavations reasonably necessary and convenient at any time for said purposes aforesaid subject to restoring asphalt or cement parking or driveway surface where necessary; over and within the following described property:

That portion of Parcel 3 of Parcel Map 18393, in the City of San Jacinto, County of Riverside, State of California, as shown by map recorded in Book 106, Pages 62, 63 and 64 of Parcel Maps, records of Riverside County, California, described as follows: Beginning at the corner of said Parcel 3; thence South 00°25'29" East 149.20 feet to the true point of beginning; thence South 89°34'31" East 55.45 feet; thence South 00°25'29" East 20.00 feet; thence North 89°34'31" West 55.45 feet to the West line of said Parcel 3; thence North 00°25'29" West 20.00 feet to the point of beginning

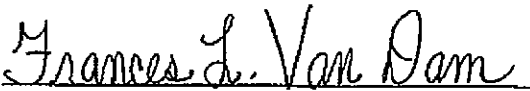
Description of Wells:

<u>State Well Number</u>	<u>Popular Name or Reference Description</u>
04S01W31C002S	Van Dam Dairy Barn
04S01W31B001S	Van Dam Dairy East

DATED: December 12, 2012


DONALD DICK VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

DATED: December 12, 2012


FRANCES L. VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants DONALD DICK VAN DAM & FRANCES L. VAN DAM, Trustees of The Donald Dick & Frances L. Van Dam Revocable Family Trust, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 531 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

Class "A" Participants _____.

Class "B" Participants X.

(Select one)

DATED: December 12, 2012

Donald Dick Van Dam
DONALD DICK VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

DATED: December 12, 2012

Frances L. Van Dam
FRANCES L. VAN DAM, Trustee of the
Donald Dick and Frances L. Van Dam
Revocable Trust

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Attorneys for Plaintiff
EASTERN MUNICIPAL WATER DISTRICT

SUPERIOR COURT OF THE STATE OF CALIFORNIA
IN AND FOR THE COUNTY OF RIVERSIDE

EASTERN MUNICIPAL WATER DISTRICT,	)	CASE NO.: RIC 1207274
A California Municipal Water District,)	
	)	STIPULATION FOR
Plaintiff,	)	ENTRY OF JUDGMENT
vs.)	
)	
CITY OF HEMET; et al.,)	
)	
Defendants.)	
)	
)	

The parties hereto agree and stipulate as follows:

1. The following facts, considerations, and objectives, among others, provide the basis for this Stipulation for Entry of Judgment:
 - a. On May 16, 2012, the Eastern Municipal Water District commenced this action by filing a Complaint seeking the adjudication of an area within the San Jacinto Valley described in Exhibit "A" to the Complaint on file herein and known as the "Management Area." The Complaint alleges that the groundwater basins underlying the Management Area, to-wit, the Canyon, the San Jacinto Upper Pressure, and the Hemet North and Hemet South Basins are in a

1 state of overdraft and seeks correction of this condition by the Court through adjudication of
2 certain rights to produce water therefrom.

3 b. Each of the parties executing this Stipulation has a direct interest in the
4 quantity and quality of groundwater produced from within the Management Area.

5 c. The safe yield of the basins that comprise the Management Area is
6 approximately 45,000 acre feet per year. For more than five years preceding the filing of the
7 Complaint, the annual safe yield (as defined in Section 1.33 of the proposed Stipulated
8 Judgment) of the groundwater under the Management Area has been exceeded by the total
9 production therefrom, and a state of overdraft has existed continuously for at least five years.
10 Groundwater production during this period has been open, notorious, continuous, adverse,
11 hostile, and under a claim of right.

12 d. It is generally recognized and accepted that unmanaged downward decline
13 in water levels has severe adverse impacts on the rights of groundwater producers and on water
14 quality, will cause increased pumping lifts and may result in surface land subsidence.

15 e. It is apparent to the parties that protection of the rights of the parties and
16 of the public interest in maximizing the beneficial use of a limited resource—groundwater
17 supplies—within the Management Area requires the development, imposition and
18 implementation of a physical solution.

19 2. The parties agree that the physical solution represented by the Water Management
20 Plan set forth in the proposed Stipulated Judgment attached hereto as Exhibit "A," constitutes a
21 fair and equitable basis for protection of the groundwater supply within the Management Area
22 and for satisfaction of groundwater rights within said Management Area and is in furtherance of
23 the mandate of the State Constitution establishing water policy within the State to maximize
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1 beneficial use and avoid waste, and provides due consideration of the public interest and of the
2 environment.

3 3. The parties agree that jurisdiction over each of the parties has been established by
4 the allegations in the Complaint and that proper service of process of the Summons and
5 Complaint upon each of the defendants has occurred.

6 4. The parties agree that the proper venue for this matter is the California Superior
7 Court for the County of Riverside. The parties further agree that the Answers on behalf of all
8 defendants appearing in this action have been filed, generally denying all allegations in the
9 Complaint except those expressly admitted.
10

11 5. The parties agree that a Judgment in the form attached hereto as Exhibit "A" may
12 be made and entered by the Court binding these stipulating parties in this action. Each Private
13 Pumper defendant signing this Stipulation shall attach to this Stipulation as Exhibit "B," a signed
14 description of said defendant's property within the Management Area, including the acreage
15 thereof; and, as Exhibit "C," the signed form indicating said defendant's election to be classified
16 as a Class "A" or Class "B" Participant.
17

18 6. Accordingly, the parties request that the Court hold a hearing to determine
19 whether there is any objection to said proposed Judgment.
20

21 7. The parties agree that in the event that the Court is unwilling to enter a final
22 judgment identical to the Judgment attached hereto as Exhibit "A," this Stipulation will have no
23 binding effect upon any of the parties to this Stipulation, and shall be considered null and void.
24 The parties further agree that in the event this Stipulation becomes null and void under this
25 provision, all defendants will have thirty (30) days to file and serve amended responsive
26 pleadings.
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8. The parties agree that this Stipulation may be executed in counterparts, each of which will be filed with the Court.

DATED: _____, 2012

PLAINTIFF:
EASTERN MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
LAKE HEMET MUNICIPAL WATER DISTRICT
By _____

DATED: _____, 2012

DEFENDANT:
CITY OF HEMET
By _____

DATED: _____, 2012

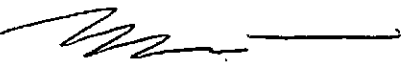
DEFENDANT:
CITY OF SAN JACINTO
By _____

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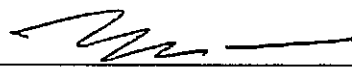
DEFENDANTS/PUMPERS:

DATED: 02/26, 2013

UNITED AIRCRAFT SERVICES, INC.
a California Corporation

By: 
Benjamin C. Warren
Its: President

DATED: 02/26, 2013


BENJAMIN C. WARREN, Trustee of the
Warren Marital Trust dated October 2, 2010

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EXHIBIT "B"
TO
STIPULATION FOR ENTRY OF JUDGMENT

Description of Defendant's Property and Wells Within the Management Area

Defendants, UNITED AIRCRAFT SERVICES, INC., a California Corporation, by Benjamin C. Warren, its President; and BENJAMIN C. WARREN, Trustee of the Warren Marital Trust dated October 2, 2010, certify that the following is a description of the property and wells owned by said defendants within the Management Area:

Description & Acreage of each Parcel:

All that certain real property situated in the County of Riverside, State of California, described as follows:

Parcel A: (APN, 432-280-006; Acres, 9.77)

The North 10 acres of the South 20 acres of the Northwest ¼ of Lot 160 of the lands of the San Jacinto Land Association, in the City of San Jacinto, County of Riverside, State of California, as per map recorded in Book 8, Page 357, of Maps, Records of San Diego County, California.

Parcel B: (APN, 432-280-007; Acres, 9.77)

The Southerly 10 acres of the Northwest quarter of Farm Lot 160 of the Lands of the San Jacinto Land Association, in the City of San Jacinto, County of Riverside, State of California, as shown by map on file in Book 8, Page 357, of Maps, Records of San Diego County, California.

Parcel C: (APN, 432-280-001; Acres 3.88)
(APN, 432-280- 002; Acres, 4.51)
(APN, 432-280- 003; Acres, 4.48)

Parcels 1, 2 and 3 of Parcel Map No. 5729, in the City San Jacinto, County of Riverside, State of California, on file in Book 13, Parcel Maps, Page 90, Riverside County Records;

Excepting therefrom that portion conveyed to the County of Riverside by deed recorded May 15, 1974 as Instrument No. 58675 of Official Records.

Parcel D: (APN, 432-280-004; Acres, 4.39)
(APN, 432-280- 005; Acres, 0.16)

That portion of the Northwest ¼ of Farm Lot 160 of the lands of the San Jacinto Land Association, in the City of San Jacinto, County of Riverside, State of California, as shown by map on file in Book 8 Page 357, of Maps, Records of San Diego County, California, described as follows:

Beginning at the Northeast corner of said Northwest ¼ of Farm Lot 160;

1 Thence West on the North line of said Northwest ¼, 654 feet;

2 Thence South on a line parallel to the East line of said Northwest ¼, 333.20 feet;

3 Thence East on a line parallel to the North line of said Quarter, 654 feet;

4 Thence North on the East line of said Northwest 1/4, 333.20 feet to the point of beginning.

5 Excepting therefrom the Northerly 30 feet thereof lying within Seventh Street.

6 Parcel E: (APN, 444-030-012; Acres, 6.1)

7 The Northerly rectangular ¾ of the North ½ of the Northeast Quarter of Farm Lot 165 of the lands of
 8 the San Jacinto Land Association, in the City of Hemet, in the County of Riverside, State of California,
 as per map recorded in Book 8, Page 357 of Maps, in the Office of the County Recorder of said County.

9 EXCEPT that portion lying East of the following described line

10 Beginning at a point in the center line of Esplanade Avenue, South 89° 58' 42" West, 750.03 feet from
 its intersection with the center line of Kirby Street;

11 Thence South 00° 12' 53" West, 495.92 feet to the Southerly line of above described property, said
 12 line being parallel with and 4.00 feet East of existing irrigating pipe lines.

13 Parcel F (APN, 444-030-016; Acres, 4.89)

14 The South one-fourth of the North half of the Northeast one-fourth of Farm Lot 165 of the lands of San
 Jacinto Land Association, as shown by Map on file in Book 8, Page 357 of Maps, San Diego Records.

15 Parcel G (APN, 444-030-018; Acres, 4.89)

16 The North half of the North half of the South half of the Northeast quarter of Farm Lot 165 of the lands
 17 of the San Jacinto Land Association, as shown by Map on file in Book 8, Page 357 of Maps, San Diego
 County Records.

18 Parcel H: (APN, 444-030-027; Acres, 30.43)

19 Being a portion of the Northwest quarter of Farm Lot 165 of the lands of the San Jacinto Land
 Association, County of Riverside, State of California, as per Map recorded in Book 8, Page 357 of
 20 Maps, in the Office of the County Recorder of San Diego County, being more particularly described as
 follows:

21 Beginning at the Northwest corner of said Farm Lot 165, said point also being the centerline
 22 intersection of Esplanade Avenue and Sanderson Avenue; thence North 89° 58' 42" East, 320.00 feet
 along the centerline of said Esplanade Avenue, also being the Northerly line of said Farm Lot 165, to
 23 the True Point of Beginning; thence continuing along the centerline of said Esplanade Avenue and
 Northerly line of said Farm Lot 165, North 89° 58' 42" East, 1,001.43 feet to the Northeast corner of
 24 the Northwest quarter of said Farm Lot 165; thence South 00° 00' 29" East, 1,323.26 feet along the
 Easterly line of the Northwest quarter of said Farm Lot 165 to a point of intersection with the
 25 Southerly line of the Northwest quarter of said Farm Lot 165, said point being the Southeast corner of
 the Northwest quarter of said Farm Lot 165; thence South 89° 57' 55" West, 1,001.81 feet to a line
 26 parallel with and 320.00 feet East, measured at right angles from the centerline of said Sanderson
 Avenue; thence North 00° 00' 31" East, 1323.49 feet along said parallel line to the True Point of
 Beginning.

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Description of Wells:

State Well Number

Popular Name or Reference Description

04S01W32M001S


Hideaway Farms Cawston

05S01W05B001S


Warren's Thoroughbreds

DATED: 02/26, 2013

UNITED AIRCRAFT SERVICES, INC.
a California Corporation

By: 
Benjamin C. Warren
Its: President

DATED: 02/26, 2013


BENJAMIN C. WARREN, Trustee of the
Warren Marital Trust dated October 2, 2010

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EXHIBIT "C"
TO
STIPULATION FOR ENTRY OF JUDGMENT
ASSIGNMENT OF BASE PRODUCTION RIGHTS
and
ELECTION

Defendants UNITED AIRCRAFT SERVICES, INC., a California Corporation, by Benjamin C. Warren, its President; and BENJAMIN C. WARREN, Trustee of the Warren Marital Trust dated October 2, 2010, based on a collective assignment to said defendants of Base Production Rights under the proposed Stipulated Judgment in the amount of 442 acre feet per year collectively for all properties described on Exhibit "B," hereby elect to be classified collectively in these proceedings as

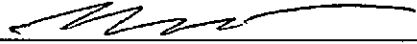
Class "A" Participants ____.

Class "B" Participants XX.

(Select one)

DATED: 02/26, 2013

UNITED AIRCRAFT SERVICES, INC.
a California Corporation

By: 
Benjamin C. Warren
Its: President

DATED: 02/26, 2013

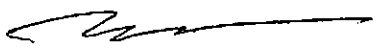

BENJAMIN C. WARREN, Trustee of the
Warren Marital Trust dated October 2, 2010

EXHIBIT C

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EXHIBIT C

BASE PRODUCTION RIGHTS

1. Public Agencies

AGENCY NAME	Base Production Rights (Acre-feet per year)
Eastern Municipal Water District	10,869
Lake Hemet Municipal Water District	11,063
City of Hemet	6,320
City of San Jacinto	4,031

2. Class B Participants

NAME	BASE PRODUCTION RIGHTS	APN
BOERSMA (Eric Jon Boersma; Julie Ann Boersma; Peter Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust dated October 13, 1989; and Rita Gayle Boersma, Trustee of the Peter & Rita Gayle Boersma Family Trust dated October 13, 1989)	195	425-100-005, Acres: 71.86 425-100-017, Acres: 7.23 425-200-003, Acres: 18.12 425-200-023, Acres: 3.61 425-210-004, Acres: 12.51 425-220-003, Acres: 14.38 425-100-019, Acres: 6.89 425-220-013, Acres: 0.27
BORUCHIN (the Amended and Restated John and Dora Boruchin Administrative Trust dated December 23, 2012, by Co-Trustee Rabbi Eliezer Gross and Co-Trustee Rex Johnson, as the successor-in-interest to John Boruchin, Trustee of the John and Dora Boruchin Living Trust dated December 15, 1981)	266	436-080-001 436-080-002 436-080-006

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NAME	BASE PRODUCTION RIGHTS	APN
CURCI SAN JACINTO INVESTORS	260	434-230-003, Acres: 9.52 434-230-004, Acres: 9.52 433-110-020, Acres: 1.26 433-110-040, Acres: 4.62 (Portion) 434-190-007, Acres: 6.99 434-190-008, Acres: 1.61 433-070-051, Acres: 11.84 434-300-012, Acres: 3.81 434-300-016, Acres: 32.94 434-300-017, Acres: 6.31 (Portion) 434-300-013-0, Acres: 1.34 434-271-026, Acres: 9.52 434-250-002, Acres: 19.05
LAUDA FAMILY LIMITED PARTNERSHIP	3,530	425-080-033; 286.65 Acres 430-060-020; 145.59 Acres 430-110-009; 34.60 Acres 425-090-022; 46.59 Acres 425-200-019; 54.01 Acres 430-080-004; 122.00 Acres 430-080-010; 152.11 Acres 425-080-032; 84.95 Acres 430-050-010; 238.53 Acres 425-080-015; 149.13 Acres 423-240-008; 0.56 Acres 423-240-010; 75.29 Acres 425-080-018; 16.45 Acres 425-080-019; 11.74 Acres 425-080-038; 4.67 Acres 423-240-025; 18.92 Acres 423-240-026; 173.35 Acres 425-080-016; 101.52 Acres 425-090-023; 15.12 Acres 430-080-011; 18.80 Acres 425-200-020; 143.65 Acres 423-240-013 423-240-014 425-080-034 425-080-035; 2.85 Acres 425-080-036; 0.80 Acres
NUEVO DEVELOPMENT	151	425-120-011, Acres: 36.28
PASTIME LAKES INVESTMENT CO.	212	425-110-004, Acres: 0.81 425-110-008, Acres: 75.12 425-110-009, Acres: 45.11 425-110-016, Acres: 0.46

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NAME	BASE PRODUCTION RIGHTS	APN
RANCHO DIAMANTE INVESTMENTS	166	465-140-021, Acres:12.43 (Portion) 465-140-035, Acres: 3.63 465-140-034, Acres: 7.82 465-140-014, Acres: 12.84 465-140-015, Acres: 12.55 465-140-001, Acres: 32.22 465-140-004, Acres: 9.00 465-140-024, Acres: 10.71 465-140-022, Acres: 7.90 465-140-002, Acres: 1.28
SAN JACINTO SPICE RANCH	265	433-110-004, Acres: 5.84 433-110-015, Acres: 4.81 433-110-021, Acres: 0.76 433-110-023, Acres: 0.02 433-110-025, Acres: 1.03 433-110-033, Acres: 2.86 433-110-034, Acres: 1.02 433-130-001, Acres: 1.41 433-130-020, Acres: 77.27 433-120-025, Acres: 13.67 433-120-026, Acres: 6.18 433-120-027, Acres: 0.33
SCOTT A.G. PROPERTIES, L.P.; SCOTT AG PROPERTY, L.P.	1,755	430-050-017; 1.69 Acres 430-050-018; 7.23 Acres 430-050-030; 69.01 Acres 430-050-031; 308.23 Acres 430-060-023; 12.84 Acres 430-060-024; 0.68 Acres 430-060-025; 20.61 Acres 425-080-012; 0.52 Acres 430-050-014; 43.25 Acres 430-060-019; 213.77 Acres 430-070-011; 140.69 Acres 436-110-014; 58.18 Acres 430-140-007; 3.46 Acres
VAN DAM (Donald Dick Van Dam, Trustee of the Donald Dick & Frances L. Van Dam Revocable Family Trust; & Frances L. Van Dam, Trustee of the Donald Dick & Frances L. Van Dam Revocable Family Trust)	531	432-180-004, Acres: 77.00 432-190-015, Acres: 0.02

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NAME	BASE PRODUCTION RIGHTS	APN
WARREN/UNITED AIRCRAFT	442	432-280-006; 9.77 Acres 432-280-007; 9.77 Acres 432-280-001; 3.88 Acres 432-280-002; 4.51 Acres 432-280-003; 4.48 Acres 432-280-004; 4.39 Acres 432-280-005; 0.16 Acres 444-030-012; 6.10 Acres 444-030-016; 4.89 Acres 444-030-018; 4.89 Acres 444-030-027; 30.43 Acres

APPENDIX E
Public Comments on Draft GSP

Appendix E will contain public comments on the Draft GSP and will be finalized after all public comments are received in 2021.

APPENDIX F
Outreach and Engagement Plan



PUBLIC OUTREACH AND ENGAGEMENT PLAN

Prepared for:

San Jacinto Groundwater Basin
West San Jacinto Groundwater Sustainability Agency



Prepared by:

DUDEK

605 Third Street
Encinitas, California 92024

August 2019

Public Outreach and Engagement Plan

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Public Outreach and Engagement Plan

GLOSSARY OF TERMS/ABBREVIATIONS

Acronym/Abbreviation	Definition
DWR	California Department of Water Resources
EMWD	Eastern Municipal Water District
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
LHMWD	Lake Hemet Municipal Water District
SAG	Stakeholder Advisory Group
SGMA	Sustainable Groundwater Management Act
SWRCB	State Water Resources Control Board
TAC	Technical Advisory Committee
Term	Definition
Engagement	Efforts made to understand and involve stakeholders and their concerns in the activities and decision-making of the West San Jacinto GSA
Stakeholder	An individual with interest in the West San Jacinto GSP

Public Outreach and Engagement Plan

1 BACKGROUND OF THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT

The Sustainable Groundwater Management Act (SGMA), signed into law by Governor Jerry Brown on September 16, 2014, created a new framework for groundwater management in California. The framework includes a structure and schedule to achieve sustainable groundwater management within 20 years after the adoption and implementation of a Groundwater Sustainability Plan (GSP).

The California Department of Water Resources (DWR) has historically managed the state's central repository for groundwater data. Under SGMA, DWR provides guidance, financial assistance, and technical support for compliance with state requirements. The State Water Resources Control Board (SWRCB) provides the regulatory backstop under SGMA, taking over basin management and assessing fees, if local groundwater management is not successful in complying with the requirements of SGMA.

SGMA established a new structure for local groundwater management through Groundwater Sustainable Agencies (GSAs). DWR designated priorities to groundwater basins, requiring the formation of GSAs for all medium and high priority basins by July 1, 2017. A GSA for the West San Jacinto Groundwater Basin was formed in accordance with SGMA on April 24, 2017. Each GSA for these high and medium priority basins must then develop a GSP that outlines how sustainable groundwater management will be achieved within 20 years of implementing the GSP. Sustainable groundwater management is defined by SGMA as *the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results*. This avoidance of undesirable results is measured through six sustainability indicators:

1. Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon,
2. Significant and unreasonable reduction of groundwater storage,
3. Significant and unreasonable seawater intrusion,
4. Significant and unreasonable degradation of water quality,
5. Significant and unreasonable land subsidence, and
6. Depletion of interconnected surface water and groundwater that has significant and unreasonable adverse impacts on beneficial uses and users of the surface water.

The GSP is a tool used to help the GSA sustainably manage the basin. The criteria for sustainable management, including determining what is significant and unreasonable within the parameters of SGMA, must be assessed locally, with input from stakeholders, before the GSP can be adopted and implemented.

Public Outreach and Engagement Plan

1.1 Sustainable Groundwater Management Act Requirements for Stakeholder Engagement

Stakeholder engagement is an important component of any successful long-term planning effort. Engaging members of the public in groundwater sustainability planning will improve public understanding of the technical and political considerations the GSA factors into their decision-making process. Participation by the public will also improve the GSA's understanding of the potential impacts of their decisions.

SGMA recognized the importance of stakeholder engagement and laid out specific requirements for stakeholder engagement within each of the four phases of SGMA:

Phase 1: GSA Formation and Coordination

The following Phase 1 requirements were completed by the West San Jacinto GSA in 2017 and 2018:

- Establish and maintain a list of interested parties.
- Provide public notice of the GSA formation.
- Conduct a GSA formation public hearing.
- Notify DWR of the GSA formation.
- Provide a written statement to DWR as well as cities and counties within the GSA boundary describing how interested parties may participate in the GSP development.
- Develop GSA website for interested parties.

Phase 2: GSP Preparation and Submission

The following Phase 2 requirements will be completed by the West San Jacinto GSA by January 31, 2022:

- Submit GSP preparation initial notification (completed).
- Prepare a GSP that considers beneficial uses and users of groundwater when describing undesirable results, minimum thresholds, projects, and management actions.
- The GSP must include a communication section that includes the following:
 - An explanation of the Agency's decision-making process.
 - Identification of opportunities for public engagement and a discussion of how public input and responses will be used.
 - A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin.
 - The method the Agency will follow to inform the public about progress implementing the Plan, including the status of projects and actions.
- The GSA must provide public notice and hold a public meeting before adopting or amending a GSP.

Public Outreach and Engagement Plan

Phase 3: GSP Review and Evaluation

The following Phase 3 requirements will be completed by DWR:

- After the GSA adopts the GSP and submits it to DWR, the GSP will be available on the DWR website for a 60-day comment period for any person to provide comments to DWR before DWR completes the evaluation and assessment of the GSP.

Phase 4: Implementation and Reporting

The following Phase 4 requirements will be completed by the West San Jacinto GSA through 2042:

- SGMA requires assessments and re-evaluation of the GSP at least every five years. The GSA must provide public notice and hold public meetings prior to amending the GSP.
- Public notice is also required before the GSA imposes or increases fees.

There are also general requirements that apply to all four phases of SGMA implementation. Each GSA must encourage active involvement of diverse social, cultural, and economic elements of the population within the groundwater basins. The GSA must also allow for voluntary participation by Native American Tribes and the federal government. The GSA may appoint and consult with an advisory committee and must consider the interests of all beneficial uses and users of groundwater within the basin.

2 SAN JACINTO GROUNDWATER BASIN

The San Jacinto Groundwater Basin (Basin), located in western Riverside County within the San Jacinto River Watershed, is the source of groundwater production for Eastern Municipal Water District (EMWD), Lake Hemet Municipal Water District (LHMWD), City of Hemet, City of San Jacinto, City of Perris Water, Nuevo Water Company, Box Springs Mutual Water Company, March Air Reserve Base, and private water purveyors. The Basin has two primary management areas, the Hemet-San Jacinto Management Area and the West San Jacinto GSA Area.

Hemet-San Jacinto Watermaster Management Area

The eastern portion of the Basin is known as the Hemet-San Jacinto Management Area. It encompasses approximately 90 square miles including the Cities of San Jacinto and Hemet, as well as the unincorporated areas of Winchester, Valle Vista, and Cactus Valley. Water purveyors of the area include EMWD, LHMWD, City of Hemet, City of San Jacinto, and the Soboba Band of Luiseño Indians. In April 2013, a Stipulated Judgment, Case Number RIC 1207274, was entered with the Superior Court of the State of California for the County of Riverside adopting the Management Plan and creating the Hemet-San Jacinto Watermaster (Watermaster). The Stipulated Judgment requires the preparation of an Annual Report by the Watermaster to document activities within the Hemet-San Jacinto Watermaster Management Area in a

Public Outreach and Engagement Plan

given year. The Watermaster has been submitting the Hemet-San Jacinto Annual Reports to DWR since 2015 to comply with SGMA requirements for adjudicated basins. The Watermaster Documents can be viewed online (<https://www.dropbox.com/sh/ok0kxmphpt4ymtv/AADU8OEySlgZLGivNANXh3FBa?oref=e&n=176495568>).

West San Jacinto Groundwater Sustainability Agency Area

The western portion of the Basin, formerly known as the West San Jacinto Groundwater Management Area, has been actively managed by EMWD as part of a voluntary effort in accordance with Assembly Bill 3030 passed in 1992. EMWD is the GSA for this portion of the Basin, which is referred to as the West San Jacinto GSA Area. As the GSA, EMWD is responsible for management of the West San Jacinto GSA Area. The West San Jacinto GSA Area covers approximately 256 square miles including the cities of Moreno Valley, Menifee, and Perris as well as unincorporated areas of Lakeview, Nuevo, and Winchester. The West San Jacinto Groundwater Basin GSA Area was designated a high priority basin (but not in a state of critical overdraft) by DWR, requiring GSP adoption by 2022 and implementation by 2042.

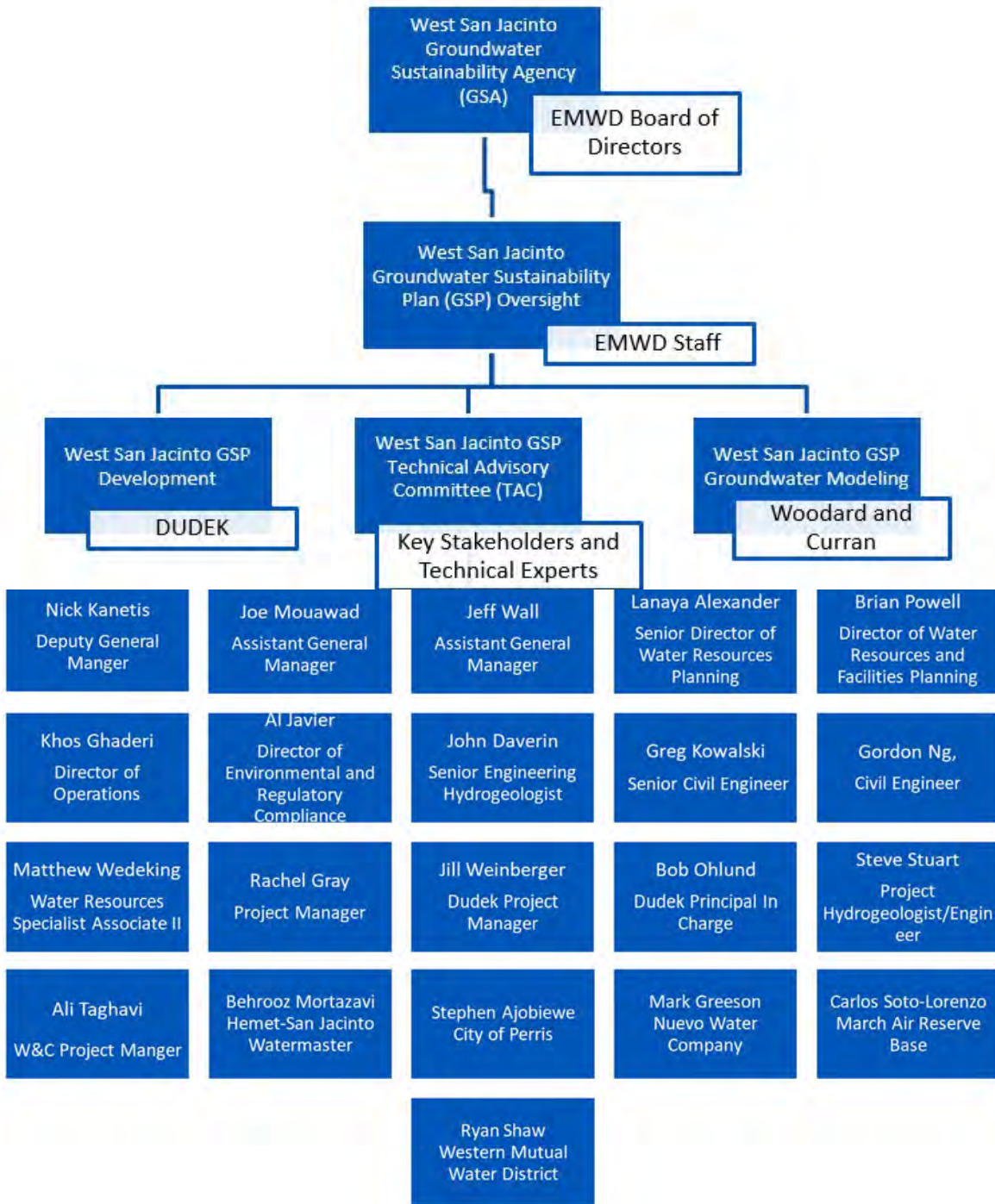
3 WEST SAN JACINTO GSA

The EMWD Board of Directors became the exclusive GSA (West San Jacinto GSA) for the West San Jacinto GSA Area on April 24, 2017. Notice of the GSA formation was published in the Press Enterprise on October 30, and November 20, 2016. A GSA formation public hearing was conducted on December 7, 2016 and notification of GSA formation was provided to DWR on January 24, 2017.

3.1 GSA Decision Making Process

The West San Jacinto GSA is governed by the EMWD Board of directors, a five member elected board. EMWD staff administers the GSA and will oversee the development of the West San Jacinto GSP. A Technical Advisory Committee (TAC) was established to advise the West San Jacinto GSA on matters related to the West San Jacinto GSP development. The TAC will evaluate the sustainability indicators and recommend management criteria to the GSA. Members of the TAC include representatives from each of the groundwater purveyors in the West San Jacinto GSA Area as well as technical experts. Monthly TAC meetings will be held throughout the development of the GSP to discuss the elements of the GSP. This format facilitates participation from the groundwater purveyors during development of the GSP.

Public Outreach and Engagement Plan



Public Outreach and Engagement Plan

4 WEST SAN JACINTO GSP

The West San Jacinto GSA has initiated the process of developing a GSP (West San Jacinto GSP) for the non-adjudicated portion of the San Jacinto Groundwater Basin. The West San Jacinto GSP will define a course of action to demonstrate sustainable groundwater management within 20 years of plan adoption and implementation. The West San Jacinto GSP will identify local undesirable results and identify management actions to minimize undesirable results, as well as develop milestones to ensure progress towards sustainable management of the West San Jacinto GSA Area under SGMA is on course. A SGMA-compliant groundwater monitoring program will be developed and implemented to track groundwater conditions in the West San Jacinto GSA Area. The West San Jacinto GSP will be re-evaluated and refined, as needed, and submitted to DWR at a minimum of every five years in accordance with SGMA.

5 PURPOSE OF THIS DOCUMENT

This Public Outreach and Engagement Plan (Plan) has been developed as a communication tool to help stakeholders understand the importance of participation in groundwater sustainability planning and to lay the framework of how stakeholders can actively engage in the West San Jacinto GSP development effort. In 2018, DWR released [a guidance document for GSP Stakeholder Communication and Engagement](#) that details best practices including the development of Communication and Engagement Plans to increase transparency in the GSP development process. This Plan has been prepared based on this guidance, local stakeholder knowledge, and the direction of the West San Jacinto GSA.

The West San Jacinto GSA's primary goals for Outreach and Engagement during the GSP development process include:

1. Maintaining transparency throughout the GSP development process,
2. Developing a common understanding among stakeholders of what SGMA is, EMWD's role, the effect on EMWD customers and
3. Exceeding the state requirements for outreach and engagement.

This Plan is intended to be a guiding framework that will be updated as needed to maintain transparency throughout the GSP development and implementation process.

6 OPPORTUNITIES FOR PUBLIC INVOLVEMENT AND ENGAGEMENT

The West San Jacinto GSA encourages members of the public to participate in the GSP development and implementation process through attending public meetings, providing comments on the draft GSP, and communicating directly with EMWD staff and Board members. Members of the public and interested

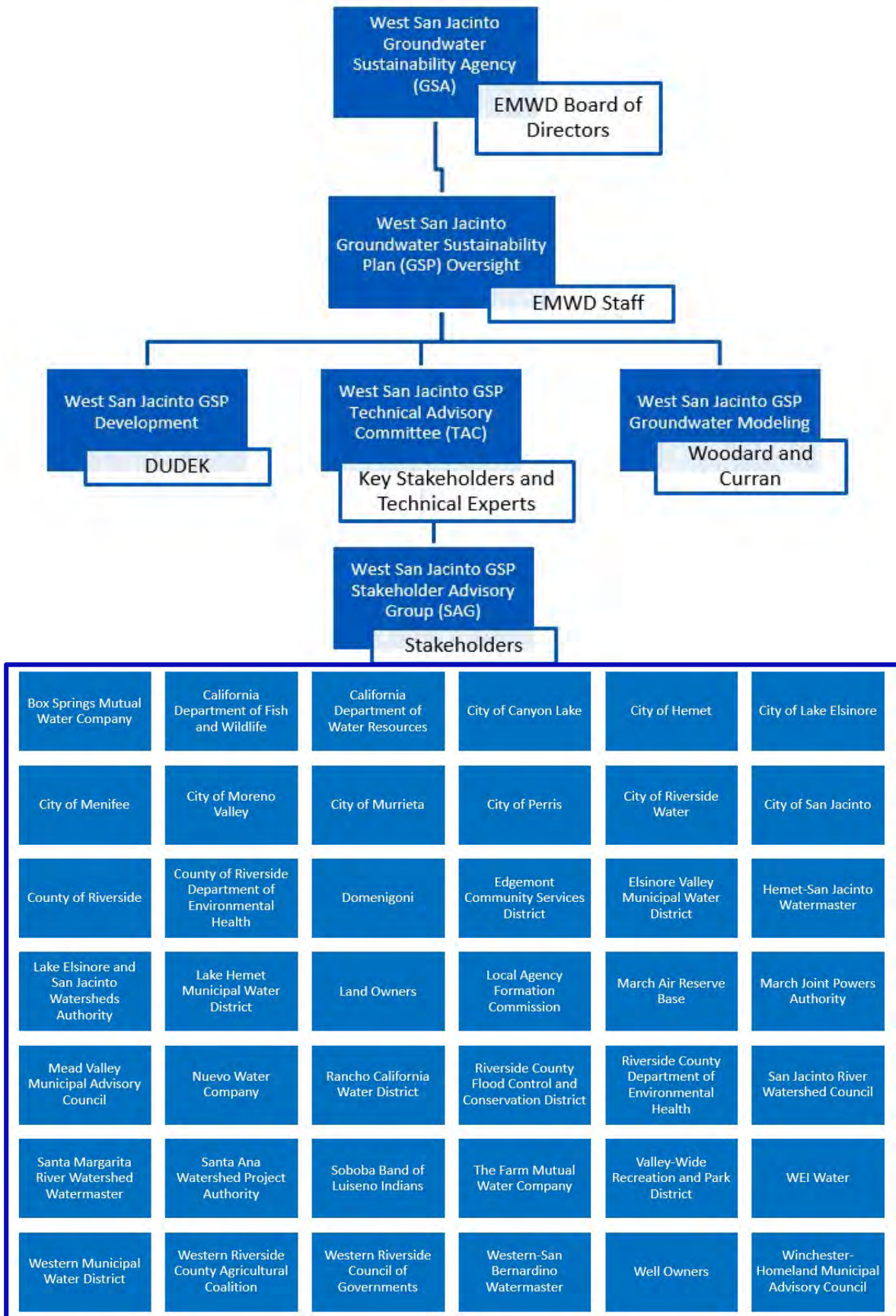
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parties can subscribe to receive updates via email through the SGMA page on EMWD's website to stay informed regarding news, updates, and meeting announcements.

6.1 Stakeholder Advisory Group

A Stakeholder Advisory Group (SAG) was developed to provide feedback to the West San Jacinto GSA on materials being incorporated into the West San Jacinto GSP. Meetings of the SAG will be a central forum for stakeholder engagement throughout the GSP development process. In addition to the stakeholders within the GSA, neighboring stakeholders may also participate in SAG meetings, collaborate, and review the GSP as appropriate. All SAG meetings are open to members of the public. SAG meeting notices are distributed via email to individuals on the interested parties list as well as anyone that subscribes to the West San Jacinto GSA email distribution list through the EMWD website. The SAG comprises of representatives from Box Springs Mutual Water Company, California Department of Fish and Wildlife, California Department of Water Resources, City of Canyon Lake, City of Hemet, City of Lake Elsinore, City of Menifee, City of Moreno Valley, City of Murrieta, City of Perris, City of Riverside Public Utilities, City of San Jacinto, County of Riverside, County of Riverside Department of Environmental Health, Domenigoni, Edgemont Community Services District, Elsinore Valley Municipal Water District, Good Hope Municipal Advisory Council, Hemet-San Jacinto Watermaster, Lake Elsinore and San Jacinto Watersheds Authority, Lake Hemet Municipal Water District, Land Owners, Local Agency Formation Commission, Liberty Utilities, March Air Reserve Base, March Joint Powers Authority, Mead Valley Municipal Advisory Council, Nuevo Water Company, Rancho California Water District, Riverside County Flood Control and Conservation District, Riverside County Department of Environmental Health, San Jacinto River Watershed Council, Santa Margarita River Watershed Watermaster, Santa Ana Watershed Project Authority, Soboba Band of Luiseno Indians, The Farm Mutual Water Company, Valley-Wide Recreation and Park District, WEI Water, Western Municipal Water District, Western Riverside County Agricultural Coalition, Western Riverside Council of Governments, Western-San Bernardino Watermaster, Well Owners, Winchester-Homeland Municipal Advisory Council, and Other Stakeholders. Key EMWD Executive, Management, Public Affairs, Water Resource Planning, Engineering, Operations and Environmental staff also participate in the SAG meetings.

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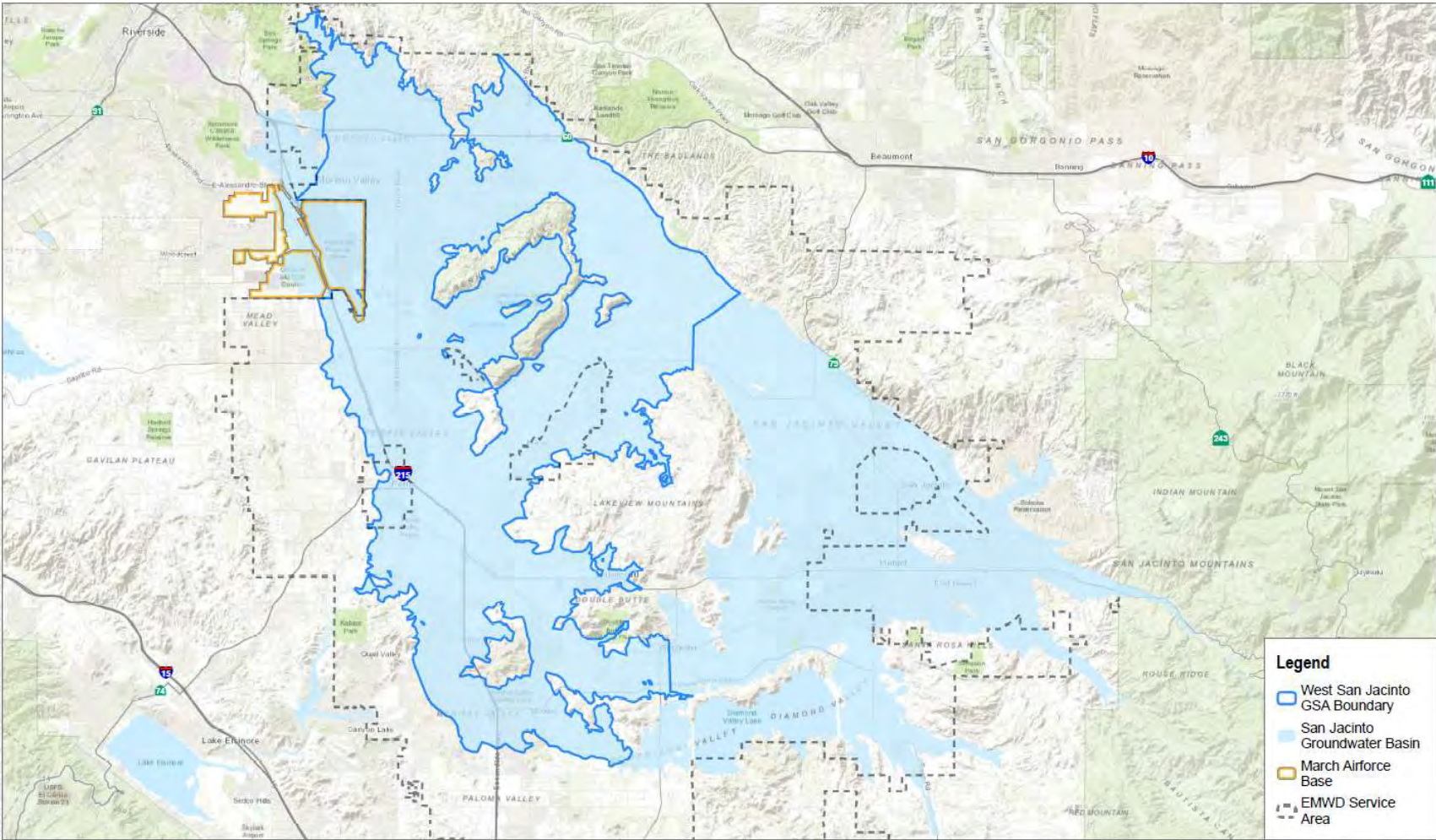
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6.2 Meeting Opportunities

The West San Jacinto GSA meets as needed during scheduled EMWD meetings, generally held on the first and third Wednesday of each month at 9:00 am at 2270 Trumble Road in Perris, California. The West San Jacinto Groundwater Basin SAG Meetings are held as needed and will be held approximately quarterly during the development of the GSP. Meeting schedules and notices can be viewed online at <https://www.emwd.org/post/sustainable-groundwater-management-act>. The following summary of planned quarterly meeting topics is subject to change and stakeholders are encouraged to visit the website to view the current meeting schedule.

Meeting Date	Topic(s) of Discussion
Summer 2019	SGMA Background and GSP Development
Fall 2019	Historical and Current Conditions
Winter 2019	Hydrogeologic Conceptual Model and Future Water Budget
Spring 2020	Sustainability Criteria (1)
Summer 2020	Projects and Management Actions
Fall 2020	Sustainability Criteria (2)
Winter 2020	Public Draft GSP
Summer 2021	Comments Received, Revisions, Final GSP and Next Steps

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SOURCE: Esri, Eastern Municipal Water District, California Department of Water Resource



FIGURE 1
West San Jacinto GSA Map

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6.3 GSP Engagement Summary

Expected roles, responsibilities, and opportunities for engagement throughout the GSP development process are summarized in Figure 2. The West San Jacinto GSA may provide additional opportunities or adjust the process as needed to meet the needs of stakeholders and/or the requirements of SGMA.

Figure 2: GSP Development Roles and Responsibilities

GSP Development Participants	Roles and Responsibilities for GSP Development
West San Jacinto Groundwater Sustainability Agency (EMWD Board of Directors): 	<ul style="list-style-type: none"> • Oversee GSP development • Approve costs and budgets • Conduct public hearings • Consider stakeholder feedback • Adopt the GSP • Provide direction to GSA staff
West San Jacinto Groundwater Sustainability Agency Staff: 	<ul style="list-style-type: none"> • Administer the GSA • Provide notice of public meetings • Oversee stakeholder meetings • Manage GSP consultants
West San Jacinto Groundwater Sustainability Agency Technical Advisory Committee (TAC): 	<ul style="list-style-type: none"> • Review technical components of GSP • Confer with other groundwater users and interested parties • Provide guidance to the GSA
West San Jacinto Groundwater Sustainability Agency Stakeholder Advisory Group (SAG) & Interested Parties: 	<ul style="list-style-type: none"> • Attend stakeholder workshops • Read electronic newsletters • Provide input on draft and final GSP
GSP Consultant: 	<ul style="list-style-type: none"> • Develop draft GSP components • Present information and make changes as directed by the GSA • Generate final GSP

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7 CONTACT US

This document serves as a tool for facilitating public engagement in the GSP development process. It is designed to be a living document that is updated as needed to reflect current mechanism of engagement. West San Jacinto GSA will continue to use the communication tools outlined in this document as necessary through the implementation phase of the GSP.

For additional information regarding the West San Jacinto GSA and the GSP, please contact:

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Website: <https://www.emwd.org/post/sustainable-groundwater-management-act>

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APPENDIX A: SGMA Requirements For Stakeholder Engagement

Stakeholder engagement is an important component of any successful long-term planning effort and is required by the SGMA (§ 10720 - § 10730) and GSP Regulations (§ 353 - § 354). This appendix provides a quick reference to how the West San Jacinto GSA will meet these requirements.

SGMA Requirement	West San Jacinto GSA
The GSA must encourage and support active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin. (SGMA § 10727.8)	Participation by the West San Jacinto Groundwater Basin Stakeholder Advisory Group (SAG)
The GSA must also allow for voluntary participation by Native American Tribes and the federal government (SGMA § 10720.3).	The Department of Defense March Air Reserve Base and March Joint Powers Authority have been invited to participate in the TAC and SAG.
The GSA must consider the interests of all beneficial uses and users of groundwater within the basin (SGMA § 10723.2).	Representatives from all applicable categories of uses and users as discussed in Appendix B have been invited to participate in the SAG.
The GSA may appoint and consult with an advisory committee (SGMA § 10727.8)	The TAC serves as the advisory committee to the West San Jacinto GSA.
Establish and maintain a list of interested parties (SGMA § 10723.4).	Interested parties can be added to the list by subscribing as discussion in section 6.1 of this plan.
Provide public notice of the GSA formation (SGMA § 10723(b)).	Publications in The Press Enterprise October 30, 2016 and November 20, 2016.
Notify DWR of the GSA formation (SGMA § 10723(b)).	Uploaded to DWR Portal on January 24, 2017.
Conduct a GSA formation public hearing (SGMA § 10723(b)).	Public hearing conducted on December 7, 2016.
Provide a written statement to DWR as well as the cities and counties within the GSA boundary, describing how interested parties may participate in the GSP development (SGMA § 10727.8).	Completed on June 26, 2019. Invitations were distributed to the SAG member list to participate in GSP development.
Submit initial notification of intent to prepare a GSP (GSP Regulations § 353.6).	Completed on August 29, 2018.

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<p>Prepare a GSP that considers beneficial uses and users of groundwater when describing undesirable results, minimum thresholds, projects and actions (SGMA § 10727.8, § 10723.2 and GSP Regulations § 354.10).</p> <p>The GSP must include a communication section that includes the following (GSP Regulations § 354.10):</p> <ul style="list-style-type: none"> • Explanation of the GSA’s decision-making process; • List of public meetings at which the GSP was discussed; • Identification of opportunities for public engagement and a discussion of how public input and response will be used; • Description of how the GSA encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin; • Description of how the GSA will inform the public about progress implementing the Plan, including the status of projects and actions. 	<p>To be completed in the draft and final GSP.</p>
<p>Public noticing and public meeting procedures prior to adopting, submitting, or amending a GSP (SGMA § 10728.4).</p>	<p>To be completed in the draft and final GSP.</p>
<p>Upon GSA adoption of the GSP and submittal to DWR, the GSP will be available on the DWR website for a 60-day public comment period. Any person may provide comments to the DWR on the GSP. DWR will consider the comments received prior to completing their evaluation and assessment of the GSP (GSP Regulations § 353.8).</p>	<p>To be completed by DWR.</p>
<p>GSA’s must provide public notice and hold public meetings prior to amending the GSP (SGMA § 10730).</p>	<p>To be completed as discussed in the final GSP.</p>
<p>Public notice is required before the GSA imposes or increases fees (SGMA § 10730).</p>	<p>To be completed as discussed in the final GSP.</p>

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APPENDIX B: List of Beneficial Uses and Users

In accordance with Section 10723.2 and Section 10723.8 (a)(4) of the SGMA, the following parties have or will be contacted to determine how best to consider and protect their interests throughout the formation of the GSA, development of a GSP, and implementation of the GSP. This list will continue to be updated during the development and implementation of the GSP.

These interests include, but are not limited to the following:

- Holders of overlying groundwater rights, including
 - Agricultural users: There are many agricultural wells within the GSA, most of whom have an existing relationship with the District. The District will communicate with landowners to assure that they understand their on-going opportunity to participate in the development of a GSP for the area.
 - Domestic water-well owners: There are some domestic wells within the GSA, however, the District anticipates that many will fall under SGMA's exclusions for de minimum extractors. As with agricultural users, the District will communicate with these landowners to assure that they understand their on-going opportunity to participate in development of a GSP for this area.
- Municipal Well Operators:
 - Eastern Municipal Water District
 - Western Municipal Water District
- Public Water Systems:
 - City of Perris
 - Motte Mutual Water Company
 - Nuevo Water Company
 - Box Springs Mutual Water Company
- Local Land Use Planning Agencies:
 - Riverside County
 - Riverside County Flood Control and Conservation District
 - City of Moreno Valley
 - City of Menifee
 - City of Perris
 - Liberty Utilities
 - Other Water and Irrigation Districts outside the GSA boundaries: The District provided courtesy notice of their intention to serve as the GSA to the City of Canyon Lake, Elsinore Valley Municipal Water District, Santa Margarita River Watermaster, and Hemet-San Jacinto Watermaster, and will continue to communicate with and solicit feedback from these neighboring agencies as the GSP is developed.
- Environmental Users of Groundwater:
 - California Department of Fish and Wildlife
- Surface Water Users:
 - Not applicable
- Federal Government:
 - March Air Reserve Base, Department of Defense
 - March Joint Powers Authority

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- California Native American Tribes:
 - Not applicable
- Disadvantaged Communities:
 - The District actively works with these communities through their Public and Governmental Affairs, and Grant and Loans, Departments. The District will continue to coordinate with all Disadvantaged Communities within the GSA Boundary.
- Entities Listed in SGMA Section 10927 that are monitoring groundwater elevations in all or part of the groundwater basin managed by the GSA:
 - Eastern Municipal Water District Participates in the California State Groundwater Elevation Monitoring Program for the entire San Jacinto Groundwater Basin.



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APPENDIX G

San Jacinto Flow Model 2014 Documentation

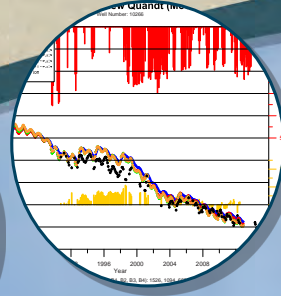
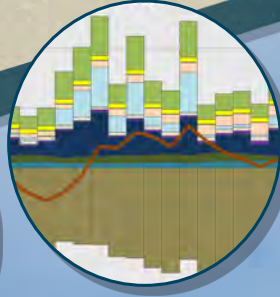
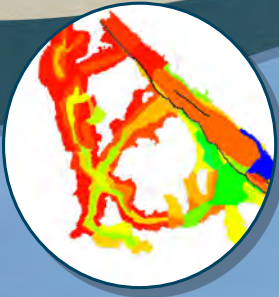
San Jacinto Groundwater Flow Model Update 2014 (SJFM-2014)

Final Report

June 9, 2016



Hemet-San Jacinto
Watermaster



PREPARED BY:
 **RMC**
water and environment

San Jacinto Groundwater Flow Model Update- 2014 (SJFM-2014)

Model Development and Scenarios

FINAL REPORT

June 9, 2016

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Acknowledgements

The San Jacinto Groundwater Flow Model Update – 2014 (SJFM-2014) project was developed by RMC Water and Environment with funding contributions and technical support provided by the Eastern Municipal Water District (EMWD) and the Hemet-San Jacinto Watermaster Advisor. Additional funding was provided by the Western Riverside County Agricultural Coalition (WRCAC).

An advisory panel (AP) was formed to provide quality assurance and technical support for development of SJFM-2014. The involvement of the AP expedited the process of developing the SJFM-2014, resulting in a groundwater model widely accepted by the local stakeholders and public agencies. The AP consisted of representatives from the United States Geological Survey (USGS), California Department of Water Resources (DWR), Santa Ana Regional Water Quality Control Board (RWQCB).

The project team included:

- **EMWD**
 - Brian Powell, Project Director
 - John Daverin, Project Manager
 - Gordon Ng, Project Engineer
- **Hemet-San Jacinto Watermaster Advisor**
 - Behrooz Mortazavi
- **Advisory Panel**
 - Ralph Phraner, Consultant, Local Groundwater Expert
 - Tracy Nishikawa, USGS
 - Aleksander Vdovichenko, DWR
 - Cindy Li, RWQCB
- **Consultant: RMC Water & Environment**
 - Ali Taghavi: Project Manager
 - Reza Namvar: Lead Modeler
 - David Moering: Project Modeler

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Executive Summary

The goal of this project is to update the Eastern Municipal Water District's (EMWD) existing numerical groundwater modeling tool to provide a more accurate prediction of the effects of potential regional projects to the San Jacinto Groundwater Basin (Basin). Since completion of the San Jacinto Groundwater Flow and Transport Model in 2002 (SJFTM-2002), EMWD has built a groundwater dataset with additional monitoring locations and increased data collection frequency compared to the dataset that was available in 2002. The San Jacinto Groundwater Flow Model Update – 2014 (SJFM-2014) incorporates these additional data, which reflect the altered groundwater conditions that have developed since the conclusion of the 2002 model. This allows for a more complete and accurate assessment of Basin conditions to be used for planning and development of future projects and use within the Basin.

The 2014 model update was conducted by EMWD with technical and financial participation by the Hemet-San Jacinto Watermaster. EMWD retained an Advisory Panel (AP) to provide quality assurance and peer-review of the SJFM-2014.

The following major tasks were undertaken during the development of the SJFM-2014.

- Conceptual Groundwater Flow Model Development
- Numerical Groundwater Flow Model Development
- Model Calibration
- Groundwater Model Predictive (Future) Scenarios Analysis

Conceptual Groundwater Flow Model Development

The approximately 300 square-mile Basin falls almost entirely within EMWD's northern service area and is divided into eight Groundwater Management Zones (GMZs): Perris North, Perris South, Menifee, San Jacinto Lower Pressure (Lower Pressure), Lakeview/Hemet North, Hemet South, San Jacinto Upper Pressure (Upper Pressure), and San Jacinto Canyon (Canyon). For the purpose of this model, the Lakeview/Hemet North GMZ was evaluated as two separate GMZs: Lakeview and Hemet North. The GMZs are shown in Figure ES 1. In general, the GMZs are in hydraulic communication, meaning aquifer stresses in one GMZ will have an effect on surrounding GMZs, with the exceptions of Canyon GMZ and San Jacinto Upper Pressure GMZ which are bordered by no-flow or low-flow faults. The GMZs were defined in the 2004 San Ana River Basin Plan update by the Santa Ana Regional Water Quality Control Board based on variations of groundwater elevations, groundwater flow characteristics, and groundwater quality.

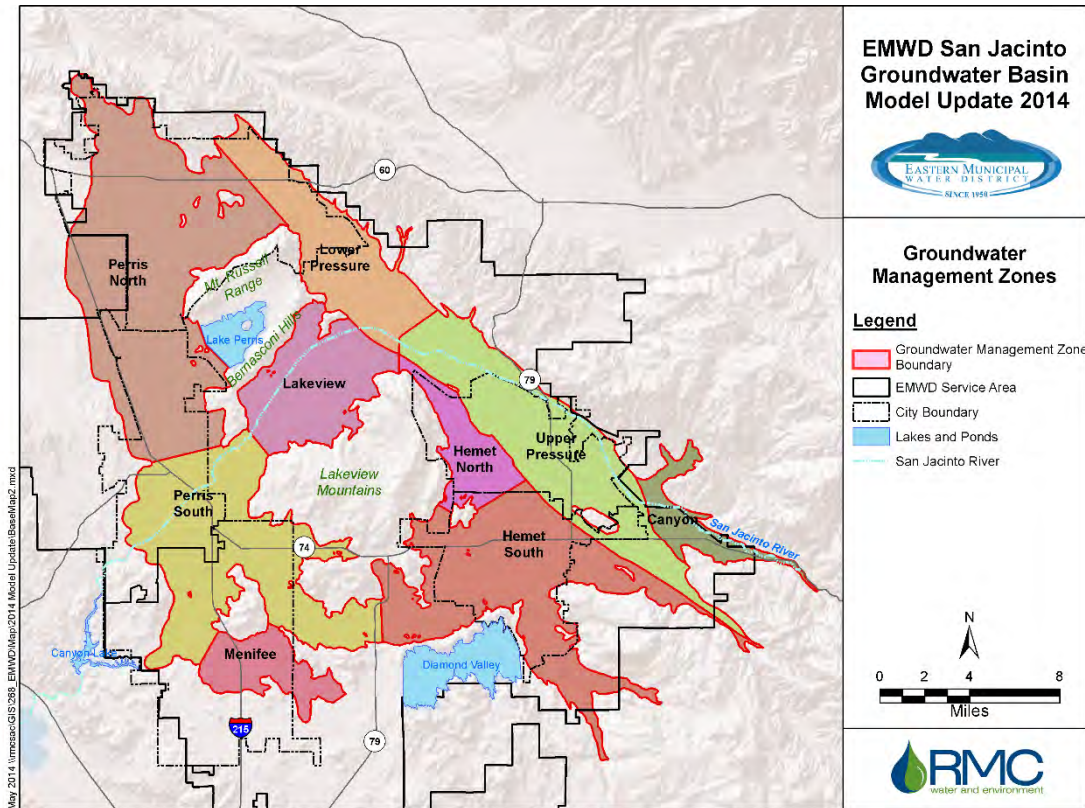


Figure ES 1: Groundwater Management Zones

Groundwater Inflows and Outflows

Groundwater inflows originating from within the basin are predominantly from infiltration. Sources affecting the overall water balance include: aerial rainfall infiltration, river recharge, mountain front recharge, surface water reservoirs and applied water. Groundwater production from pumping wells is the only major source of outflow in the model. There are 453 production wells within the active model area. The municipal wells are used to fulfill water demands for municipal, irrigation, industrial, and domestic water use. The remaining wells in the Basin are privately owned wells.

Groundwater Flow Model Development

The SJFM-2014 is a saturated groundwater flow model that is constructed using the U.S. Geological Survey's (USGS) MODFLOW-NWT groundwater flow code, a Newton formulation for MODFLOW-2005. Groundwater Modeling Systems (GMS) is used as the pre- and post-processing program. The simulation period of the SJFM-2014 spans 29 years from 1984 through 2012.

The SJFTM-2002 served as a basis for the initial set of aquifer parameters in the model. These parameters were adjusted throughout the calibration process to best fit the simulated model heads and the observed data in the SJFM-2014. These aquifer parameters are presented in Table ES 1.

Table ES 1: SJFM-2014 Aquifer Parameters and Descriptions

Parameter	Description
Horizontal Hydraulic Conductivity (K_h)	Initial values for the SJFM-2014 K_h parameters were updated during model calibration based on recent data. In general, the K_h distribution west of the Casa Loma Fault follows the bedrock contours, developed by the University of California, Riverside.
Vertical Hydraulic Conductivity (K_v)	K_v has the same spatial distribution as K_h . The K_v values are typically 10-13% of the K_h values established for the SJFM-2014.
Specific Yield	Specific yield is used to represent the storage in unconfined cells, typically in Layer 1. Initial parameters were adjusted during model calibration.
Specific Storage	Specific storage is utilized for storage in confined cells. Initial parameters were adjusted during model calibration.

The Basin receives recharge flows from distributed sources of applied water components including:

- Precipitation
- Water sales (EMWD, Subagency, Recycled Water)
- Irrigation return flow
- Point recharge (recharge ponds, reclamation storage ponds and surface water reservoirs)

The quantity of recharge from distributed sources is dependent on a) the percentage of pervious land surface and b) soil drainage properties. This applied water recharge is associated with the model using a recharge preprocessor.

The remaining groundwater recharge sources incorporated into the SJFM-2014 are river leakance and underflows from mountain front recharge.

Model Calibration

There were 197 calibration wells selected from an inventory of 601 wells with available historical groundwater levels. The selected calibration well set provides good geographic coverage of the Basin as well as good representation of each of the four model layers. The calibration well locations are shown in Figure ES 2.

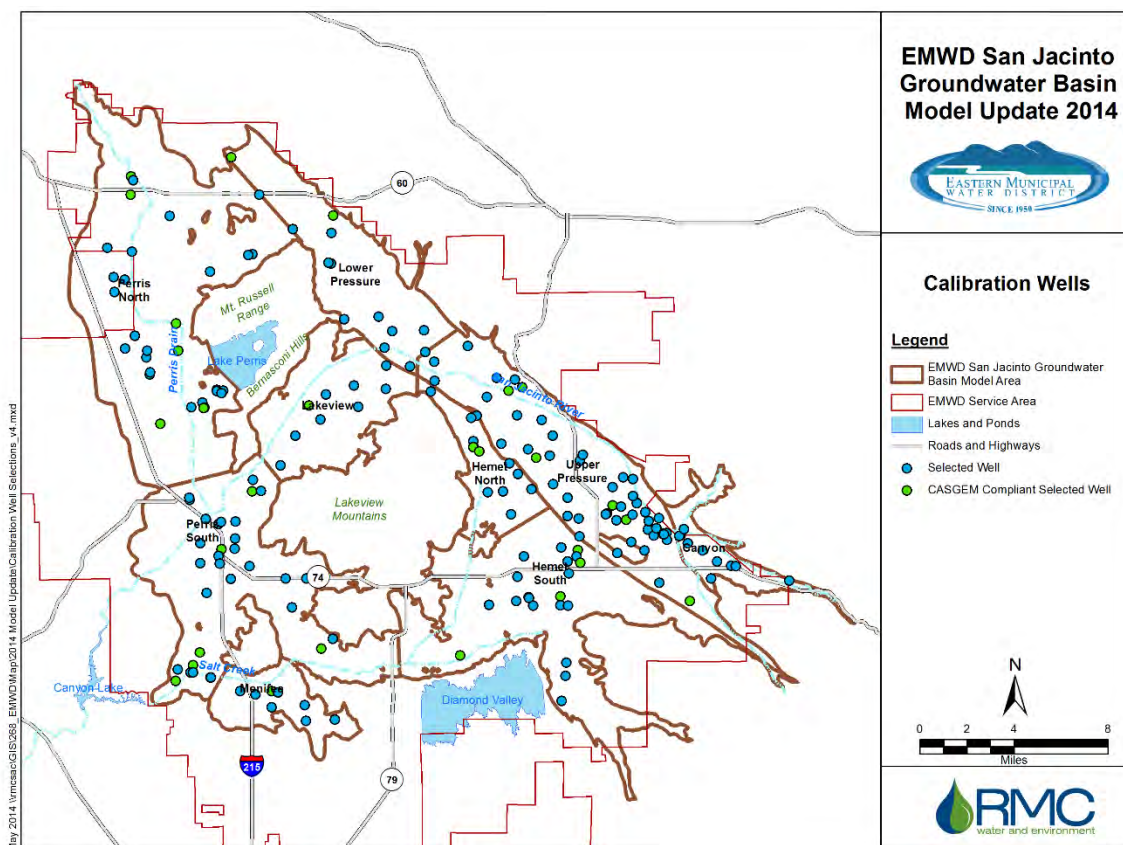


Figure ES 2: Locations of Selected Target Calibration Wells

The SJFM-2014 calibration status was measured using two metrics: simulated and observed groundwater level matching statistics and groundwater level trend matching. The statistics were evaluated to meet a reasonable statistical range meeting American Standard Testing Methods (ASTM) which states “the acceptable residual (observed minus simulated heads) should be a small fraction of the head difference between the highest and lowest heads across the site.” Using 10 percent as the “small fraction”, the acceptable residual level would be 30 feet or 10% of the 300+ feet of water level changes based on an intra-well water level analysis. The acceptable residual level was refined and groundwater level residuals were considered at a GMZ level as well as basin-wide. The calibration goals for the groundwater level residuals of the selected calibration wells in the entire model area were set to:

- 50% of residuals within +/- 20 feet
- 75% of residuals within +/- 30 feet

Calibration focused on all GMZs; however, more effort was spent on calibration in areas that are more challenging and complex from water supply and hydrologic perspective. This included important production areas, areas for future development and key GMZs in the Basin such as Perris North, the brackish groundwater wells in Perris South, the core production area in Hemet South, the intake area of Upper Pressure, and the Canyon GMZ. The calibration process included:

- Water budget calibration
- Steady state calibration
- Parameter evaluation
- Transient calibration
 - Groundwater level calibration
 - Groundwater trend calibration

Calibration Results

The calibration was conducted by adjusting aquifer parameters during the calibration process to optimize the simulation of the groundwater flow system in the Basin. The calibration process was reviewed by EMWD and the Advisory Panel and aquifer parameters were adjusted with their input.

The calibrated model simulated 62% of groundwater level residuals within +/- 20 feet and 74% of groundwater elevation residuals within +/- 30 feet. Most of the calibration wells in the areas of the Basin with significant groundwater production show average residuals are within +/- 20 feet. It should be noted that Lower Pressure is a heavily convoluted and complicated flow system with few apparent continuous aquifers, causing less accurate results than other GMZs in the Basin. Subsequently, the overall averages of the entire basin are reduced due to an area that is not planned for municipal groundwater extraction. Since the water resources within the Lower Pressure appear limited and installation of a groundwater production well is minimal due to the nature of the aquifers in this region, a limited amount of time was spent during calibration efforts and the results in Lower Pressure are of limited value. Without considering the Lower Pressure, the calibrated model simulated 65% of groundwater level residuals within +/- 20 feet and 75% of groundwater elevation residuals within +/- 30 feet.

The calibration goals were set for the entire model area; however, the statistics for all GMZs and the Hemet-San Jacinto and West San Jacinto Management Zones were also reviewed. Both calibration goals were achieved and surpassed for the GMZs in West San Jacinto Management Zone. As explained above, the calibration goals were not achieved in the Lower Pressure. The +/- 20 feet calibration goal was achieved in Hemet-San Jacinto Management Zone but the +/- 30 feet calibration goal was at 68%. This is, in part, due to the fact that in areas such as the Upper Pressure Intake area, clusters of wells within a small radius may have varying groundwater levels that cannot be captured by the regional SJFM-2014. Hydrograph trend matching is significant for these areas to illustrate that the regional trends of the area are being simulated, even if the individual groundwater levels in some of the wells are not exactly matched. Final calibration groundwater levels resulted in a good match to the observed groundwater trends for key areas and wells. The EMWD 28 Peacock Radaker well in Figure ES 3 demonstrates that the SJFM-2014 simulates these regional trends.

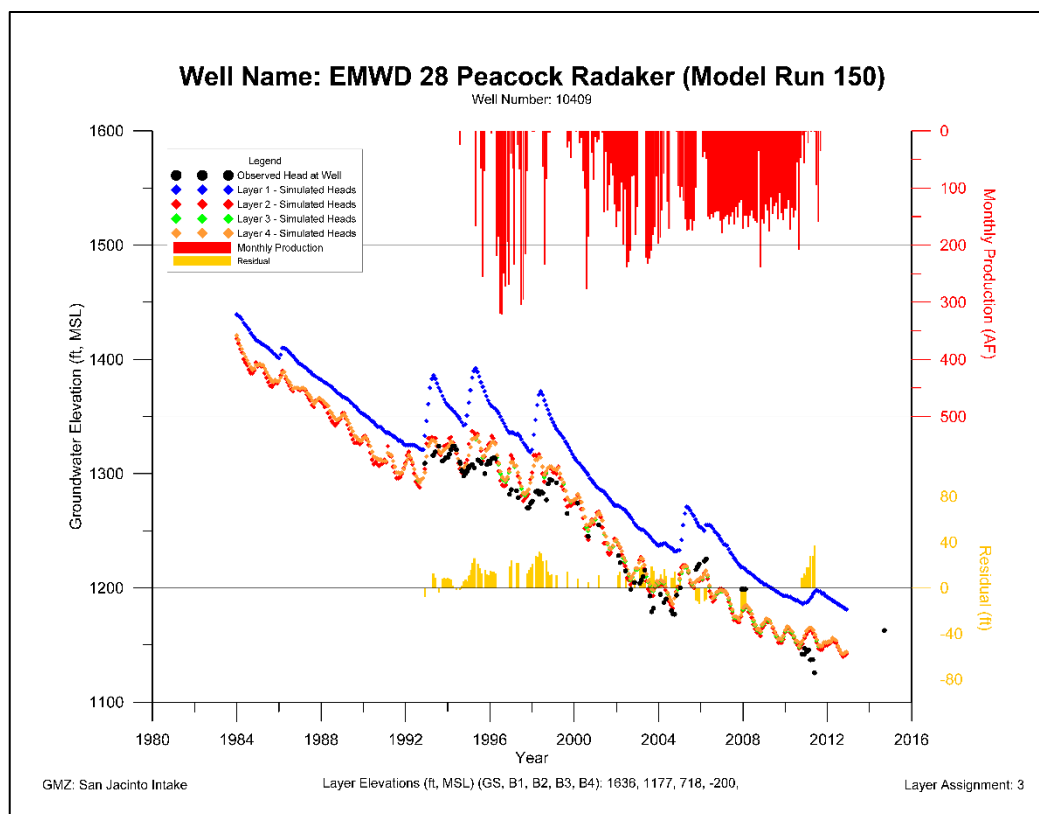


Figure ES 3: Calibration Hydrograph for EMWD 28 Peacock Radaker

Groundwater Model Predictive Scenarios

The calibrated SJFM-2014 Model was used for simulating the future conditions under various assumptions and conditions and as a comparative tool to determine the effects of various projects and alternatives. The study period for each scenario spans 29 years using the calibration period (1984 – 2012) as a basis and reordered based on scenario assumptions. Five different scenarios were evaluated:

- Baseline Scenario
- Scenario A: Optimize West San Jacinto Production
- Scenario B: Drought without Water Banking
- Scenario C: Drought with Constant Recharge from Water Banking
- Scenario D: Build-Out with Water Banking and 10-Year Hydrologic Cycles

Baseline Scenario

The Baseline Scenario propagated 2014 conditions into the future to use as a comparison with the SJFM-2014 as well as a basis for Scenario A through Scenario C. For the Baseline Scenario, several model components were modified, while others, such as the aquifer parameters, remained the same as the calibration model. These changes to the model components included:

- A revised hydrologic period

- Updated Land Use based on future projections
- Future applied water quantities based on EMWD projections
- 13 new production wells
- Two new recharge ponds in Perris South
- Soboba Settlement water recharged at the Integrated Recharge and Recovery Program (IRRP) ponds

Baseline Scenario Results

In the Basin, cumulative storage stabilizes under Baseline conditions, with the exception of the later years when storage increased due to above average rainfall, streamflows and the combination of increased recharge due to imported water at the IRRP along with stabilized production. The increase in storage correlates to the significant effect of San Jacinto River recharge in Upper Pressure and Canyon during wet years. In the West San Jacinto Management Area, stabilized storage values were exhibited. These stabilized storage values were expected for the overall groundwater basin Baseline conditions due to the implementation of basin management plans and basin adjudication (Hemet – San Jacinto Management Area) developed to minimize overdraft conditions and promote sustainable groundwater use prior to the scenario start date. The baseline scenario is to be used as basis of comparison for the results of several other model scenarios.

Scenario A - Optimize West San Jacinto Production

The purpose of Scenario A was to evaluate and optimize the production of potable and desalinated groundwater in the West San Jacinto Area relative to the Baseline Scenario. This included the construction of two new wells and increased groundwater production rates in the Perris Valley relative to the Baseline. In order to support the increased groundwater production, recharge rates were increased in Perris South at the Skiland Ponds.

Scenario A Results

Scenario A produces localized results in Perris North, Perris South and Lakeview, where the increases in production and recharge rates were applied. The main results of Scenario A include:

- A decrease in water levels in southern portion of Perris North and northern portion of Perris South. Groundwater elevations drop by approximately 25 feet by 2041, relative to the Baseline Scenario.
- An increase in water levels by 20-30 feet near the Skiland ponds in Perris South and east into Lakeview
- Similar water levels relative to the Baseline Scenario in the central portion of Perris South, attributed to the balance of the increased production and recharge in the Scenario.
- The other GMZs in the basin do not exhibit any significant changes in water levels relative to the Baseline.

Scenario B – Drought without Water Banking

Scenario B focuses on the effects of a drought hydrology and tests the sustainability of groundwater supplies in times of increased reliance on groundwater production. In Scenario B, it is assumed that an extended drought will occur over six consecutive years from 2025 to 2030, reducing the rainfall and local streamflows. Rainfall during this period is recorded as less than 10 inches per year.

Scenario B Results

The six-year drought caused a reduction in water levels throughout the entire basin. The Upper Pressure and Canyon GMZs are most affected by the drought, averaging a decrease in water levels by 8 and 18 feet during the drought period, respectively. This is a reflection on the impact of river recharge in the two GMZs. The other GMZs experience much smaller decrease in water levels, no more than 3 feet. Water levels in the Basin generally recover back to Baseline conditions by the end of the study period in 2041.

Scenario C - Drought with Constant Recharge from Water Banking

Scenario C evaluates the feasibility of a groundwater banking project in the San Jacinto Valley in conjunction with the six-year drought introduced in Scenario B. The main assumptions of this scenario are as follows.

- Add one new well in the San Jacinto Valley every two years starting in 2017 until 11 new wells have been installed
- Increase recharge to offset new pumping above ABPR
- Maintain a banked water balance of 5,000 AF by following the recharge schedule below.
 - 24,000 AFY recharged during dry years (less than 10 inches of rainfall)
 - 54,000 AFY recharged during wet or normal years
 - 7,500 AFY of the totals enumerated above recharged to the IRRP ponds each year to satisfy the Soboba Settlement (same as baseline) – remaining recharge amount to be recharged at three new Mountain Avenue Ponds

Scenario C Results

The increased recharge from the groundwater banking project has significant effects in Upper Pressure and surrounding basins. During the drought period, the increased recharge caused water level increases as high as 200 feet relative to Scenario B in areas in Upper Pressure. This rise in water levels in Upper Pressure also caused a rise in water levels in the hydraulically connected Lower Pressure and Hemet South GMZs. By simulation year 15, the addition of new production wells started to balance out the effects of the increased recharge, but by the end of the simulation, Scenario C water levels still remained higher than Scenario B.

Scenario D – Build-Out with Water Banking and 10-Year Hydrologic Cycles

Scenario D is used to create a different comparative base and is a stand-alone scenario not to be compared with the other scenarios. For Scenario D, a new hypothetical and repeating 10-year hydrology (three wet years, four average years and three dry years) is created while combining the changes in production and recharge model components of Scenarios A through C, with no phasing of projects.

Scenario D Results

Although Scenario D is a stand-alone scenario, it should be noted that the cumulative storage levels reacted similarly to those in the Baseline Scenario. The West San Jacinto Management Area storage were mostly stabilized with a slight negative trend, as the added recharge and pumping in the area balanced out. The Hemet-San Jacinto Management Area follows the trend of the rainfall and streamflows, reinforcing the significant effect of San Jacinto River recharge in Upper Pressure and Canyon.

Summary and Recommendations

Technical appropriateness, credibility, and defensibility of SJFM-2014 Model have been reviewed by EMWD staff, the Advisory Panel, Hemet-San Jacinto Watermaster Advisor via several technical review workshops. Their comments were incorporated in the development of the model. Comments on the final model calibration regarding future updates to the model have been gathered and summarized.

SJFM-2014 Model is a state-of-the-art water resources management regional model of the San Jacinto Groundwater Basin that integrates the surface water hydrologic system, the groundwater aquifer system, and the land surface processes (precipitation and irrigation) into a single model. It allows the water managers and decision makers to evaluate the effect of changes to the agricultural and/or municipal water demands, land use and water use, groundwater pumping, imported water, and other water planning measures. SJFM-2014 is an important analytical tool for evaluation of the water management programs in the San Jacinto Groundwater Basin.

The SJFM-2014 Model is reasonably calibrated to be used for the water resources planning and management applications in the San Jacinto Groundwater Basin such as:

- Assessment of conjunctive use projects
- Evaluation of effectiveness of water banking and transfer projects
- Assessment of recycled water use in agricultural and/or urban areas
- Evaluation of climate change adaptation and mitigation measures
- Development of Groundwater Sustainability Plans (GSPs) as part of requirements of the Sustainable Groundwater Management Act (SGMA)

The intended use of the SJFM-2014 Model is for analysis of water planning and management scenarios at a regional scale. However, detailed local conditions could be simulated using more site-specific models which can be linked to the SJFM-2014 Model. A recent example is use of SJFM-2014 Model for

development of the detailed model for analysis of the Integrated Recharge and Recovery Program (IRRP) project in the Upper Pressure GMZ.

The SJFM-2014 does not currently include water quality modeling capabilities; however, it provides the fundamental data and framework, as well as appropriate level of spatial and temporal details for future development of its water quality component and simulation of transport of total dissolved solids (TDS) and nitrate.

Comprehensive water resources datasets have been developed as part of EMWD and other agencies data collection efforts. These datasets were used significantly in development and calibration of the SJFM-2014 Model. As these data collection efforts continue in the future, additional data would become available for updates of SJFM-2014 Model, which would improve the capability of the Model to simulate the regional surface water and groundwater conditions in the model area more accurately. The potential future data may include the following:

- Groundwater and surface water data updates
 - This data update includes groundwater elevation data at location with limited water level data, model layer specific water level data, and improved estimates of groundwater and surface water inflow quantities.
- Stratigraphy and geology data update
 - This data update includes for improved estimation of model layer thicknesses and model constructs.
- Water quality model update for simulation of transport of TDS and nitrate.

Section 1 Introduction

1.1 2002 Model

The 2014 model update is based on the existing and regulatory accepted San Jacinto Groundwater Flow and Transport Model, originally developed in 2002 (SJFTM-2002)¹ as a regional groundwater flow and transport model of the San Jacinto Groundwater Basin (Basin). SJFTM-2002 model is a high quality, regional planning tool that was peer-reviewed during its calibration in 2002. SJFTM-2002 was the third groundwater model that was developed for the entire Basin. Several previous groundwater models have been constructed for parts or the entirety of the Basin (Table 1).

Table 1: Modeling Efforts for the San Jacinto Groundwater Basin

Year	Model Area	Simulation Period	Consultant	Client
1975	Entire Basin and Water Quality	1963-1972	WRE & Kreiger and Stewart	SWAPA
1991	Canyon, Upper Pressure, Lower Pressure Flow, and Water Quality	1963-1983	UCLA	MWD, EMWD, SWAPA
1995	Hemet Flow and Water Quality	Data Collection	UCLA	MWD, EMWD
1998	Entire Basin	1972-1991	DHI	EMWD
2001	Perris North and March Air Reserve Base (MARB)	1993-1999	Tetra Tech	MARB
2002	San Jacinto Groundwater Basin	1984-1999	TechLink	EMWD
2014	San Jacinto Groundwater Basin	1984-2012	RMC	EMWD, Watermaster

SJFTM-2002 was developed based on the modeling platform of the Groundwater Modeling System (GMS) as pre- and post-processor, MODFLOW as groundwater flow model and MT3D as groundwater transport model. SJFTM-2002 was developed based on 16 year hydrology of 1984-1999 period. Three management scenarios were developed to evaluate the impact of recharge projects, decreased municipal groundwater extraction, high TDS groundwater extraction by brackish groundwater wells and movement of TDS plume from Perris South to Lakeview. This project updated the SJFTM-2002 with additional water level, lithologic, and hydrologic data collected since its completion.

1.2 Goals of Model Update

The goal of this project was to develop a peer-reviewed numerical groundwater model update that will help manage the groundwater basin from both a local and regional perspective as well as maximize

¹ This model is referred to as Regional Groundwater Model for the San Jacinto Watershed Model in the model documentation; however, SJFTM-2002 acronym is used for the 2002 model in this report for consistency with the acronym used for 2014 model update.

regional utilization of the basin in a responsible and sustainable manner. It will also be used for overdraft estimation and determination of the Basin safe yield. The update to SJFTM-2002 will allow for more accurate modeling of the potential effects of proposed regional projects, which in turn will support planning efforts to maximize the benefits to the Basin. Since the completion of the SJFTM-2002, successful implementation of the monitoring component of the Hemet-San Jacinto Groundwater Management Plan has allowed EMWD to build a groundwater dataset with more monitoring locations and increased data collection frequency compared to the dataset that was available in 2002. In addition, changes in groundwater production have caused water levels in the Basin to change significantly, with declines of up to 400 feet in some areas, while remaining steady or even increasing in other areas. The San Jacinto Groundwater Flow Model Update – 2014 (SJFM-2014) incorporated these additional data, which reflect the altered groundwater conditions that have developed since the completion of SJFTM-2002. This allows for a more complete and accurate assessment of Basin conditions to be used for planning and development of future projects and use within the Basin. SJFM-2014 could be used in support of projects and analyses by stakeholders in the area such as: Hemet-San Jacinto Watermaster; Cities of Perris, San Jacinto, and Hemet; Lake Hemet Municipal Water District as well as regional (i.e. Santa Ana Watershed Project Authority (SAWPA), Santa Ana Regional Water Quality Control Board (SAWQCB)) and State agencies.

1.3 Model Development Partners

The 2014 model update was conducted by EMWD with technical and financial participation by the Hemet-San Jacinto Water Management Area Watermaster (Watermaster). In addition, the Western Riverside County Agricultural Coalition (WRCAC) was a financial participant. Both EMWD and the Watermaster will be using the model for evaluation of effectiveness and impacts of various water supply projects; however, EMWD maintains ownership of the model and anticipates maintaining the model for the long-term use of local and regional stakeholders.

1.4 Advisory Panel

EMWD retained an Advisory Panel (AP) to provide quality assurance and peer-review of the SJFM-2014. The AP was comprised of four experts and local stakeholders with appropriate technical background. The AP members are as follows.

Table 2: SJFM-2014 Advisory Panel Members

Name	Organization
Cindy Li	Santa Ana Regional Water Quality Control Board
Tracy Nishikawa	United States Geological Survey
Ralph Phraner	Consultant, Local Groundwater Expert
Aleksander Vdovichenko	California Department of Water Resources

The AP reviewed the development and refinement of various components of the SJFM-2014. These components included the physical construction of the model (e.g., model layering), the initial aquifer parameters (e.g., conductivity), the initial recharge parameters (e.g., percolation of applied water), and model calibration. The involvement of the advisory panel during the development of the SJFM-2014

ensured a quality model and allowed developers to expedite the process of assembling a groundwater model that would be widely accepted by local stakeholders and public agencies. There were six AP workshops used to discuss model development and acquire feedback from the AP as well as share the planned direction of work on the SJFM-2014 development and calibration. Model workshops ranged in duration between 3 hours and 9 hours each.

The calibration process took about 9 months to complete and the modeling team moved into scenario development once concurrence on model calibration was acquired from the AP. While there is always room for improvement in models the majority of comments received by the AP were positive and constructive in nature. Comments received regarding potential shortcomings of the model were addressed as much as possible but primarily focused on lack of data in given area of the model. These comments will be the subject of future data gathering efforts and will be addressed in a more comprehensive manner in the next model update.

Summaries of the AP workshops, including comments received from AP members and their general acceptance of the model calibration as well as their comments on the SJFM-2014 Model report, are provided in Appendix F.

1.5 Potential Model Applications

The SJFM-2014 is anticipated to be used in the evaluation of various projects based on their relative benefits to the Basin, such as impact on declining water levels, against their cost and ease of implementation. Simulation runs of the model may also be used to optimize the projects themselves. For example, identification of location for replenishment programs may use information derived from simulation runs in order to make use of areas with particularly high percolation rates to target areas where recharge could improve existing groundwater quality. Information gathered from simulation runs can also assist the region in forecasting the future availability of groundwater while planning for future water demands.

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Section 2 Conceptual Groundwater Flow System

The Conceptual Groundwater Flow System provided an updated configuration and overall technical understanding of the groundwater conditions in the Basin to support the update and development of the SJFTM-2002. This incorporated a comprehensive compilation of data that included:

- Basin Hydrology
- Land Use Conditions
- Soil Types
- Geology
- Groundwater Inflows
- Groundwater Outflows

These data are further discussed in the following sections.

2.1 San Jacinto Groundwater Basin

The San Jacinto Groundwater Basin (Basin) is located in the western portion of Riverside County in Southern California and is about 70 miles southeast of the City of Los Angeles. The Basin is comprised of sedimentary aquifers within the Perris Block and San Jacinto Graben bounded by the Mead Valley Plateau to the west, the Santa Rosa Plateau to the south, the Box Springs mountains to the north, the San Jacinto Mountains to the east (all are primarily crystalline bedrock) and the San Timoteo Hills to the northeast (primarily fine-grained sediments). The bedrock surrounds and extends above the sediments within the Basin. The bounding bedrock and fine-grained sediments combine to effectively define the Basin to be a closed groundwater basin. The 235 square-mile Basin falls almost entirely within the EMWD service area. The Basin includes a portion of the Soboba Band of Luiseño Indian Reservation and the cities of Moreno Valley, Perris, Menifee, San Jacinto, and Hemet as shown in Figure 1. The EMWD service area extends to areas outside the San Jacinto Basin where primarily wastewater services are provided along with interties from The Metropolitan Water District of Southern California (MWD) to other purveyors outside the Basin.

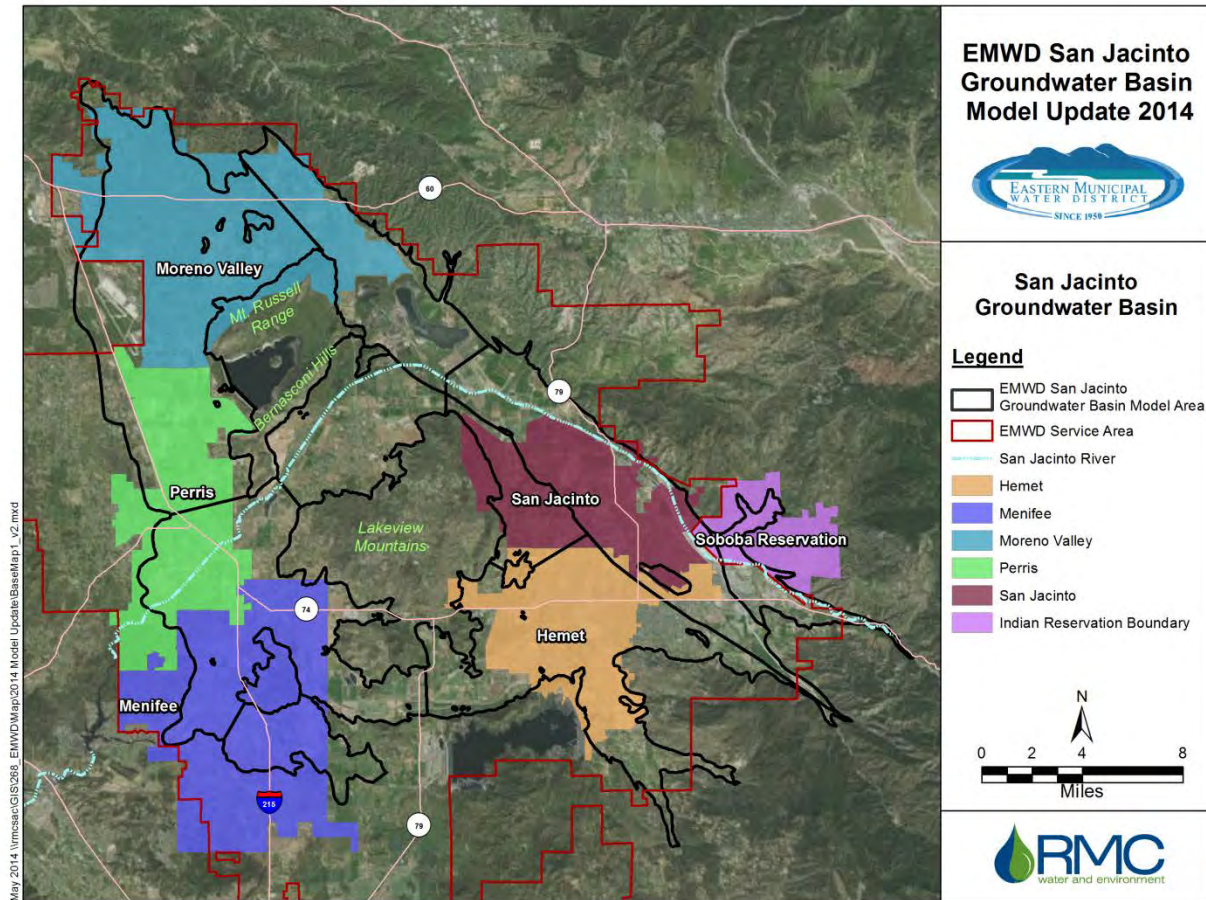


Figure 1: San Jacinto Groundwater Basin Boundary

The Basin is the source of groundwater production for EMWD and several other water purveyors. It is divided into the following eight Groundwater Management Zones (GMZs) as defined in the 2004 San Ana River Basin Plan update by the Santa Ana Regional Water Quality Control Board based on variations of groundwater elevations, groundwater flow characteristics, and groundwater chemistry.

- Perris North
- Perris South
- Menifee
- San Jacinto Lower Pressure (Lower Pressure)
- Lakeview/Hemet North
- Hemet South
- San Jacinto Upper Pressure (Upper Pressure)
- San Jacinto Canyon (Canyon)

For the purpose of this model, the Lakeview/Hemet North GMZ was evaluated as two separate GMZs: Lakeview and Hemet North. The Lakeview/Hemet North GMZ will be referred to separately as Lakeview and Hemet North hereafter in this report. All Basin GMZs are shown in Figure 2.

In general, surface water flows towards Canyon Lake, located to the southwest of the Basin and west of Perris South (Figure 2). Flow from the southeast portion of the Basin flows both north and south around the Lakeview Mountains before ultimately discharging into Canyon Lake. The groundwater flow trends and directions in some areas of the Basin are different than surface water flows. The groundwater flow trends follow the contours of the bedrock valleys. Generally, the groundwater flows in the western part of the Basin (Perris North, Perris South, Menifee, Lakeview, Hemet North, and Hemet South) flow towards Lakeview, where the depth to bedrock is deepest. In the eastern part of the Basin (Lower Pressure, Upper Pressure and Canyon), groundwater flows towards the intake area of Upper Pressure, near the shared boundary with Canyon, which is one of the main production areas in the entire Basin.

The GMZs are managed under two groundwater management plans that divide the Basin into the following management areas (Figure 3).

- Hemet-San Jacinto Groundwater Management Area
- West San Jacinto Groundwater Management Area

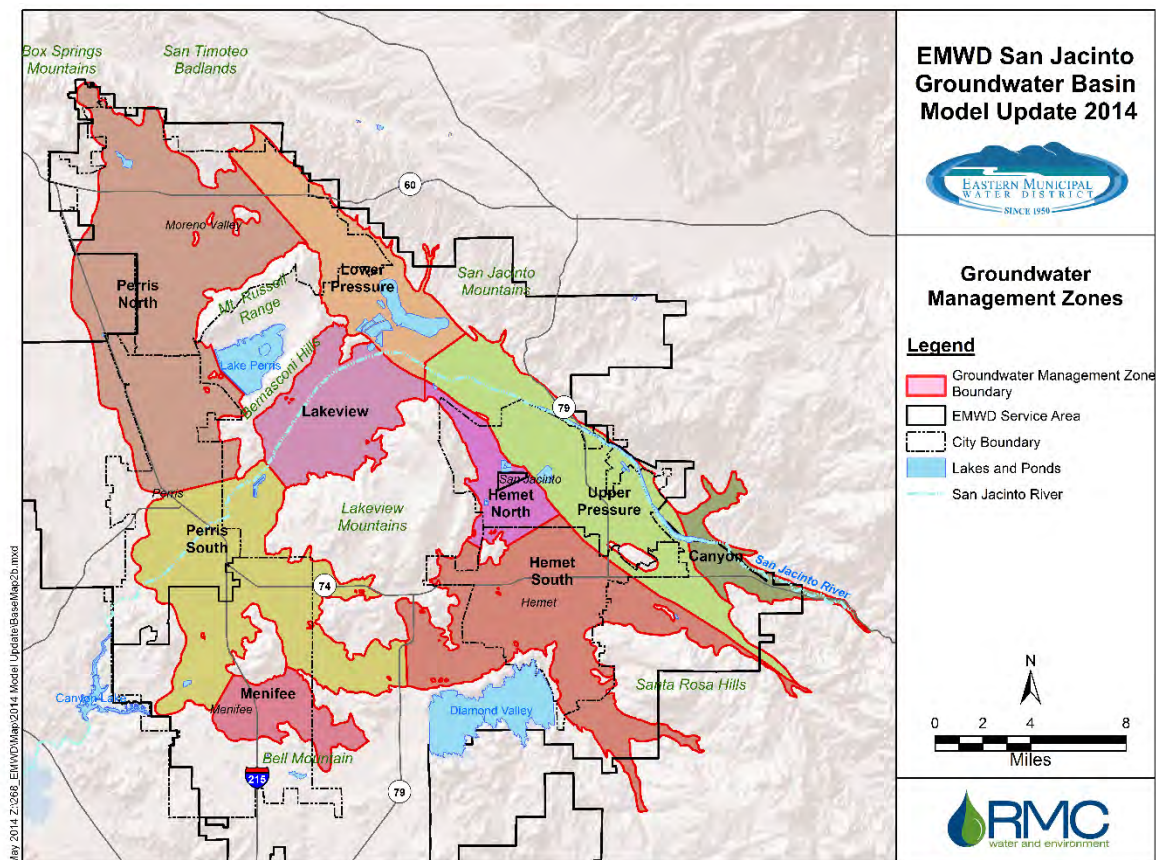


Figure 2: San Jacinto Basin Groundwater Management Zones

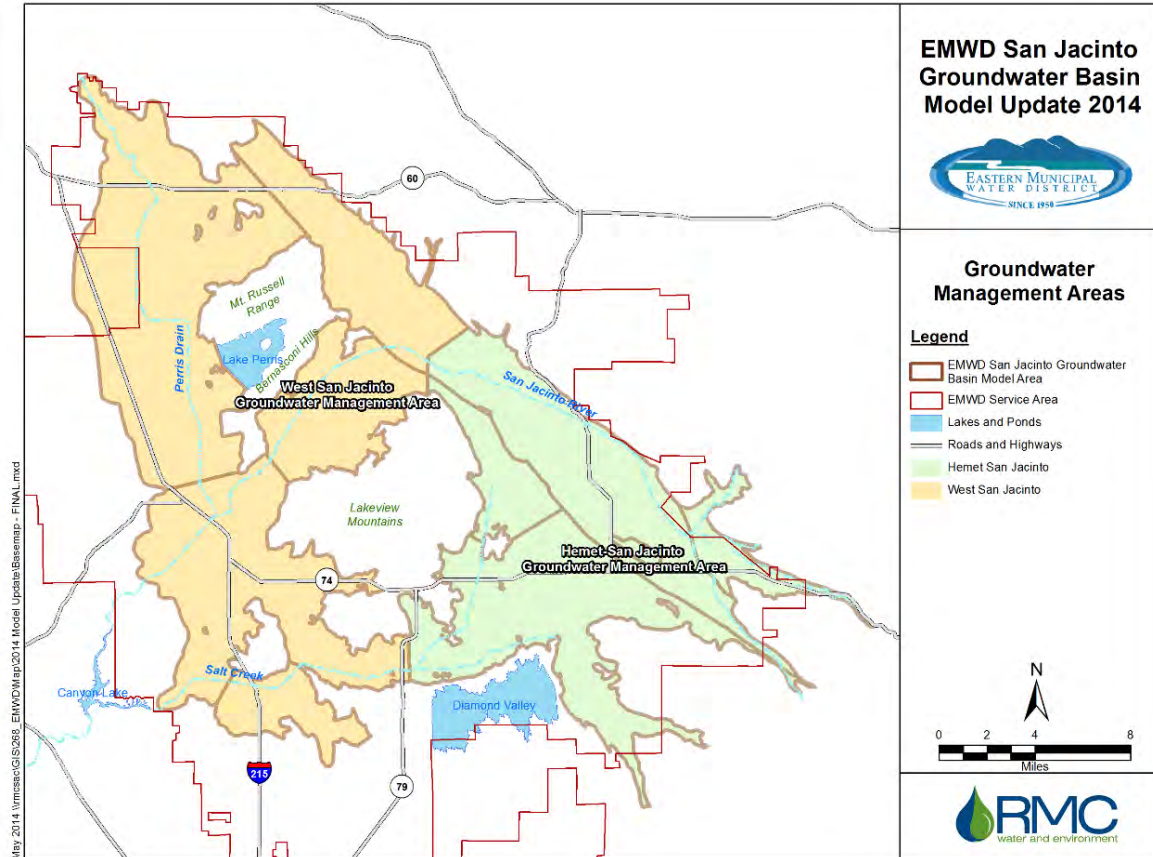


Figure 3: Groundwater Management Areas

2.1.1 Hemet-San Jacinto Groundwater Management Area

The Hemet-San Jacinto Water Management Area encompasses the southeastern portion of the Basin, consisting of Hemet North, Hemet South, Upper Pressure, and Canyon GMZs. The area includes the Cities of San Jacinto and Hemet, as well as the unincorporated areas of Winchester, Valle Vista, and Cactus Valley.

In June of 2001, a Memorandum of Understanding (MOU) between the California Department of Water Resources (DWR) and the local agencies was executed to cooperatively formulate a comprehensive water management plan for the Hemet-San Jacinto area.

The Hemet-San Jacinto Water Management Area is governed by the Water Management Plan². The Water Management Plan has eight primary goals:

- Address pumping overdraft and declining groundwater levels
- Provide for Soboba Band of Luiseño Indians' prior and paramount water rights
- Ensure reliable water supply

² - Eastern Municipal Water District, Hemet/San Jacinto Groundwater Management Area 2013 Annual Report
 - Eastern Municipal Water District, Water Management Plan for Hemet/San Jacinto Groundwater Management Area, 2007

- Provide for planned urban growth
- Protect and enhance water quality
- Develop cost-effective water supply
- Provide adequate monitoring for water supply and water quality
- Supersede the Fruitvale Judgment and Decree

In April 2013, a Stipulated Judgment and Complaint (Judgment), Case Number RIC 1207274 was entered with the Superior Court of the State of California for the County of Riverside adopting the Water Management Plan and creating the Watermaster. The Watermaster Board is the governing body for the Management Area and is comprised of elected officials representing the Cities of Hemet and San Jacinto, LHMWD, EMWD, and a representative for the private groundwater producers.

Each year, an annual report is prepared by the Watermaster. The report describes the status of the Water Management Plan implementation, discusses water supplies and project demands for the Management Area, reviews groundwater monitoring data, presents information on recharge programs, and reviews financial considerations.

The Stipulated Judgement estimates the groundwater safe yield of the Management Area to be approximately 45,000 AF per year³. The Stipulated Judgement also estimates the long-term basin overdraft to be approximately 10,000 AF per year⁴.

2.1.2 West San Jacinto Groundwater Management Area

The West San Jacinto Groundwater Management Area encompasses the area on the western side of the Basin, consisting of Perris North, Perris South, Menifee, San Jacinto Lower Pressure, and Lakeview GMZs. The area includes the cities of Moreno Valley, Menifee and Perris, as well as unincorporated areas of Lakeview, Nuevo and Winchester.

The Groundwater Management Plan for the West San Jacinto Groundwater Management Area was adopted in 1995 and includes an Advisory Committee that studies and reviews all Management Plan activities; assists in developing rules and regulations for the Management Plan and for groundwater resources evaluation projects; and evaluates feasibility plans, demonstration projects, and implementation plans. The Advisory Committee consists of representatives of the cities, water purveyors, and private groundwater producers within the area.

An Annual Report is produced each year by EMWD in accordance with the Groundwater Management Plan and documents changes in water levels, water chemistry, groundwater basin related activities and implementation of previously identified recommendations during the past year.

³ Hemet/San Jacinto Groundwater Management Area 2014 Annual Report. Prepared for Hemet-San Jacinto Watermaster by Eastern Municipal Water District, May 2015.

⁴ Hemet/San Jacinto Groundwater Management Area 2014 Annual Report. Prepared for Hemet-San Jacinto Watermaster by Eastern Municipal Water District, May 2015.

2.1.3 Water Purveyors in San Jacinto Groundwater Basin

There are six main water purveyors in the Basin:

- Eastern Municipal Water District (EMWD)
- Lake Hemet Municipal Water District (LHMWD)
- City of San Jacinto Water Department
- City of Hemet Water Department
- Nuevo Water Company
- City of Perris/Perris Public Utilities

The EMWD direct potable and raw water sales service area is the largest of all the purveyors and spans through the majority of the Basin. With the exception of the Nuevo Water Company and City of Perris, which covers areas in Lakeview, Perris North and Perris South GMZs, the other water purveyors are located in the southeastern portion of the Basin, in Hemet South, Upper Pressure and Canyon GMZs, as shown on Figure 4.

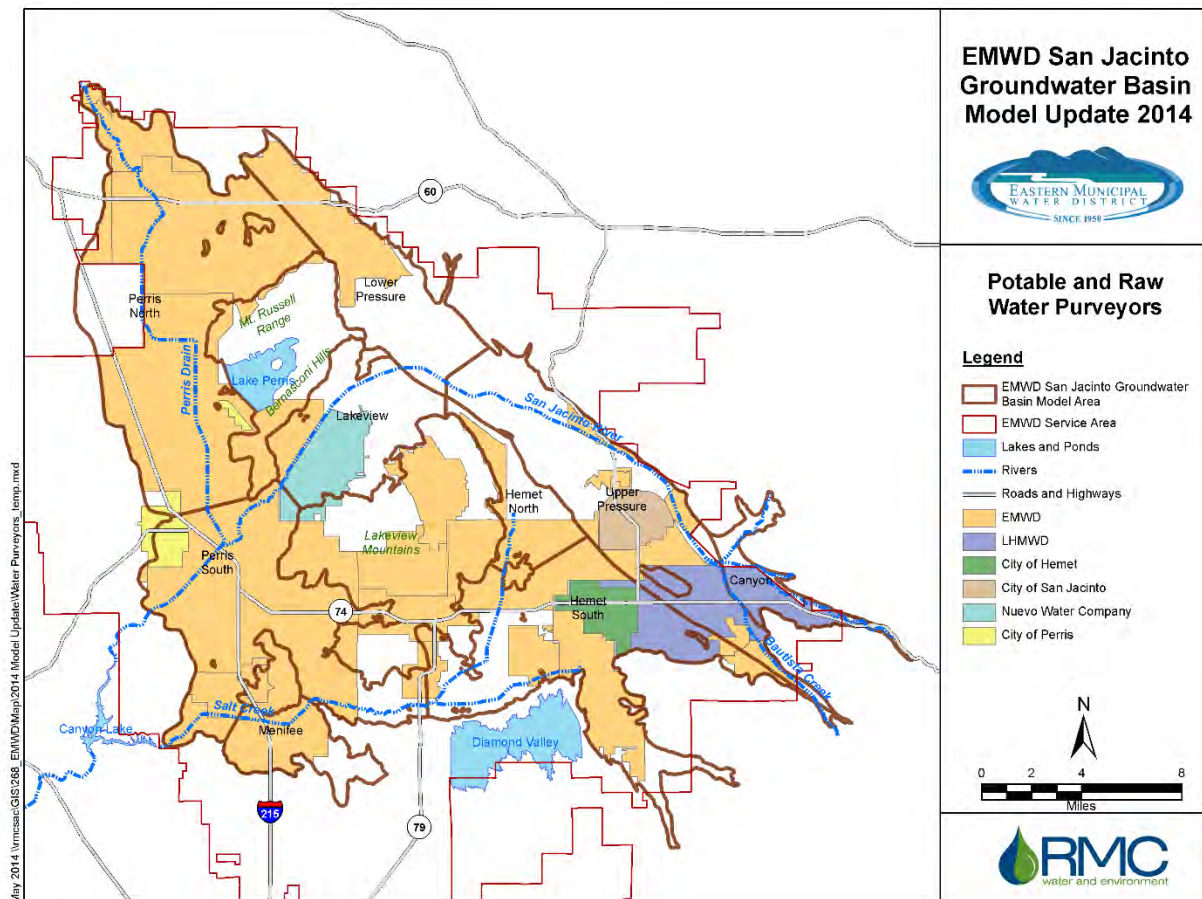


Figure 4: Retail Potable and Raw Water Purveyors in the Basin

2.2 Basin Hydrology

Hydrologically, the Basin has two outflow points, the San Jacinto River and Salt Creek, which flow into Canyon Lake. Hydrogeologically, the Basin is a closed groundwater basin with no significant natural subsurface outflows. The Basin geology is further discussed in Section 2.3.

Groundwater within the Basin predominantly originates from infiltration of precipitation, river recharge, and applied water sources. There are six waterways within the Basin, all of which are ephemeral streams: The San Jacinto River, Bautista Creek, Indian Creek, Poppet Creek, Perris Drain and Salt Creek. All aforementioned creeks are tributaries to the San Jacinto River with the exception of Salt Creek. The San Jacinto River is the largest river and in turn has the largest contribution of infiltration to groundwater. The San Jacinto River enters the Basin in the southeastern part of the Basin through the Canyon GMZ. It flows north and then west, terminating in Canyon Lake (Figure 4). Typically, streamflows percolate to groundwater in the form of seepage in the Upper Pressure and Canyon GMZs. In wet years, streamflows continue downstream of Upper Pressure GMZ, past Bridge Street. The San Jacinto River may overflow during a 25-year flood event first into Canyon Lake then into Lake Elsinore. When Lake Elsinore is full it overflows into Temescal Creek and into the Santa Ana River just upstream from Prado Dam in Corona, California.

Water also enters the groundwater system from seepage underflows from reservoirs such as Perris Lake and Diamond Valley Lake.

Precipitation is variable in the Basin and a majority of it occurs during the late fall and winter months (i.e., between October and March). Precipitation is generally greater in higher elevation areas and lower in the valley. The long-term average annual precipitation for the Basin is about 12.8 inches/year. Figure 5 presents the annual precipitation at the San Jacinto Gauge #186.

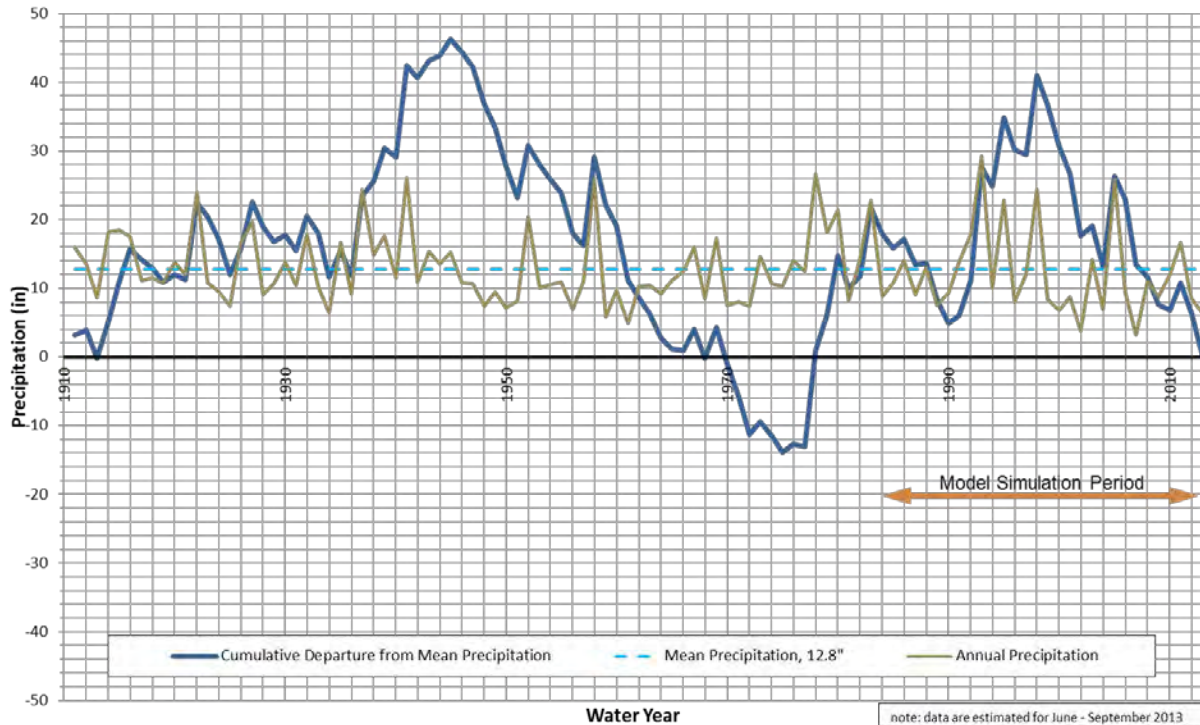


Figure 5: Annual Precipitation and Cumulative Departure from the Mean at Riverside County Flood Control and Water Conservation District, San Jacinto Gauge #186

2.3 San Jacinto Groundwater Basin Geology and Hydrogeology

The conceptual geology of the San Jacinto Groundwater Basin is presented below through description of regional geology, faults, and summary of geologic conditions within each Groundwater Management Zone (GMZ). The conceptual geology provides the foundation for understanding the hydrogeology of the Basin and developing the groundwater model. Basin geology, along with groundwater elevation, groundwater quality, and aquifer property data, allow us to segregate the Basin into hydrogeologic layers and ultimately into model layers for numerical modeling. This information is accompanied by 33 detailed cross sections (presented in Appendix A).

2.3.1 Regional Geology Setting

The San Jacinto Groundwater Basin underlies San Jacinto, Perris, Moreno, and Meniffee Valleys in western Riverside County. As shown in Figure 2, this basin is bounded by the San Jacinto Mountains on the east, the San Timoteo Badlands on the northeast, the Box Spring Mountains on the north, the Santa Rosa Hills and Bell Mountain on the south, and unnamed hills on the west (DWR, 2006).

The San Jacinto Groundwater Basin is located within the Peninsular Range, a series of northwest-oriented mountain ranges extending from the Baja California peninsula north to the Transverse Ranges, the east-west oriented mountains surrounding the Los Angeles Basin and San Fernando Valley (Harden, 1998). The onshore portion of the Peninsular Ranges are further divided into three fault-bounded blocks, with the San Jacinto Groundwater Basin within the eastern portion of the Perris Block, a roughly rectangular area of relatively low relief underlain by metamorphic rocks intruded by Cretaceous plutons of the Peninsular

Ranges Batholith. The San Jacinto Groundwater Basin borders the San Jacinto Mountains Block on the east (Morton & Miller, 2006).

The San Jacinto Groundwater Basin is bounded by crystalline bedrock or lower permeability sedimentary and metamorphic rocks, with these boundaries often accompanied by faults on the east. The Basin is a closed basin, with no significant groundwater flow into or out of other groundwater basins, however, based on groundwater level readings in the area, a significant amount of groundwater does flow through the subsurface into the Basin from the surrounding hills. The western boundary of the Basin is primarily the Cretaceous Val Verde Tonalite, an intrusive igneous (plutonic) rock, also called quartz diorite⁵. Tonalites are also common along the northern boundary of the Basin, along with other intrusive igneous rocks. The southern and southwestern boundary is a mix of intrusive igneous rocks and metamorphic rocks, such as quartzite, phyllite, schist, and gneiss. Along the eastern boundary, the northern portion is largely the Claremont Fault, with the sandstones and conglomerates of the Pliocene San Timoteo Beds along with Cretaceous granite⁶ and Paleozoic metamorphic rocks on the opposite side of the fault. The southern portion of the eastern boundary is located to the east of the Claremont Fault and is generally the contact with the Bautista Formation, a Pleistocene arkosic sandstone with silty and clayey beds. Unlike the igneous and metamorphic rocks bordering the basin in other areas, some groundwater production occurs within the Bautista.

Several hills and mountains are present within the basin. The Bernasconi Hills and Mt. Russell Range (Figure 6), located around Lake Perris, are comprised of Cretaceous granitic rocks, including tonalites. The Lakeview Mountains (Figure 6) are also comprised largely of granitics, including tonalite and granodiorite. Hills and mountains near Menifee are generally comprised of Cretaceous granitics and Triassic metamorphics. Park Hill (Figure 6) is comprised of the sedimentary Bautista Formation (Morton & Miller, 2006; Rogers, 1965).

The primary water-bearing materials in the San Jacinto Groundwater Basin are alluvial materials deposited above crystalline bedrock or above lower permeability sedimentary bedrock. Depth to bedrock in the Basin is shown on Figure 6. The depth to crystalline bedrock in the Upper Pressure ranges from 10,000 feet near Lower Pressure to near ground surface to the south near Bautista Creek (Fett, 1968). As shown in Figure 6, deepest bedrock is found within the San Jacinto Graben (see Section 2.3.3) in the Lower Pressure and Upper Pressure GMZs. The deposition of alluvial materials was driven by topography and climate with high energy environments (fast moving water) depositing coarser materials such as gravels and sands and low-energy environments (slow moving water) depositing finer materials such as silts and clays. The depositional environment depended largely on the location of rivers and streams, which move over time, and tectonic activity resulting in a complex mix of heterogeneous gravels, sands, silts, and clays. Despite this heterogeneity, there are trends with depth and with location. Details on subsurface

⁵ Tonalite has a mineral composition of hornblende, oligoclase or andesine, pyroxene, and quartz, with quartz comprising 5 – 20% of the light colored minerals (American Geological Institute, 1984)

⁶ Granite is a plutonic rock in which quartz makes up 10 to 50% of the felsic components (light-colored, silica-rich minerals) and the alkali feldspar/total feldspar ratio is 65 to 90%. (American Geological Institute, 1984)

conditions are provided for each Groundwater Management Zone (GMZ) later in this section and are supported by the detailed cross sections.

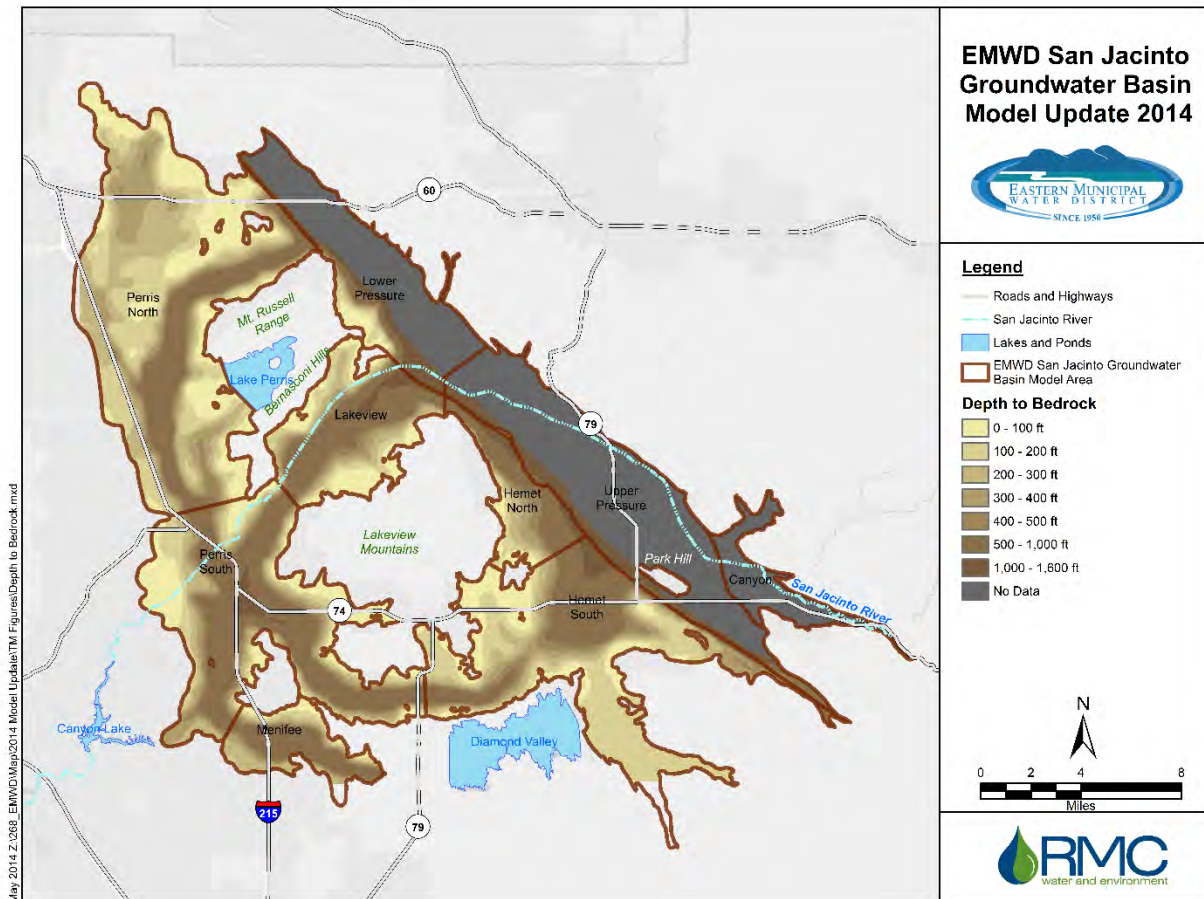


Figure 6: Depth to Bedrock

2.3.2 Faults

Faults are an important component of the geology of the San Jacinto Groundwater Basin, forming boundaries, impacting groundwater flow, and causing the uplift and subsidence that led to the current alluvial basin. Major faults in the basin are located in the eastern portion of the area, as shown in Figure 7, and are part of the San Jacinto Fault Zone. Significant faults impacting water-bearing materials include the Claremont Fault, Casa Loma Fault, and Park Hill Fault. The Claremont Fault defines a portion of the eastern boundary of the San Jacinto Basin and also provides a partial barrier to flow between the Canyon and Upper Pressure GMZs with significant groundwater flow across the fault limited to periods when groundwater is within 40 - 60 feet of the ground surface. The Casa Loma Fault impedes movement but still allows groundwater to flow to the northwest of Park Hill based on sampling and analysis of stable isotopes (Williams, Rodoni, & Lee, 1993). The Park Hill Fault also impedes groundwater flow, as seen through water level and water quality differences (Schlehuber, Lee, & Hall, 1989). Other faults and shear zones are present in the basin, but are generally considered to have limited effect on regional groundwater flow.

The area of San Jacinto Lower Pressure and San Jacinto Upper Pressure between the Claremont Fault on the east and the Casa Loma Fault on the west is a structural basin, termed the San Jacinto Graben, formed at a right-step between the Casa Loma and Claremont Faults of the San Jacinto Fault Zone. The area is the site of rapid tectonic subsidence (Morton & Miller, 2006). Such subsidence contributes to depressions such as Mystic Lake that result in accumulation of fine grained materials. Due to ongoing subsidence and sediment deposition over geologic time, extremely thick, fine grained alluvial sediments are present in this area, approximately 10,000 feet thick and estimated to be no older than 1.5 million years old (Fett, 1968; Morton & Miller, 2006).

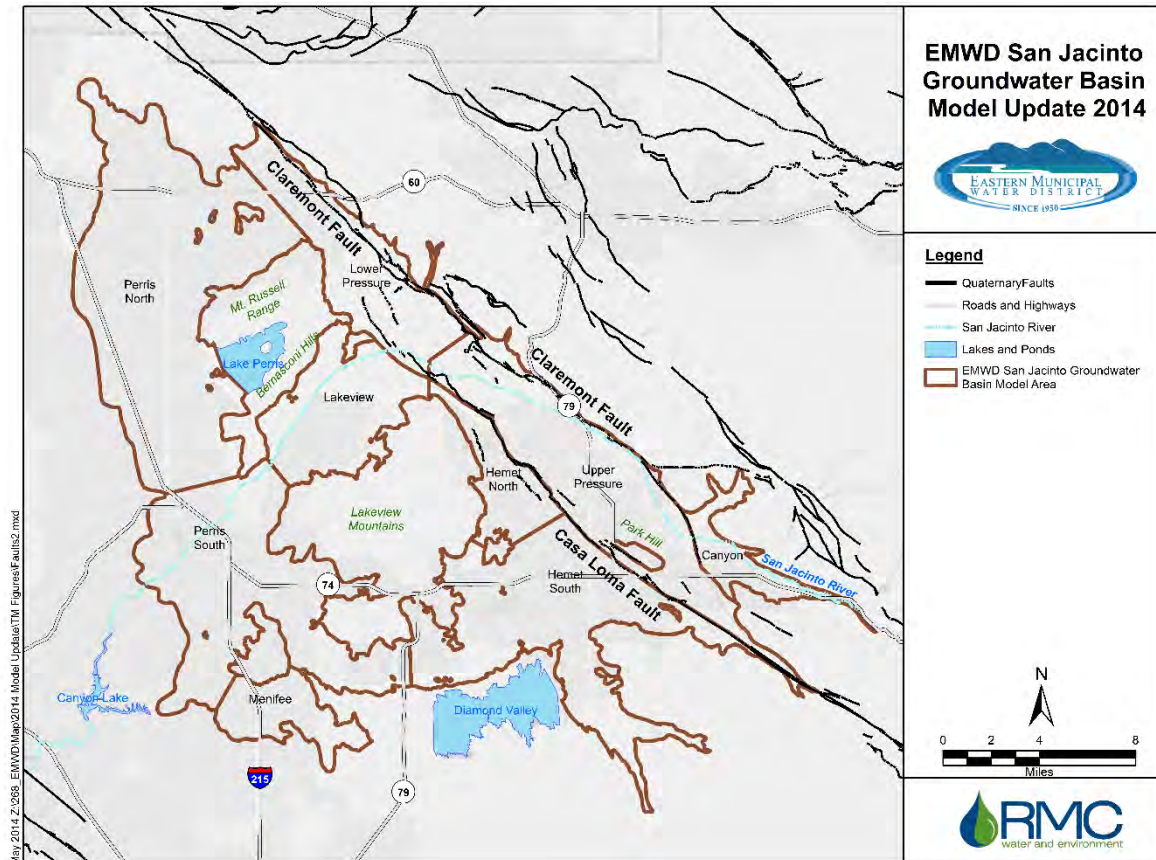


Figure 7: Major Faults in San Jacinto Groundwater Basin

2.3.3 Local Geology Setting

Descriptions of the primary water-bearing materials in the San Jacinto Basin are provided below, by groundwater management zone. The descriptions are supported by 33 detailed cross sections developed by EMWD, shown in Appendix A. The cross sections were developed based on lithologic logs, downhole geophysical logs, well construction logs, water quality, water levels, areal geophysics, photographic review, literature review, and field observations. These cross sections span all or a portion of one or more GMZs.

Cross sections with significant relevance to each GMZ are listed within the subsection as either being primarily a longitudinal cross section, a transverse cross section, or some combination of the two.

The descriptions are also supported by a basinwide depth-to-bedrock map (Figure 6), basinwide fault map (Figure 7), basinwide groundwater elevation map (Figure 8), estimates of average ambient water quality within the Management Zones (Figure 9 and Figure 10), characteristics of the wells in the basin (Table 3), and limited aquifer test information. The basinwide depth-to-bedrock map was developed based on updates by EMWD to a study by the University of California, Riverside. Estimates of ambient water quality for each GMZ are from statistical analysis using 20-year averages (1993 – 2012) performed for the RWQCB as part of the agreement to adopt the 2004 Basin Plan Amendment (Santa Ana Watershed Project Authority, 2014). Information from existing wells, including the screened intervals and the driller's estimation of production rates are used to provide information on the location of coarser, higher conductivity materials in the subsurface. Finally, limited aquifer test information was used to further refine the location of higher and lower conductivity materials.

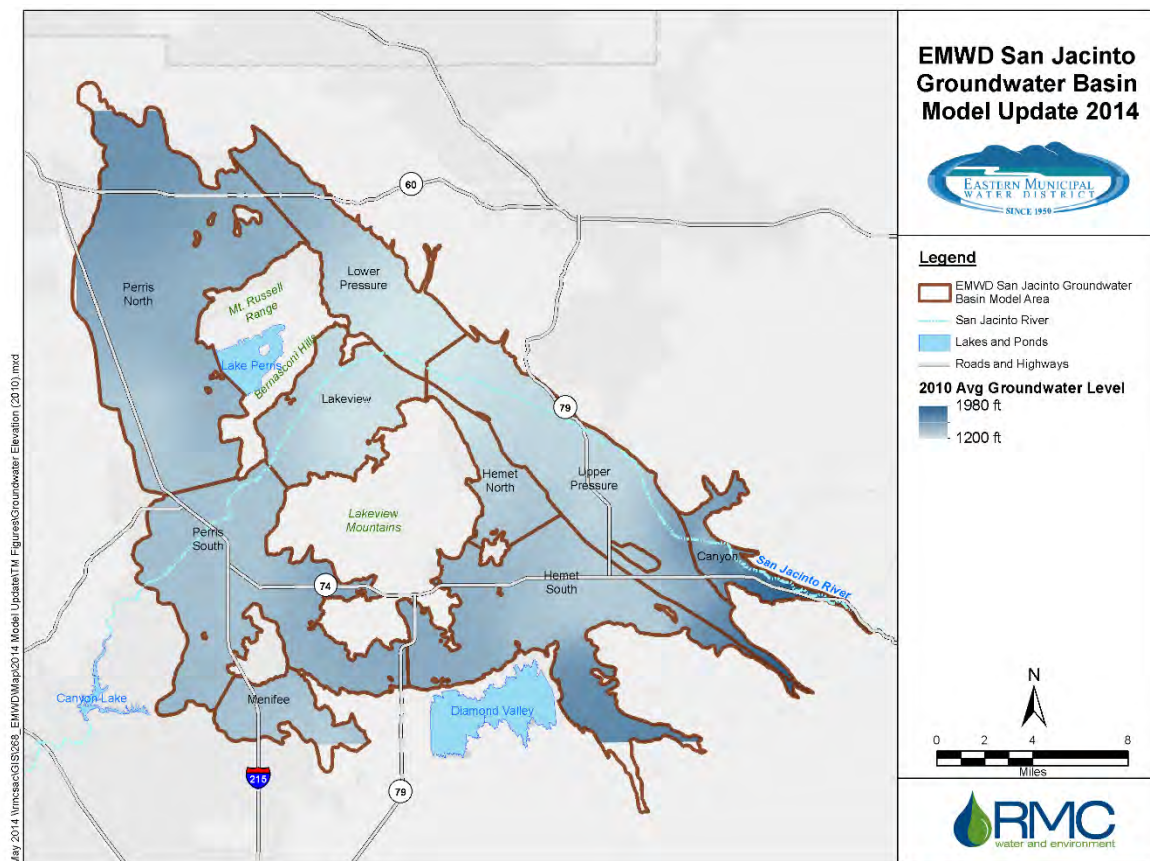


Figure 8: Groundwater Elevation, 2010

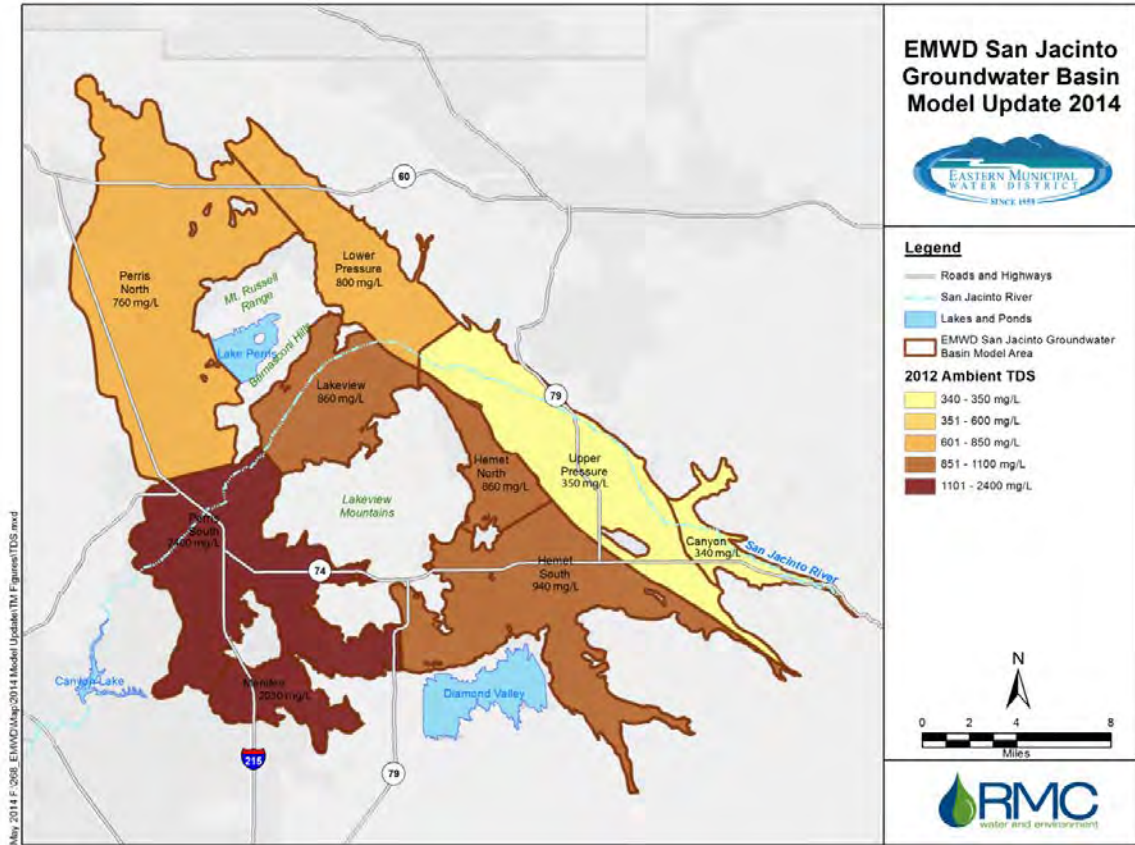


Figure 9: Ambient Average TDS, by Groundwater Management Zone

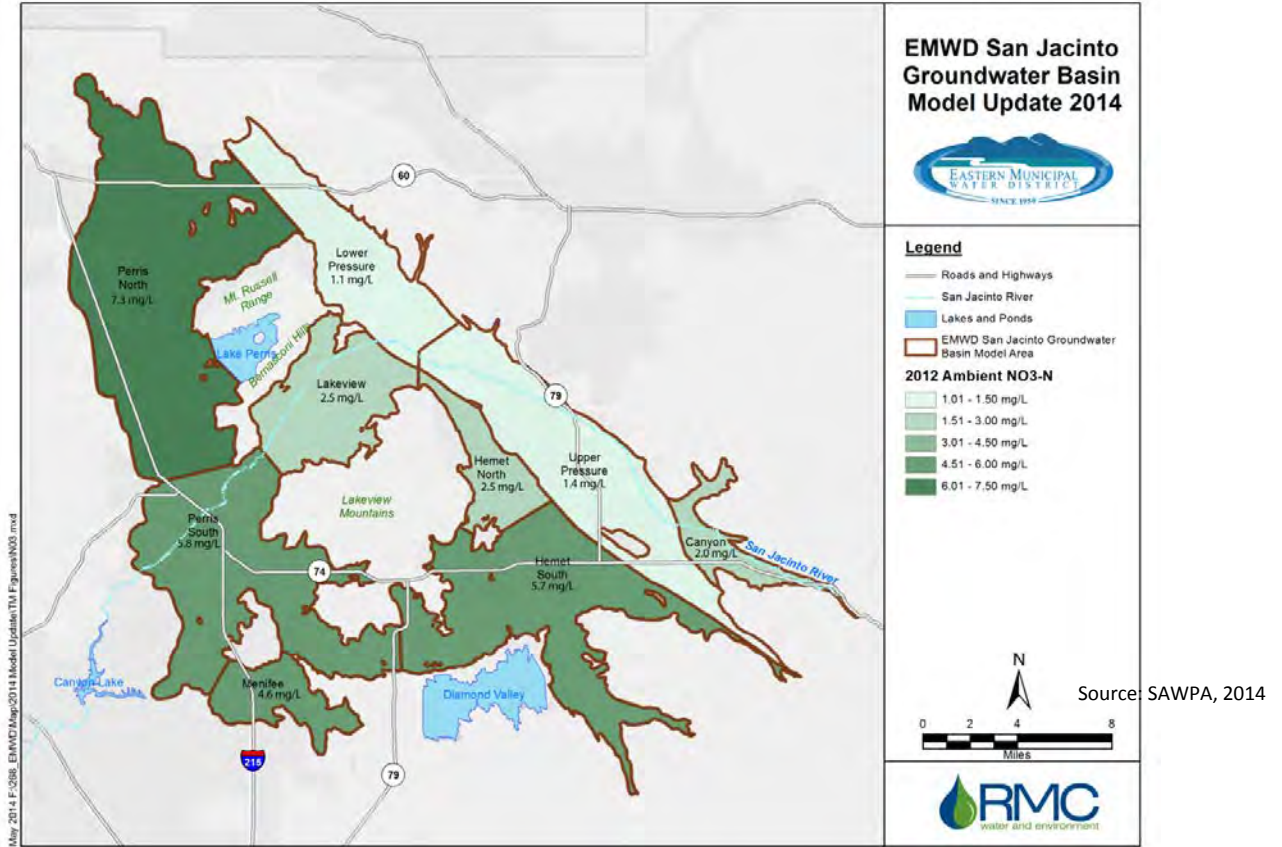


Figure 10: Ambient Average Nitrate (as Nitrogen), by Groundwater Management Zone

Table 3: Existing and Historical Well Screen Depths in San Jacinto Groundwater Basin

Depth (ft)	Perris North	Perris South	Menifee	Lower Pressure	Lakeview	Hemet North	Hemet South	Upper Pressure	Canyon
100	50 (33%)	18 (16%)	15 (42%)	2 (5%)	7 (16%)	7 (18%)	43 (38%)	47 (34%)	14 (41%)
200	79 (52%)	52 (47%)	18 (50%)	7 (19%)	23 (53%)	20 (50%)	34 (30%)	58 (41%)	22 (65%)
300	81 (54%)	38 (34%)	14 (39%)	11 (30%)	26 (60%)	26 (65%)	42 (37%)	63 (45%)	18 (53%)
400	49 (32%)	24 (22%)	15 (42%)	18 (49%)	27 (63%)	27 (68%)	37 (33%)	58 (41%)	25 (74%)
500	25 (17%)	16 (14%)	12 (33%)	14 (38%)	21 (49%)	15 (38%)	21 (19%)	55 (39%)	16 (47%)
600	13 (9%)	8 (7%)	3 (8%)	15 (41%)	12 (28%)	7 (18%)	12 (11%)	45 (32%)	12 (35%)
700	9 (6%)	7 (6%)	2 (6%)	16 (43%)	5 (12%)	4 (10%)	6 (5%)	35 (25%)	6 (18%)
800	- (-%)	3 (3%)	- (-%)	10 (27%)	5 (12%)	2 (5%)	4 (4%)	26 (19%)	3 (9%)
900	- (-%)	2 (2%)	- (-%)	8 (22%)	1 (2%)	1 (3%)	1 (1%)	17 (12%)	2 (6%)
1000	- (-%)	1 (1%)	- (-%)	7 (19%)	- (-%)	- (-%)	- (-%)	11 (8%)	3 (9%)
1100	- (-%)	- (-%)	- (-%)	4 (11%)	- (-%)	- (-%)	- (-%)	8 (6%)	2 (6%)
1200	- (-%)	- (-%)	- (-%)	1 (3%)	- (-%)	- (-%)	- (-%)	4 (3%)	- (-%)
1300	- (-%)	- (-%)	- (-%)	1 (3%)	- (-%)	- (-%)	- (-%)	3 (2%)	1 (3%)
1400	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	3 (2%)	- (-%)
1500	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	- (-%)	3 (2%)	- (-%)
Number of Wells	151	111	36	37	43	40	113	140	34

2.3.3.1 San Jacinto Upper Pressure GMZ

San Jacinto Upper Pressure GMZ (Upper Pressure) is located in the eastern portion of the Basin, as shown in Figure 11, and includes portions of the City of San Jacinto, City of Hemet, unincorporated urban areas such as East Hemet, agricultural areas, and undeveloped areas. Upper Pressure is located to the northeast of Hemet South GMZ; southwest of the San Jacinto Mountains and Canyon GMZ; northwest of Rouse Hill; and southeast of the Lower Pressure GMZ. The hydrology, geology, and hydrogeology are presented below.

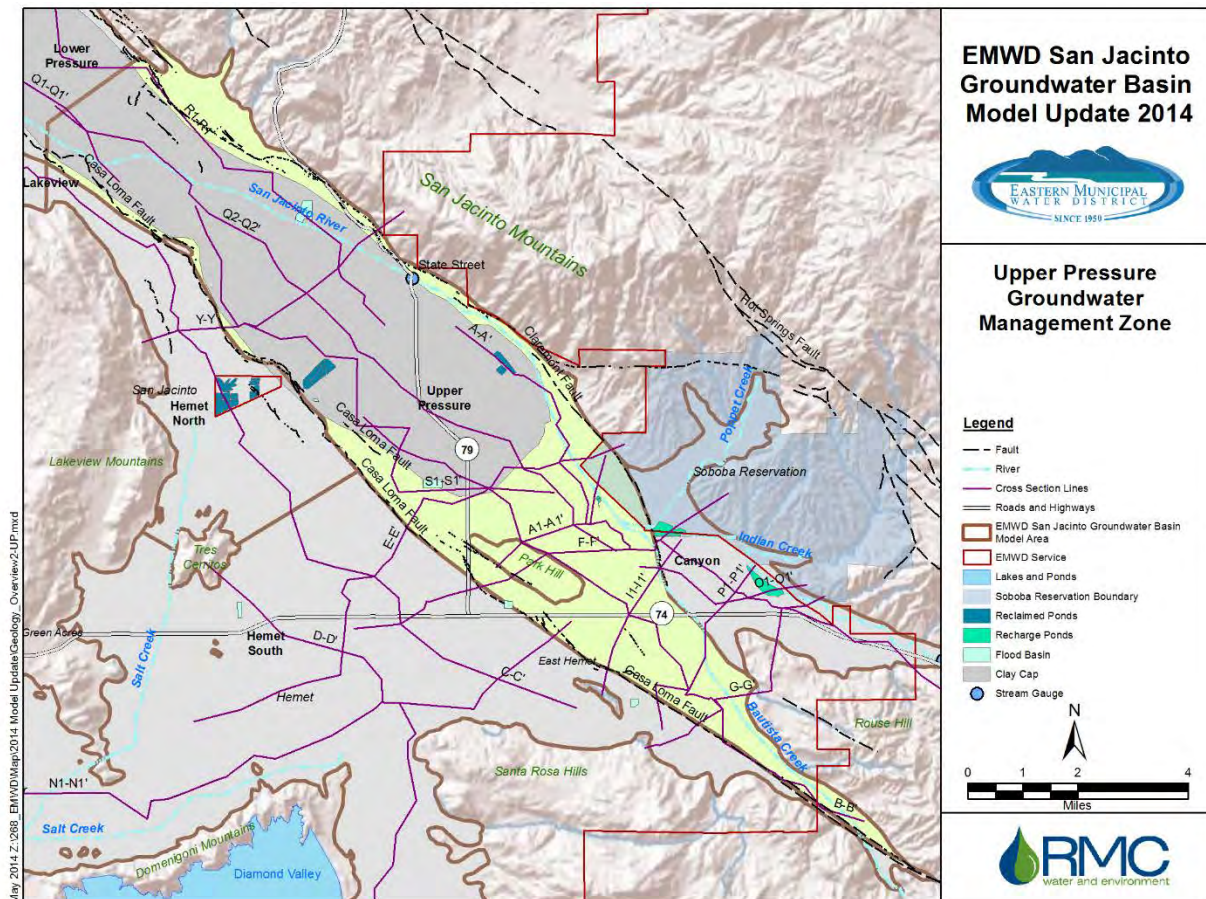


Figure 11: San Jacinto Upper Pressure GMZ

Hydrology

Hydrology in the Upper Pressure is dominated by the upper-middle reach of the intermittent San Jacinto River, which flows into the Upper Pressure from the Canyon GMZ near San Jacinto just downstream (north) of the confluence of Bautista and Poppet Creeks and flows out of the Upper Pressure into the Lower Pressure GMZ at Bridge Street just upstream of Mystic Lake. The path of the river appears controlled by geologic-structure, generally following the Claremont Fault. The streambed elevation of the San Jacinto River drops about 200 feet vertically over approximately 12 miles within the Upper Pressure. During recent large rainfall events the river has flowed into Mystic Lake, located just downstream of Upper Pressure. The lowest elevation in the Upper Pressure is along the border of Lower Pressure.

The San Jacinto River is gauged within the Upper Pressure at State Street (location shown in Figure 11; site shown in Figure 12). Due to high permeability sediments in the riverbed between Canyon GMZ and State Street, detention and infiltration at the upstream Soboba Pit, and regulation of the river by the upstream Lake Hemet, little flow makes it to the gauge except in times of significant rainfall, about every 5 to 10 years. Due to the limited period of record for streamflow measurements at the State Street gauge, streamflows are estimated based on an analysis by the USGS (Guay, 2002), as discussed in Section 2.4.3.

Bautista Creek enters the southern portion of Upper Pressure before joining with the San Jacinto River along the boundary of Upper Pressure and Canyon. The path of the river appears controlled by geologic-structure, generally following the Bautista Fault. The majority of Bautista Creek in Upper Pressure is concrete lined and has very little leakage. Off stream ponds along Bautista Creek are operated by LHMWD and Riverside County Flood Control and Water Conservation District (RCFC&WCD) to provide recharge to the groundwater system. The largest amount of natural recharge from Bautista Creek occurs upstream in a flood plain in the southernmost part of Upper Pressure. Any additional flows continue into the San Jacinto River.

Additional considerations of the hydrology in the Upper Pressure include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.



Source: USGS, 2016 (http://waterdata.usgs.gov/nwisweb/local/state/ca/text/11070150_ds.jpg)

Figure 12: San Jacinto River above State Street near San Jacinto, CA Gauge (USGS 11070150)

Geology/Hydrogeology

The Upper Pressure GMZ is located within the San Jacinto Graben as defined by Fett (1968). The Graben is a structural basin formed at a right step between the Claremont Fault on the northeast and the Casa Loma Fault Zone on the southwest (Morton and Miller, 2006). The depth to crystalline bedrock in the Lower Pressure is up to 10,000 feet near Lower Pressure (Fett, 1968). The faulting in the area ranges from the mixed strike-slip (horizontal displacement) and dip-slip (vertical displacement) movement of the Claremont Fault to the dip-slip movement of the Casa Loma Fault (DWR, 1959). Synclines and anticlines have been mapped by the USGS (e.g., Morton and Miller, 2006; Morton and Matti, 2001) in the formations to the east of the Claremont Fault, but no attitudes have been provided on the west side of the fault (within the Upper Pressure). The relatively downdropped area between the faults, the San Jacinto Graben, contains deep sedimentary deposits resulting from concurrent tectonic subsidence and deposition of locally re-worked sediments from the Bautista Formation and other nearby formations, along with sediments transported into the area by the San Jacinto River and its tributaries.

Surficial geology within the Upper Pressure is Holocene alluvial wash deposits near current and recent paths of the San Jacinto River and Bautista Creek, Holocene to late Pleistocene alluvial fan deposits in the

valley, with coarser materials in the portions of the valley closer to the higher elevation mountains. The Pleistocene Bautista Formation, an arkosic sandstone with silty and clayey beds, bounds the basin in the east and southeast and also forms the isolated Park Hill to the northeast of Hemet while Miocene and Pliocene sandstones and metamorphic rocks potentially of Paleozoic age are present to the northeast opposite the Claremont fault (California Geological Survey, 2012; Morton and Miller, 2006; Morton and Matti, 2001).

Rivers in the Upper Pressure are a primary source of coarse materials in the subsurface. The rivers and creeks appear to have had numerous alignments in the valley. These historical alignments include the San Jacinto River heading more westerly through San Jacinto and Bautista Creek flowing along a more westerly alignment. Soils maps show coarser materials along these likely historical alignments of the San Jacinto River, as well as Bautista Creek. Historical alignments are supported by boundaries, trails, and road alignments which tended to follow naturally occurring geomorphic features, such as river courses. The surface water courses all display a northwest-southeast trend parallel to the Casa Loma and Claremont Faults. Merging this information with historical and current alignments of the San Jacinto River and Bautista Creek, it appears faulting in the area controls the course of the River, suggesting that similar northwest-southeast trending coarser deposits may exist at depth.

A series of 33 cross-sections were generated based on lithologic logs, downhole geophysical logs, well construction logs, water quality, water levels, areal geophysics, photographic review, literature review, and field observations. The focus of this report is on economically viable groundwater resources which have historically been identified to depths on the order of less than 1,500 feet below ground surface (ft bgs). Subsurface materials in the Upper Pressure are shown through all or portions of the following cross sections (Appendix A).

- Longitudinal cross sections A – A', B – B', Q1- Q1', Q2 – Q2', R1 - R1', S1 - S1',
- Transverse cross sections: A1 – A1', E – E', F – F', G – G', I1 – I1', P1 – P1', Y – Y'

The cross sections show water-bearing materials within the Upper Pressure that include interbedded and intermixed, unconsolidated to consolidated, sand, gravel, cobbles, silt, clay, and boulders. The southern portion of the Upper Pressure is locally known as the Intake with coarse-grained materials extending to the surface allowing for direct recharge of the aquifers below. The upper 200 feet is predominantly clay in the northern area of the Upper Pressure. This northern area is covered by a "clay cap," an area of clay soils that extends into the southern portion of San Jacinto Lower Pressure, as shown in Figure 13. The portion of the San Jacinto Upper Pressure overlain by the clay cap historically had flowing artesian conditions. The clay soils and subsurface materials here are likely results of lower energy depositional environments, due to tectonic subsidence within the San Jacinto Graben and resulting low gradients for surface water courses.

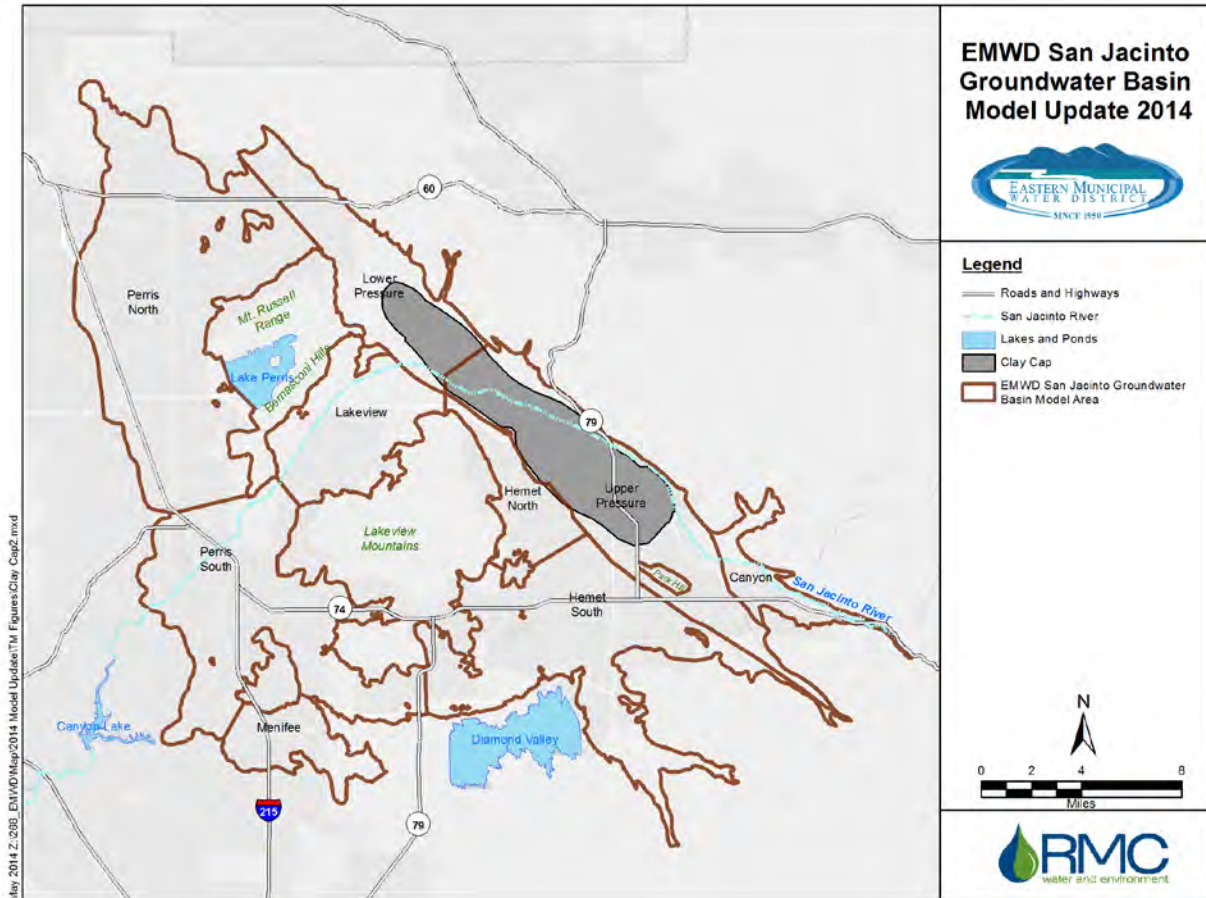


Figure 13: Location of Clay Cap

Park Hill is a prominent feature within the Upper Pressure and is predominantly Bautista Formation, a Pleistocene arkosic sandstone with silty and clayey beds that generally yields significantly less water than the surrounding alluvial materials.

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 800 ft bgs, with wells as deep as nearly 1,500 ft bgs; these data include domestic, irrigation, and municipal wells.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of approximately 700 gpm, with a 25th percentile value of 200 gpm and a 75th percentile value of 1,700 gpm. The maximum yield is 3,800 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well.

Approximately 40% of the groundwater produced within the San Jacinto Groundwater Basin is produced from the Upper Pressure, making it the most productive of the GMZs. Groundwater levels have declined significantly over the past 10 – 20 years with 200 – 300 feet of decline in static water levels observed in select wells.

Previous work in the area estimated aquifer hydraulic conductivities to range between 4 and 42 feet per day (ft/day; TechLink 2002). This range is commonly used for Upper Pressure analyses and is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within the Upper Pressure was estimated by the Santa Ana Watershed Project Authority (SAWPA), with a Nitrate-Nitrogen concentration of 1.4 milligrams per liter (mg/l) and a TDS concentration of 350 mg/l (SAWPA, 2014).

2.3.3.2 San Jacinto Lower Pressure GMZ

San Jacinto Lower Pressure GMZ (Lower Pressure) is located in the northeastern portion of the Basin, as shown in Figure 14, and includes largely undeveloped and agricultural areas with some urban development east of Moreno Valley. Lower Pressure is located to the northeast of Perris North GMZ, Mount Russell, and Lakeview GMZ, and Perris North GMZ. It is southwest of the San Jacinto Mountains, northwest of Upper Pressure and southeast of the Kalmia Hills. The hydrology, geology, and hydrogeology are presented below.

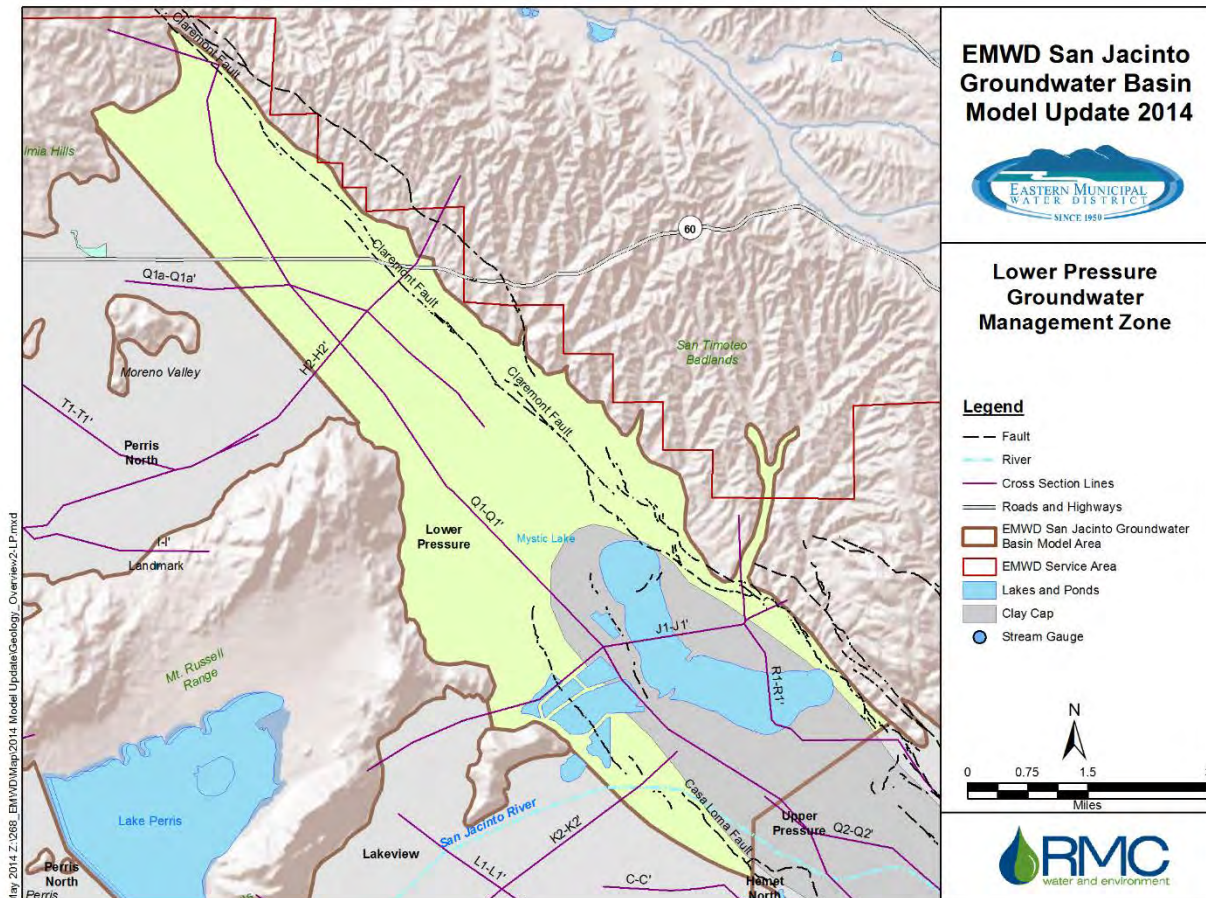


Figure 14: San Jacinto Lower Pressure GMZ

Hydrology

Hydrology in the Lower Pressure is dominated by a reach of the intermittent San Jacinto River, which flows into the GMZ from the Upper Pressure at Bridge Street just upstream of Mystic Lake. Only in very wet years does Mystic Lake overflow, allowing the San Jacinto River continue to flow from Mystic Lake to the southwest towards Canyon Lake. The path of the river upstream of Mystic Lake appears controlled by geologic-structure, generally following faults before flowing southwest from Mystic Lake. The streambed elevation of the San Jacinto River is nearly level within the Lower Pressure, at approximately 1,430 feet above mean sea level. During recent large rainfall events the river has successfully flowed into and terminated at Mystic Lake. The depth and extent of Mystic Lake is increasing over time due to tectonic subsidence, requiring increasingly large rain events to cause overflow (Western Riverside County Agriculture Coalition. 2015).

The San Jacinto River is not gauged within the Lower Pressure, with the closest gauge upstream at State Street within the Upper Pressure. Due to high permeability sediments in the riverbed upstream of the Lower Pressure, detention and infiltration at the upstream Soboba Pit, and regulation of the river by the upstream Lake Hemet, little flow makes it to the Lower Pressure except in times of significant rainfall, about every 5 - 10 years.

Additional considerations of the hydrology in the Lower Pressure include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.

Geology/Hydrogeology

Similar to the Upper Pressure, the Lower Pressure GMZ is located within the San Jacinto Graben as defined by Fett (1968). The Graben is a structural basin formed at a right step between the Claremont Fault on the northeast and the Casa Loma Fault Zone on the southwest (Morton and Miller, 2006). The depth to crystalline bedrock in the Lower Pressure is up to 10,000 feet near Upper Pressure (Fett, 1968). The faulting in the area ranges from the mixed strike-slip (horizontal displacement) and dip-slip (vertical displacement) movement of the Claremont Fault to the dip-slip movement of the Casa Loma Fault (DWR, 1959). Fissures are present in the vicinity of Mystic Lake due to a combination of tectonic movement and subsidence due to groundwater withdrawal (Morton and Matti, 2001). Synclines and anticlines have been mapped by the USGS in the formations to the east of the Claremont Fault (e.g., Matti and Morton, 2010; Morton and Miller, 2006; Morton and Matti, 2001). This includes the San Timoteo Anticline in the San Timoteo Badlands, which includes deformed Miocene to Pleistocene age sedimentary materials. No attitudes have been provided on the west side of the fault (within the Lower Pressure). The relatively downdropped area between the faults, the San Jacinto Graben, contains deep sedimentary deposits resulting from concurrent tectonic subsidence and deposition of locally re-worked sediments from the Bautista Formation and other nearby formations, along with sediments transported into the area by the San Jacinto River and its tributaries.

Surficial geology within the Lower Pressure is generally Quaternary alluvial fan deposits in the valley, with mixed lacustrine and fluvial deposits in the Mystic Lake area. The Lower Pressure is bounded on the

northeast by nonmarine sedimentary rocks, including the Pleistocene and Pliocene San Timoteo formation and the Miocene Mt. Eden formation, and by Cretaceous granitic rocks and tonalite. To the north, Cretaceous granitic rocks and tonalite bound the basin, and Tonalite is also present in the Cretaceous granitic rocks that make up the Bernasconi Hills to the west (Morton and Miller, 2006; Morton and Matti, 2001; Matti and Morton, 2010).

Major surface water features are the San Jacinto River and Mystic Lake. Due to the flat topography, the low energy depositional environment results in finer grained materials deposited in Lower Pressure, compared to the higher energy environments in the Upper Pressure and Canyon.

A series of 33 cross-sections were generated based on lithologic logs, downhole geophysical logs, well construction logs, water quality, water levels, areal geophysics, photographic review, literature review, and field observations. The focus of this report is on economically viable groundwater resources which have historically been identified to depths on the order of less than 1,500 ft bgs. Subsurface materials in the Lower Pressure are shown through all or portions of the following cross sections.

- Longitudinal cross sections, Q1,- Q1', Q1a – Q1a', R1 – R1'S1, S1',
- Transverse cross sections: J1 – J1'

The cross sections show water-bearing materials within the Lower Pressure that include interbedded and intermixed, unconsolidated to consolidated, sand, gravel, cobbles, silt, clay, and boulders. Compared to the Upper Pressure, the Lower Pressure has significantly finer grained subsurface materials, with mostly clays in the subsurface. The bulk of the southern portion of the Lower Pressure is covered by the “clay cap,” an area of clay soils that extends into the northern and central portions of the Upper Pressure as shown in Figure 13. This area historically had artesian conditions and pockets of natural gas (Waring, 1919). The clay soils and subsurface materials here are results of lower energy depositional environments as the San Jacinto River flows at lower flow rates as it moves north through this area, particularly at Mystic Lake, an inward draining depression that continues to subside largely due to tectonic activity.

As shown in Table 3, existing and historical groundwater wells are typically screened between 300 and 900 ft bgs, with wells as deep as 1,300 ft bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of approximately 500 gpm, with a 25th percentile value of 200 gpm and a 75th percentile value of 1,600 gpm. The maximum yield is 3,000 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well. Less than 1% of the groundwater produced within the San Jacinto Groundwater Basin is produced from the Lower Pressure, making it the least productive of the GMZs.

Previous work in the area estimated aquifer hydraulic conductivities to be less than 14 feet/day, except for higher conductivity near Lakeview (TechLink 2002). No detailed aquifer test data are available for the Lower Pressure. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within the Lower Pressure was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 1.1 mg/l and a TDS concentration of 800 mg/l (SAWPA, 2014).

2.3.3.3 Lakeview and Hemet North GMZs

Lakeview and Hemet North GMZs are located in the central portion of the Basin, as shown in Figure 15 and Figure 16, respectively. The GMZs include agricultural areas; undeveloped areas; portions of the Cities of San Jacinto and Hemet; and unincorporated Lakeview and Nuevo. The two GMZs are located between the Lakeview Mountains and both the Bernasconi Hills and Upper Pressure. The hydrology, geology, and hydrogeology are presented below.

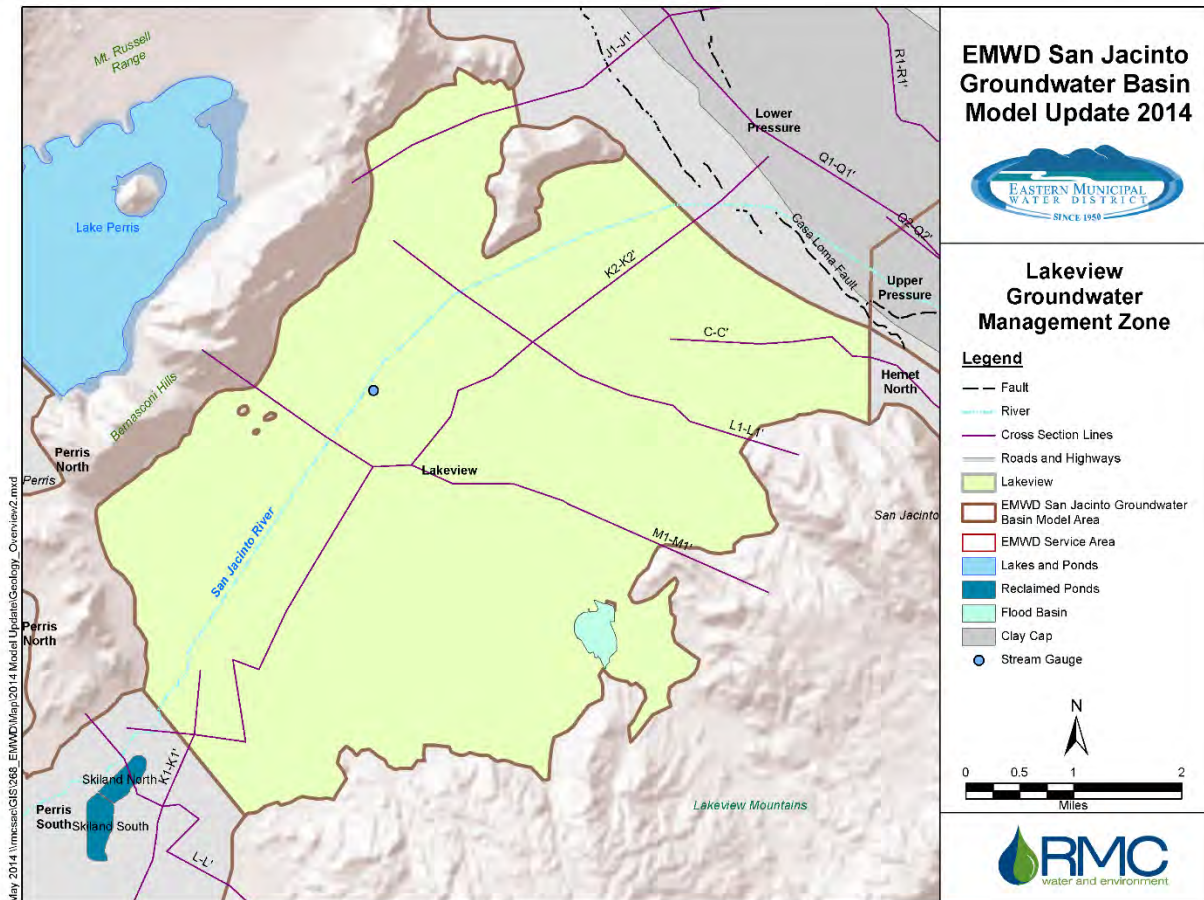


Figure 15: Lakeview GMZ

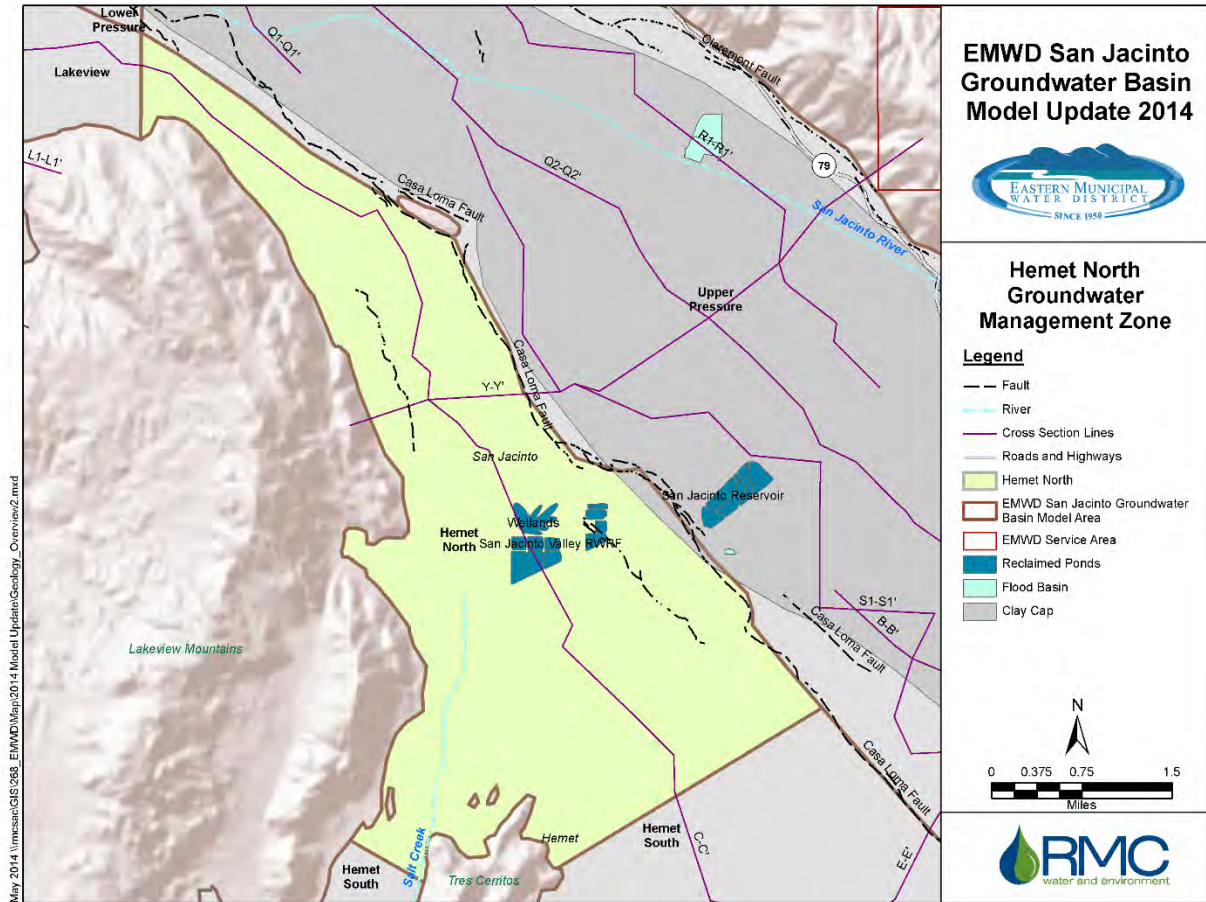


Figure 16: Hemet North GMZ

Hydrology

Hydrology in the Lakeview and Hemet North GMZs include a reach of the intermittent San Jacinto River, which flows into the GMZ only on overflow of Mystic Lake in the Upper Pressure. Only in very wet years does Mystic Lake overflow, allowing the San Jacinto River continue to flow from Mystic Lake to the southwest towards Canyon Lake. The streambed elevation of the San Jacinto River is nearly level within Lakeview, dropping approximately 10 feet.

The San Jacinto River is gauged at the San Jacinto River at Ramona Expressway near Lakeview, CA gauge (USGS 11070210; location shown on Figure 15; site shown on Figure 17). As previously discussed, significant flow only occurs with overflow of Mystic Lake, which occurs only about every 10 years.

Additional considerations of the hydrology in the Lakeview and Hemet North GMZs include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.



Source: USGS, 2016 (http://waterdata.usgs.gov/nwisweb/local/state/ca/text/11070210_us.jpg)

Figure 17: San Jacinto River at Ramona Expressway near Lakeview, CA gauge (USGS 11070210)

Geology/Hydrogeology

The Lakeview and Hemet North GMZs are bordered by the Casa Loma Fault Zone on the northeast, by the Lakeview Mountains, and by neighboring GMZs, Hemet South and Perris South. Lakeview and Hemet North are located to the southeast of the San Jacinto Graben, and thus does not have the very deep bedrock conditions of Upper Pressure and Lower Pressure. The depth to bedrock in the Lakeview and Hemet North, illustrated in Figure 6, is approximately 1,000 feet in the eastern portion of the GMZs, closest to the Upper Pressure. Depth to bedrock decreases somewhat uniformly towards the Lakeview Mountains and Tres Cerritos to the west. The depth to bedrock in the Lakeview GMZ is deepest along the central part of the valley, up to approximately 900 to 1,000 feet. Depth to bedrock decreases somewhat uniformly towards the Lakeview Mountains to the south and Bernasconi Hills to the north.

Surficial geology within Lakeview and Hemet North is generally Quaternary alluvial fan deposits, with younger deposits near the San Jacinto River and active alluvial fans. The Lakeview Mountains are composed primarily of the tonalite of the Cretaceous Lakeview Mountains pluton. Tonalite is also present in the Cretaceous granitic rocks that make up the Bernasconi Hills. (Morton and Miller, 2006).

The most significant surface water features in Lakeview and Hemet North are the San Jacinto River and Salt Creek, respectively. Due to the flat topography, the low energy depositional environment results in finer grained materials deposited by the San Jacinto River in Lakeview, compared to the higher energy environments in the Upper Pressure and Canyon.

A series of 33 cross-sections were generated based on lithologic logs, downhole geophysical logs, well construction logs, water quality, water levels, areal geophysics, photographic review, literature review, and field observations. Subsurface materials in Lakeview and Hemet North are shown through all or portions of the following cross sections.

- Longitudinal cross sections K2 – K2', C – C',
- Transverse cross sections: M1 – M1', L1 – L1', Y – Y'

The cross sections show water-bearing materials within Lakeview and Hemet North that include interbedded and intermixed, unconsolidated to consolidated, sand, gravel, cobbles, silt, clay, and boulders. The cross sections show a heterogeneity of sediments, as well as significant variability in water quality both spatially and with depth. TDS concentrations at specific depth intervals can vary by an order of magnitude at a single location.

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 600 ft bgs, with wells as deep as approximately 900 ft bgs.

Groundwater production for Hemet North, based on available well test data provided at the time of drilling, has a median value of approximately 500 gpm, with a 25th percentile value of 300 gpm and a 75th percentile value of 1,200 gpm. The maximum yield indicated by the existing well data is 2,100 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well.

Groundwater production for existing wells in Lakeview, based on available well test data provided at the time of drilling, has a median value of approximately 1,300 gpm, with a 25th percentile value of 500 gpm and a 75th percentile value of 2,000 gpm. The maximum yield indicated by the existing well data is 3,000 gpm. Again, note that well performance is a function of aquifer materials, well construction, and the intended use of the well. Approximately 8% of the groundwater produced within the San Jacinto Groundwater Basin is produced from Lakeview and Hemet North combined.

Previous work in the area estimated aquifer hydraulic conductivities to range from less than 5 to 30 feet/day, with the highest conductivities in the unconsolidated materials and lowest conductivities in consolidated, silty fine sand deposits (TechLink 2002). No detailed aquifer test data are available for Lakeview or Hemet North. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within the Lakeview and Hemet North GMZs was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 2.5 mg/l and a TDS concentration of 860 mg/l (SAWPA, 2014). Higher TDS concentrations are present in the western portion of the Lakeview and are associated with groundwater underflow from Perris South.

2.3.3.4 Perris North GMZ

Perris North GMZ is located in the northwestern portion of the Basin, as shown in Figure 18, and includes urban areas such as the City of Moreno Valley, portions of the City of Perris, and March Air Reserve Base, as well as undeveloped areas. Perris North is between the Bernasconi Hills and smaller hills to the west, south of the Box Springs Mountains, and north of the Perris South GMZ. The hydrology, geology, and hydrogeology are presented below.

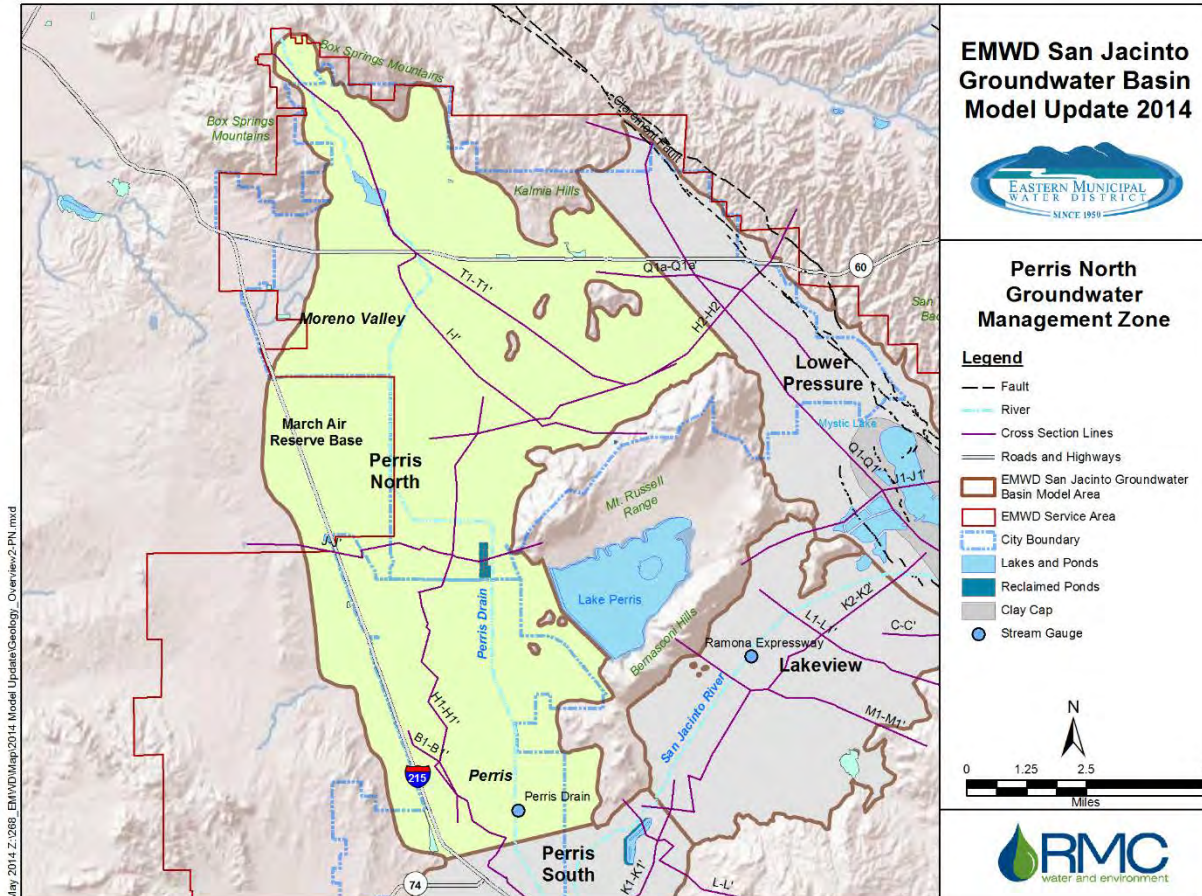


Figure 18: Perris North GMZ

Hydrology

Hydrology within Perris North includes an extensive drainage network built and maintained by the RCFC&WCD. The Perris Valley Storm Drain (Perris Drain) is a major feature of this drainage system, running from MARB south to Perris South before discharging into the San Jacinto River. It drains an approximately 38 square-mile area which includes the City of Perris, City of Moreno Valley, and the March Air Reserve Base (MARB). Generally, the Perris Drain is an earthen channel, except for a portion north of MARB where it is concrete lined. There is one gauge along the Perris Drain: Perris Valley Storm Drain at Nuevo Road near Perris, CA (USGS 11070270); the gauge's location is shown in Figure 18 and a photograph of the site is shown in Figure 19.

Other hydrologic features in and near Perris North include Lake Perris and recycled water storage ponds. Lake Perris is a terminal reservoir of the State Water Project located immediately to the east of Perris North. With a surface elevation higher than the neighboring GMZ, Lake Perris contributes to the Perris North groundwater system through underflow estimated to be 3,786 AFY, where 585 AFY was due to underflow under the west abutment and 3,201 AFY was due to underflow of the subterranean stream beneath the east abutment. A significantly smaller feature, the Moreno Valley Regional Water Reclamation Facility (RWRF) utilizes wet weather recycled water storage ponds to balance supply and demand at the Moreno Valley Regional Water Reclamation Facility (RWRF). The ponds, located as shown in Figure 18, can store up to 260 million gallons (EMWD, 2006).

Additional considerations of the hydrology in the Perris North include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.



Source: USGS, 2016 (http://waterdata.usgs.gov/nwisweb/local/state/ca/text/11070270_if.jpg)

Figure 19: Perris Valley Storm Drain at Nuevo Road near Perris, CA (USGS 11070270)

Geology/Hydrogeology

The depth to bedrock in the Perris North GMZ is up to 800 feet, with the deepest portions of the basin along the central portion of the GMZ, running along the north and west sides of the Mt. Russell Range (Figure 6). Shallower bedrock conditions are present to the north of this trough within 200 feet of the ground surface. Very shallow groundwater conditions exist in the basin, particularly near MARB where groundwater levels are within 15 feet of the surface. Depth to groundwater increases towards the northern portion of the GMZ, near the 60 Freeway, with depths up to 85 feet.

The Perris North is bounded by Cretaceous Val Verde tonalite to the west and by Cretaceous tonalite and granodiorite to the north. The Mt. Russell Range to the south is composed of Cretaceous tonalite and granitic rocks. Tonalite is also present in the Cretaceous granitic rocks that make up the Bernasconi Hills. (Morton and Miller, 2006).

Surficial geology within Perris North is generally Quaternary alluvial fan deposits, typically older than the alluvial fan deposits of Canyon, Upper Pressure, Lower Pressure, Lakeview, and Hemet North. Younger deposits are present along the north-south axis of Perris Valley west of Perris Reservoir, roughly along the alignment of Perris Drain from the Moreno Valley RWRP south to Perris South, and around the northwest flank of the Mt. Russell Range.

Subsurface materials in Perris North fill a bedrock trough and include interbedded and mixed sand, gravel, silt, and clay. More extensive fine grained sediments occur near the boundary with Lower Pressure. Subsurface conditions are shown through all or portions of the following cross sections:

- Longitudinal cross sections T1 – T1', H2 – H2', H1 – H1'
- Transverse cross sections: J – J'
- Mixed longitudinal and transverse cross sections: I – I'

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 500 feet bgs, with wells as deep as nearly 700 feet bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of approximately 100 gpm, with a 25th percentile value of less than 100 gpm and a 75th percentile value of 800 gpm. The maximum yield is 2,600 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well.

Approximately 10% of the overall groundwater produced within the San Jacinto Groundwater Basin is produced from Perris North. Groundwater levels are generally increasing at a rate of up to 3 feet per year.

Previous work in the area estimated aquifer hydraulic conductivities to range from less than 1 to about 10 to 15 feet/day (TechLink 2002). No detailed aquifer test data are available for Perris North. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within the Perris North was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 7.3 mg/l and a TDS concentration of 760 mg/l. TDS concentrations have increased over time, with an average from 1954-1973 of 568 mg/l (SAWPA, 2014).

2.3.3.5 Perris South GMZ

Perris South GMZ is located in the southwestern portion of the Basin, as shown in Figure 20, and includes urban areas such as portions of the Cities of Perris and Menifee and unincorporated areas of Romoland, Homeland, and Winchester. Perris North also contains agricultural and undeveloped areas. Perris South is west of the Lakeview Mountains and Hemet South GMZ; east of smaller unnamed hills; south of Perris North GMZ; and north of the Menifee GMZ. The hydrology, geology, and hydrogeology are presented below.

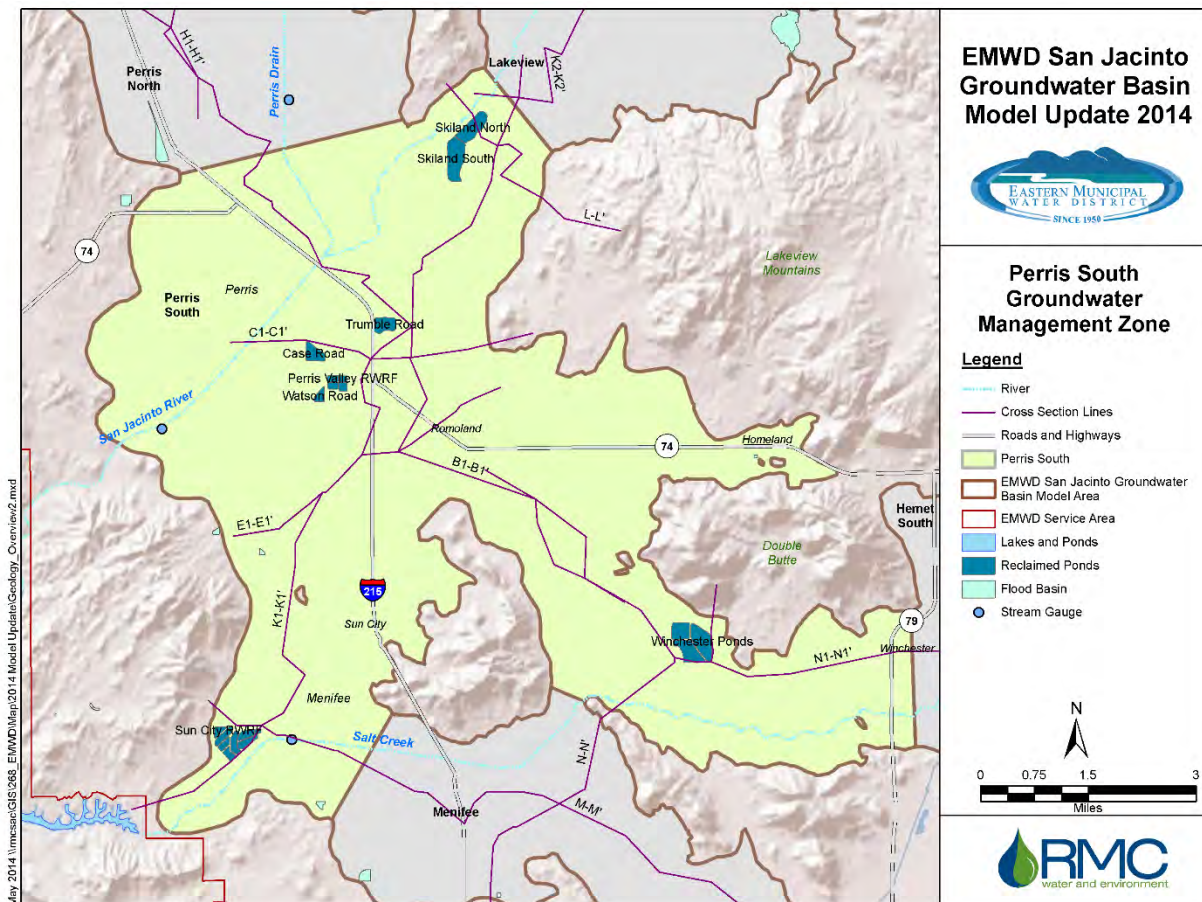


Figure 20: Perris South GMZ

Hydrology

Hydrology within Perris South includes the San Jacinto River and an extensive drainage network built and maintained by the RCFC&WCD. The Perris Drain enters the basin from Perris North and flows into the intermittent San Jacinto River, which, as discussed in the Lakeview and Hemet North Section, has little natural flow except during very wet weather occurring approximately once every 10 years.

Other hydrologic features in Perris South include recycled water storage ponds and the intermittent Salt Creek. Recycled water storage ponds include the Winchester Ponds, which store 550 million gallons of recycled water during periods of low demand (EMWD, 2014). Salt Creek, while rarely having flow, enters Perris South from Hemet South, passes through Menifee, and leaves the Basin to drain into Canyon Lake to the west. There is one gauge on Salt Creek: Salt Creek at Murrieta Road near Sun City, CA (USGS 11070465), with the location shown on Figure 20.

Additional considerations of the hydrology in the Perris South include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.

Geology/Hydrogeology

The Perris South GMZ is a brackish groundwater basin with a depth to bedrock of up to 1,200 feet. The brackish nature of the groundwater is believed to be caused by historical land uses in the area. The deepest portions of the basin are in the central portion of the GMZ, between Romoland and the 215 Freeway. Areas with depths between 700 and 1,100 feet run along the axes of the valleys, from the Perris North boundary to the Hemet South boundary and from the Lakeview boundary to the Menifee boundary. The depth to bedrock is illustrated in Figure 6.

The Perris South is bounded by Triassic quartzite and quartz-rich metasandstone, Triassic phyllite, and Cretaceous gabbro to the west. The unnamed hill to the east of Sun City on the southern edge of Perris South has similar composition. The Lakeview Mountains are composed primarily of tonalite of the Cretaceous Lakeview Mountains pluton; Double Butte is composed of Cretaceous granodiorite, Cretaceous tonalite, and Triassic metamorphic rocks; and the hills south of Winchester are comprised of Cretaceous granodiorite and tonalite. (Morton and Miller, 2006).

Surficial geology within Perris South is generally Quaternary alluvial fan deposits, typically older than the alluvial fan deposits of Canyon, Upper Pressure, Lower Pressure, Lakeview, and Hemet North. Younger deposits are present along the San Jacinto River and Salt Creek. Subsurface materials in Perris South fill a bedrock trough with interbedded and mixed sand, gravel, silt, and clay, and are shown through all or portions of the following cross sections.

- Longitudinal cross sections B1 – B1', K1 – K1', N1 – N1'
- Transverse cross sections: L – L', C1 – C1', E1 – E1', M – M', N – N'

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 400 ft bgs, with wells as deep as approximately 1,000 ft bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value less than 100 gpm, with a 25th percentile value of less than 100 gpm and a 75th percentile value of 300 gpm. The maximum yield is 2,100 gpm. Note that well performance is a function of aquifer materials,

well construction, and the intended use of the well. Approximately 10% of the groundwater produced within the San Jacinto Groundwater Basin is produced from Perris South.

Previous work in the area estimated aquifer hydraulic conductivities to range from less than 5 to 30 feet/day with the highest conductivities in the alluvium and lowest conductivities in consolidated silty fine sand deposits and siltstones (TechLink 2002). No detailed aquifer test data are available for Perris South. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within Perris South was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 5.8 mg/l and a TDS concentration of 2,400 mg/l (SAWPA, 2014).

2.3.3.6 Menifee GMZ

Menifee GMZ is located in the southwestern portion of the Basin, as shown in Figure 21, and includes urban areas such as portions of the City of Menifee and agricultural and undeveloped areas. Menifee is west of the Diamond Valley Lake; east of smaller unnamed hills; south of Perris South GMZ; and north of Bell Mountain. The hydrology, geology, and hydrogeology are presented below.

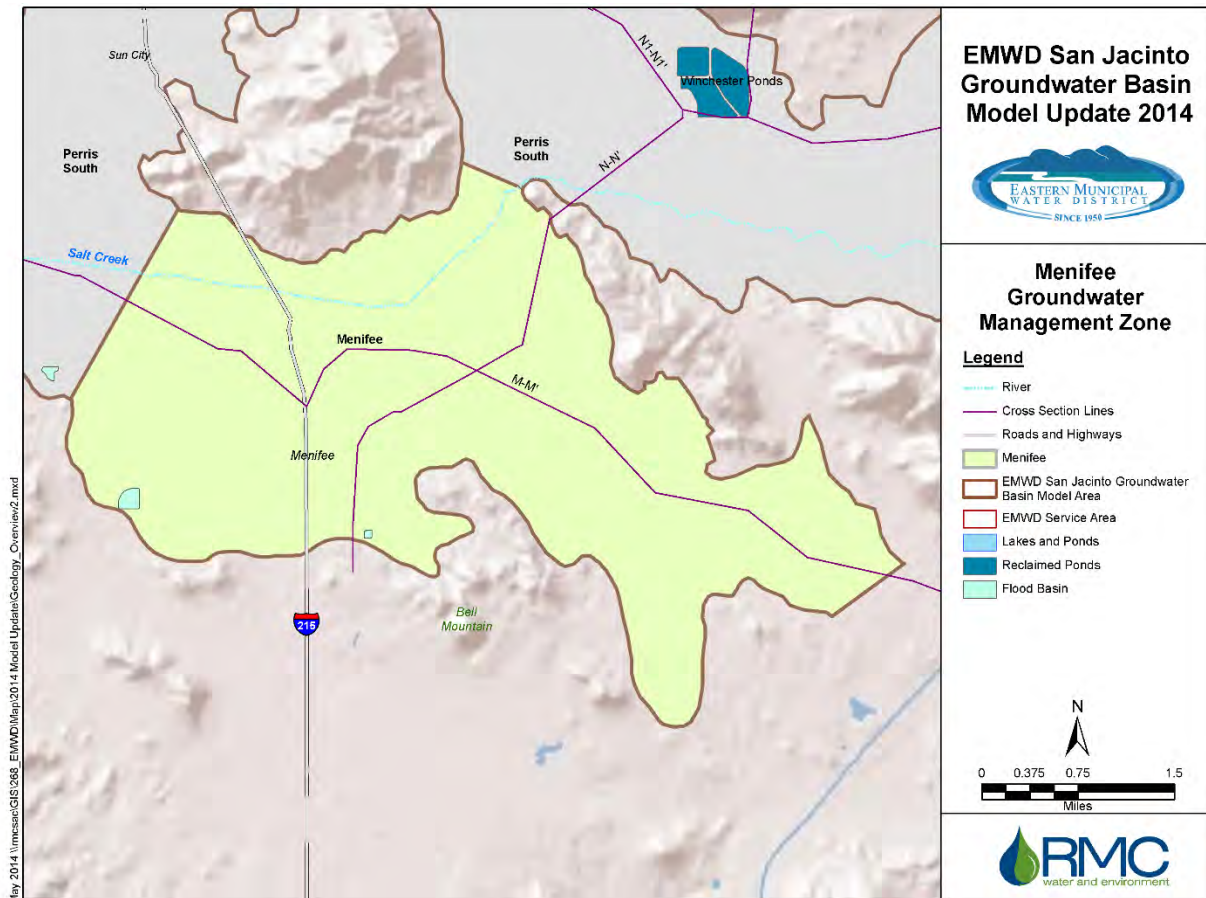


Figure 21: Menifee GMZ

Hydrology

Hydrologic features in Menifee include stormwater facilities and the intermittent Salt Creek. Salt Creek, while rarely having flow, enters from and exits to Perris North. Salt Creek is gauged downstream in the Perris South, as previously discussed.

Additional considerations of the hydrology in the Menifee include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.

Geology/Hydrogeology

Menifee GMZ is a brackish groundwater basin with depth to bedrock of up to 700 feet. The brackish nature of the groundwater is believed to be caused by historical land uses in the area. The deepest portions of the basin along the axis of the valley in a buried bedrock trough and shallower bedrock adjacent to the hills to the north, east, and south (Figure 6).

The Menifee is bounded by Cretaceous granodiorite and tonalite to the east and west. The unnamed hill to the east of Sun City on the northern edge of Perris South is composed of Triassic quartzite and quartz-rich metasandstone, Triassic phyllite, and Cretaceous gabbro. Triassic quartzite and quartz-rich metasandstone and Cretaceous gabbro are also present at the southern boundary and the hills south of Winchester are comprised of Cretaceous granodiorite and tonalite. (Morton and Miller, 2006).

Surficial geology within Perris South is generally Quaternary alluvial fan deposits, typically older than the alluvial fan deposits of Canyon, Upper Pressure, Lower Pressure, Lakeview, and Hemet North. Younger deposits are present along Salt Creek. Subsurface materials include interbedded and mixed sand, gravel, silt, and clay and are shown through all or portions of the following cross sections:

- Longitudinal cross sections M – M'
- Transverse cross sections: N – N'

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 500 ft bgs, with wells as deep as nearly 700 ft bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of 100 gpm, with a 25th percentile value of less than 100 gpm and a 75th percentile value of 600 gpm. The maximum yield is 1,800 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well. Most ground water is produced in the central and eastern parts of the GMZ. Approximately 5% of the groundwater produced within the San Jacinto Groundwater Basin is produced from Menifee.

Previous work in the area estimated aquifer hydraulic conductivities to range from about 5 to 30 feet/day (TechLink 2002). No detailed aquifer test data are available for Menifee. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within Menifee was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 4.6 mg/l and a TDS concentration of 2,030 mg/l (SAWPA, 2014).

2.3.3.7 Hemet South GMZ

Hemet South GMZ is located in the southern portion of the Basin, as shown in Figure 22, and includes urban areas such as portions of the City of Hemet; unincorporated areas of Winchester, Green Acres, and East Hemet; and agricultural and undeveloped areas. Hemet South is west of Upper Pressure; east of Perris South; south of Tres Cerritos and the Lakeview Mountains; and north of the Domenigoni Mountains. The hydrology, geology, and hydrogeology are presented below.

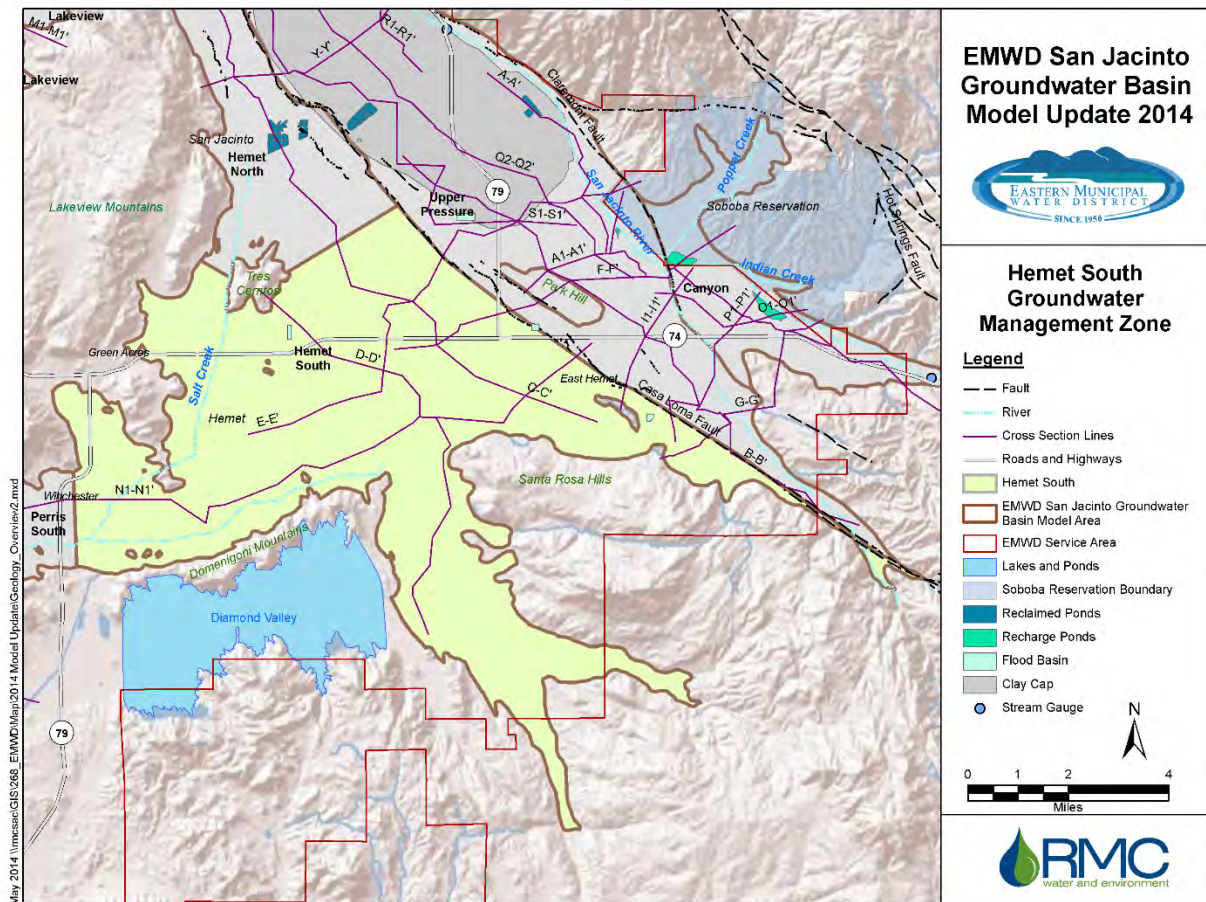


Figure 22: Hemet South GMZ

Hydrology

Hydrologic features in Hemet South include stormwater facilities and the intermittent Salt Creek. Salt Creek, while rarely having flow, exits to Perris North. Salt Creek is gauged downstream in the Perris South, as previously discussed.

Additional considerations of the hydrology in the Hemet South include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention

basins, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.

Geology/Hydrogeology

The Hemet South GMZ is bordered by the Casa Loma Fault Zone on the northeast, by the Lakeview Mountains, and by neighboring GMZs, Hemet North and Perris South. Hemet South is located to the southeast of the San Jacinto Graben, and thus does not have the very deep bedrock conditions of Upper Pressure and Lower Pressure. Depth to bedrock in Hemet South is up to 900 feet, with the deepest portions of the basin along the central axis of the GMZ, running east to west. Along this axis, the depth to bedrock is greater closer to the eastern and western boundaries with a saddle in the central portion of the basin with a depth of approximately 350 feet. The depth to bedrock is illustrated in Figure 6.

Surficial geology within Hemet South is generally Quaternary alluvial fan deposits, generally younger deposits similar in age to those in the eastern part of the basin, and younger than much of the alluvial deposits in the western part of the basin. The Lakeview Mountains are composed primarily of tonalite of the Cretaceous Lakeview Mountains pluton. Triassic quartzite and quartz-rich metasandstone make up the Domenigoni Mountains to the south while Cretaceous tonalite comprises the Santa Rosa Hills, also to the south (Morton and Miller, 2006; Morton and Matti, 2004).

While small, the most significant surface water features is the intermittent Salt Creek, with fluvial deposits along its course.

A series of 33 cross-sections were generated based on lithologic logs, downhole geophysical logs, well construction logs, water quality, water levels, areal geophysics, photographic review, literature review, and field observations. Subsurface materials for Hemet South are shown through all or portions of the following cross sections:

- Longitudinal cross sections: E – E', F – F', N1 – N1', C – C'
- Transverse cross sections: D – D', Y – Y'

Water-bearing materials include interbedded and intermixed deposits of sand, gravel, silt, clay, cobbles, and boulders common to other areas.

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 600 ft bgs, with wells as deep as nearly 900 ft bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of 200 gpm, with a 25th percentile value of less than 100 gpm and a 75th percentile value of 900 gpm. The maximum yield is 2,000 gpm. Note that well performance is a function of aquifer materials, well construction, and the intended use of the well. Approximately 12% of the groundwater produced within the San Jacinto Groundwater Basin is produced from Hemet South.

Previous work in the area estimated aquifer hydraulic conductivities to range between 9 and 24 feet/day. Specific yield in the upper 200 feet of the saturated sediments is estimated to range between 7 and 20

percent (TechLink 2002). No detailed aquifer test data are available for Hemet South. This range is the basis for initial parameters for this effort.

The ambient water quality for 1993-2012 within Hemet South was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 5.7 mg/l and a TDS concentration of 940 mg/l (SAWPA, 2014).

2.3.3.8 Canyon GMZ

Canyon GMZ is located in the southeastern portion of the Basin, as shown in Figure 23, and includes the Soboba Reservation, portions of the unincorporated urban area of Valle Vista, agricultural areas, and undeveloped areas. Canyon is located to the east of Upper Pressure; west of the San Jacinto Mountains; and north of Rouse Hill. The hydrology, geology, and hydrogeology are presented below.

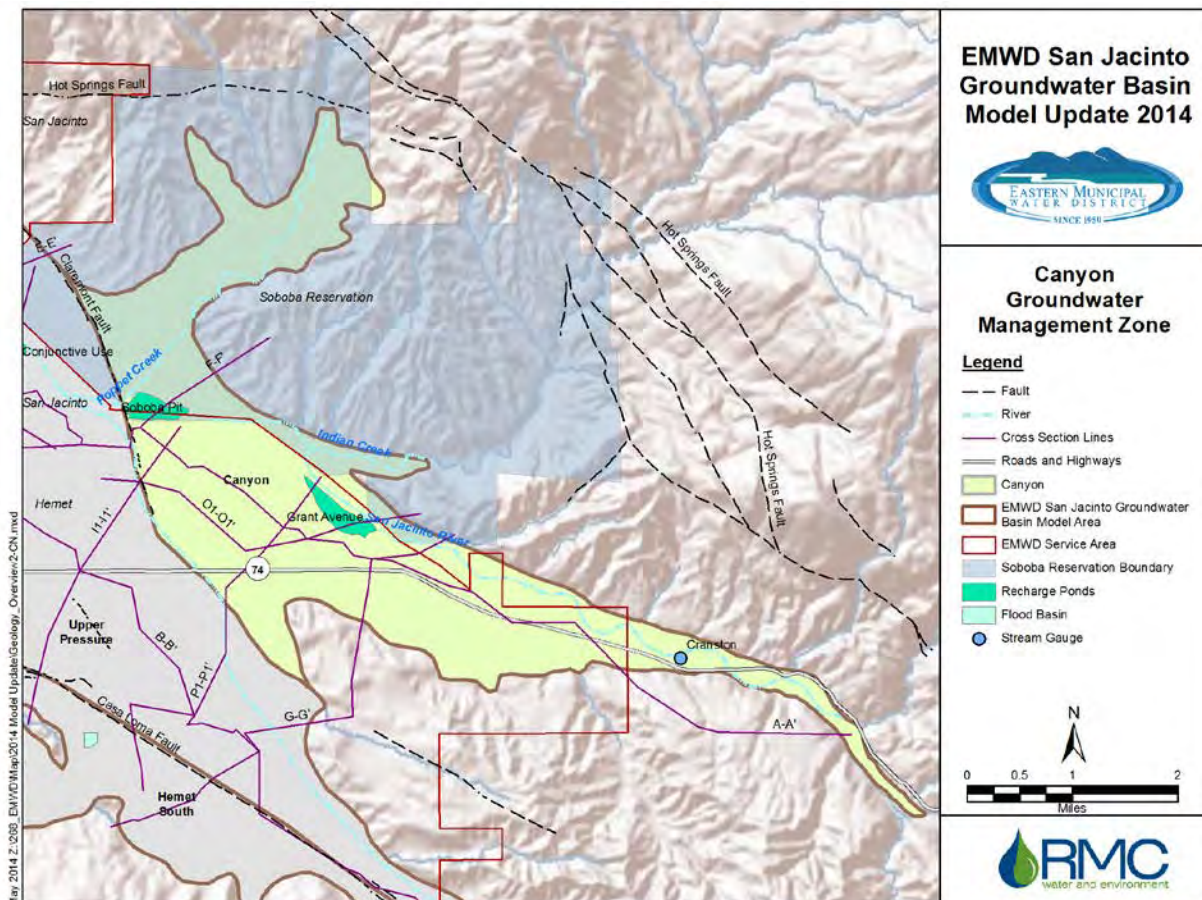


Figure 23: Canyon GMZ

Hydrology

Hydrology in the Canyon includes three surface water courses; Poppet Creek and Indian Creek both feed into the San Jacinto River (see Figure 23), which is the main water course in the Canyon Sub-Basin, flowing from the southeastern portion of the basin to the northwestern corner. Additionally, Bautista Creek flows along a portion of the boundary between Canyon and Upper Pressure. The San Jacinto River is intermittent, generally flowing during the winter and spring months. The streambed elevation of the San

Jacinto River drops about 650 feet vertically over approximately seven miles within the Canyon. The San Jacinto River exits the Canyon by crossing the Claremont Fault into the Upper Pressure. The lowest elevation in the Canyon is at the point it crosses into the Upper Pressure.

Streamflow has been measured on the San Jacinto River at two locations in and near the Canyon Sub-Basin: an upstream location at the Cranston Gauge (USGS Gauge Number 11069500) and a downstream location at the State Street Gauge (USGS Gauge Number 11070150) in the Upper Pressure. Locations of these gauges are provided in Figure 23 and Figure 11 for the Cranston and State Street gauge, respectively. Photographs of the Cranston Gauge and the State Street Gauge are shown in Figure 24 and Figure 12, respectively. Gauges have also measured streamflow at several locations over time on Bautista Creek, which is slightly outside of the Canyon Sub-Basin and is tributary to the San Jacinto River upstream of the State Street Gauge.

Streamflow measured at the Cranston Gauge is highly variable, both seasonally and from year-to-year, with significantly higher streamflows in the spring, little streamflow in the fall, and variability between years. While the Cranston Gauge is the best available source of streamflow data in this area, the USGS (2014) indicates that the records are poor. Additional estimates of streamflow along the San Jacinto River have been developed by Guay (2002).

Streamflow in the San Jacinto River is significantly lower downstream of the Canyon Subbasin. This is shown through flows recorded at the upstream (Cranston Gauge) and downstream (State Street Gauge) gauges, particularly during low-flow conditions. Much of the streamflow seen at the Cranston Gauge recharges groundwater prior to reaching the State Street Gauge, largely within the Canyon Sub-Basin streambed or in the Soboba Pit.

The Soboba Pit is an excavated sand and gravel quarry within the San Jacinto River that captures all but the highest flows and allows for this water to recharge groundwater. The maximum depth of the Soboba Pit was approximately 70 ft bgs. It is currently a capture point for San Jacinto River flows, allowing recharge in the Canyon Basin, and acting as a detention basin during large flow events. The location of the Soboba Pit is shown in Figure 23 and a photograph of the pit during dry periods (January 2014) is shown in Figure 25.

Groundwater is actively recharged in the Canyon GMZ at the Grant Avenue Ponds located within the San Jacinto River floodplain at the intersection of Grant Avenue and Palm Avenue in the unincorporated community of Valle Verde. The Grant Avenue Ponds are operated by diverting river flow into approximately 30 acres of percolation ponds. EMWD holds a diversion permit for up to 5,760 AFY but diversions are variable based on need and water availability, with diversions over the 2008 – 2014 period ranging from 0 AF in 2012 and 2013 to 4,962 AF in 2010.

Additional considerations of the hydrology in the Canyon include precipitation, agricultural return flows, direct and indirect water sales/application, flood control channels, detention basins, retention basins, the LHMWD water distribution flume, and water holding ponds as well as past and current land use. All of these considerations are discussed in other sections of this report.



Figure 24: Cranston Gauge (USGS 11069500)



Figure 25: Soboba Pit

Geology/Hydrogeology

The Canyon is bounded on the west by the Claremont Fault and on the east by the San Jacinto Mountains. The maximum depth of the alluvial basin is not known as crystalline bedrock has not been encountered in any of the wells in the central portion of the basin.

Recent alluvium from the San Jacinto River and its tributaries are the primary water-bearing materials in the GMZ, with the deeper Bautista Formation yielding lower volumes of water. Alluvial materials in Canyon are a mix of gravels, sands, silts, and clays, with proportionally more coarse grained materials than the rest of the basin. Older alluvial deposits appear very similar to younger alluvium while drilling in the area and downhole geophysical logs also show similar characteristics. The older alluvium are only discernable by their water production rates, which are significantly lower than the younger alluvium, and minor local variations in water quality. The older alluvium generally occurs from about 250 ft bgs to 600 ft bgs. Below approximately 600 ft bgs the geology appears to be comprised of Bautista formation, a Pleistocene arkosic sandstone with silty and clayey beds, to an unknown depth.

Significant faulting and folding complicates the basin geology, particularly within the Bautista Formation; this faulting and folding is thought to result in rising groundwater in portions of the alluvial aquifer as groundwater pools behind and overflows these structures, noted by increases in riparian vegetation along the San Jacinto River. Along the San Jacinto River, at approximately four points, groundwater rises to the surface for short distances only to percolate into the ground again tens of feet downstream. Most recently, groundwater was observed by EMWD personnel daylighting at the location of Citizens Dam in 2012. The other three areas of groundwater rise have been identified by isolated Cottonwood groves where no apparent surface water sources were present. (J. Daverin, 2015, pers. comm. December 14), It is not known the exact nature of the geologic structures forcing groundwater to the surface, although the most likely causes are unmapped faults or geologic bedding contacts.

Groundwater flows from south to north mimicking the topography and flow direction of the San Jacinto River. As the lowest area of the Canyon GMZ is located at the nearly impermeable Claremont Fault. The Claremont Fault is a significant barrier to flow between Canyon and Upper Pressure with groundwater levels typically more than 200 feet higher in Canyon. The fault is not a barrier to flow along the current course of the San Jacinto River in the more recent deposits within approximately the upper 40 to 60 feet of the subsurface. Historically, the area in Canyon above the Claremont Fault was subject to rising water caused by the low-conductivity fault and the significant recharge from the San Jacinto River above the fault. These conditions resulted in the area of rising water being termed the “ciénega” or “swamp” in Spanish. This area is the site of a number of groundwater production wells that have effectively reduced water levels below ground surface for the last few decades.

Subsurface materials in Canyon are shown through all or portions of the following cross sections.

- Longitudinal cross sections: A – A'
- Transverse cross sections: G – G', P1 – P1', I1 – I1', F – F', A1 – A1'
- Mixed longitudinal and transverse cross sections: O1 – O1'

As shown in Table 3, existing and historical groundwater wells are typically screened between 100 and 700 ft bgs, with wells as deep as nearly 1,300 ft bgs.

Groundwater production, based on available well test data provided at the time of drilling, has a median value of less than 100 gpm, with a 25th percentile value of less than 100 gpm and a 75th percentile value of 1,200 gpm. The maximum yield is 4,900 gpm. The highest yields occur in wells drilled in the vicinity of the fault separating Canyon and Upper Pressure in the Cienega area. Note that well performance is a function of both aquifer materials and well construction and the intended use of the well; these data include domestic, irrigation, and municipal wells. Approximately 15% of the groundwater produced within the San Jacinto Groundwater Basin is produced from Canyon.

Aquifer hydraulic conductivities are estimated to range between 4 and 42 feet/day. Aquifer test data are available for Soboba wells DW-3 and DW-4, with transmissivity between 47,000 and 52,000 gpd/ft at DW-3 and 26,000 gpd/ft at DW-4.

The ambient water quality for 1993-2012 within Canyon was estimated by SAWPA, with a Nitrate-Nitrogen concentration of 2.0 mg/l and a TDS concentration of 340 mg/l (SAWPA, 2014). Groundwater with the lowest TDS concentrations occurs in the vicinity of the Claremont Fault.

2.4 Groundwater Inflow

Groundwater inflows were comprised of several components that contribute to groundwater recharge and were calculated using GIS analysis. These components included:

- Distributed Recharge
- Point Recharge Sources
- River Recharge
- Mountain Front Recharge
- Contribution from Surface Water Reservoirs

2.4.1 *Distributed Recharge*

Distributed recharge is widespread recharge from applied water components, which included:

- Rainfall
- Water Sales (EMWD, Subagencies, Recycled Water)
- Irrigation

2.4.1.1 *Methodology for Estimating Distributed Recharge Rates*

The amount of distributed recharge that percolates deep into the aquifer was calculated based on the percentage of pervious land surface and soil drainage properties at the recharge location. The components of distributed recharge are presented in the following section and the methodology for estimating recharge from distributed sources is discussed in more detail in Section 3.7.

2.4.1.2 Land Use Conditions

Land use conditions were used to determine the percentage of ground cover that was likely to allow water to percolate, and they were used in conjunction with corresponding soil types to calculate the percolation potential of the area. Ultimately, the land use data was a component in calculating the amount of aerial recharge that occurred at various levels of land development.

Land use in the basin changed drastically throughout the model period due to urbanization. The model incorporated a temporally and spatially varying representation of land use to best represent conditions that existed in the region throughout the study period (1984-2012).

Three different land use coverages were provided by EMWD for use in the model: 1999, 2003, and 2010. Several land use data sources were evaluated by EMWD and it was concluded that the Riverside County Assessor's Office provided the best source of recent data. The 2003 and 2010 land use coverages originated from the Riverside County Assessor's Office. This office tracks recent land use for all parcels within the county. An additional source of data for agriculture, including dairies, comes from the Western Riverside County Agriculture Coalition (WRCAC). No electronic parcel data from the Riverside County Assessor's Office was available for dates prior to 2003. In addition to the Assessor's Office data, a 1999 land use coverage developed by EMWD was provided. This coverage was the oldest, most reliable electronic historical land use dataset available. The land use coverages were associated with a range of time periods throughout the model. Due to the different sources of land use data between 1999 and 2003, there may be inconsistencies between land use designations Table 4 presents the model years that are associated with the respective land use coverage time periods.

Table 4: Land Use Coverages and Associated Model Periods

Land Use Coverage Year	Model Period
1999	1984-1999
2003	2000-2006
2010	2007-2012

Raw land use data for each time coverage was categorized into numerous types and subcategories of four major land use types of agriculture, commercial, residential, and vacant. There were over 60 subcategories in the 2010 dataset (Figure 26). To simplify the coverages, land use types were evaluated and simplified by grouping them into the following four general categories.

- Agriculture
- Commercial
- Residential
- Vacant

An example of categorization process is shown with the 2010 land use data in Figure 26. Figure 27 and Figure 28 show the final classified land use maps for 1999 and 2003, respectively.

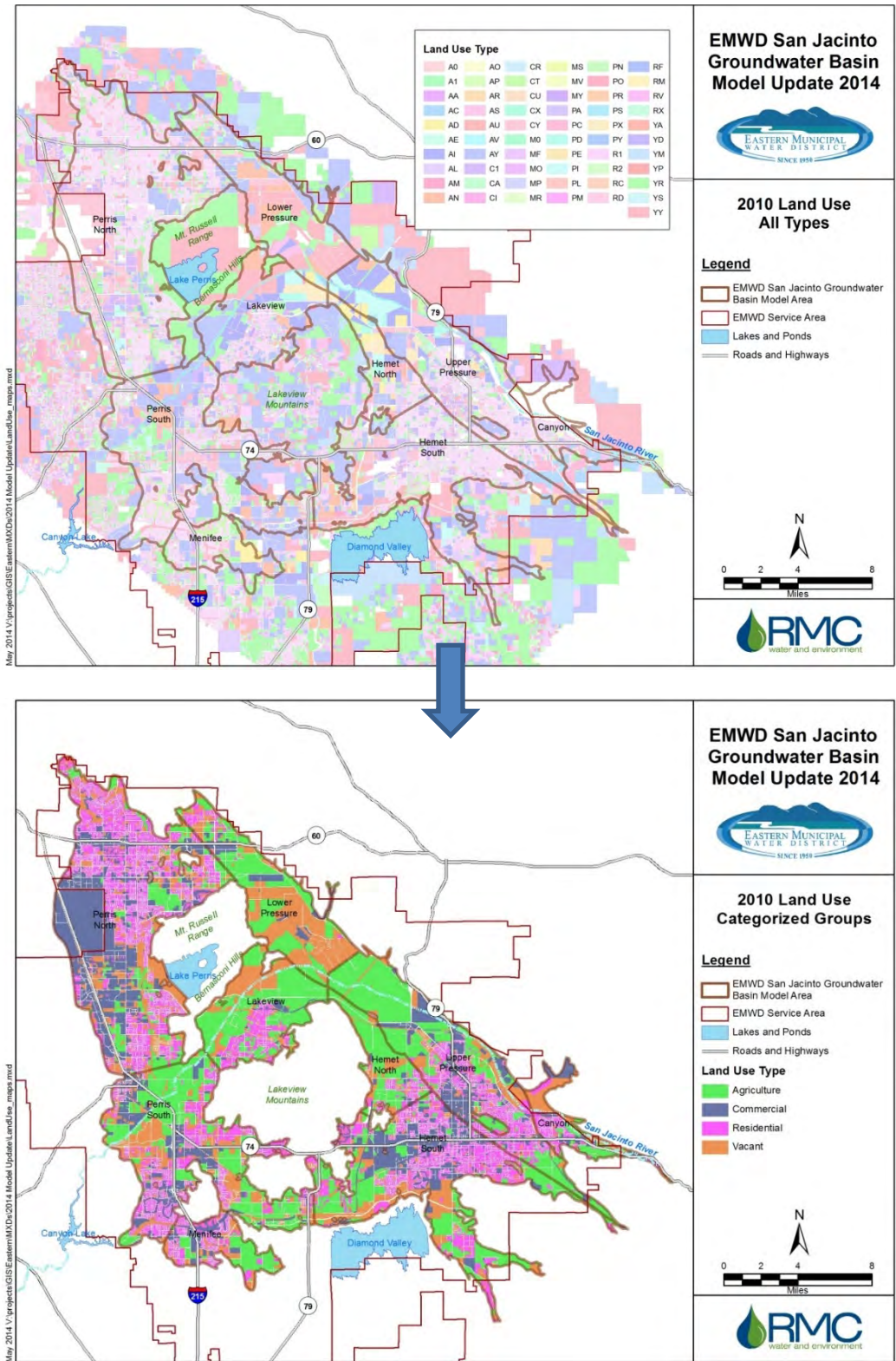


Figure 26: Categorization of 2010 Land Use Data

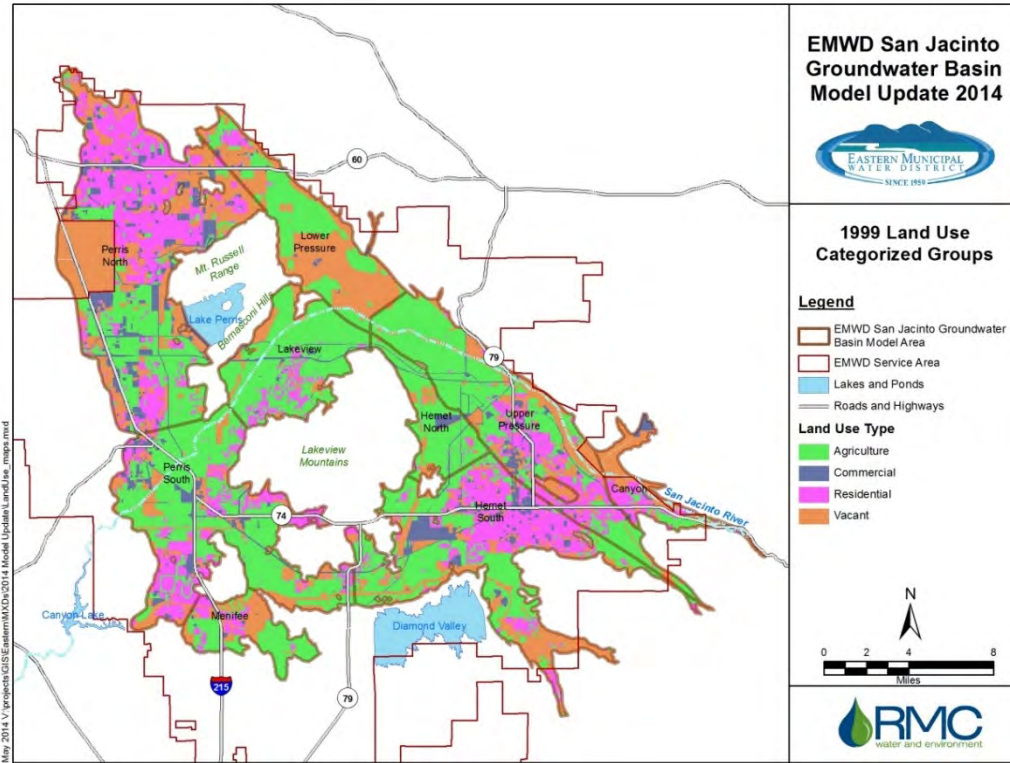


Figure 27: 1999 Categorized Land Use

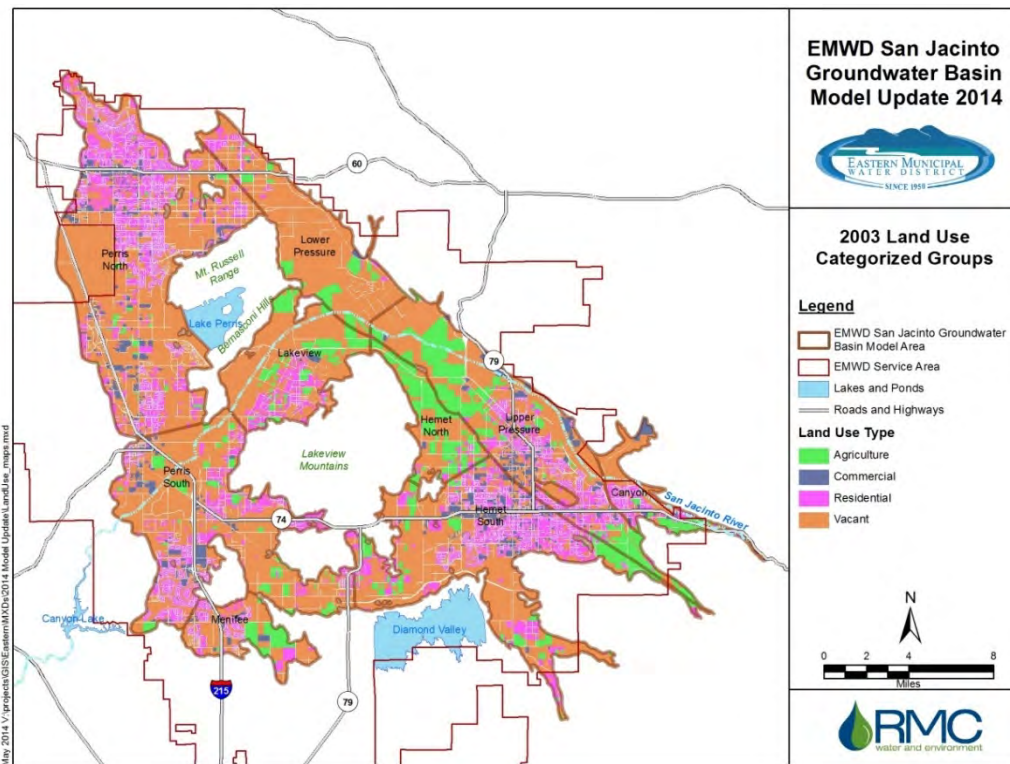


Figure 28: 2003 Categorized Land Use

2.4.1.3 Soils

Soil types were another component in the model used to calculate the amount of aerial recharge that infiltrates into the groundwater. They were used in conjunction with the corresponding land use type to calculate the potential percolation of the area.

The Natural Resources Conservation Service (NRCS) classifies soils into hydrologic soil groups (HSGs). The HSG's are divided into four groups: A, B, C and D. Group A soils are typically sandy soils and have higher infiltration rates while Group D soils are clays with lower infiltration rates. The distribution of HSGs in the Basin is shown in Figure 29.

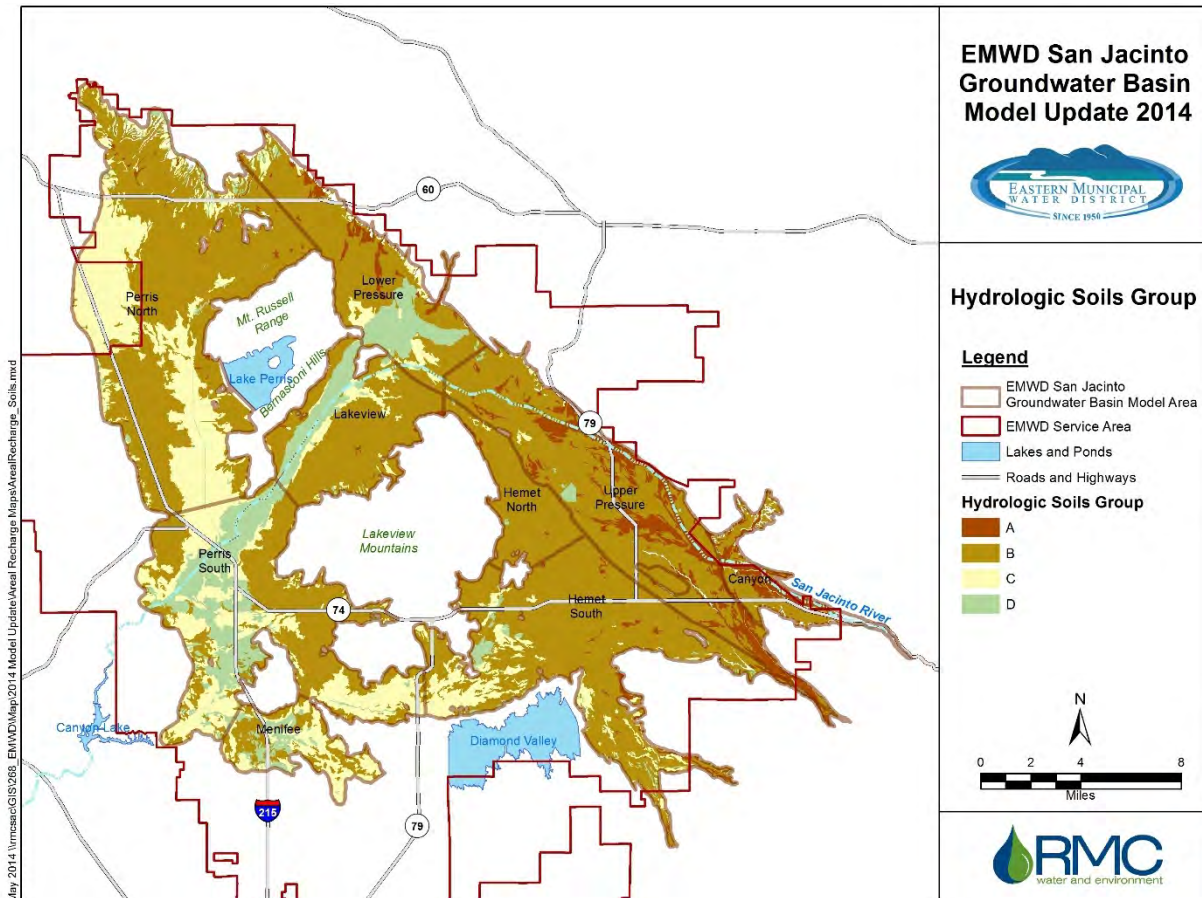


Figure 29: Hydrologic Soil Group in the Basin

2.4.1.4 Rainfall

There are several rain gauges located within the Basin. The following four gauges from the Riverside County Flood Control and Water Conservation District (RCFC&WCD) have sufficient spatial and temporal representation of the Basin and were used for rainfall data in the SJFM-2014.

- San Jacinto (RCRC&WCD Station 186)
- Perris Reservoir (RCRC&WCD Station 151)
- Winchester (RCRC&WCD Station 248)

- Moreno Valley (RCRC&WCD Station 110)

The Thiessen polygon method was employed to associate an area of the Basin to each rain gauge, shown in Figure 30. Data for 2011-2012 was not available at the Moreno Valley rain gauge, so data from Moreno Valley East rain gauge (RCRCWCD Station 124) was used to supplement the data. Figure 31 shows total rainfall volumes throughout the Basin by GMZ from 1984-2012. Annual rainfall recorded at the four selected gauges are similar; however, due to their larger areas Perris North and Perris South GMZs receive the largest amounts of rainfall while Hemet North and Canyon receive the least amount. During the simulation period, the basin averaged 10.2 inches/year, approximately one inch below the long-term average (Figure 5).

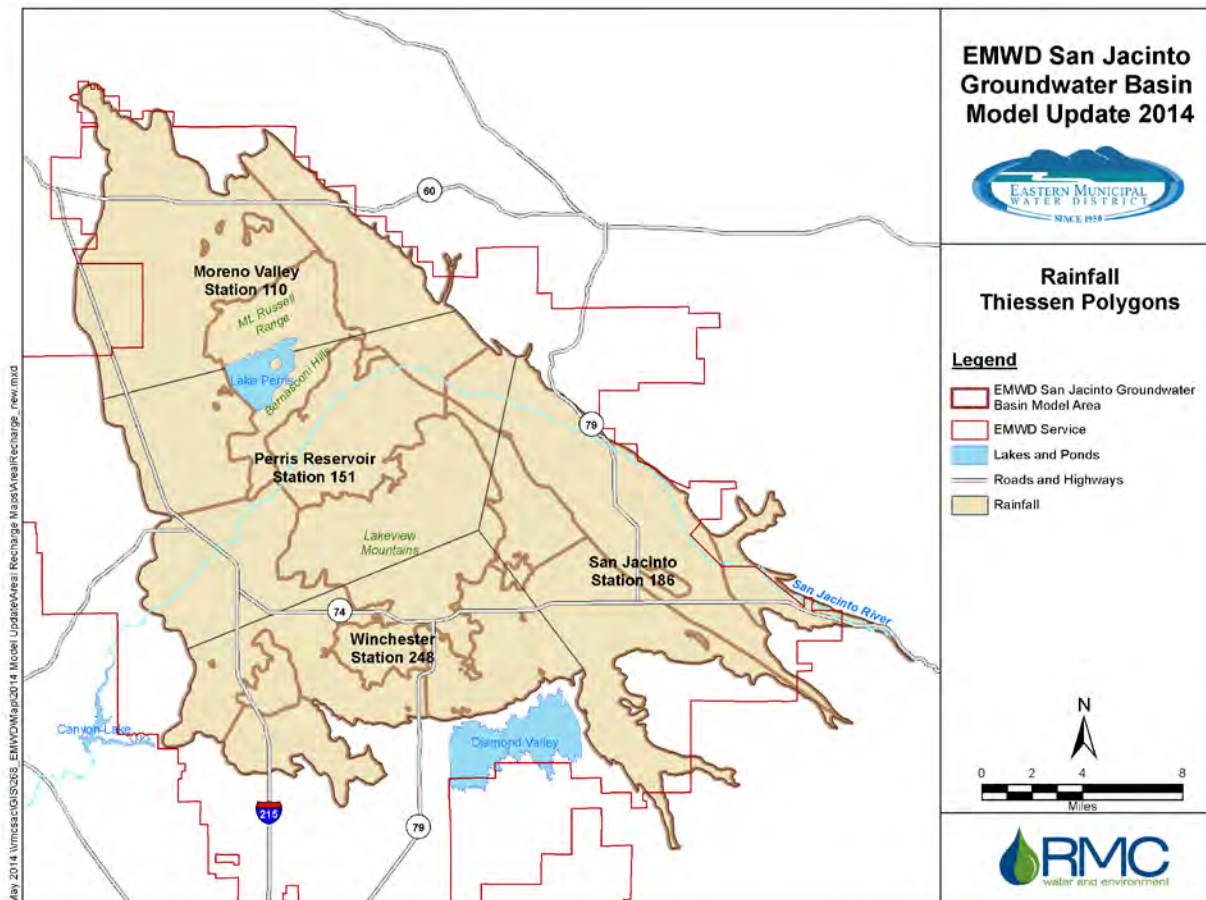


Figure 30: Rainfall Area and Associated Rain Gauge Thiessen Polygons

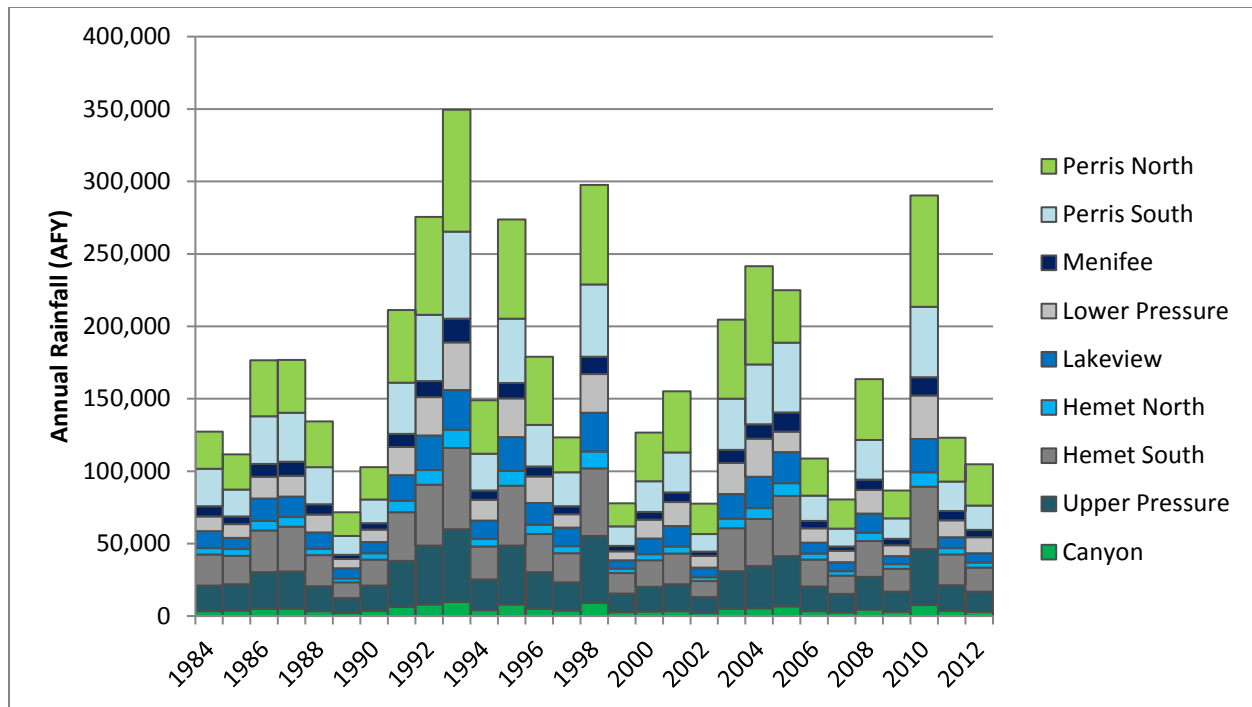


Figure 31: Annual Rainfall in the Basin by GMZ from 1984-2012

2.4.1.5 Water Sales (EMWD, Subagencies, Recycled Water)

EMWD and other subagencies such as LHMWD, City of Hemet, City of San Jacinto, City of Perris and Nuevo Water Company pump groundwater and sell groundwater and imported water to local customers. Approximately 75% of this water is assumed to be used for landscape irrigation and other outdoor uses that contribute to recharge. Figure 32 and Figure 33 show the location of water sales areas for EMWD and corresponding water sales by GMZ, respectively. Similarly, Figure 34 and Figure 35 show this water sales information for the subagencies. EMWD water sales accounts for a majority of water sales in the Basin due to the larger, more widespread water sales areas in comparison to the smaller service areas of the subagencies.

In addition to potable groundwater and imported water sales, EMWD also sells reclaimed water to customers. Reclaimed water is typically used for irrigation, of which a portion will infiltrate into the ground as recharge. Figure 36 and Figure 37 present the location of reclaimed water sales and the quantity of sales within the Basin, respectively.

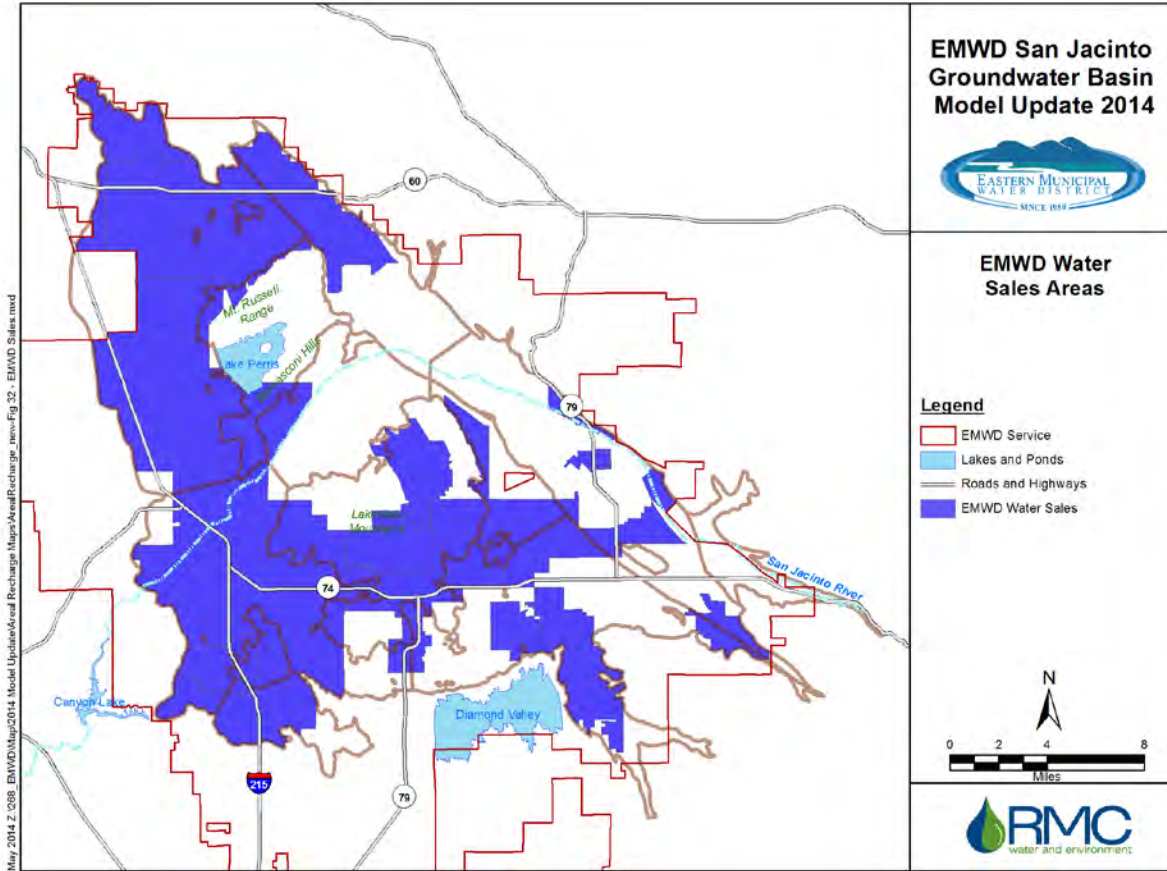


Figure 32: EMWD Water Sales Areas

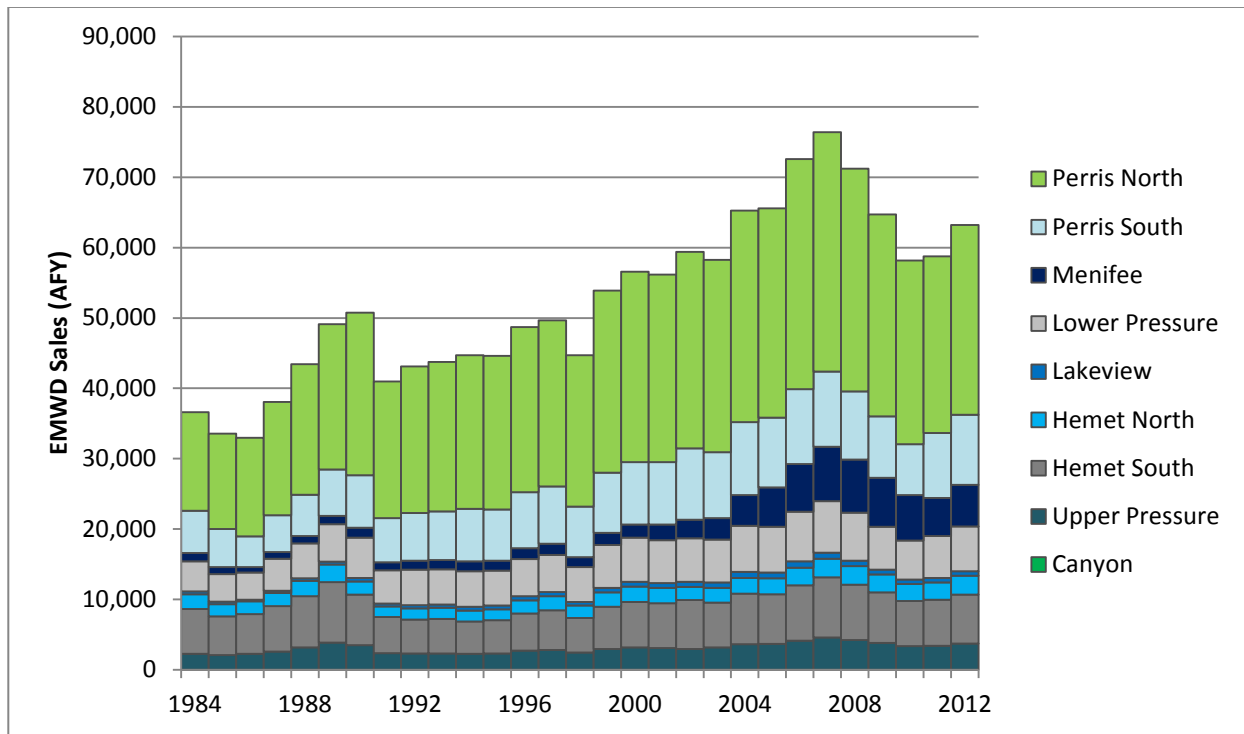


Figure 33: EMWD Water Sales from 1984-2012

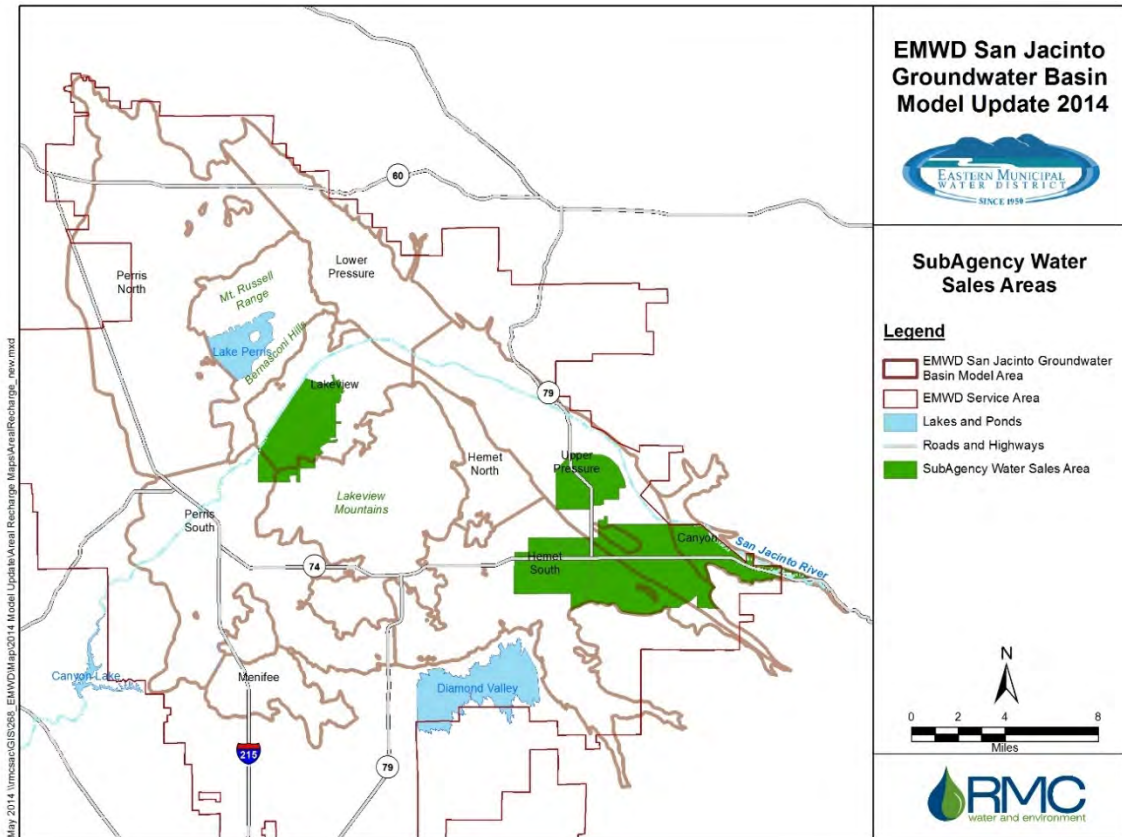


Figure 34: Subagency Water Sales Areas

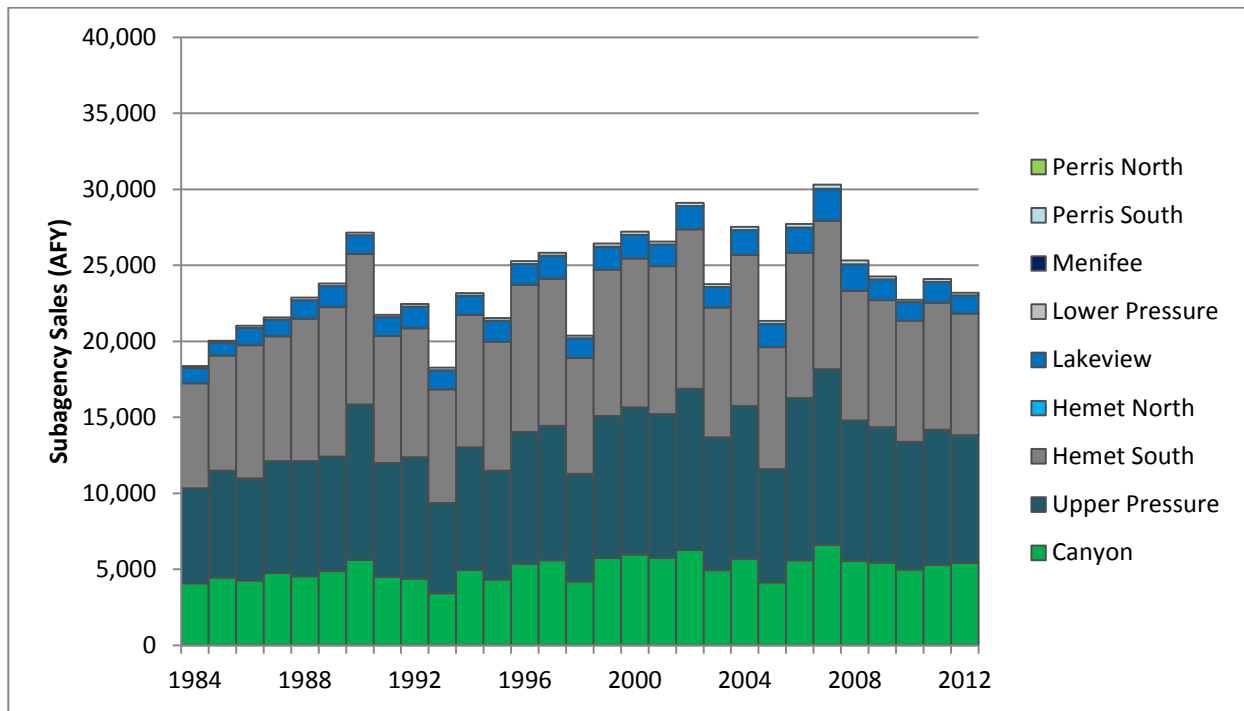


Figure 35: Subagency Water Sales by GMZ from 1984-2012

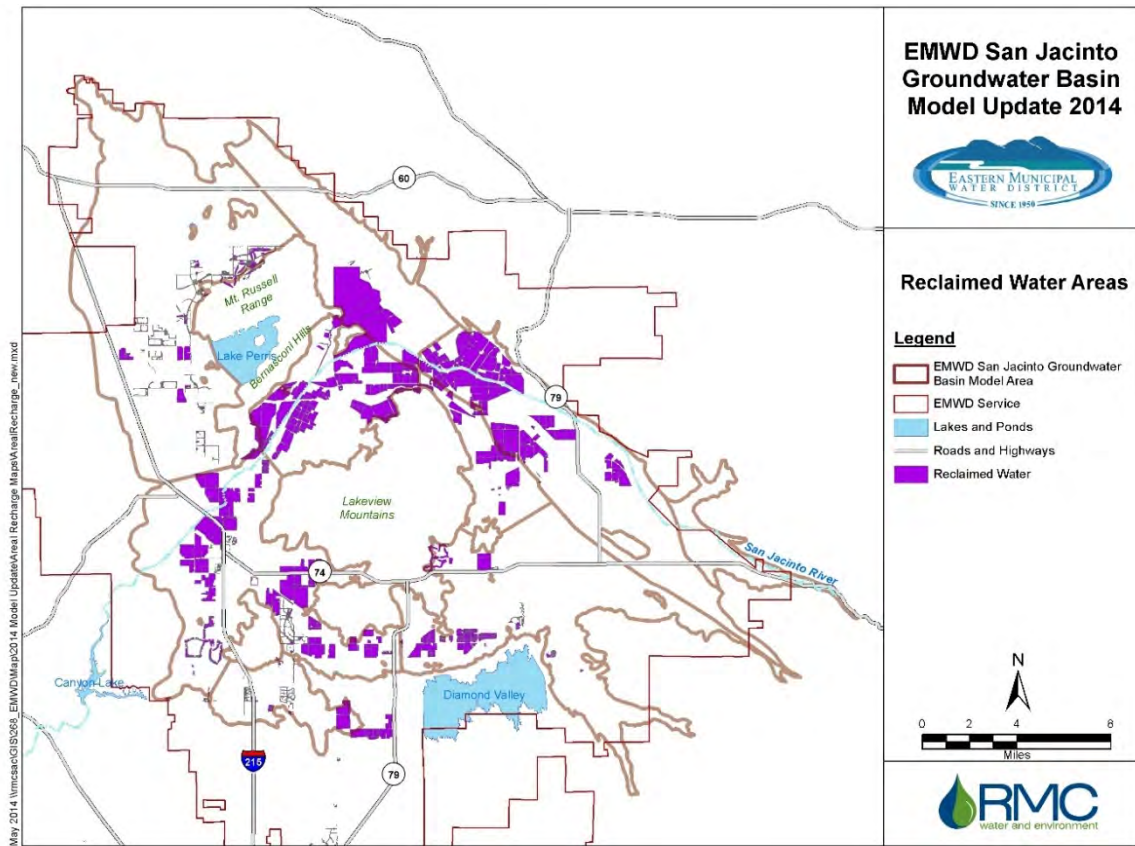


Figure 36: Reclaimed Water Sales Areas

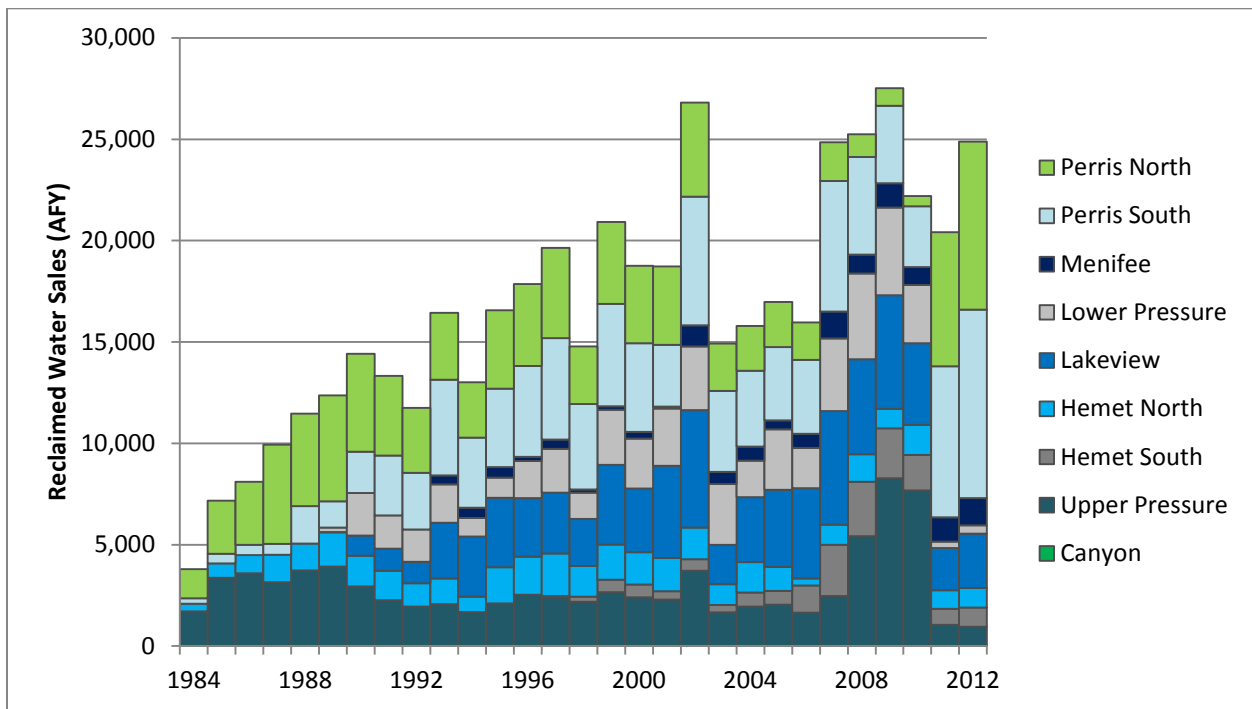


Figure 37: Reclaimed Water Sales by GMZ from 1984-2012

2.4.1.6 Irrigation Applied Water

At the time of this report, agriculture accounted for approximately a third of the land use in the Basin, and was even more prominent in earlier years, prior to urbanization. The irrigation areas are shown in Figure 38. There are currently over 170 identified areas that apply water for agricultural irrigation purposes, a majority of which takes place in the Upper Pressure, as seen in Figure 39.

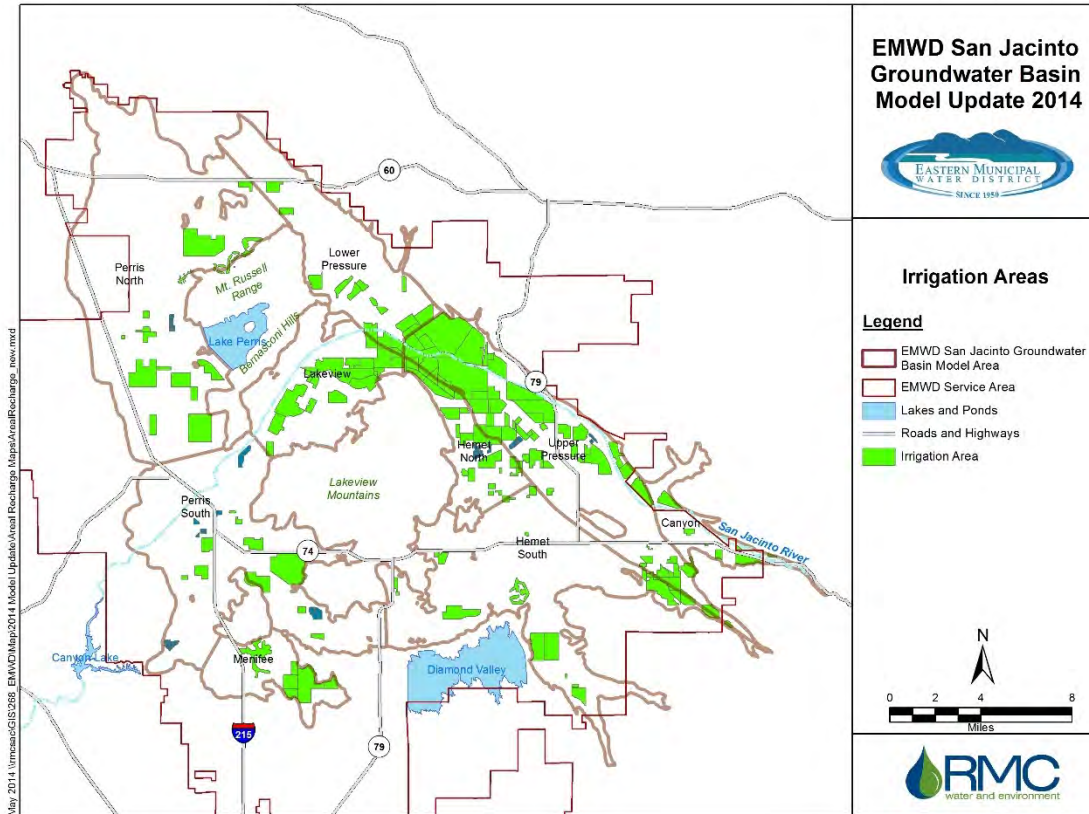


Figure 38: Irrigation Areas

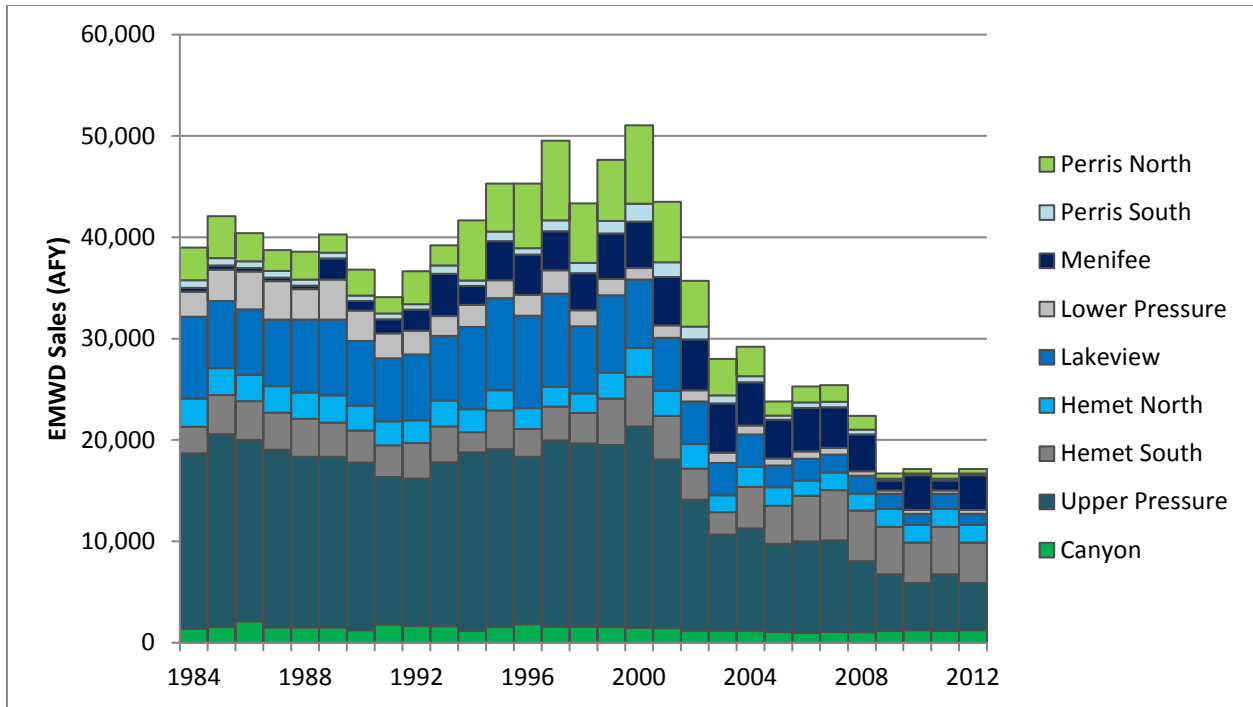


Figure 39: Irrigation Applied Water from 1984-2012

2.4.2 Point Recharge

Point recharge contributed to groundwater inflows through several of different sources. This included recharge ponds, incidental recharge from reclamation storage ponds and contribution from surface water reservoirs.

2.4.2.1 Recharge Ponds

Both EMWD and LHMWD hold water rights on the San Jacinto River, allowing them to divert water when river flows are sufficient. As shown in Figure 40, LHMWD has received water from the river during each year of the study period.

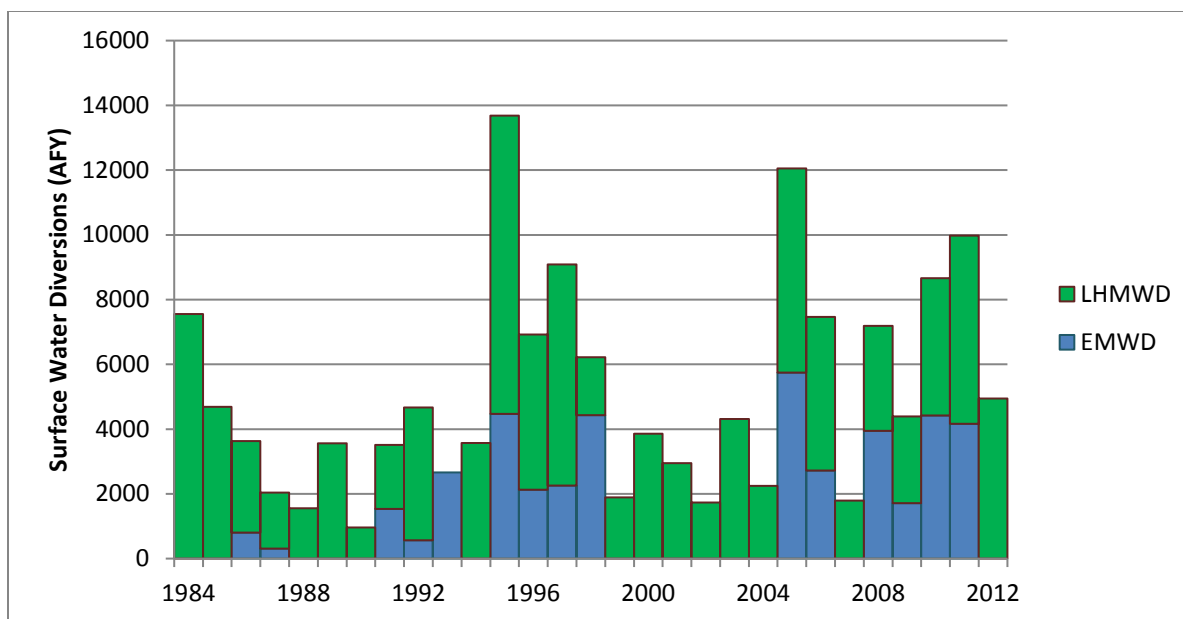


Figure 40: San Jacinto River Diversions

When surface water diversions from the San Jacinto River are made available to EMWD, the Stipulated Judgment and Complaint, Case Number RIC 1207274 requires EMWD to store any diverted water in the groundwater aquifer. This storage is implemented by recharging the diverted water at the Grant Avenue ponds and the Integrated Recharge and Recovery Program (IRRP) ponds. This recharge data was provided by EMWD and input into the model.

The Soboba Pit also contributes to recharge. It is located in Canyon at the boundary of the Upper Pressure and Canyon GMZs where the San Jacinto River crosses into Upper Pressure. The Soboba Pit recharges any water flowing from the San Jacinto River through Canyon before entering into Upper Pressure. Only during years of high flows in the San Jacinto River will water flow into Upper Pressure and past the Soboba Pit when it is full.

2.4.2.2 Reclamation Storage Ponds

Several reclamation facilities are operated within the Basin area, including the San Jacinto Valley Regional Water Reclamation Facility (RWRF), Moreno Valley RWRF, Perris Valley RWRF, and Sun City RWRF. These facilities divert treated tertiary water to reclaimed water ponds for storage and wetlands for additional treatment and percolation into the groundwater basin. The ponds are only operated six to nine months out of the year, typically from December to May or October to June.

Incidental recharge from the reclaimed water storage ponds enters the basin at an estimated recharge rate provided in Table 5. The initial recharge rates associated with each pond were provided by EMWD based on historical testing and knowledge of pond operations. It was noted that a majority of the provided rates were estimated, especially for the earlier years. Recharge rates were modified during the calibration process to create a better fit with observed data.

Due to the size of the model grid cells, pond footprints may only cover part of a cell, yet the pond is still assigned to the entire cell, artificially inflating the area of the pond. To account for this, each recharge rate is multiplied by an area factor. This is based on the actual area of the pond relative to the area of the pond represented by grid cells.

Table 5: Model Reclaimed Pond Recharge Rates

Reclaimed Pond	Area (acres)	Operation Period	Area Factor	Recharge rate (ft/day)
Alessandro	26.3	9 months/year	0.33	0.01
Case Road	21.7	9 months/year	0.42	0.10
Landmark	1.6	9 months/year	1.00	0.075
Moreno Valley RWRf	56.2	9 months/year	0.39	0.075
Perris Valley RWRf	22.4	9 months/year	0.39	0.025
San Jacinto RWRf	71.7	9 months/year	0.45	0.01
Skiland North/South	95.0	6 months/year	0.53	0.20
Sun City RWRf	67.7	9 months/year	0.47	0.06
Trumble Road	25.3	9 months/year	0.44	0.10
Watson Road	8.7	9 months/year	0.25	0.075
Wetlands	25.0	9 months/year	0.44	0.075
Winchester Pond A	43.5	9 months/year	0.51	0.035
Winchester Pond B	33.5	9 months/year	0.65	0.035
Winchester Pond C	24.4	9 months/year	0.61	0.035

A factored recharge rate was applied to all ponds outside of Perris South for the period from 1984 through 1993 because of a lack of pond operation and recharge rates for those years. All ponds in Perris South were assumed to be offline until 1993 with the exception of the Trumble Road ponds. The recharge rate factor was created using EMWD water sales values from 1984 through 1993, relative to water sales in 1993 when data for most ponds became available. For example, water sales in 1984 were 89% of water sales in 1993, so pond recharge rates in 1984 are multiplied by a factor of 0.89. Trumble Road pond recharge was reduced further by half of the reduced recharge rates to better match the observed water levels. These factors are presented in Table 6.

Table 6: Pond Recharge Rate Factors for 1984-1993

Year	Recharge Rate Factor	
	All Ponds (Not in Perris South)	Trumble Road Pond
1984	0.89	0.45
1985	0.76	0.38
1986	0.54	0.27
1987	0.70	0.35
1988	0.79	0.39
1989	0.88	0.44
1990	1.00	0.50
1991	0.90	0.45
1992	0.98	0.49
1993	1.00	0.05

2.4.2.3 Contribution from Surface Water Reservoirs

Lake Perris and Diamond Valley Lake (DVL) are both water bodies located outside the Basin GMZs (Figure 41). Underflows from Lake Perris and DVL enter the Perris North GMZ and the Hemet South GMZ, respectively, impacting the water levels in those areas and the water budget within the Basin. The underflow underneath the dam from Lake Perris into Perris North was estimated to be 3,786 AFY, where 585 AFY was due to underflow under the west abutment and 3,201 AFY was due to underflow of the subterranean stream beneath the east abutment. The underflow from east dam of DVL was estimated at 300 AFY, according to EMWD.

2.4.3 River Recharge

Riverbed percolation is a major component of natural groundwater recharge in the Basin. The main sources of river recharge are:

- San Jacinto River
- Bautista Creek
- Perris Valley Storm Drain (Perris Drain)

The San Jacinto River flows from Canyon through Upper Pressure, Lower Pressure, Lakeview, and Perris South GMZs. Due to limited streamflow, the majority of San Jacinto River recharge occurs in the Canyon and Upper Pressure GMZs. The San Jacinto River flow data is measured at three different USGS stream gauge locations: the Cranston Gauge in Canyon (USGS 11069500), the State Street Gauge in Upper Pressure (USGS 11070150), and the Ramona Expressway in Lakeview (USGS 11070210), as seen in Figure 41. San Jacinto River flows are only observed downstream at the gauge in Lakeview during wet years. Flows and estimated flows during the study period for the various reaches are provided in Figure 42. The Cranston Gauge was not operational from 1992 to 1996. Values used to represent the missing data during this time were obtained from the Joel R. Guay report, *Rainfall-Runoff Characteristics and Effects of Increased Urban Density on Streamflow and Infiltration in the Eastern Part of the San Jacinto River Basin, Riverside County, California*. Data at the Ramona Expressway gauge is available starting in 2000.

Parts of the San Jacinto River bed were also used for artificial recharge through diversions to recharge ponds operated by EMWD and Lake Hemet, as discussed in the previous section.

Bautista Creek enters the Basin through the southern portion of Upper Pressure before joining with the San Jacinto River along the boundary of Upper Pressure and Canyon. The majority of Bautista Creek that flows through the Basin boundary is concrete lined and has very little leakage. Some of Bautista Creek streamflow is recharged in a large flood plain in the southernmost part of Upper Pressure and any excess flow continues into the San Jacinto River.

Perris Drain transects through Perris North and into Perris South before discharging into the San Jacinto River. It drains an approximately 38 square-mile area which includes the City of Perris, City of Moreno Valley, and the March Air Reserve Base (MARB). Generally, the Perris Drain is an earthen channel, except for a portion north of MARB where it is concrete lined. It was assumed that the channel recharged an average of 300 AFY in the Perris North GMZ.

It should be noted that Salt Creek was included in the model, but had no streamflows. In general, little to no flow exists in Salt Creek, but the reach can act as a drain when water levels increase above the streambed invert elevations.

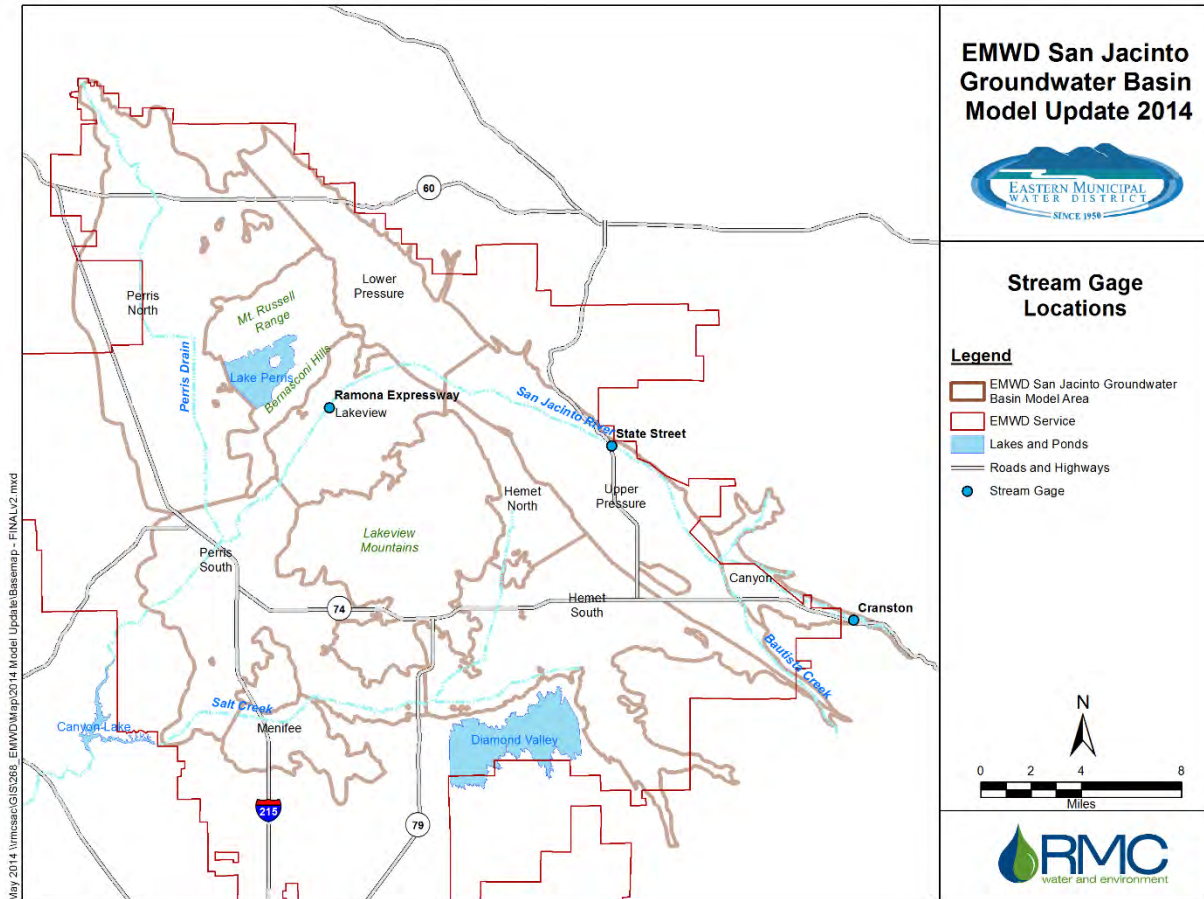


Figure 41: USGS Stream Gauge Locations in the Basin

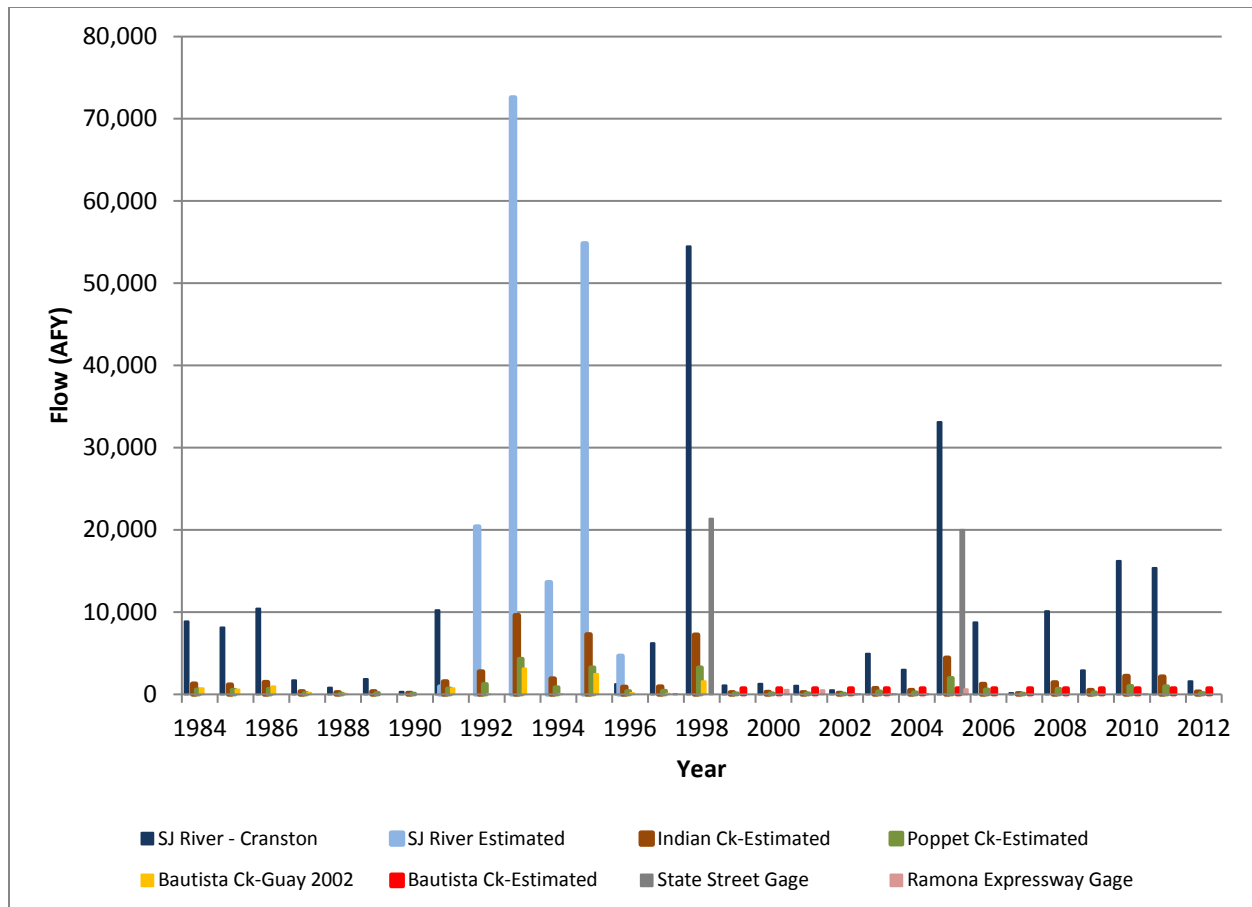


Figure 42: Annual Streamflows – Measured and Estimated

2.4.4 Mountain Front Recharge

While the Basin is a closed groundwater basin with no significant natural subsurface outflows, it does receive additional inflows through local runoff from the adjacent areas, referred to as mountain front recharge. This local runoff is not gauged, but is an important component of the overall water budget for the Basin. Preliminary estimates of mountain front inflow were obtained from the SJFTM-2002. These estimates were refined during the calibration of the SJFM-2014.

2.5 Groundwater Outflow

The main groundwater outflow from the San Jacinto Groundwater Basin in recent decades has been production by municipal, agricultural and private wells. More recently, brackish groundwater is being extracted as part of EMWD Desalination Program. The groundwater outflows are described in the following sections.

2.5.1 Groundwater Production – Potable Municipal, Agricultural, and Private Wells

Groundwater production from pumping wells is the only major source of outflow in the model. There are 453 production wells within the active model area. These wells are used to fulfill water demands for irrigation, industrial, and domestic water use. City and municipal wells in the area have flow gauges that

record pumping rates and time of operation, data that is tracked by EMWD and other local agencies as part of the groundwater management plan. Some irrigation wells are also fitted with flow gauges, allowing for a similar dataset to be collected. For irrigation wells that do not have flow gauges, an estimate of groundwater production is made by the agencies based on crop type, irrigation efficiency, potential evapotranspiration, and the acreage irrigated.

Most of the municipal water wells owned and operated by EMWD, LHMWD, Cities of San Jacinto and Hemet, as well as private pumpers, are concentrated in the southeast section of the Hemet-San Jacinto Groundwater Management Area in the Hemet South, Upper Pressure and Canyon GMZs. Additionally, EMWD owns and operates numerous wells in Perris North and Perris South, and the California Department of Fish and Wildlife owns several wells in the Lower Pressure GMZ. A number of production wells found in the Basin are privately owned wells. In general, private wells are owned by agricultural growers and are used to supply irrigation water. Figure 43 shows the location of the production wells within the Basin and Table 7 provides the number of production wells per GMZ.

Table 7: Number of Production Wells by GMZ

GMZ	Number of Wells
Perris North	42
Perris South	26
Menifee	13
Lower Pressure	22
Lakeview	37
Hemet North	50
Hemet South	74
Upper Pressure	160
Canyon	29
Total	453

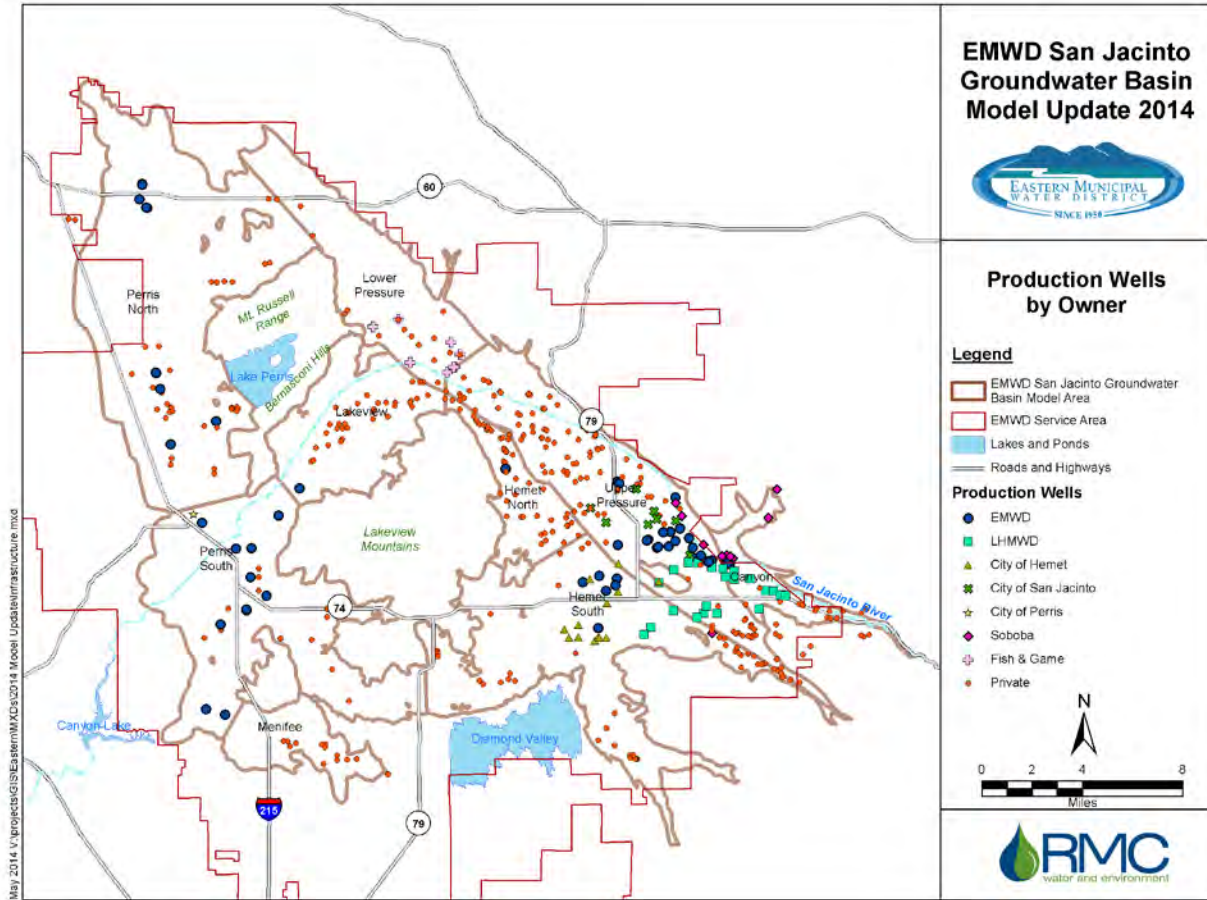


Figure 43: Production Wells within the Basin

2.5.2 Groundwater Production – Brackish Municipal Wells

The EMWD Desalination Program produces potable water at the Perris and Menefee Desalters, which are supplied with brackish groundwater pumped from municipal brackish water wells located in Perris South and Lakeview, as shown in Figure 44. The figure also shows the expanse of the brackish water area, which covers a majority of Perris South and Menefee along with portions of Perris North, Lakeview and Hemet South. The elevated total dissolved solids (TDS) levels in the groundwater produced by the municipal brackish water wells are treated by reverse osmosis. The resulting brine is exported from the basin. At the time of the report, there are 12 municipal brackish water wells owned and operated by EMWD, though not all are operational.

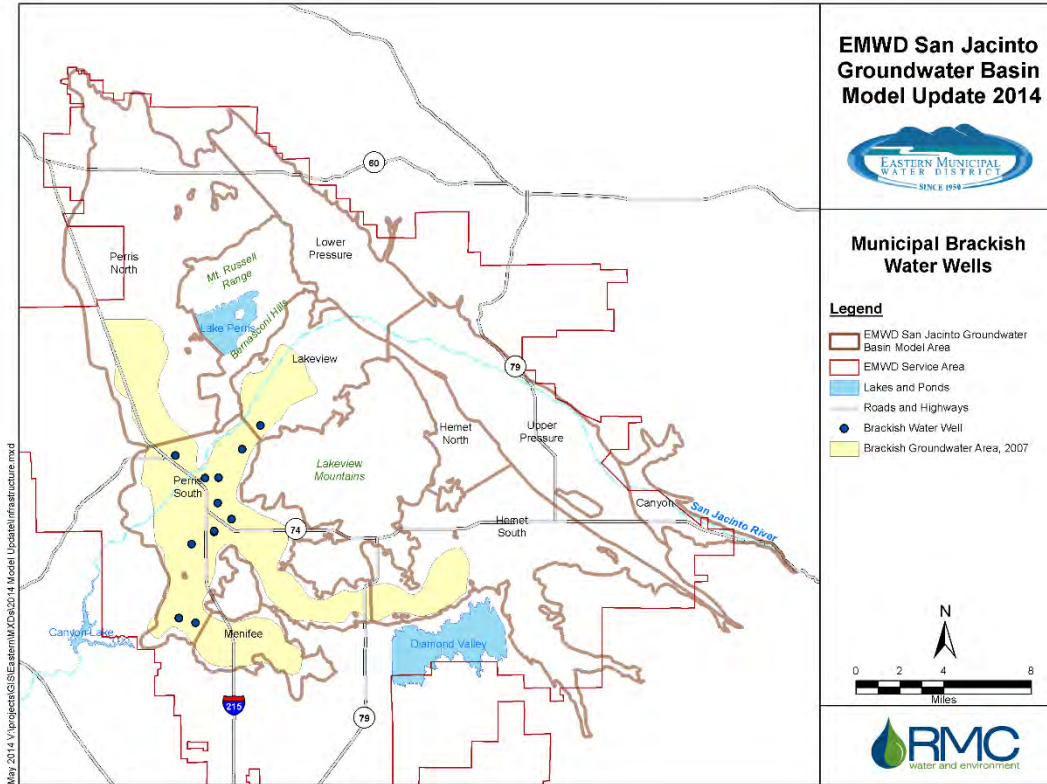


Figure 44: Location of Municipal Brackish Water Wells

Figure 45 presents the groundwater production quantities in the Basin during the study period by GMZ. Locations of active production wells every five years from 1985 to 2010 are shown in Figure 46 to Figure 51. The high pumping areas in the model can be identified in Upper Pressure, the Cienega well area of Canyon and Hemet South.

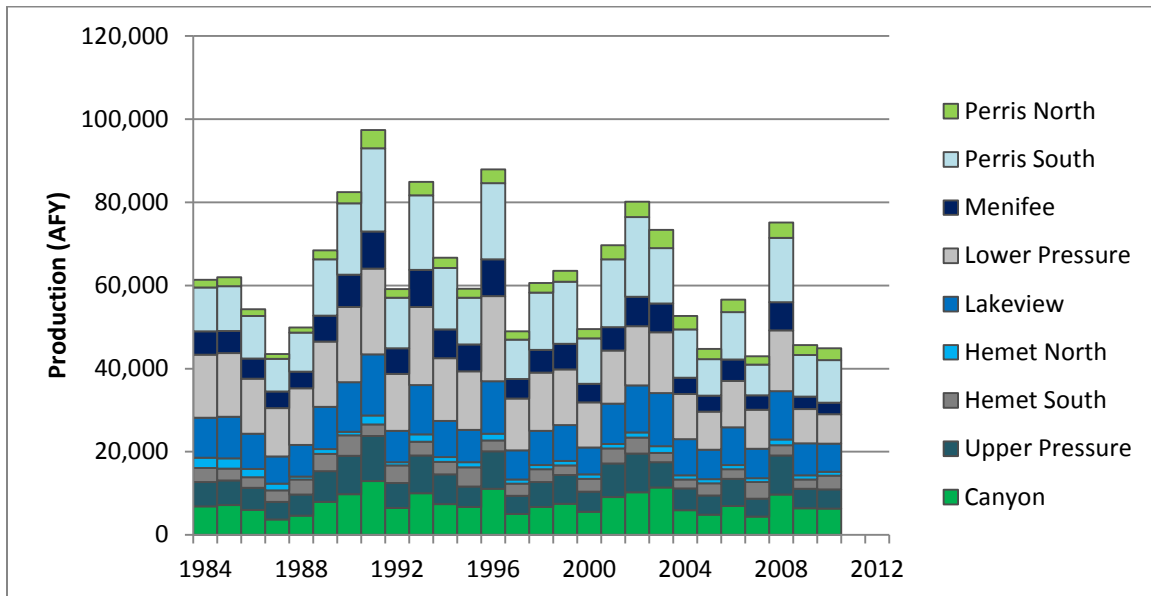


Figure 45: Groundwater Production in the Basin by GMZ

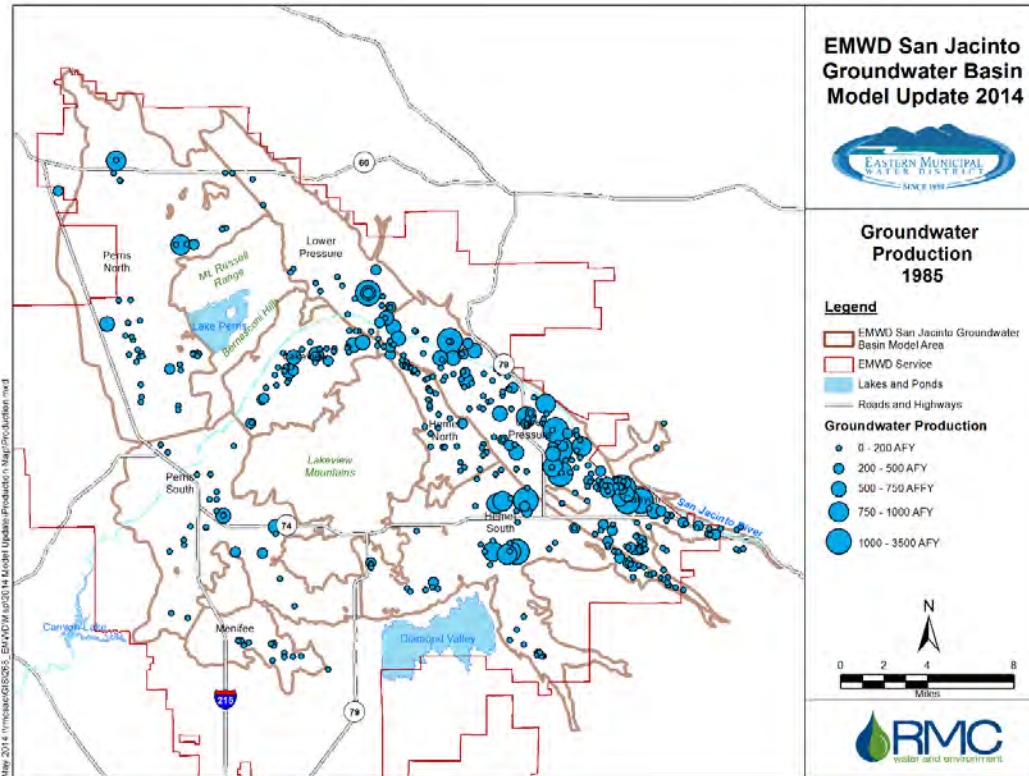


Figure 46: Location and Production Rates of Groundwater Production Wells in 1985

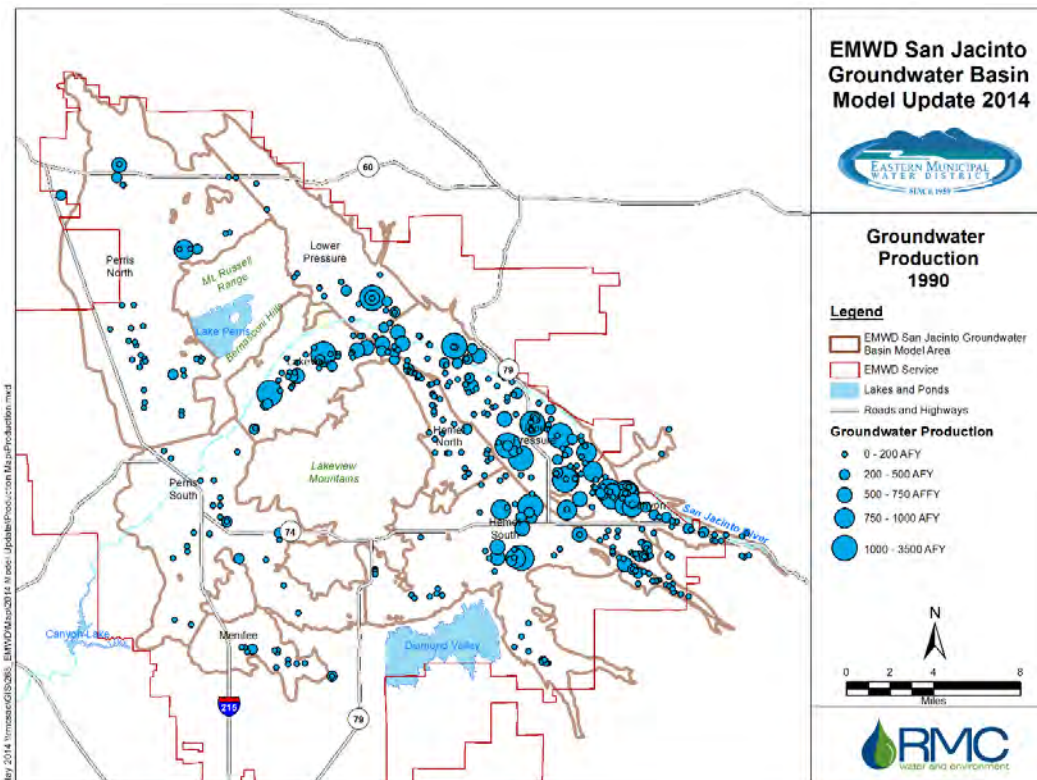


Figure 47: Location and Production Rates of Groundwater Production Wells in 1990

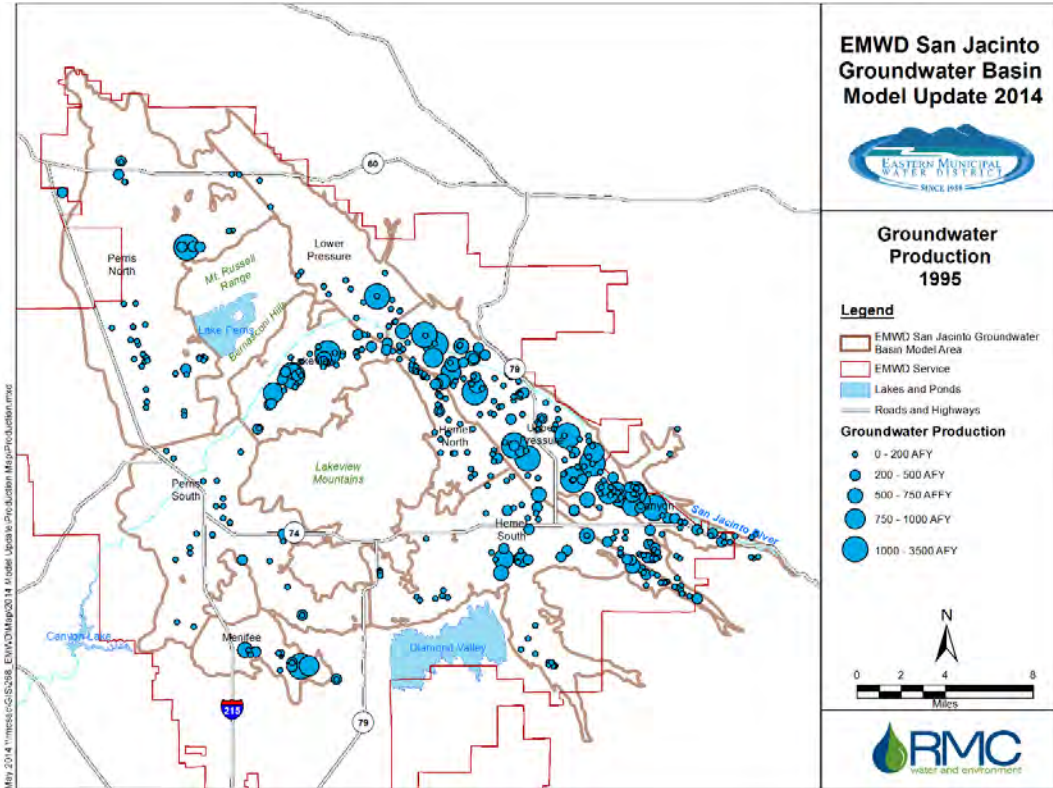


Figure 48: Location and Production Rates of Groundwater Production Wells in 1995

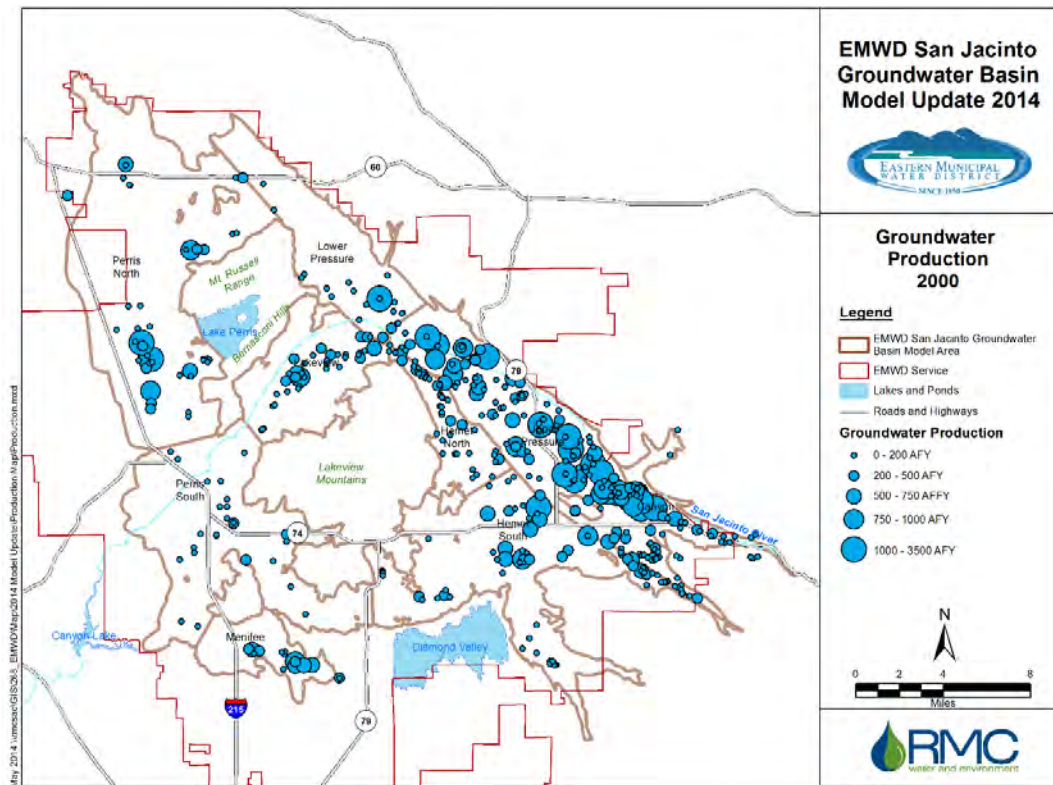


Figure 49: Location and Production Rates of Groundwater Production Wells in 2000

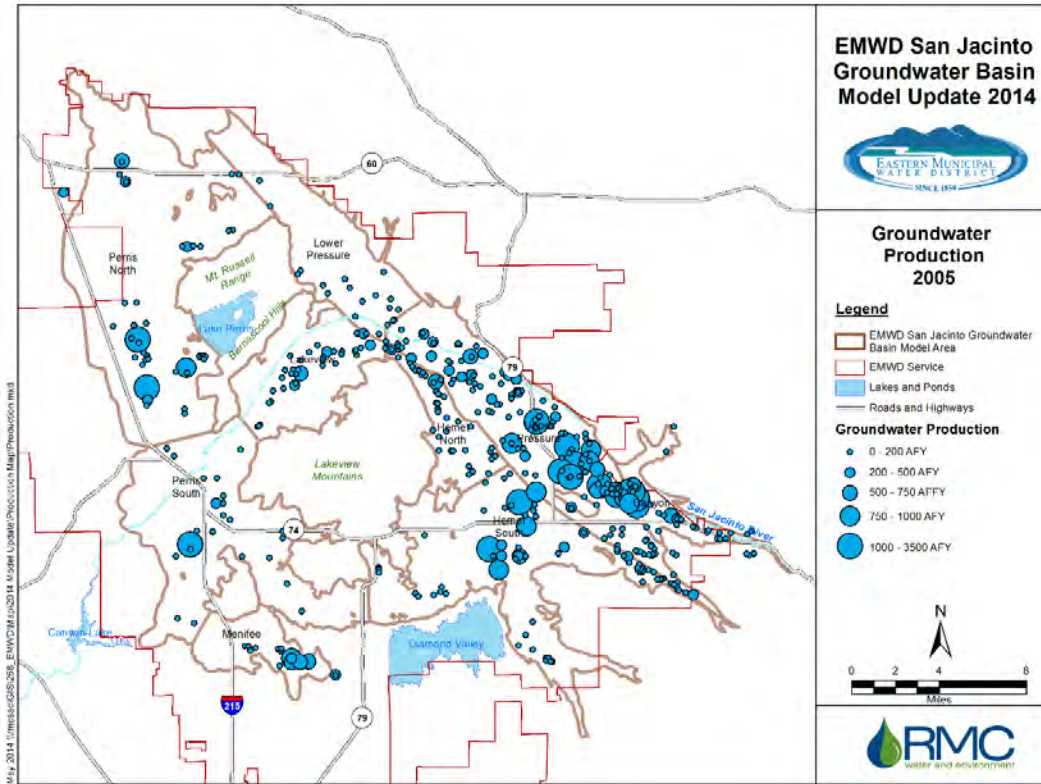


Figure 50: Location and Production Rates of Groundwater Production Wells in 2005

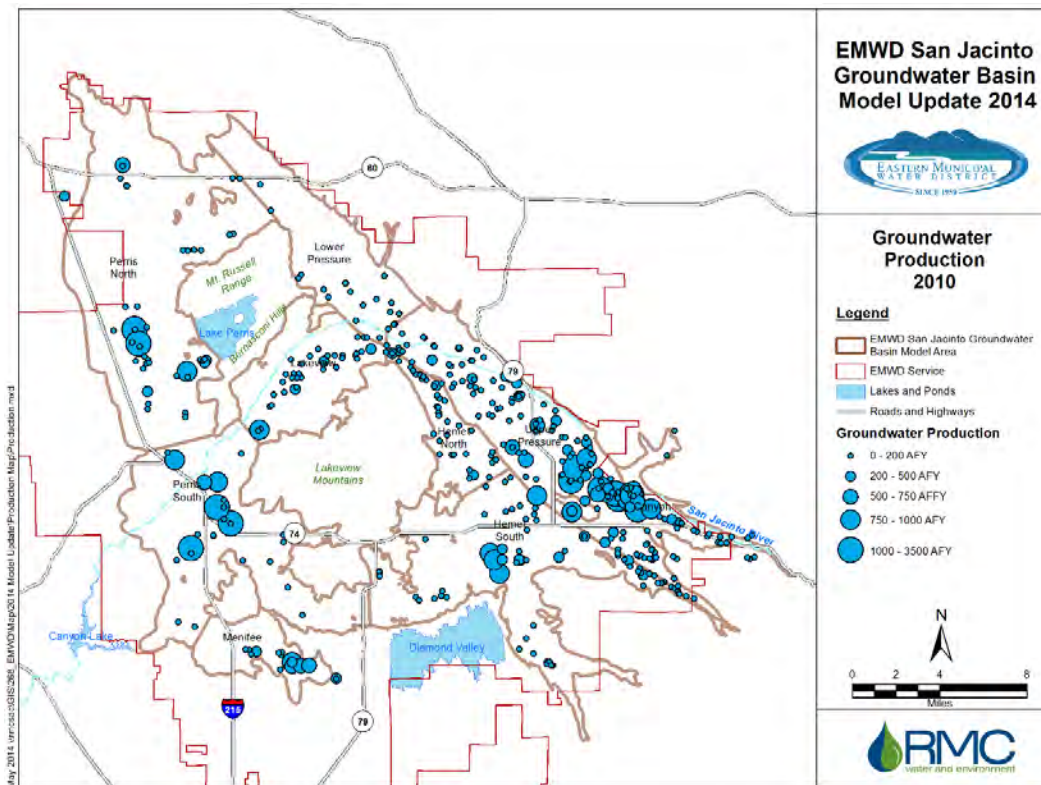


Figure 51: Location and Production Rates of Groundwater Production Wells in 2010

Section 3 Groundwater Flow Model Development

The San Jacinto Groundwater Flow Model Update - 2014 (SJFM-2014) is a saturated groundwater flow model that was constructed using the U.S. Geological Survey (USGS) groundwater flow code MODFLOW-NWT (Niswonger, et al., 2011), a Newton formulation for MODFLOW-2005 (Harbaugh, 2005). Groundwater Modeling Systems (GMS) was used as the pre- and post-processing program.

A summary of the SJFM-2014 features are listed in Table 8. These features are discussed further in the remainder of the section.

Table 8: Features of the San Jacinto Groundwater Flow Model Update - 2014

Feature	SJFM-2014	Notes
Simulated Systems	Saturated Groundwater Flow	
Model Platform	GMS 10, MODFLOW-NWT	
Calibration Period	29 years (Calendar Year: 1984-2012)	
Stress Period (SP)	1 month	
Time Steps	Daily	
Model Layers	4 in Lower Pressure and Upper Pressure, 3 in other GMZs	
Grid Resolution	Uniform 500'x500' cells (353 rows, 206 columns)	
Grid Rotation	50° counterclockwise rotation	
Active Cells	50,000+ active cells across all 4 layers	
San Jacinto River	Streamflow Routing Package (SFR)	
Recharge Estimation	Recharge Package (RCH)	A recharge pre-processor was developed to estimate recharge rates at each model cell based on land use (1999, 2003, 2010) and soil properties
Faults	Horizontal Flow Barrier Package (HFB)	
Leaky Faults	Drain Return Package (DRT)	
Mountain Front Recharge	WEL – simulates specified flux to individual cells	
Reclaimed Water Ponds	Recharge Package (RCH)	
Recharge Ponds	Recharge Package (RCH)	
Groundwater Production	WEL - well package	
Initial Head	1984 heads from 2002 Model	Adjusted based on available hydrographs
Aquifer Parameters	2002 Model calibrated aquifer parameters used as initial estimates	Adjust during calibration

3.1 Model Grid

The model grid consisted of 353 rows and 206 columns, or 72,718 cells per model layer. Each grid cell was spaced at 500 x 500 feet. The relatively fine grid spacing was required to follow the irregular external and internal boundaries of the San Jacinto Groundwater Basin. The grid was rotated 50 degrees counterclockwise from north, approximately aligning the column directions with the Casa Loma Fault. The coordinates of the lower left corner of the grid in NAD 83 State Plane Zone 6 were Easting (X) 6,333,660.04 feet and Northing (Y) 2,132,694.37 feet. The extent of the model grid is shown in Figure 52.

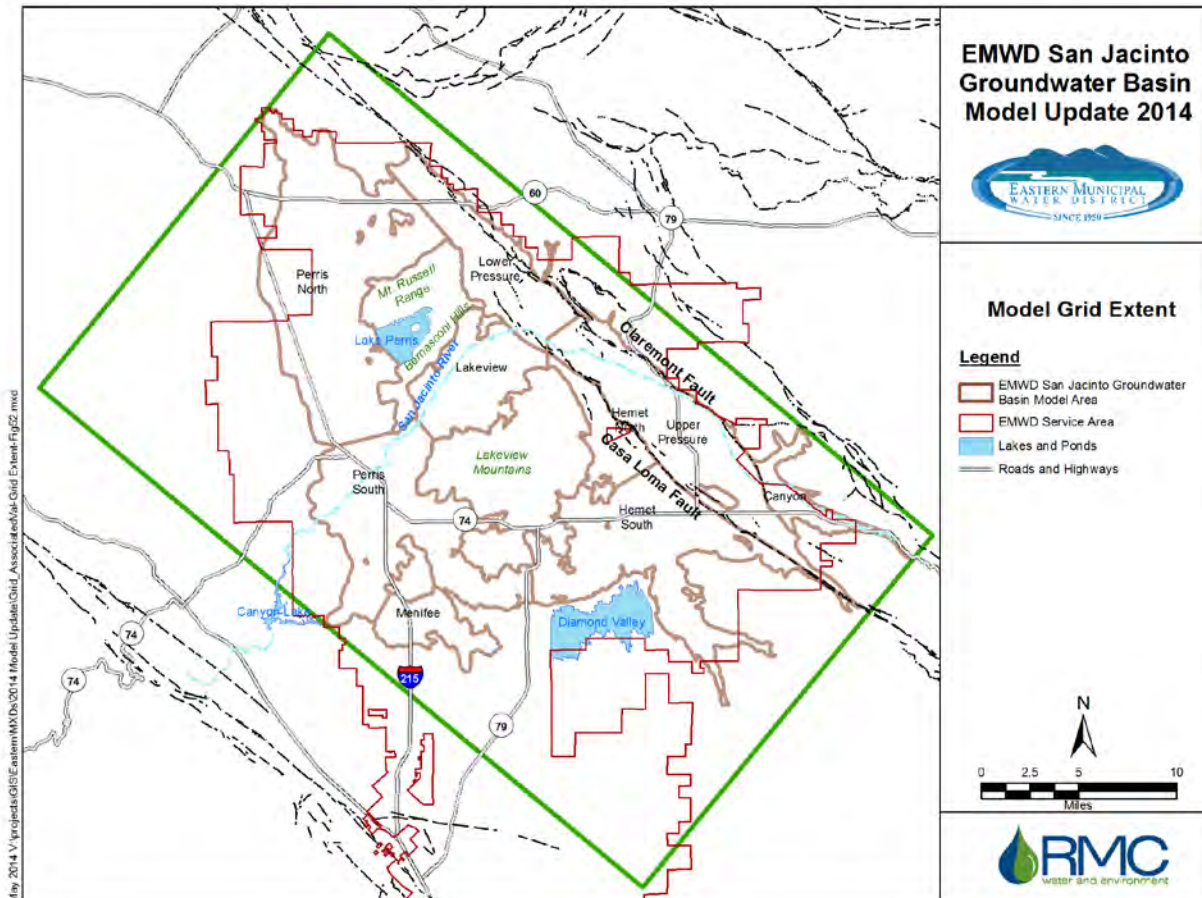


Figure 52: Model Grid Extent

3.2 Model Layers

Three to four model layers were identified in the majority of the Basin, based on analysis using driller's logs, geophysical logs, well construction information, groundwater elevation data, and groundwater quality data as discussed in Section 2, Appendix A, and associated cross sections. The approximate layering is represented on the cross sections discussed previously. Active cells for each model layer are shown in Figure 53 through Figure 56. Model layers along several model cross sections are shown in Figure 57 and Figure 58. The purple highlighted layer represents Layer 1.

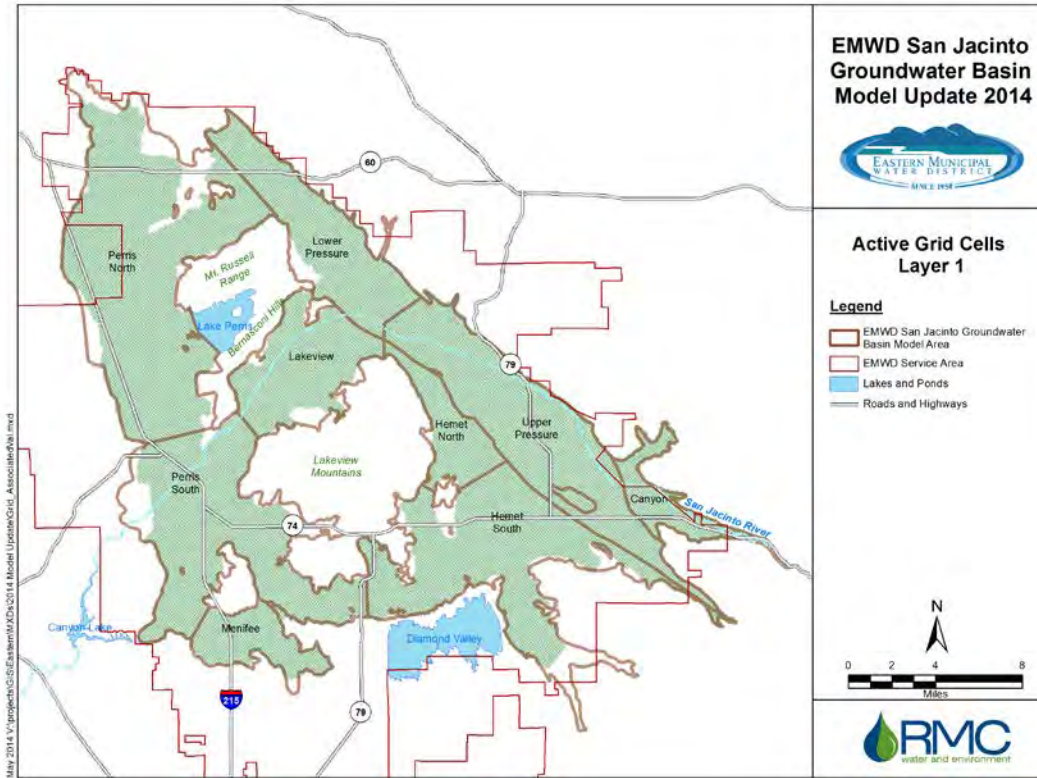


Figure 53: Active Grid Cells in Layer 1 (Green area represent the active model cells)

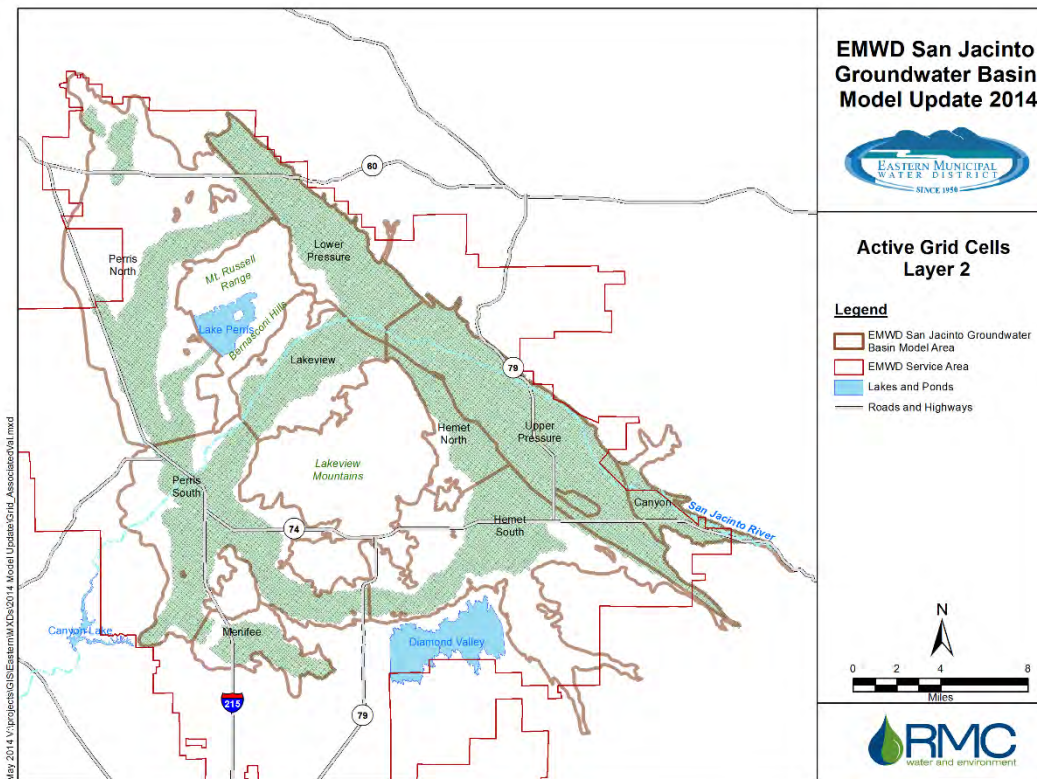


Figure 54: Active Grid Cells in Layer 2 (Green area represent the active model cells)

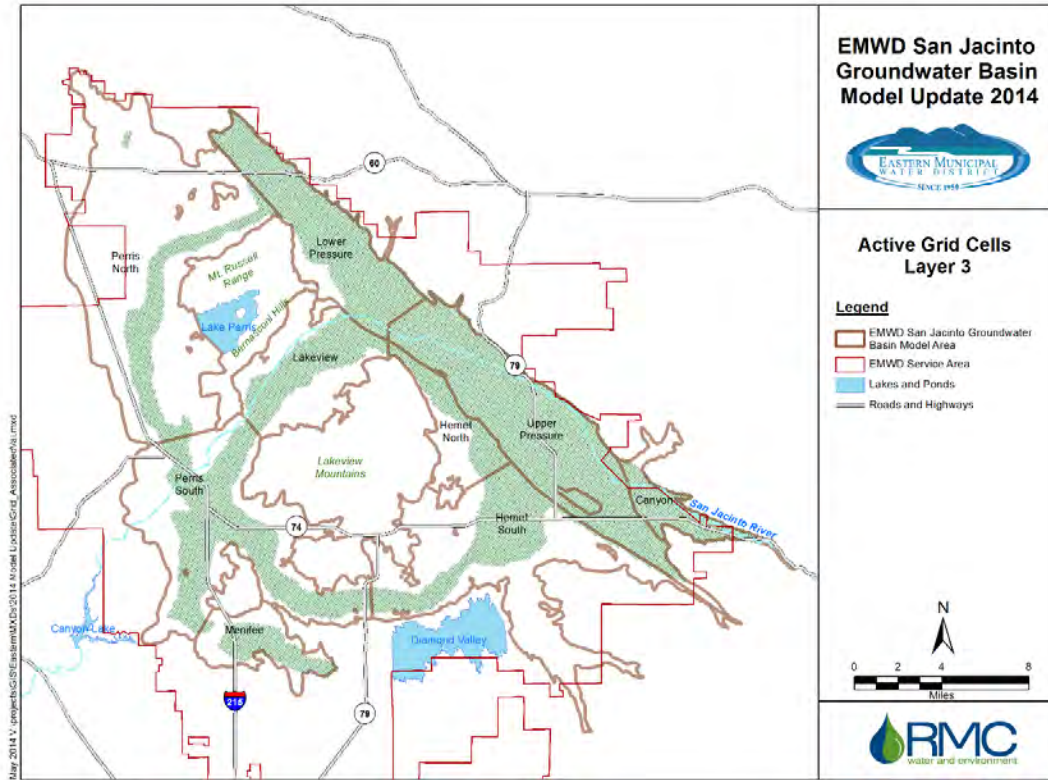


Figure 55: Active Grid Cells in Layer 3 (Green area represent the active model cells)

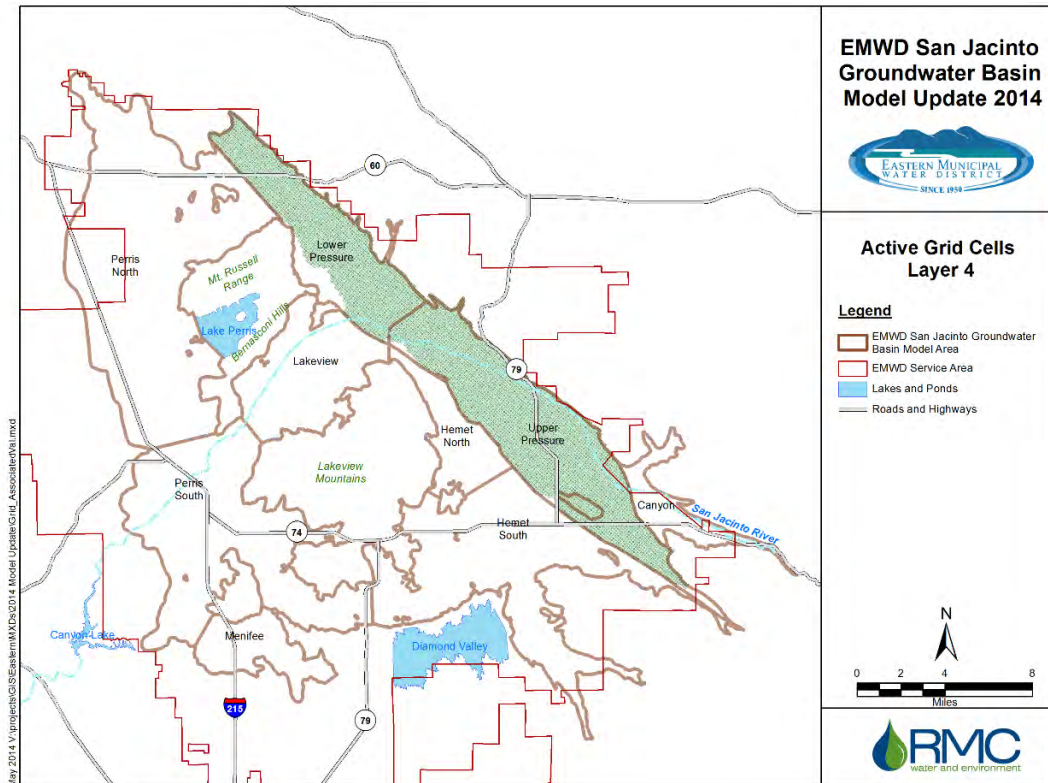


Figure 56: Active Grid Cells in Layer 4 (Green area represent the active model cells)

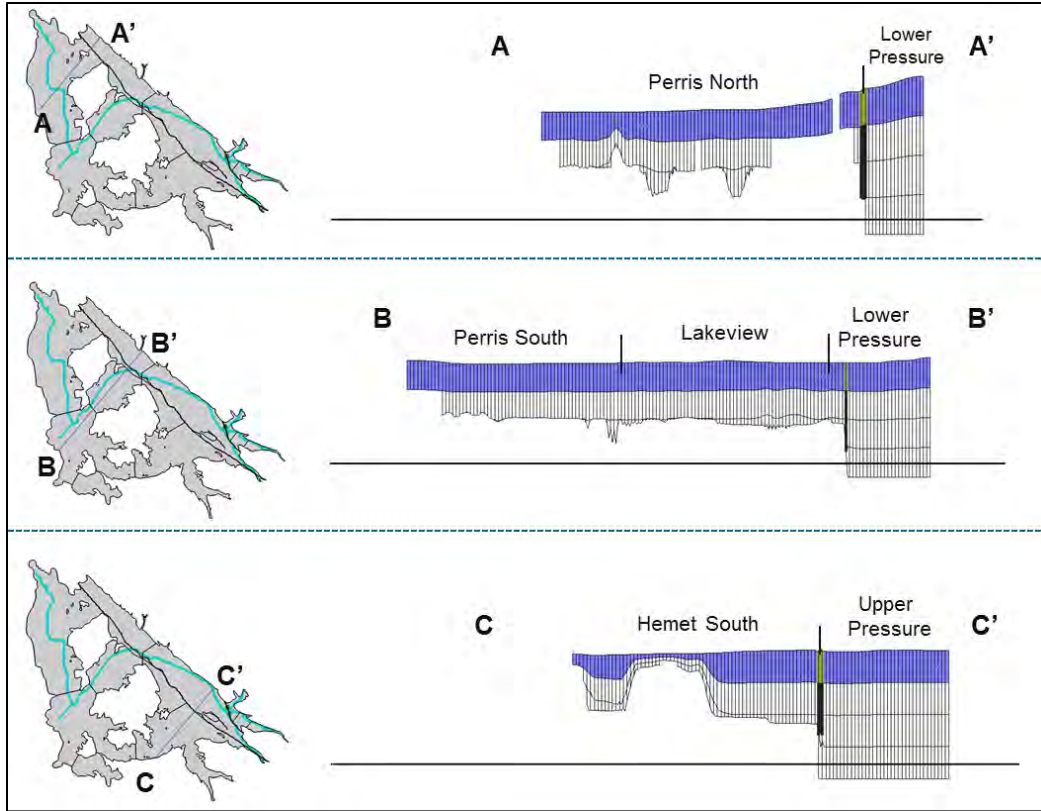


Figure 57: East-West Cross-Sections of Model Layers

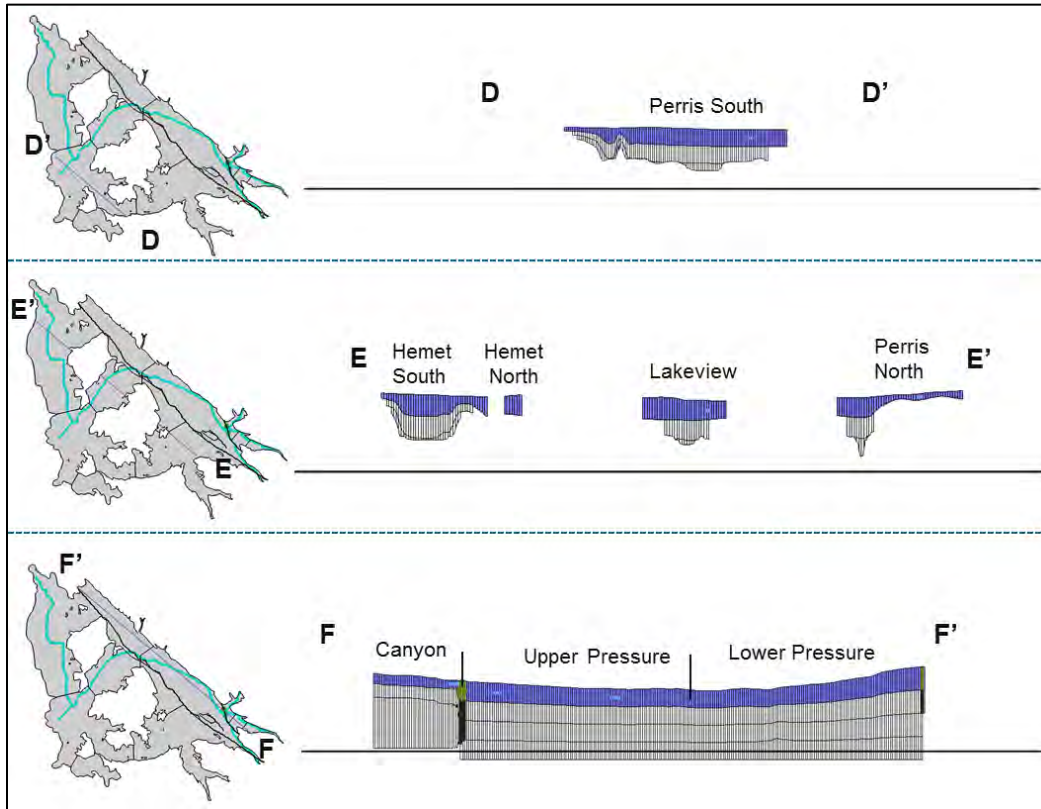


Figure 58: North-South Cross-Sections of Model Layers

Four layers were identified in the Upper Pressure and Lower Pressure GMZs. The topmost layer (Layer 1) was almost completely dry, and extended from ground surface to a depth of approximately 200-500 feet. The second hydrogeologic layer, Layer 2, marked the beginning of the major production zone in these GMZs, and extended from the bottom of the topmost hydrogeologic layer to a depth of approximately 800 – 900 feet below ground surface. The major production zone continued into Layer 3, which reached a depth of approximately 1,300 feet, marking the beginning of the Bautista formation and the end of the main production zone. The final hydrogeologic layer, Layer 4, is comprised of materials from the Bautista formation and reached the bottom extent of the model which was set at roughly 1,800 feet below ground surface.

In the western portion of the Basin (consisting of the Perris North, Perris South, Hemet North, Hemet South, Lakeview and Menifee GMZs), a three layer aquifer system was indicated by the hydrogeologic layering. The topmost layer (Layer 1) extended to an approximate depth of 300 feet and contained mostly fresh water. Layer 2 was brackish in some areas and extended to roughly 600 feet below ground surface. Layer 3 mostly contained freshwater, and varied significantly in thickness due to bedrock relief. Anecdotally, previous EMWD staff and USGS staff conveyed that there are some indications that Layer 3 likely contains clay-rich supersaturated groundwater in portions of the western Basin; possibly limiting its utility as a production zone (EMWD, 2015).

Three hydrogeologic layers were also identified in the San Jacinto Canyon GMZ. The topmost layer, Layer 1, extended from ground surface to a depth of approximately 200-300 feet. Layer 2 extended from the bottom of the topmost hydrogeologic layer to a depth of nearly 600 feet. These top two layers were the primary production zones and high producing wells were typically screened in these layers. Layer 3 included lower permeability materials, potentially including more consolidated alluvium and the Bautista Formation. Layer 3 reached the bottom extent of the model, which was set at roughly 1,600 feet below ground surface, based on the depths of deepest wells in the basin. Outside of the main portion of the basin, a shallower Layer 1 extended into the Poppet Creek area.

All layers were set to be convertible, where cells can convert from confined to unconfined conditions, depending on the water levels. After each iteration, the model checked to determine whether head in the layer was above or below the elevation of the top of the layer. If head in the layer was higher than the elevation of the top of the layer, the layer was assumed to be confined. If head in the layer was less than the elevation of the top of the layer, the layer was assumed to be unconfined (Anderson and Woessner, 2002).

3.3 Model Faults and Geologic Structures

As discussed in Section 2.3.2, there are several faults that influence the groundwater flow in the basin. The main faults in the Basin that were modeled are the Casa Loma Fault, the Claremont Fault, and the Park Hill Fault. Other representations of local geologic structures were included in the model as “modeling constructs”. These include two in Canyon and one spanning across the Lower Pressure and Upper Pressure boundary. The modeled faults are present in every layer.

Some faults were modeled as partial barriers using the MODFLOW Horizontal Flow Barrier Package (HFB), allowing some groundwater to flow through. The fault leakance was input into the model as the hydraulic characteristic. The hydraulic characteristic is the barrier hydraulic conductivity divided by the width of the barrier, regardless of the layer type or flow used; thus, layer thickness is always used in calculating the contribution to the conductance terms (Harbaugh, 2000). The hydraulic characteristic for each fault with general direction of flow is provided in Table 9. The locations of the modeled faults are presented in Figure 59.

Table 9: Hydraulic Characteristic Values for Modeled Faults with General Direction of Flow

Geologic Structure	General Direction of Flow Across Geologic Structure	Hydraulic Characteristic
Casa Loma Fault	Lower Pressure to Perris North	0.0005
Casa Loma Fault	Hemet South to Upper Pressure	0.0002
North Canyon Construct Layer 1	Canyon Zone 2 to Canyon Zone 1	0.01
North Canyon Construct Layer 2	Canyon Zone 2 to Canyon Zone 1	0.001
North Canyon Construct Layer 3	Canyon Zone 2 to Canyon Zone 1	0.0001
South Canyon Construct	Canyon Zone 3 to Canyon Zone 2	0.1
Claremont Fault	Canyon Zone 1 to Upper Pressure	Drain Package at 40-45 feet below ground surface with conductance of 1,000 ft ² /day
Park Hill Fault	No flow across structure	No Flow Boundary
LP-UP Construct	No flow across structure	No Flow Boundary

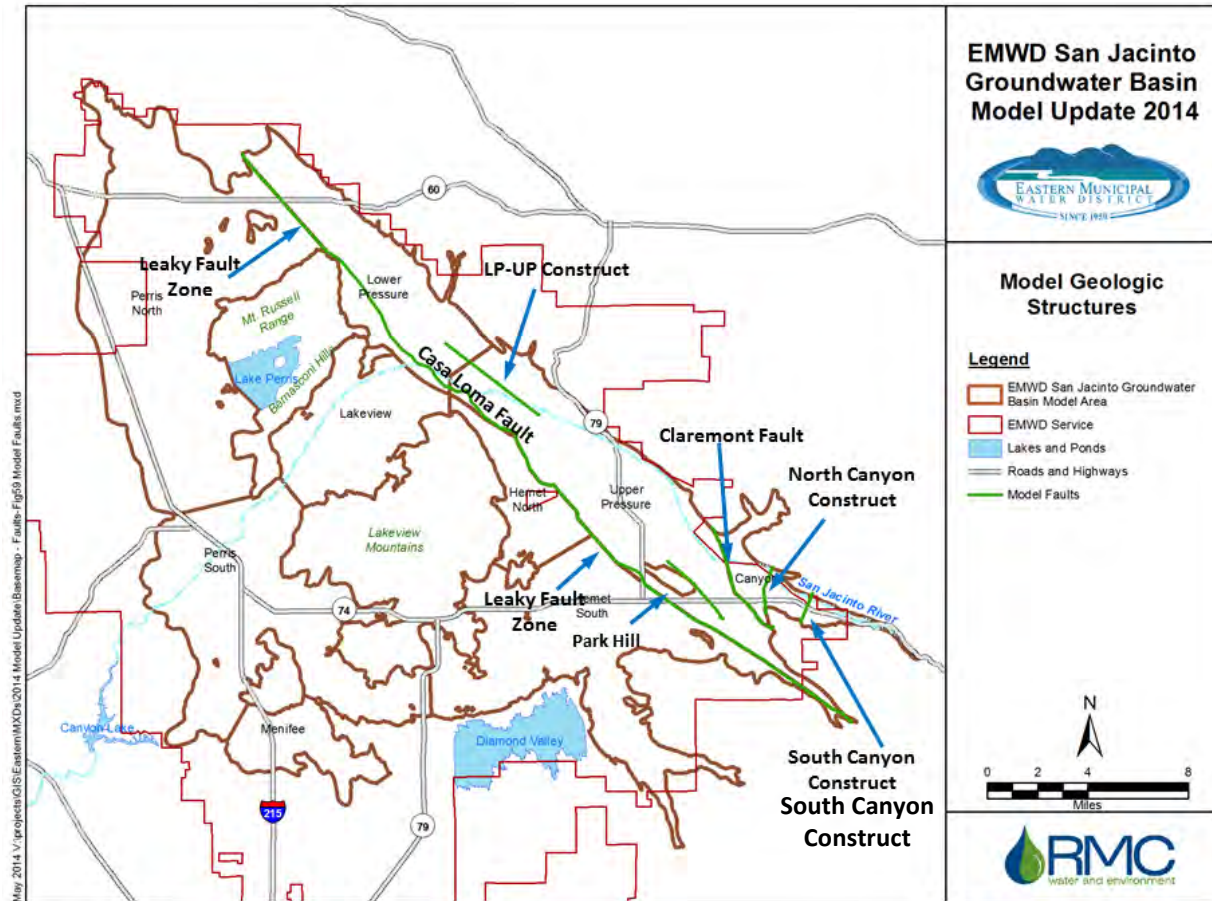


Figure 59: Modeled Faults in the SJFM-2014

3.3.1 Casa Loma Fault

For modeling purposes, the Casa Loma Fault spans the western boundary of Lower Pressure and Upper Pressure GMZs. In general, the Casa Loma Fault was modeled as an impermeable, no flow barrier, except in two locations: between Perris North and Lower Pressure and between Hemet South and Upper Pressure. Hydraulic characteristics of the partial fault are provided in Table 9.

3.3.2 Claremont Fault

The Claremont Fault was modeled as the boundary between Upper Pressure and Canyon GMZs. This fault was modeled as an impermeable, no-flow barrier although significant flows across the fault have been recorded when water levels are within 40-60 feet of ground surface. To model these instances, a MODFLOW drain package (DRT) was employed at elevations 40 to 45 feet below ground surface. The drains have a conductance of 1,000 ft²/day.

3.3.3 Park Hill Fault

The Park Hill Fault spans the Park Hill area and is modeled in the SJFM-2014 as an impermeable barrier.

3.3.4 Other Model Constructs

In order to model the system with a numerical model, a number of “constructs” or model representations were employed to generate the observed conditions in the aquifers. Besides known faulting in the model,

other hydrogeologic structures were noted to be present in the model area. Localized changes in observed water levels for wells in close proximity indicate the possibility of a geologic structure in the area. These structures were simulated in the model as faults using the HFB package. These areas include the LP-UP Construct, the North Canyon Construct, and the South Canyon Construct.

3.3.4.1 LP-UP Construct

The LP-UP Construct was simulated based on a historical groundwater depression in the southwestern Lower Pressure and northwestern Upper Pressure area presented in historical groundwater contours in EMWD annual reports. The construct spans northwest to southeast across the Lower Pressure and Upper Pressure boundary, helping simulate the observed groundwater depression and groundwater divide. The LP-UP Construct is an impermeable, no-flow barrier.

3.3.4.2 Canyon Constructs

The northern Canyon GMZ and southern Canyon GMZ Constructs were modeled as leaky barriers. The northern Canyon Construct had a decreasing hydraulic characteristic, dropping from 0.01 to 0.0001 from Layer 1 down to Layer 3, as seen in Table 9. The southern Canyon Construct hydraulic characteristic was consistent throughout all layers. A more detailed explanation of the basis for these constructs may be found in the Canyon GMZ Geology Section above in Section 2.3.3.8.

The Canyon constructs divide Canyon into three segments, or zones. These zones are labeled from north to south, with Zone 1 as the northern most zone and Zone 3 as the southernmost zone.

3.4 Simulation Time Period

The simulation time period of the SJFM-2014 spanned 29 years from January 1984 to December 2012. The later years in the simulation time period provided a more robust dataset relative to earlier years, because well monitoring and data collection became more frequent and readily available. The simulation time in the model was divided into stress periods and time steps. The stress periods are time periods during which the aquifer stresses, such as pumping and recharge rates, remain constant. A stress period of one month with daily time steps was used for the SJFM-2014, equating to a total of 348 stress periods in the simulation time period.

3.5 Aquifer Parameters

The 2002 Model served as a basis for the initial set of aquifer parameters in the model. These parameters were adjusted, via trial and error, throughout the calibration process to best fit the simulated model heads and the observed data in the SJFM-2014. The aquifer parameters are described below and the calibrated aquifer parameters are presented in Section 4.5.

3.5.1 Horizontal Hydraulic Conductivity

The horizontal hydraulic conductivity (K_h) from the 2002 model incorporated information from lithologic boring logs, specific capacity tests, aquifer test and prior calibrated K_h values generated from prior groundwater models. These values were used as the basis for the SJFM-2014 K_h parameters at the beginning of calibration. The K_h values were recalculated based on changed layer thicknesses and used as initial conditions for the model update. The resulting K_h values are presented in Section 4.5.1.

3.5.2 Vertical Hydraulic Conductivity

Vertical Hydraulic Conductivity (K_v) has the same spatial distribution as horizontal conductivity. The K_v values were recalculated based on changes in K_h and used as initial conditions for the model update. The K_v values were typically 10-13% of the K_h values established during calibration of the SJFM-2014 with some exceptions in the Upper Pressure. The resulting K_v values are presented in Section 4.5.1

3.5.3 Specific Yield

Specific yield is used to represent the storage in unconfined cells, typically in Layer 1. Specific yield is defined as the volume of water drained from a unit volume of porous saturated material due to gravity. It represents the volume of water released or taken into storage due to fluctuations in the water table. The 2002 Model values were used as initial specific yield parameters and were adjusted during the model calibration process. Additionally, new pump test data was reviewed and determined that the 2002 numbers were still representative of the data set. The new data validated the previous values used as initial conditions.

3.5.4 Specific Storage

Specific storage is used for storage in confined cells, when head values are above the top of the cell elevation. Specific storage is the volume of water released or taken into storage per unit volume of aquifer per unit change in head. The 2002 Model values were used as initial specific yield parameters and were adjusted during the model calibration process. Additionally, new pump test data was reviewed and determined that the 2002 numbers were still representative of the data set. The new data validated the previous values used as initial conditions.

3.6 Groundwater Production Layer Assignments

Most pumping wells were screened in or across Layers 1 and 2. In Upper Pressure, most wells were screened across lower layers, especially in the intake area. Of the 453 wells in the model area, only 217 wells had available screen data. The remaining wells were assigned to layers based on pumping rate and GMZ. A majority of the wells without screening data were agricultural wells, which are typically shallow wells found in Layer 1 and occasionally in Layer 2. As a result, wells without screening information were either assigned to Layer 1 or Layer 2. The layer assignment criteria is listed in Table 10.

Table 10: Production Well Layering Assignment Criteria

Layer	Criteria
1	Wells with no screen data (not in Upper Pressure): <ul style="list-style-type: none"> • Agricultural/Irrigation wells with average pumping < 300 gpm • Non-Agricultural wells with average pumping < 300 gpm
2	<ul style="list-style-type: none"> • Upper Pressure/Intake Wells with no screen data • Wells with no screen data (not in Upper Pressure) with average pumping > 300 gpm
3	No wells without screen data were assigned to Layer 3
Multiple	Wells with screen data

3.7 Distributed Recharge

The Basin received recharge flows from distributed sources of applied water components including water sales, recycled water sales, irrigation return flow, and natural recharge from rainfall infiltration.

The quantity of recharge from distributed sources was dependent on a) the percentage of pervious land surface and b) the soil drainage properties. These two properties were used in this study for estimation of distributed recharge. Based on these two properties, a Percolation Factor property was developed for estimating the recharge flows from distributed sources through GIS analysis of the input data. These properties and the methodology for estimating recharge from distributed sources are presented in the following subsections.

3.7.1 Percentage of Pervious Land Surface

The percentage of pervious land surface was used to determine the percentage of rainfall and applied water that is likely to make it to pervious ground cover and soil and percolate to the saturated zone. The percentage of pervious land surface for the four general land use categories of agriculture, commercial, residential, and vacant were estimated based on Impervious Surface Coefficient (ISC) values. ISC is based primarily on an estimate of impervious groundcovers (i.e. roads, roof tops, etc.) that have near zero percolation potential. The ISC estimates from the *User's Guide for the California Impervious Surface Coefficients*, December 2010 from the Office of Environmental Health Hazard Assessment that best represents the conditions that exist in the Basin was used for estimation of percentage of pervious land surface in this study.

There are 14 ISC values assigned to different land use types in the *User's Guide for the California Impervious Surface Coefficients* report. The 14 values were evaluated and assigned to the four general land use categories of this study based on values that were most suitable to each category. The ISC values were converted to a pervious factor used to represent the perviousness of a surface. This was calculated by subtracting the ISC value from 1. The pervious factor was used in conjunction with soil parameters to calculate the percolation factor. Both the ISC and pervious factor values are provided in Table 11.

Table 11: Land Use Impervious Surface Coefficient and Pervious Factors

Land Use Type	ISC	Pervious Factor
Agriculture	0.04	0.96
Commercial	0.70	0.30
Residential	0.55	0.45
Vacant	0.02	0.98

3.7.2 Soil Drainage

Soil types in the Basin were used as an additional factor in establishing a percolation rate and estimating the percentage of applied water that returns to the soil layer. The soil types were based on the Natural Resources Conservation Service (NRCS) dataset. This dataset was the only complete source of soils data within the Basin study area. Each hydrologic soil group (HSG) had an associated drainage factor characterizing the percolation potential. The drainage factor was used in combination with the land use

pervious factor to create a percolation factor which controls the amount of applied water available for deep percolation.

Using the HSG categories, an initial numeric factor was assigned to each soil group within the range of initial factors established for the soils drainage classification. Throughout calibration, these values were modified within a reasonable range to improve model calibration. Soil properties are highly variable, even within the soil group classification. As a result, a HSG factor was specified for each GMZ. Two additional subregions in Cactus Valley and Moreno Valley were defined to properly simulate soil properties in those areas. Table 12 presents the drainage factors associated with the HSGs by GMZ or subregion.

Table 12: Initial HSG Drainage Factors

GMZ	HSG			
	A	B	C	D
<i>Initial Drainage Factors</i>				
Basinwide	0.40	0.30	0.20	0.10
<i>Calibrated Drainage Factors</i>				
Perris North	0.30	0.14	0.07	0.005
Moreno Valley	0.30	0.12	0.03	0.005
Perris South	0.30	0.15	0.07	0.005
Menifee	0.30	0.17	0.10	0.005
Lower Pressure	0.30	0.15	0.07	0.005
Lakeview	0.30	0.15	0.07	0.005
Hemet North	0.30	0.17	0.10	0.005
Hemet South	0.30	0.23	0.12	0.10
Cactus Valley	0.30	0.12	0.03	0.005
Upper Pressure	0.30	0.17	0.10	0.005
Canyon	0.25	0.13	0.10	0.005

3.7.3 Percolation Factor

The percolation factor represents the percent of applied water or precipitation available to percolate into the groundwater basin. This is the relative amount of water recharged into the Basin. The factor was generated based on land use pervious factor and soil drainage factor as presented in the following equation.

$$\text{Percolation Factor} = \text{Land Use Pervious Factor} * \text{Soil Drainage Factor}$$

The percolation factor changed over time as it was a function of the land use pervious factor, which varied over time with changes in land use. The percolation factor was adjusted based on the simulation results during model calibration by altering the soil drainage factor. The final percolation maps as applied to the model grid for 1999, 2003, and 2010 are presented in Figure 60 through Figure 62.

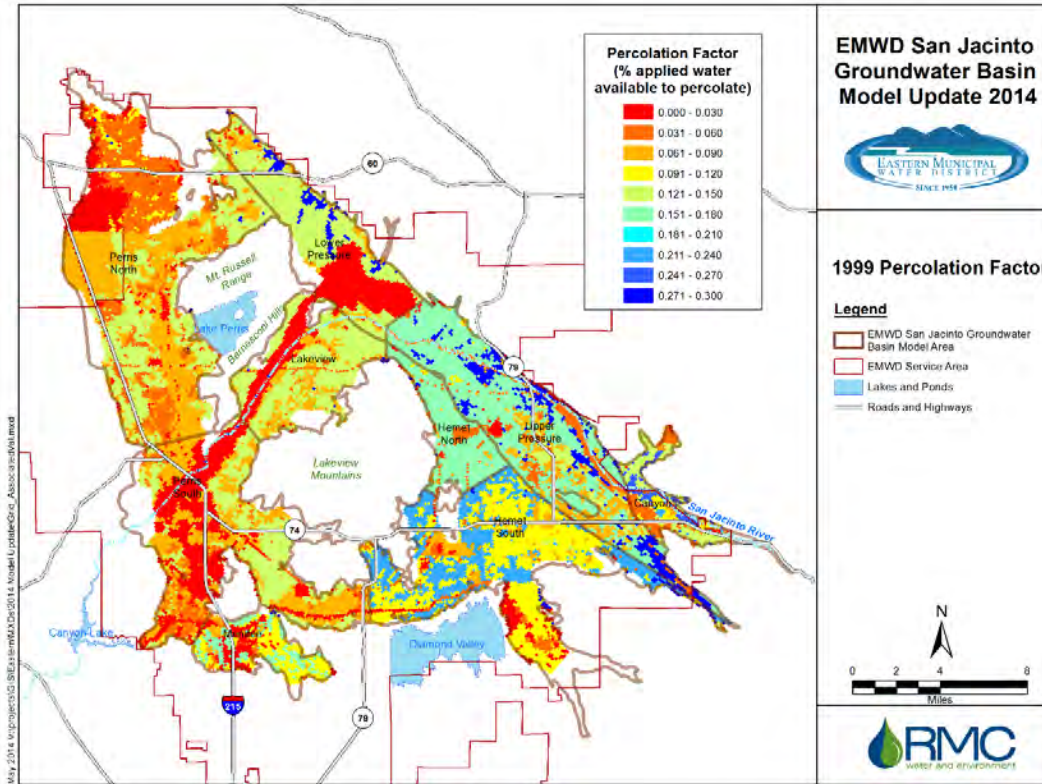


Figure 60: 1999 Percolation Factor

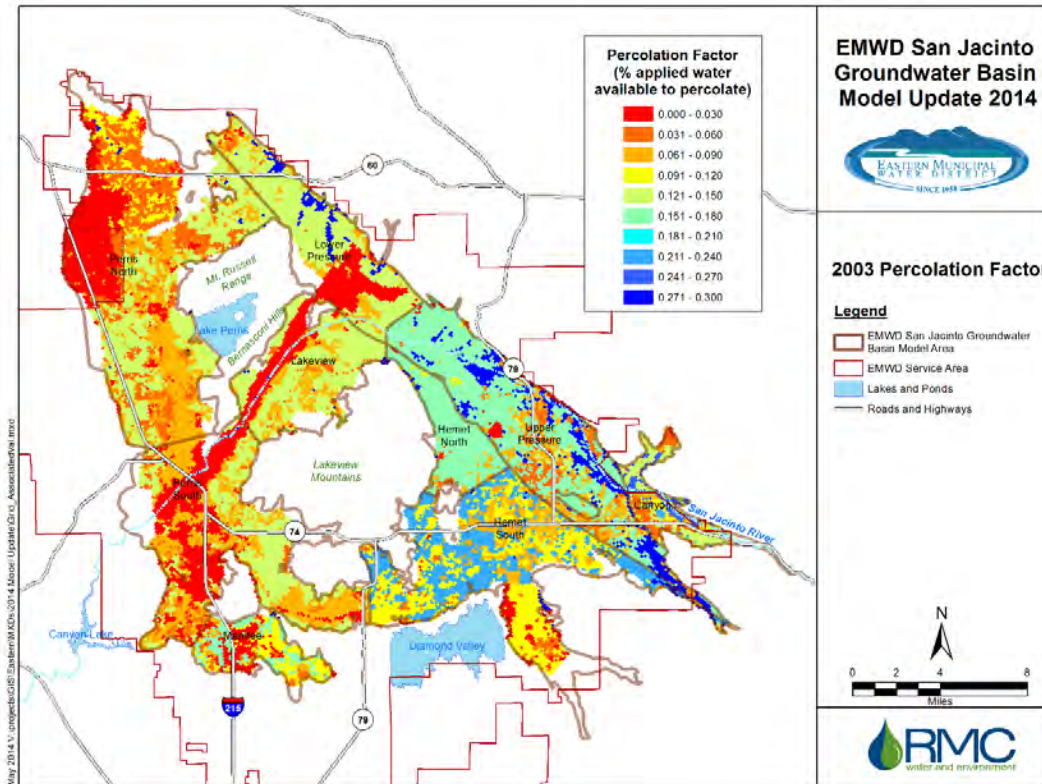


Figure 61: 2003 Percolation Factor

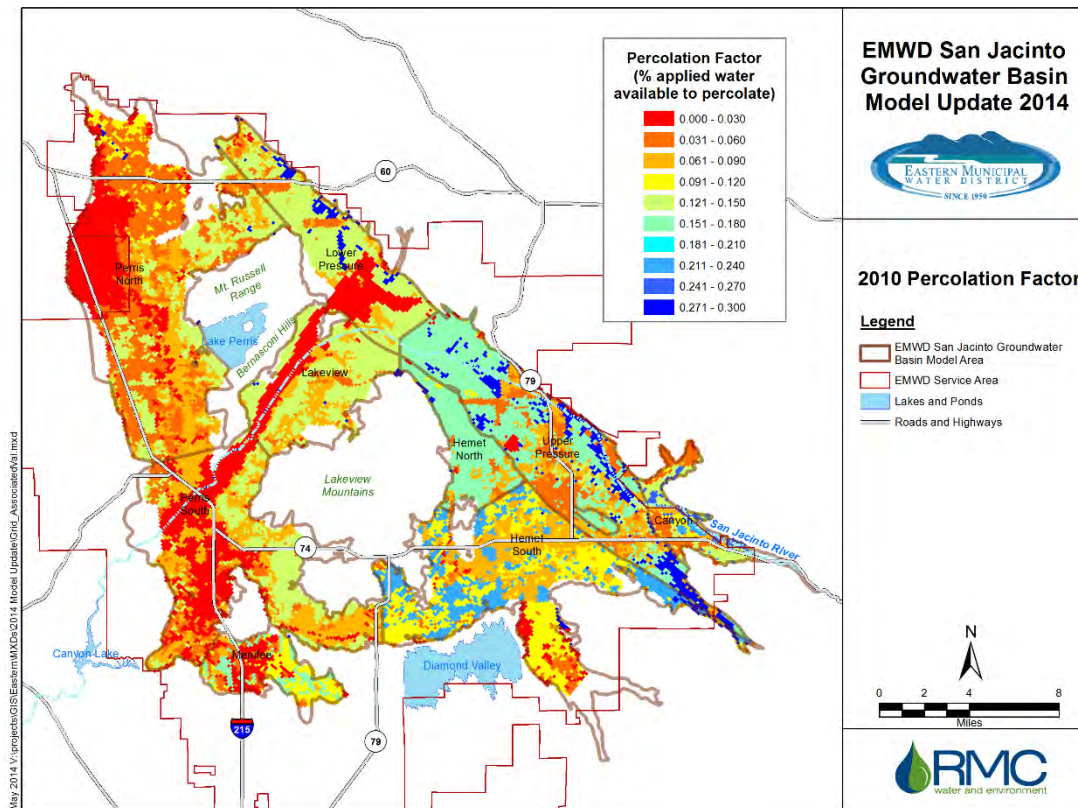


Figure 62: 2010 Percolation Factor

3.7.4 Geographic Information System (GIS) Processing

Applied water components in the EMWD database were specified as a collection of several polygons with specified water deliveries to the polygon. For import into the SJFM-2014, these polygons needed to be associated with the model grid cells. The applied water polygons were overlaid with the grid and, by utilizing the intersect function within GIS, smaller polygons were created that contain all the needed data. The resultant polygons are as small as the smallest intersection of the overlay and subsequently computed areas. This process was performed for each applied water component.

Since there were several polygons within each applied water coverage, there were instances where grid cells contained information from multiple polygons that intersected the specific cell. For recharge calculations, only one polygon could be associated per grid cell. In such cases, the polygon that had the maximum amount of area that fell within the cell boundaries was assigned to that cell. In the example presented in Figure 63, both Polygon A and Polygon B intersect a similar model cell. After comparing the calculated areas of Polygon A and Polygon B, Polygon A has the larger area and is assigned to the cell. The comparison of maximum area and cell grid assignment was performed in Microsoft Excel.

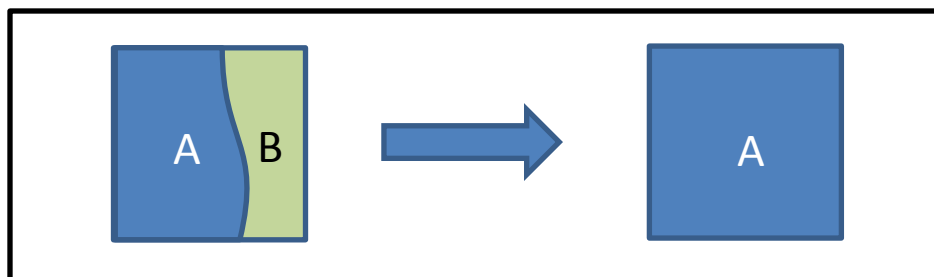


Figure 63: Example of Maximum Area Polygon Grid Assignment at One Model Cell

3.7.5 Recharge Preprocessor

To avoid overloading GMS with the large quantity of recharge data, recharge from applied water components and recharge/reclaimed ponds were built outside of the model using a Recharge Preprocessor.

For each active model cell, the Recharge Preprocessor calculated recharge from applied water sources by applying the corresponding percolation factor to each applied water component at that cell. Each active cell was assigned a recharge value by summing the respective recharge quantities based on the applied water or recharge/reclaimed pond associated with the cell. Since the applied water sources covered a widespread area, it was assumed that the water was applied uniformly over each area associated with the source. Due to the transient applied water datasets, a transient MODFLOW recharge file (RCH) was produced by the Recharge Preprocessor. This RCH file was then used in the model runs.

3.8 Point Recharge

The Basin received recharge flows from point sources such as recharge ponds and incidental recharge from reclaimed water facilities. The recharge preprocessor added the recharge quantities at these locations (see Section 2.4) to the RCH file at the corresponding model cells.

The Soboba Pit was modeled differently than the other point recharge sources since the recharge quantities were dependent on flows from the San Jacinto River. The Soboba Pit was modeled using a combination of streambed hydraulic conductivity (K_b) in the San Jacinto River and as a component of applied water recharge through recharge pond input data. The recharge pond input data for Soboba Pit was calculated by removing Bautista Creek flows from San Jacinto River flows in Upper Pressure, without having the Soboba Pit recharge simulated in the SJFM-2014. Since it was expected that Upper Pressure received flow from the San Jacinto River during high flow events, any flows from low flow years were expected to be recharged at Soboba Pit, not including flows from Bautista Creek. Known wet years with high flows were 1993, 1995, 1998 and 2005.

3.9 River Recharge

Streamflows in the model were defined based on parameters of the Streamflow Routing (SFR) package of MODFLOW. These parameters include:

- Streambed hydraulic conductivity (K_b)
- Thickness of streambed material
- Channel cross-section/width

- Upstream and downstream reach elevation
- Manning's channel roughness coefficient

The streamflow parameters were applied to all the reaches discussed in Section 2.4.3.

River recharge into the Basin was calculated by SFR package of MODFLOW, and depended mostly on the K_b values. These values ranged from 0-20 feet per day, as shown in Table 13. A value of zero represents a concrete lined channel where no streamflows recharge into the Basin. The highest value of 20 ft/d occurs upstream along Bautista Creek where a flood retention pond area exists. The flood plains were simulated using the high K_b values. Indian Creek and Poppet Creek are tributaries to the San Jacinto River and have high infiltration rates as they combine with the San Jacinto River. The high infiltration rates were based on the assumption that flow from these two tributaries recharge in Canyon and do not reach Upper Pressure.

Historically, most or all streamflow occurs in Upper Pressure and Canyon, except during wet years. As a result, higher K_b values were input for the reaches in Canyon and Upper Pressure up until Bridge Street.

It should be noted that Salt Creek was included in the model, but had no streamflows associated with the reach. In general, little to no flow exists in Salt Creek, but the reach can act as a drain when water levels increase above the streambed invert elevations. It was input into the model for future use when more data becomes available. Modeled rivers are shown in Figure 64.

Table 13: Streambed Hydraulic Conductivities

River Reach	Streambed Hydraulic Conductivity (K_b)
Indian Creek	10 ft/d
Poppet Creek	10 ft/d
Bautista Creek	0-20 ft/d
San Jacinto River	0.005-5 ft/d
Soboba Pit	5 ft/d
Perris Drain	0 -1 ft/d
Salt Creek	0 ft/d

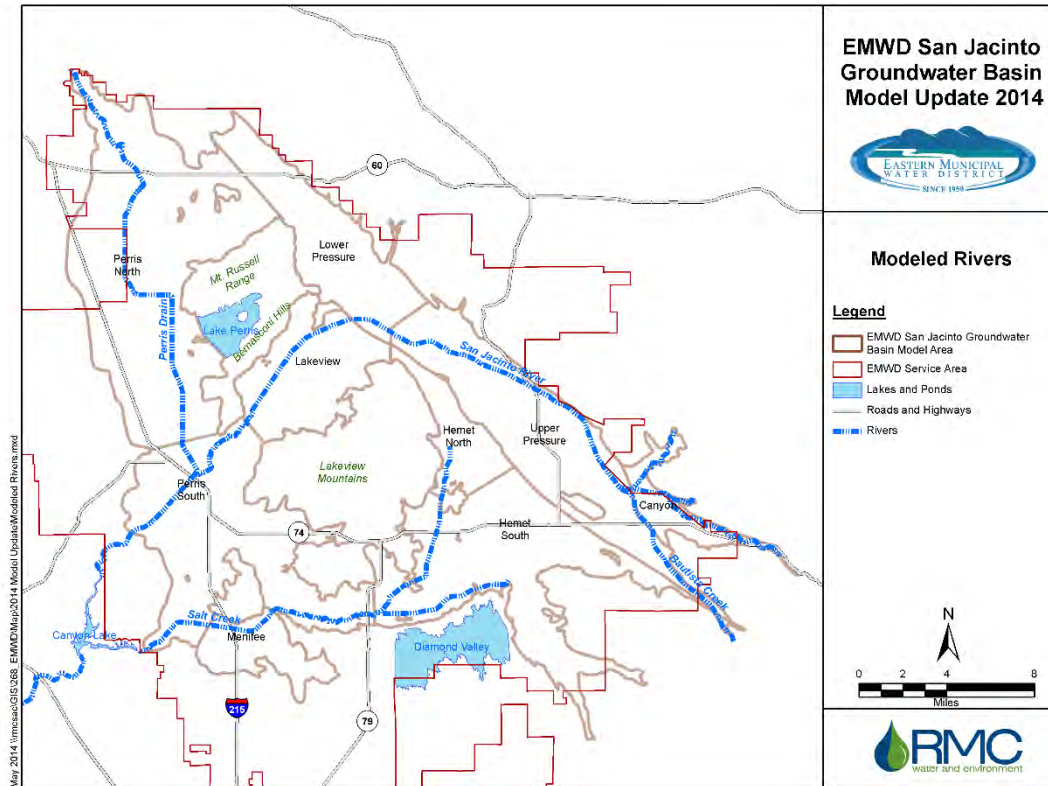


Figure 64: Modeled Rivers

3.10 Boundary Conditions

3.10.1 Mountain Front Recharge

While the Basin is a closed groundwater basin with no significant natural subsurface outflows, it does receive additional inflows through local runoff from adjacent watersheds, referred to as mountain front recharge. This local runoff is not gauged, but is an important component of the overall water budget for the Basin. Preliminary estimates of mountain front recharge rates were based on the calibrated rates of the SJFTM-2002. Mountain front recharge was simulated as specified-fluxes at the boundaries of the model. The estimated rates were refined during calibration of the SJFM-2014.

Mountain front recharge was applied to the SJFM-2014 as transient data. The quantity and location of annual applied fluxes are presented in Figure 65. Some mountain front recharge fluxes were applied to specific layers and others are applied to multiple layers. The fluxes are color coded by the layer or layers they are applied to.

Since flows from the mountain front recharge correlate to rainfall events, the transient data was calculated by multiplying mountain front recharge by a rainfall factor for the gauge closest to the flux location. The rainfall factor was calculated based on rainfall during a stress period relative to the long term average rainfall at the gauge. The rainfall factor was not applied to fluxes that were applied to all layers (yellow colored fluxes in Figure 65) such as those in Lower Pressure, Canyon, and Hemet South. This is because these fluxes are believed to be constant water sources in the area.

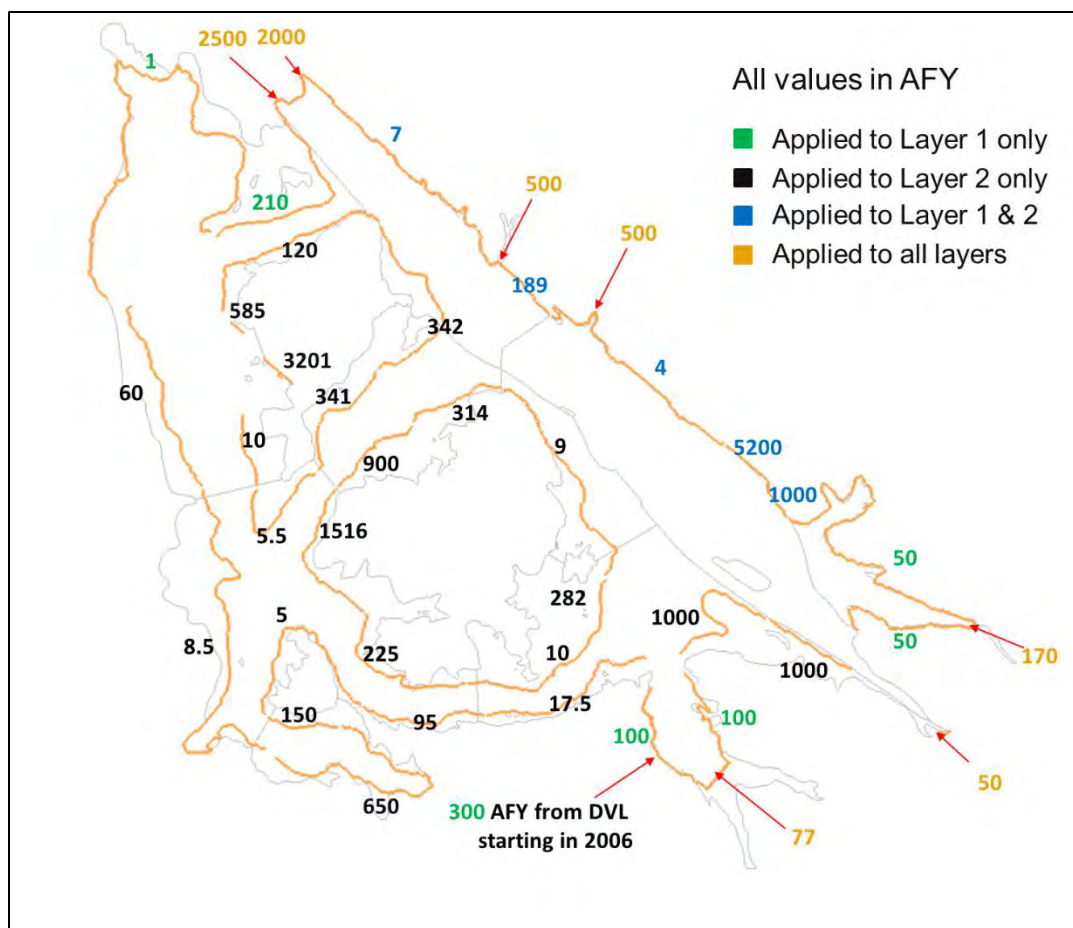


Figure 65: Average Annual Mountain Front Recharge Applied to the SJFM-2014 in AFY

3.10.2 Contribution from Surface Water Reservoirs

Lake Perris and Diamond Valley Lake (DVL) are both water bodies located outside the Basin GMZs. Underflows from Lake Perris and DVL enter the Perris North GMZ and the Hemet South GMZ, respectively, impacting water levels in those areas and the water budget within the Basin. The underflow underneath the dam from Lake Perris into Perris North was estimated to be 3,786 AFY, where 585 AFY was due to underflow under the west abutment and 3,201 AFY was due to underflow of the subterranean stream beneath the east abutment. The underflow from DVL was estimated at 300 AFY, according to EMWD (Figure 65). Underflow from Lake Perris and DVL were also modeled as constant flux boundaries.

3.11 Initial Conditions

The SJFM-2014 used 1984 as initial conditions for the model. Groundwater level data in 1984 was sparse, especially in the western part of the model area, as seen in Figure 66. As a result, initial conditions were estimated through a steady state model run and refined throughout the calibration process to provide a better match with the observed data. Figure 67 shows the initial groundwater elevations used in SJFM-2014.

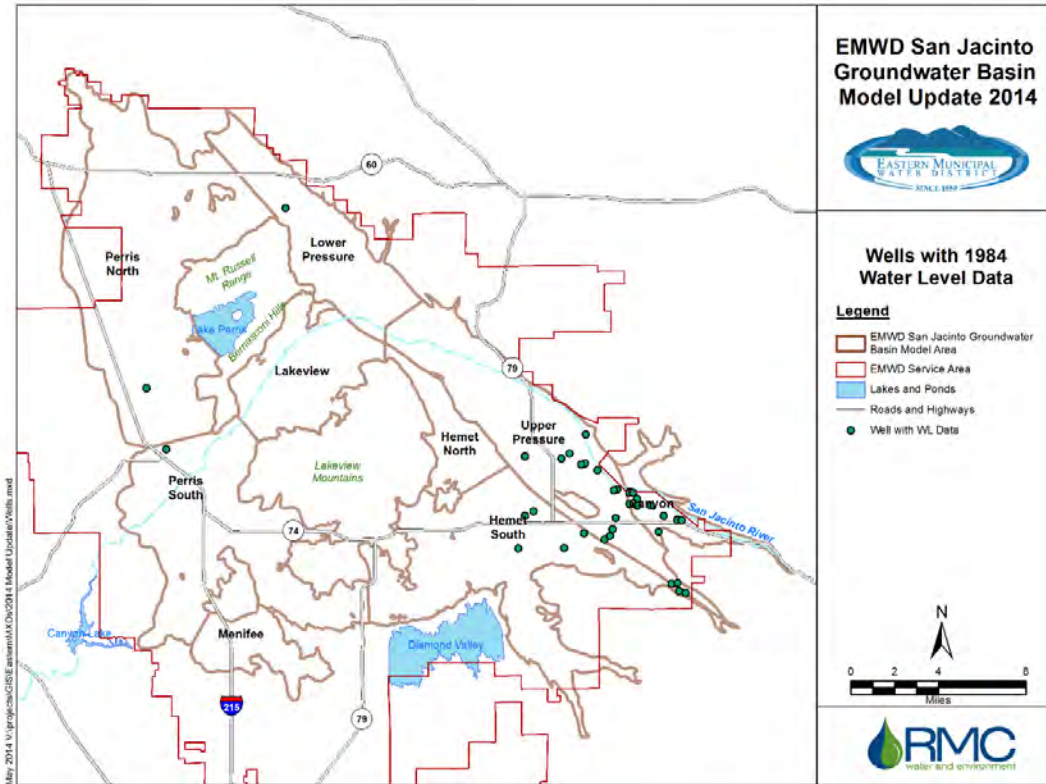


Figure 66: Wells with Water Level Data in 1984

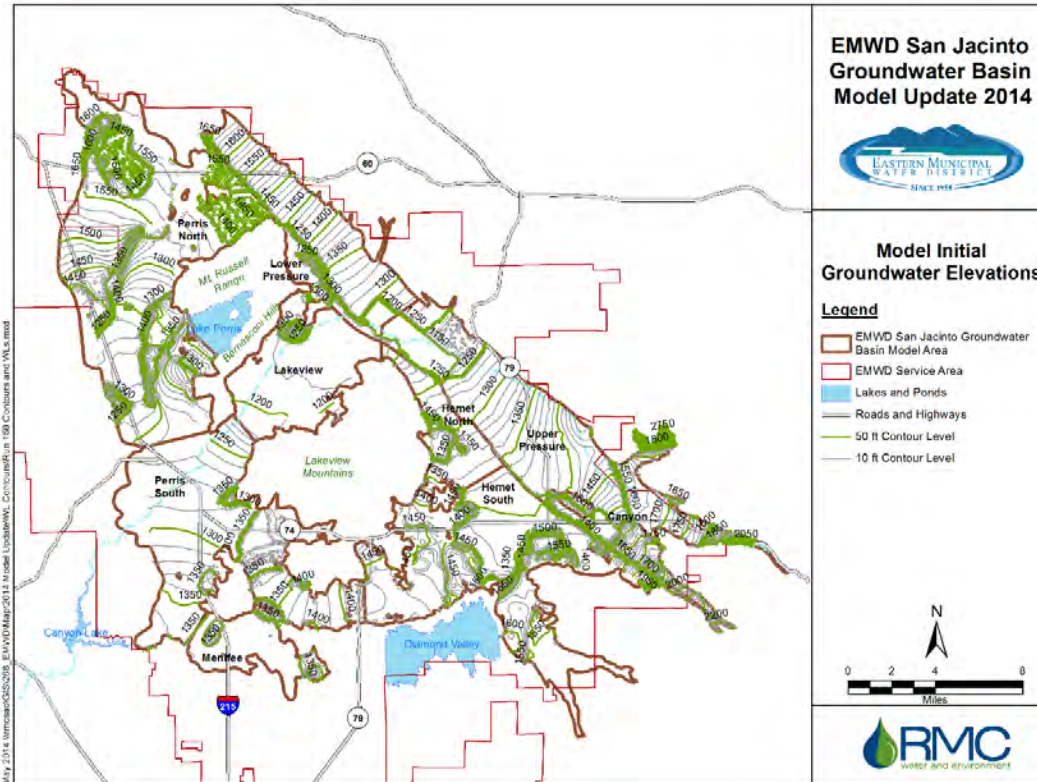


Figure 67: Model Initial Groundwater Elevations

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Section 4 Model Calibration

4.1 Conceptual Model Updates

The conceptual model of the San Jacinto Groundwater Basin was developed prior to numerical model development based on the best available data. The conceptual model was then refined throughout the calibration process by identifying areas where the data supported adjustments to the conceptualization. The following refinements were made to the conceptual model during calibration.

- Two trans-sectional faults were added to Canyon GMZ (section 3.3)
- One longitudinal fault was added to the Upper/Lower Pressure GMZs boundary (section 3.3)
- Wider ranges of horizontal and vertical hydraulic conductivities were applied in the Hemet-San Jacinto Groundwater Management Area (section 4.5.1)
- Layer 4 was added to Lower Pressure and Upper Pressure GMZs (section 3.2)

The conceptual model presented in Section 2 includes details of all of the above improvements made to the model during calibration.

4.2 Calibration Wells

An inventory of 601 wells with water level data was used for selection of target wells to be used for calibration of the SJFM-2014. The selected target calibration wells provided reliable historical data that served as fair representation of long-term water levels within the Basin. Comparison of simulated heads to observed water levels provided metrics for evaluating the status and quality of model calibration. Based on the availability of data, the selected well set provided good geographic coverage of the Basin as well as good representation of each of the four model layers to the best possible extent. Selection criteria, as provided below, were established for selecting a subset of the 601 wells for use as calibration targets.

- Removed Wells – A well was not selected as a target calibration well if:
 - Well had no observation data within the study period (1984-2012)
 - Well was located outside of the active model cell grid
 - Well had similar water levels to another well located within a few model cells
- Selected Wells – A well was selected as a target calibration well if:
 - Well was identified as a key well (by EMWD, Watermaster, or Advisory Panel members)
 - Well was a California Statewide Groundwater Elevation Monitoring (CASGEM) Program compliant well
 - Well had screening data

Target calibration wells were initially selected based on the criteria presented above. It should be noted that the removal criteria superseded the inclusion criteria. For example, if a well was classified as CASGEM compliant, but had no observation data within the study period, the well was removed from the target calibration well set since it did not contribute to the calibration process. After completing the initial selection criteria, wells were reviewed again to remove those with small datasets (fewer than five data

points) and those that did not appear to fit the long-term trends of the Basin or surrounding wells. Lastly, the selected well set was reviewed by EMWD and Advisory Panel members to add any additional key wells and ensure good spatial coverage of the Basin.

It should be noted that there were several instances where multiple wells occupy one cell. This was common for USGS wells with multiple screens at different depths. Some of these multiple-screened wells showed a difference in water levels, indicating a vertical gradient difference across the screened intervals. The regional SJFM-2014 model does not have sufficient resolution to capture these differences in water levels across small screen-elevation differences. Accurate simulation of these details would require a localized model with finer resolution.

There were 197 wells selected as calibration targets from the EMWD well database. Locations of the calibration wells are presented in Figure 68. In general, the wells were well distributed, but the bulk of the calibration wells were located in Upper Pressure, Hemet South and Perris South. Table 14 provides the breakdown of wells by GMZ.

Table 15 presents the location of calibration wells by layer based on available screening information. Complete information on the calibration wells, including screen elevation and model layer assignment, is provided in Appendix A. Layer information for wells without screening data was assigned layers based on location and observed heads of nearby wells.

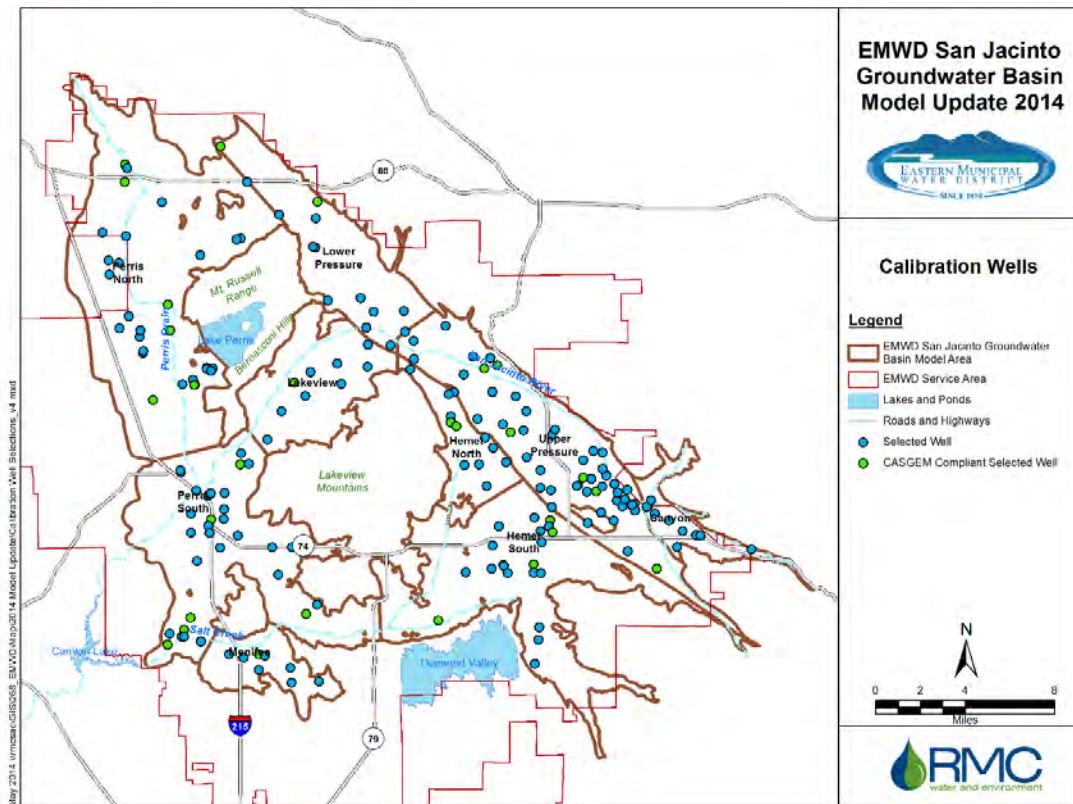


Figure 68: Locations of Selected Target Calibration Wells

Table 14: Distribution of Calibration Wells by GMZ

GMZ	Available Wells	Selected Wells	
		CASGEM Compliant Wells	Other Wells
Perris North	76	7	24
Perris South	81	10	25
Menifee	31	1	7
San Jacinto Lower Pressure	27	2	11
Lakeview	43	1	8
Hemet North	41	4	10
Hemet South	106	10	16
San Jacinto Upper Pressure	162	8	43
San Jacinto Canyon	34	1	9
Total	601	44	153

Table 15: Distribution of Target Calibration Wells by Layer

Layer	Number of Wells
Layer 1 Only	58
Layer 1 & 2	58
Layer 1, 2, 3	13
Layer 1, 2, 3 & 4	3
Layer 2 Only	8
Layer 2 & 3	19
Layer 2, 3 & 4	2
Layer 3 Only	2
Layer 3 & 4	0
Layer 4 Only	0
Wells with Unknown Layering	34
Total	197

4.3 Measurement of Calibration Status

The SJFM-2014 calibration status was measured using two metrics: simulated and observed groundwater level matching statistics and groundwater level trend matching. The statistics were evaluated to meet a reasonable statistical range meeting American Standard Testing Methods (ASTM D5981, 2008). In addition to quantifiable metrics, the SJFM-2014 calibration was evaluated by generating reasonable regional groundwater flow directions and producing realistic water budgets.

The MODFLOW volumetric discrepancy goal was set to be less than 0.2%.

4.3.1 *Simulated and Observed Head Difference Statistics*

The “Standard Guide for Calibrating a Groundwater Flow Model Application” (ASTM D5981-96) states that “the acceptable residual should be a small fraction of the head difference between the highest and lowest heads across the site.” The residual is defined as the simulated head minus the observed heads. An intra-well analysis of all calibration wells indicated the presence of 300+ feet of water level changes. Using 10 percent as the “small fraction”, the acceptable residual level would be 30 feet. The acceptable residual level was refined and groundwater level residuals were considered at a GMZ level as well as basin-wide. Calibration goals for the groundwater level residuals were set less than the 10 percent head difference level to the following.

- 50% of residuals within +/- 20 feet
- 75% of residuals within +/- 30 feet

For further analysis, statistics are presented on a GMZ and basin-wide level by means of scatterplots comparing:

- Simulated heads versus observed heads
- Residual versus simulated heads
- Residual versus time

4.3.2 *Groundwater Level Trend Matching*

Matching groundwater level trend is a qualitative and important measurement of performance of the SJFM-2014. This qualitative analysis compared the long-term and short-term seasonal trends of simulated and observed water levels. Both regional trends and local trends were compared. Regional analysis focuses on trends of clusters of wells while local analysis focuses on individual wells. Since the trend matching is qualitative, the goal of groundwater level trend matching is to ensure that simulated heads generally followed the same trends as the observed data and adequately captured response to stresses.

Groundwater trend matching provide strong support to quantitative statistics. For example, statistics may be misleading in instances where simulated heads start below observed values but end up higher due to the steeper slope of the simulated values. Statistics may show that simulated values were within +/- 20 feet throughout a majority of the hydrograph but analysis of groundwater levels in the hydrograph may reveal that the trend of the simulated values does not match that of the observed heads. When groundwater level trends match observed data, statistics will inherently be good, providing high confidence in model calibration.

As a regional model, the SJFM-2014 was expected to match the majority of hydrographs in a Basin. All hydrographs were reviewed for trend matching, calibration of groundwater trends focused on areas with sufficient data, important production areas, areas for future development, and key GMZs in the Basin as identified by EMWD. These included the brackish groundwater wells in Perris South, the core production area in Hemet South, the intake area of Upper Pressure and the Canyon GMZ. Figure 69 shows an example of a good groundwater level trend match in Upper Pressure GMZ.

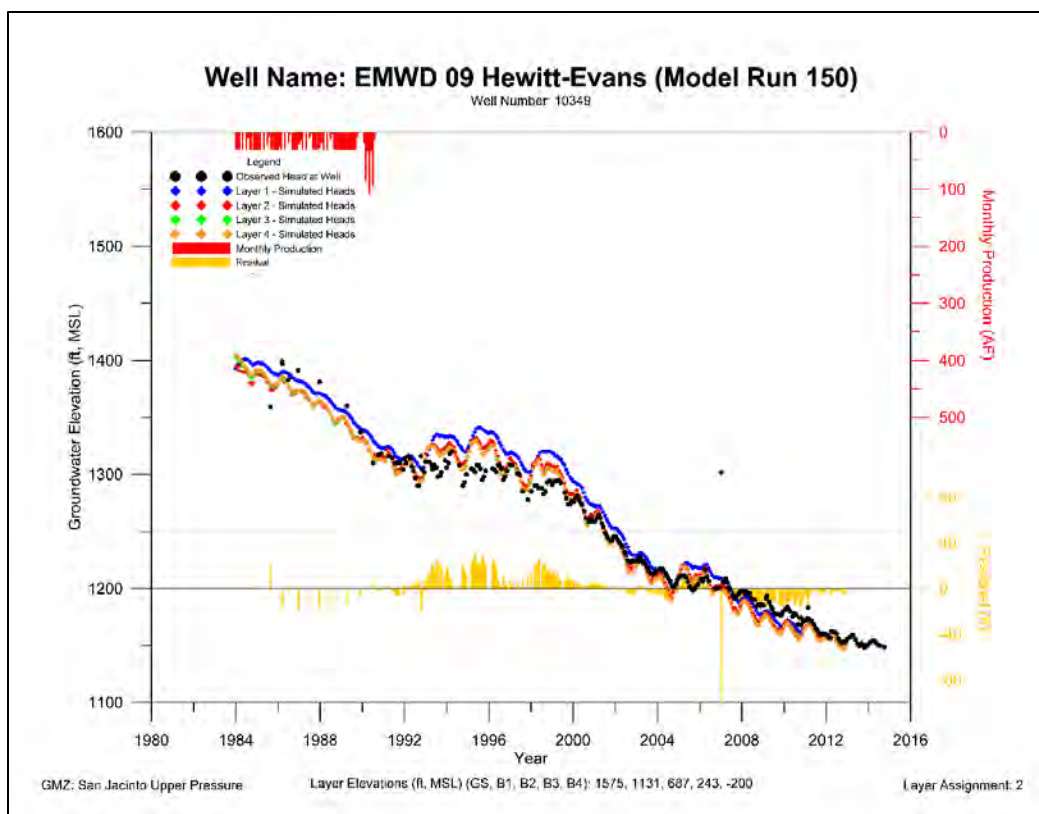


Figure 69: Example of Groundwater Level Match in Upper Pressure GMZ

4.4 Calibration Steps

The calibration process began after developing the model input data and processing the observed water level data. The purpose of calibration was to attain a reasonable match between the observed (i.e., historical) and simulated data and meeting the set of calibration goals and targets. This includes both qualitative and quantitative comparisons and analysis. Calibration was achieved through several iterations of aquifer parameter adjustments and review of model results. Throughout the iterative process, data inconsistencies were discovered and resolved. Additionally, improvements to the conceptual model were implemented to achieve a better calibration.

The process used to calibrate the SJFM-2014 included:

- Water budget calibration
- Steady state calibration
- Parameter estimation
- Groundwater level calibration

4.4.1 Water Budget Calibration

It was imperative to establish a realistic water budget for each GMZ and for the overall Basin. This information was vital for establishing a safe yield estimate for each GMZ, evaluation of future projects and assessment of the Basin. The water budget components for each GMZ include:

- Inflows
 - Deep percolation from applied water components and rainfall
 - Recharge from recharge ponds
 - Incidental recharge from reclaimed water facilities
 - Recharge from streamflow seepage
 - Mountain front recharge
 - Subsurface inflows from adjacent GMZs
- Outflows
 - Groundwater production
 - Subsurface outflows to adjacent GMZs

Initial adjustments were made to the soil drainage factors to modify, increase or decrease as required by observational data, the applied water recharge in the Basin and optimize recharge quantities. Once applied water recharge values were in a representative range, river recharge budgets were reviewed for consistency with those defined in the Canyon Operating Plan and found both methods yielded similar results. This included adjusting streambed hydraulic conductivity of the San Jacinto River, Indian Creek, Poppet Creek and Bautista Creek. No adjustments were made to the groundwater production.

4.4.2 *Steady State Calibration*

The objective of the steady state calibration was to improve the understanding of and quantify model parameters for transient calibration, specifically the following:

- Hydraulic Conductivity
- Applied water recharge
- Mountain front recharge

In general, steady state conditions are not present in any given year of the SJFM-2014 study period. Review of Basin conditions from 1984 to 2012 indicated that 2009 was the closest year to a steady state condition with adequate data for model calibration therefore, after discussion with the Advisory Panel, 2009 was selected for Steady State calibration. Table 16 provides a general description of groundwater conditions in the Basin in 2009. Averaged 2009 data was used for applied water components, groundwater production, mountain front recharge and streamflow for steady state calibration.

Table 16: San Jacinto Groundwater Conditions in 2009 for Steady State Calibration

Item	Condition
Groundwater Elevation Trends	<ul style="list-style-type: none"> • Generally steady state trends with exceptions in the Upper Pressure Intake area and Canyon
Hydrology	<ul style="list-style-type: none"> • End of a lower than average rainfall period • Represents slightly below average rainfall
Recycled Water and Agricultural Water Use	<ul style="list-style-type: none"> • Recently introduced enhanced recycled water use and agriculture water use tracking
Dataset	<ul style="list-style-type: none"> • More complete dataset to allow in-depth assessment of steady state parameters • Better areal extent of data for developing starting heads

During calibration of the steady state model, modifications to aerial recharge, boundary fluxes, hydraulic conductivities, and reclaimed water recharge were implemented at a GMZ level, with the most significant changes occurring in Upper Pressure and Canyon. Parameter modifications were performed until a reasonable fit between observed and simulated heads was achieved.

As an additional calibration guideline, the mean absolute error and mean residual standard deviation for each GMZ were compared to the change in head for the GMZs. The goal was for these calibration statistics to approach 5-10% of the change in head for each GMZ. Only wells discretely screened in a given layer were used for steady state calibration.

Over 30 steady state runs were completed while making several parameter changes. Typically, one parameter was evaluated at a time to best understand the effects of the parameter change in the model. Throughout the calibration process, the recharge rates and boundary fluxes tested ranged from 50 to 150 percent of their original value. This helped control the differences in water levels noted during the calibration runs.

Horizontal hydraulic conductivities (K_h) were modified, ranging from 0.5 ft/d to 12 ft/d basinwide. Vertical hydraulic conductivities (K_v) were typically changed based on a factor of K_h , ranging from $0.005K_h$ to $0.1K_h$. Modifications to the hydraulic conductivities were made and evaluated in all model layers.

The steady state model helped refine parameter modifications necessary throughout the Basin, especially hydraulic conductivities in Upper Pressure and Canyon. Additionally, the evaluation of reclaimed pond incidental recharge rates helped to improve water level issues in specific reclaimed pond areas. The steady state model provided a better understanding of parameter sensitivity, which allowed for an improved and more efficient transient calibration process.

The calibrated steady state model parameters were applied to the transient model for further calibration. Model parameters were adjusted during transient calibration to minimize the difference between simulated and observed heads.

4.4.3 *Parameter Evaluation*

A set of model parameters was selected for evaluation of their effects on the simulated groundwater system and its impact on achieving the calibration goals. Parameters evaluated at the GMZ level included the following:

- Horizontal hydraulic conductivity
- Vertical hydraulic conductivity
- Specific yield
- Specific storage
- Mountain front recharge
- Streambed conductivity
- Percolation factors
- Fault leakance

For each parameter, the model was set up and run several times with each run having a different parameter value. Since the GMZs on west and east side of the Casa Loma Fault were essentially separated hydraulically by this fault, parameter changes for GMZs west and east of the fault were evaluated simultaneously to decrease the number of model runs needed for evaluation of parameters. This increased the efficiency of evaluation process of the parameters in each GMZ.

Parameters values were adjusted within a reasonable range of available data. In more complex areas such as Upper Pressure and Canyon, parameter values changes were more than those of other GMZs. Generally, the range of change for each parameter was between 50 and 150 percent of the original value. The effect of the change on simulated heads and calibration statistics was noted for each run. Table 17 provides the number of runs associated with evaluation of each parameter.

The evaluated parameters were modified within the determined reasonable range of values in the transient calibration to meet the calibration goals. More detailed discussion of transient calibration is presented in Section 4.5.

Table 17: Simulation Runs for Evaluation of Each Parameter

Parameter	Simulation Runs
Horizontal hydraulic conductivity	62
Vertical hydraulic conductivity	50
Specific Yield	32
Specific Storage	27
Mountain Front Recharge	14
Streambed Conductivity	10
Percolation Factors	24
Fault Leakance	11

4.4.4 *Groundwater Level Calibration and Hydrograph Trend Matching*

In order to aid in calibration and reduce modeling calibration runs, hydrographs of each calibration well were developed with a post-processor tool developed cooperatively by EMWD and RMC. The tool plots simulated heads for all active layers, observed heads, groundwater production data, and calculated head residuals. The plots provide a comprehensive analysis for each calibration well. An example hydrograph is provided in Figure 70.

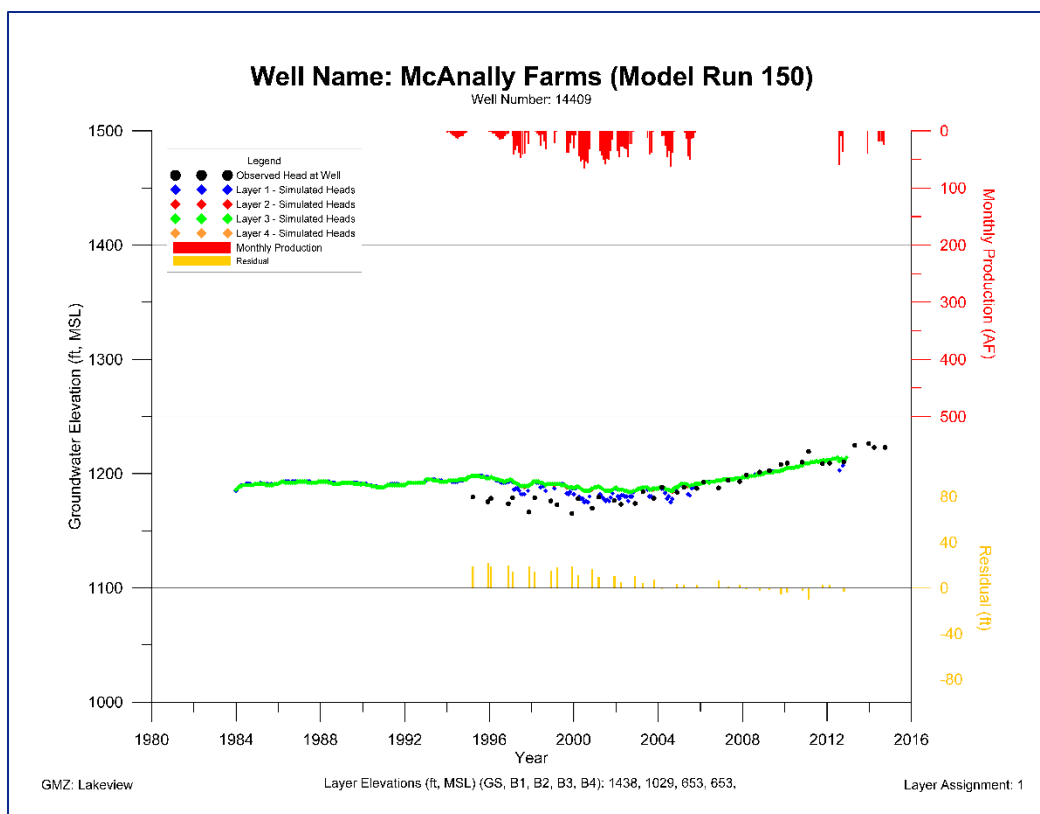


Figure 70: Example hydrograph developed by EMWD/RMC post-processor tool

Evaluation of the model calibration statistics and hydrograph trend matching was performed after each model run. The goal of the trend analysis was to match seasonal fluctuations and long-term trends. Hydrographs were compared with hydrographs from prior calibration runs to assess the effects of parameter changes, which helped refine the parameter values and improve understanding of the model. Groundwater level calibration and hydrograph trend matching complements the statistical analysis of the model for a stronger calibration metric. It is important to note that while a useful tool for aiding in calibration result understanding, the hydrographs were just a tool. Additionally, the hydrograph tools do not account for offset from the cell node which implies a higher level of accuracy in the hydrographs than what actually exists. The final model calibration metrics are based on standard statistical methods.

4.5 Calibration Results

After an iterative approach of refining and modifying model inputs and aquifer parameters, the calibration goals were achieved. The model components that were modified include:

- Aquifer parameters (horizontal/vertical hydraulic conductivity, storage parameters)
- Water budget components (inflow and outflow components)
 - Aerial recharge rates and percolation factors
 - Mountain front recharge
 - Streambed conductivity
 - Fault leakance

- Model constructs in Hemet-San Jacinto GMZs

This section also discusses calibration statistics as well as groundwater level calibration and hydrograph trend matching.

4.5.1 *Aquifer Parameters*

Aquifer parameters were adjusted during the calibration process to improve the simulation of the groundwater flow system in the Basin and achieve the calibration goals. These aquifer parameters included:

- Horizontal hydraulic conductivity
- Vertical hydraulic conductivity
- Storage parameters

The calibration process was reviewed by EMWD and the AP and aquifer parameters were adjusted with their input. Details of the calibrated model parameters are presented in the following subsections.

4.5.1.1 *Horizontal Hydraulic Conductivity*

The calibration of the K_h values went through an extensive iterative process with several discussions with EMWD and AP members. Modifications and refinements were made to the K_h distribution in each GMZ to best fit the known characteristics and groundwater behavior of the Basin. Simulated groundwater levels and hydrographs of observed and simulated water levels were reviewed after each run and adjusted for a subsequent run until an acceptable level of calibration was reached.

The final calibrated K_h distribution used in the model is presented in Figure 71 through Figure 74. It should be noted that in several GMZs, the range of calibrated K_h values were slightly higher than approximated in the Conceptual Model and noted in Section 2.3.3. Most of the higher values occurred in the bedrock valleys due to the presence of water-bearing sediments, or the intake area of Upper Pressure. The final calibrated K_h distribution is discussed below by two regions: West (west of Casa Loma Fault) and East (east of Casa Loma Fault) Regions.

West Region (West of Casa Loma Fault)

In general, the K_h distribution west of the Casa Loma Fault follows the bedrock contours. K_h values are higher in the deeper parts of the aquifer and the bedrock valleys. The values gradually decrease towards the shallow bedrock areas. The highest K_h values are present in Hemet North and Hemet South GMZs. The lowest K_h values are present in northern parts of Perris North GMZ in the MARB area where the aquifer thickness is very shallow. Menifee, Perris South and Lakeview GMZs have higher K_h values in deeper parts of the aquifer where most groundwater extraction wells are located. A high K_h area also exists west of Lake Perris, where the subterranean stream exists beneath the east abutment of the dam.

In the central portion of Hemet North, a tighter gradient of K_h was modeled in Layers 2 and 3. This reduction in K_h was introduced in the model as part of the calibration process to generate the head difference that exists in the observed water levels in wells north and south of the K_h gradient. For similar

reasons, a tighter K_h value was introduced in Layer 1 of Perris North transitioning from the MARB area east to the central portion of the GMZ.

The K_h distribution west of the Casa Loma Fault is the same throughout all three active layers except in Hemet North GMZ where a lower K construct exists in model layers 2 and 3.

East Region (East of Casa Loma Fault)

K_h values east of the Casa Loma Fault in Lower Pressure and specifically in Upper Pressure and Canyon, were different between Layers 1 through 3. Layer 4 has the same aquifer parameters as Layer 3.

The K_h values in Layer 1 of Upper Pressure took into account the presence of the clay cap, an area of clay soils that extends into the southern portion of Lower Pressure (refer to Section 2.3.3.2). The clay cap occurs on average in the top 100 feet of the aquifer. The thickness of the clay cap increases from south to north and was accounted for in the vertical conductivity parameters through a decrease in hydraulic conductivity where the clay cap thickness increases. Given that the average thickness of Layer 1 in the clay cap area is about 400 feet, a low value of K_h for the clay cap would not be fully representative of the entire layer, thus the calibrated K_h value for the composite of the materials in layer 1 was higher than a typical clay conductivity value.

Southeast of the clay cap area is the intake area of Upper Pressure, where a majority of the pumping in the Basin takes place. As a result, values of K_h in the Intake area are the highest in the entire SJFM-2014.

Values of K_h for Layers 2 through 4 in Upper Pressure were developed through discussions with EMWD and the Advisory Panel. A gradient of low K_h from the north to a higher K_h to the south was developed to mimic the flow pattern of the groundwater and represent the presence of coarser materials in the southern portion of Upper Pressure. Generally, the values of K_h decreased from Layer 2 down to Layer 4 while having a similar distribution. In Layer 2, values of higher K_h represented an alluvial fan from Massacre Canyon and Laborde Canyon, located at the northeast boundary of Upper Pressure and southeast boundary of Lower Pressure, respectively. This can be seen in Figure 72. A lower gradient of K_h was located just west of the alluvial fan to represent an area of historical groundwater depression seen in the contours published in water management area annual reports by EMWD.

In the Bautista Creek area, the southernmost part of Upper Pressure, the K_h parameters were higher in Layer 1 than Layers 2 to 4 to help keep water levels high to connect flows in Layer 1 from the higher elevations in the south to lower elevations following a steep drop in elevation moving northward.

The distribution of K_h in Canyon was based on the presence of three zones of observed groundwater levels and was refined after several iterations of aquifer parameter adjustments. Following the development of three main zones of K_h , hydraulic conductivities within each zone were refined to follow the soil type distribution within each zone. Soils in Canyon are predominantly type A and B. Areas with soil type A have higher K_h values, typically along the San Jacinto River. Three hydraulic zones in the Canyon GMZ were generated in the model by two separate modeled geologic structural divides: The northern zone (Zone 1), the middle zone (Zone 2) and the southern zone (Zone 3). In the Canyon GMZ, Zone 3 had the highest K_h values and Zone 2 had the lowest. The values decreased moving from Layer 1 down to Layer 3.

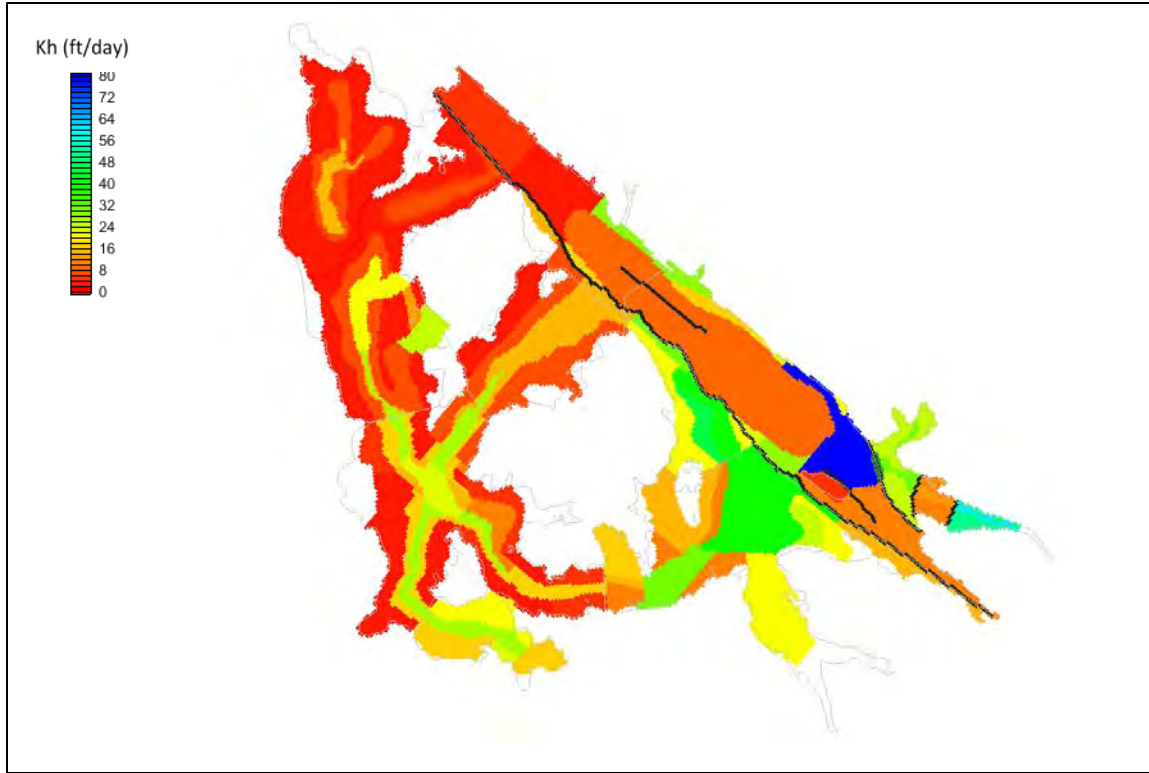


Figure 71: Calibrated Horizontal Hydraulic Conductivity – Layer 1

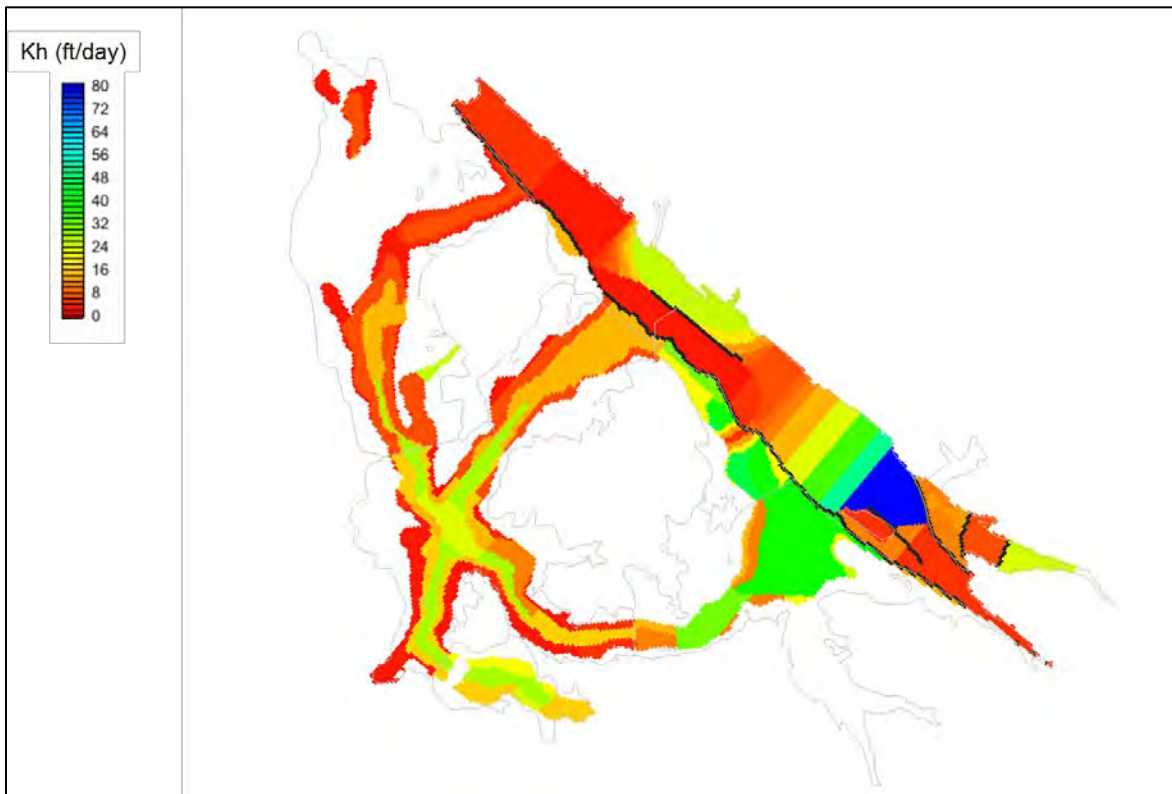


Figure 72: Calibrated Horizontal Hydraulic Conductivity – Layer 2

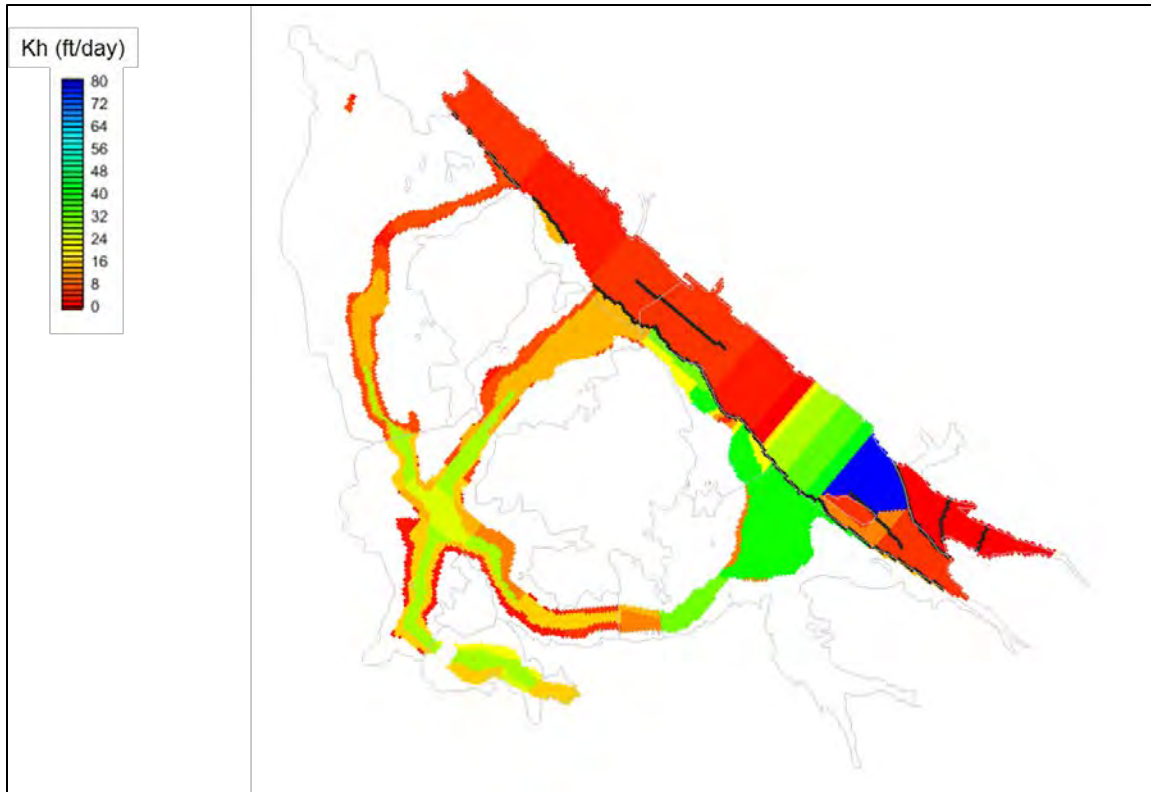


Figure 73: Calibrated Horizontal Hydraulic Conductivity – Layer 3

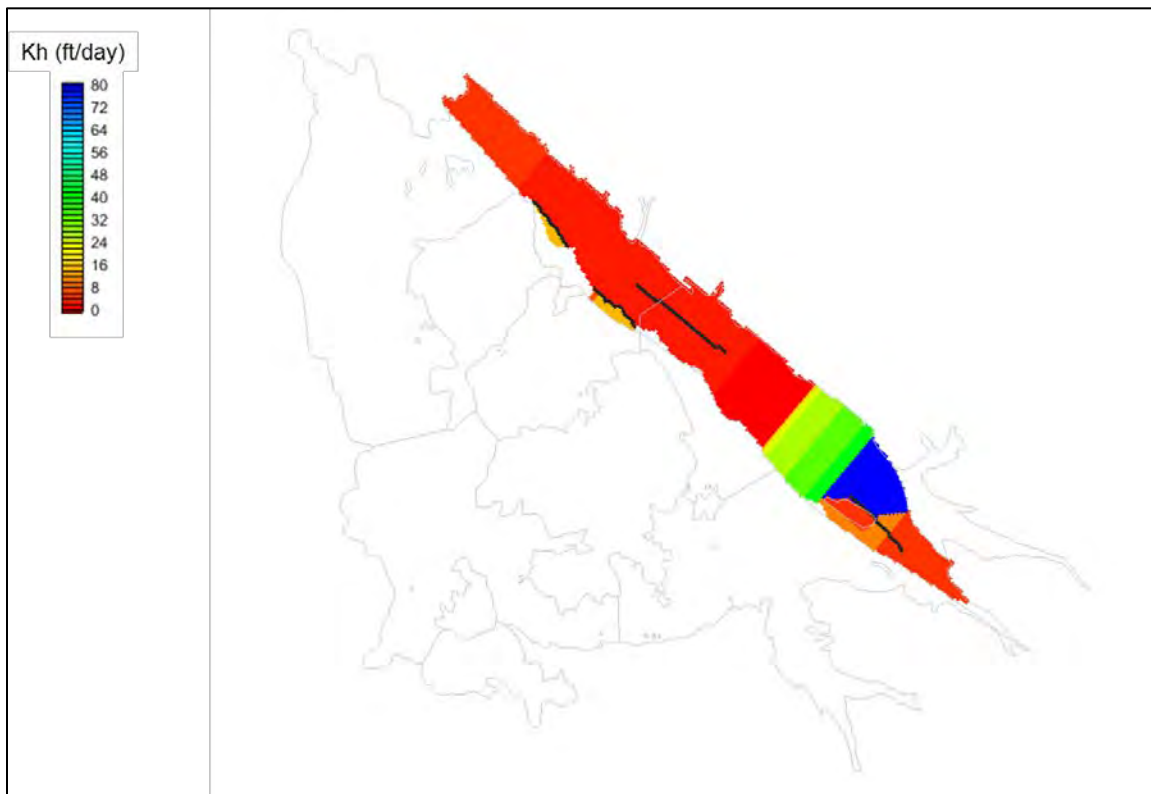


Figure 74: Calibrated Horizontal Hydraulic Conductivity – Layer 4

4.5.1.2 Vertical Hydraulic Conductivity

The final calibrated K_v distribution used in the model is presented in Figure 75 through Figure 78.

In general, the vertical hydraulic conductivities in the Basin followed the pattern of horizontal hydraulic conductivities and did not change between layers. This was attributed to the aquifer being mostly vertically homogeneous and lack of layer specific water level data. This is true for all GMZs in the Basin except for Upper Pressure, Canyon, and the band of K_v in Hemet North.

In Upper Pressure, the K_v of Layer 1 in the clay cap area was divided into three zones to represent the increase in thickness of the clay cap from south to north. In the southernmost portion of the clay cap, nearest to the intake area, the clay cap is generally less than or equal to 100 feet in thickness. Thickness increases to as much as 300 feet to the north. An incremental approach was used to model this change in thickness by assigning K_v values of 10%, 1% and 0.1% of K_h values, with the lowest K_v values corresponding to the thickest portions of the clay cap. The lowest K_v values occurred in the area of the groundwater depression, located west of the LP-UP construct in both Lower Pressure and Upper Pressure.

In the intake area, Layers 1 and 2 were separated by very low K_v values to represent a vertical gradient between the two layers. Layer 2 K_v values in the intake area were one of the lowest in the entire SJFM-2014.

Since the K_v values were calculated as a percentage of K_h values, the Canyon K_v values vary between layers corresponding to the changes in K_h between layers, as discussed in the previous section.

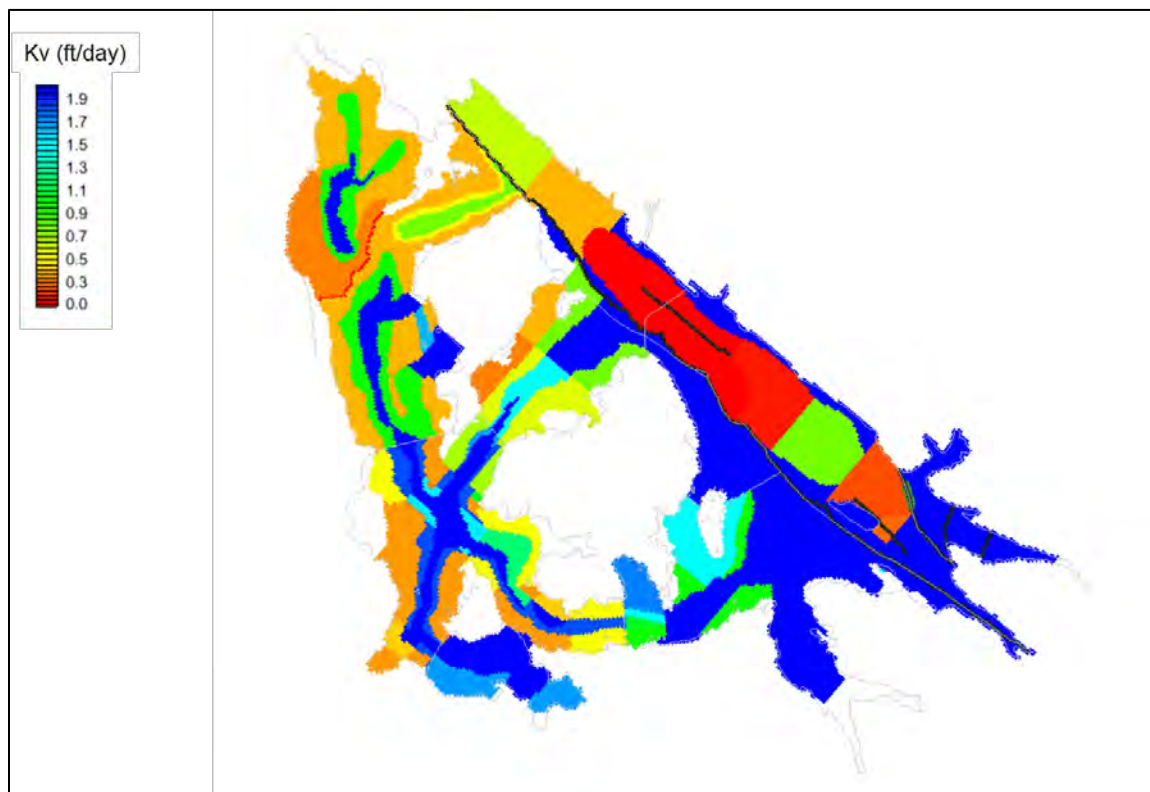


Figure 75: Calibrated Vertical Hydraulic Conductivity – Layer 1

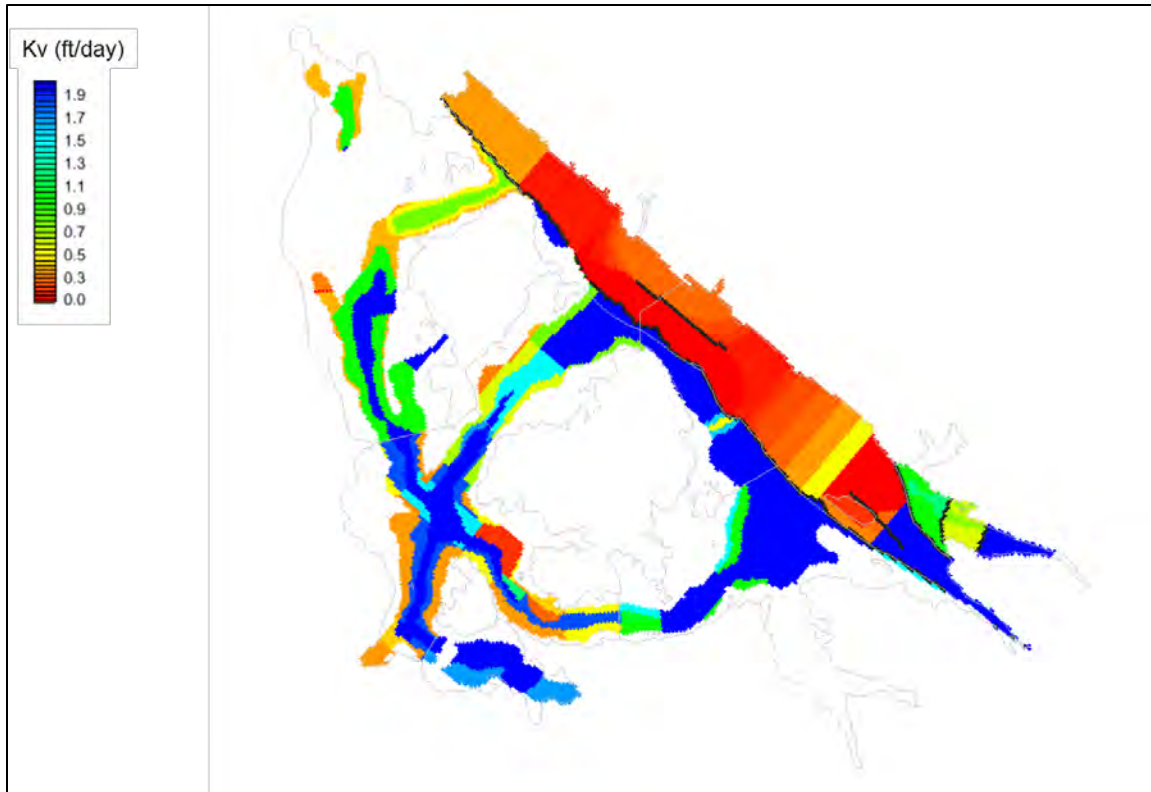


Figure 76: Calibrated Vertical Hydraulic Conductivity – Layer 2

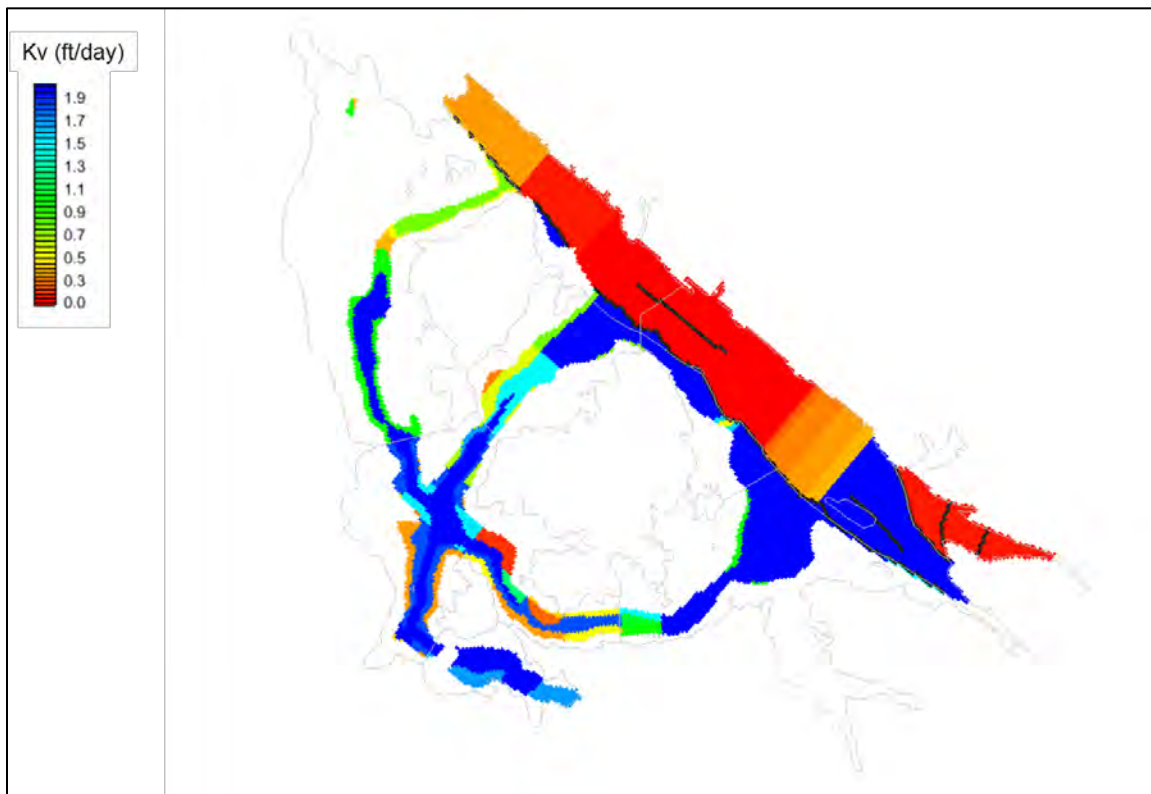


Figure 77: Calibrated Vertical Hydraulic Conductivity – Layer 3

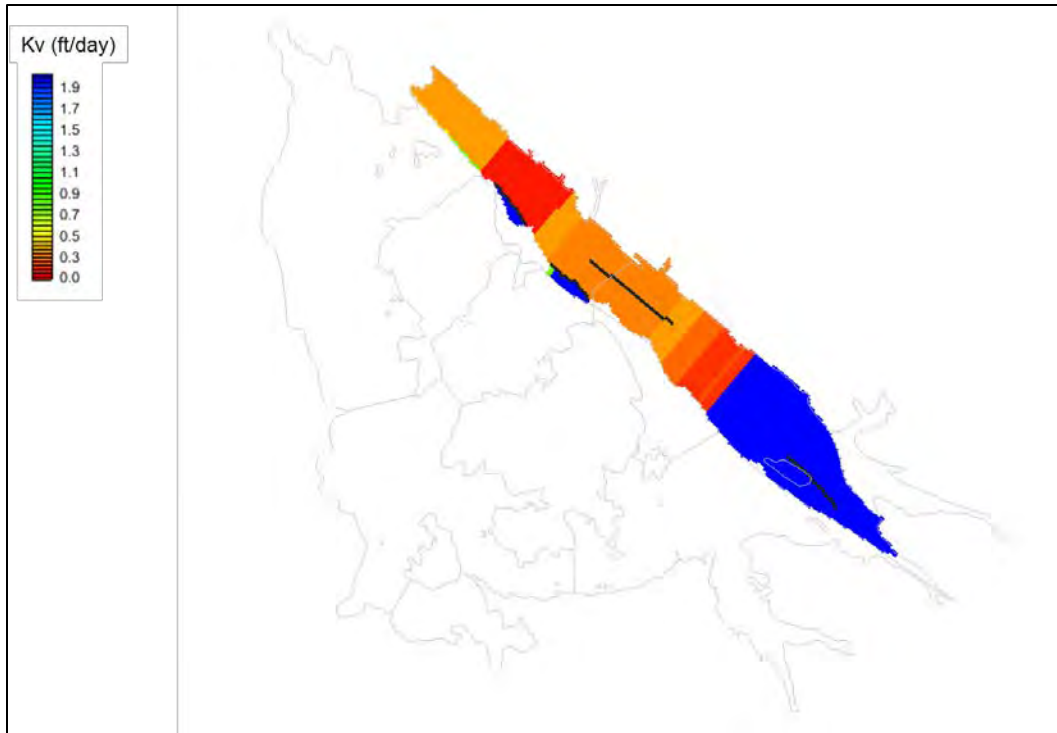


Figure 78: Calibrated Vertical Hydraulic Conductivity – Layer 4

4.5.1.3 Storage Parameters

Similar to the hydraulic conductivity adjustments in the calibration process, storage parameters were modified in an iterative manner, making isolated changes to the parameters in specific GMZs. Storage parameter changes were made based on distribution of hydraulic conductivities, groundwater extraction locations, and observed groundwater levels. Simulated groundwater levels were reviewed after each run until an acceptable level of calibration was reached.

Ranges for the calibrated specific yield and storage coefficient values for each GMZ are presented in Table 18. Layers 2 and 3 remained completely saturated throughout the duration of the study period except in a few locations of high bedrock in Hemet South and the Bautista Creek area in Upper Pressure. Layer 4 was saturated in the model at all times.

Table 18: Range of Specific Yield and Storage Parameters

GMZ	Specific Yield	Storage Coefficient
Perris North	0.07 – 0.085	10×10^{-3} to 10×10^{-5}
Perris South	0.08 – 0.16	10×10^{-2} to 4×10^{-3}
Menifee	0.20	7×10^{-3}
Lower Pressure	0.03 – 0.06	10×10^{-2} to 8×10^{-3}
Lakeview	0.10	9×10^{-2}
Hemet North	0.14	9×10^{-3}
Hemet South	0.11	6×10^{-3}
Upper Pressure	0.03 – 0.06	2×10^{-2} to 8×10^{-3}
Canyon	0.03 – 0.09	2×10^{-4} to 2×10^{-5}

4.5.2 Water Budget

As part of the water budget calibration, each inflow and outflow component was analyzed between runs. This included applied water recharge, river recharge, mountain front recharge, underflows and groundwater production. As shown in Table 19, applied water recharge, river recharge and mountain front recharge are important components in the water budget. These components were the focus of the water budget calibration.

Table 19: Percentages of the Basin Water Budget Components

Water Budget Component	Total Percentage of Inflow
<i>Applied Water Recharge Inflow Component</i>	<i>45%</i>
EMWD Sales	7%
Irrigation Recharge	7%
Rain Recharge	24%
Reclaimed Water Sales	3%
Subagency Sales	4%
<i>Other Inflow Components</i>	<i>55%</i>
Reclaimed/Recharge Ponds	10%
River Recharge	15%
Mountain Front Recharge	25%
Boundary Conditions (Reservoir Underflow)	5%
<i>Outflow Components</i>	
Groundwater Production	100%

An important part of the water budget calibration process was estimation of recharge from percolation of applied water components. Based on the applied water input data, historical trends and discussions with EMWD, percolation factors were modified to better represent the amount of applied water recharging into the groundwater. Approximately 11 percent of the total applied water percolates down and recharges the aquifer. The percent recharged for each applied water component is provided in Table 20.

Table 20: Percent of Applied Water Recharged to the Basin

Applied Water Component	Percentage Recharged
EMWD Sales	11%
Irrigation	13%
Rain	9%
Reclaimed Water	10%
Subagency Sales	11%
San Jacinto Basin – All Applied Water Components	11%

The San Jacinto River flows were calibrated based on estimates in the Canyon Basin Operating Plan. The Canyon Basin Operating Plan estimates that 95% of all San Jacinto River recharge is recharged in Upper Pressure and Canyon (20% and 75%, respectively). Analyzing water budgets between calibration runs ensured that the San Jacinto River did not recharge more than what was expected downstream. Streambed hydraulic conductivities were modified between runs to best simulate the appropriate recharge. The range of streambed hydraulic conductivity (K_b) values are presented in Section 3.9.

Mountain front recharge was refined based on balancing the water budget inflows and outflows and discussions with EMWD. Additional information on mountain front recharge calibration is presented in Section 3.10.1.

Water budget tables were developed for each GMZ, the Hemet-San Jacinto Groundwater Management Area, the West San Jacinto Management Area, and the entire Basin. Water budgets from the calibrated SJFM-2014 for the entire Basin and the two groundwater management areas are provided in Table 21 through Table 23, respectively. Annual calibrated water budget tables for all areas are provided in Appendix E.

Table 21: Numerical Model Water Budget for the EMWD San Jacinto Groundwater Basin

2014 Model																
Model Year	Calendar Year	Flow In (ac-ft)										Total Flow In (ac-ft)	Flow Out ¹ (ac-ft)		Change In Storage (ac-ft)	
		EMWD Sales Recharge	Irrigation Recharge	Rain Recharge	Recycled Water Sales	Subagency Sales Recharge	Reclaimed Water Facilities/ Recharge Ponds	Perris Drain	SJ River/Bautista Creek Recharge	Underflow from Lake Perris	Mountain Front Recharge		GW Extraction	Total Flow Out (ac-ft)		
1	1984	3,832	5,679	13,542	430	2,308	3,431	301	10,413	3,786	15,072	58,795	63,308	63,308	-4,513	
2	1985	3,442	6,176	12,206	832	2,537	2,936	300	9,766	3,786	15,796	57,777	67,144	67,144	-9,367	
3	1986	3,373	5,974	18,831	951	2,638	2,158	300	11,996	3,786	19,503	69,510	65,225	65,225	4,286	
4	1987	3,897	5,757	19,017	1,101	2,728	2,709	300	2,341	3,786	20,083	61,720	64,647	64,647	-2,927	
5	1988	4,433	5,703	14,147	1,259	2,878	3,043	301	1,088	3,786	14,835	51,474	67,773	67,773	-16,299	
6	1989	5,049	5,804	7,586	1,394	2,992	3,390	300	2,361	3,786	10,728	43,390	70,253	70,253	-26,863	
7	1990	5,010	5,285	11,276	1,466	3,459	4,252	300	446	3,786	15,023	50,305	67,288	67,288	-16,983	
8	1991	3,926	4,934	22,623	1,290	2,742	3,805	300	14,073	3,786	22,897	80,376	60,615	60,615	19,761	
9	1992	4,062	5,187	29,330	1,131	2,828	4,128	301	22,257	3,786	27,773	100,783	63,232	63,232	37,551	
10	1993	4,084	5,671	37,291	1,571	2,278	5,991	300	32,975	3,786	32,957	126,903	63,545	63,545	63,358	
11	1994	4,121	5,933	15,788	1,282	2,935	6,106	300	13,477	3,786	16,391	70,119	73,545	73,545	-3,426	
12	1995	4,131	6,455	29,158	1,732	2,709	6,710	300	27,324	3,786	27,745	110,049	74,635	74,635	35,415	
13	1996	4,543	6,338	18,938	1,863	3,202	6,813	301	8,163	3,786	18,938	72,884	82,839	82,839	-9,955	
14	1997	4,662	7,088	13,247	1,994	3,269	7,351	300	7,447	3,786	15,598	64,741	86,924	86,924	-22,184	
15	1998	4,179	6,310	31,924	1,524	2,569	8,395	300	33,316	3,786	30,106	122,410	75,824	75,824	46,586	
16	1999	5,071	6,938	8,528	2,157	3,359	8,347	300	2,084	3,786	12,241	52,811	85,862	85,862	-33,051	
17	2000	5,614	7,771	13,785	2,059	3,533	8,639	301	2,388	3,786	14,190	62,066	88,187	88,187	-26,121	
18	2001	5,574	6,605	16,622	2,058	3,450	8,922	300	2,084	3,786	14,833	64,233	78,513	78,513	-14,280	
19	2002	5,851	5,305	8,465	2,945	3,792	10,289	300	1,499	3,786	11,240	53,472	70,889	70,889	-17,417	
20	2003	5,755	4,052	22,158	1,559	3,078	9,542	300	6,691	3,786	19,445	76,365	62,403	62,403	13,961	
21	2004	6,473	4,489	25,852	1,771	3,591	11,012	301	9,138	3,786	21,232	87,645	64,716	64,716	22,929	
22	2005	6,515	3,754	25,421	1,840	2,731	11,127	300	30,837	3,786	24,834	111,145	59,817	59,817	51,328	
23	2006	7,227	3,979	12,222	1,785	3,597	11,218	300	10,909	3,786	15,321	70,345	73,903	73,903	-3,558	
24	2007	6,209	3,801	7,972	2,607	3,544	10,142	300	2,790	3,786	12,631	53,783	72,090	72,090	-18,307	
25	2008	5,774	3,376	15,916	2,912	2,938	10,118	301	11,266	3,786	18,454	74,840	64,223	64,223	10,616	
26	2009	5,256	2,665	8,725	3,355	2,828	9,920	300	4,931	3,786	13,378	55,143	57,682	57,682	-2,538	
27	2010	4,740	2,599	28,123	2,885	2,646	10,164	300	17,027	3,786	28,091	100,362	56,273	56,273	44,089	
28	2011	5,024	2,665	12,165	2,230	2,808	10,099	300	6,197	3,786	15,705	60,980	58,734	58,734	2,246	
29	2012	5,402	2,599	10,193	2,675	2,699	10,099	301	2,695	3,786	13,471	53,922	59,354	59,354	-5,433	
1984-1999 Average		4,238	5,952	18,964	1,374	2,839	4,973	300	12,470	3,786	19,730	74,628	70,791	70,791	3,837	
2000-2012 Average		5,801	4,128	15,971	2,360	3,172	10,099	300	8,342	3,786	17,140	71,100	66,676	66,676	4,424	
1984-2012 Average		4,939	5,134	17,622	1,816	2,988	7,271	300	10,620	3,786	18,569	73,046	68,946	68,946	4,100	
1984-2012 Max		7,227	7,771	37,291	3,355	3,792	11,218	301	33,316	3,786	32,957	126,903	88,187	88,187	63,358	
1984-2012 Min		3,373	2,599	7,586	430	2,278	2,158	300	446	3,786	10,728	43,390	56,273	56,273	-33,051	
1984-2012 Std		966	1,436	7,975	690	404	3,002	0	9,720	0	5,943	22,493	8,823	8,823	25,494	
Notes:																
1) A positive value for outflow data represents water flowing out of the basin																

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Table 22: Numerical Model Water Budget for the Hemet-San Jacinto Groundwater Management Area

2014 Model																	
Model Year	Calendar Year	Flow In (ac-ft)										Total Flow In (ac-ft)	Flow Out ¹ (ac-ft)			Total Flow Out (ac-ft)	Change in Storage (ac-ft)
		EMWD Sales Recharge	Irrigation Recharge	Rain Recharge	Recycled Water Sales	Subagency Sales Recharge	SJ River/Bautista Ck Recharge	Reclaimed Water Facilities/ Recharge Ponds	Mtn Front Recharge	Underflow from Lower Pressure	Underflow to Perris South		Underflow to Lakeview	GW Extraction			
1	1984	1,674	4,015	6,862	346	2,195	10,413	1,109	6,687	2,667	35,968	144	951	49,131	50,227	-14,259	
2	1985	1,467	4,581	6,714	676	2,442	9,766	953	7,152	3,762	37,512	177	1,116	53,855	55,148	-17,635	
3	1986	1,523	4,461	9,575	761	2,512	11,988	737	9,463	3,093	44,112	188	785	54,144	55,117	-11,004	
4	1987	1,707	4,279	9,964	750	2,605	2,341	893	9,824	3,065	35,430	194	651	52,568	53,413	-17,982	
5	1988	1,993	4,213	6,789	827	2,742	1,088	985	6,539	2,839	28,015	200	822	55,001	56,024	-28,009	
6	1989	2,358	4,127	3,786	921	2,839	2,361	1,097	3,993	2,514	23,995	203	706	55,728	56,636	-32,641	
7	1990	2,010	3,915	6,305	741	3,321	446	1,648	6,490	2,630	27,505	207	658	54,189	55,053	-27,548	
8	1991	1,424	3,661	11,594	629	2,605	14,073	1,466	11,259	2,726	49,437	214	596	49,503	50,313	-876	
9	1992	1,371	3,708	14,689	527	2,671	22,247	1,573	14,199	2,836	63,820	223	528	49,560	50,311	13,509	
10	1993	1,374	4,041	18,768	568	2,138	32,926	1,441	17,353	2,830	81,439	238	512	49,276	50,025	31,413	
11	1994	1,304	3,838	7,767	404	2,795	13,465	1,272	7,318	3,056	41,218	246	538	59,153	59,937	-18,719	
12	1995	1,331	4,266	14,595	656	2,557	27,282	1,585	14,196	3,448	69,916	255	501	56,192	56,948	12,967	
13	1996	1,530	3,912	9,171	729	3,049	8,163	1,403	8,847	3,866	40,670	263	557	61,961	62,781	-22,111	
14	1997	1,617	4,301	7,045	763	3,102	7,446	1,651	6,837	3,922	36,685	264	647	62,870	63,782	-27,096	
15	1998	1,409	4,126	16,547	661	2,425	33,268	1,576	15,626	3,942	79,581	269	679	58,144	59,092	20,489	
16	1999	1,699	4,566	4,771	842	3,191	2,084	1,245	4,804	3,992	27,195	271	622	64,404	65,297	-38,102	
17	2000	1,834	5,277	6,509	788	3,358	2,388	1,245	5,971	3,958	31,327	274	552	66,739	67,565	-36,238	
18	2001	1,811	4,519	7,350	751	3,292	2,084	1,245	6,467	4,236	31,755	270	467	60,579	61,315	-29,561	
19	2002	1,841	3,602	4,071	992	3,622	1,499	2,320	4,312	4,267	26,525	264	472	51,893	52,629	-26,104	
20	2003	1,815	2,588	10,256	534	2,927	6,691	1,288	9,427	4,164	39,689	259	408	45,752	46,419	-6,730	
21	2004	2,035	3,138	11,373	702	3,409	9,138	2,469	10,527	4,247	47,037	254	464	48,135	48,853	-1,816	
22	2005	2,015	2,792	14,006	650	2,560	30,823	2,583	12,786	4,151	72,366	257	620	45,938	46,815	25,551	
23	2006	2,250	2,951	6,546	564	3,411	10,906	2,674	6,934	4,209	40,446	251	679	52,355	53,285	-12,839	
24	2007	1,986	2,912	4,179	980	3,328	2,790	1,599	5,237	4,409	27,420	253	595	50,865	51,713	-24,293	
25	2008	1,857	2,550	7,770	1,604	2,757	11,266	1,574	8,897	4,464	42,738	263	601	46,456	47,321	-4,582	
26	2009	1,717	2,291	4,822	1,938	2,688	4,931	1,377	5,709	4,226	29,697	265	633	41,761	42,659	-12,961	
27	2010	1,543	2,007	13,434	1,842	2,521	17,027	1,620	14,991	4,108	59,093	274	669	38,580	39,523	19,570	
28	2011	1,597	2,291	6,306	415	2,669	6,197	1,556	7,177	4,121	32,327	291	589	39,715	40,595	-8,268	
29	2012	1,718	2,007	4,989	433	2,574	2,695	1,556	5,754	4,244	25,969	298	533	39,720	40,551	-14,582	
1984-1999 Average		1,612	4,126	9,684	675	2,699	12,460	1,290	9,412	3,199	45,156	222	679	55,355	56,256	-11,100	
2000-2012 Average		1,848	2,994	7,816	938	3,009	8,341	1,777	8,014	4,216	38,953	267	560	48,345	49,173	-10,219	
1984-2012 Average		1,718	3,618	8,847	793	2,838	10,613	1,508	8,785	3,655	42,375	242	626	52,213	53,081	-10,705	
1984-2012 Max		2,358	5,277	18,768	1,938	3,622	33,268	2,674	17,353	4,464	81,439	298	1,116	66,739	67,565	31,413	
1984-2012 Min		1,304	2,007	3,786	346	2,138	446	737	3,993	2,514	23,995	144	408	38,580	39,523	-38,102	
1984-2012 Std		270	864	3,950	378	387	9,708	470	3,606	640	16,378	36	146	7,289	7,292	18,759	

Notes:
1) A positive value for outflow data represents water flowing out of the basin

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Table 23: Numerical Model Water Budget for the West San Jacinto Groundwater Management Area

2014 Model																			
Model Year	Calendar Year	Flow In (ac-ft)													Total Flow In (ac-ft)	Flow Out ¹ (ac-ft)		Total Flow Out (ac-ft)	Change in Storage (ac-ft)
		EMWD Sales Recharge	Irrigation Recharge	Rain Recharge	Recycled Water Sales	Subagency Sales Recharge	Reclaimed Water Facilities	Perris Drain Leakage	San Jacinto River Leakage	Underflow from Lake Perris	Mountain Front Recharge	Underflow from Hemet North	Underflow from Hemet South	Underflow to Upper Pressure		GW Extraction			
1	1984	2,159	1,664	6,680	84	113	2,323	301	0	3,786	8,385	951	144	26,590	2,667	14,177	16,844	9,746	
2	1985	1,975	1,595	5,492	156	95	1,983	300	0	3,786	8,644	1,116	177	25,319	3,762	13,289	17,050	8,269	
3	1986	1,850	1,513	9,256	190	127	1,422	300	8	3,786	10,040	785	188	29,463	3,093	11,080	14,173	15,290	
4	1987	2,190	1,478	9,053	351	123	1,816	300	0	3,786	10,258	651	194	30,200	3,065	12,079	15,145	15,055	
5	1988	2,440	1,490	7,358	432	136	2,058	301	0	3,786	8,296	822	200	27,320	2,839	12,772	15,611	11,709	
6	1989	2,692	1,677	3,799	474	153	2,293	300	0	3,786	6,735	706	203	22,818	2,514	14,526	17,040	5,778	
7	1990	3,000	1,370	4,971	725	139	2,604	300	0	3,786	8,534	658	207	26,294	2,630	13,099	15,729	10,565	
8	1991	2,502	1,273	11,029	661	137	2,339	300	0	3,786	11,638	596	214	34,475	2,726	11,112	13,838	20,637	
9	1992	2,691	1,479	14,642	604	158	2,555	301	10	3,786	13,574	528	223	40,550	2,836	13,672	16,508	24,042	
10	1993	2,710	1,630	18,522	1,003	140	4,551	300	49	3,786	15,604	512	238	49,045	2,830	14,270	17,100	31,945	
11	1994	2,817	2,095	8,022	878	141	4,833	300	12	3,786	9,073	538	246	32,740	3,056	14,392	17,448	15,293	
12	1995	2,799	2,189	14,563	1,077	152	5,125	300	42	3,786	13,549	501	255	44,338	3,448	18,443	21,891	22,447	
13	1996	3,013	2,426	9,767	1,134	152	5,410	301	0	3,786	10,090	557	263	36,900	3,866	20,878	24,744	12,156	
14	1997	3,045	2,786	6,202	1,230	167	5,700	300	1	3,786	8,760	647	264	32,889	3,922	24,054	27,976	4,913	
15	1998	2,770	2,184	15,377	863	144	6,820	300	48	3,786	14,480	679	269	47,719	3,942	17,680	21,622	26,097	
16	1999	3,372	2,372	3,757	1,314	168	7,103	300	0	3,786	7,437	622	271	30,501	3,992	21,457	25,450	5,051	
17	2000	3,781	2,495	7,276	1,271	174	7,394	301	0	3,786	8,219	552	274	35,522	3,958	21,448	25,406	10,117	
18	2001	3,762	2,086	9,272	1,307	159	7,677	300	0	3,786	8,365	467	270	37,451	4,236	17,935	22,171	15,281	
19	2002	4,010	1,703	4,394	1,953	170	7,969	300	0	3,786	6,928	472	264	31,950	4,267	18,996	23,263	8,687	
20	2003	3,940	1,464	11,902	1,025	151	8,254	300	0	3,786	10,018	408	259	41,506	4,164	16,651	20,815	20,691	
21	2004	4,438	1,352	14,478	1,070	182	8,544	301	0	3,786	10,705	464	254	45,573	4,247	16,581	20,828	24,745	
22	2005	4,500	962	11,415	1,190	171	8,544	300	15	3,786	12,048	620	257	43,807	4,151	13,878	18,030	25,777	
23	2006	4,977	1,028	5,676	1,221	187	8,544	300	3	3,786	8,386	679	251	35,038	4,209	21,547	25,757	9,281	
24	2007	4,223	889	3,793	1,628	216	8,544	300	0	3,786	7,393	595	253	31,620	4,409	21,225	25,634	5,986	
25	2008	3,917	827	8,146	1,308	181	8,544	301	0	3,786	9,557	601	263	37,430	4,464	17,767	22,232	15,198	
26	2009	3,539	374	3,903	1,416	140	8,544	300	0	3,786	7,669	633	265	30,570	4,226	15,921	20,147	10,423	
27	2010	3,197	592	14,689	1,043	124	8,544	300	0	3,786	13,101	669	274	46,319	4,108	17,693	21,801	24,519	
28	2011	3,426	374	5,859	1,815	140	8,544	300	0	3,786	8,528	589	291	33,653	4,121	19,018	23,139	10,514	
29	2012	3,685	592	5,204	2,242	125	8,544	301	0	3,786	7,718	533	298	33,028	4,244	19,634	23,878	9,149	
1984-1999 Average		2,626	1,826	9,281	698	140	3,683	300	11	3,786	10,319	679	222	33,573	3,199	15,436	18,636	14,937	
2000-2012 Average		3,953	1,134	8,154	1,422	163	8,322	300	1	3,786	9,126	560	267	37,190	4,216	18,330	22,546	14,644	
1984-2012 Average		3,221	1,516	8,776	1,023	150	5,763	300	6	3,786	9,784	626	242	35,194	3,655	16,734	20,389	14,806	
1984-2012 Max		4,977	2,786	18,522	2,242	216	8,544	301	49	3,786	15,604	1,116	298	49,045	4,464	24,054	27,976	31,945	
1984-2012 Min		1,850	374	3,757	84	95	1,422	300	0	3,786	6,735	408	144	22,818	2,514	11,080	13,838	4,913	
1984-2012 Std		789	633	4,100	519	25	2,698	0	14	0	2,344	146	36	7,020	640	3,483	3,952	7,341	

Notes:
 1) A positive value for outflow data represents water flowing out of the basin

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4.5.3 Calibration Statistics

The calibrated model achieved and surpassed calibration residual goal of +/-20 feet described in Section 4.3. The second residual goal of +/-30 feet was almost achieved. Sixty-two percent of groundwater level residuals were within +/- 20 feet and seventy-four percent of groundwater elevation residuals were within +/- 30 feet. Groundwater elevation residual statistics are provided in Table 24. Histograms of the residual for the entire Basin, as illustrated in Figure 79, shows that the majority of the residuals are within +/- 30 feet. Additional calibration statistics and figures for each GMZ are provided in Appendix C. Average residuals maps for 2000, 2005 and 2010, shown in Figure 80 through Figure 82, show the calibration performance of the SJFM-2014 at all calibration wells in the later years of the simulation period. Most of the calibration wells in the areas of the Basin with significant groundwater production show average residuals within +/- 20 feet.

It should be noted that Lower Pressure is a heavily convoluted and complicated flow system with few apparent continuous aquifers. This causes results in the area to be less accurate than in area of extensive horizontally continuous aquifers, such as the other GMZs in the Basin. Since the water resources within Lower pressure appear limited and installation of a groundwater production well is minimal due to the nature of the aquifer in this region, a limited amount of time was spent during calibration efforts. Subsequently, the overall averages of the entire basin are reduced due to an area that is not planned for municipal groundwater extraction. The results in Lower Pressure are of limited value.

Table 24: Groundwater Elevation Residual Statistics – Number of Data Points within Residual Range

GMZ	0 to +/- 10 ft	0 to +/- 20 ft	0 to +/- 30 ft	0 to +/- 40 ft	0 to +/- 60 ft	0 to +/- 80 ft	0 to +/- 100 ft	0 to +/- >100 ft
Perris North	33%	73%	93%	98%	100%	100%	100%	100%
Perris South	61%	83%	90%	91%	95%	97%	99%	100%
Menifee	40%	84%	99%	100%	100%	100%	100%	100%
Lower Pressure	6%	11%	19%	30%	45%	54%	61%	100%
Lakeview	56%	81%	90%	98%	99%	100%	100%	100%
Hemet North	60%	81%	92%	97%	99%	99%	100%	100%
Hemet South	59%	89%	95%	97%	98%	100%	100%	100%
Upper Pressure	27%	47%	61%	69%	81%	86%	89%	100%
Canyon	11%	24%	34%	47%	69%	87%	96%	100%
Hemet-San Jacinto Management Zone	35%	57%	68%	74%	85%	91%	94%	100%
West San Jacinto Management Zone	42%	73%	85%	89%	93%	95%	96%	100%
West San Jacinto Management Zone (without Lower Pressure)	46%	79%	92%	95%	98%	99%	100%	100%
Entire Basin	38%	62%	74%	80%	88%	92%	95%	100%
Entire Basin (without Lower Pressure)	39%	64%	75%	81%	89%	94%	96%	100%

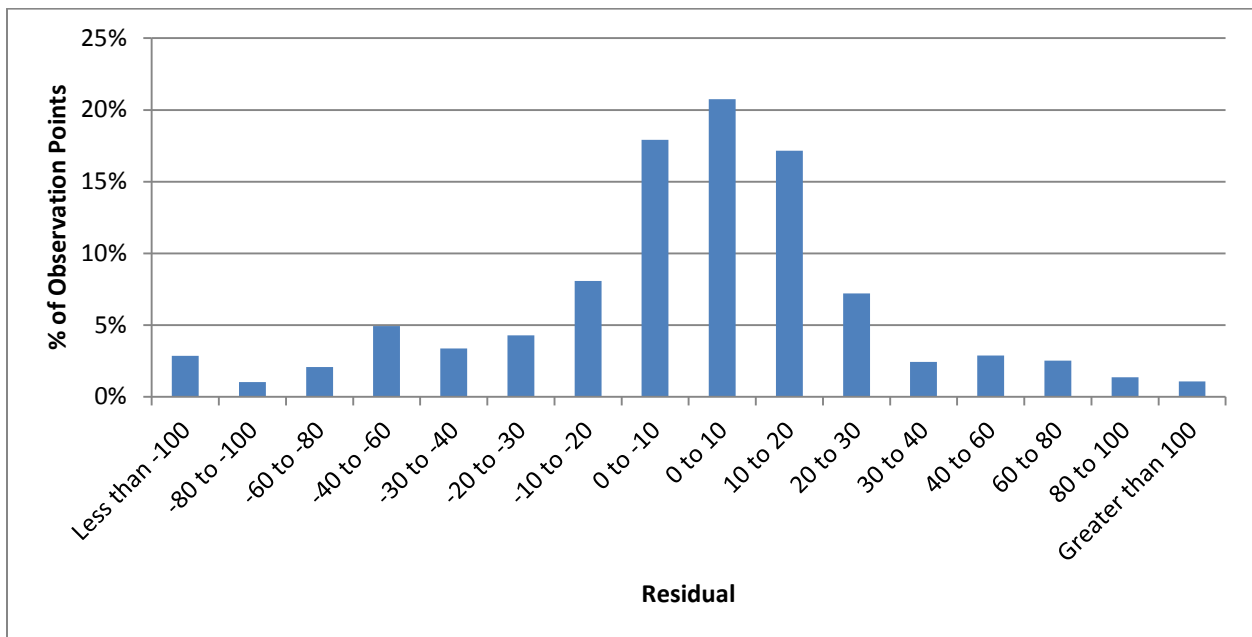


Figure 79: Histogram of Groundwater Elevation Residuals in the San Jacinto Groundwater Basin (without Lower Pressure)

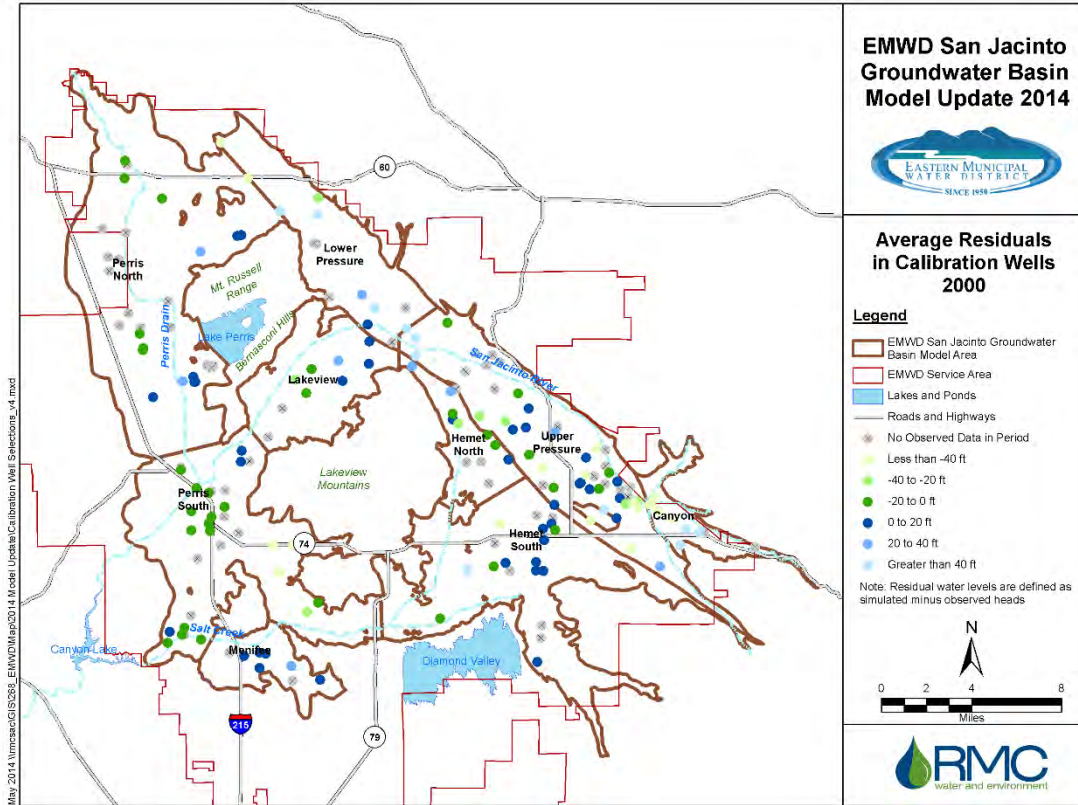


Figure 80: Average Residuals in Calibration Wells for 2000

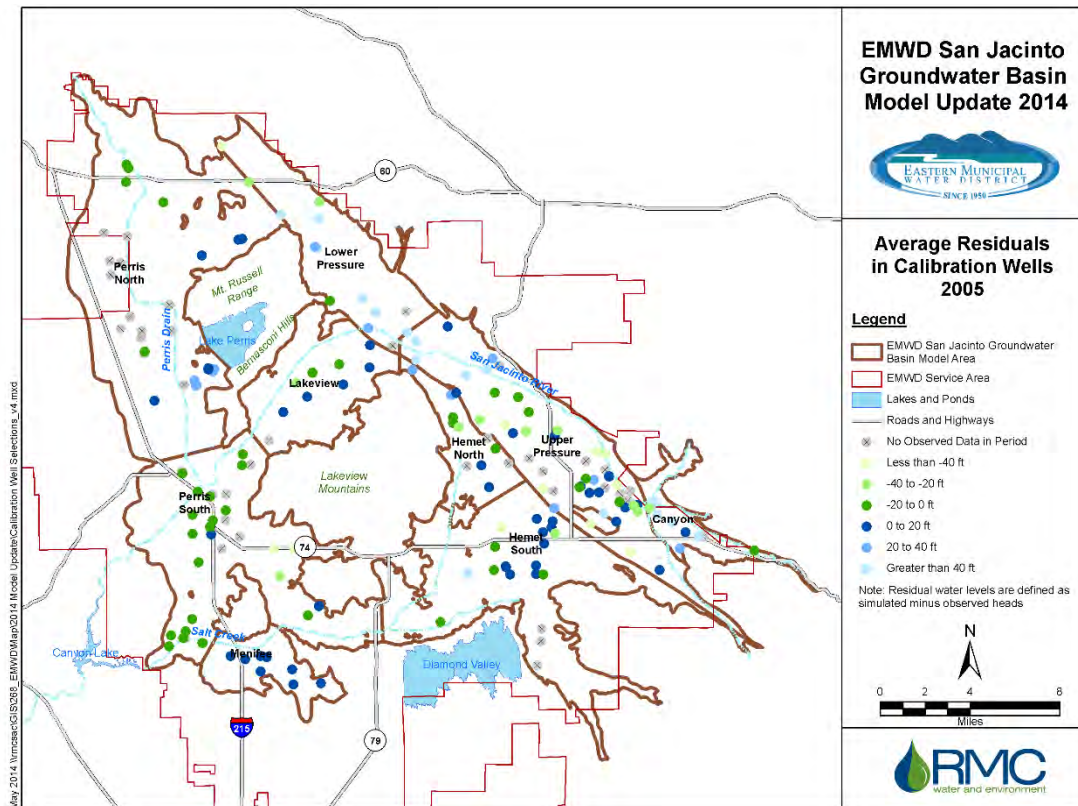


Figure 81: Average Residuals in Calibration Wells for 2005

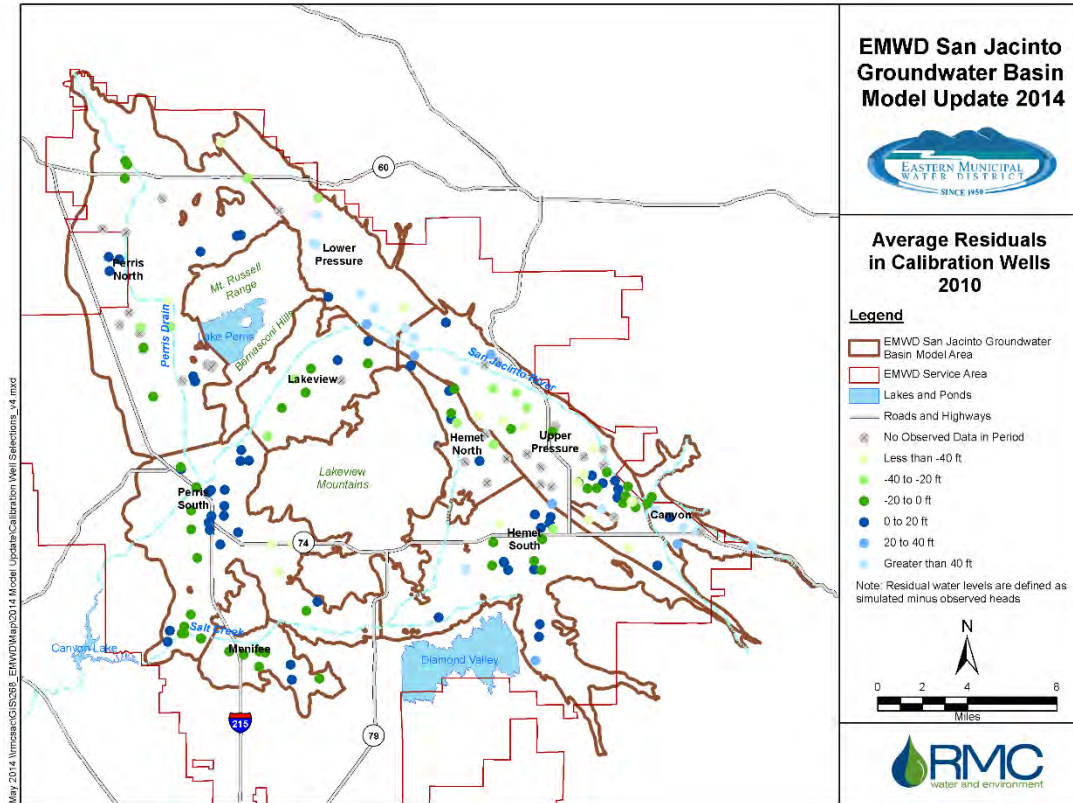


Figure 82: Average Residuals in Calibration Wells for 2010

Scatter plots comparing simulated and observed heads are commonly used to present the calibration status of groundwater models. An ideal fit trends along the 1:1 correlation line. Values above the line represent measurements where simulated values have been overestimated in comparison to the observed data and vice versa for values below the line. A scatterplot for all wells in the Basin is provided in Figure 83. In general, the points follow the trend of the 1:1 correlation line, showing a good match for the model.

Two other scatter point analyses were evaluated: residual heads versus simulated heads and residual heads over time. Data for both analyses are expected to fall along the zero line of the x-axis. These plots for the SJFM-2014 are shown in Figure 84 and Figure 85, respectively. In the residual head versus simulated heads graph, a majority of the data points are within 40 feet, as expected based on the histograms. In the residual heads over time plot more data becomes available in later years and data generally concentrates around the zero foot residual line. This plot also encircles the expected data trends and majority of the data points fall within this area.

The scatterplots show a good match of the observed and simulated heads; however, there are four outlier wells in Lower Pressure and Upper Pressure that are outside of the expected trend for calibrated data, indicating that the simulation of these wells need improvement in the future updates of the model when more data becomes available. These wells are listed in Table 25 along with a description explaining the reason for discrepancies in the model. The outlier data points from these wells are outside the expected, circled data in the scatterplots. The locations of these wells are provided in Figure 86.

Table 25: Wells Outside of Expected Calibration Trend

Well Name	GMZ	Calibration Discrepancy Explanation
EMWD 42 Reche Canyon	Lower Pressure	<ul style="list-style-type: none"> Located in an isolated environment, water levels behave like the capillary effect. Well selected due to CASGEM status.
21 Gun Club	Lower Pressure	<ul style="list-style-type: none"> Located in the groundwater depression area between Lower and Upper Pressure Additional observed data and refined aquifer parameters will improve calibration of this well in the future
Fish & Game Rhodda	Lower Pressure	<ul style="list-style-type: none"> Located in the groundwater depression area between Lower and Upper Pressure Additional observed data and refined aquifer parameters will help improve calibration of this area in the future
Fish & Game Bouris	Lower Pressure	<ul style="list-style-type: none"> Located in Layer 2 right next to another calibration well in Layer 1, but observed water levels only differ by 100 feet A more localized model would help capture the differences in water levels between layers in the same area
LHMWD A	Upper Pressure	<ul style="list-style-type: none"> Located in Layer 1 just north of where the bedrock in the basin drops from approximately 1,300 feet to -200 feet Simulated water levels drop significantly with the change in geology and Layer 1 is simulated as dry as a result Additional observed data and refined aquifer parameters will help improve calibration of this area in the future

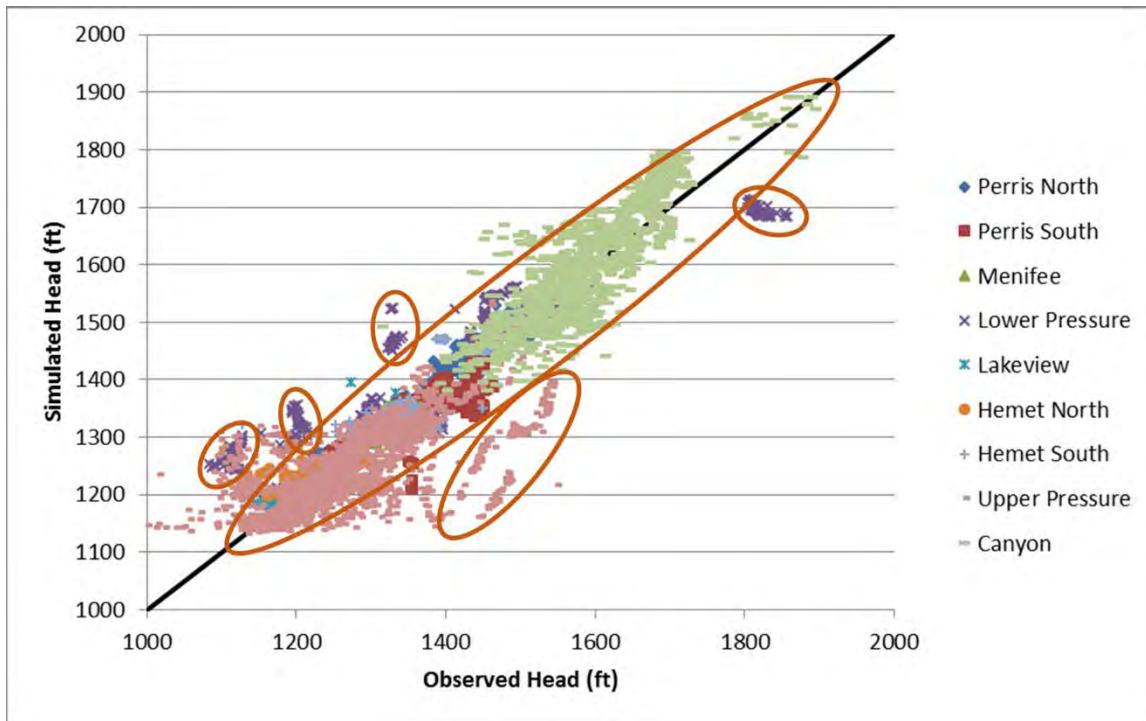


Figure 83: Simulated vs. Observed Values for the San Jacinto Groundwater Basin

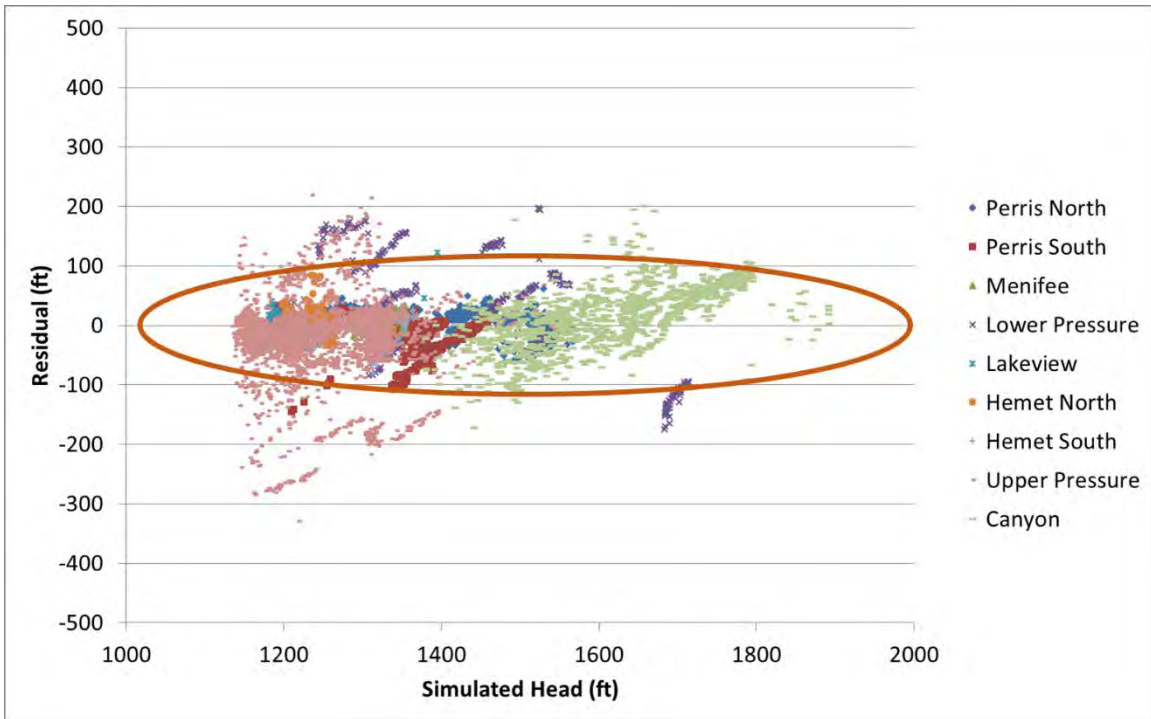


Figure 84: Residual vs. Simulated Values for the San Jacinto Groundwater Basin

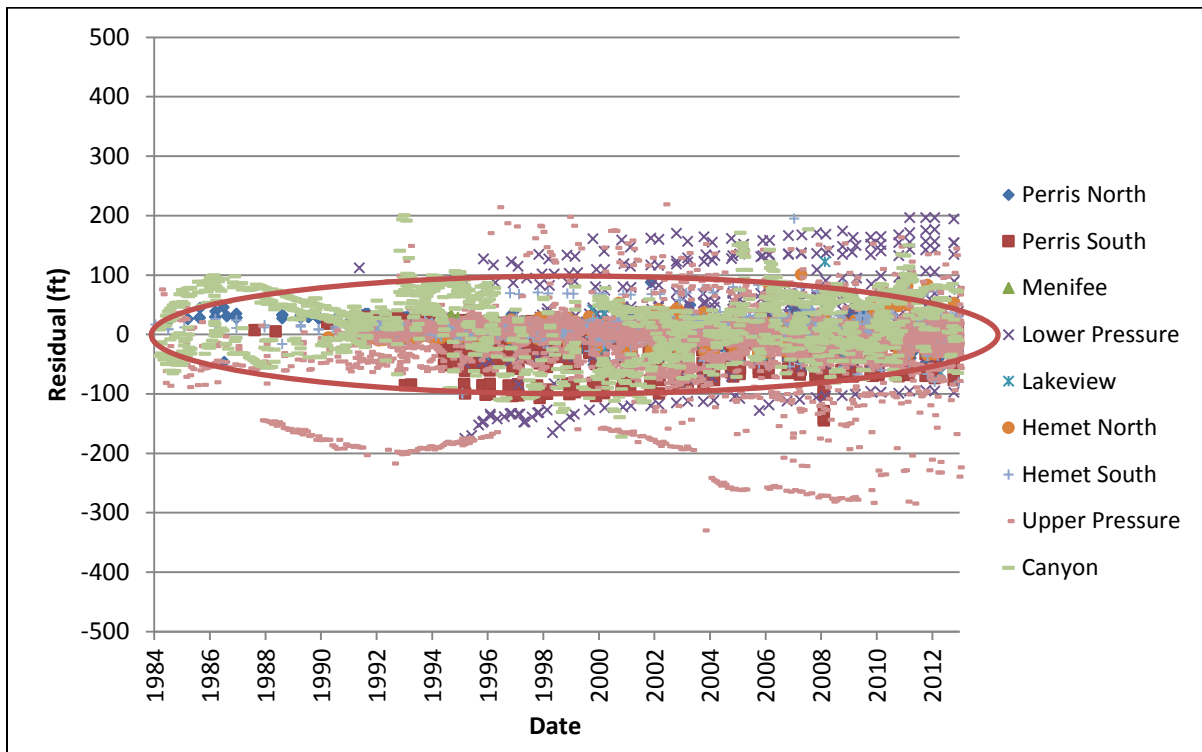


Figure 85: Residual Heads over Time for the San Jacinto Groundwater Basin

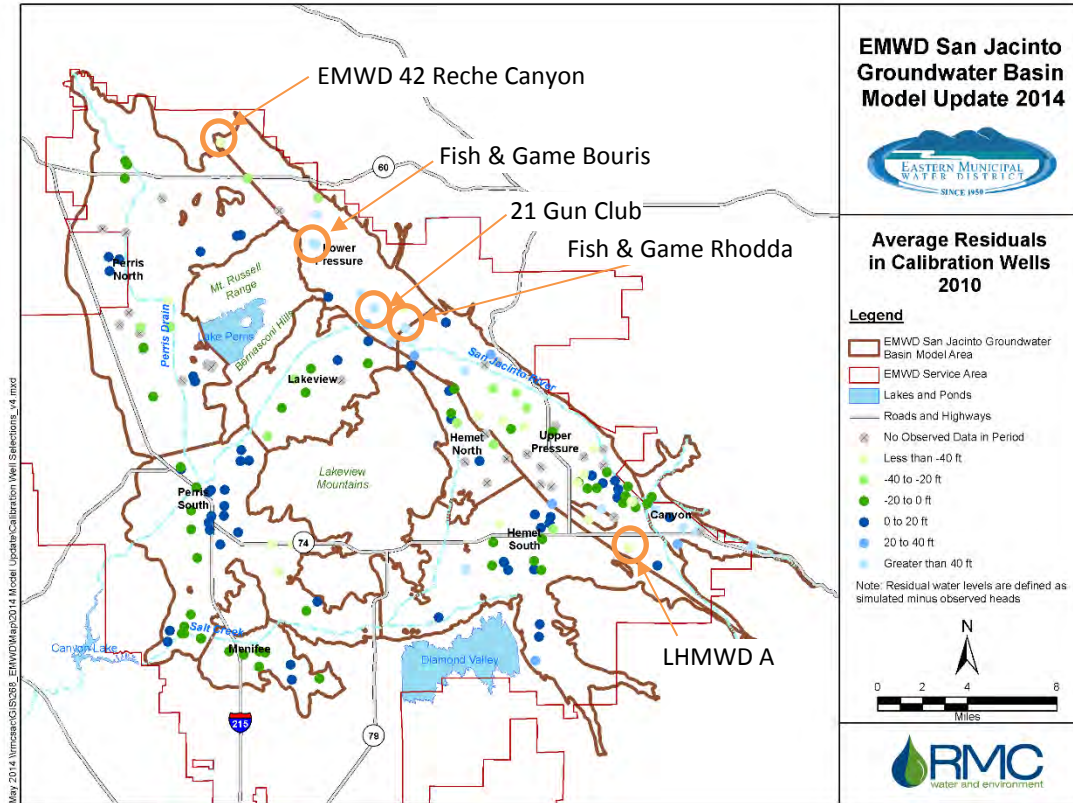


Figure 86: Location of Wells outside Expected Calibration Trends

4.5.4 Groundwater Level Calibration and Hydrograph Trend Matching

Final calibration groundwater levels resulted in a good match to observed groundwater trends for key areas and wells. Examples of the hydrographs of key wells and areas in the Basin can be seen in Figure 87 through Figure 91. The calculated residual (simulated minus observed) was plotted on the hydrographs for further analysis of the calibration. Although all active layers were plotted on the hydrographs, the layer where the majority of the well was screened is indicated in the bottom right corner. The residuals were based on this layer assignment. A complete set of the hydrographs for the calibration wells in the SJFM-2014 can be found in Appendix D.

In areas such as the Upper Pressure Intake area, clusters of wells within a small radius may have had varying groundwater levels that could not be captured by the regional SJFM-2014. Hydrograph trend matching is significant for these areas to illustrate that the regional trends of the area are being simulated, even if the individual groundwater levels are not exactly matched. The EMWD 28 Peacock Radaker well in Figure 90 demonstrates that the SJFM-2014 simulates these regional trends. In Canyon wells like EMWD Cienega 06 shown in Figure 91, the long-term trends of the observed water levels are simulated.

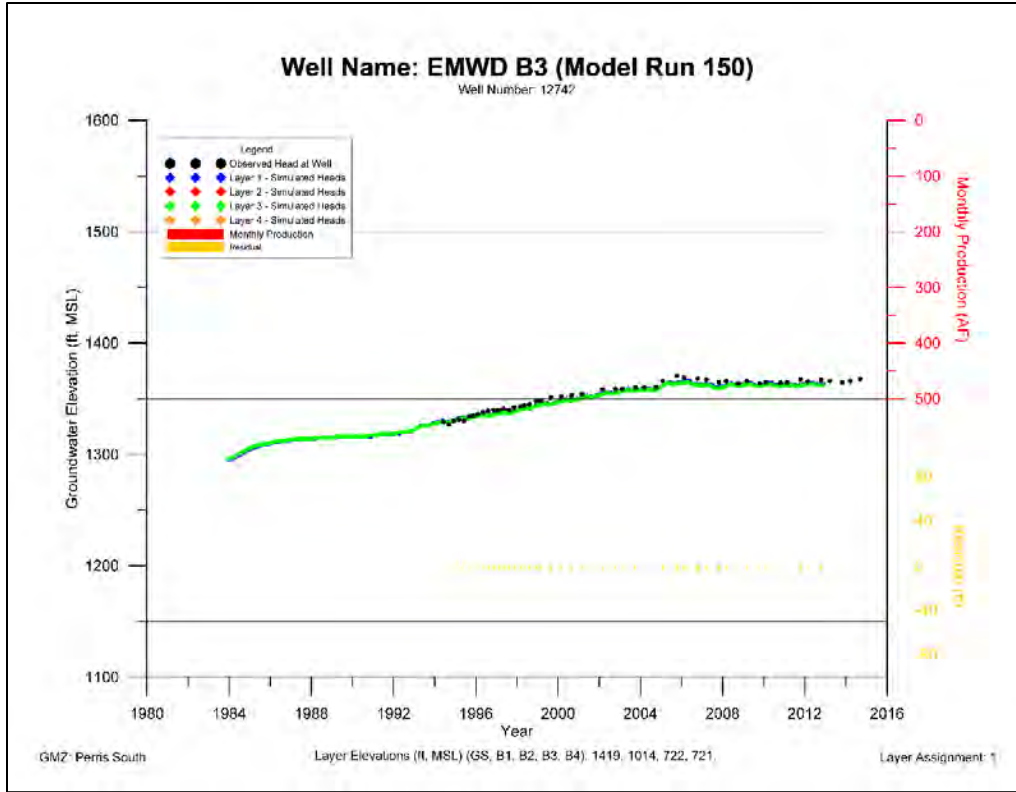


Figure 87: Calibration Hydrograph for well EMWD B3 in Perris South

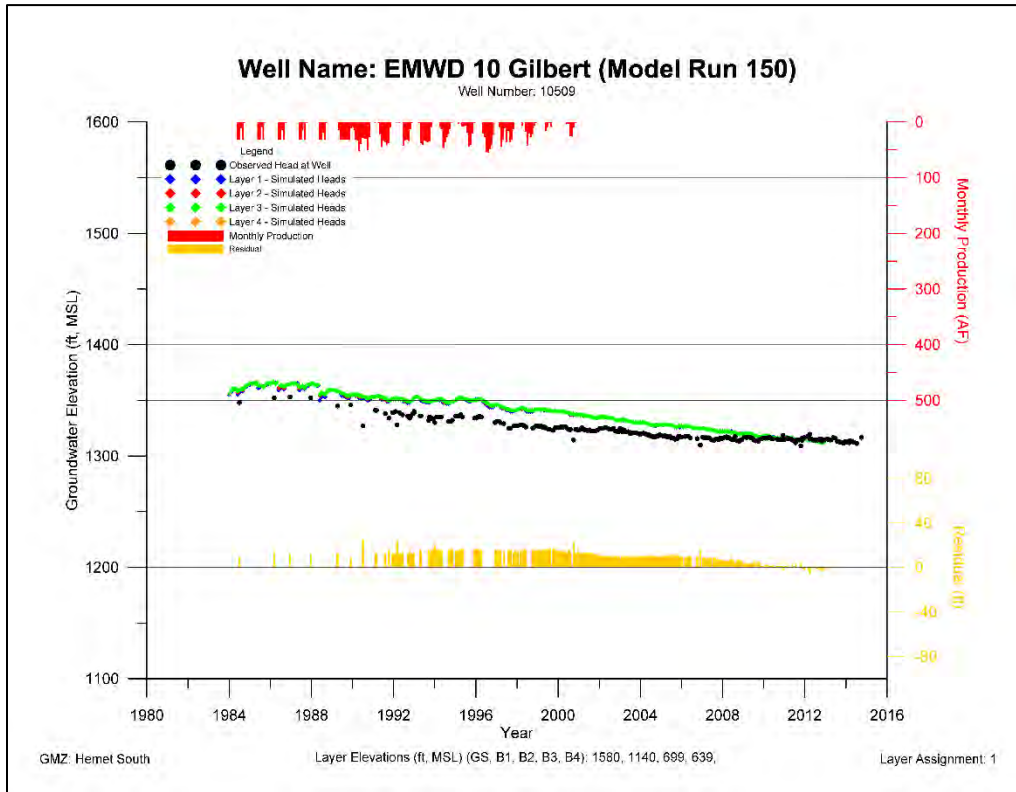


Figure 88: Calibration Hydrograph for well EMWD 10 Gilbert in Hemet South

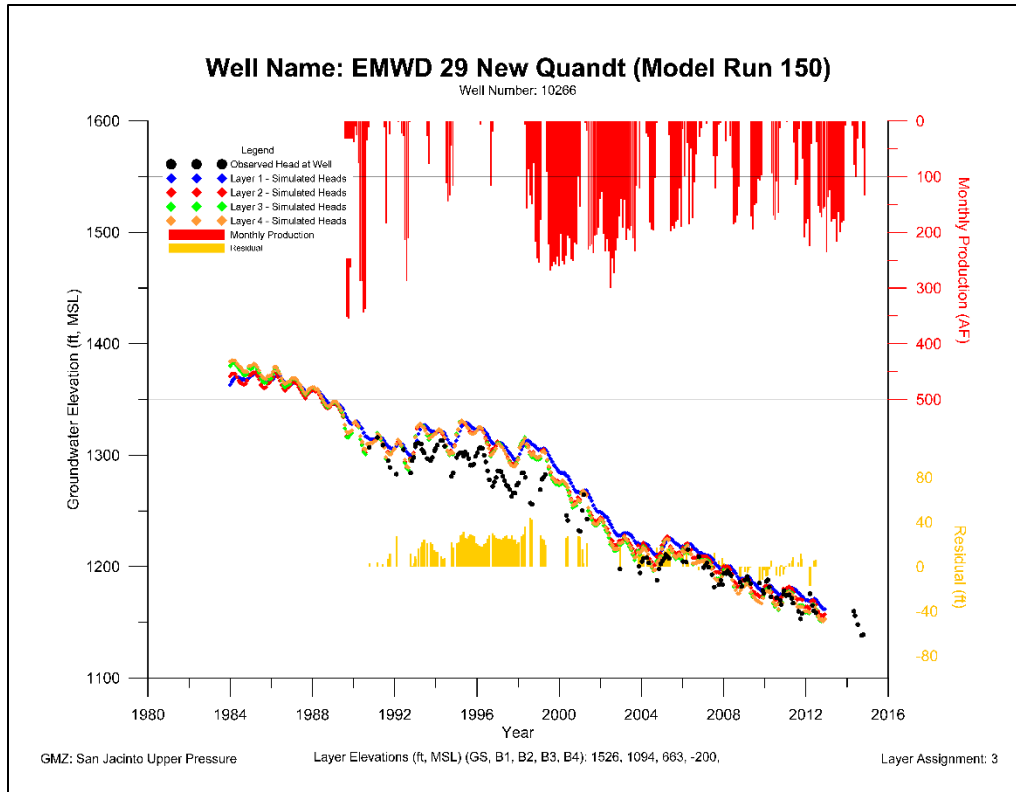


Figure 89: Calibration Hydrograph for EMWD 29 New Quandt in Upper Pressure

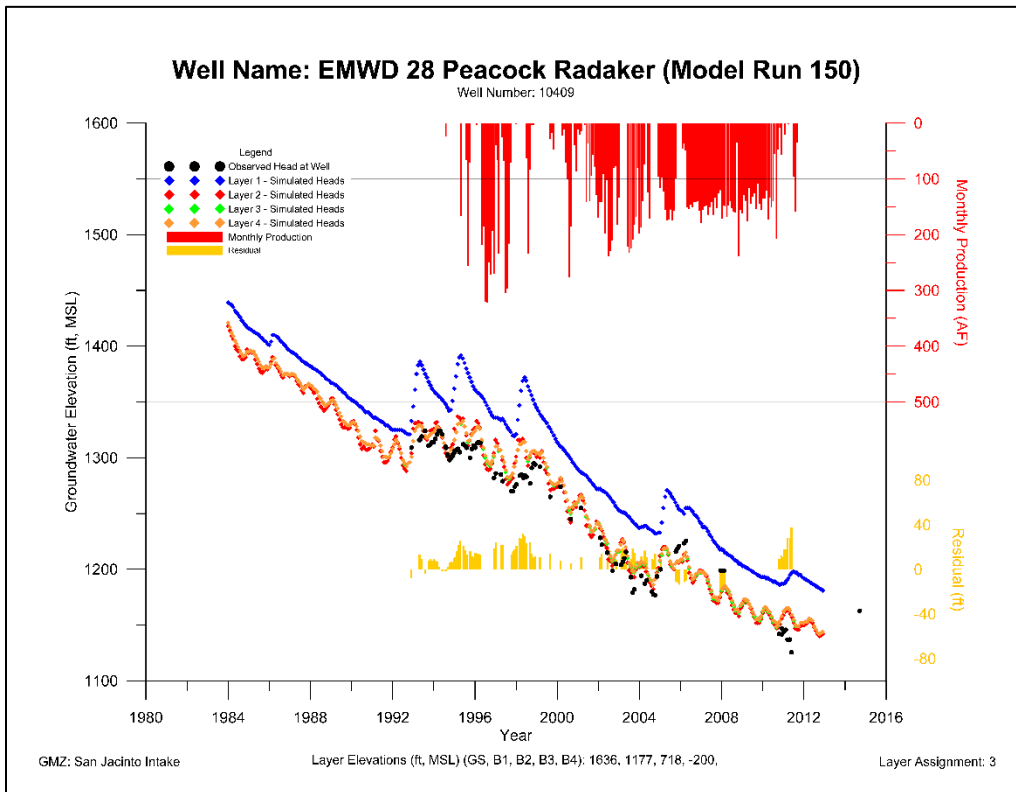


Figure 90: Calibration Hydrograph for EMWD 28 Peacock Radaker in Upper Pressure

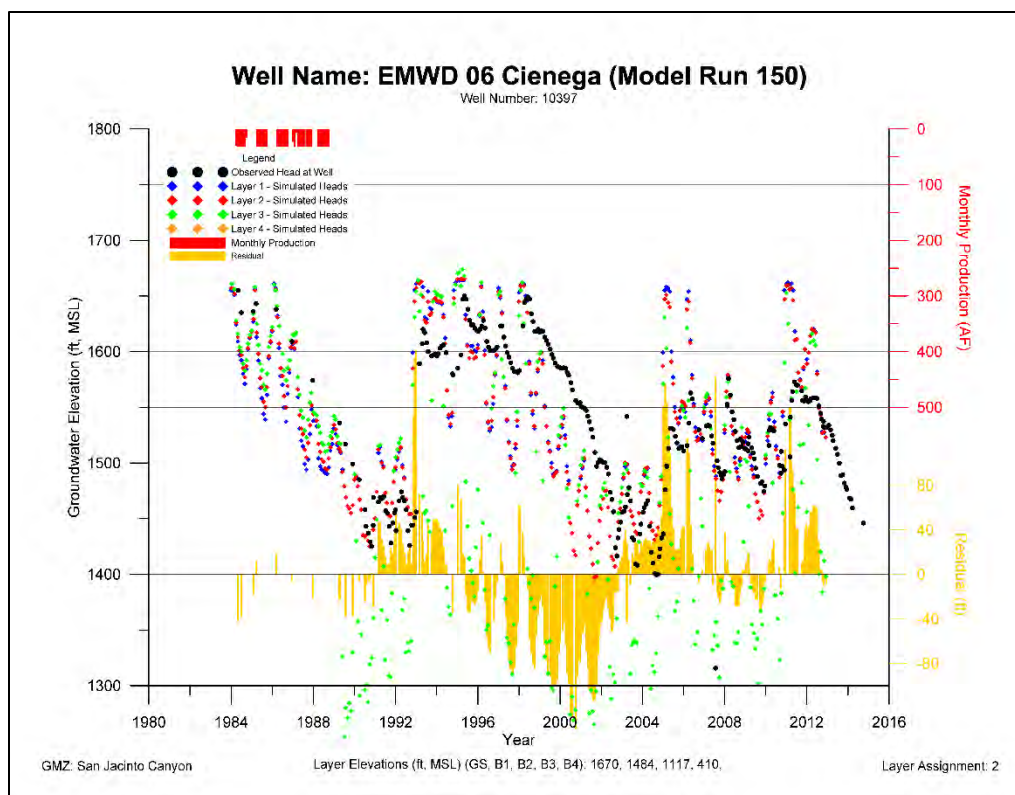


Figure 91: Calibration Hydrograph for EMWD 06 Cienega in Canyon

4.6 Sensitivity Analysis

Sensitivity analyses of the SJFM-2014 parameters were performed to quantify the sensitivity of the calibrated model to specific model parameters and boundary conditions. The sensitivity analyses were performed by running the model with four different values of the selected parameters and comparing results of the run to the base calibration run. Sensitivity analyses were performed across the entire Basin for the following parameters.

- Applied Water (including recharge ponds and reclaimed water facilities)
- Horizontal hydraulic conductivity
- Vertical hydraulic conductivity
- Specific yield
- Specific storage
- Mountain front recharge
- Streambed hydraulic conductivity

4.6.1 Metrics of Sensitivity Analysis

A sensitivity metric is a single number derived from the model results which has a unique value for each model run corresponding to a given set of data or parameter value. Two different metrics were selected to measure the sensitivity of the model. The sensitivity metrics used in the analysis are:

- Average groundwater elevation at calibration wells

- Average root mean square (RMS) error between observed and simulated groundwater elevations

To quantify the sensitivity of each parameter, model runs were performed after multiplying each sensitivity parameter by factors of 0.25, 0.5, 1.5 and 2.

Average groundwater elevations were obtained for all calibration wells in the entire Basin. The change between these elevations indicated the magnitude of sensitivity to a specific parameter. A greater change in average groundwater elevations (positive or negative) meant greater sensitivity.

The average groundwater head at all calibration wells in the basin over the entire simulation period can be mathematically expressed by:

$$\bar{H} = \frac{1}{M} \sum_{k=1}^M H_k$$

And, the average groundwater head at all calibration wells in the basin for a specific stress period is expressed by:

$$H_k = \frac{1}{N} \sum_{i=1}^N \left[\frac{1}{L} \sum_{j=1}^L h_j \right]_i^k$$

Where,

- M total number of stress periods,
- H_k average head in the basin at k-th stress period,
- N number of calibration wells in the basin,
- L number of model layers in aquifer,
- h_j groundwater elevation at layer j, and
- i, j, k indices for well, layer, and time, respectively.

The average RMS error at calibration wells in each basin is defined as the average of individual RMS error at each calibration well. Again, a higher number meant greater sensitivity to that parameter. Parameters with little to no impact on the model resulted in values around one.

The RMS error at a calibration well is defined as follows:

$$RMS_w = \sqrt{\left\{ \frac{1}{N_o} \sum_{k=1}^{N_o} [h_{k,w}^o - h_{k,w}^s]^2 \right\}}$$

Where,

- N_o Number of observations at well k,

$h_{k,w}^o$ Observed groundwater elevation at time step k, at well w,

$h_{k,w}^s$ Simulated groundwater elevation at time step k, at well w.

4.6.2 Results of Sensitivity Analysis

4.6.2.1 Applied Water Recharge

The results of the sensitivity analysis pertaining to applied water recharge is presented in Figure 92. Changes to applied water recharge had the largest effect on the SJFM-2014 of all of the sensitivity parameters. This can be attributed to the fact that it represented one of the largest inflows in the water budget. As expected, decreasing and increasing the applied water recharge decreased and increased the average groundwater levels throughout the Basin, respectively. Upper Pressure was the most sensitive to the changes in applied water recharge, which was expected since it has the largest area of all the GMZs. The greatest change occurred when doubling the amount of applied water input into the system. Figure 92 indicates that if the amount of applied water was doubled, the average groundwater elevation would increase by nearly 75 feet. In Upper Pressure, the average groundwater elevations would increase by over 100 feet.

In general, the RMS errors were greater than those used in the calibration run of the SJFM-2014. This indicated that the calibrated applied water recharge values resulted in the minimum RMS error for the calibration wells. In Lower Pressure and Canyon, the relative root mean squared error values lower than one implied that if lower applied water recharge were to be inputted into the model, it would result in a slightly lower error for those GMZs.

4.6.2.2 Horizontal Hydraulic Conductivity

The sensitivity of the SJFM-2014 to changes in horizontal hydraulic conductivity is presented in Figure 93. Use of K_h values lower than the calibrated model results in higher simulated groundwater levels in three GMZs, while the remaining GMZs experience reduced groundwater levels. Lower K_h values caused water levels to rise in areas where water initially was flowing out of the area, but became backed up due to the lower conductivity. In areas where the low K_h values caused lower water levels, the low conductivities from upstream areas did not allow water to flow freely where they had initially, decreasing groundwater flow and water levels alike.

Lower Pressure, Lakeview and Upper Pressure GMZs are most impacted by the changes of horizontal hydraulic conductivity.

4.6.2.3 Vertical Hydraulic Conductivity

The SJFM-2014 shows very little sensitivity to changes in vertical hydraulic conductivity, as shown by the minor deviations in Figure 94. This implies that changes to vertical hydraulic conductivity needed to be unrealistically large in order to have an impact on the simulated water levels. This is a result of the general vertical homogeneity found within the Basin, allowing groundwater to travel easily between layers.

4.6.2.4 *Specific Storage*

Similar to vertical hydraulic conductivity, changes in specific storage had very little impact on the SJFM-2014 (Figure 95). Upper Pressure exhibited some sensitivity to changes in the specific storage, but the sensitivity is low relative to other aquifer parameters.

4.6.2.5 *Specific Yield*

Specific yield was one of the more sensitive parameters in the SJFM-2014 (Figure 96). Specific yield represents the amount of groundwater the aquifer would release when water levels drop. Much like horizontal hydraulic conductivity, the effect on average groundwater elevations due to change in specific yield varied by GMZ (Figure 96). Some GMZs, such as Perris North and Perris South exhibited a negative slope, indicating that groundwater levels decreased as the specific yield increased. Other GMZs like Canyon and Upper Pressure followed a positive slope. Perris North and Perris South were most sensitive to changes in specific yield.

4.6.2.6 *Mountain Front Recharge*

Only a few GMZs, particularly Lower and Upper Pressure, were highly sensitive to changes in mountain front recharge (Figure 97). This is in part due to the fact that the highest inflows from mountain front recharge were found along the boundaries of Lower Pressure and Upper Pressure.

4.6.2.7 *Streambed Hydraulic Conductivity*

The sensitivity of the SJFM-2014 to changes in streambed hydraulic conductivity is presented in Figure 98. Very few GMZs received significant recharge from streamflow outside of Canyon and Upper Pressure. Upper Pressure showed more sensitivity to changes in streambed hydraulic conductivity. Lower streambed hydraulic conductivities resulted in less stream recharge and lower groundwater levels. In contrast

4.6.2.8 *Impact Areas*

The sensitivity of the SJFM-2014 to changes in parameters varied by GMZ. In general, the model was most sensitive to changes in applied water recharge, horizontal hydraulic conductivity and specific yield. The SJFM-2014 was least sensitive to vertical hydraulic conductivity, specific storage, and riverbed hydraulic conductivity changes. When the SJFM-2014 was sensitive to a specific parameter, typically Upper Pressure and Lower Pressure were the most impacted GMZs.

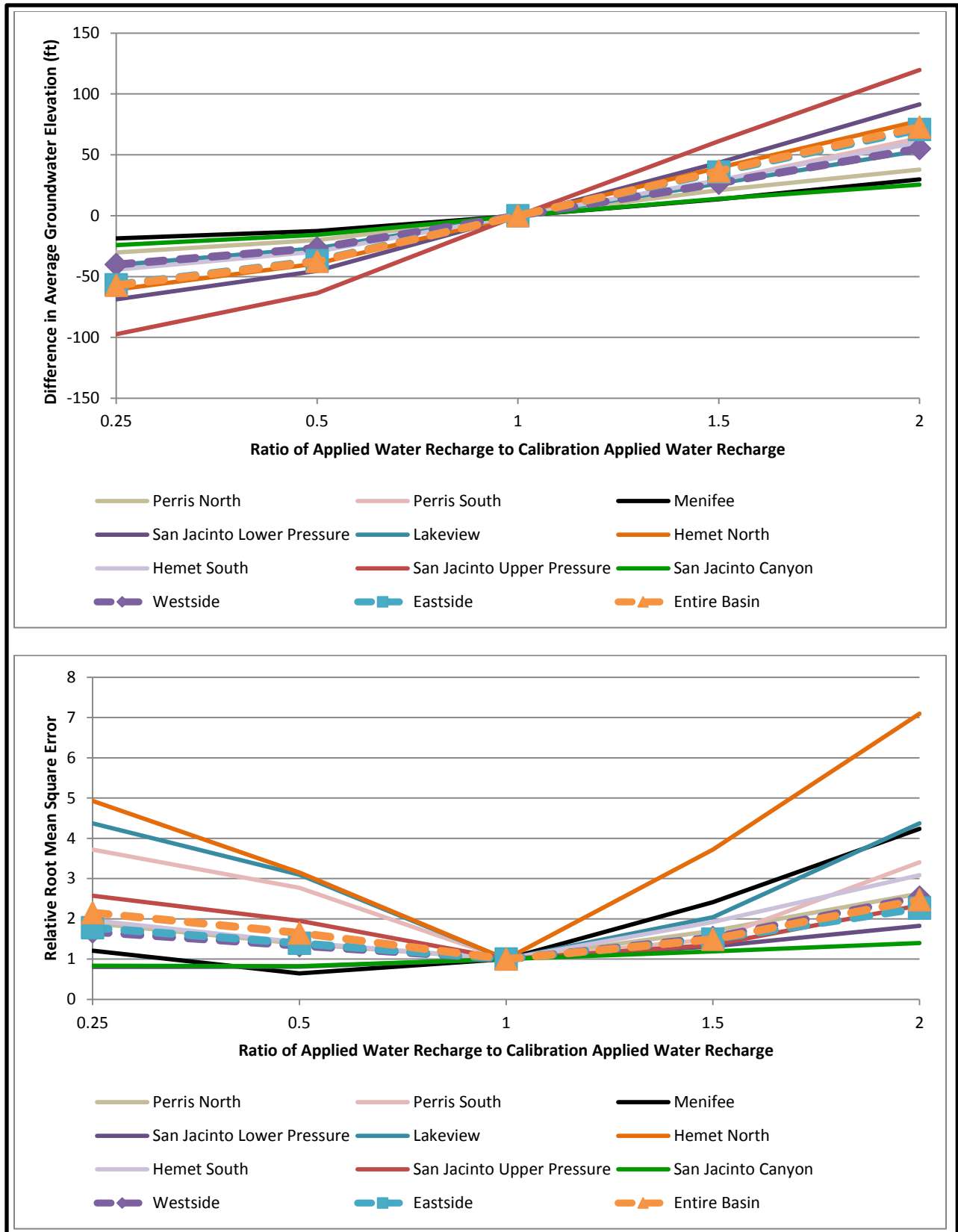


Figure 92: Sensitivity to Applied Water

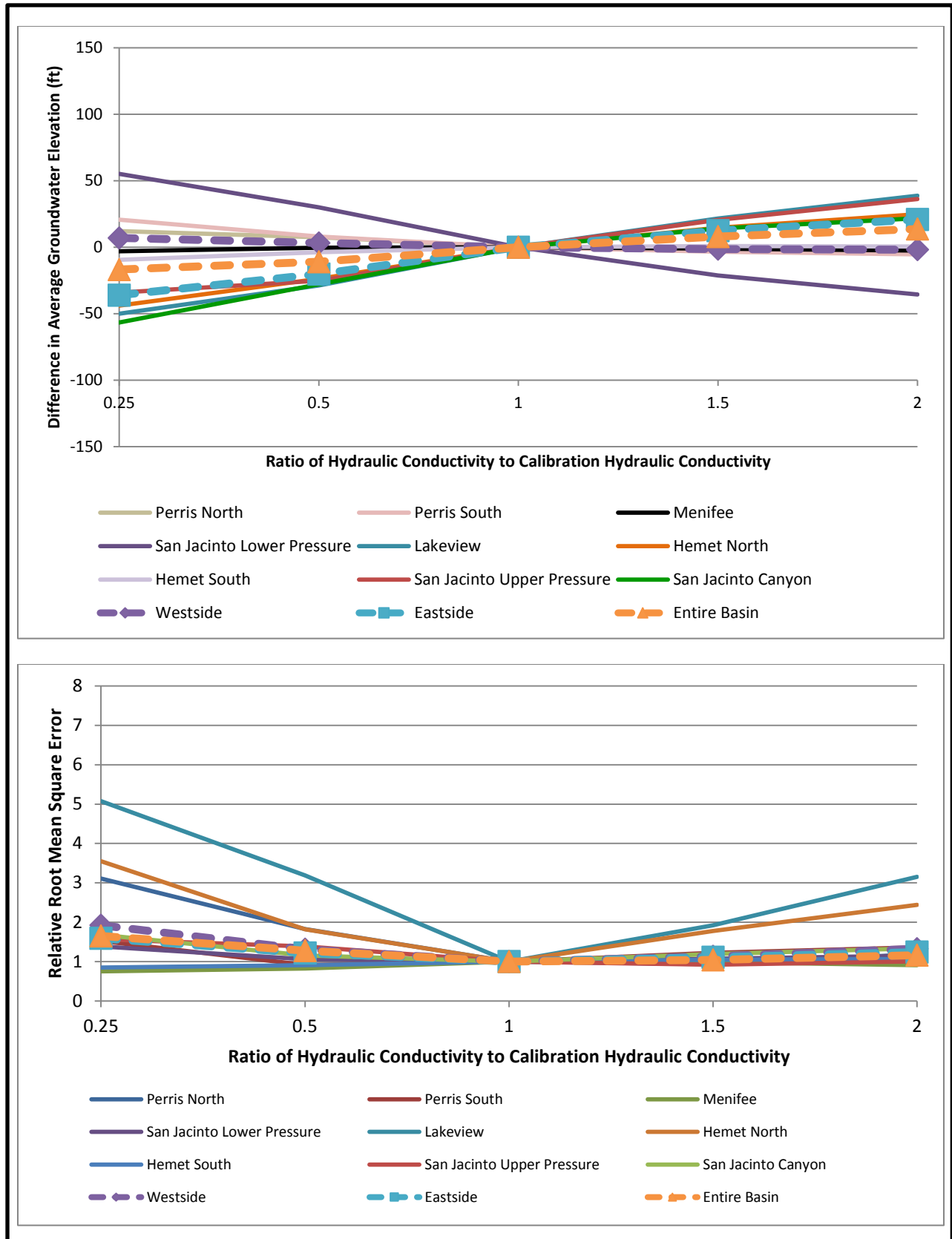


Figure 93: Sensitivity to Horizontal Hydraulic Conductivity

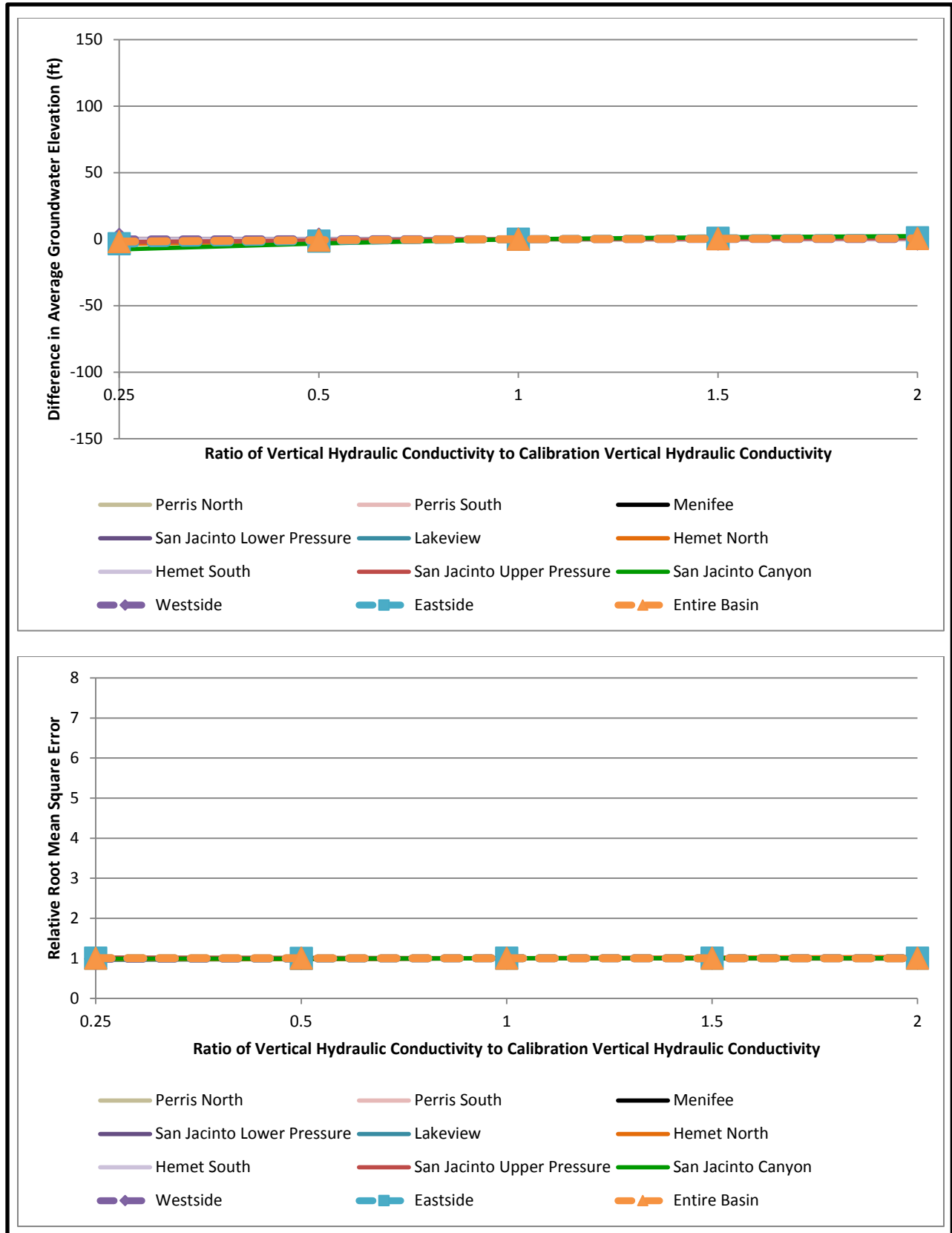


Figure 94: Sensitivity to Vertical Hydraulic Conductivity

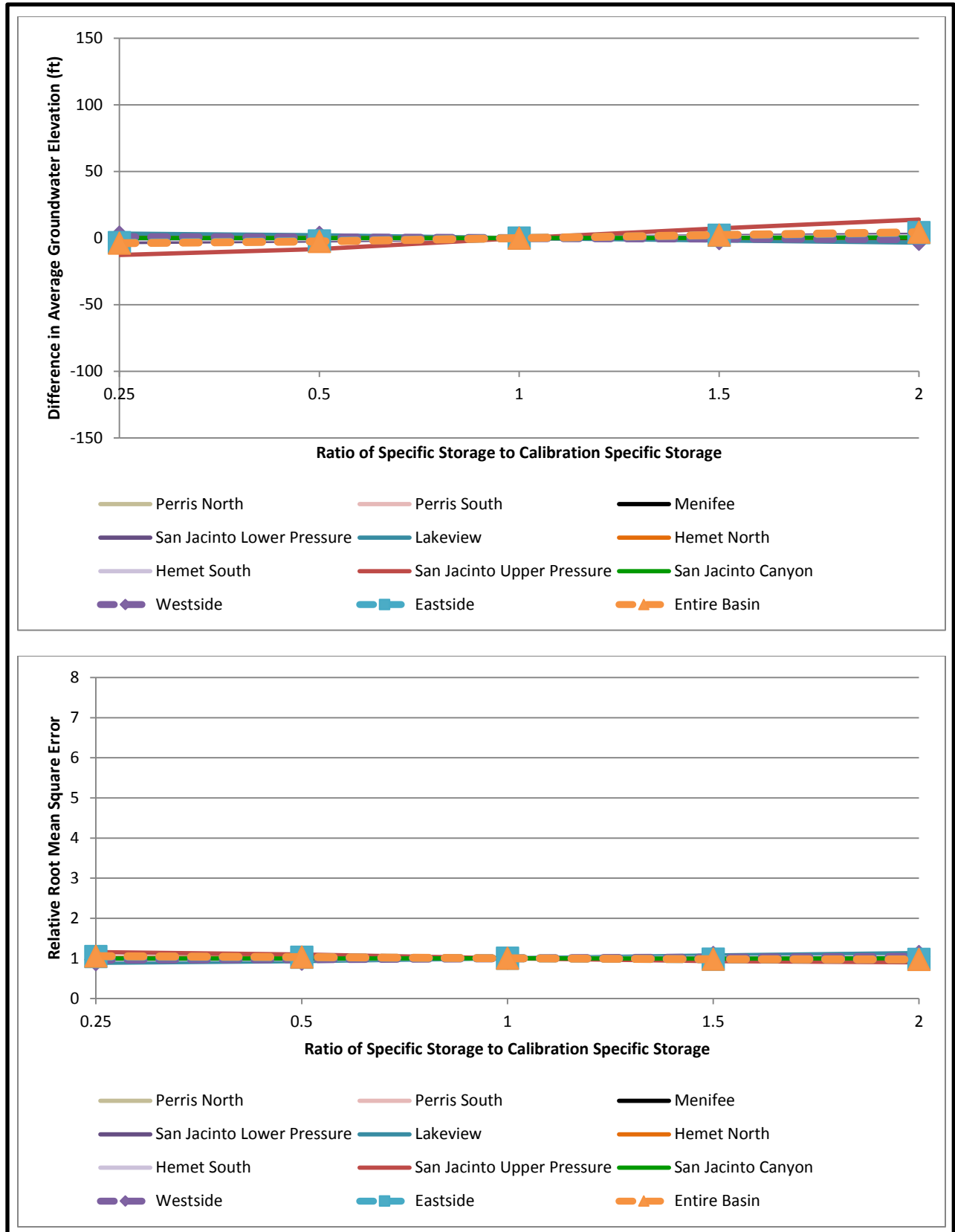


Figure 95: Sensitivity to Specific Storage

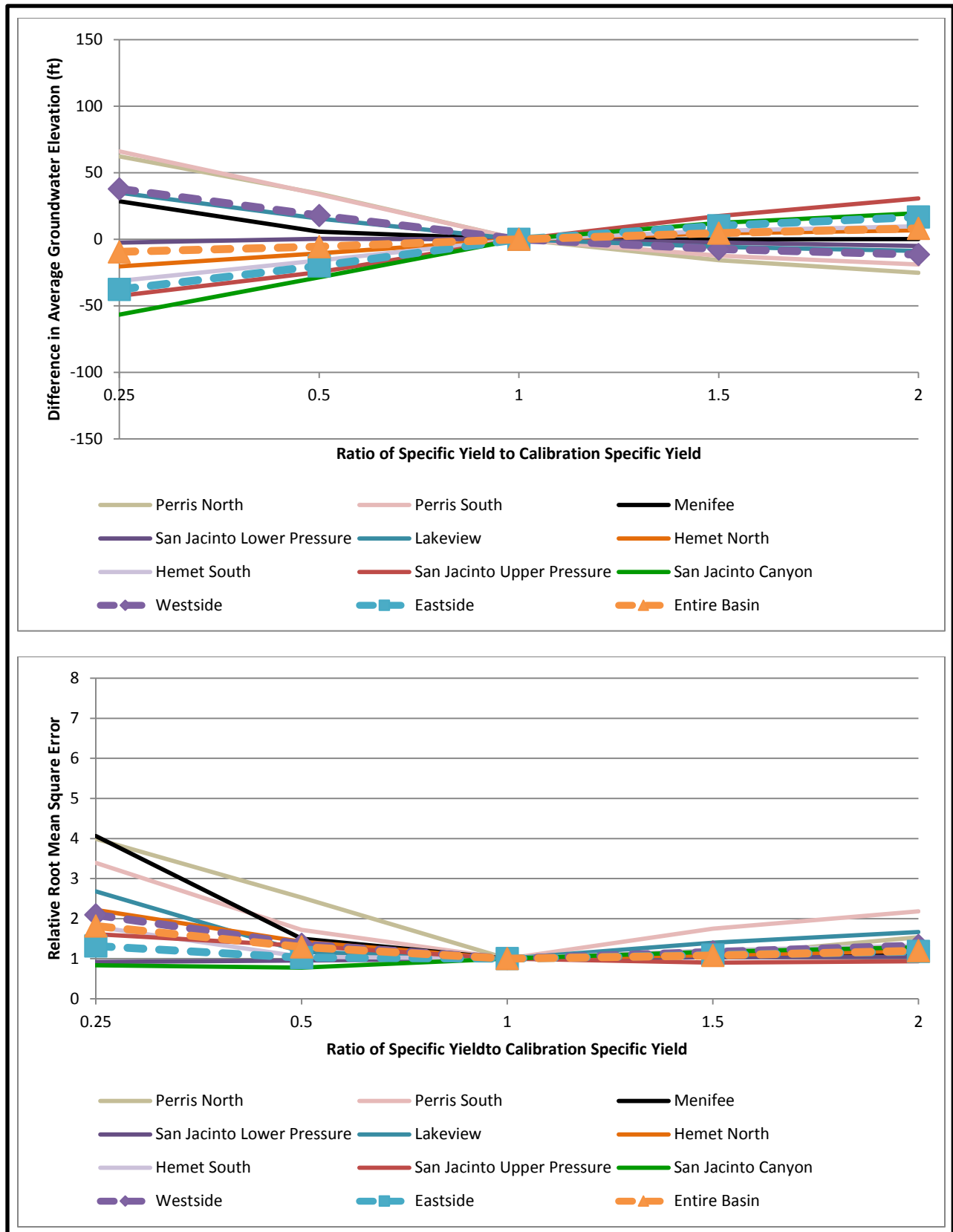


Figure 96: Sensitivity to Specific Yield

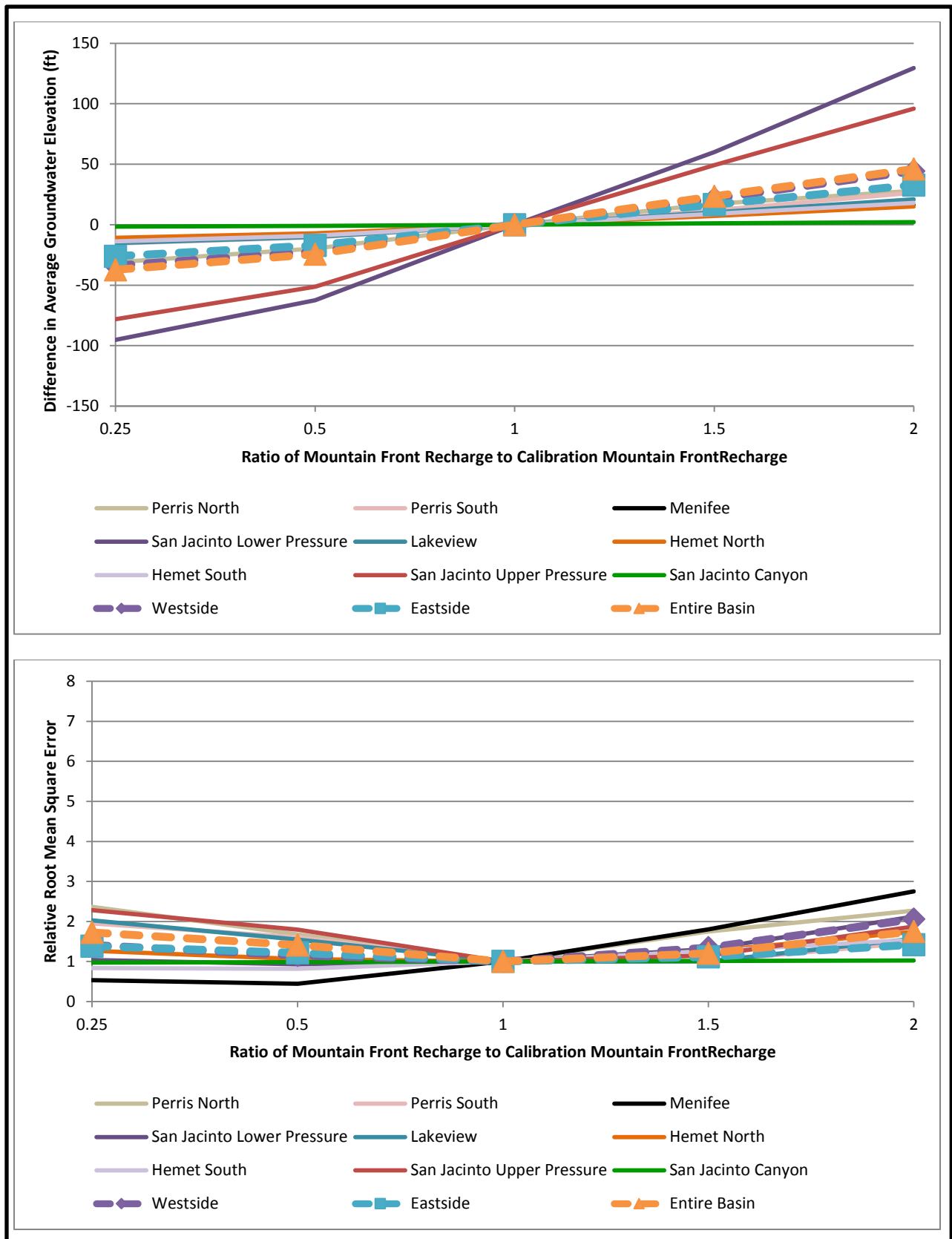


Figure 97: Sensitivity to Mountain Front Recharge

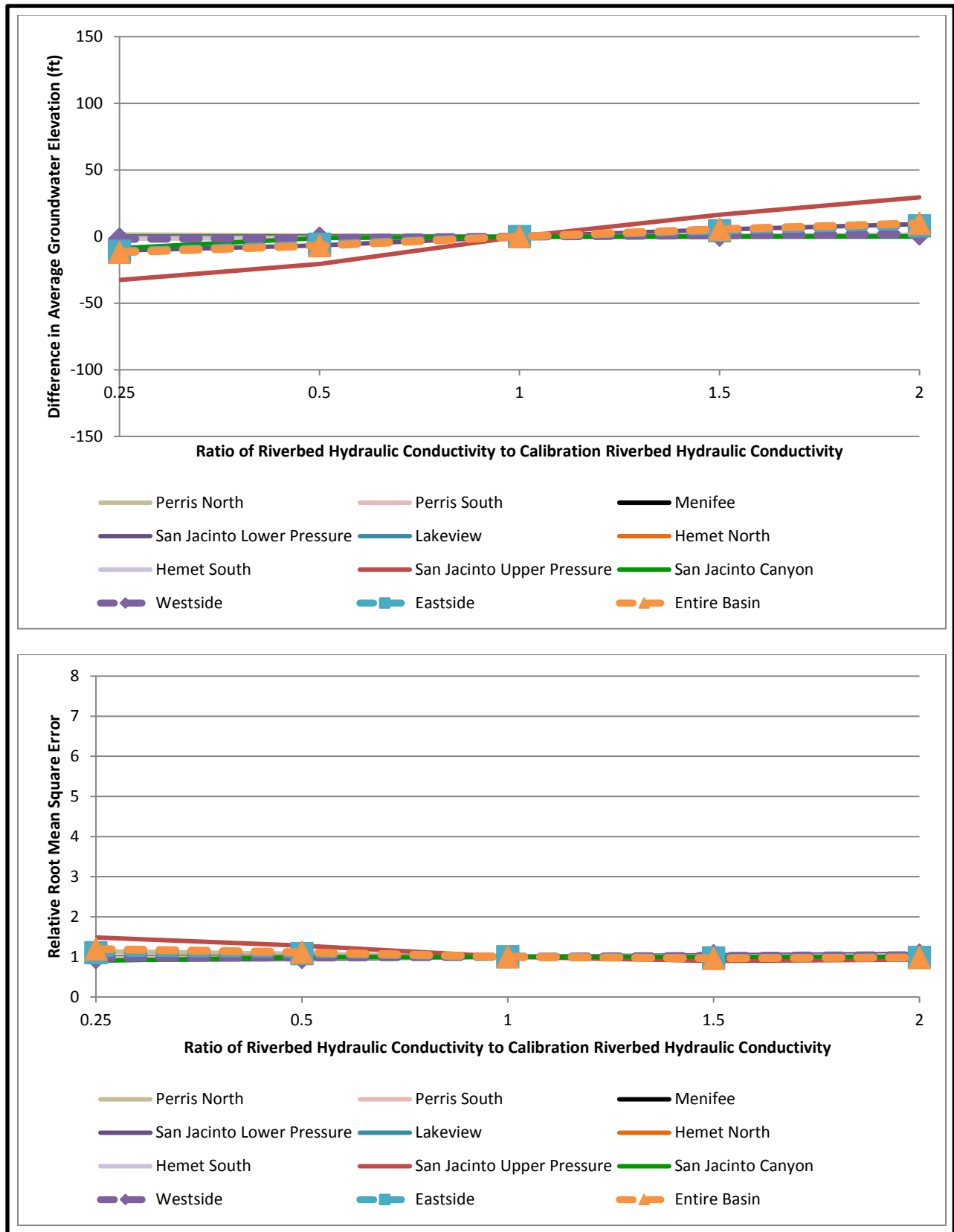


Figure 98: Sensitivity to Riverbed Hydraulic Conductivity

Section 5 Groundwater Model Predictive (Future) Scenario Application

The calibrated SJFM-2014 Model was used for simulating the future conditions under various assumptions and conditions and as a comparative tool to determine the effects of various projects and alternatives. Five different scenarios were evaluated:

- Baseline Scenario
- Scenario A: Optimize West San Jacinto Production
- Scenario B: Drought without Water Banking
- Scenario C: Drought with Constant Recharge from Water Banking
- Scenario D: Build Out with Water Banking and 10-Year Hydrologic Cycles

5.1 Baseline Scenario Development and Assumptions

The Baseline Scenario propagated current conditions into the future to use as a comparison with the SJFM-2014 as well as a basis for Scenario A through Scenario C. The scenario had a simulation period of 29 years (2013-2041), similar to the calibration period of the SJFM-2014. For the Baseline Scenario, aquifer parameters such as hydraulic conductivity, specific yield and specific storage did not change from the calibration model to the Baseline Scenario.

Using future growth and water use projections provided by EMWD, modifications were made to model components for simulation of future conditions. The model components were grouped into three categories: General, Applied Water and Production, as shown in Table 26.

Table 26: Baseline Model Components

General	Applied Water	Production
Hydrologic Period	Rainfall	Groundwater Production
Streamflows	Rain Aerial Recharge	H/San Jacinto Production
Initial Conditions	Retail Sales	West San Jacinto Production
Boundary Conditions	Reclaimed Water Sales	Private Producers
Mountain Front Recharge	Reclaimed Water Facilities	New Wells
Land Use	Irrigation Applied Water	
	Artificial Recharge	

5.1.1 Model Components

The following section discusses the changes made to the model components from the SJFM-2014 Model to achieve the Baseline Model conditions.

5.1.1.1 General Components

Hydrologic Period

The hydrologic period of the Baseline Scenario was 29 years spanning from 2013-2041. Each future simulation year had a matching historical hydrology. Years 2013-2015 experiencing a drought were

simulated with historical dry year data from 1999. The Baseline Scenario years and the matching historical hydrology can be found in Table 27.

Table 27: Baseline Hydrologic Period and Matching Historical Hydrology

Baseline Simulation Year	1	2	3	4	5	6	7	8	9	10
Model Calendar Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Matching Hydrology Year	1999	1999	1999	2000	2001	2002	2003	2004	2005	2006
Observed Rainfall (in/yr)	6.8	6.8	6.8	8.4	9.0	5.5	12.9	14.1	17.4	9.0
Baseline Simulation Year	11	12	13	14	15	16	17	18	19	20
Model Calendar Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Matching Hydrology Year	2007	2008	2009	2010	2011	2012	1984	1985	1986	1987
Observed Rainfall (in/yr)	6.6	11.4	7.4	19.5	9.6	7.5	8.7	9.6	12.7	13.1
Baseline Simulation Year	21	22	23	24	25	26	27	28	29	
Model Calendar Year	2033	2034	2035	2036	2037	2038	2039	2040	2041	
Matching Hydrology Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	
Observed Rainfall (in/yr)	8.6	5.1	9.2	16.2	20.6	25.6	10.6	20.6	12.8	

Streamflows

Streamflows were based on historical records and were applied to the Baseline Scenario using the matching hydrology years and corresponding streamflows. The selected streamflows were applied to the SFR package of MODFLOW in GMS.

Initial Conditions

The groundwater heads at the end of the December 2012 time step from the SJFM-2014 were used to build the initial water level conditions for the Baseline Scenario. This ensured consistent conditions and a smooth transition and between the two models.

Boundary Conditions

Boundary conditions, including seepage from Perris Lake and Diamond Valley Lake, were based on the historical estimates used for the SJFM-2014. These were applied to the model following the Baseline hydrologic period.

Mountain Front Recharge

Mountain front recharge was estimated in the SJFM-2014 as a function of monthly rainfall. As a result, the historic mountain front recharge was re-sorted and applied using the matching hydrologic period and the corresponding mountain front recharge rates.

Land Use

EMWD provided projected land use changes, including expected new service areas for EMWD. The changes were based on the Database of Proposed Projects (DOPP). The DOPP data provided projected equivalent dwelling units (EDU) associated with the years: 2016, 2018, 2022, 2025, 2030, 2035, 2040,

2045, and the ultimate buildout EDUs. The ultimate buildout EDU represented the total projected development for the given service area. For the Baseline Scenario, only a subset of these years were used to represent the model land use at a given time. This information is presented in Table 28.

Table 28: Baseline Land Use Periods

Simulation Period	Land Use Year
2013-2014	2010
2015-2019	2016
2020-2024	2020
2025-2029	2025
2030-2034	2030
2035-2039	2035
2040-2041	2040

The EDUs were used in determining the transition from one land use type to another and establish the corresponding pervious factor associated with the land use for each year. For years where EDUs had not yet reached the ultimate EDU buildout value, a transition percentage was assigned to the land use for that year. Subsequently, a corresponding transition pervious factor was also assigned for that year. It should be noted that if the projected land use changes from the 2010 land use but there were no EDU values in the DOPP between 2010 and 2041, the land use for the grid cell remained the same as the 2010 value. The ultimate land use (2040 conditions) for the Baseline Scenario is shown in Figure 99.

The transition pervious factor was calculated by multiplying the change in 2010 to the projected pervious factors by the transition percentage. The resultant was subtracted from the 2010 pervious factor to get the transition pervious factor for that year. For example, if a given year had projected only 40 EDUs of 100 ultimate EDUs, a transition percentage would be 40%. If the land use was transitioning from vacant (pervious factor of 0.98) to residential (pervious factor of 0.45), the transition pervious factor would be calculated as follows: $0.98 - (0.98 - 0.45) * 40\% = 0.768$. The transition pervious factor for that given year would be 0.768. As the transition percentage changed, the corresponding pervious factor changed as well.

In some instances, the DOPP areas designated for residential and commercial land uses overlapped. In these cases, it was assumed the area was split equally between residential and commercial use and an average pervious factor was applied. Table 29 shows the land use pervious factors for the Baseline Scenario. These do not include any transition pervious factors.

Table 29: Baseline Scenario Land Use Pervious Factors

Land Use Type	Pervious Factor
Agriculture	0.96
Commercial	0.30
Residential	0.45
Residential/Commercial	0.375
Vacant	0.98

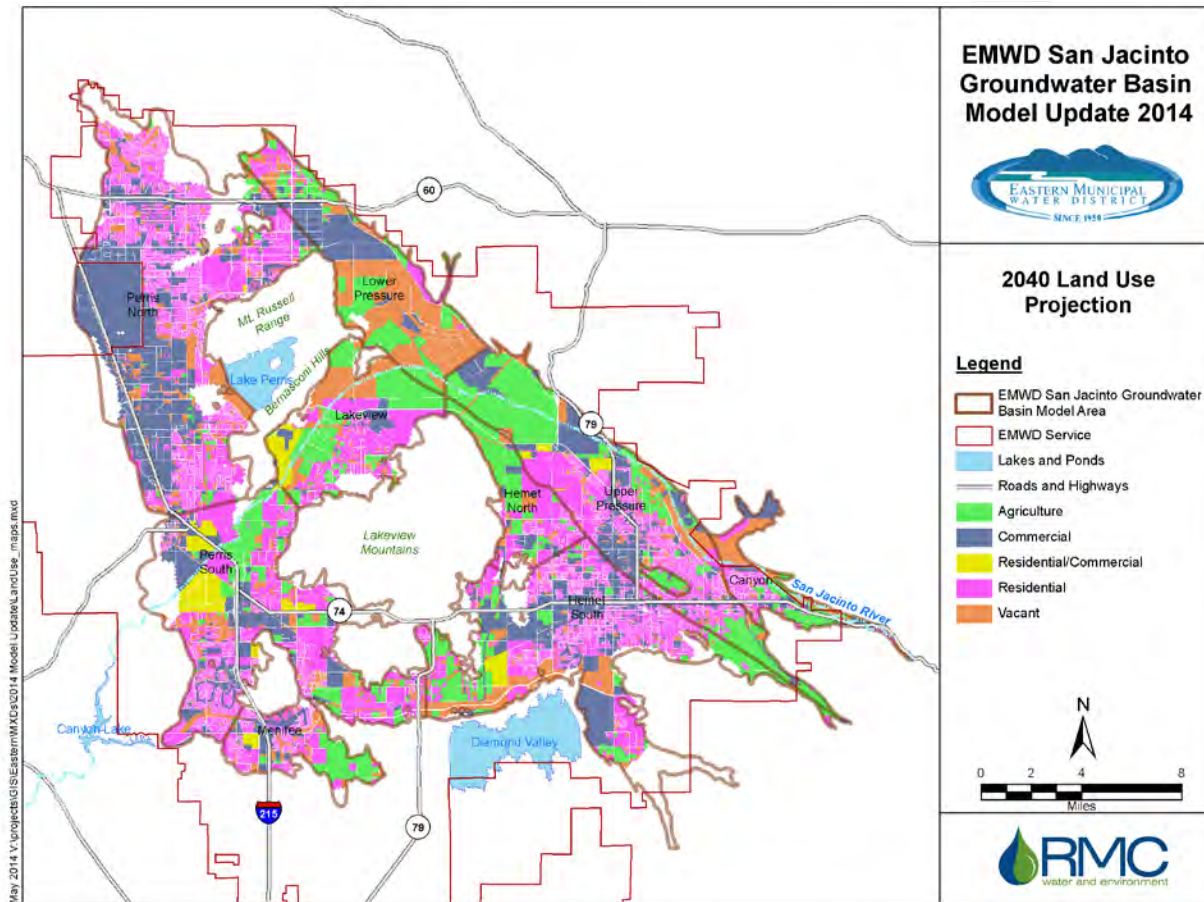


Figure 99: Baseline Ultimate Buildout Land Use

5.1.1.2 Applied Water Components

Rainfall

Rainfall data was based on historical records and were applied to the model to correspond with the Baseline hydrologic period (Table 27).

Rainfall Aerial Recharge

Aerial recharge from rainfall in the model was based on the estimated percolation parameters calculated from land use and soil type.

Retail Sales

EMWD and Subagency projected water sales were provided by EMWD. The EMWD sales projections originated from the EMWD Master Plan and were divided by Master Plan Economic Survey Area, shown in Figure 100. The Master Plan had three different projection levels: high, medium and low. The medium projection level were used for the EMWD water sales estimates. It was assumed that there would be a 10 percent conveyance loss to EMWD and Subagency customers and only 50 percent of these sales would be applied for outdoor use. As a result, 45 percent of the EMWD and Subagency projected water sales are available for recharge.

Neither the EMWD nor the Subagency projections were presented by specific customer areas or GIS shapefiles. In order to distribute the projected water sales to the individual customer shapefiles, it was assumed that the sales distribution was similar to that of the average sales distribution from 2011-2012. In the event that the Subagencies pump greater than their projected water demands, this water was assumed to be sold back to EMWD and added to the total EMWD sales.

For 2013-2014, historical data is used for EMWD Sales, but similar information was not available for Subagency sales. The projected 2015 sales data was used for the 2013-2014 for Subagency sales data. The Nuevo Water Company projections included the 2014 pumping data from the NWC Archibek well in addition to the projected sales.

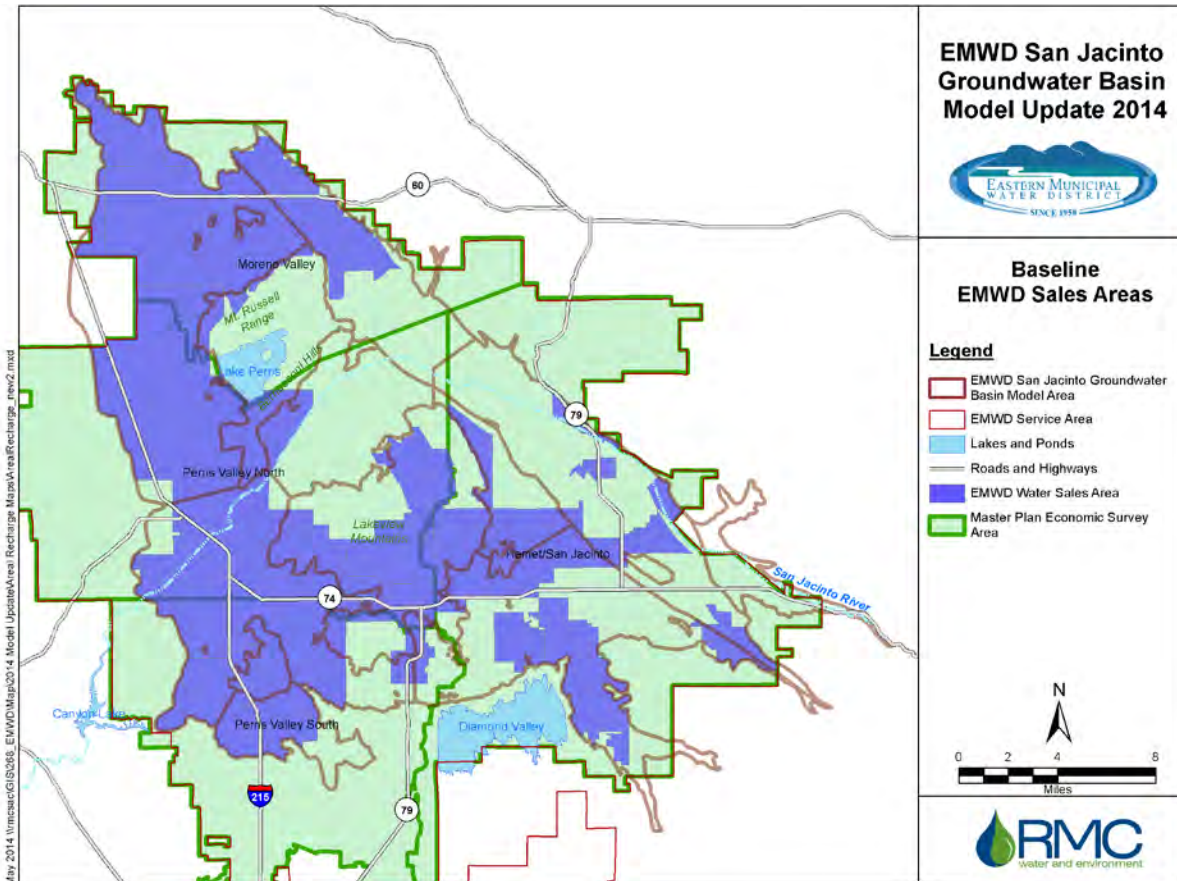


Figure 100: Baseline EMWD Sales Area and Master Plan Economic Survey Area

Reclaimed Water Sales

Reclaimed water sales were provided to the same locations as those in year 2012 in the SJFM-2014 with the addition of the Duck Ponds, which did not receive sales during 2012, but were expected to in the future. Reclaimed water sales were based on projections provided by EMWD from the Master Plan and were divided by Master Plan Sewer Service areas, as shown in Figure 101. The Master Plan had three different projection levels: high, medium and low. The medium projection level was used for the reclaimed water sales estimates. Projected data for the Sun City and Perris sewer service areas were

presented as a combined total. These projections were distributed to each sewer area relative to the area of each service polygon.

Similar to EMWD water sales, the reclaimed water sales projections were presented by sewer service area rather than specific customer areas or GIS shapefiles. To distribute the projected reclaimed water sales to the individual customer shapefiles, it was assumed that the sales distribution was similar to that of the average sales distribution from 2011-2012. Since the Duck Ponds received no sales during 2011-2012, average distribution to the Duck Ponds was based on 2009-2010 data.

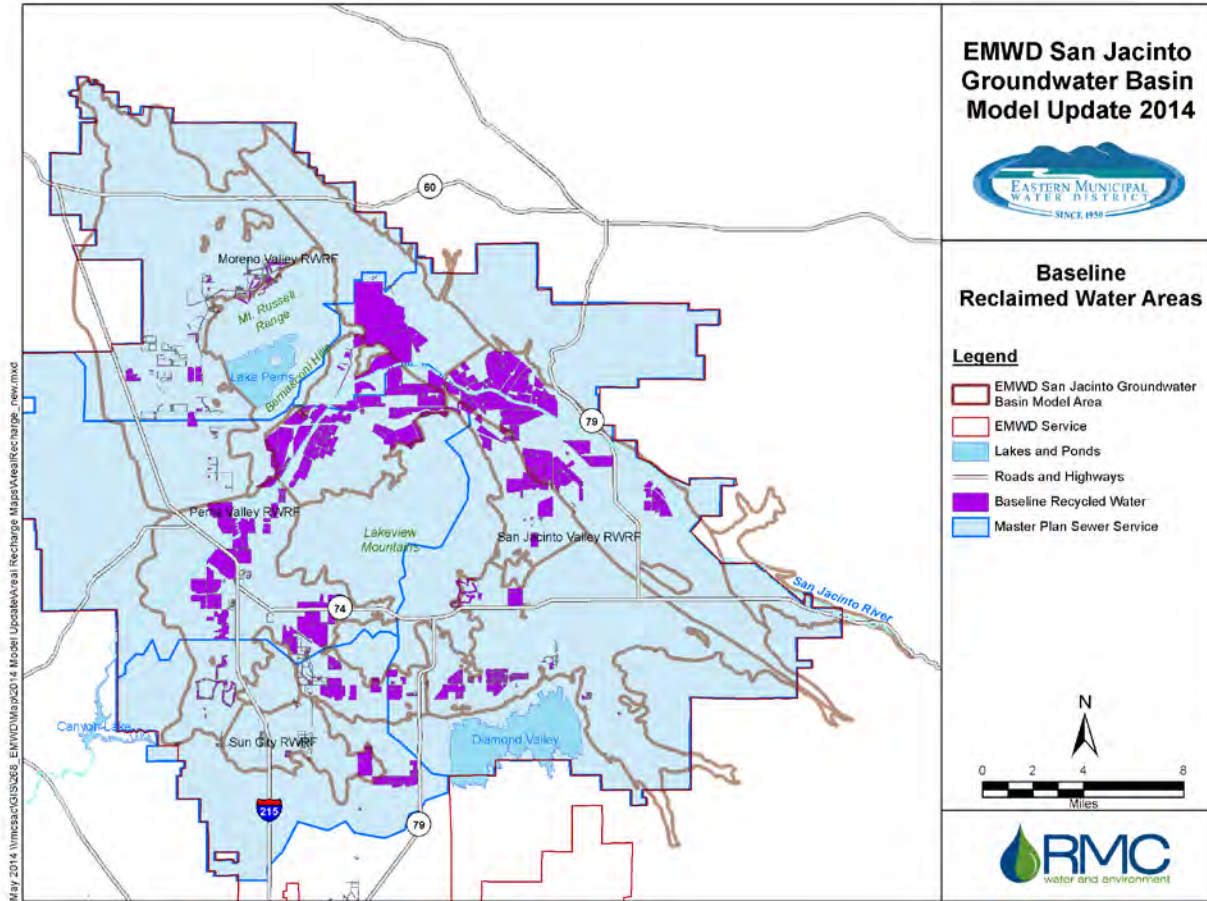


Figure 101: Baseline Reclaimed Water and Master Plan Sewer Service Areas

Irrigation Applied Water

It was assumed that private pumping and irrigation applied water remained constant at historical 2013 levels, as this represented the most complete and recent dataset. These rates were applied every year for the entire Baseline Scenario simulation period.

Reclaimed Water Facilities

The Baseline Scenario used all reclaimed water facilities active in 2012 in the SJFM-2014. The 2012 incidental recharge rates were applied to these facilities through all simulation years. The only future reclaimed water facilities planned to be built are the Trumble Ponds 2 and 3. In 2018 and 2020, the

Trumble 2 and Trumble 3 Ponds became active, respectively. These ponds had similar incidental recharge rates as the Trumble 1 Pond.

In 2017, the Case Road pond was deepened, causing the expected percolation rate to be increased by 50 percent.

Artificial Recharge

Similar to reclaimed water facilities, the Baseline Scenario used all point recharge facilities that were active in 2012 in the SJFM-2014. These facilities used the same operating schedule as used in the SJFM-2014. The Integrated Recharge and Recovery Program (IRRP) ponds replaced the Conjunctive Use Ponds that were active in the SJFM-2014. The IRRP ponds were active from March to September. Soboba Pit and the Grant Avenue Ponds received historic recharge rates based on the hydrologic period.

The Soboba Settlement Agreement required delivery of 7,500 AFY by Metropolitan Water District (MWD) that was recharged at the IRRP ponds. The IRRP ponds received settlement water starting in 2016. Historical recharge data was used for 2013-2014, while it was assumed that no recharge was applied in 2015 due to the drought. The IRRP ponds were online six months out of the year.

5.1.1.3 Groundwater Production Components

Municipal Groundwater Production

Groundwater production was based on current and under-construction facilities. EMWD provided annual Adjusted Base Production Right (ABPR) rates for the municipal production wells. To distribute the annual projections to monthly production rates, historical trends for each well were applied to the annual projections. Several new wells and replacement wells were added in the Baseline Scenario. Most of the wells became active after 2018. Since these wells did not have historical pumping trends, trends of nearby wells were used, as shown in Table 30. Locations of these wells are provided in Figure 102. Replacement wells used the trends of the wells being replaced.

Table 30: New Wells in Baseline Model and Corresponding Monthly Trends

New Well	Existing Well Monthly Trend
EMWD 37 River	EMWD 14
EMWD 38 Mountain/Meridian Channel	EMWD 28
EMWD 64 Hemlock/Davis EMWD 65 Ironwood Heacock EMWD 66 Ironwood/Davis	EMWD 44
EMWD 93, 94, 95, 96	EMWD 87
LHMWD 16	LHMWD 14
North Perris GW Development Well	EMWD 56
EMWD 80 Seventh	EMWD 80R
LHMWD E	LHMWD E2

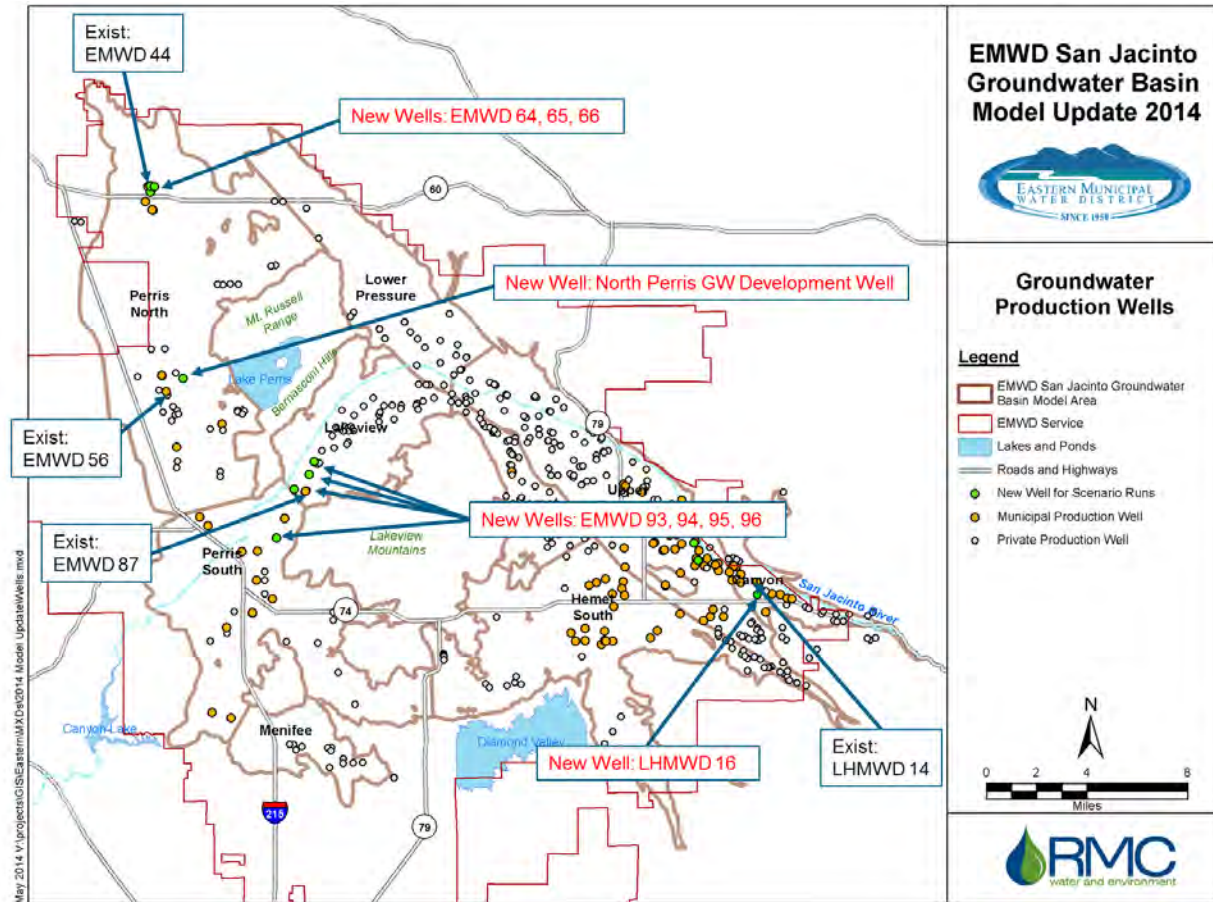


Figure 102: New Production Wells for Scenario Runs and Existing Wells used for Monthly Trends

The Soboba projected production was based on Exhibit I of the Settlement Agreement. This is discussed in further detail in the following section.

Hemet-San Jacinto (HSJ) Management Area Production

Production in the HSJ Management Area was based on their ABPR, as provided by EMWD and discussed in the Municipal Groundwater Production section above. It was assumed that EMWD will deplete its banked water supply by 2019 and will begin pumping at its ABPR starting in 2020.

The Soboba production was based on Exhibit I of the Settlement Agreement, but these rates were not implemented until 2016. Historical pumping rates provided by EMWD were used for 2013-2014 and an estimated rate of 1,500 AF was used for 2015. The annual Soboba pumping rates are presented in Table 31. Since these rates were provided as a lump sum, the production was distributed amongst wells based on the average percent of total pumping during 2012-2014.

Table 31: Soboba Well Baseline Production Rates

Year	Maximum Soboba Pumping Rate
2013-2014	Historical
2015	1,500 AF
2016-2017	2,900 AF (per Exhibit I)
2018-2022	3,215 AF (per Exhibit I)
2023-2027	3,520 AF (per Exhibit I)
2028-2032	3,825 AF (per Exhibit I)
2033-2037	4,010 AF (per Exhibit I)
2038-2041	4,020 AF (per Exhibit I)

West San Jacinto (WSJ) Management Area Production

Projected municipal production in the WSJ Management Area was provided by EMWD. Several new wells were added to the Baseline Scenario in the WSJ Management Area, specifically in Moreno Valley, Perris North and brackish groundwater well expansion in Perris South and Lakeview. Near Lake Perris, EMWD and the City of Perris increased production rates to approximately 3,200 AFY. The City of Perris wells produced 2,000 AFY on average, distributed amongst the four wells based on average 2013-2014 production rates. For Nuevo Water Company, only one well was active in the Baseline Scenario, pumping approximately 900 AFY each year in the Baseline Scenario.

Private Producers

Historical private production data was used for 2013-2014, as provided by EMWD. For simulation years 2015-2041, the 2014 historical production data was used. Any private producers not active during 2014 were assumed to be inactive during the entirety of the Baseline Scenario.

5.1.2 Baseline Water Budget Results

The water budgets of the Baseline are presented by the entire Basin, Hemet-San Jacinto Management Area and West San Jacinto Management area in Figure 103 through Figure 105, respectively. The Baseline results reflected the changes made to model input data. In the Basin, cumulative storage started to stabilize under Baseline conditions, with the exception of the last few years when storage increased due to above average rainfall, streamflows, and the combination of increased applied water rates with stabilized production. The West San Jacinto Management Area exhibits stabilized cumulative change in storage. These stabilized cumulative change in storage values were expected for the overall groundwater basin under Baseline conditions due to the implementation of basin management plans and basin adjudication (Hemet – San Jacinto Management Area) developed to minimize overdraft conditions and promote sustainable groundwater use prior to the scenario start date. The baseline scenario was to be used as basis of comparison for the other model scenarios.

The Hemet-San Jacinto Management Area started to stabilize around 2020, once all new wells were added and production became constant. The storage values spiked at the end of the Baseline study period due to the above average rainfall and subsequent San Jacinto River recharge in Upper Pressure and Canyon.

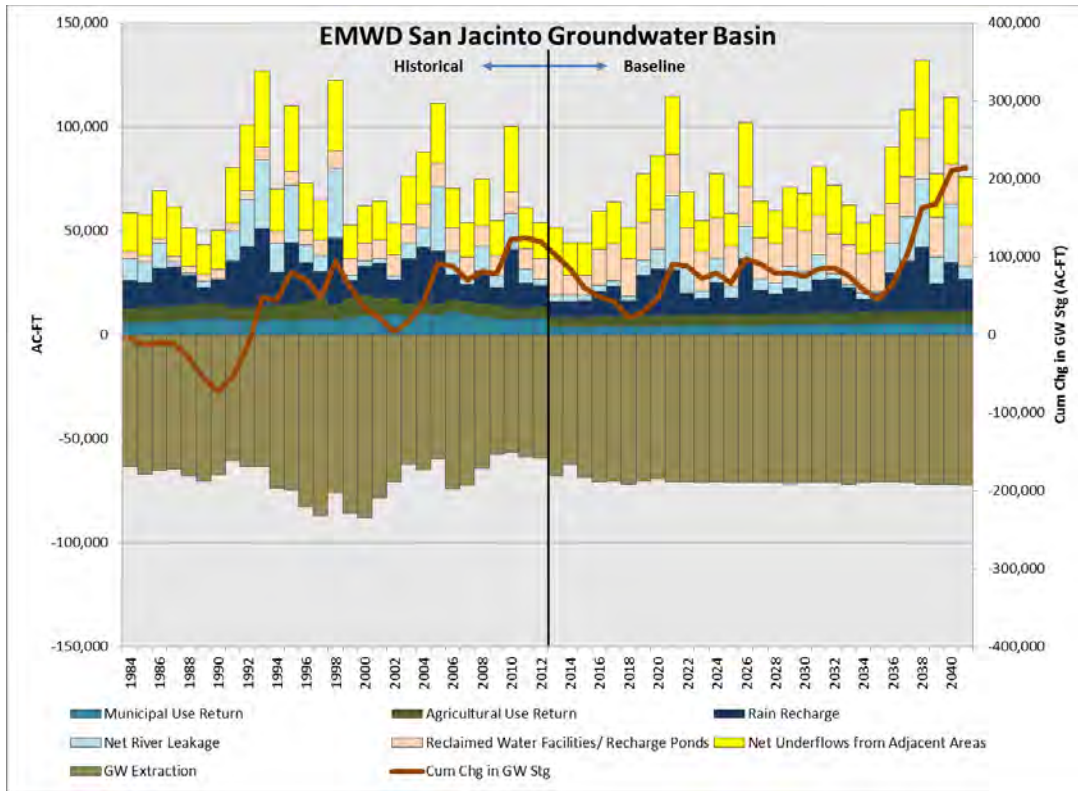


Figure 103: Baseline Water Budget Results and Cumulative Storage for the San Jacinto Groundwater Basin

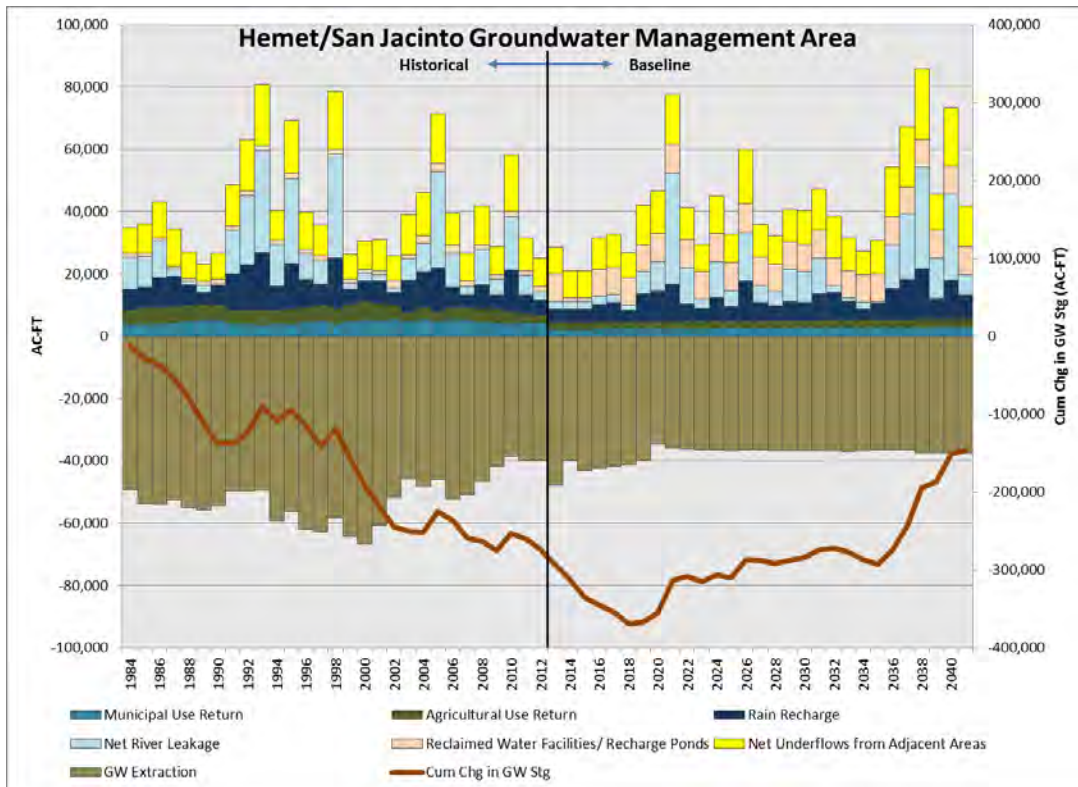


Figure 104: Baseline Water Budget Results and Cumulative Storage for the Hemet-San Jacinto Groundwater Management Area

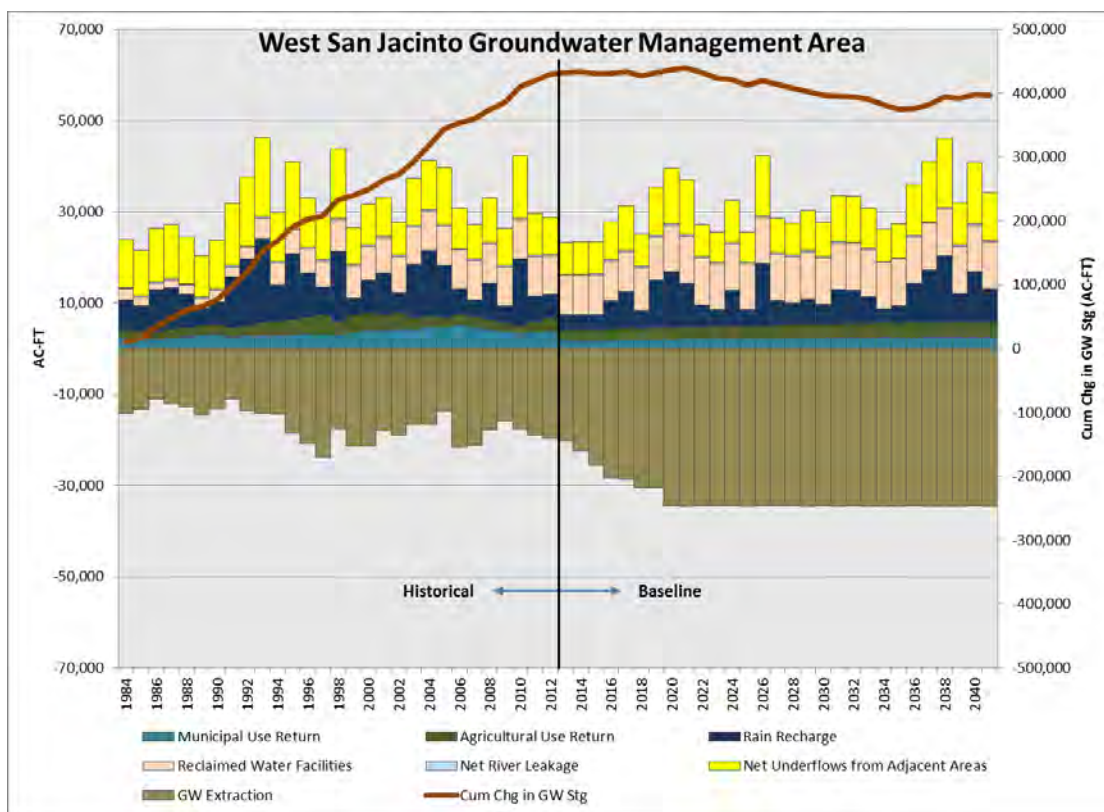


Figure 105: Baseline Water Budget Results and Cumulative Storage for the West San Jacinto Groundwater Management Area

5.2 Model Scenarios

5.2.1 Scenario A: Optimize West San Jacinto Area Production

The purpose of Scenario A was to evaluate and optimize the production of potable and desalination use in the West San Jacinto Area relative to the Baseline Scenario. Scenario A tested the additional projects currently under feasibility review and analysis focused on the Perris Valley.

These projects included building two new wells and increasing groundwater production rates from the Baseline. The two new production wells (EMWD 97 and 98) added in Scenario A are presented in Figure 106. The wells had production rates of 850 gpm (1,172 AFY) and ran 100% of the year, screened across Layers 1 and 2. The wells used screen depth information similar to nearby well EMWD 52 Follico. These wells became active in 2020. Other wells in the scenario experienced an increase in production rates from the Baseline Scenario. This included EMWD 55 Perris II, which was active starting in 2013 and started producing at an increased rate in 2016. The increased rates are provided in Table 32.

In order to support the increased groundwater production, recharge rates were increased in Perris South as well. Recharge was increased in the Skiland Ponds to 6,000 AFY starting in 2016. The Skiland ponds also operated year round instead of 6 months out of the year as seen in the baseline. This resulted in a decreased recharge rate to 0.17 ft/d from 0.20 ft/d in the Baseline, but an overall increase in recharge by approximately 2,500 AFY.

Table 32: Scenario A Increased Production Rates

Well	Baseline Production Rate	Scenario A Production Rate	Active Date	Increased Production Date
EMWD 55 Perris II	1,130 AFY	1,281 AFY	2013	2016
EMWD 94	1,333 AFY	1,372 AFY	2020	2020
EMWD 95	1,333 AFY	1,372 AFY	2020	2020
EMWD 96	1,333 AFY	1,372 AFY	2020	2020
EMWD 97*	--	1,372 AFY	2020	2020
EMWD 98*	--	1,372 AFY	2020	2020

*Note: New in Scenario A

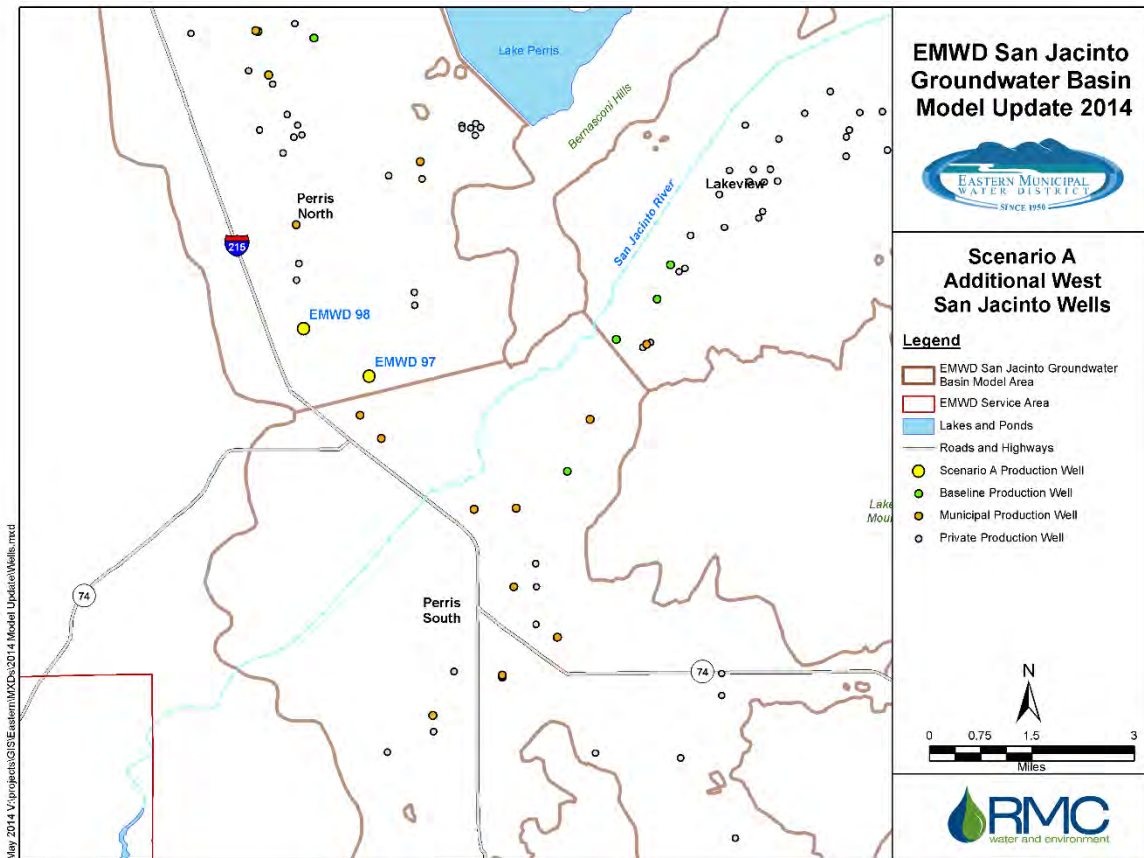


Figure 106: Scenario A Additional Production Wells in the West San Jacinto Management Area

5.2.1.1 Scenario A Results

Scenario A produced localized results in Perris North, Perris South and Lakeview, where the increases to production and recharge were applied.

As a result of the new production wells EMWD 97 and EMWD 98 and increased production at EMWD 55 Perris II, water levels in the southern portion of Perris North and northern portion of Perris South dropped by approximately 25 feet by 2041, relative to the Baseline Scenario. Figure 107 shows the hydrograph at EMWD 86 Murrieta-San Jacinto, a well located near the boundary of Perris North and Perris South. The

water levels for Scenario A began to decrease relative to the Baseline in 2020 when the new production wells came online.

Water levels nearby the Skiland ponds in Perris South and Lakeview increased by 20-30 feet from the increased recharge. In addition, since the ponds operated year round in Scenario A, the seasonal fluctuations in water levels were damped, as seen in Figure 108. The increased water levels were noted east of the Skiland ponds but the impact lessened further away from the ponds. The easternmost part of Lakeview only experienced about 5 feet of increase in water levels by 2041.

The central portion of Perris South, a major production area for the brackish groundwater wells, was nearly unchanged from the Baseline (Figure 109). This may have been attributed to the balance of the increased production and recharge in the Scenario. The other GMZs in the basin did not exhibit any changes in water levels relative to the Baseline.

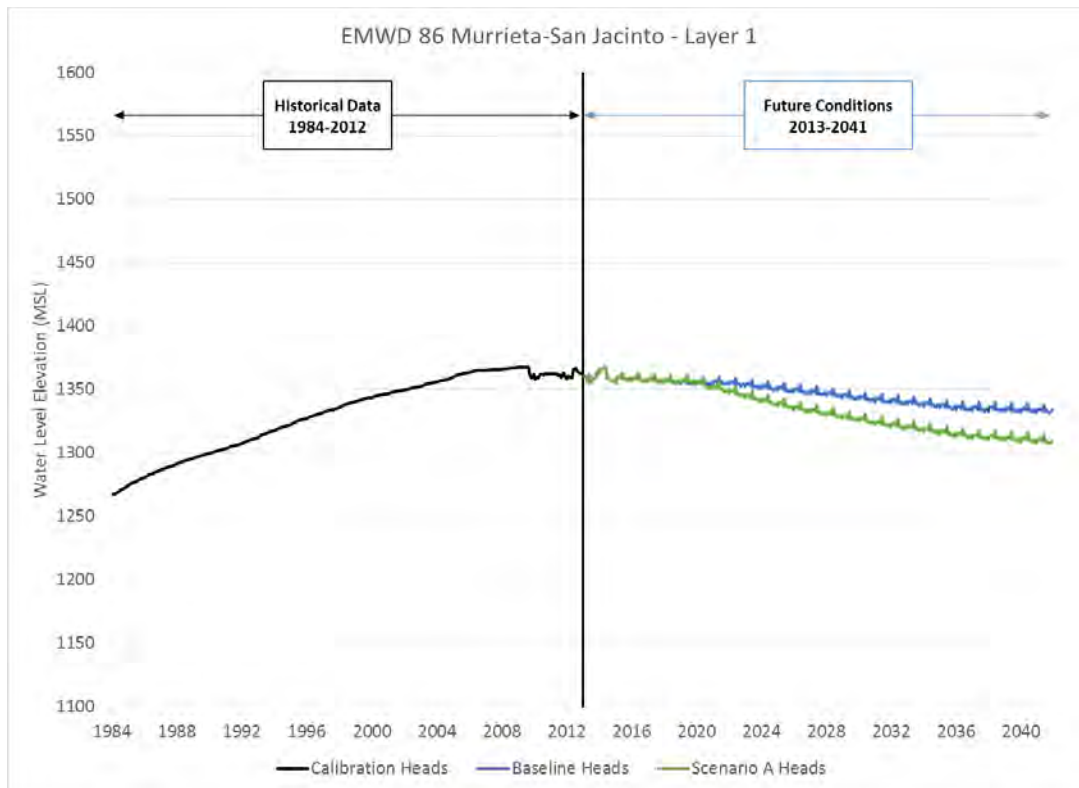


Figure 107: Scenario A Hydrograph for EMWD 86 Murrieta-San Jacinto in Northern Perris South

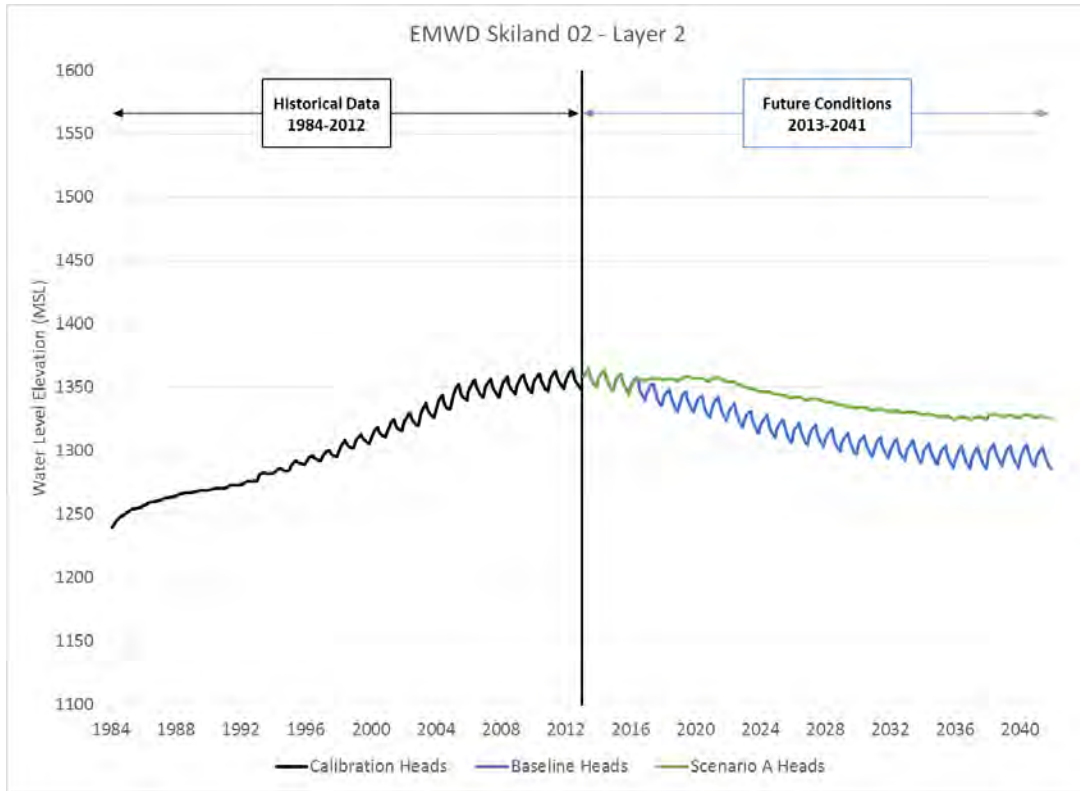


Figure 108: Scenario A Hydrograph for EMWD Skiland 01 in Perris South

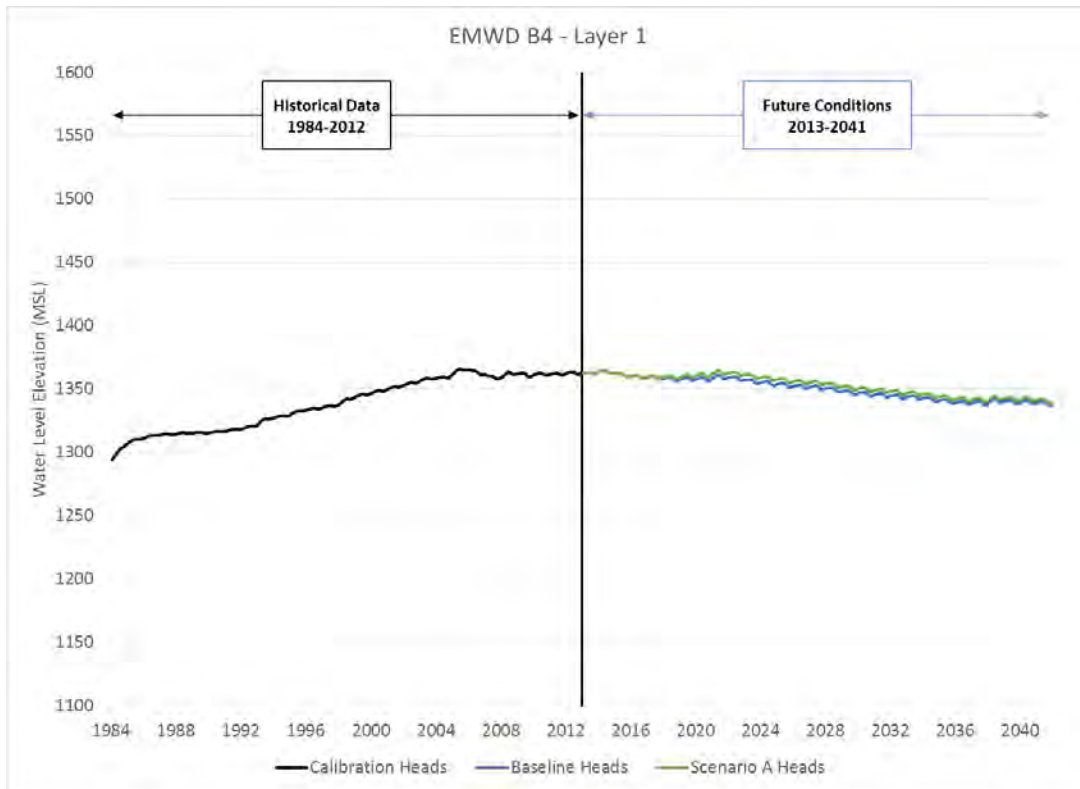


Figure 109: Scenario A Hydrograph for EMWD B4 in Central Perris South

5.2.2 Scenario B: Drought with Water Banking

Scenario B focused on climate change and tested the sustainability of groundwater supplies in times of increased reliance on groundwater production, specifically under a six-year drought. In Scenario B, it was assumed that an extended drought occurred over six consecutive years, reducing the rainfall and local streamflows.

Years receiving rainfall of less than the average rainfall of 10 inches were considered dry years. The timing of the drought took place from simulation year 13 to 18 corresponding to 2025 to 2030 (Figure 110). It should be noted that this timing is not based on scientific or statistical forecasting of climatology or global warming modeling, but on the assumption that an extended drought would take place sometime after the basin had sufficient time to recover from the current drought, assumed to end in 2016.

To simulate the extended six-year drought, the baseline hydrologic period years of 2026 and 2034 were switched to provide six consecutive years of rainfall less than 10 inches. The comparison of rainfall hydrology between the Baseline and Scenario B is provided in Figure 110 below.

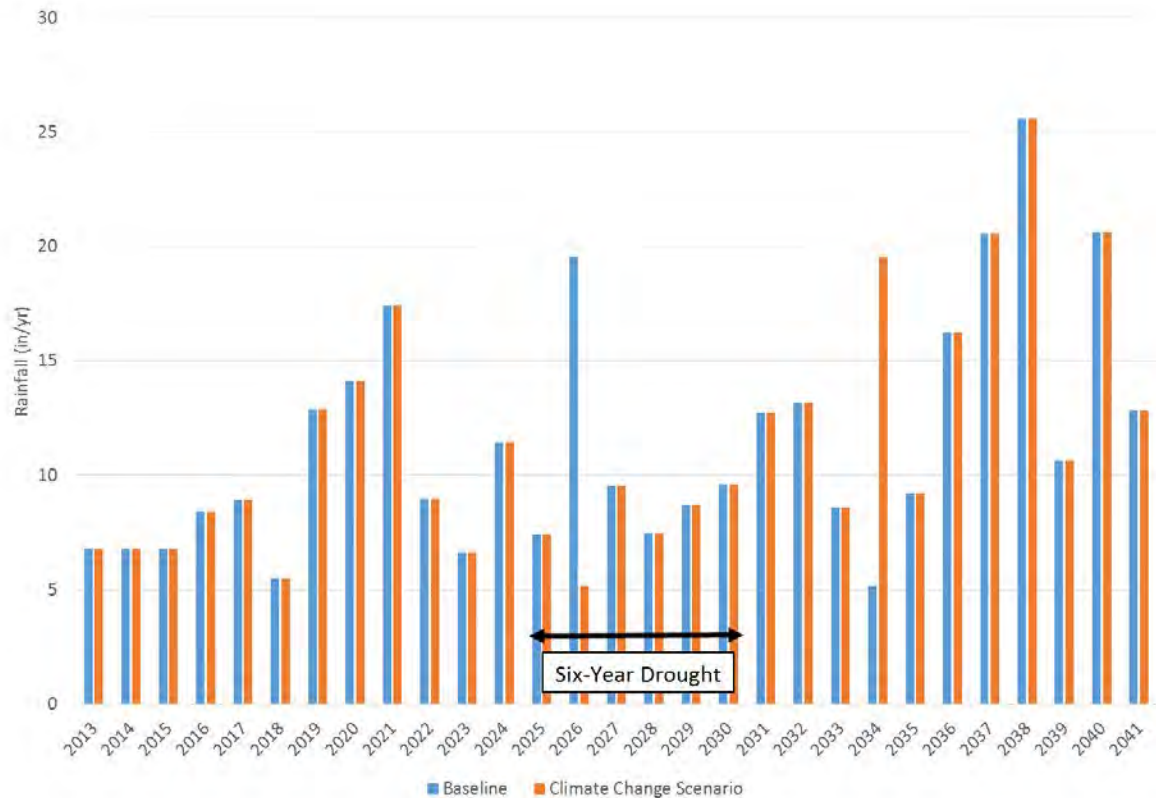


Figure 110: Baseline and Scenario B Hydrology Comparison and Drought Occurrence

Due to the change in the hydrologic period, five components are effectively changed from the Baseline Scenario:

- Rainfall
- Streamflows

- Rainfall recharge
- Point recharge (Grant Avenue Ponds and Soboba Pit)
- Mountain front recharge

These components used the rainfall hydrology presented in Figure 110. All other model components remained the same as the Baseline Scenario.

5.2.2.1 Scenario B Results

The six-year drought caused a reduction in water levels throughout the entire basin. The effect of the drought on the water levels during the drought period (2025-2030) in each GMZ is presented in Table 33.

The Upper Pressure and Canyon GMZs were most affected by the drought, averaging a decrease in water levels by 8 and 18 feet during the drought period, respectively. This was a reflection on the impact of river recharge in the two GMZs. The other GMZs experienced much smaller decreases in water levels, no more than 3 feet. Water levels in the Basin generally recovered back to Baseline conditions by the end of the study period in 2041. Figure 111 shows an example hydrograph in Upper Pressure comparing Scenario B and Baseline water levels.

Table 33: Average Impact of Six-Year Drought on Water Levels from 2025-2030 Relative to the Baseline

GMZ	Average Impact (ft)	Maximum Impact (ft)	Date of Max Impact
Perris North	-1	-4	1/1/2027
Perris South	-1	-19	1/1/2027
Menifee	-1	-3	1/1/2027
San Jacinto Lower Pressure	-3	-7	7/1/2027
Lakeview	-2	-4	2/1/2027
Hemet North	-1	-4	12/1/2030
Hemet South	-2	-3	12/1/2030
San Jacinto Upper Pressure	-8	-37	1/1/2027
San Jacinto Canyon	-18	-118	1/1/2027
San Jacinto Basin	-4	-118	1/1/2027
West San Jacinto Mgmt Area	-2	-19	1/1/2027
Hemet-San Jacinto Mgmt Area	-7	-118	1/1/2027

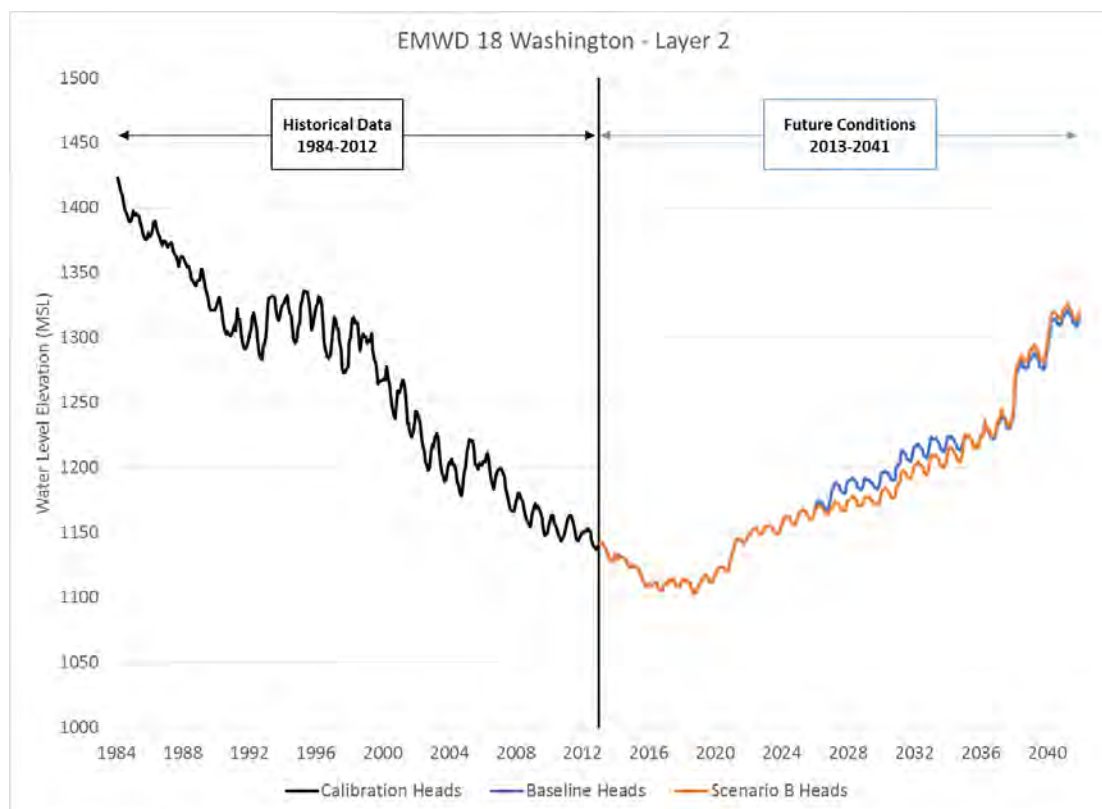


Figure 111: Scenario B Hydrograph for EMWD 18 Washington in Intake of Upper Pressure

5.2.3 Scenario C: Drought with Constant Recharge from Water Banking

Scenario C evaluated the feasibility of a groundwater banking project in the Upper Pressure GMZ in conjunction with the six-year drought introduced in Scenario B. The groundwater banking project involved increased recharge and the addition of new production wells to recover the banked water. The main assumptions of this scenario were:

- Add one new well in the San Jacinto Valley every two years starting in 2017 until 11 new wells were installed
- Increased recharge to offset new pumping above ABPR
- Maintain a banked water balance of 5,000 AF

5.2.3.1 New Production Wells

The location and pumping rates of the 11 new production wells to be added in Scenario C were provided by EMWD. A new well was added every two years starting in 2017. The order of the well installations were based on the EMWD Local Water Banking Program Feasibility Study performed by RMC. In this feasibility study, wells were added in increments of five after the first initial well was added (totals of 1, 6, and 11 wells). The order of installation of the wells between these increments were based on the proximity to Mountain Avenue.

The names, order and year of installation of the new production wells are provided in Table 34. The locations of the wells are shown in Figure 112. When all wells were installed and online, the wells

collectively produced 62 cfs (44,886 AFY), distributed evenly amongst the wells. As a result, each added well was assumed to have a production rate of 4,081 AFY, running 100% of the year and screened across layers 2 and 3. The pumping schedule for all of the wells were based on the average pumping trends from wells EMWD 29, EMWD 25, EMWD 90, EMWD 91, EMWD 92 and EMWD 36. Screening depths were estimated using the screens of nearby wells of City of San Jacinto Lake Park and EMWD 90 Evans/Old Mountain.

Table 34: Scenario C New Production Wells

Installation Order	Year Installed	Name	Well Screen Basis
1	2017	Esplanade	EMWD 90 Evans/Old Mountain
2	2019	Crystal	EMWD 90 Evans/Old Mountain
3	2021	Las Rosas Park	EMWD 90 Evans/Old Mountain
4	2023	Idyllwild	City of San Jacinto Lake Park
5	2025	Soboba	EMWD 90 Evans/Old Mountain
6	2027	Lake	EMWD 90 Evans/Old Mountain
7	2029	Elderberry	City of San Jacinto Lake Park
8	2031	Ramona 1	City of San Jacinto Lake Park
9	2033	Ramona 2	City of San Jacinto Lake Park
10	2035	Shoal Reef	City of San Jacinto Lake Park
11	2037	Vernon	City of San Jacinto Lake Park

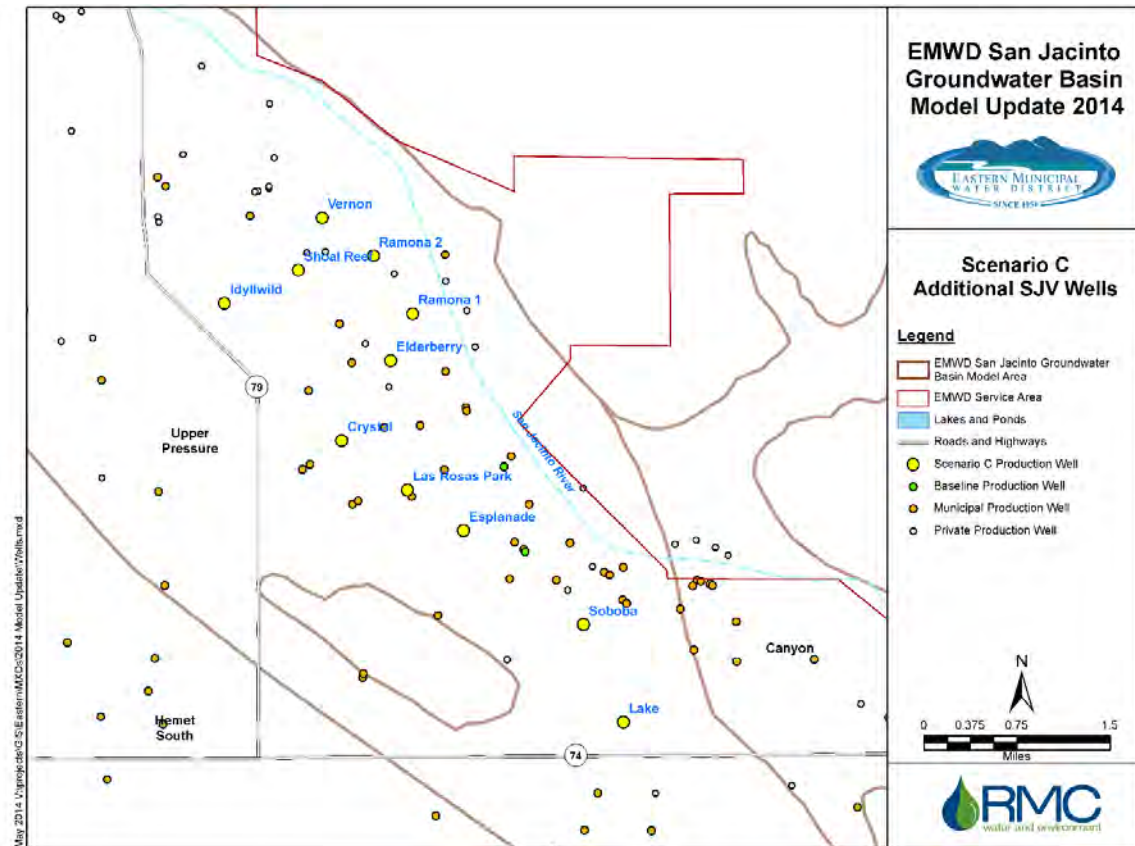


Figure 112: Scenario C Additional San Jacinto Valley Wells

5.2.3.2 Increased Recharge

In order to simulate the groundwater banking project, groundwater recharge was increased in Scenario C. Three new recharge ponds were added in the San Jacinto Valley: Mountain Avenue West, Mountain Avenue East, and Mountain Avenue North ponds. The location of these ponds are shown in Figure 113. The new recharge rates were to maintain the banked water balance of 5,000 AF by following the recharge schedule found below.

- 24,000 AFY recharged during dry years
- 54,000 AFY recharged during wet or normal years

A dry year was defined as a year with rainfall of 10 inches or less. Similar to the baseline, 7,500 AFY was recharged to the IRRP ponds to satisfy the Soboba Settlement. The remaining recharge amount was recharged at the Mountain Avenue ponds, distributed evenly amongst the three new ponds. This equated to 16,500 AFY in dry years and 46,500 AFY in wet years in the three Mountain Avenue ponds, or 5,500 AFY and 15,500 AFY per pond, respectively. Mountain Avenue ponds are assumed to become operational starting 2016 and operate year round. The recharge rates for both wet and dry years are provided in Table 35. It is assumed that Mountain Avenue West, East, and North ponds areas are 30, 13.8, and 4.5 acres, respectively.

Table 35: Scenario C Added Recharge Pond Rates

Recharge Pond	Operation Period	Dry Year Recharge Rate (ft/day)	Wet Year Recharge Rate (ft/day)
Mountain Ave West	12 months/year	0.50	1.42
Mountain Ave East	12 months/year	1.09	3.06
Mountain Ave North	12 months/year	3.36	9.46

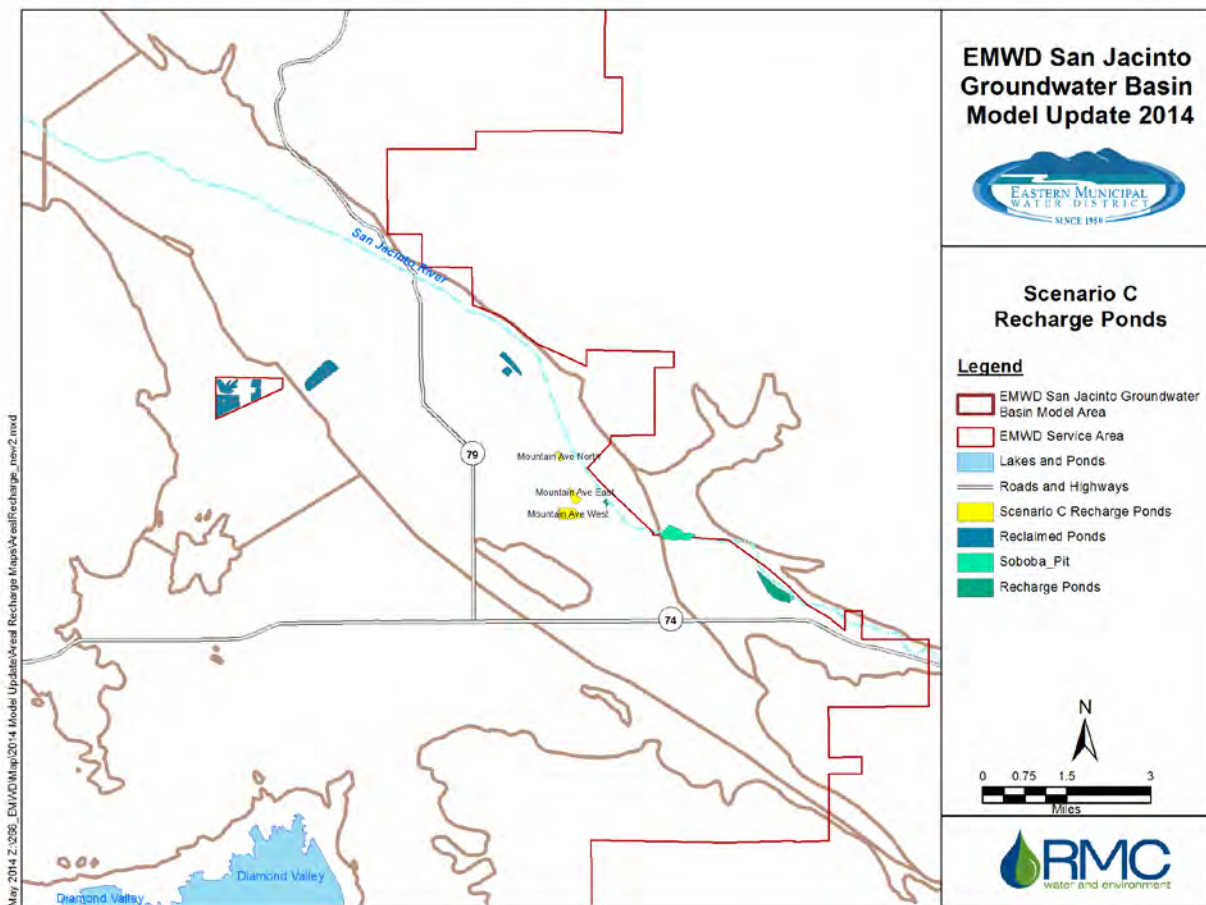


Figure 113: Scenario C Recharge Ponds

5.2.3.3 Scenario C Results

The increased recharge from the groundwater banking project had significant effects in Upper Pressure and surrounding basins. Table 36 shows the impact on water levels during the drought period for each GMZ between Scenario B and Scenario C.

The increased recharge caused water level increases as high as 200 feet in areas in Upper Pressure. This rise in water levels had a subsequent effect on the GMZs flowing into Upper Pressure. Underflows from Lower Pressure and Hemet South to Upper Pressure were reduced, causing an increase in water levels in the GMZs. Hemet North was also affected. The underflows to Hemet South decreased, creating an increase in Hemet North water levels most noticeable in the southern portion of the GMZ.

By 2027, the addition of new wells production wells started to balance out the effects of the increased recharge in Upper Pressure, but Scenario C water levels still remained higher than Scenario B by the end of the study period, as seen in Figure 114.

Table 36: Average Impact of Six-Year Drought on Water Levels from 2025-2030 Relative to Scenario B

GMZ	Average Impact (ft)	Maximum Impact (ft)	Date of Max Impact
Perris North	0	1	12/1/2030
Perris South	0	0	6/1/2025
Menifee	0	0	10/1/2026
San Jacinto Lower Pressure	7	30	12/1/2030
Lakeview	0	0	12/1/2030
Hemet North	4	20	9/1/2029
Hemet South	5	11	12/1/2030
San Jacinto Upper Pressure	101	202	3/1/2025
San Jacinto Canyon	0	0	3/1/2025
San Jacinto Basin	13	202	1/1/2027
West San Jacinto Mgmt Area	1	30	12/1/2030
Hemet-San Jacinto Mgmt Area	28	202	1/1/2027

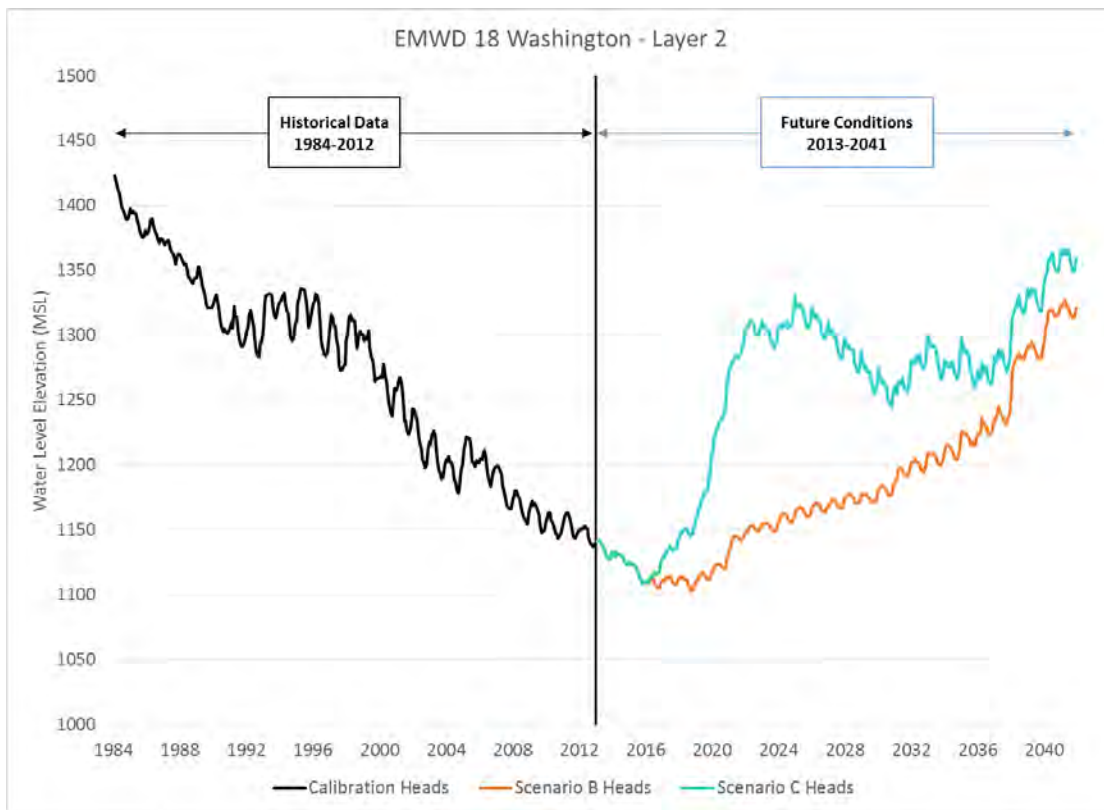


Figure 114: Scenario C Hydrograph for EMWD 18 Washington in Intake of Upper Pressure

5.2.4 Scenario D: Build-Out with Water Banking and 10-Year Hydrologic Cycles

Scenario D was used to create a comparative base to determine impacts of various projects and alternatives. This as a stand-alone scenario and is not to be compared with the other scenarios. It is to serve as a baseline for other potential scenarios. For Scenario D, a new hypothetical and repeating 10-year hydrology was created while combining other model components of Scenarios A through C. It is important to note that Scenario D had no phasing of projects, so all new pumping rates, recharge, or projects—including production wells and recharge ponds—were implemented and online starting in the first year of the simulation (i.e. 2013).

5.2.4.1 10-Year Repeating Hydrologic Period

A new hydrologic period was created for Scenario D. It consisted of a 10-year hydrology of three wet years, four average years and three dry years used and repeated for the entirety of the study period, starting with three wet years in 2013. The data for the hydrologic cycle was based on the following years and presented in Table 37:

- Use 1991-1993 for wet years
- Use 1986-1987 repeated twice for average years
- Use 2000-2002 for dry years

Table 37: Scenario D Hydrologic Period and Matching Historical Hydrology

Scenario D Simulation Year	1	2	3	4	5	6	7	8	9	10
Model Calendar Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Matching Historical Hydrology Year	1991	1992	1993	1986	1987	1986	1987	2000	2001	2002
Observed Rainfall (in/yr)	16.2	20.6	25.6	12.7	13.1	12.7	13.1	8.4	9.0	5.5
Scenario D Simulation Year	11	12	13	14	15	16	17	18	19	20
Model Calendar Year	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Matching Historical Hydrology Year	1991	1992	1993	1986	1987	1986	1987	2000	2001	2002
Observed Rainfall (in/yr)	16.2	20.6	25.6	12.7	13.1	12.7	13.1	8.4	9.0	5.5
Scenario D Simulation Year	21	22	23	24	25	26	27	28	29	
Model Calendar Year	2033	2034	2035	2036	2037	2038	2039	2040	2041	
Matching Historical Hydrology Year	1991	1992	1993	1986	1987	1986	1987	2000	2001	
Observed Rainfall (in/yr)	16.2	20.6	25.6	12.7	13.1	12.7	13.1	8.4	9.0	

It should be noted that the final year of the final 10-year cycle was cut off by one year due to a simulation period of 29 years.

Due to the new hydrologic period, five model components were changed relative to the Baseline scenario and used the repeating 10-year hydrologic cycle as shown in Table 37. These components included:

- Rainfall
- Streamflows
- Rainfall recharge
- Point recharge (Grant Avenue Ponds and Soboba Pit)
- Mountain front recharge

5.2.4.2 Increased Production

Increased production and new wells relative to the Baseline Scenario included those introduced in Scenario A and Scenario C, but all became active beginning in 2013. As a result, 13 new wells were added at the start of the scenario. A summary of pumping rates and new wells are summarized in Table 38. Newly installed wells can be seen in Figure 106 and Figure 112.

Table 38: Scenario D New Wells and Increased Production Rates

Well Name	GMZ	Scenario D Production Rate
<i>New Wells</i>		
Esplanade	Upper Pressure	4,081 AFY
Crystal	Upper Pressure	4,081 AFY
Las Rosas Park	Upper Pressure	4,081 AFY
Idyllwild	Upper Pressure	4,081 AFY
Soboba	Upper Pressure	4,081 AFY
Lake	Upper Pressure	4,081 AFY
Elderberry	Upper Pressure	4,081 AFY
Ramona 1	Upper Pressure	4,081 AFY
Ramona 2	Upper Pressure	4,081 AFY
Shoal Reef	Upper Pressure	4,081 AFY
Vernon	Upper Pressure	4,081 AFY
EMWD 97	Perris North	1,372 AFY
EMWD 98	Perris North	1,372 AFY
<i>Existing Wells from Baseline</i>		
EMWD 94	Lakeview	1,372 AFY
EMWD 95	Lakeview	1,372 AFY
EMWD 96	Perris South	1,372 AFY
EMWD 55 Perris II	Perris North	1,281 AFY

5.2.4.3 Increased Recharge

Similar to production, all new recharge rates and ponds came into effect starting in 2013. This included the 6,000 AFY in the Skiland Ponds running year round and the 16,500 AFY and 46,500 AFY in the new Mountain Avenue Ponds in dry and wet years, respectively. A dry year was defined as a year with less than 10 inches of rainfall. The location of the new ponds can be seen in Figure 113.

5.2.4.4 Scenario D Results

The Scenario D water budget and cumulative storage results are presented in Figure 115 through Figure 117. Although Scenario D is a stand-alone scenario, it should be noted that the cumulative storage levels

reacted similarly to those in the Baseline Scenario. The West San Jacinto Management Area storage were mostly stabilized with a slight negative trend, as the added recharge and pumping in the area balanced out. The Hemet-San Jacinto Management Area follows the trend of the rainfall, reinforcing the significant effect of San Jacinto River recharge in Upper Pressure and Canyon.

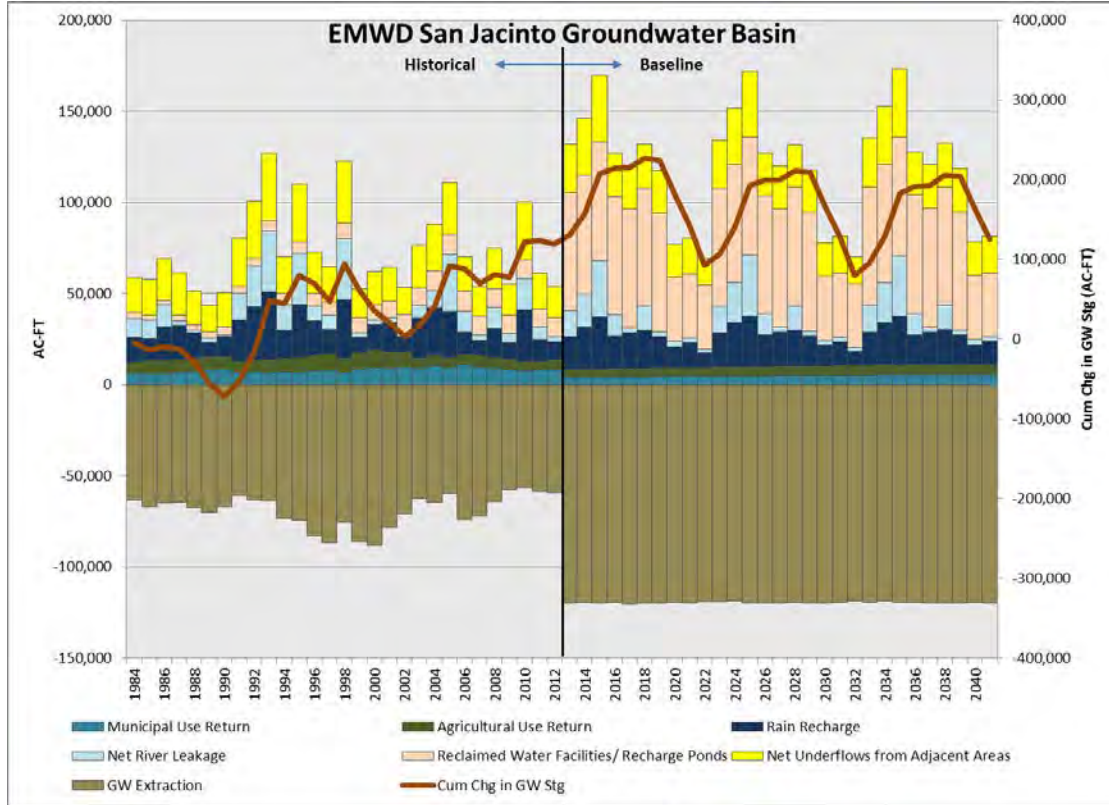


Figure 115: Scenario D Results and Cumulative Storage for the San Jacinto Groundwater Basin

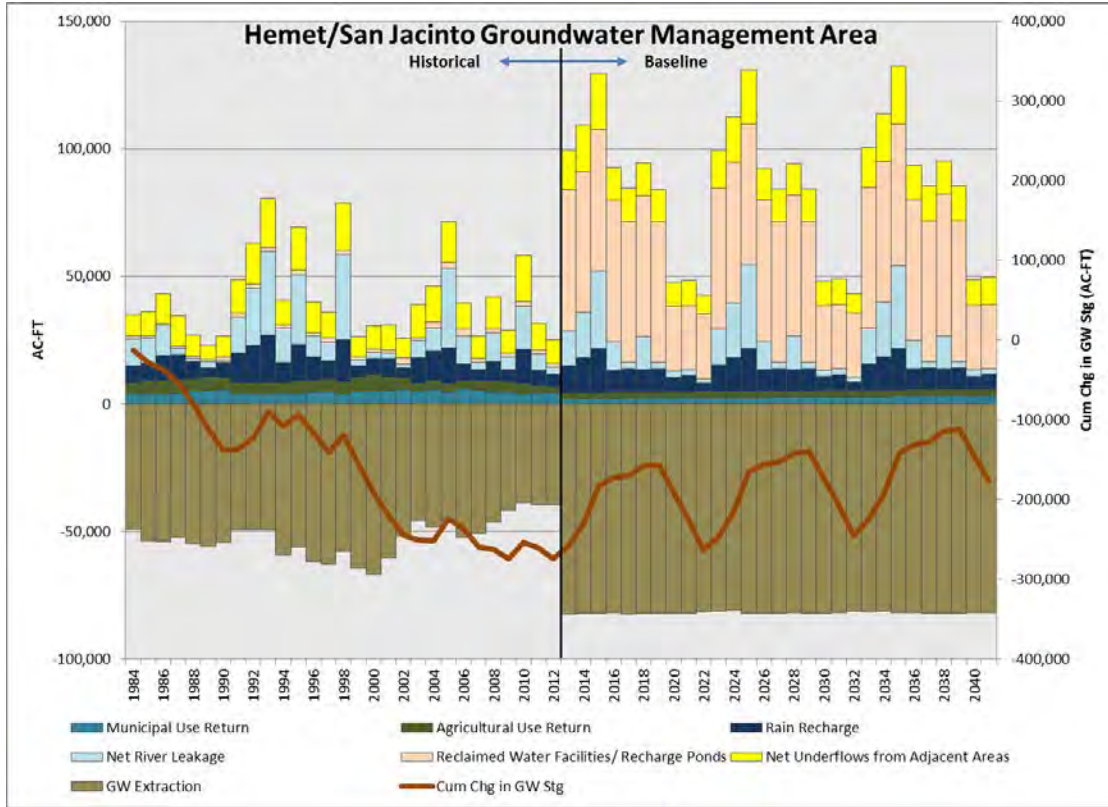


Figure 116: Scenario D Results and Cumulative Storage for the Hemet-San Jacinto Groundwater Management Area

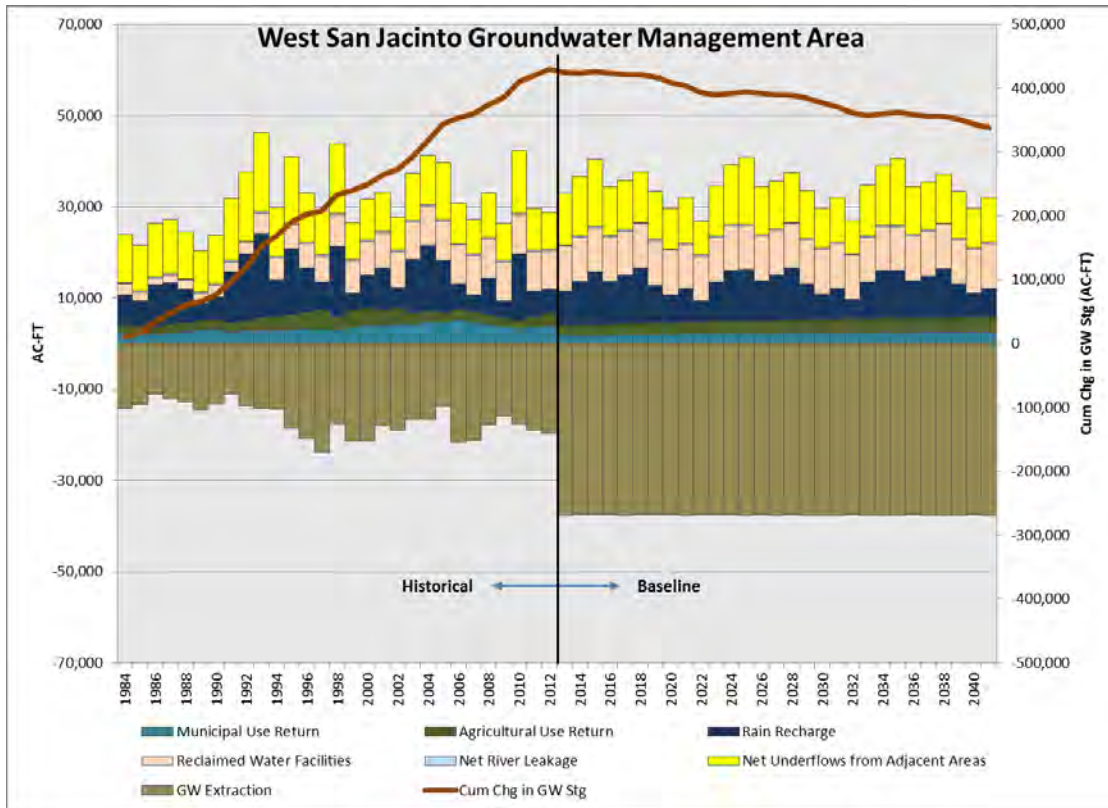


Figure 117: Scenario D Results and Cumulative Storage for the West San Jacinto Groundwater Management Area

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Section 6 Summary and Recommendations

SJFM-2014 Model is a state-of-the-art peer-reviewed regional water resources model that will help manage the San Jacinto Groundwater Basin from both a local and regional perspective. It integrates the surface water hydrologic system, the groundwater aquifer system, and the land-surface processes into a single model. It allows the water managers and decision makers to evaluate the effect of changes to the agricultural and/or municipal water demands, land use and water use, groundwater pumping, imported water recharge, and other water planning measures. SJFM-2014 is an important analytical tool for evaluation of the water management programs in the San Jacinto Basin.

Development of SJFM-2014 has yielded science-based results that can be used for current and future planning needs. SJFM-2014 was developed based on data collected and analysis performed over the 12-year period since SJFTM-2002 was developed. It could be used in support of projects and analyses by stakeholders in area such as:

- Hemet-San Jacinto Watermaster
- Cities of
 - Perris
 - San Jacinto
 - Hemet
- Eastern Municipal Water District
- Lake Hemet Municipal Water District
- Soboba Band of Luiseño Indians
- Santa Ana Watershed Project Authority (SAWPA)
- State of California Agencies
 - Department of Water Resources
 - Santa Ana Regional Water Quality Control Board

This section provides recommendations for application of SJFM-2014 to simulation of water resources projects in the San Jacinto Groundwater Basin and improving the capability of the SJFM-2014 in future updates as additional data become available. The recommendations are grouped into several categories:

- Application of SJFM-2014 Model
- Groundwater and surface water data updates
- Stratigraphy/geology data updates
- Water quality model update
- Advisory Panel recommendations

6.1 Application of SJFM-2014 Model

SJFM-2014 Model is calibrated to be used extensively for simulation and analysis of water resources planning and management projects in the San Jacinto Groundwater Basin, such as:

- Assessment of conjunctive use projects
- Evaluation of effectiveness of water banking and transfer projects
- Assessment of recycled water use in agricultural and/or urban areas
- Evaluation of climate change adaptation and mitigation measures
- Analysis supporting changes in basin boundaries
- Development of Groundwater Sustainability Plans (GSPs) as part of requirements of the Sustainable Groundwater Management Act (SGMA)
- Estimation of safe yield and/or sustainable yield
- Assessment of potential effects of regional projects and programs proposed by local cities, water districts, and regional agencies including
 - Improving drought reliability
 - Optimization of local groundwater supplies
 - Minimizing recycled water discharge from the Basin
 - Mitigation of groundwater solutes
 - Groundwater Desalination Program
 - Integrated Recharge and Recovery Program
 - Groundwater Monitoring Programs
 - Recycled Water Program
 - Well Development Program
 - Indirect Potable Reuse Program

The intended use of the SJFM-2014 Model is for analysis of water resources planning and management scenarios at a regional scale. However, detailed local conditions could be simulated using more site-specific models which could be linked to the SJFM-2014 Model. A recent example is use of SJFM-2014 Model for development of a detailed model for analysis of the Integrated Recharge and Recovery Program (IRRP) project in the Upper Pressure GMZ.

6.2 Groundwater and Surface Water Data Updates

Extensive groundwater and surface water monitoring and data collection activities have been conducted by EMWD and other agencies in the Basin in recent years. The data collection efforts have led to development of very comprehensive and robust datasets, which were used in development and calibration of the SJFM-2014. Use of these datasets led to recognition of data gaps, where characterization and simulation of local groundwater conditions by the SJFM-2014 Model could be improved in the future updates of the model by using additional data. The following subsections describe the areas that could benefit from additional data.

Groundwater Monitoring

During calibration of the SJFM-2014, several areas were noted where additional data and increased monitoring frequency would benefit the future updates of the model. In general, additional data collection would benefit future modeling efforts by providing additional:

- Water level data

- Depth/layer specific water level data in main pumping zones
- Aquifer test data
- Lithology data
- Water quality data

There are a total of 13 areas identified for additional groundwater elevation monitoring. Five areas are in the West San Jacinto Management Area and eight areas are in the Hemet-San Jacinto Management Area. Figure 118 through Figure 120 present these areas in comparison to locations of calibration wells, major groundwater production locations and availability of layer specific water elevation data. Table 39 presents a summary of recommended monitoring efforts for each area. For many of the identified areas it is recommended to improve understanding of groundwater flow system by incorporating additional layer specific water level data. Layer specific water level data may be obtained a) from newly installed monitoring wells that target specific zones and layers of the aquifer or b) from existing monitoring wells with screen spanning more than one model layer.

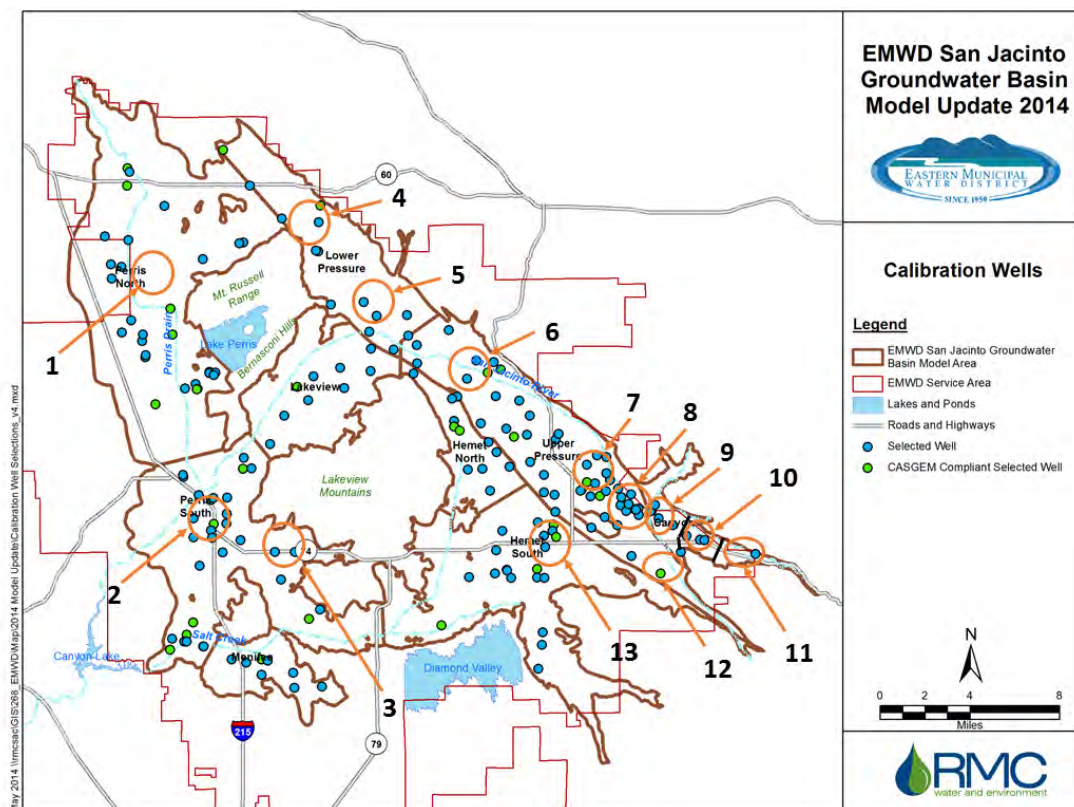


Figure 118: Areas Recommended for Additional Monitoring in Comparison to Locations of SJFM-2014 Calibration Wells

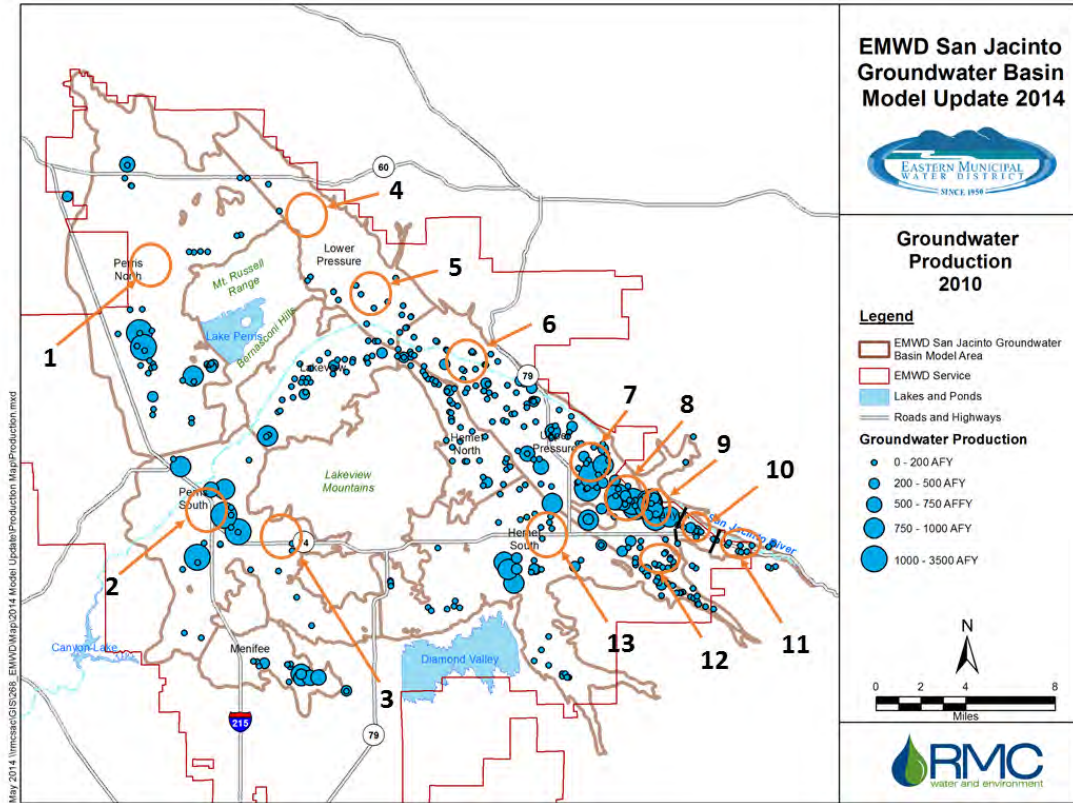


Figure 119: Areas Recommended for Additional Monitoring in Comparison to Locations of Production Wells in 2010

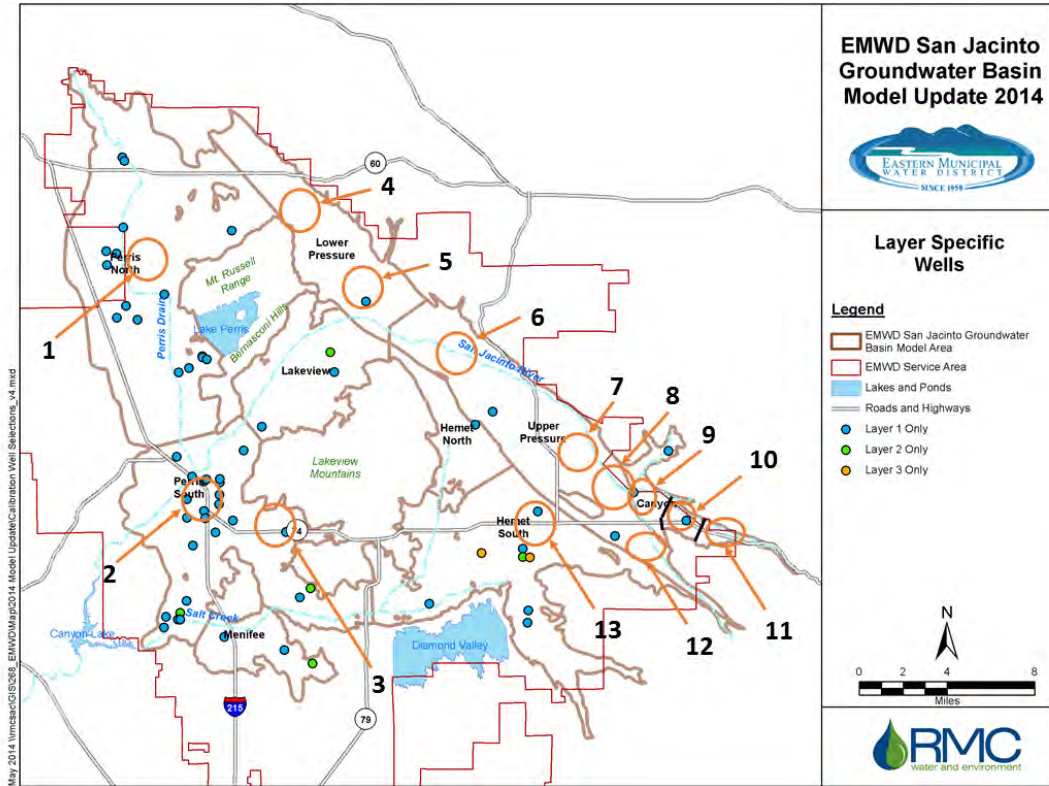


Figure 120: Areas Recommended for Additional Monitoring in Comparison to Locations of Model Layer Specific Calibration Wells

Table 39: Areas Recommended for Additional Monitoring

Area Number	Recommended Monitoring
<i>West San Jacinto Management Area</i>	
1	Understanding of the groundwater flow system from March Air Reserve Base (MARB) Area to the main part of Perris North GMZ could be improved by additional water level data.
2	Understanding of the groundwater flow system in the high production and brackish groundwater area in Central parts of Perris South could be improved by additional layer specific water level data for model layers 2 and 3.
3	Understanding of the groundwater flow system in the eastern parts of Perris South, where groundwater flows along Highway 74 from Winchester area and Lakeview Mountains towards the central parts of Perris North GMZ could be improved by additional water level data.
4	No layer specific water level data is available in northern parts of Lower Pressure GMZ.
5	Limited layer specific water level data is available in southern parts of Lower Pressure GMZ.
<i>Hemet-San Jacinto Management Area</i>	
6	Understanding of the groundwater flow system in the northern parts of Upper Pressure GMZ where a groundwater depression existed in recent years and several wells with water level conflicts exist in the area, could be improved by additional layer specific water level data.
7	Understanding of the groundwater flow system in areas north of Intake area with high groundwater production and planned future recharge projects could be improved by additional layer specific water level data.
8	Understanding of the groundwater flow system in Intake area with high groundwater production and existing and future recharge projects could be improved by additional layer specific water level data.
9	Understanding of groundwater flow system in the Cienega area of Canyon with high groundwater production and significant surface water and groundwater interaction could be improved by additional model-layer specific water level data.
10	Understanding of groundwater flow system in the Canyon Zone 2 with high groundwater production and significant surface water and groundwater interaction could be improved by model-layer specific water level data.
11	Understanding of groundwater flow system in Canyon Zone 3 with significant surface water and groundwater interaction could be improved by new monitoring wells and model-layer specific water level data.
12	Understanding of groundwater flow system in Bautista Creek area where steep bedrock slopes and changes in layer elevations are present and water quality is poor could be improved by more model-layer specific water level data.
13	Understanding of groundwater flow system in the main production area of Hemet South with high groundwater production and poor water quality could be improved by more model-layer specific water level data.

As data collection efforts in all of the recommended areas in Table 39 may not be feasible, a priority order is recommended for based on the benefit to future update of the SJFM-2014 Model. Areas of known high production, areas of future increased production and areas in key GMZs were given higher priority. The priority order, estimated total depth of active aquifer and the corresponding model layers are presented in Table 40.

Table 40: Priority Order of Areas Recommended for Additional Monitoring

Priority	Area Number	General Location	Estimated Total Depth of Active Aquifer	Corresponding Model Layers
<i>Hemet-San Jacinto Management Area</i>				
1	8	Upper Pressure - Intake	1,300 ft	Layers 2-3
2	7	Upper Pressure - Northern Intake	1,100 ft	Layers 2-3
3	9	Canyon, Section 1 – Cienega Area	1,100 ft	Layers 1-3
4	10	Canyon, Section 2 - LHMWD Area	1,130 ft	Layers 1-3
5	6	Northern Upper Pressure, Groundwater Depression Area	1,030 ft	Layers 1-3
6	12	Southern Upper Pressure, Bautista Creek Area	470 ft	Layers 1-4
7	11	Canyon, Section 3 – Easternmost Canyon	1,170 ft	Layers 1-3
8	13	Hemet South – Main Production Area	830 ft	Layers 1-3
<i>West San Jacinto Management Area</i>				
1	2	Perris South – Main Production and Brackish Groundwater Well Area	780 ft	Layers 1-3
2	3	East Perris South – Perched Water Area	590 ft	Layers 1-2
3	1	Perris North – East of MARB	90 ft	Layer 1
4	4	Northern Lower Pressure	1,580 ft	Layers 1-4
5	5	Southern Lower Pressure	1,420 ft	Layers 1-4

Groundwater and Surface Water Inflow Quantities

Groundwater inflows have a significant impact on the groundwater flow system in the Basin and are important components of the water budgets for the Basin. This information is vital for establishing the safe yield estimate for each GMZ, which is used for evaluation of future projects and operation of the Basin. While groundwater production in the Basin is frequently monitored, there are several data gaps in the inflow components.

Groundwater inflow components include recharge from applied water, reclaimed water facilities and recharge ponds, rivers, and mountain front recharge. Generally the inflows are estimated and calibrated during the model calibration. As shown in Table 41, on average, applied water recharge comprises 45% of the inflow to the Basin with rain recharge contributing 24% of the inflow.

Table 41: Groundwater Inflow Component Breakdown Based on Simulated 1984-2012 Water Budgets

Groundwater Inflow Component	Total Percentage of Inflow		
	Total Basin	Hemet-San Jacinto	West San Jacinto
<i>Applied Water Inflow Component</i>	45%	46%	42%
EMWD Sales	7%	5%	9%
Irrigation Recharge	7%	9%	4%
Rain Recharge	24%	23%	26%
Reclaimed Water Sales	3%	2%	3%
Subagency Sales	4%	7%	0%
<i>Other Inflow Components</i>	55%	54%	58%
Reclaimed/Recharge Ponds	10%	4%	17%
River Recharge	15%	27%	1%
Mountain Front Recharge	25%	23%	29%
Boundary Conditions (Reservoir Underflow)	5%	0%	11%

The next two significant components are mountain front recharge (25%) and river recharge (15%). It should be noted that river recharge is the largest component of inflow in the Hemet-San Jacinto Groundwater Management Area; however, no flow gauges exist below Cranston Gage in the Canyon GMZ for the San Jacinto River and its tributaries. River recharge has a significant influence on groundwater levels but its detailed locations are not clearly defined in the Canyon GMZ.

Based on the above discussion, estimation of groundwater inflow components could be improved by additional data for the following:

- Mountain front recharge estimates
- River recharge estimates for
 - San Jacinto River tributary flows (Indian and Poppet Creek)
 - San Jacinto River recharge distribution in Canyon
 - San Jacinto River flows from Canyon into Upper Pressure
 - Soboba Pit
- Reclaimed water pond incidental recharge rates

Locations of some of these areas are provided in Figure 121 and Table 42 describes the inflow monitoring needs in each respective area.

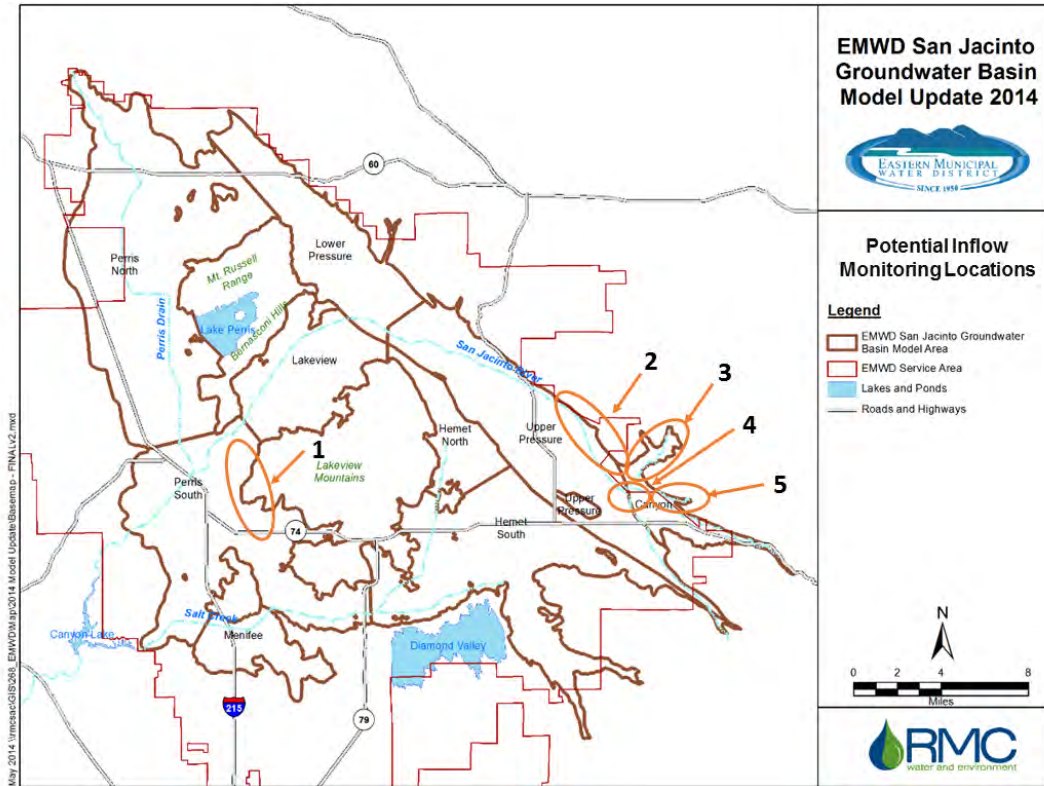


Figure 121: Hemet-San Jacinto Management Areas Considered for Improved Inflow Data

Table 42: Description of Improved Inflow Data Locations

Area Number	Description
<i>West San Jacinto Management Area</i>	
1	Area with high mountain front recharge flows from Lakeview Mountains flowing to Perris South GMZ.
<i>Hemet-San Jacinto Management Area</i>	
2	Area with high mountain front recharge flows to Intake area
3	Poppet Creek – tributary to the San Jacinto River recharges the aquifer near the main groundwater extraction zone in Canyon
4	Boundary of Upper Pressure and Canyon where San Jacinto River intersects the leaky fault between Canyon and Upper Pressure
5	Indian Creek – tributary to the San Jacinto River recharge the aquifer near the main groundwater extraction zone in Canyon

6.3 Stratigraphy/Geology Data Updates

EMWD has conducted extensive work on developing the conceptual geology of the San Jacinto Groundwater Basin. This work includes development of 33 detailed cross sections that cover GMZs in the San Jacinto Groundwater Basin. These cross sections were reviewed by the modeling team and the

Advisory Panel members and were incorporated in development of the SJFM-2014 Model layers and groundwater flow system. During the calibration process five model areas were identified that could benefit from additional hydrogeologic data for improved estimation of model layer thicknesses and model constructs in the following GMZs:

- Canyon
- Hemet North
- Lower Pressure
- Perris North
- Upper Pressure

Perris North

A significant drop in water levels is observed moving east from MARB into the central part of Perris North. This area of the basin is very shallow and only the top model layer is present. Additional hydrogeologic studies to obtain better information on the stratigraphy and groundwater flow system would allow for more accurate simulation of water levels flowing to the central part of the GMZ.

Lower Pressure

Hydrogeologic conditions in the Lower Pressure are very complex and data is sparse. Additional hydrogeologic studies would improve calibration of water levels in this GMZ.

Hemet North

The large drop in observed water levels in the central section of Hemet North was simulated using zones of low horizontal hydraulic conductivity. Additional hydrogeologic studies in this area would improve understanding of the groundwater flow system and allow for more accurate simulation of water levels. This will result in improved estimation of regional flows from Hemet South to Lakeview.

Upper Pressure

The LP-UP construct was used in the SJFM-2014 to simulate the groundwater depression recorded in historical water levels of the southern Lower Pressure and northern Upper Pressure. This area of Upper Pressure is where the clay cap is thickest. Hydrogeologic studies to obtain additional layering information around the LP-UP construct would allow for more accurate simulation of water levels in the northern portion of Upper Pressure.

Canyon

The location and shape of the bedrock underlying Canyon is not clearly defined. In development of the SJFM-2014 Model, two Canyon model constructs were added to simulate the changes in observed water levels throughout this GMZ. Conducting additional hydrogeologic studies in Canyon would allow more accurate simulation of water levels.

6.4 Water Quality Model Update

The SJFTM-2002 included a water quality component that was not part of the SJFM-2014 update. It is recommended that the water quality component of the model be updated to allow for use of the model

in management of water quality issues in the San Jacinto Groundwater Basin such as migration of high TDS groundwater from Perris South GMZ to the neighboring areas. The water quality model can be specific to total dissolved solids (TDS) and nitrate, both of which have historically high concentrations in the Basin.

While the SJFM-2014 Model does not currently include water quality modeling capabilities, it provides the fundamental data and framework as well as appropriate level of spatial and temporal details for future water quality model development, including simulation of transport of TDS and nitrate.

6.5 Advisory Panel Recommendations

Technical appropriateness, credibility, and defensibility of SJFM-2014 Model have been reviewed by EMWD staff, the Advisory Panel, and the Hemet-San Jacinto Watermaster Advisor via six technical review workshops. Reviewers' comments were incorporated in the development of the model. Details of these workshops, including the agenda, summary, and action items, are provided in Appendix F.

Following completion of SJFM-2014 Model calibration, a questionnaire was prepared and provided to all AP members regarding the status of calibration and recommendations for future refinements and updates of the SJFM-2014 Model. The following is a list of the main questions included in the questionnaire:

- Provide comments on the conceptual model and its applicability for development of the numerical model.
- Provide any recommendations for future refinement and updates.
- Provide comments on the adequacy of approach and methodology for calibration of the numerical model.
- Provide comments on the model calibration results as intended for application of the model to the estimation of basin yield, and suitability for predictive scenario runs.

Responses by AP members to the questionnaire and EMWD/RMC response to AP comments are provided in Appendix F. In general, AP members agree that the conceptual model is appropriate for development of the groundwater flow model for the San Jacinto Groundwater Basin. The general calibration approach and goals were generally accepted by the AP members. Additional statistics of model calibration were recommended by AP which are now included in the final report. Final calibration results were reviewed by the AP members and general consensus exists that the model is suitable for predictive scenario runs in major existing or planned groundwater production areas. As indicated in Sections 6.2 and 6.3, there are areas of complex hydrological conditions in the model area that represent some lack of data to provide reasonable understanding of the groundwater conditions. AP recommendations is to consider these complexities when interpreting the future simulation results.

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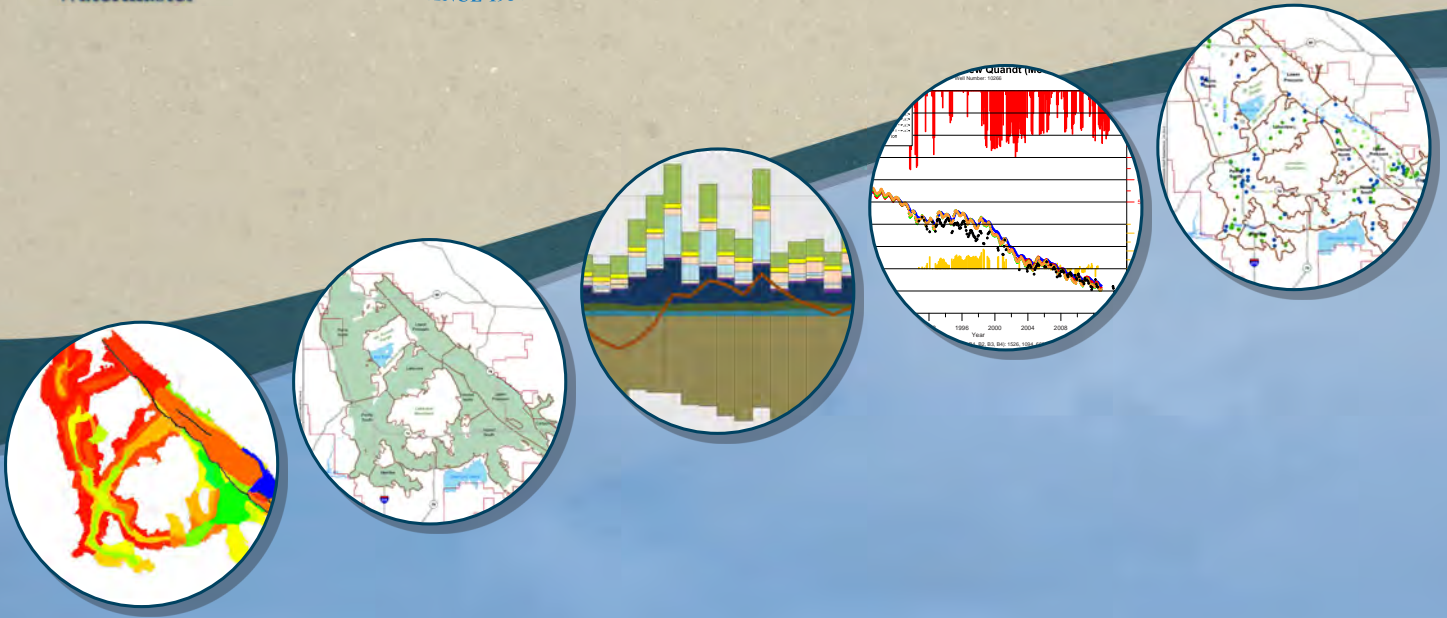
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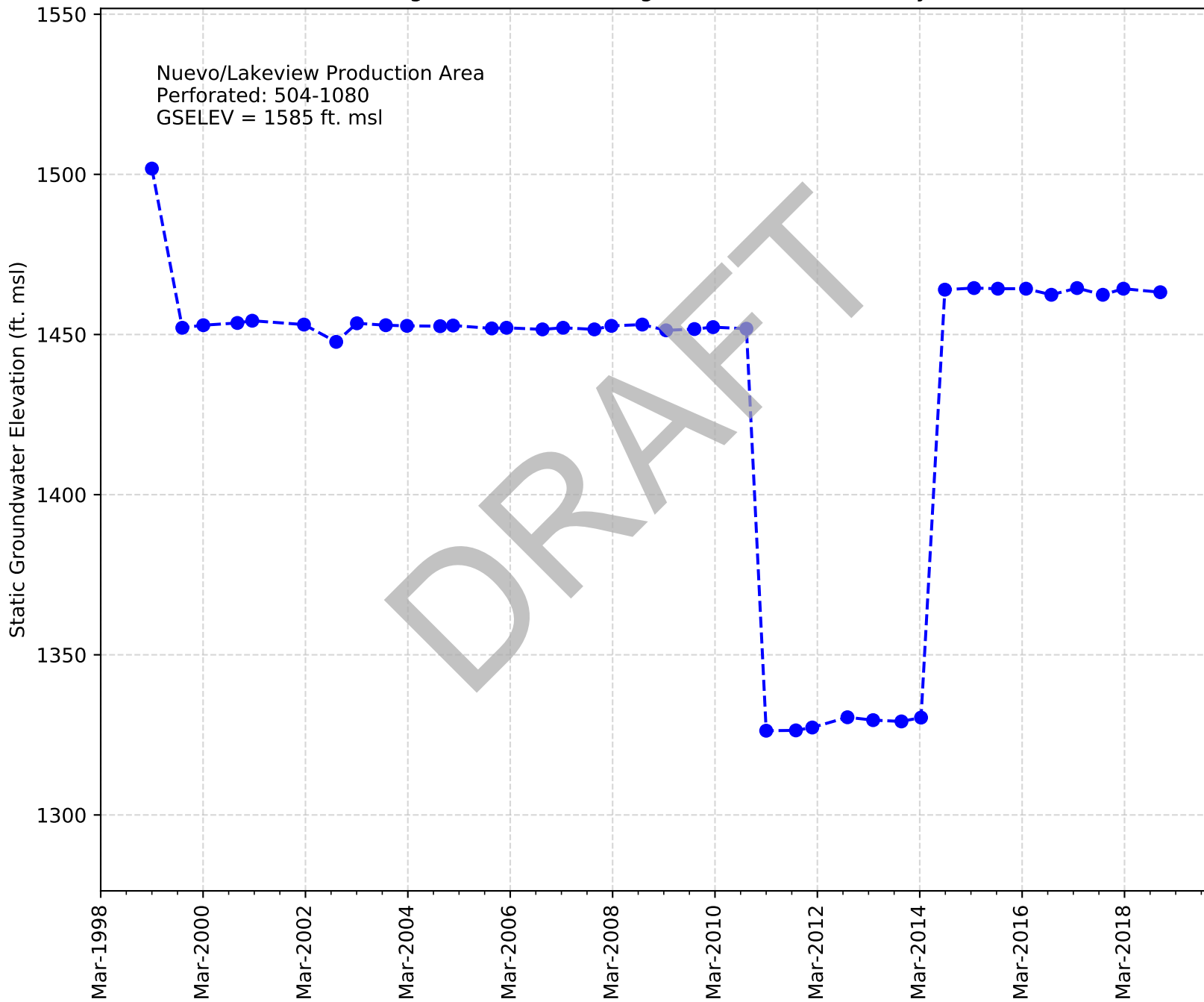


Eastern Municipal Water District
2270 Trumble Road
Perris, CA 92570

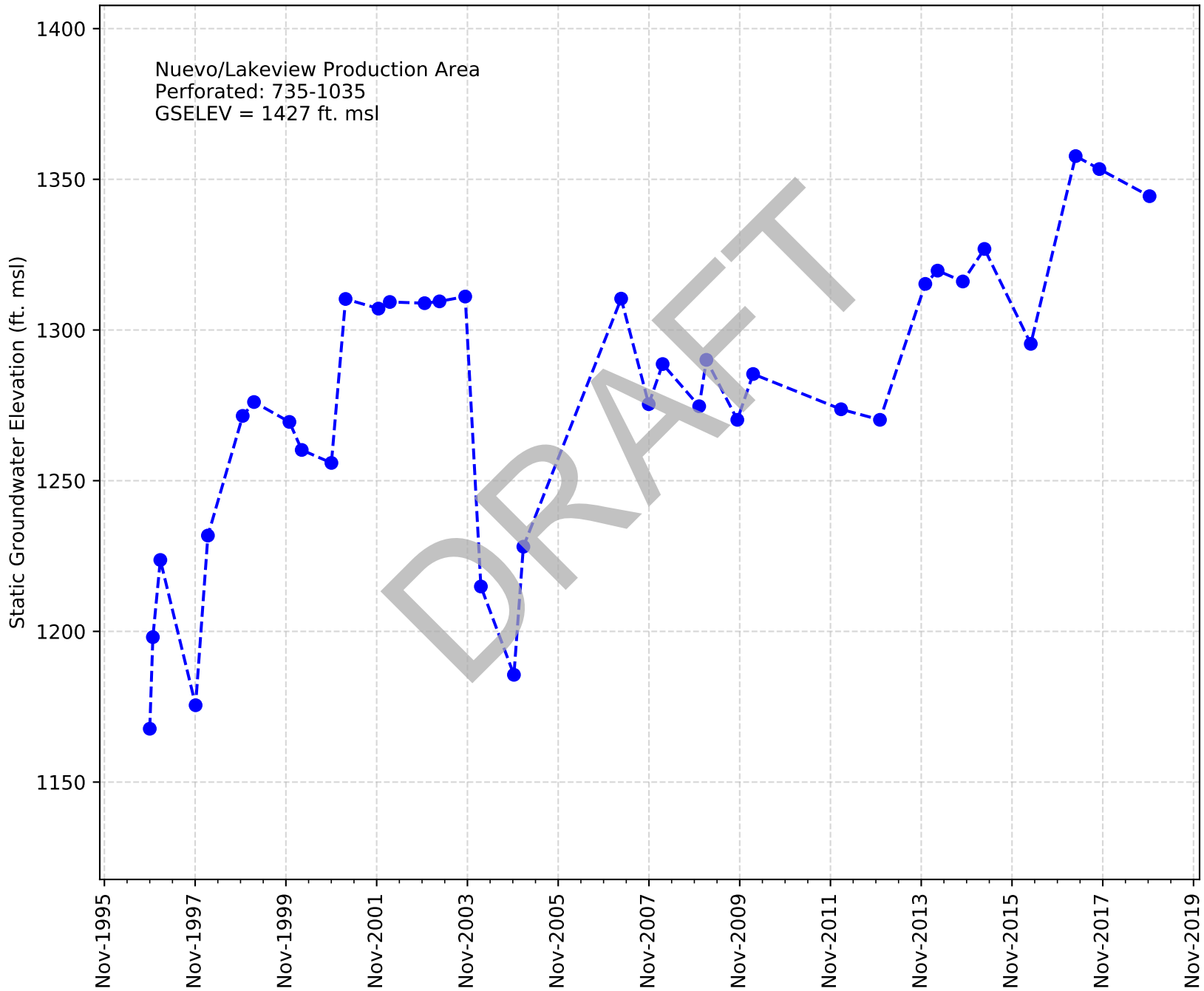


APPENDIX H
Groundwater Elevation Hydrographs

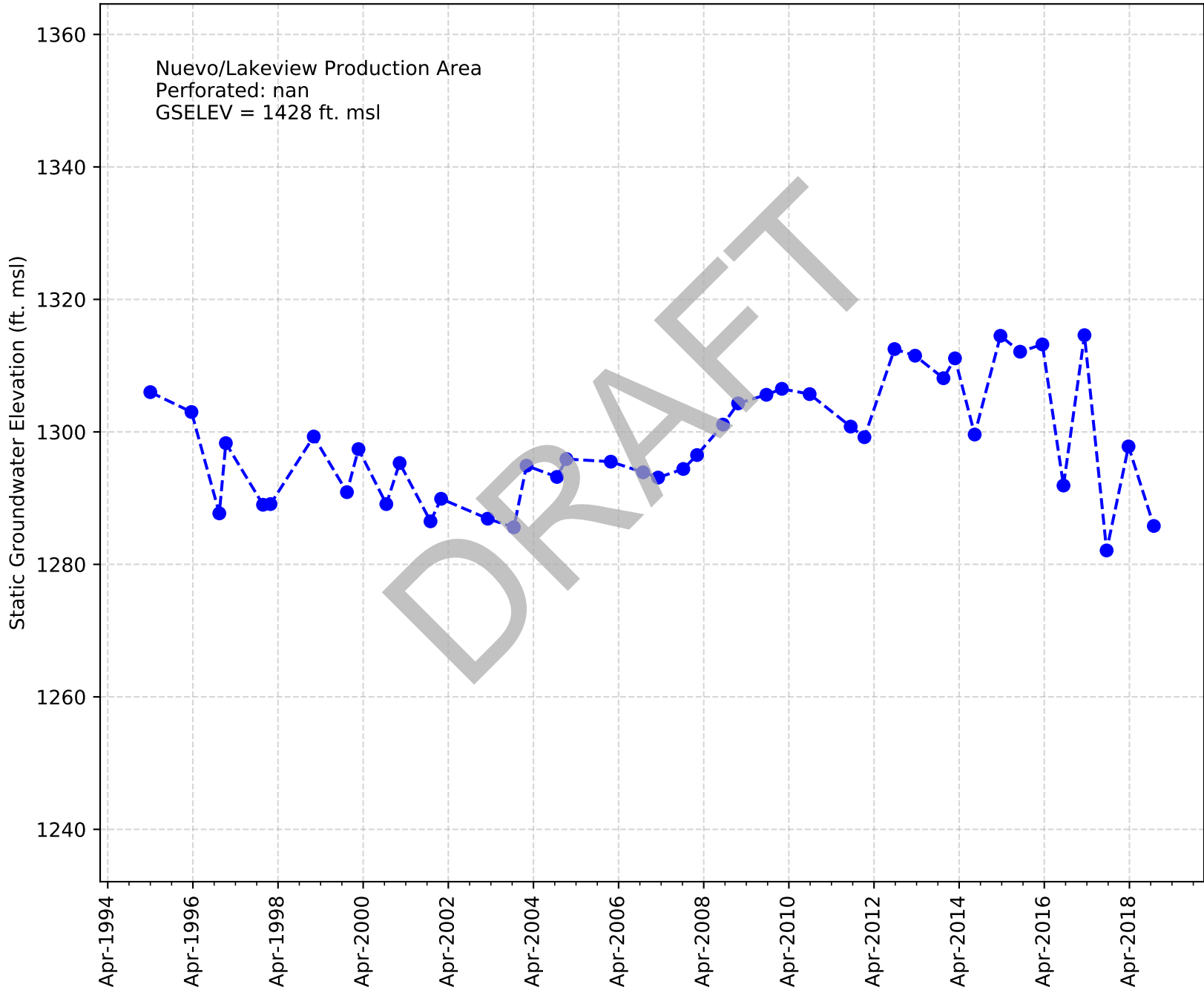
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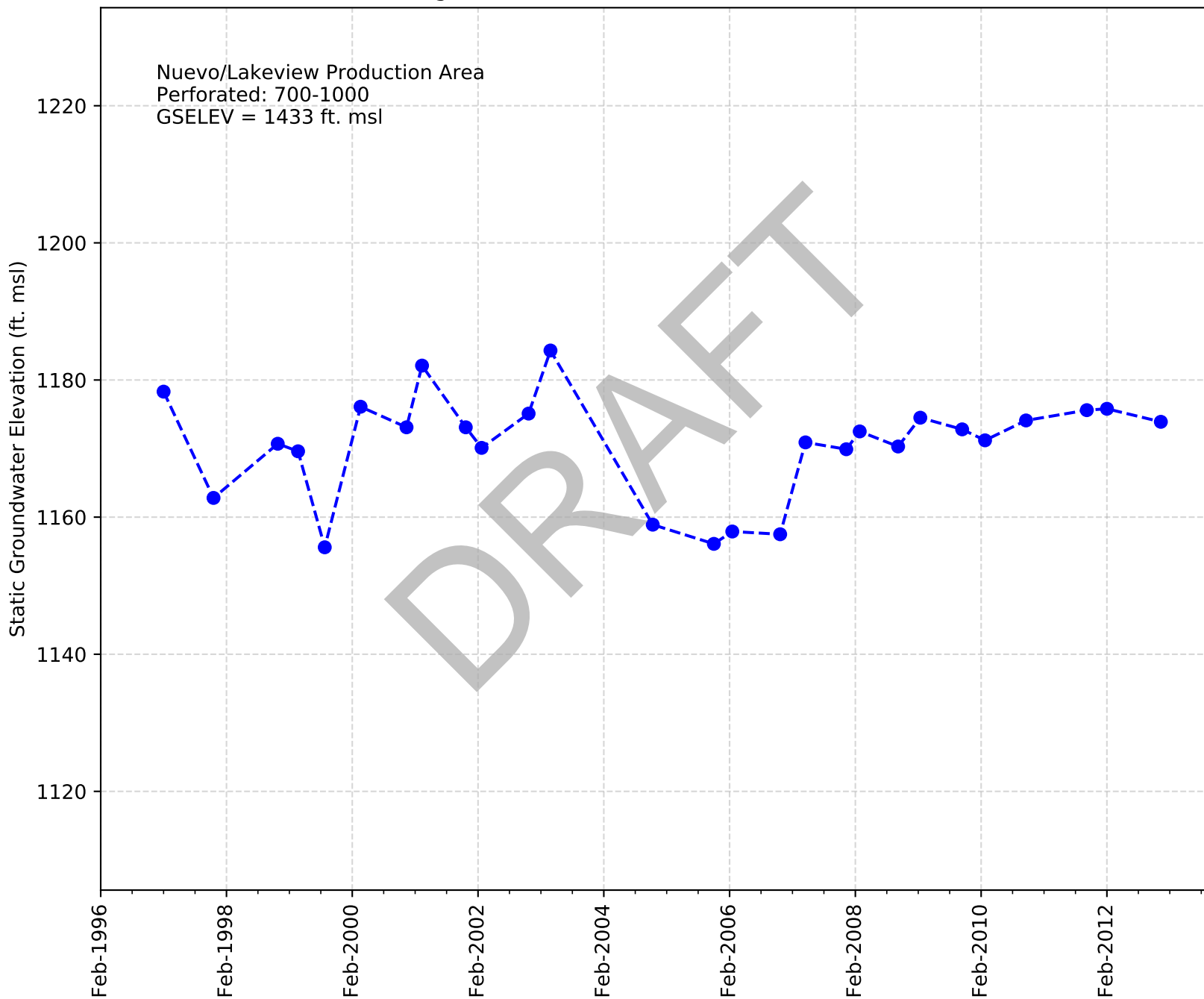
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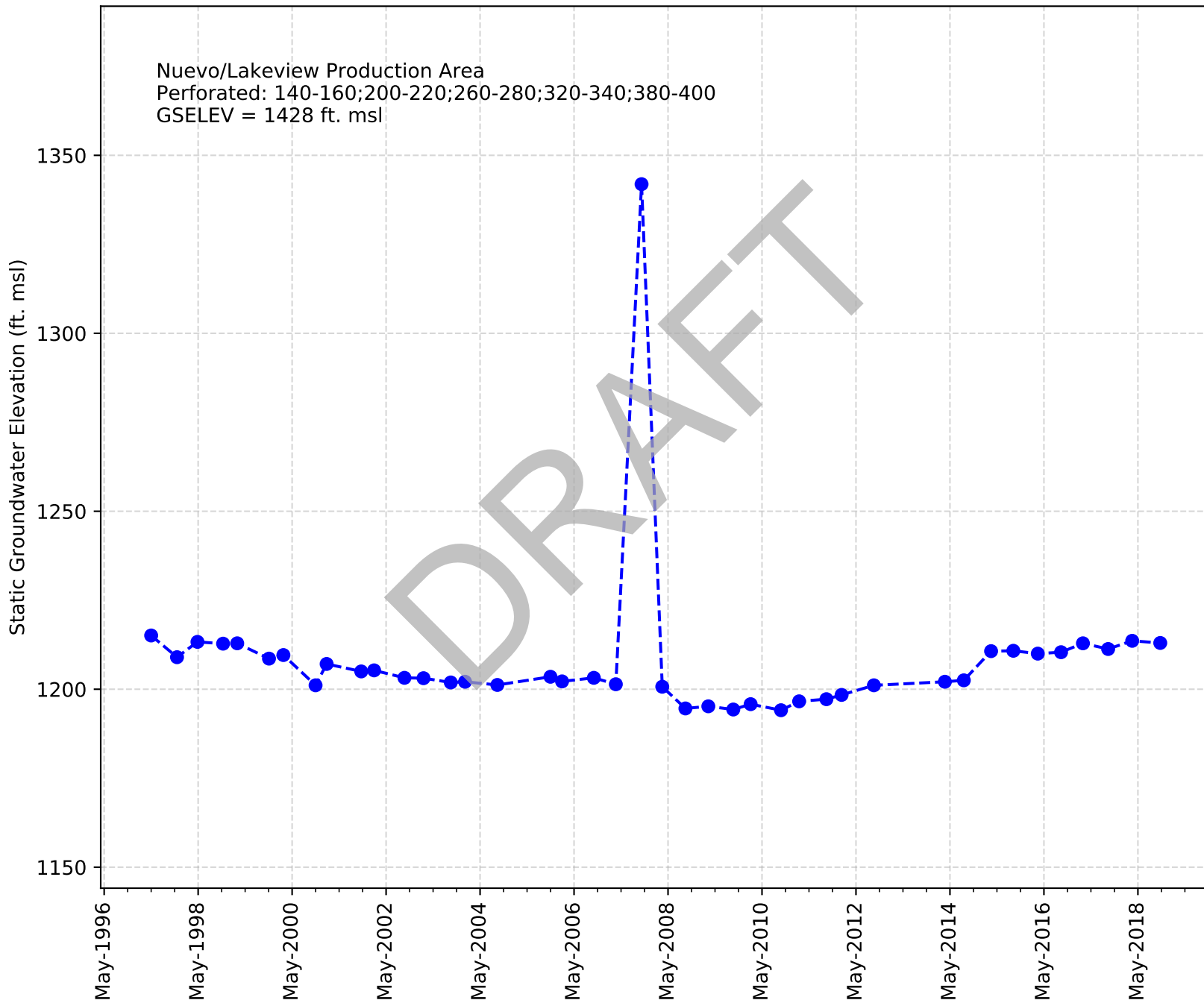
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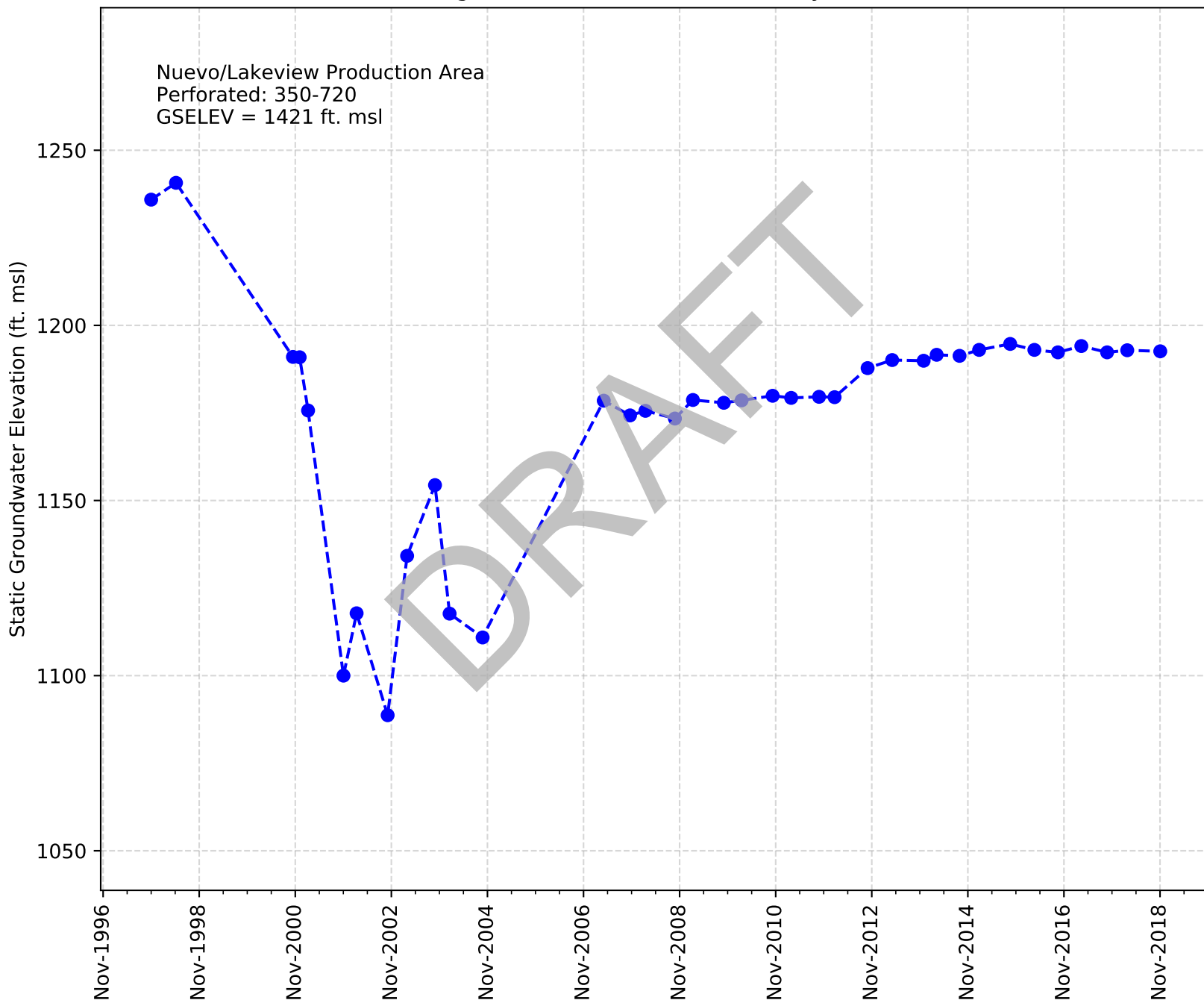
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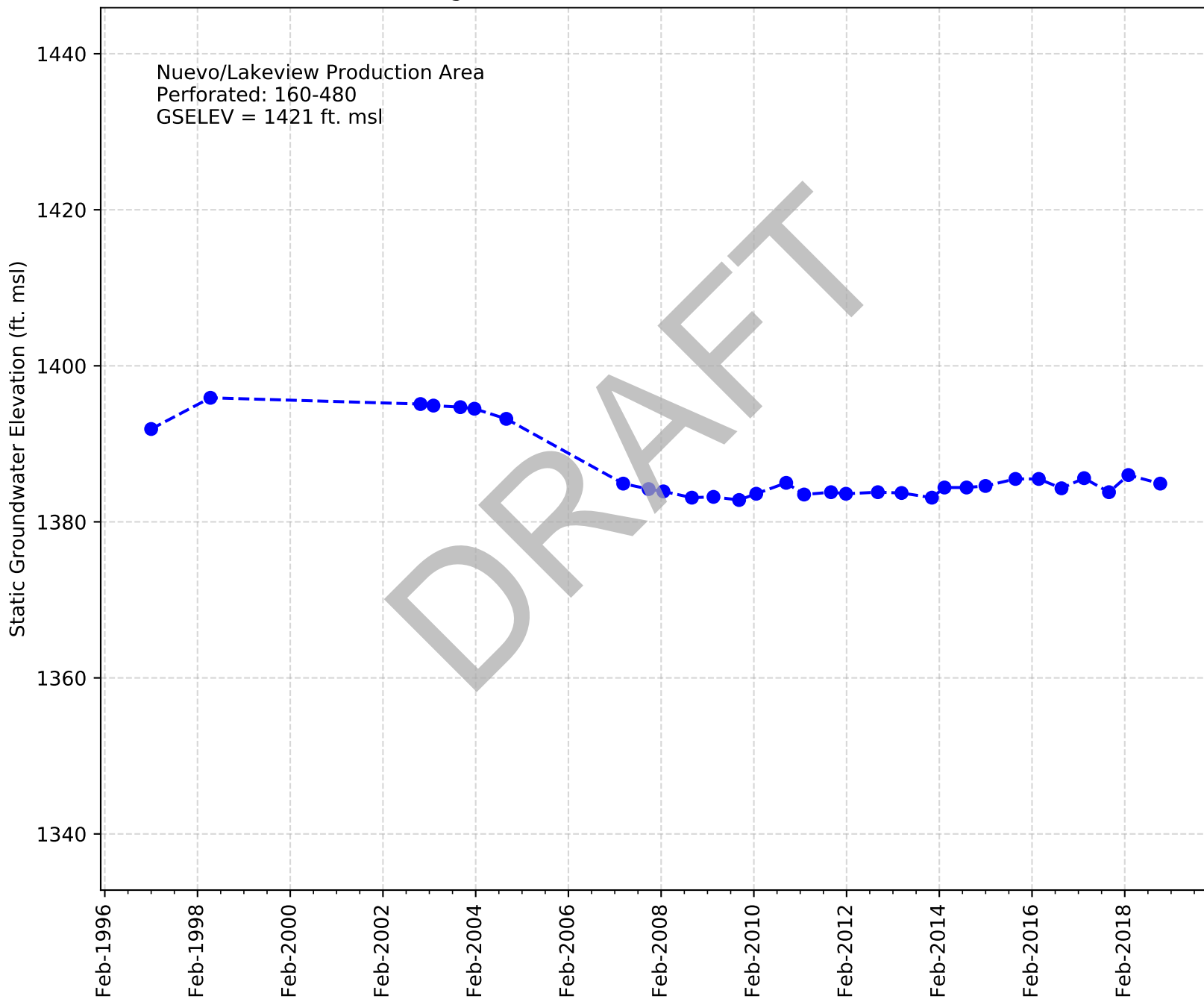
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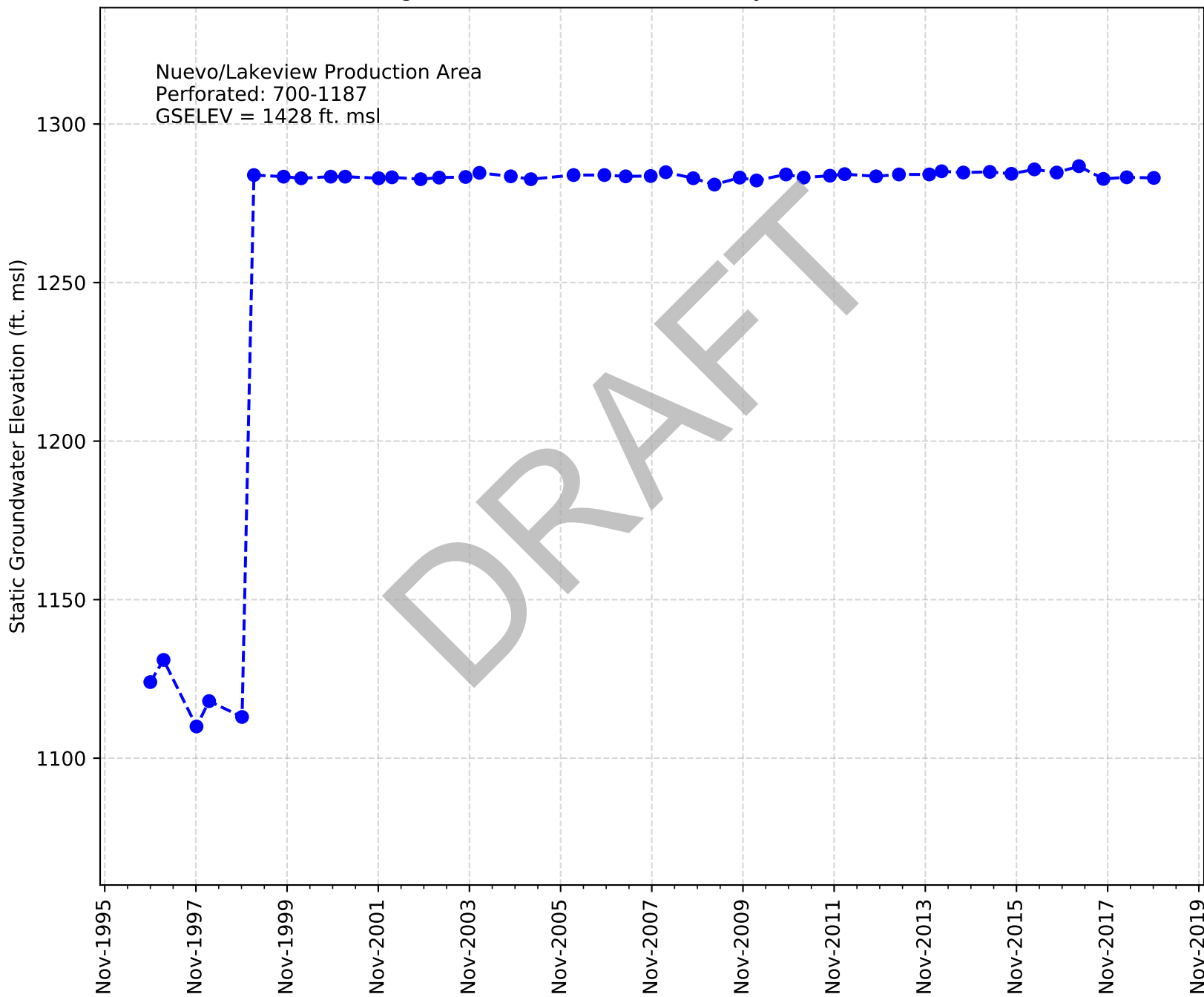
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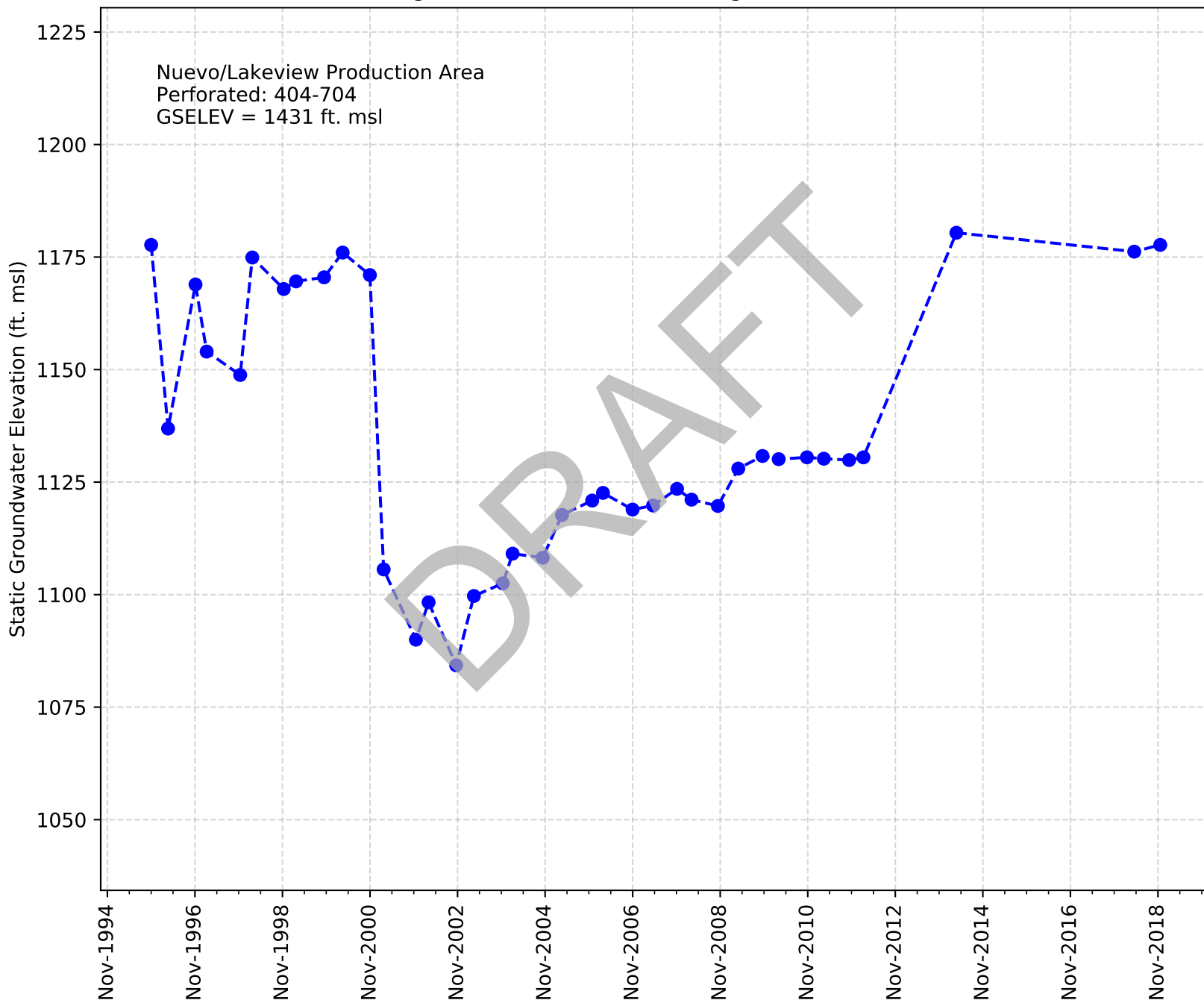
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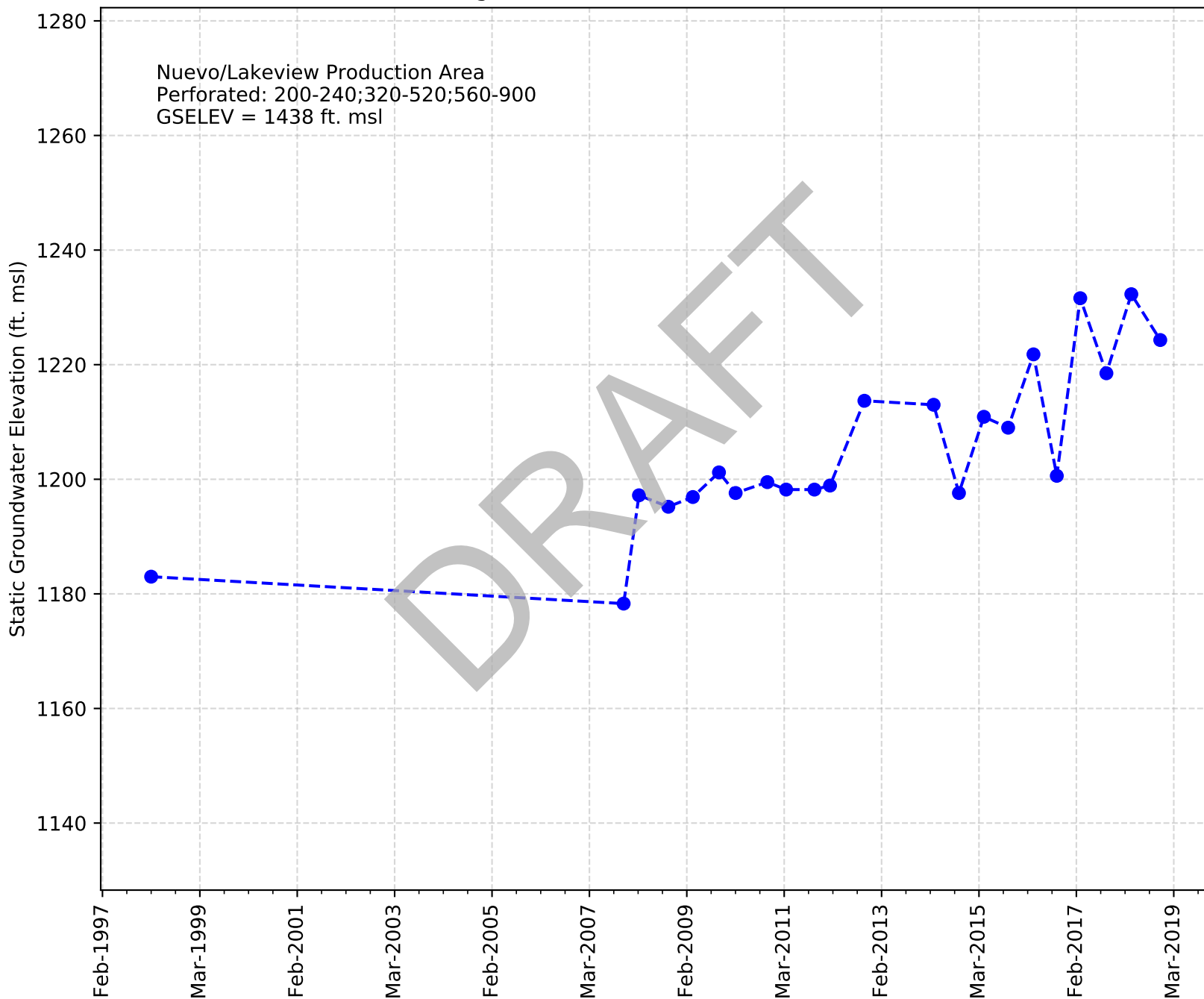
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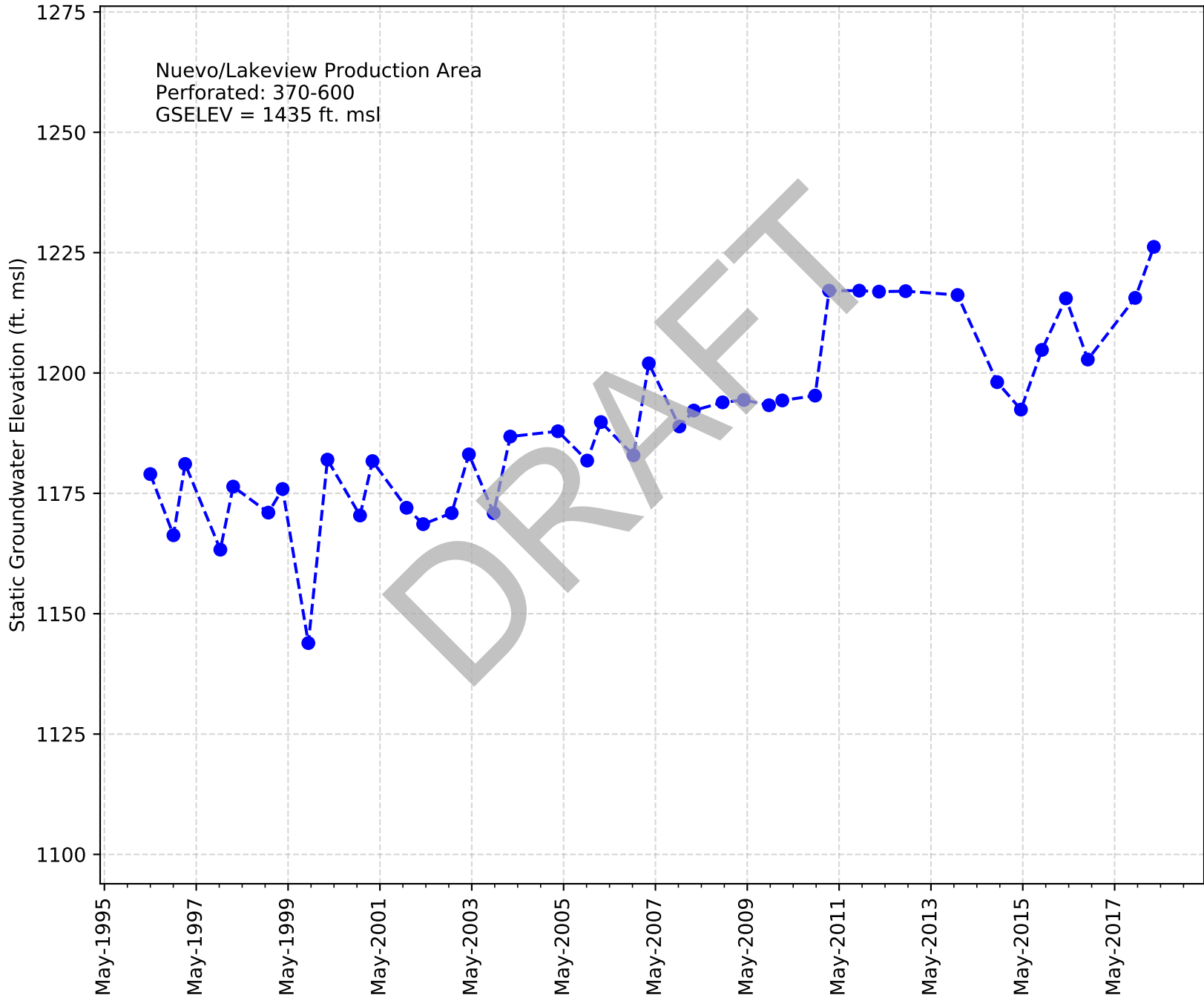
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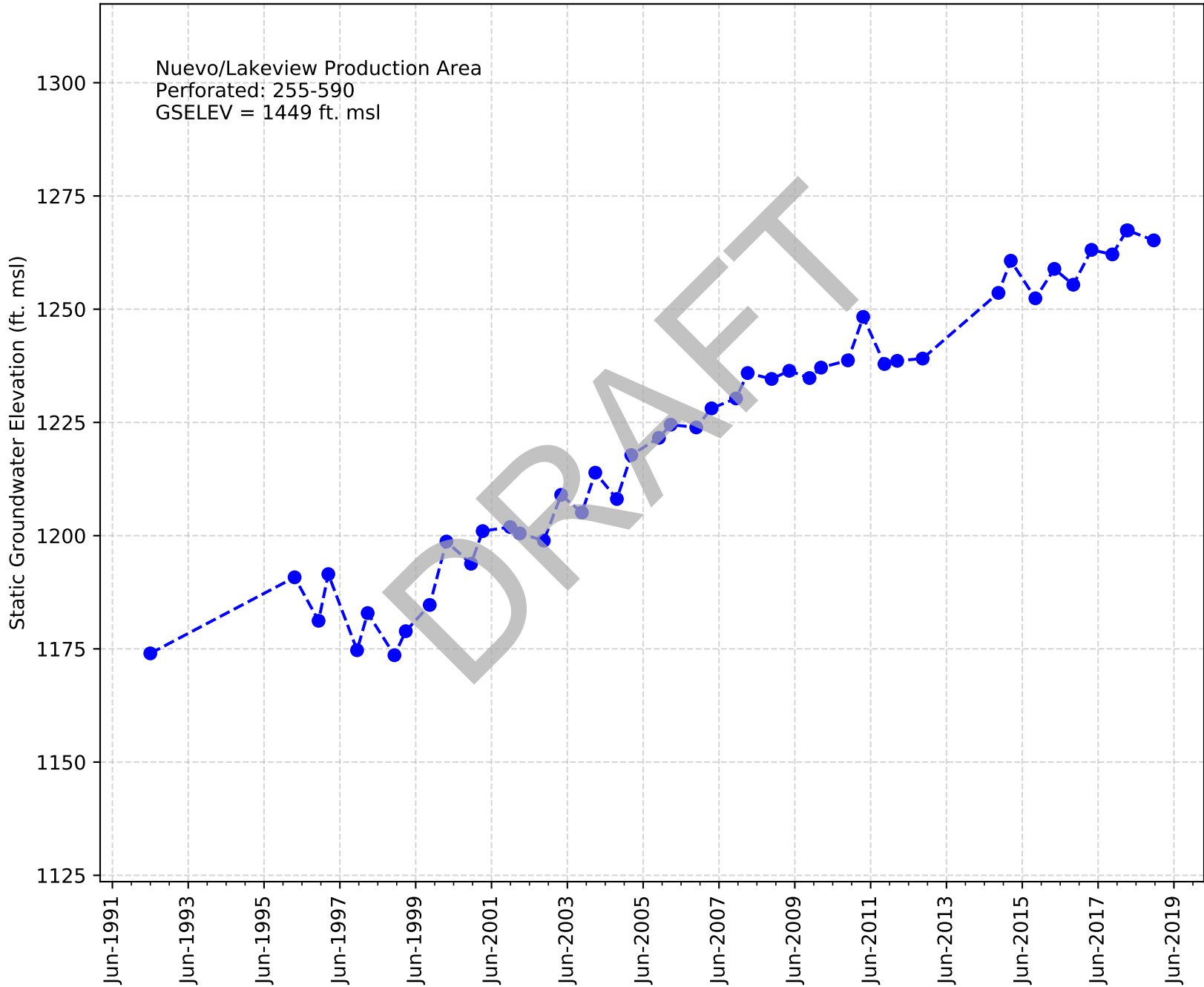
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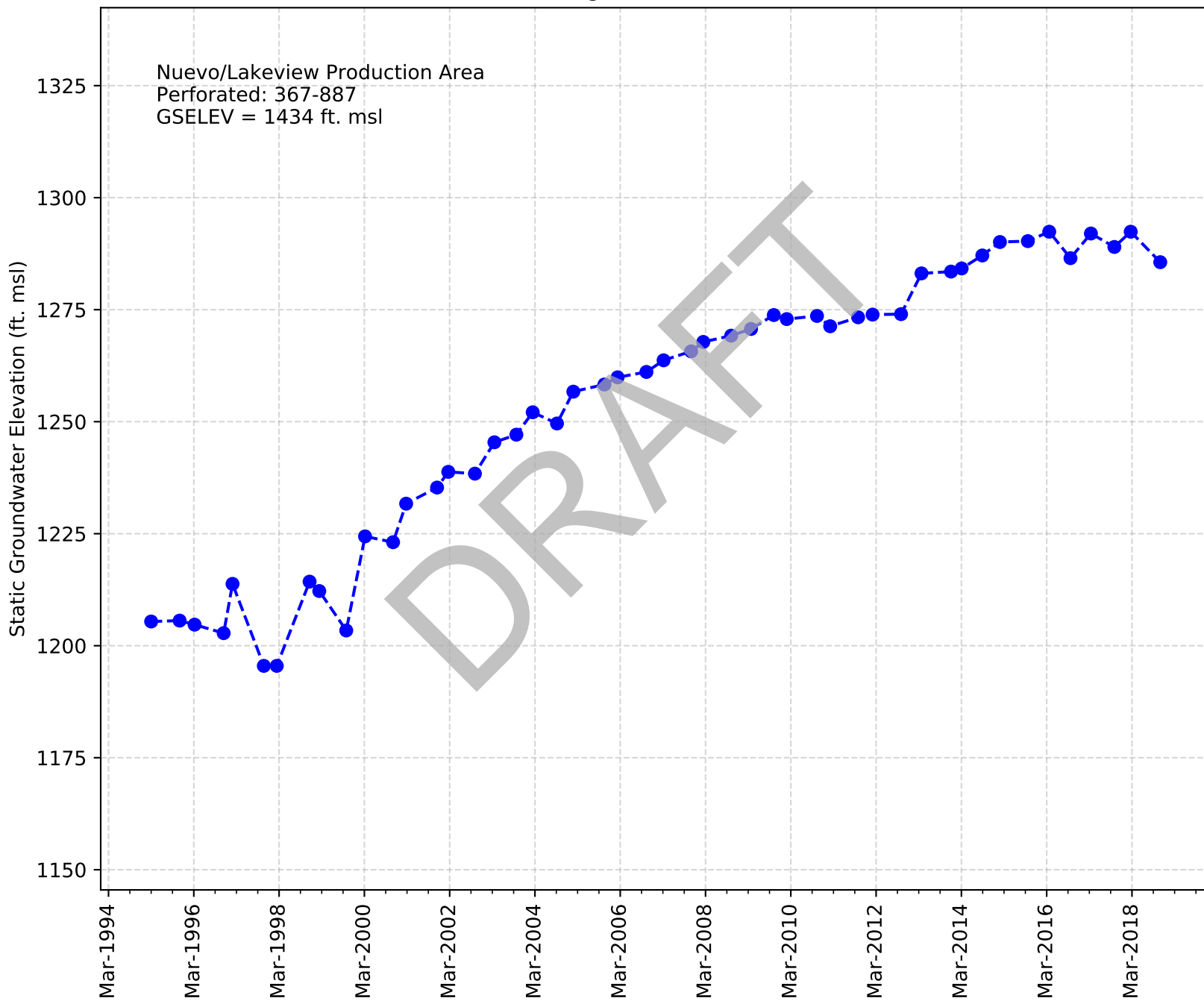
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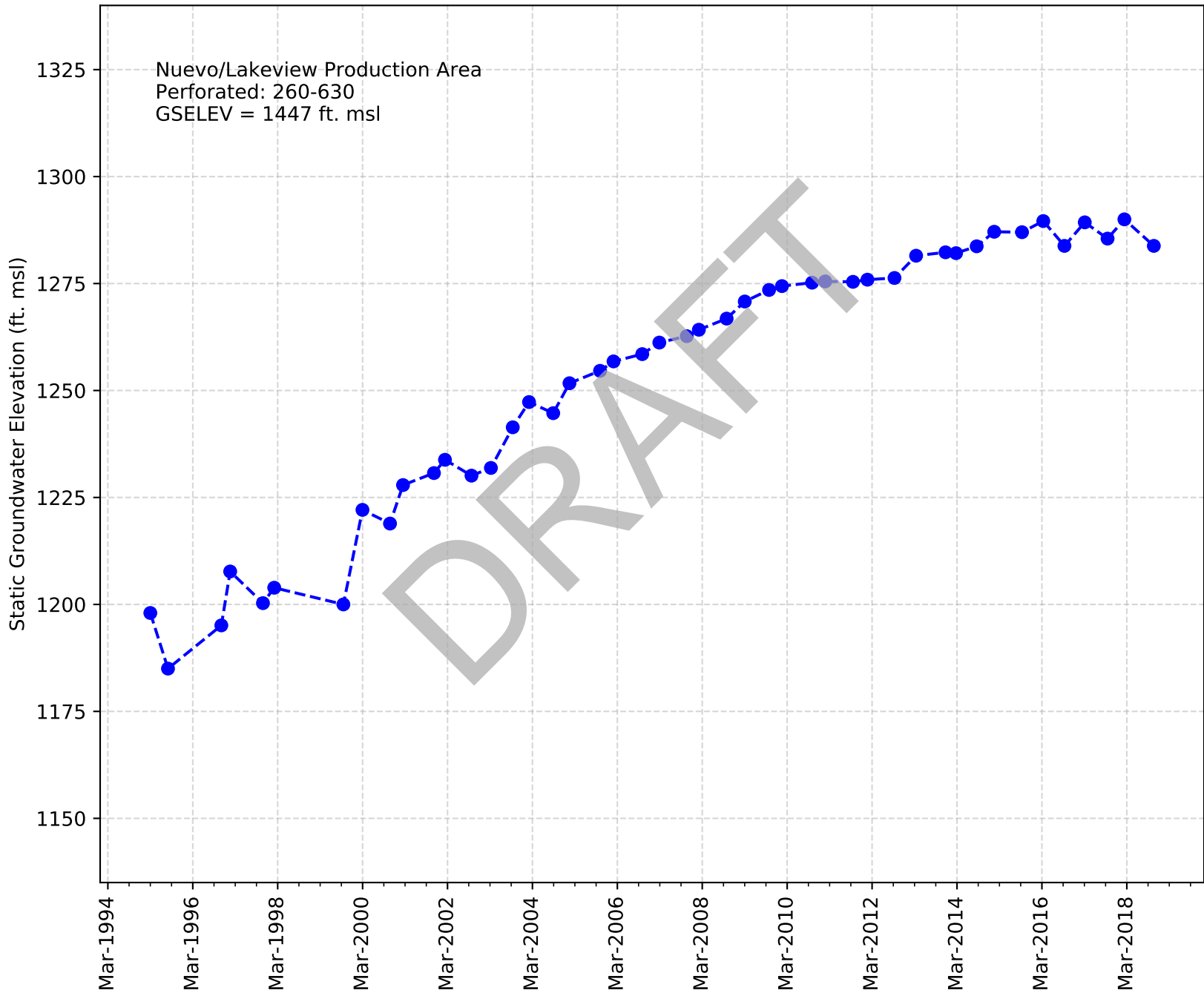
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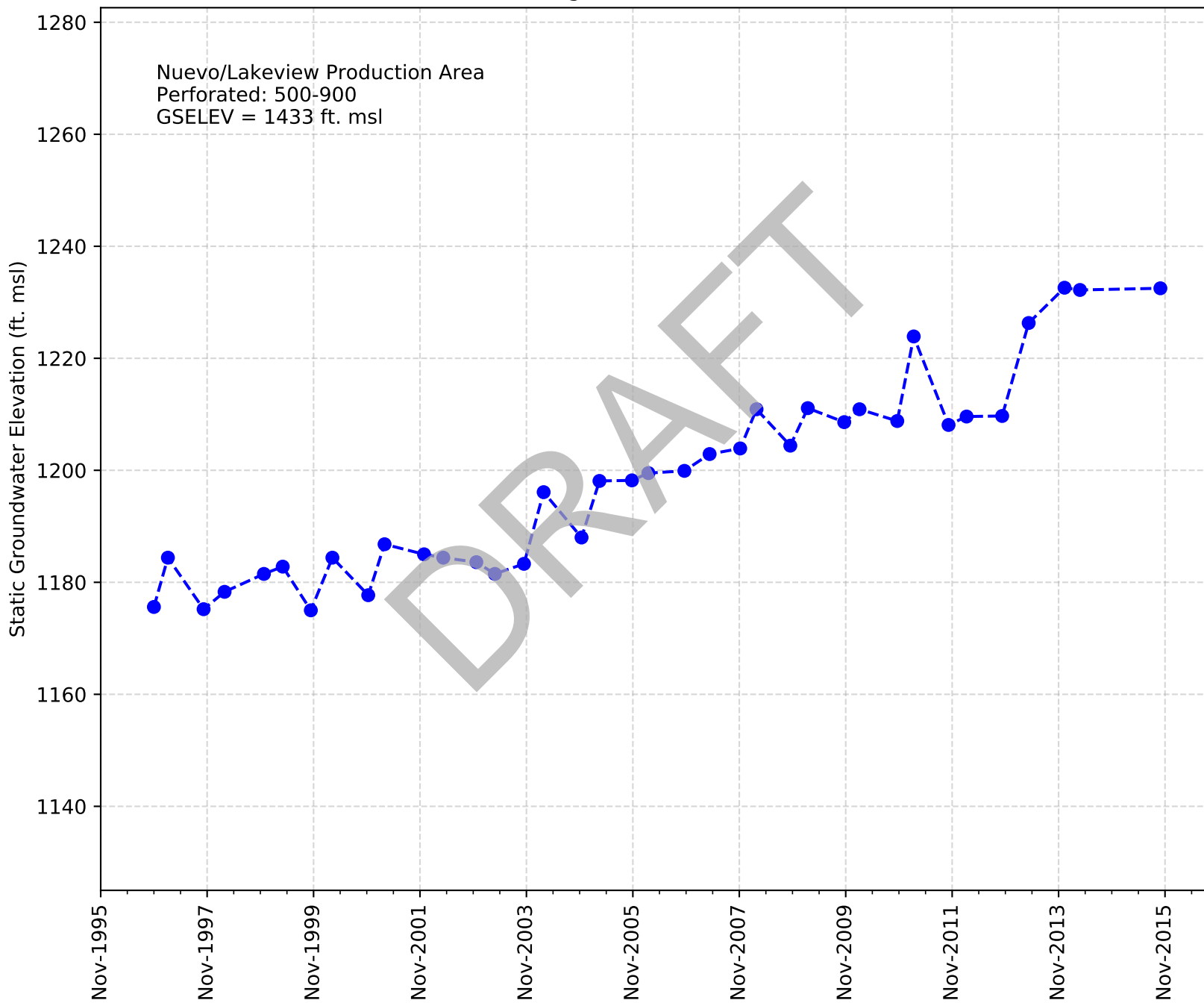
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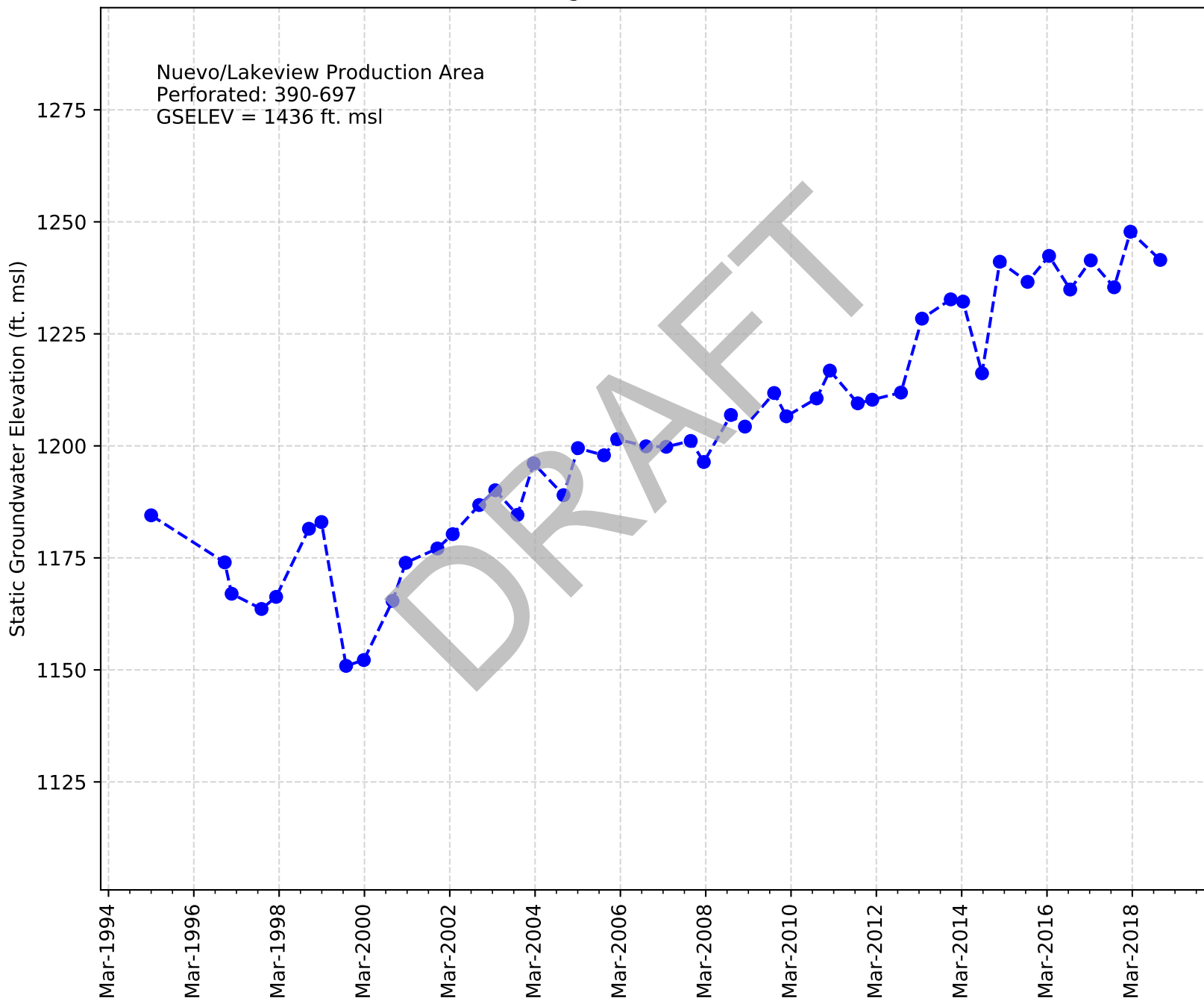
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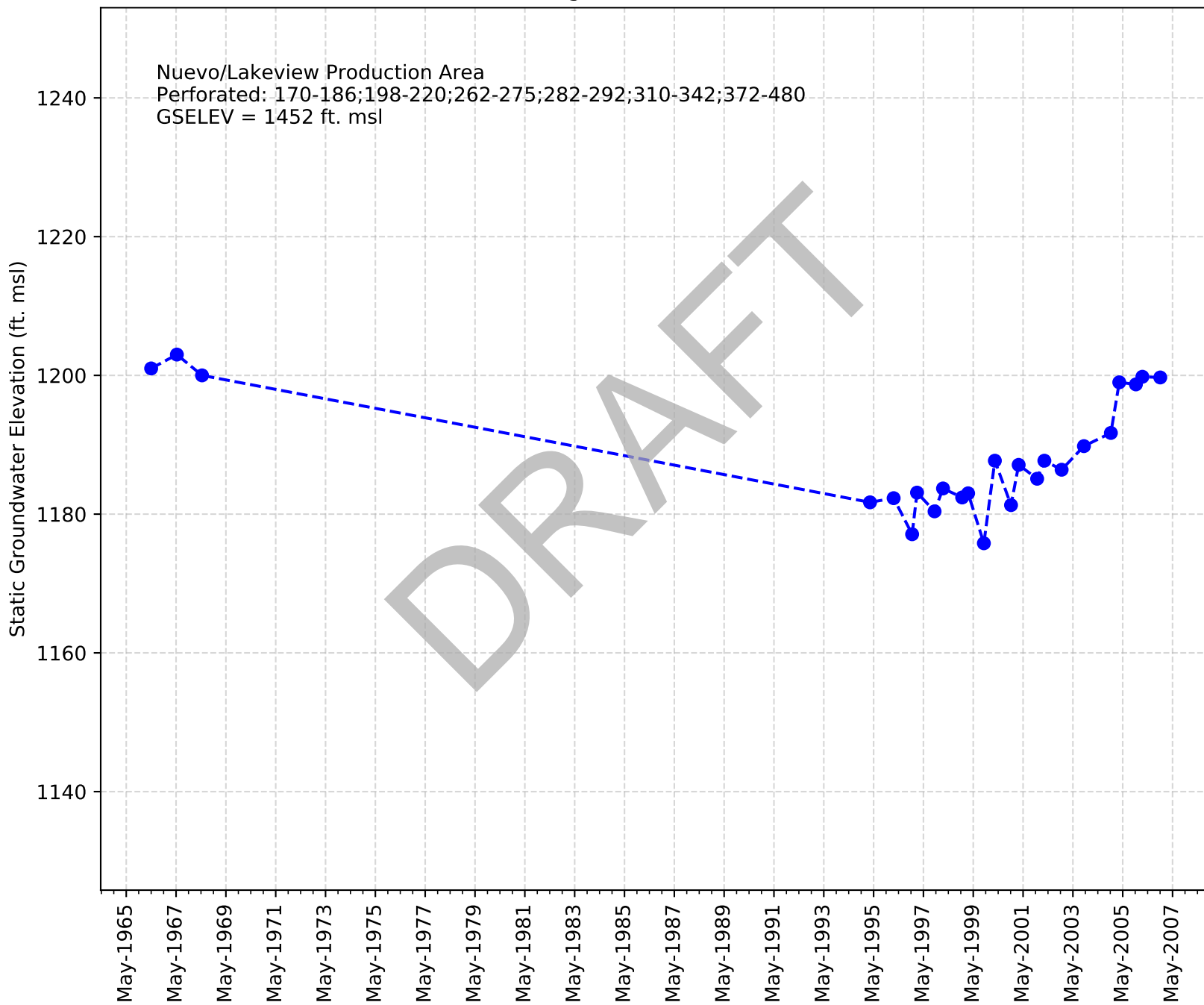
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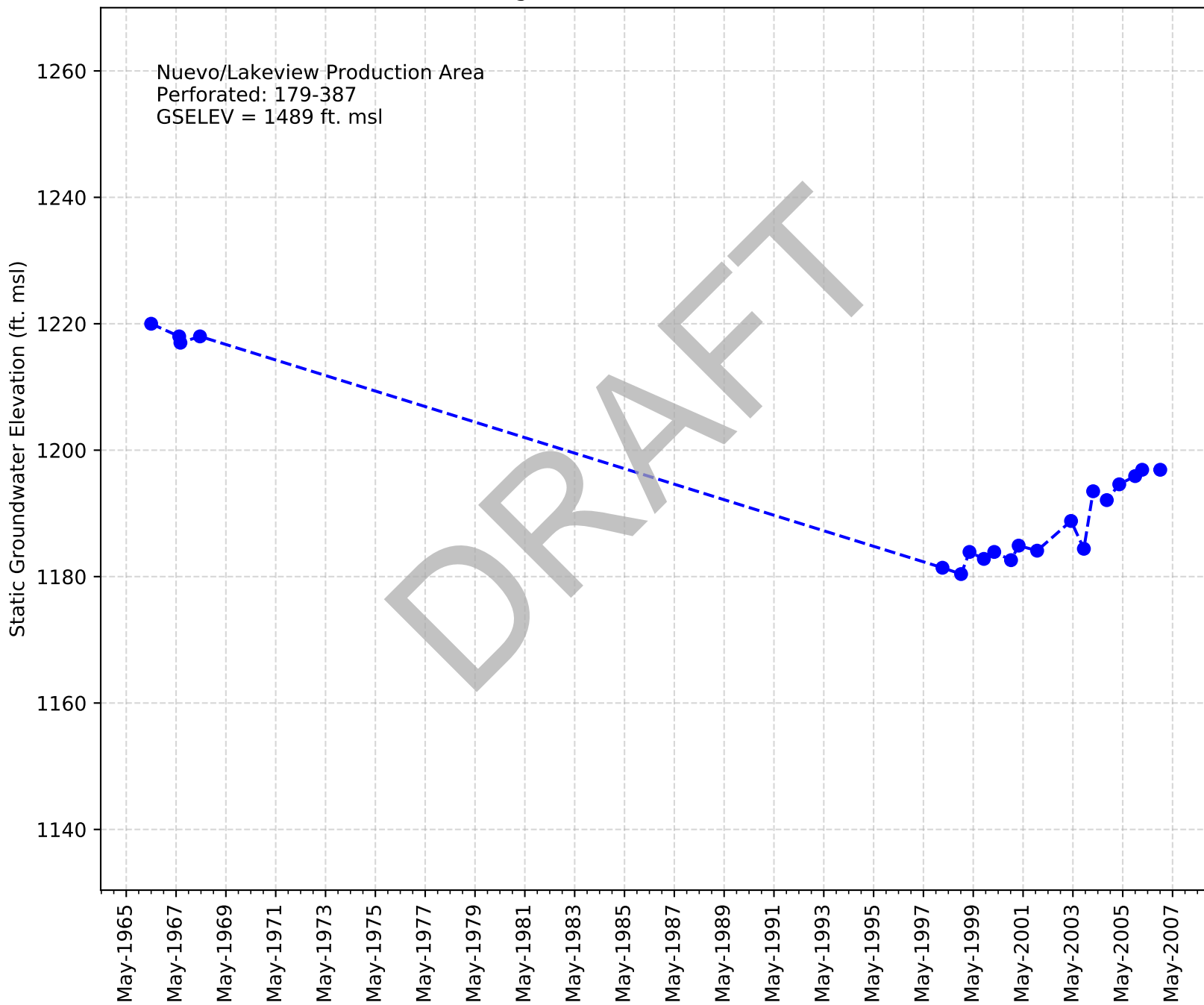
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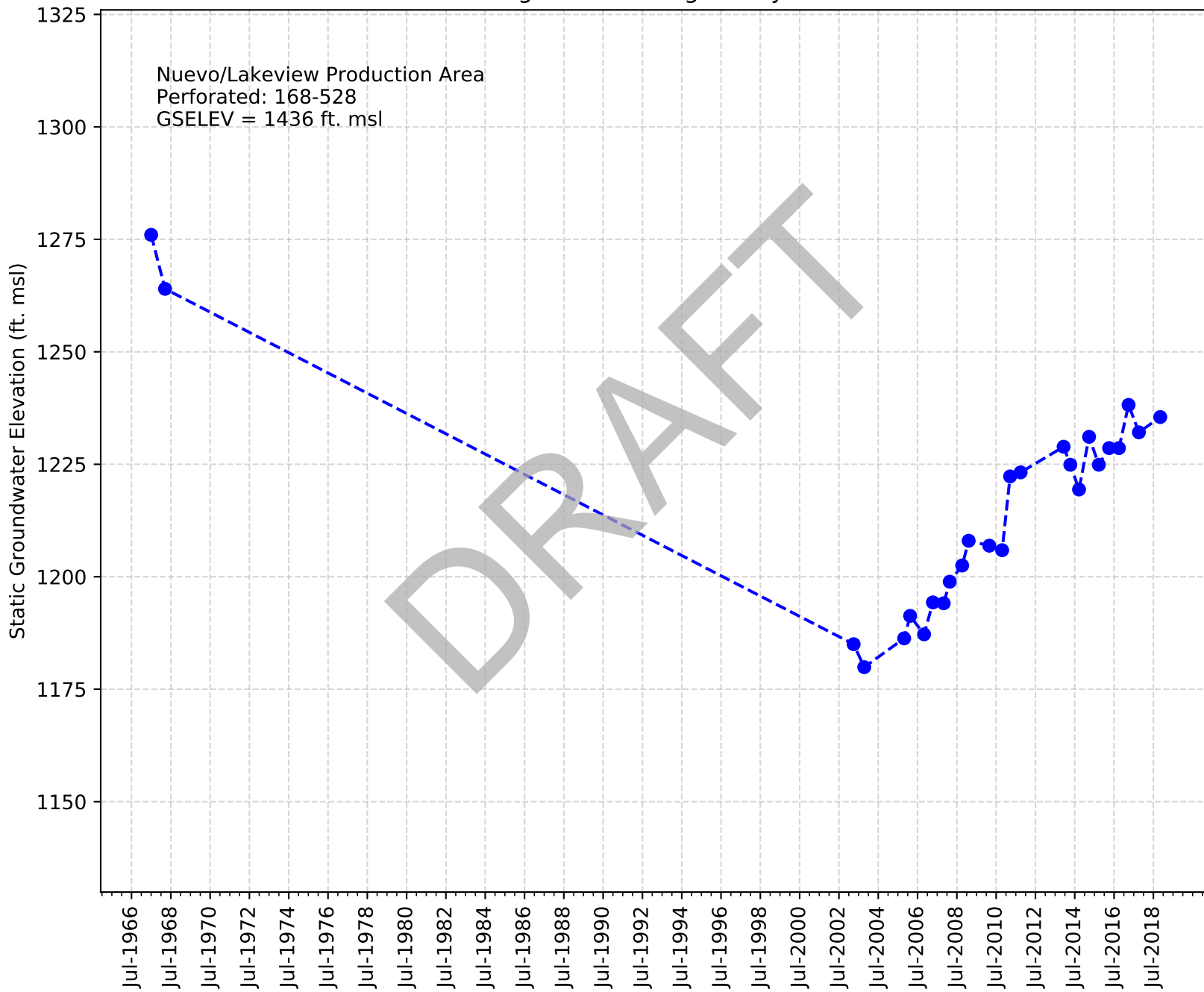
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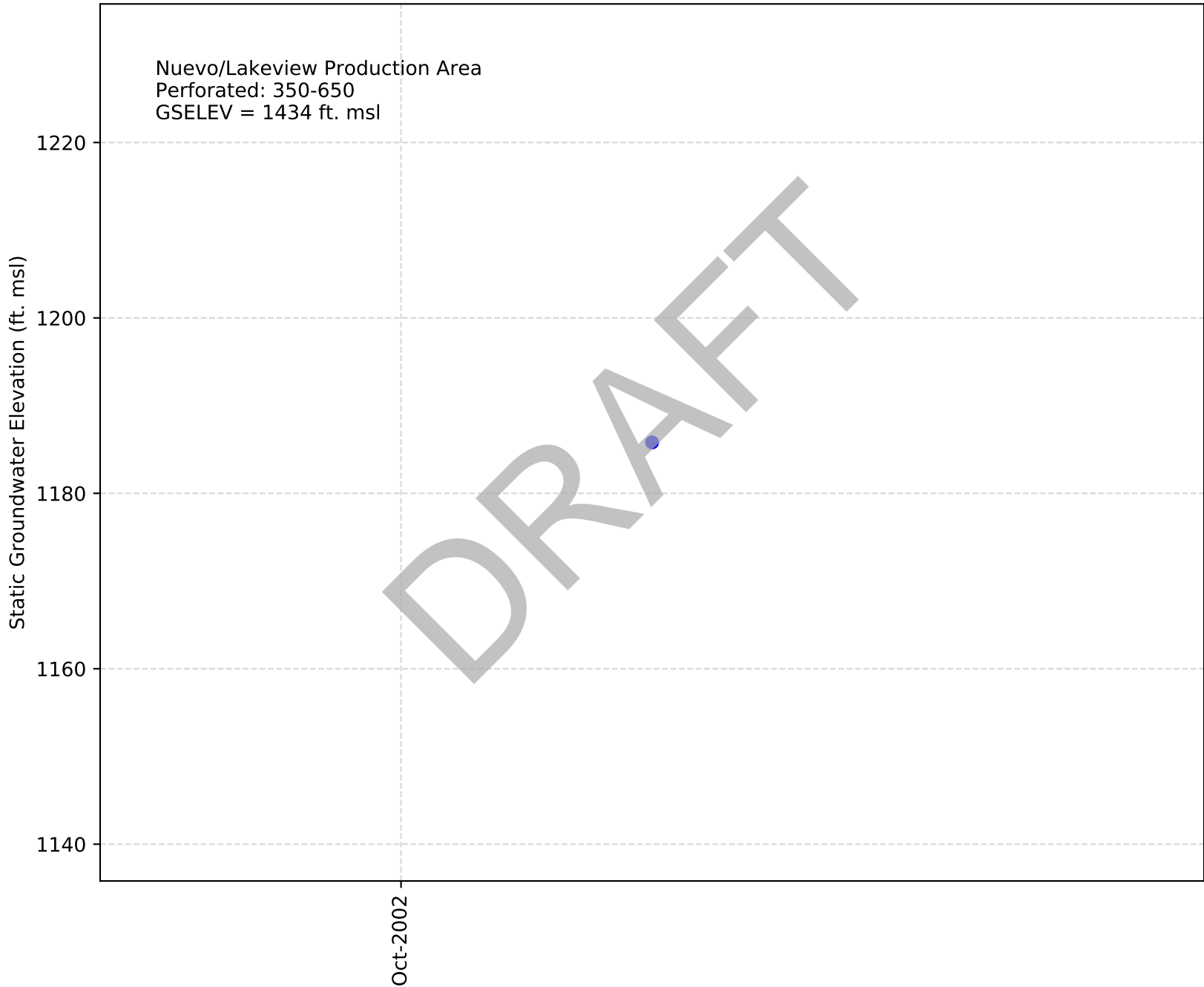
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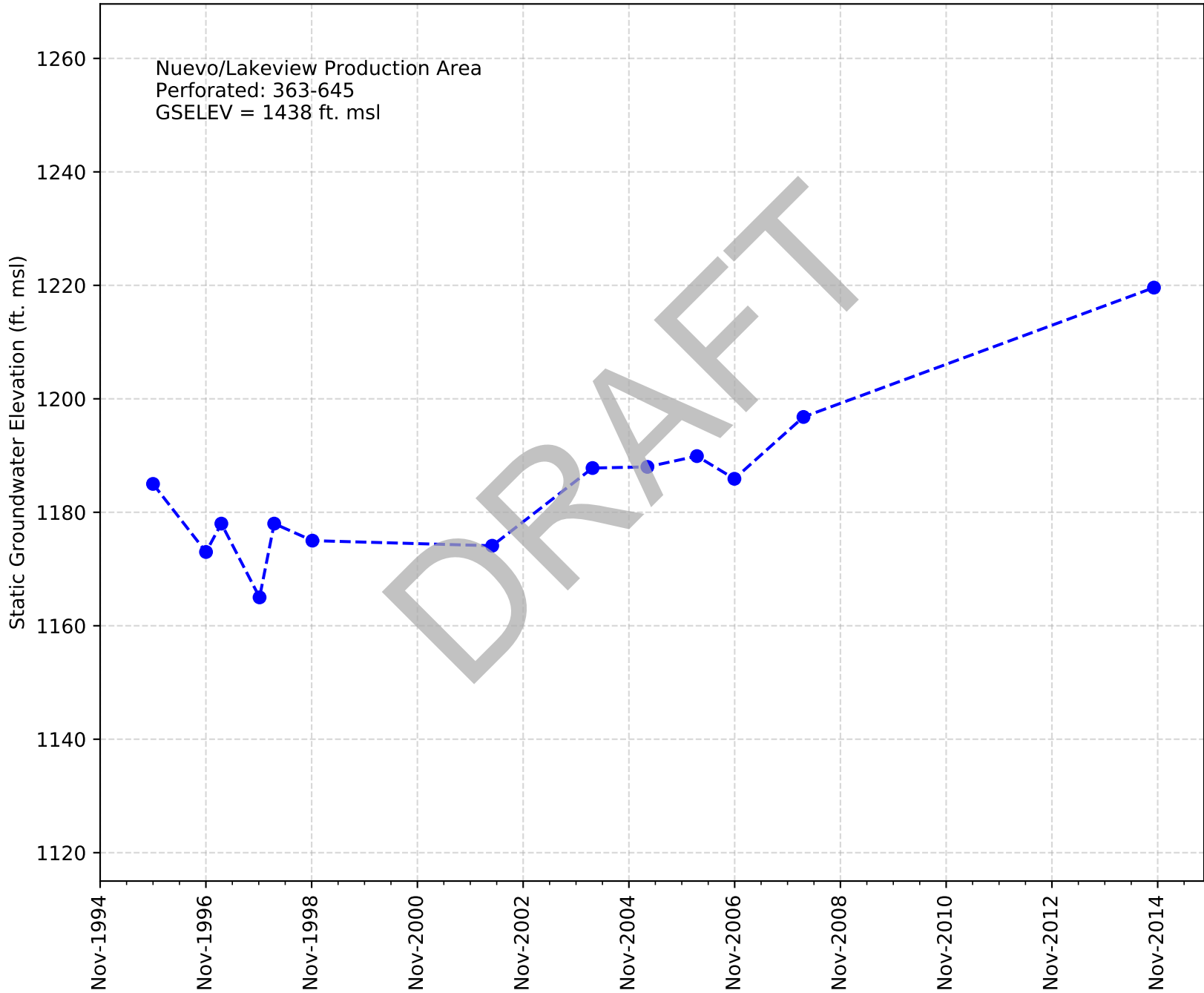
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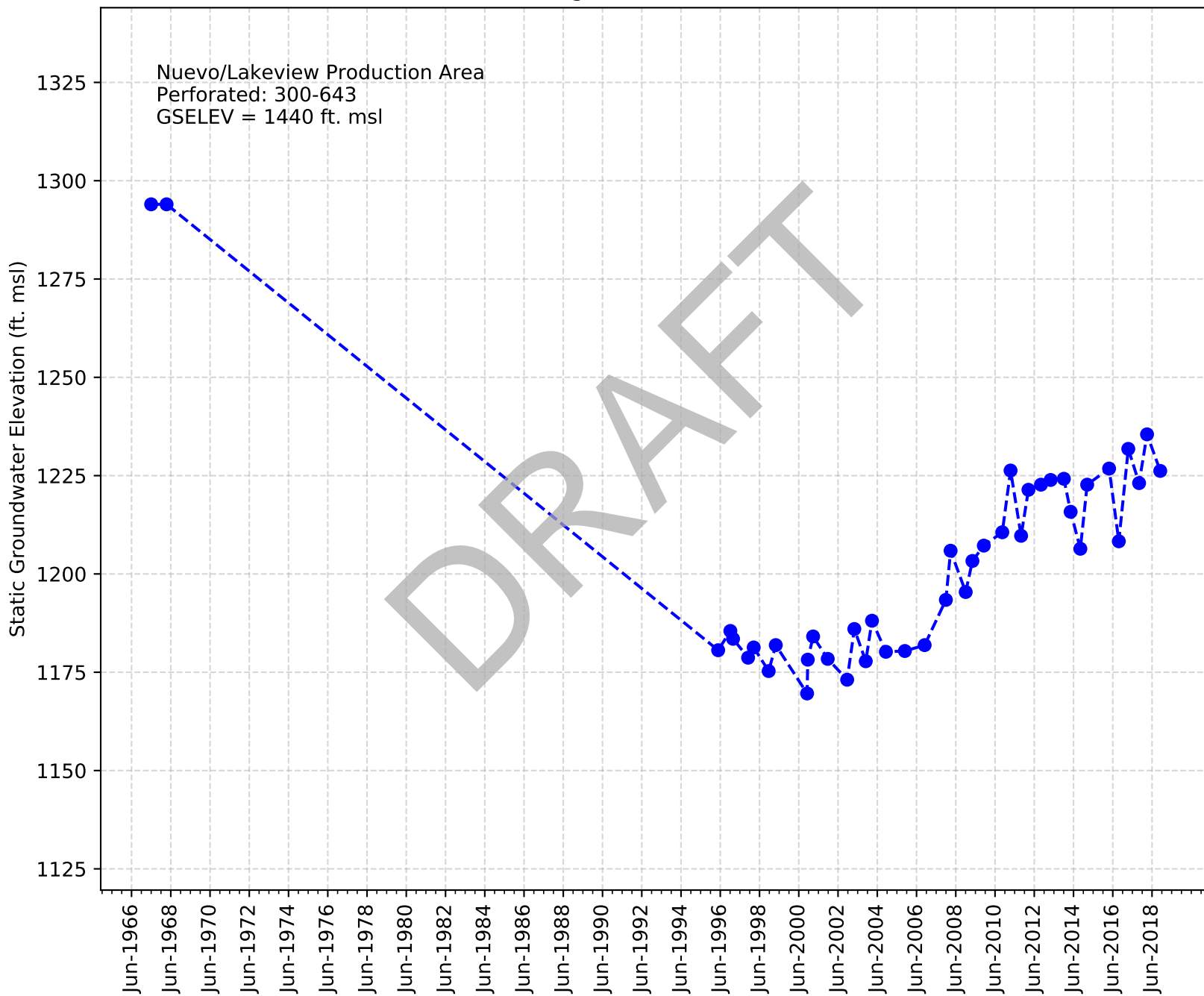
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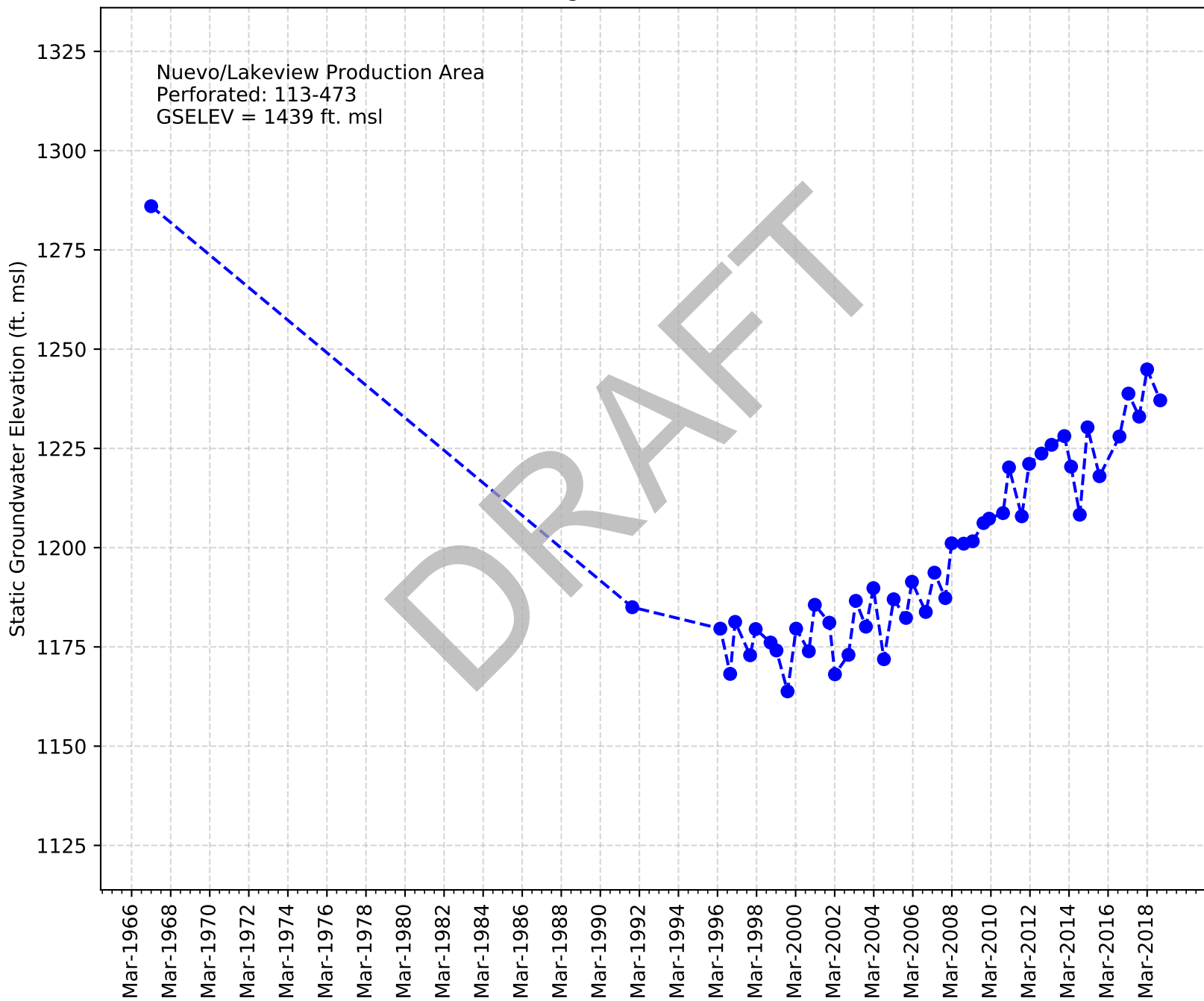
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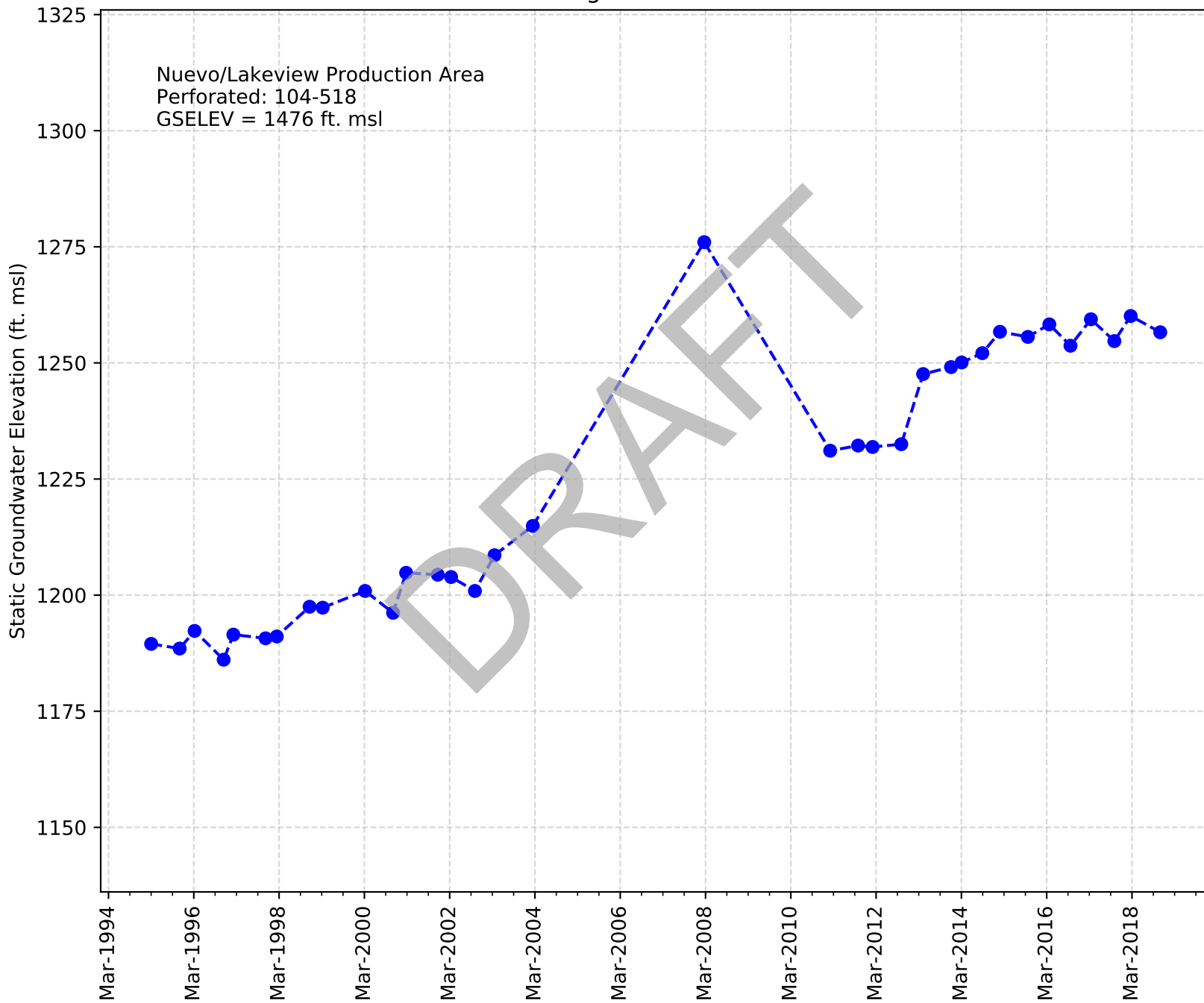
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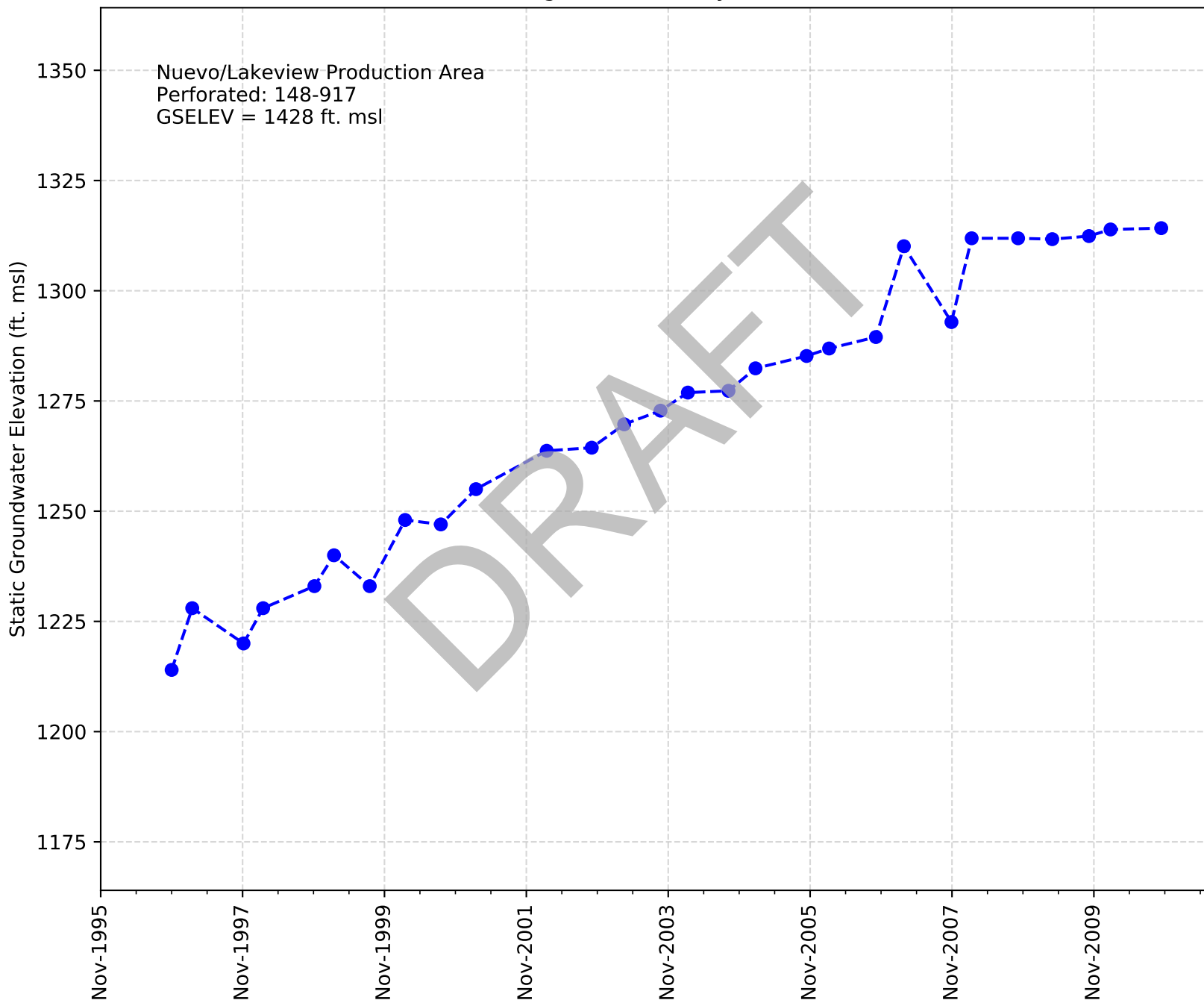
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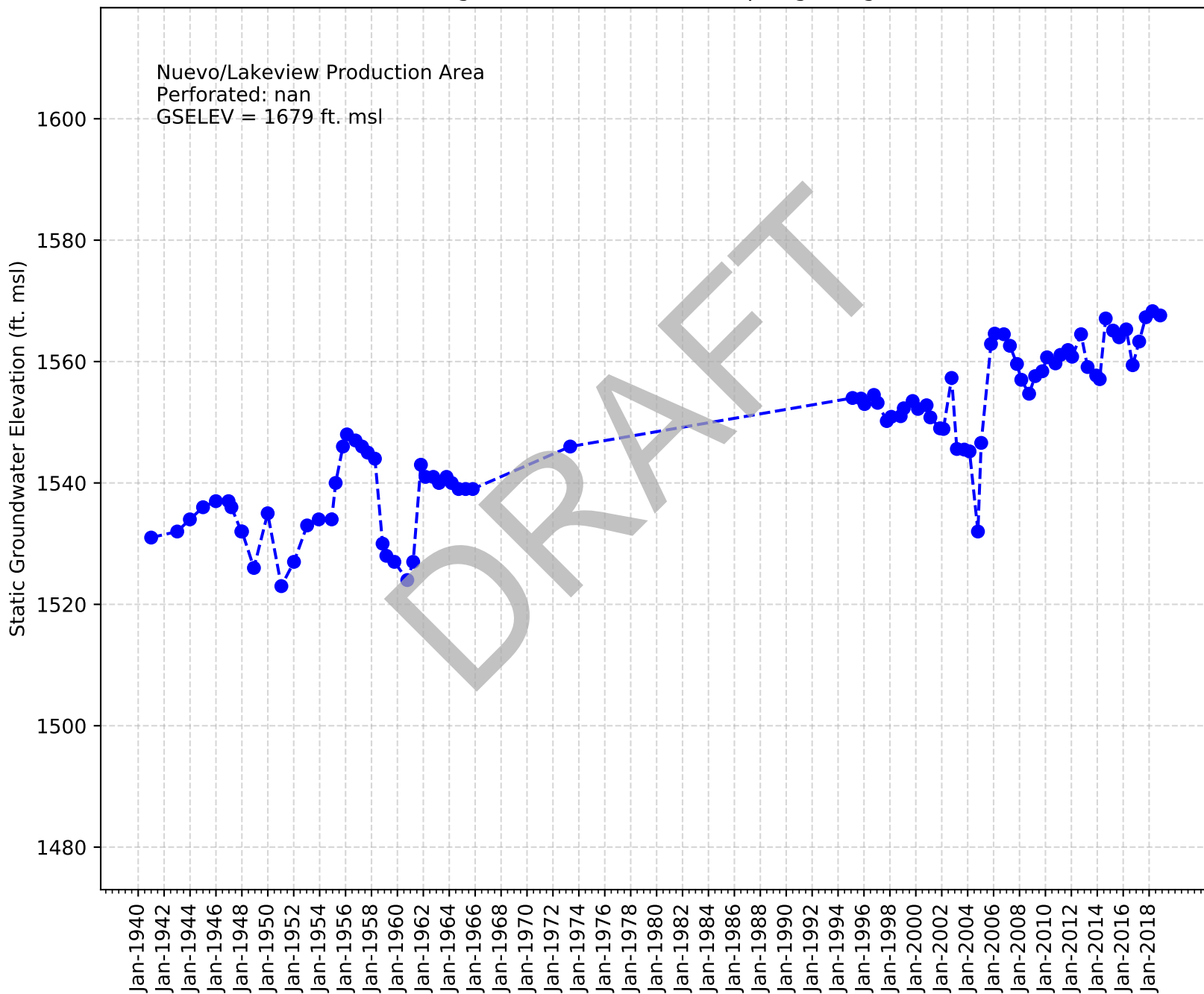
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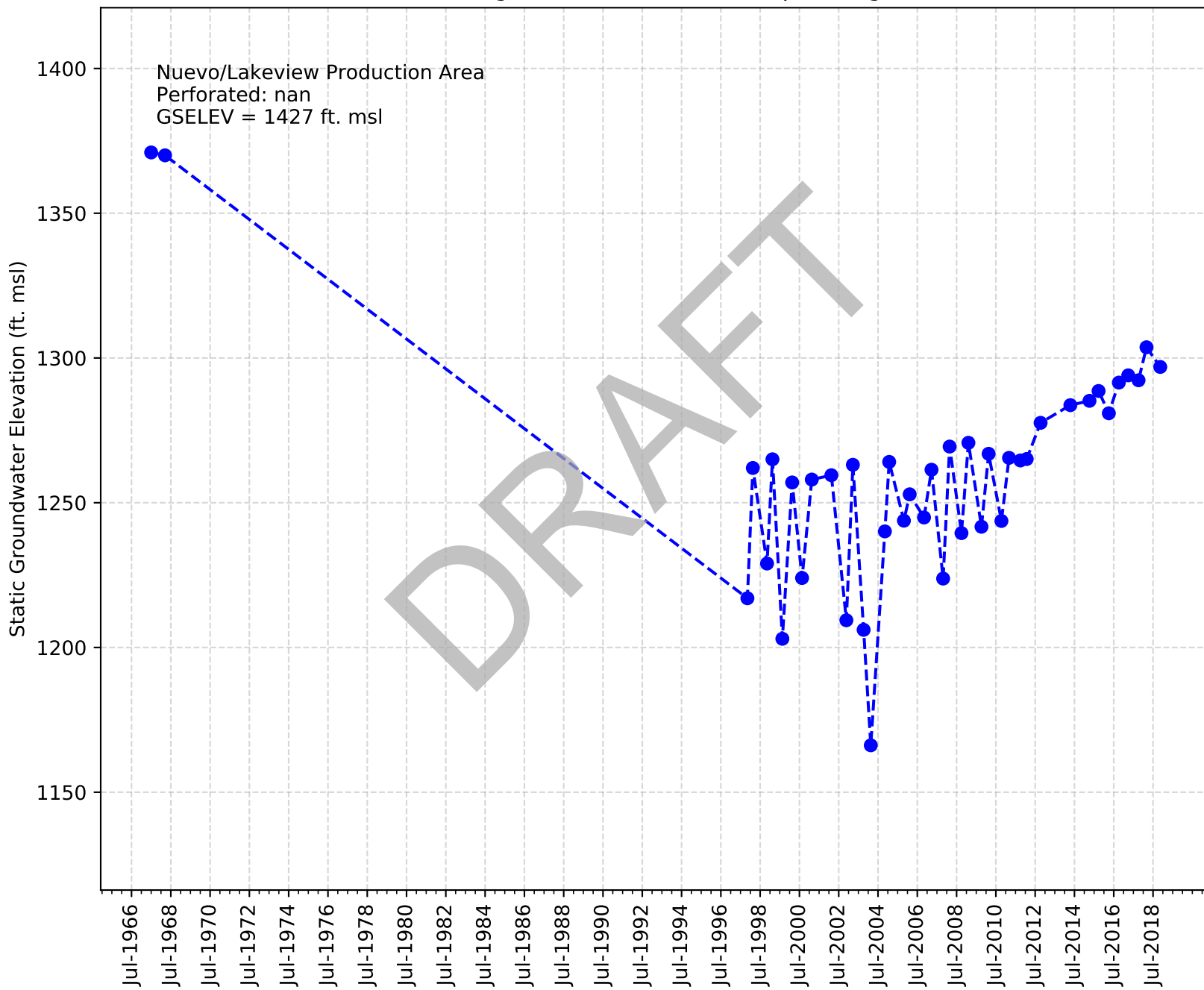
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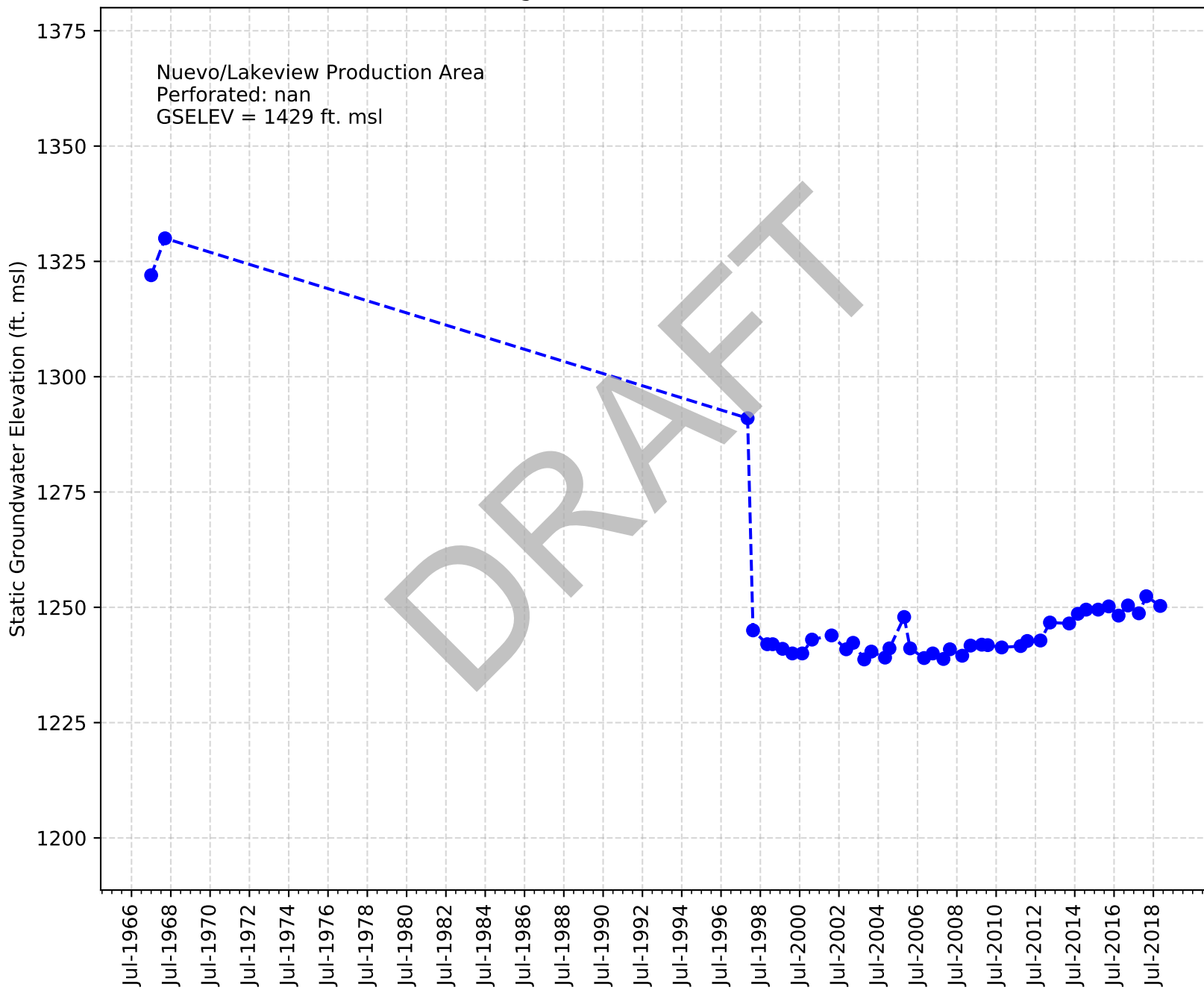
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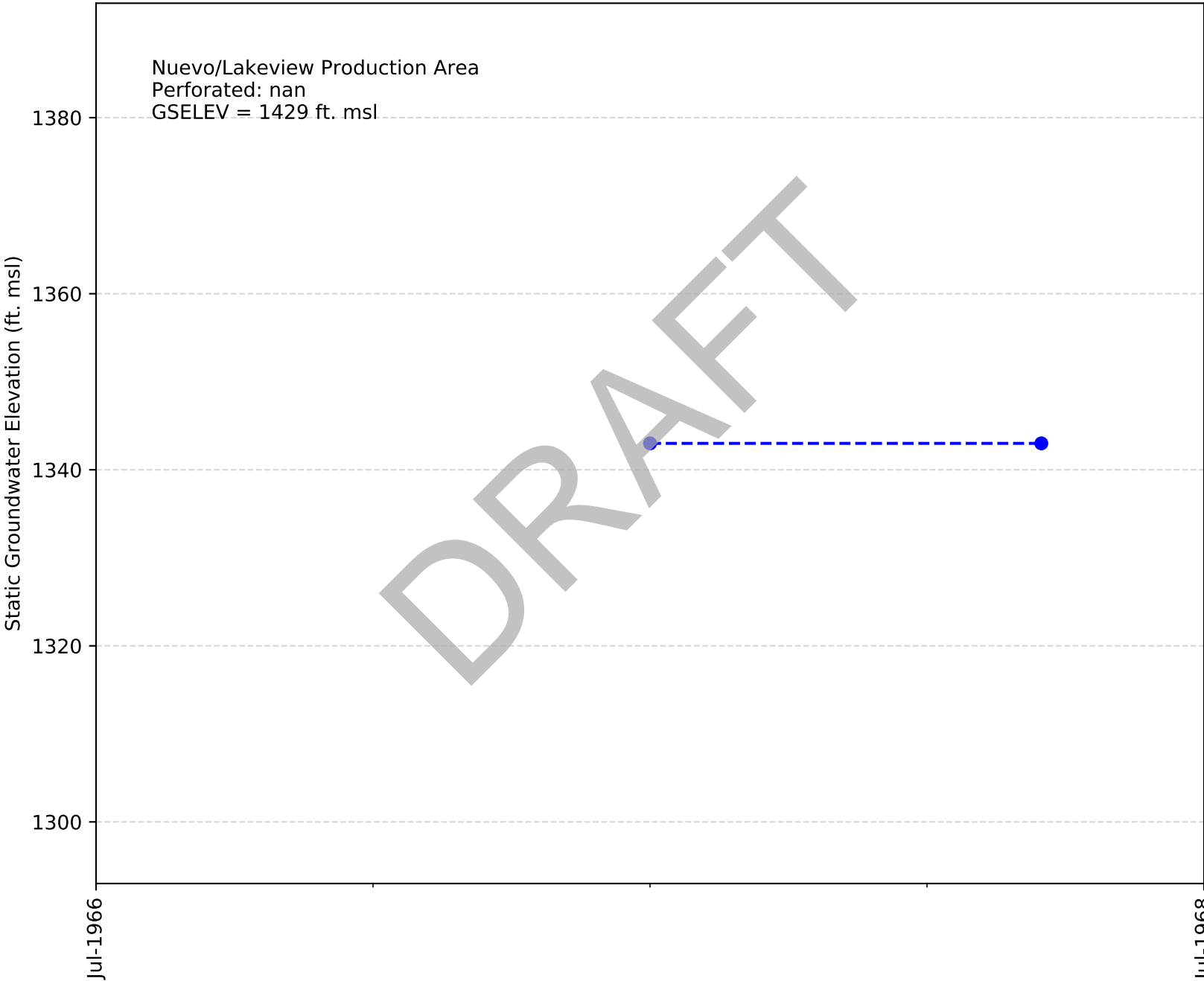
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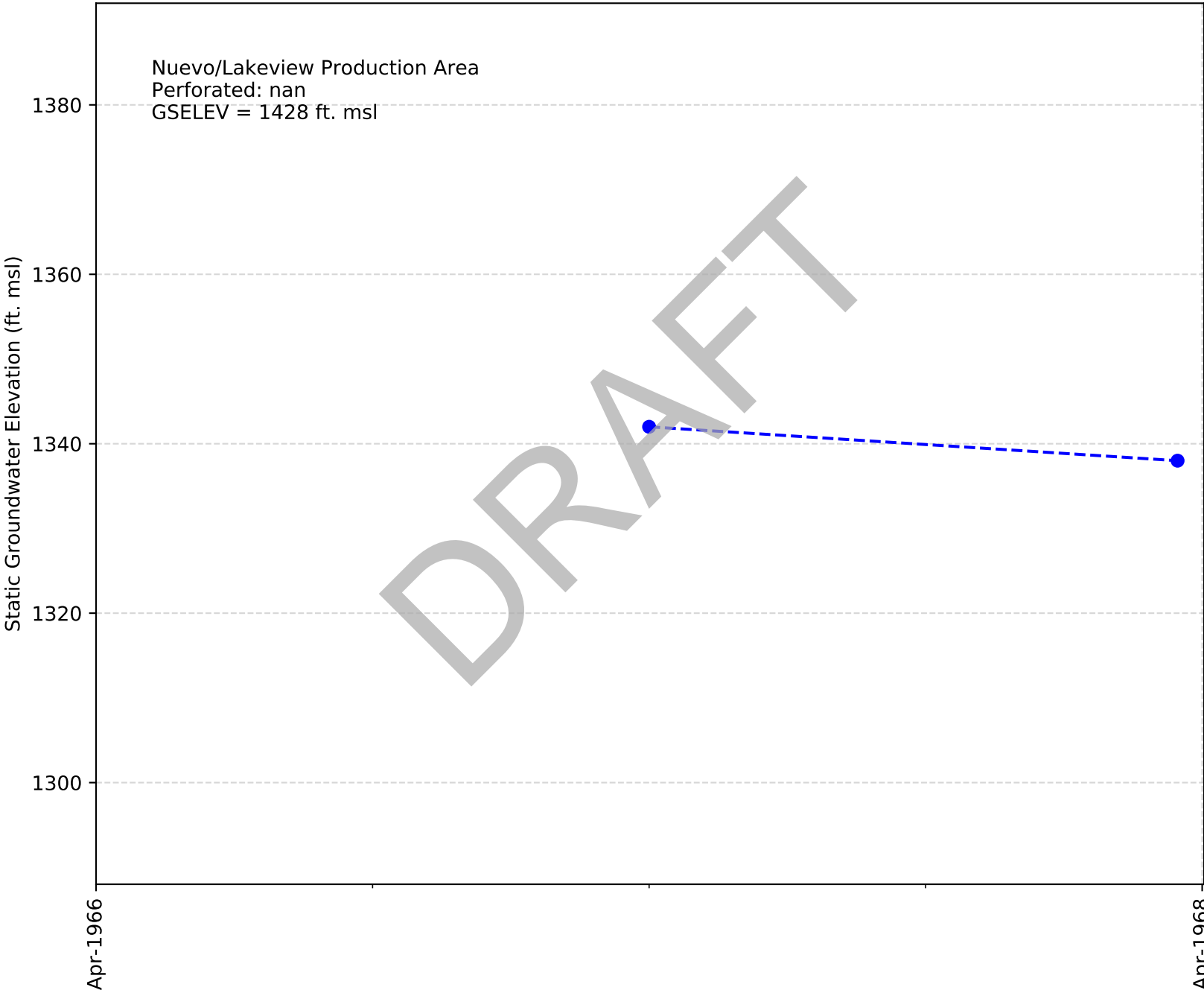
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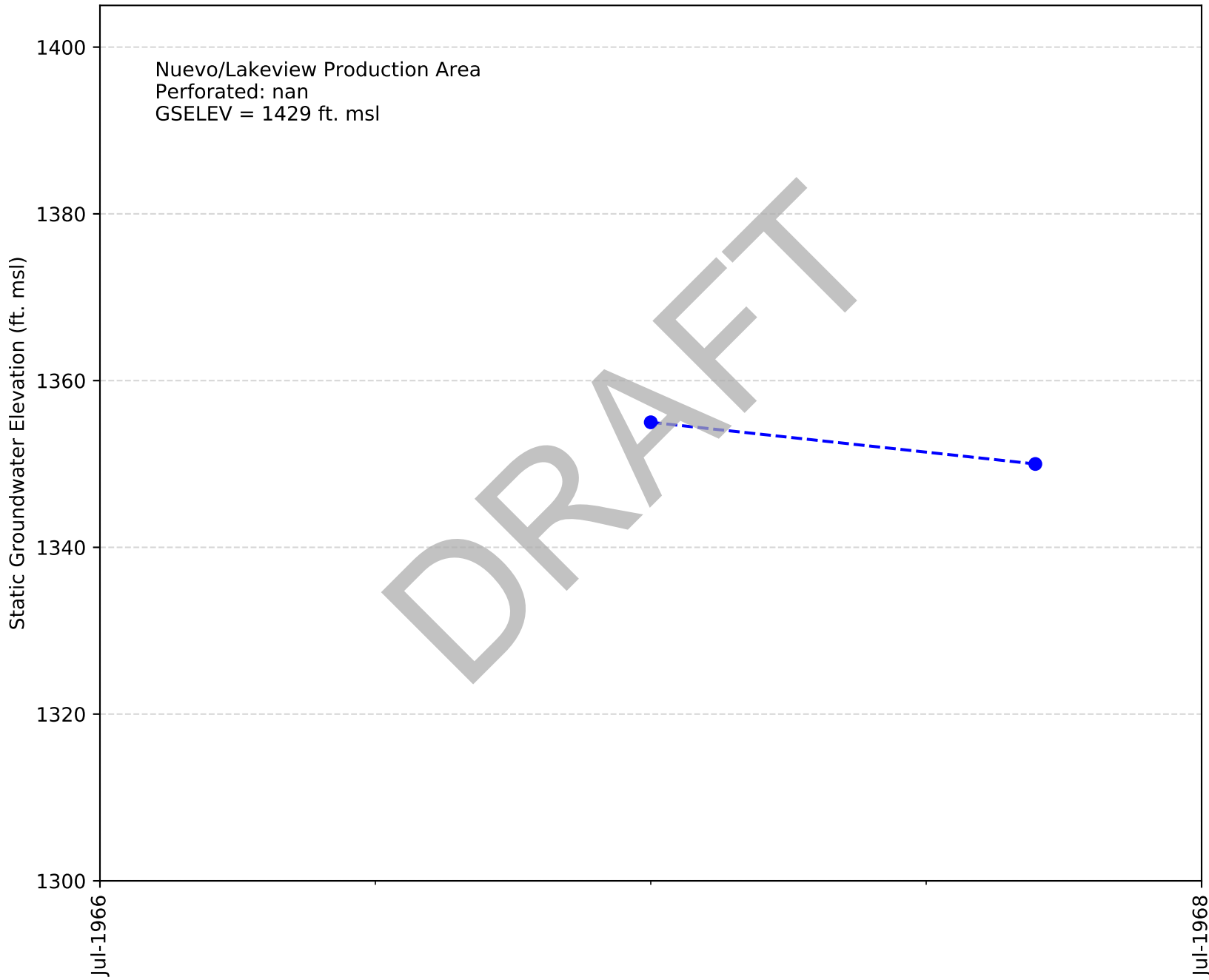
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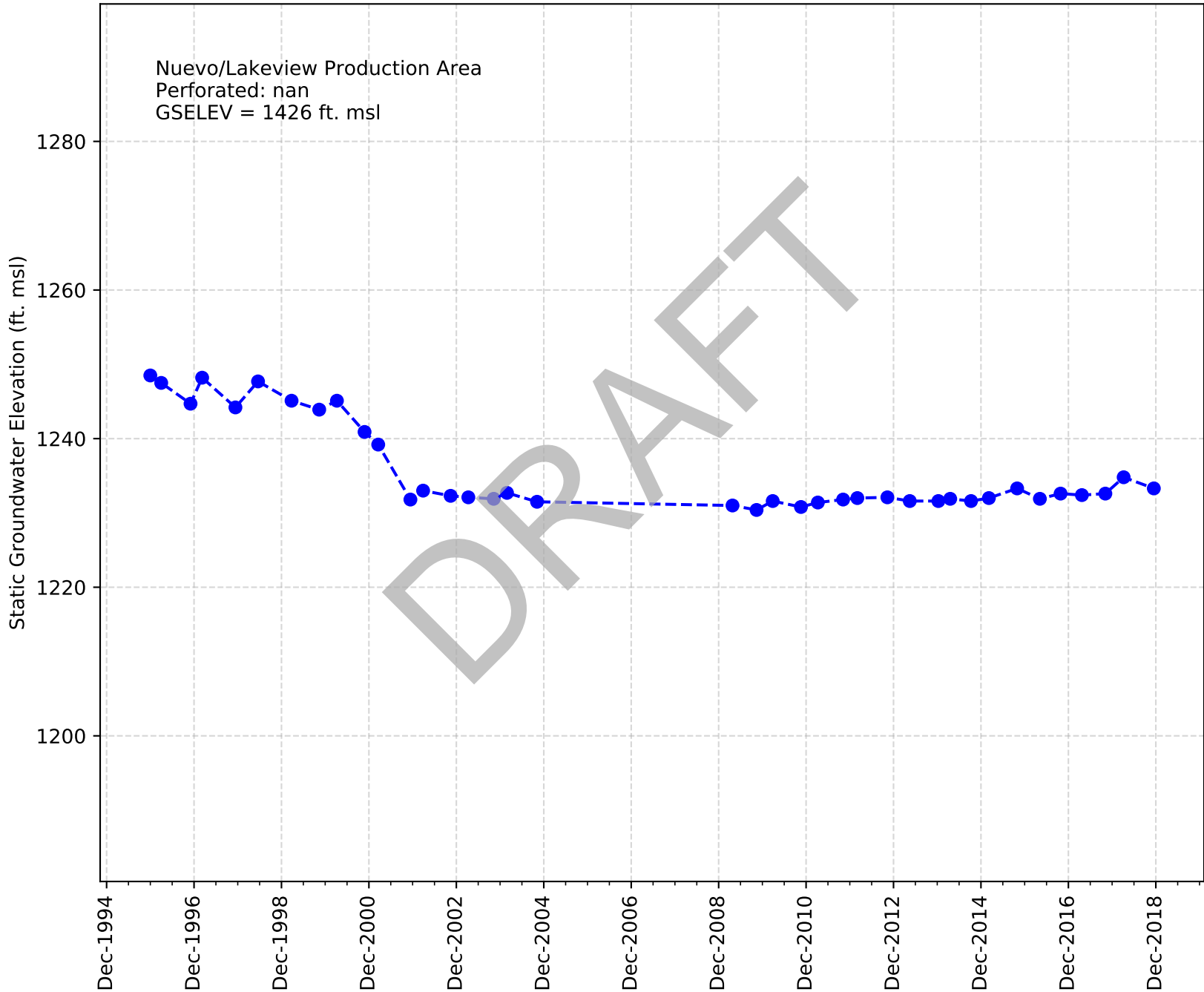
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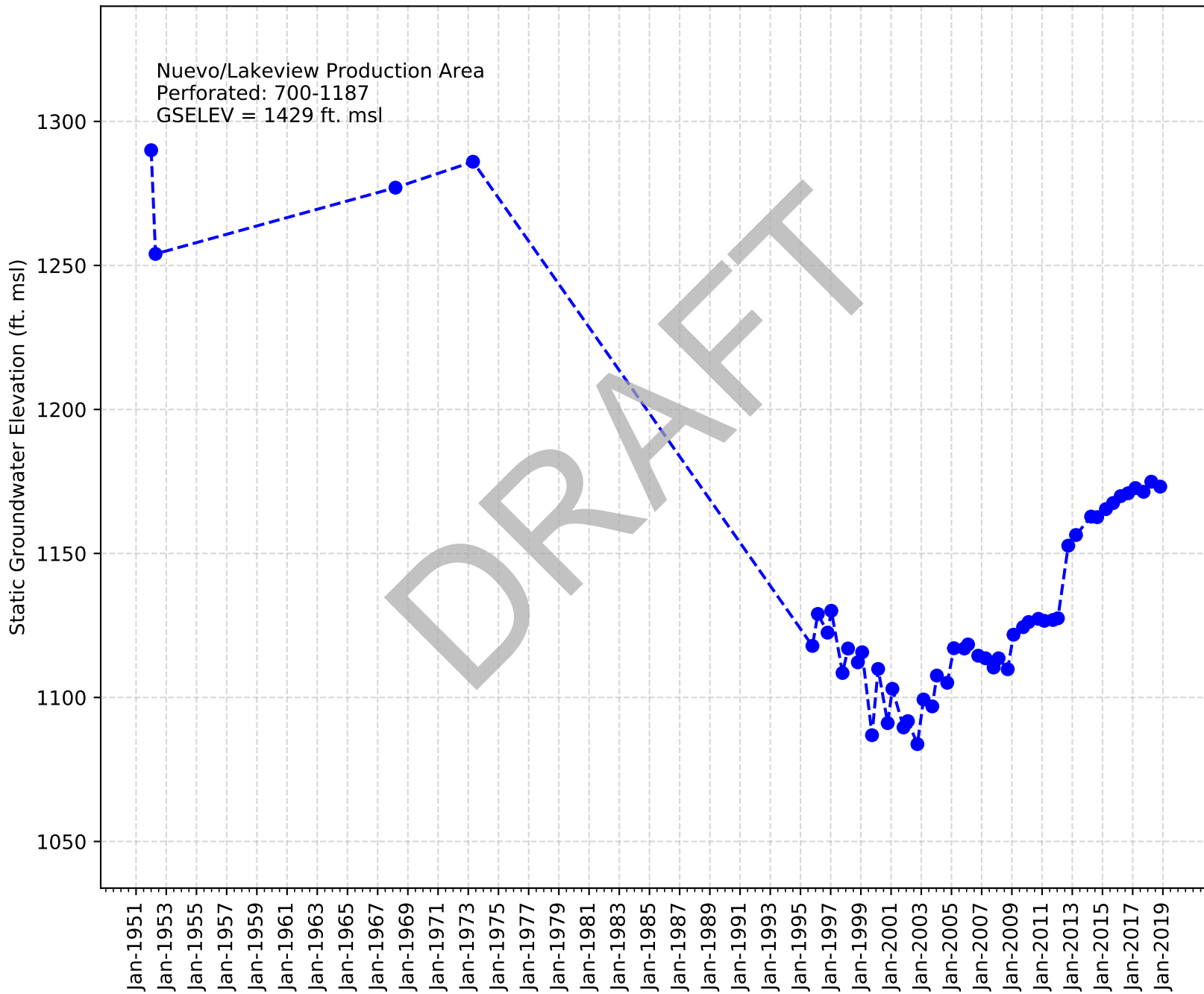
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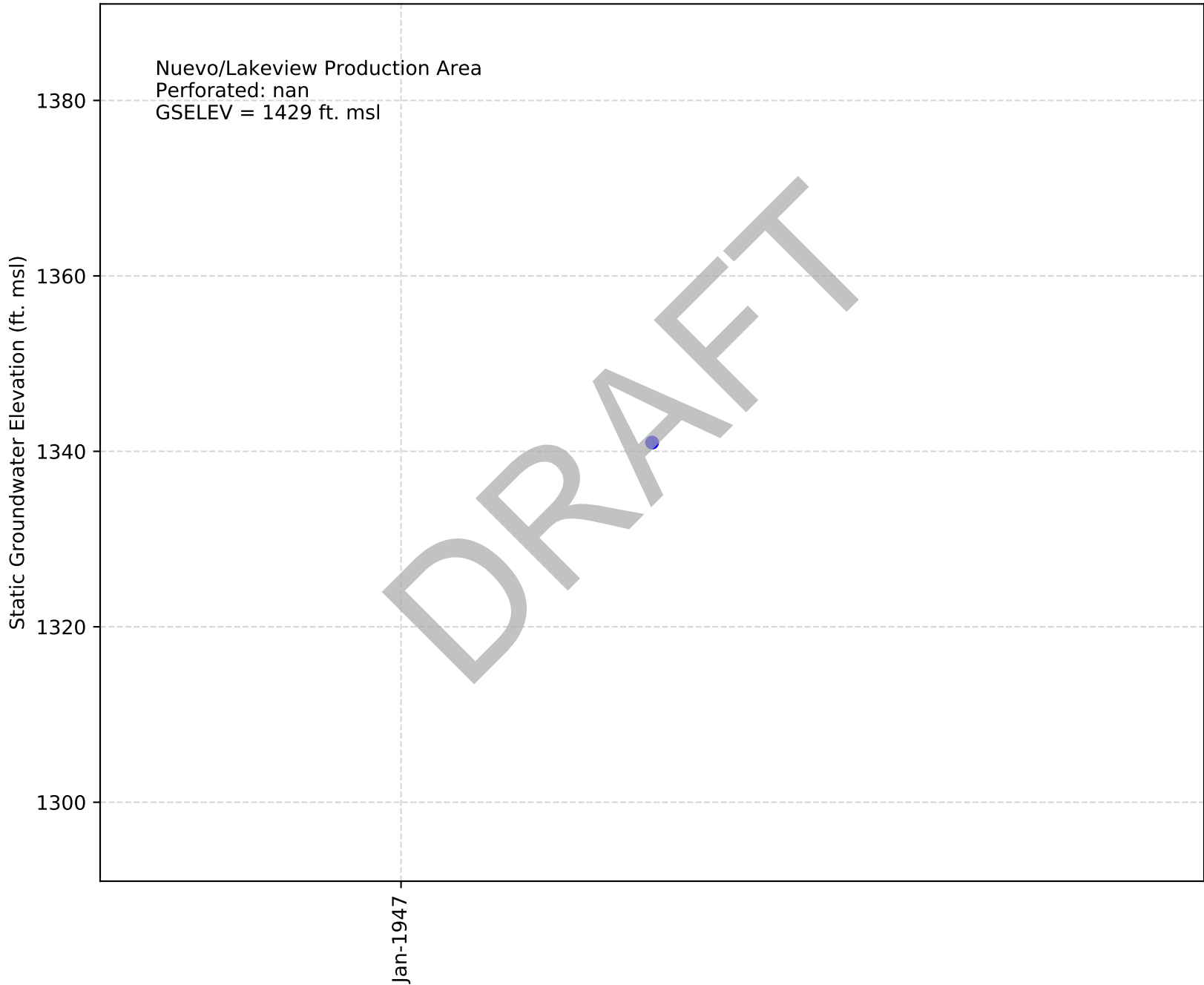
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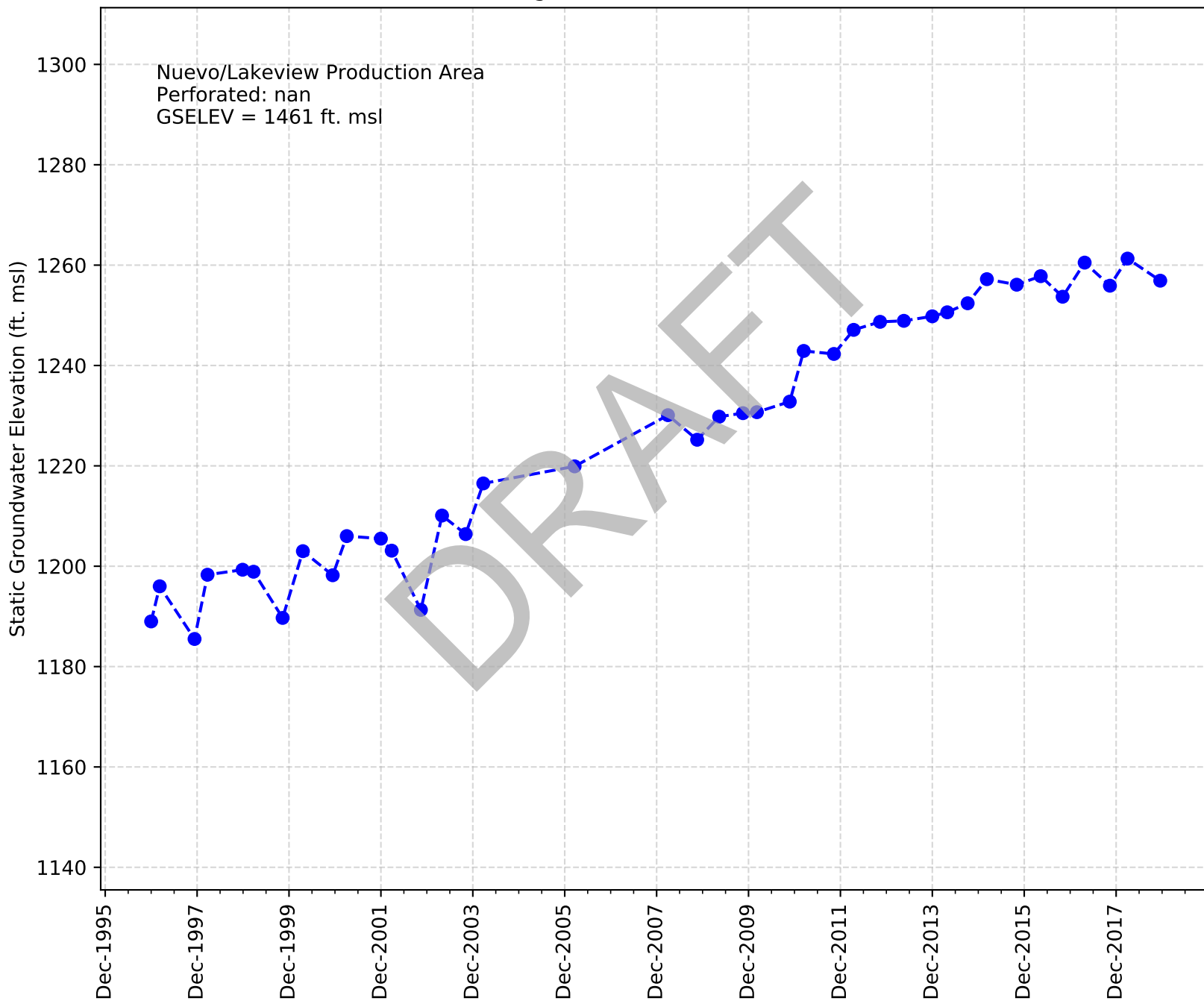
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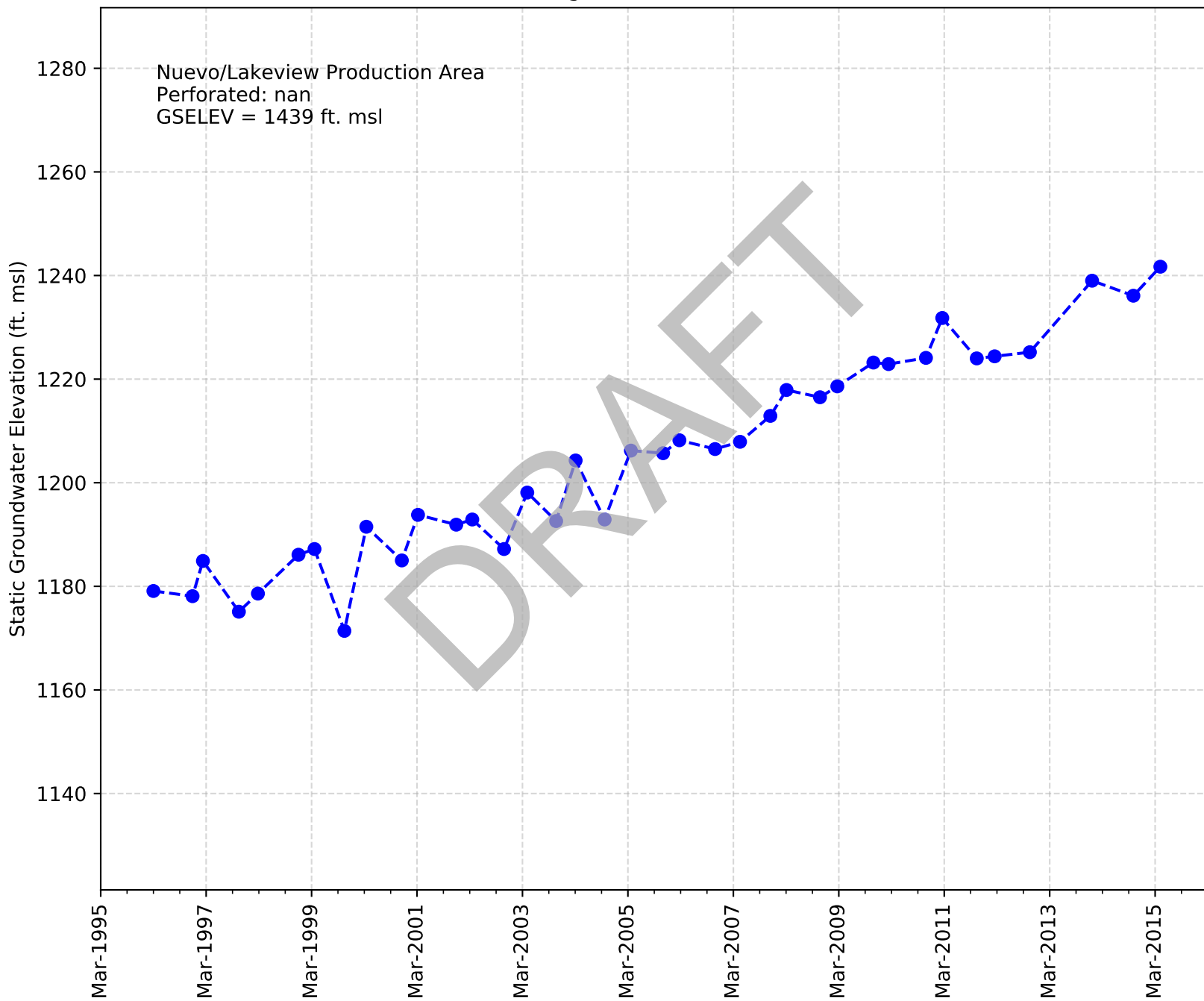
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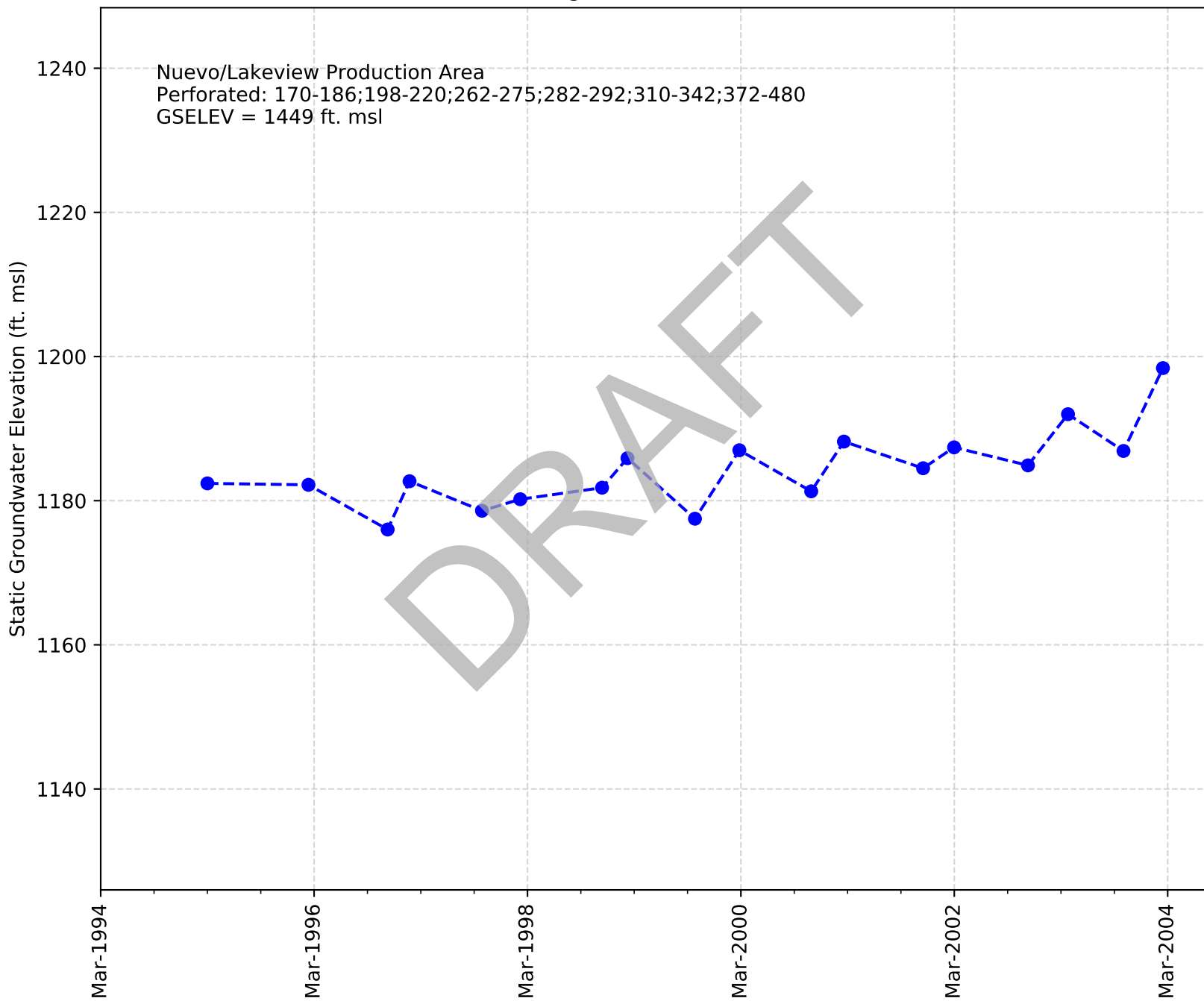
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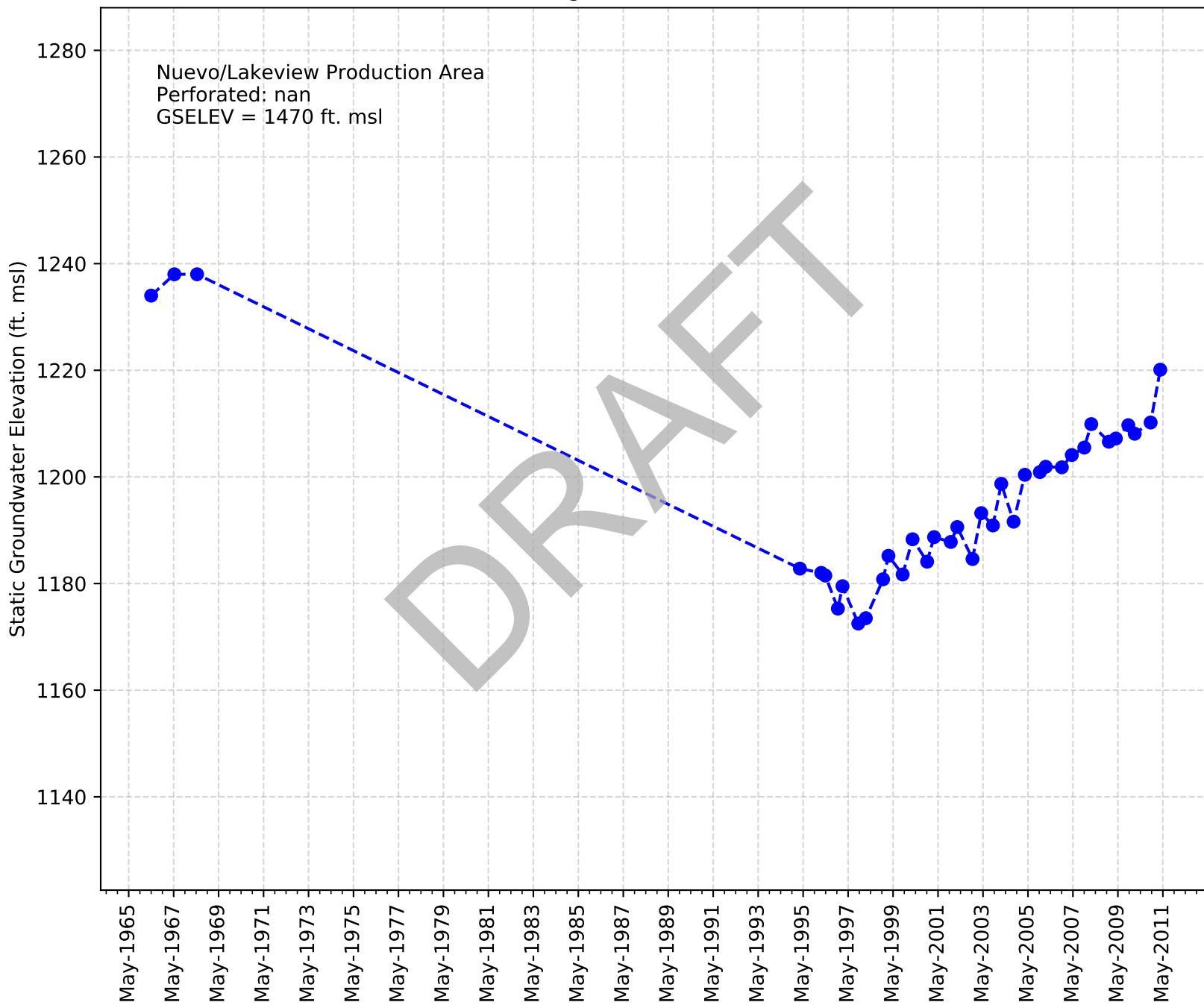
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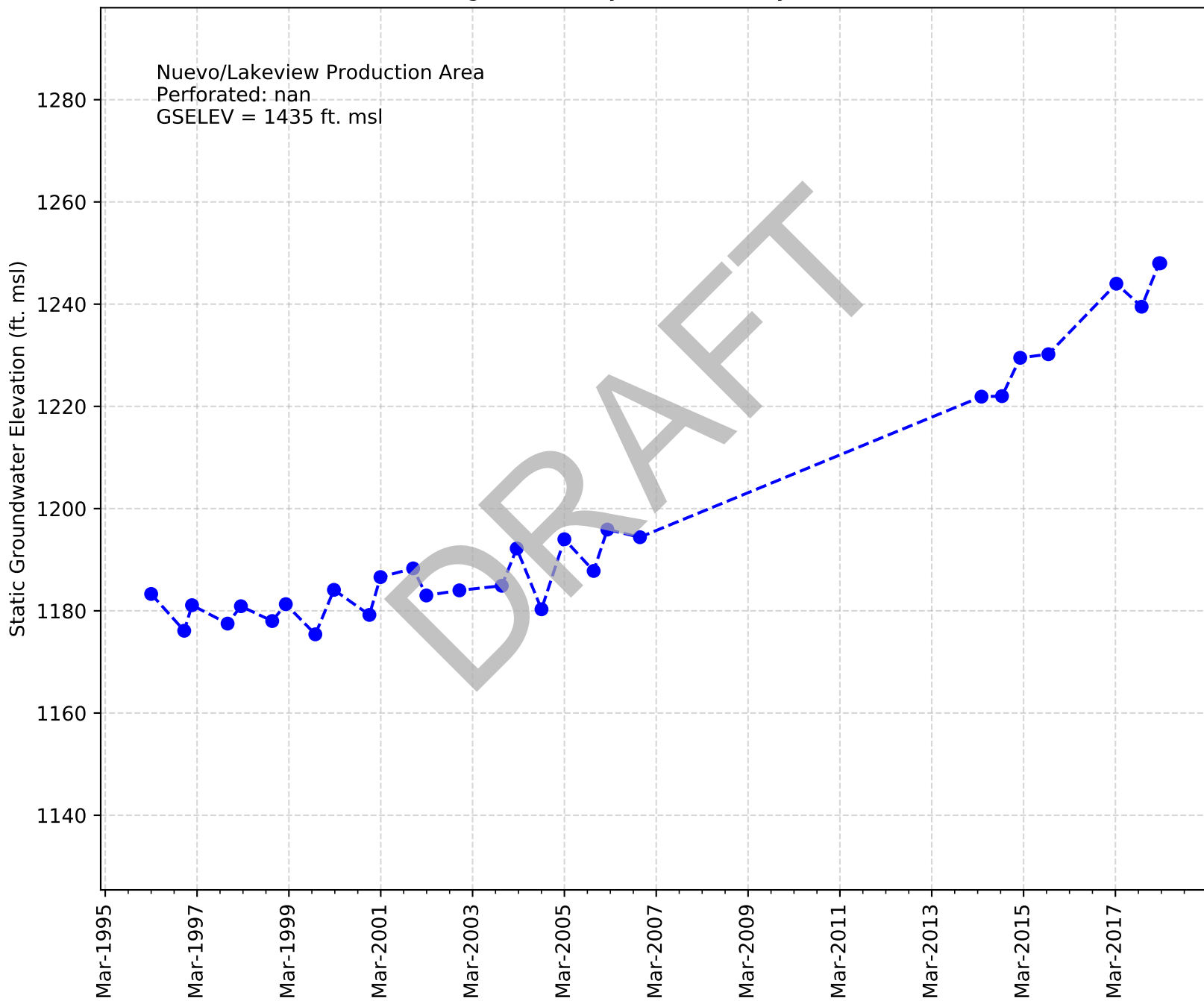
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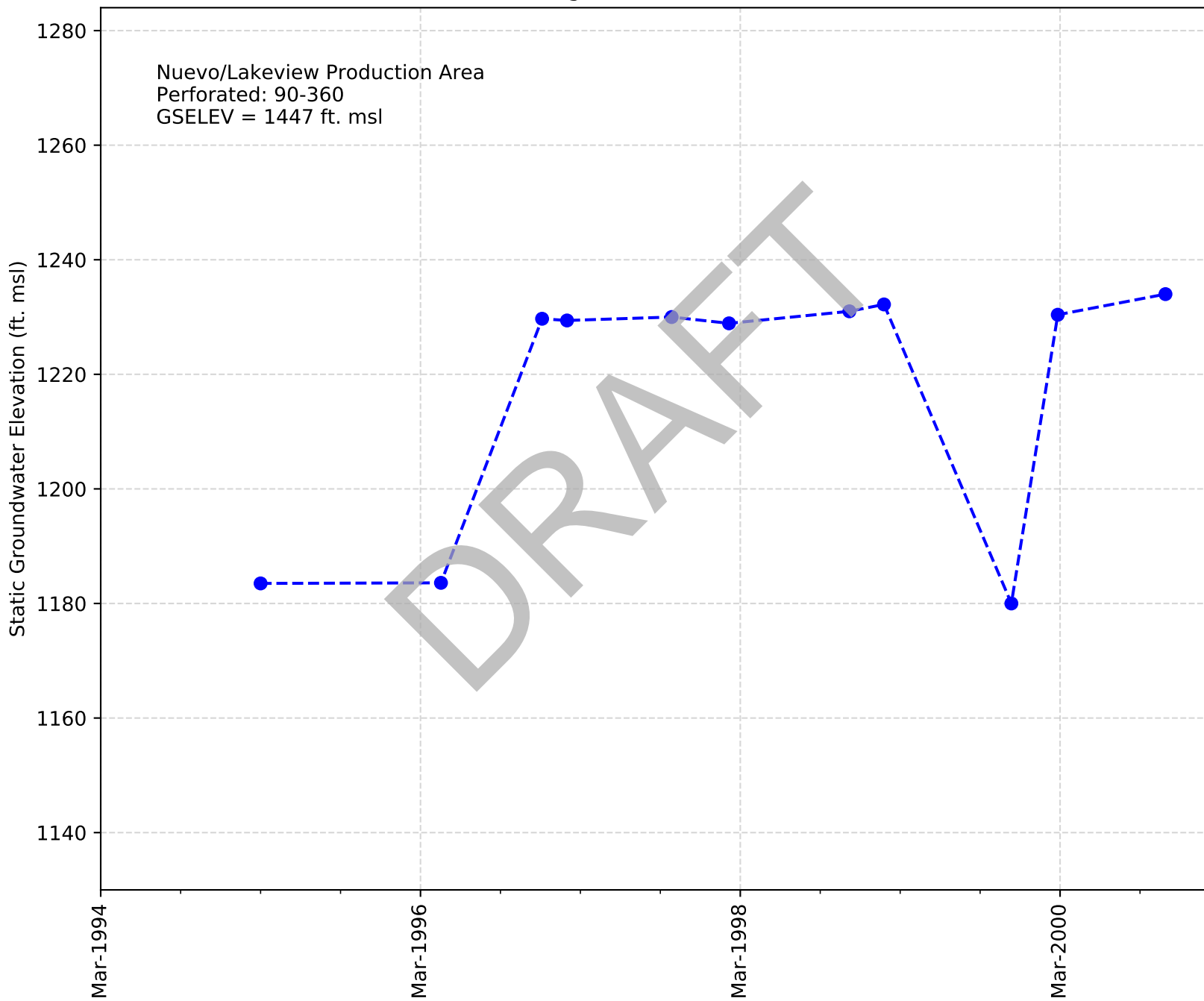
Casing Name: Nutrilite 02



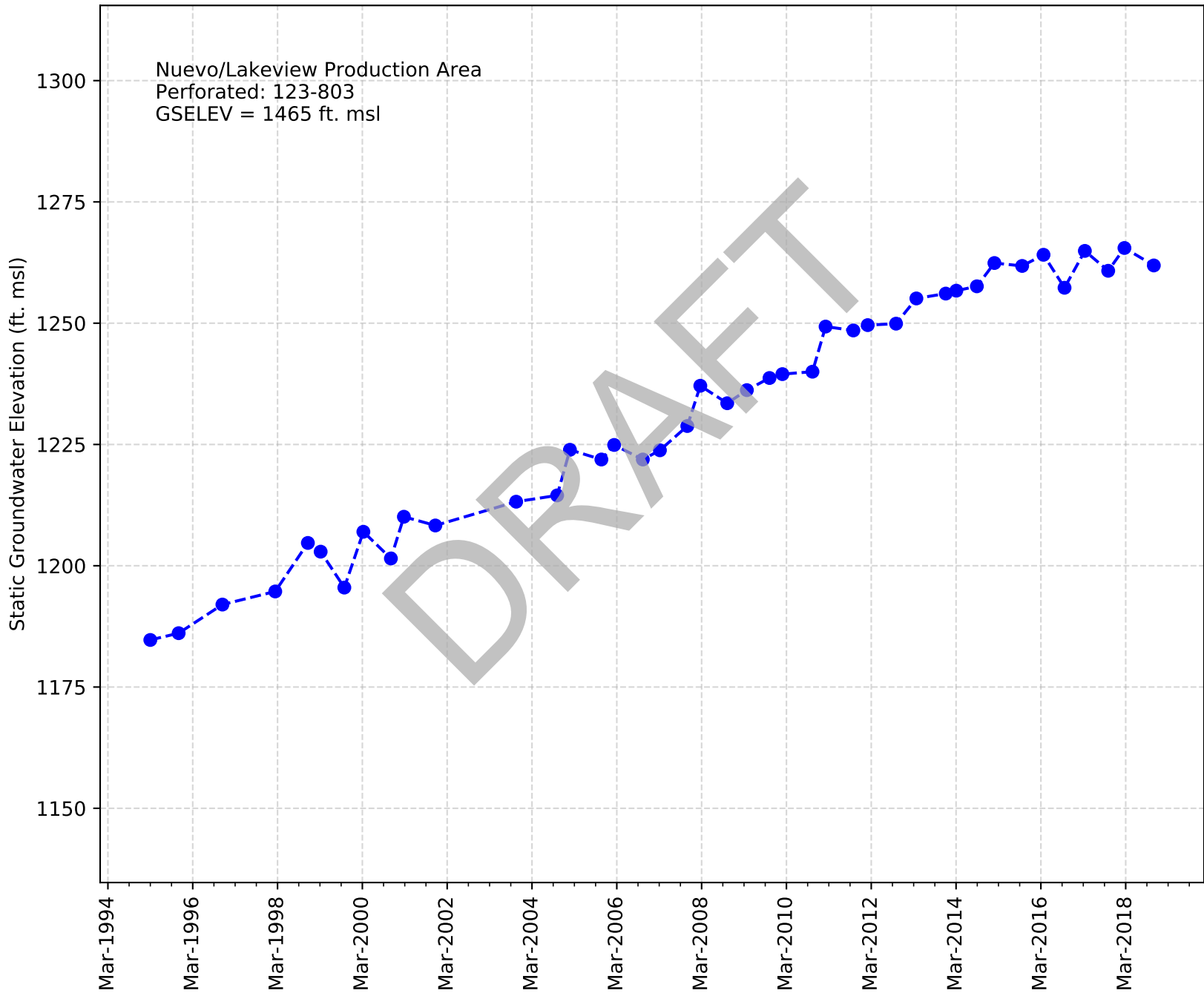
Casing Name: Goyenetche Dairy (Ferriera)



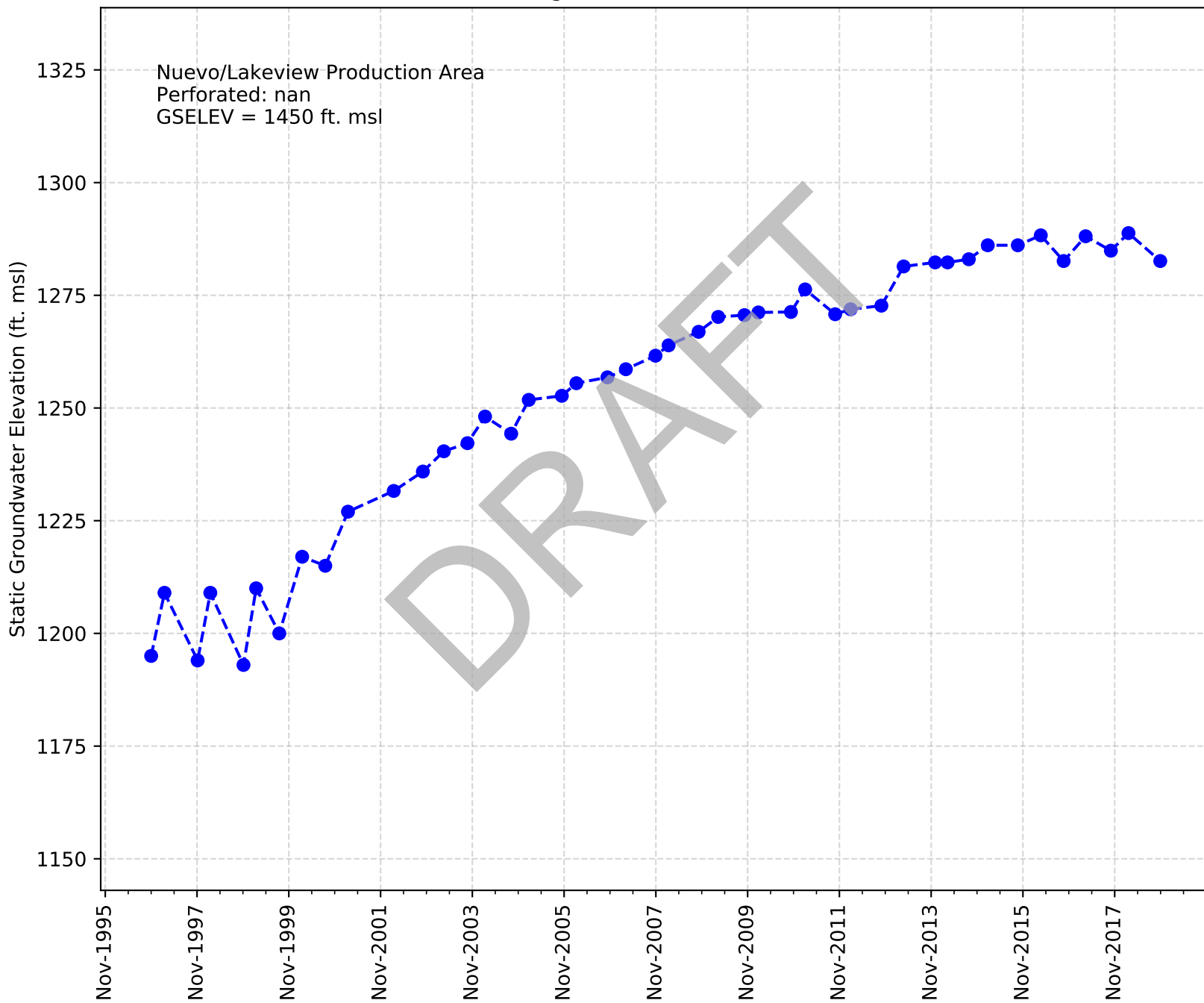
Casing Name: Nutrilite 06



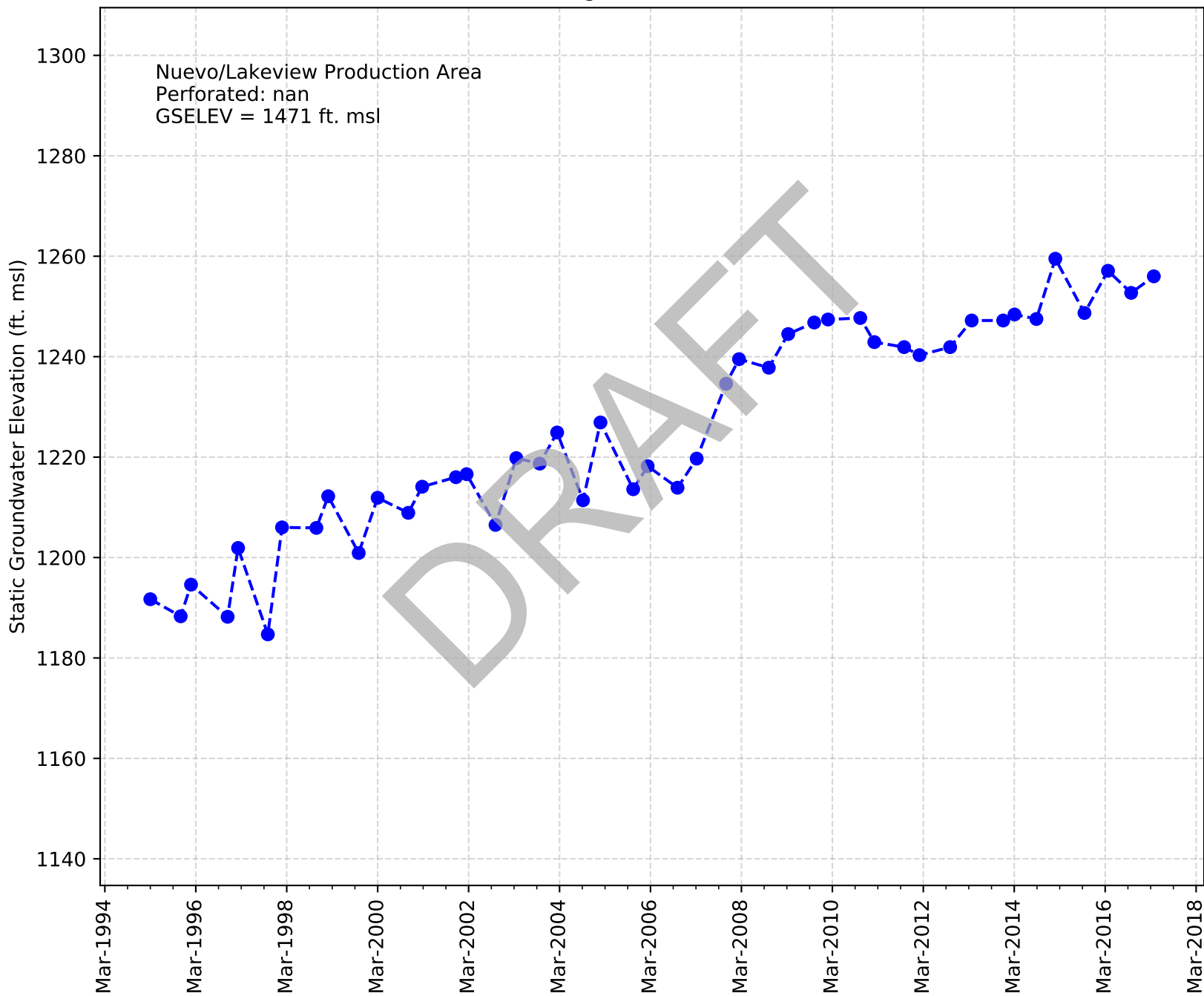
Casing Name: NWC 11



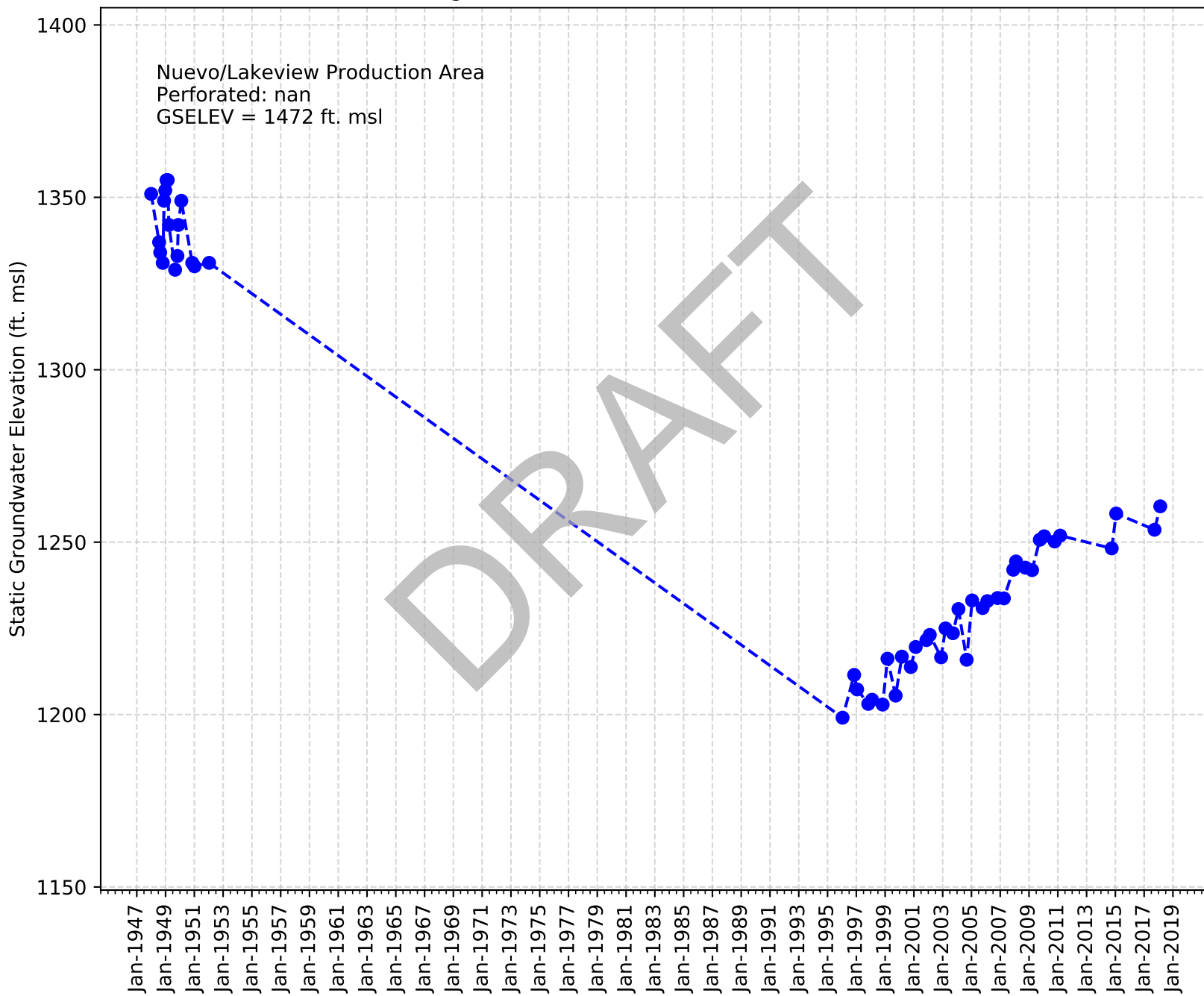
Casing Name: Lauda Electric



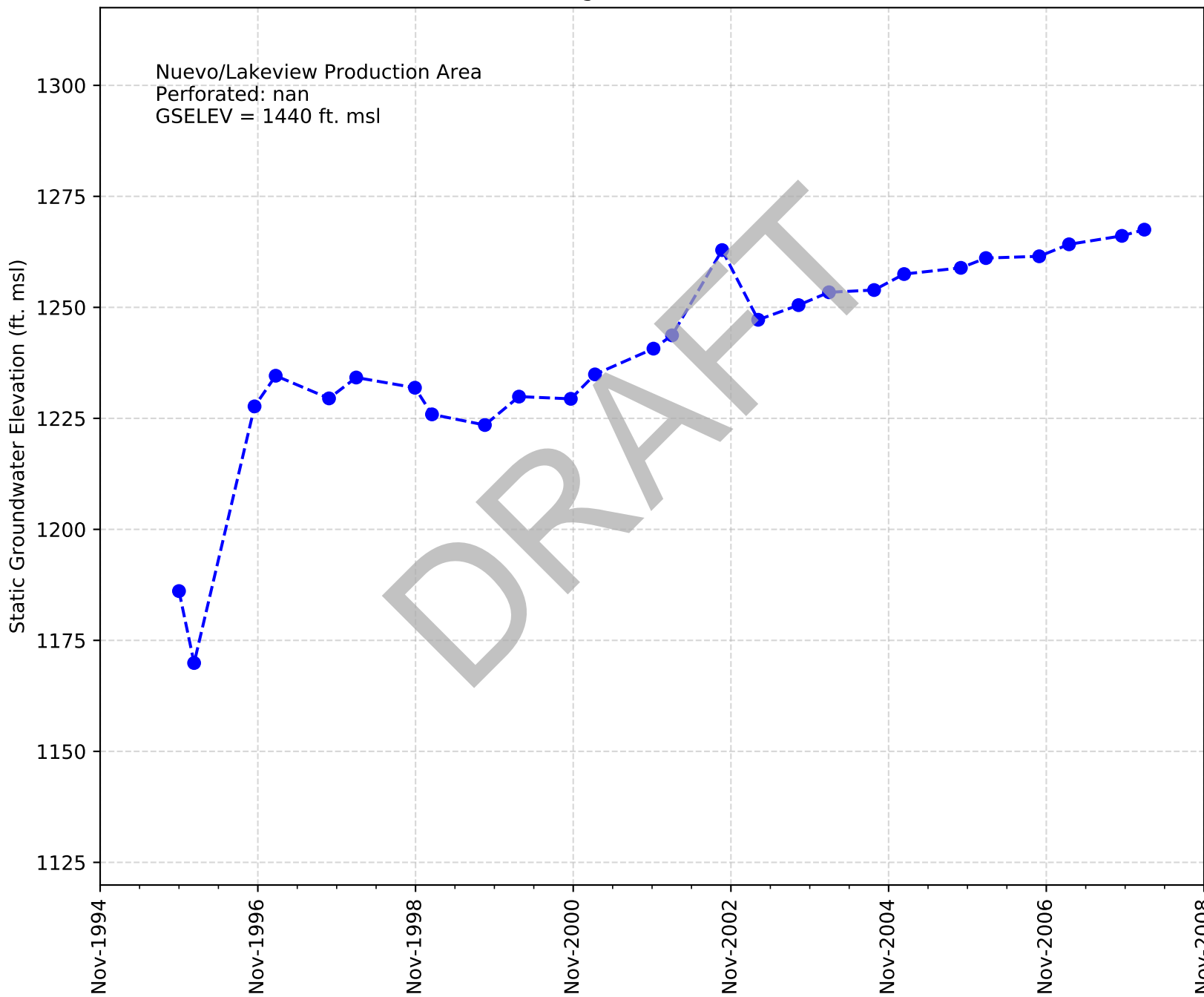
Casing Name: NWC 06



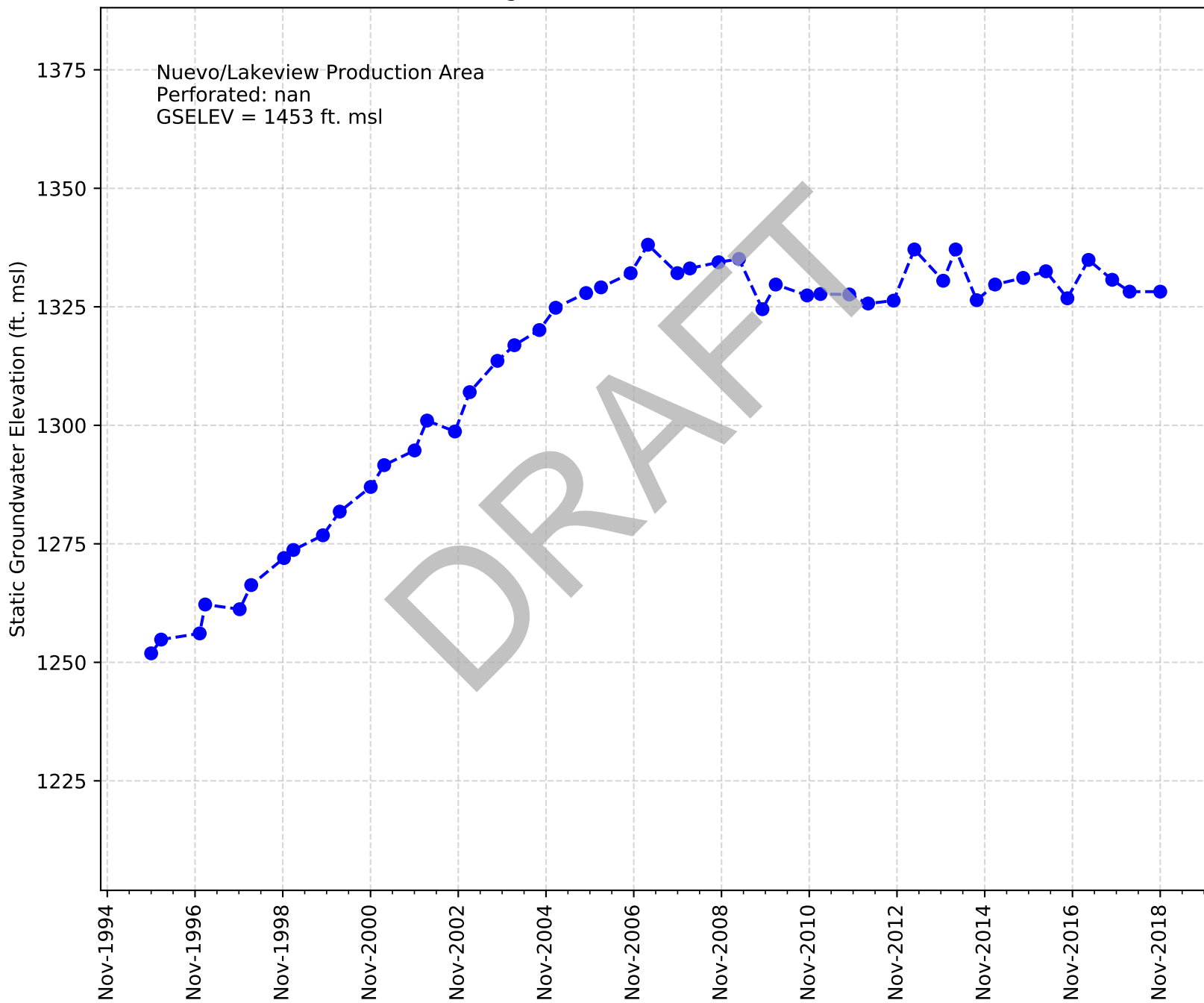
Casing Name: NWC Archibek aka Piester Well



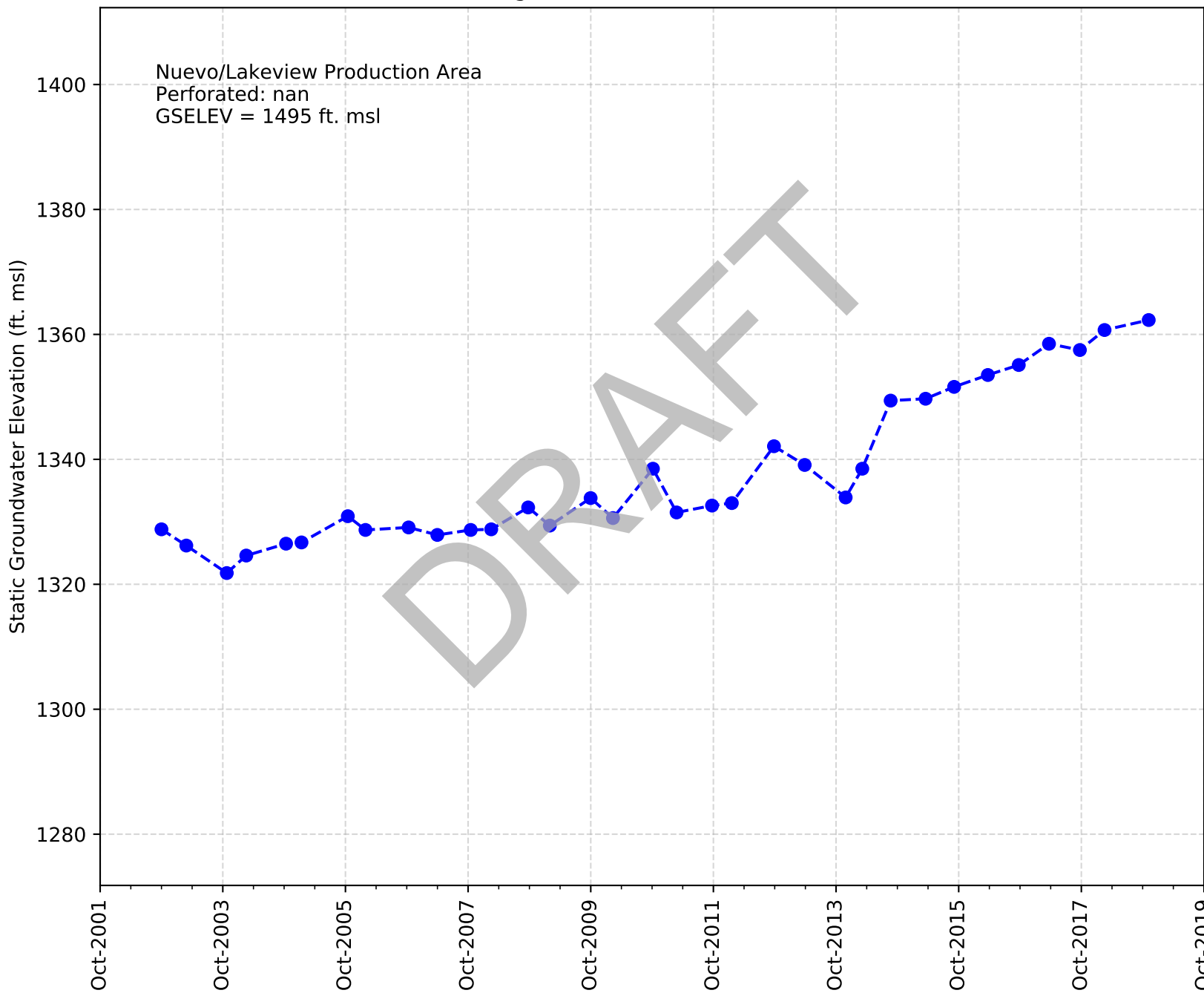
Casing Name: Ybarrola



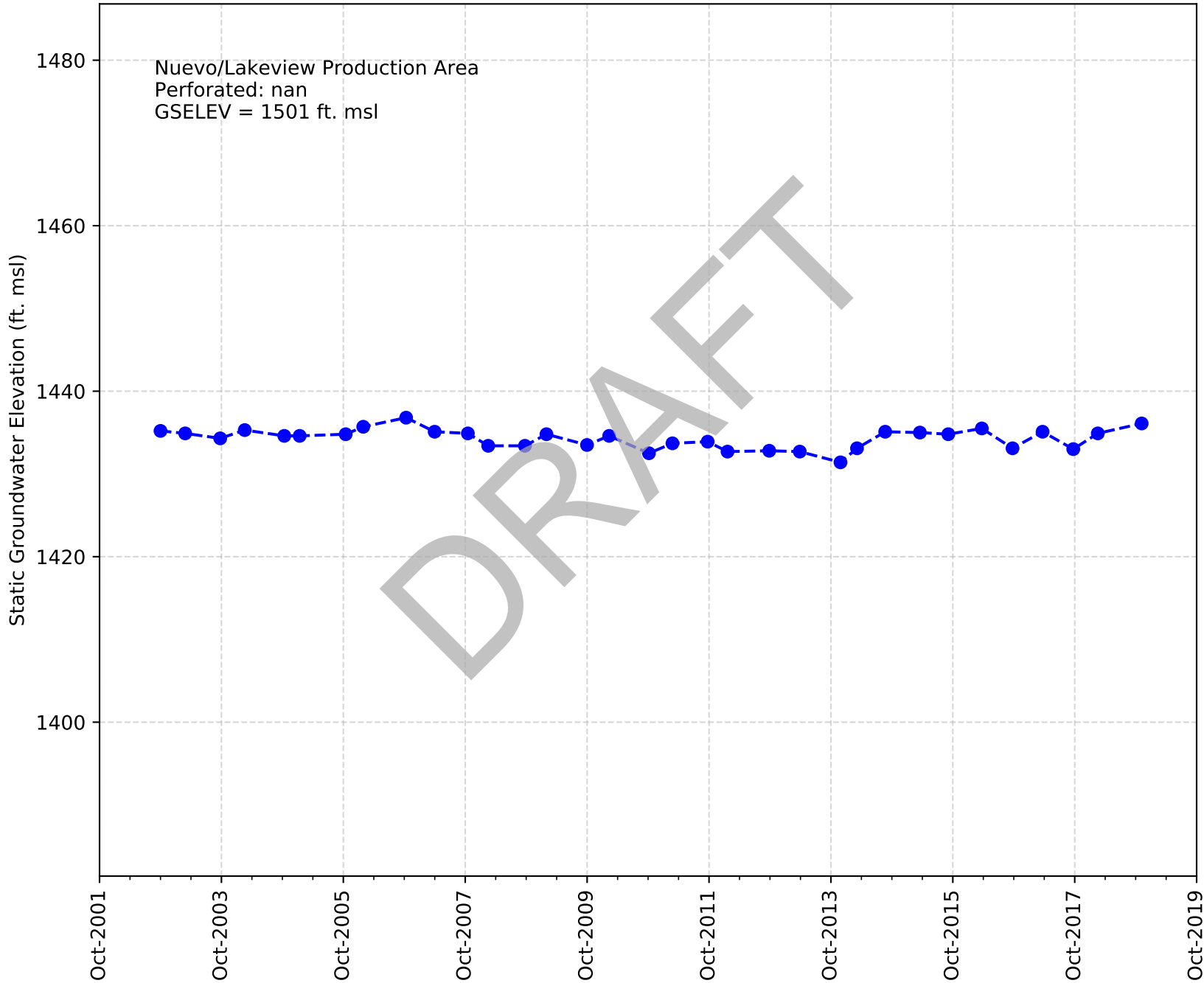
Casing Name: Smith C Nuevo/Olivas



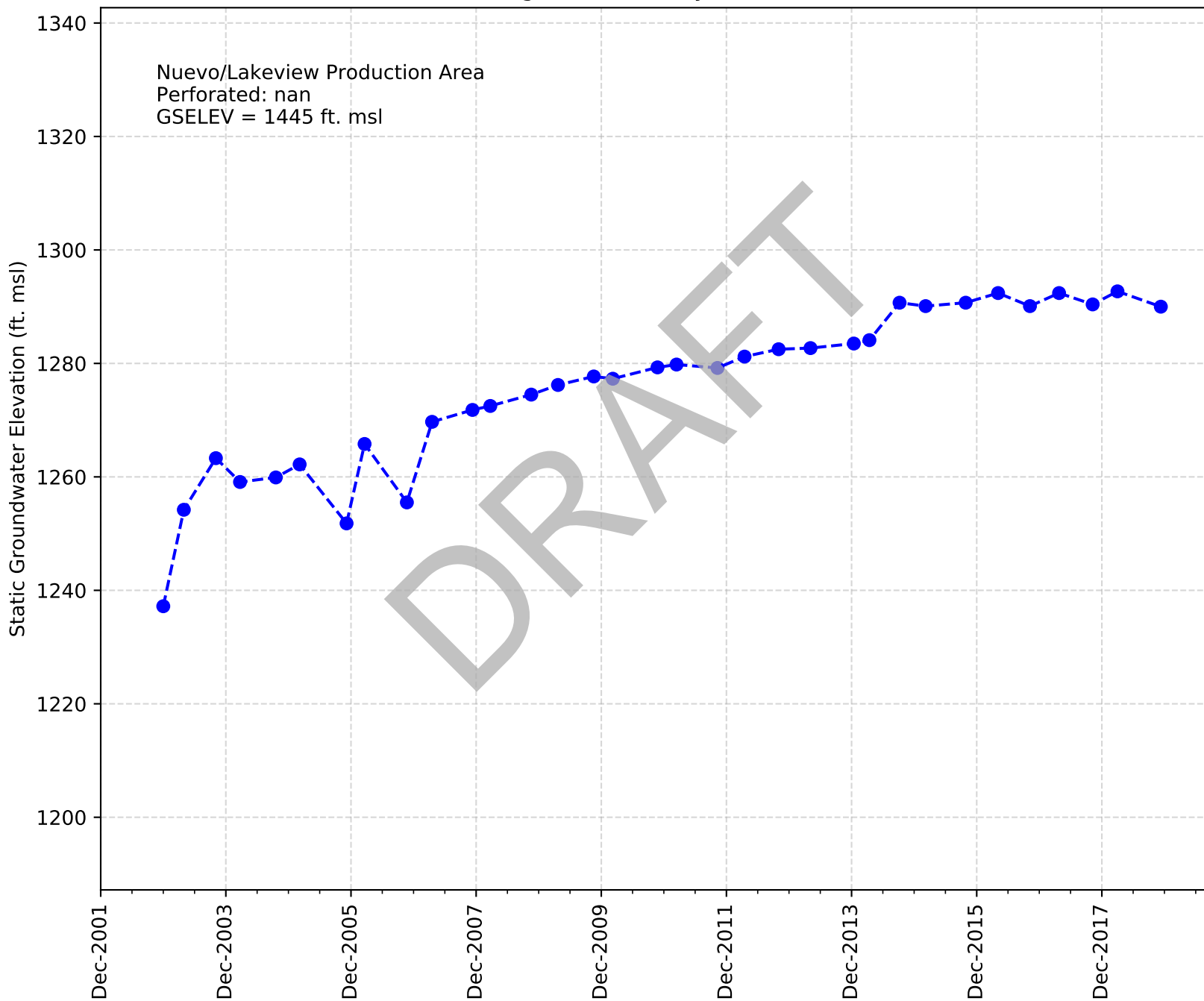
Casing Name: Fish & Game Bouris



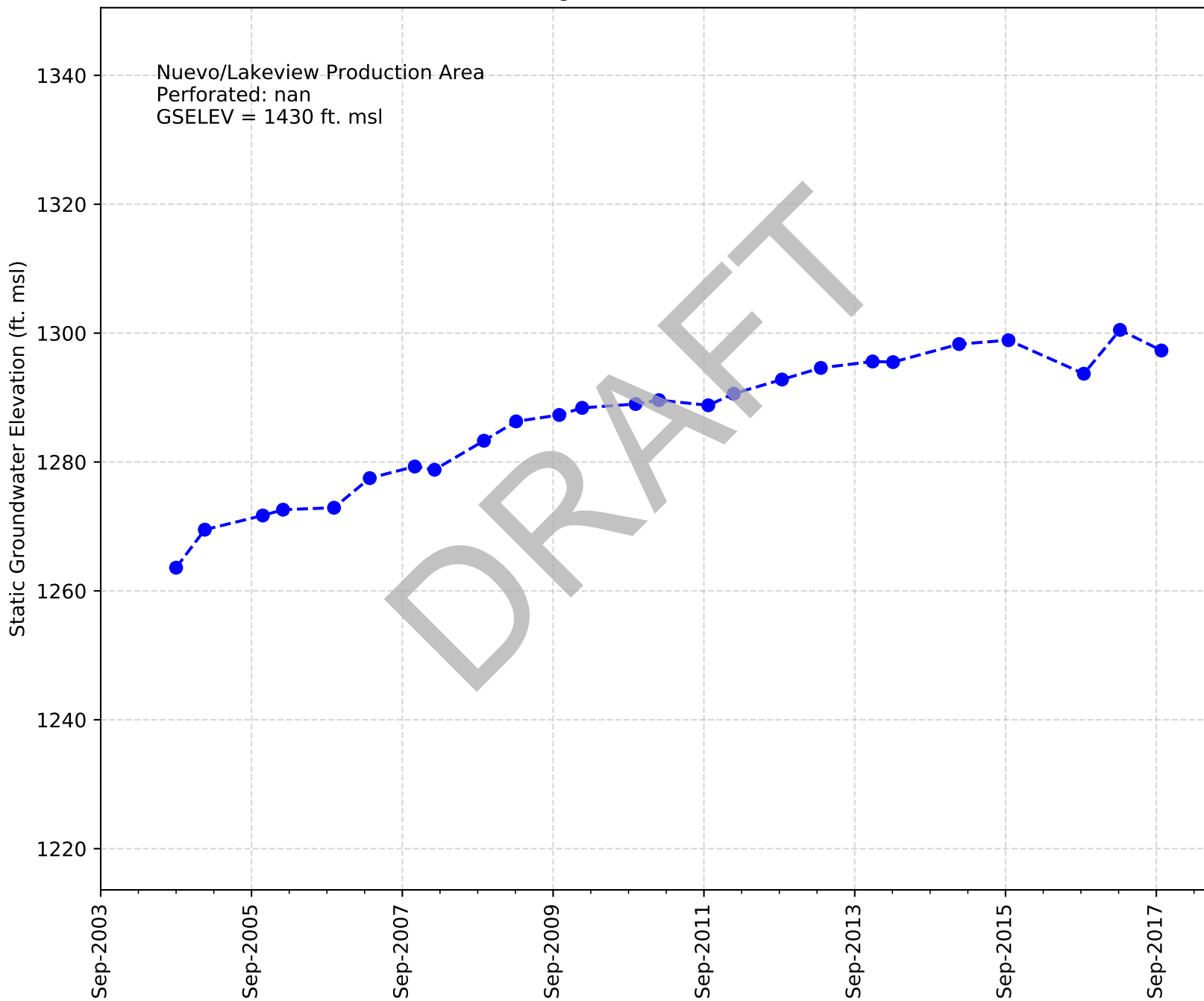
Casing Name: Fish & Game Bouris Monitoring



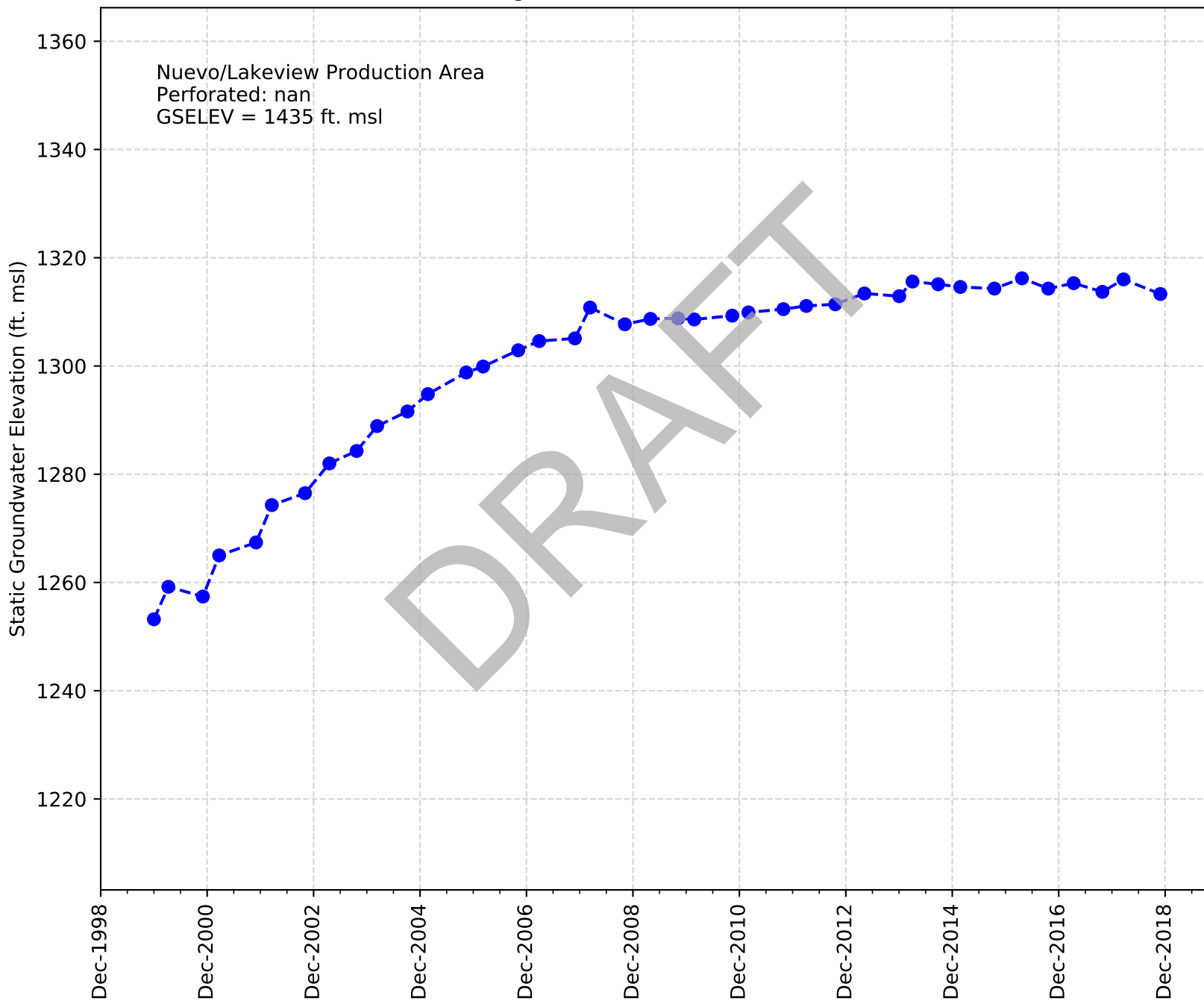
Casing Name: DeVuyst Alfalfa OC



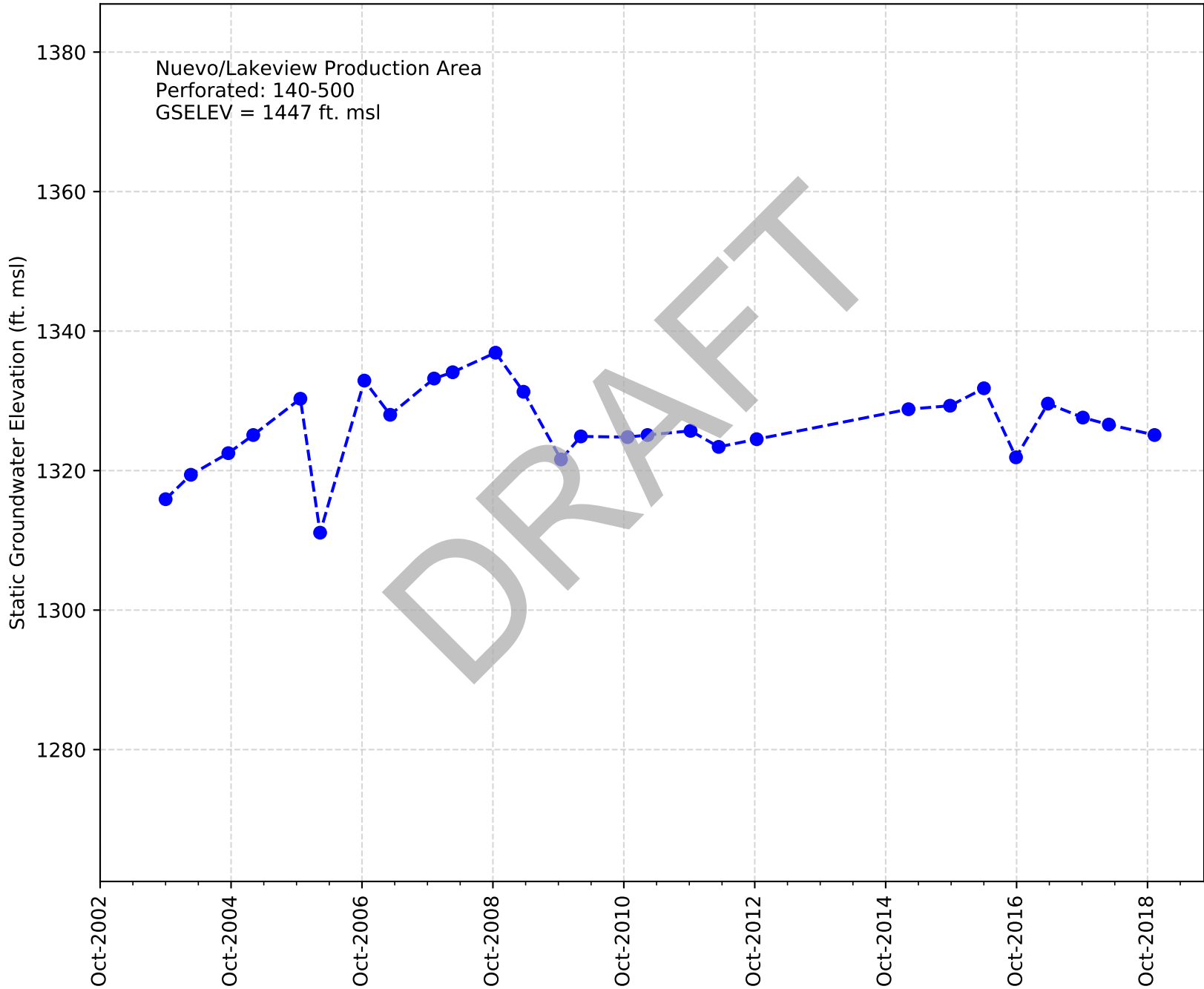
Casing Name: Lauda Diesel



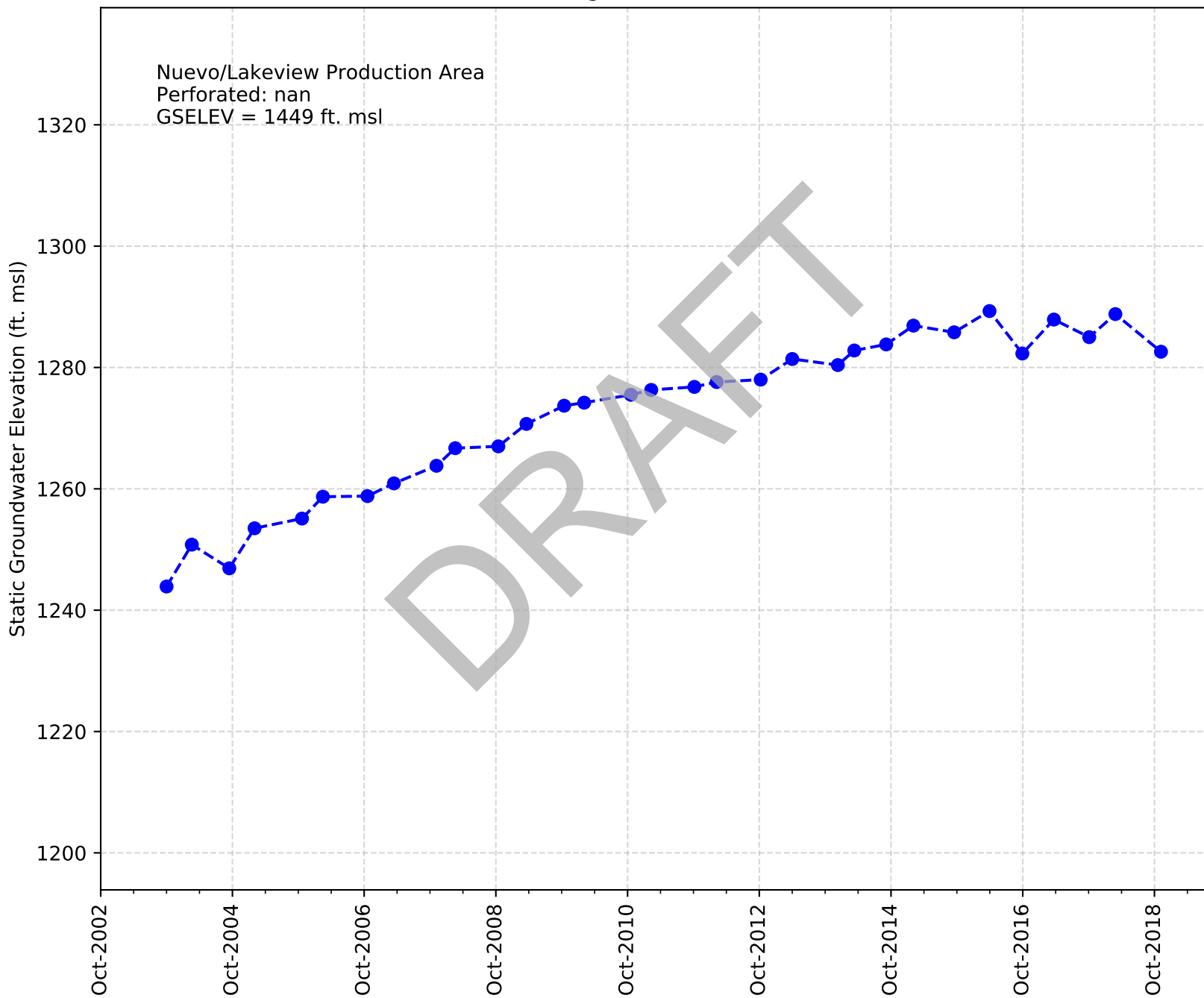
Casing Name: Bean Reservoir/12th



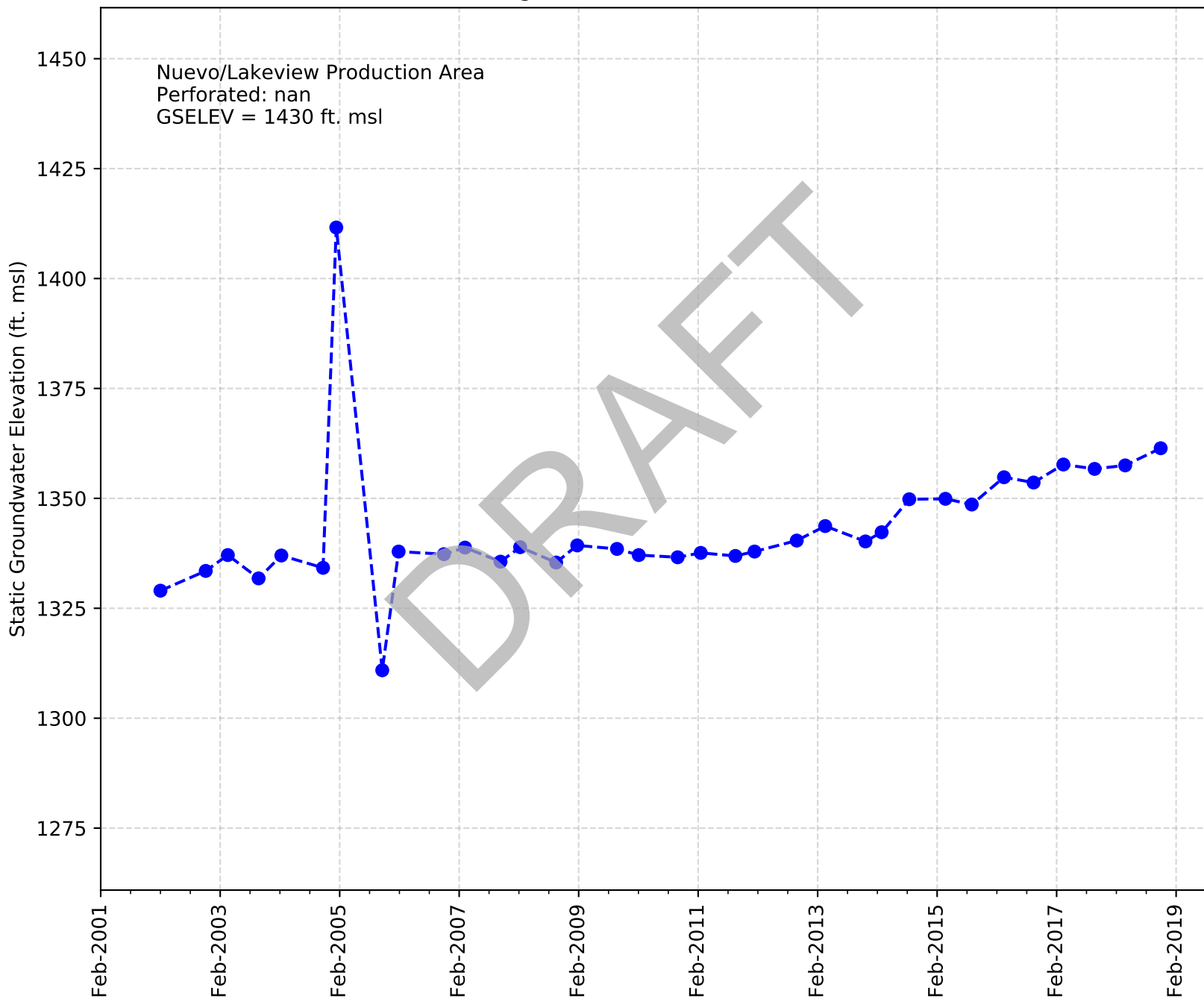
Casing Name: Smith G Nuevo/Olivas



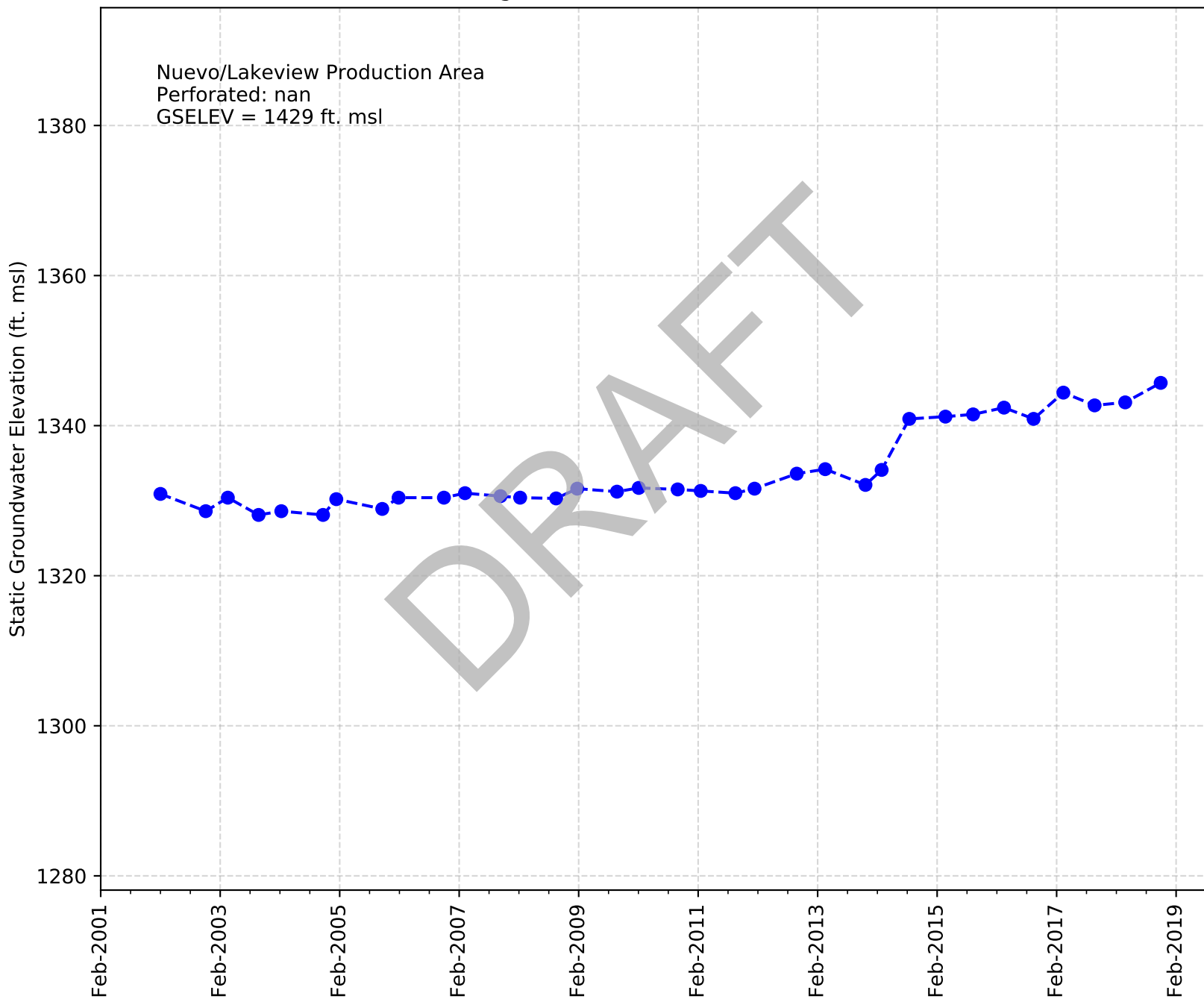
Casing Name: NWC 13



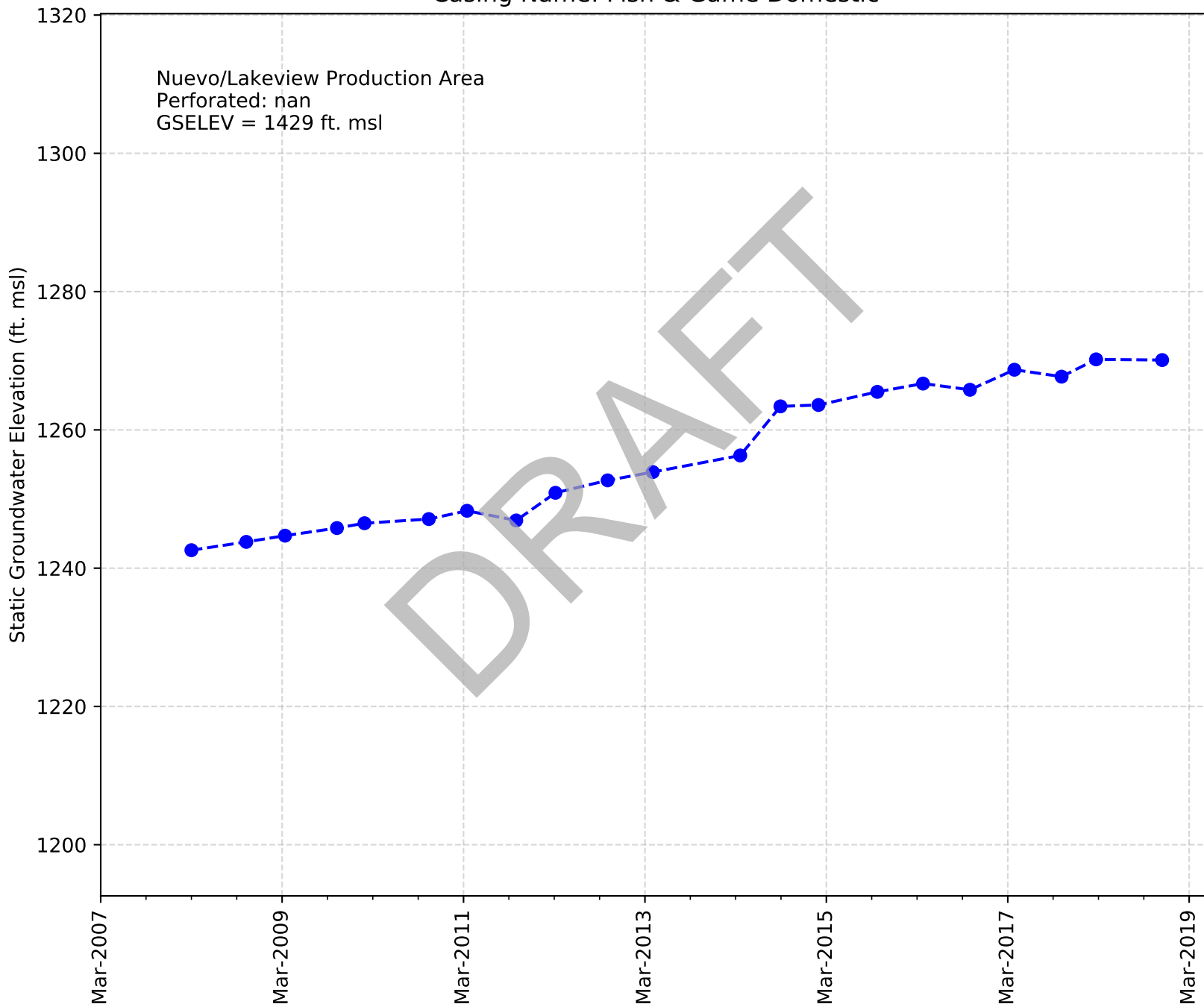
Casing Name: Fish & Game Fence



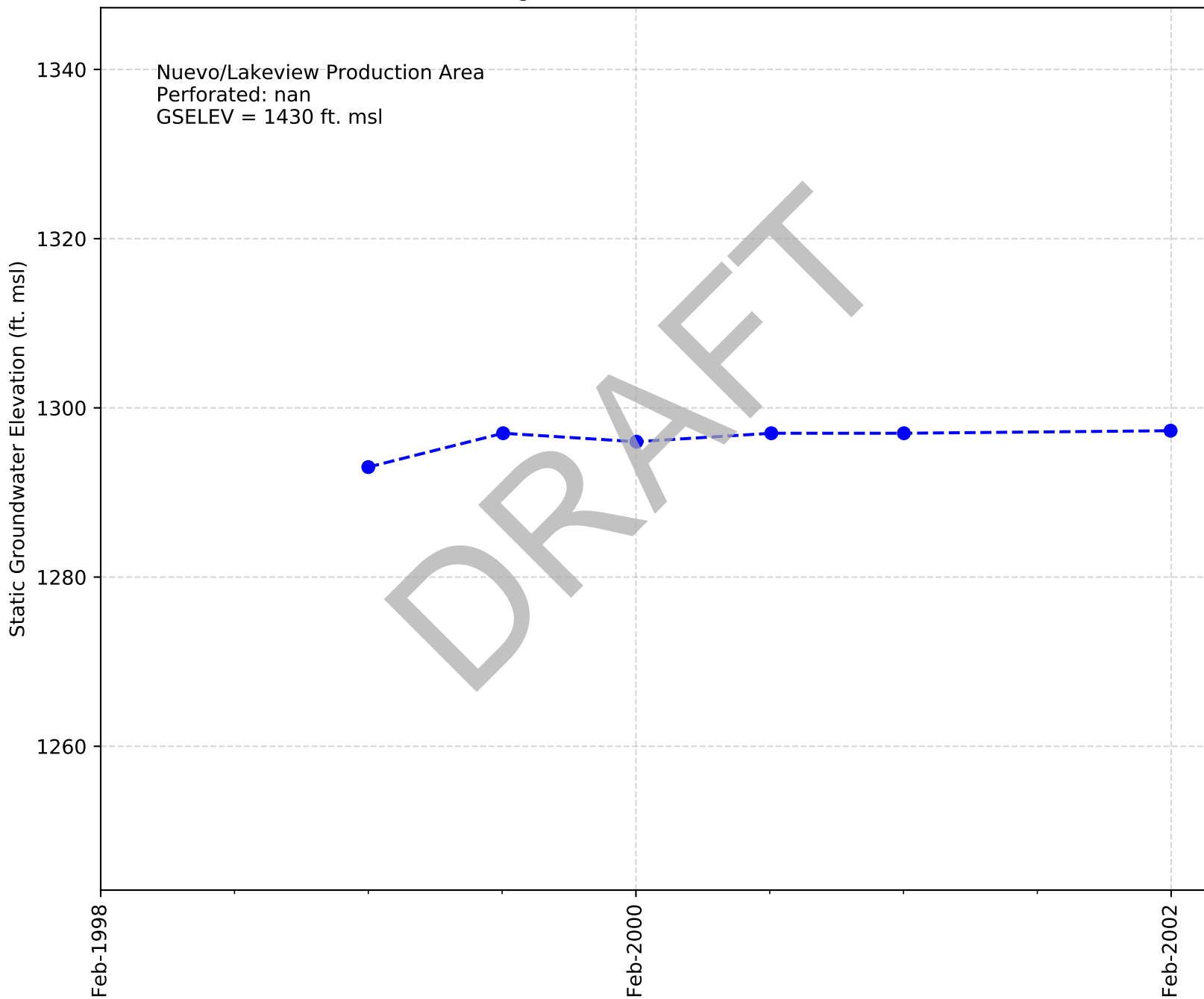
Casing Name: Fish & Game Pheasant



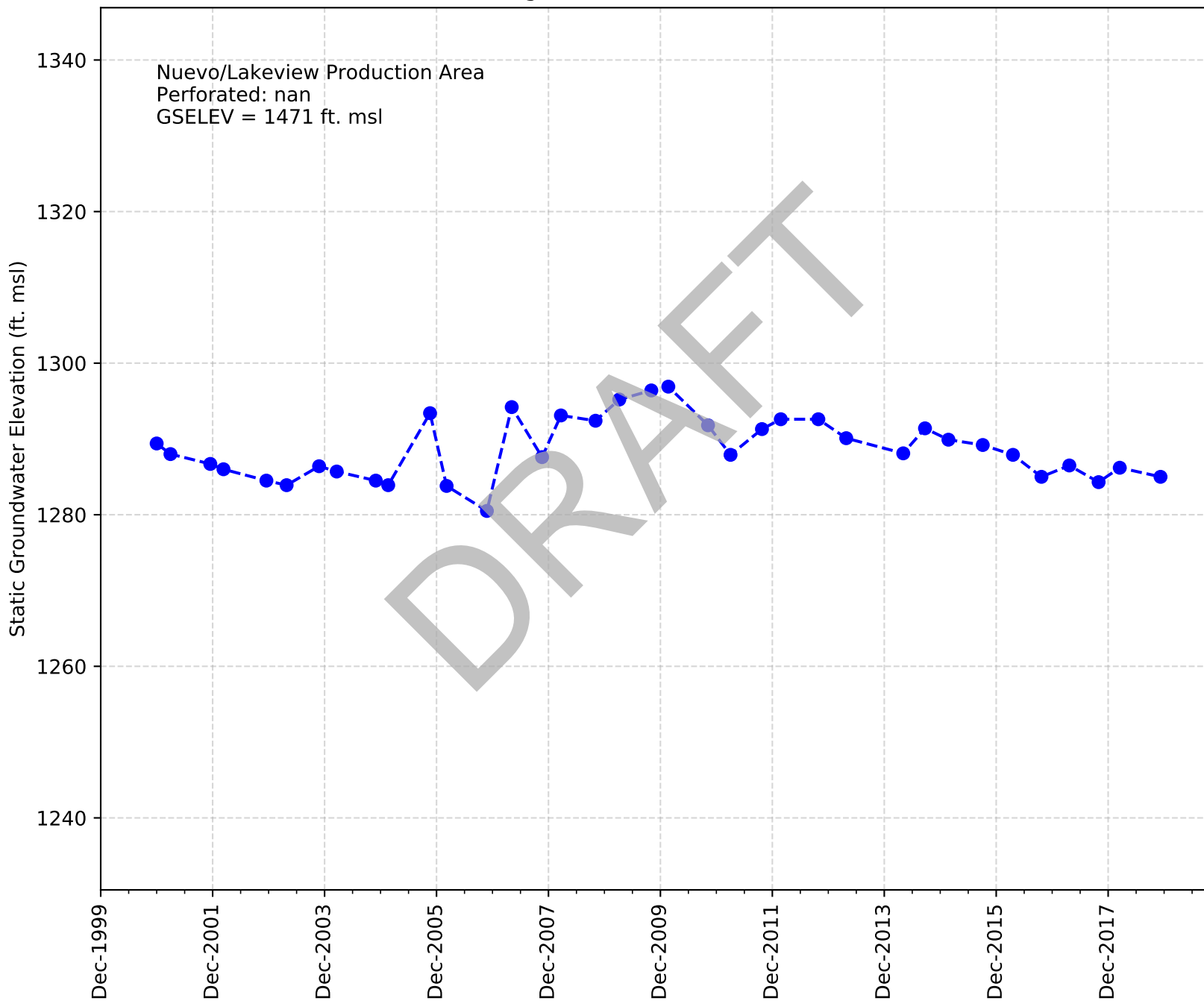
Casing Name: Fish & Game Domestic



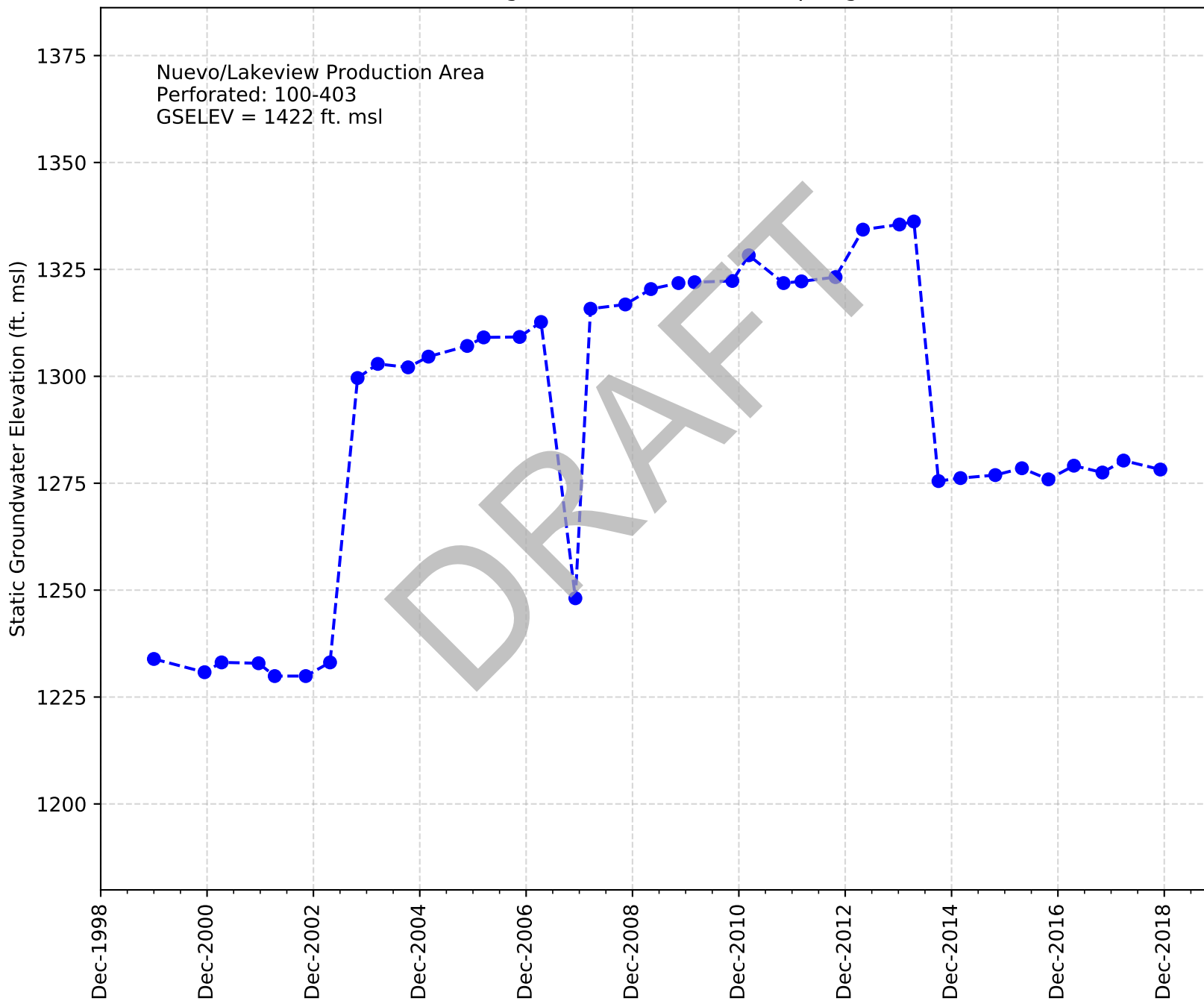
Casing Name: Fish & Game House



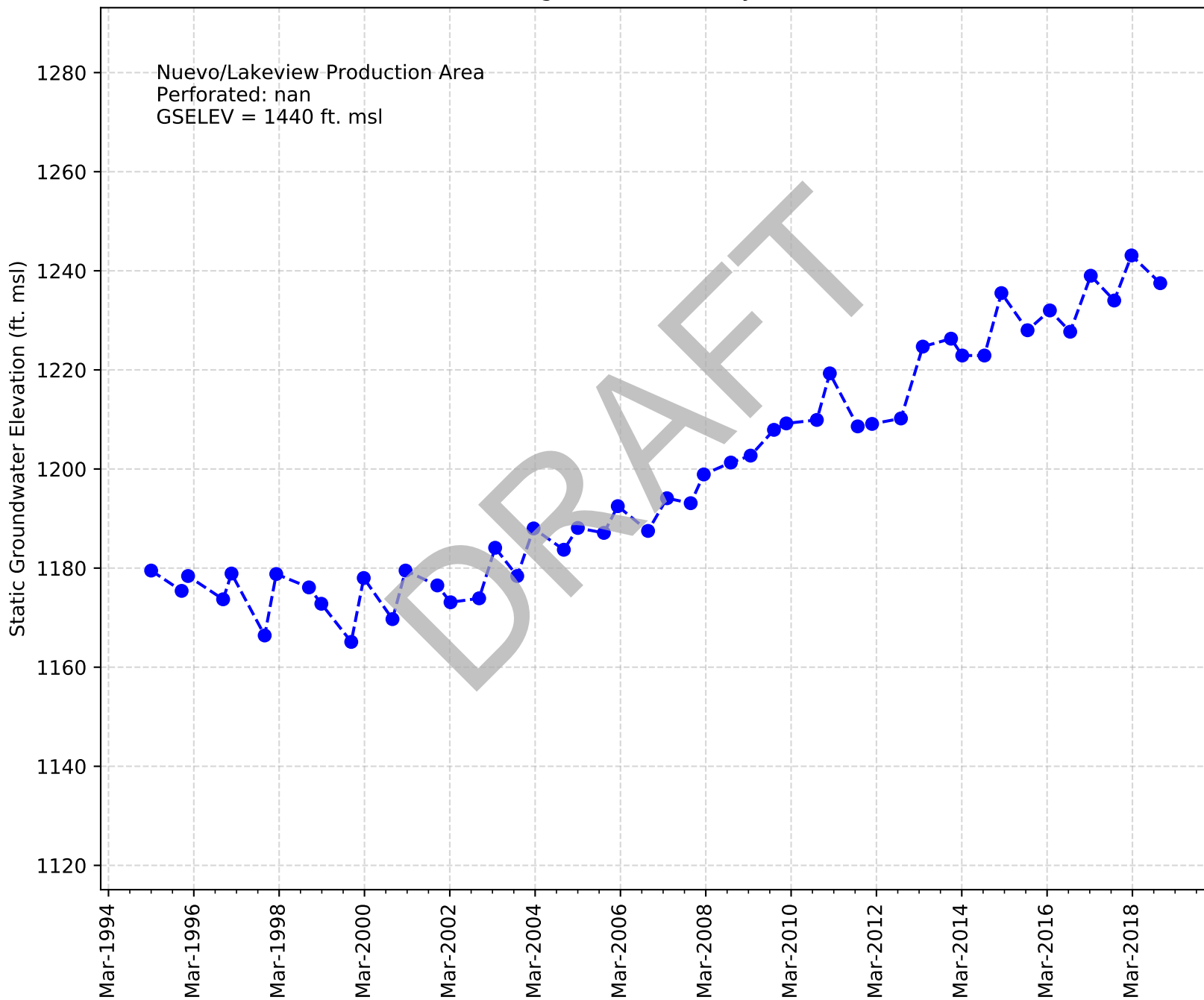
Casing Name: Fish & Game West



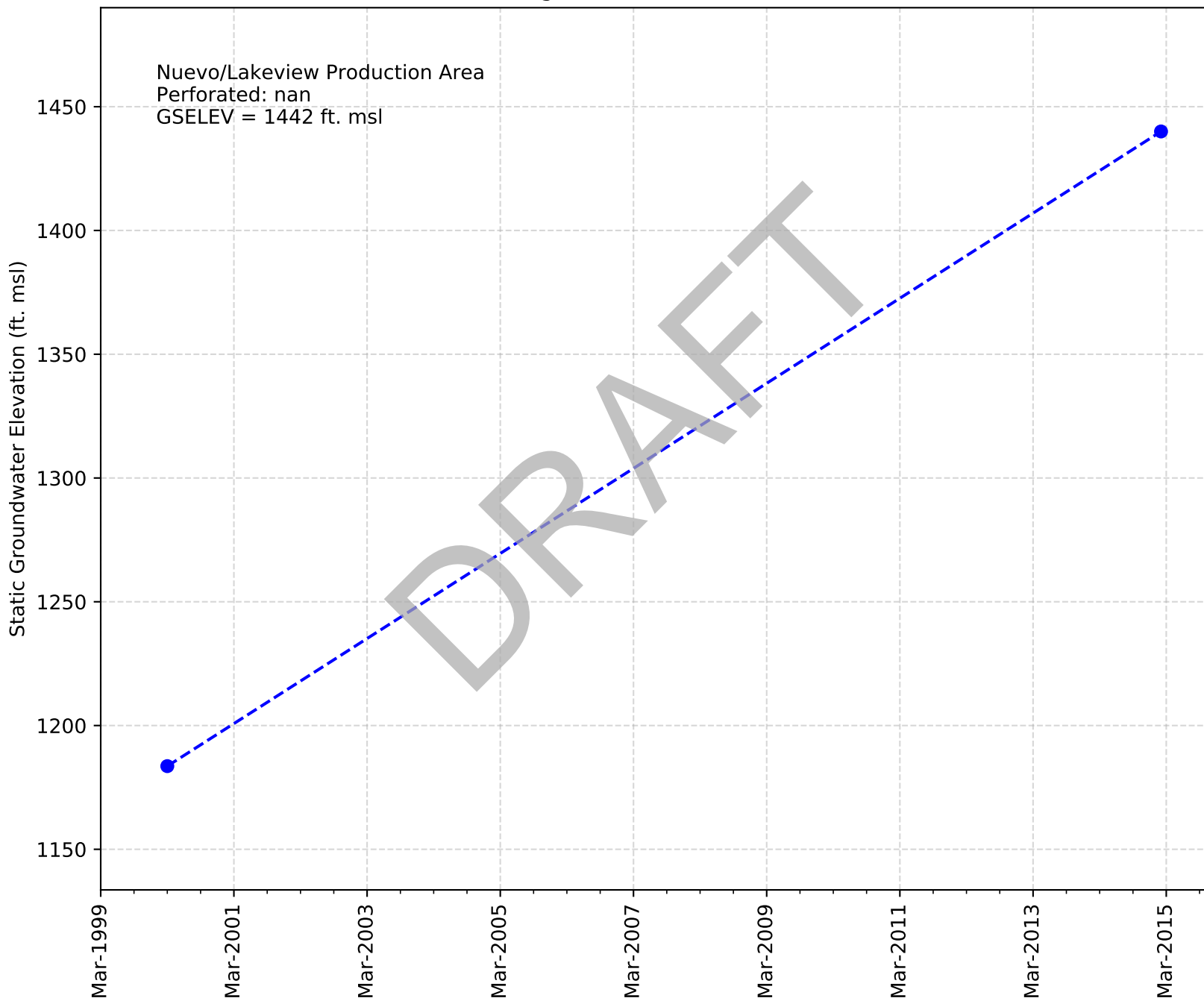
Casing Name: Lakeview Hot Springs



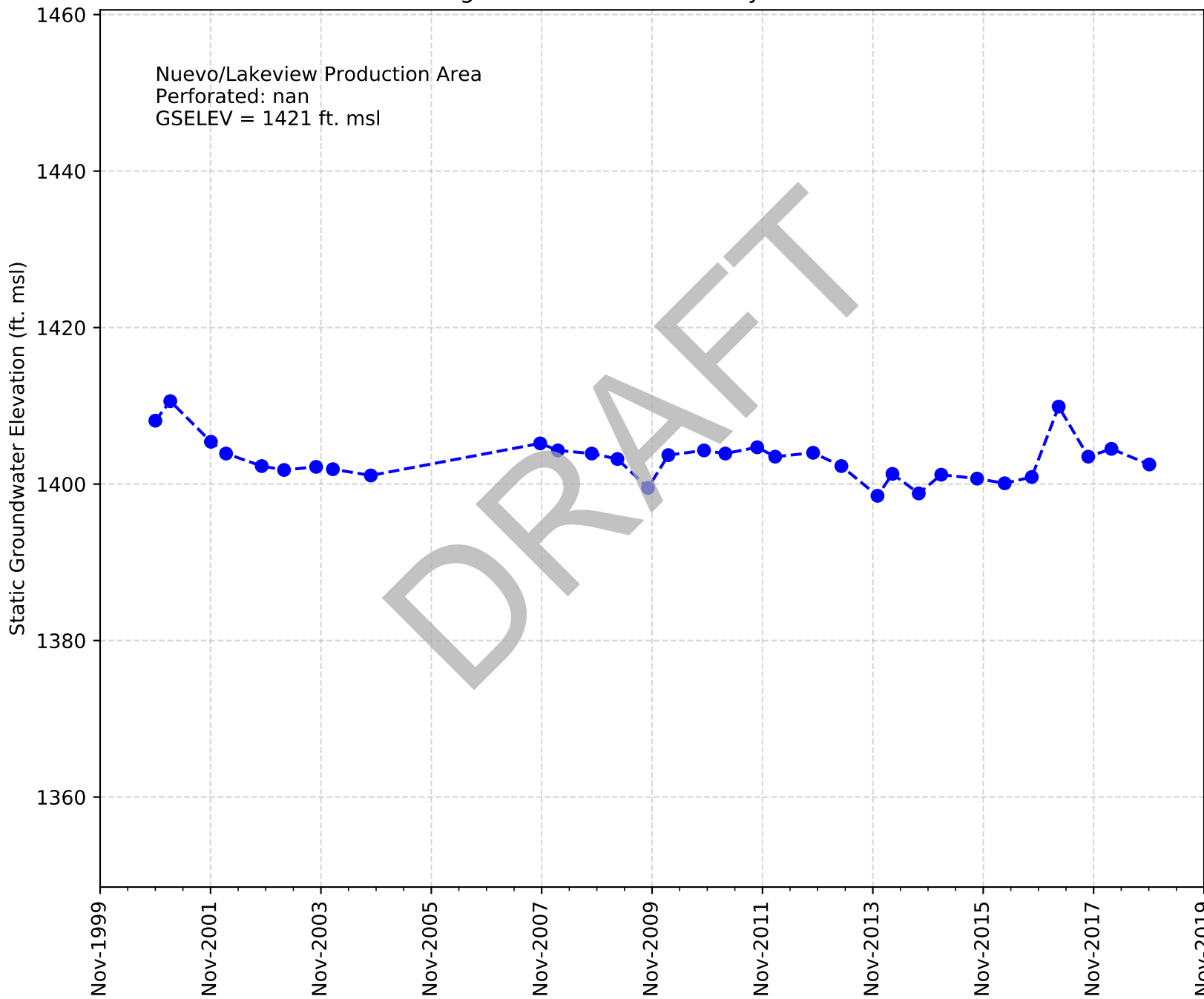
Casing Name: McAnally Farms



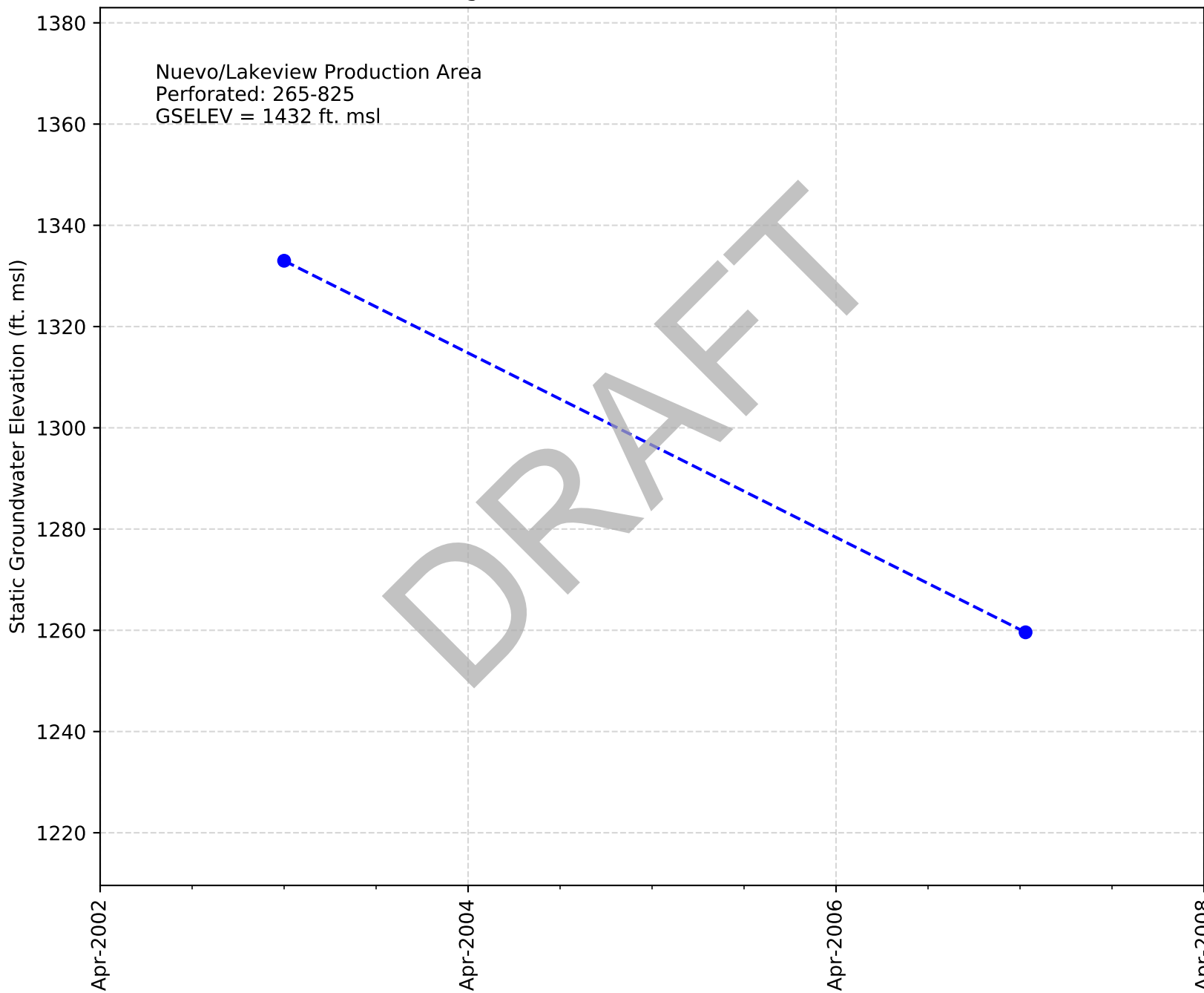
Casing Name: Motte Domestic



Casing Name: Fish & Game Mystic Lake OC

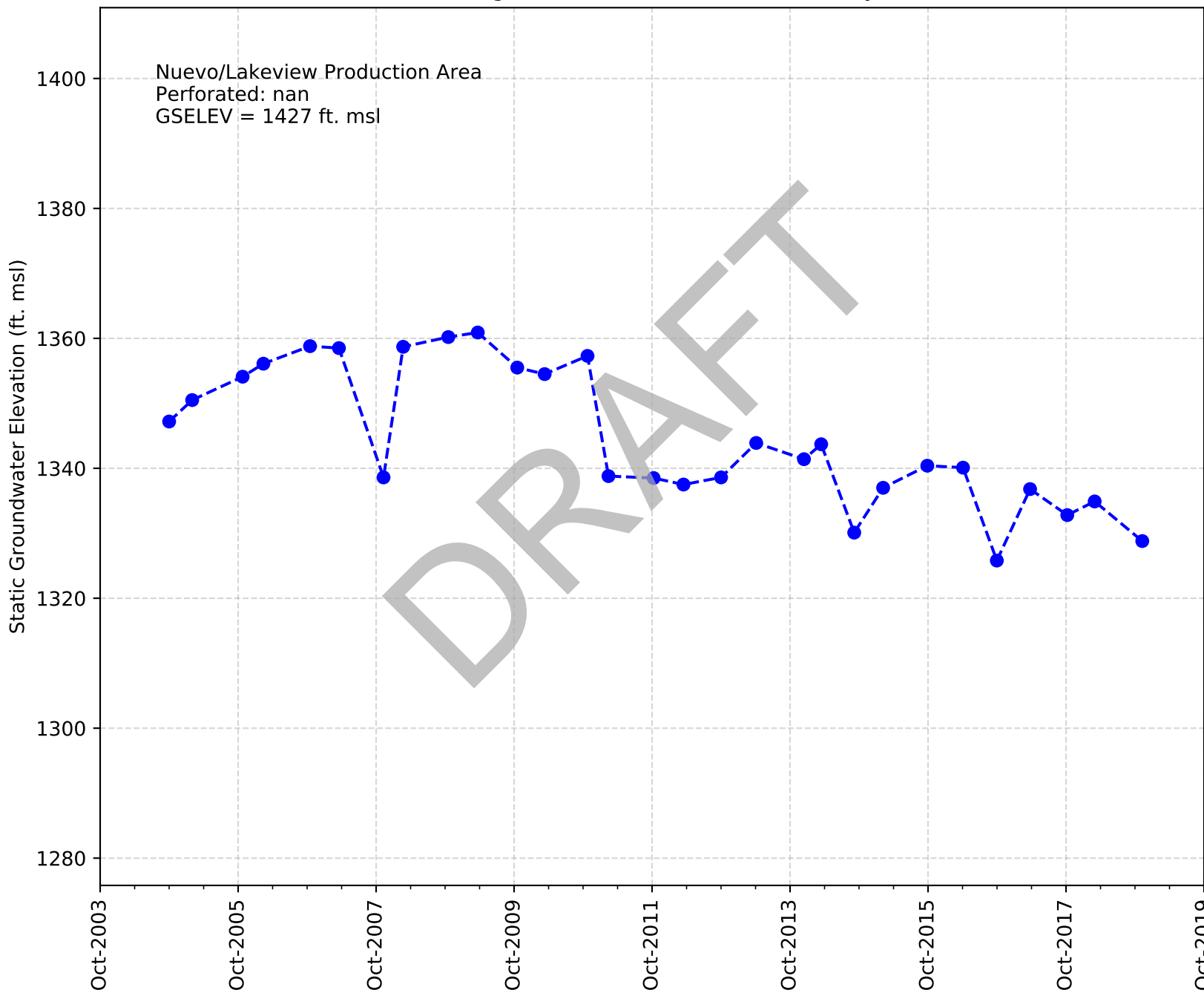


Casing Name: Fish & Game New Domestic

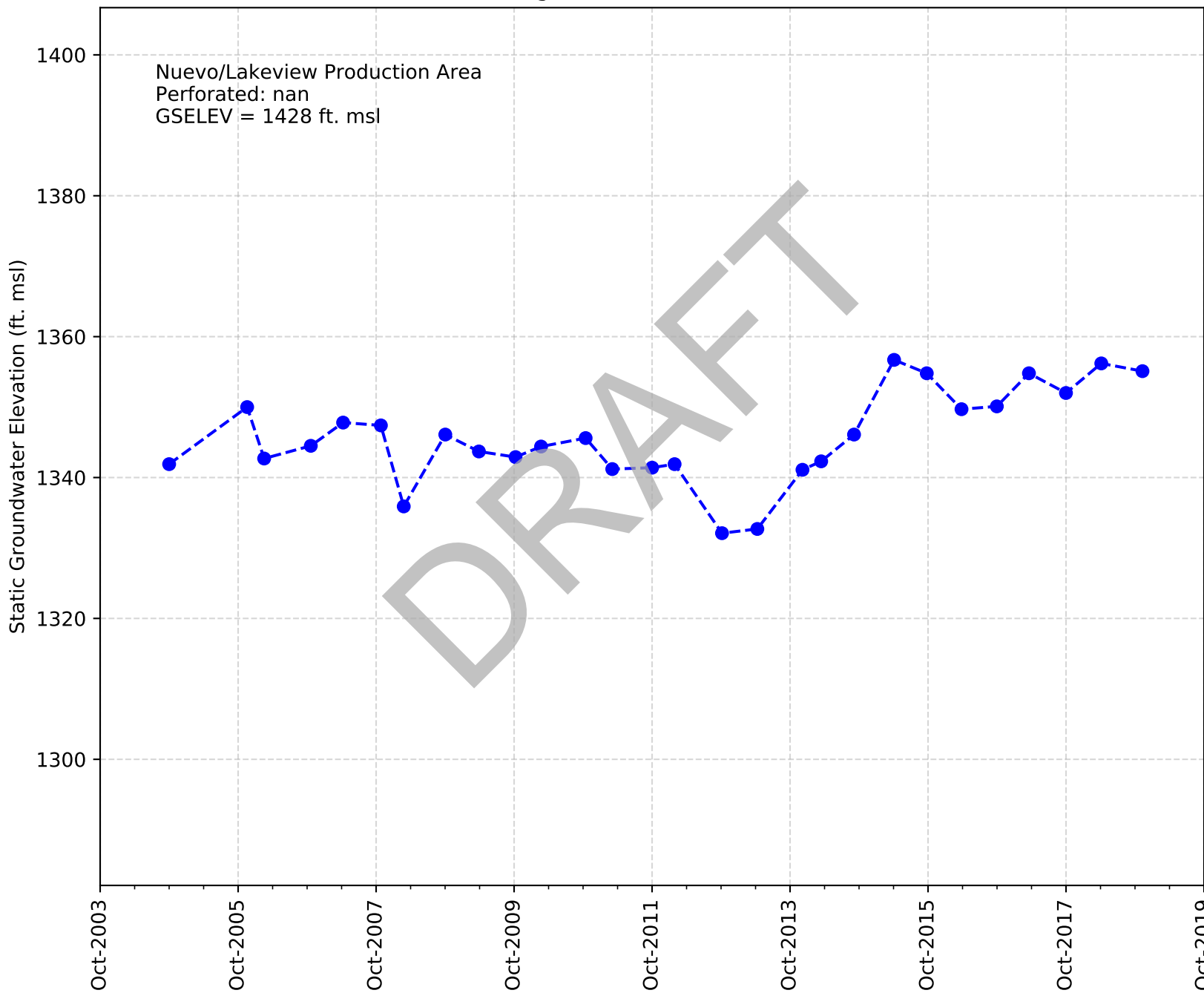


Nuevo/Lakeview Production Area
Perforated: 265-825
GSELEV = 1432 ft. msl

Casing Name: Cal Trans ROW Nursery



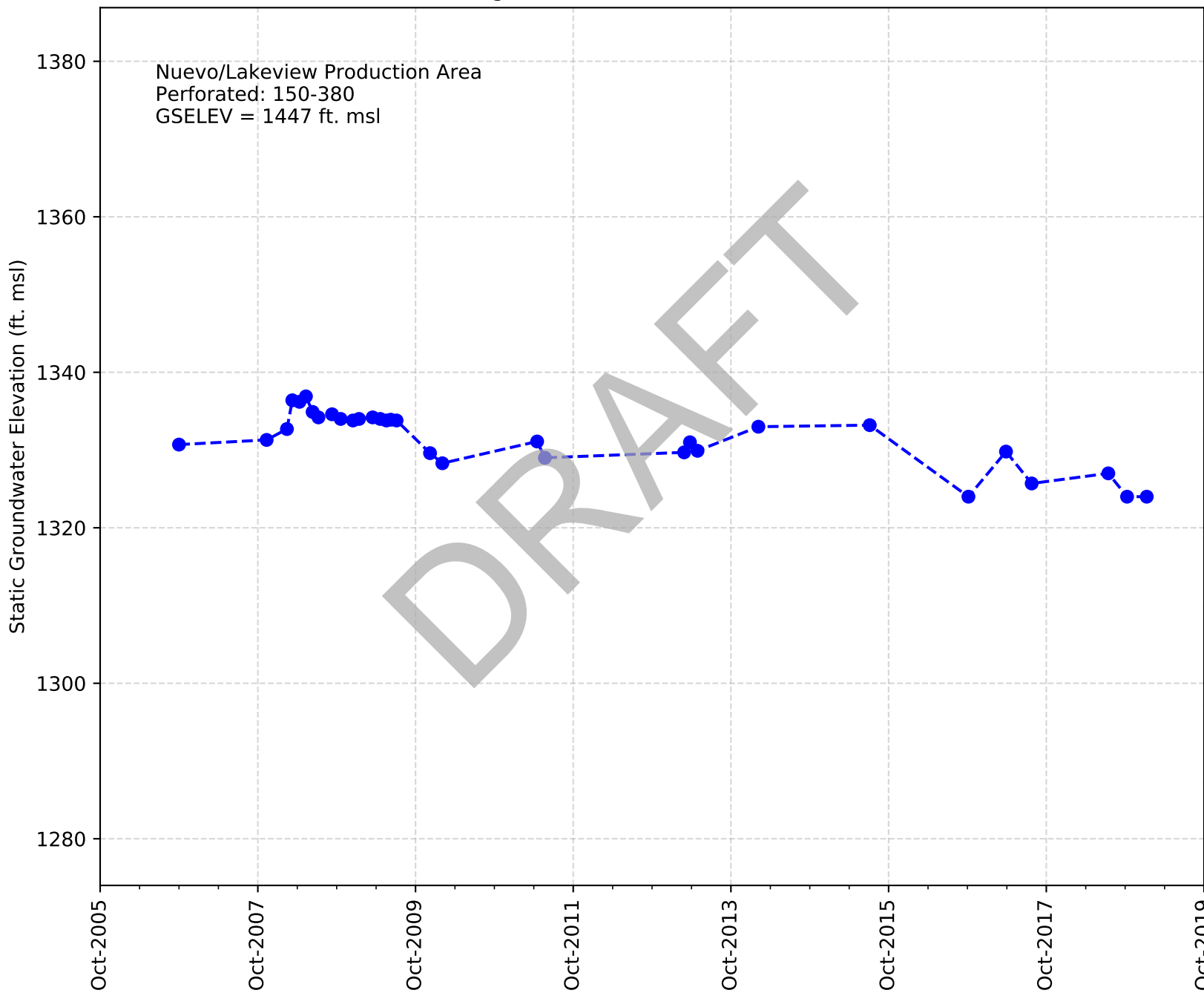
Casing Name: 21 Gun Club OC



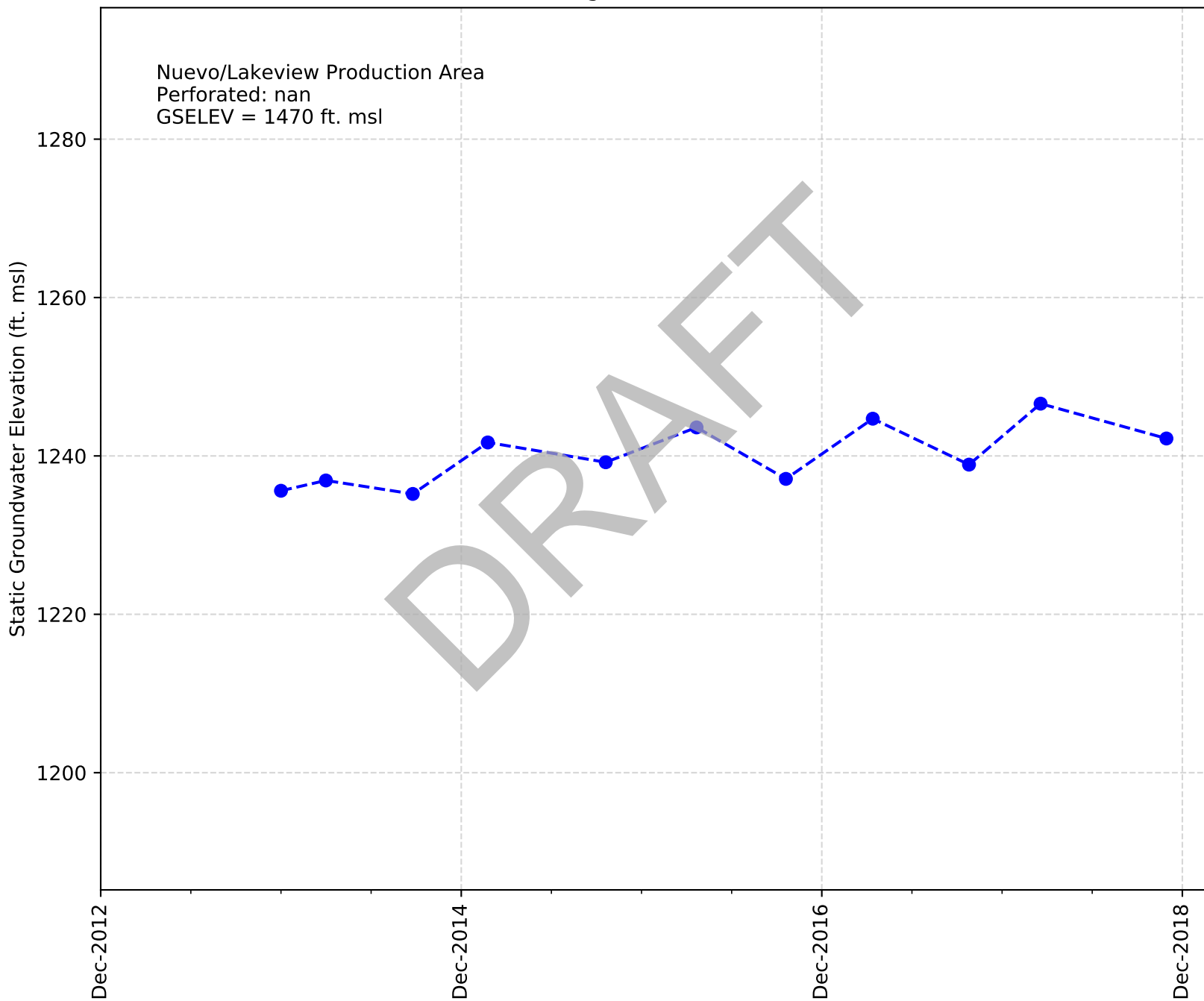
Nuevo/Lakeview Production Area
Perforated: nan
GSELEV = 1428 ft. msl

DRAFT

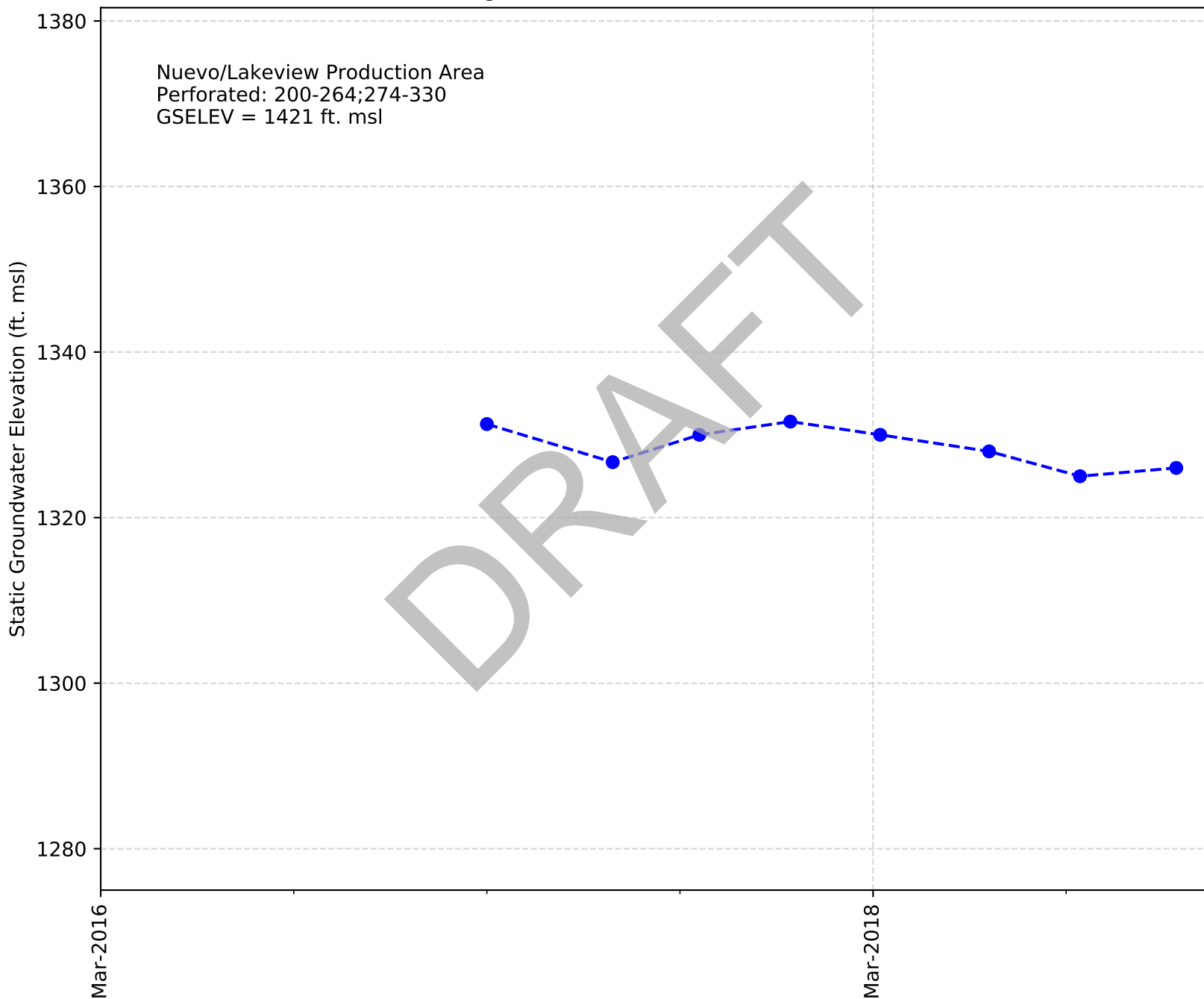
Casing Name: EMWD 87 Nuevo/Olivas



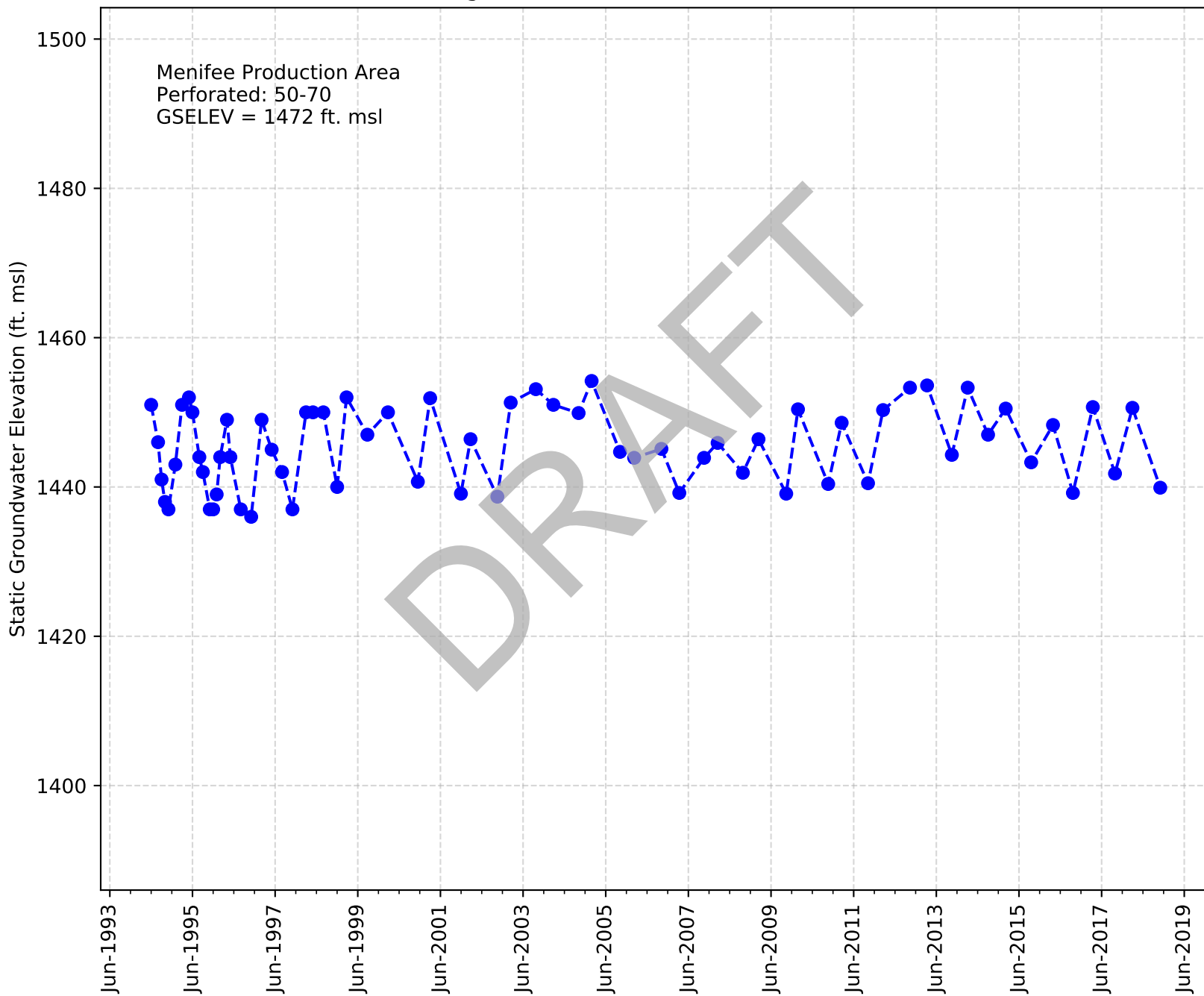
Casing Name: NWC 15



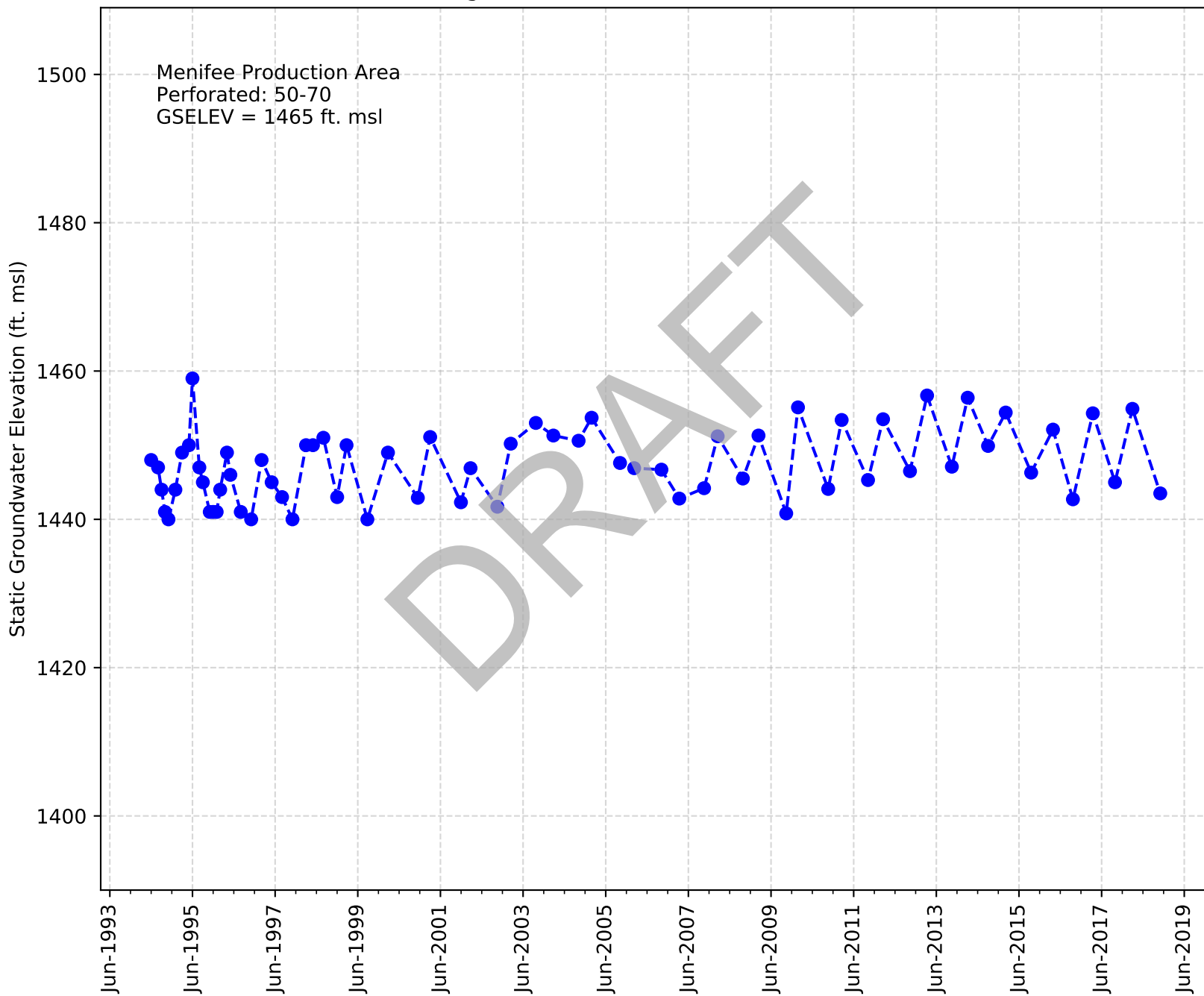
Casing Name: EMWD 93 Nuevo/Meniffee



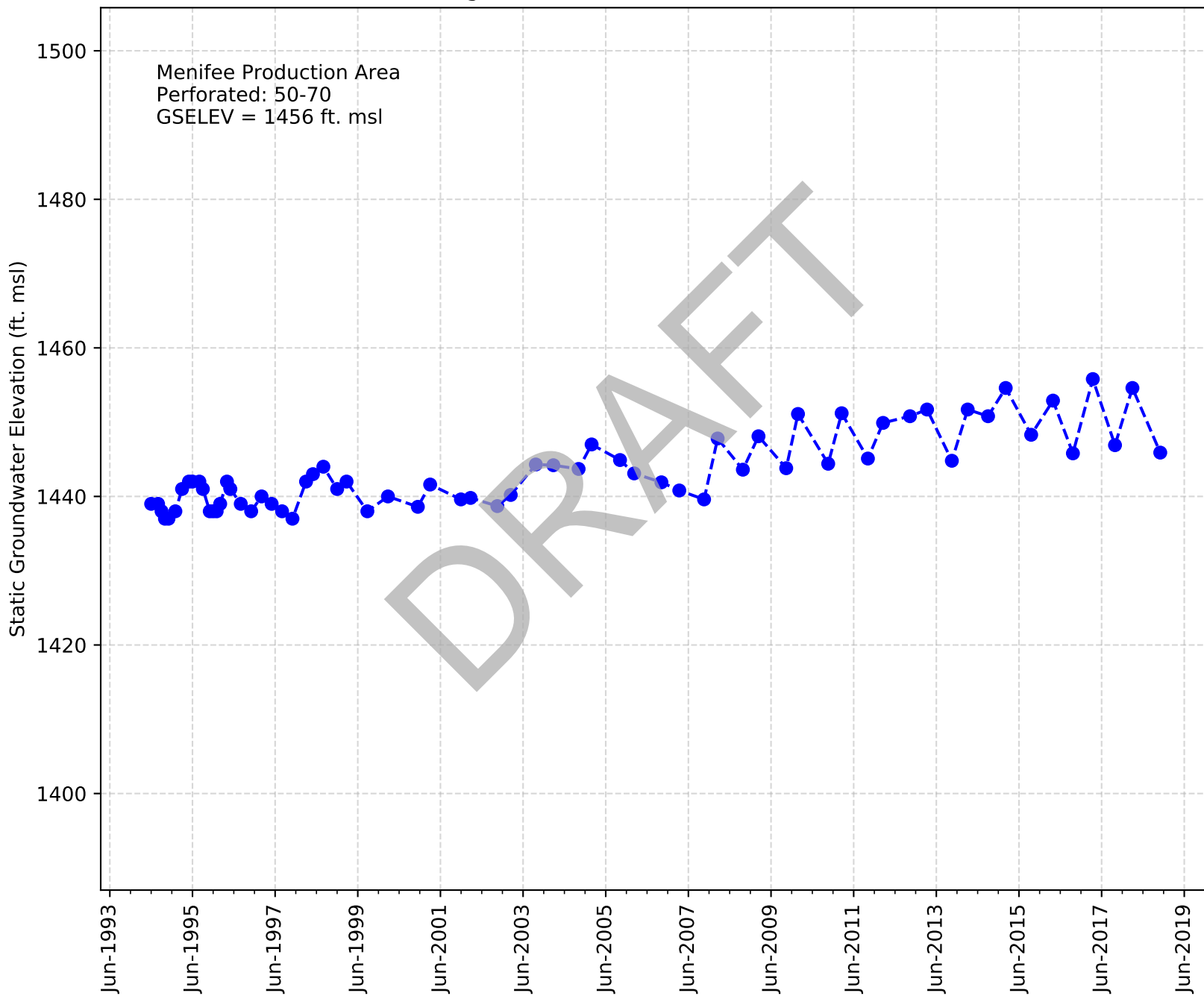
Casing Name: EMWD Winchester Ponds 05



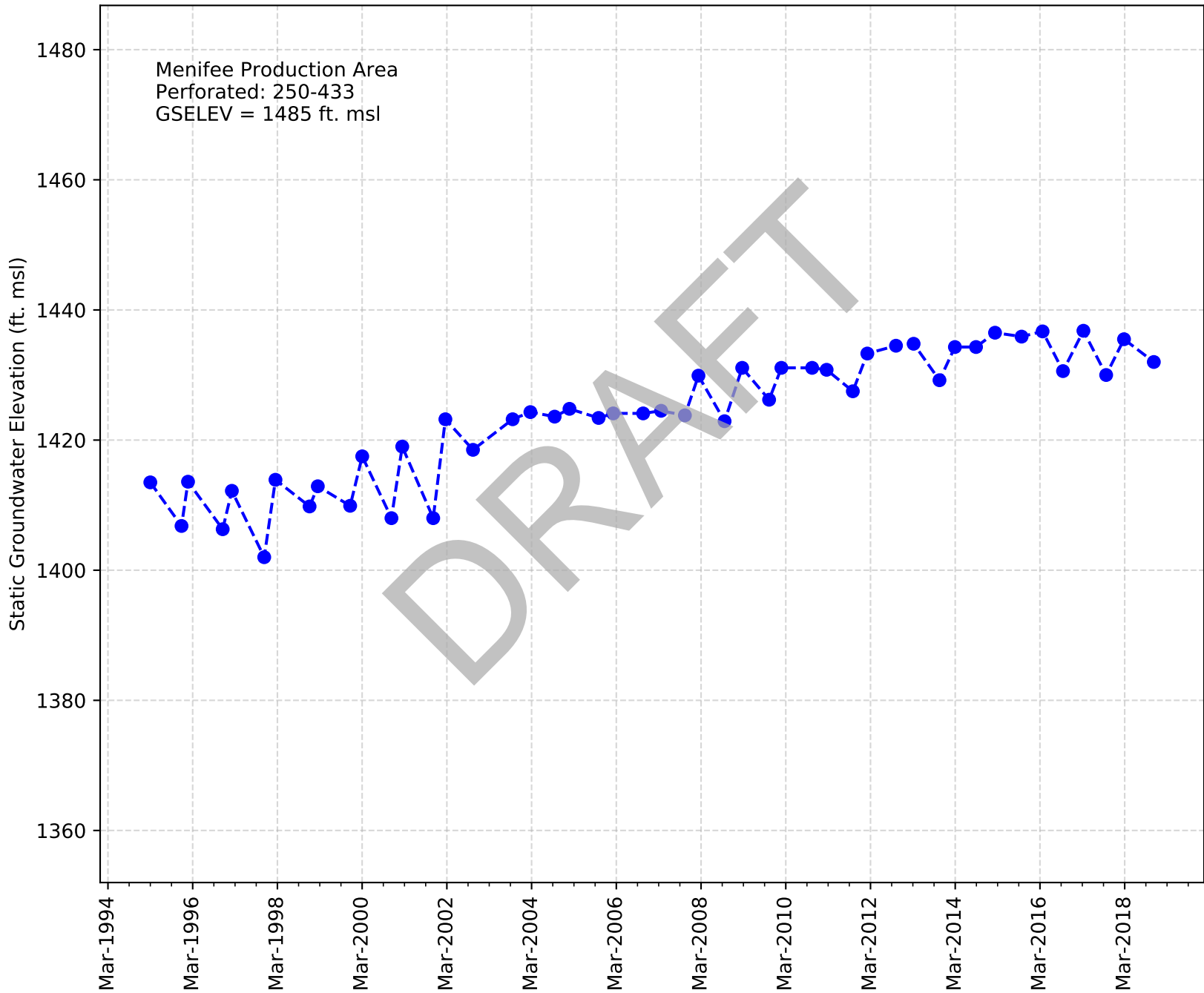
Casing Name: EMWD Winchester Ponds 04



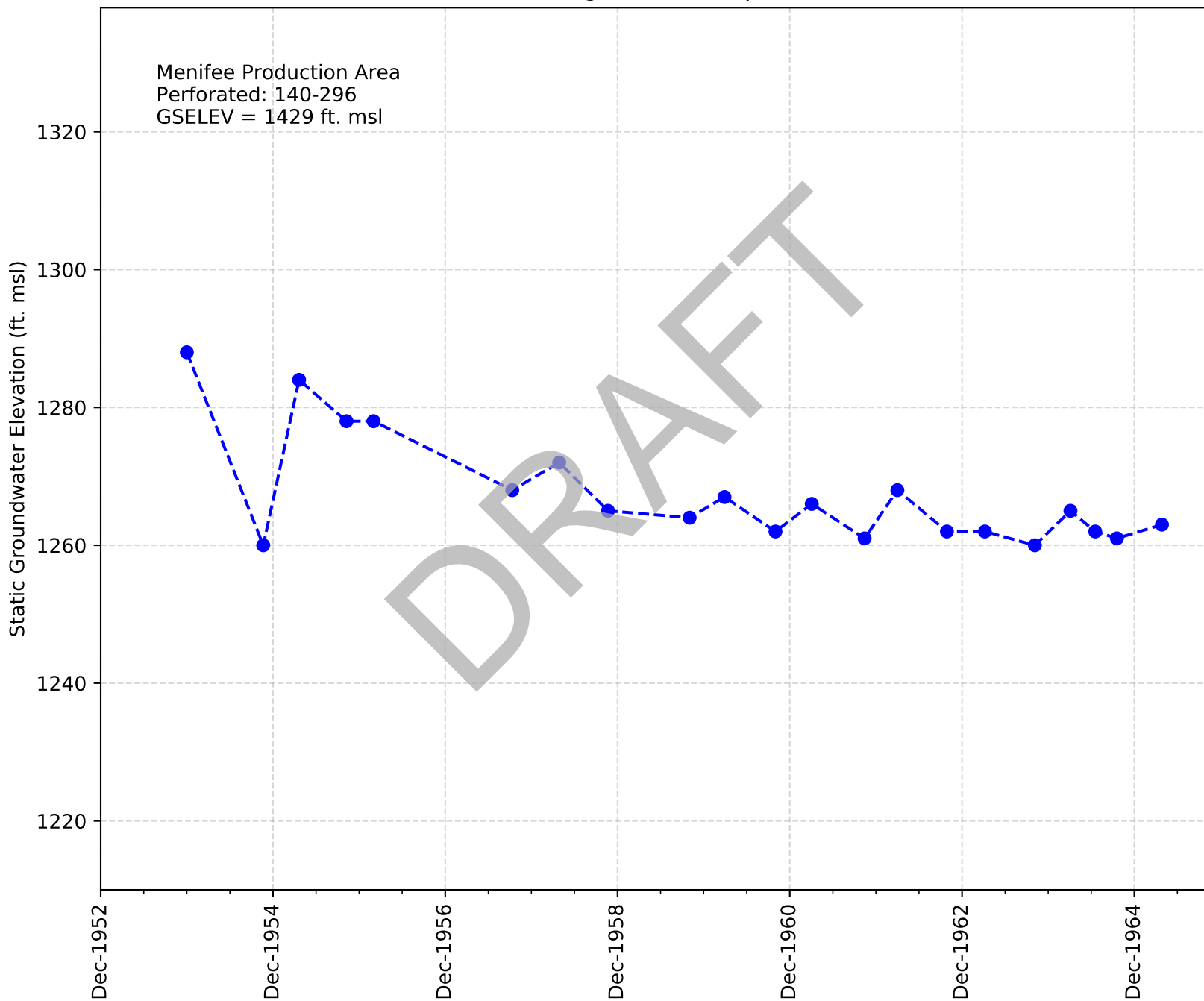
Casing Name: EMWD Winchester Ponds 03



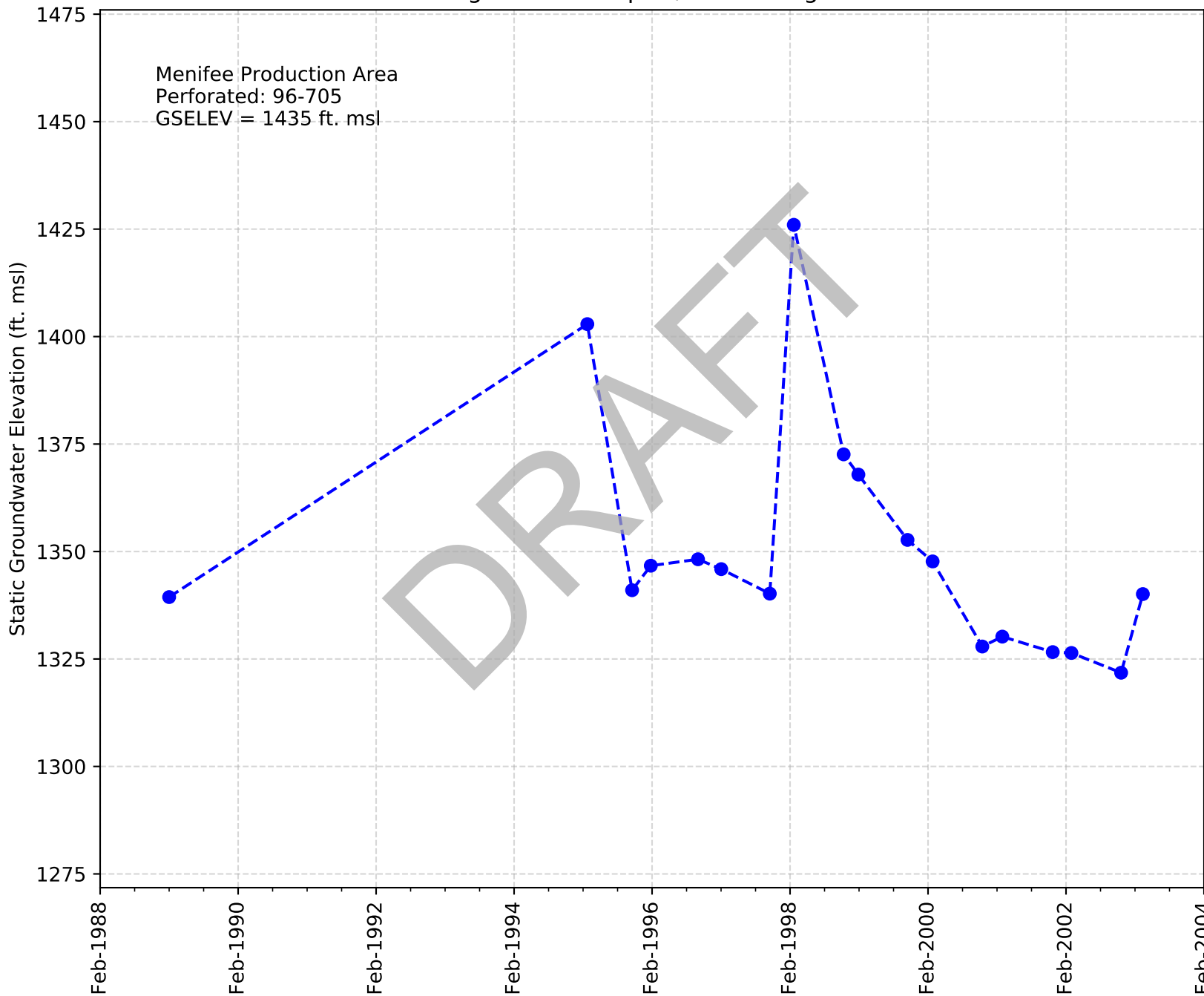
Casing Name: Agri Matthews



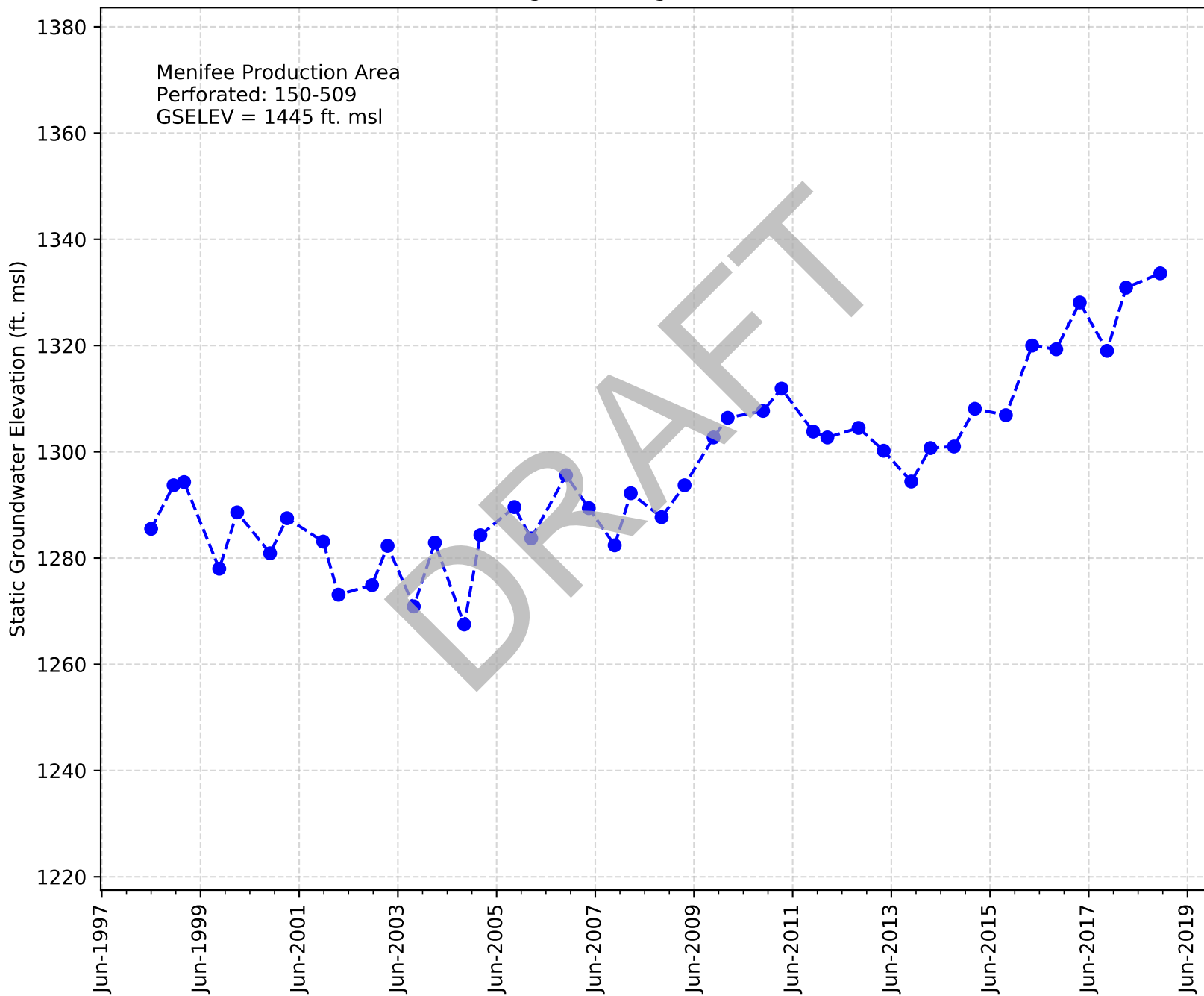
Casing Name: Newport



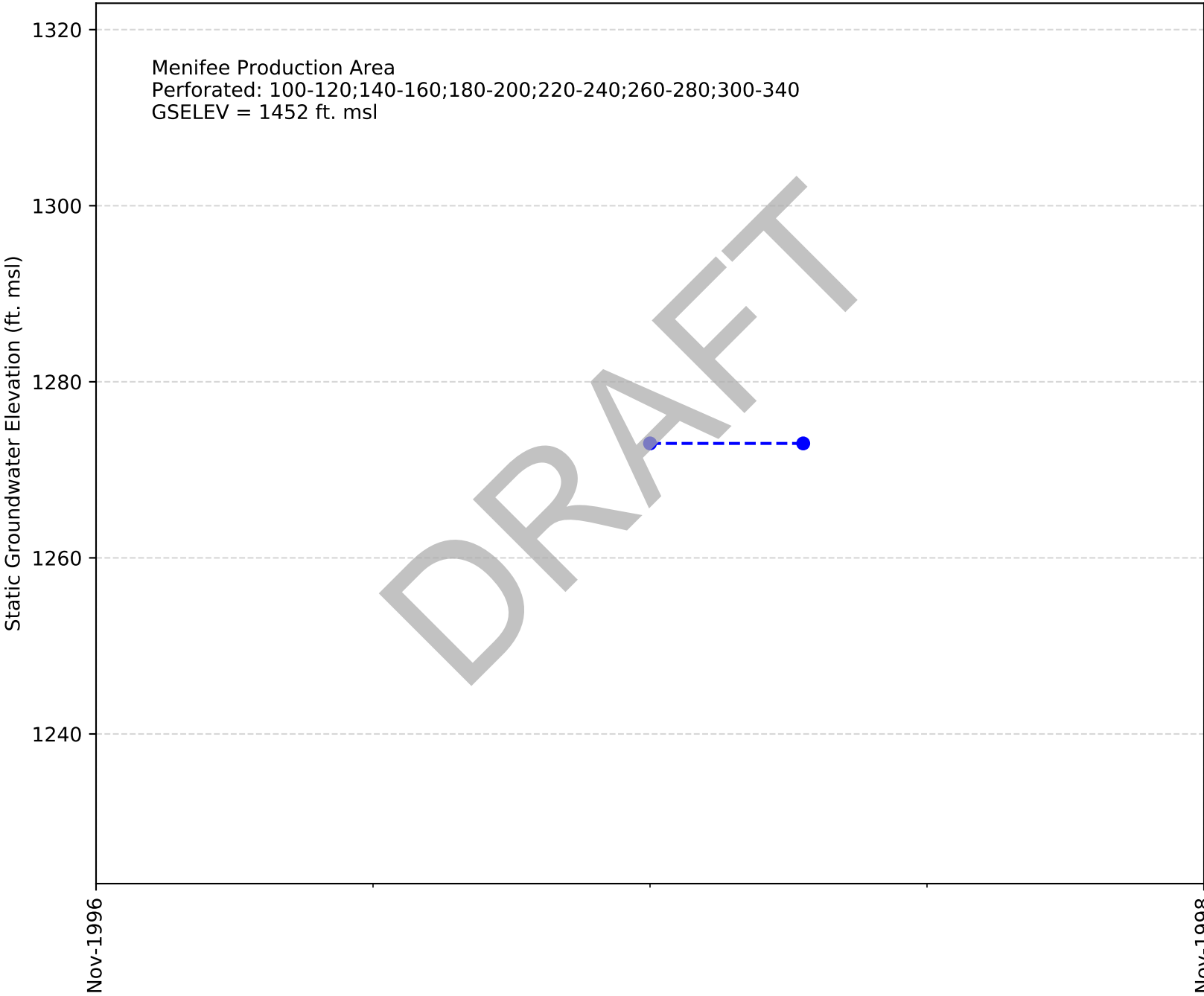
Casing Name: Newport/Lindenburger East



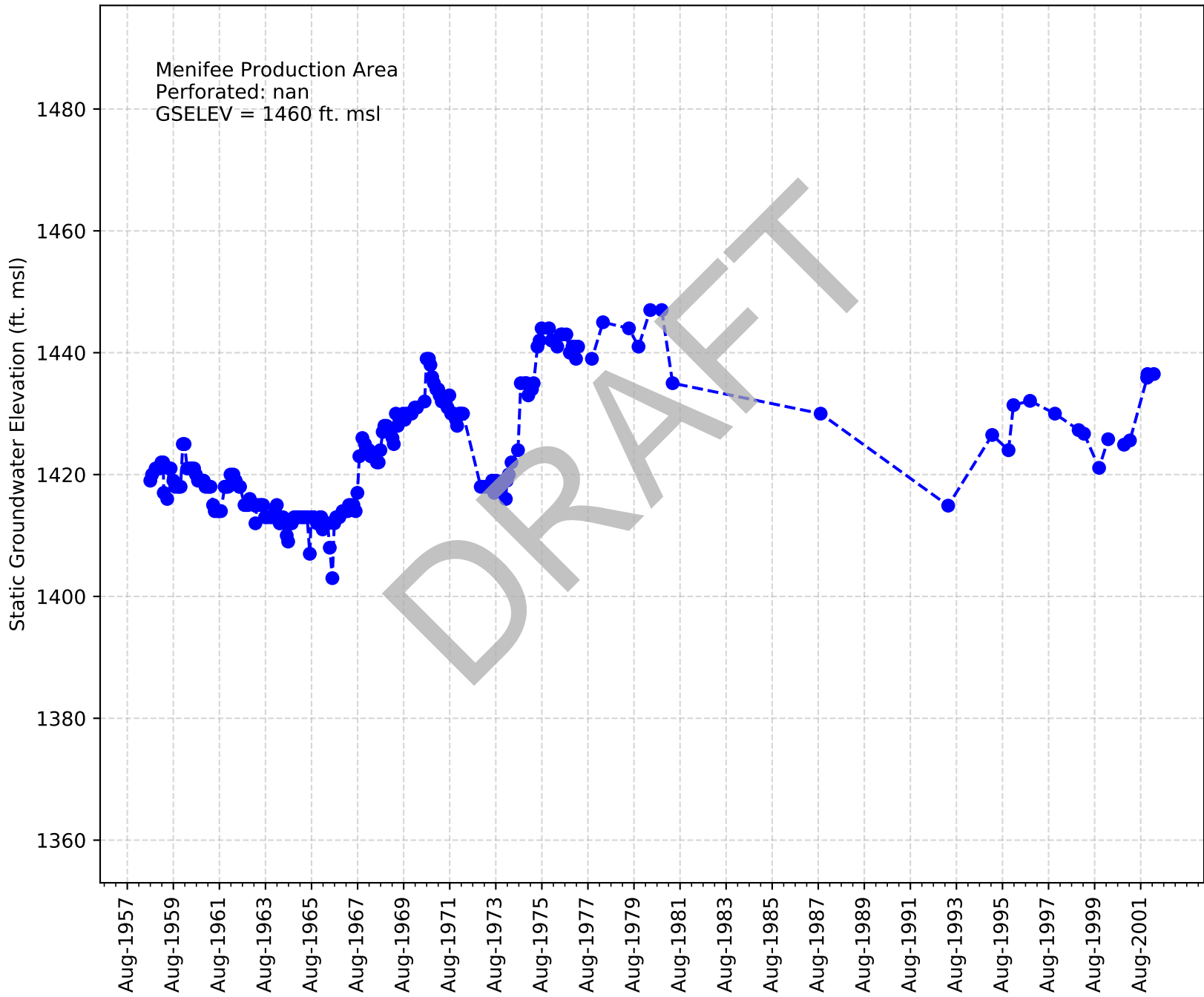
Casing Name: Agri Leon/Holland



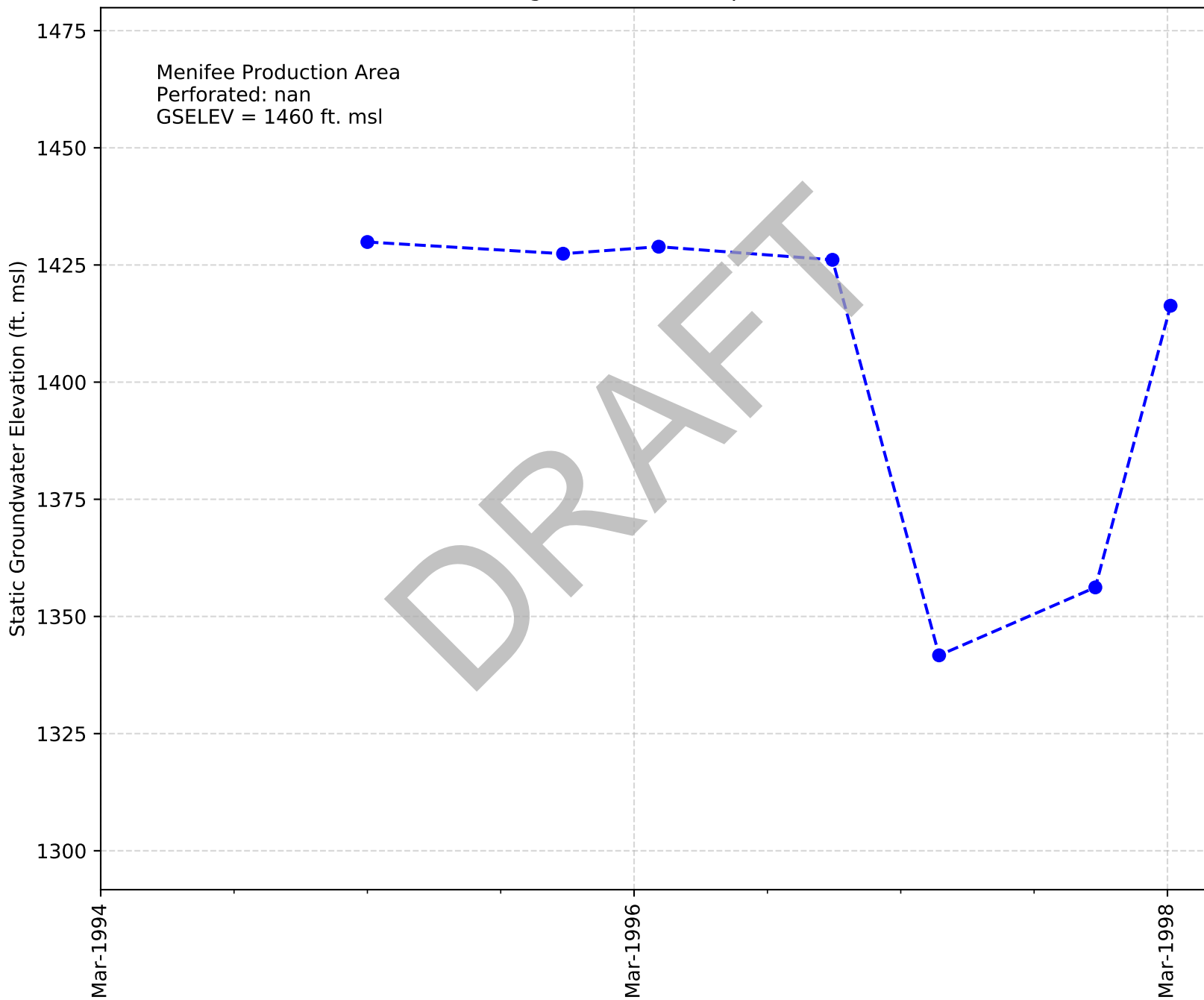
Casing Name: Boer, Dennis



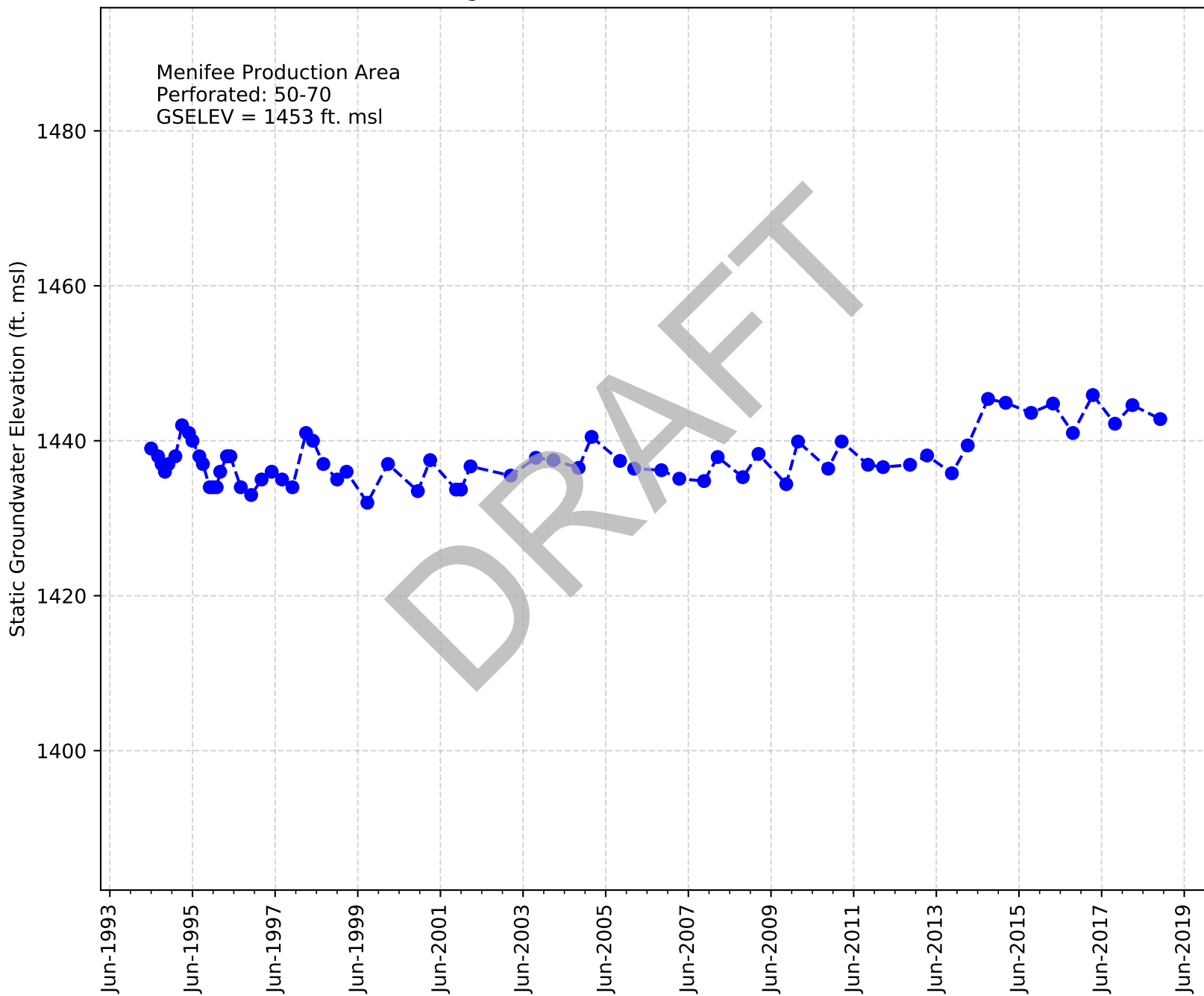
Casing Name: Rheingans



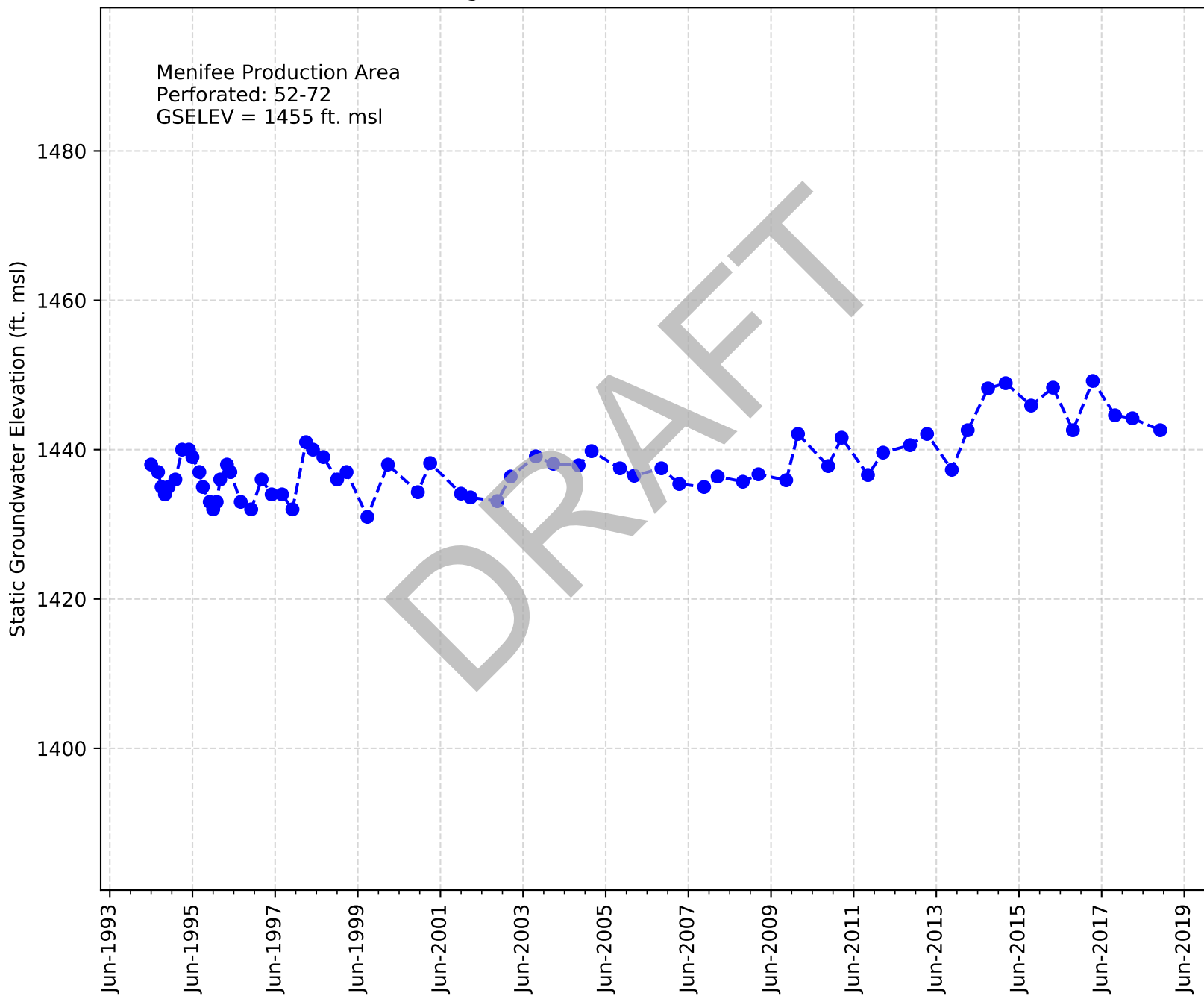
Casing Name: Solar Aqua Farms



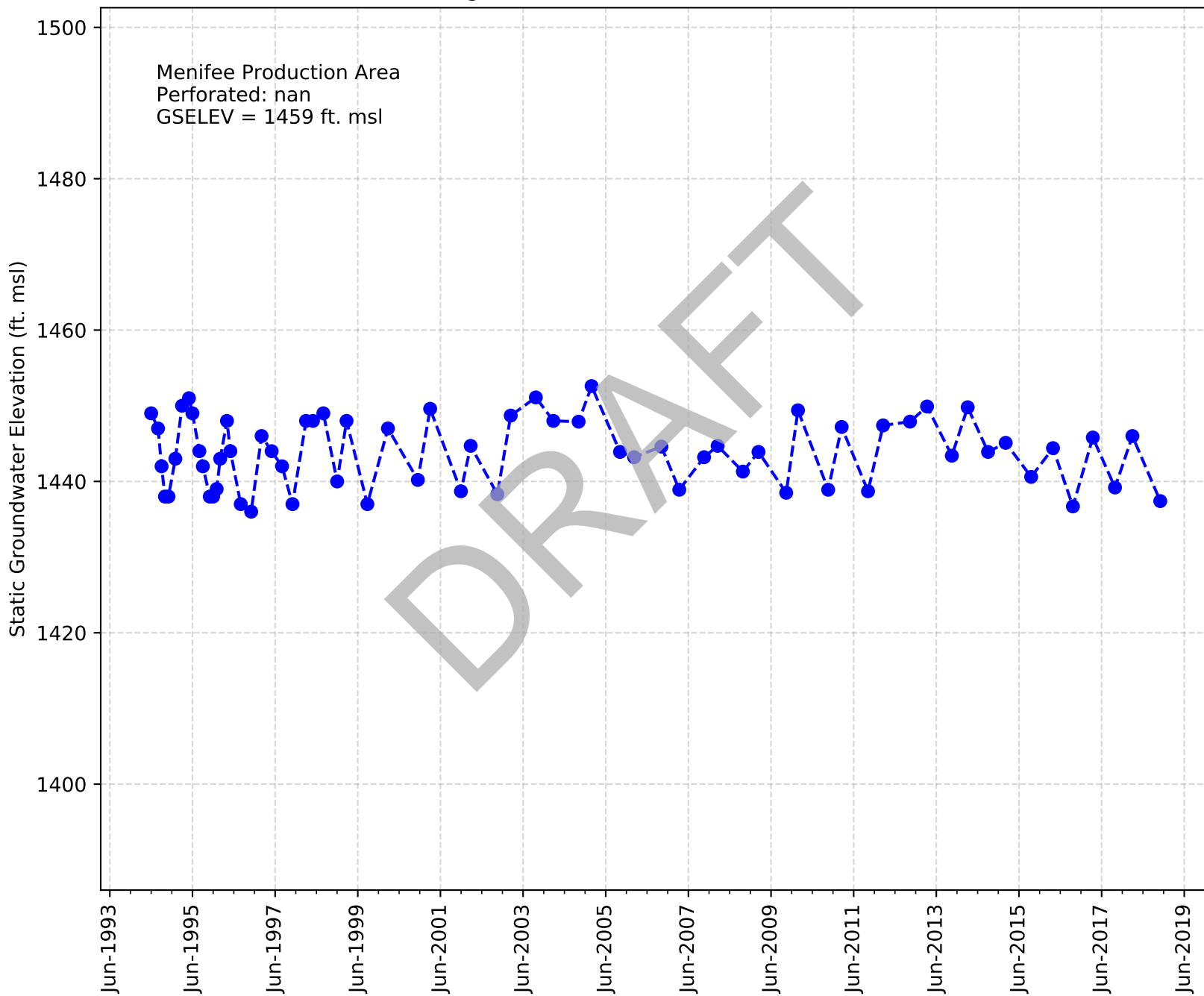
Casing Name: EMWD Winchester Ponds 01



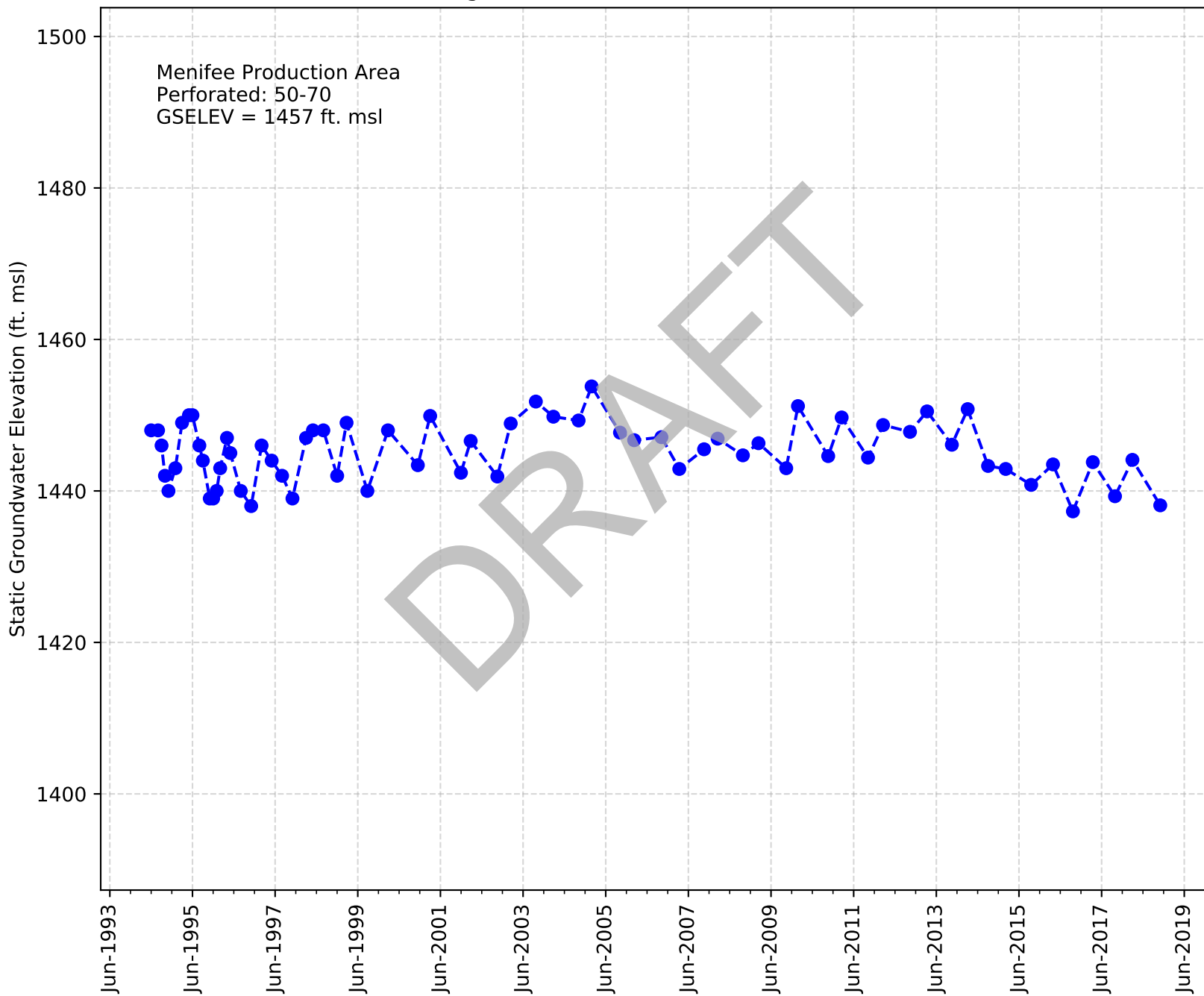
Casing Name: EMWD Winchester Ponds 02



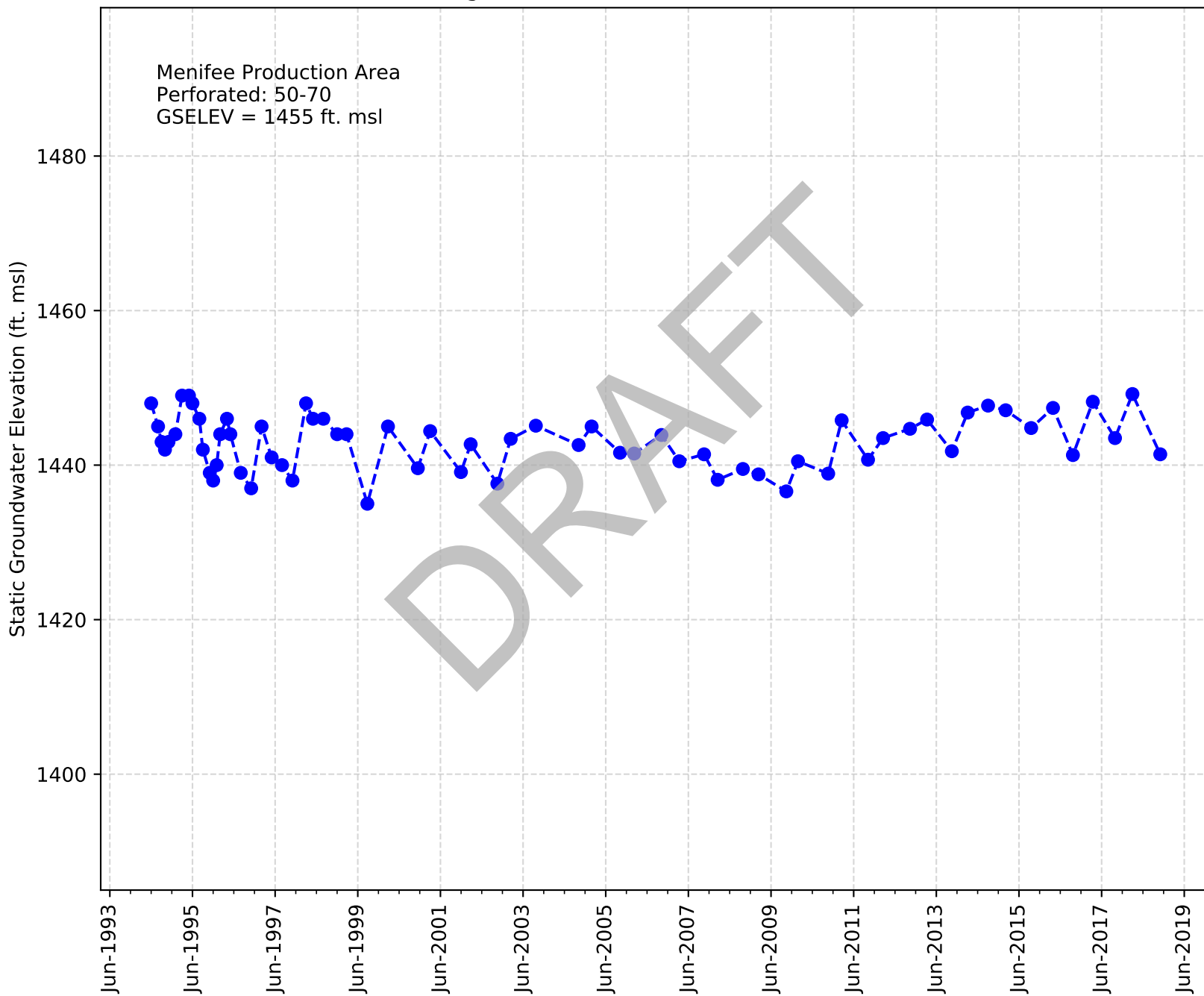
Casing Name: EMWD Winchester Ponds 06



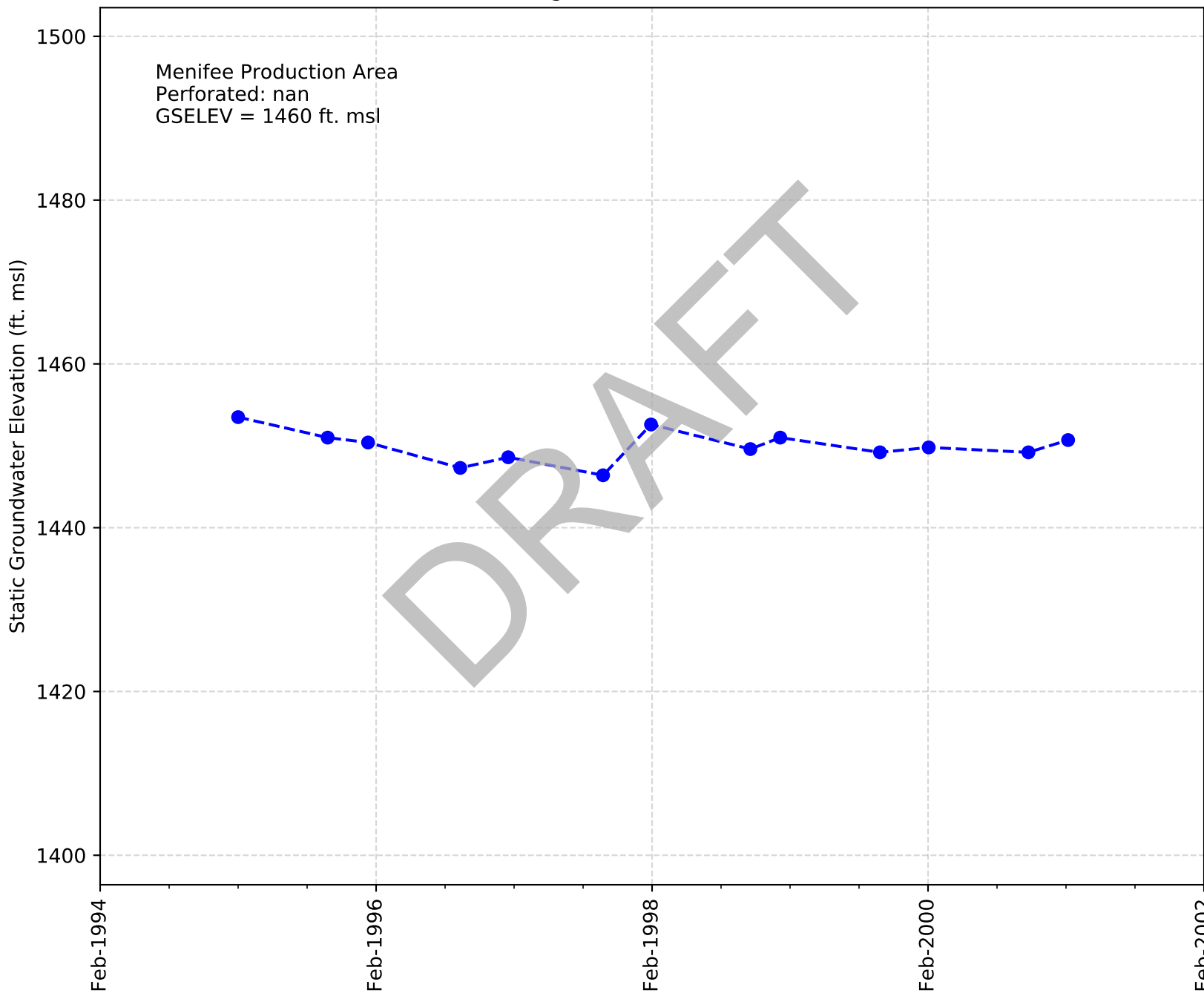
Casing Name: EMWD Winchester Ponds 07



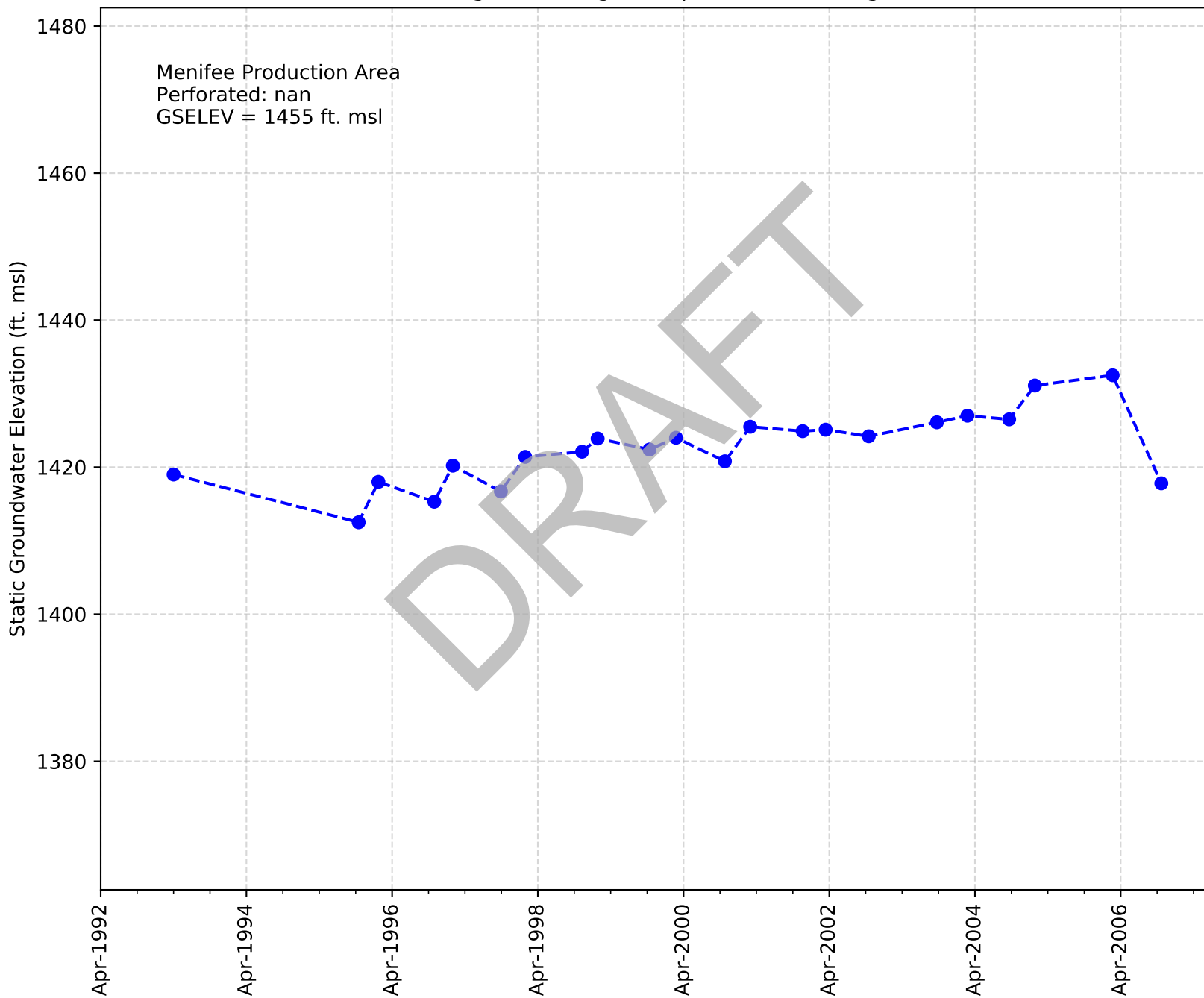
Casing Name: EMWD Winchester Ponds 08



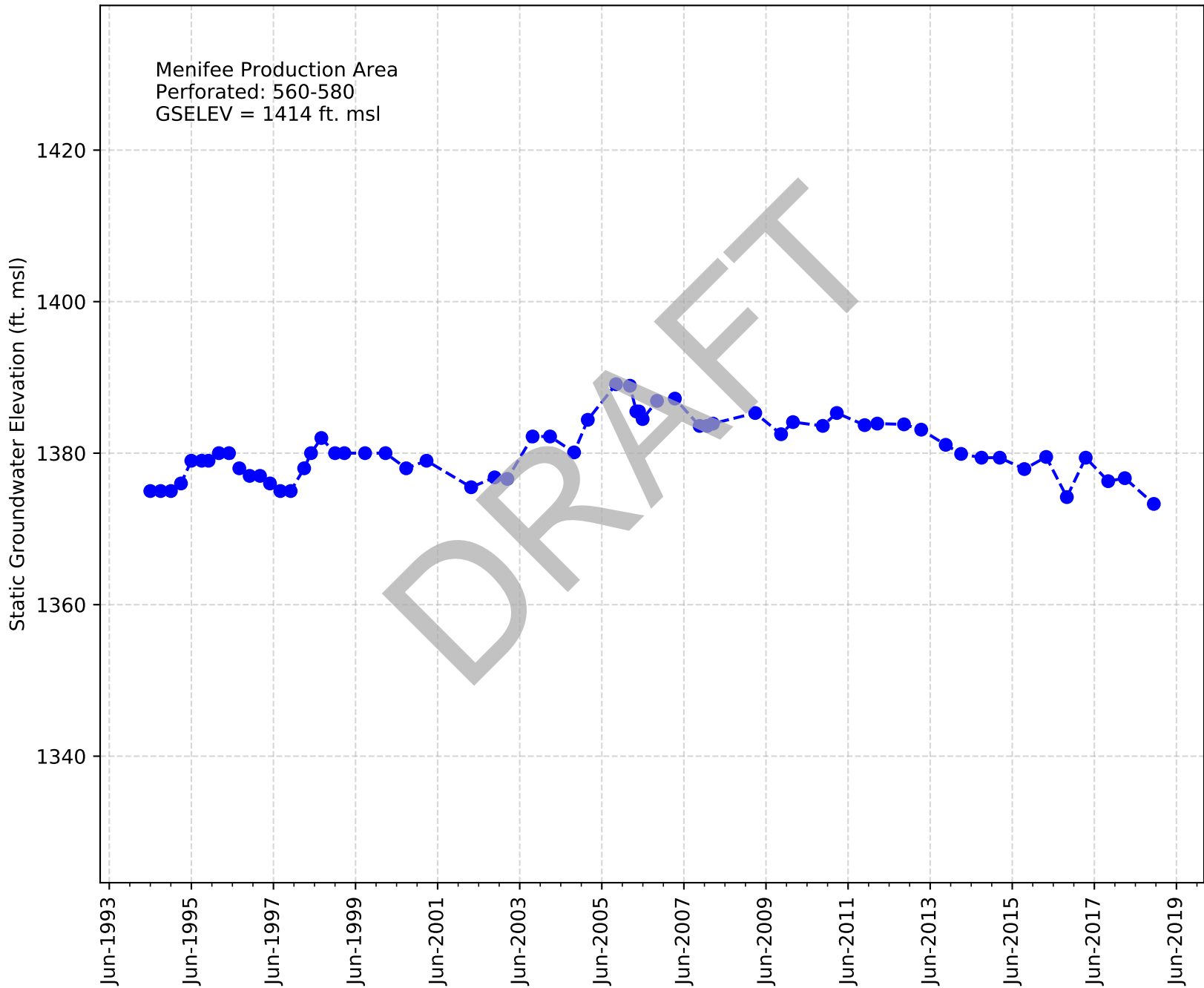
Casing Name: Olive/Rice OC



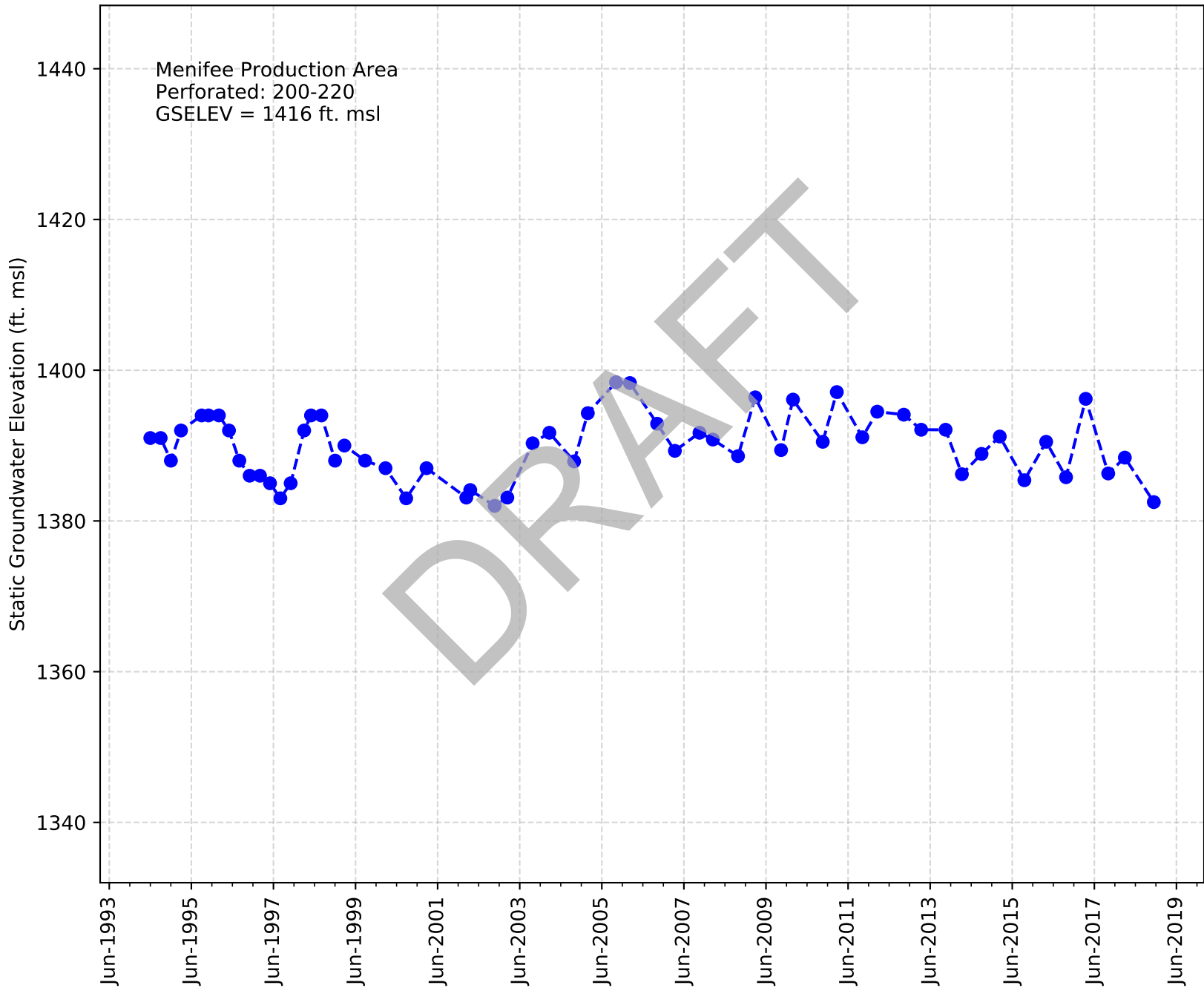
Casing Name: Agri Simpson/Lindenberger



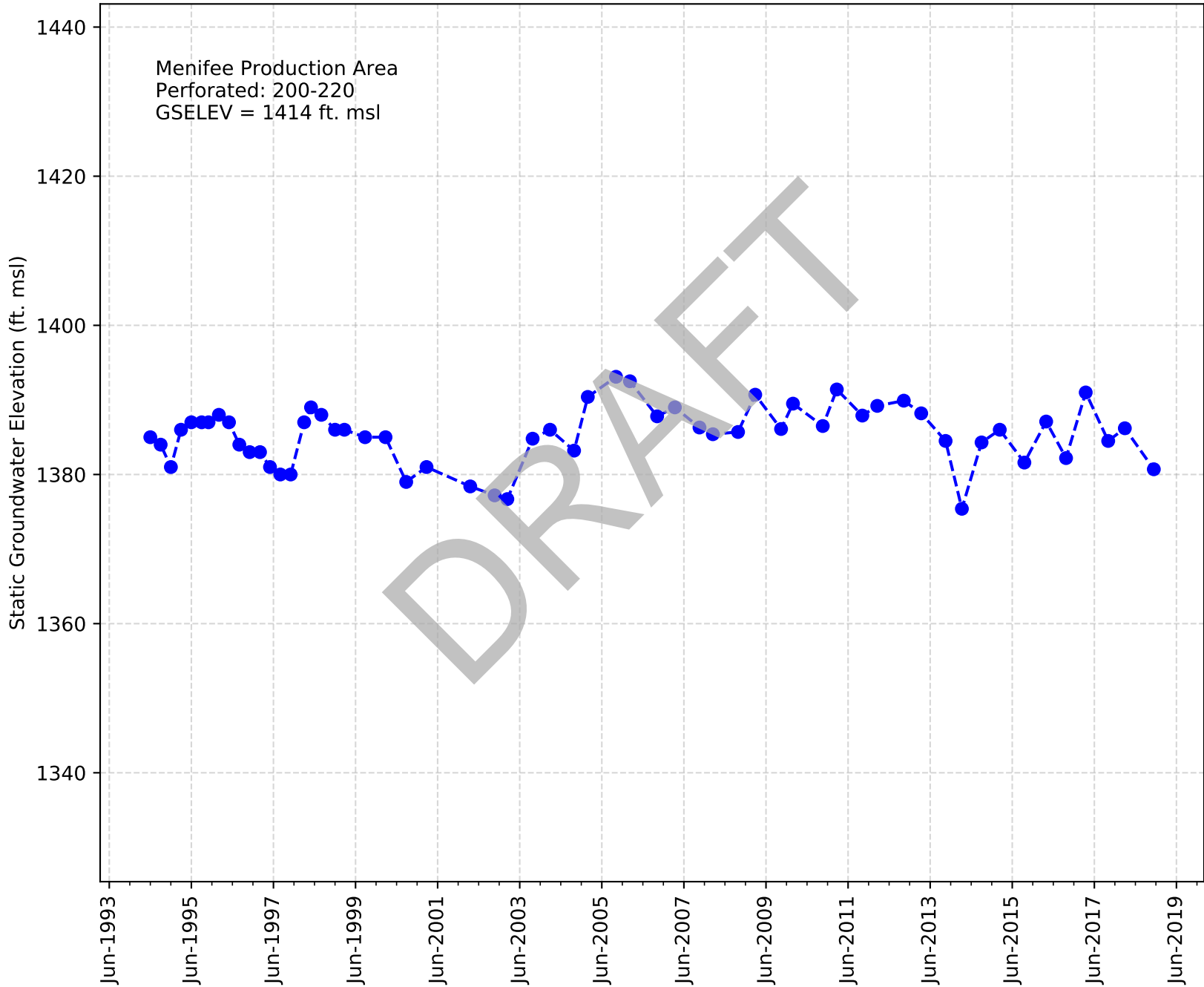
Casing Name: EMWD A3



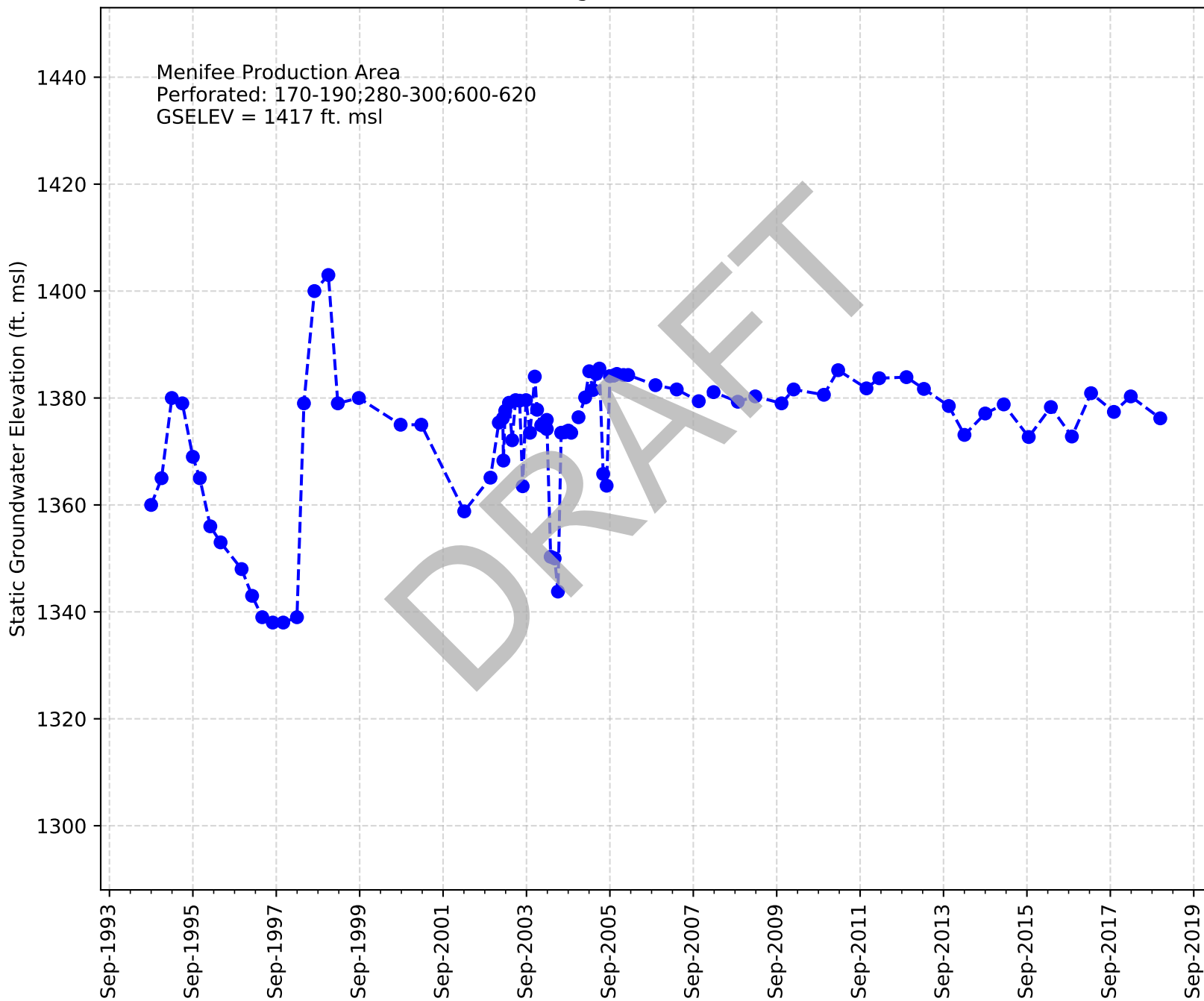
Casing Name: EMWD C2



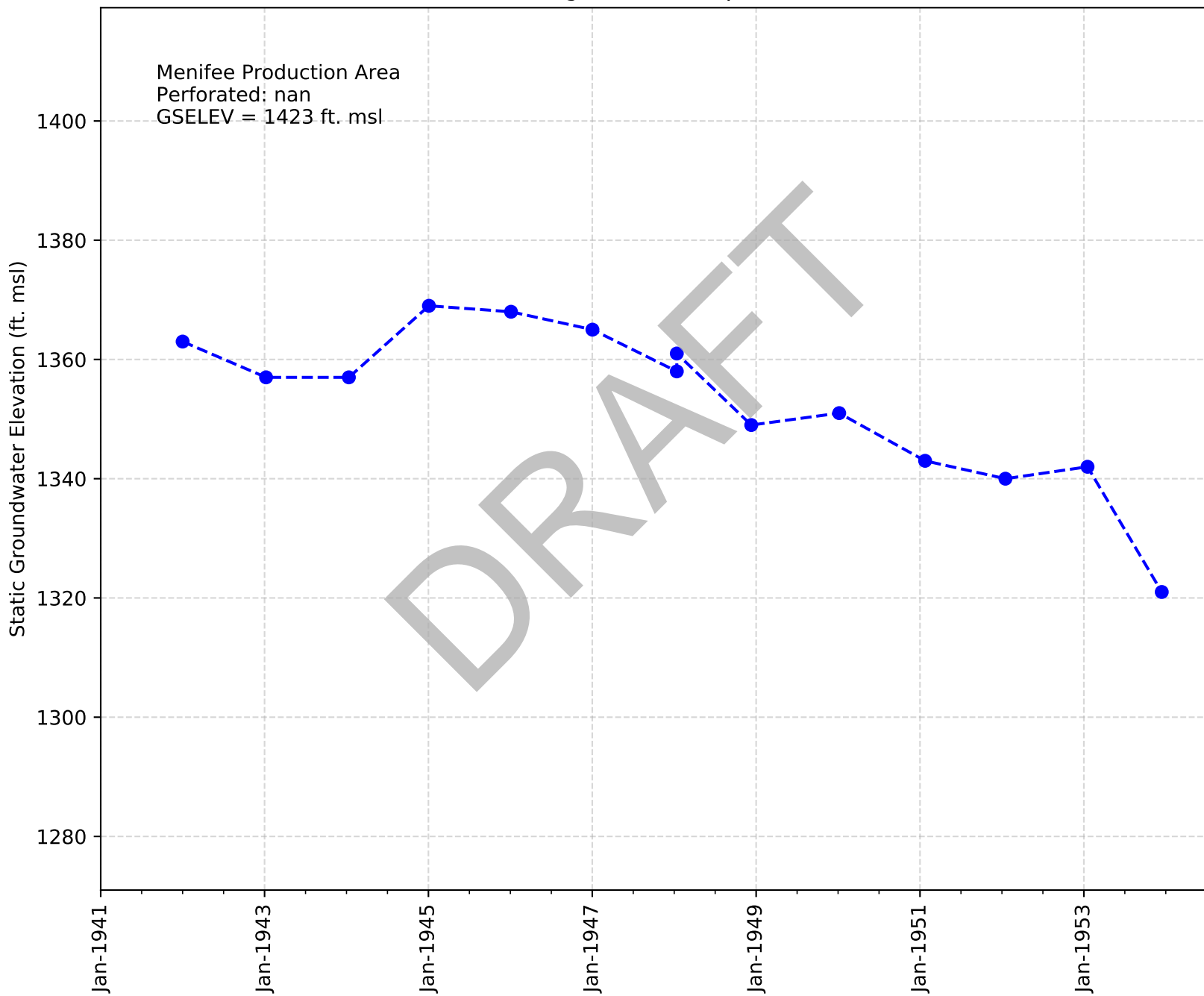
Casing Name: EMWD C1



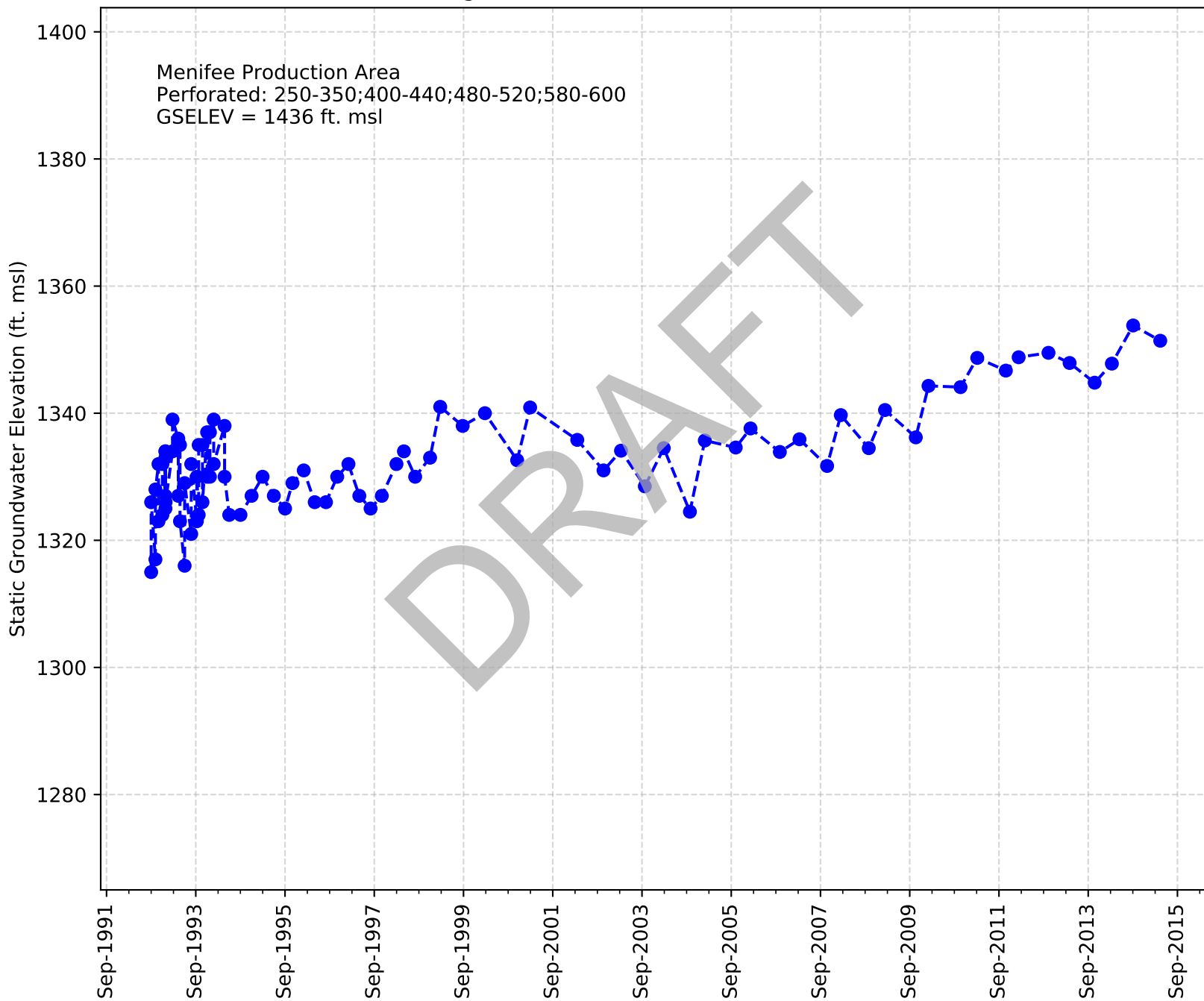
Casing Name: EMWD A2



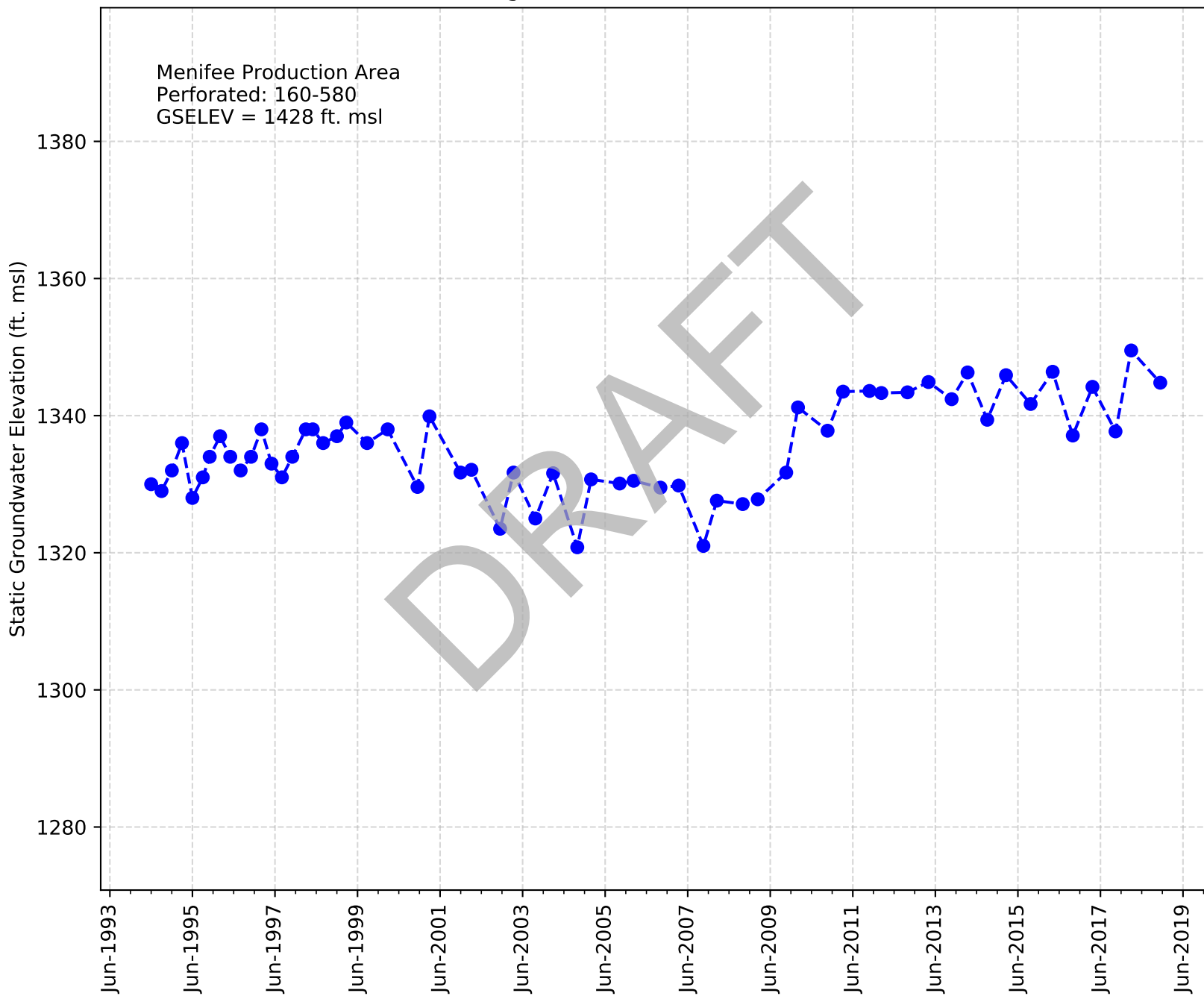
Casing Name: Newport 04



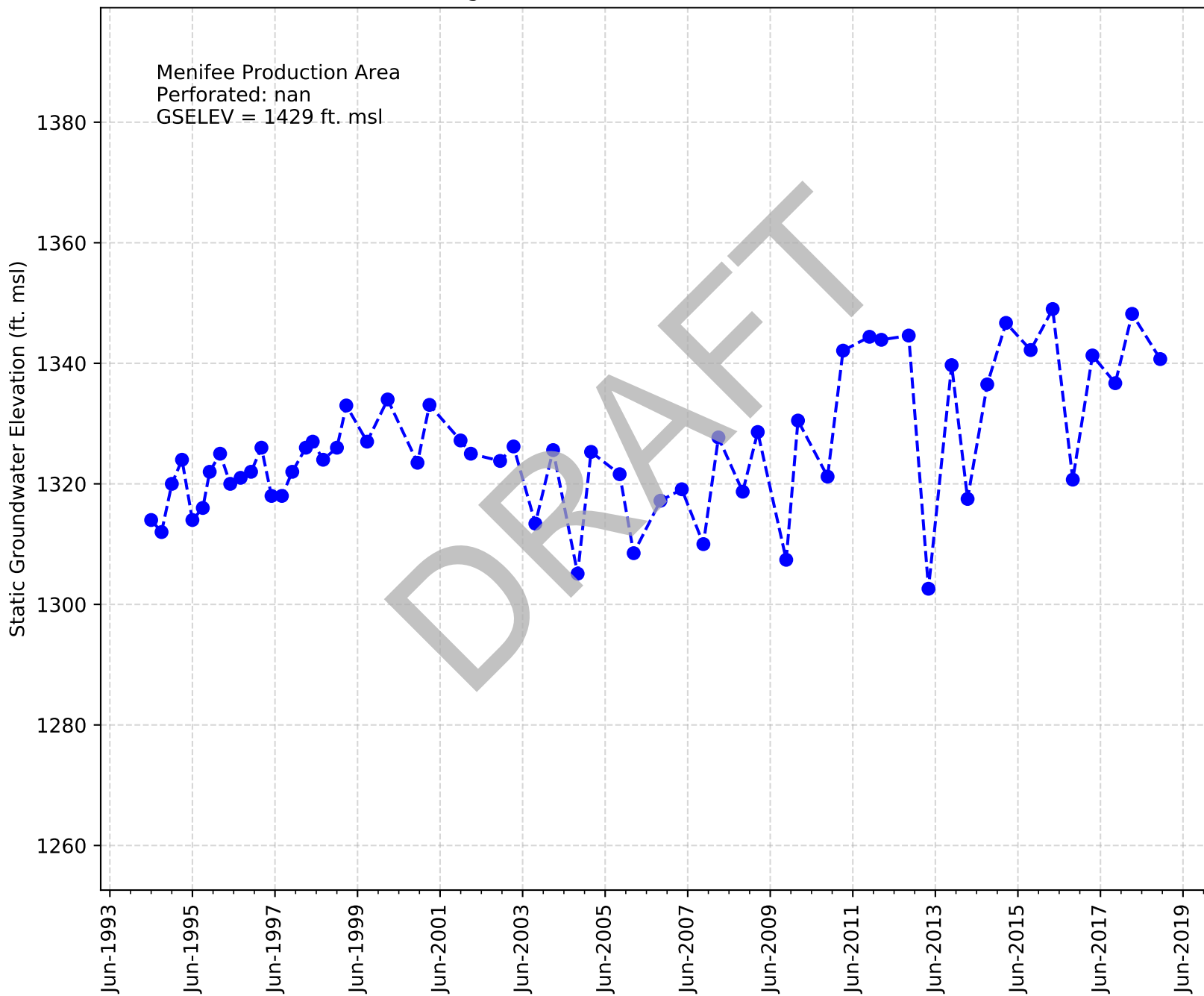
Casing Name: EMWD 54 Menifee Test West



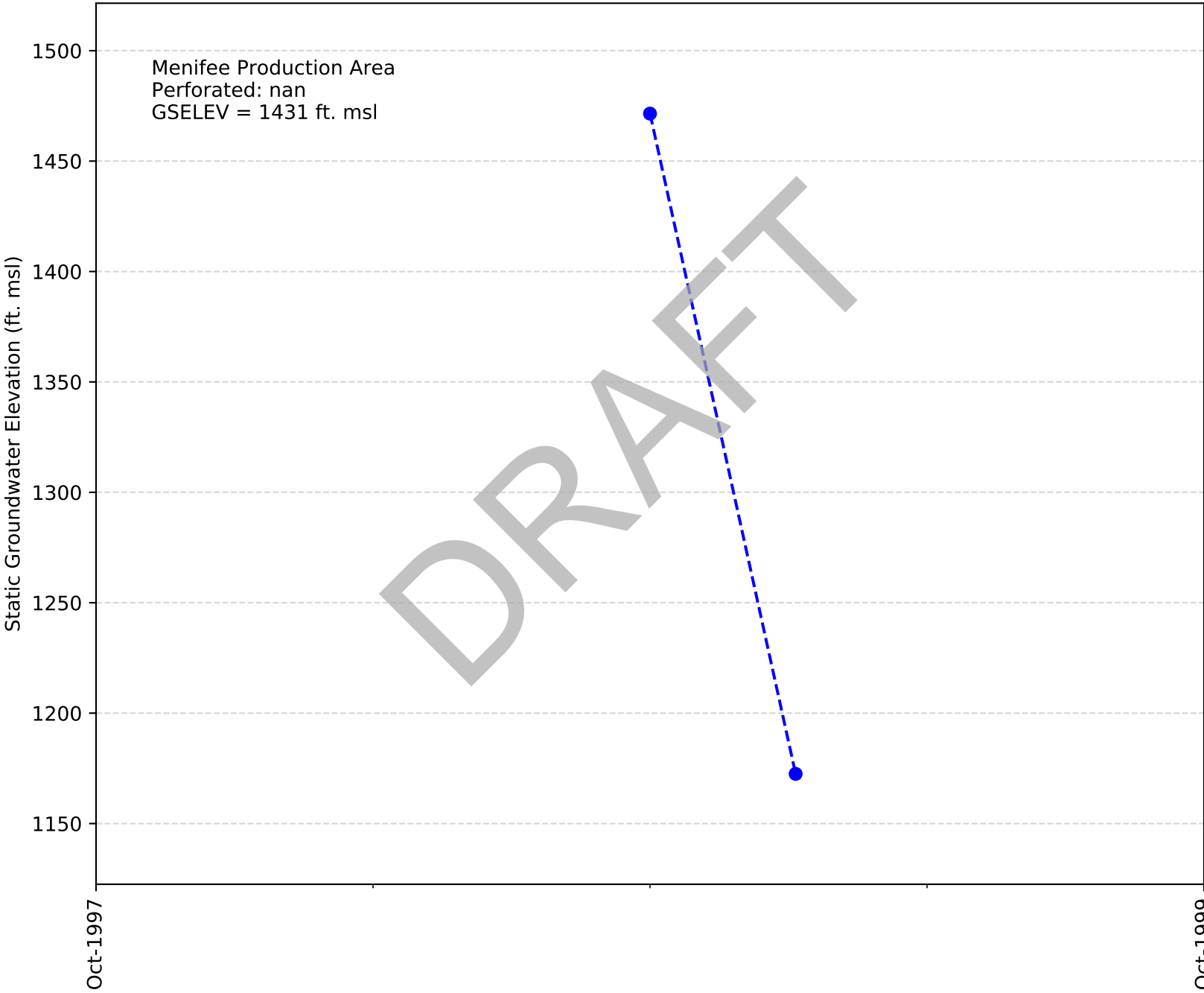
Casing Name: EMWD 72 Menifee 02



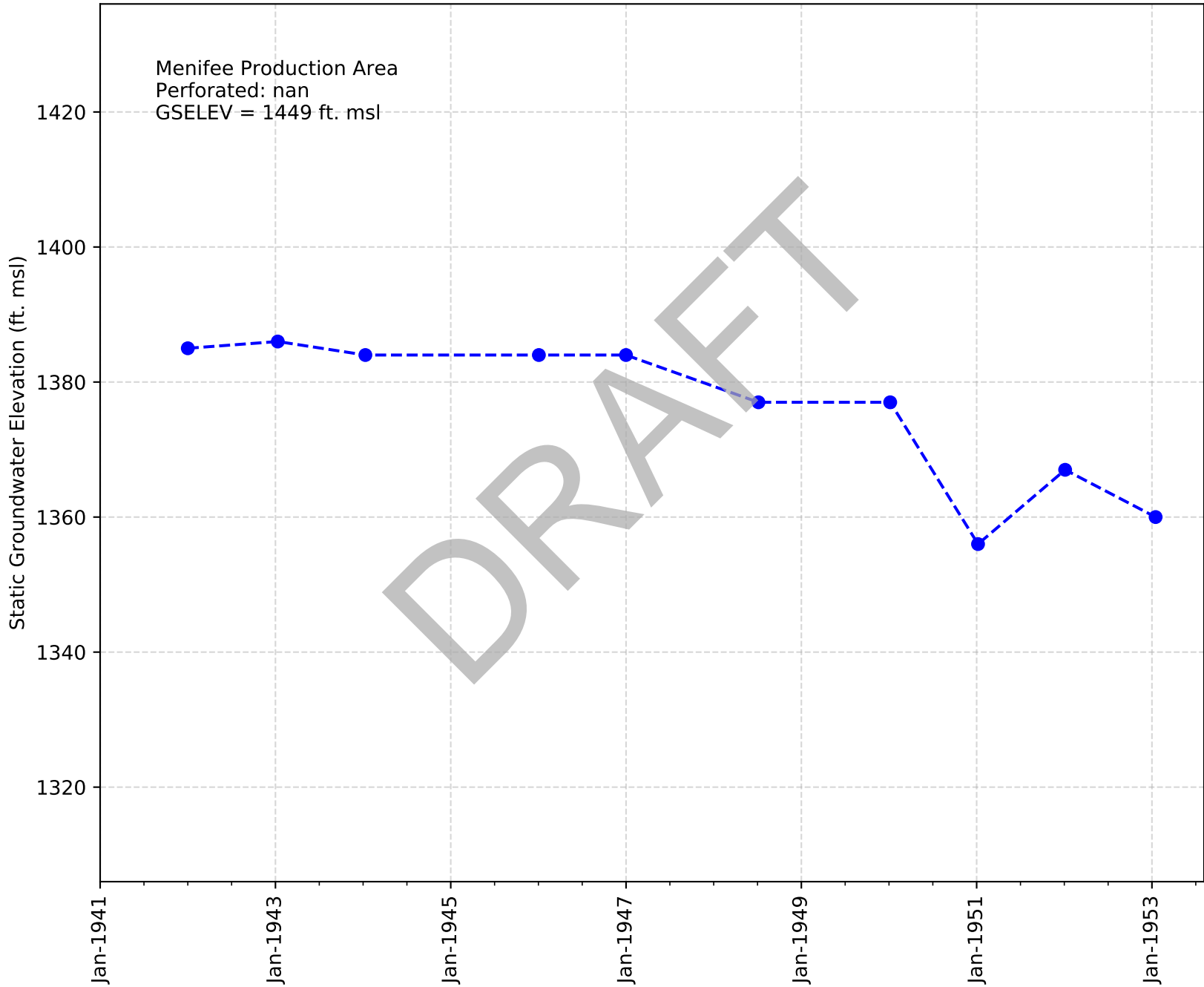
Casing Name: EMWD 53 Menifee Test East



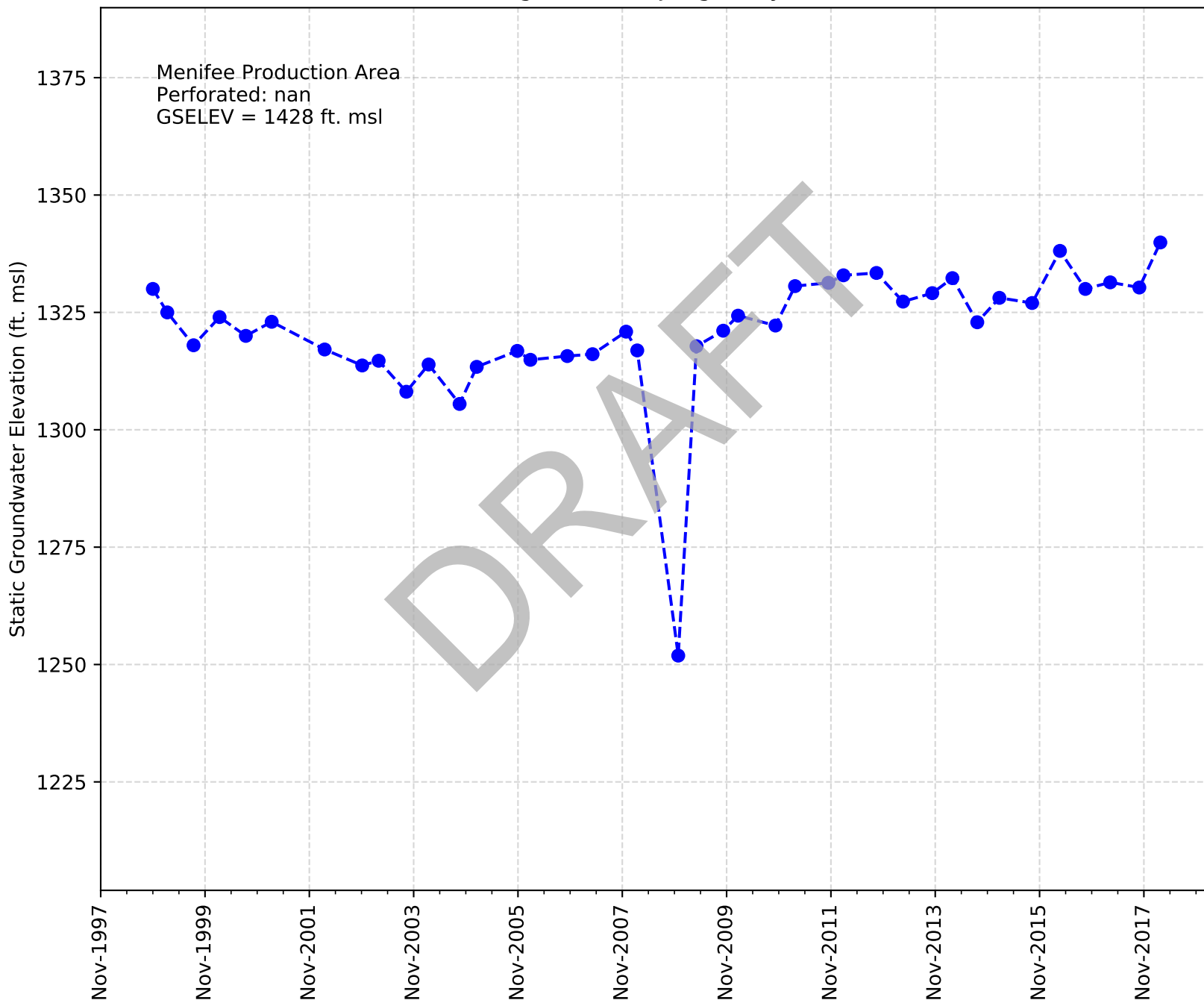
Casing Name: Ibarra, Raul



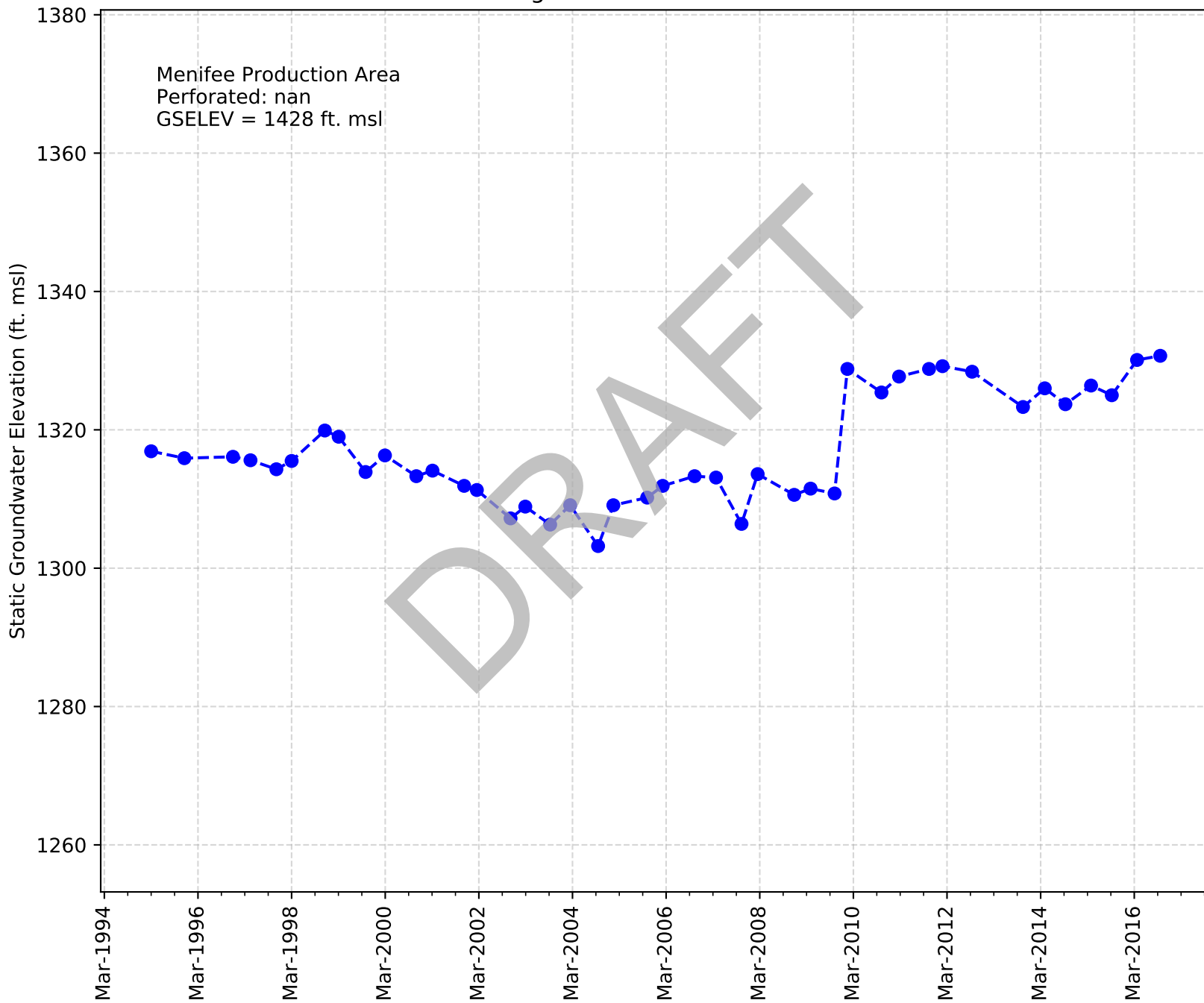
Casing Name: Hosang 01



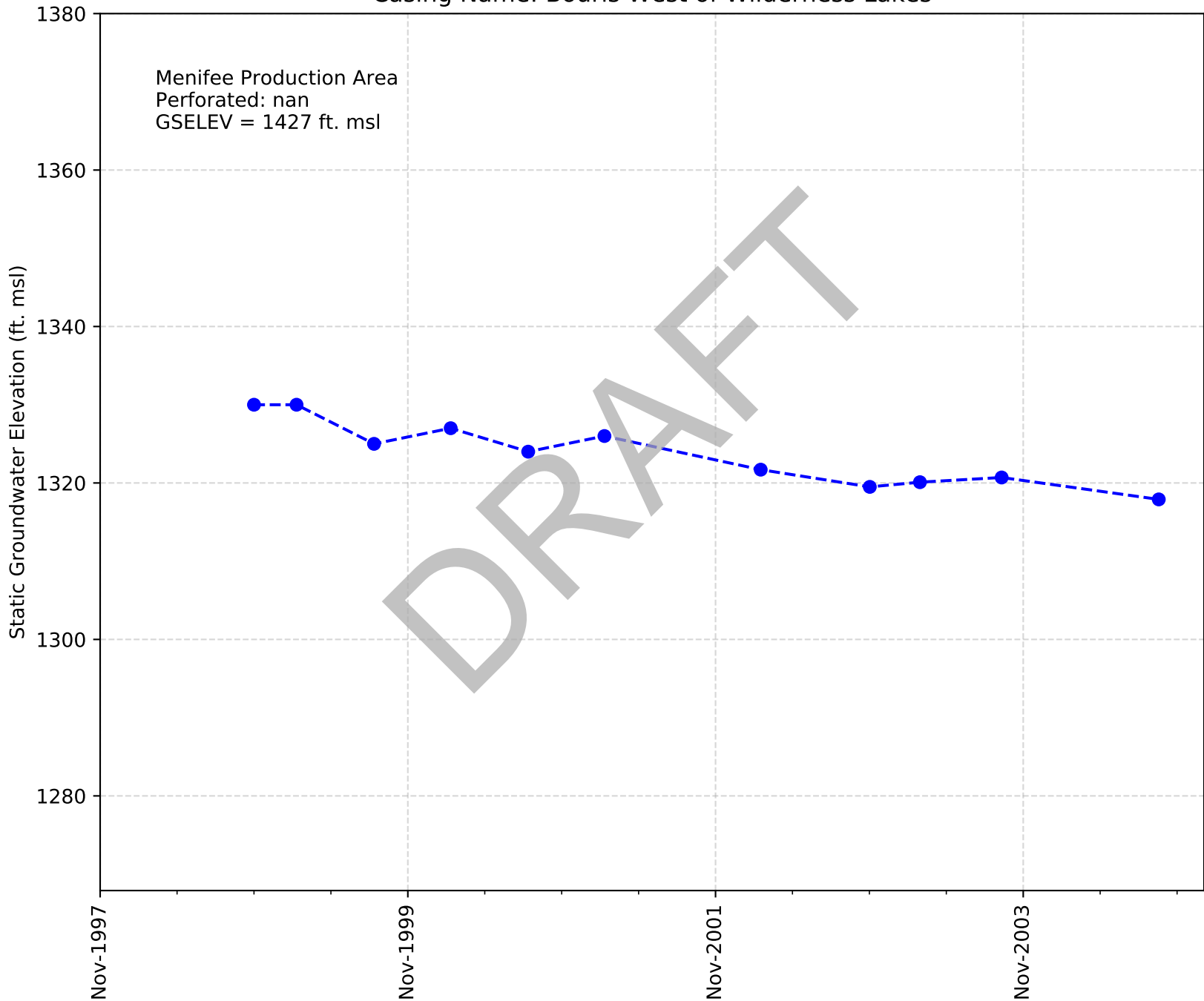
Casing Name: DeJong Dairy North



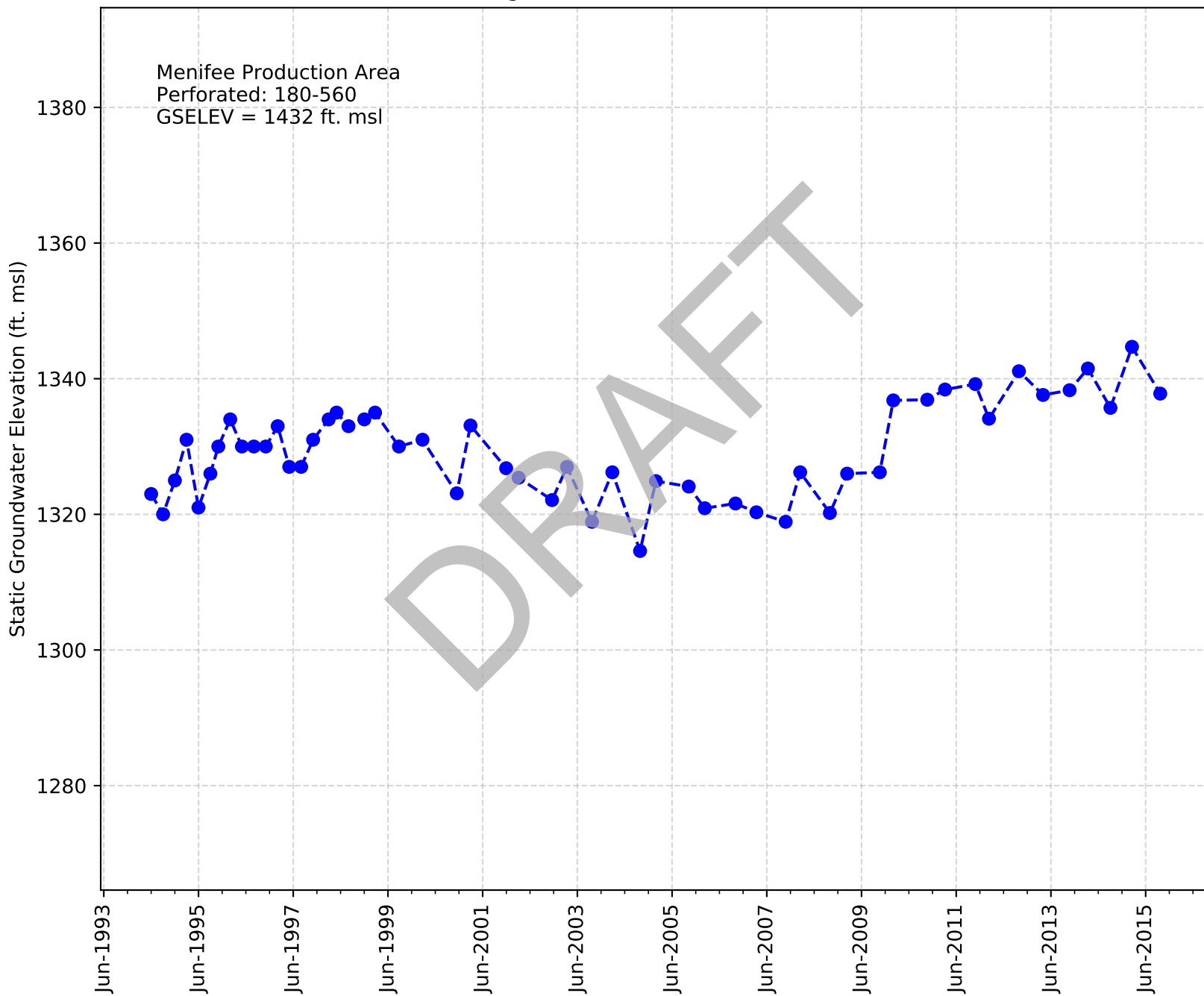
Casing Name: Wilderness Lakes



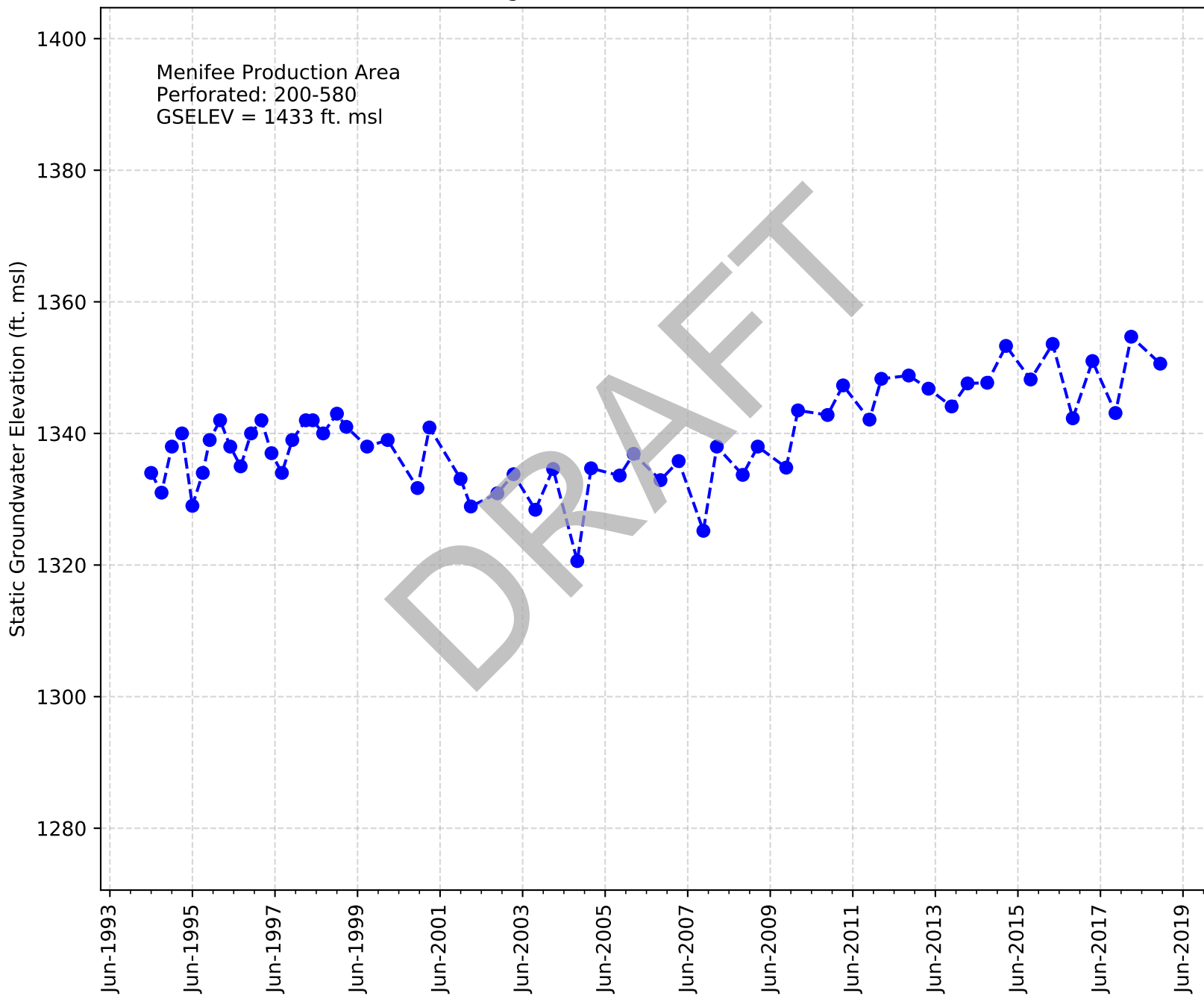
Casing Name: Bouris West of Wilderness Lakes



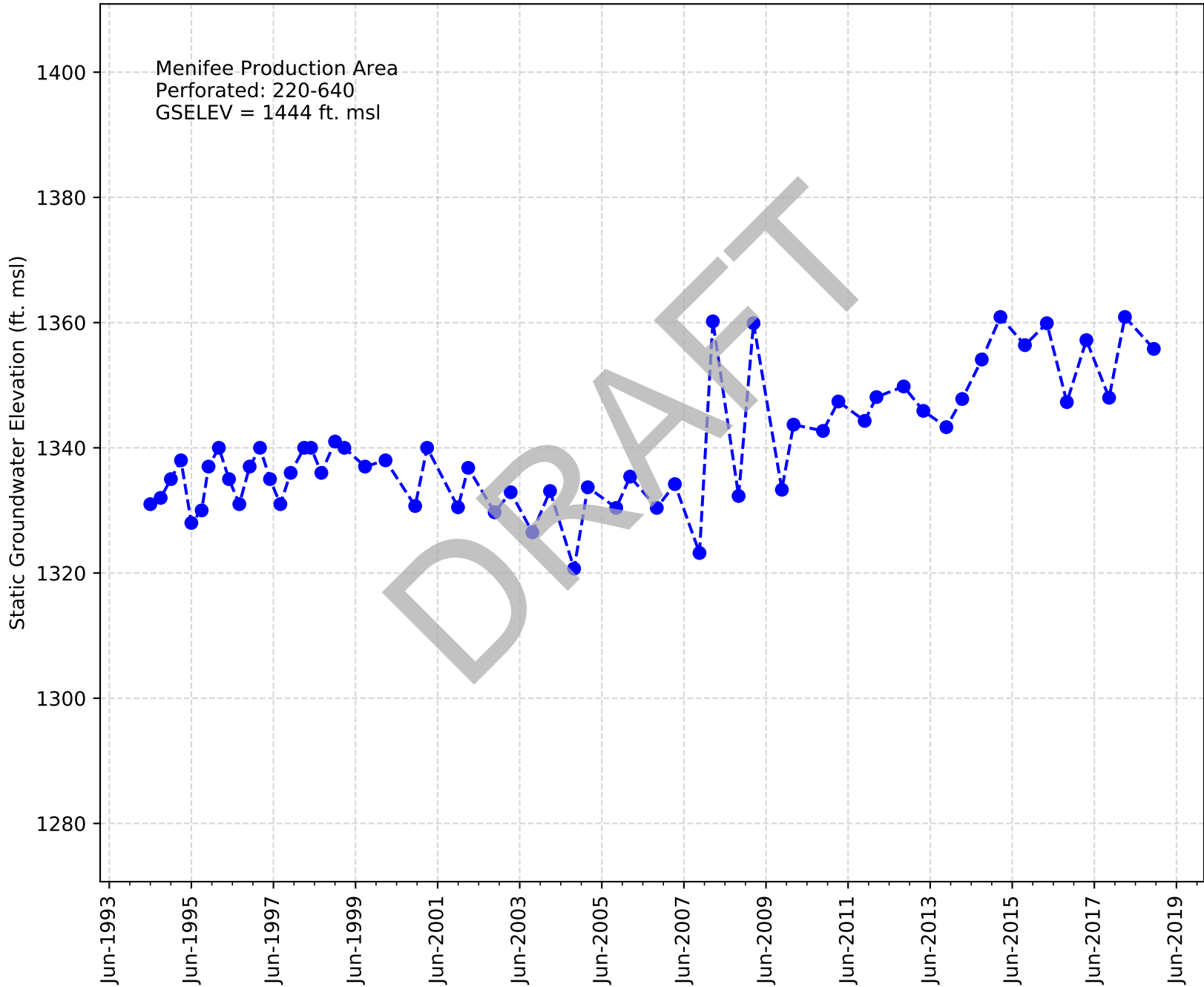
Casing Name: EMWD 71 Menifee 01



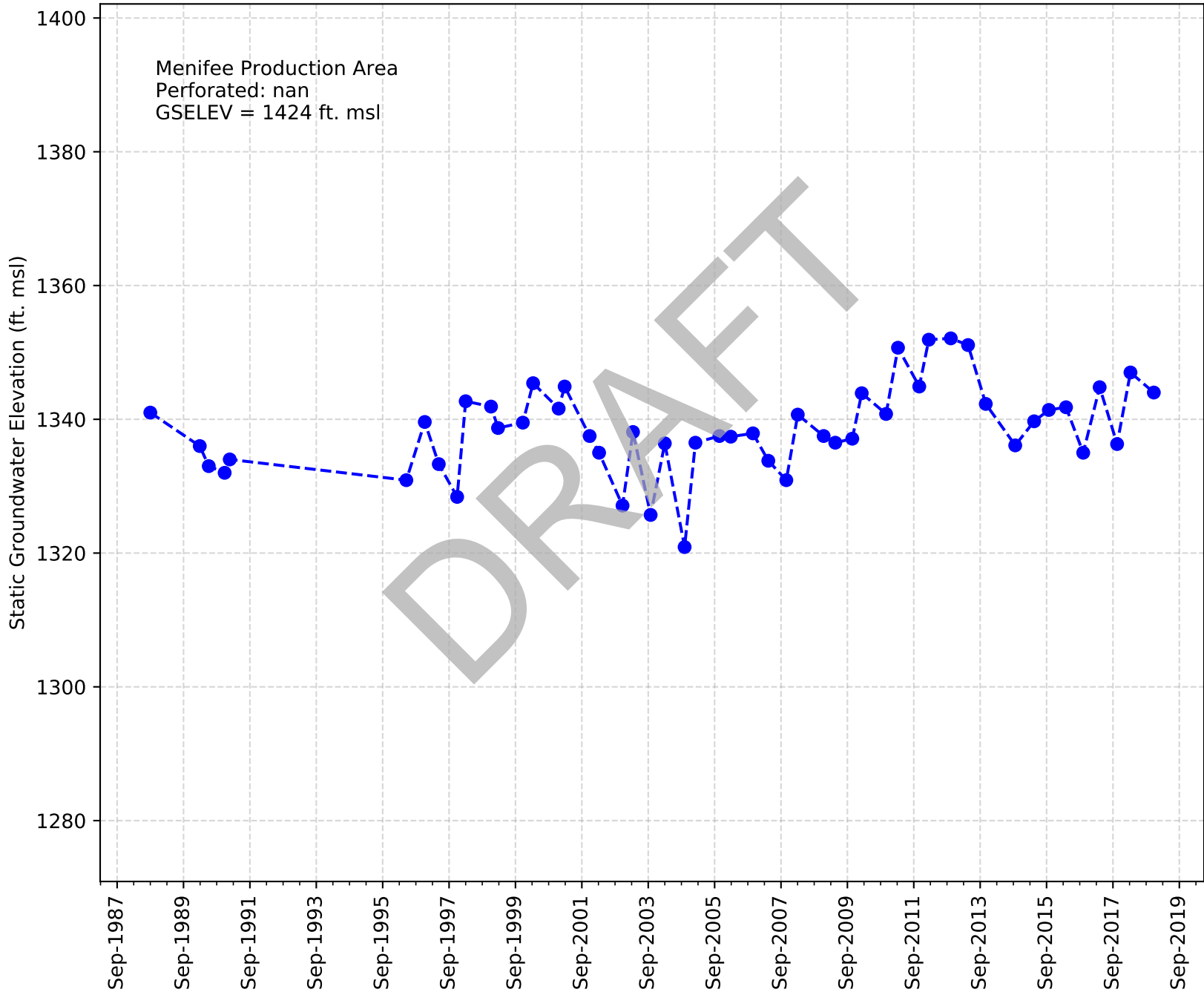
Casing Name: EMWD 73 Menifee 03



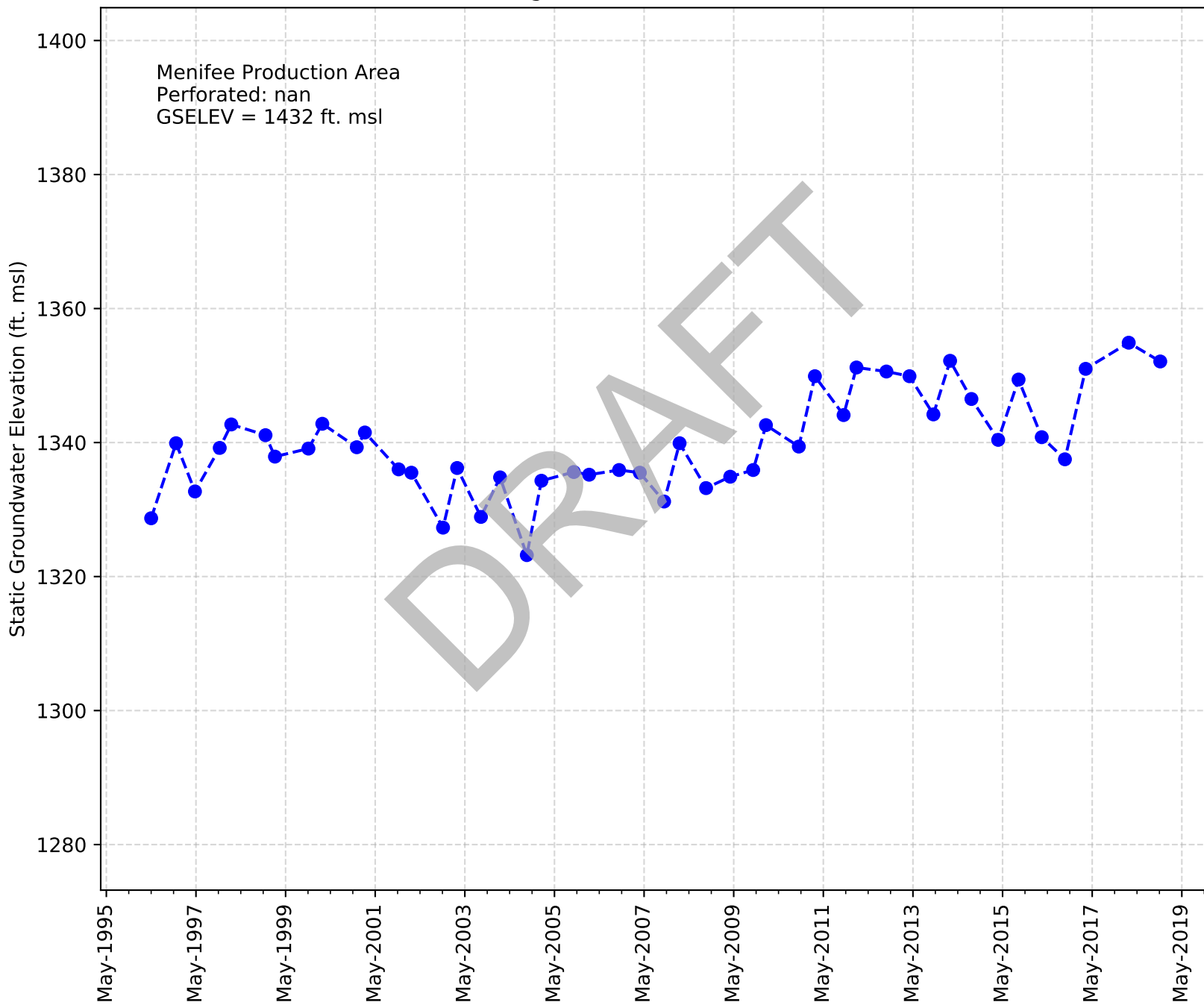
Casing Name: EMWD 74 Menifee 04



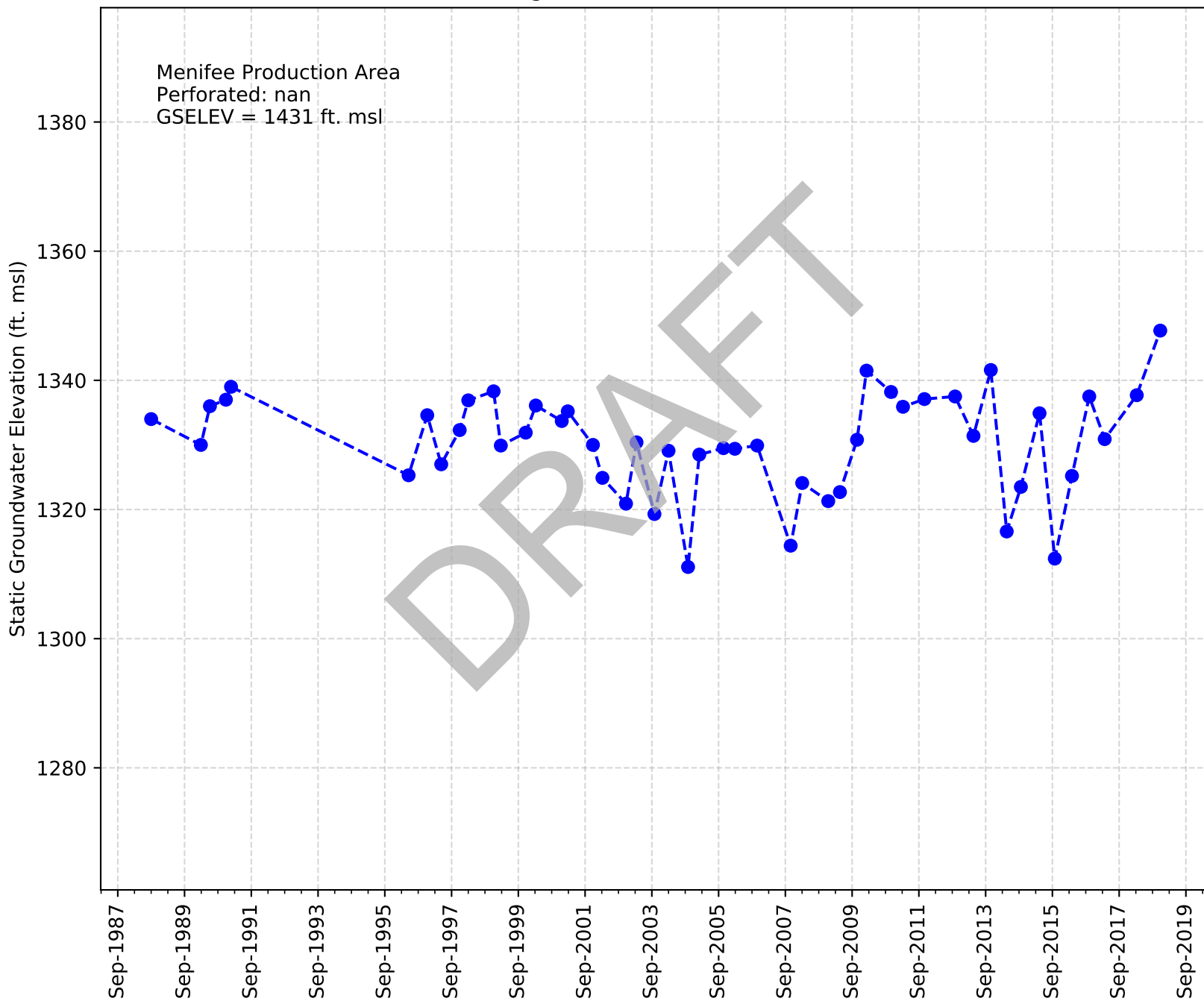
Casing Name: Menifee Lakes 02



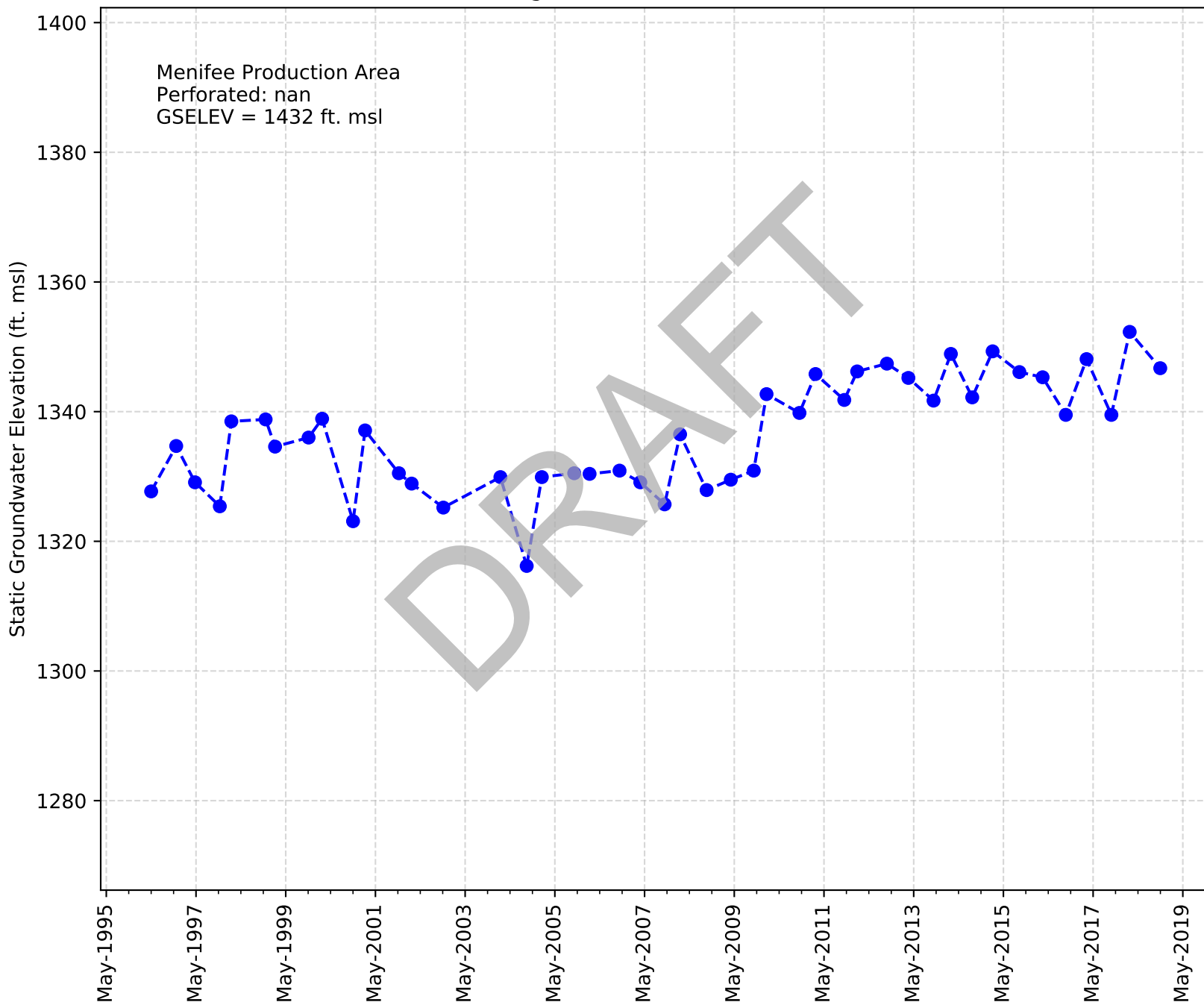
Casing Name: Menifee Lakes 03



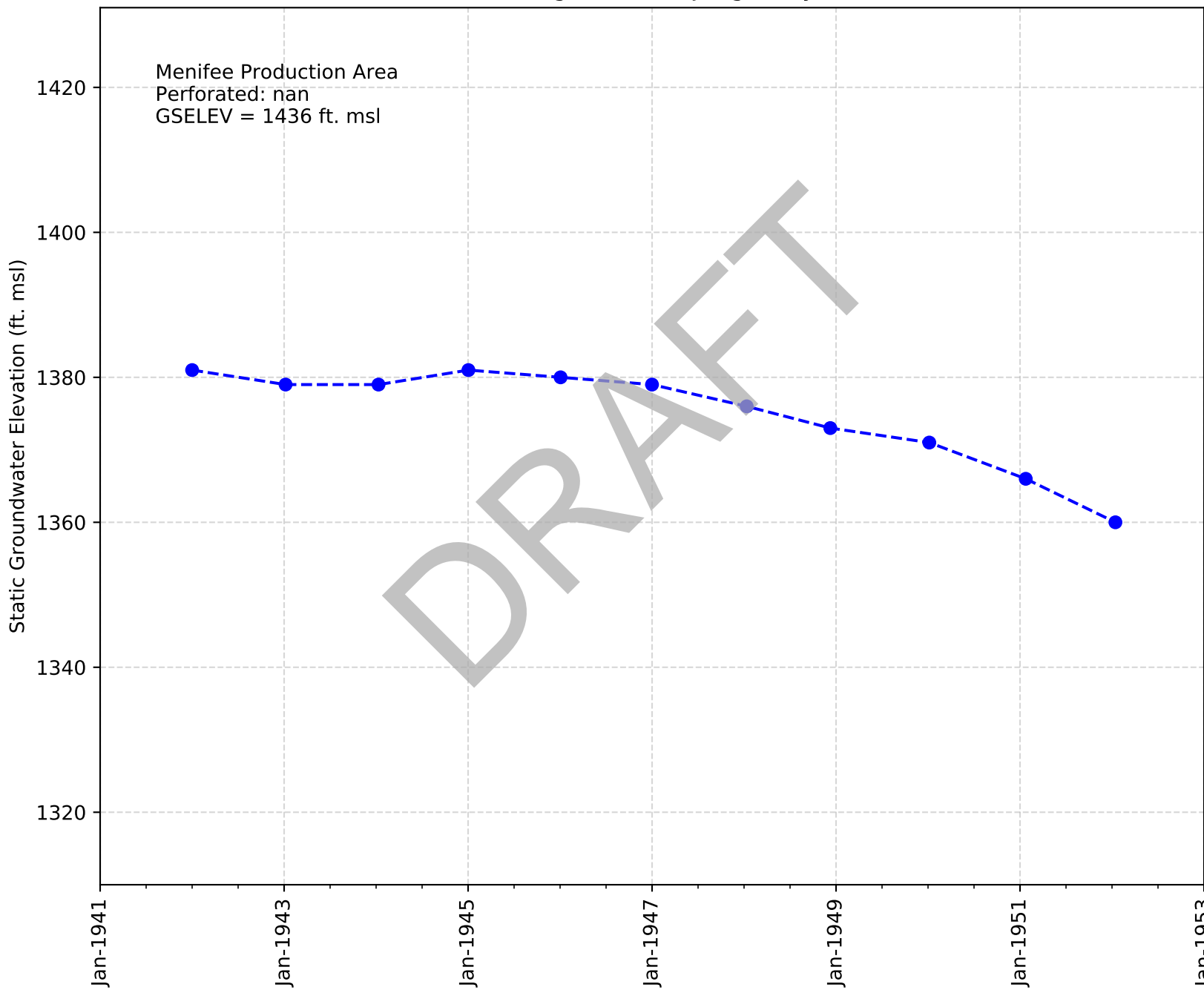
Casing Name: Menifee Lakes 01



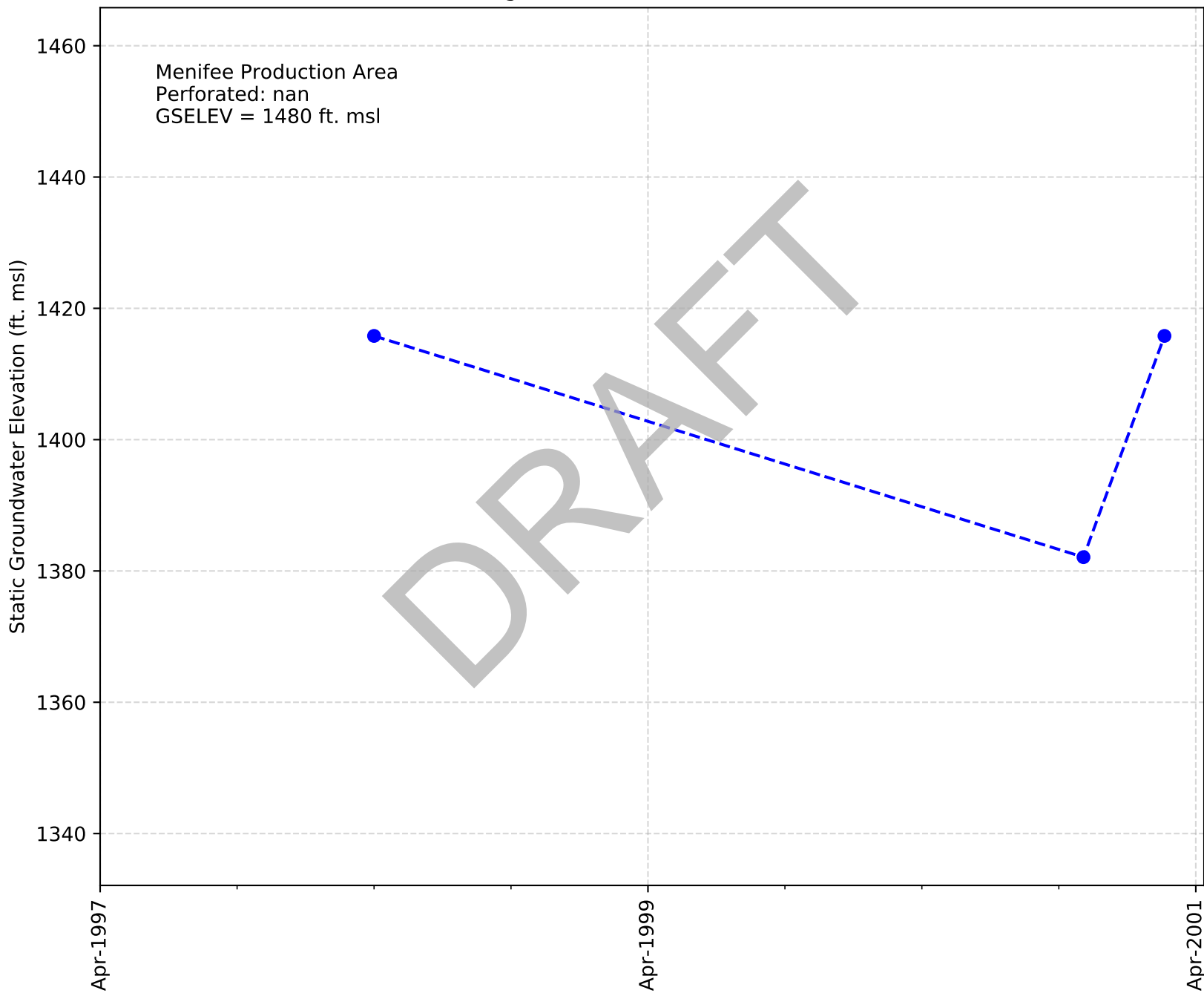
Casing Name: Menifee Lakes 04



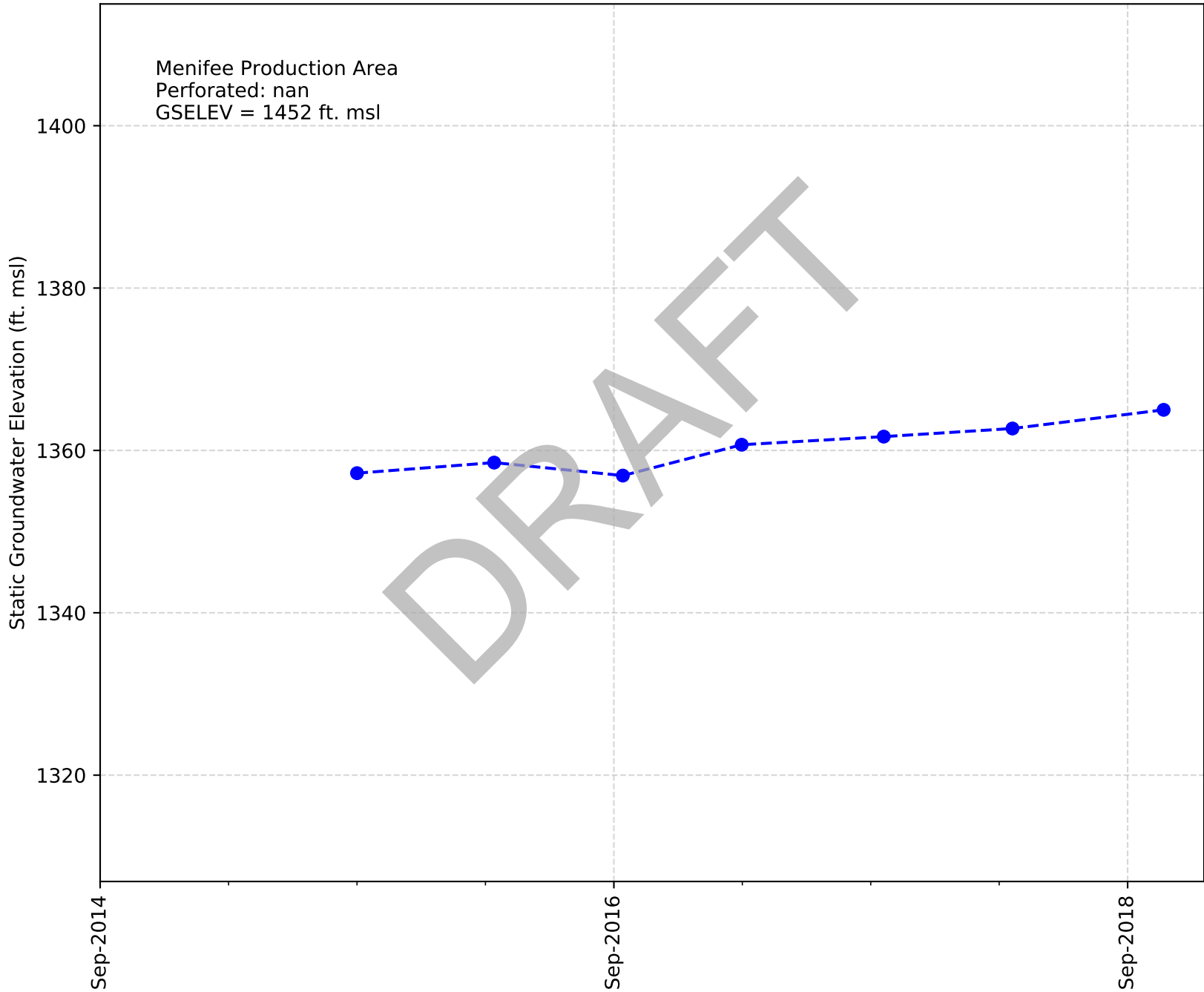
Casing Name: DeJong Dairy



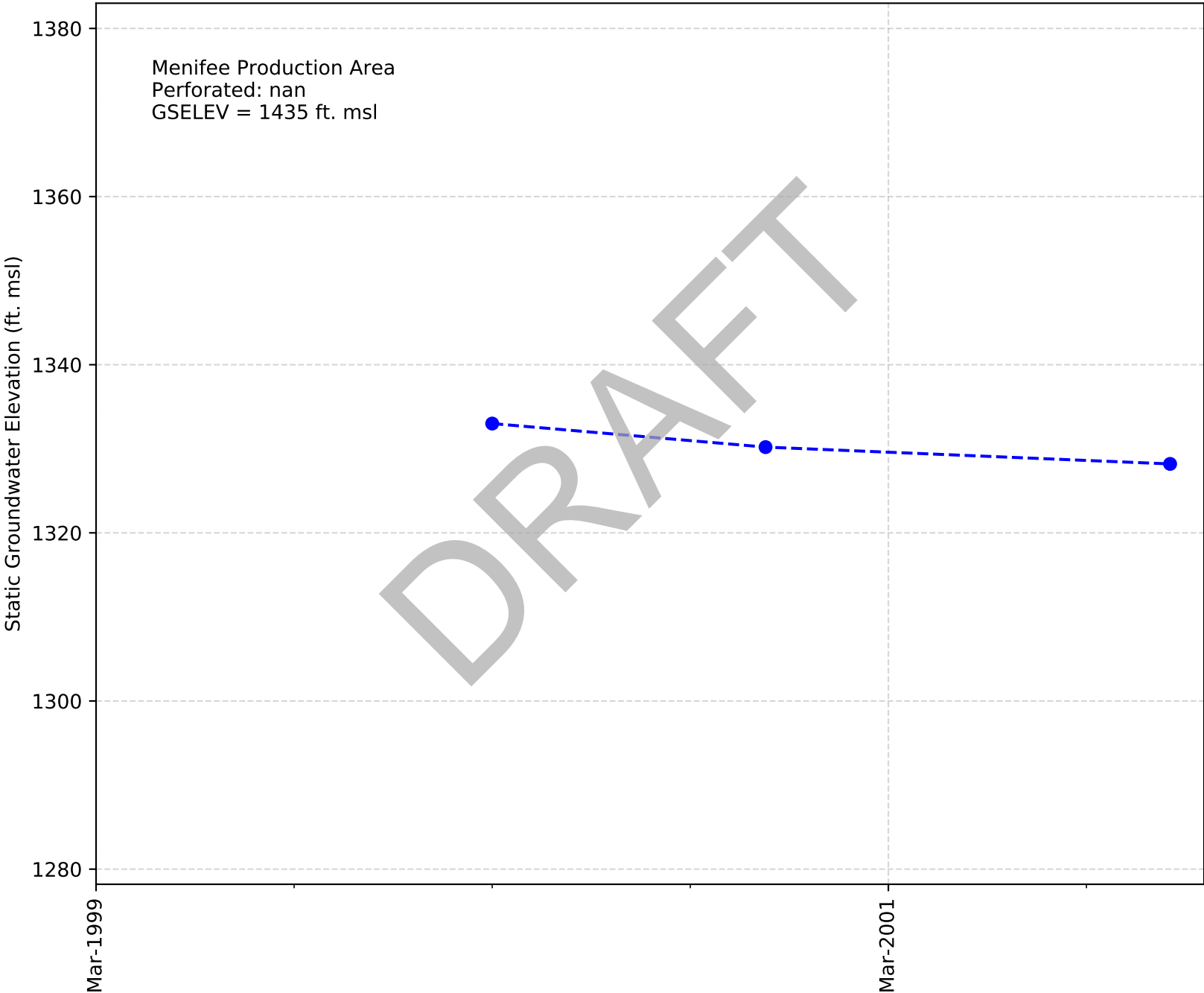
Casing Name: USGS Menifee/McCall



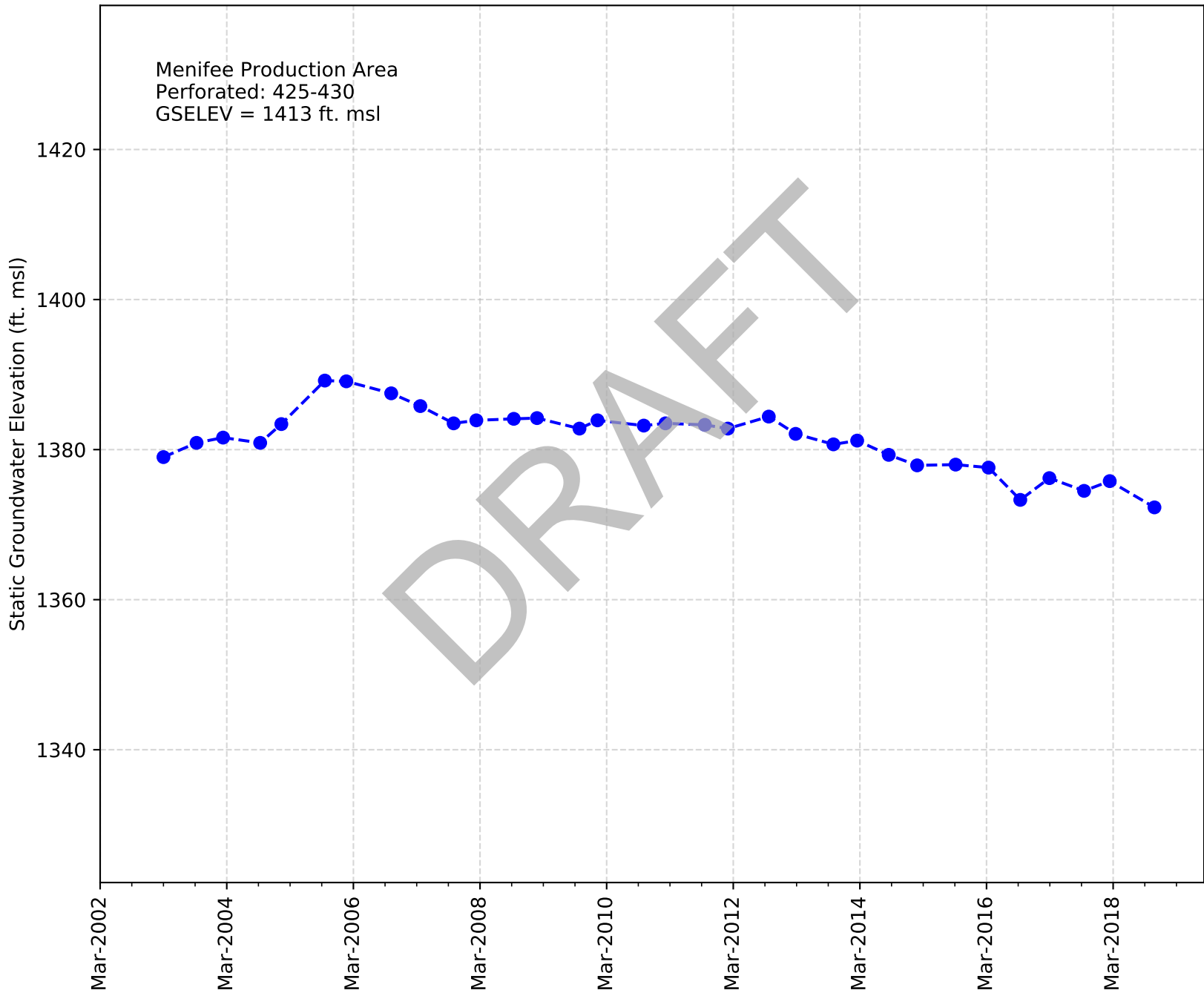
Casing Name: K & M Dairy Old



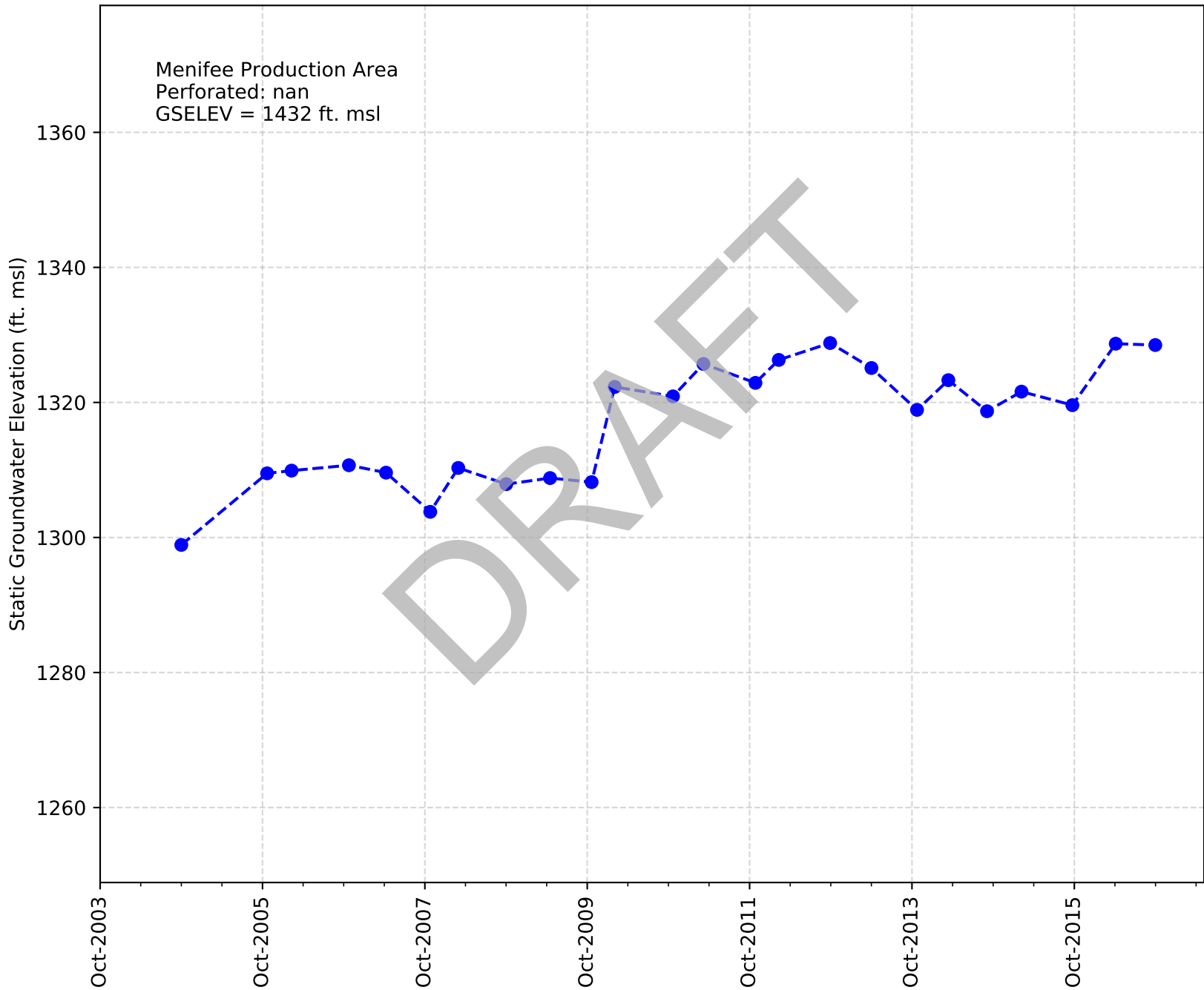
Casing Name: Newport/Lindenburger West



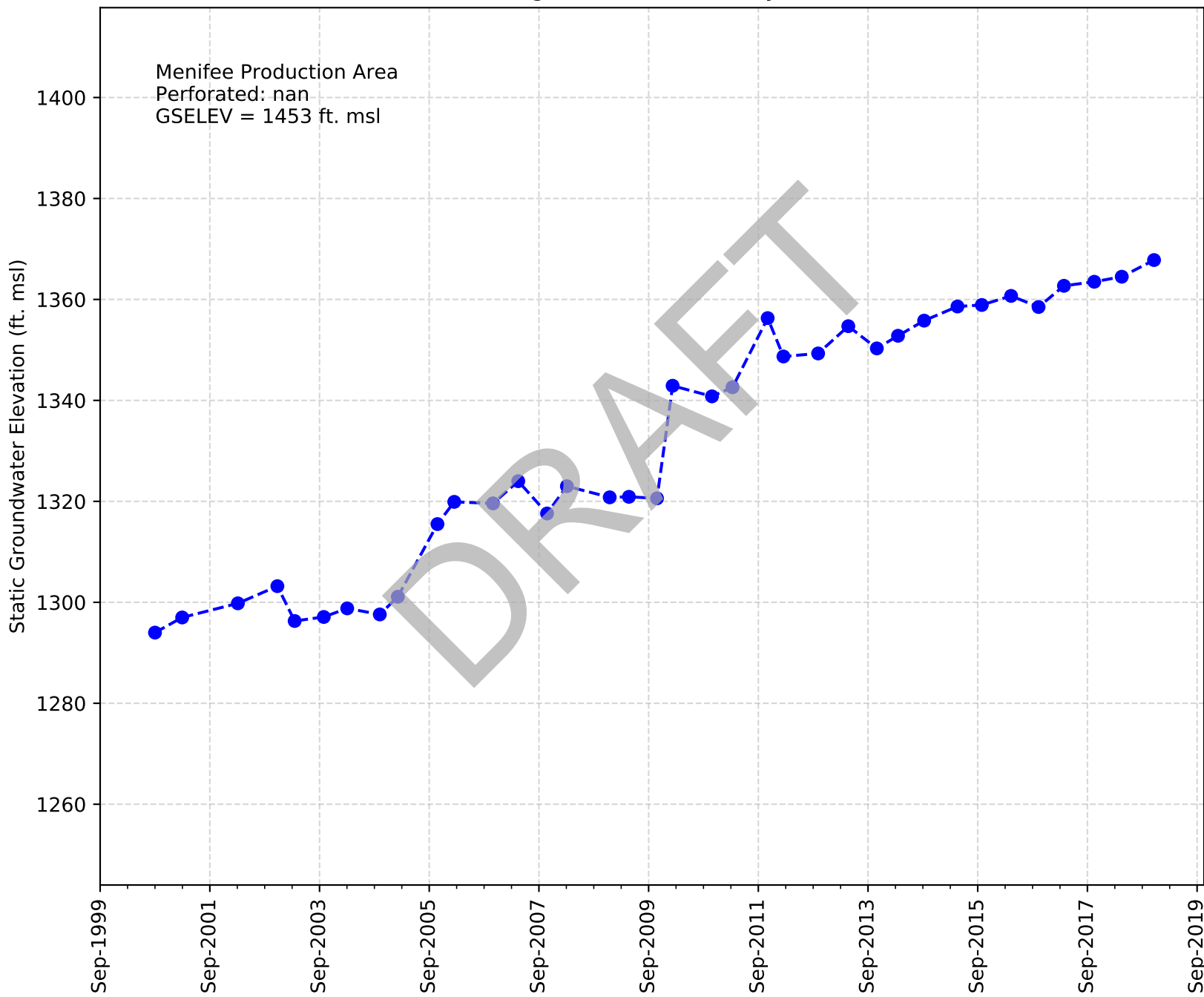
Casing Name: USGS Sun City Golf Course Red



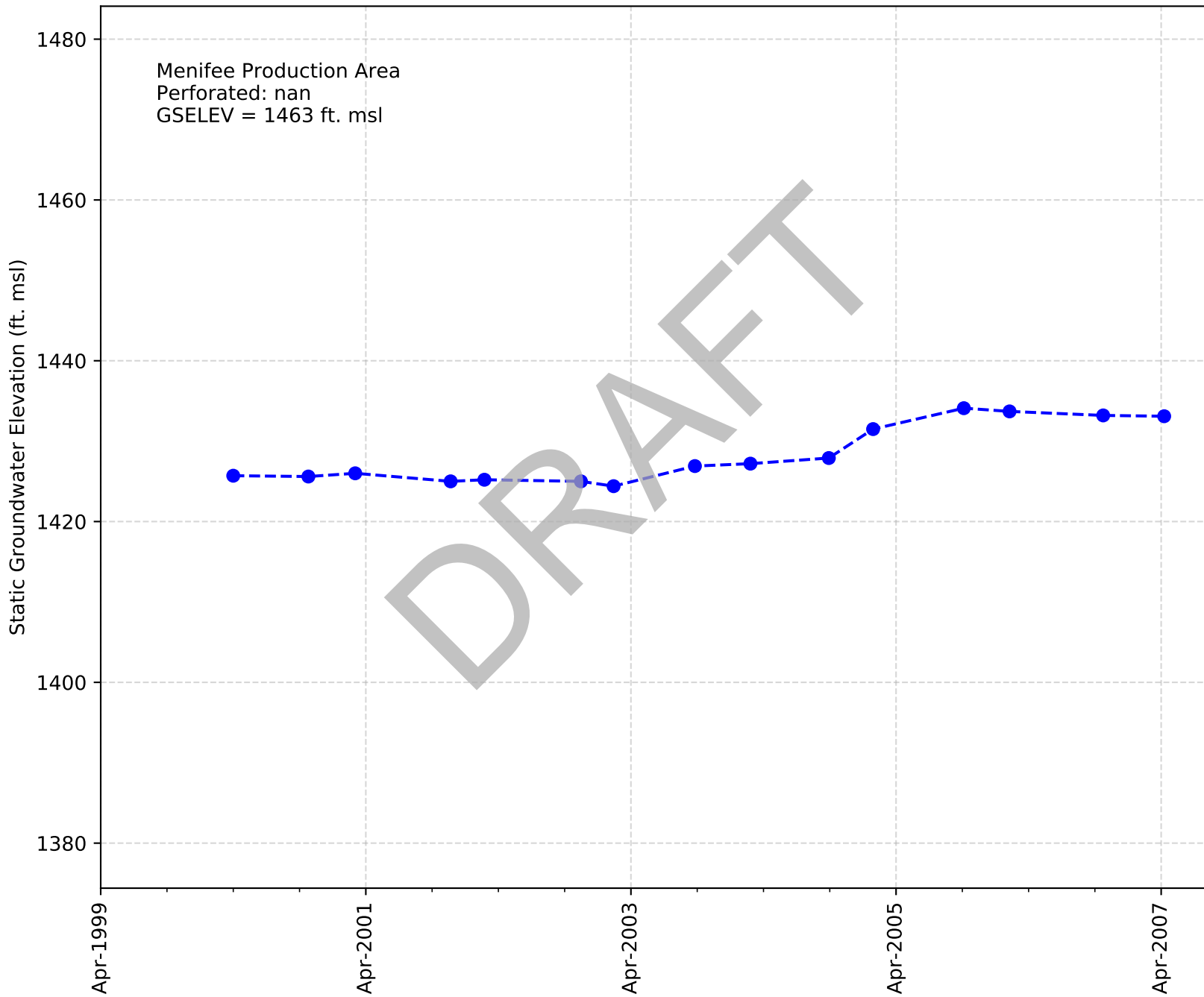
Casing Name: DeJong Dairy South



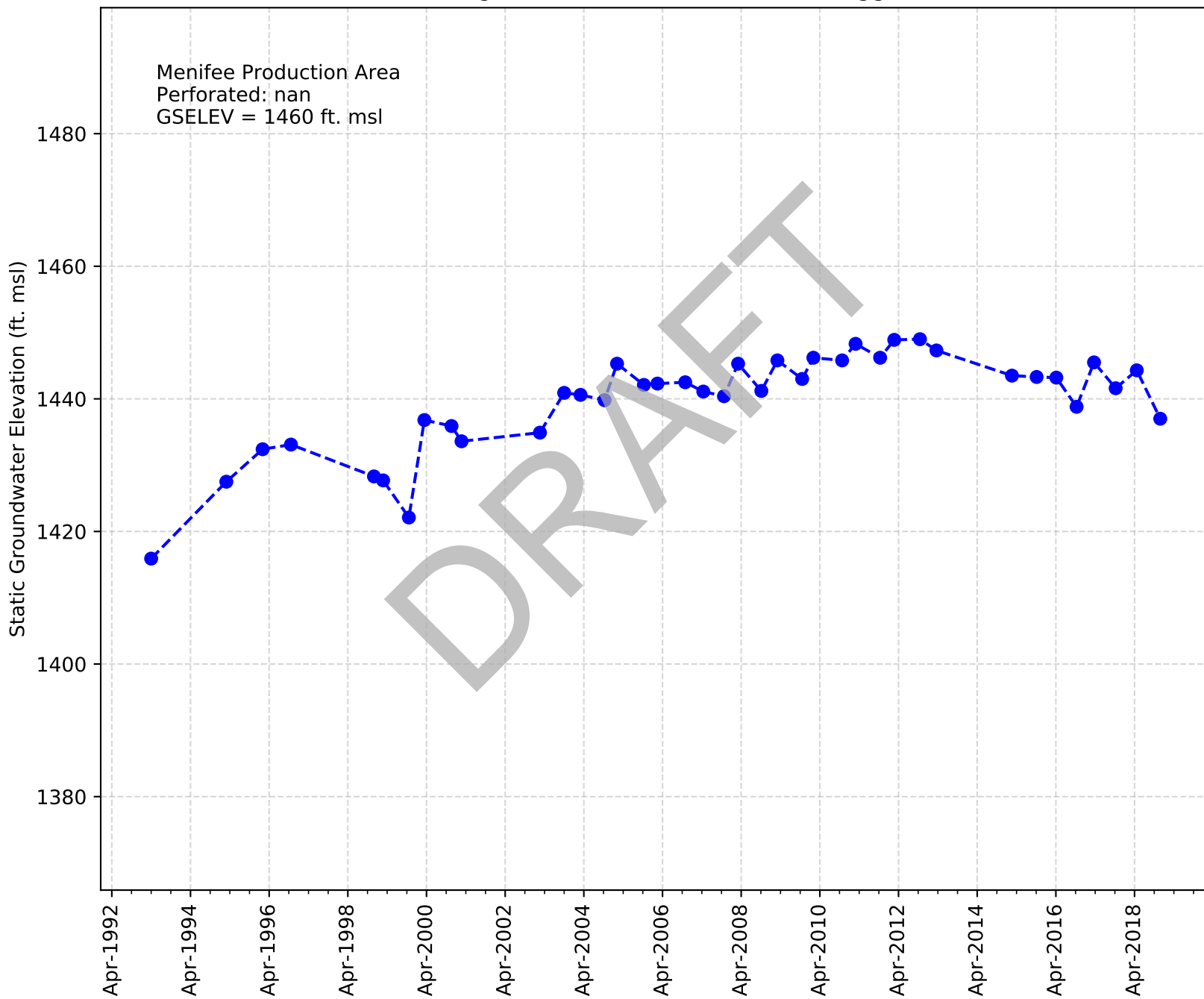
Casing Name: K & M Dairy New



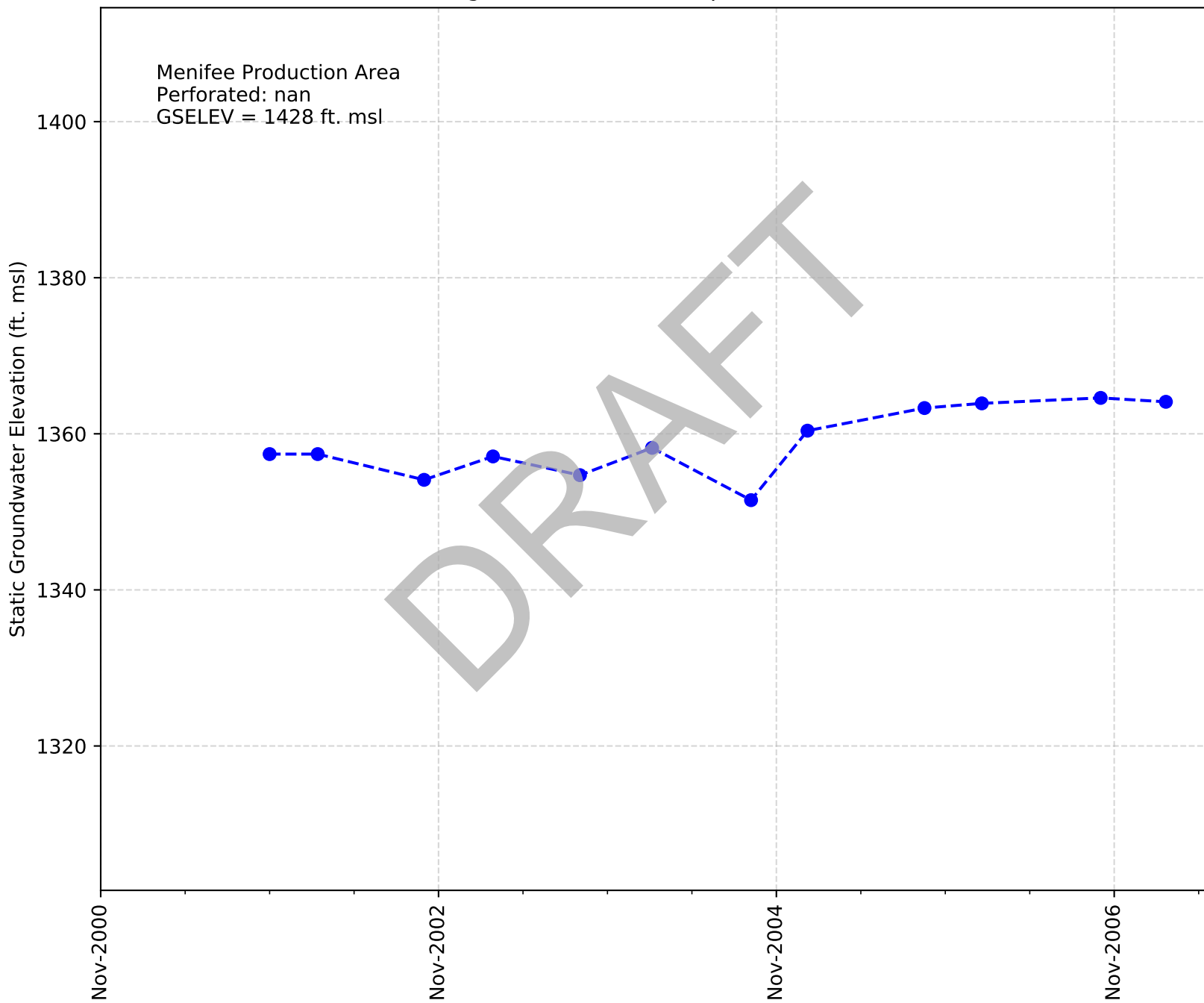
Casing Name: Agri Grand/Briggs



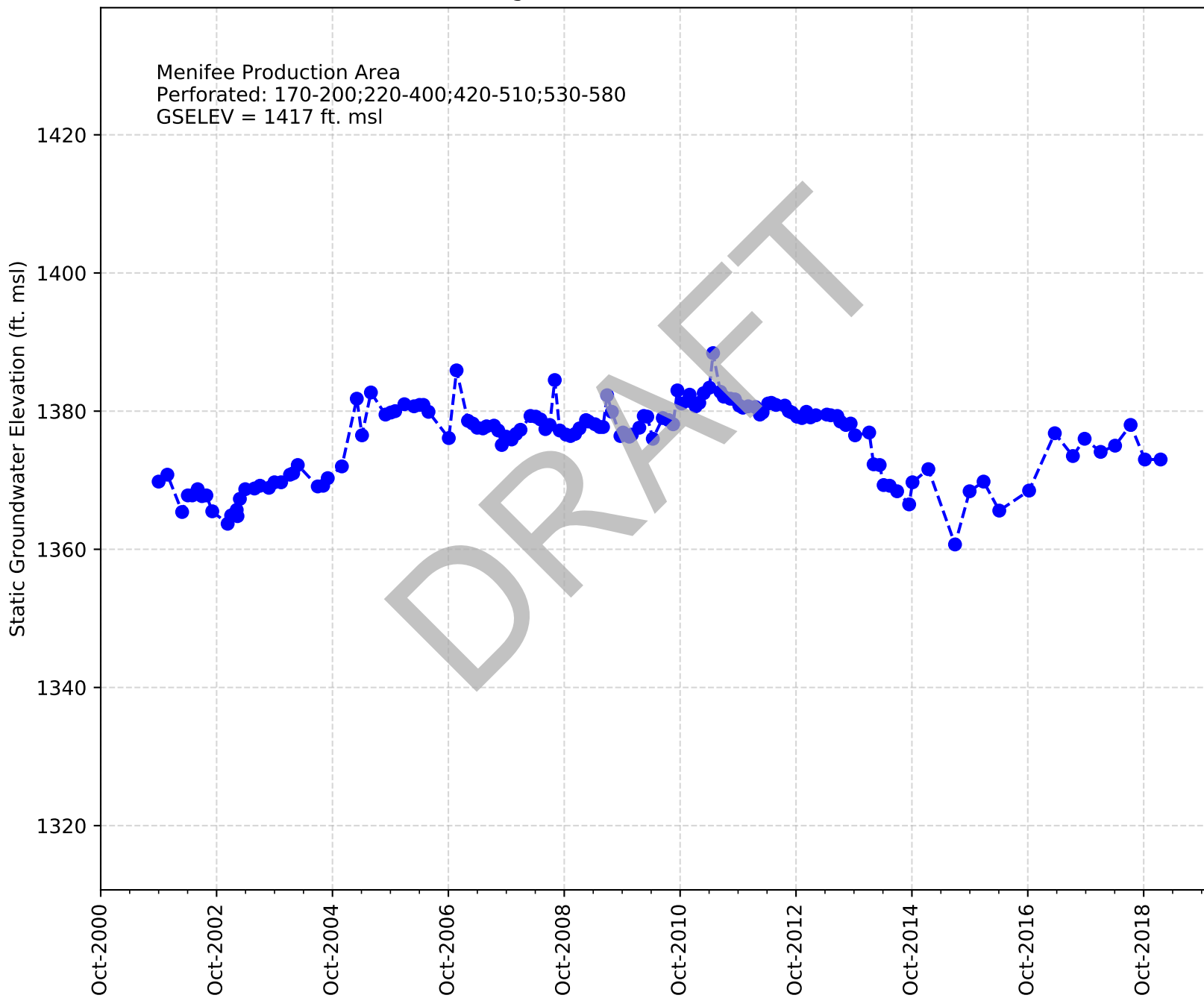
Casing Name: Northeast of Grand/Briggs



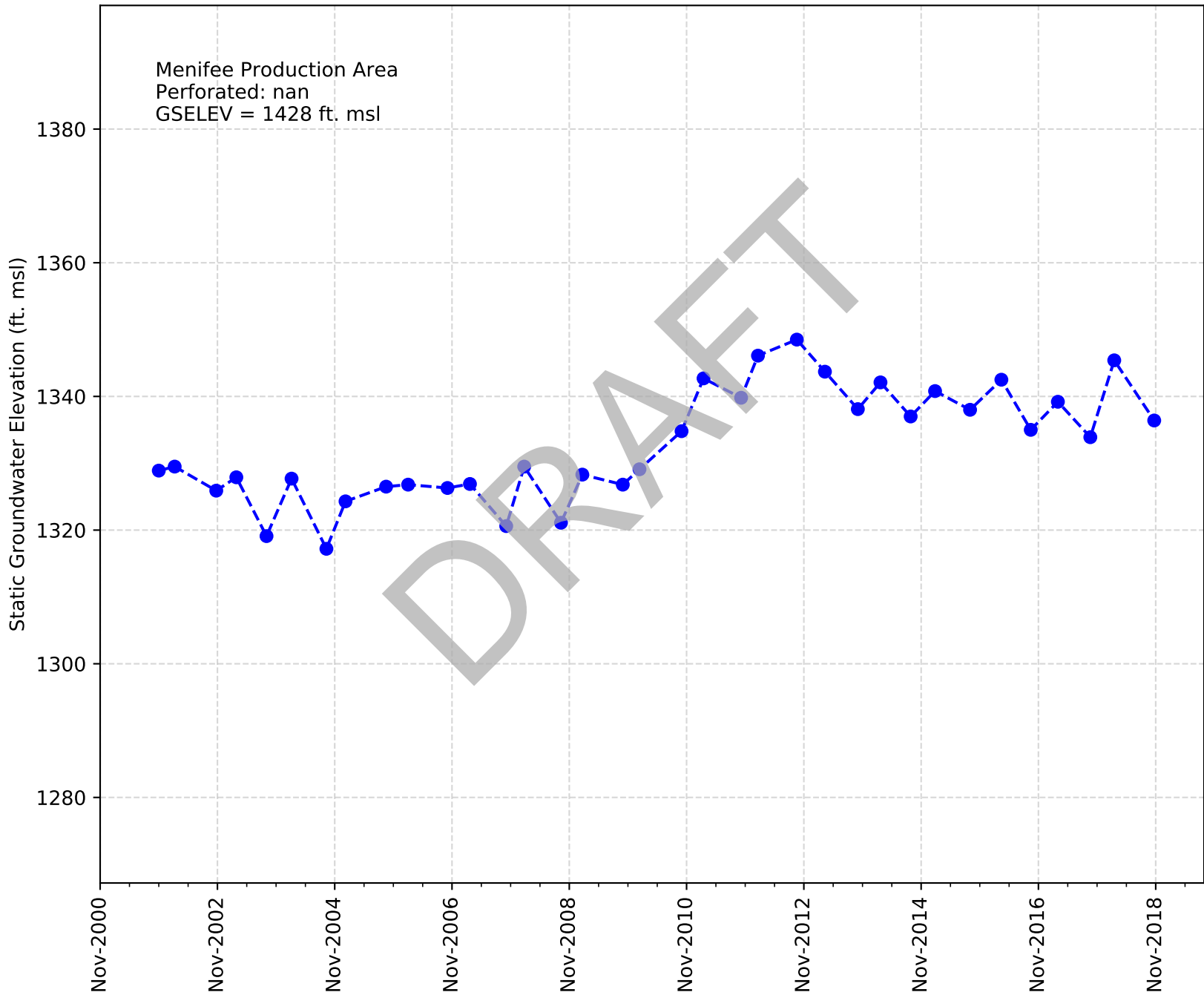
Casing Name: Bouris Newport West of 215



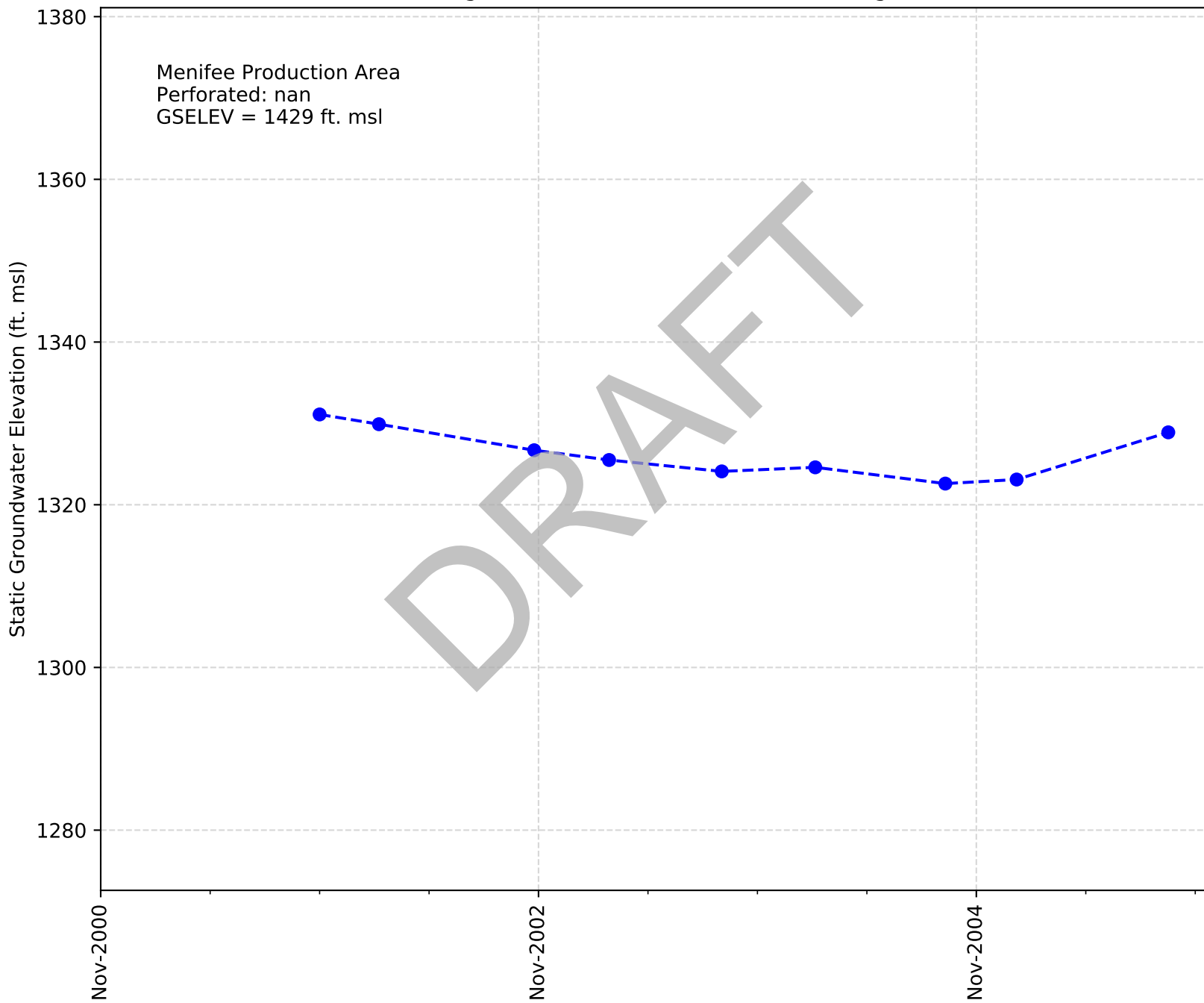
Casing Name: EMWD 75 Salt Creek



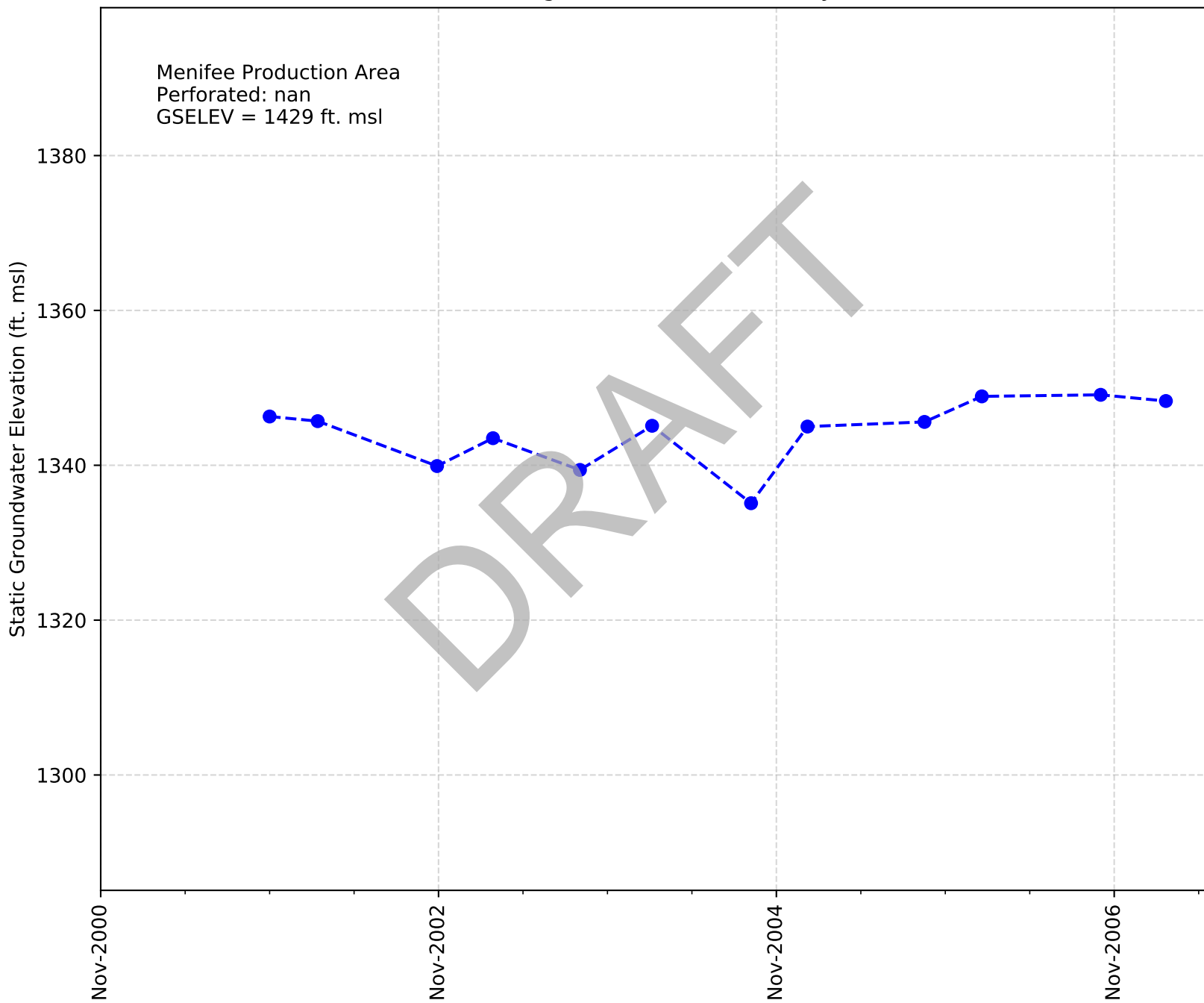
Casing Name: Bouris Newport East of Menifee



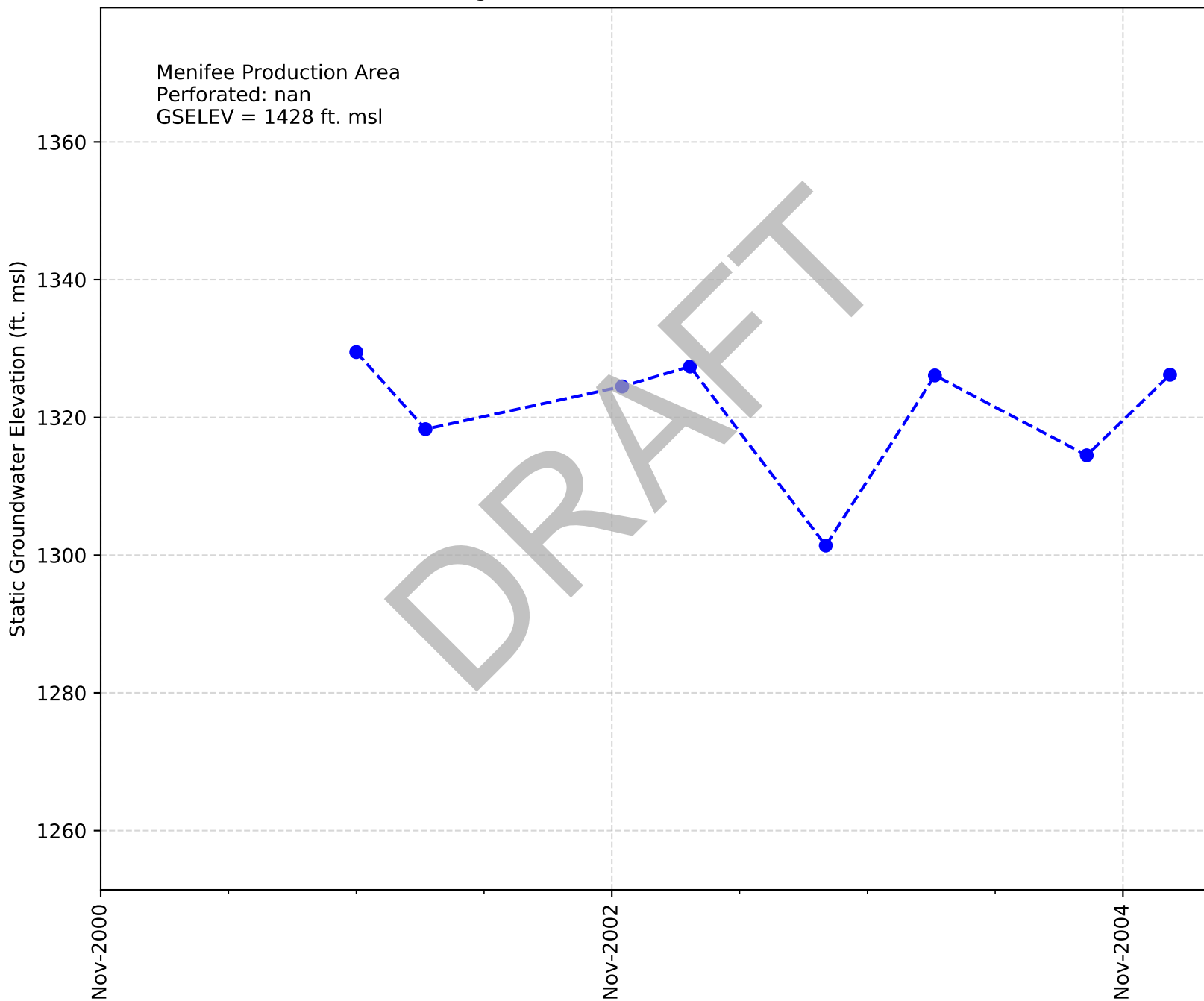
Casing Name: Bouris West of Lindenerger



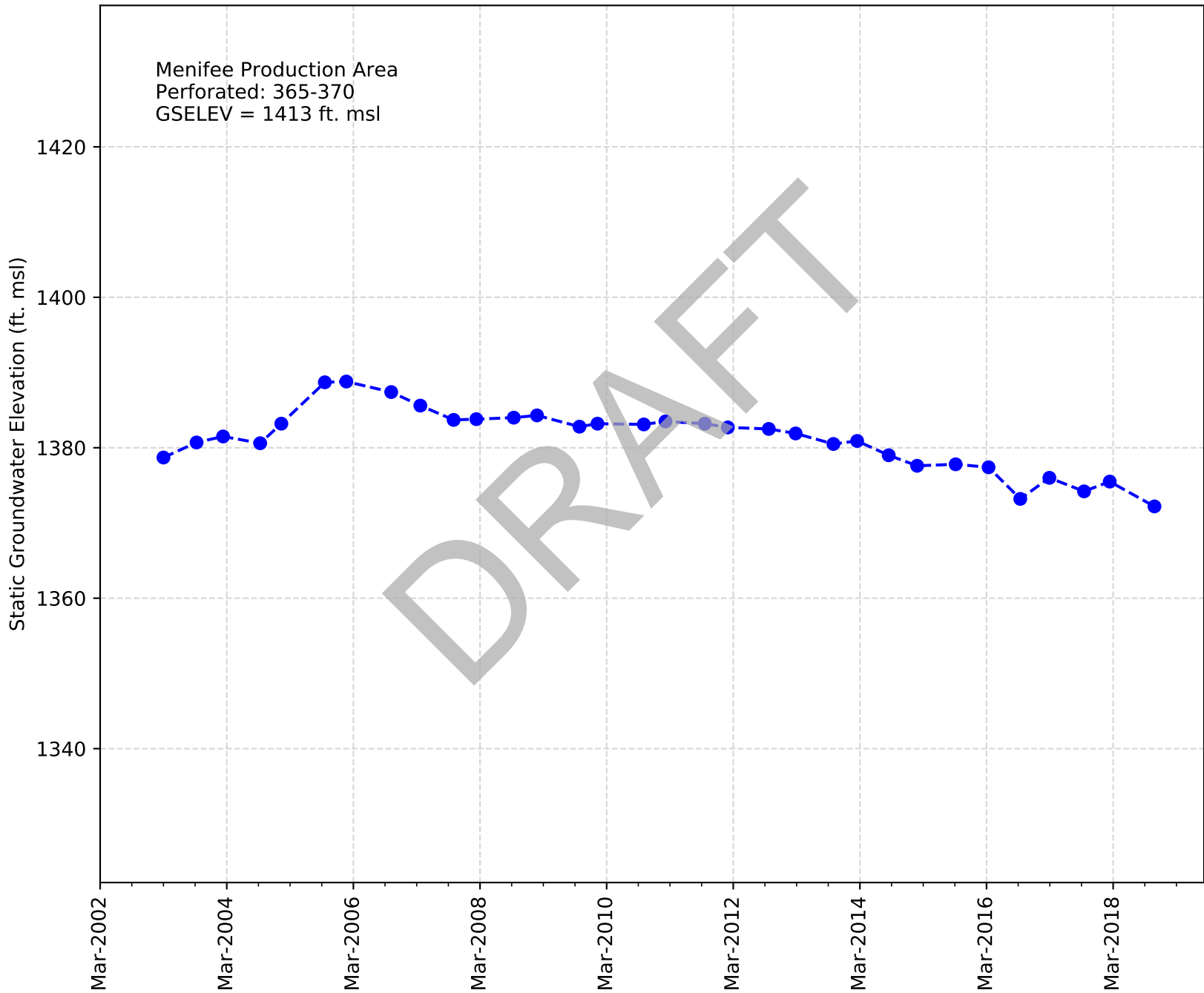
Casing Name: Bouris Freeway



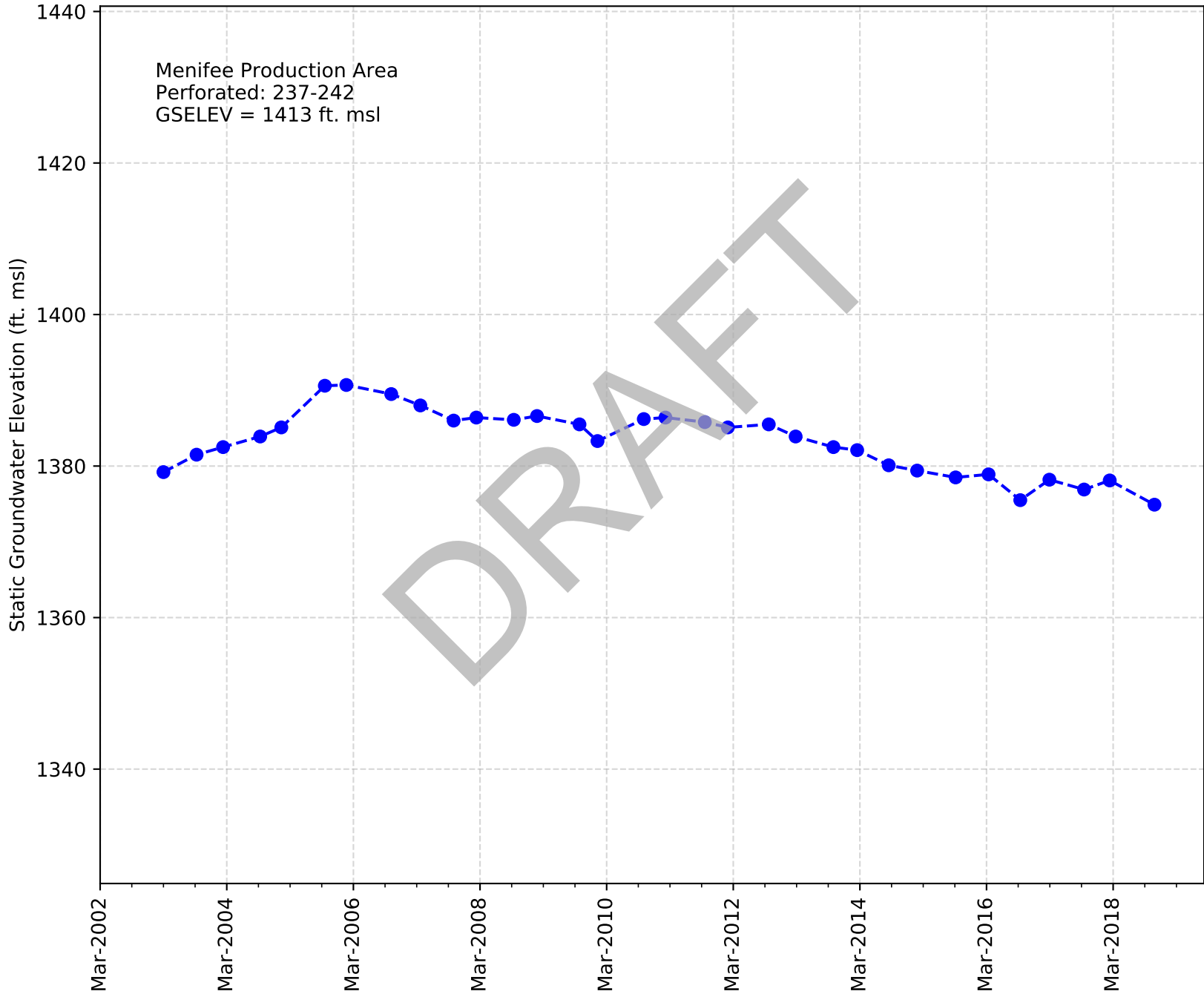
Casing Name: Bouris Southeast of School



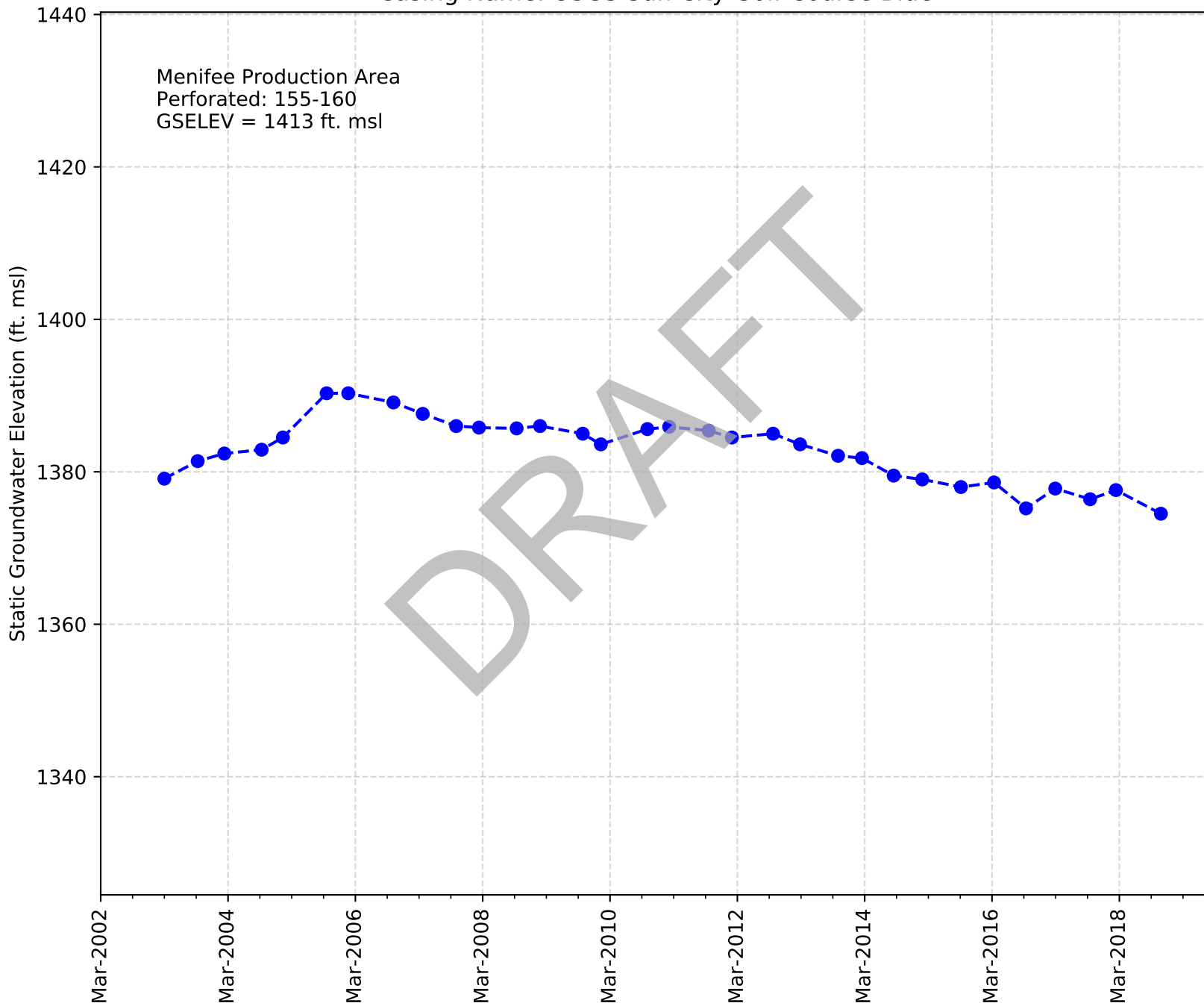
Casing Name: USGS Sun City Golf Course Yellow



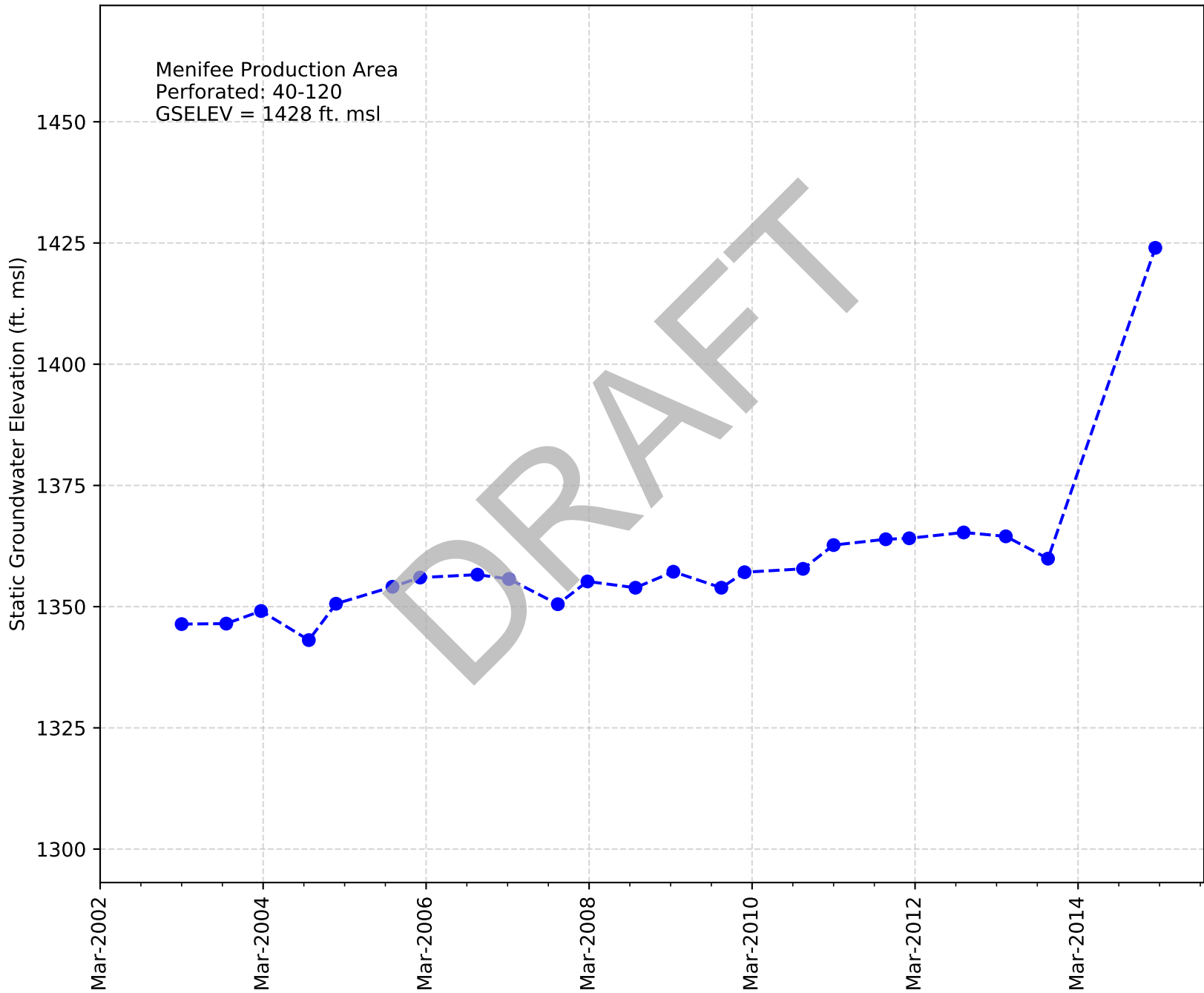
Casing Name: USGS Sun City Golf Course Green



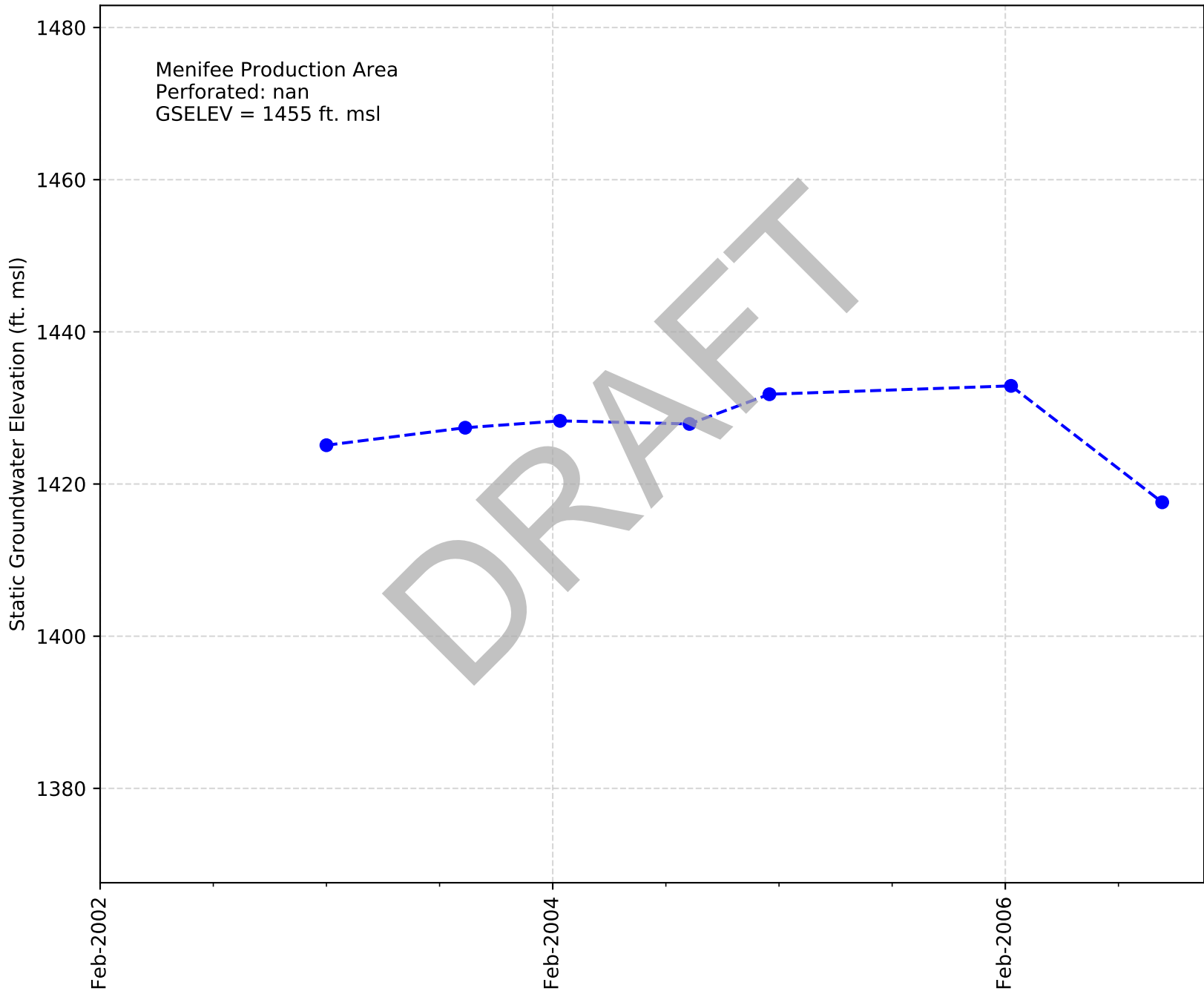
Casing Name: USGS Sun City Golf Course Blue



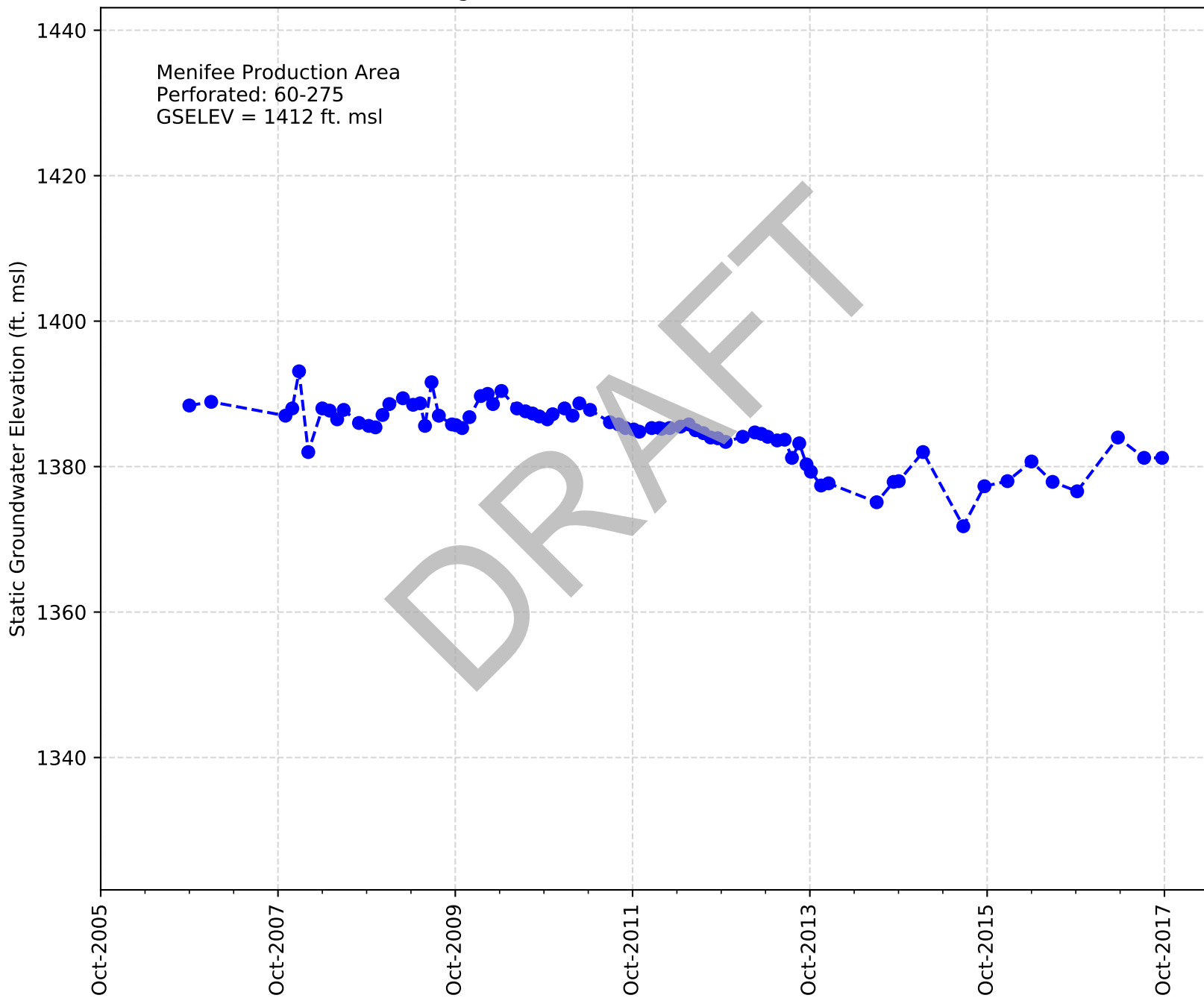
Casing Name: Newport West of Haun OC



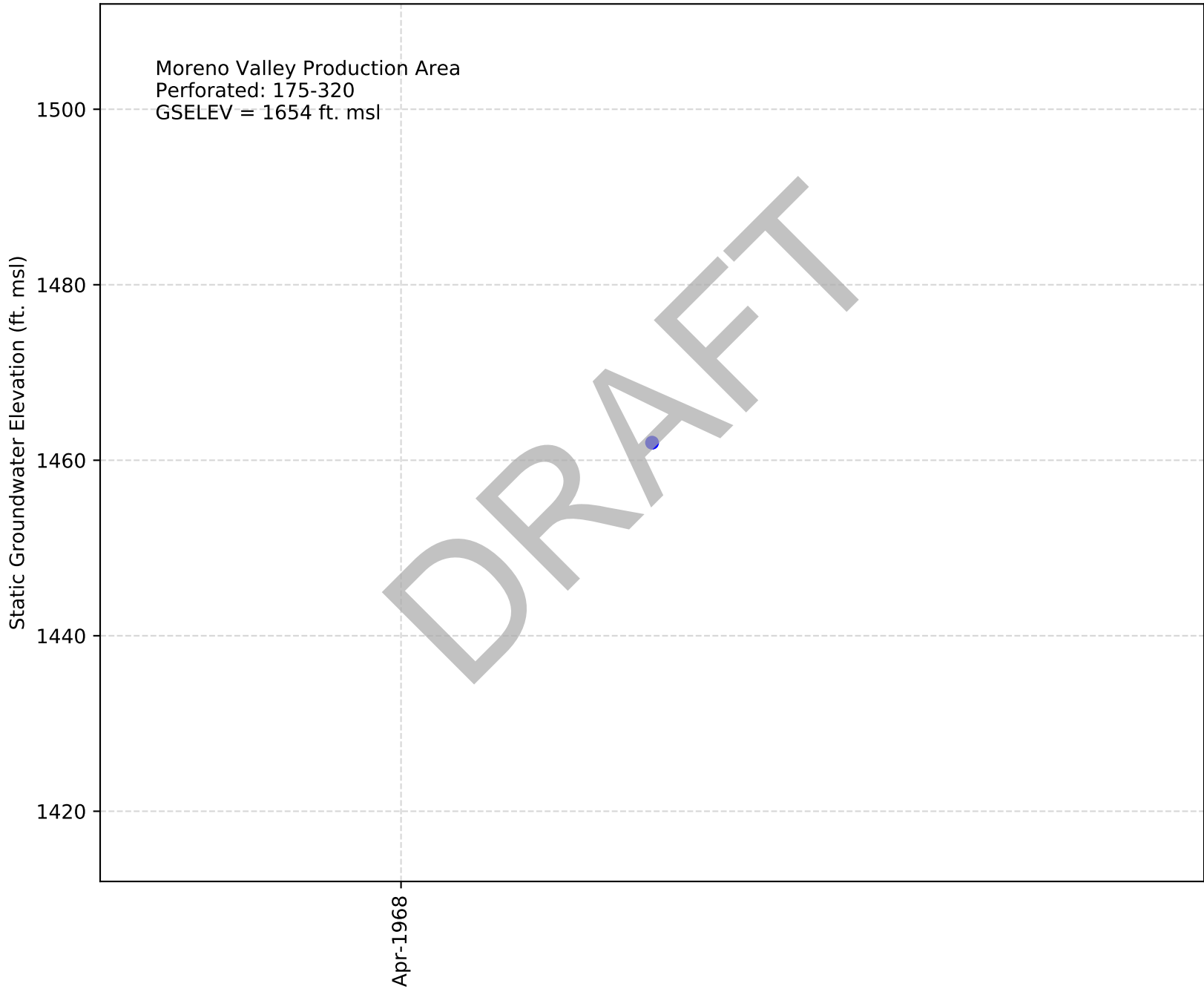
Casing Name: Agri Simpson/Lindenburger East



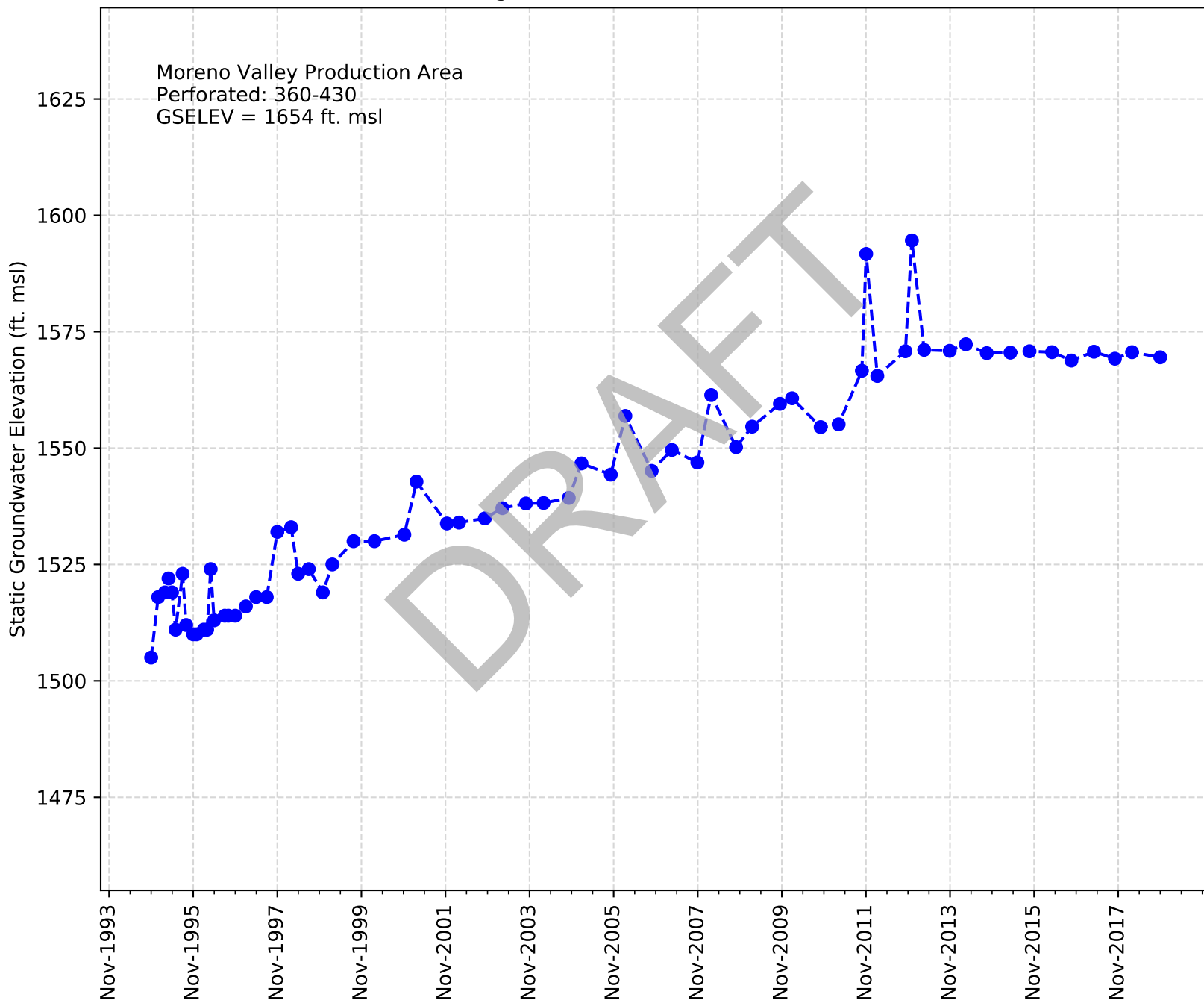
Casing Name: EMWD 85 Murrieta/Salt Creek



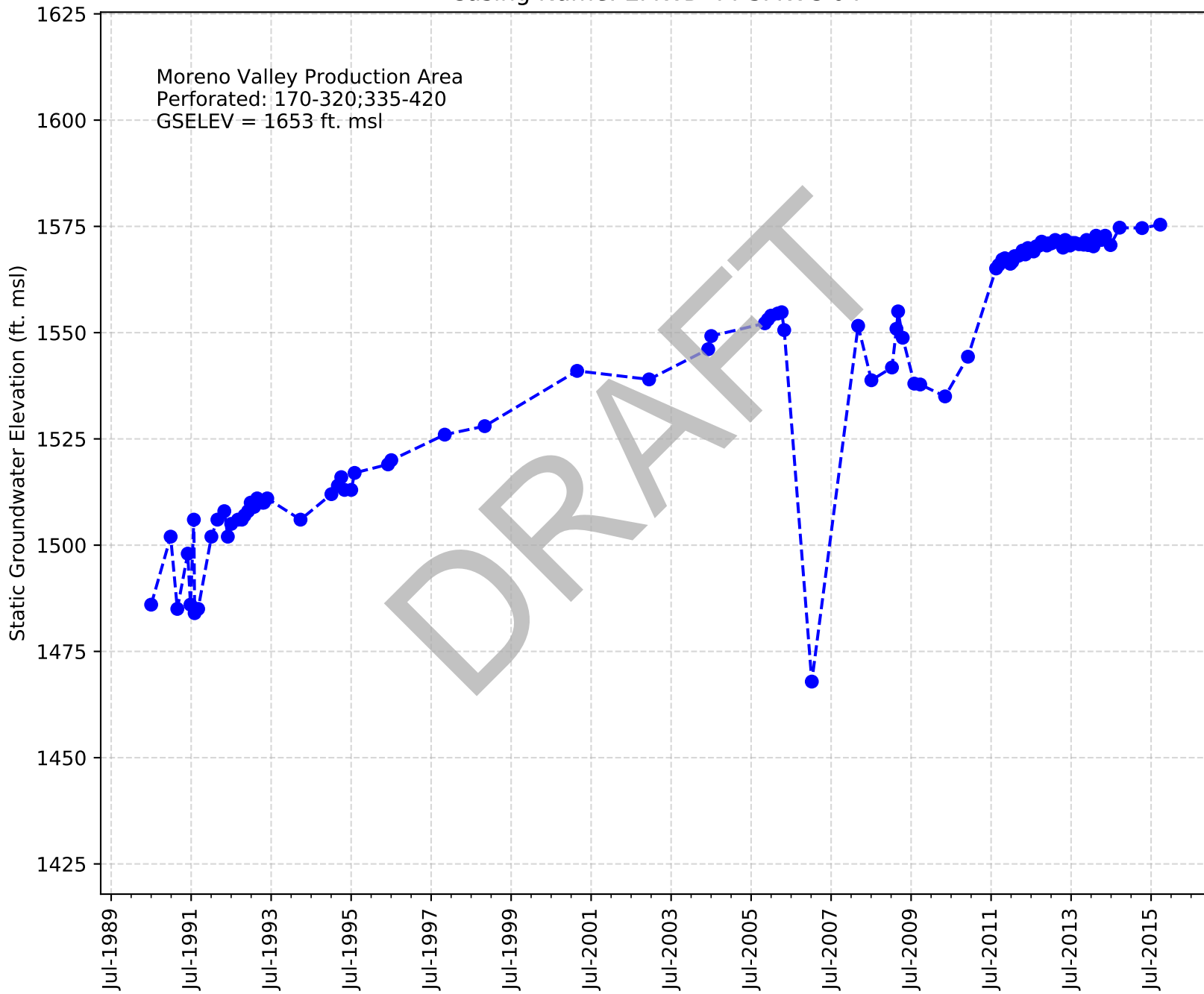
Casing Name: EMWD 40 Gas Maxwell



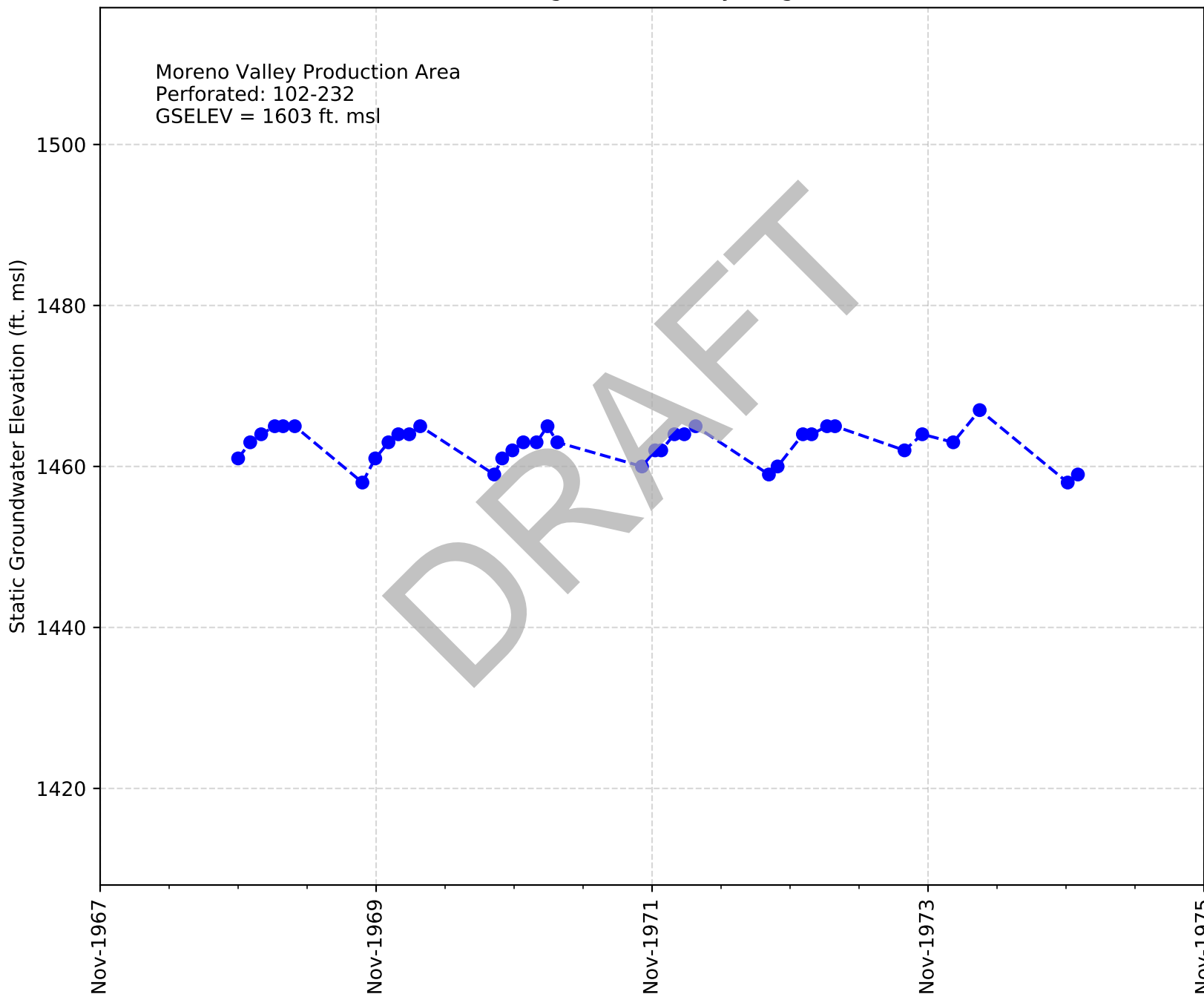
Casing Name: EMWD 45 New Maxwell



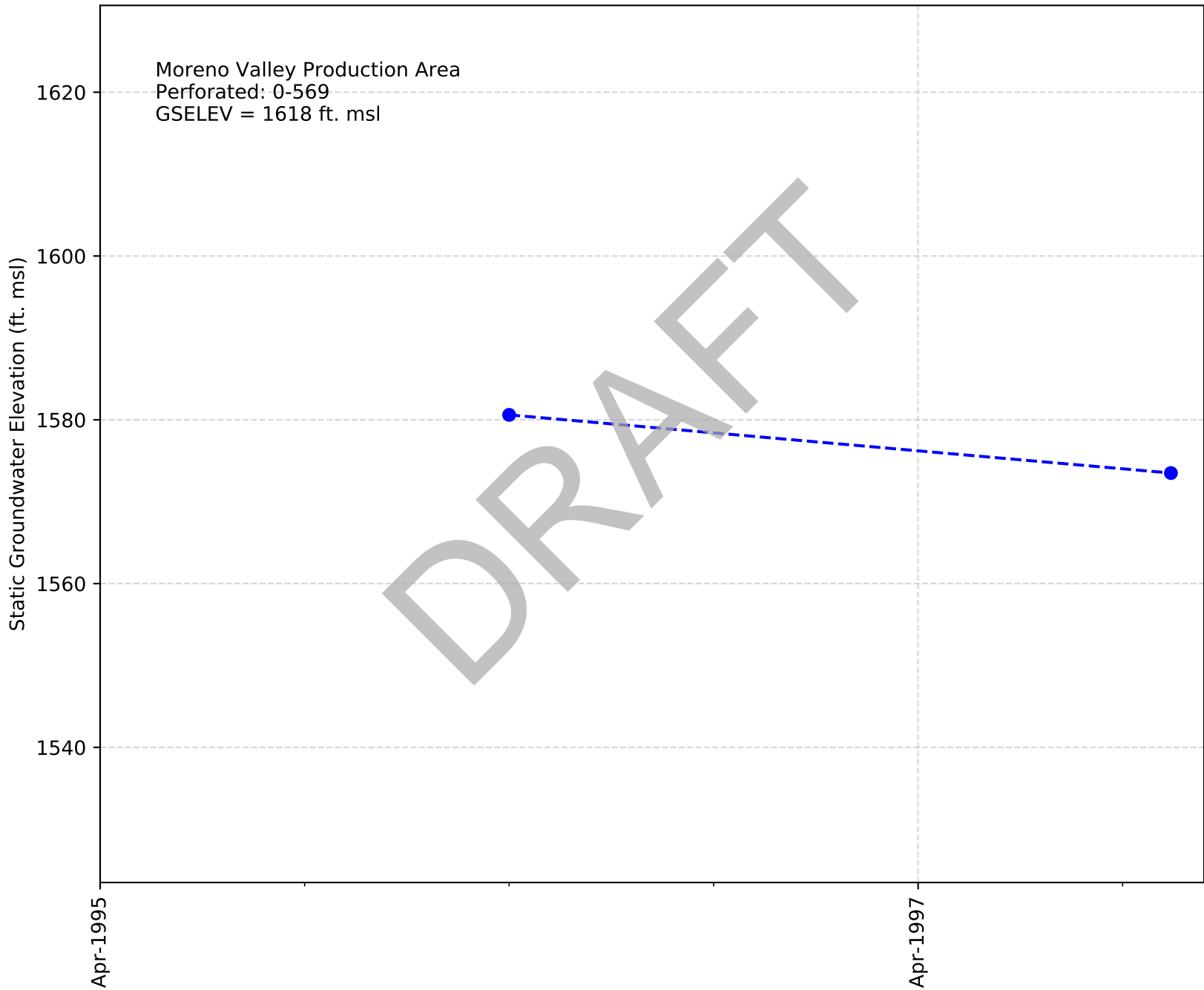
Casing Name: EMWD 44 SMWC 04



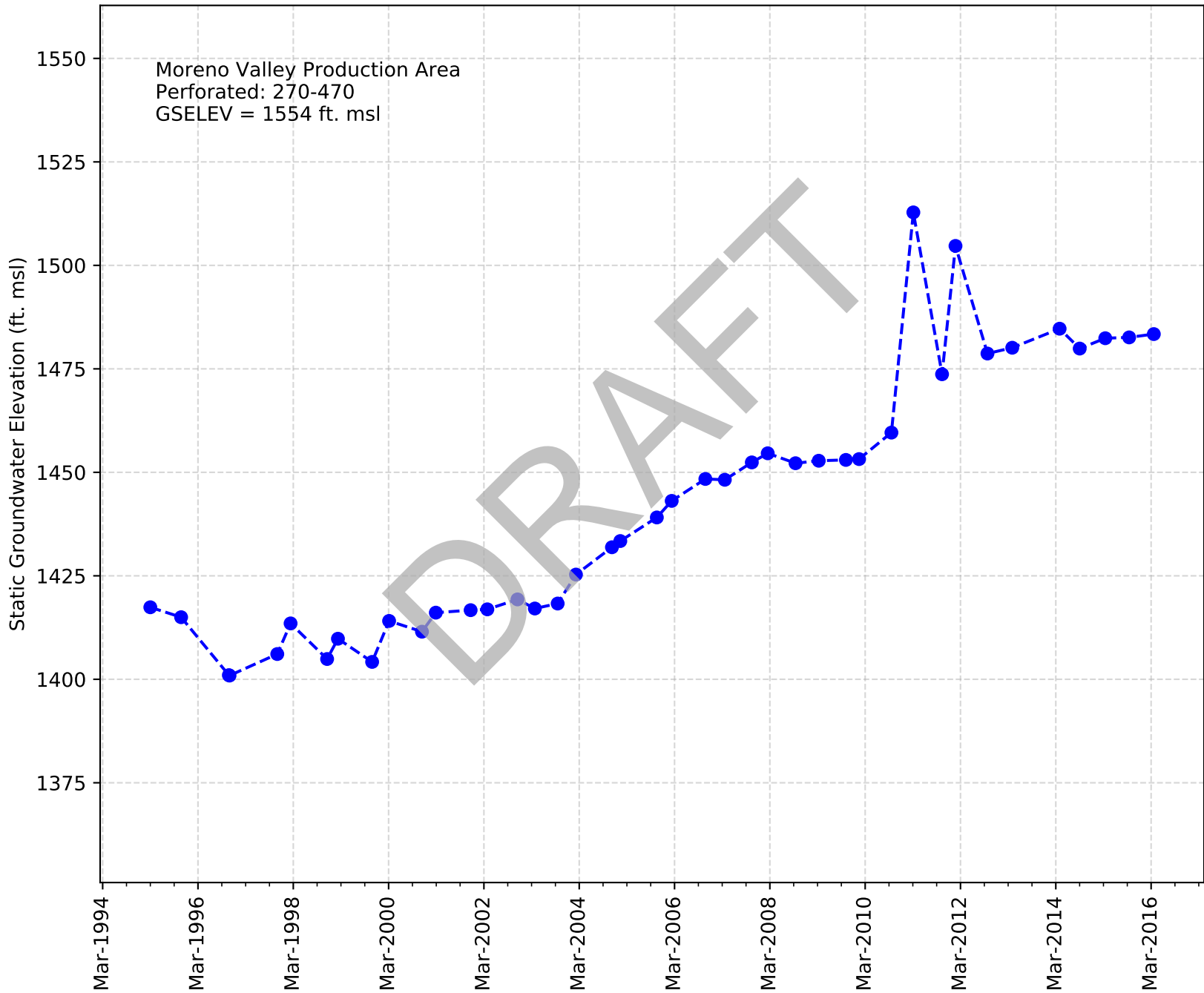
Casing Name: McKay, Edgar



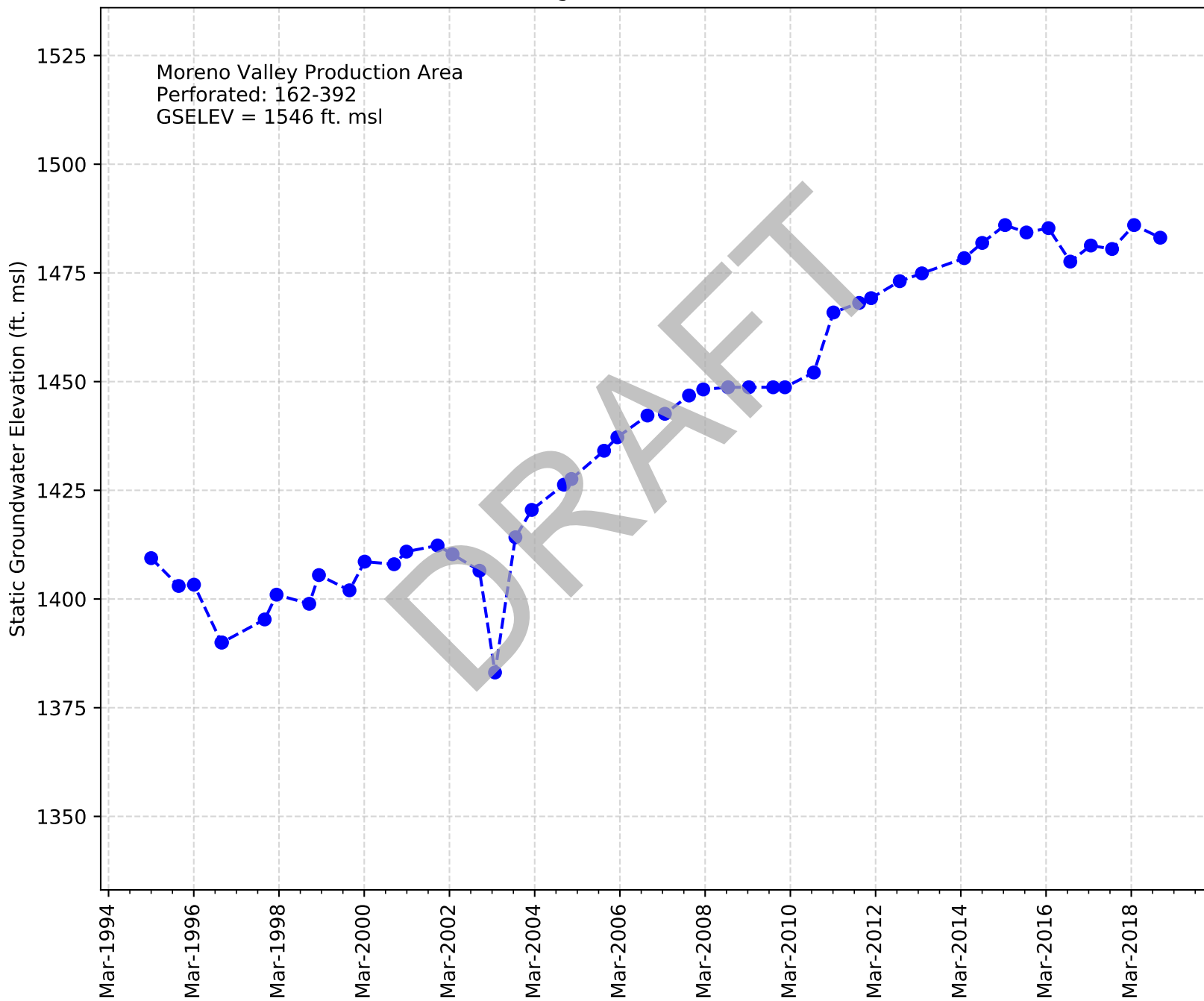
Casing Name: Sunnymead Poultry Cottonwood



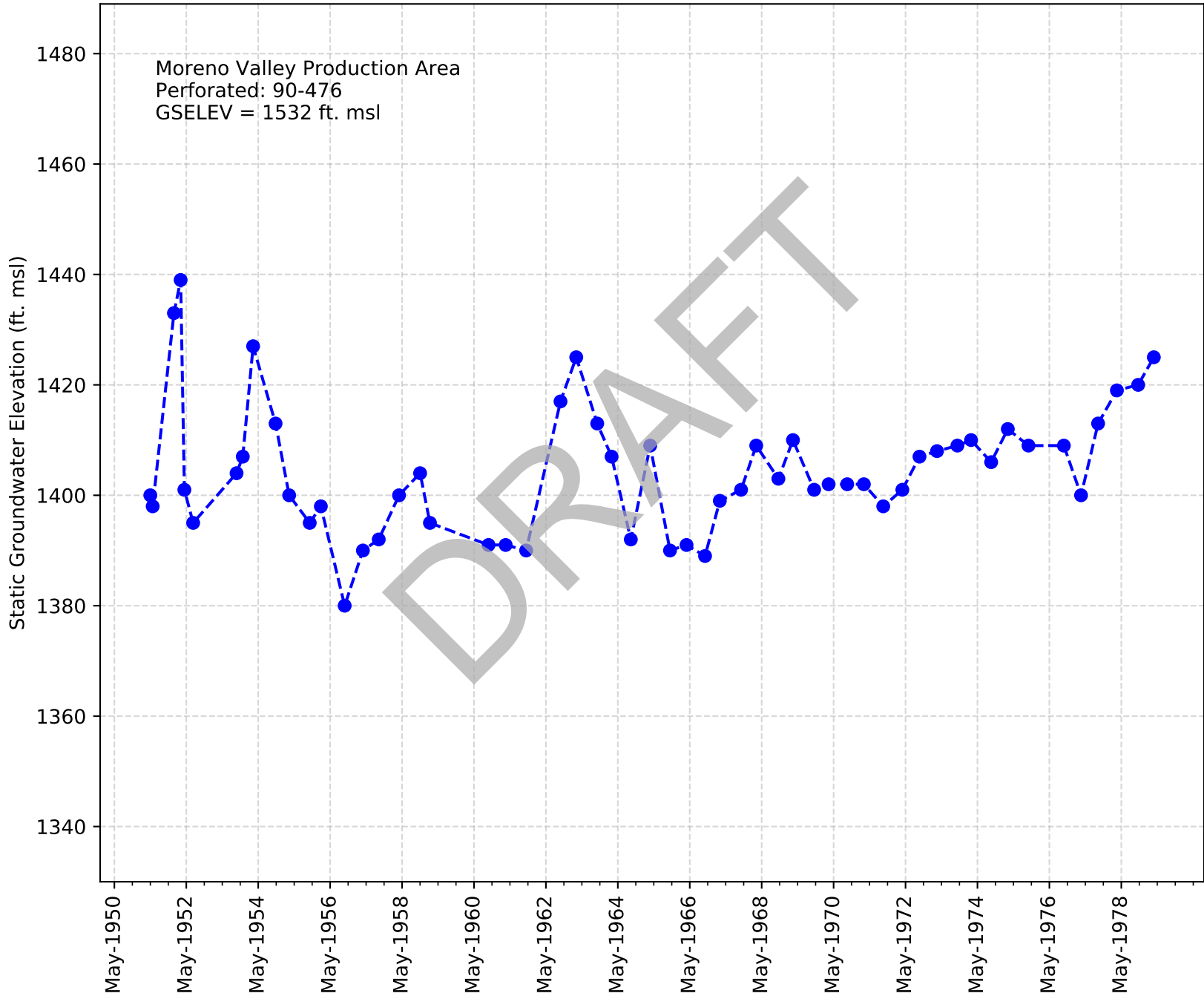
Casing Name: MVRGC East



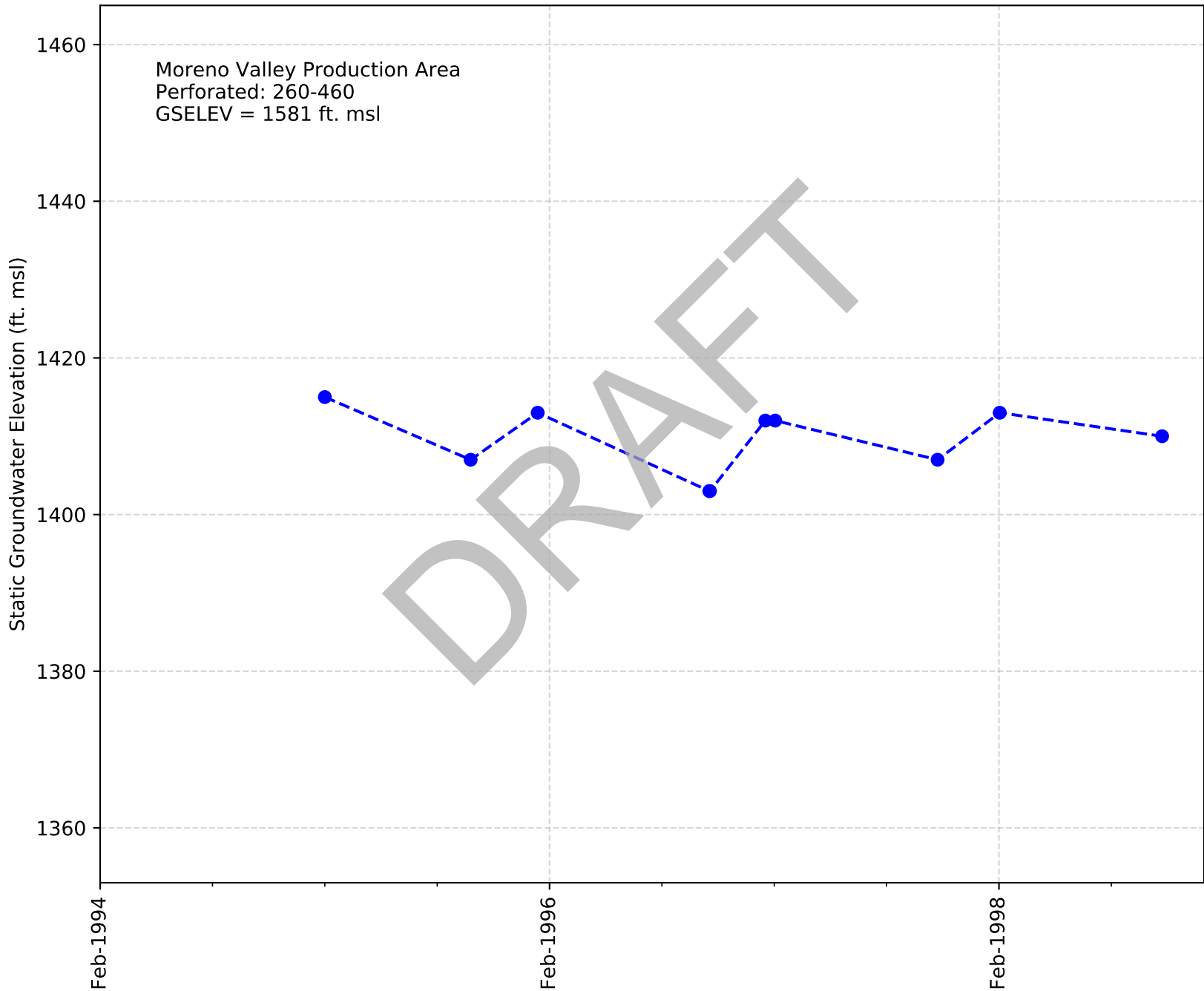
Casing Name: MVRGC West



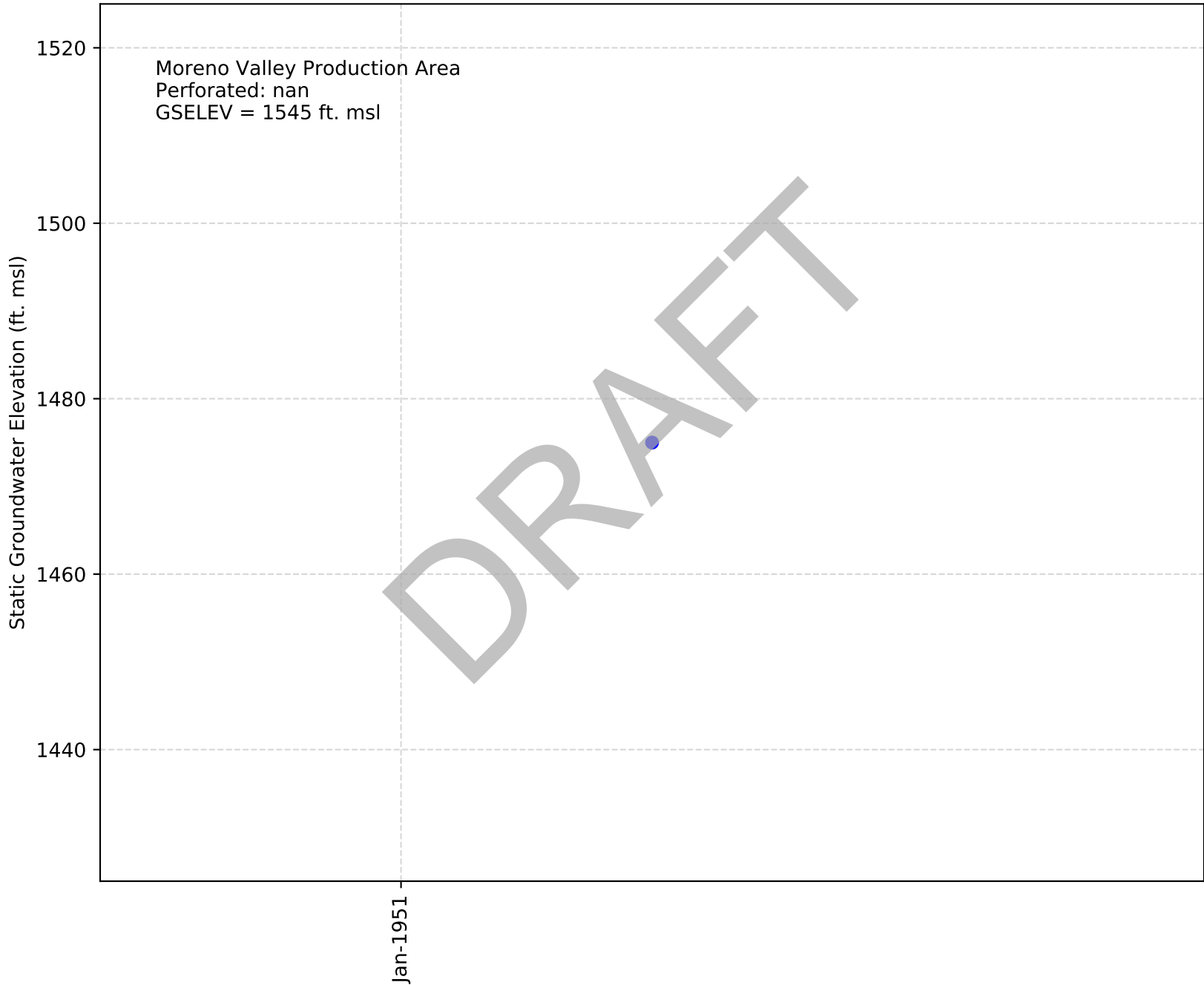
Casing Name: Tatum 01



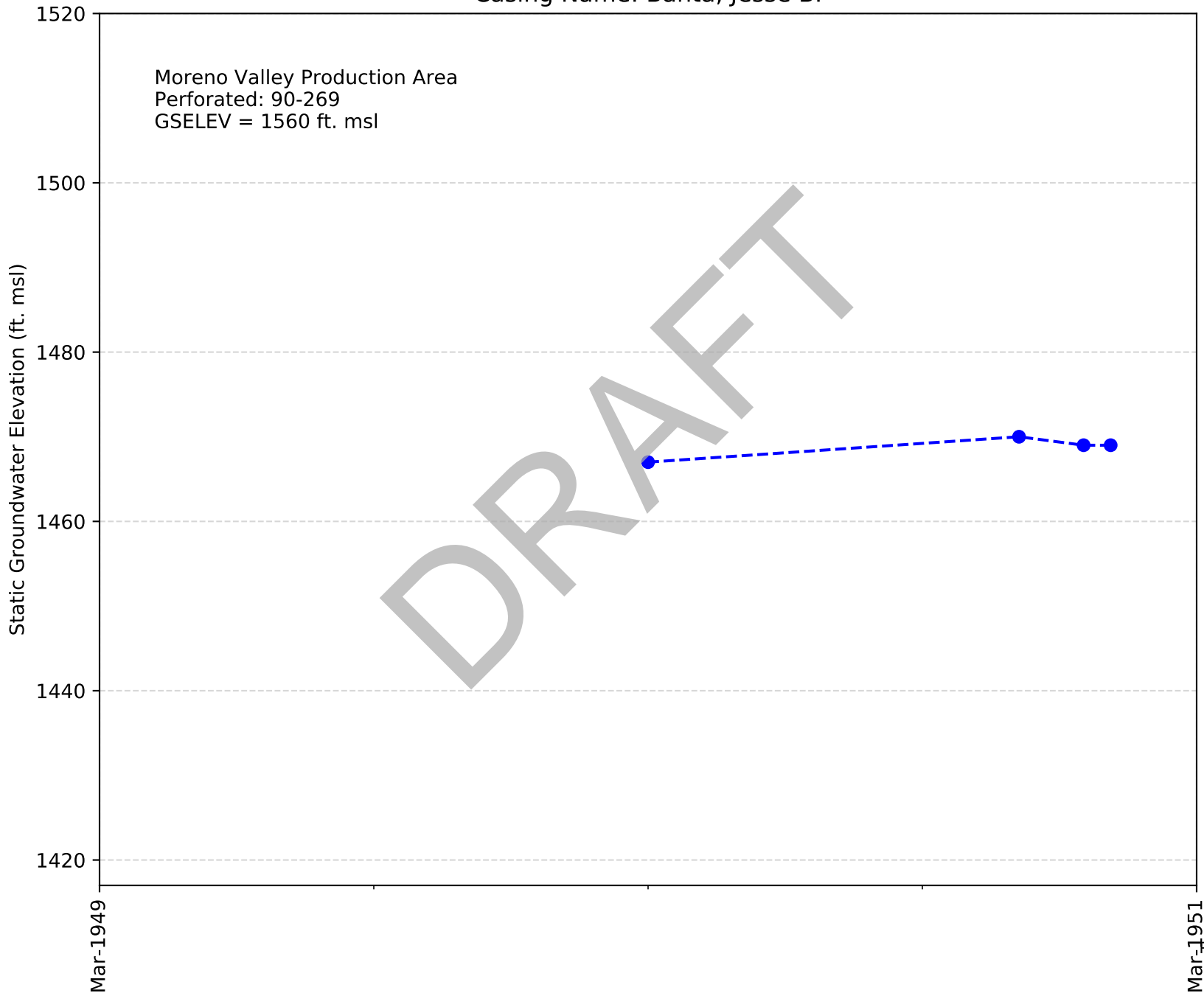
Casing Name: Four Corners Pipeline Company



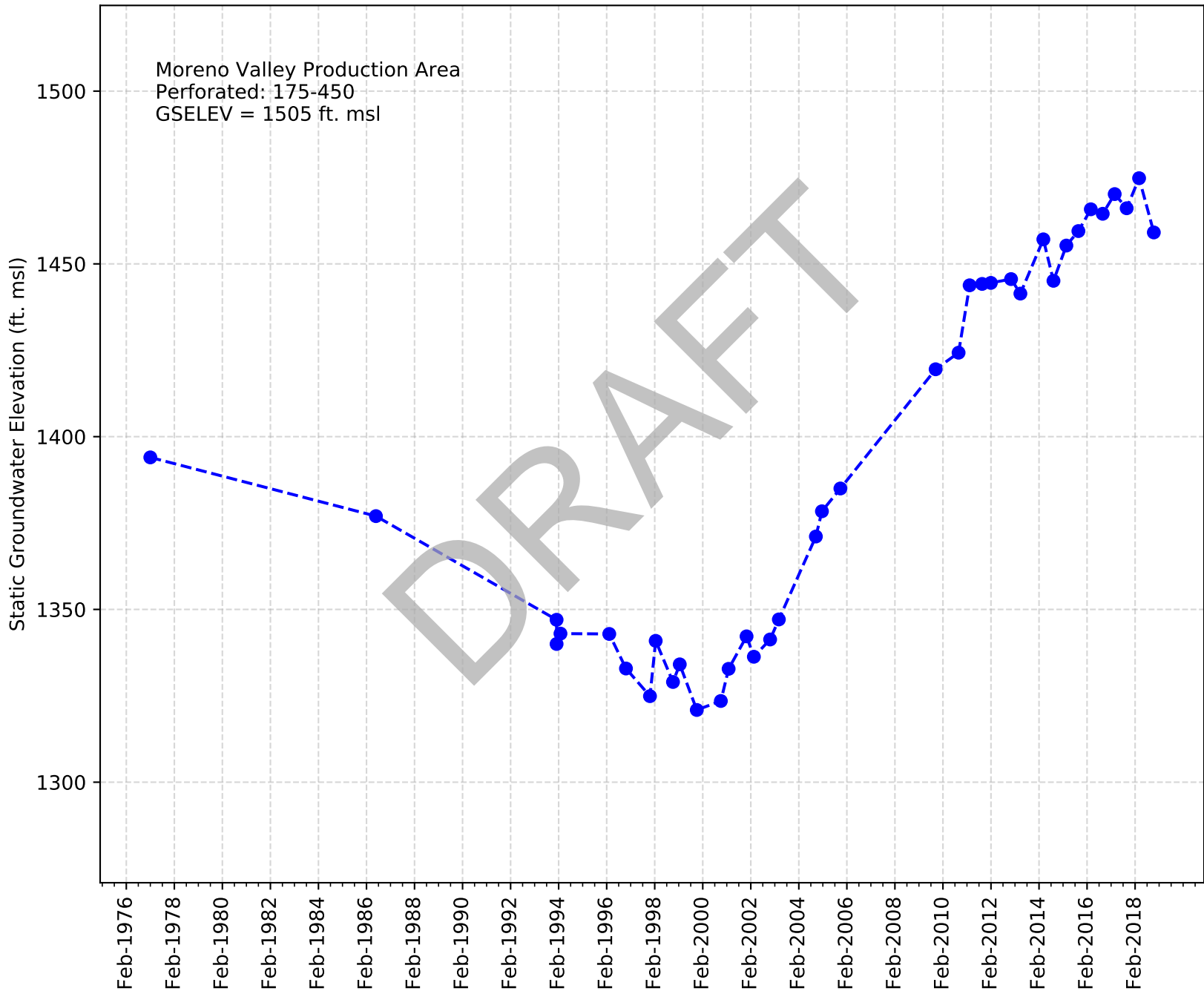
Casing Name: Meares, W. E.



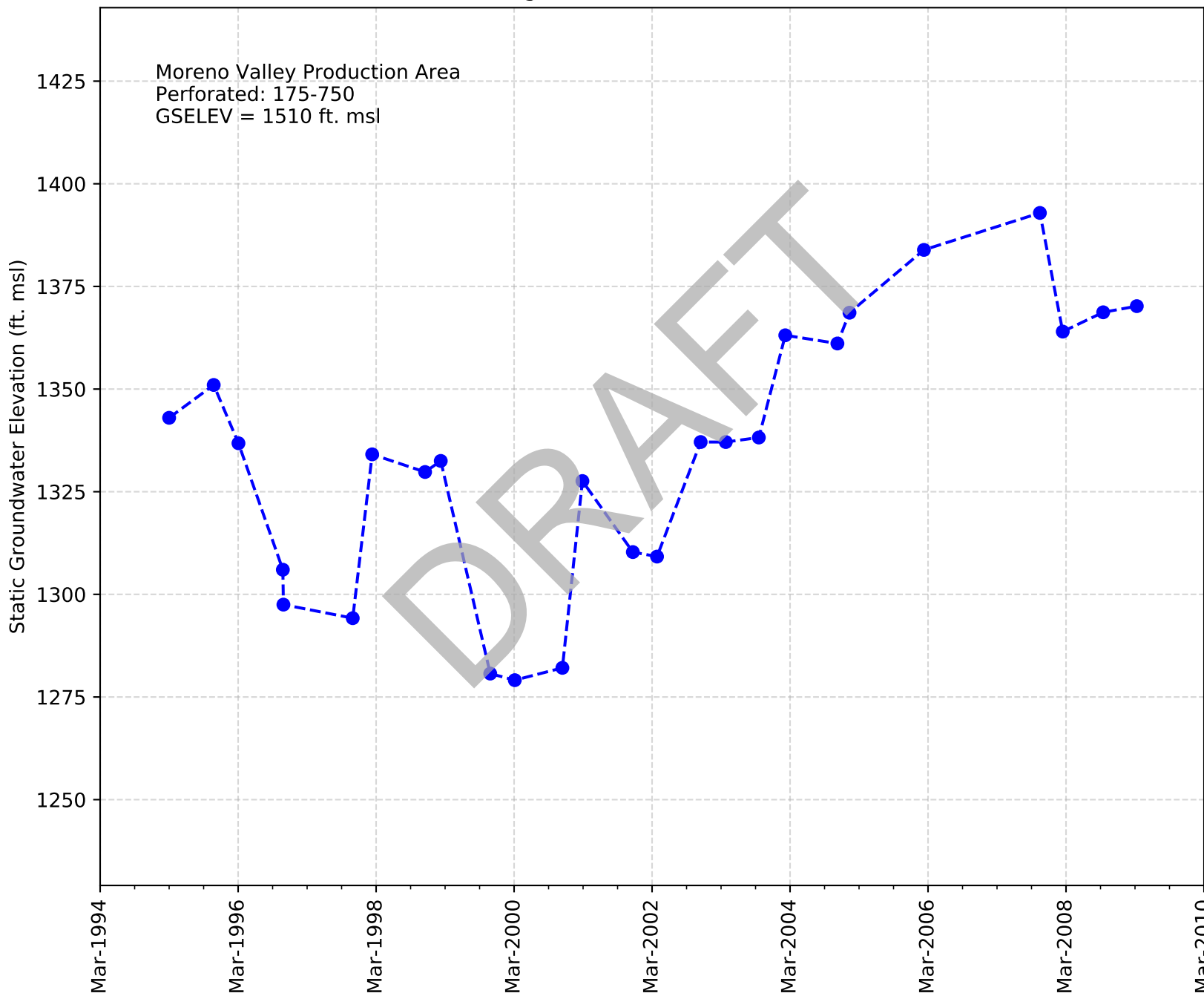
Casing Name: Banta, Jesse B.



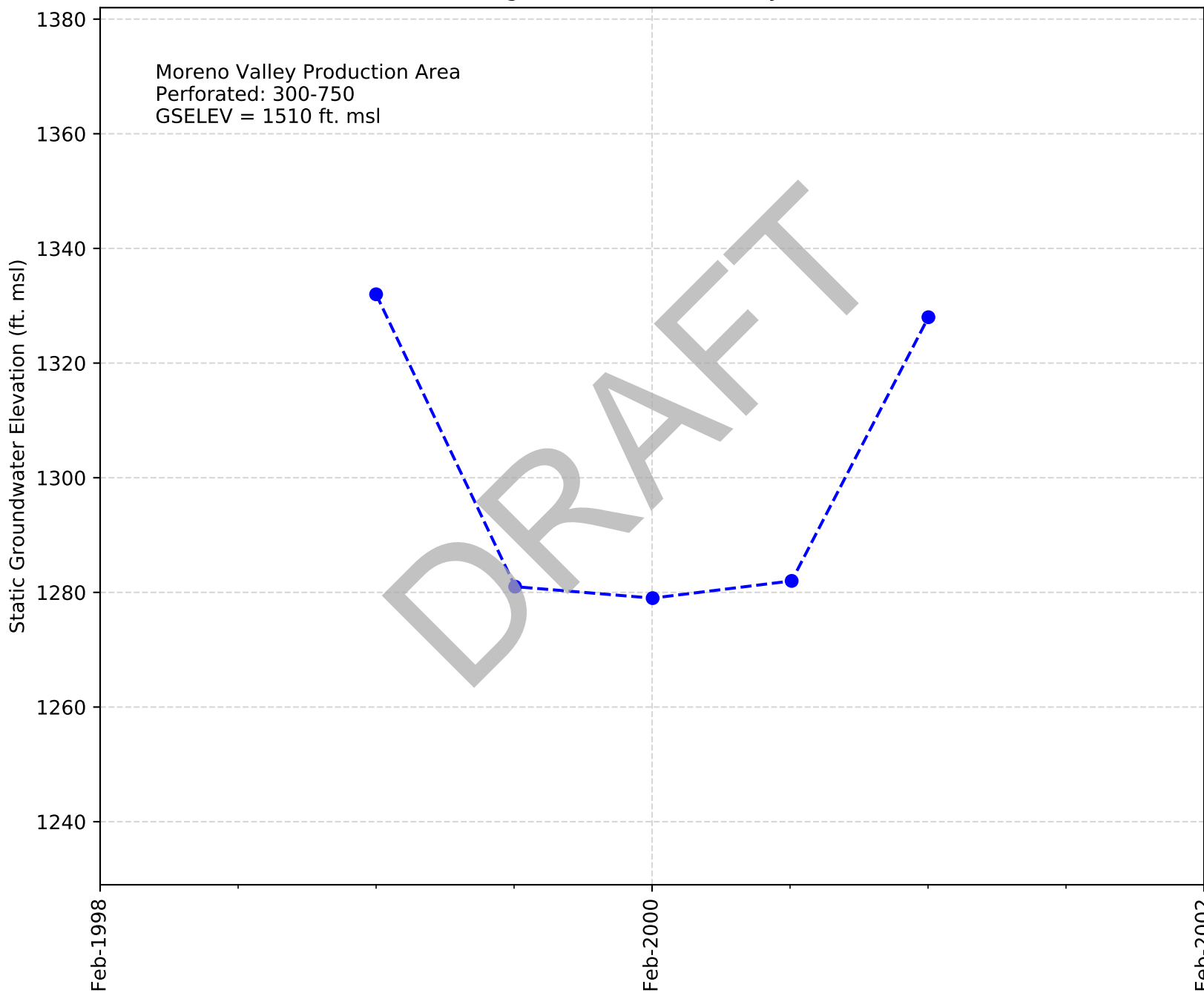
Casing Name: UCR Coray



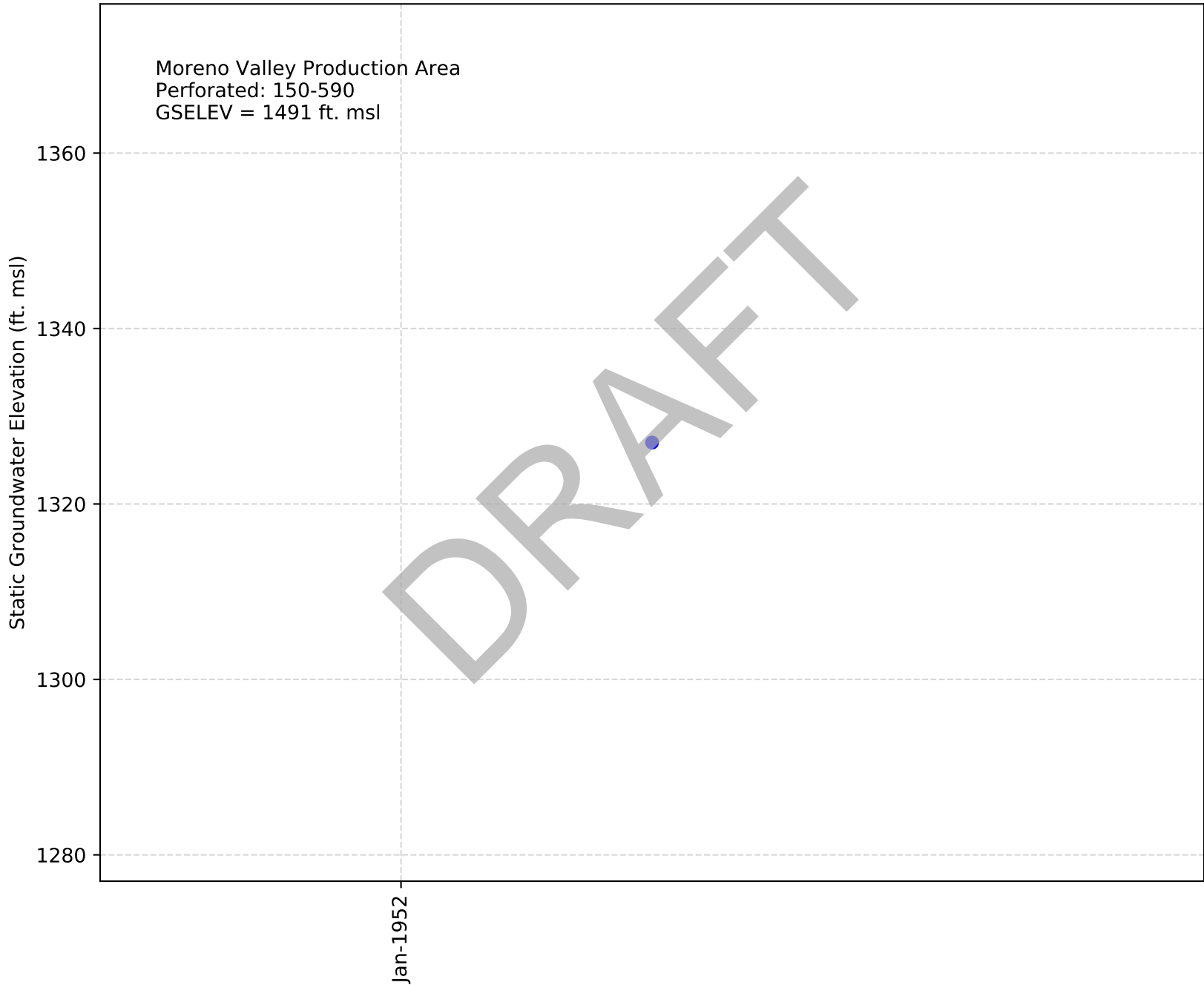
Casing Name: MVRGC Landmark



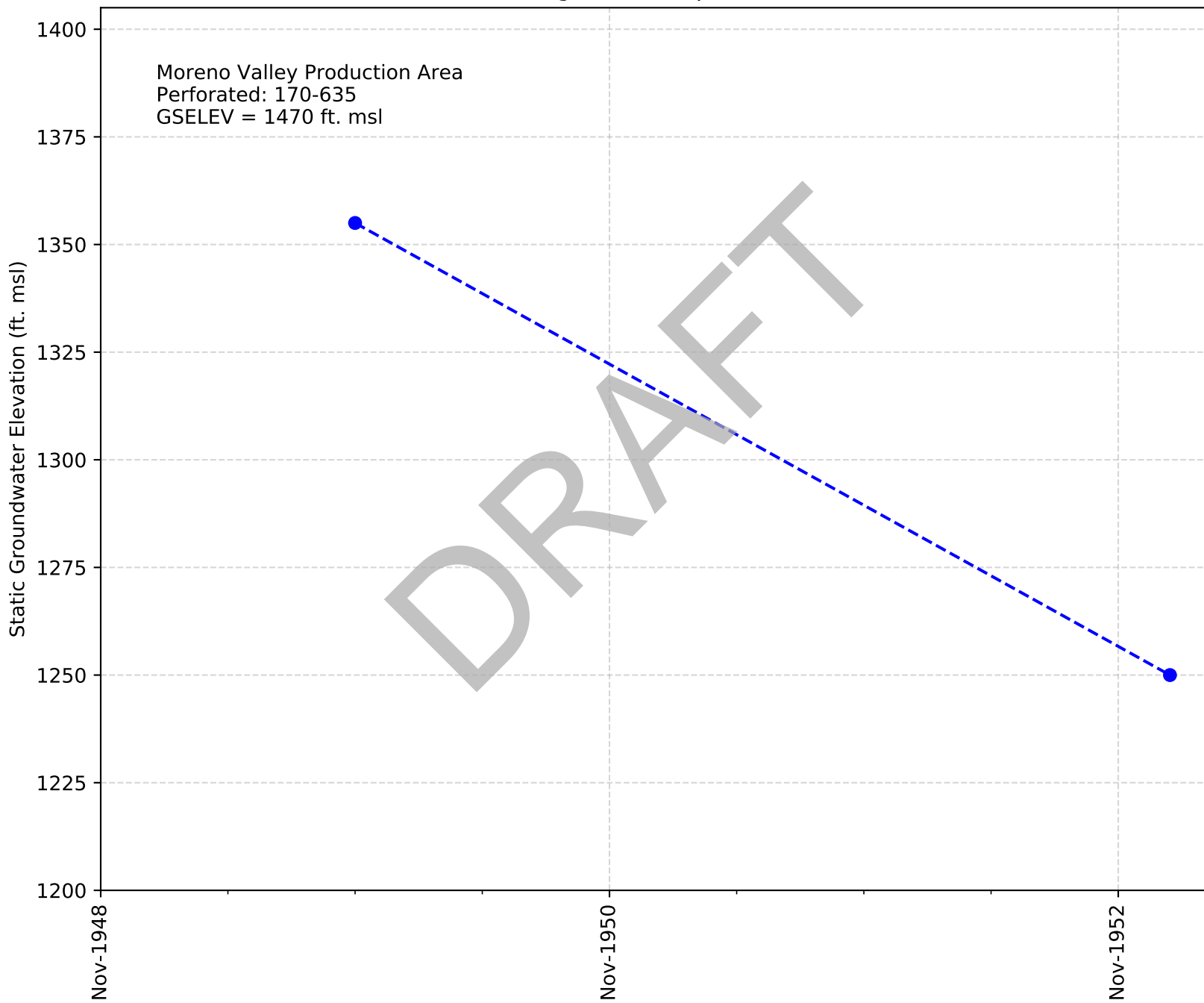
Casing Name: Moreno Valley Ranch



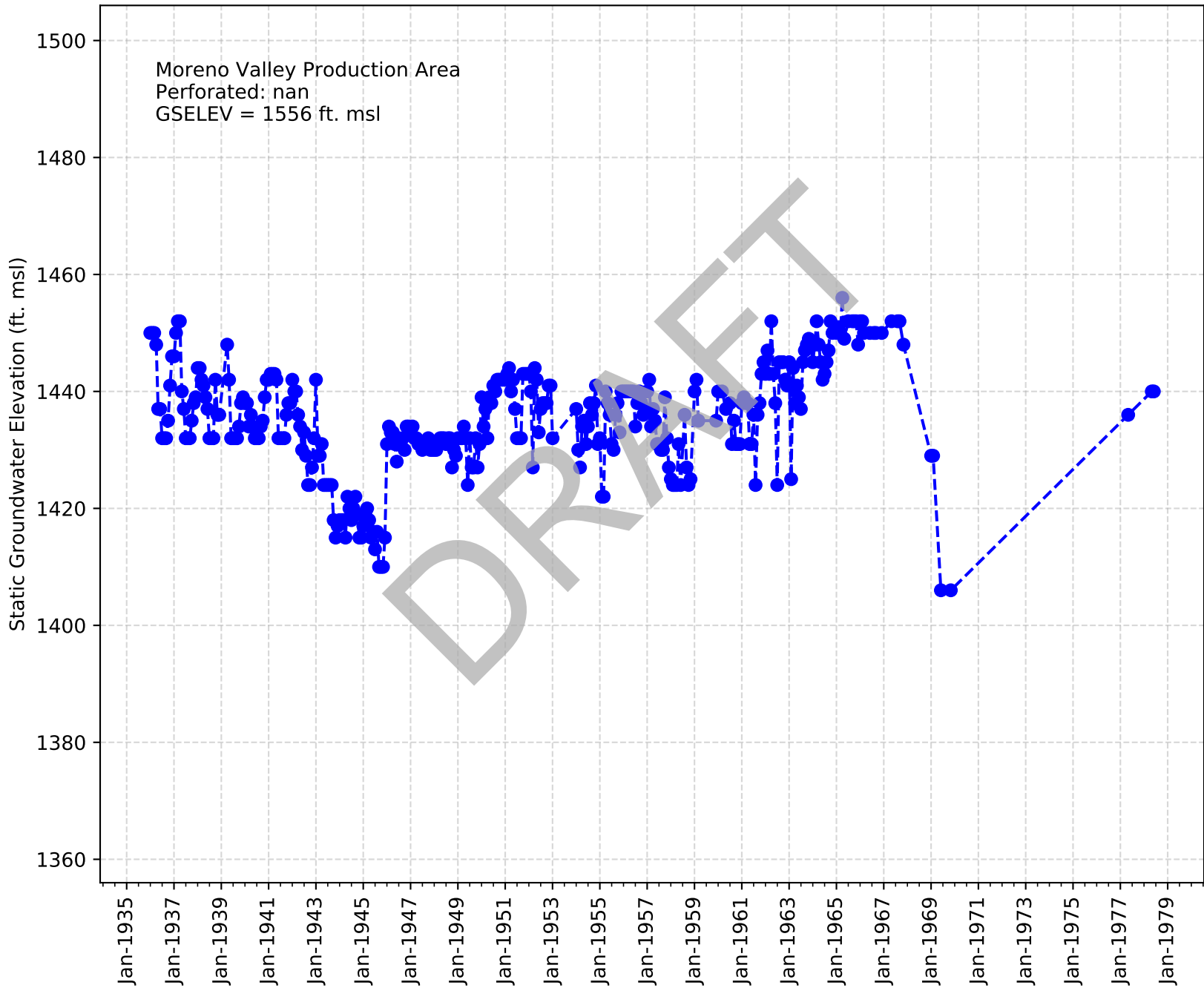
Casing Name: Bridges, O. L.



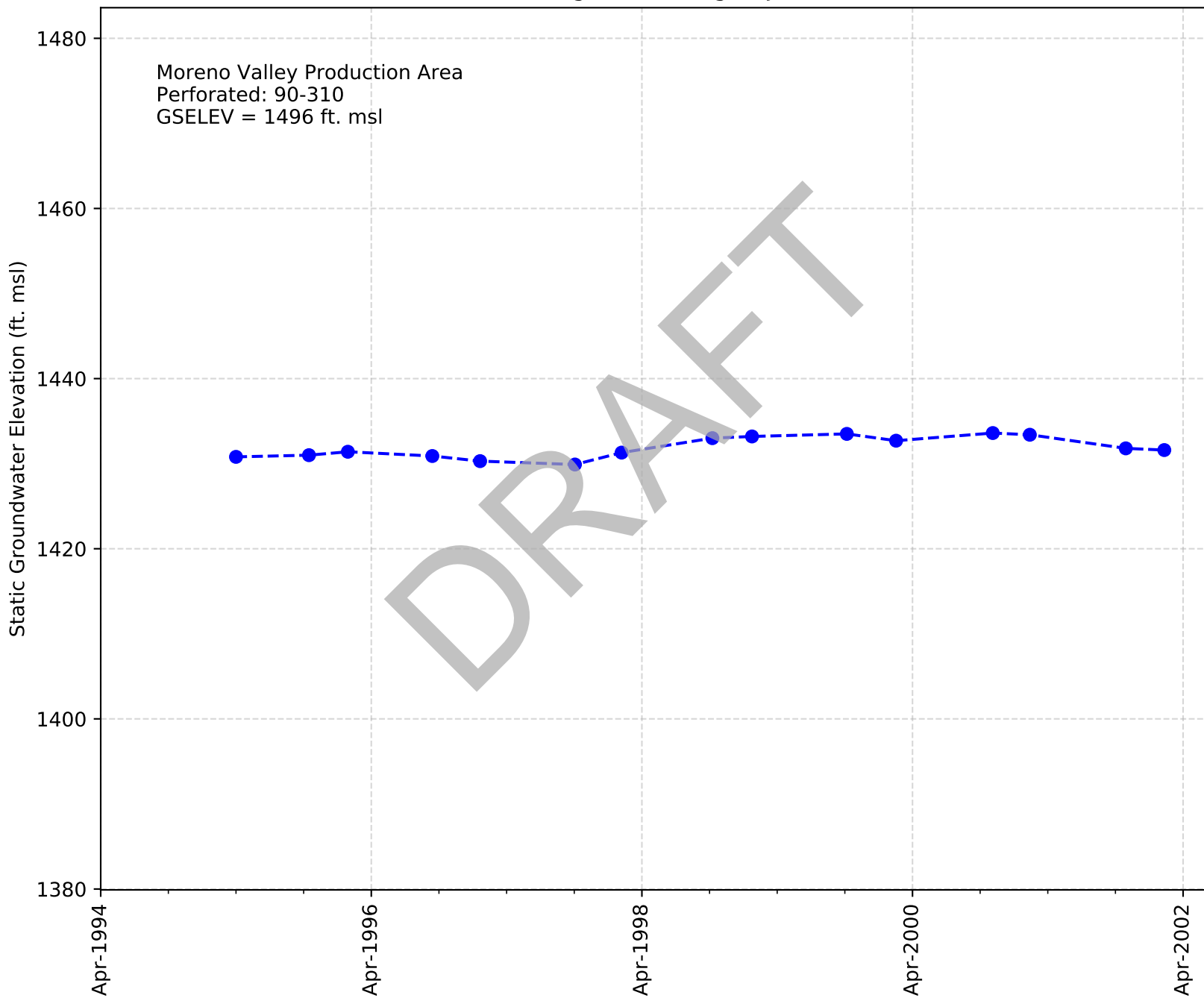
Casing Name: Kepner, L. G.



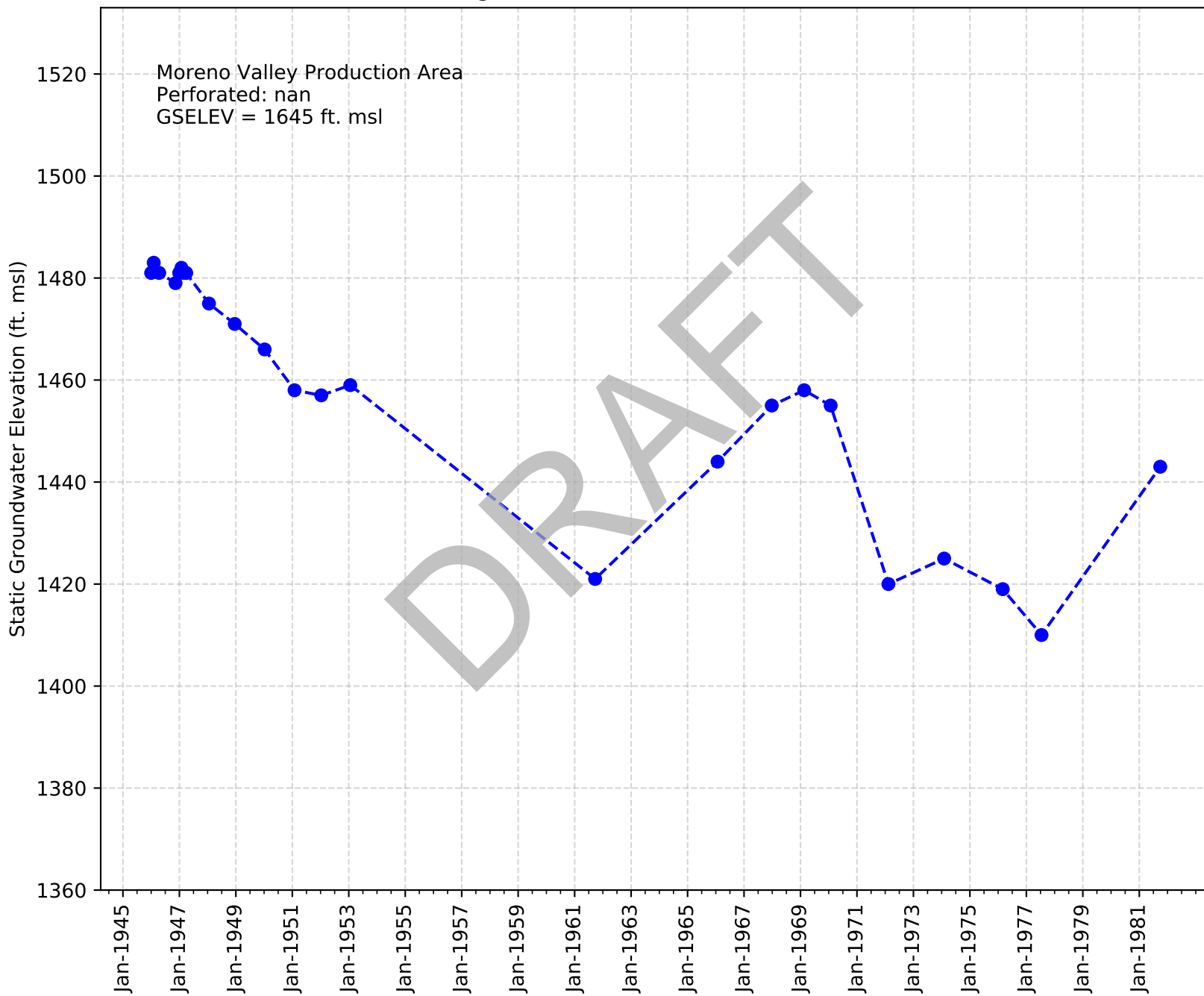
Casing Name: March Field Water Well 4



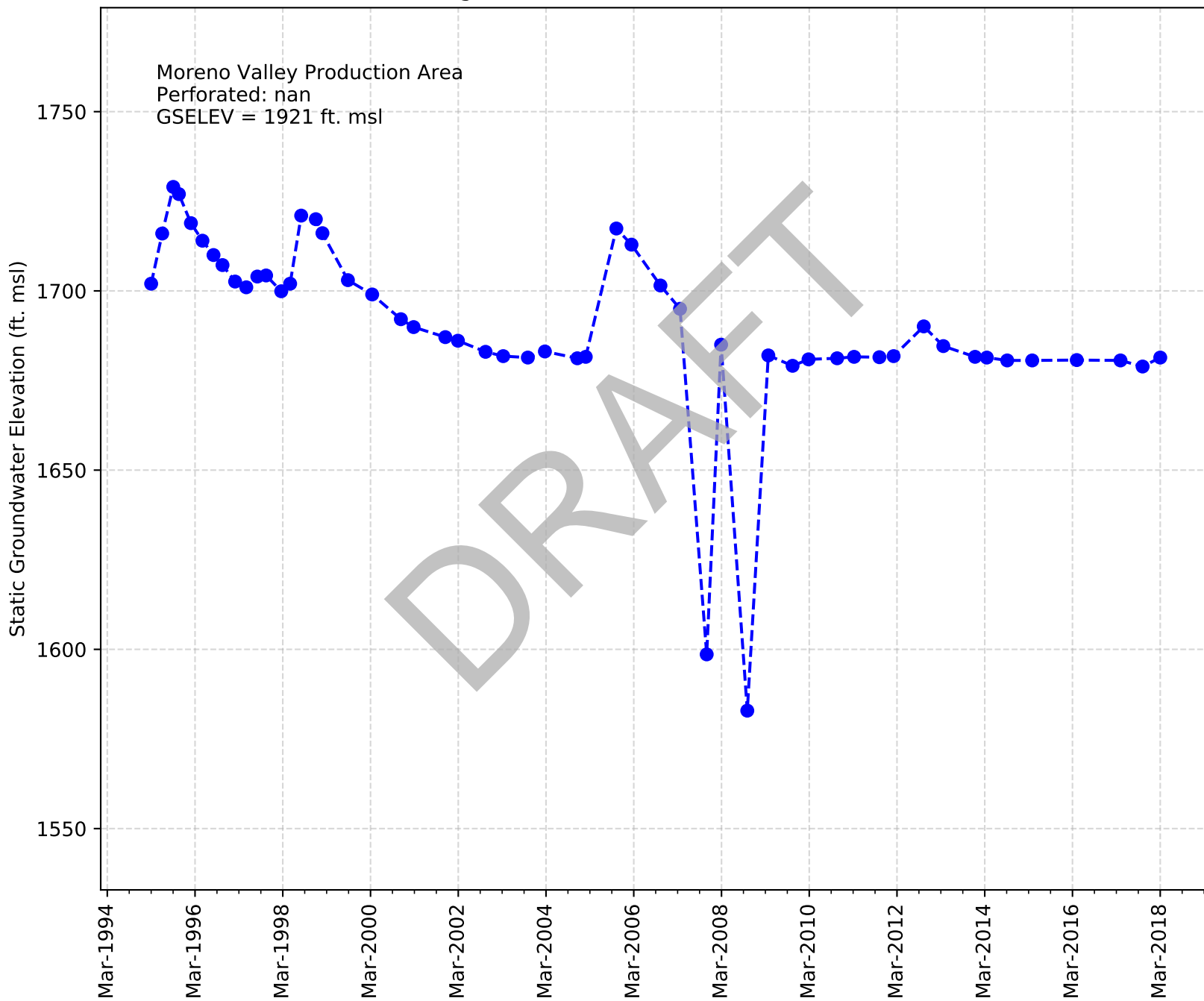
Casing Name: Unger, Jim



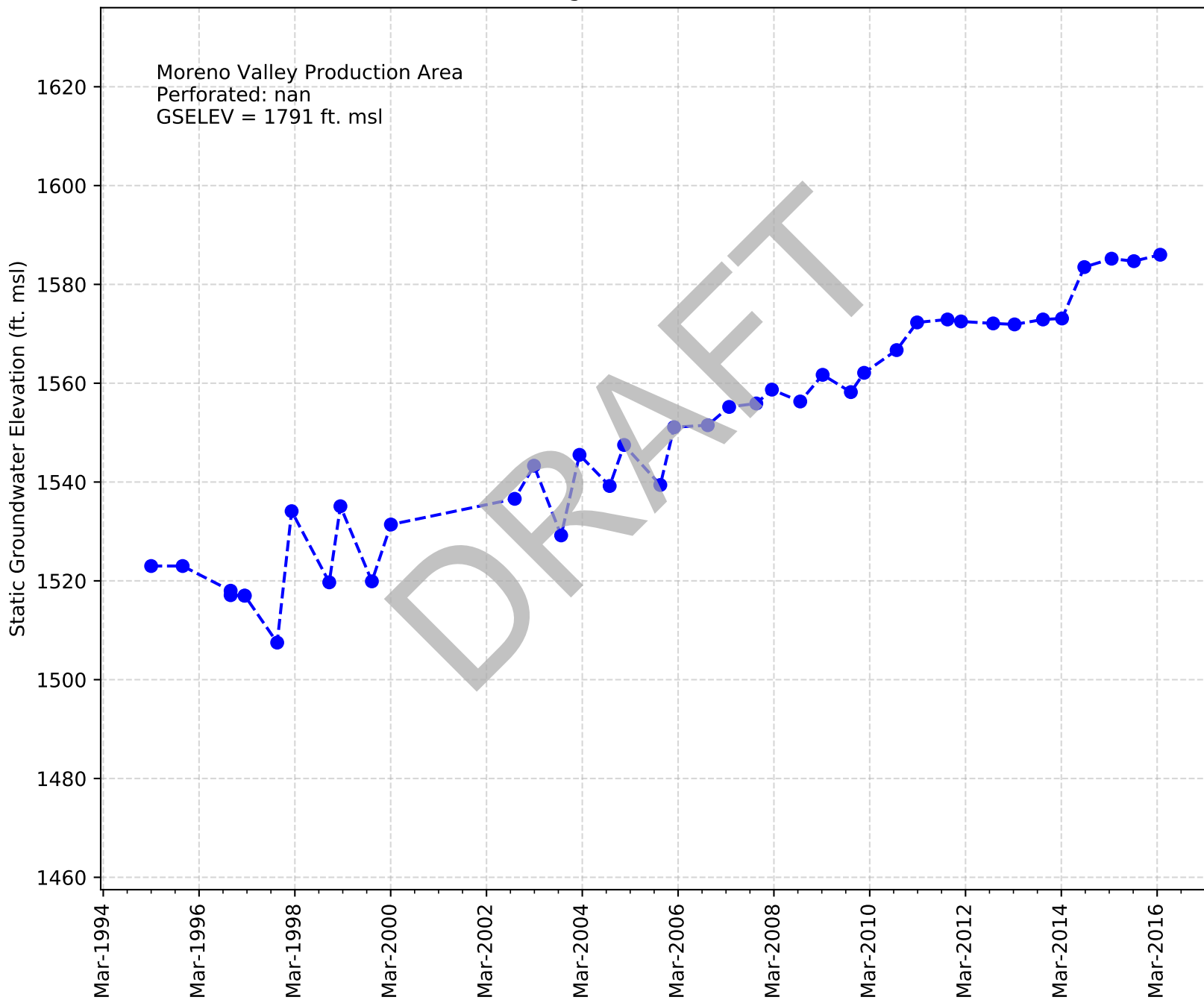
Casing Name: EMWD 41 Maxwell Electirc



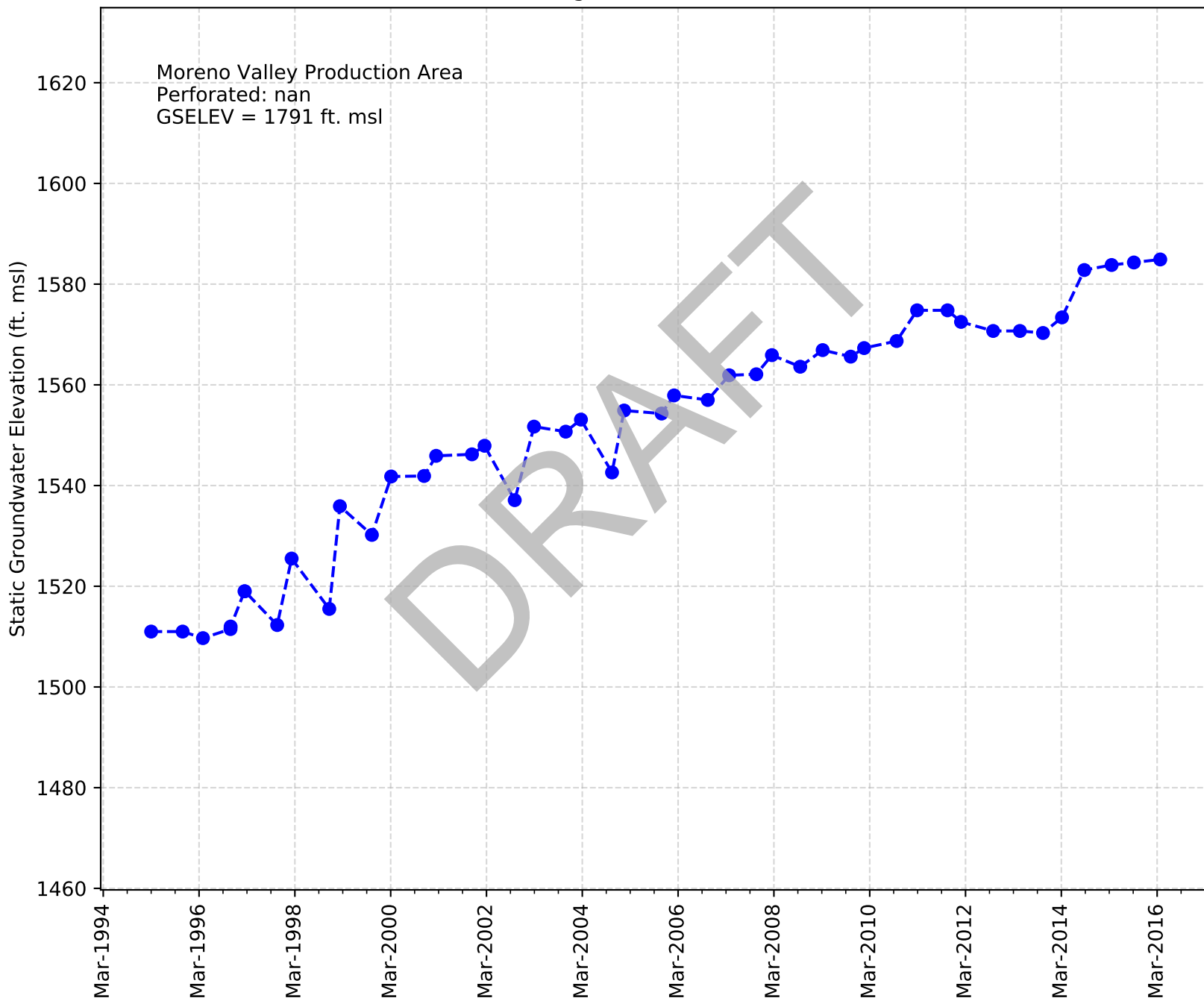
Casing Name: EMWD 39 Robinson LaMirada



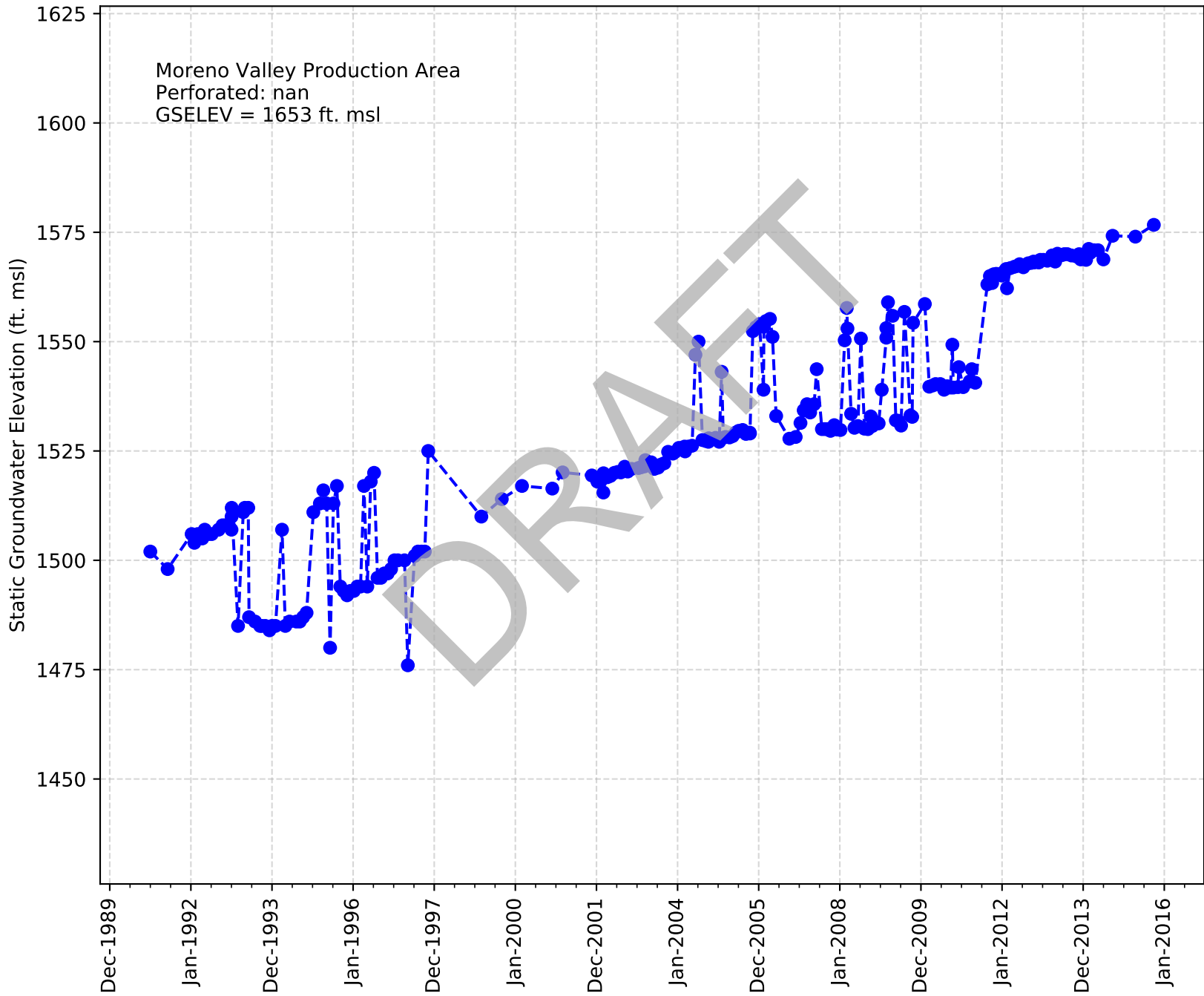
Casing Name: Lantz West



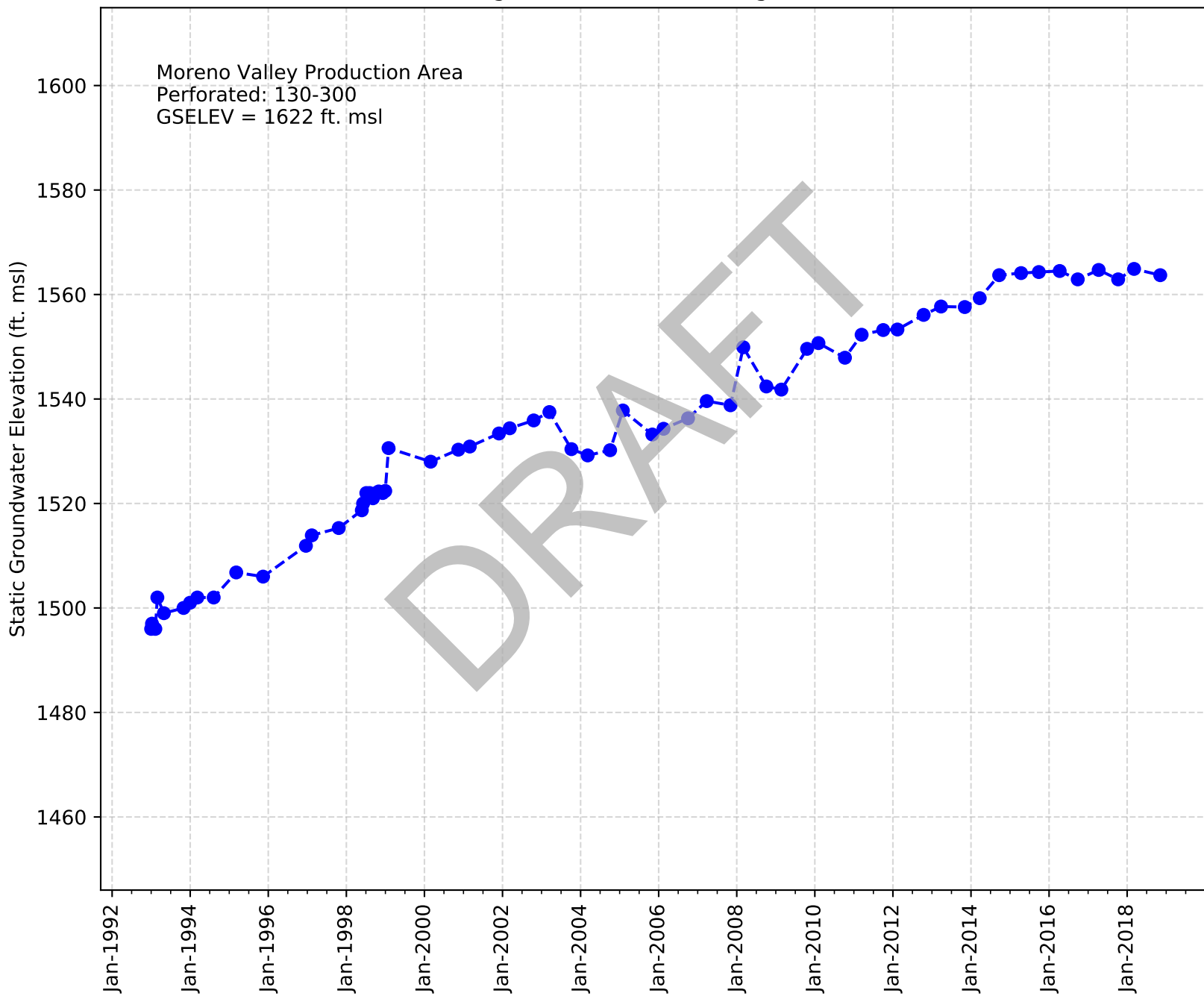
Casing Name: Lantz East



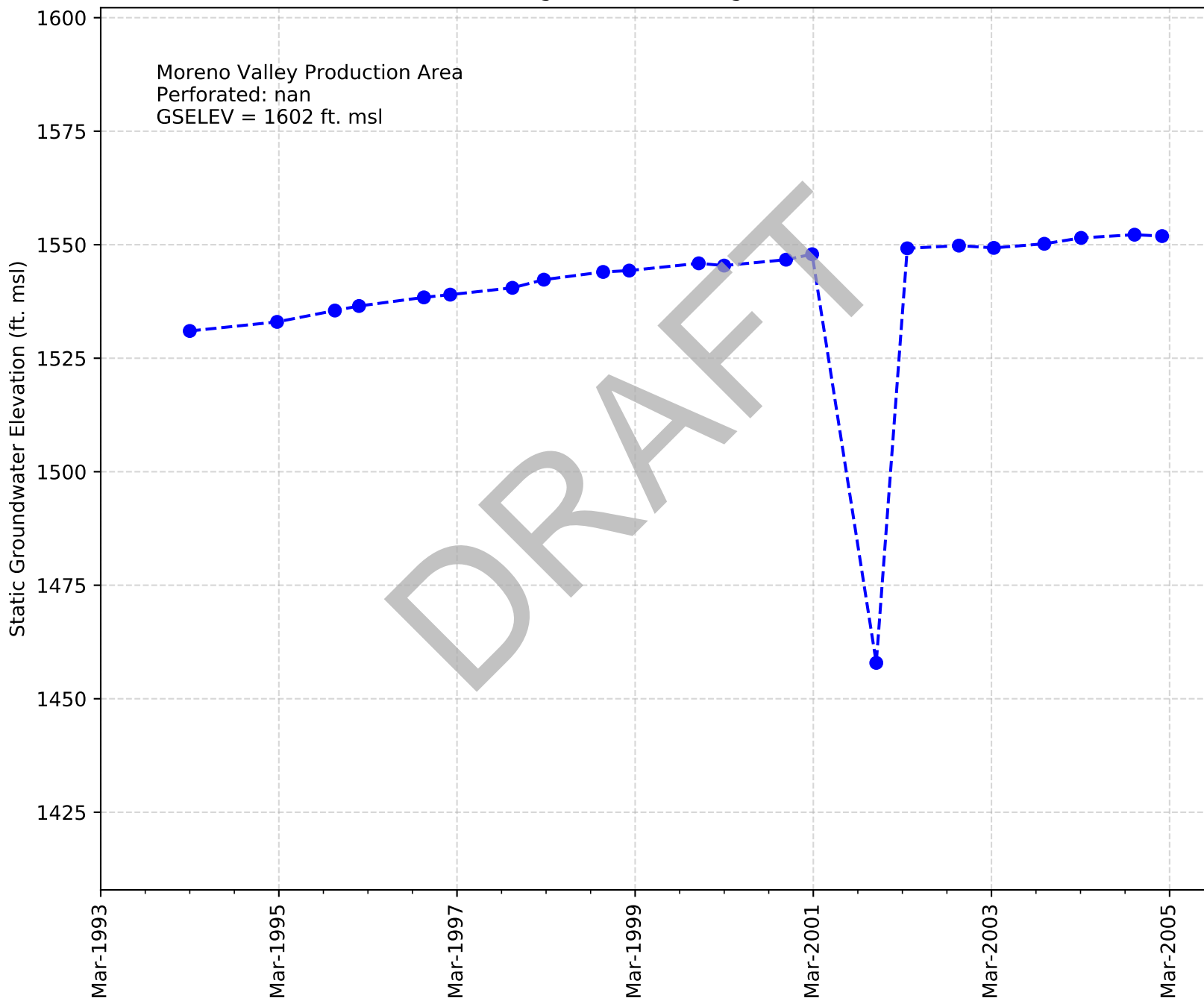
Casing Name: EMWD 43 SMWC 03 South



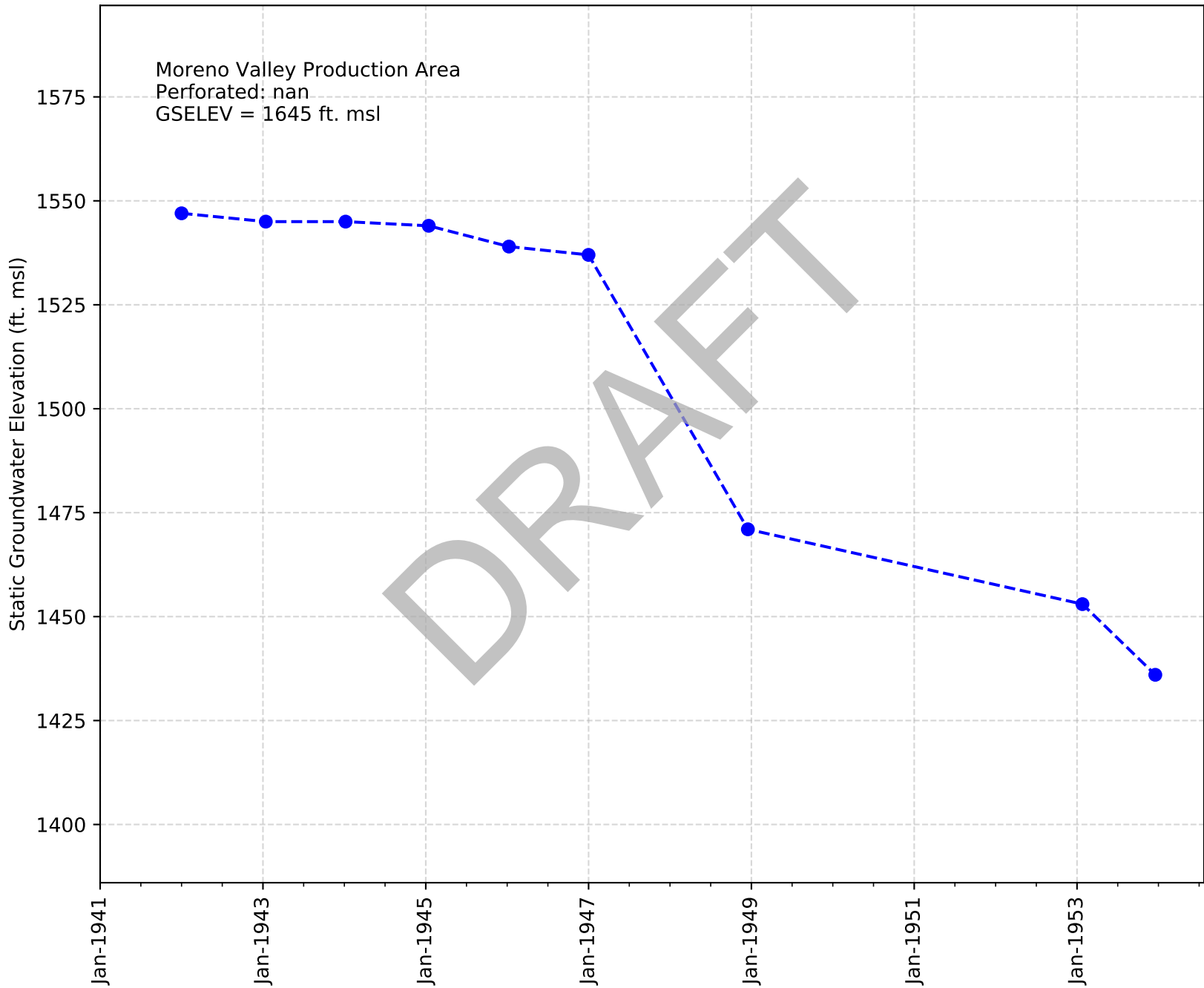
Casing Name: EMWD 46 Edgemont 02



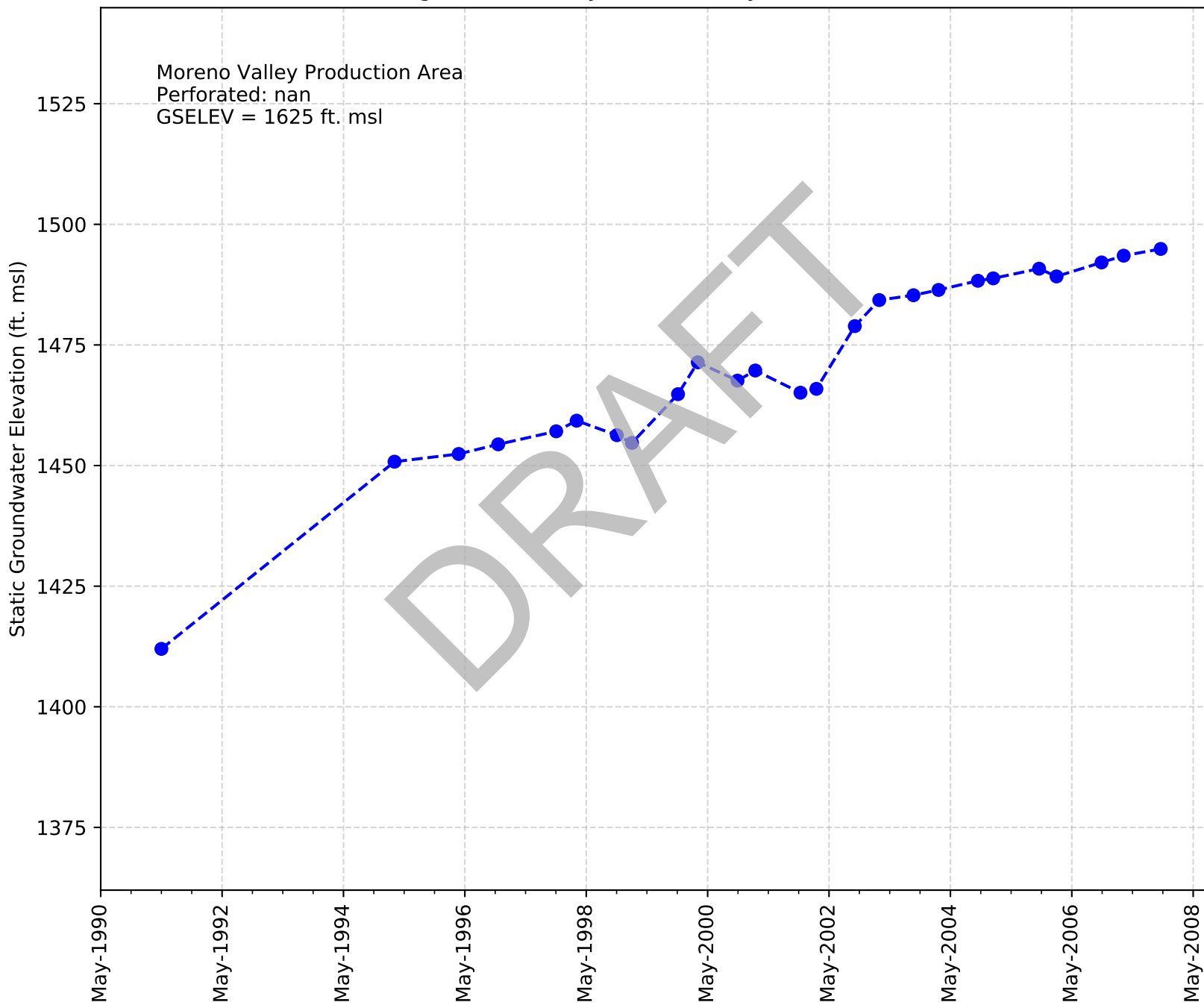
Casing Name: Kitching/Dracea



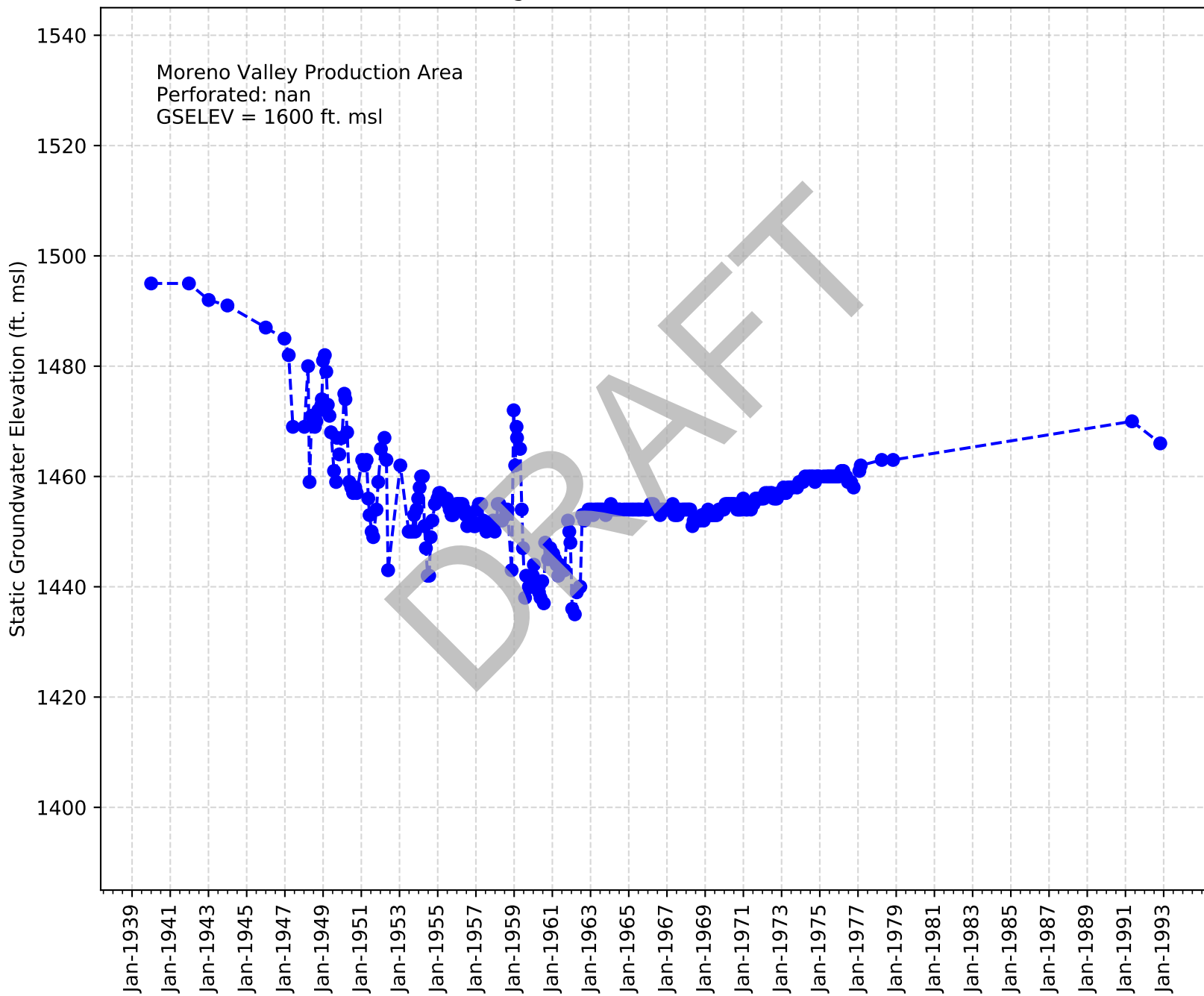
Casing Name: DiBetta 01 Moreno



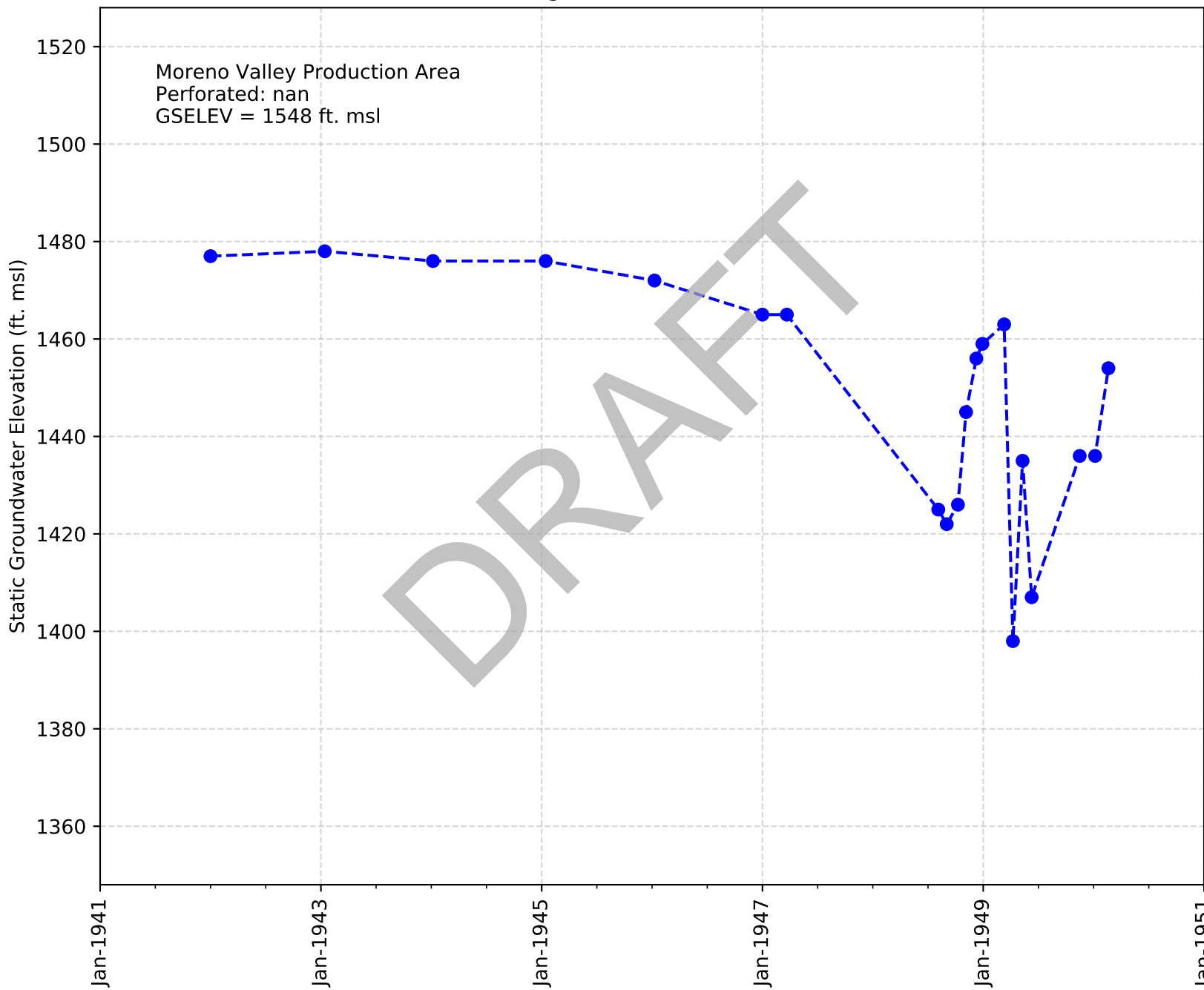
Casing Name: Sunnymead Poultry Theodore South



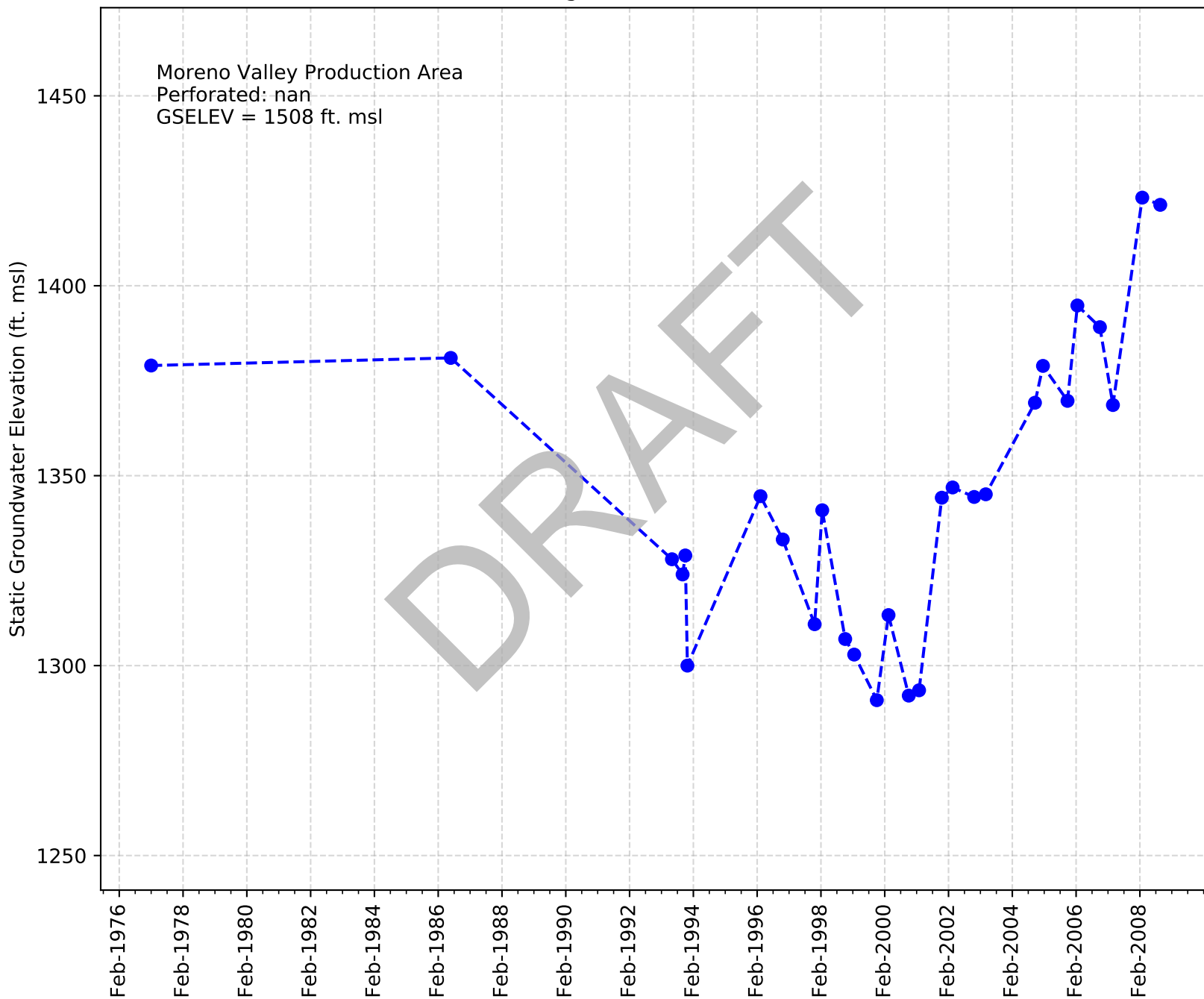
Casing Name: Redlands/Allesandro



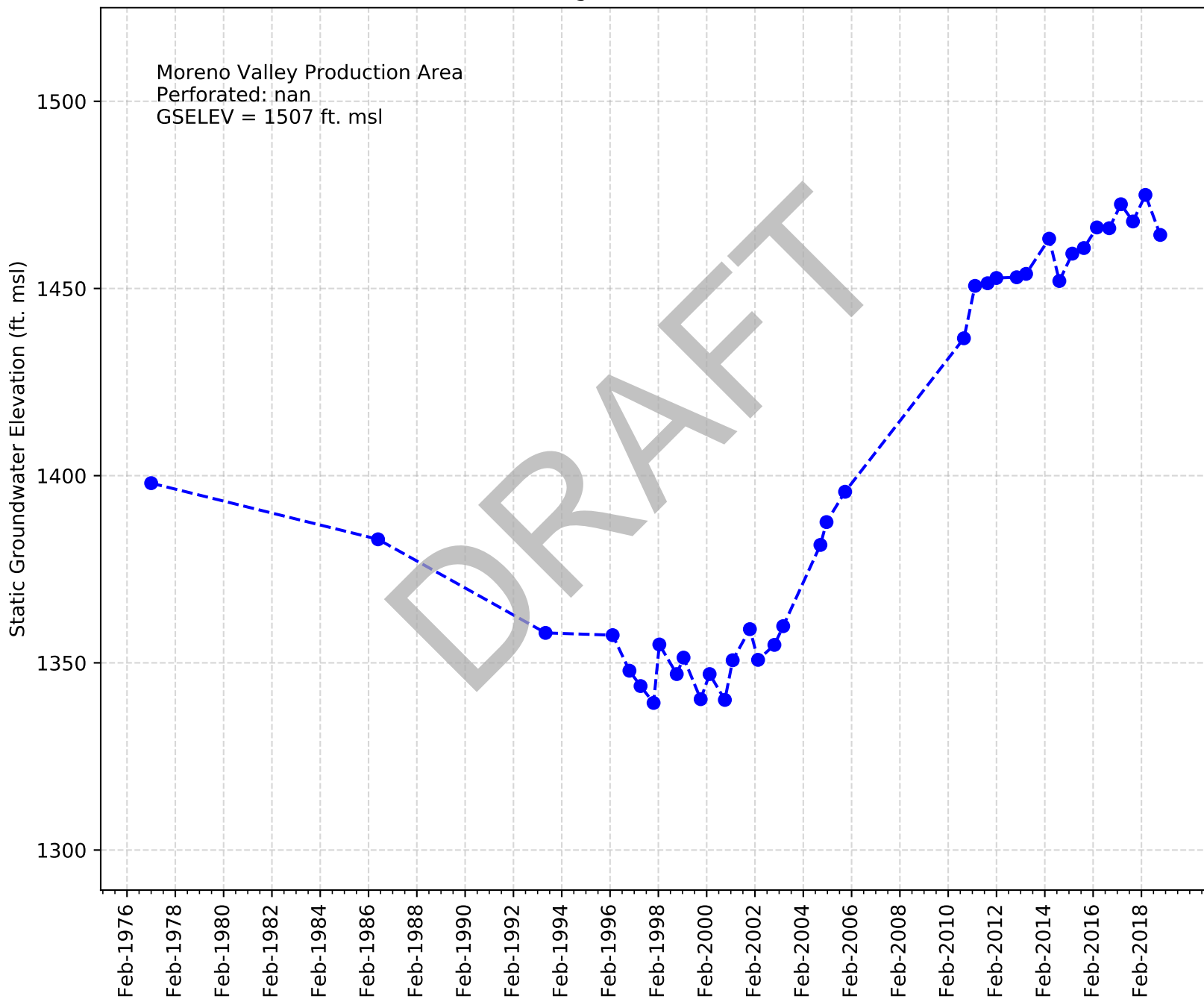
Casing Name: Sides, Charles



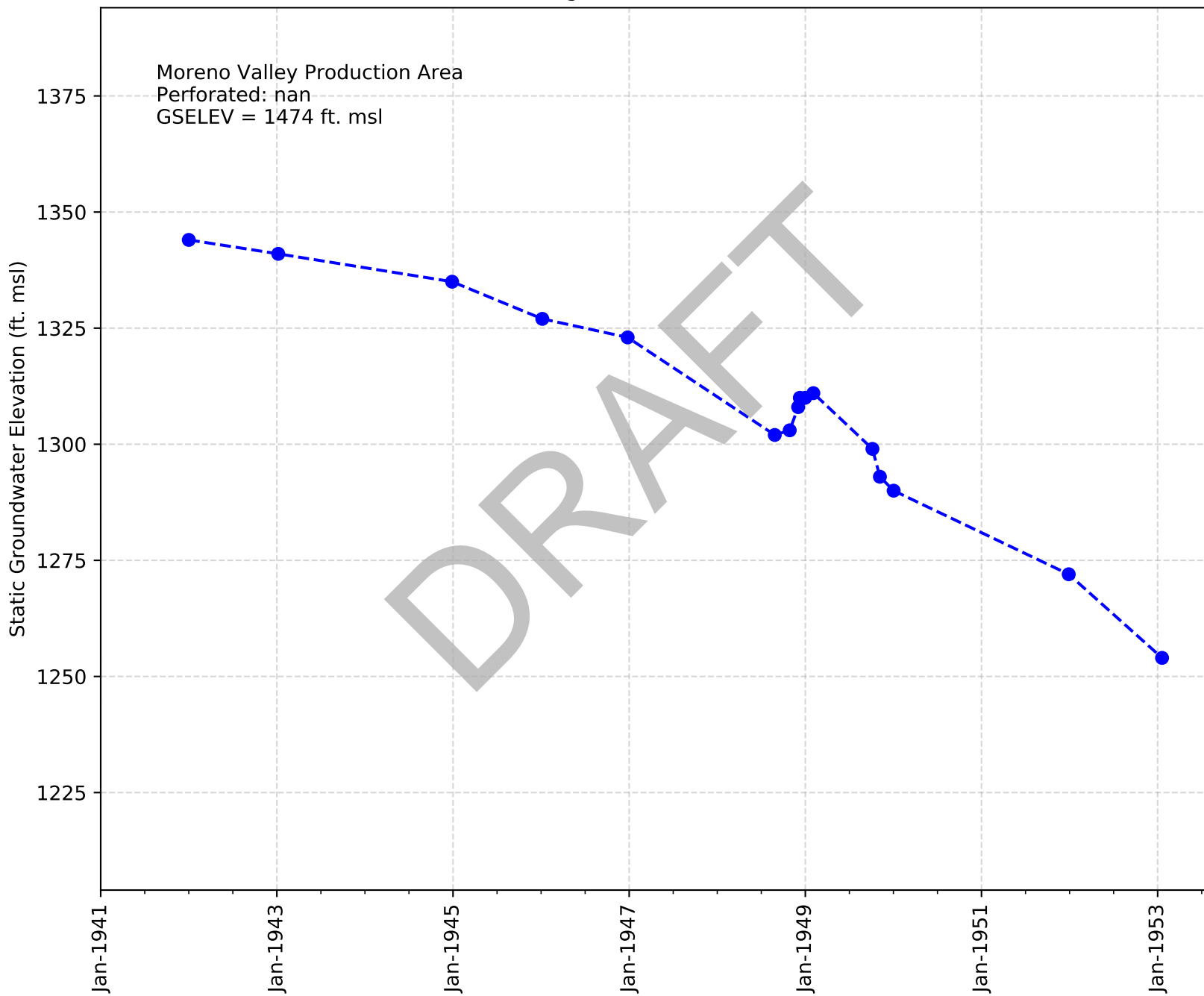
Casing Name: UCR Filaree



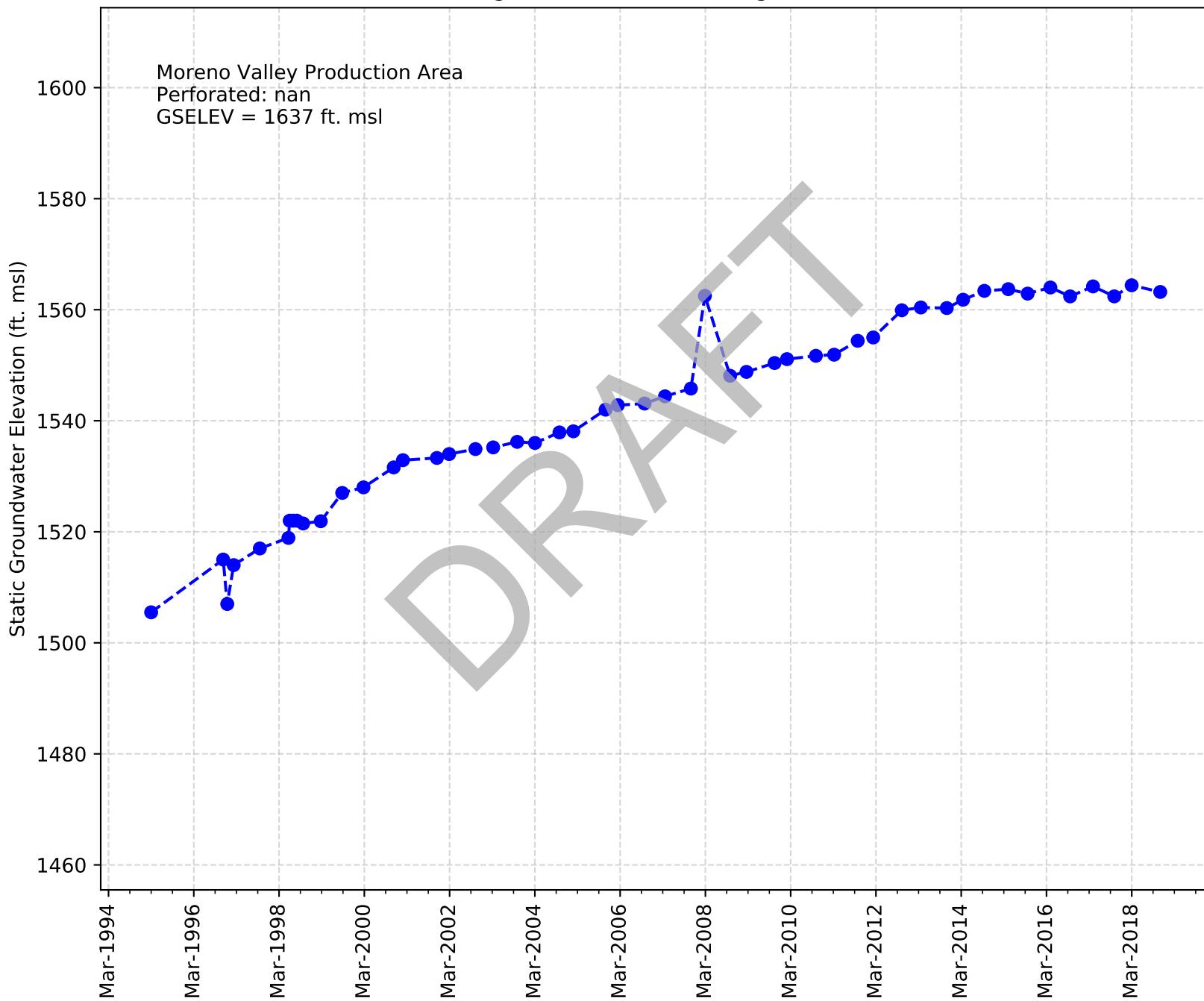
Casing Name: UCR Scott



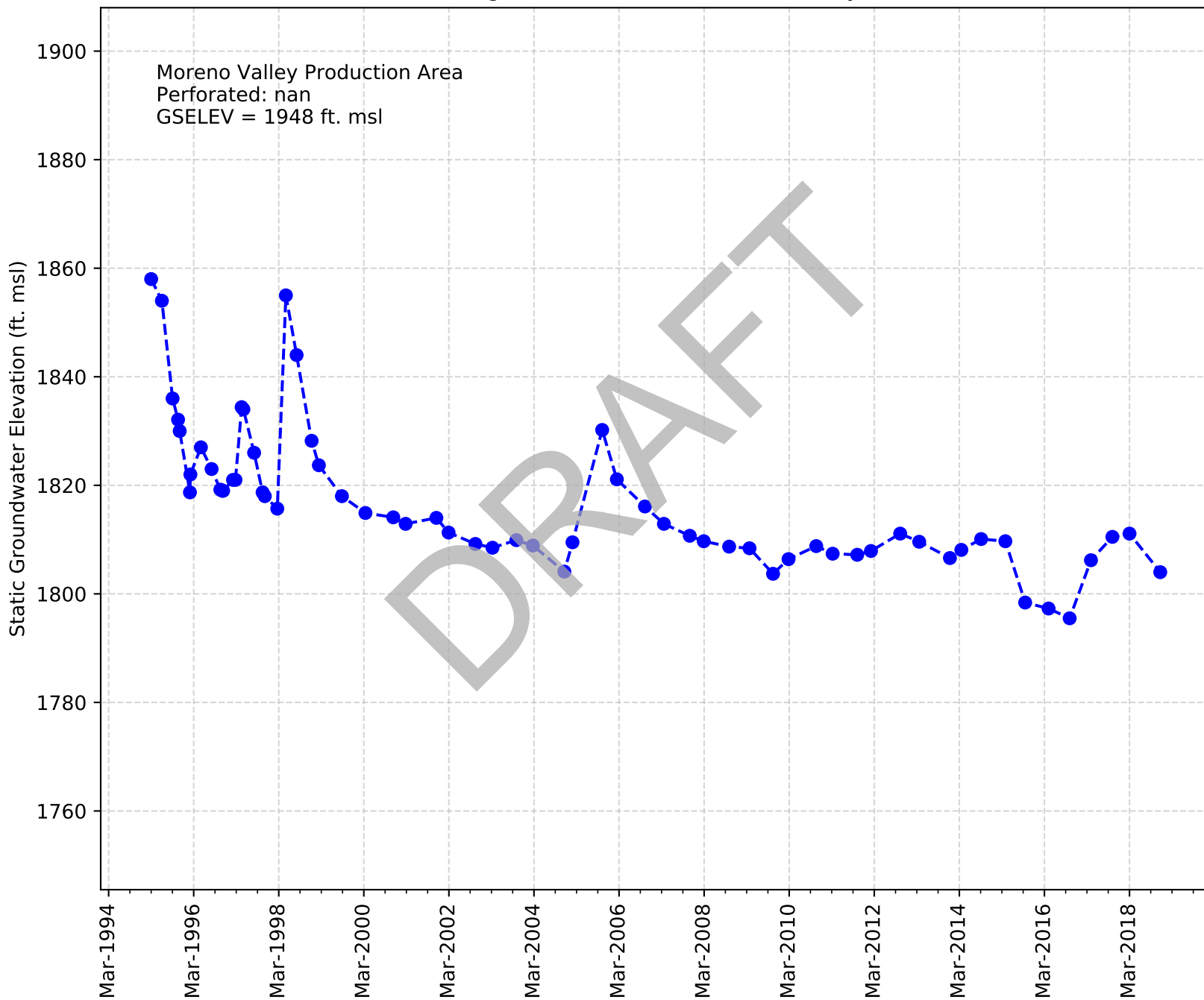
Casing Name: Martin C 02



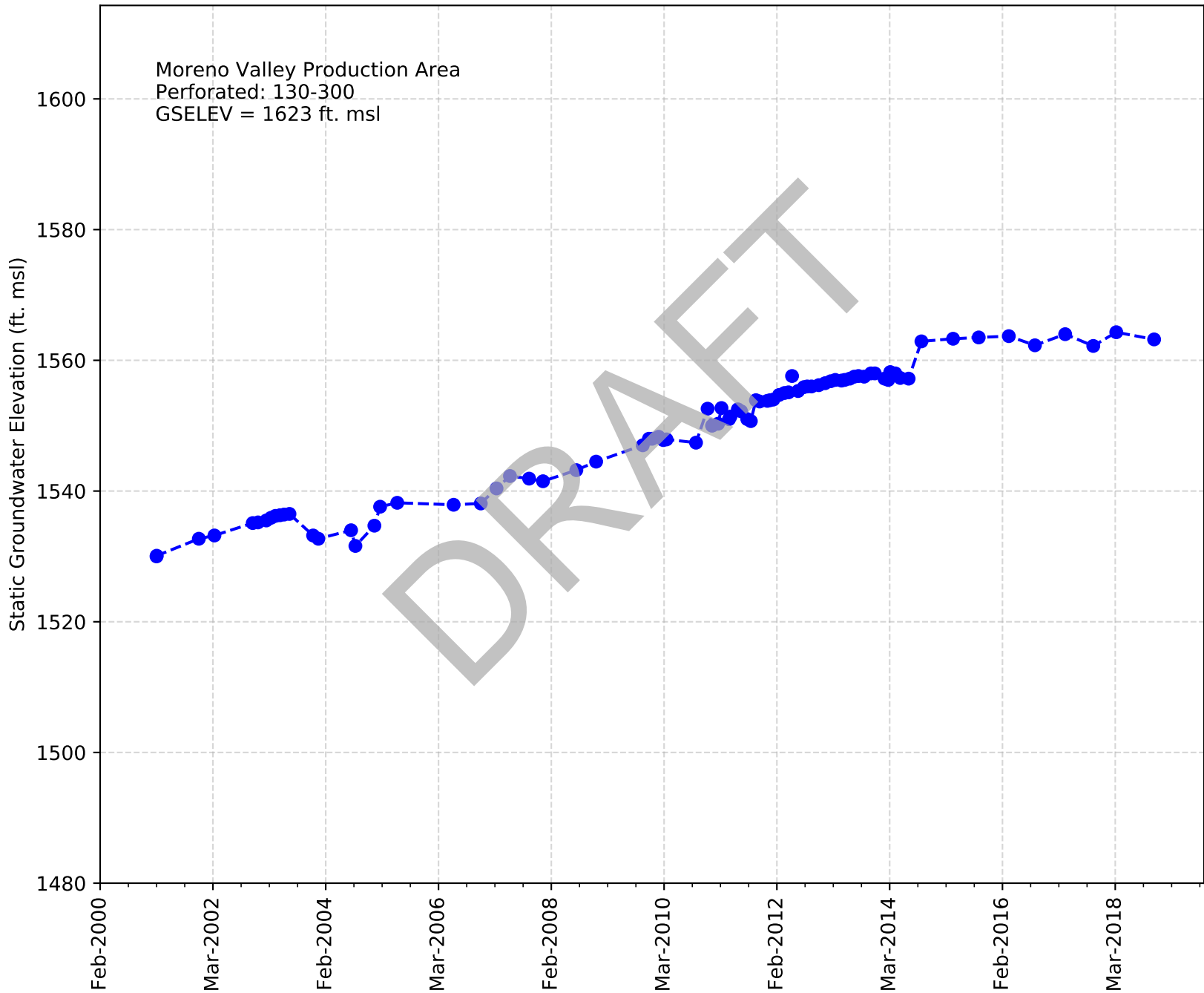
Casing Name: EMWD 48 Edgemont 04



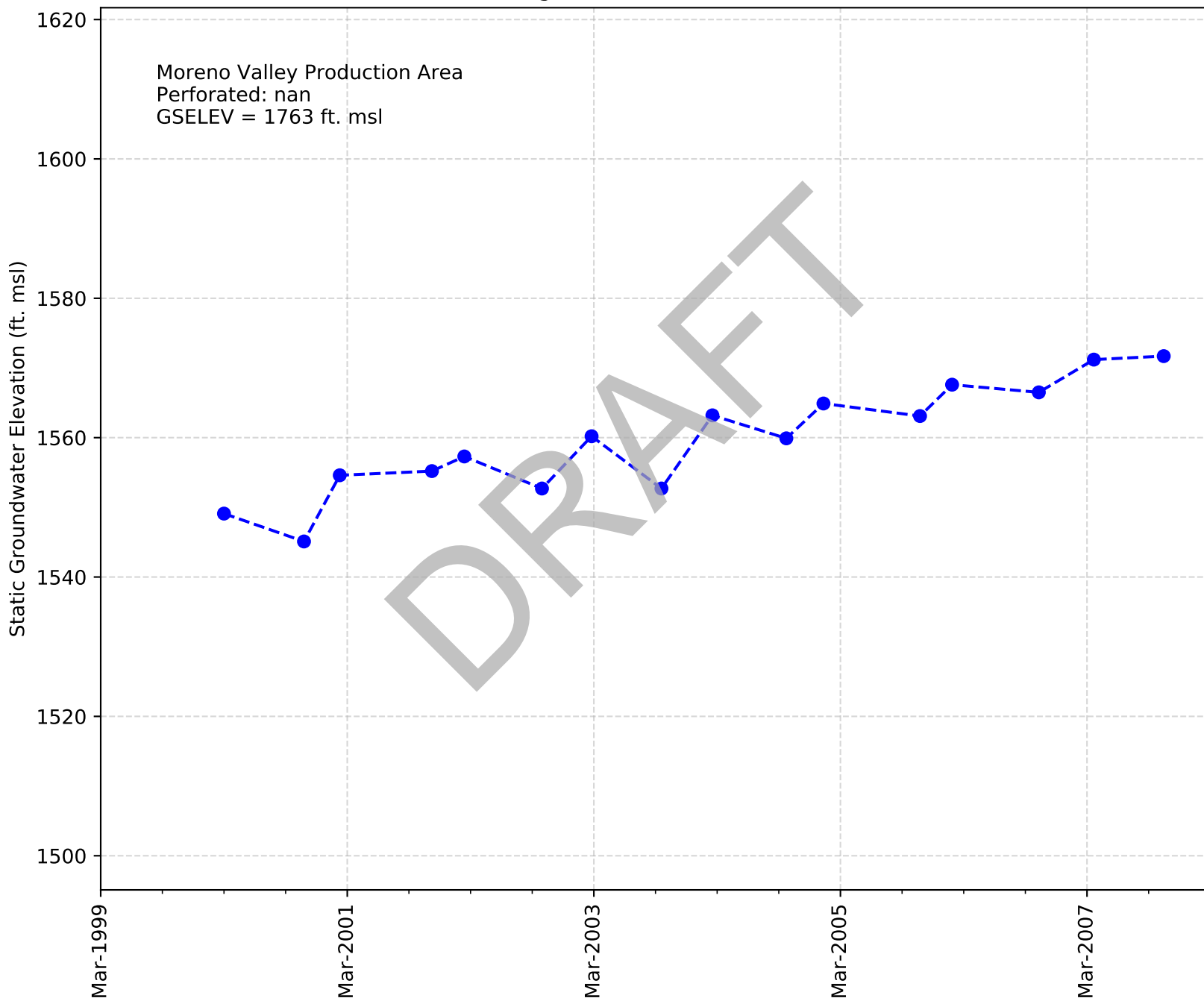
Casing Name: EMWD 42 Reche Canyon



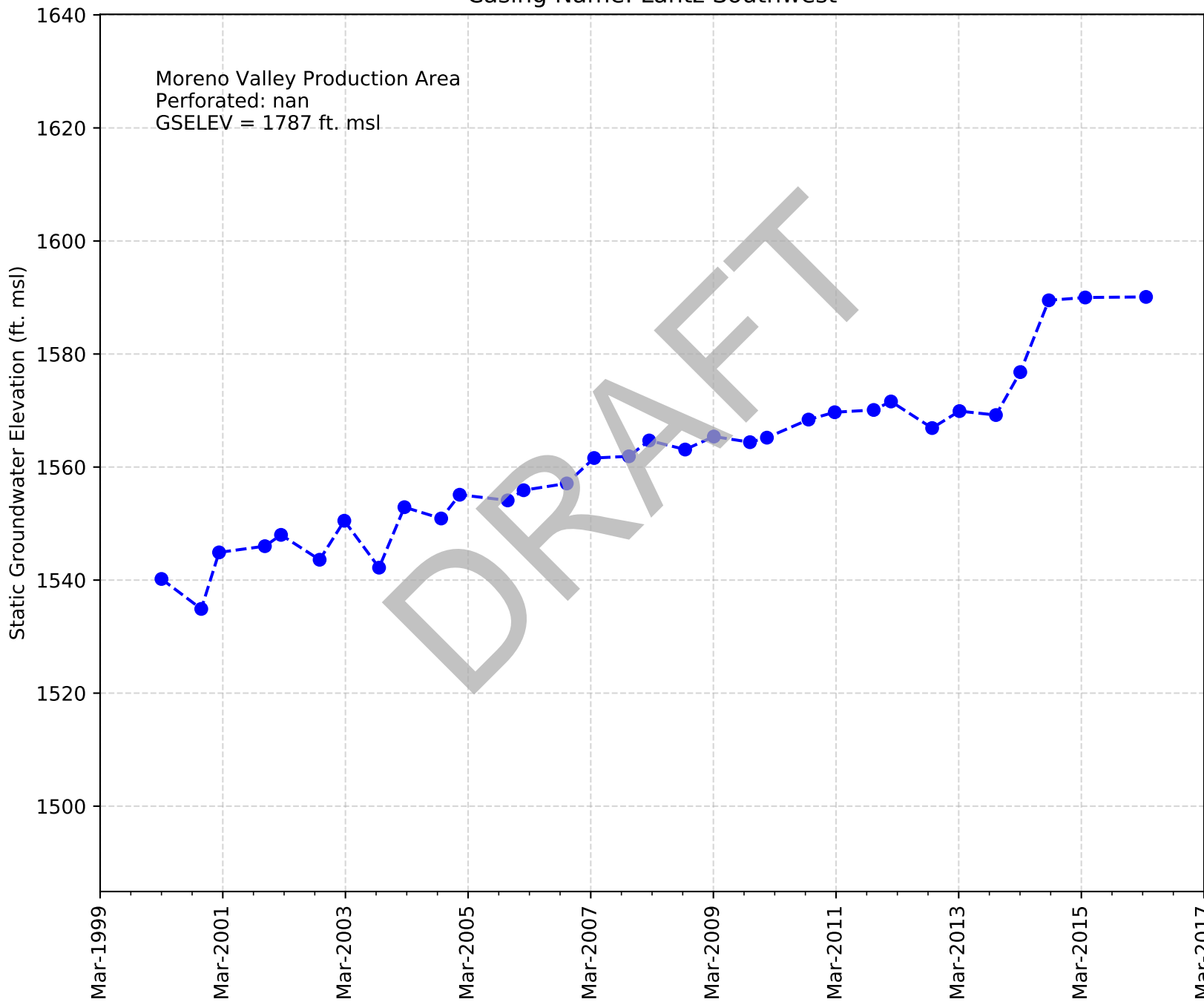
Casing Name: EMWD 49 Fir



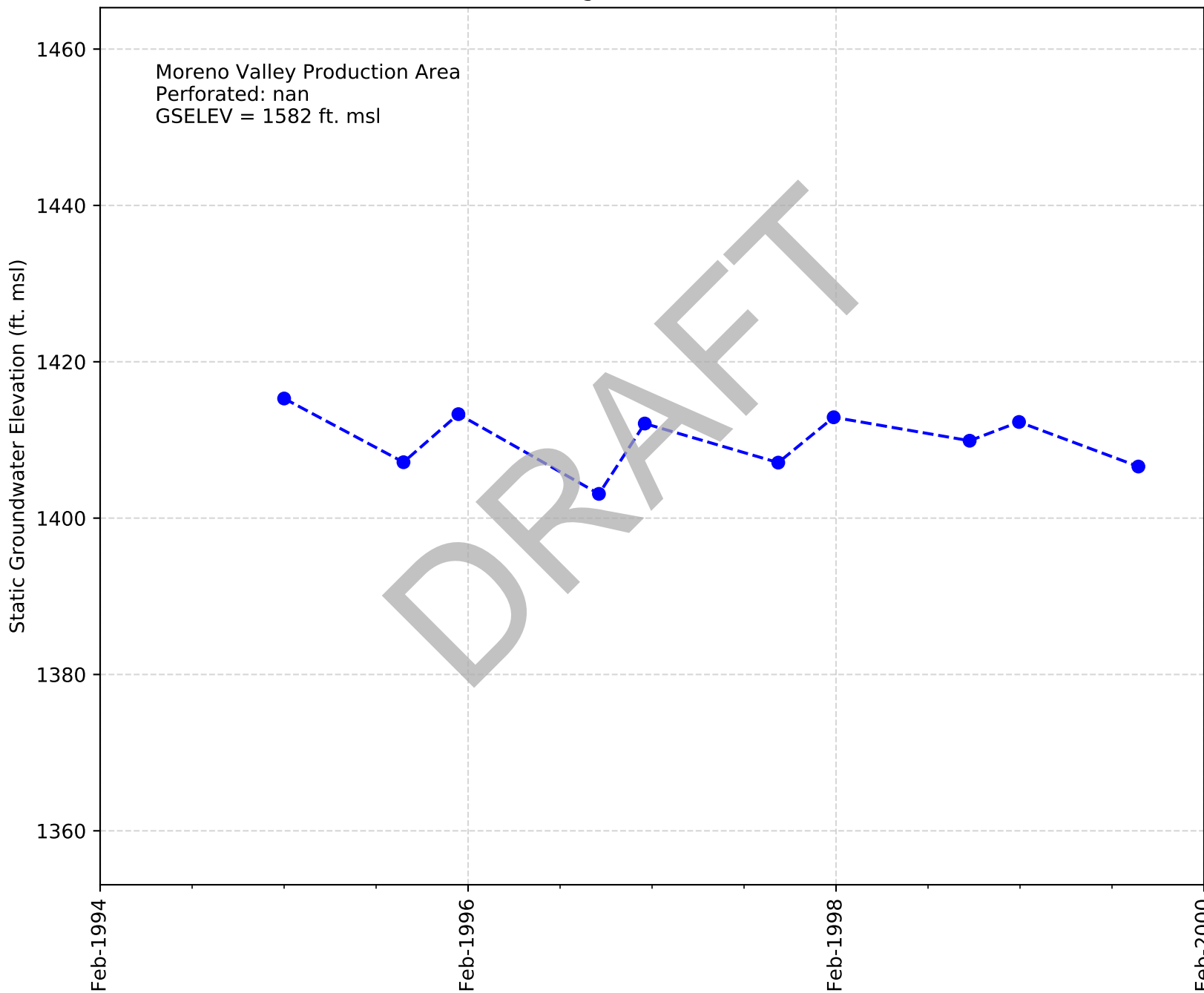
Casing Name: Lantz Southeast



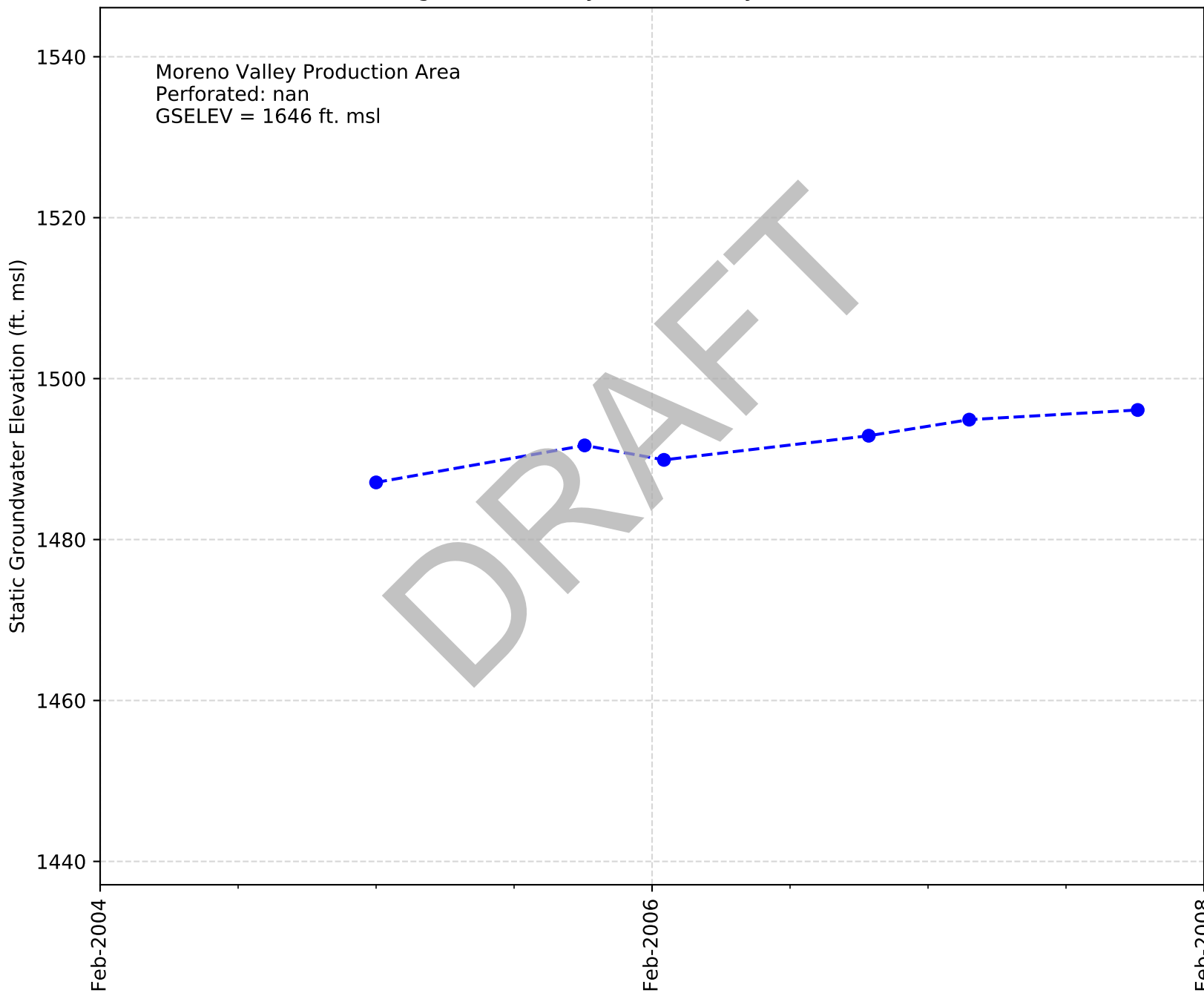
Casing Name: Lantz Southwest



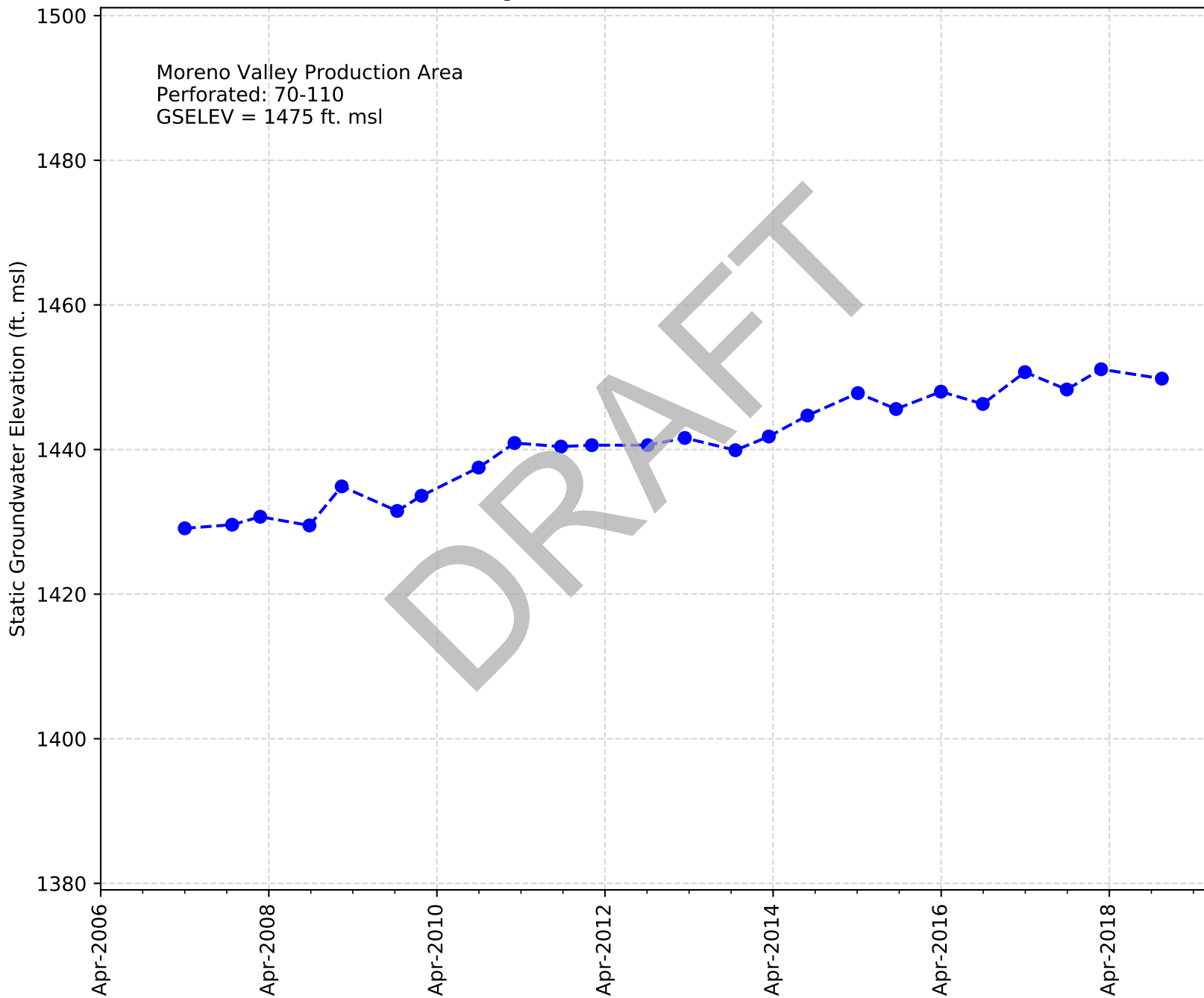
Casing Name: Wheeler



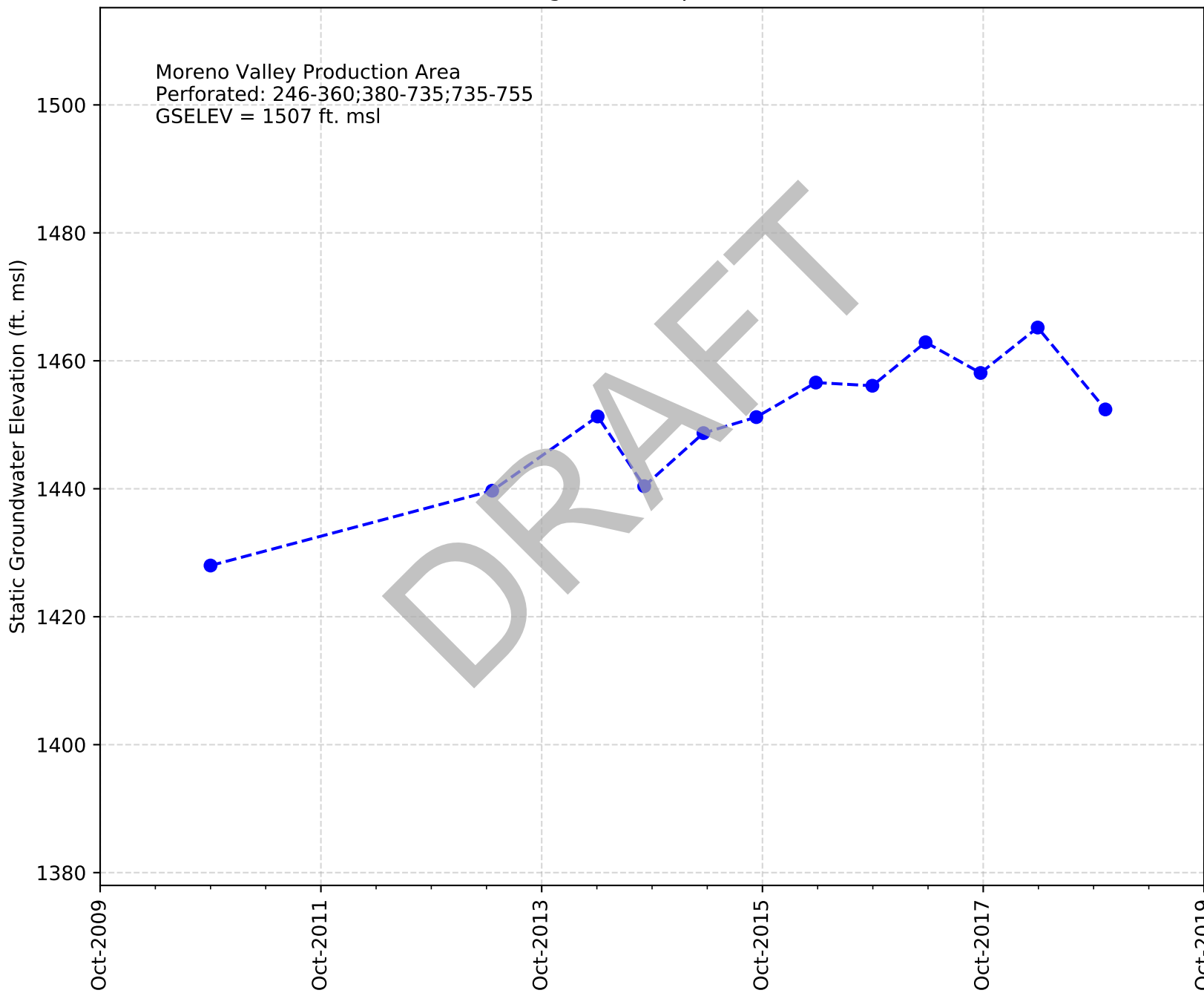
Casing Name: Sunnymead Poultry Theodore North



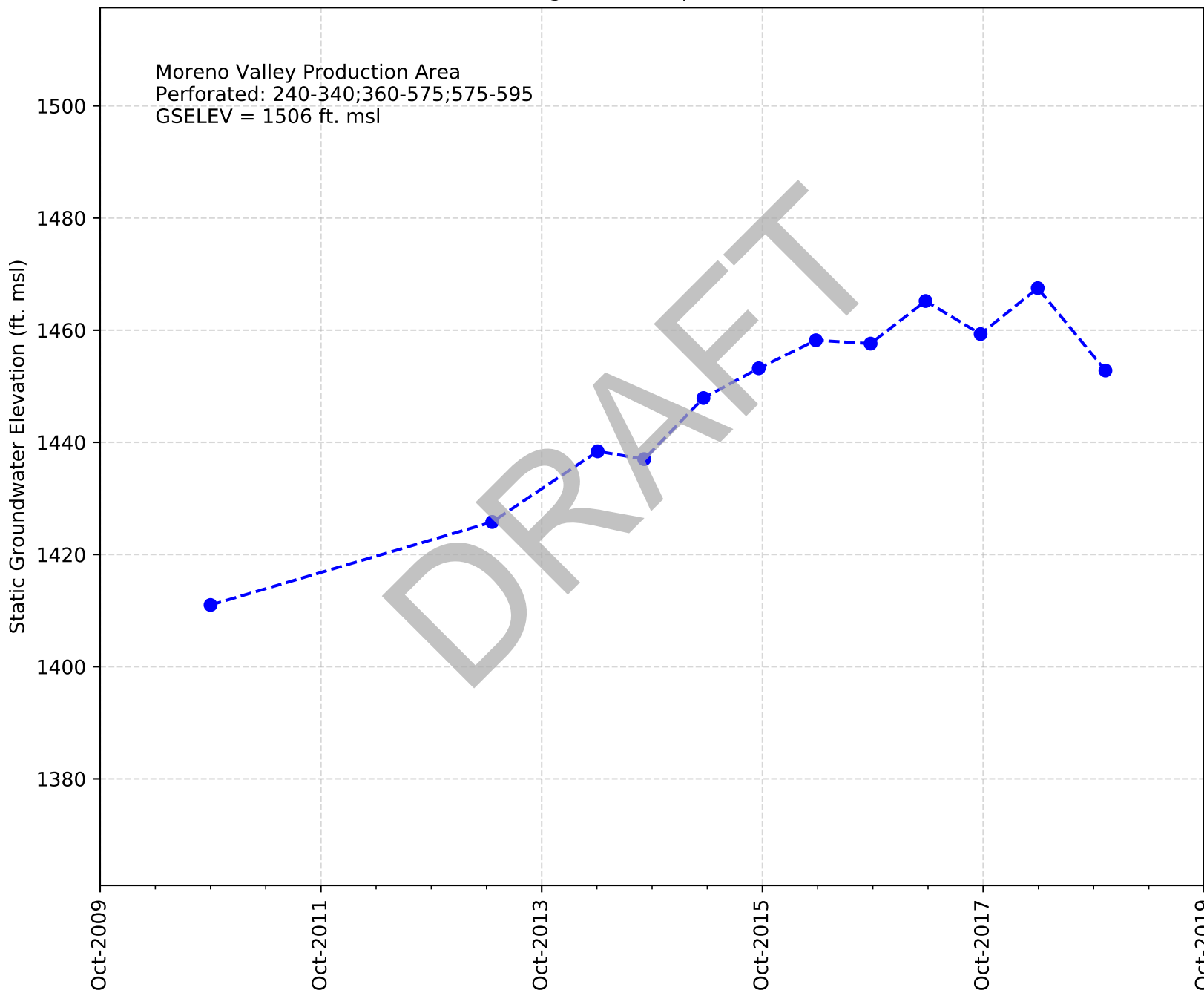
Casing Name: EMWD MVRWRF North



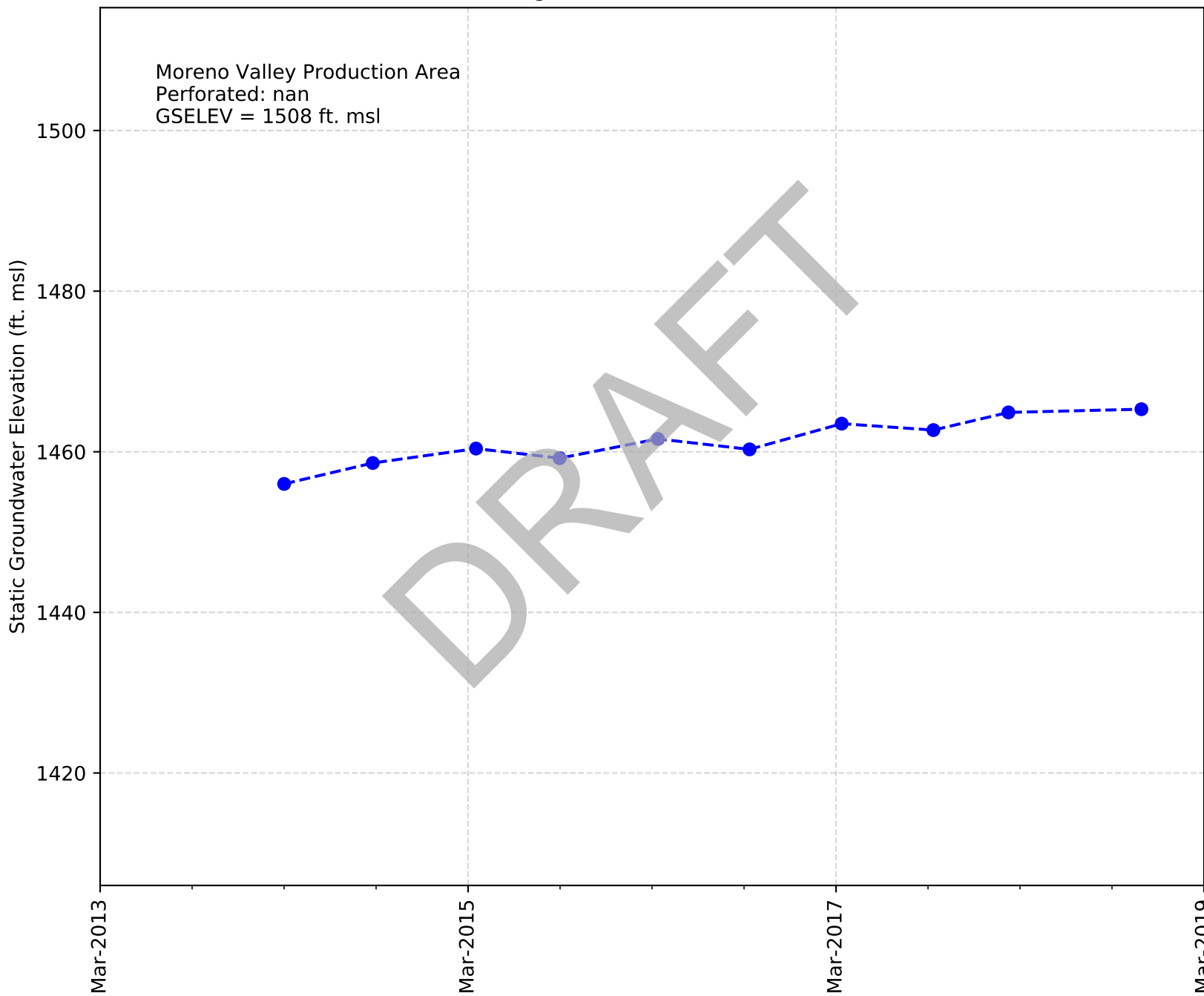
Casing Name: Aqua Bella 01



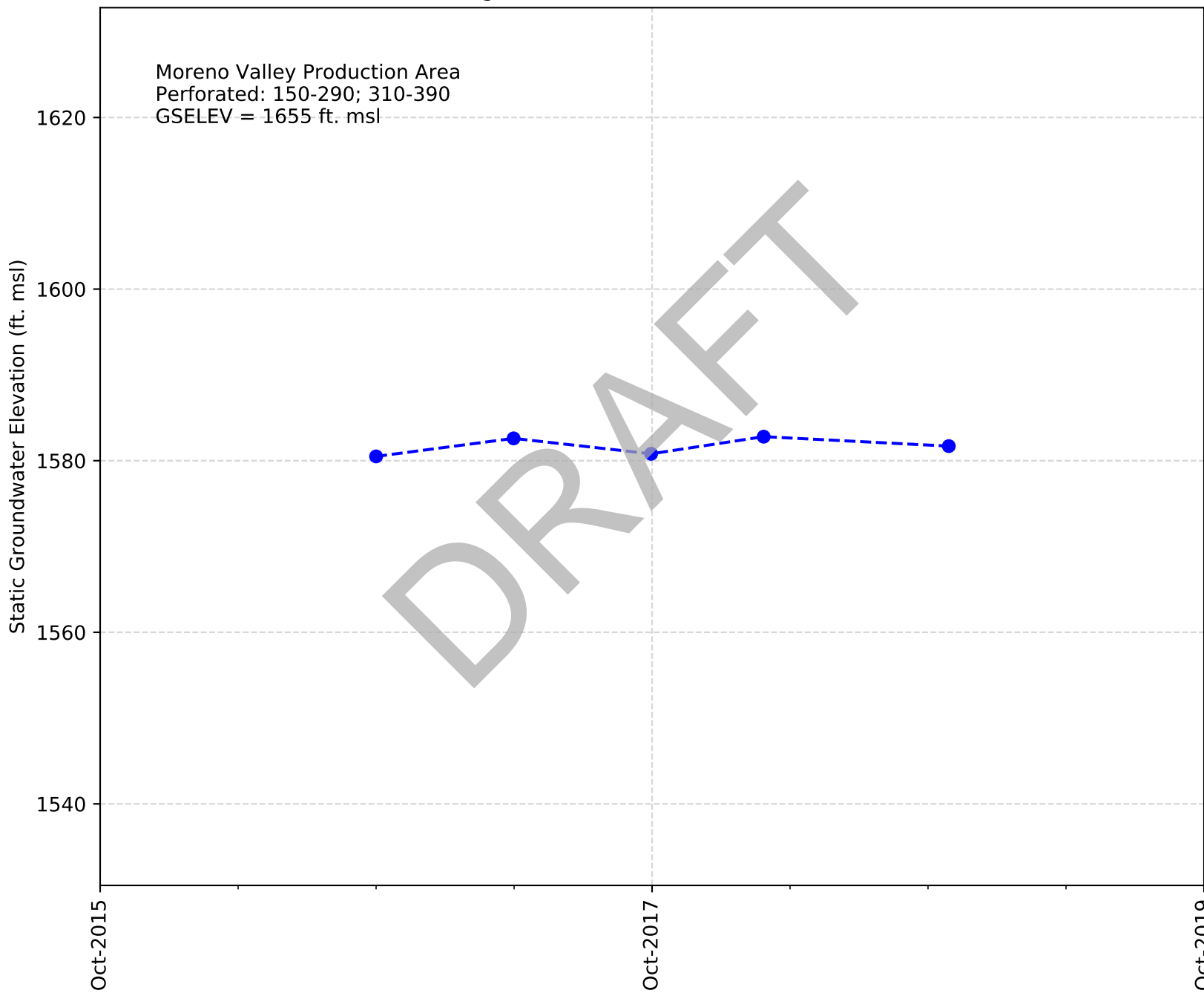
Casing Name: Aqua Bella 02



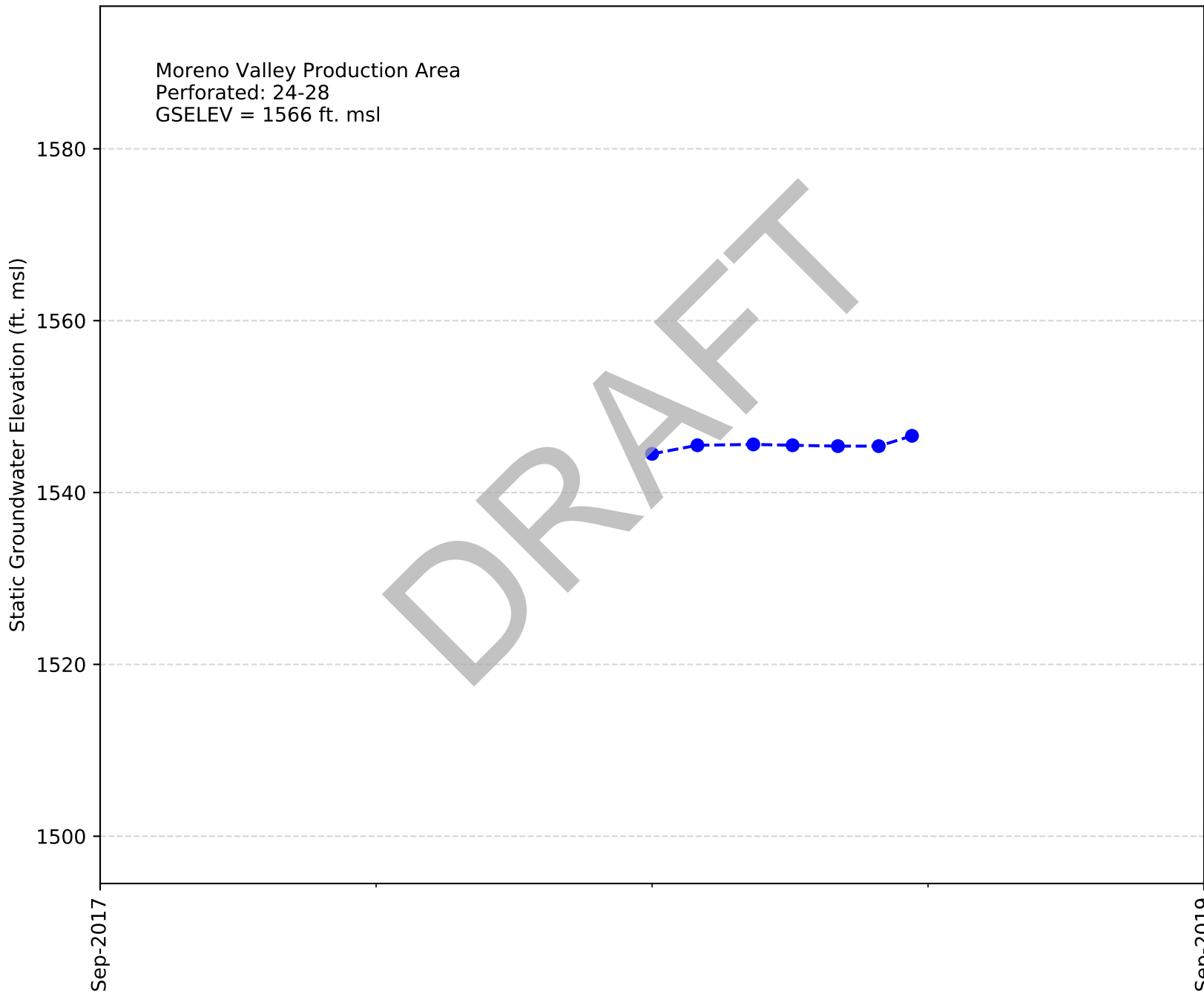
Casing Name: EMWD Perris/Iris



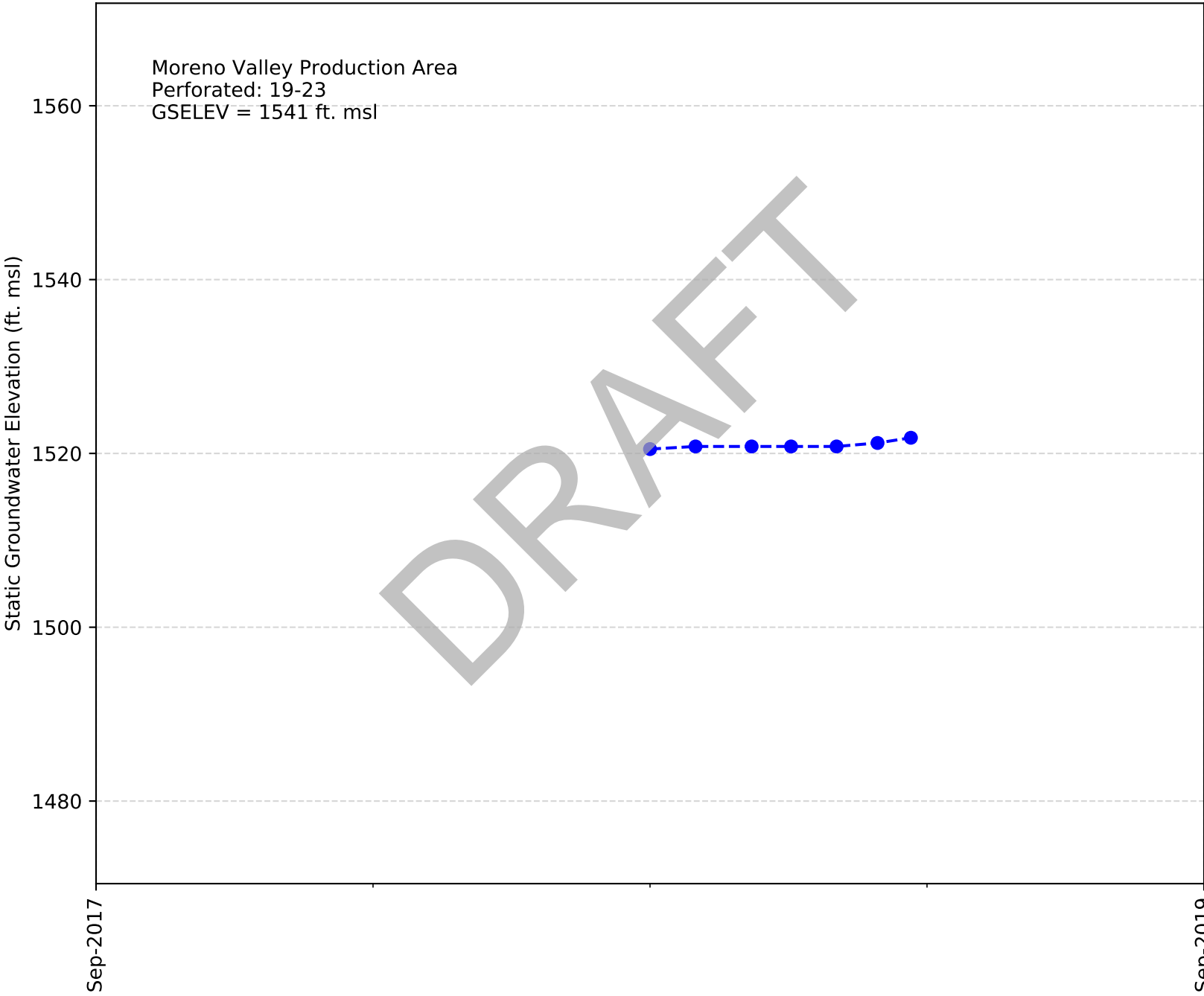
Casing Name: EMWD 64 Hemlock/Davis



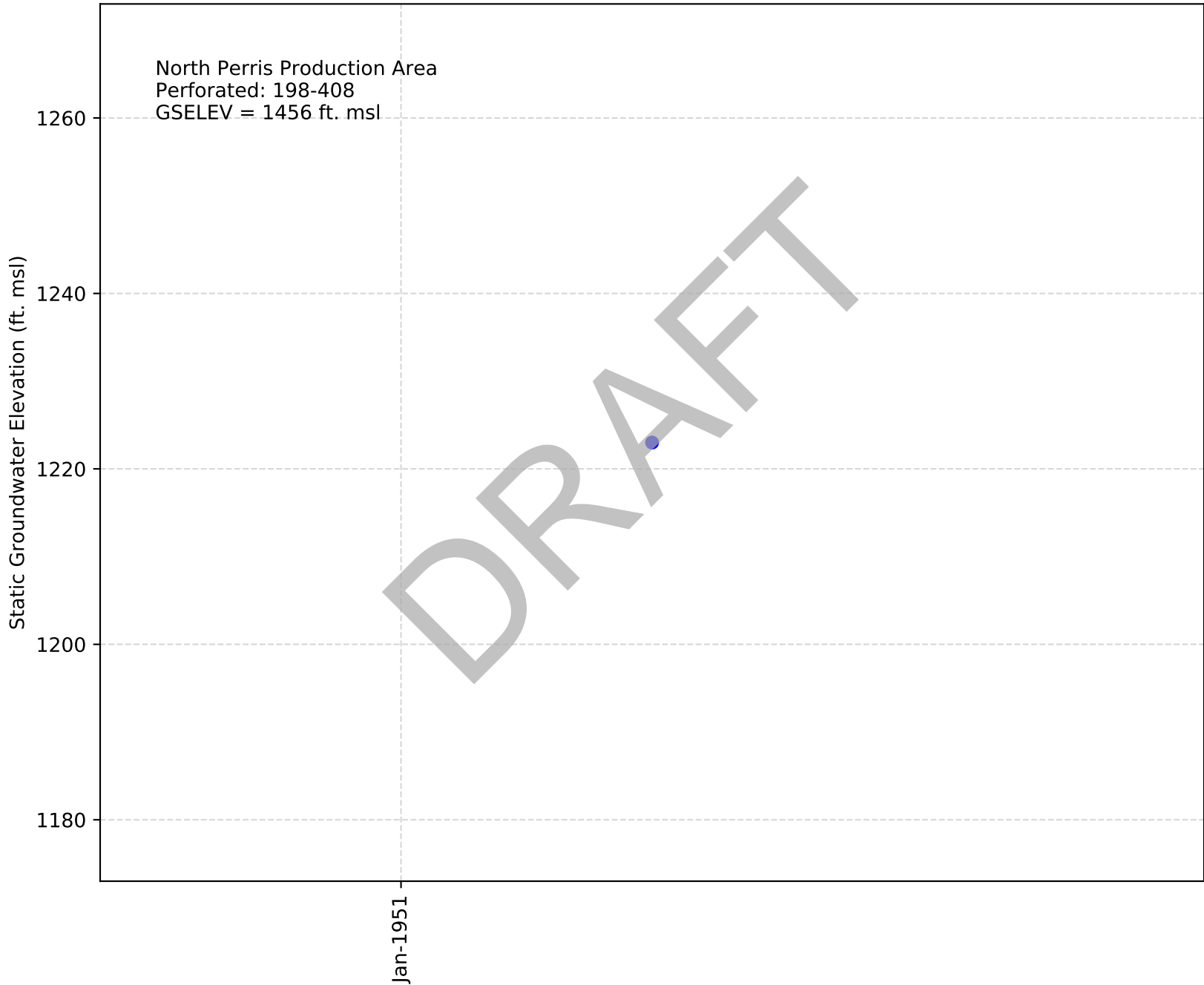
Casing Name: Cactus II Feeder MW-1



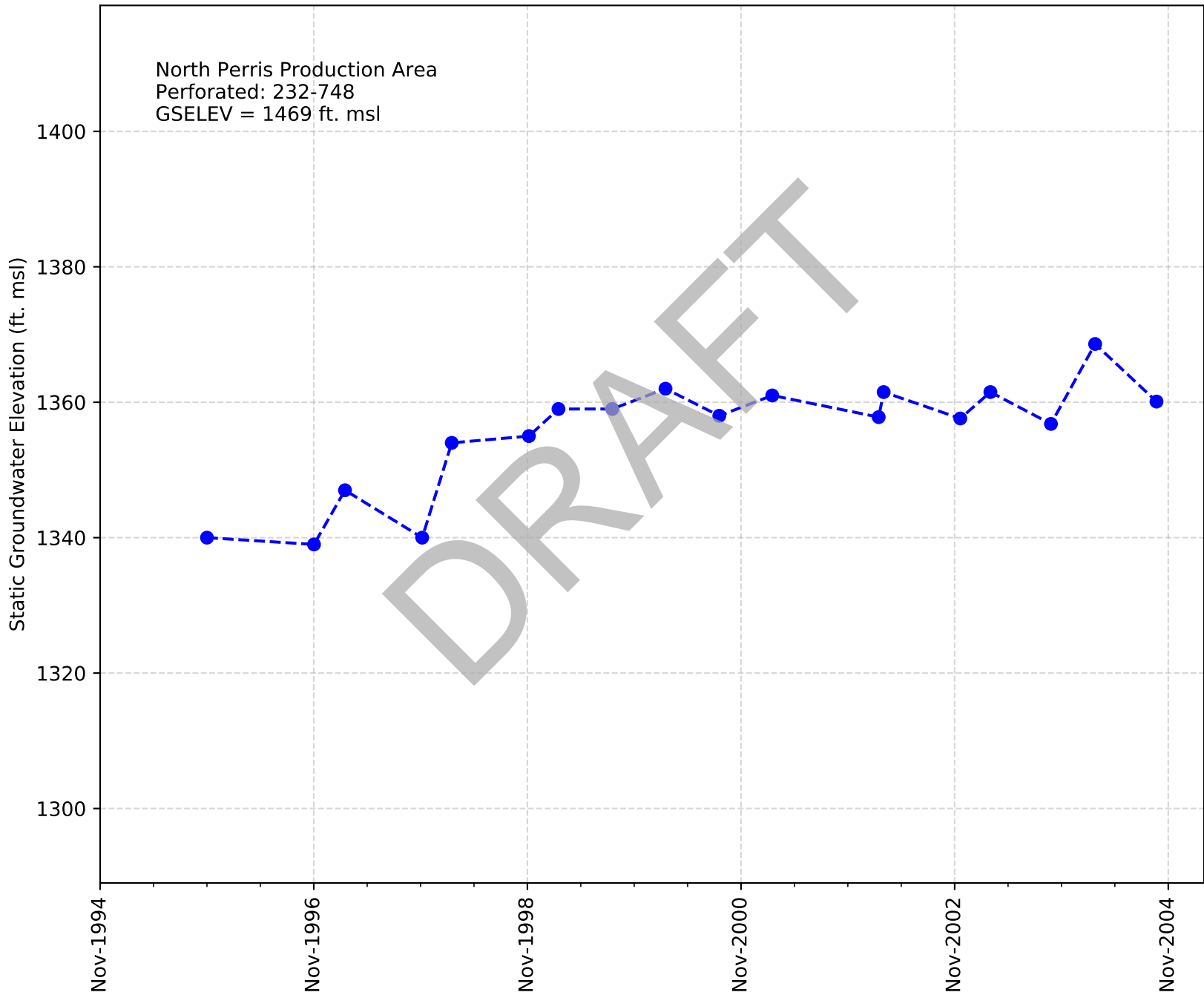
Casing Name: Cactus II Feeder MW-2



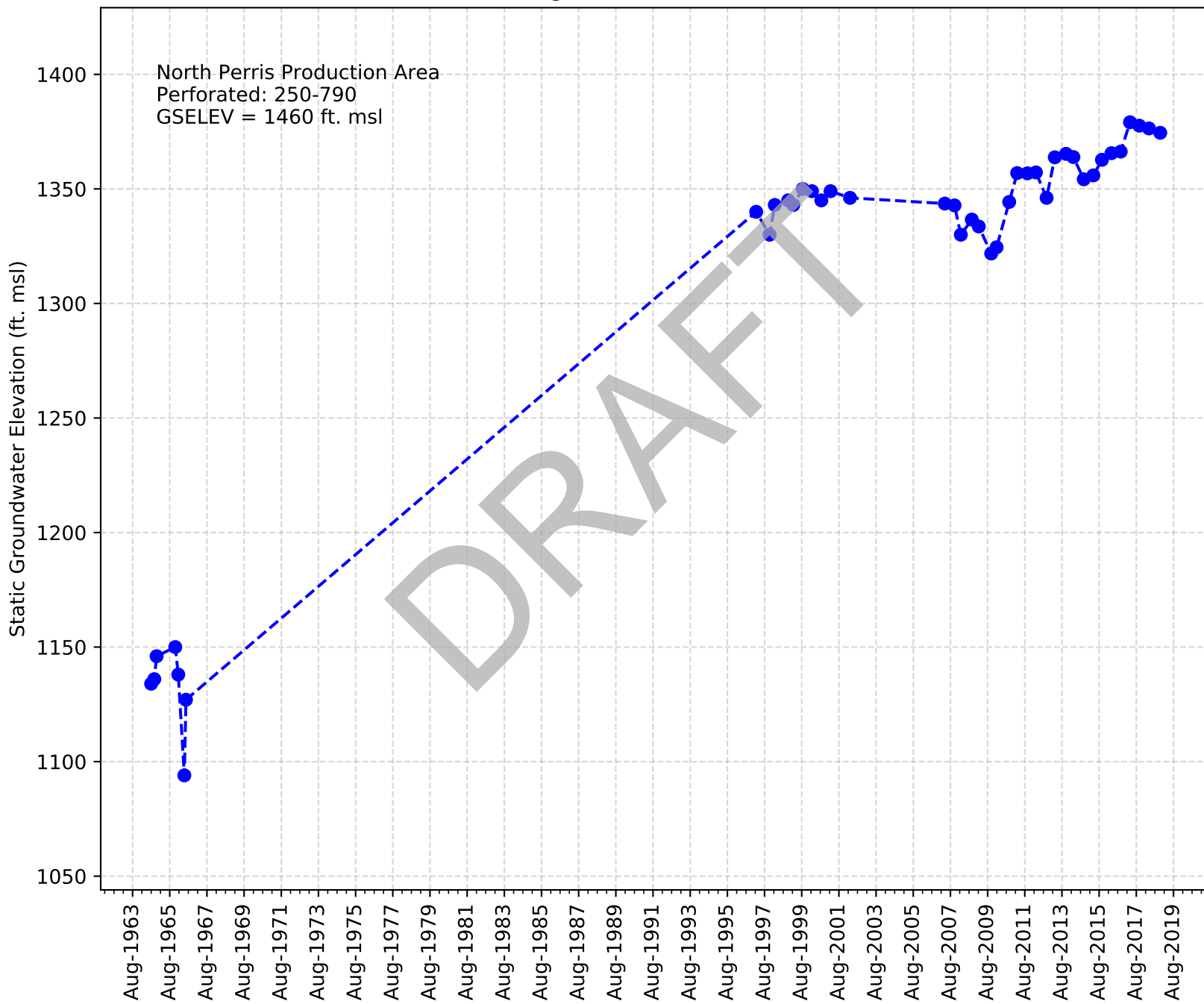
Casing Name: Garat



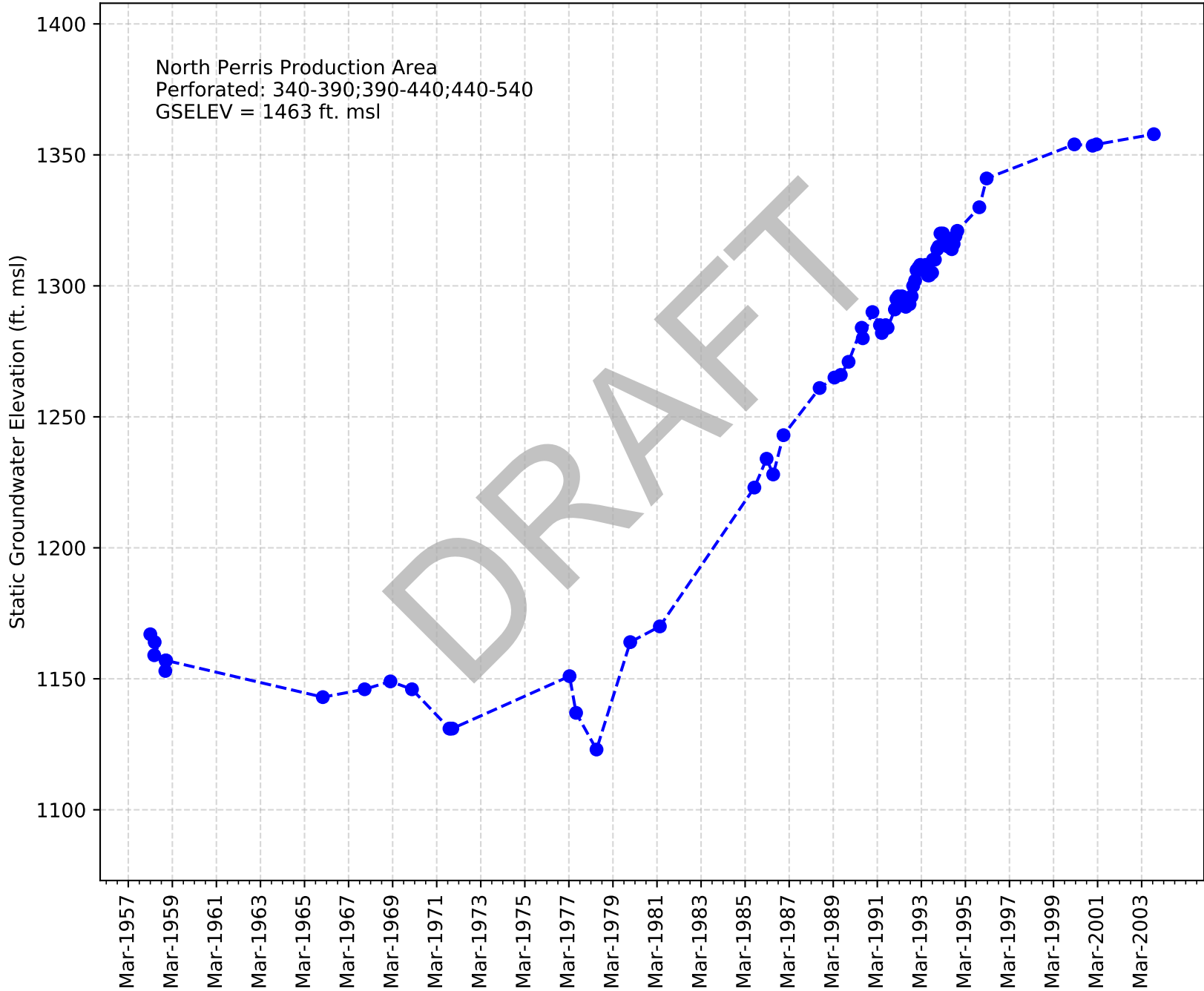
Casing Name: EMWD 58 Indian/Nance



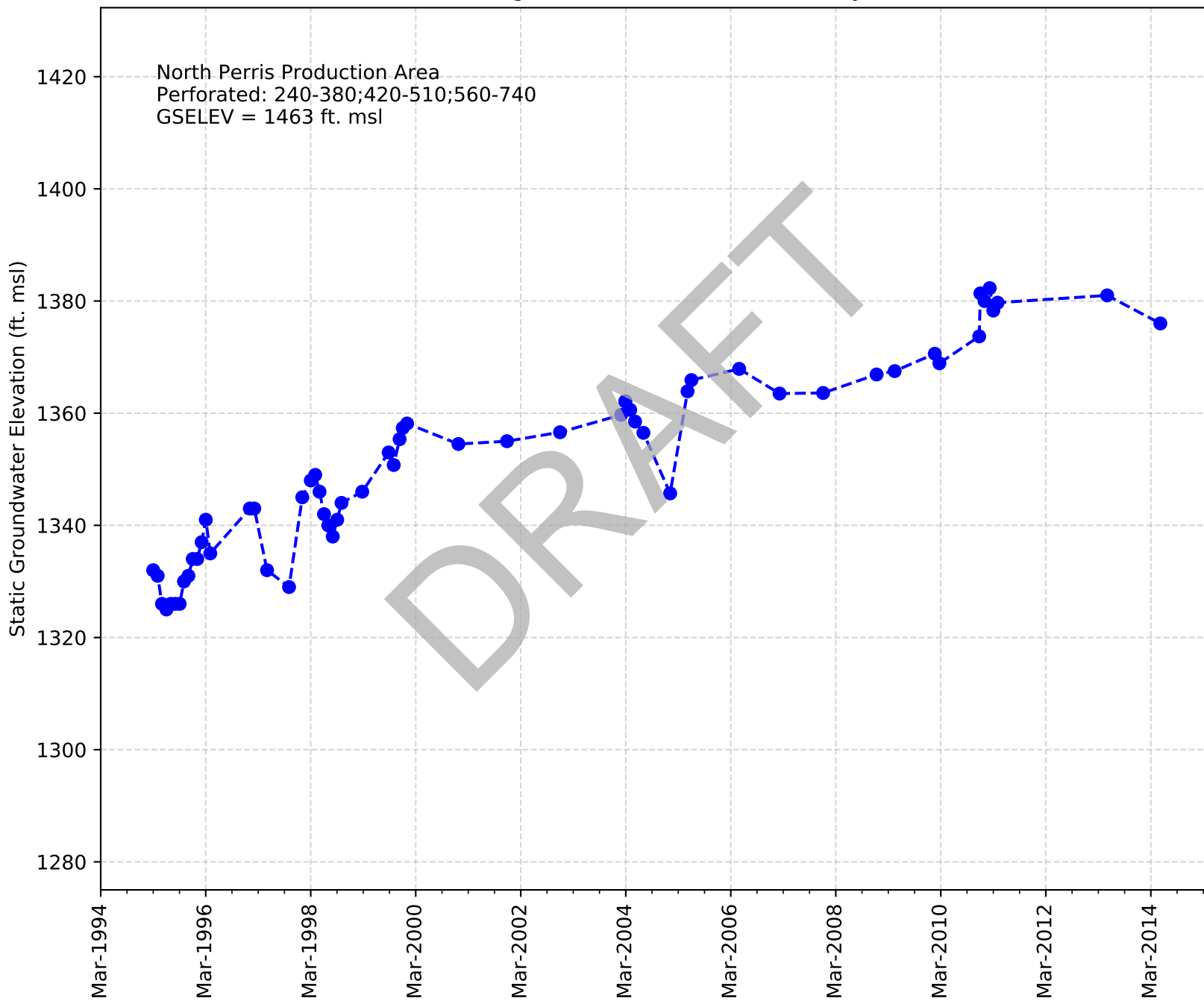
Casing Name: AG Sod Barret



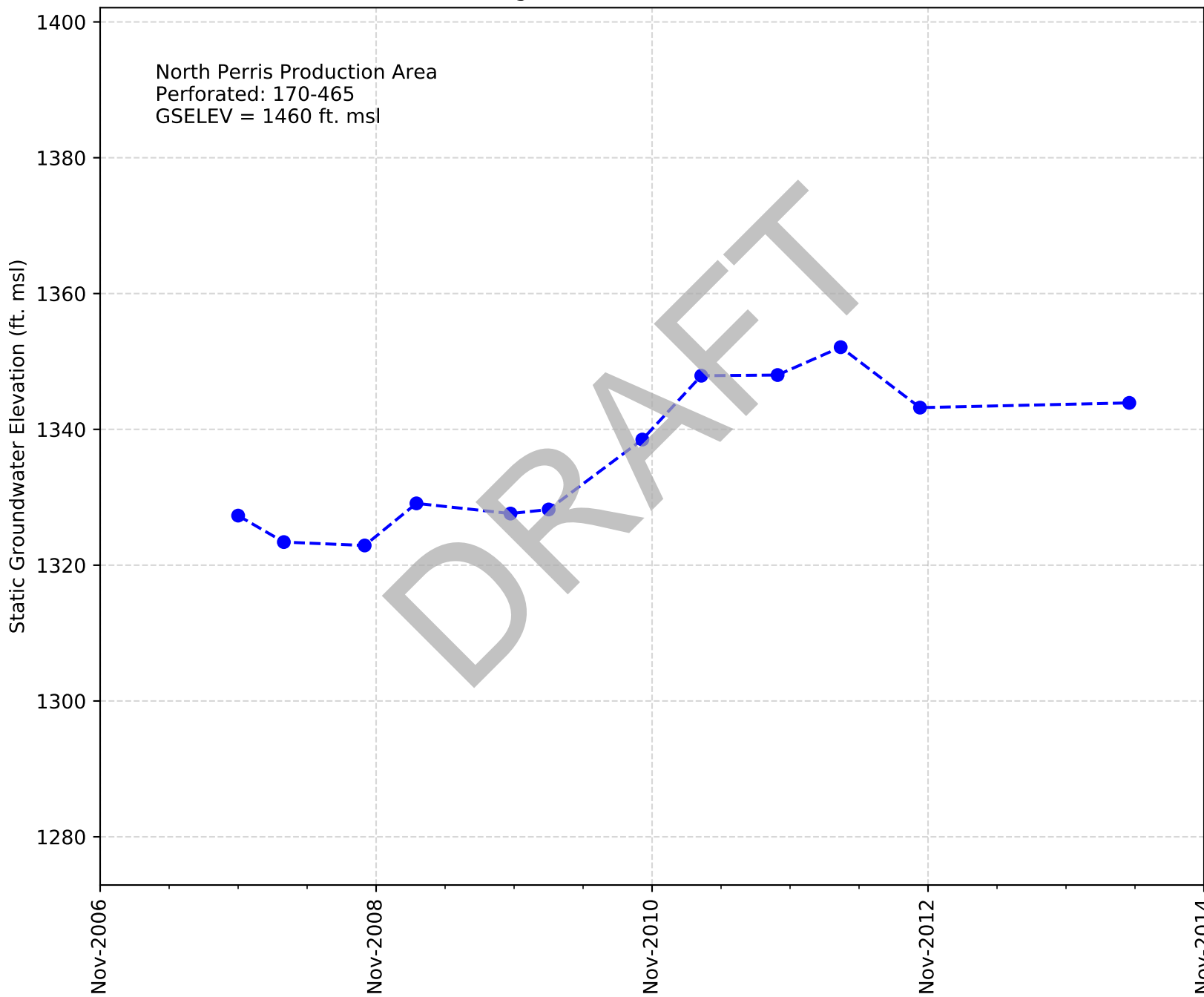
Casing Name: EMWD 50 Perry



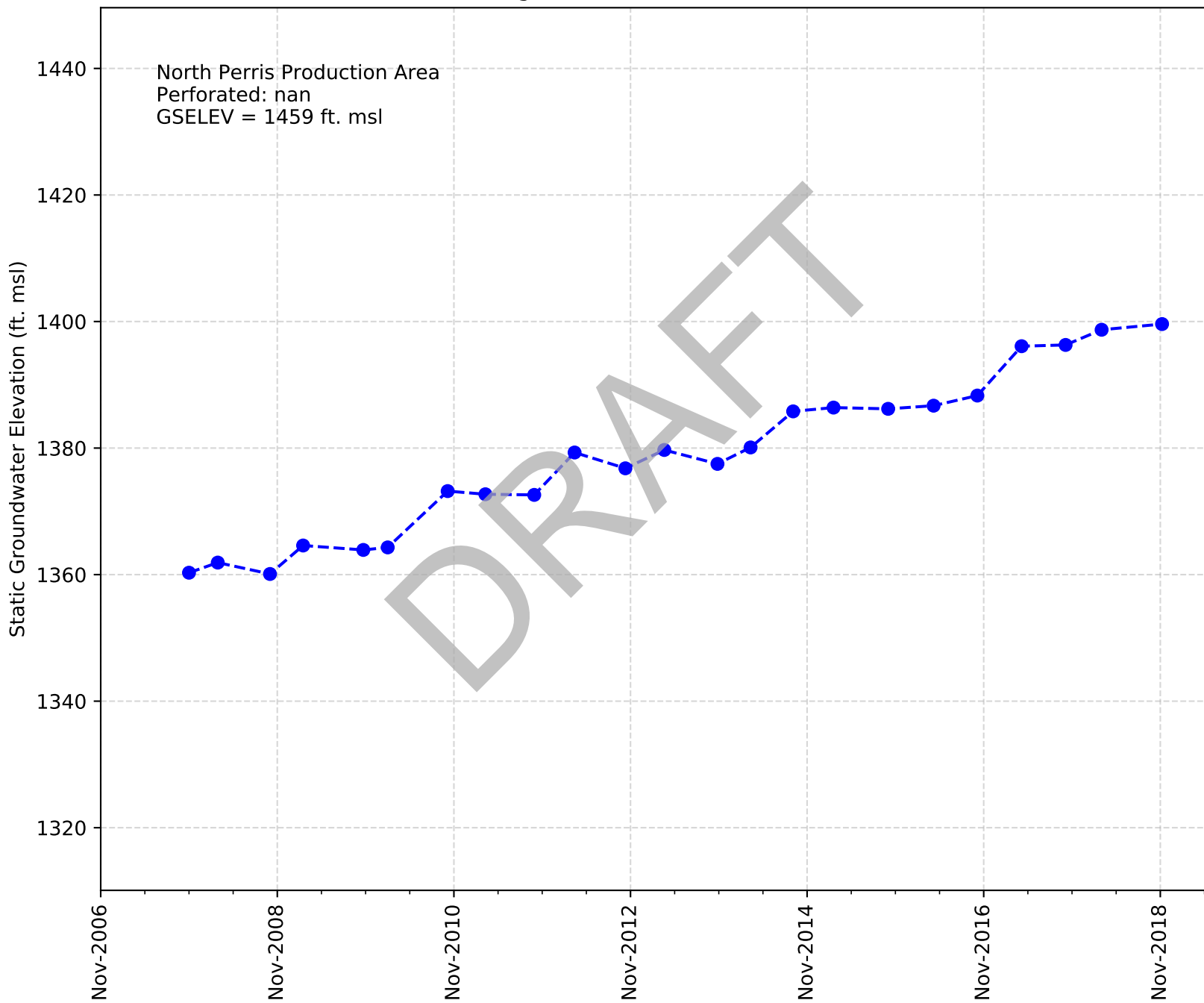
Casing Name: EMWD 56 New Perry



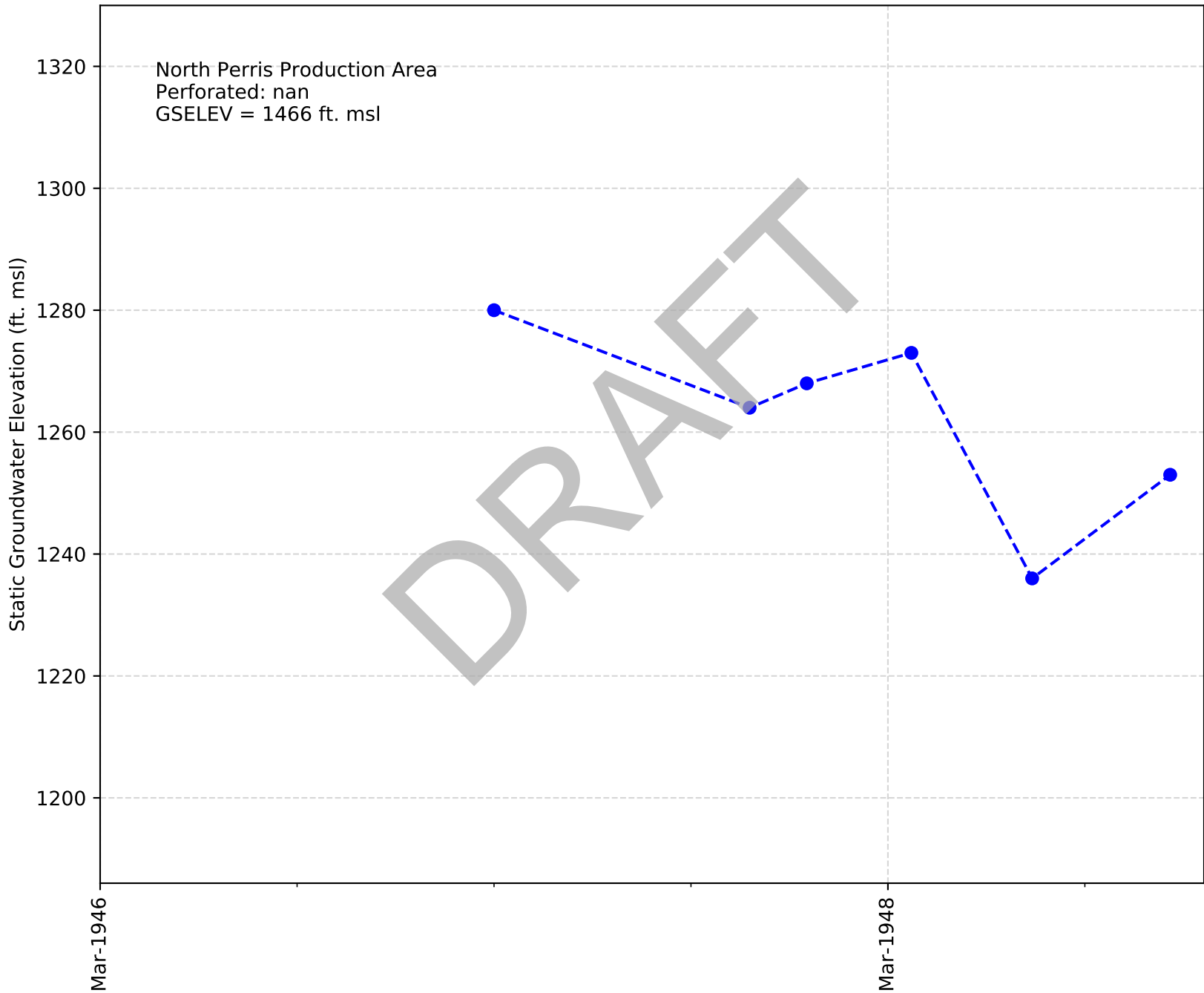
Casing Name: AG Sod New Dawes



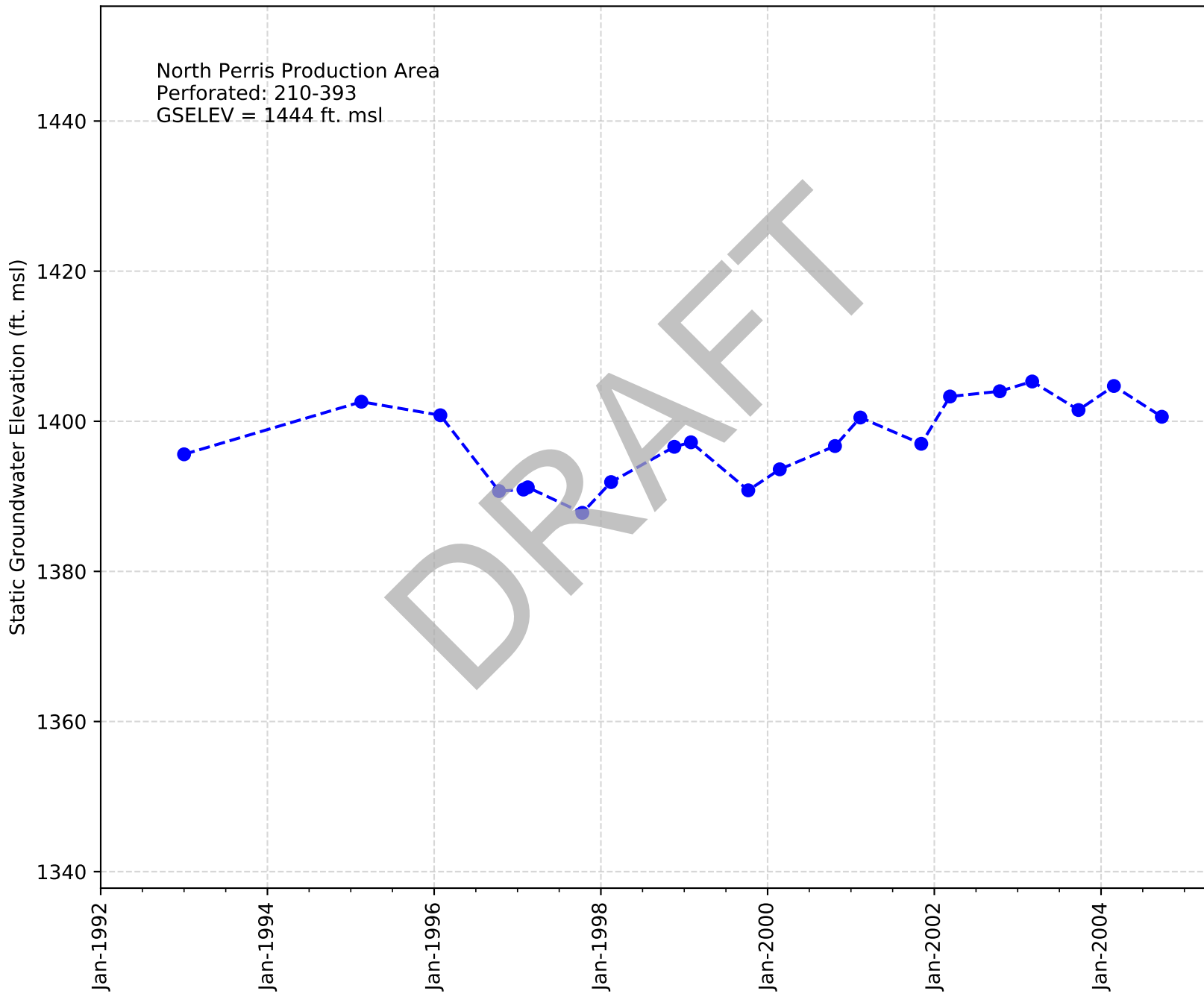
Casing Name: AG Sod Main House



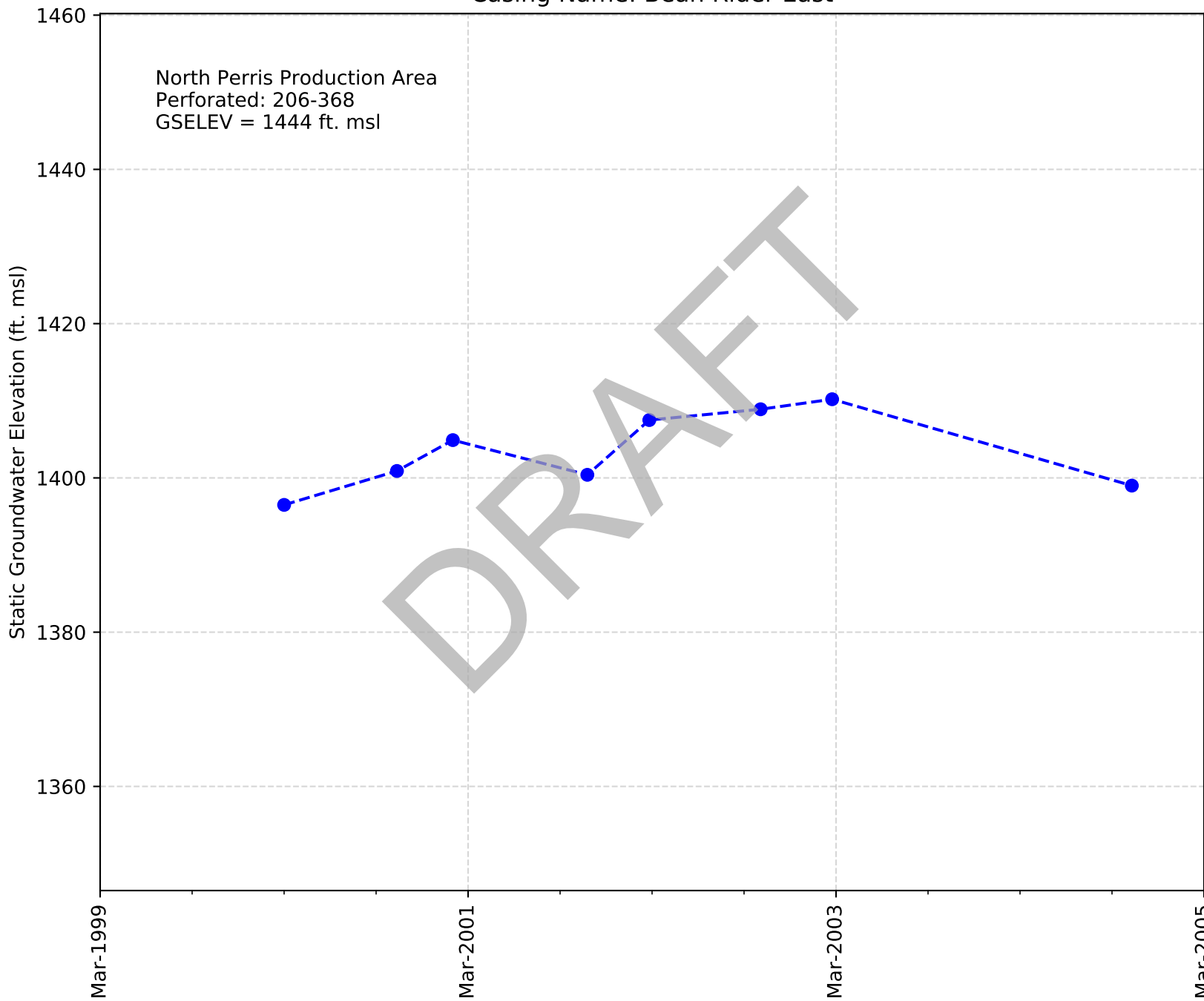
Casing Name: Coudures, J.



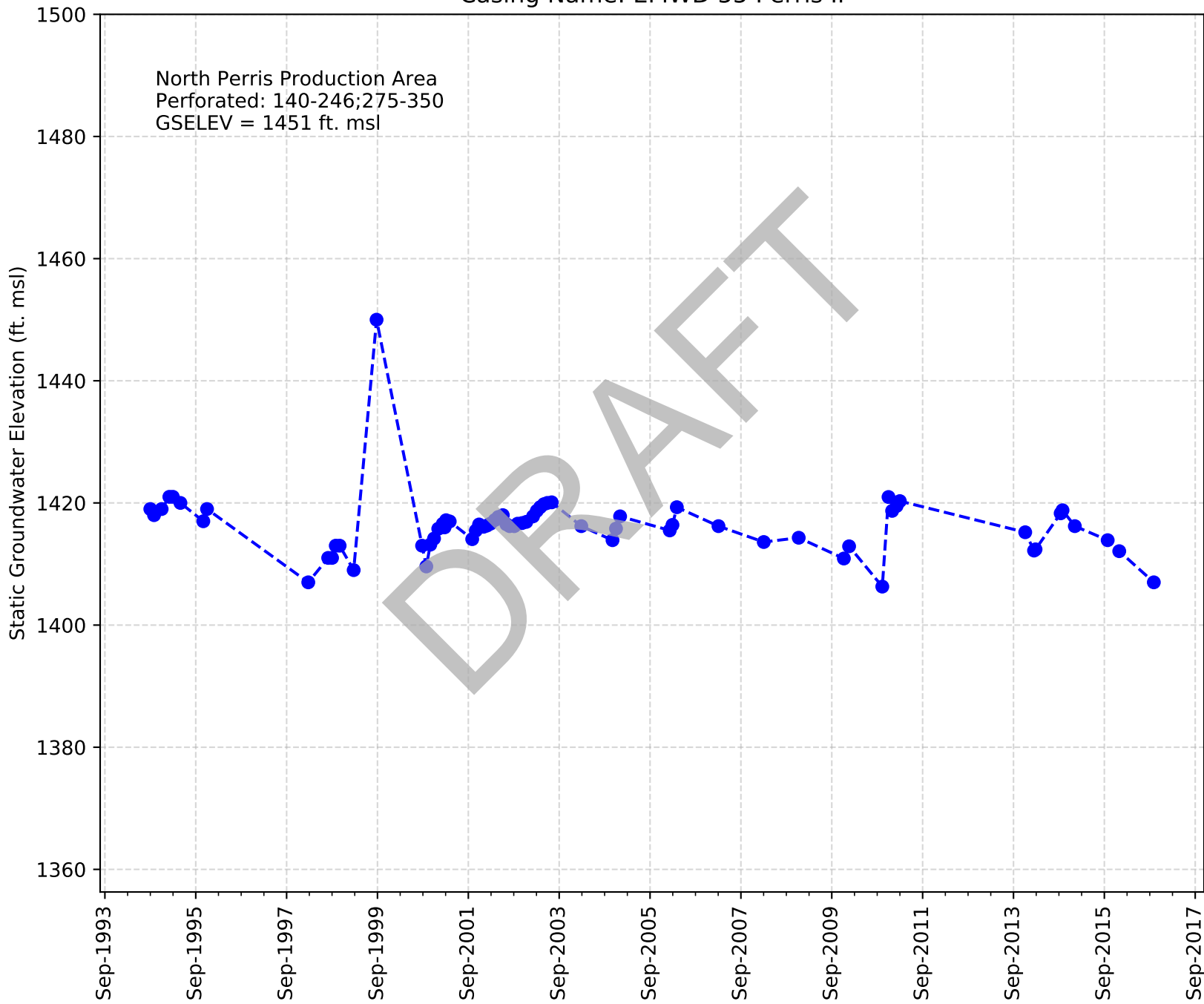
Casing Name: Bean Rider West OC



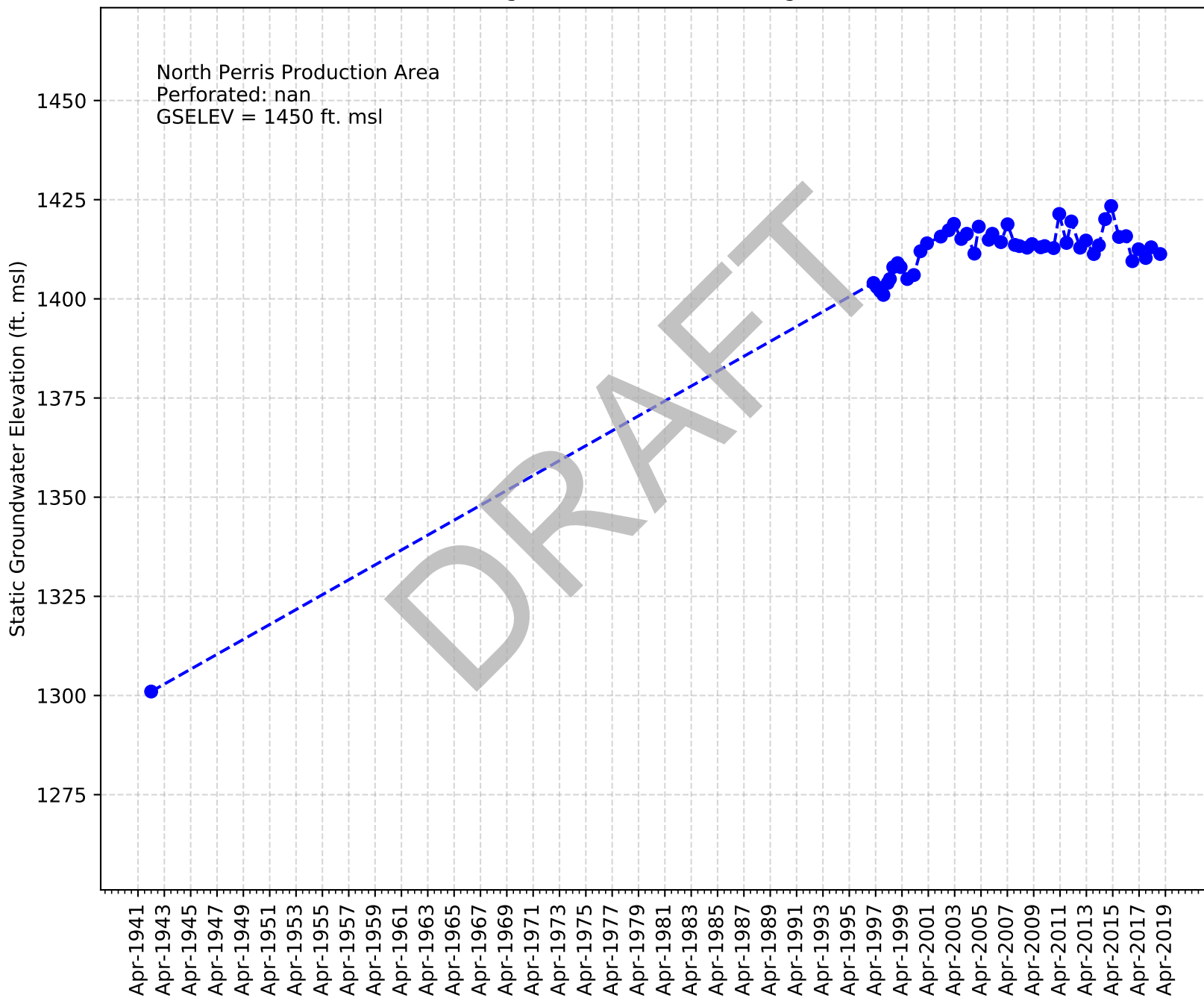
Casing Name: Bean Rider East



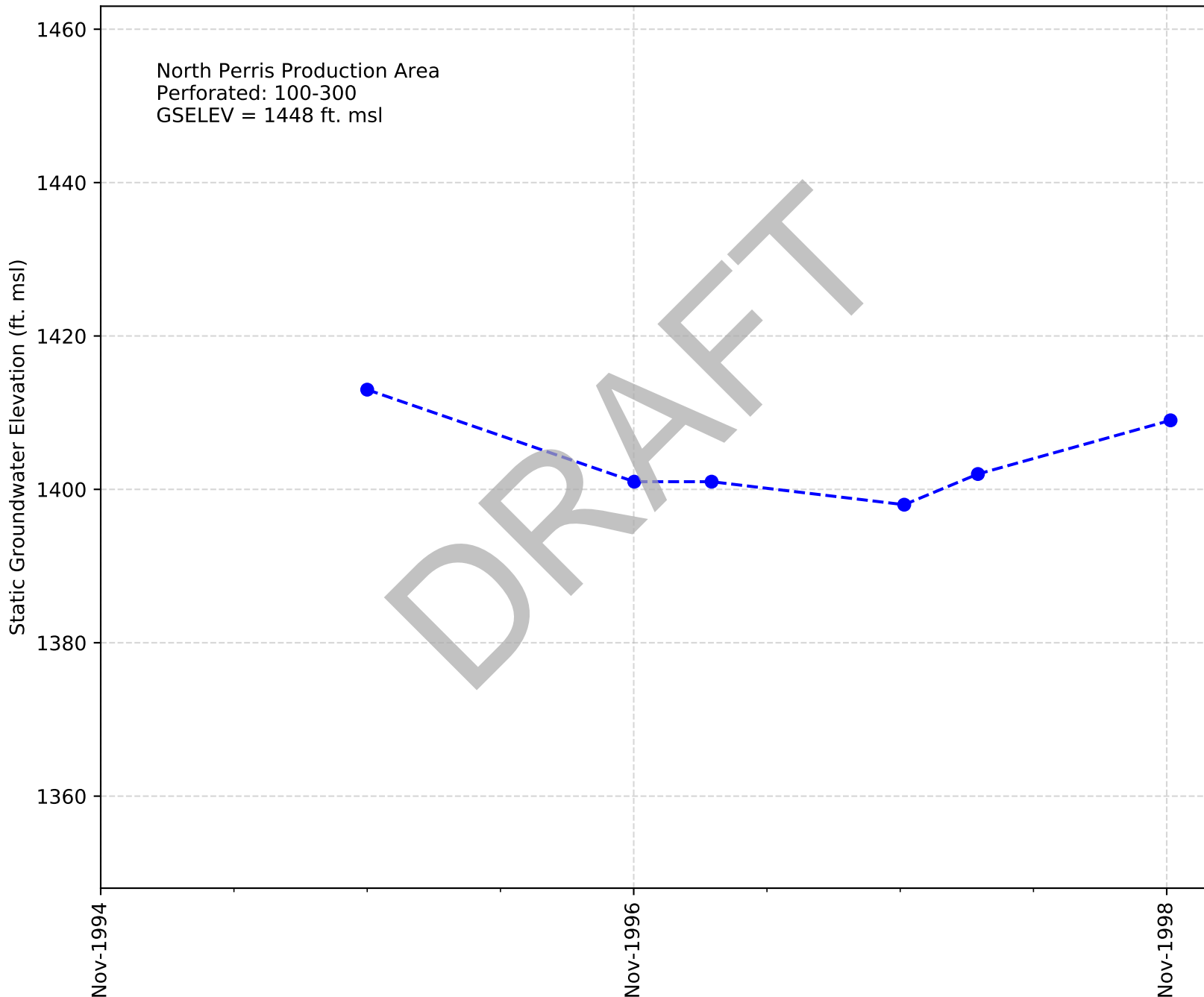
Casing Name: EMWD 55 Perris II



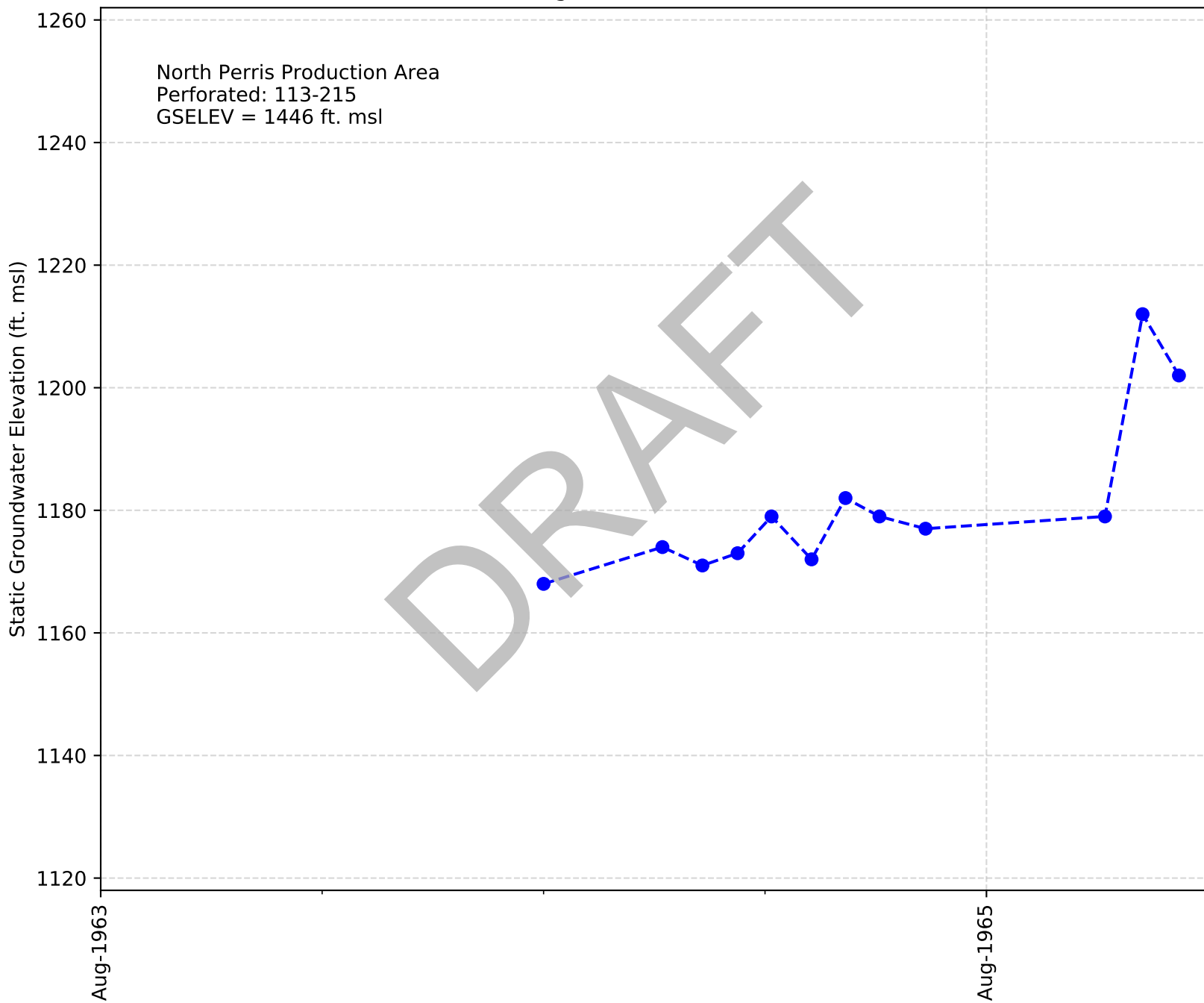
Casing Name: EMWD 51 Bonge East



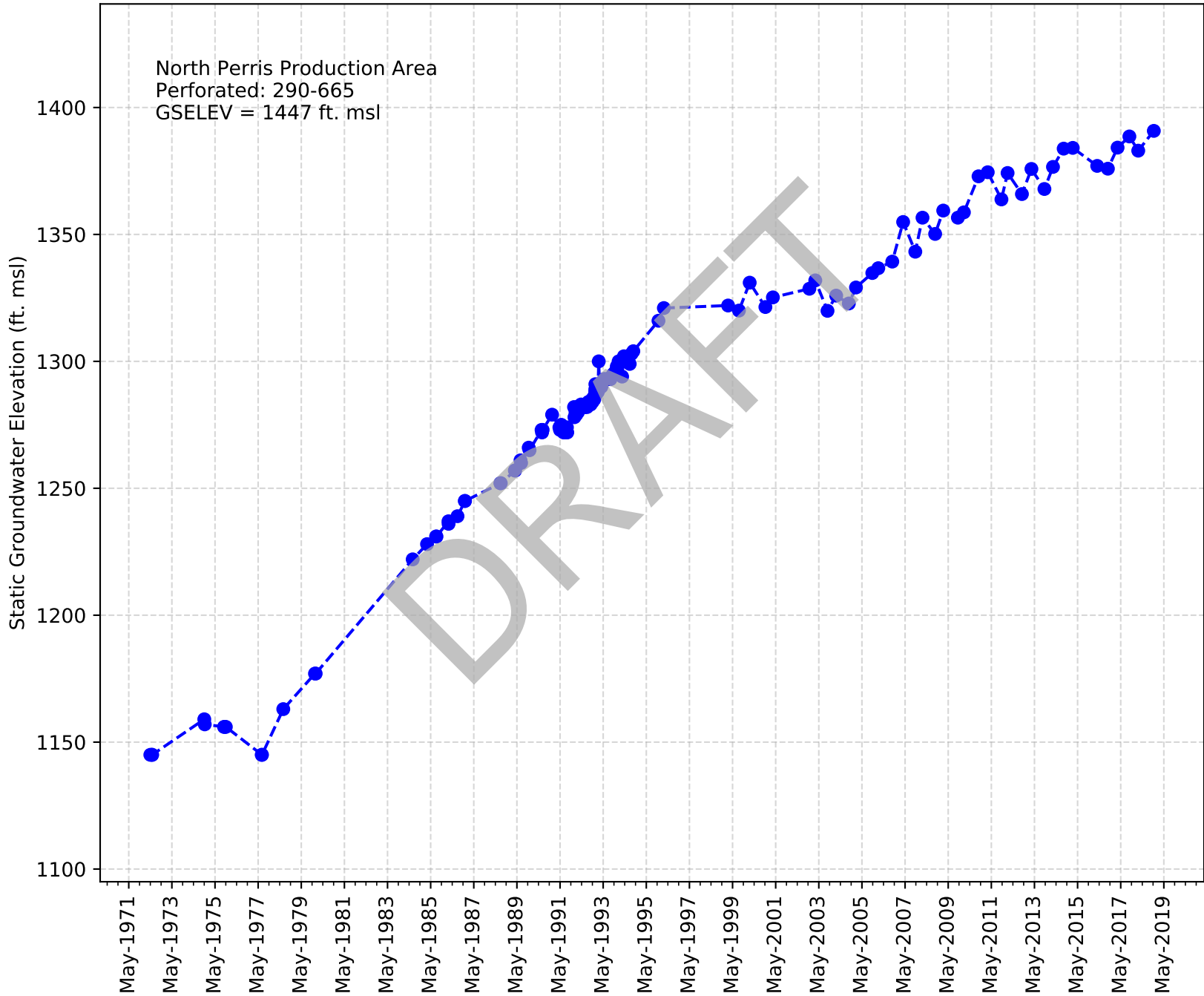
Casing Name: May Company



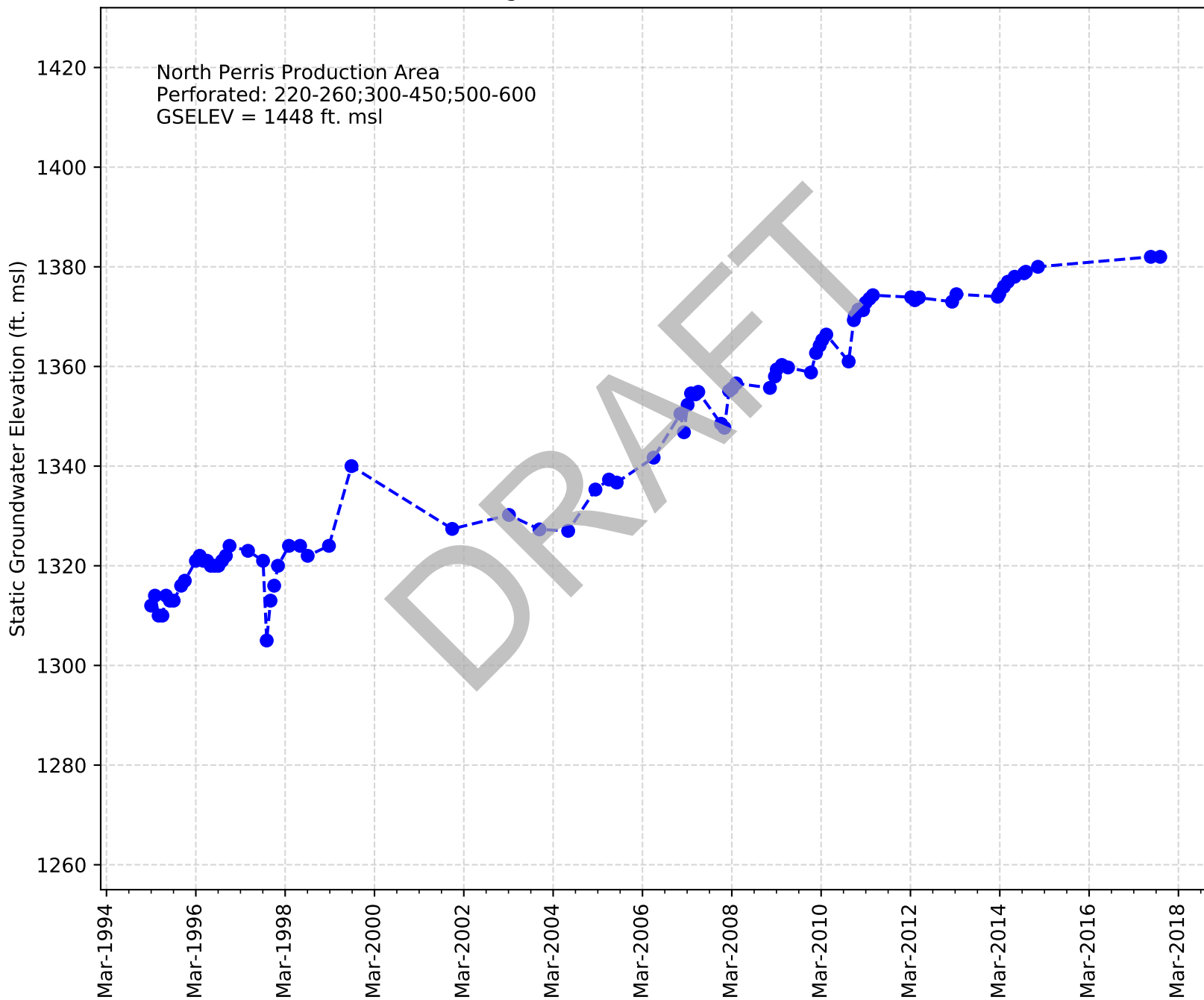
Casing Name: Hamner, L. L.



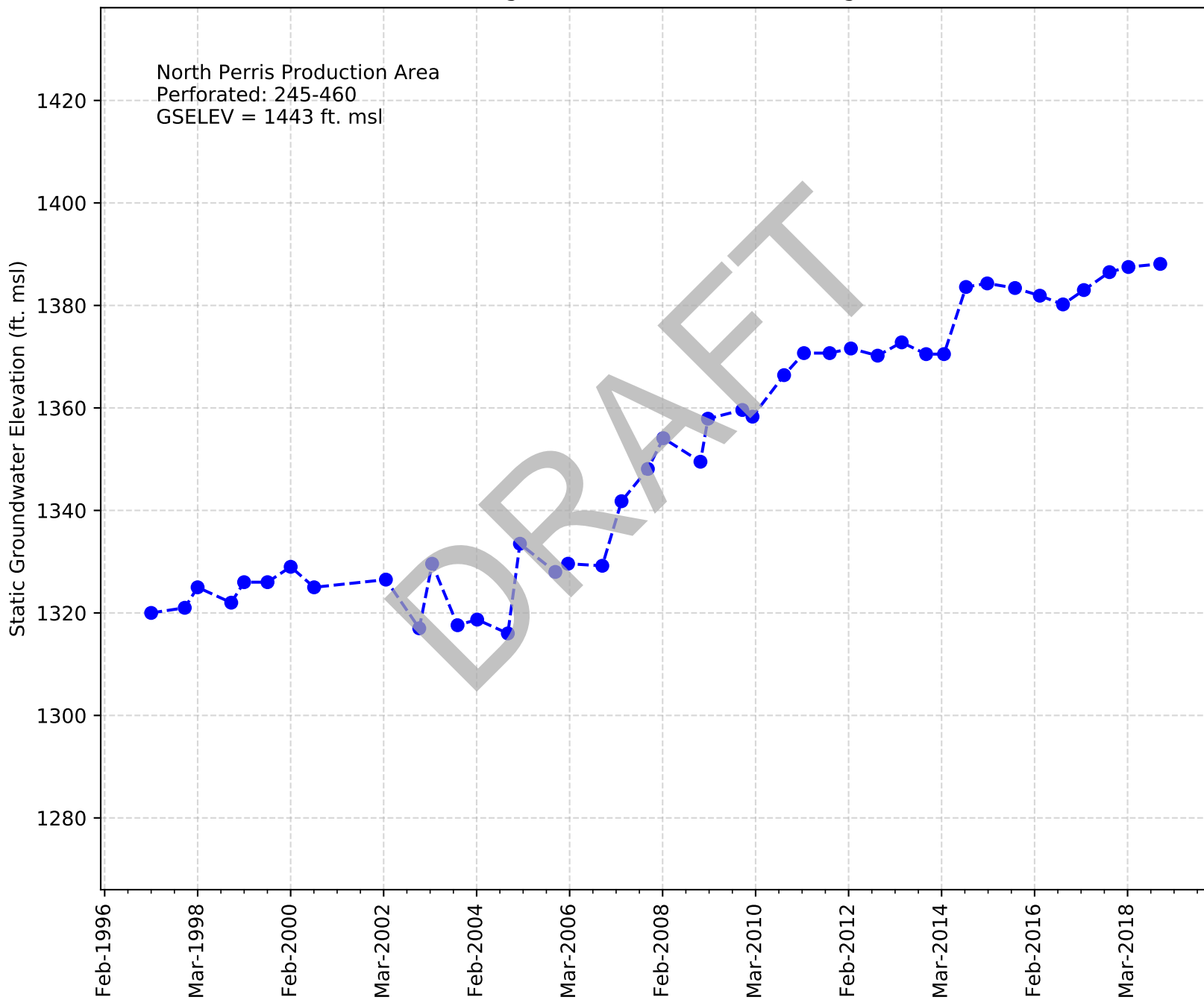
Casing Name: EMWD 52 Follico



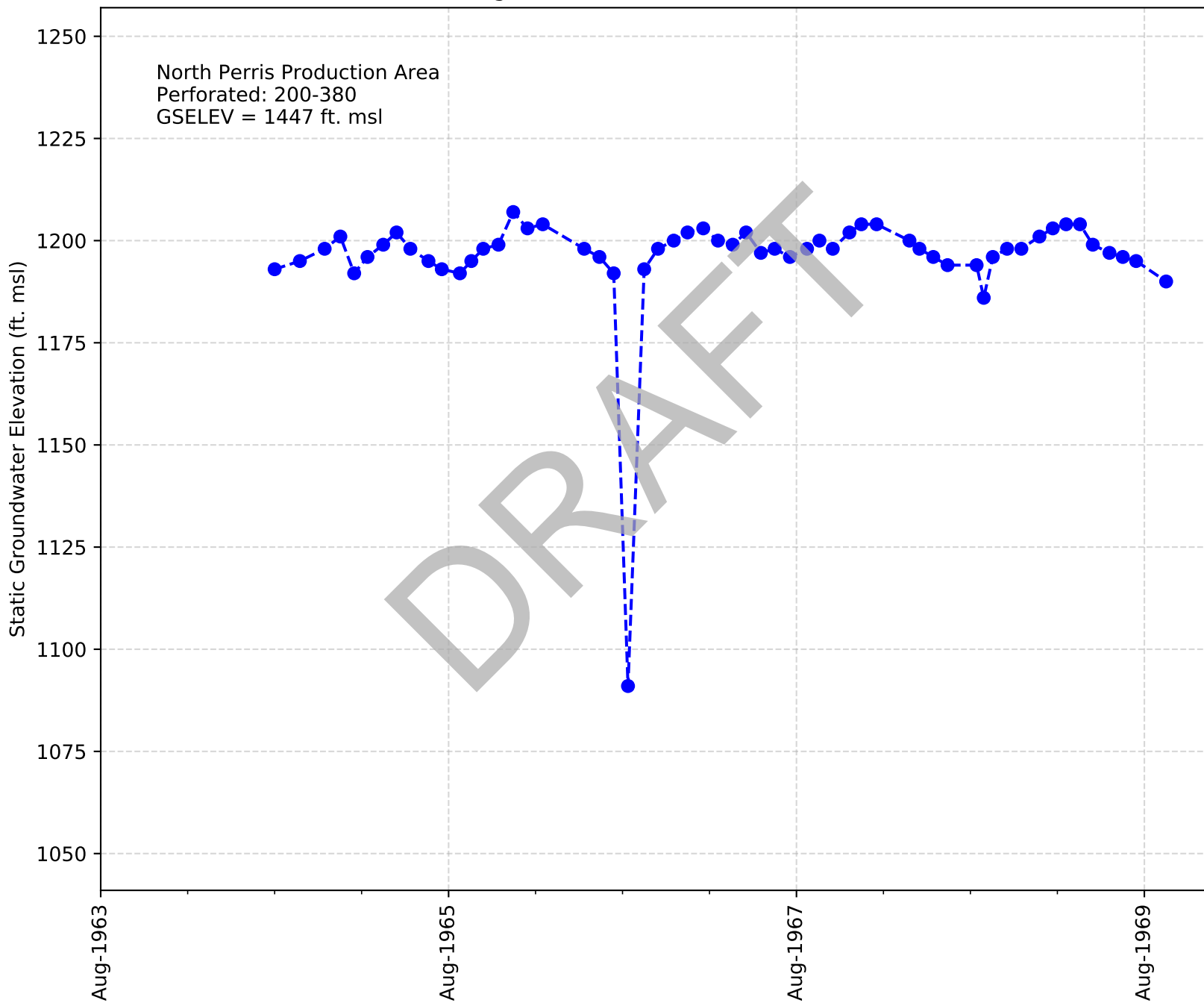
Casing Name: EMWD 57 New Follico



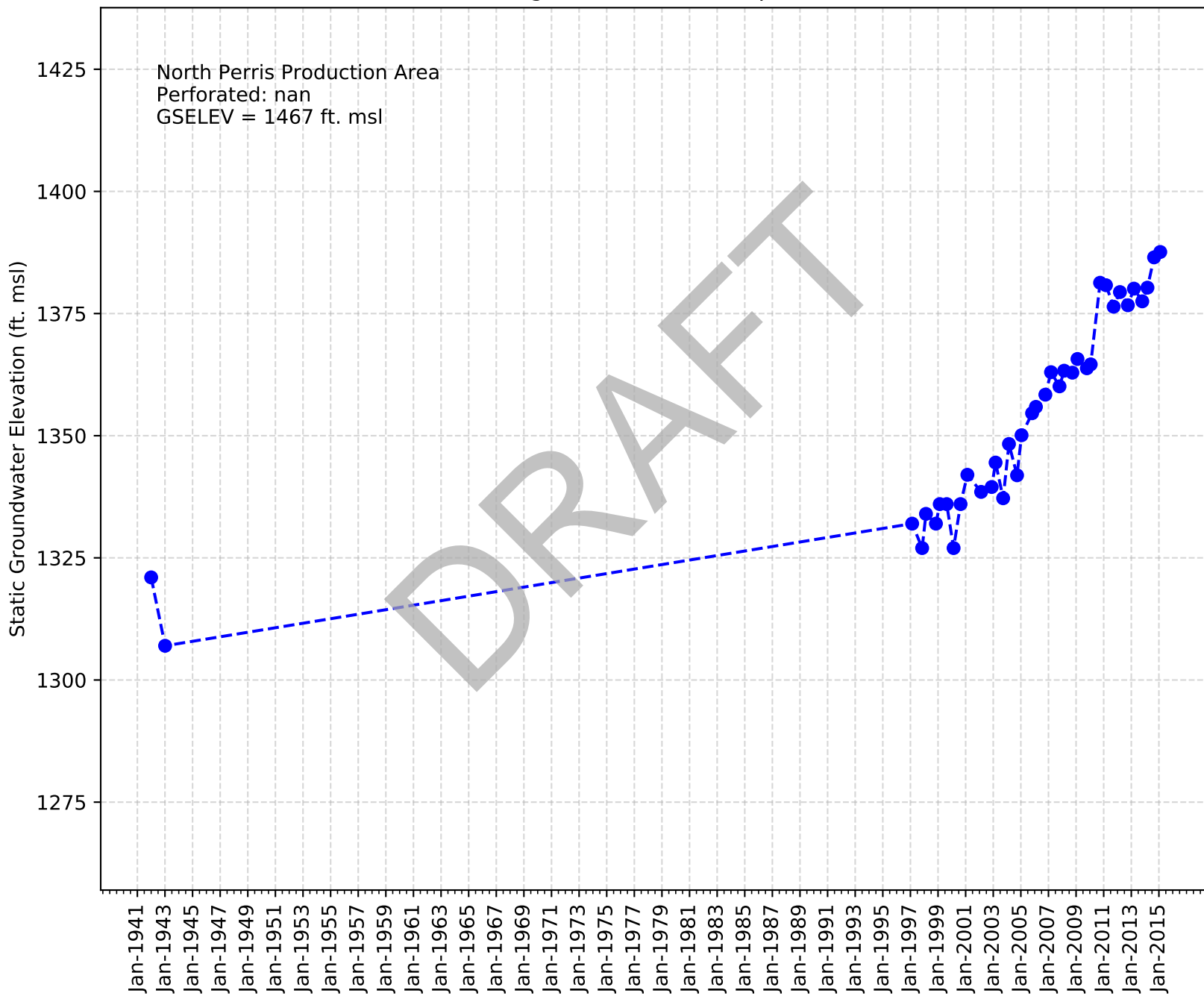
Casing Name: AG Sod Perris/Orange



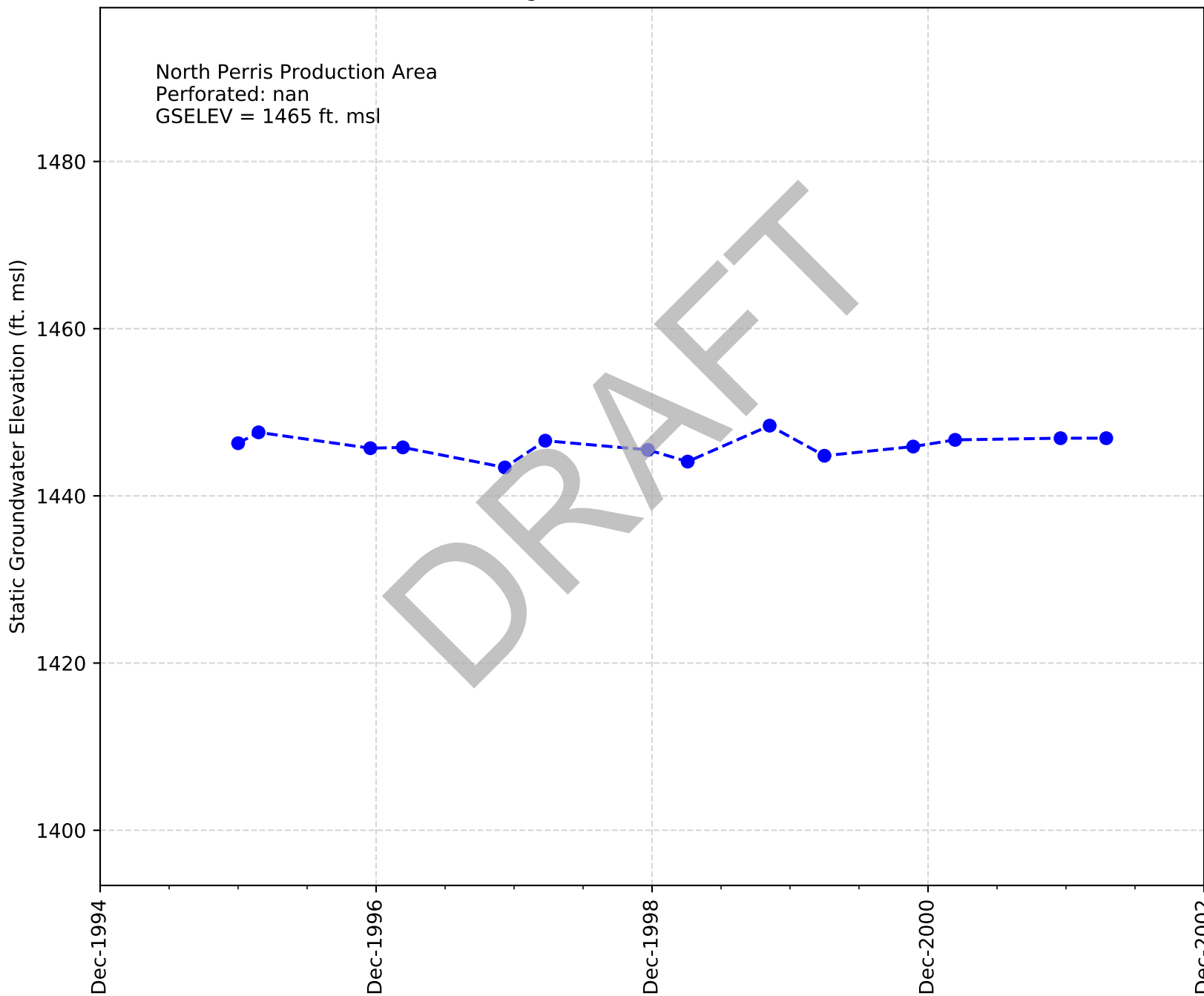
Casing Name: Perris Mutual Water Co.



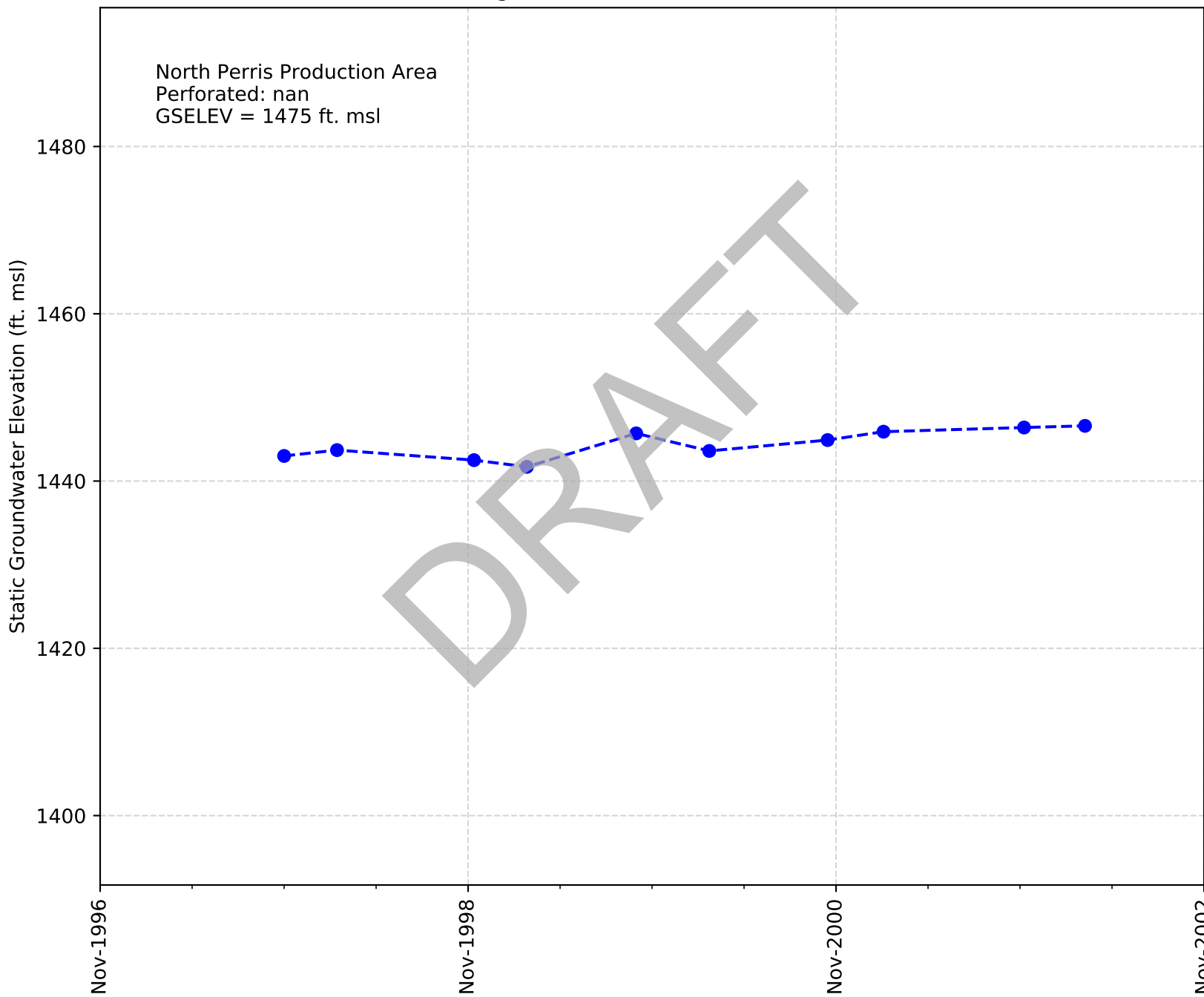
Casing Name: AG Sod Aqueduct



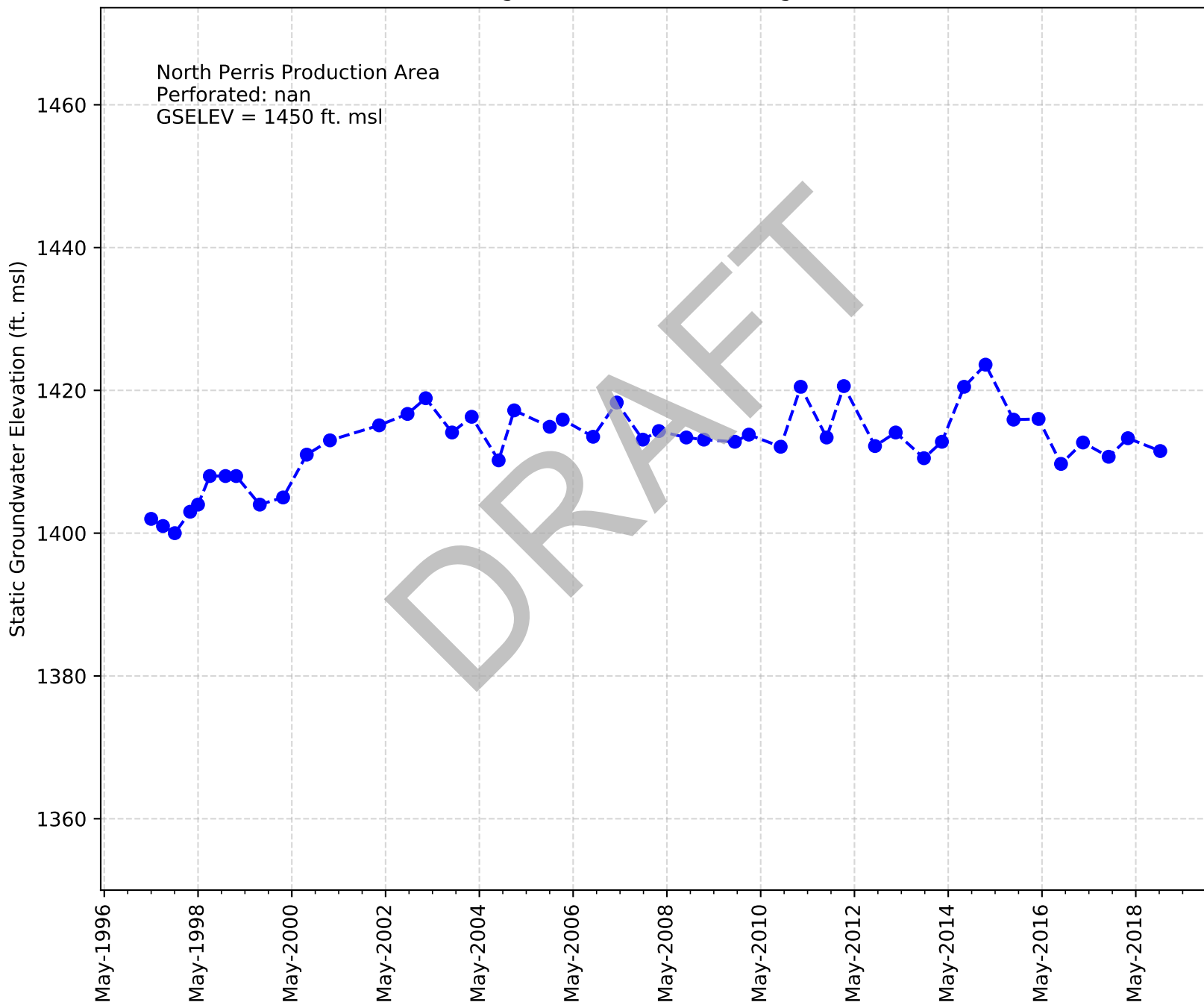
Casing Name: Barrett Homes 01



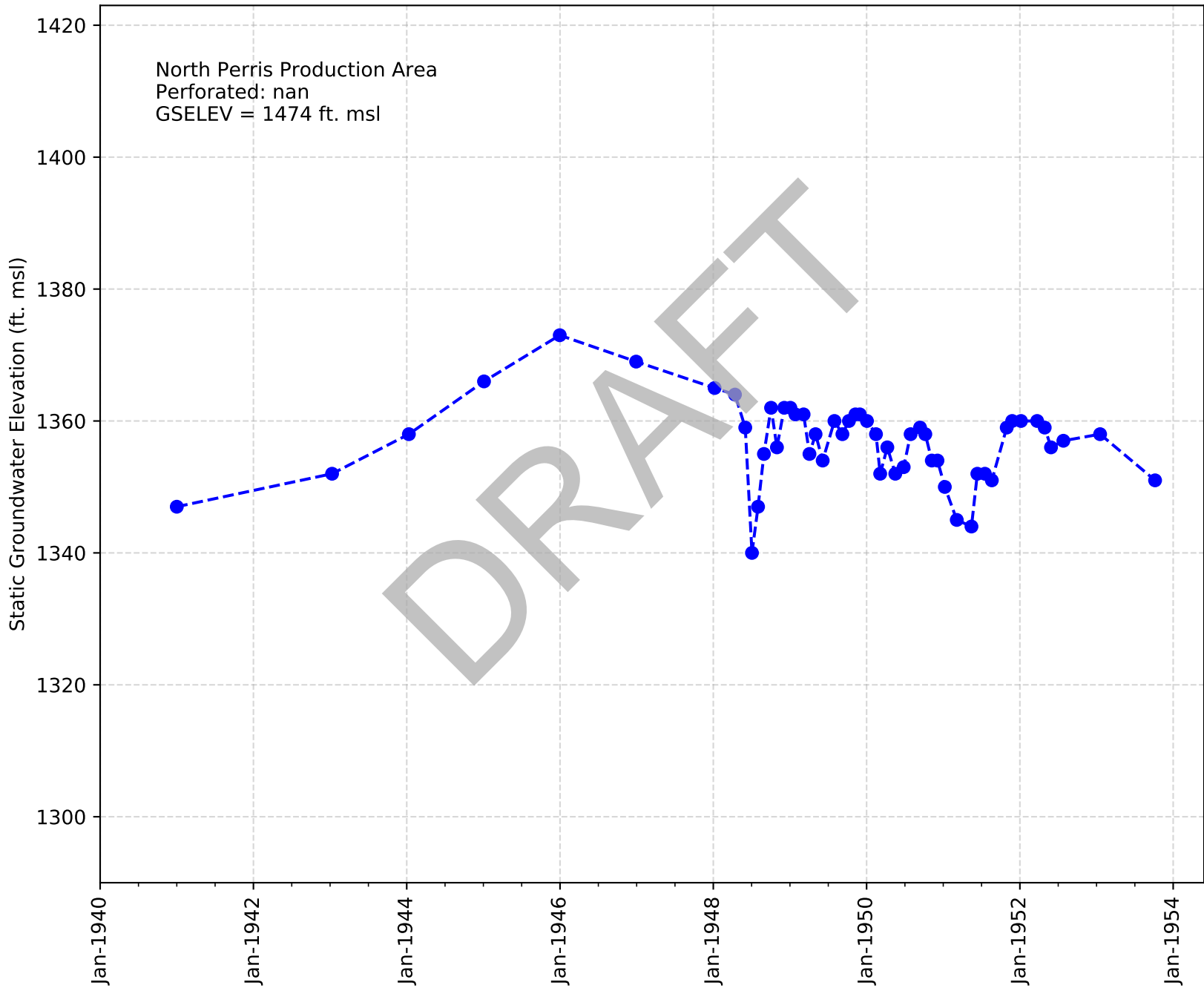
Casing Name: Barrett Homes 02 East



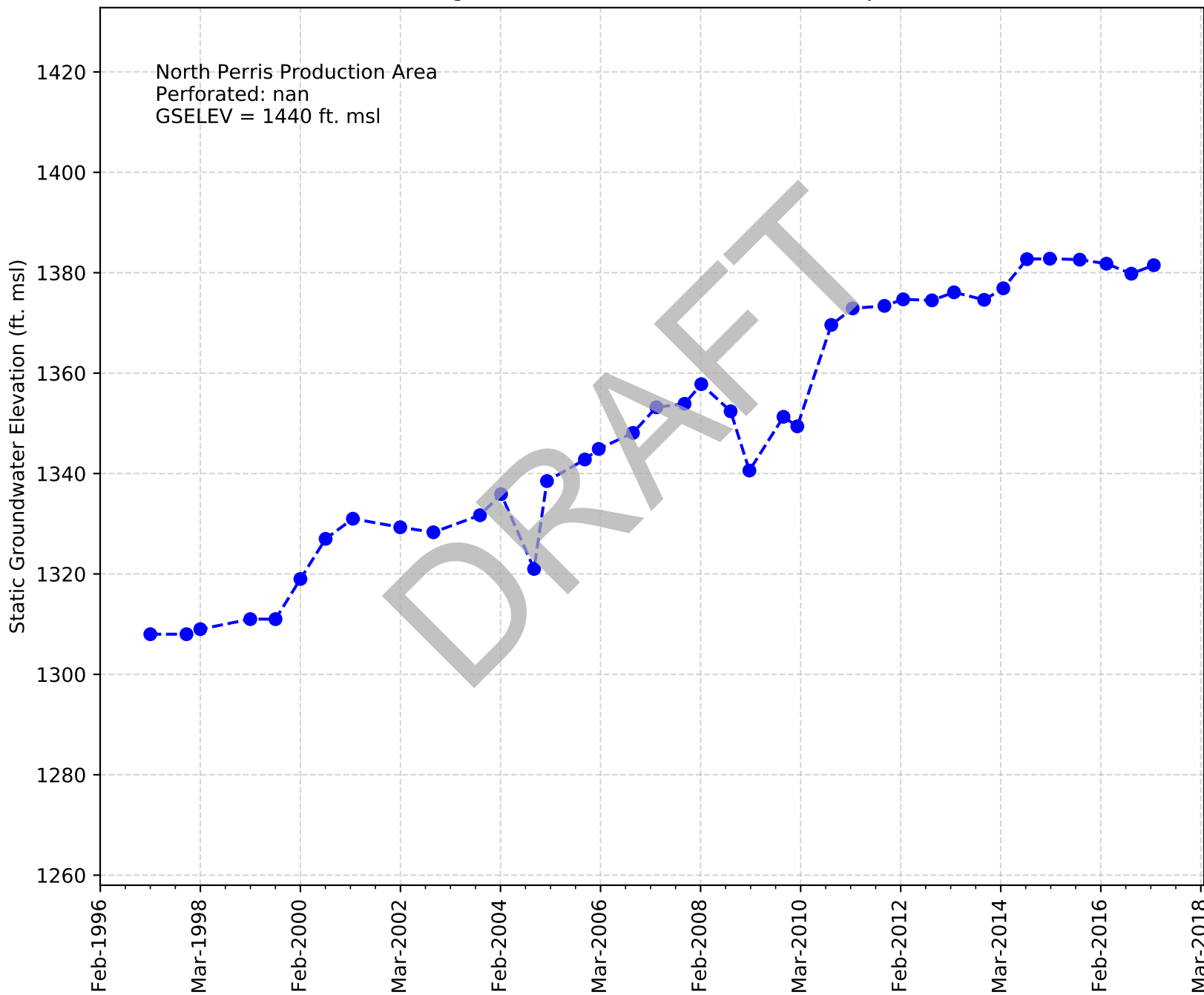
Casing Name: EMWD 51 Bonge West



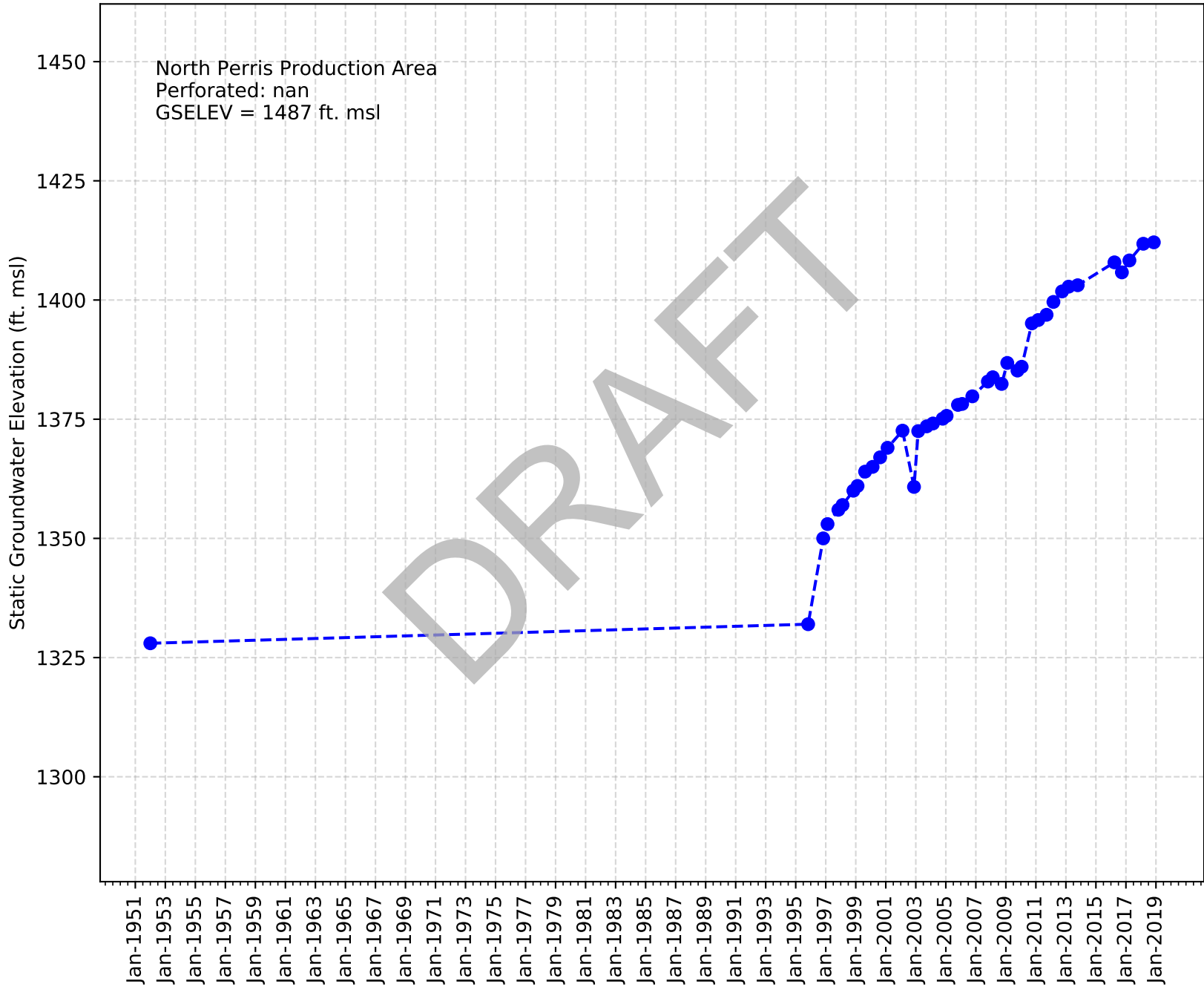
Casing Name: <same as 20859>



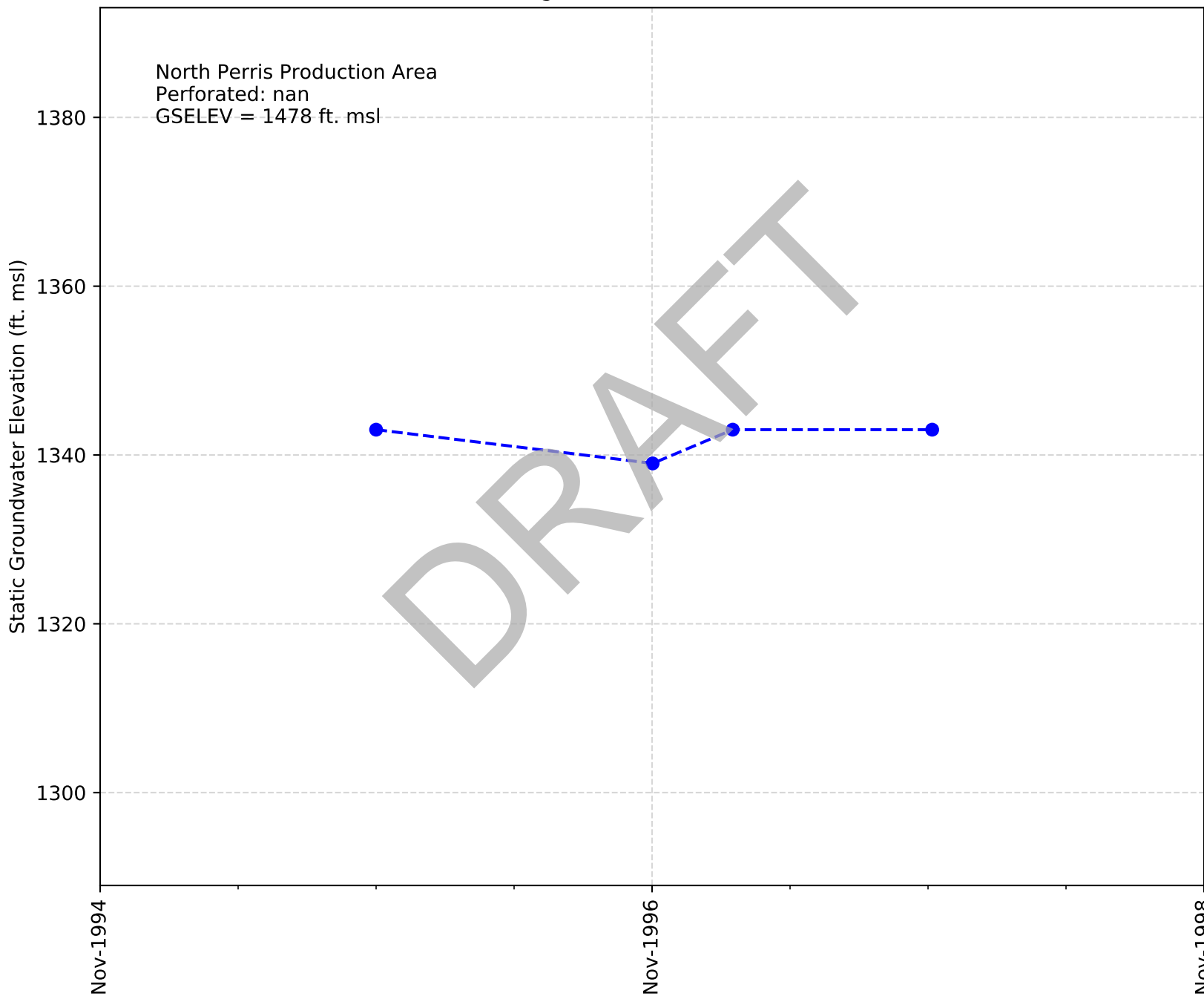
Casing Name: AG Sod Convalescent Hospital



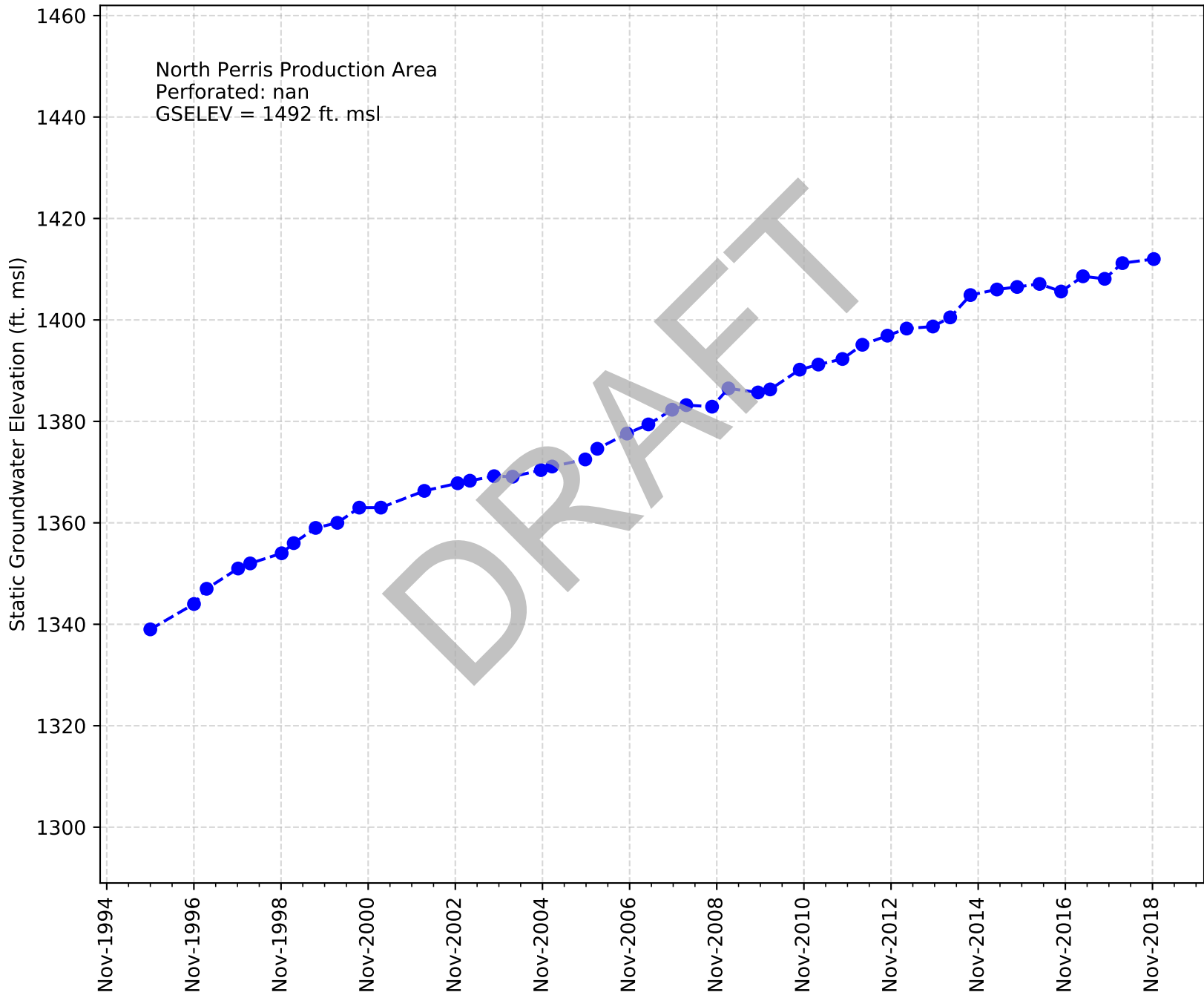
Casing Name: Clark House



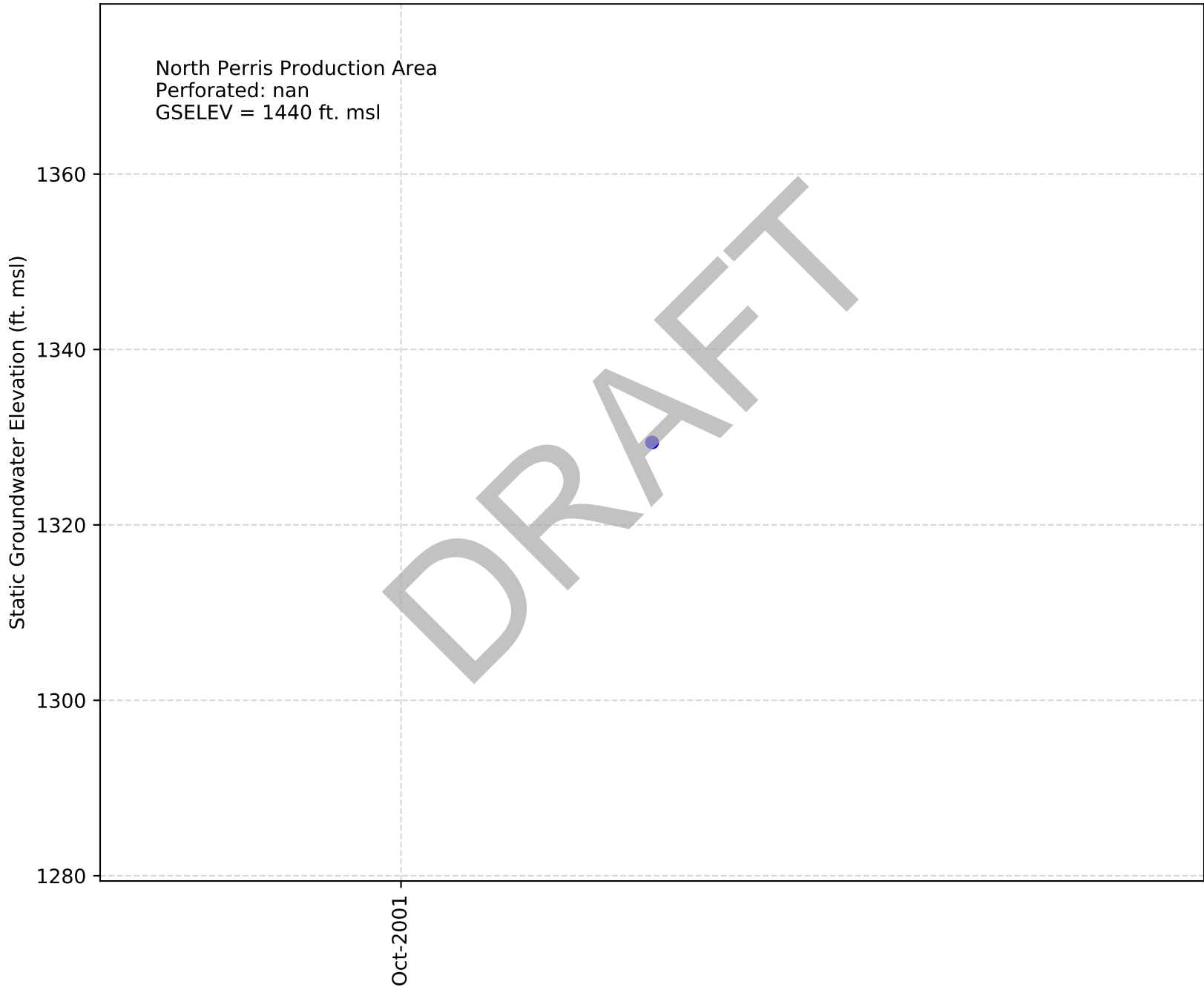
Casing Name: Clark Reservoir



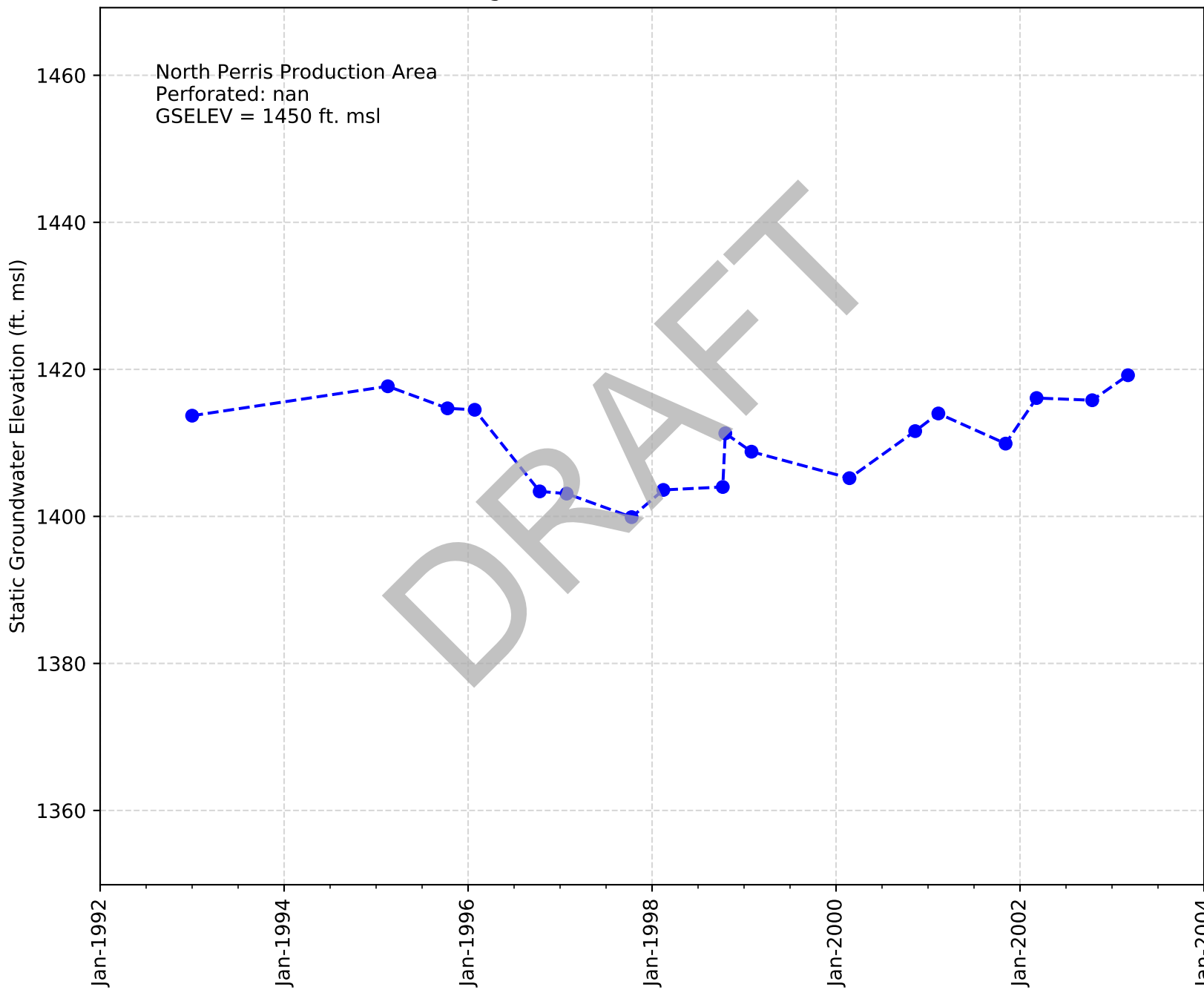
Casing Name: Clark Domestic



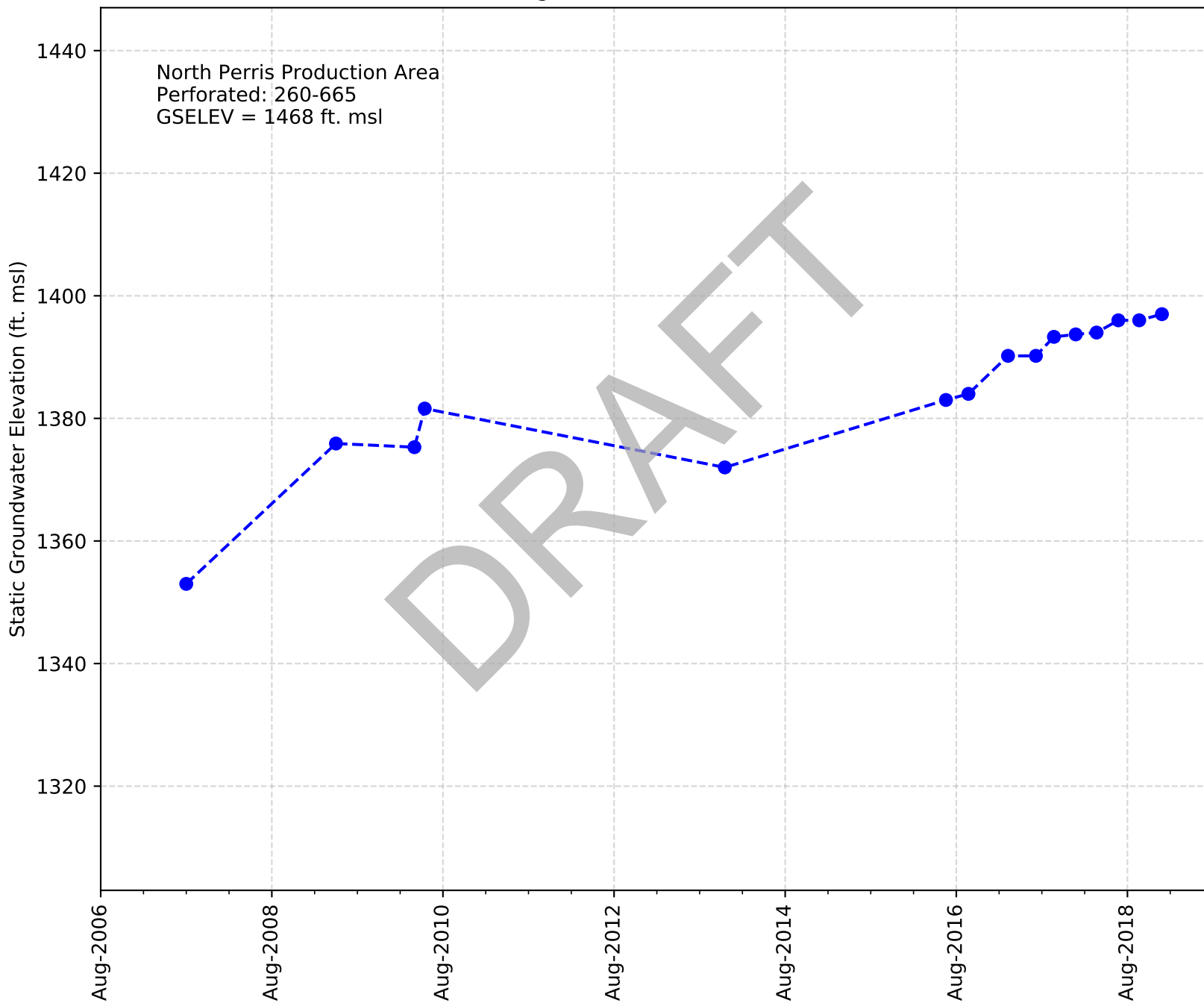
Casing Name: AG Sod Convalescent Hospital OC



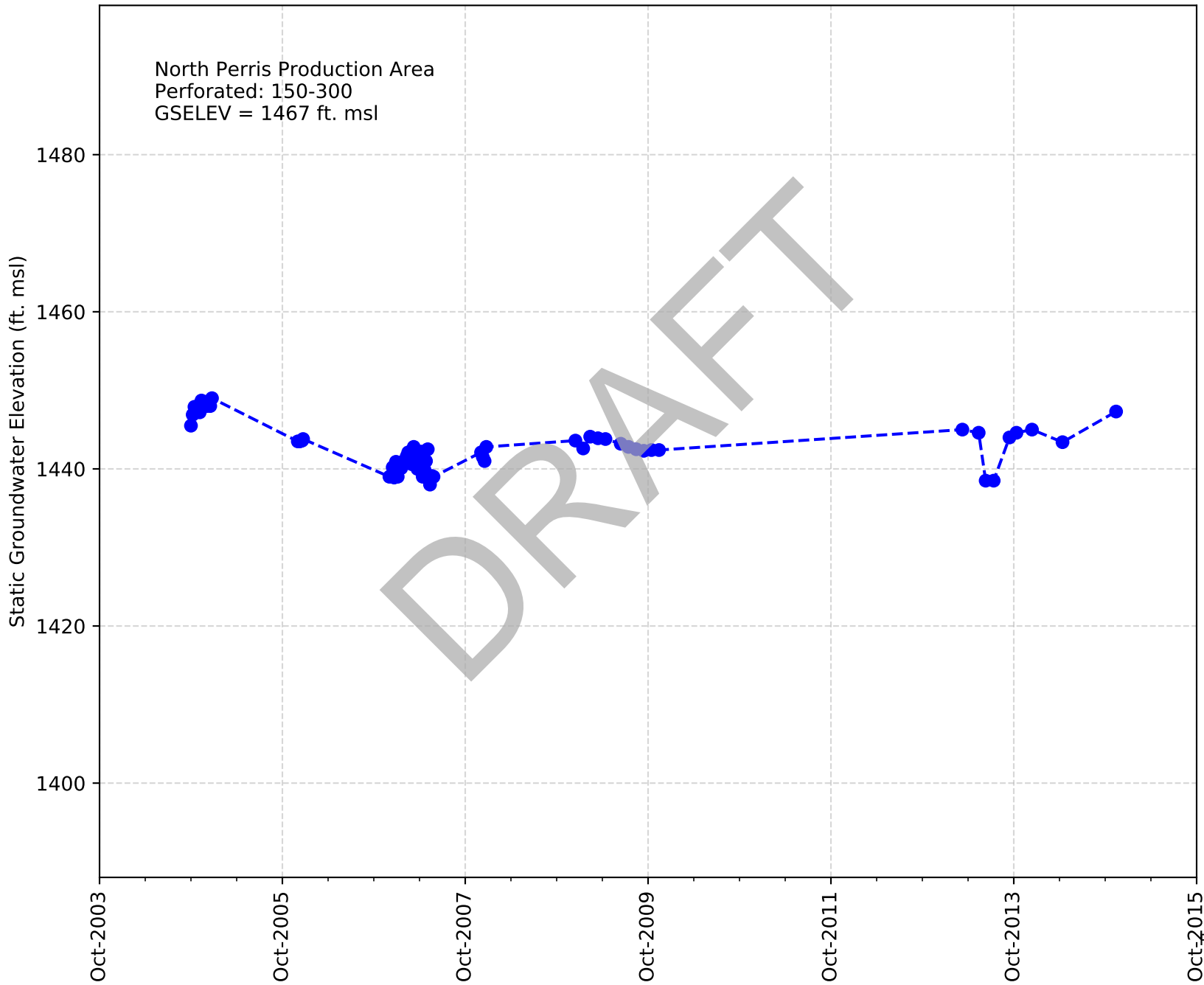
Casing Name: Underwood Rider/Evans



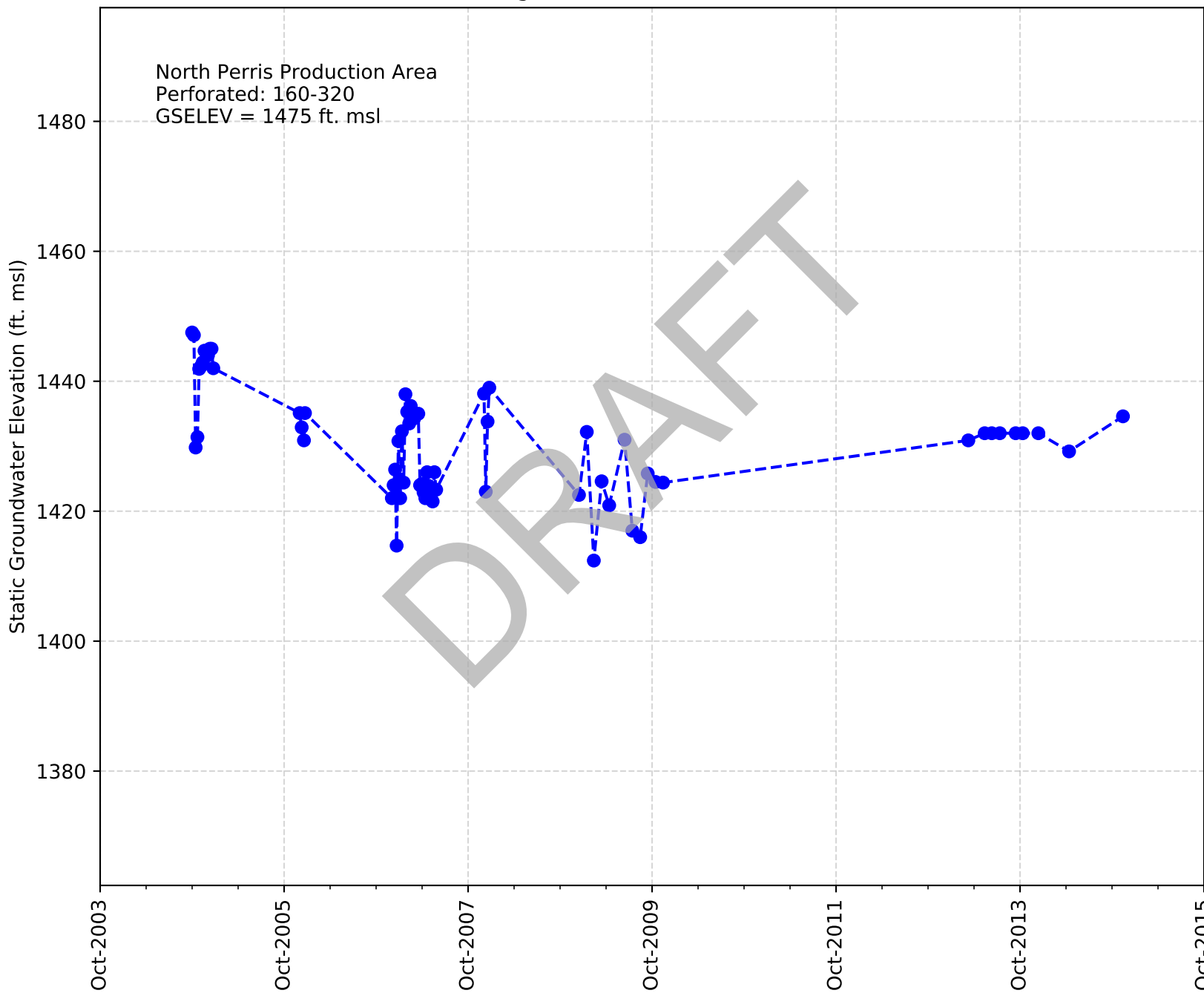
Casing Name: EMWD 59 Indian



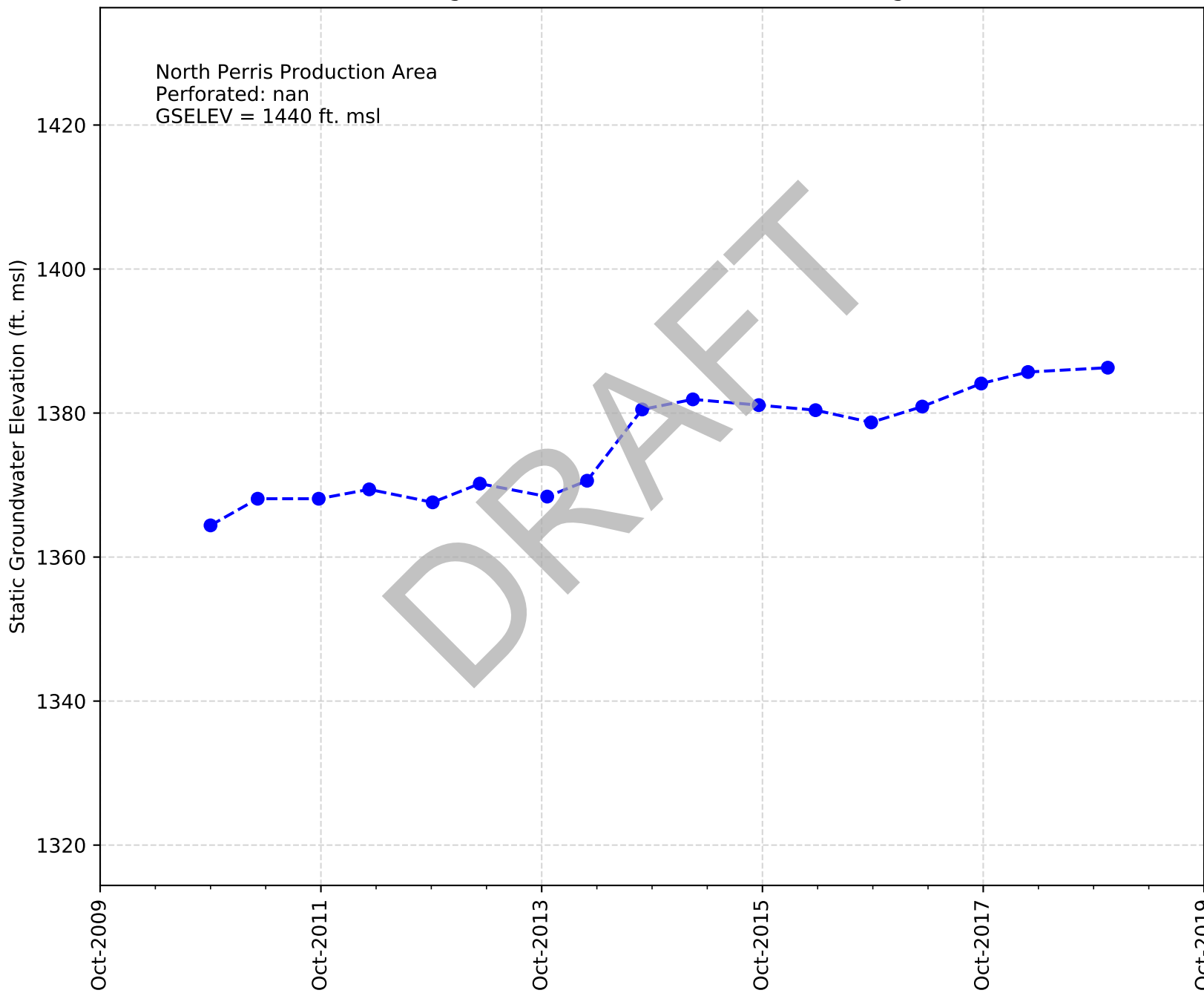
Casing Name: McCanna Ranch 02



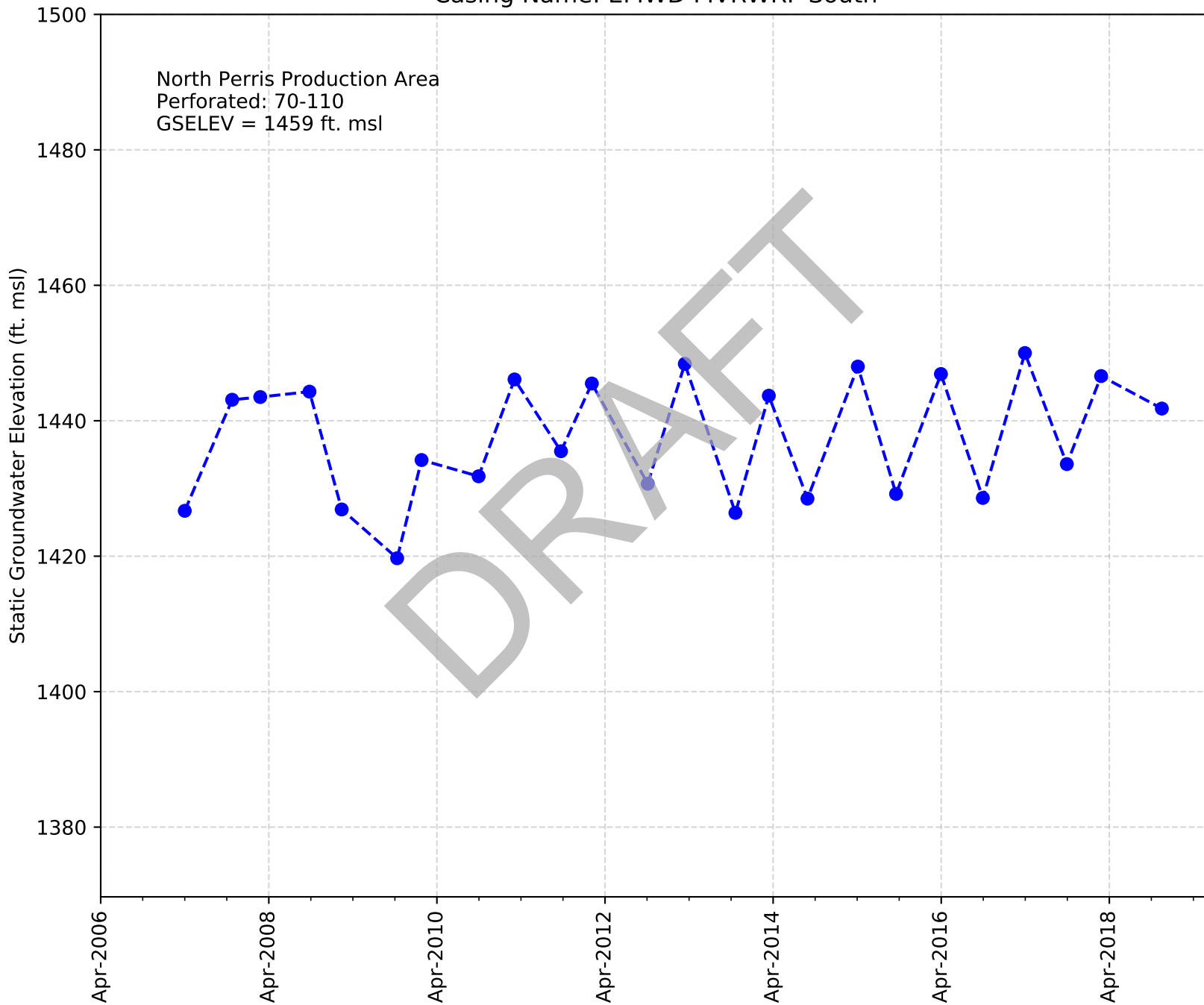
Casing Name: McCanna Ranch 03



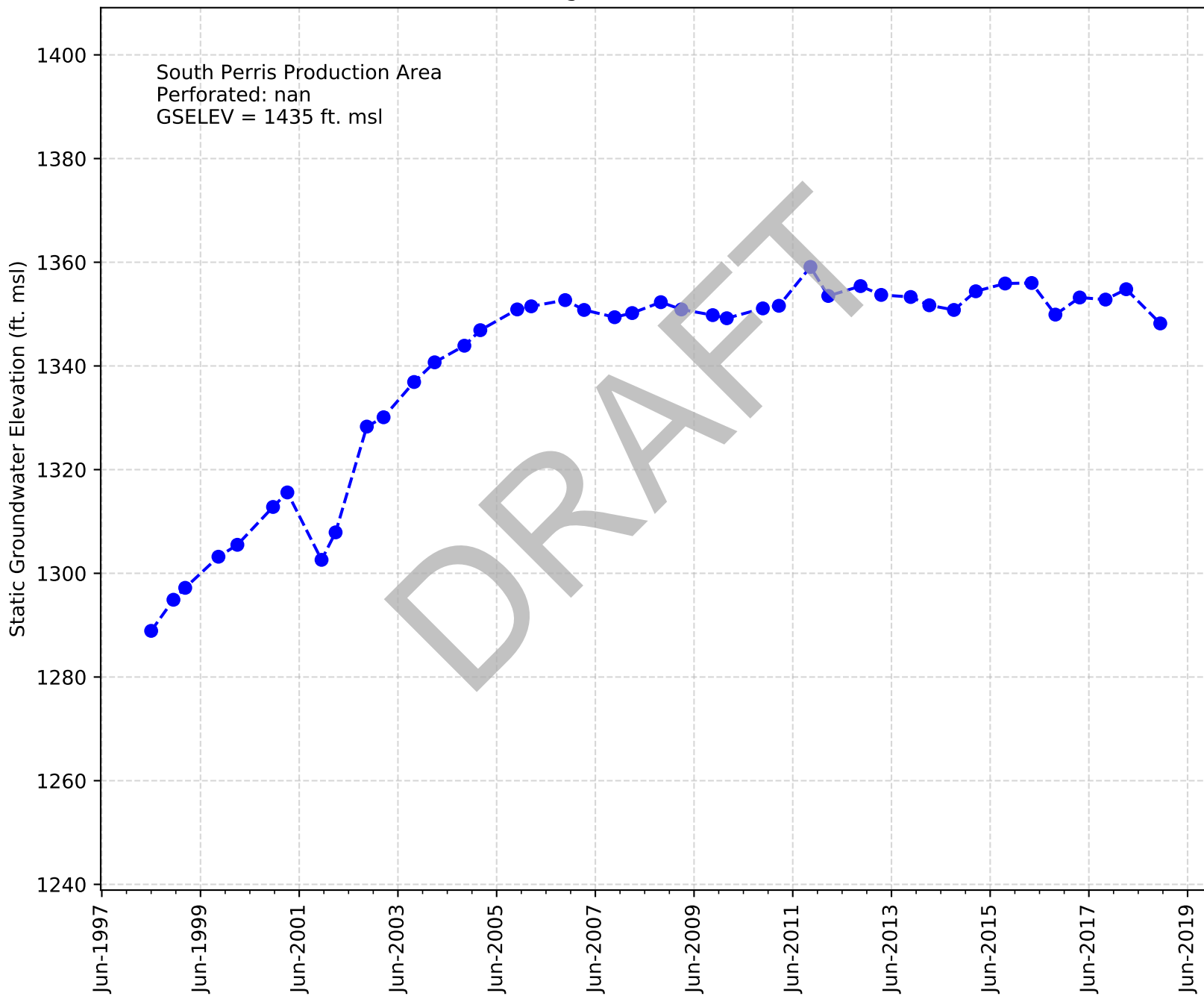
Casing Name: AG Sod South of Perris/Orange



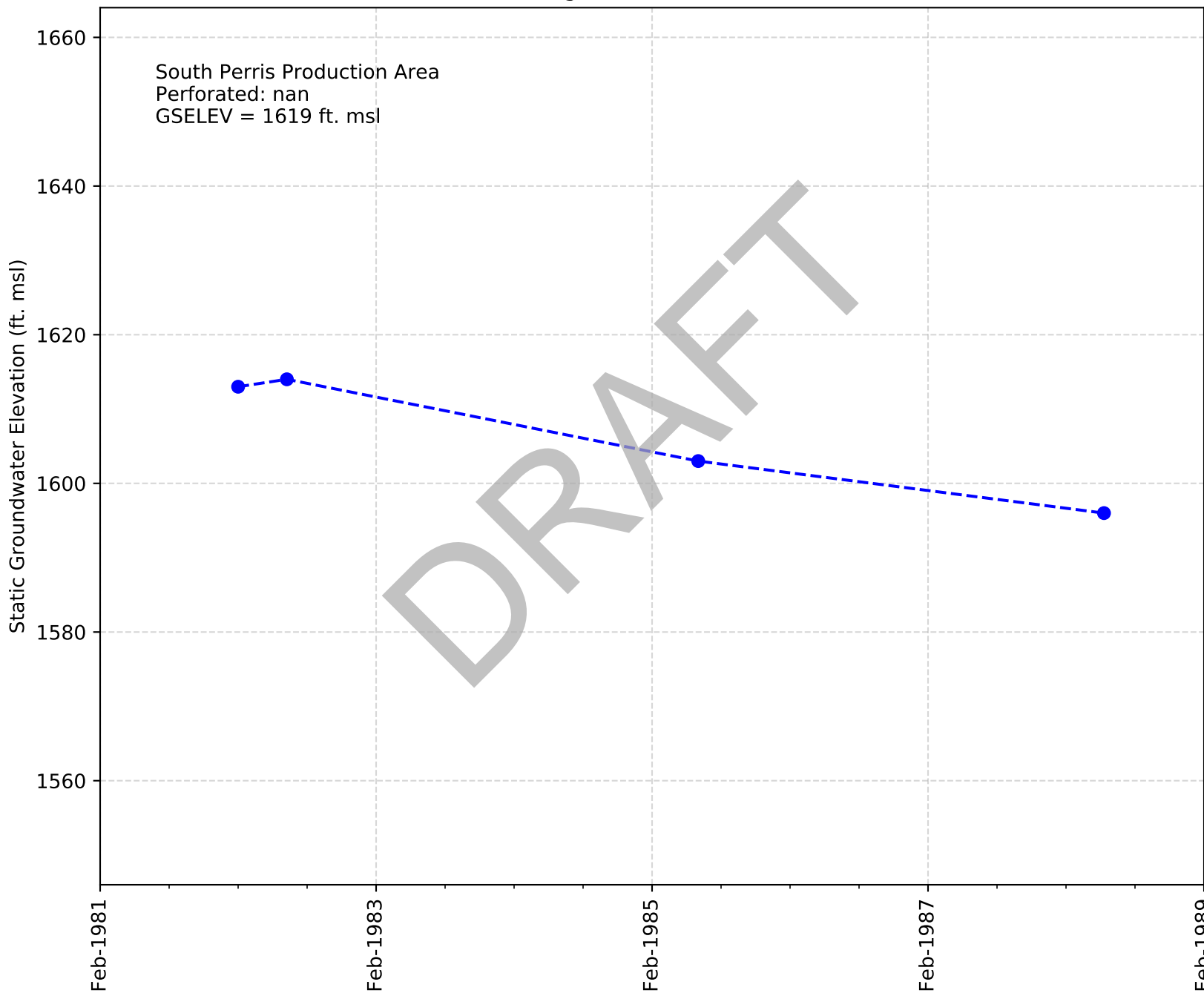
Casing Name: EMWD MVRWRF South



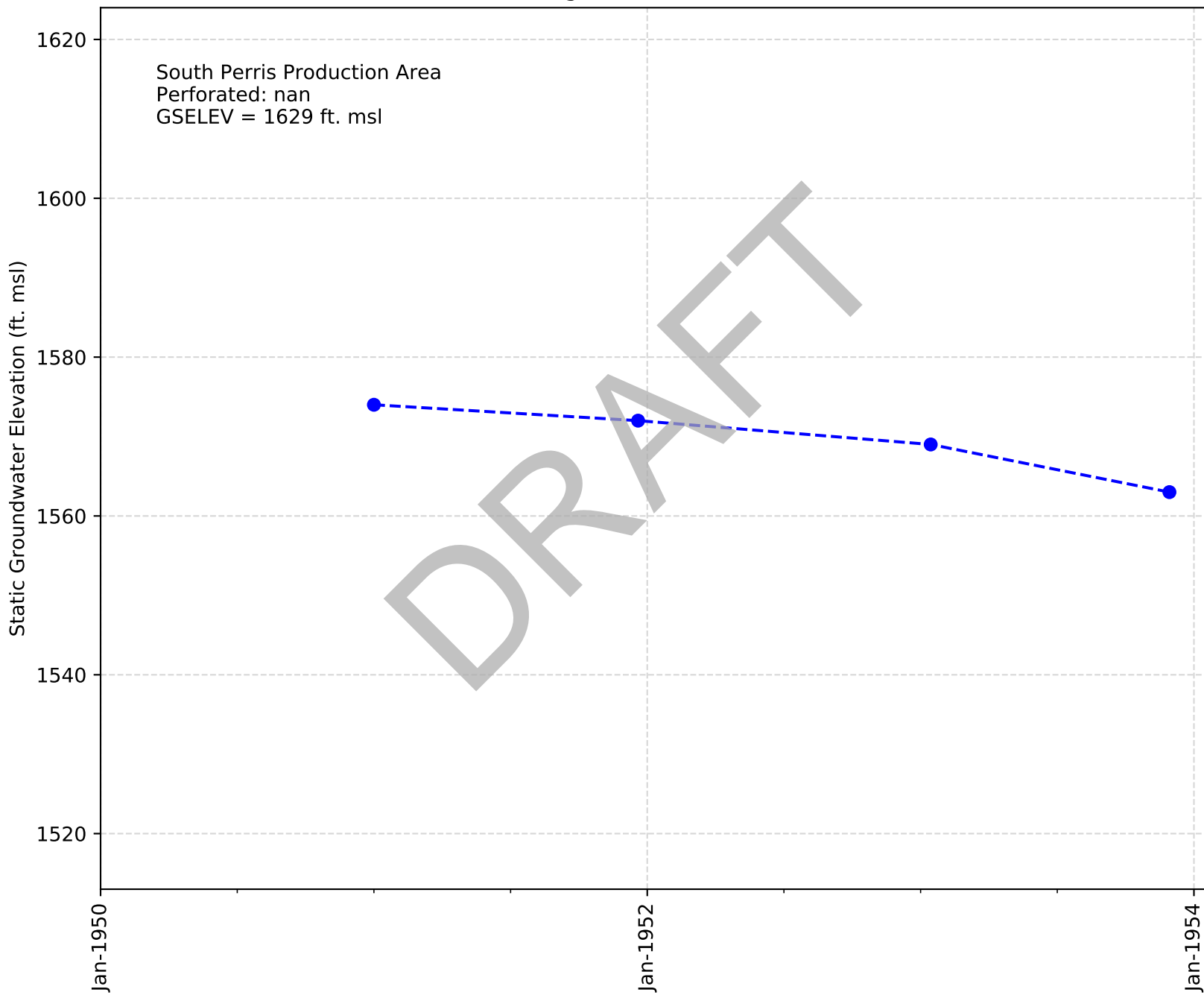
Casing Name: Piester Pico



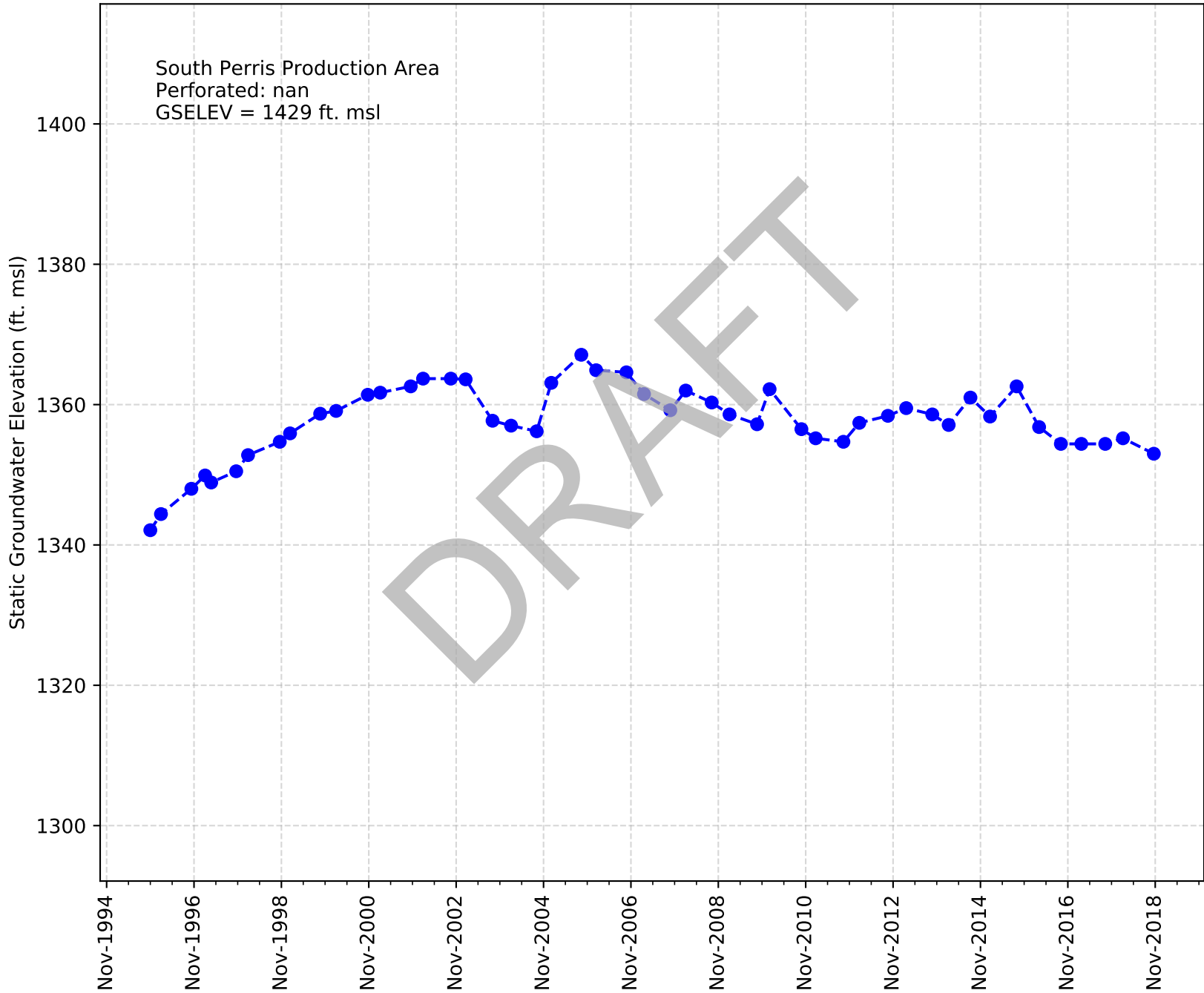
Casing Name: Dressen, E.



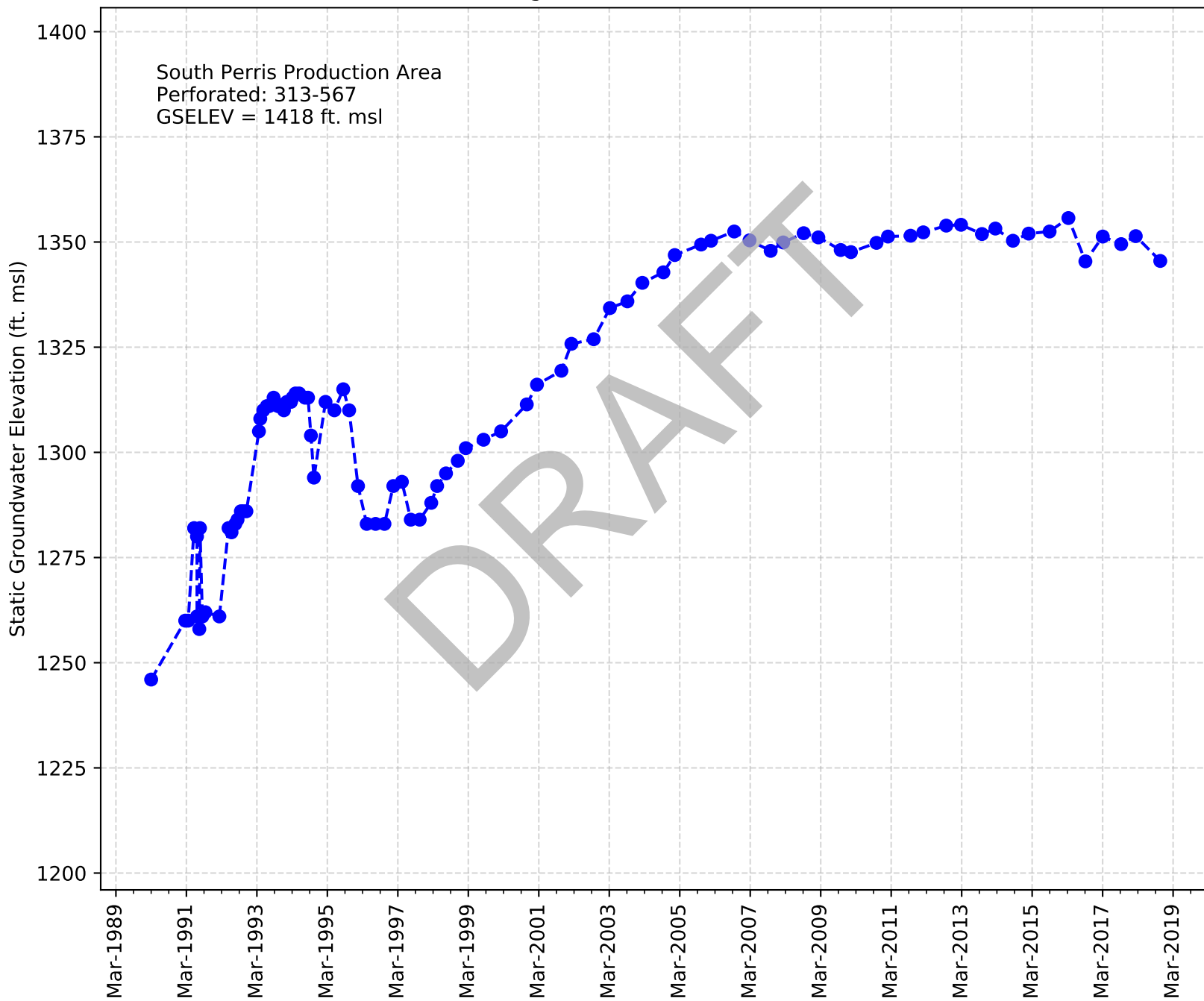
Casing Name: Smith, L. H.



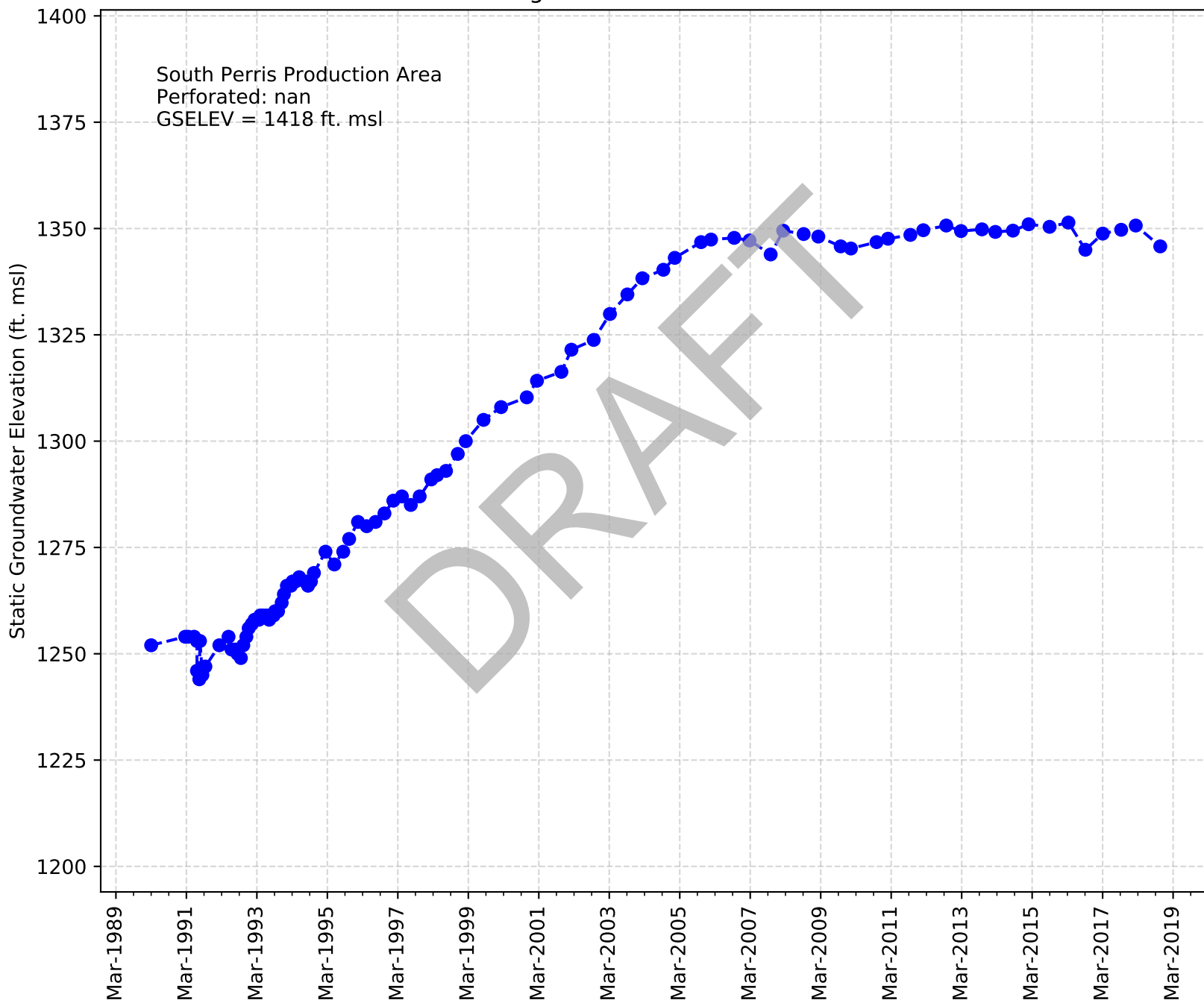
Casing Name: Smith C Rouse OC



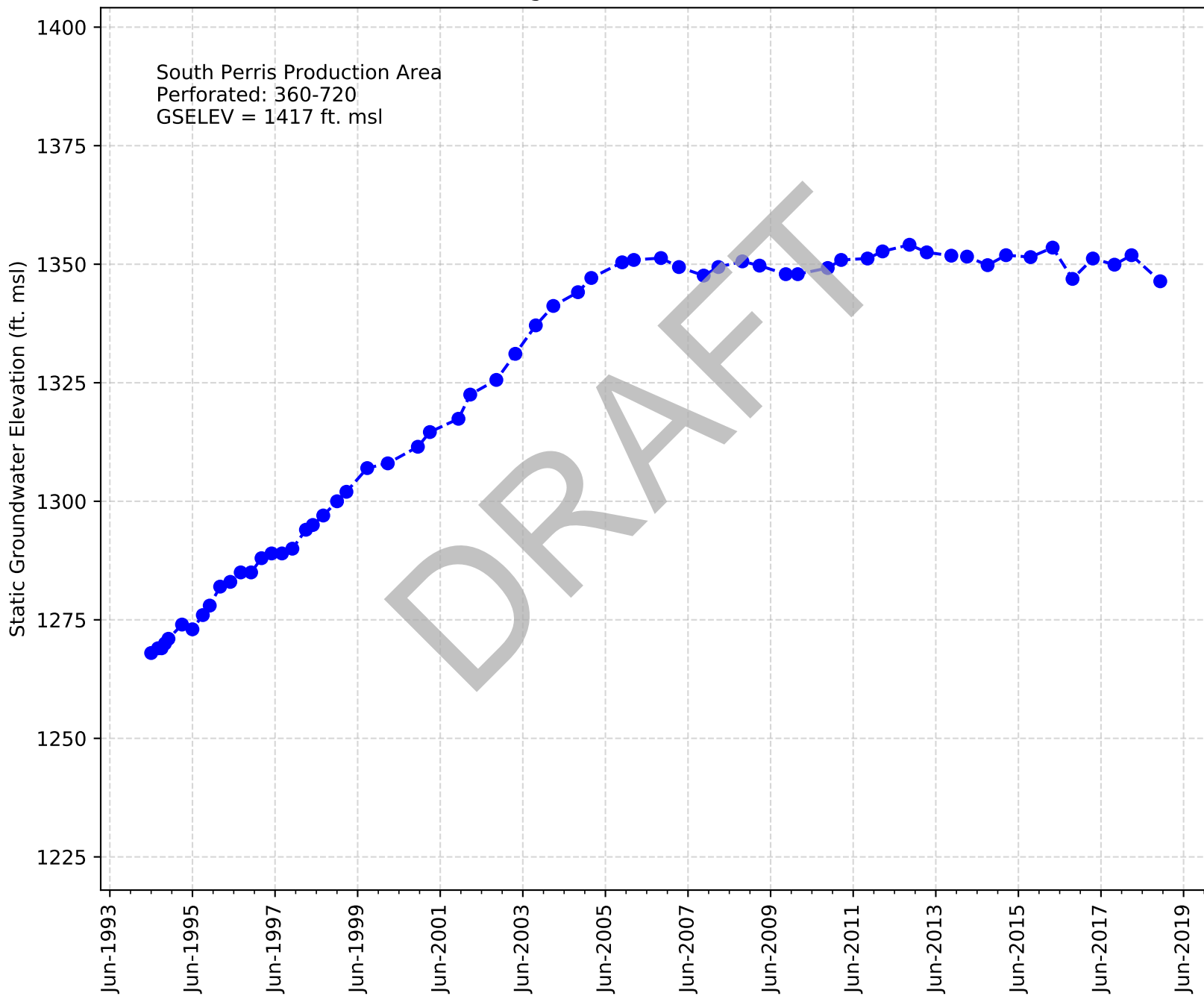
Casing Name: EMWD Skiland 05



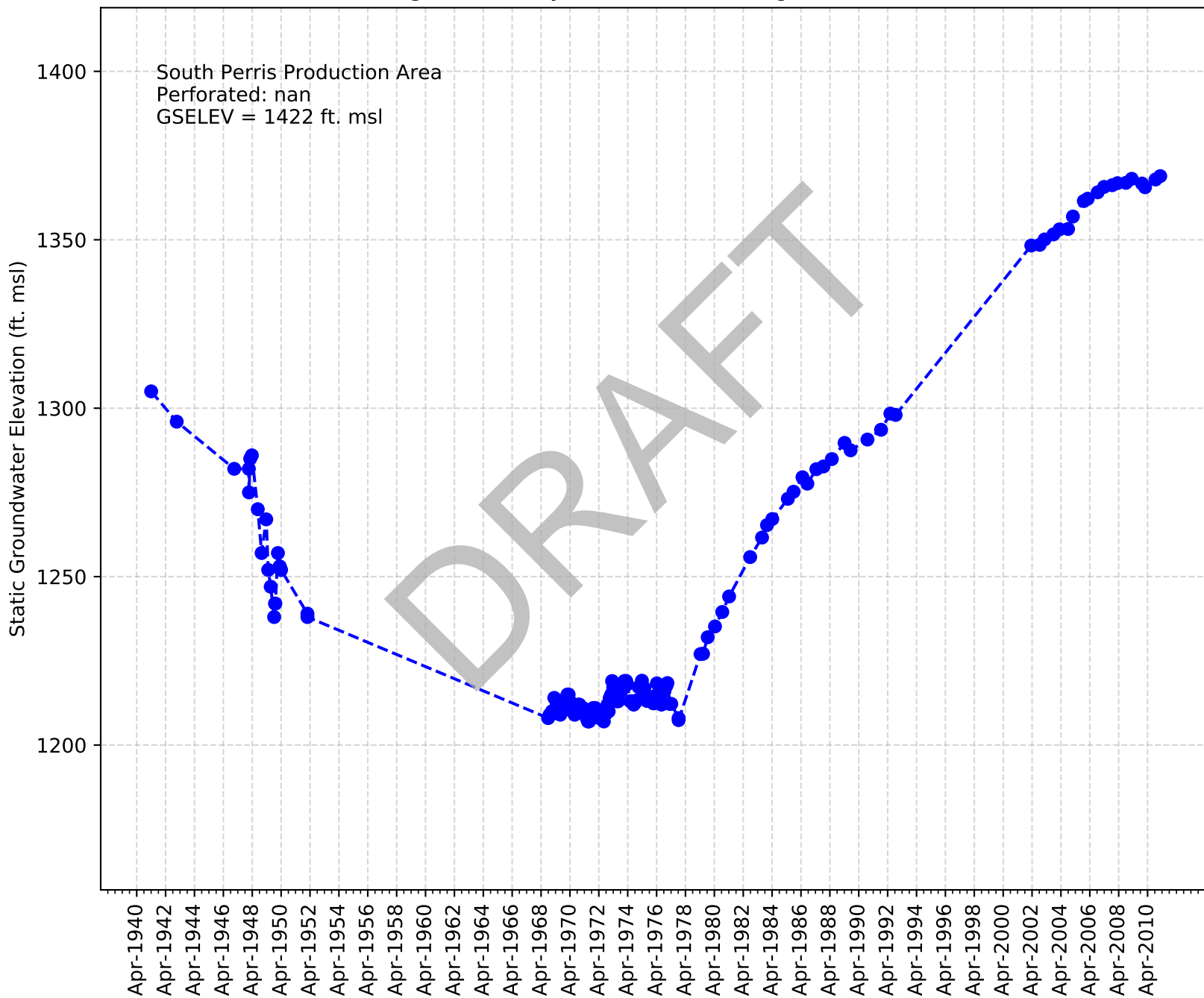
Casing Name: EMWD Skiland 02



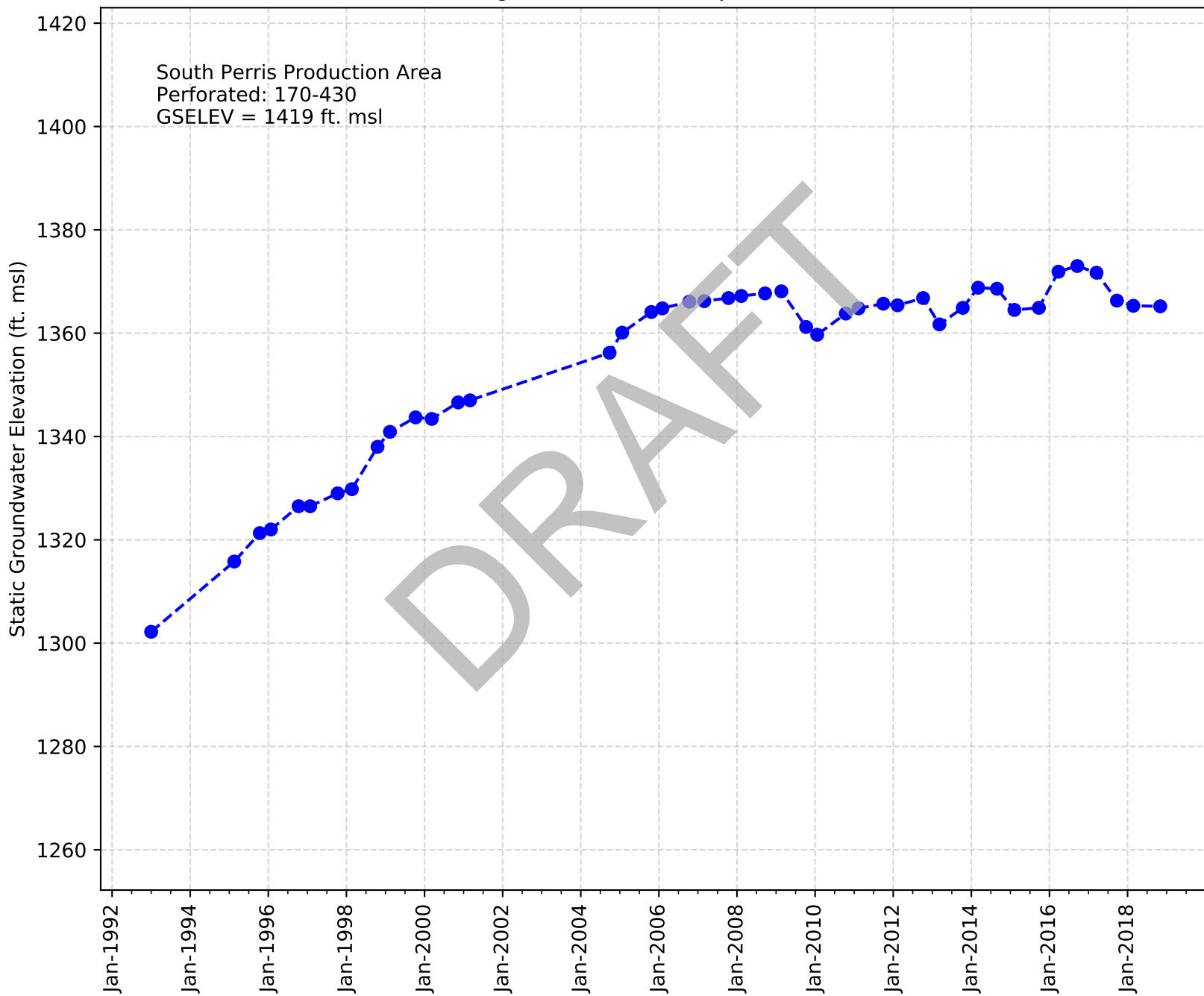
Casing Name: EMWD Skiland 01



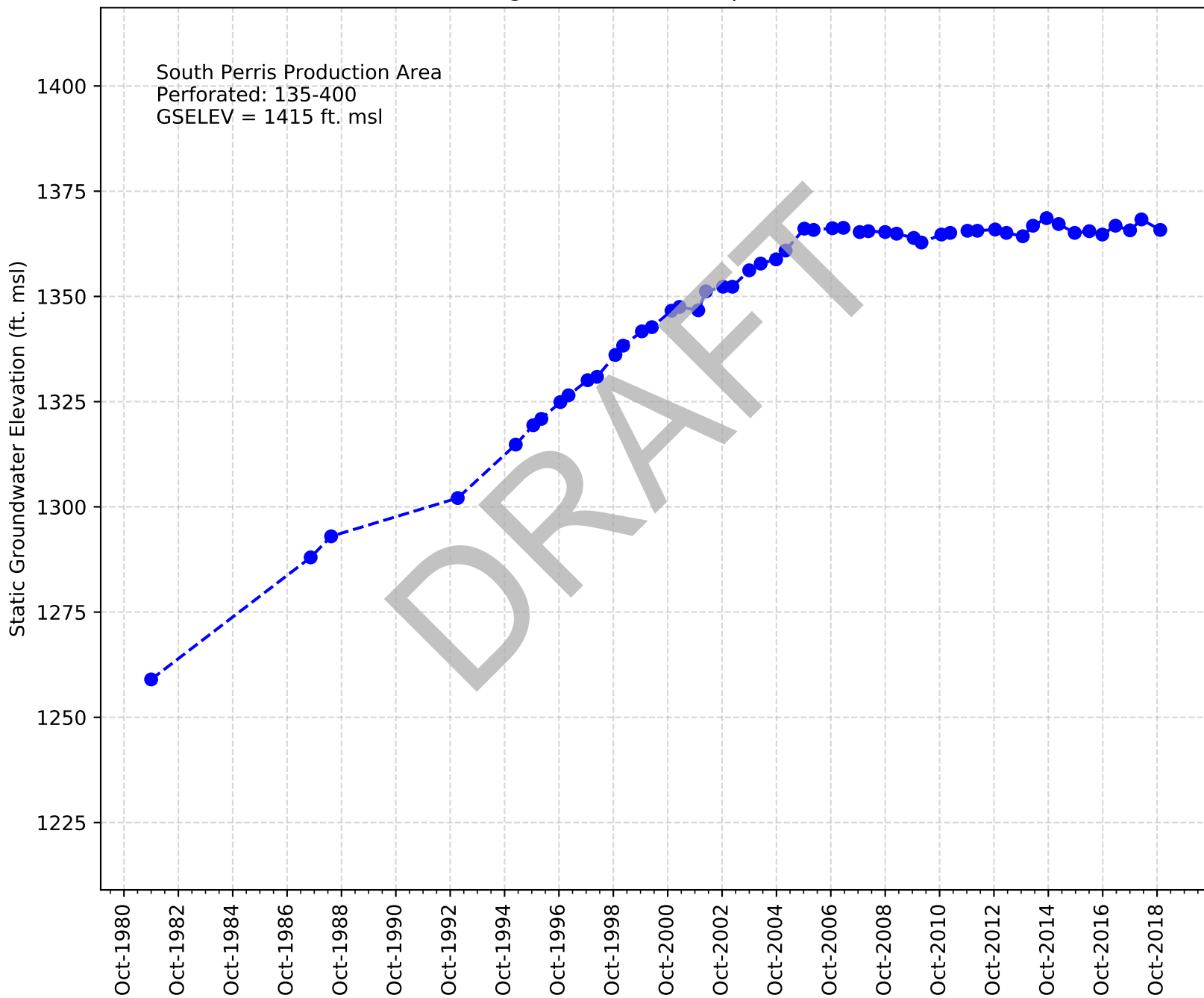
Casing Name: City of Perris Bob Long Memorial Park



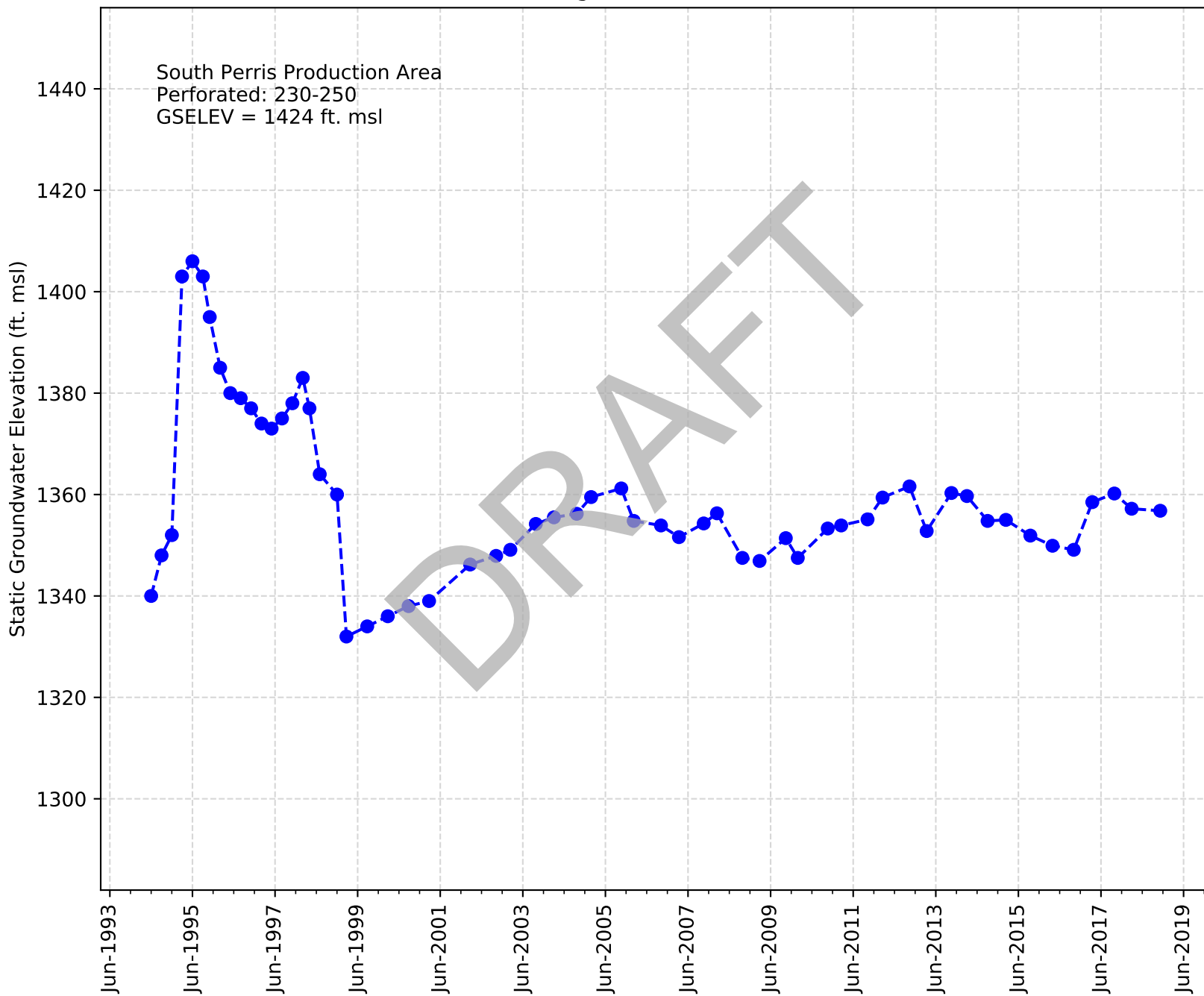
Casing Name: Perris Properties Kmart



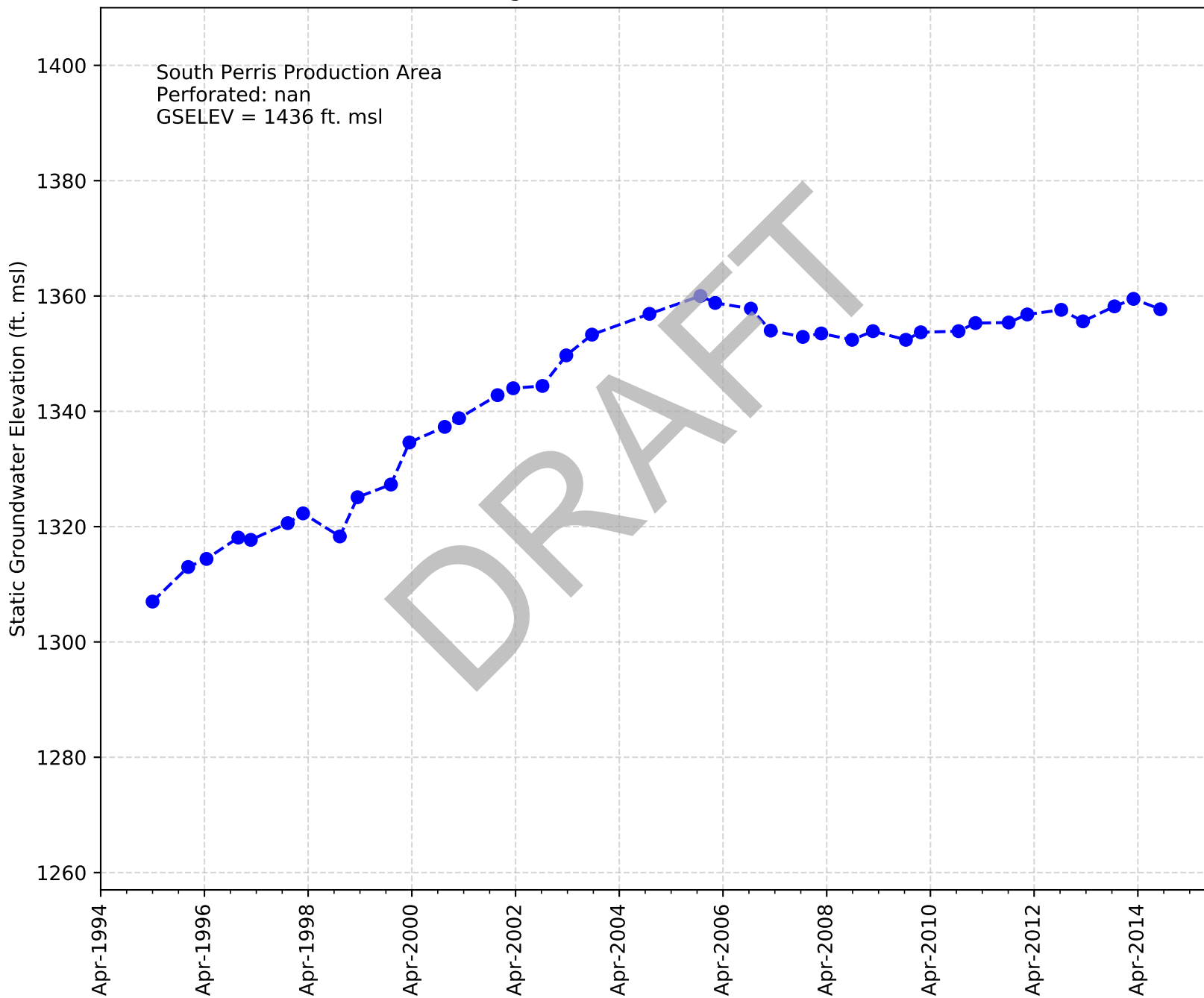
Casing Name: Perris Properties Ellis



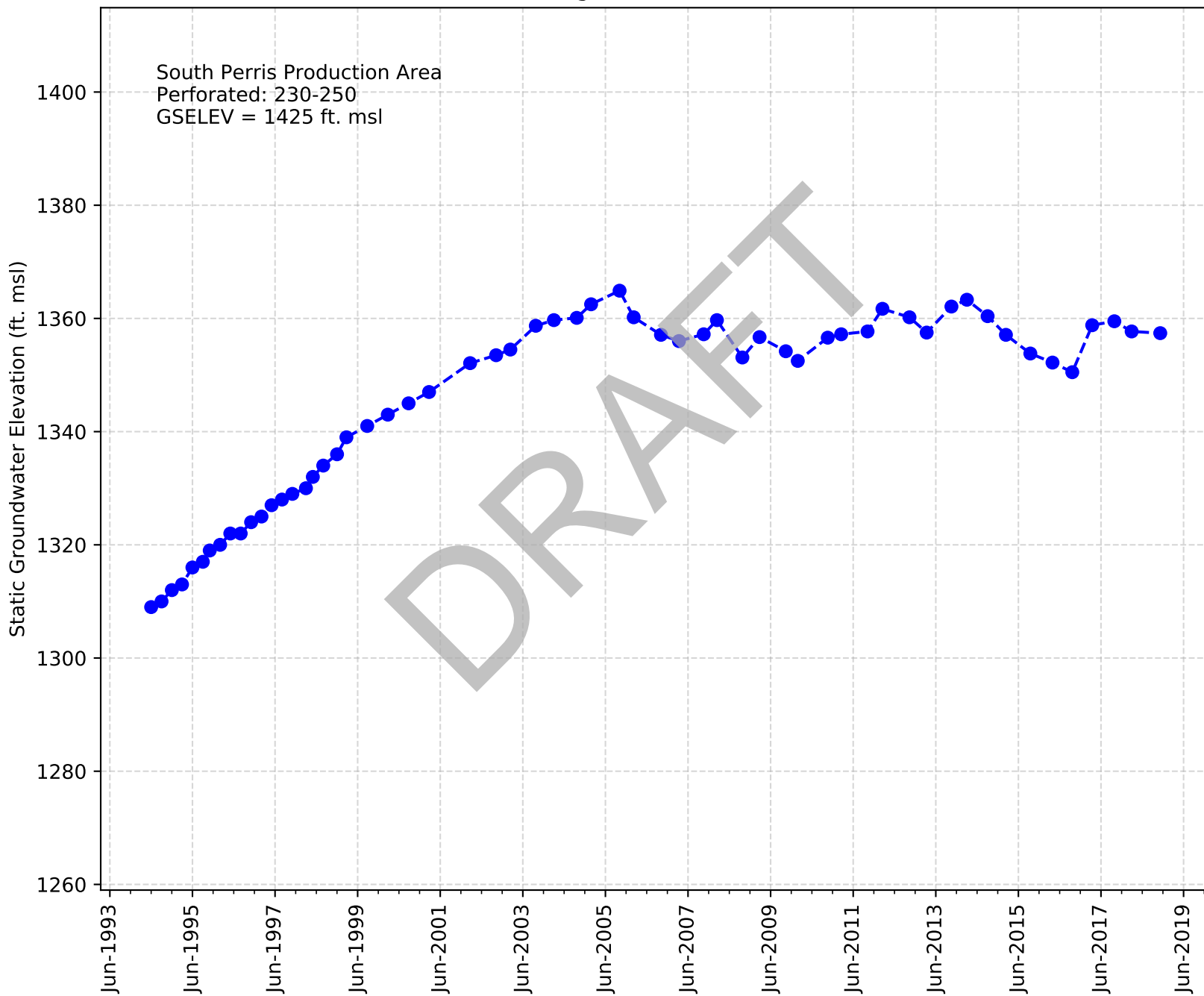
Casing Name: EMWD B6



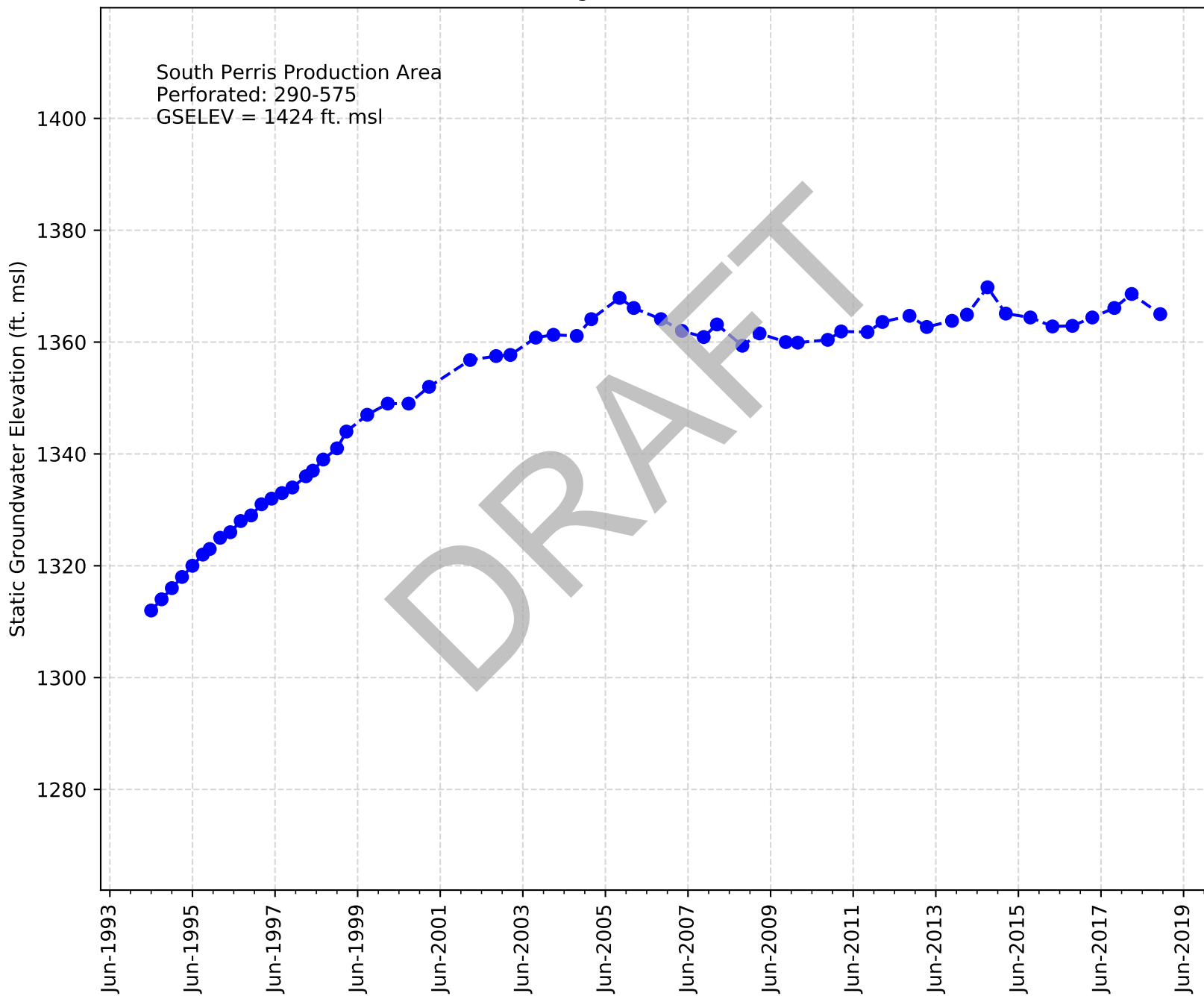
Casing Name: Schvaneveldt, Blaine



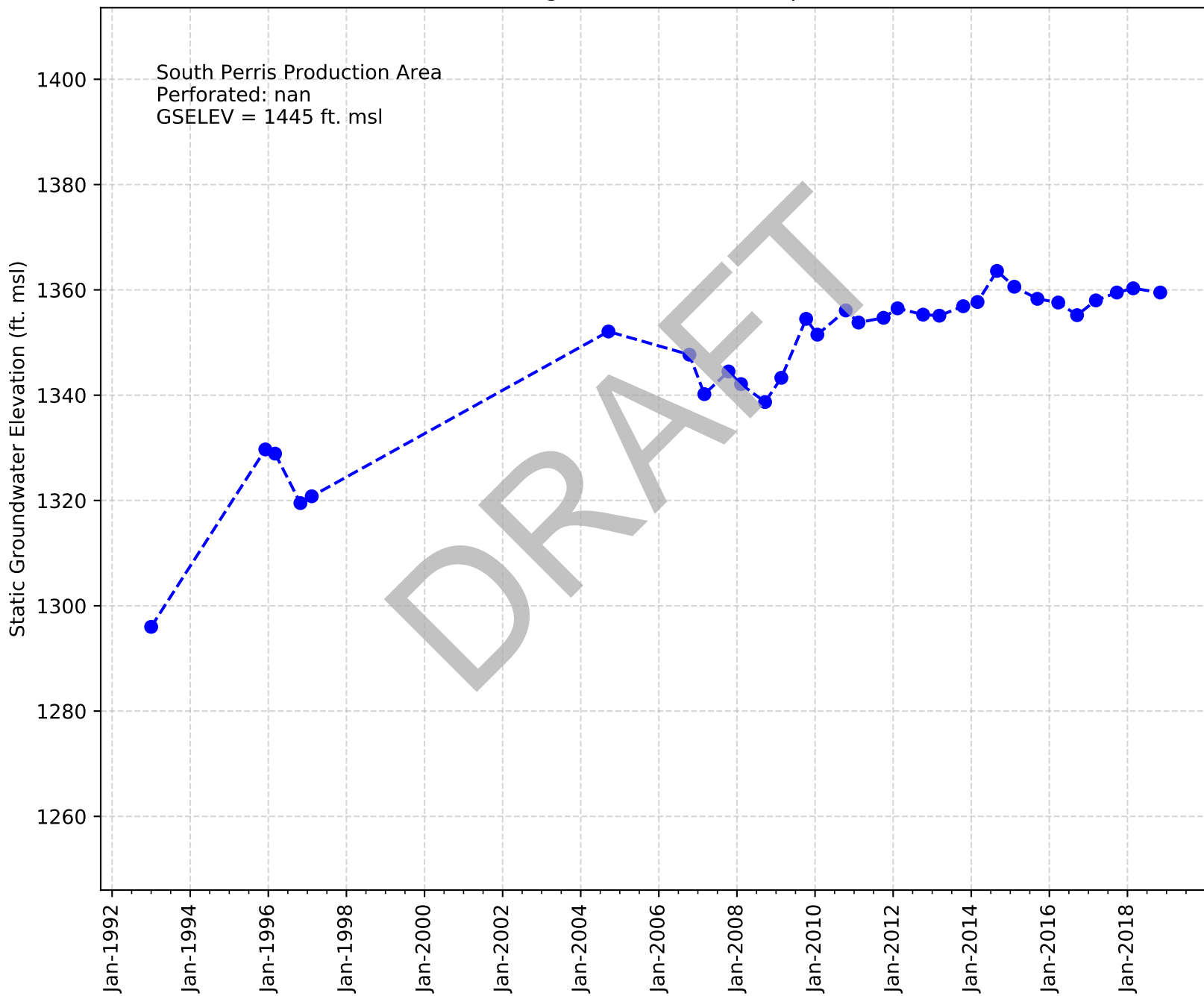
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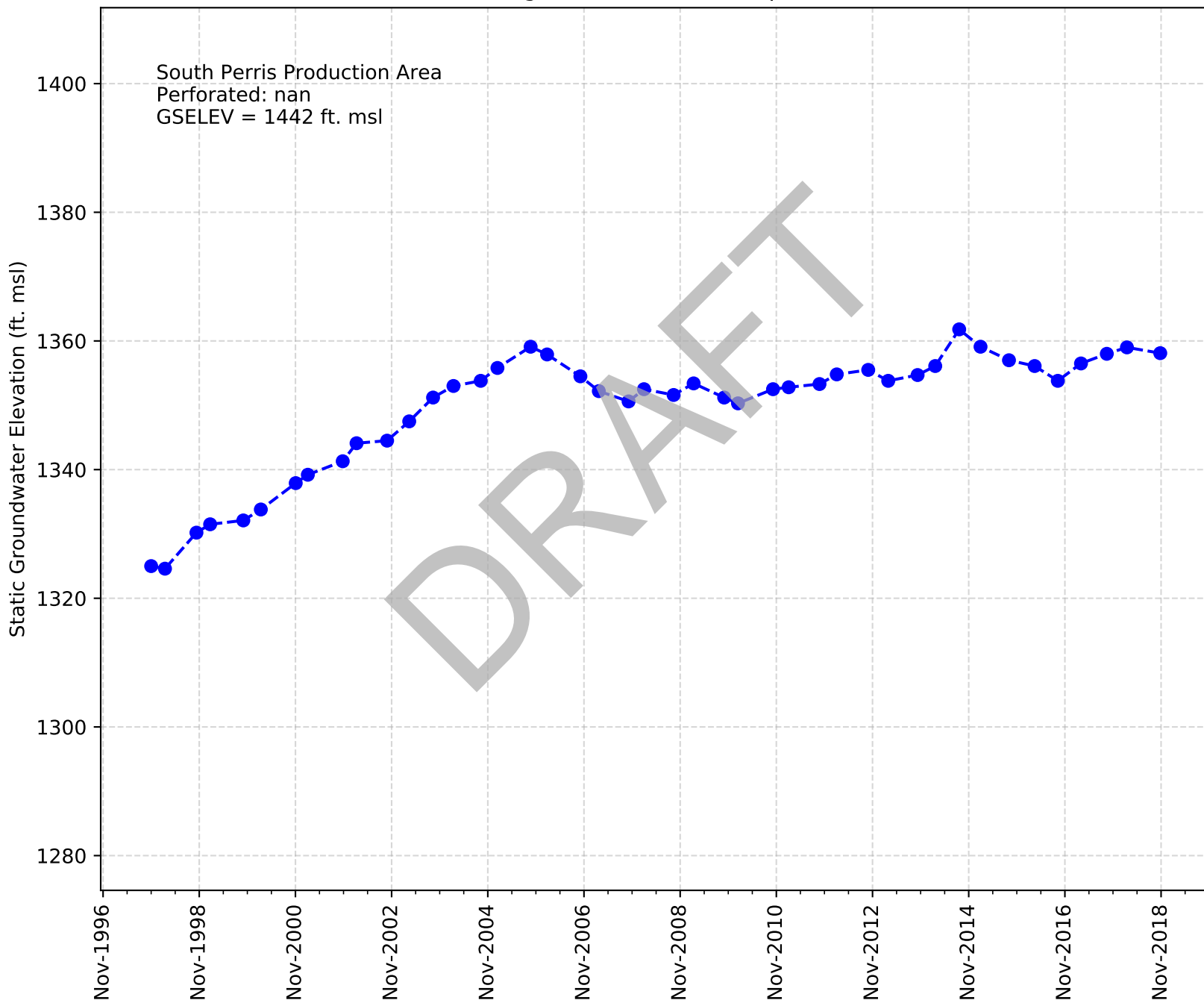
Casing Name: EMWD A1



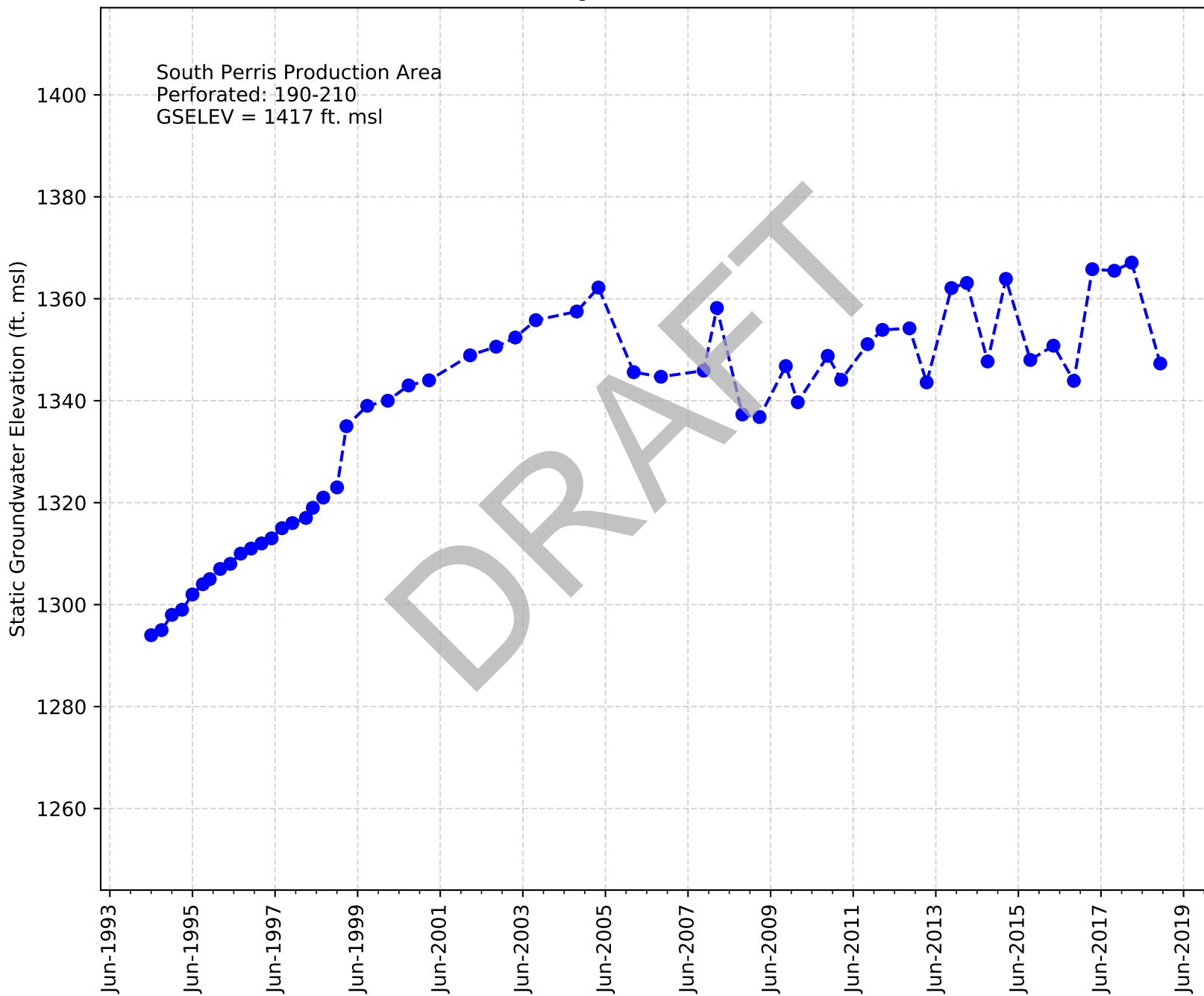
Casing Name: Smith C Mapes



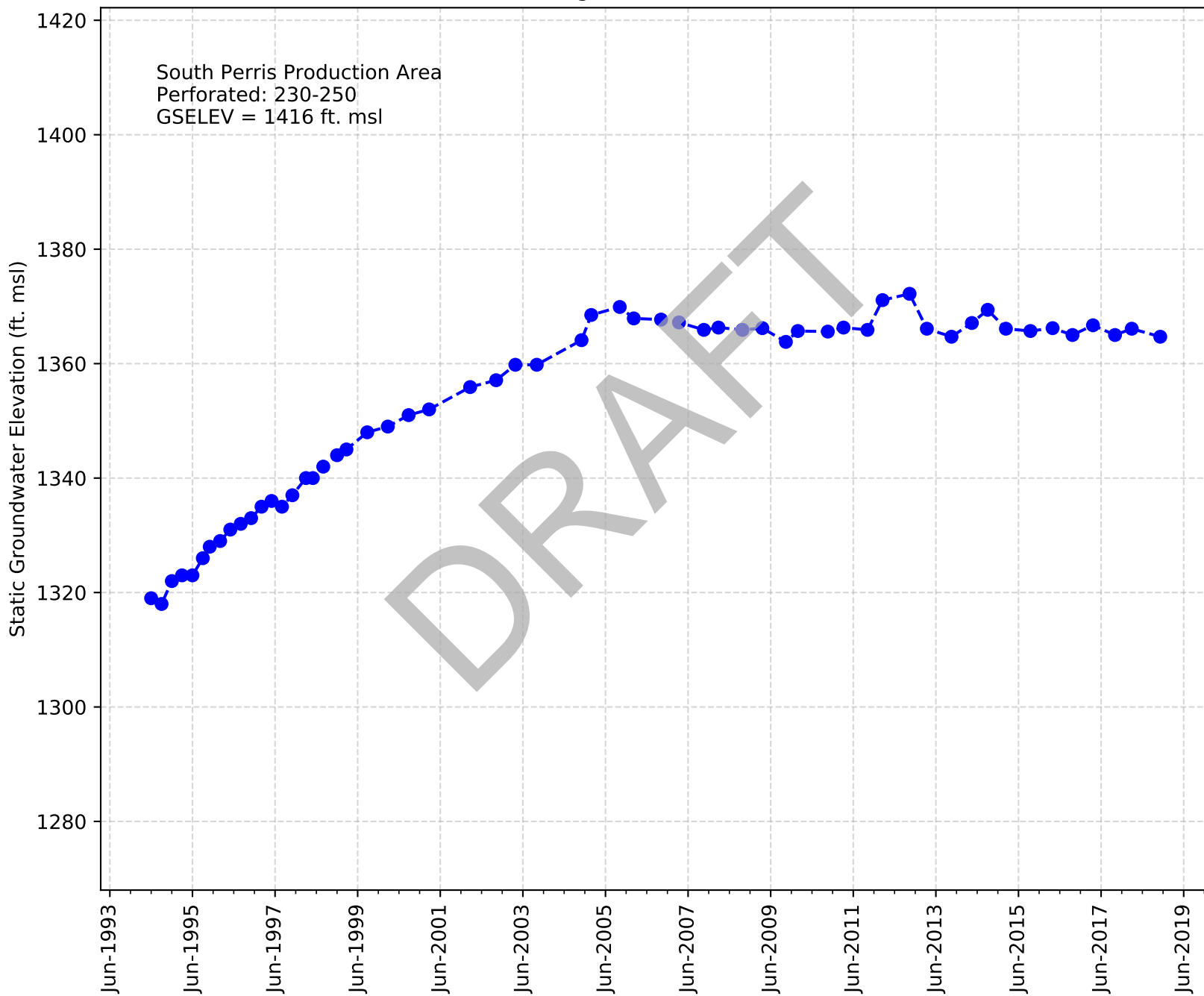
Casing Name: Smith C Mapes OC



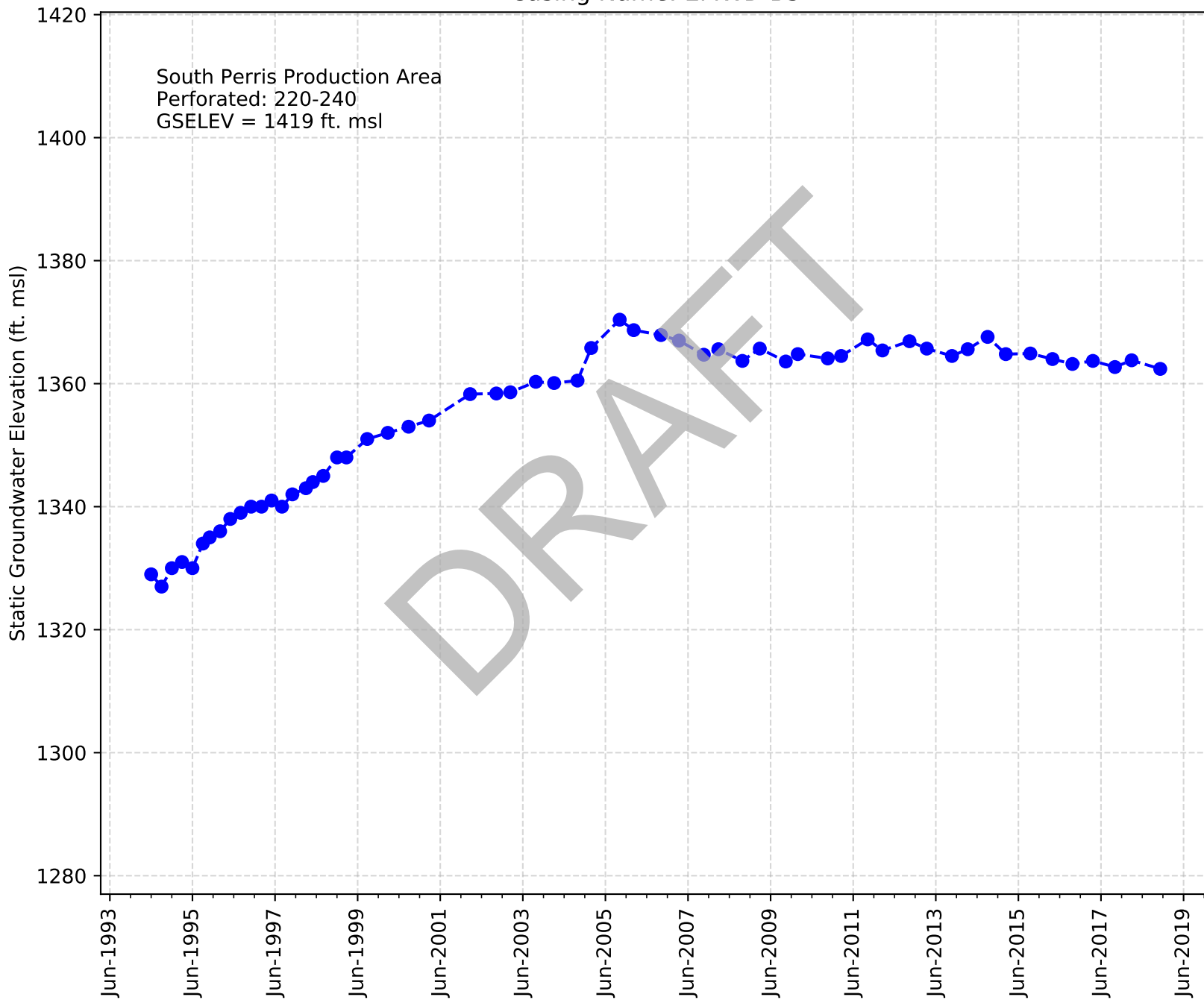
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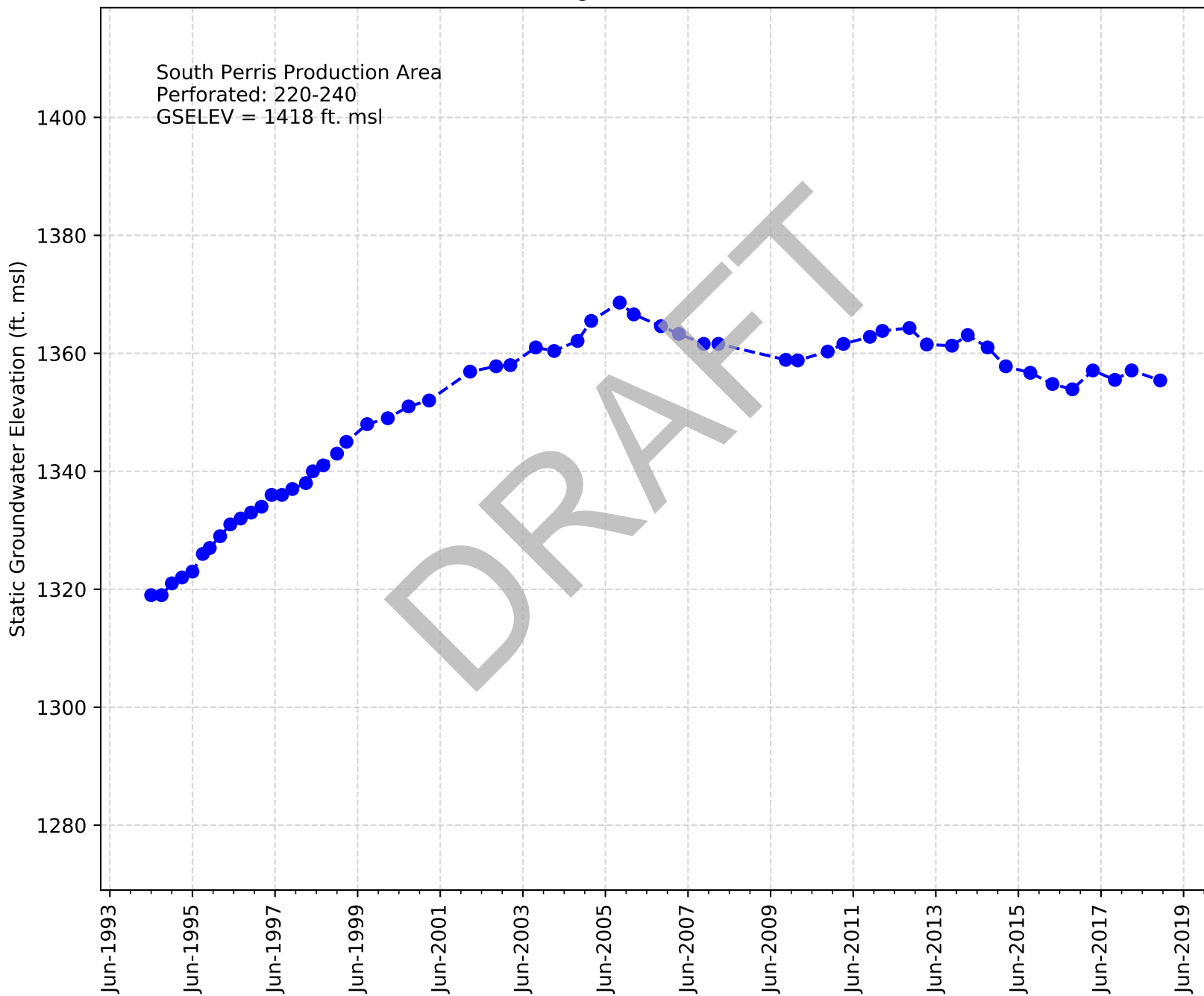
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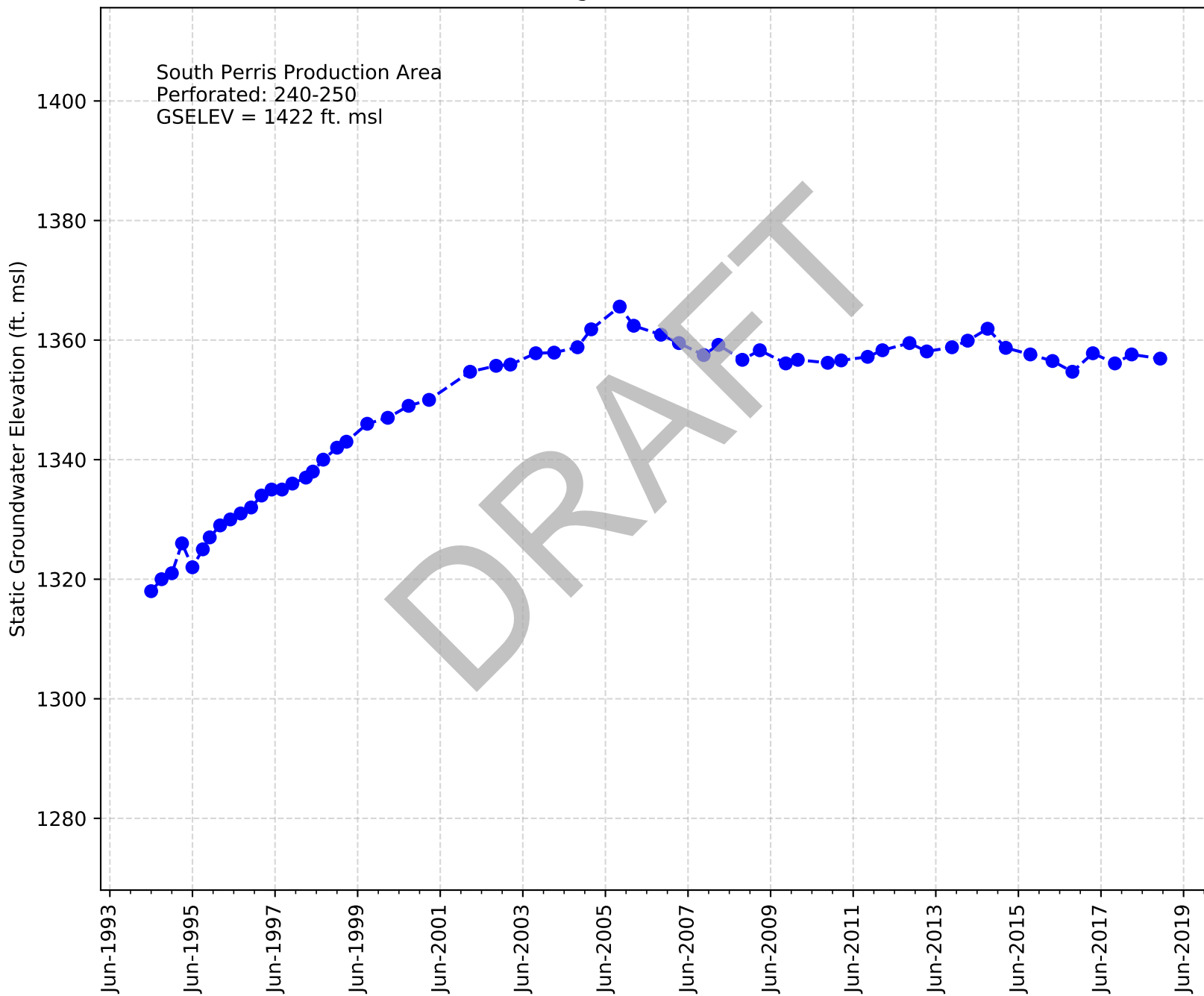
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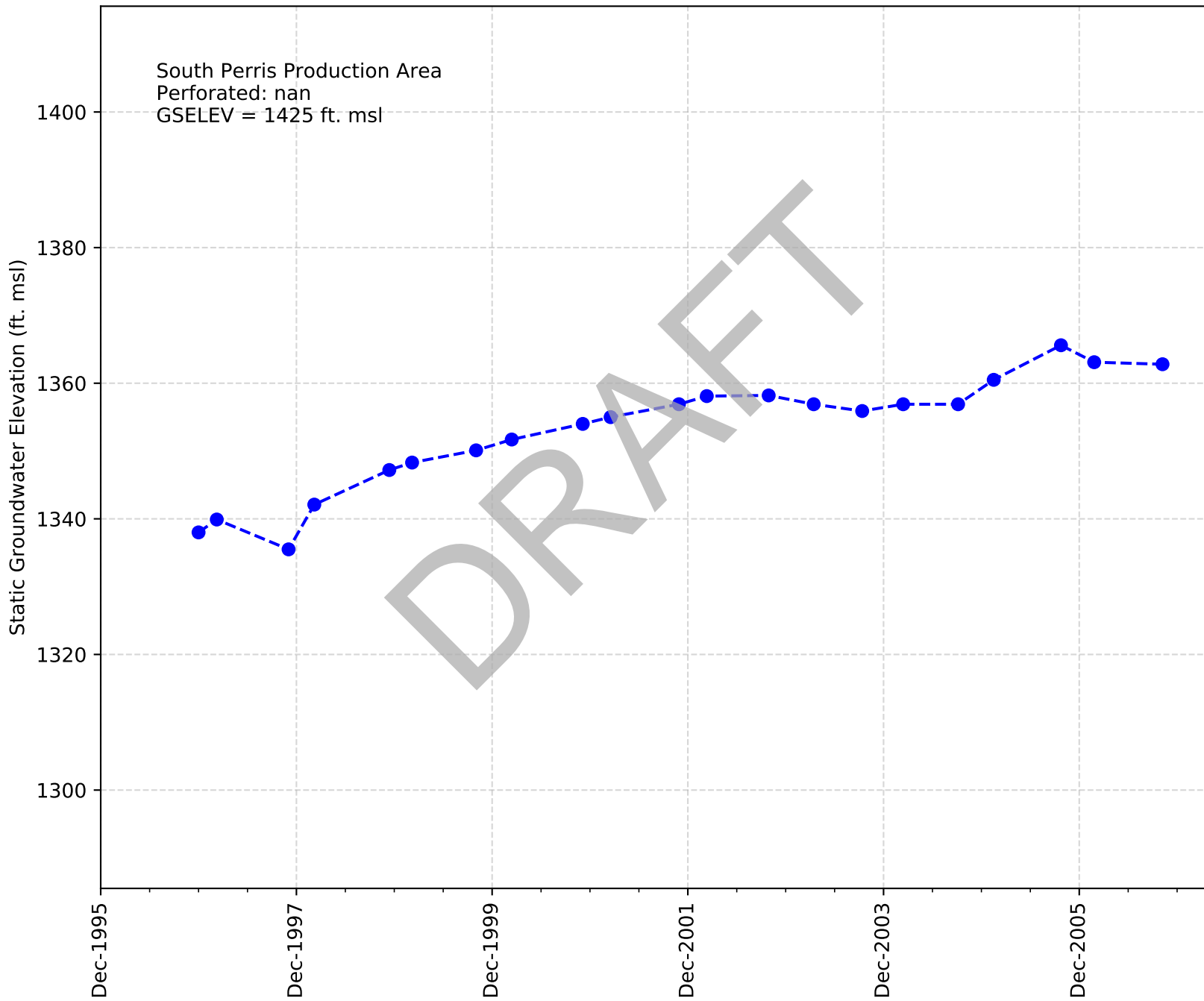
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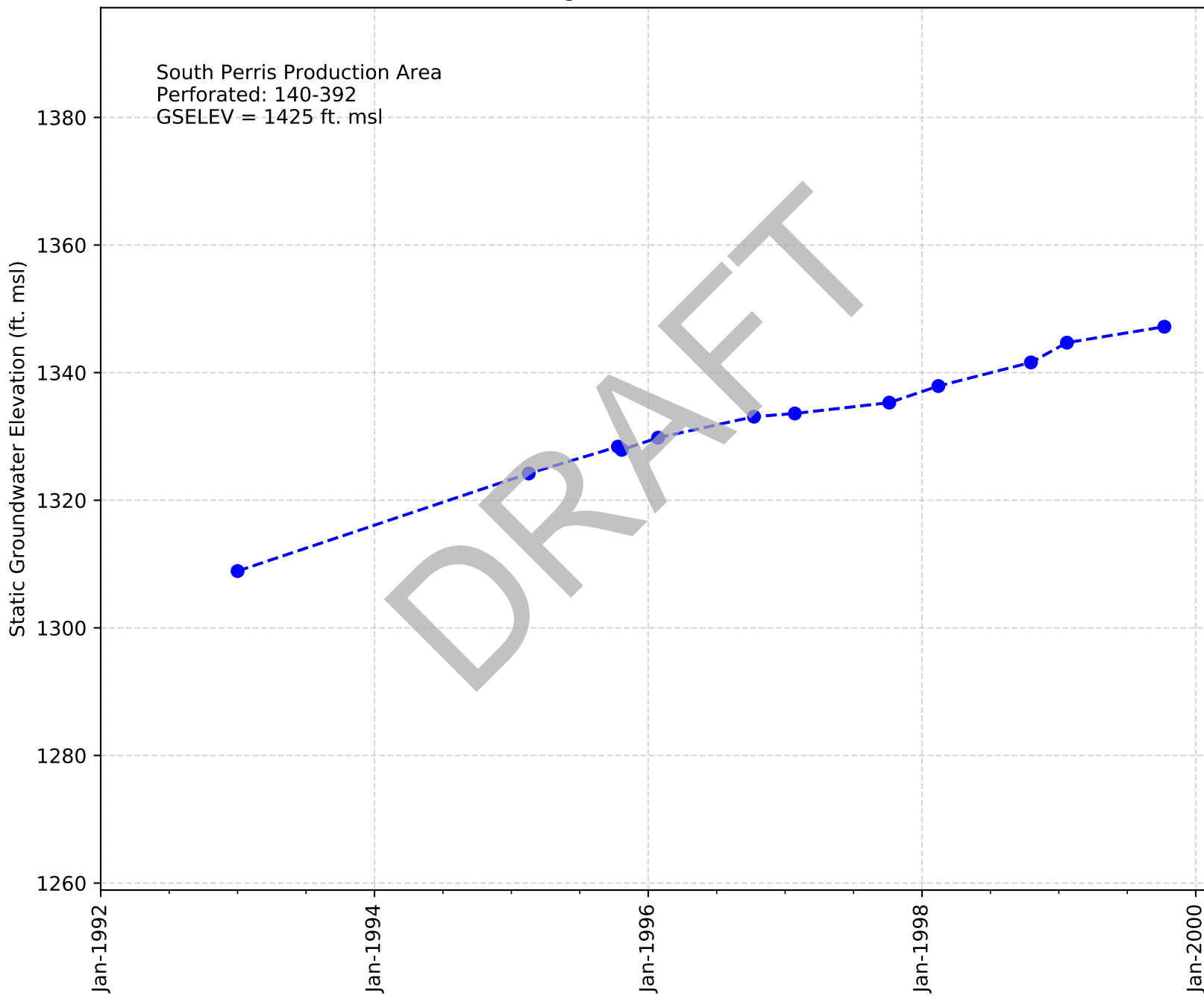
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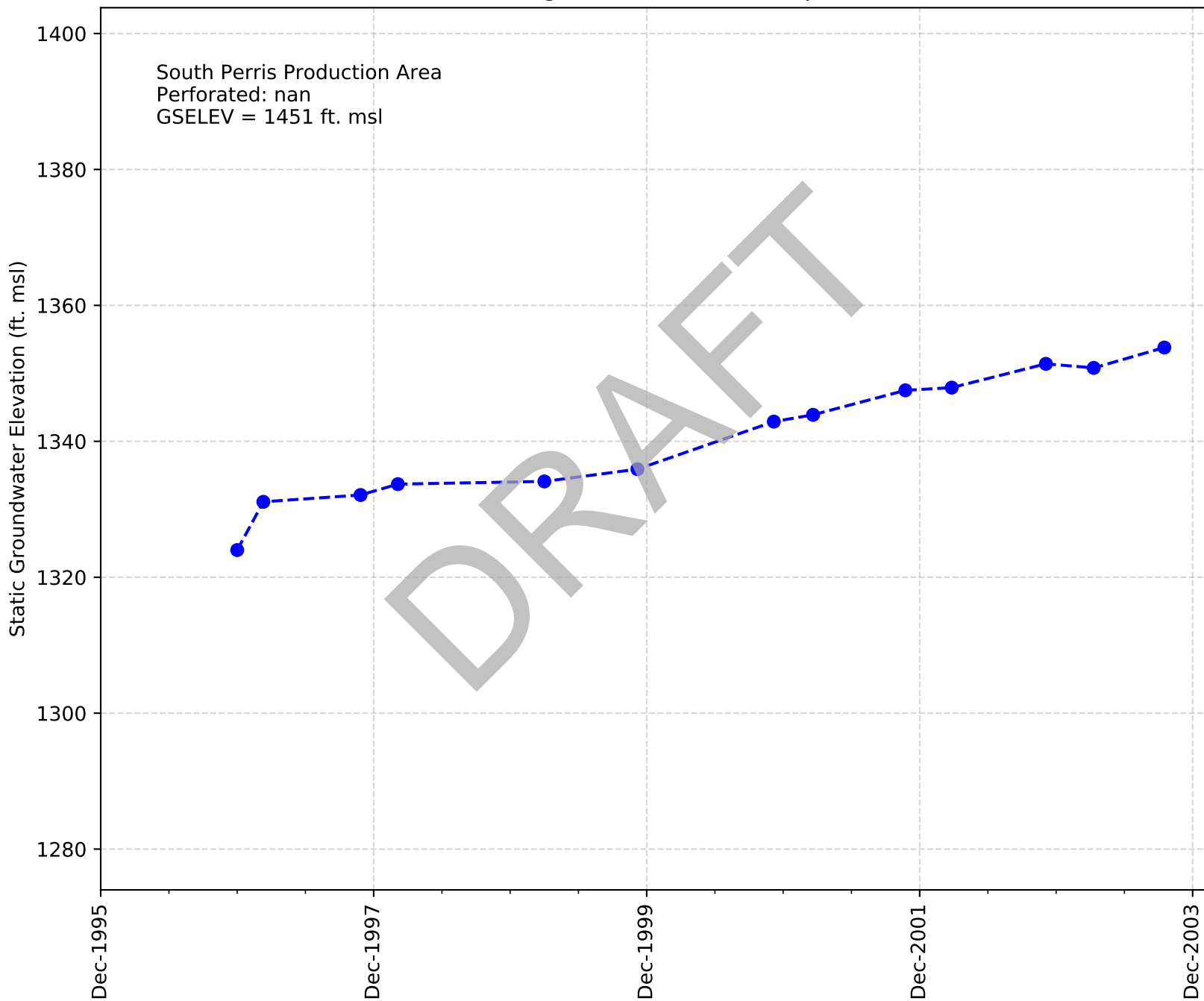
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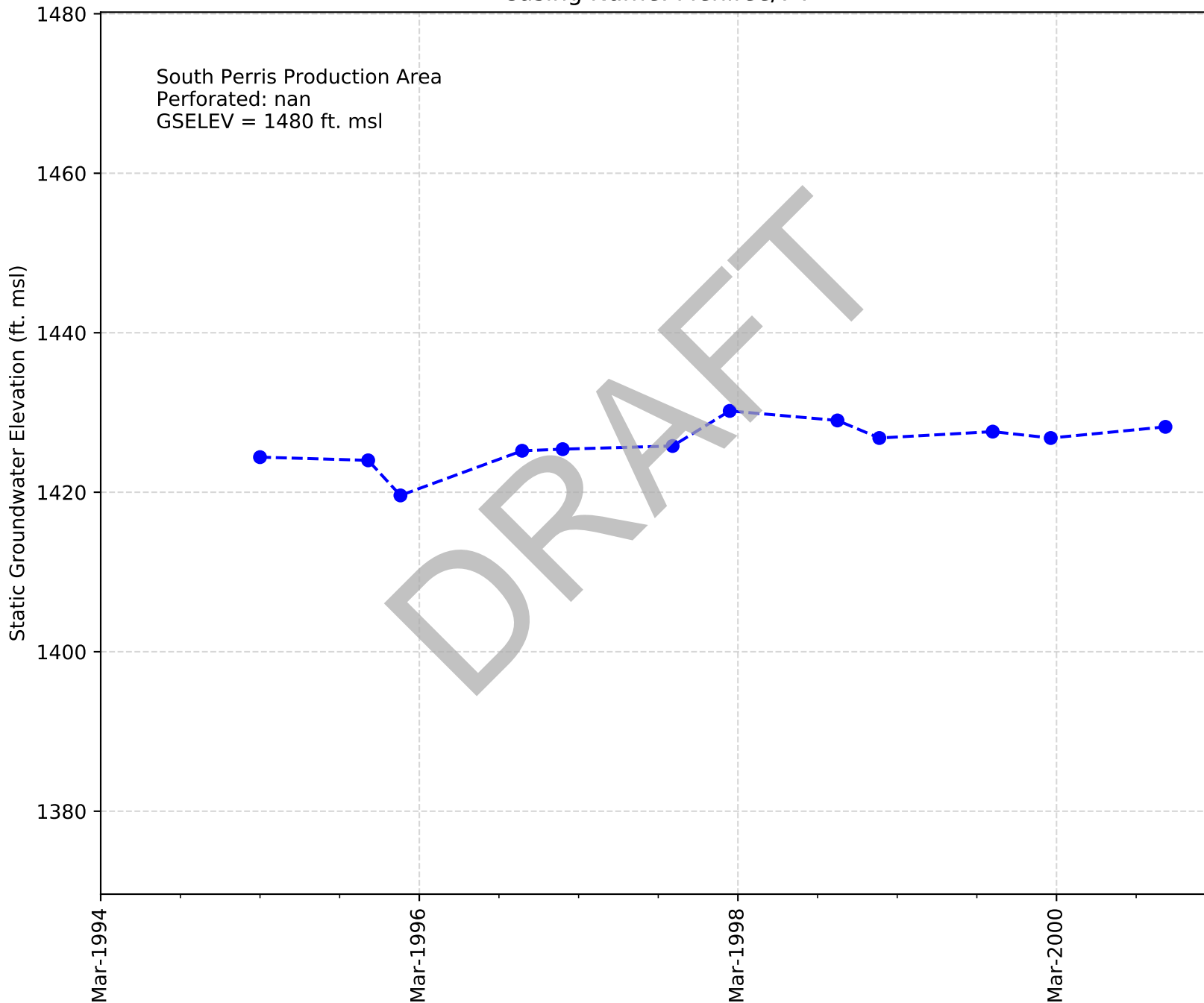
Casing Name: Watson/215



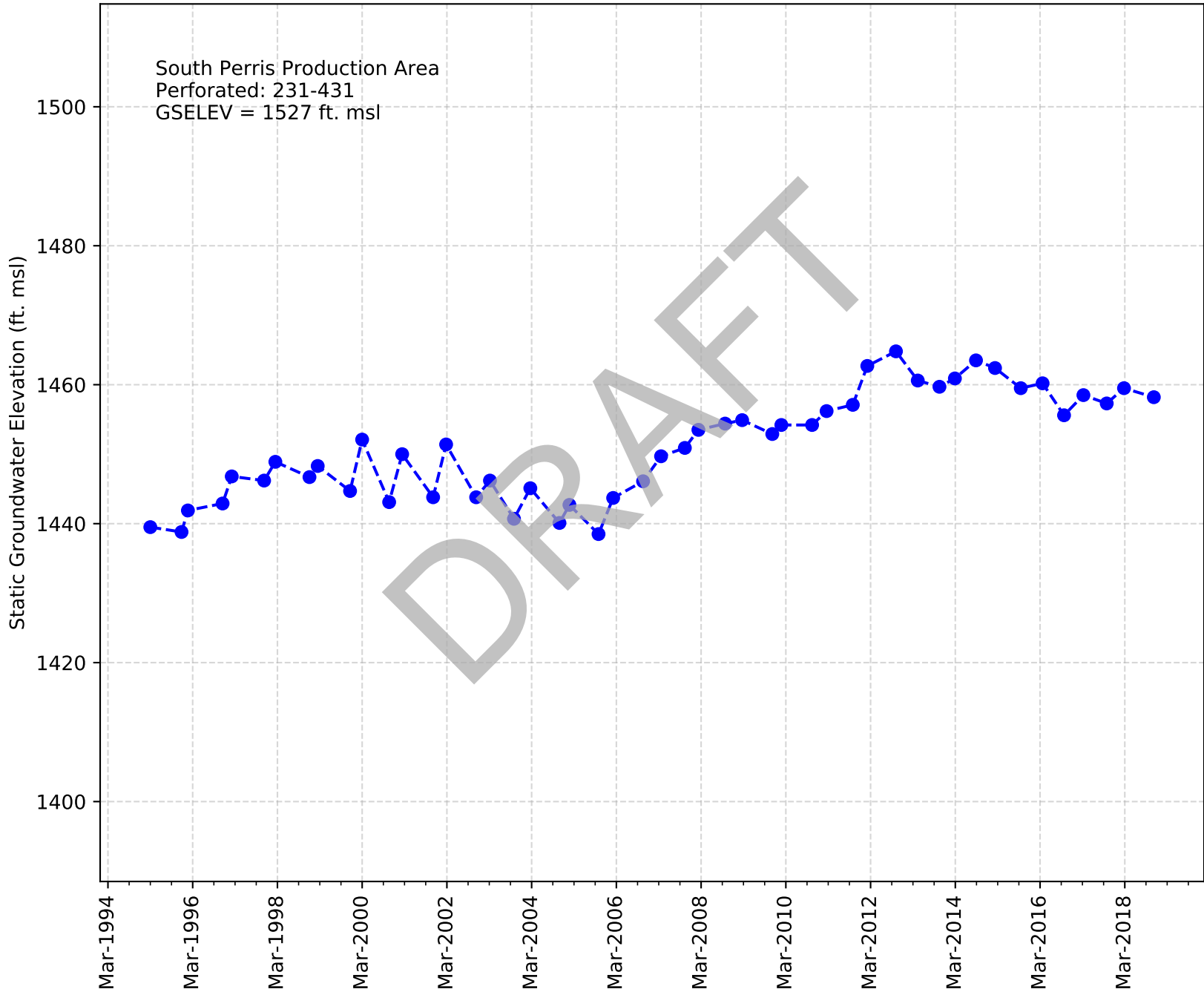
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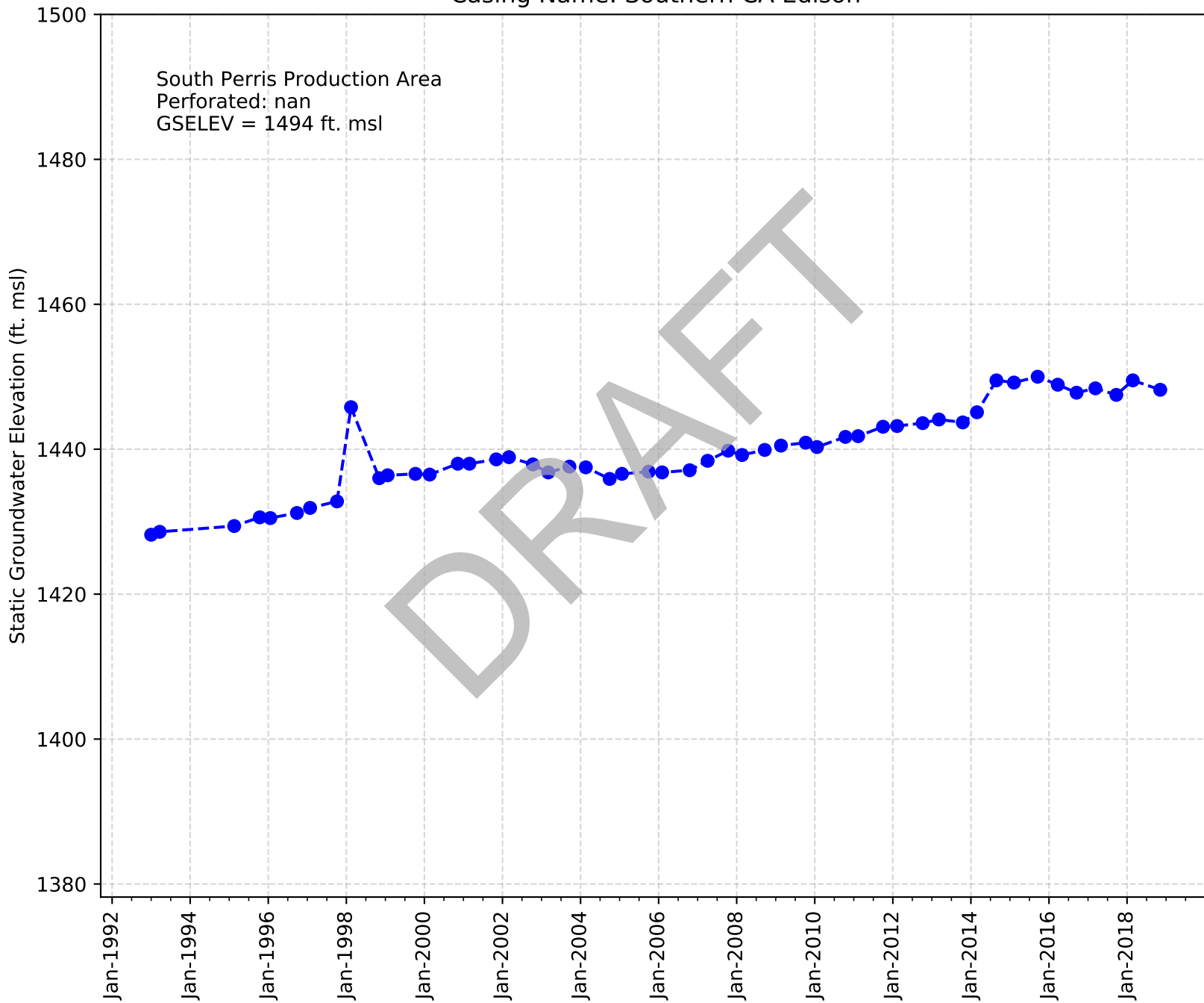
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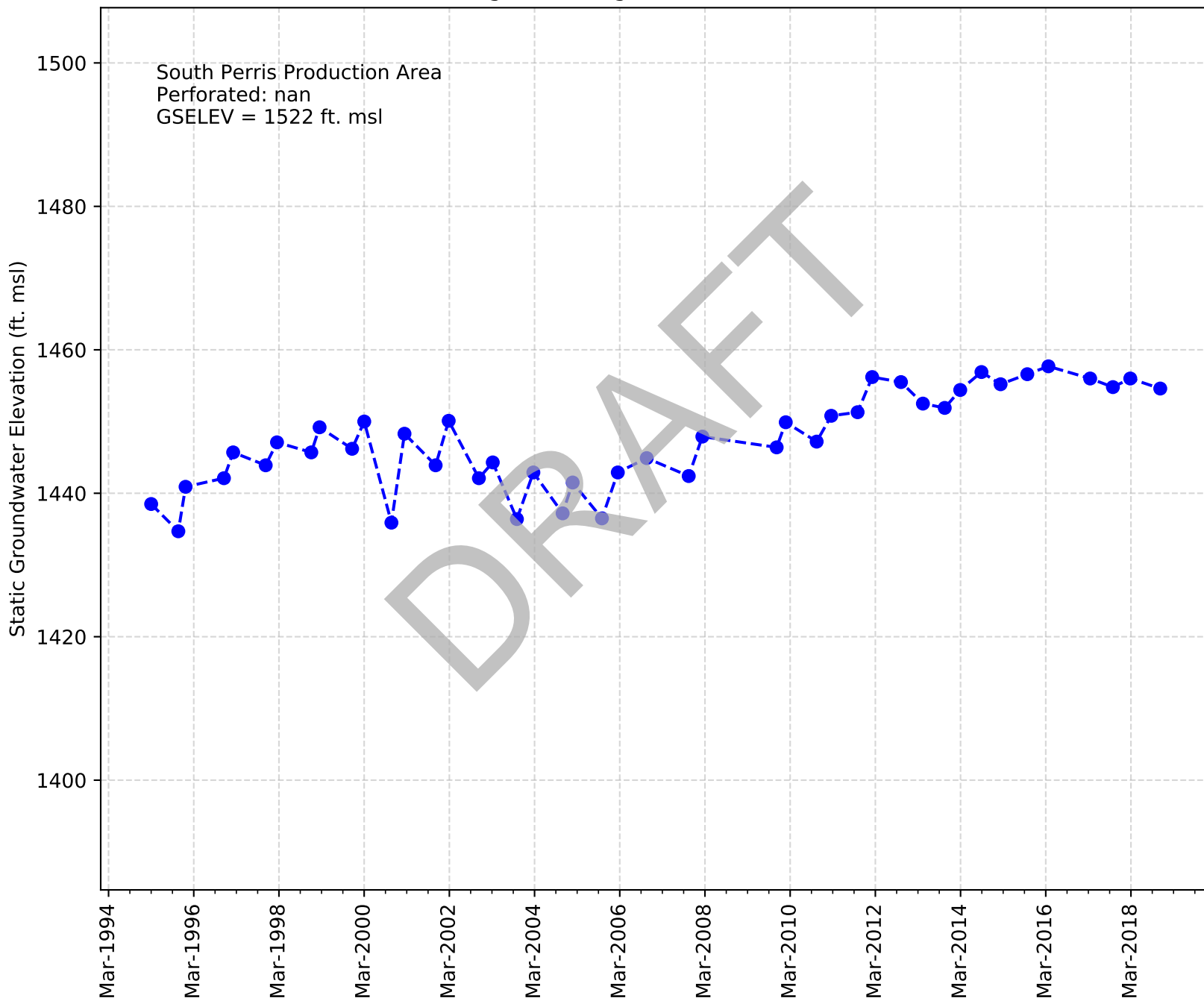
Casing Name: Agri 74/Briggs



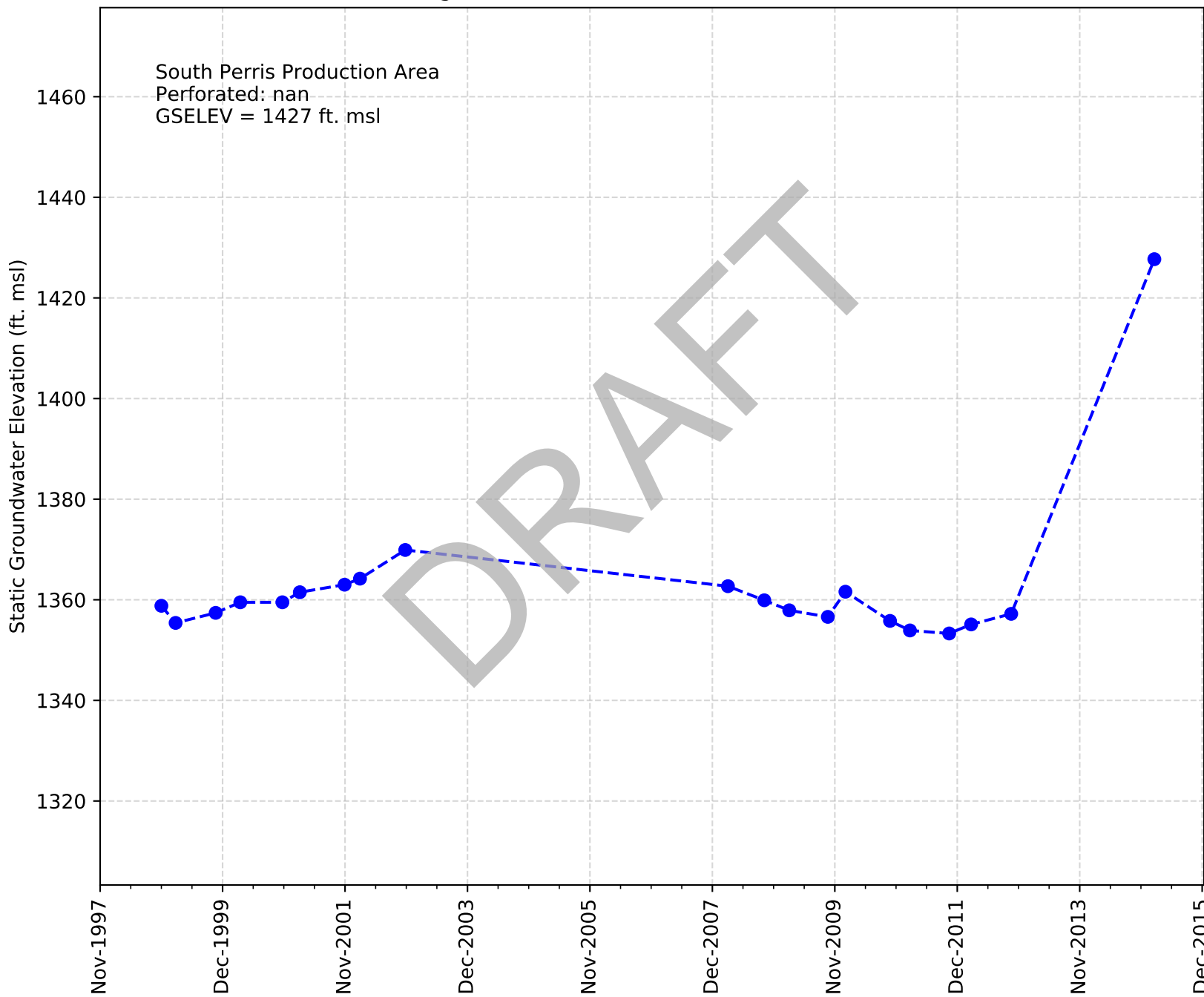
Casing Name: Southern CA Edison



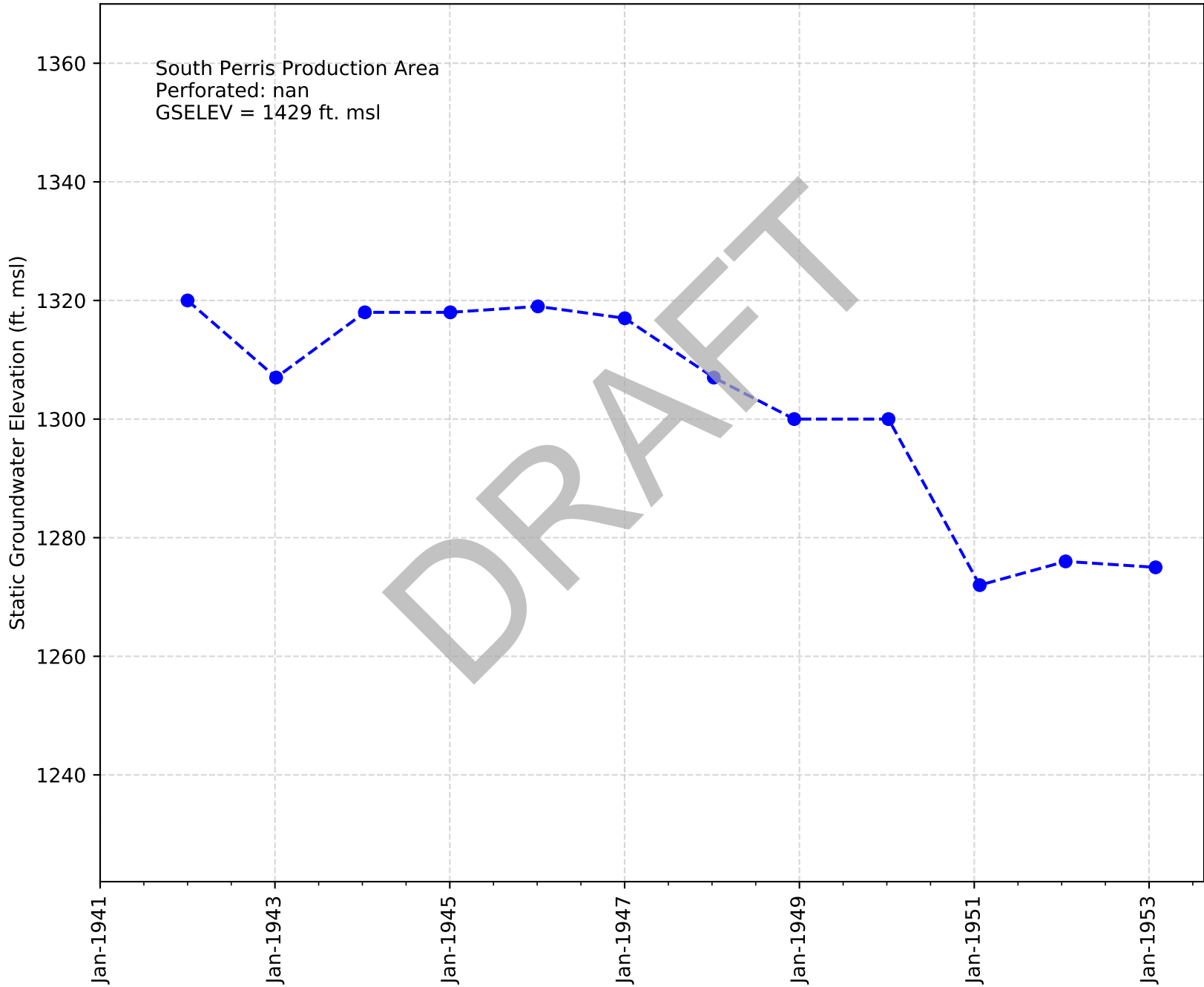
Casing Name: Agri 0.25 Miles South 74



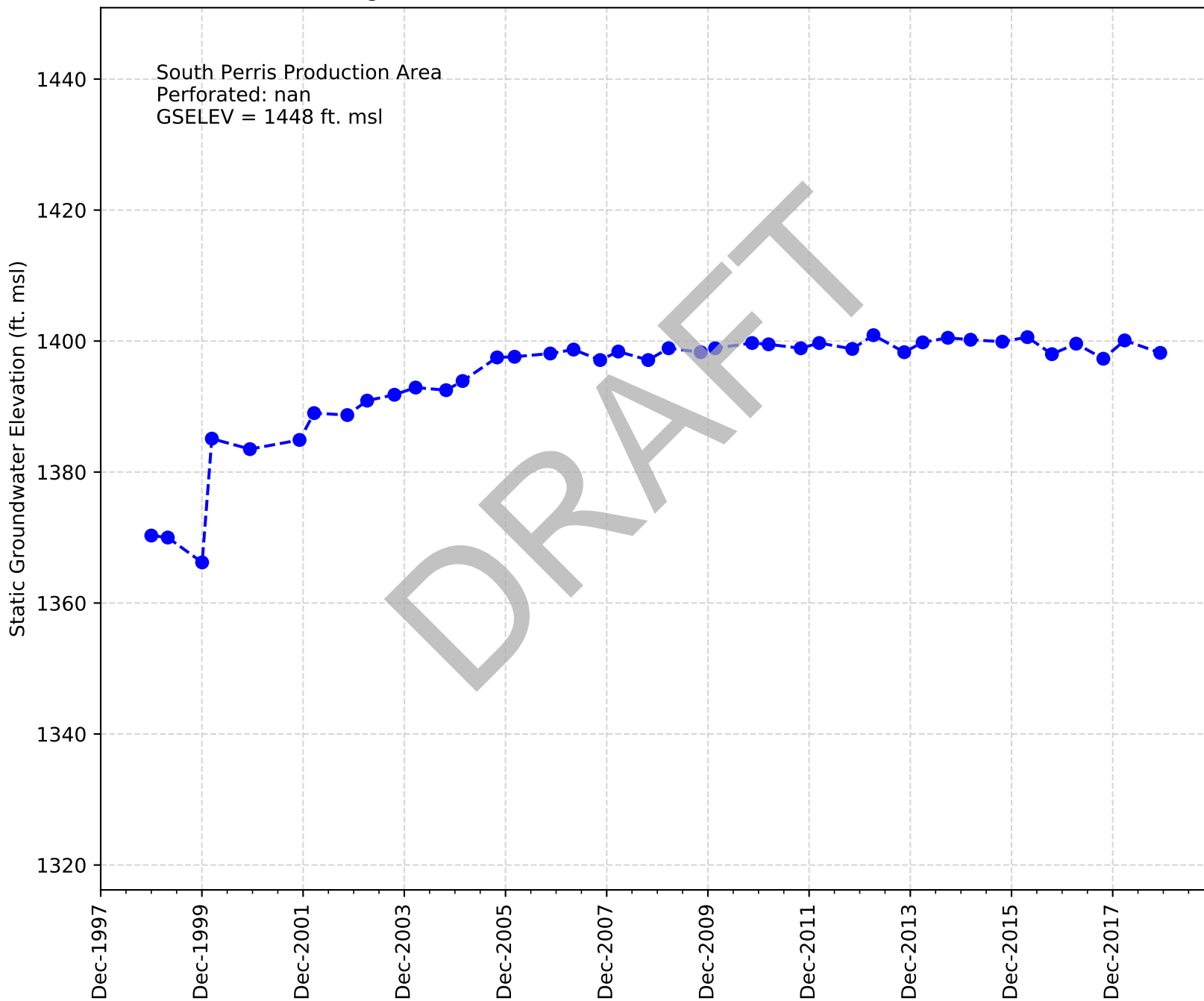
Casing Name: Smith C 1000 Ft. North of Rouse



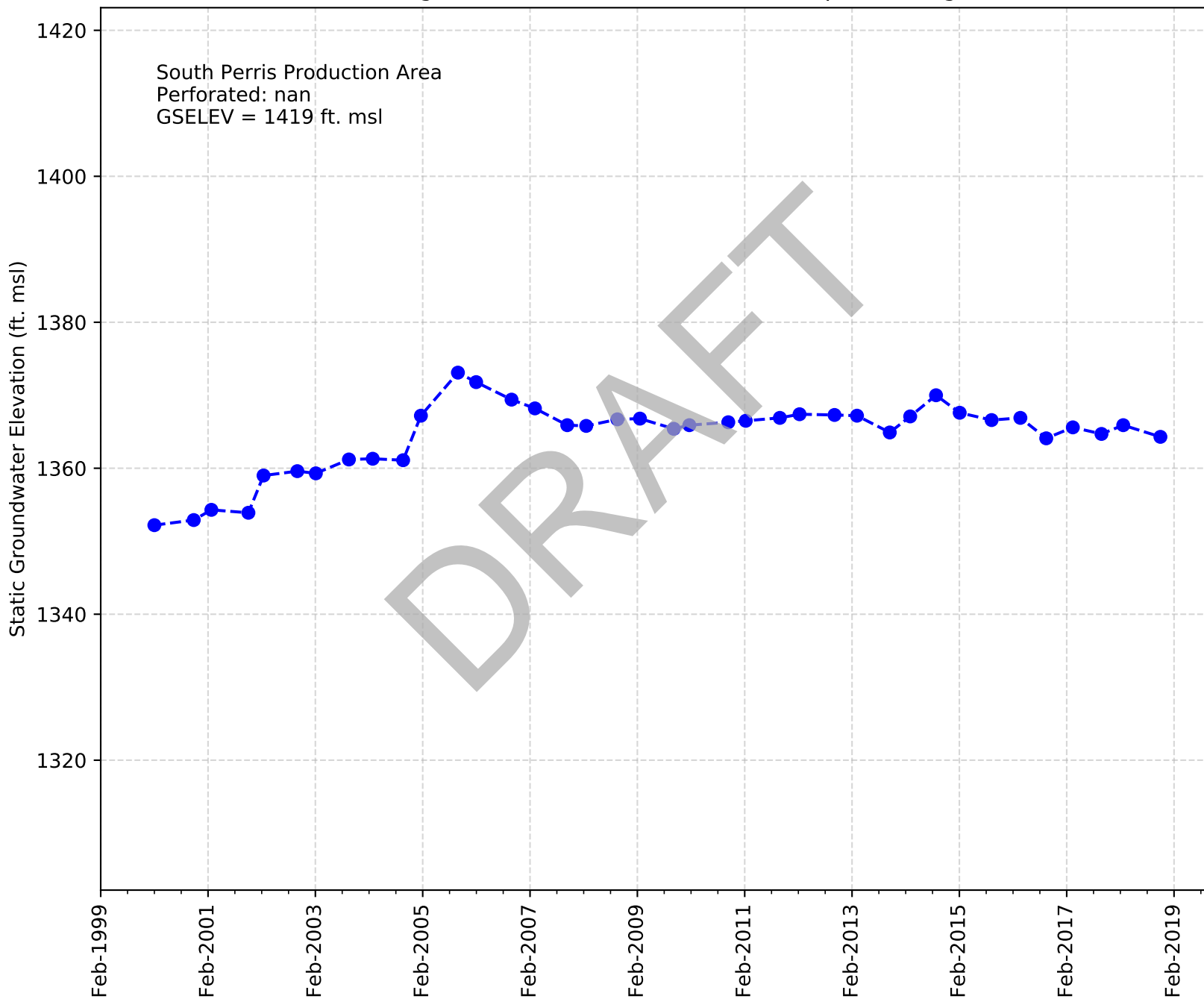
Casing Name: TIT Trust 02



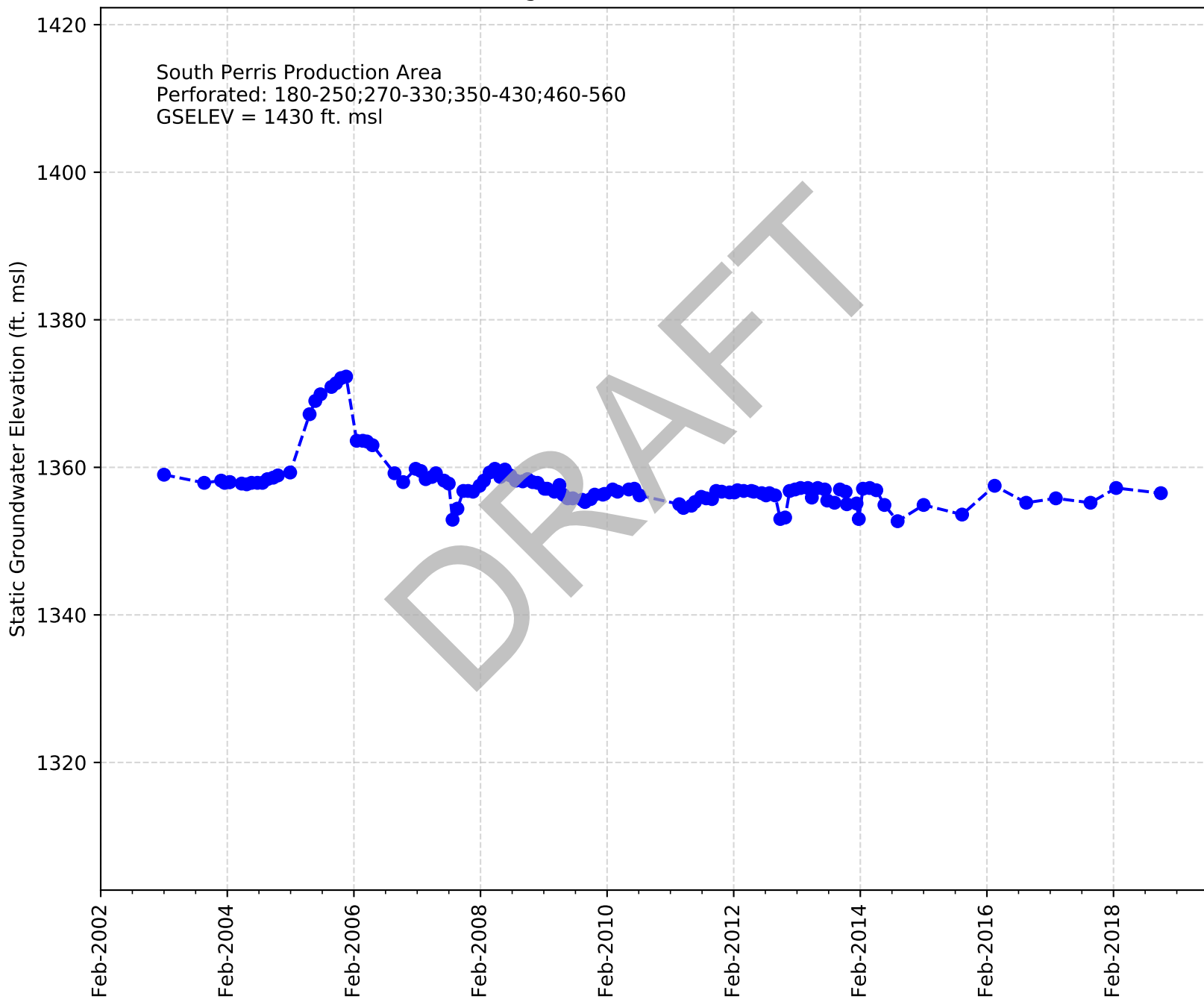
Casing Name: Underwood 0.5 Miles West of Menifee/McCall



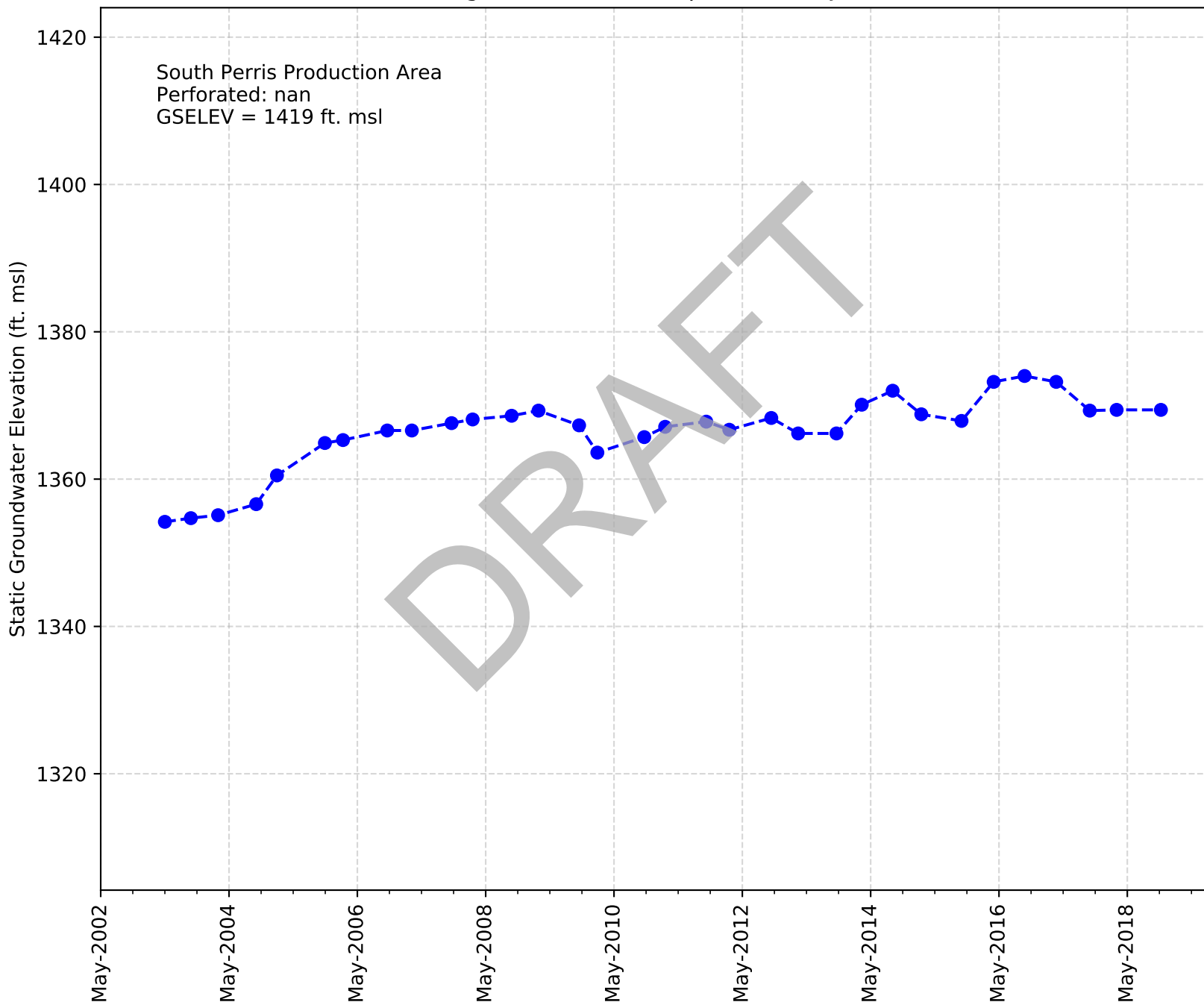
Casing Name: EMWD B8 Perris RWRf Open Casing



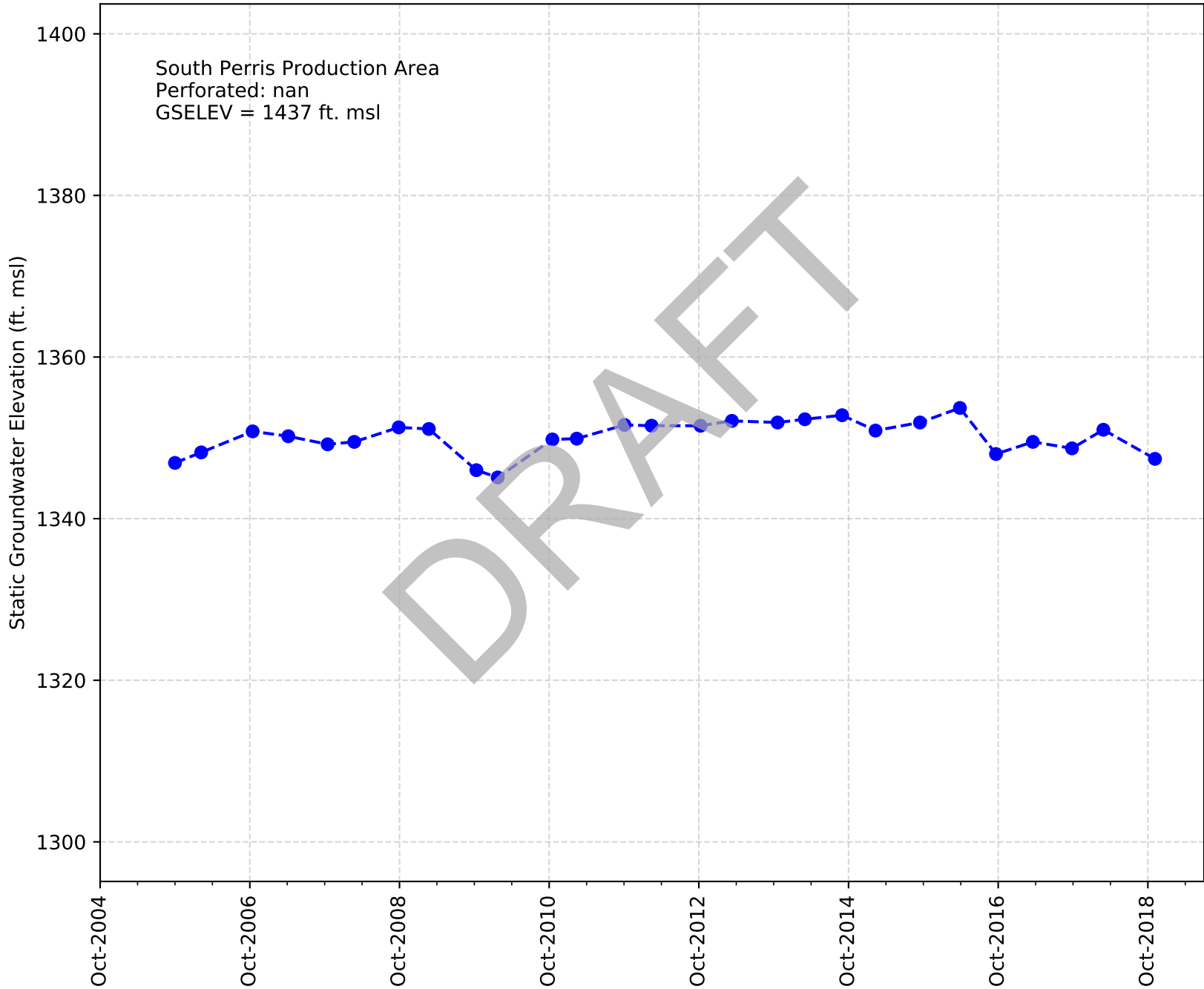
Casing Name: EMWD 77 Ethanac



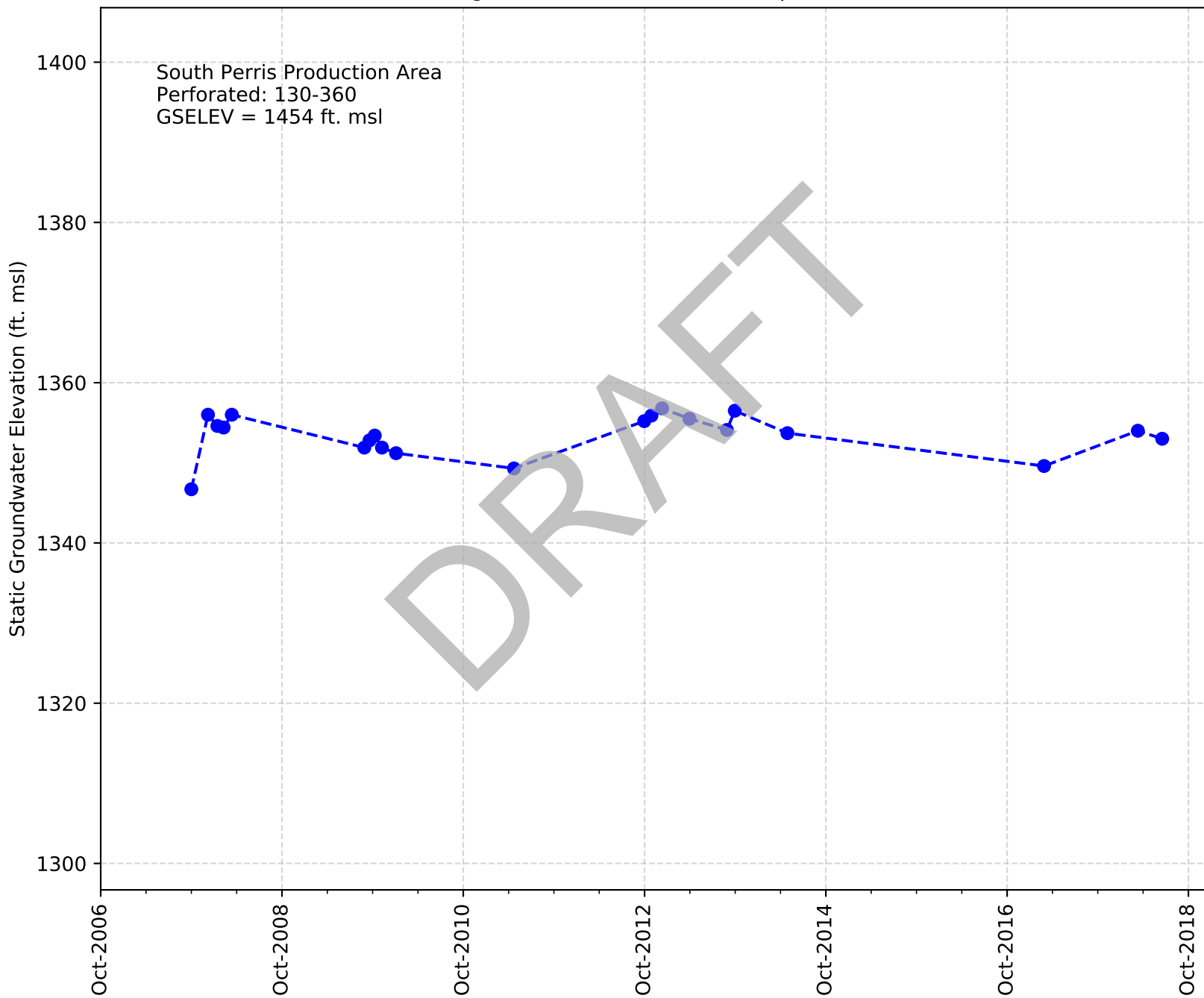
Casing Name: Perris Properties San Jacinto



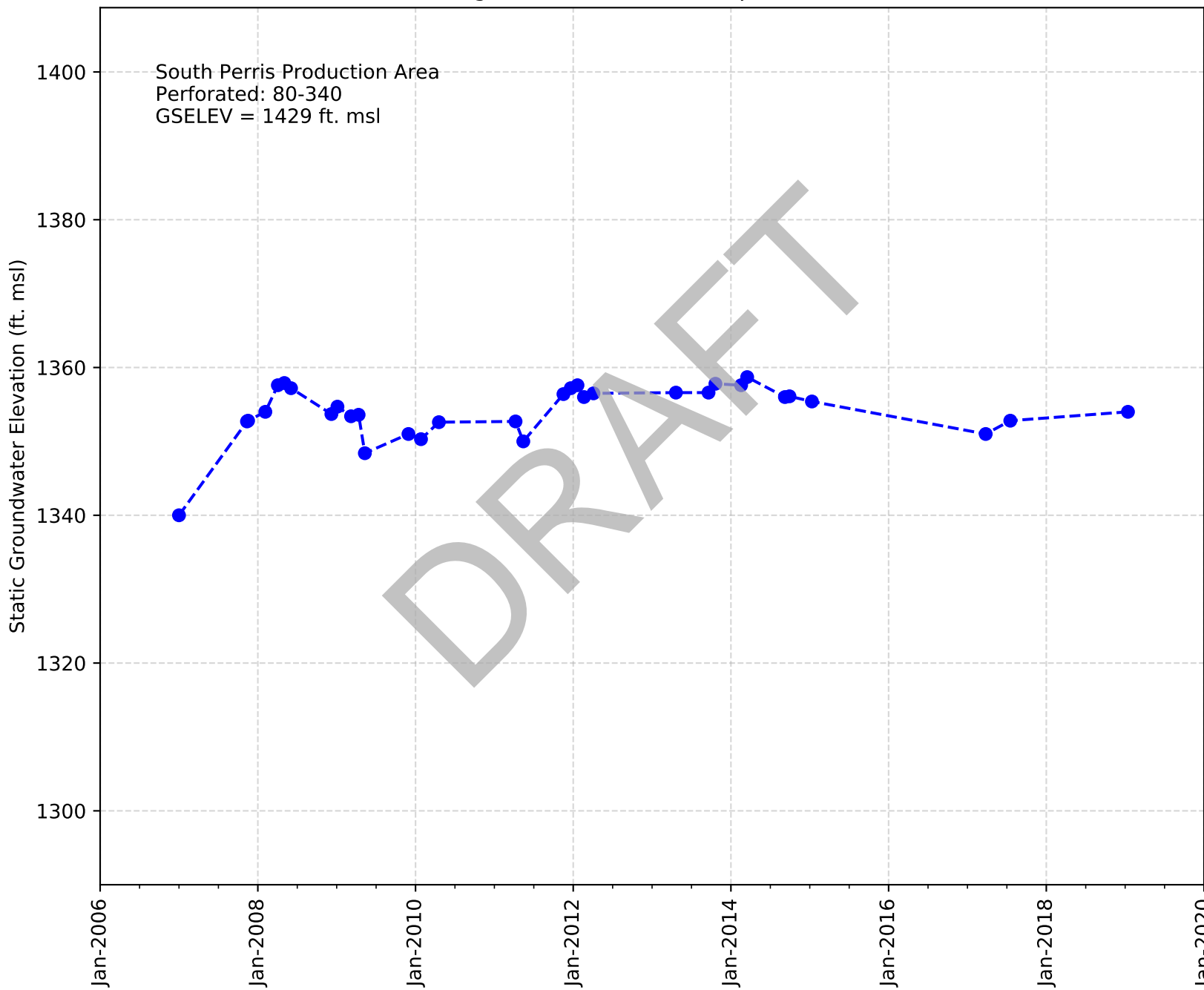
Casing Name: Foxboro OC



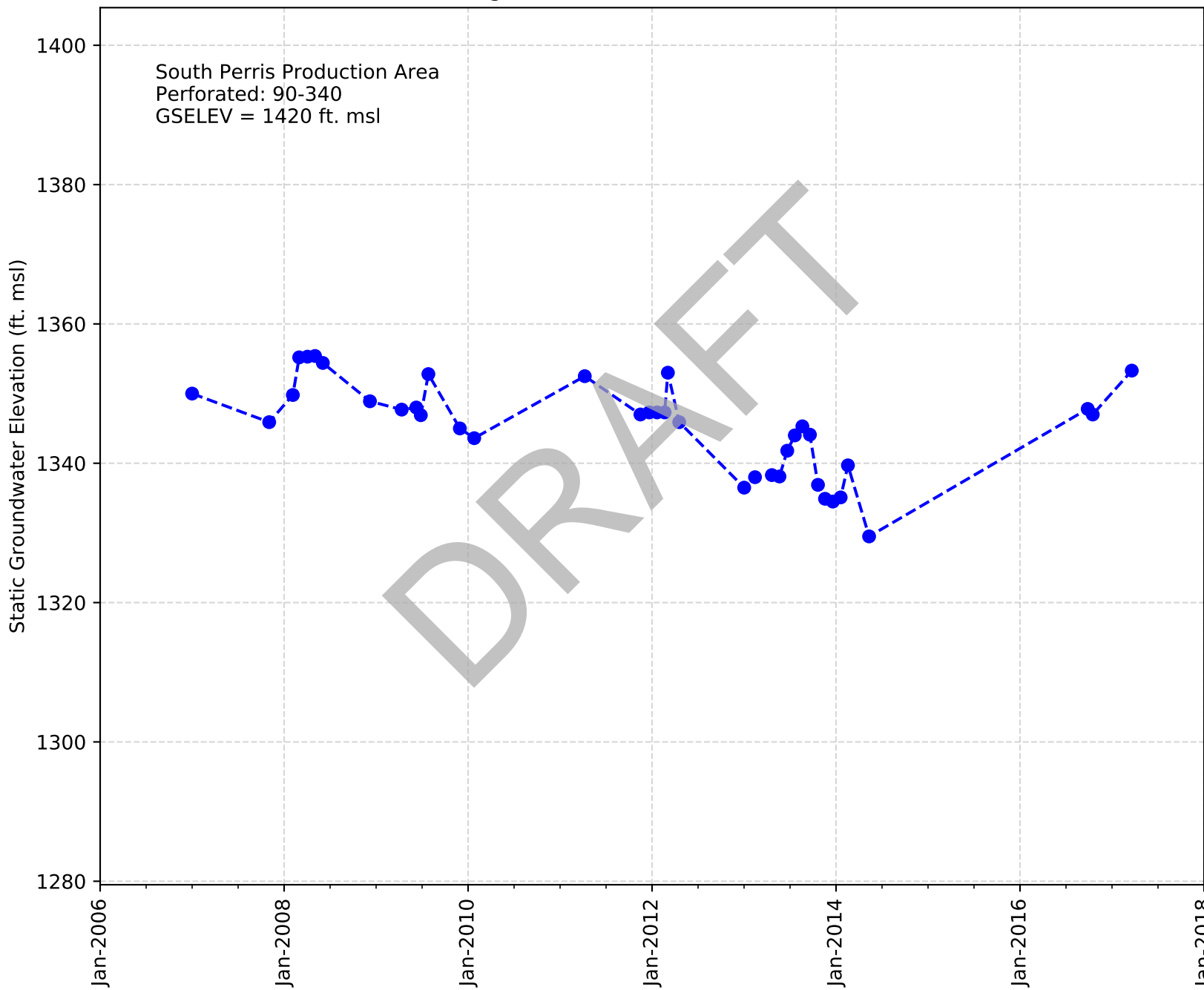
Casing Name: EMWD 81 Antelope/Watson



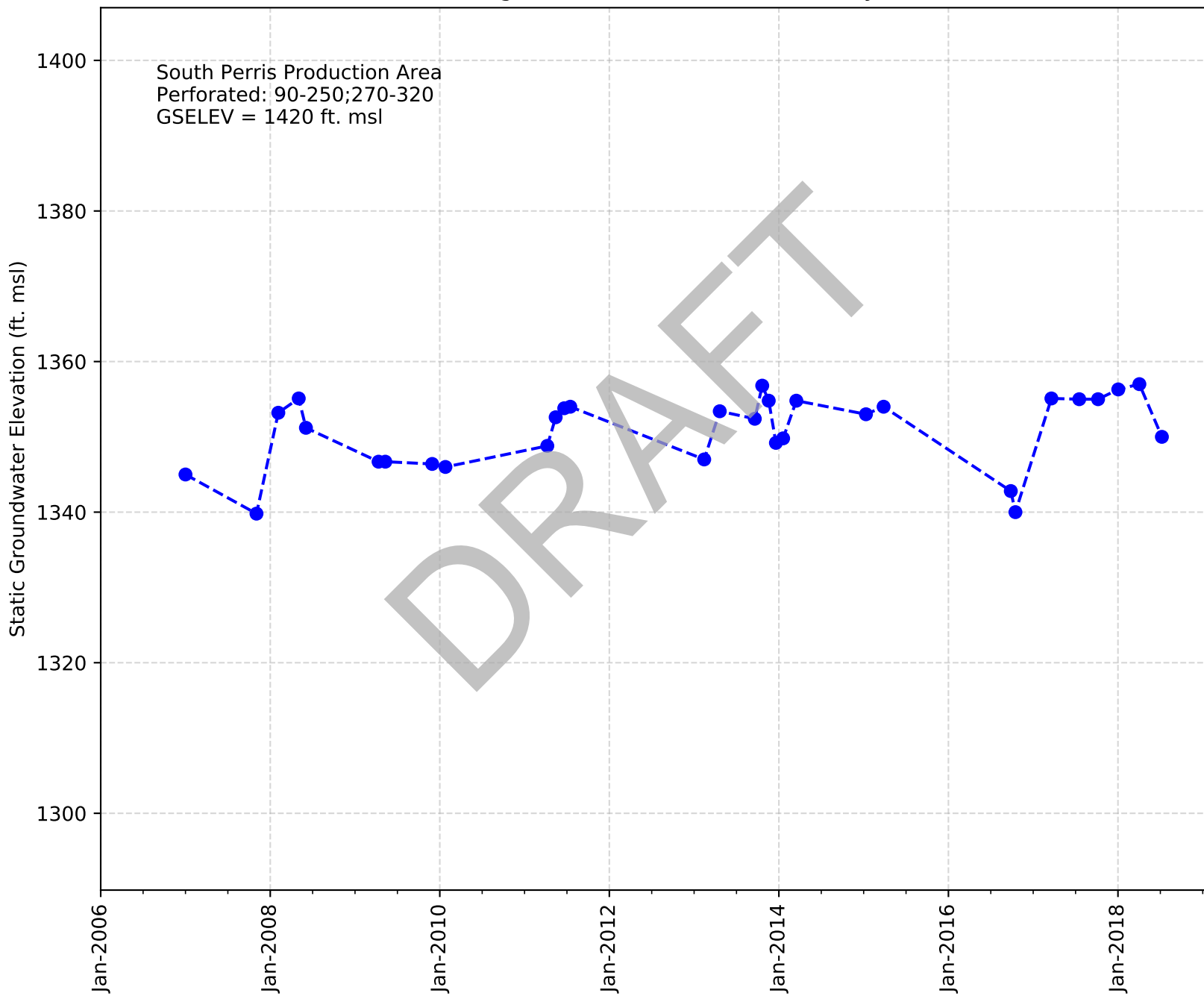
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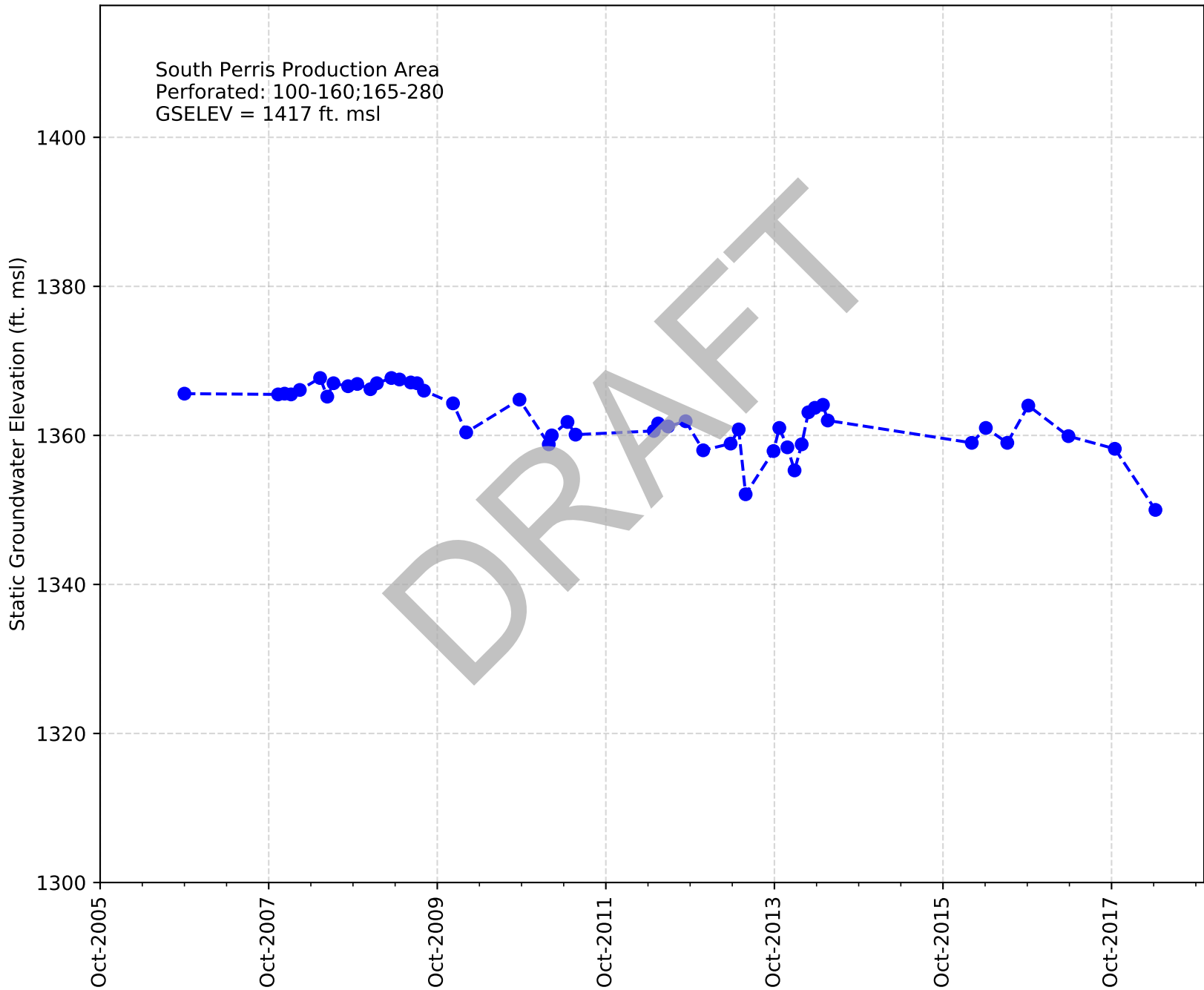
Casing Name: EMWD 83 Ellis/Sherman



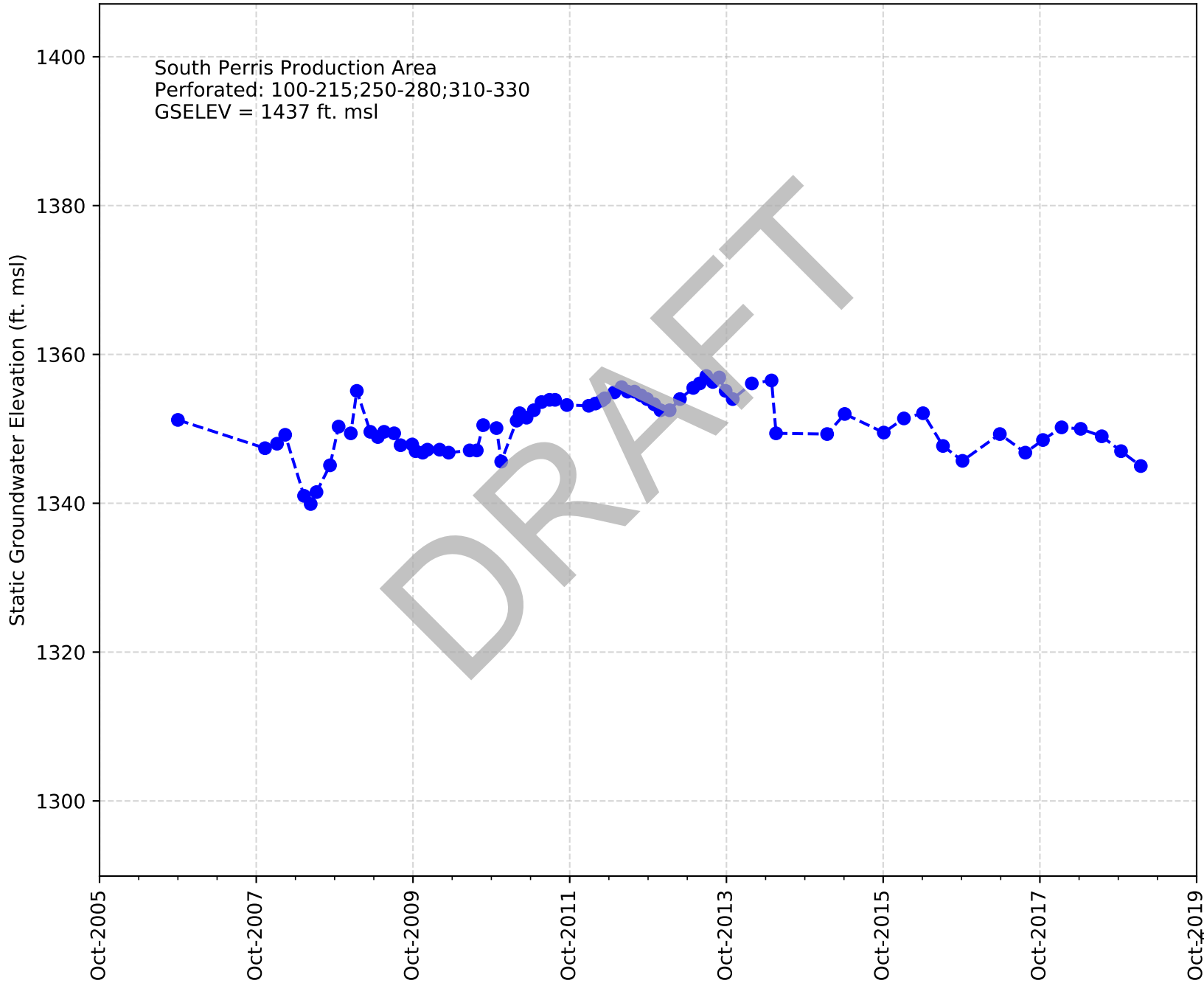
Casing Name: EMWD 84 Ellis/Bradley



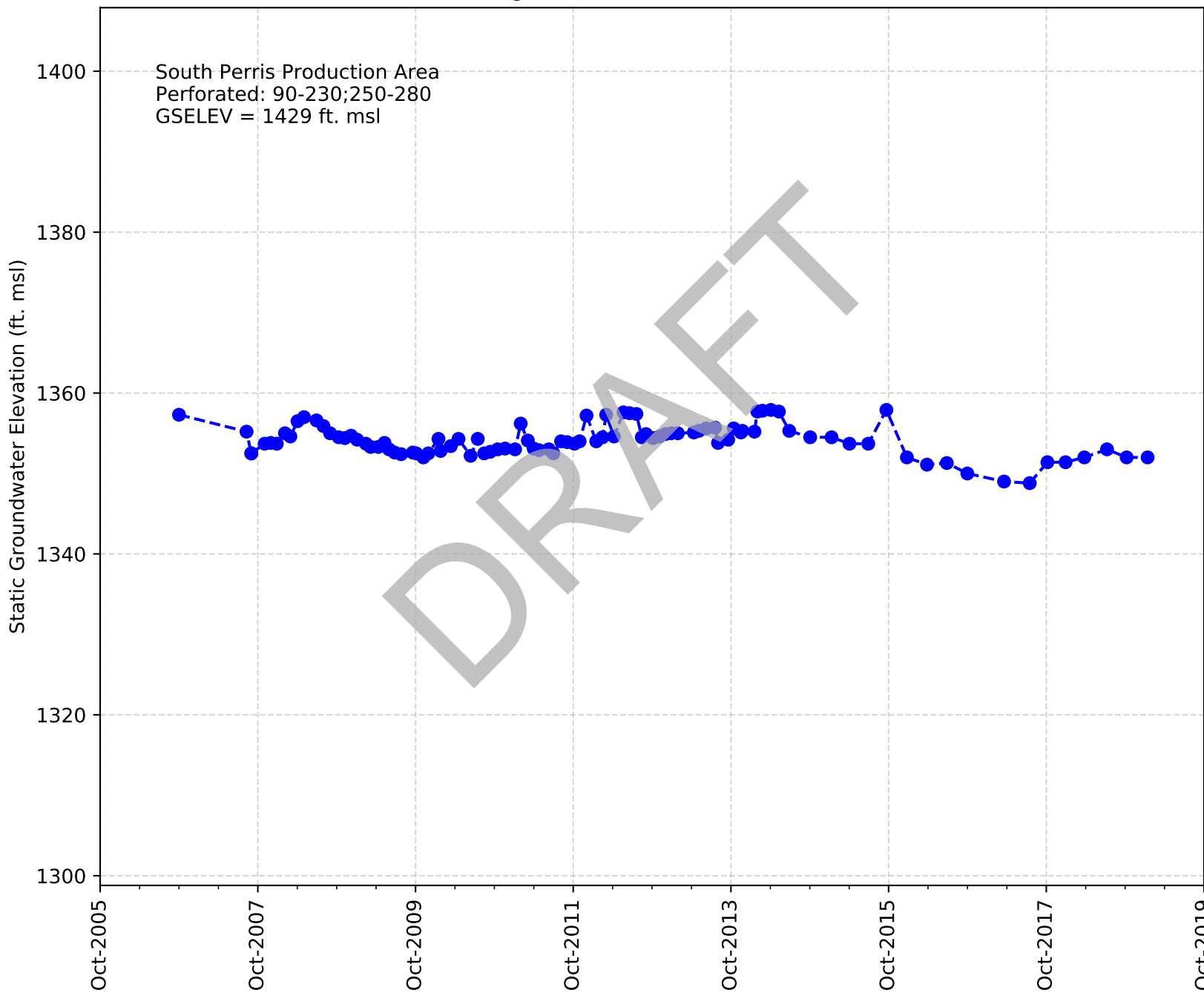
Casing Name: EMWD 86 Murrieta/San Jacinto



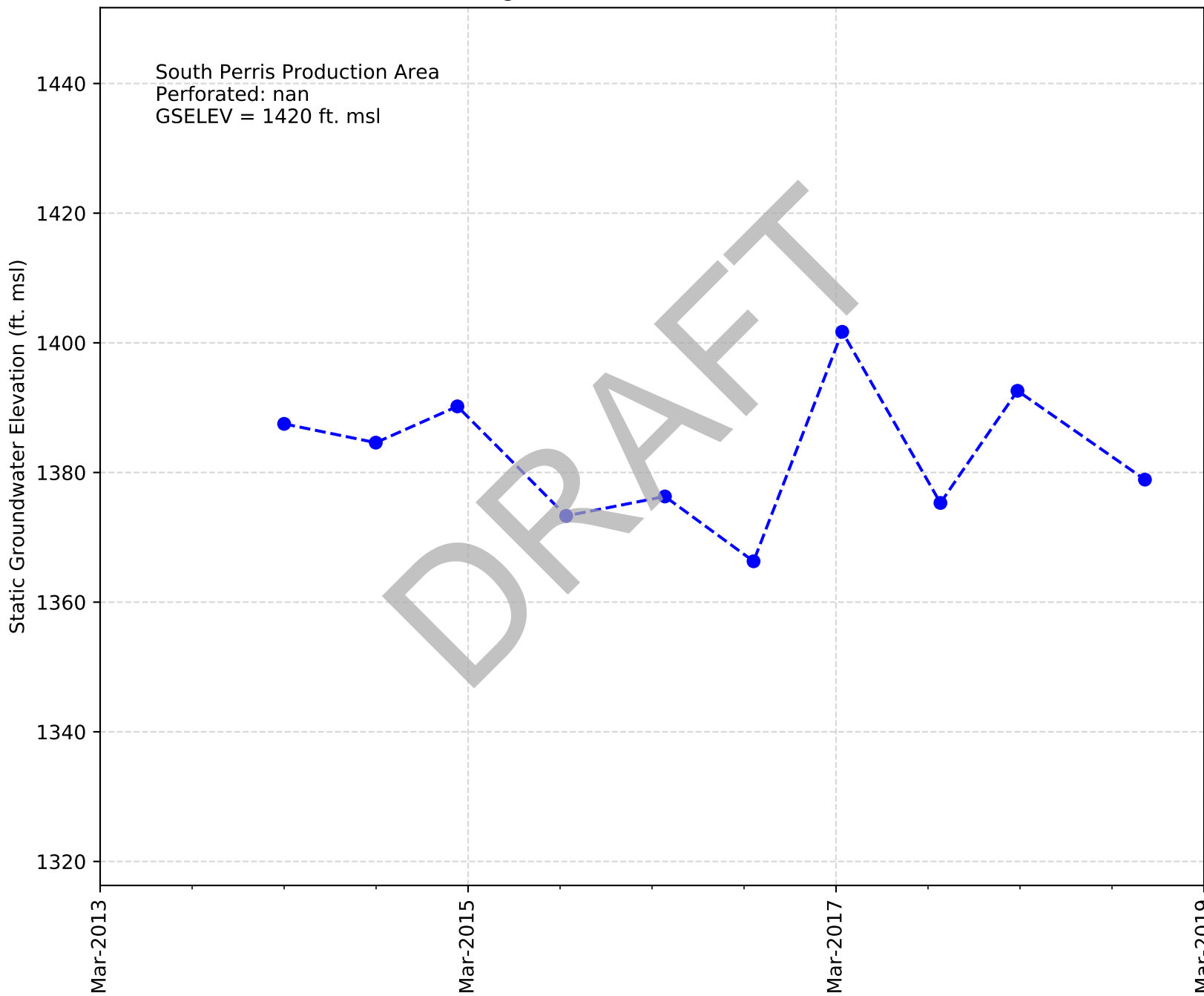
Casing Name: EMWD 88 Pico/San Jacinto



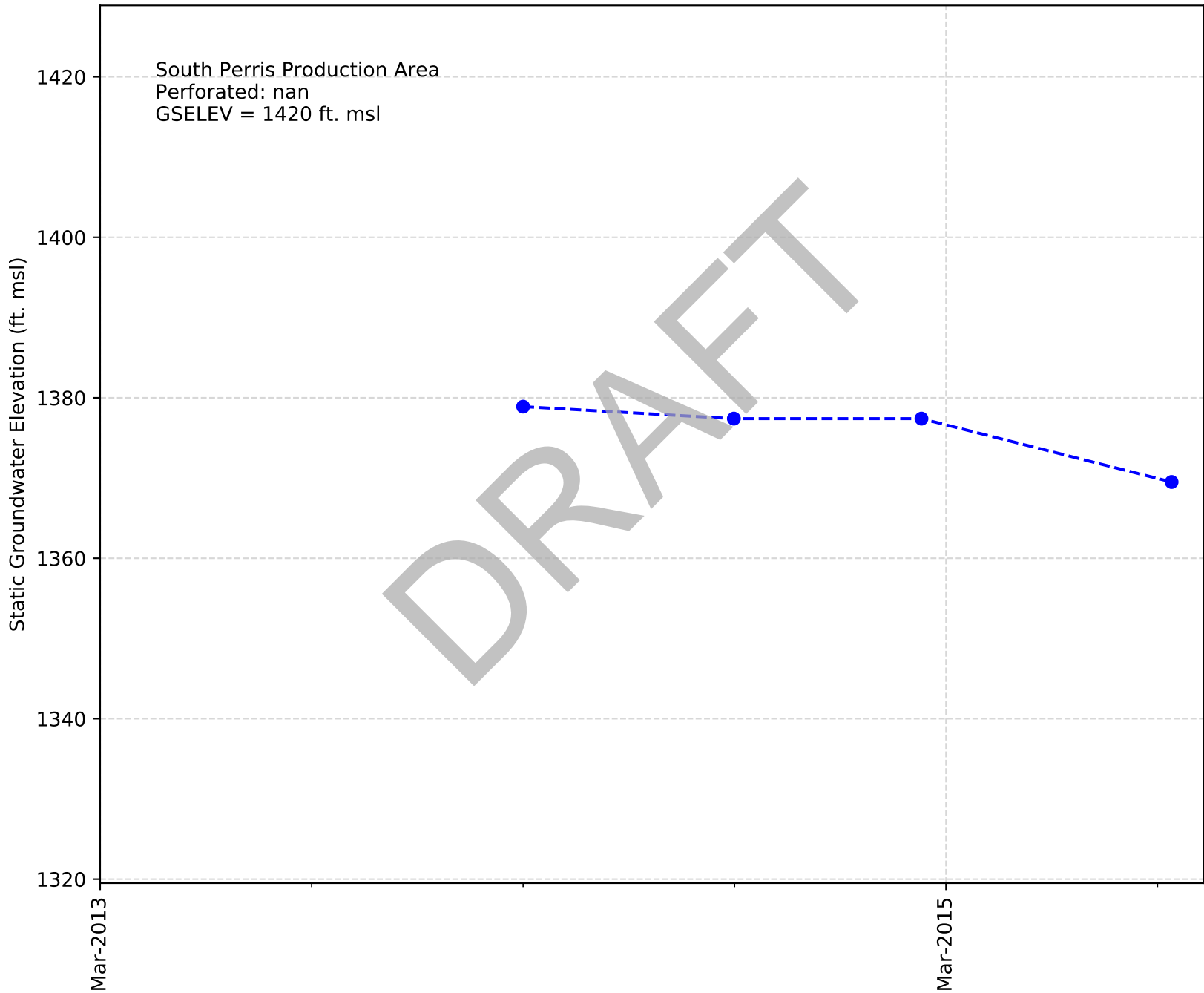
Casing Name: EMWD 89 Ethanac II



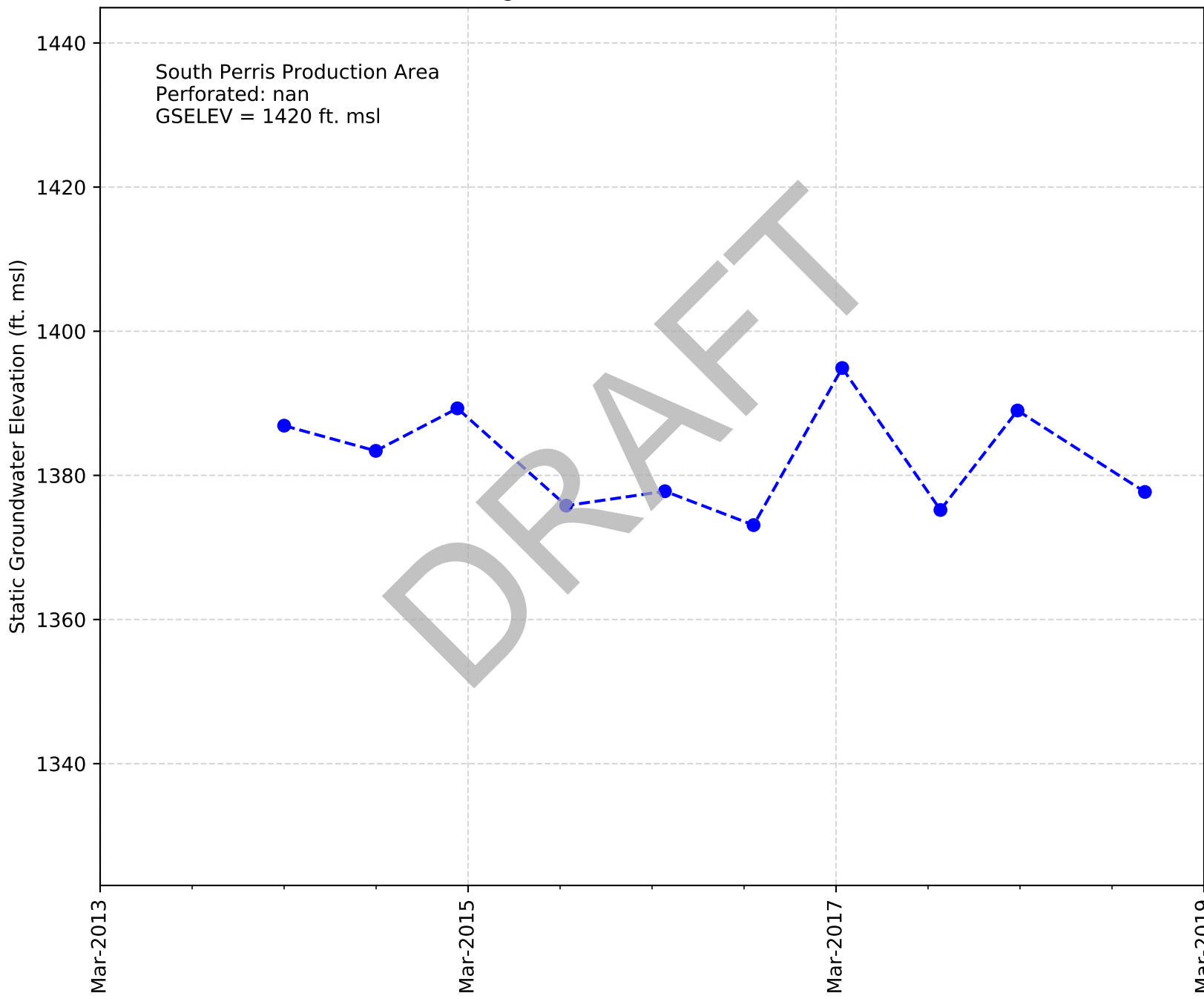
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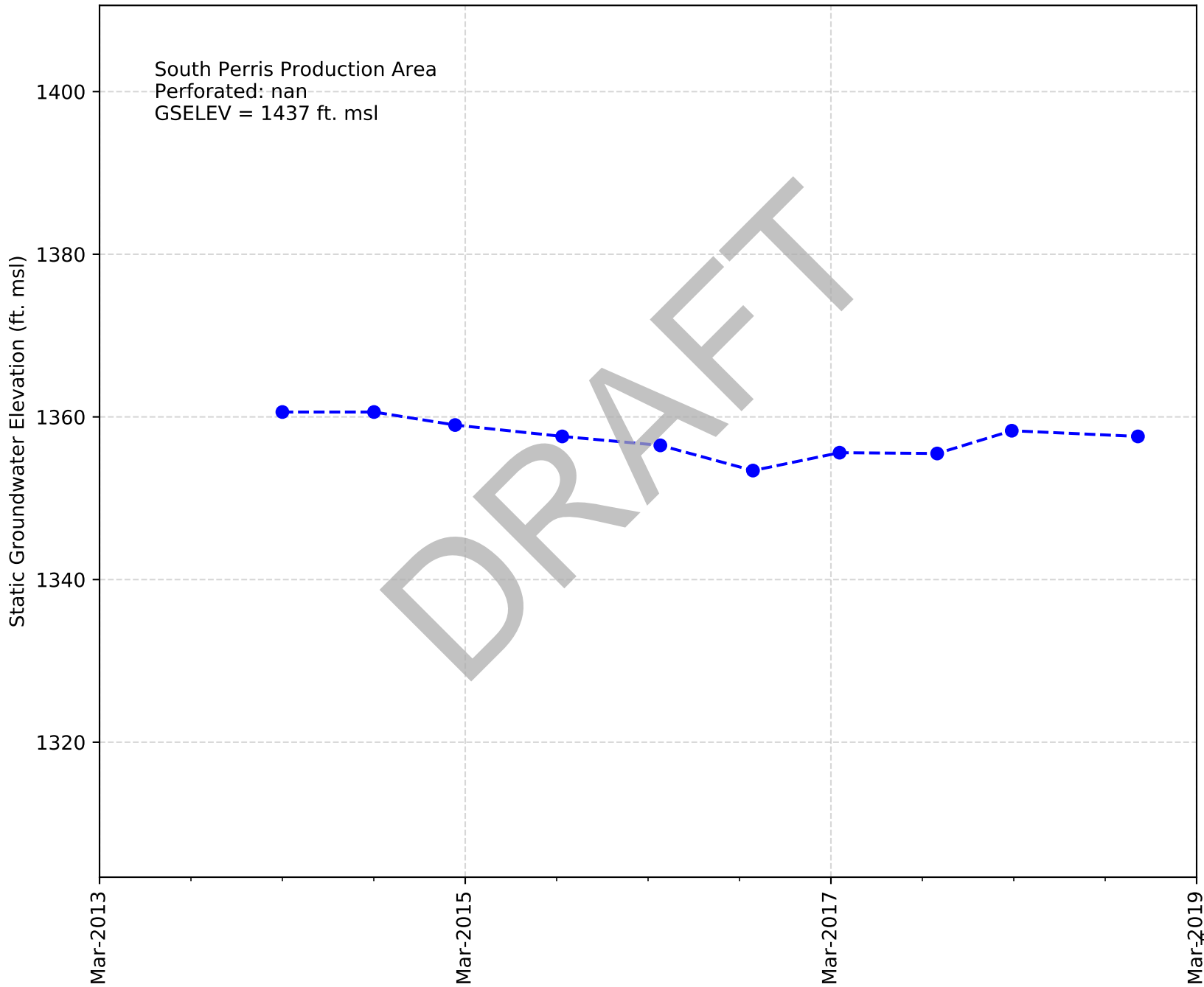
Casing Name: EMWD Trumble MW-2



Casing Name: EMWD Trumble MW-3

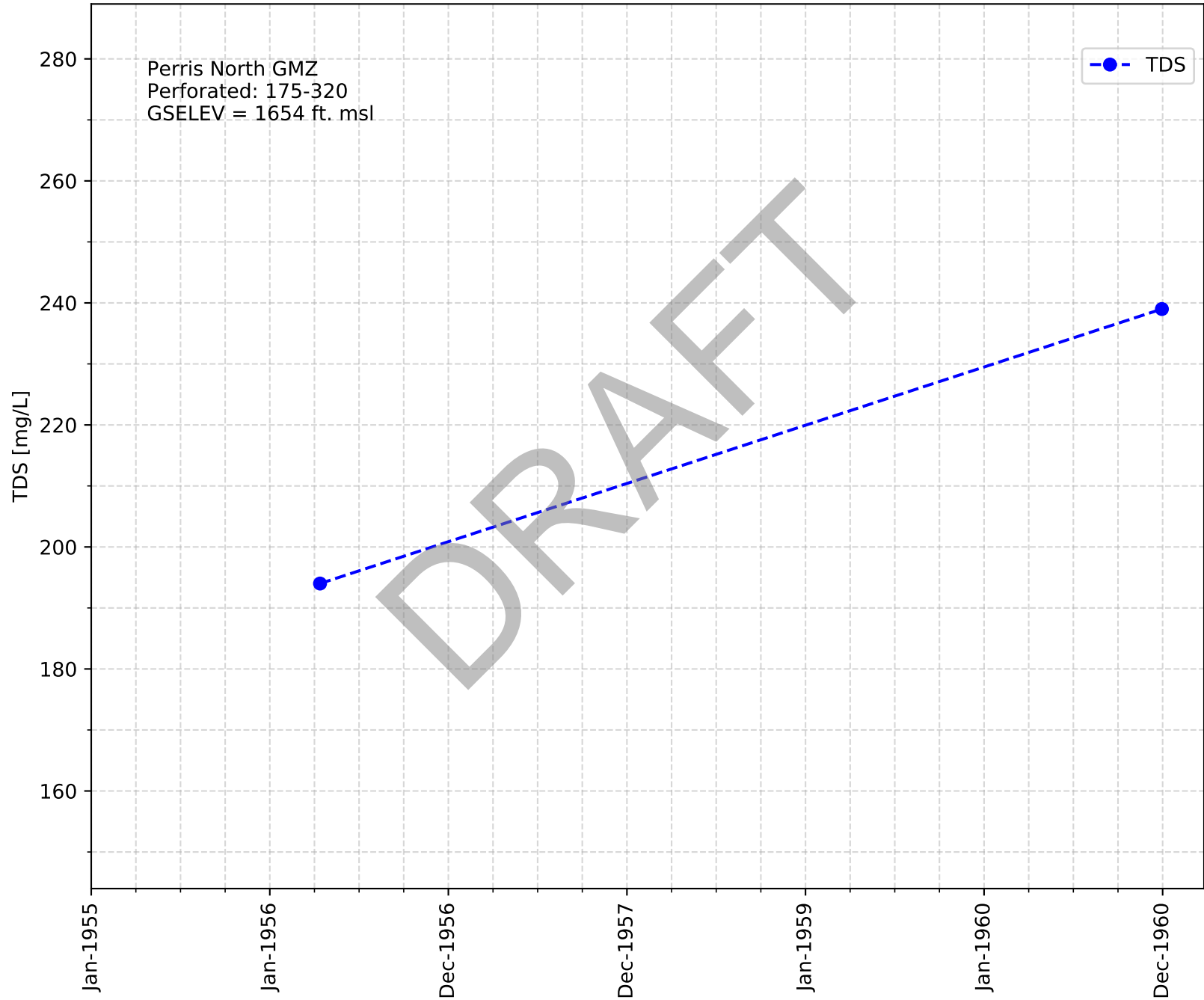


Casing Name: Smith C Jackson

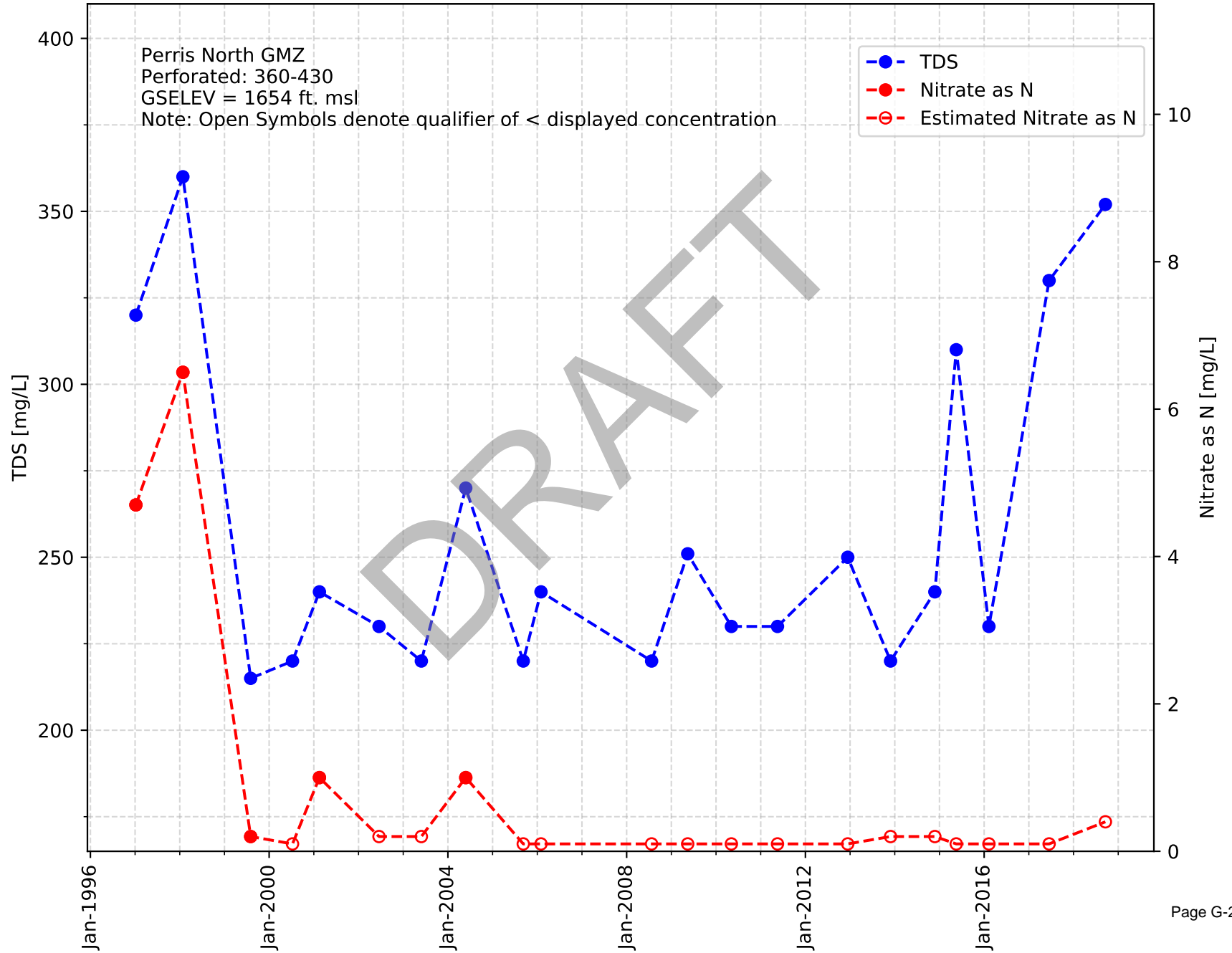


APPENDIX I
Water Quality Hydrographs

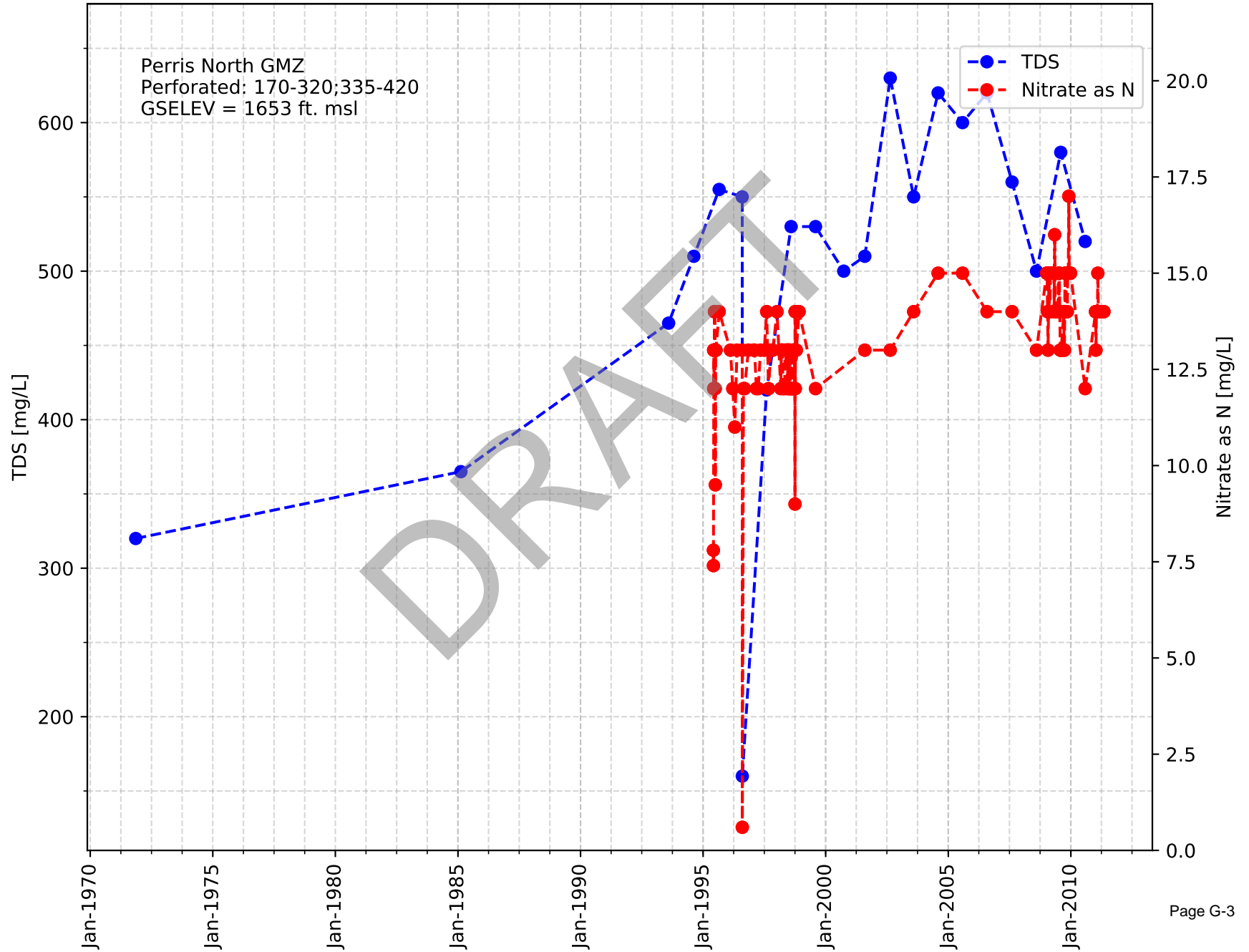
Casing Name: EMWD 40 Gas Maxwell



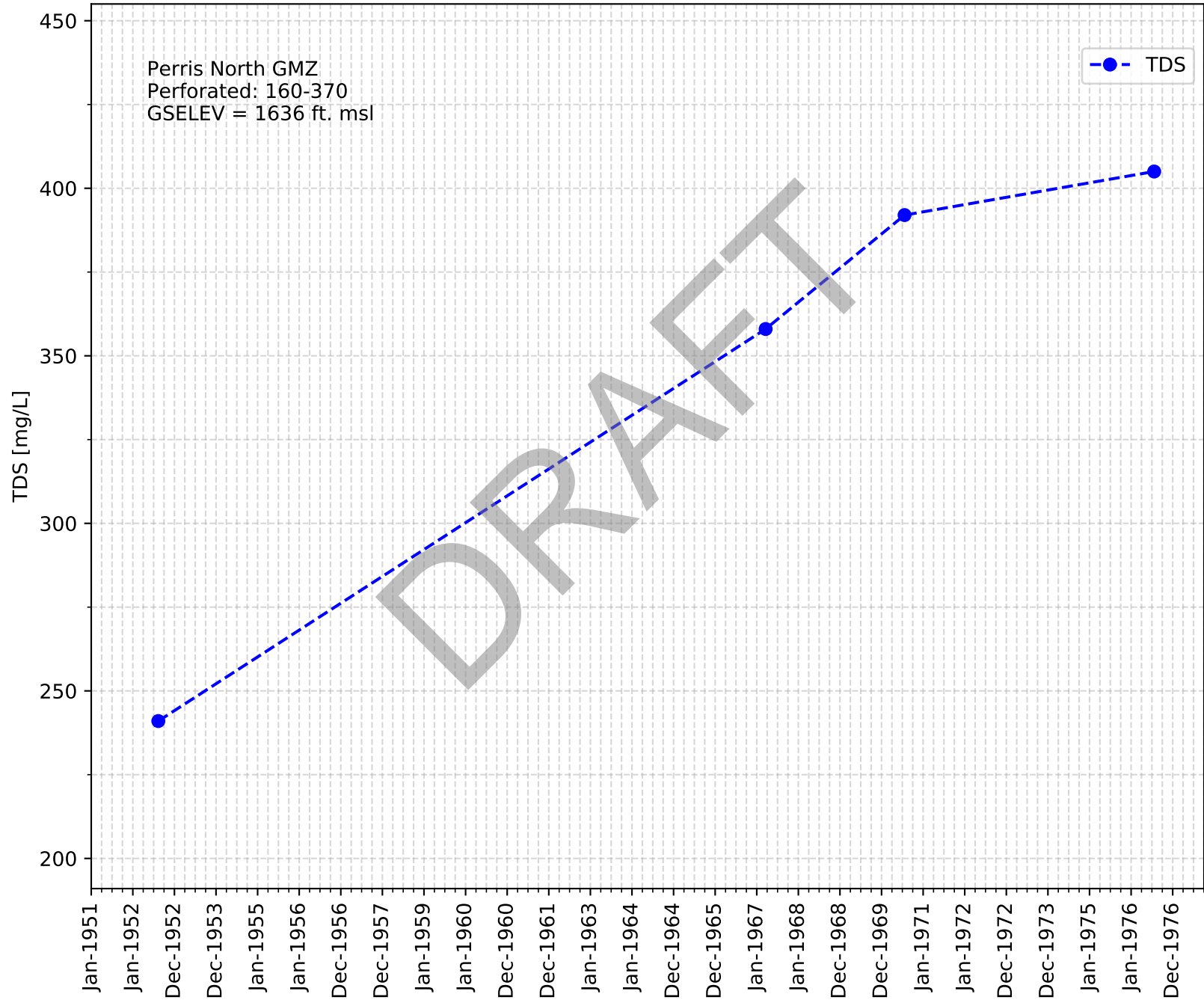
Casing Name: EMWD 45 New Maxwell



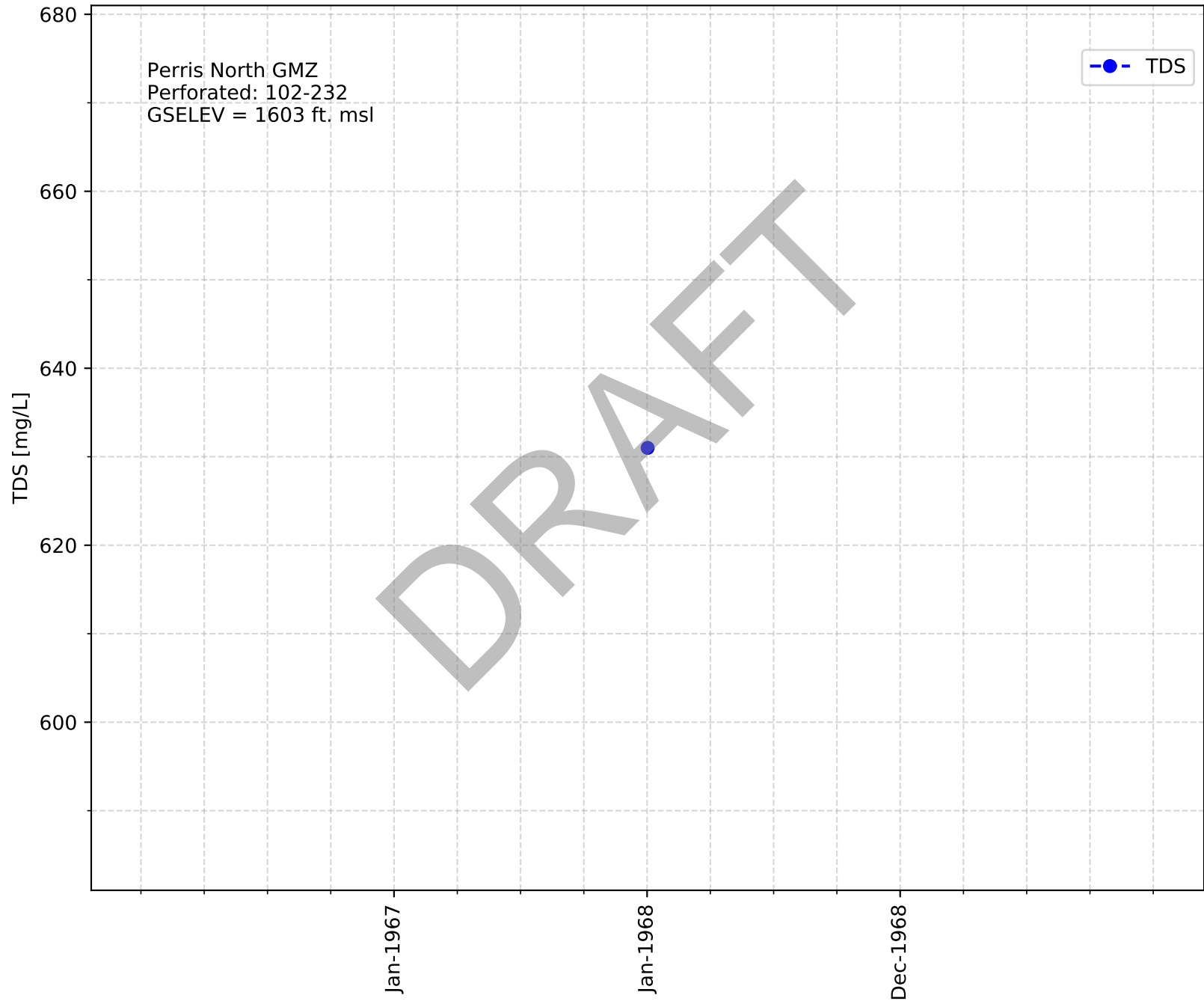
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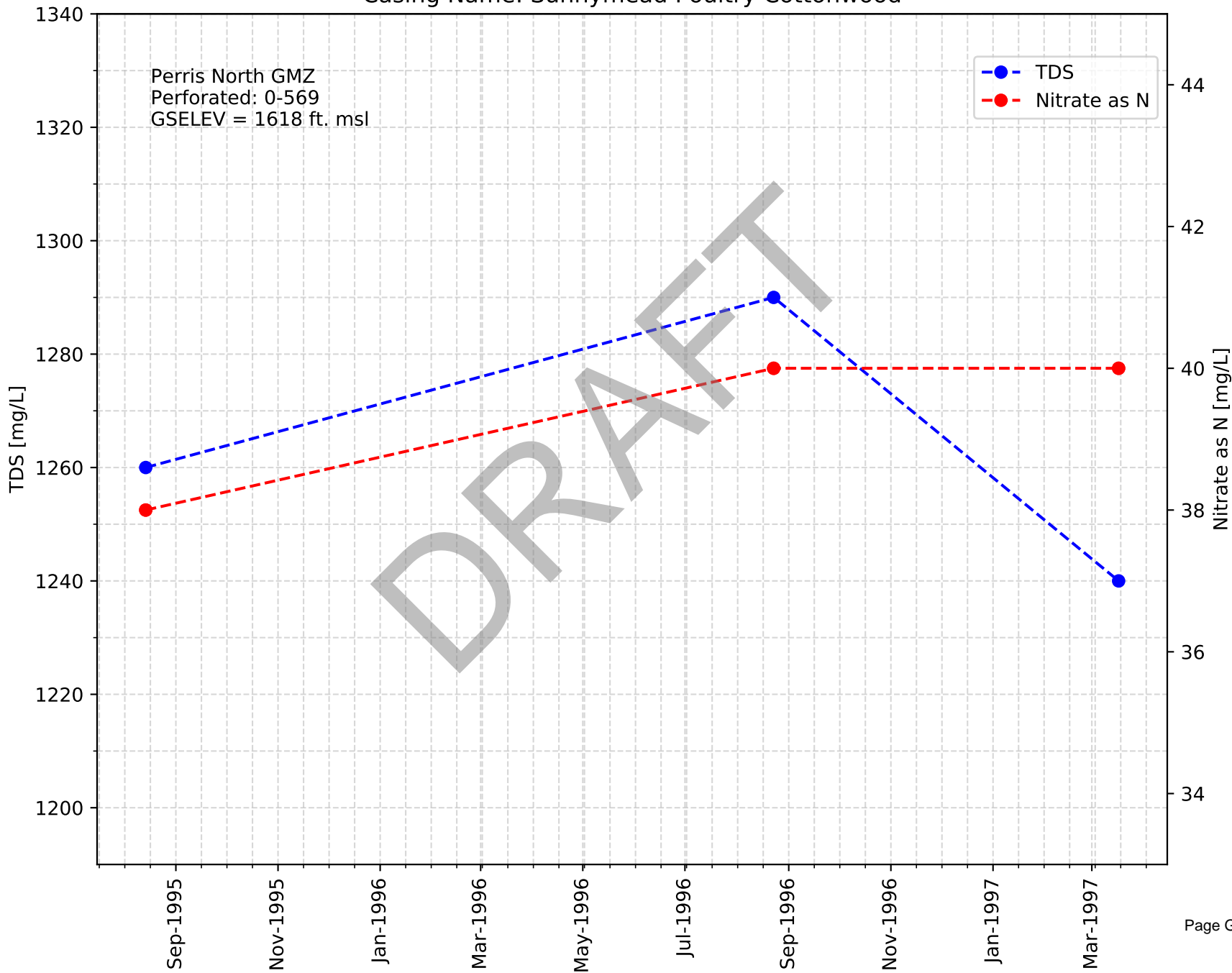
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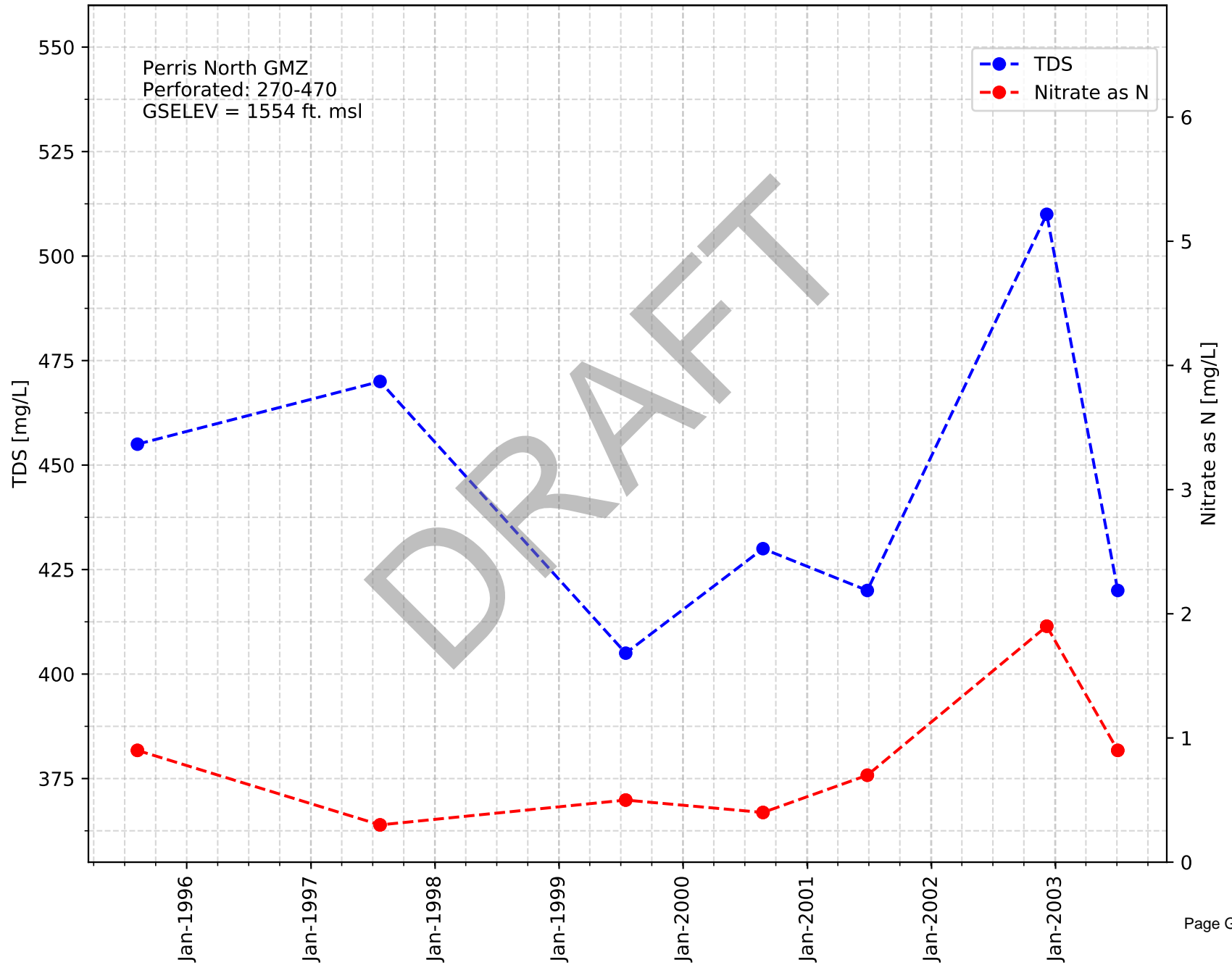
Casing Name: McKay, Edgar



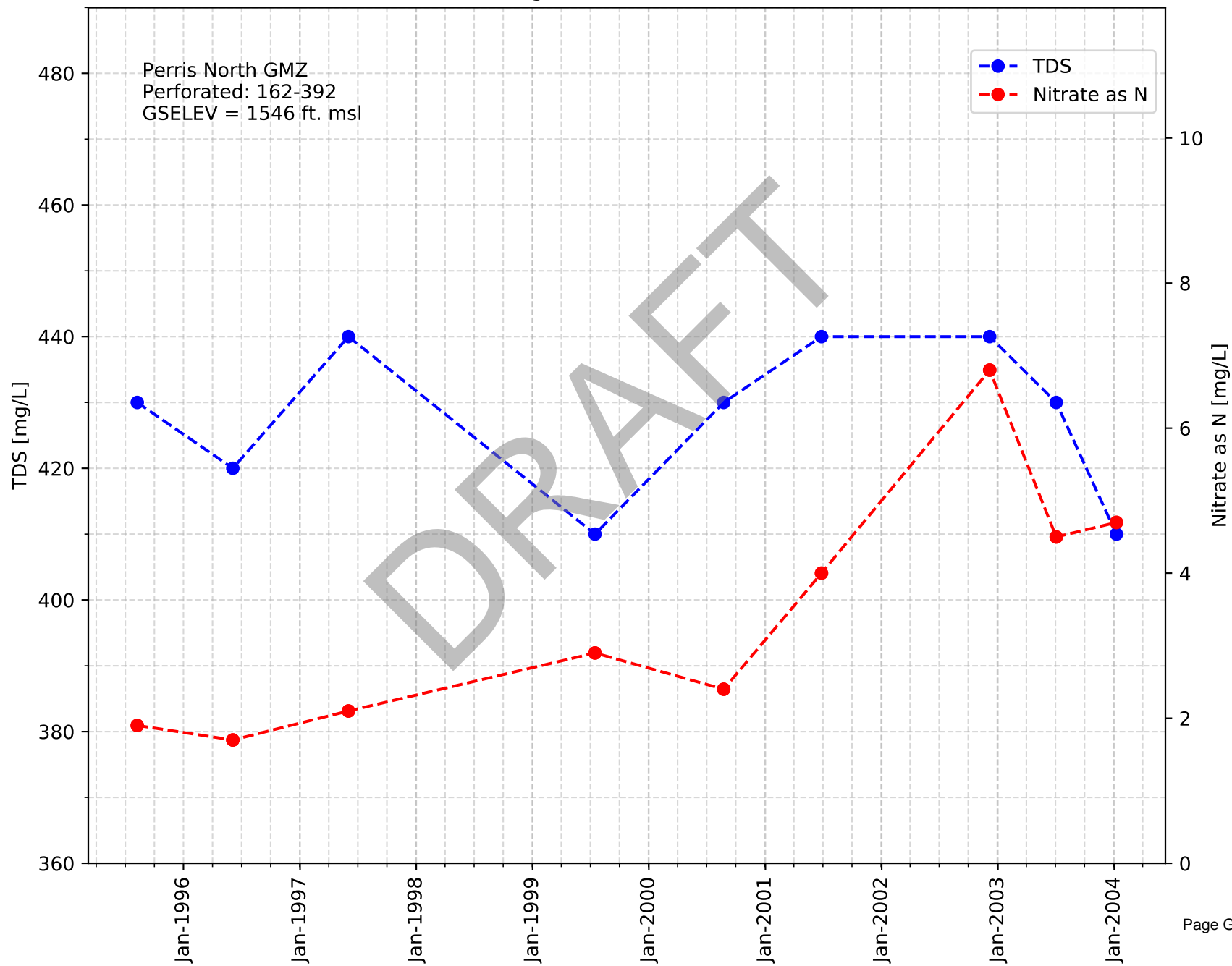
Casing Name: Sunnymead Poultry Cottonwood



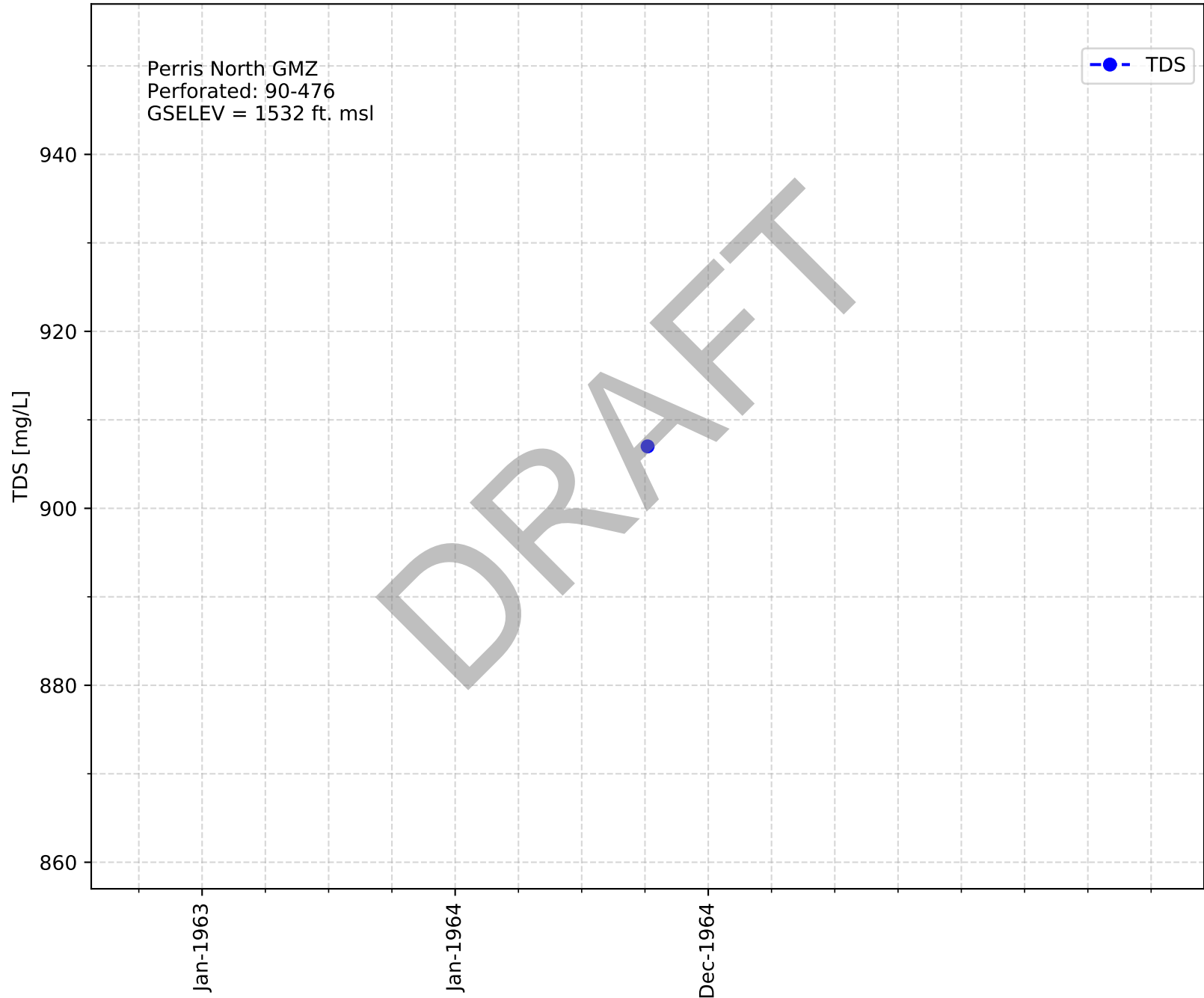
Casing Name: MVRGC East



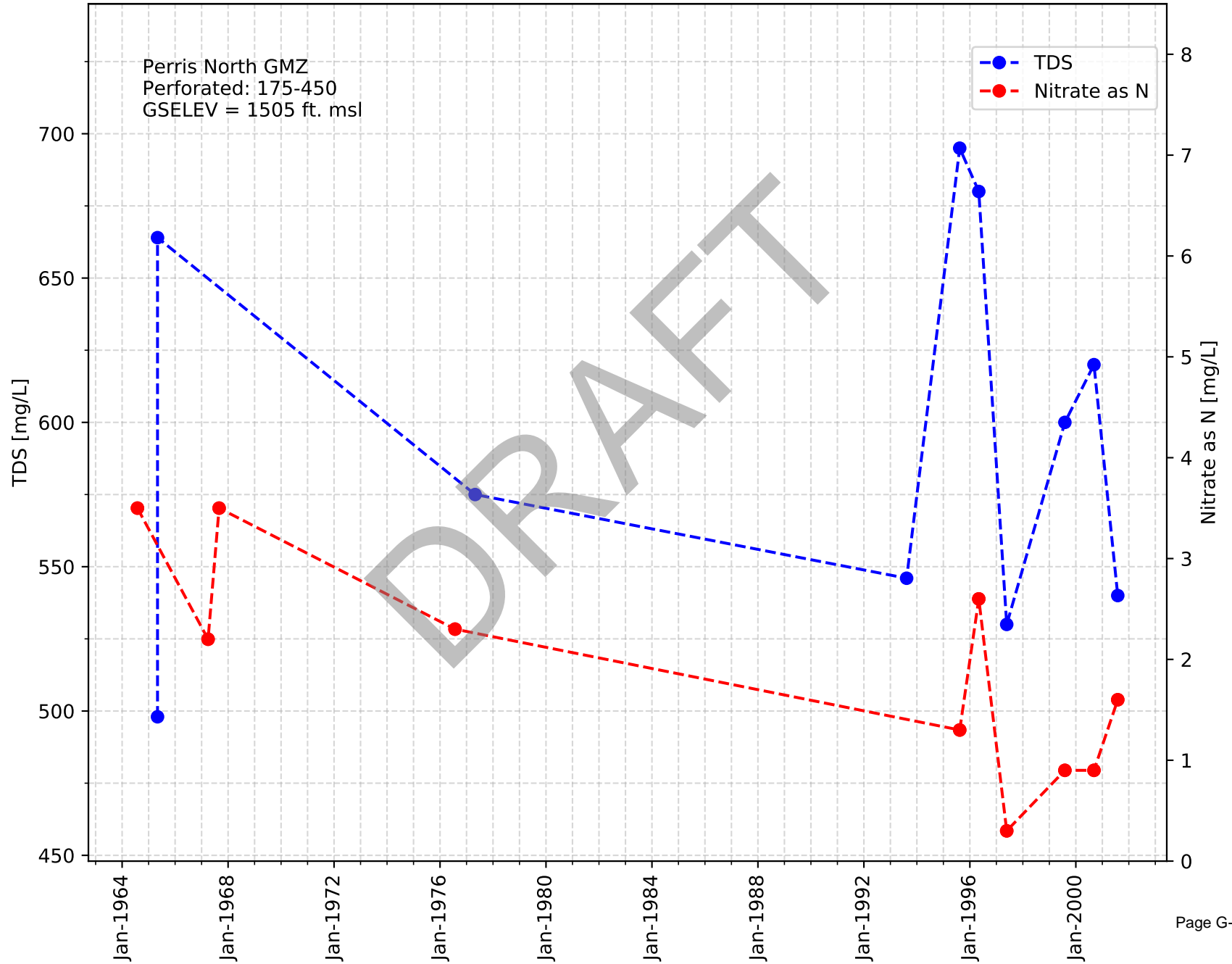
Casing Name: MVRGC West



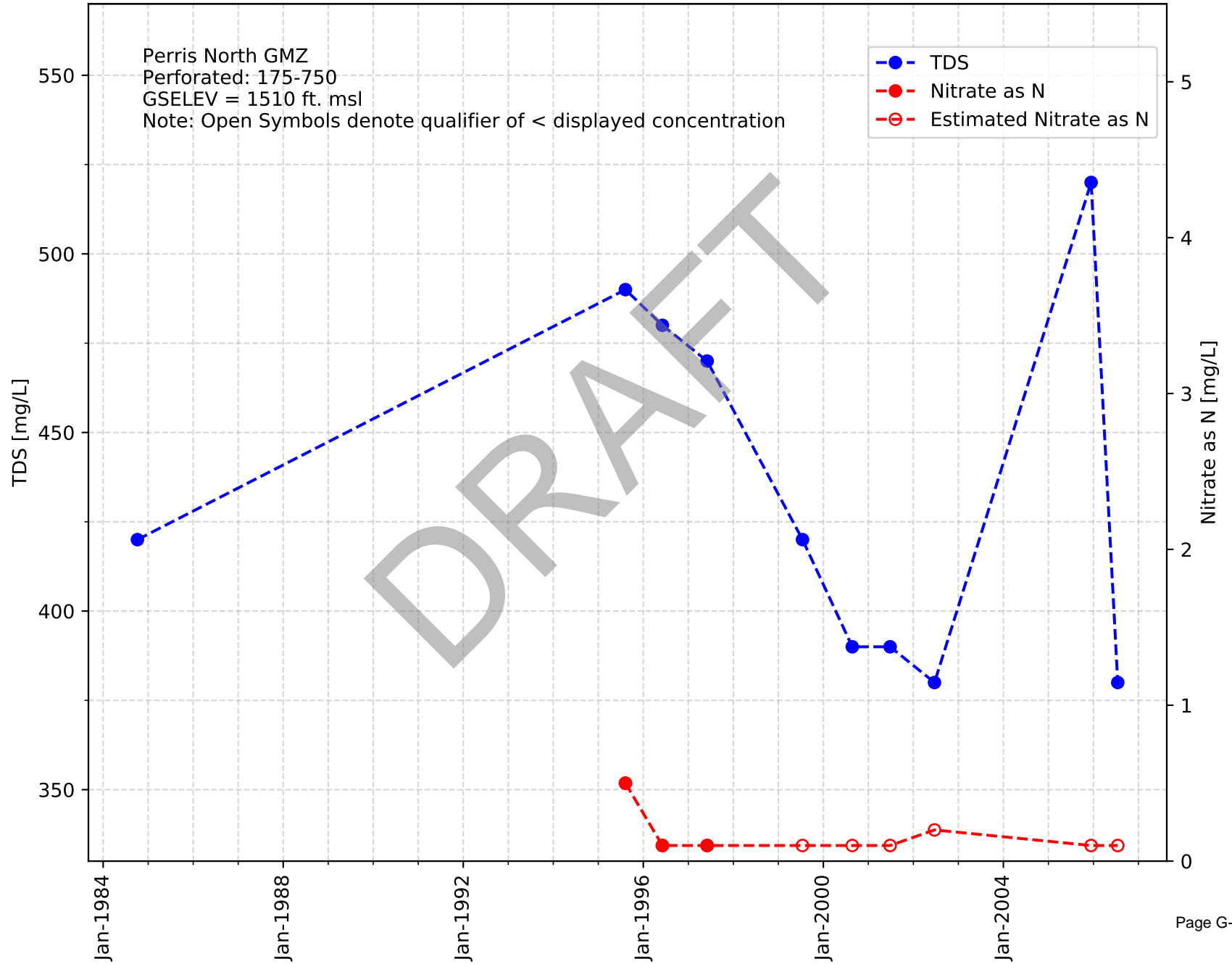
Casing Name: Tatum 01



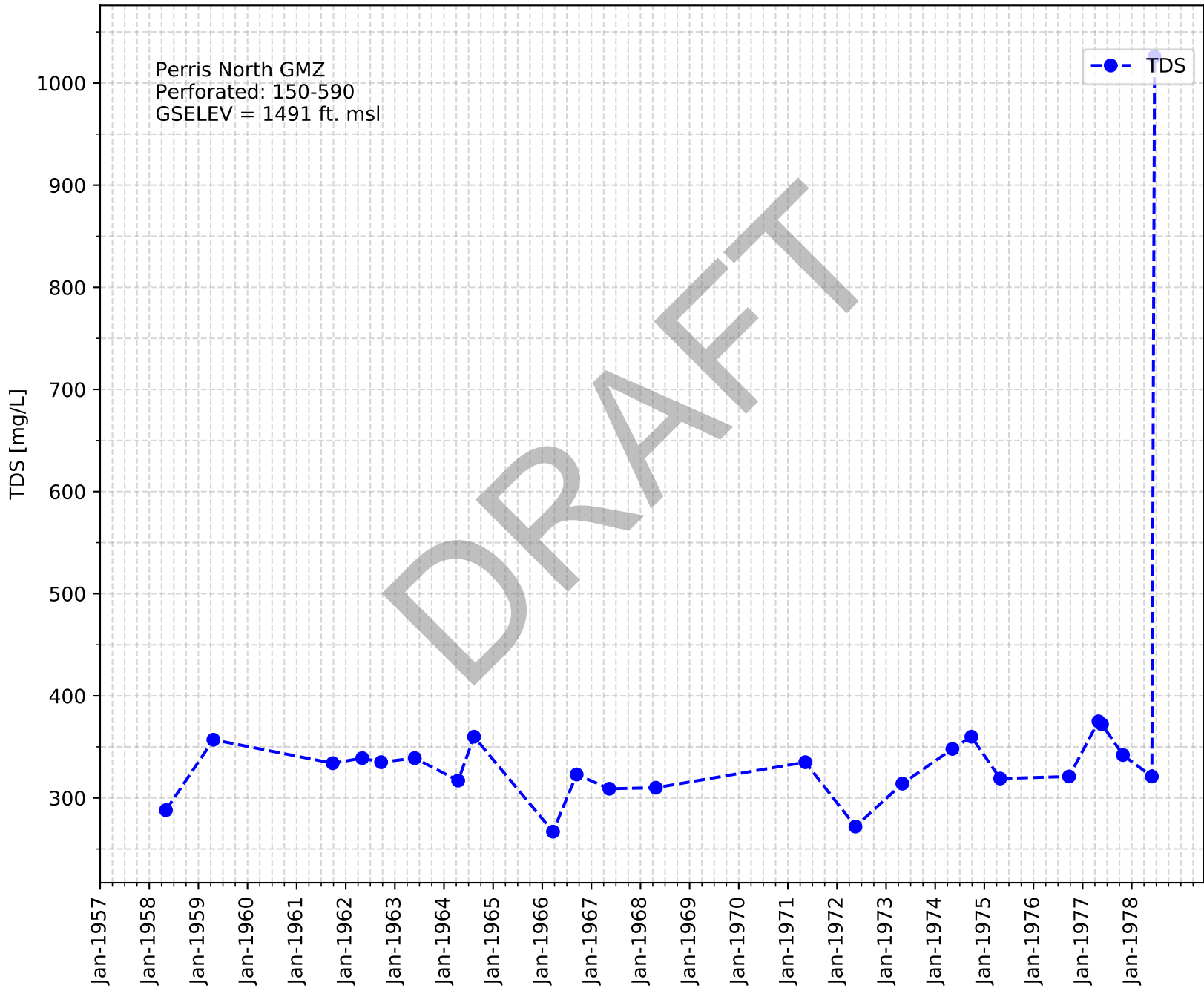
Casing Name: UCR Coray



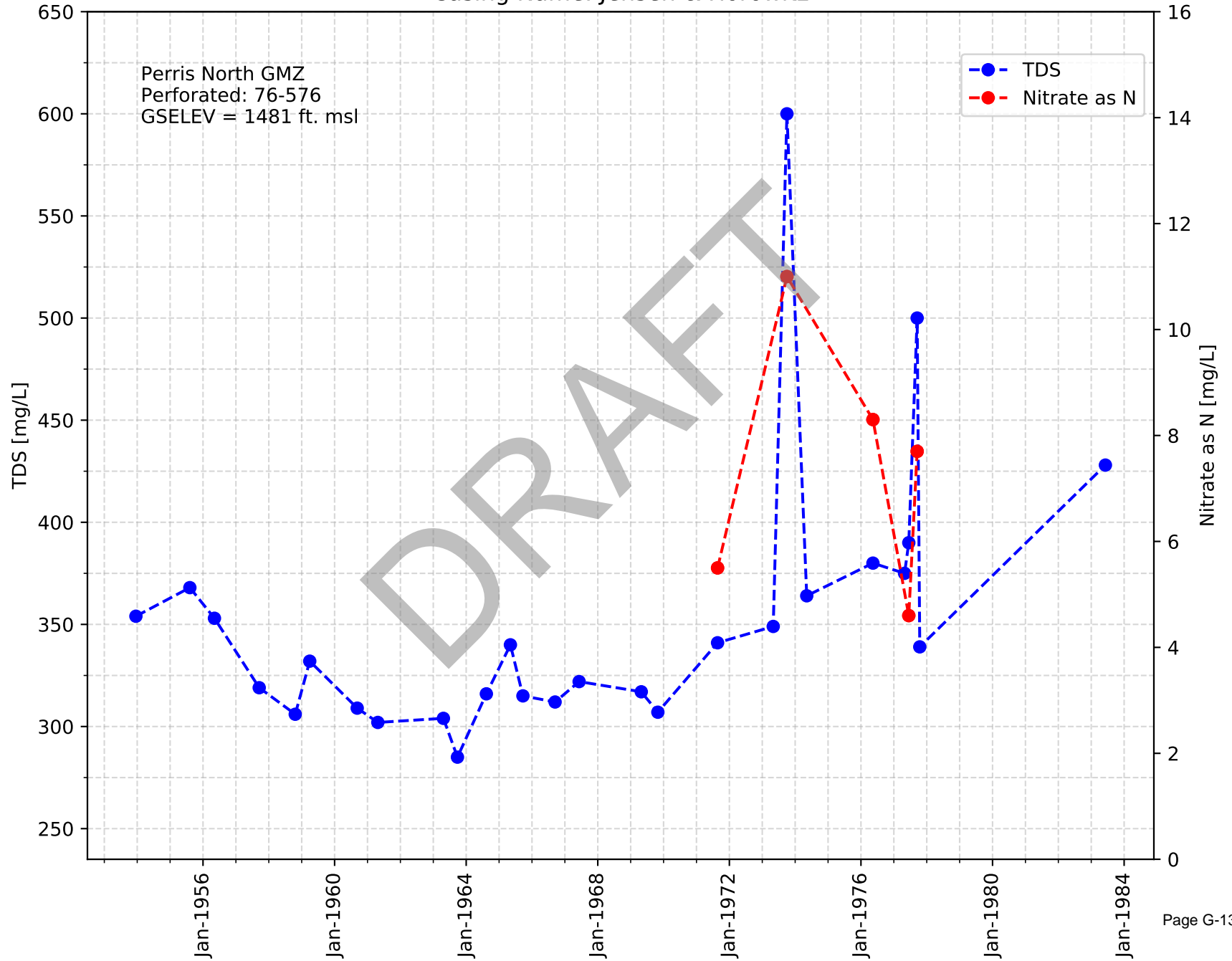
Casing Name: MVRGC Landmark



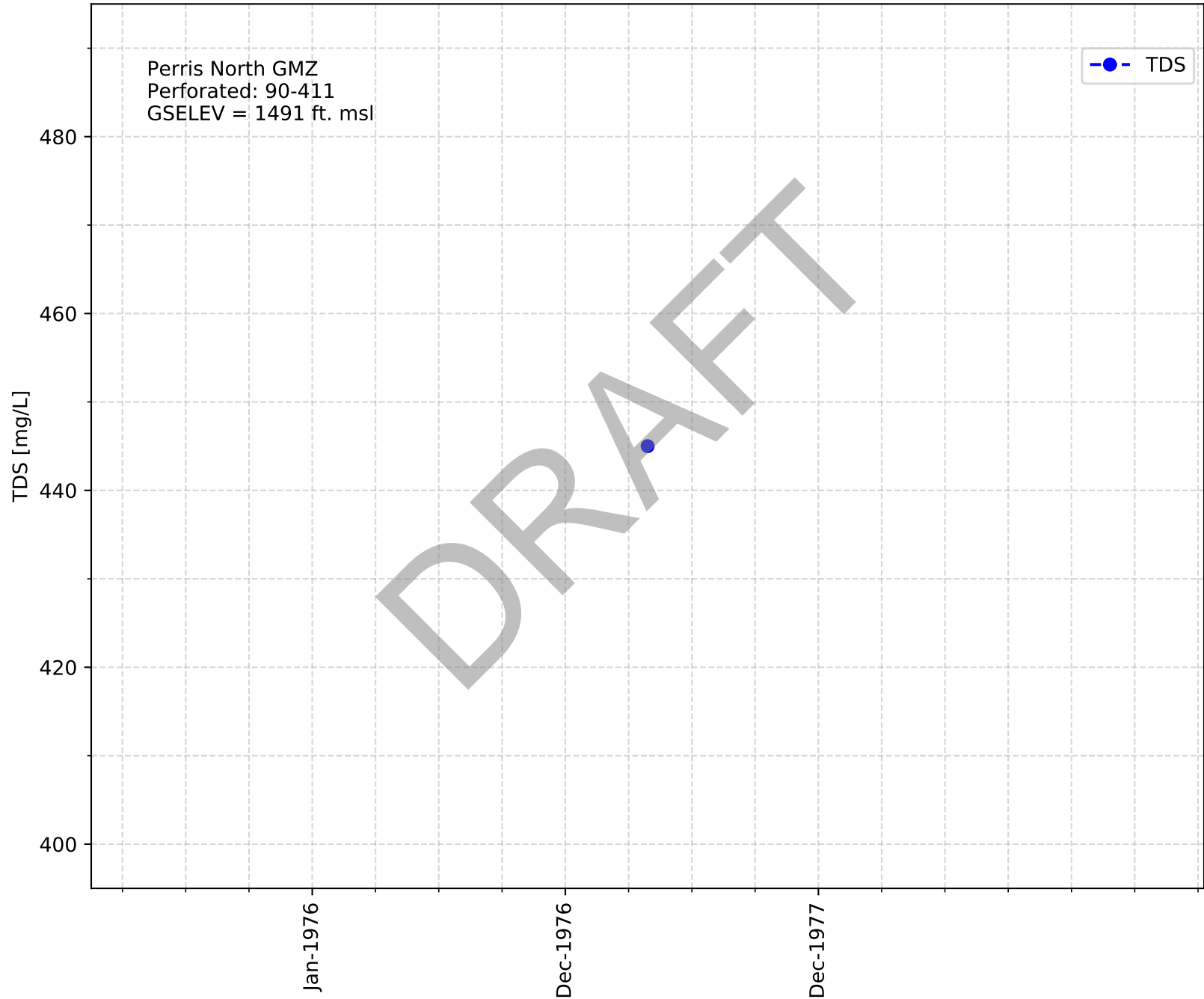
Casing Name: Bridges, O. L.



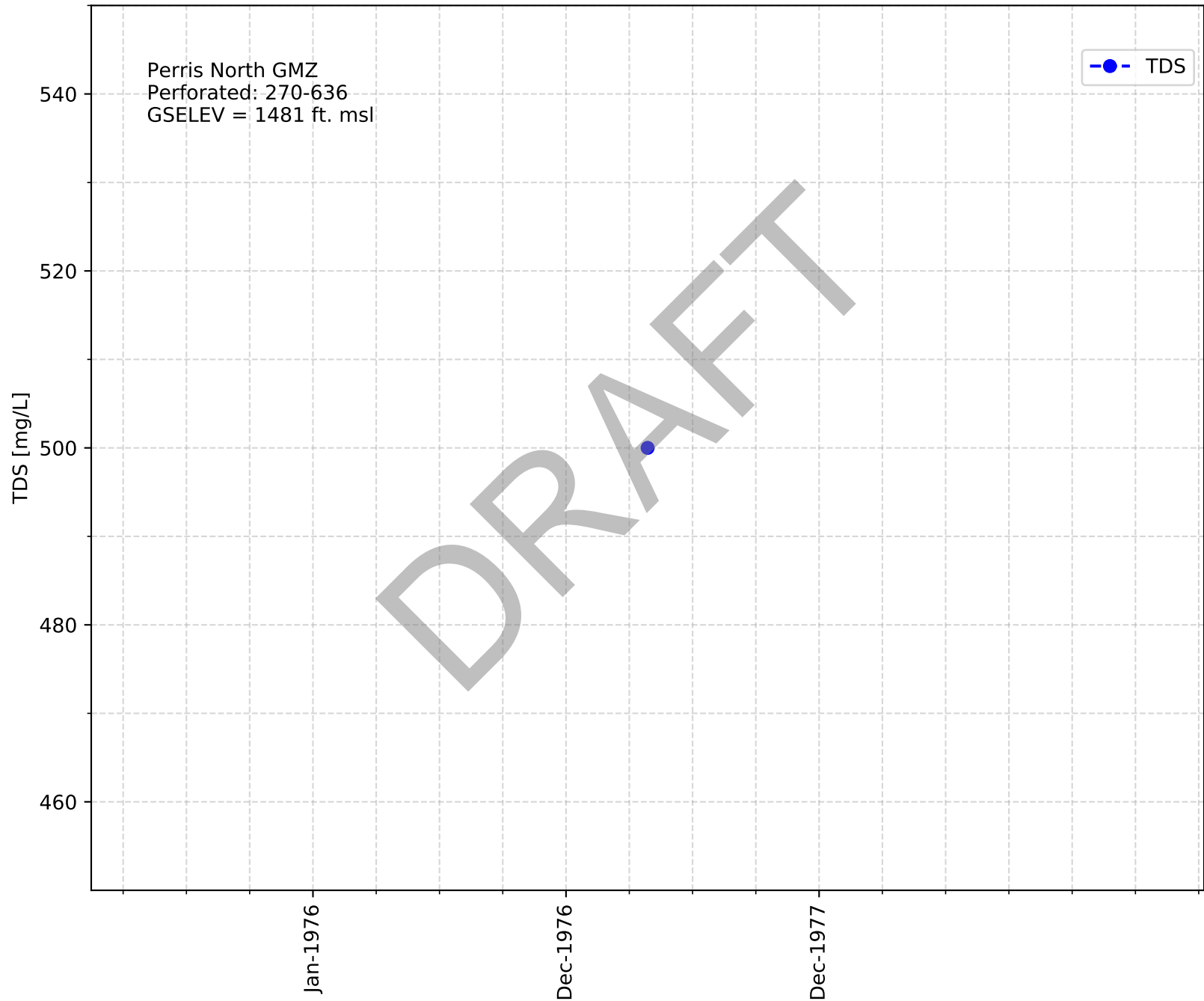
Casing Name: Jensen & Horowitz



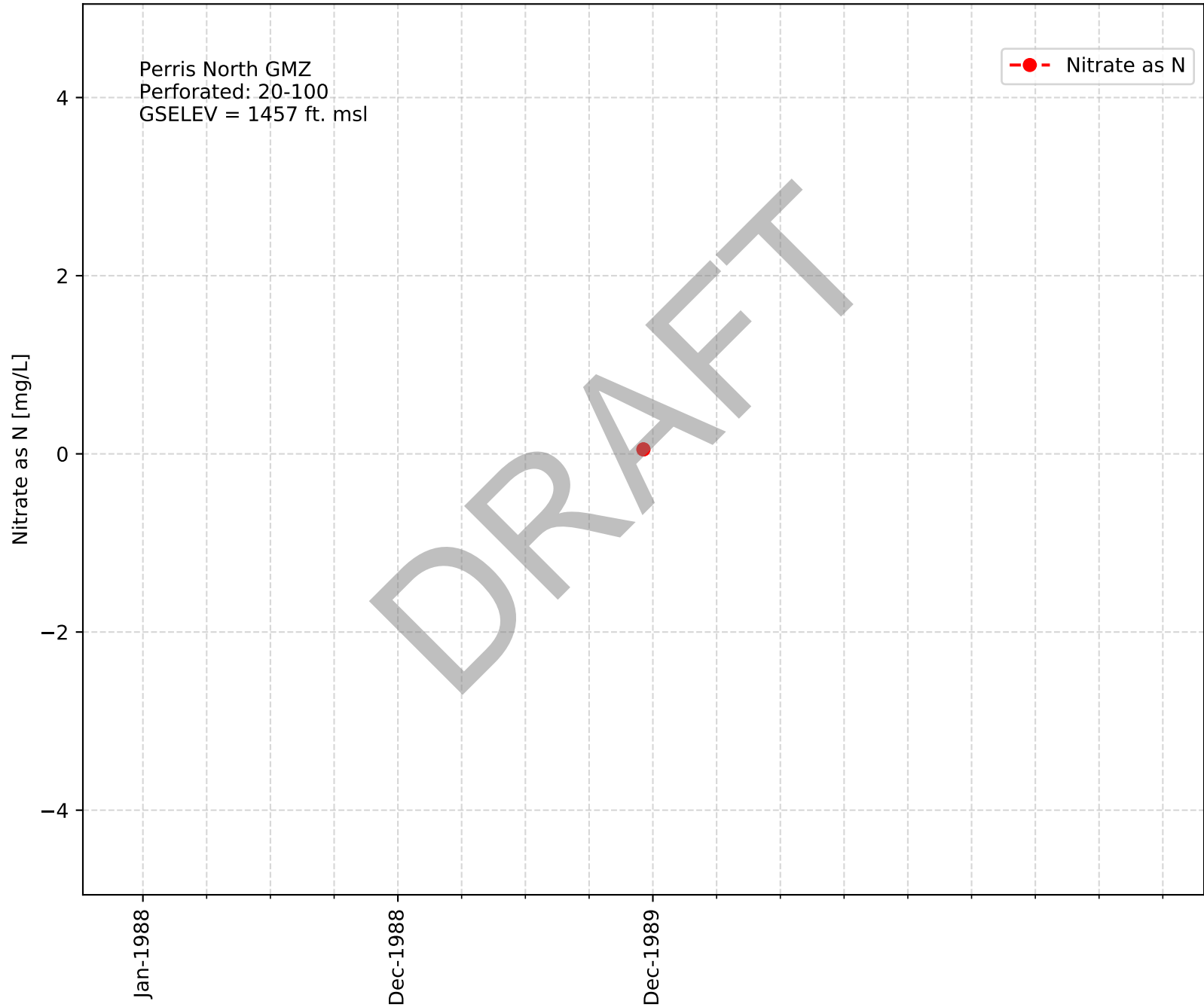
Casing Name: Buchanan, Howard A.



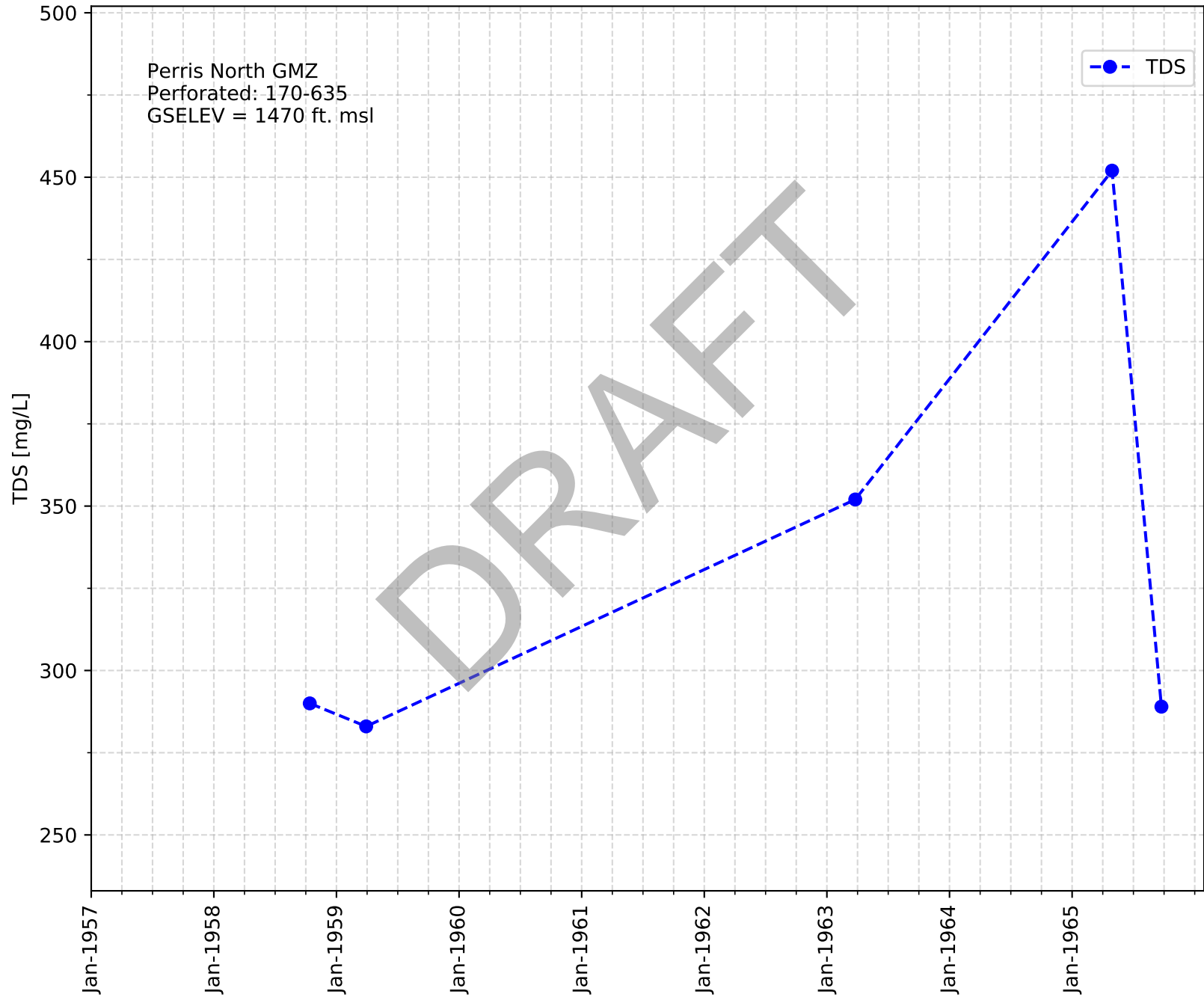
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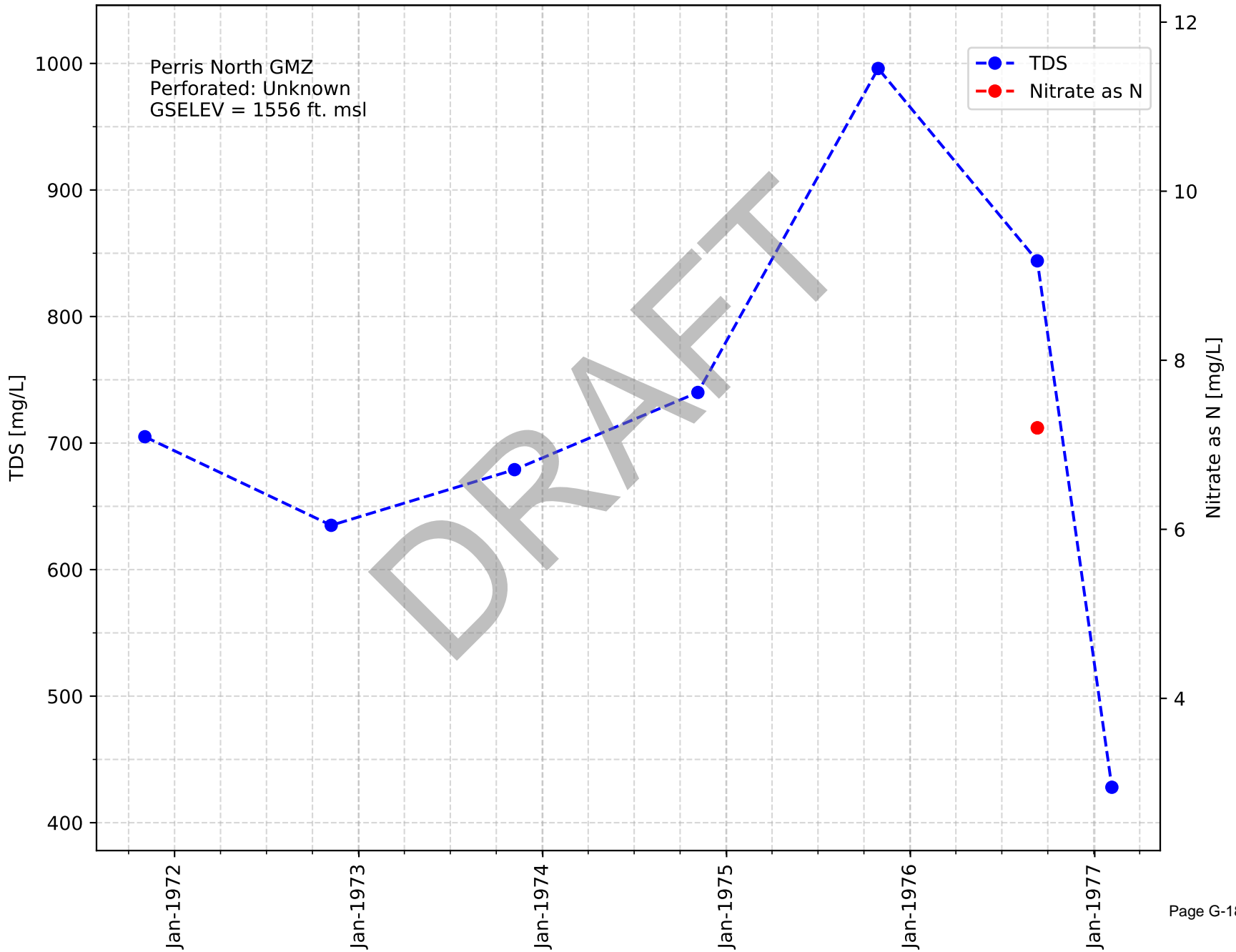
Casing Name: Miller, Charles



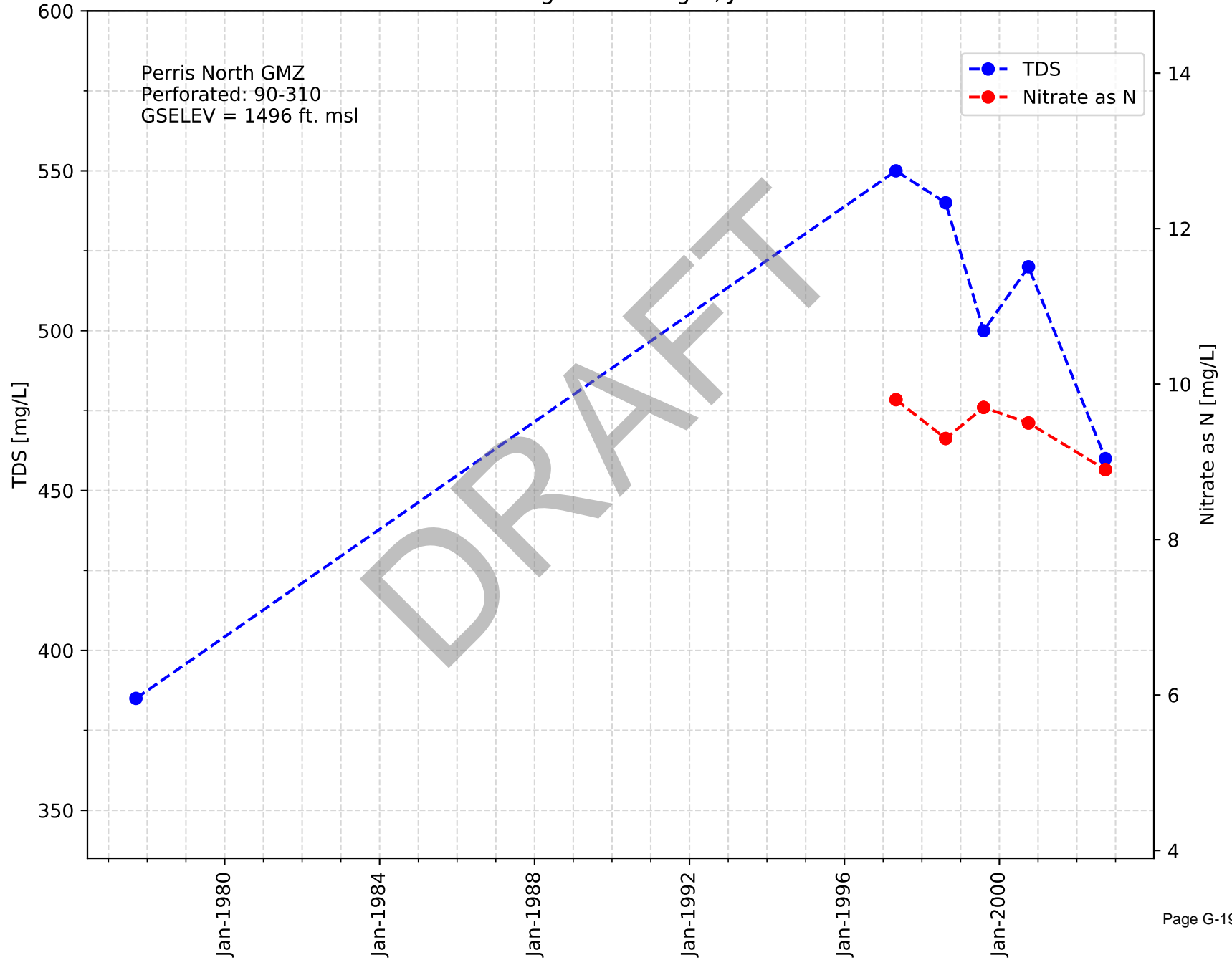
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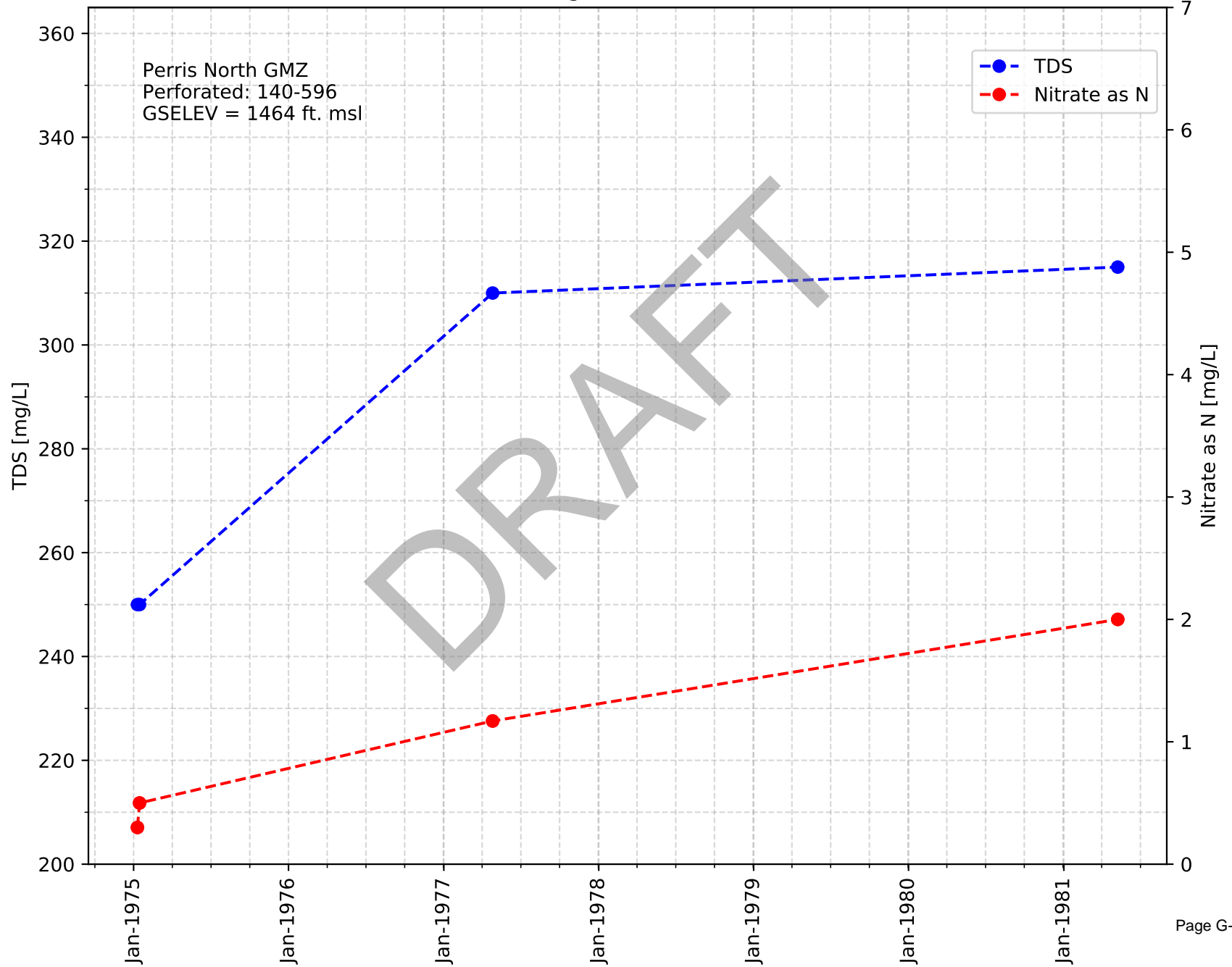
Casing Name: March Field Water Well 4



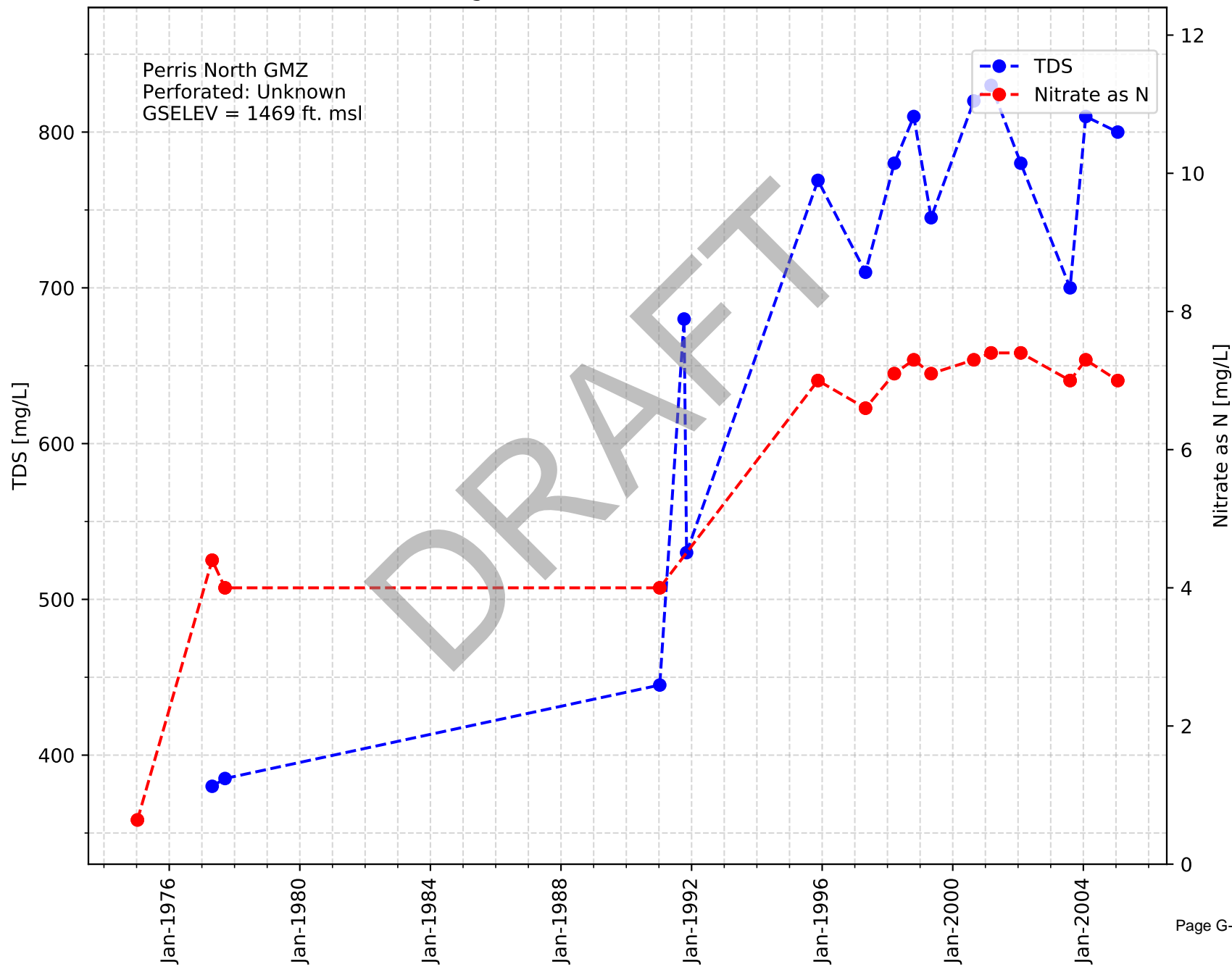
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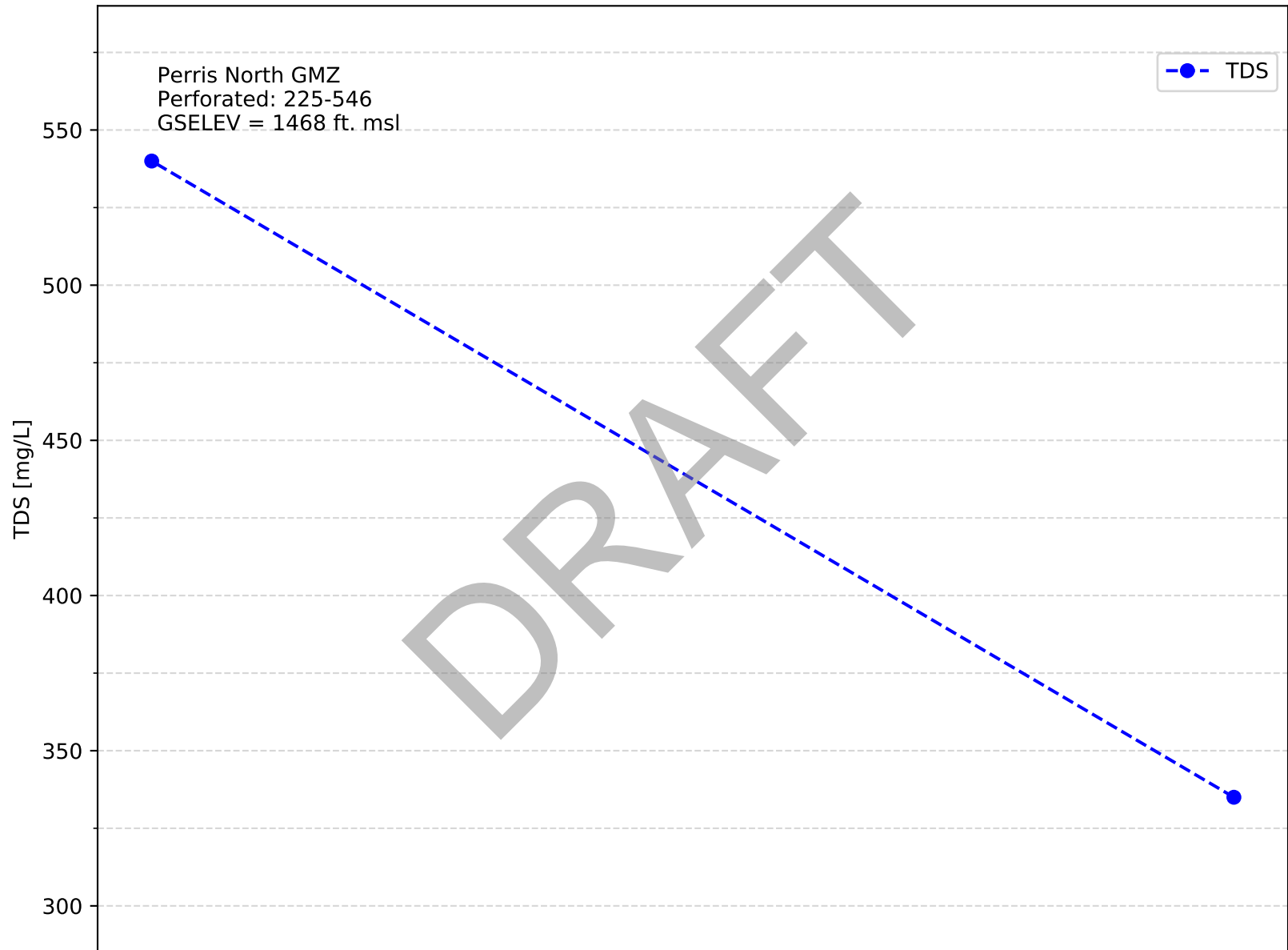
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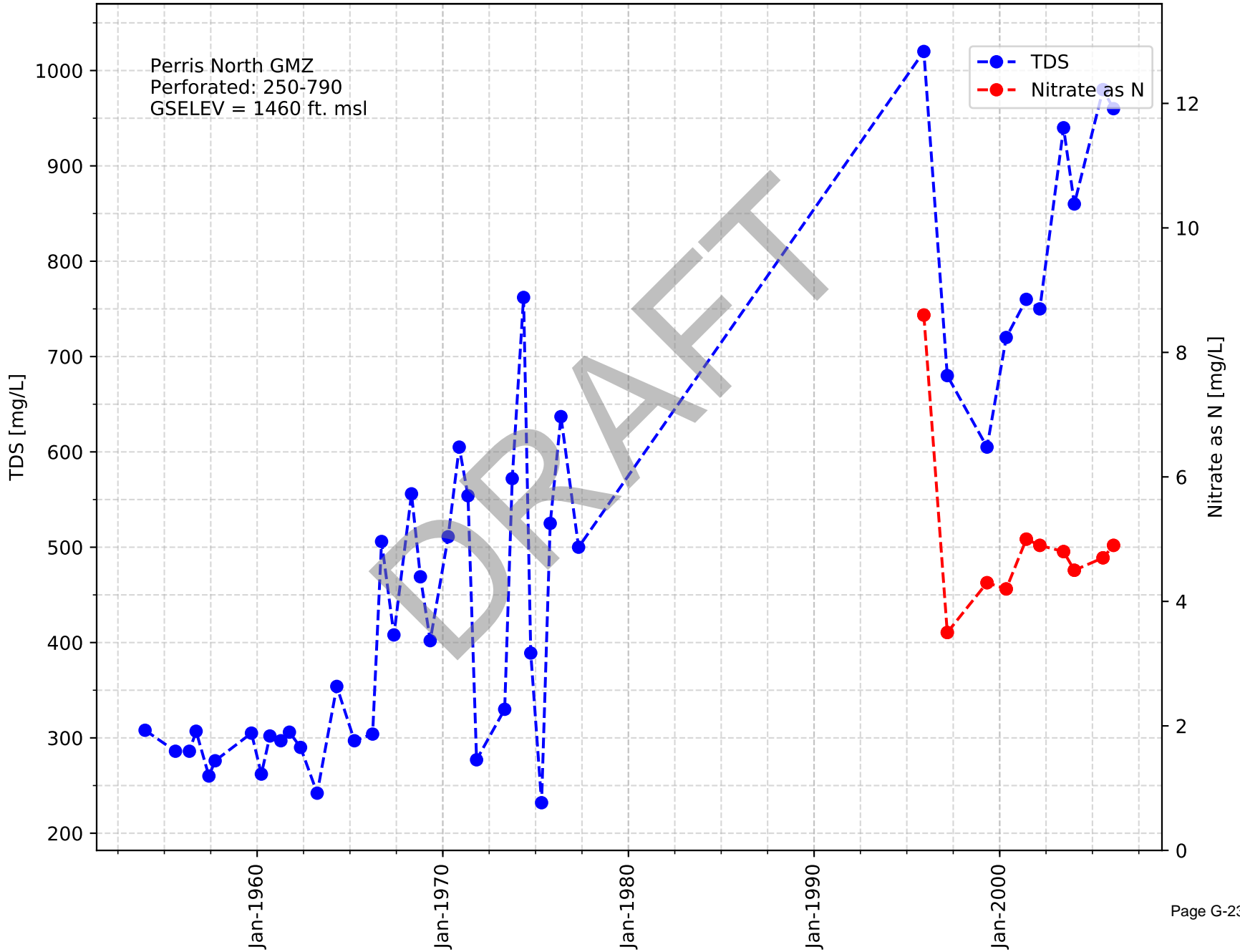
Casing Name: EMWD 58 Indian/Nance



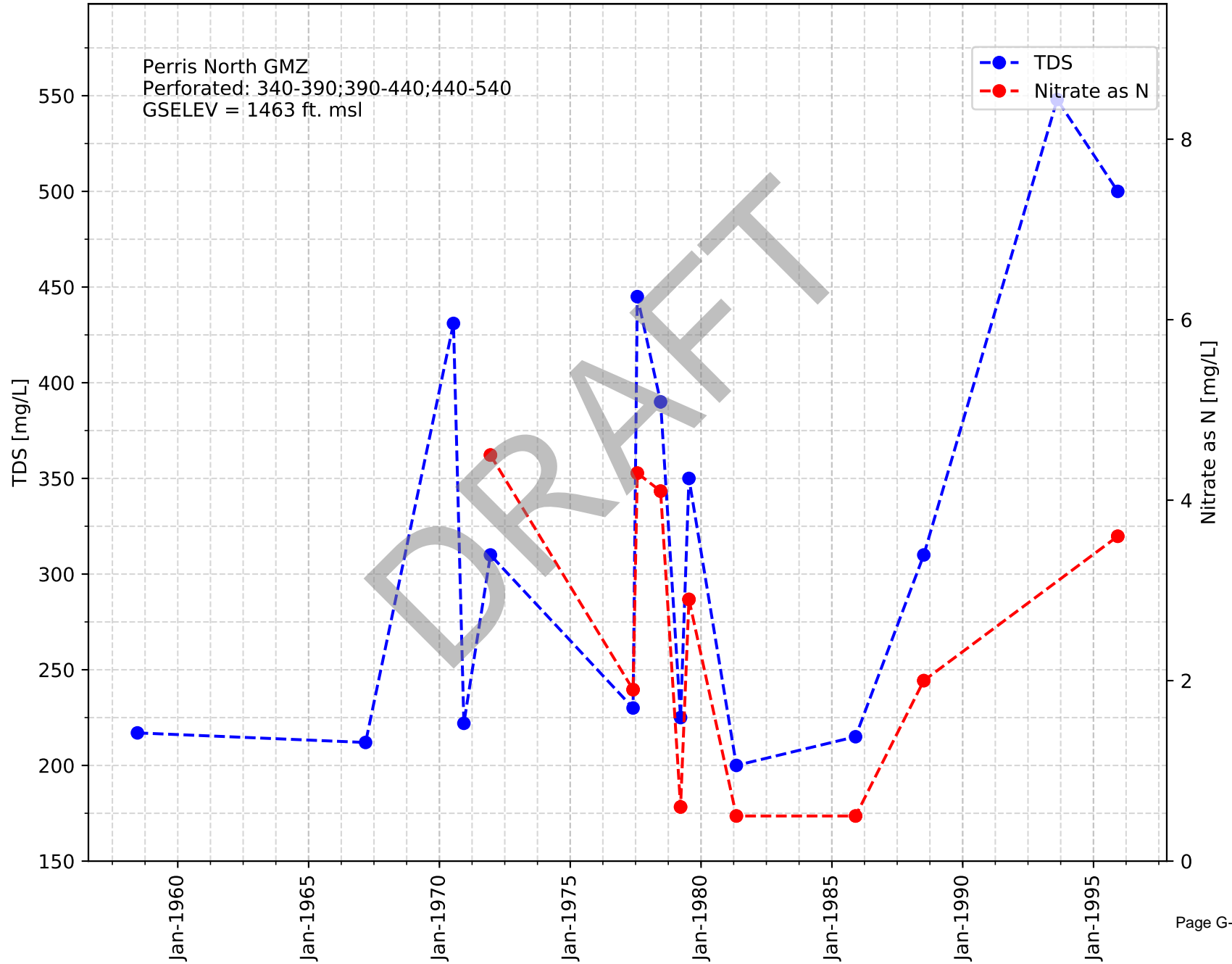
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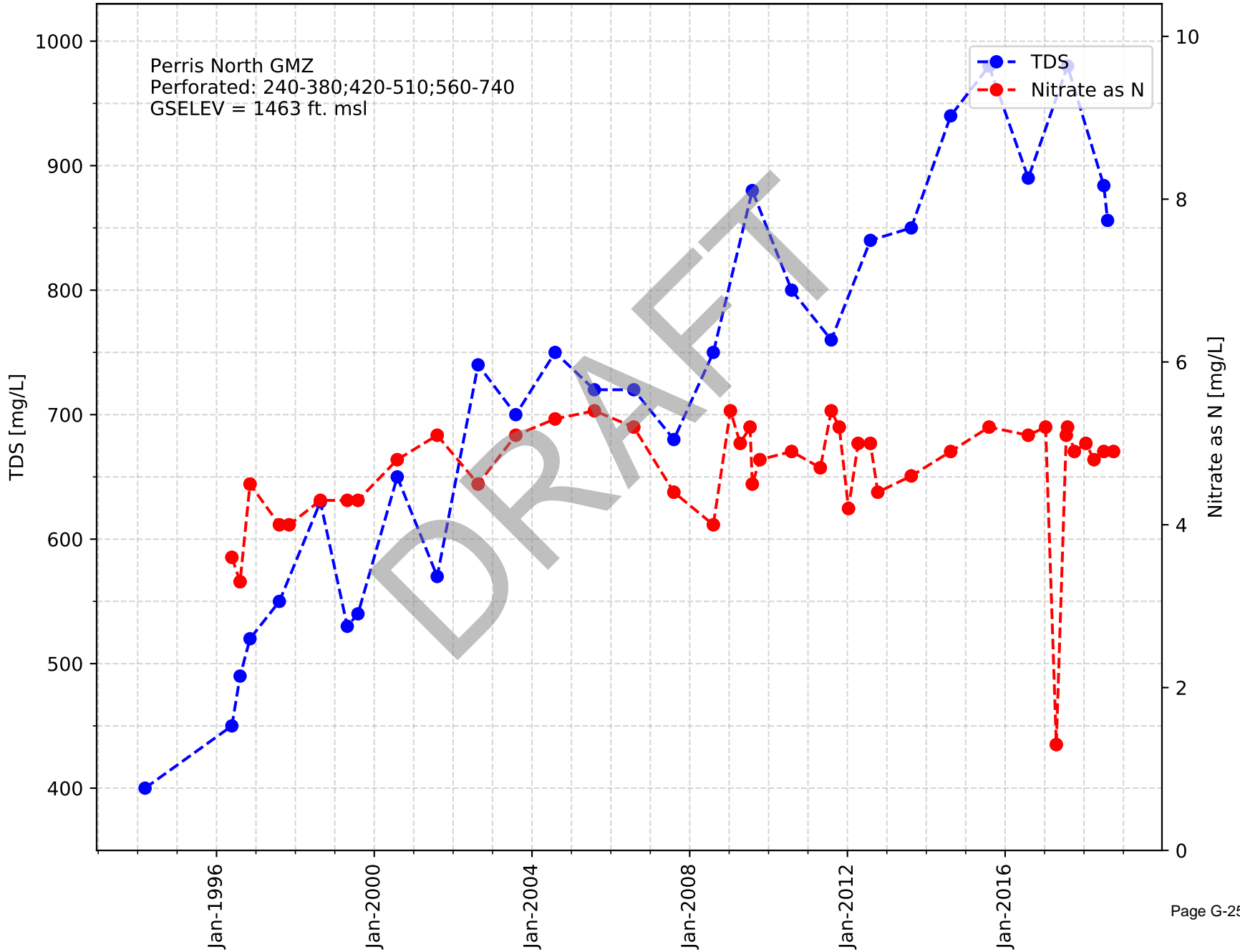
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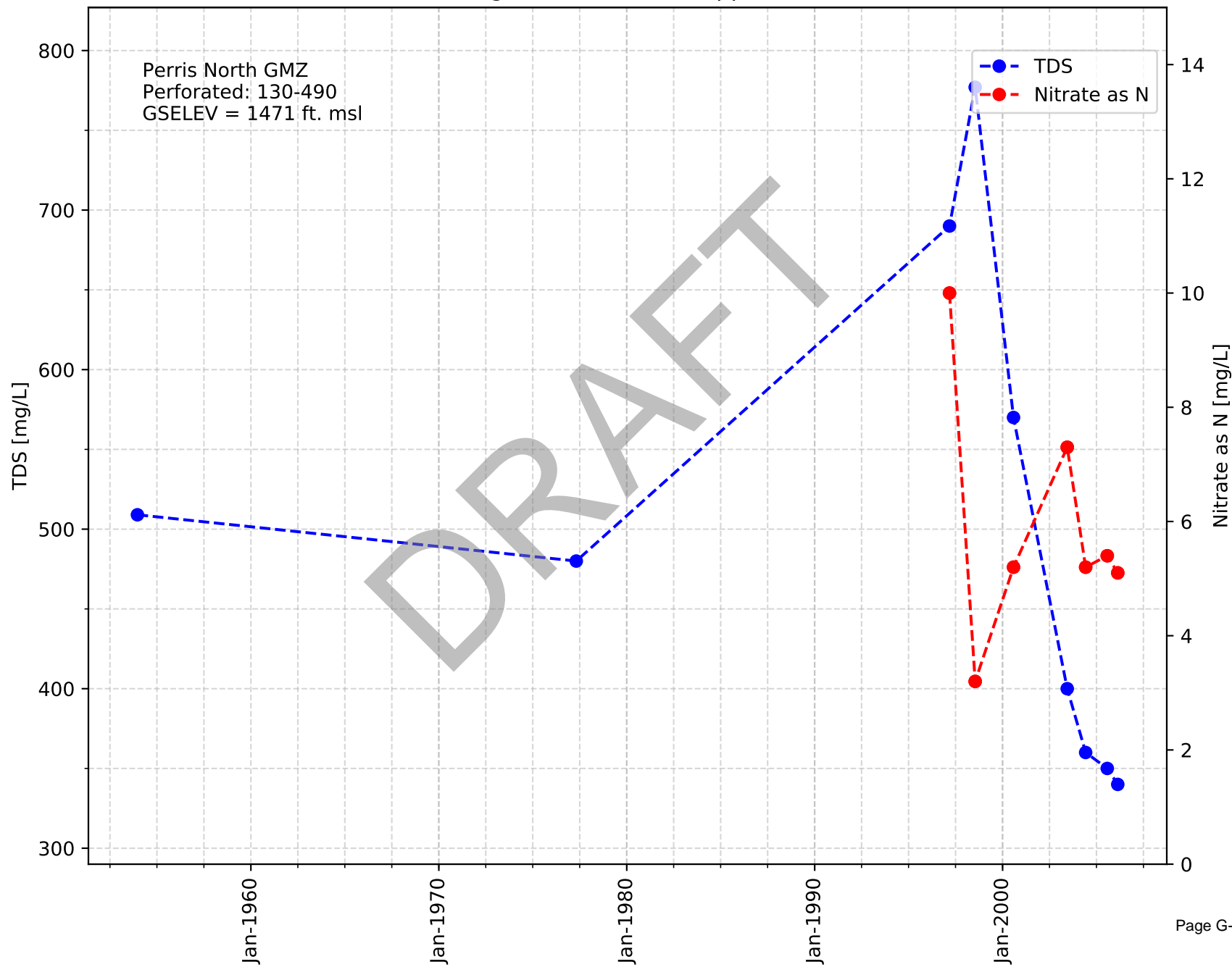
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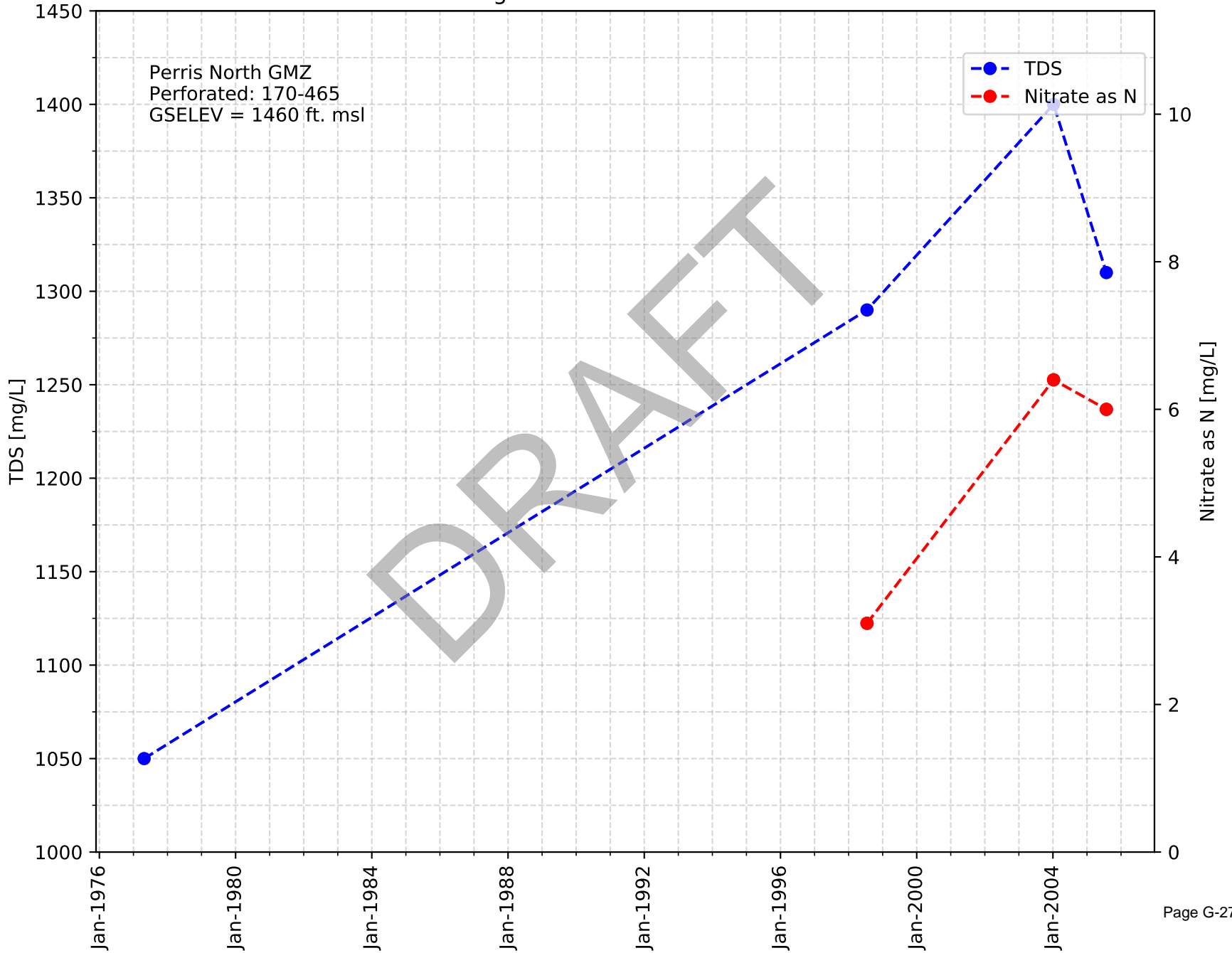
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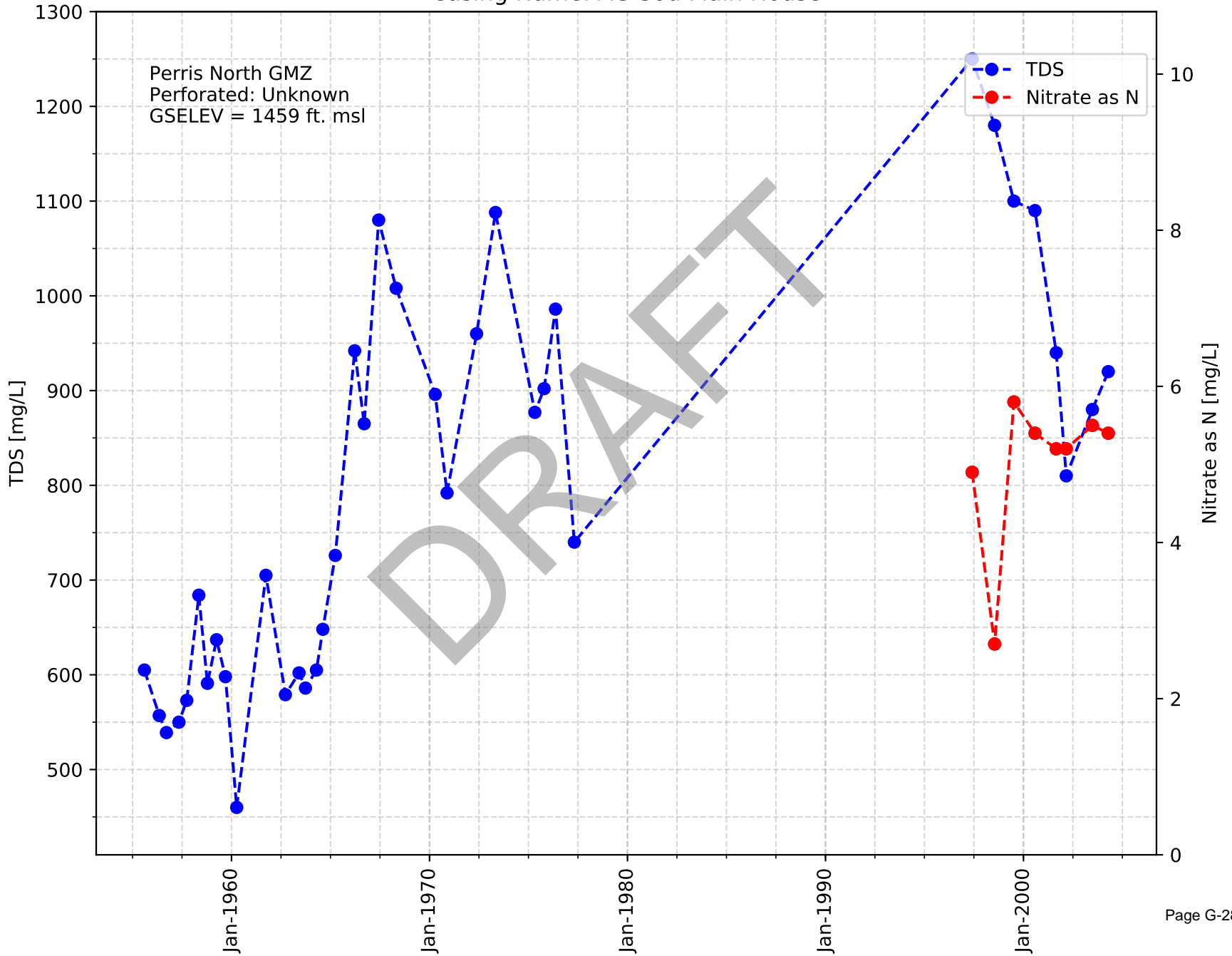
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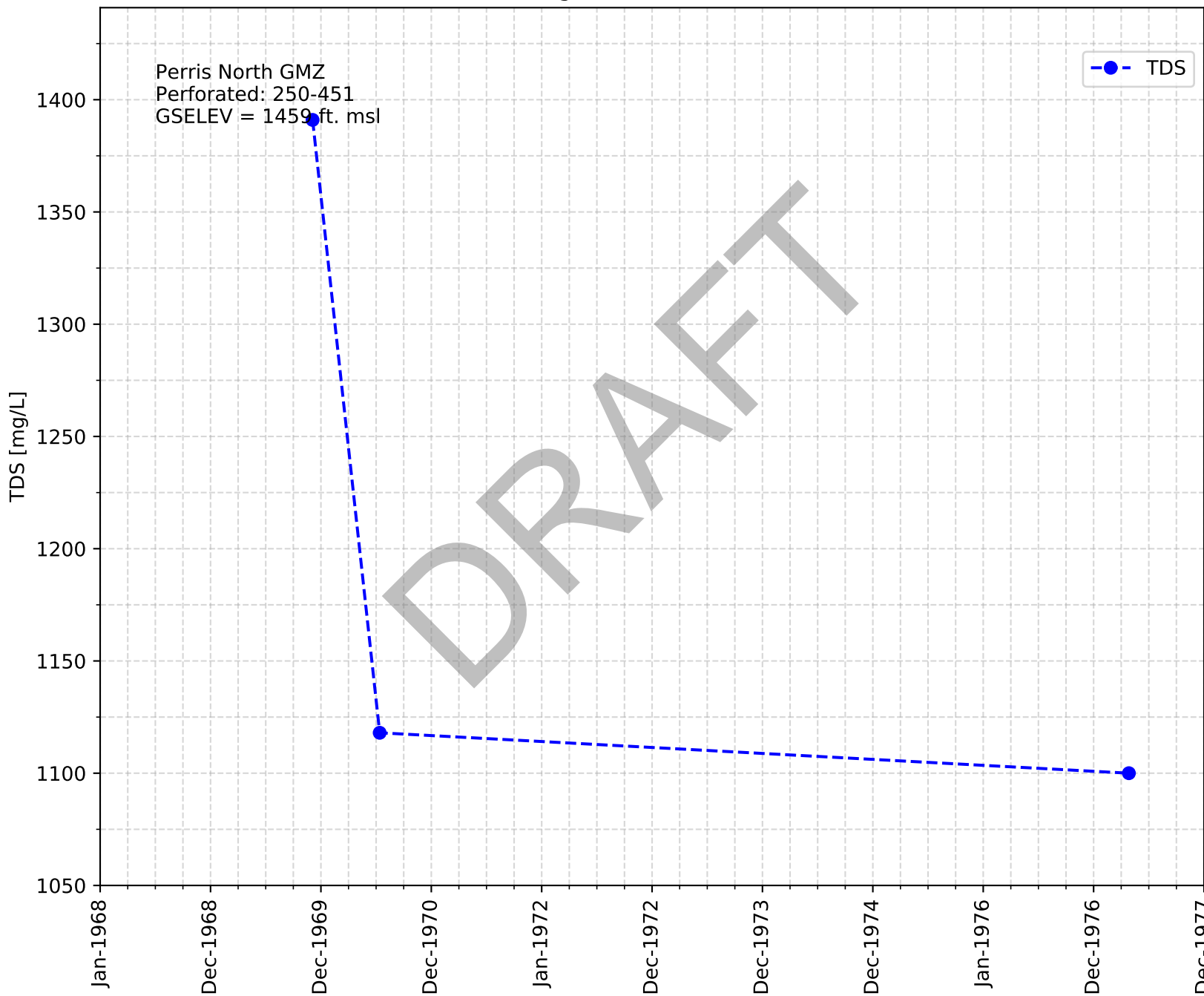
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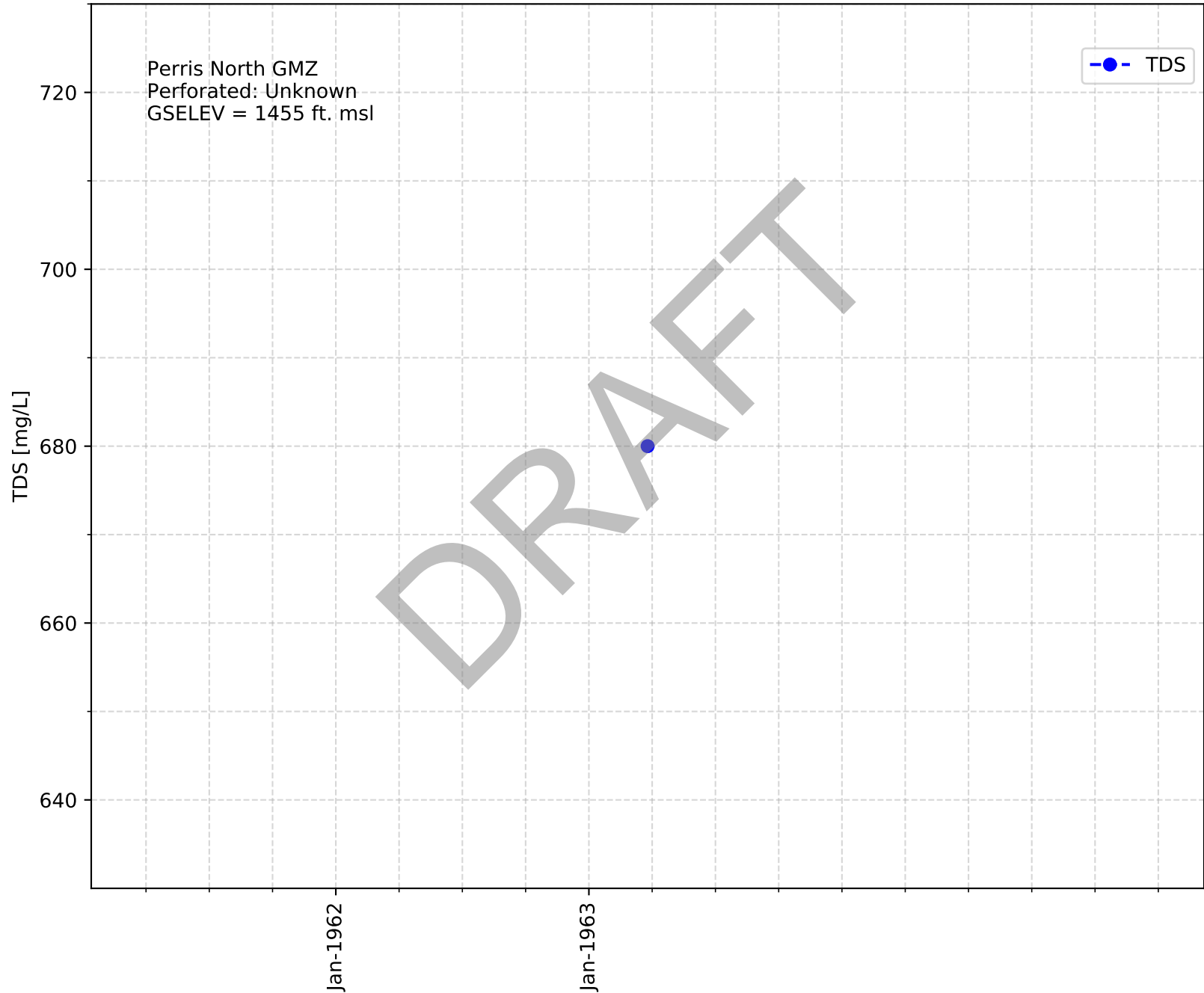
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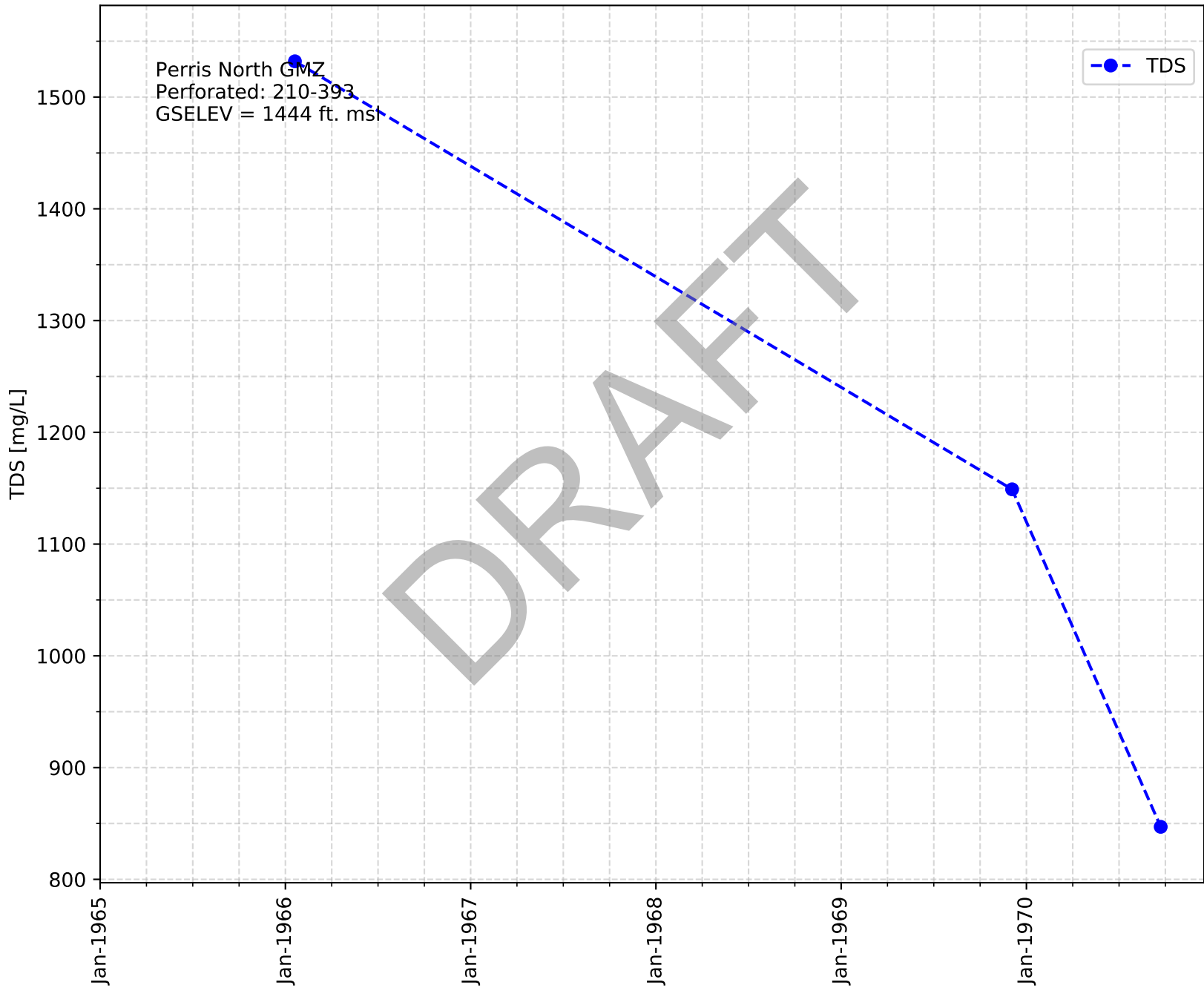
Casing Name: Damiano, A.



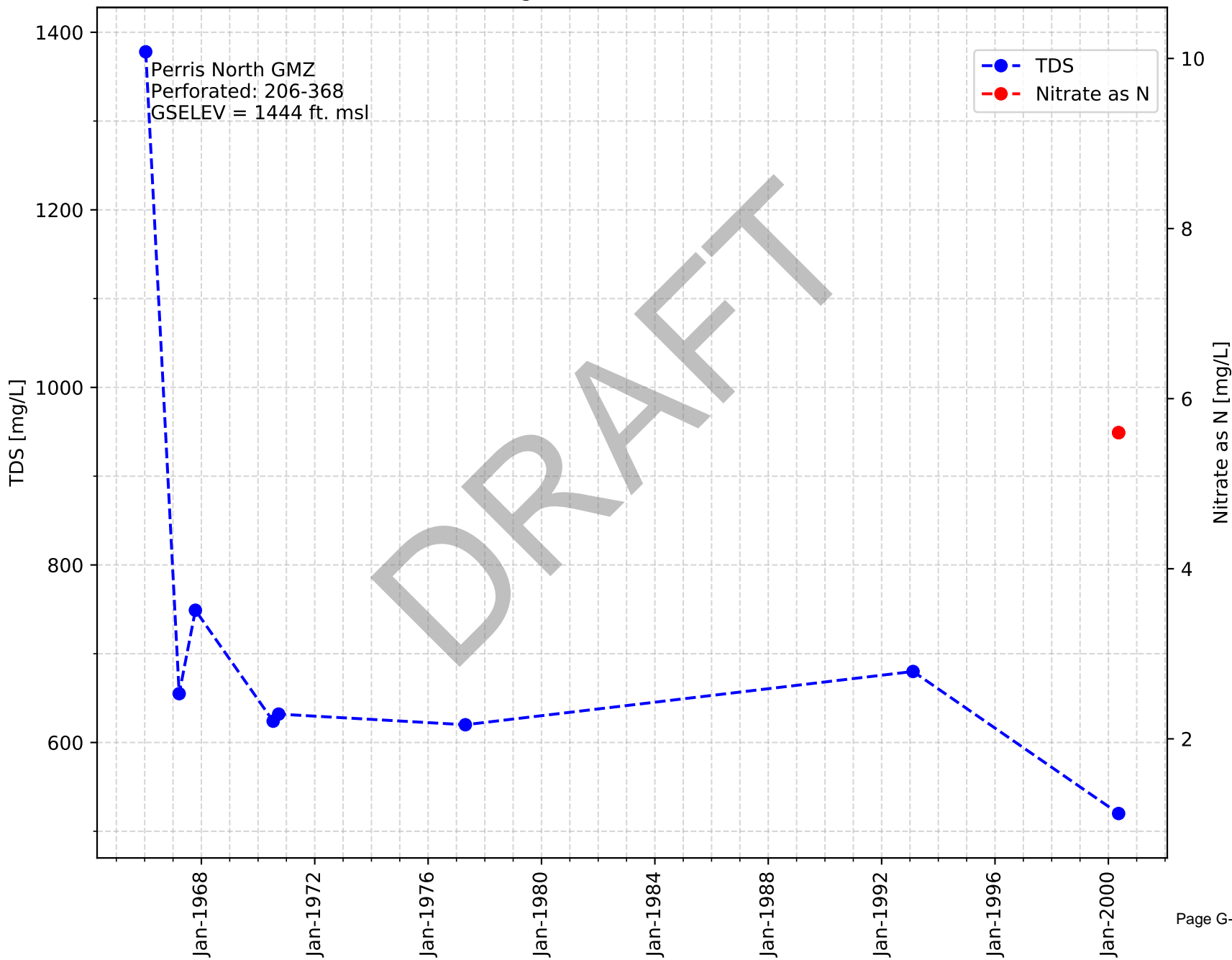
Casing Name: Crenshaw



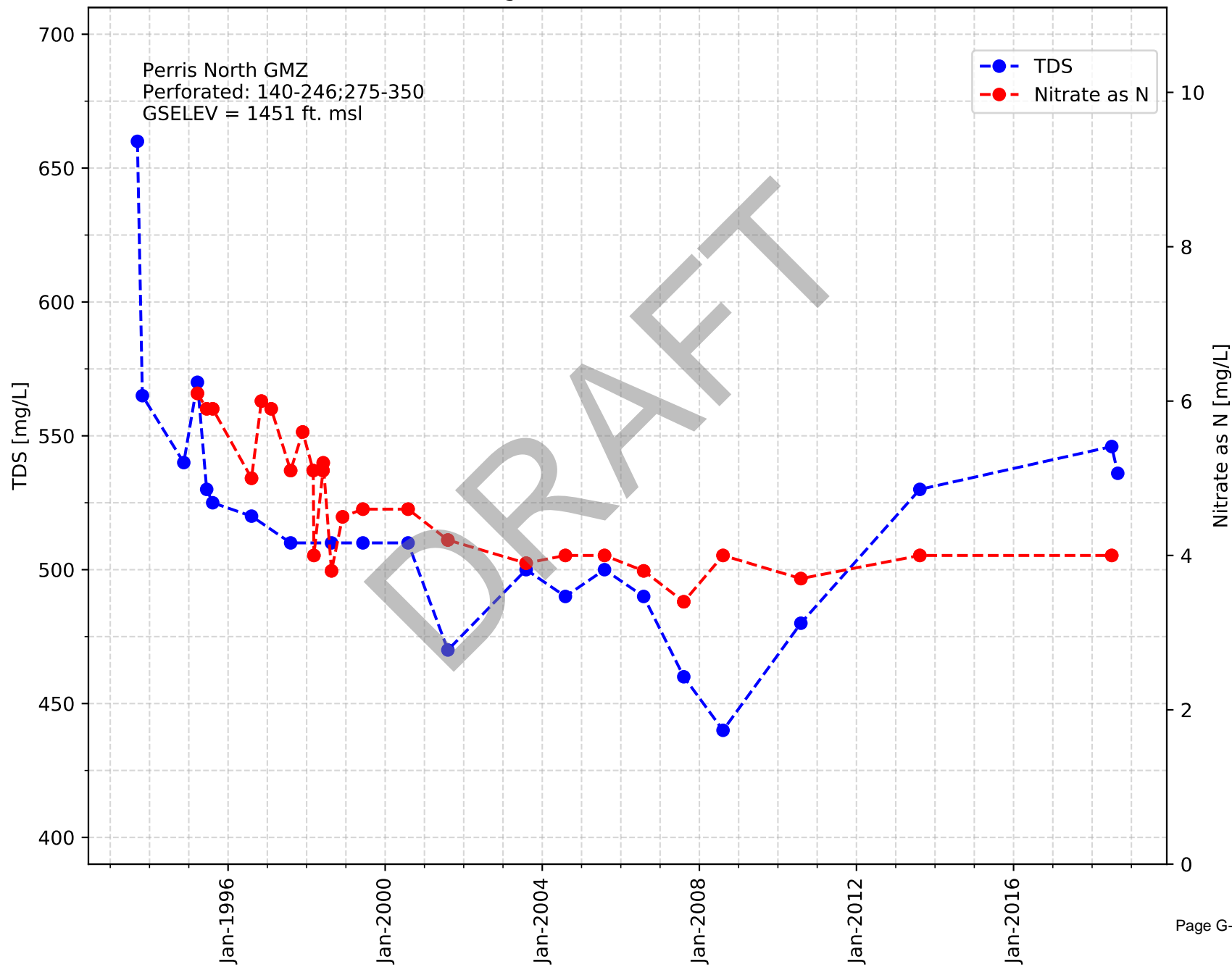
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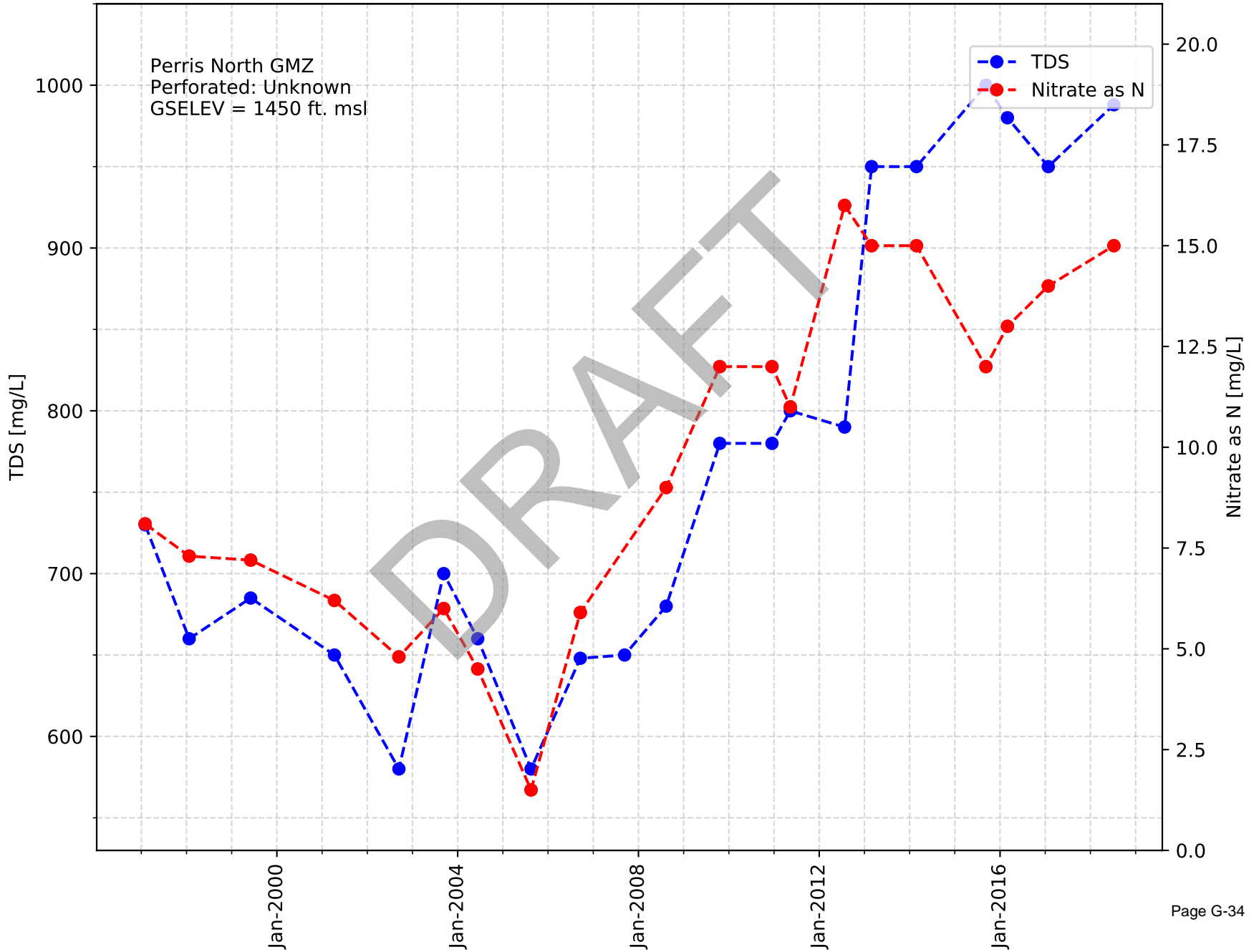
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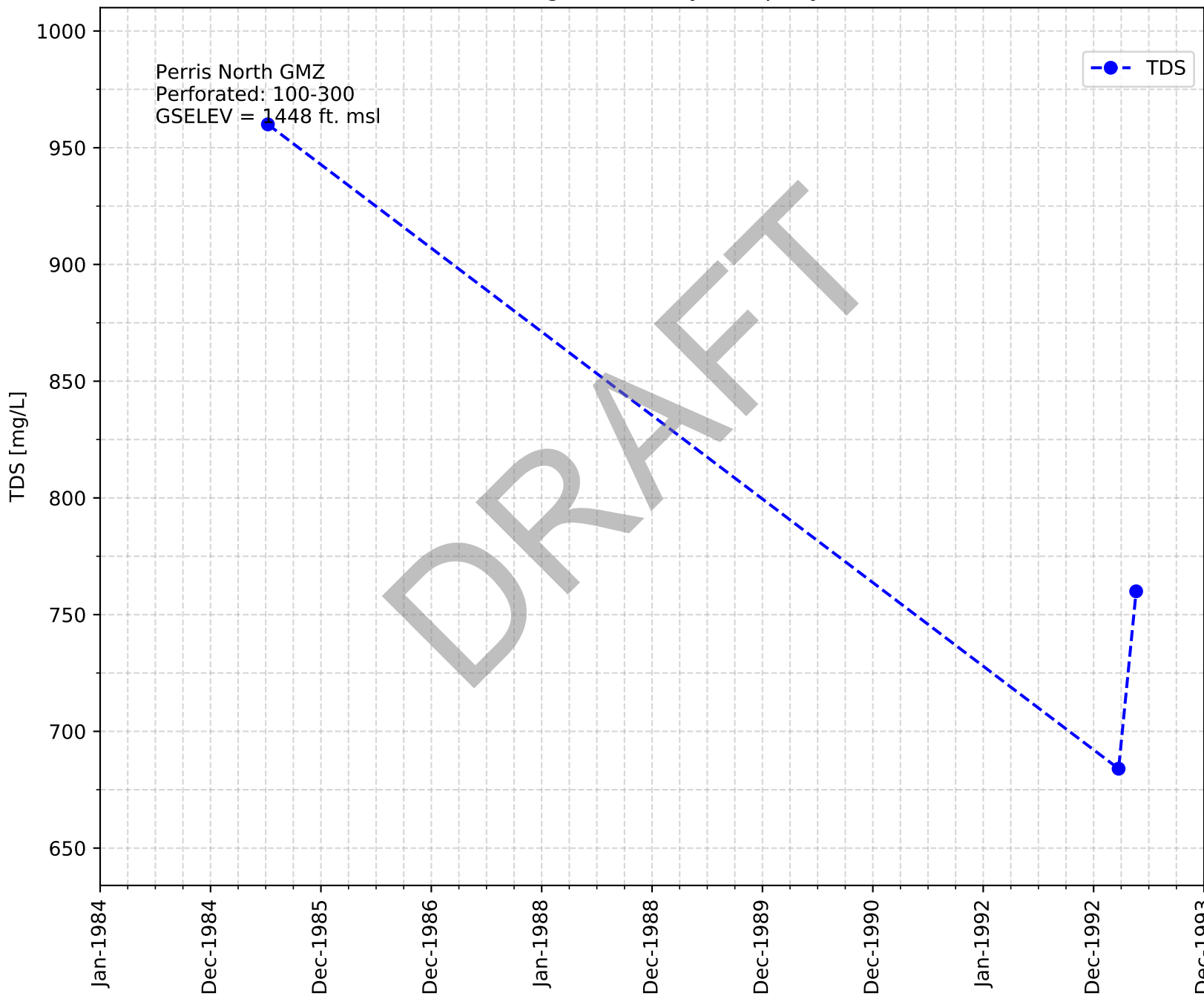
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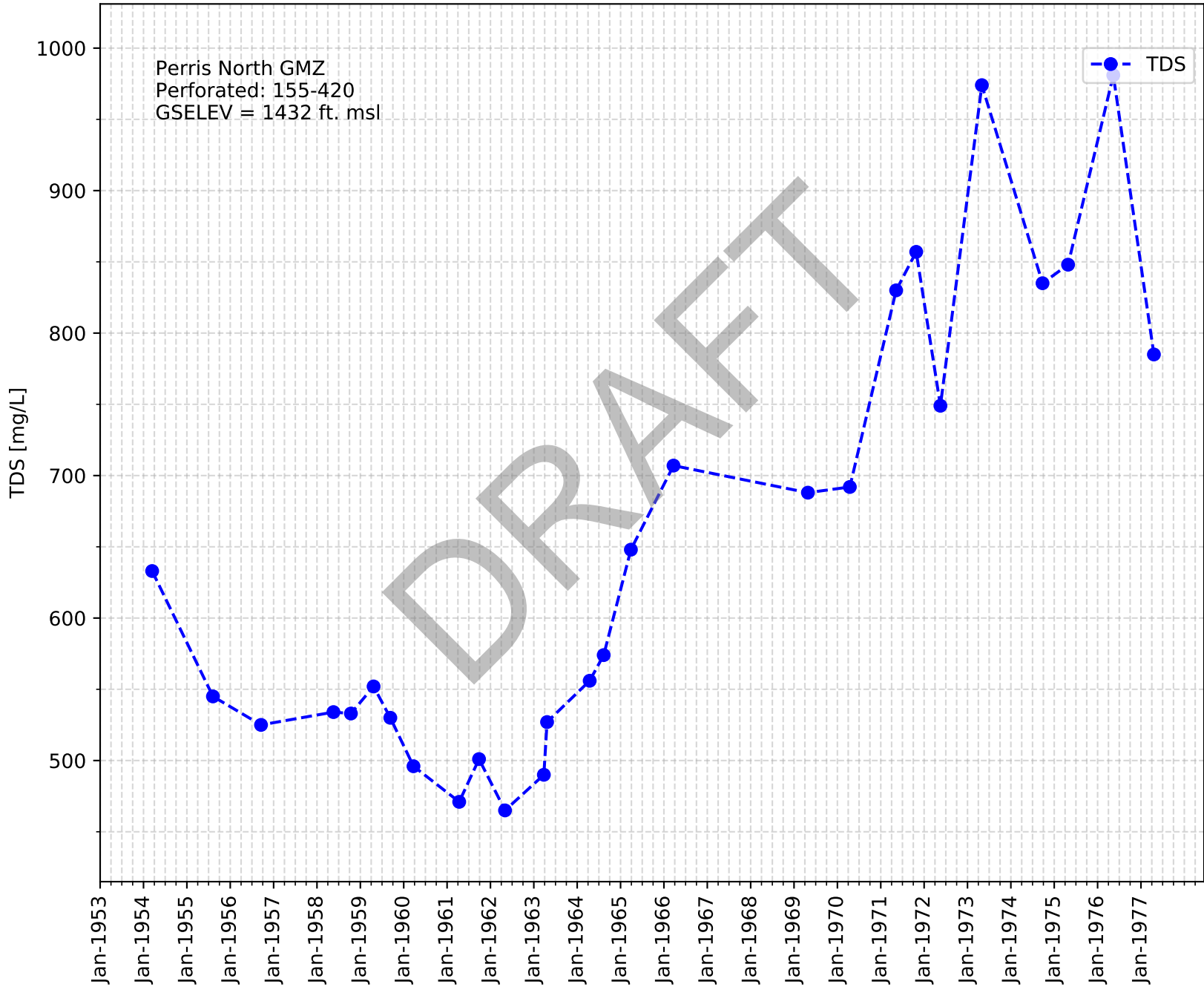
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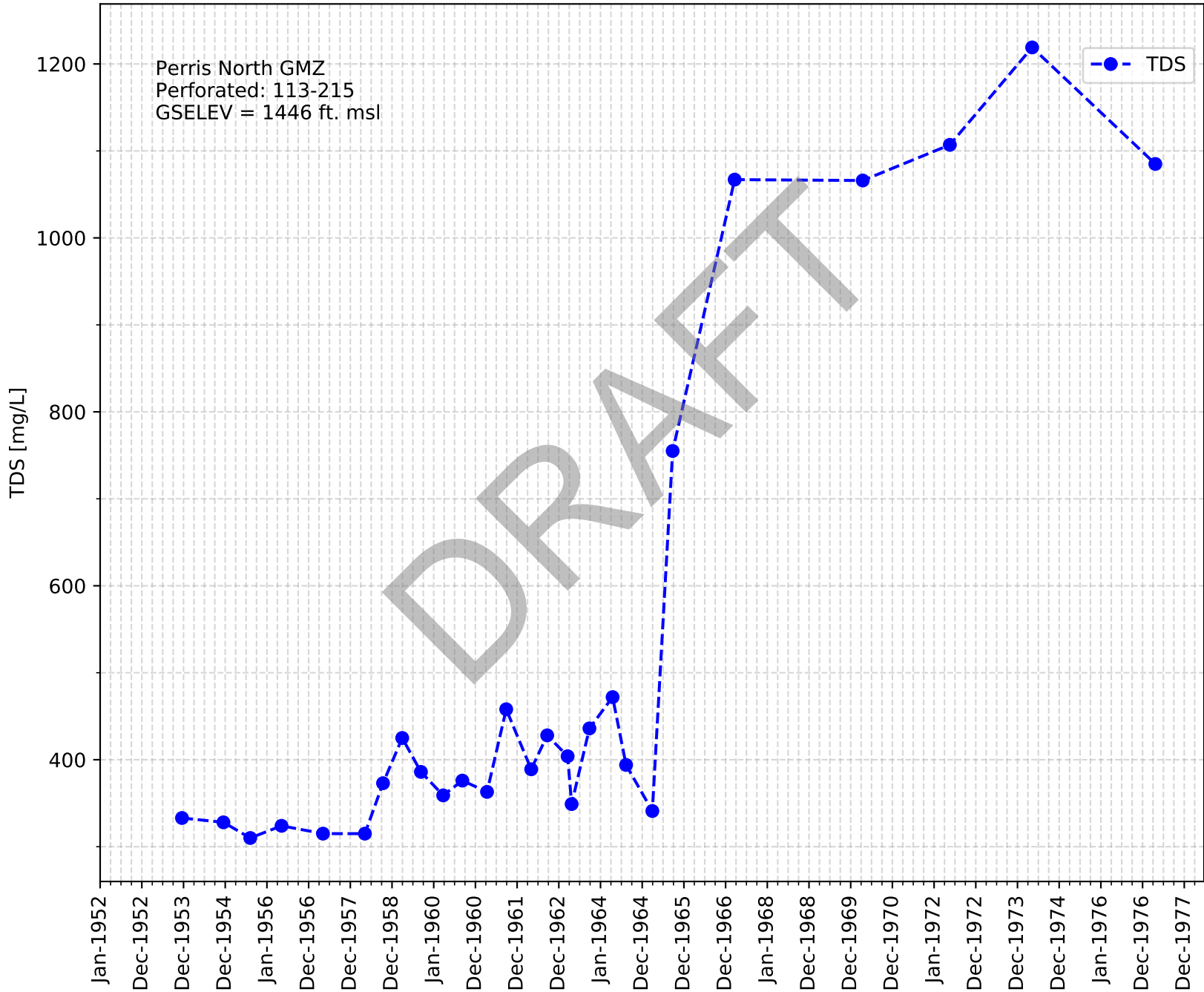
Casing Name: May Company



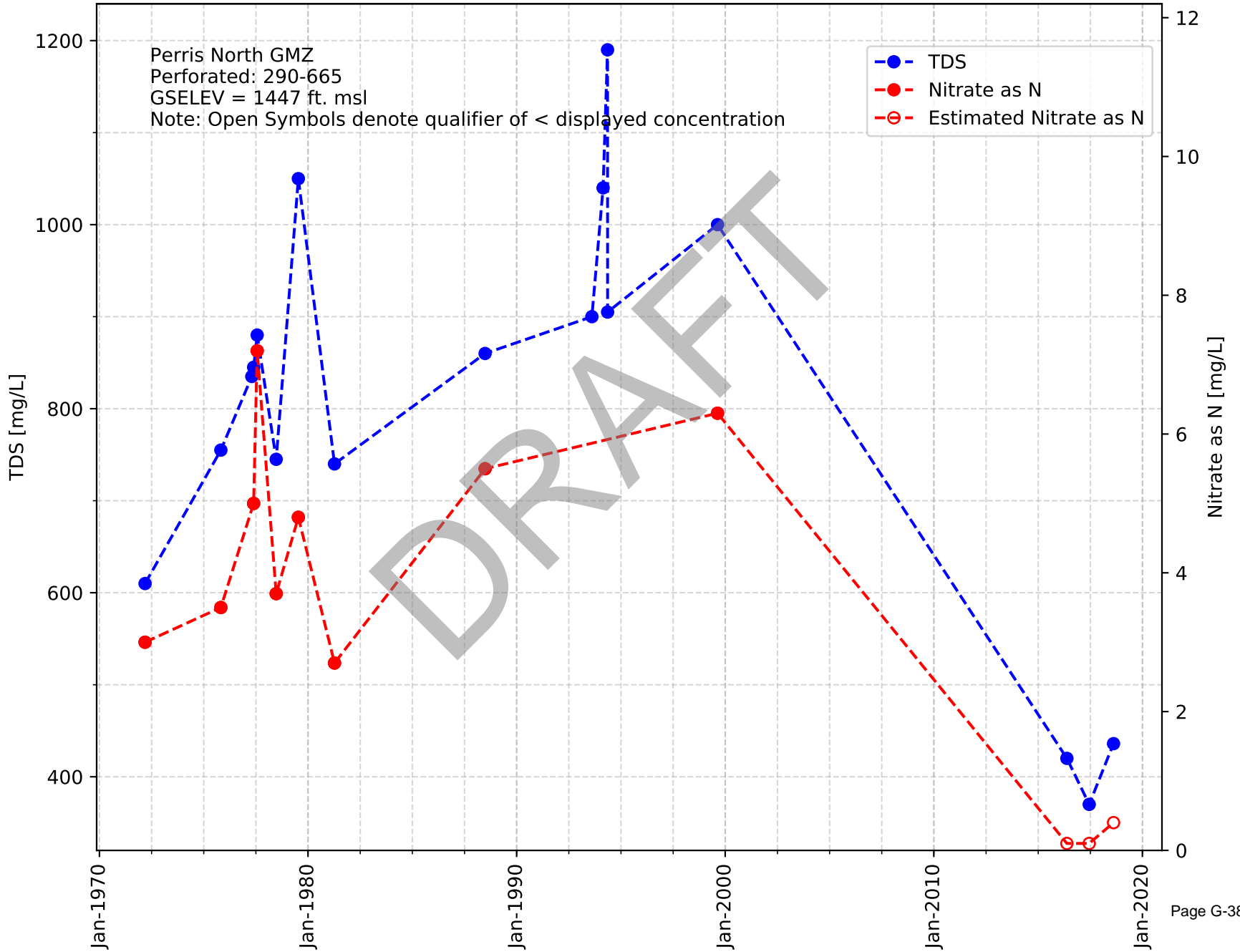
Casing Name: Smith, H.



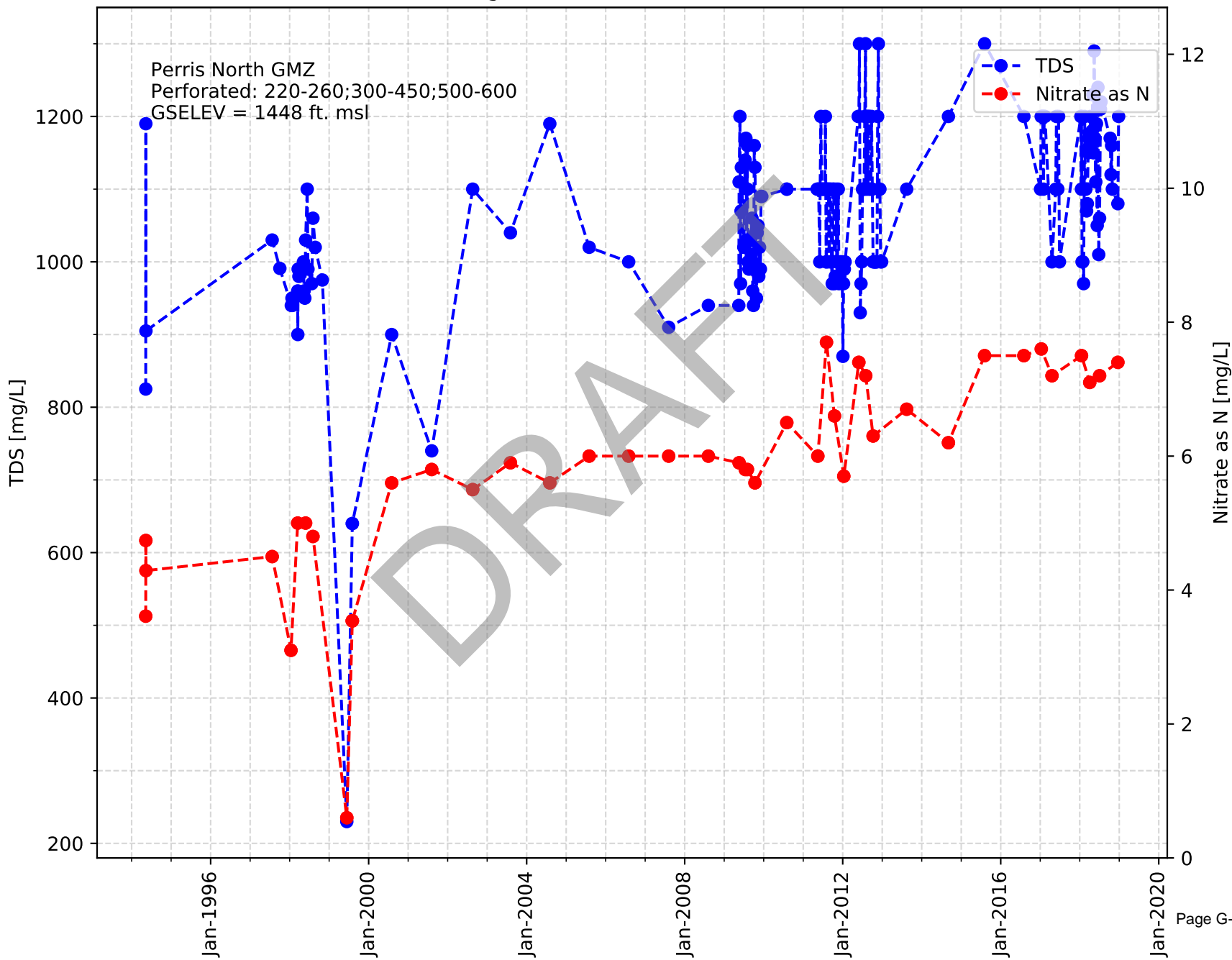
Casing Name: Hamner, L. L.



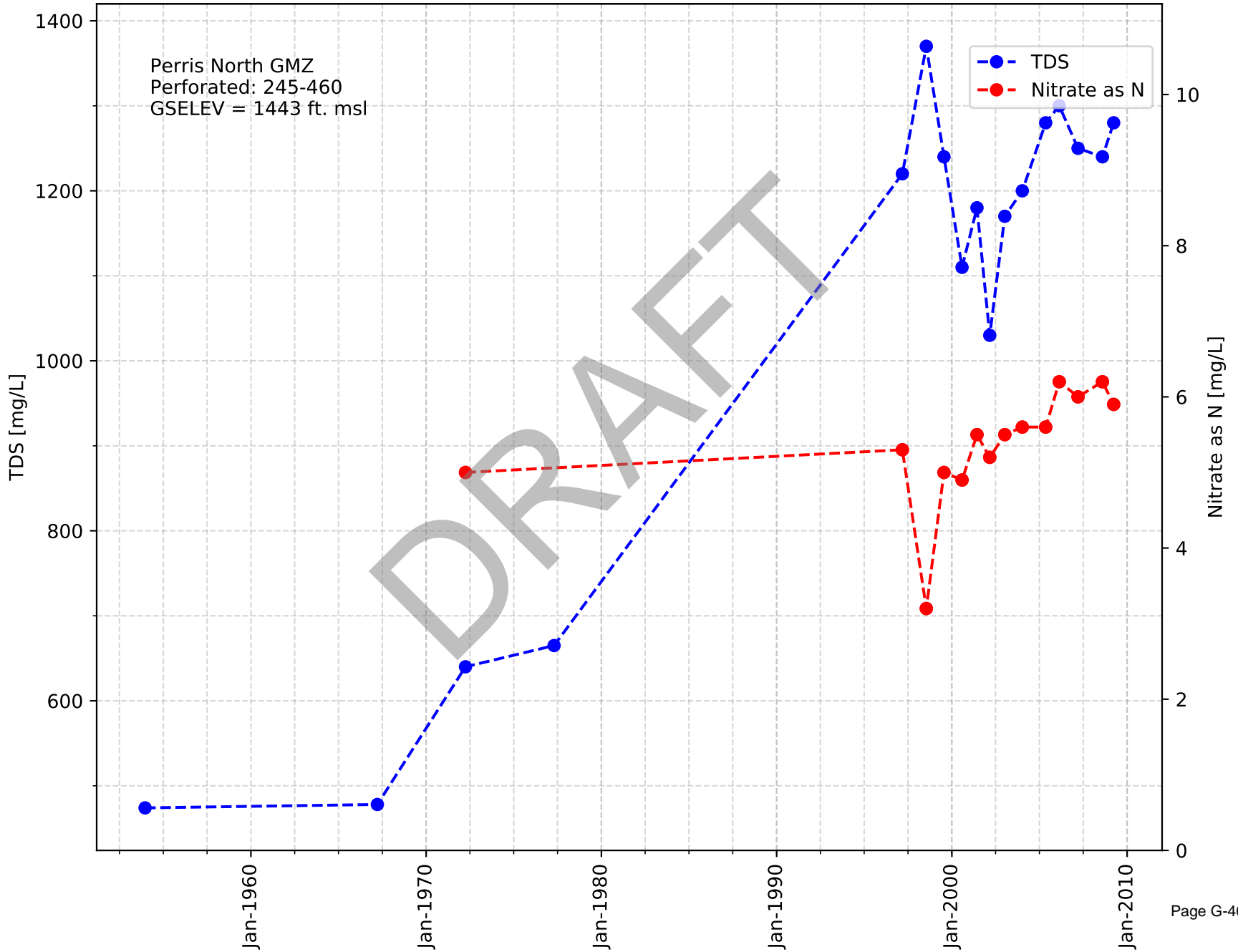
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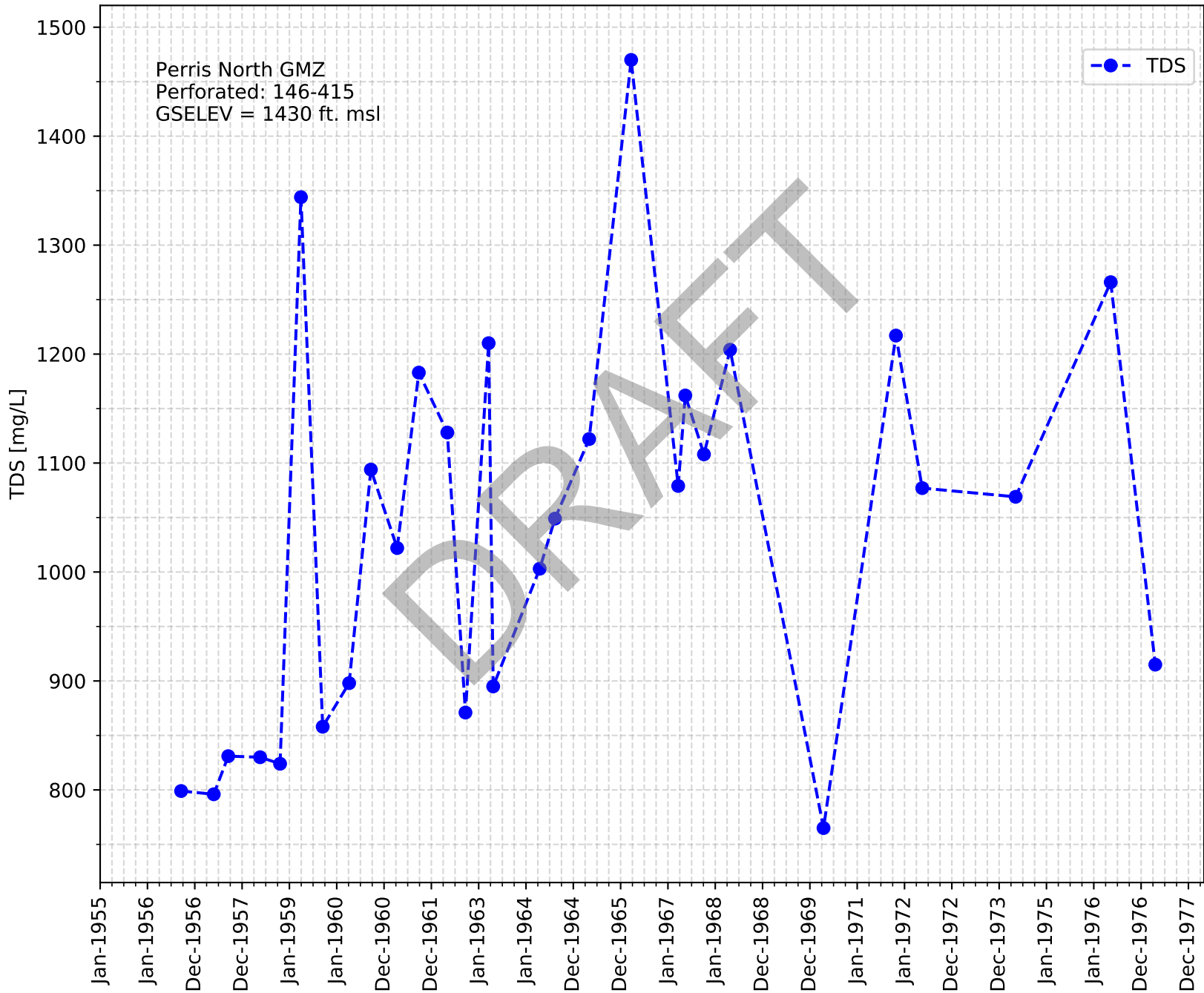
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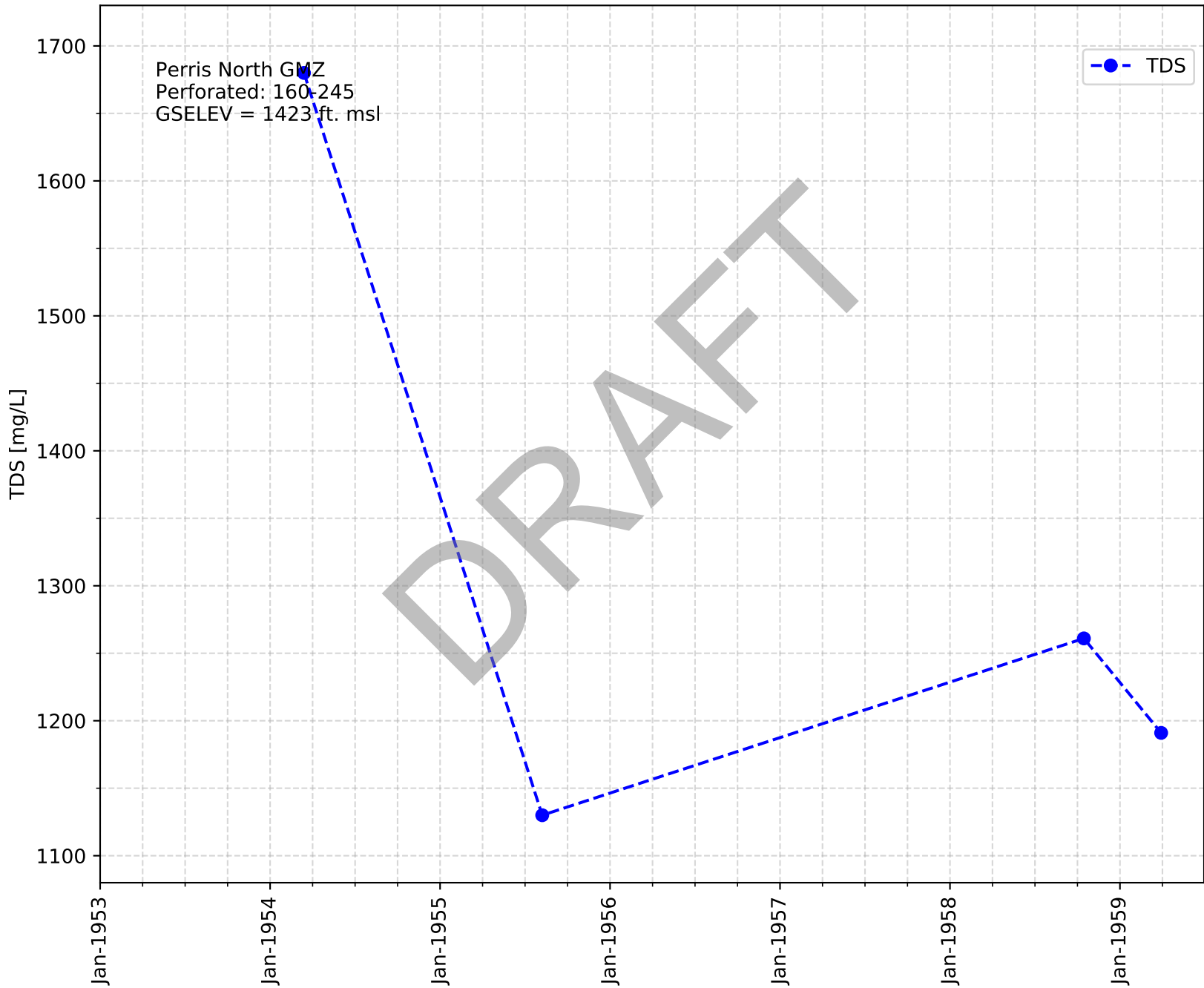
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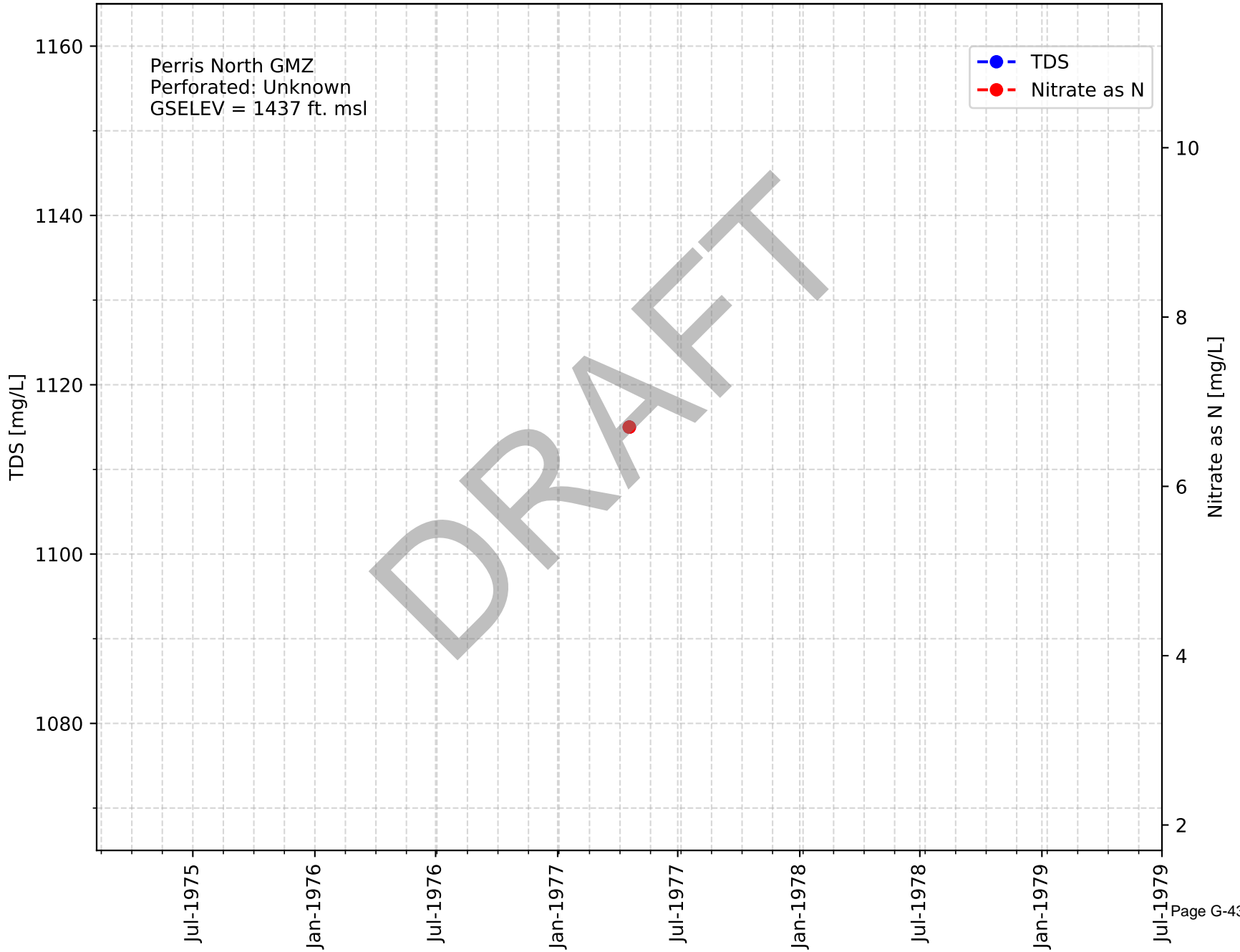
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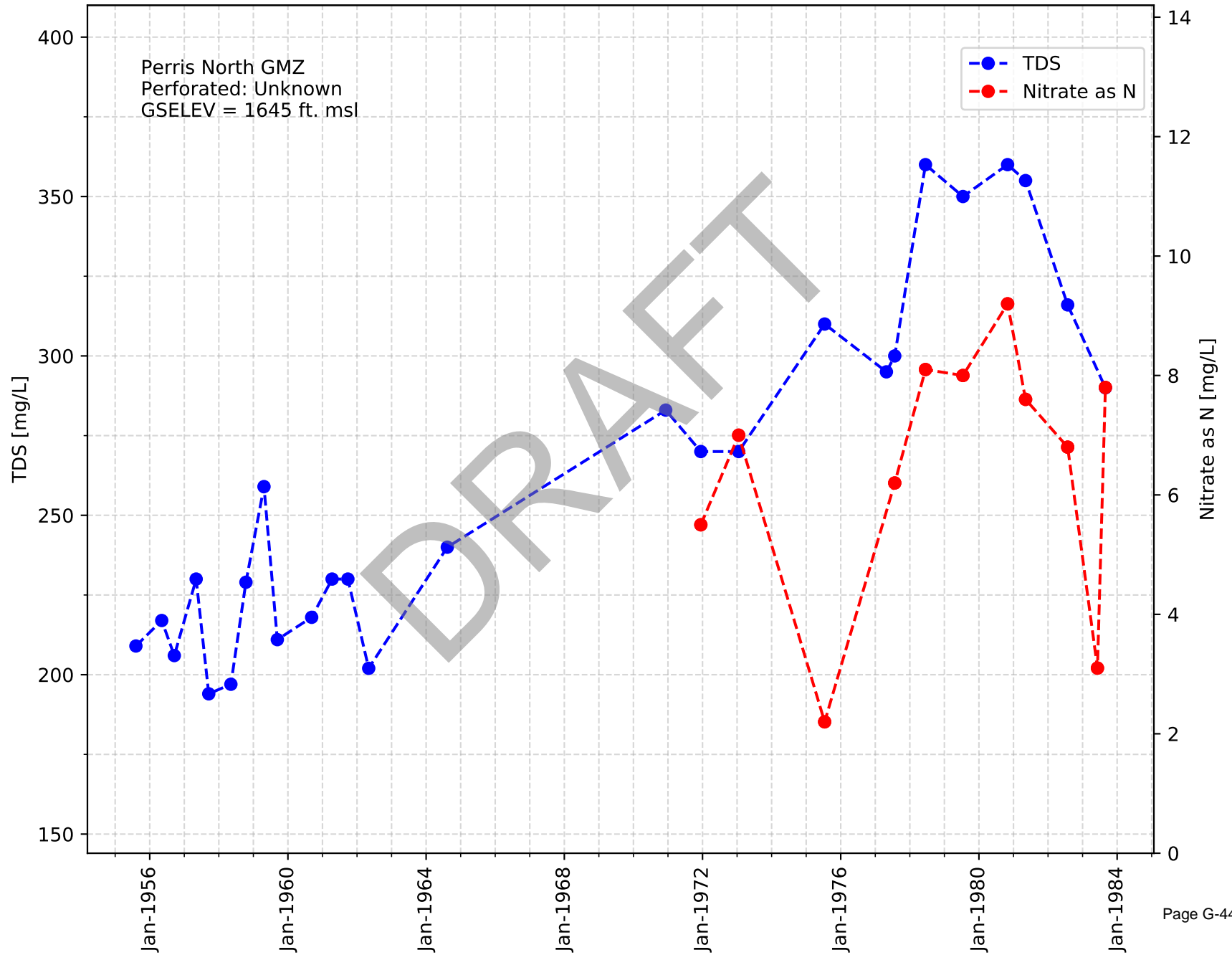
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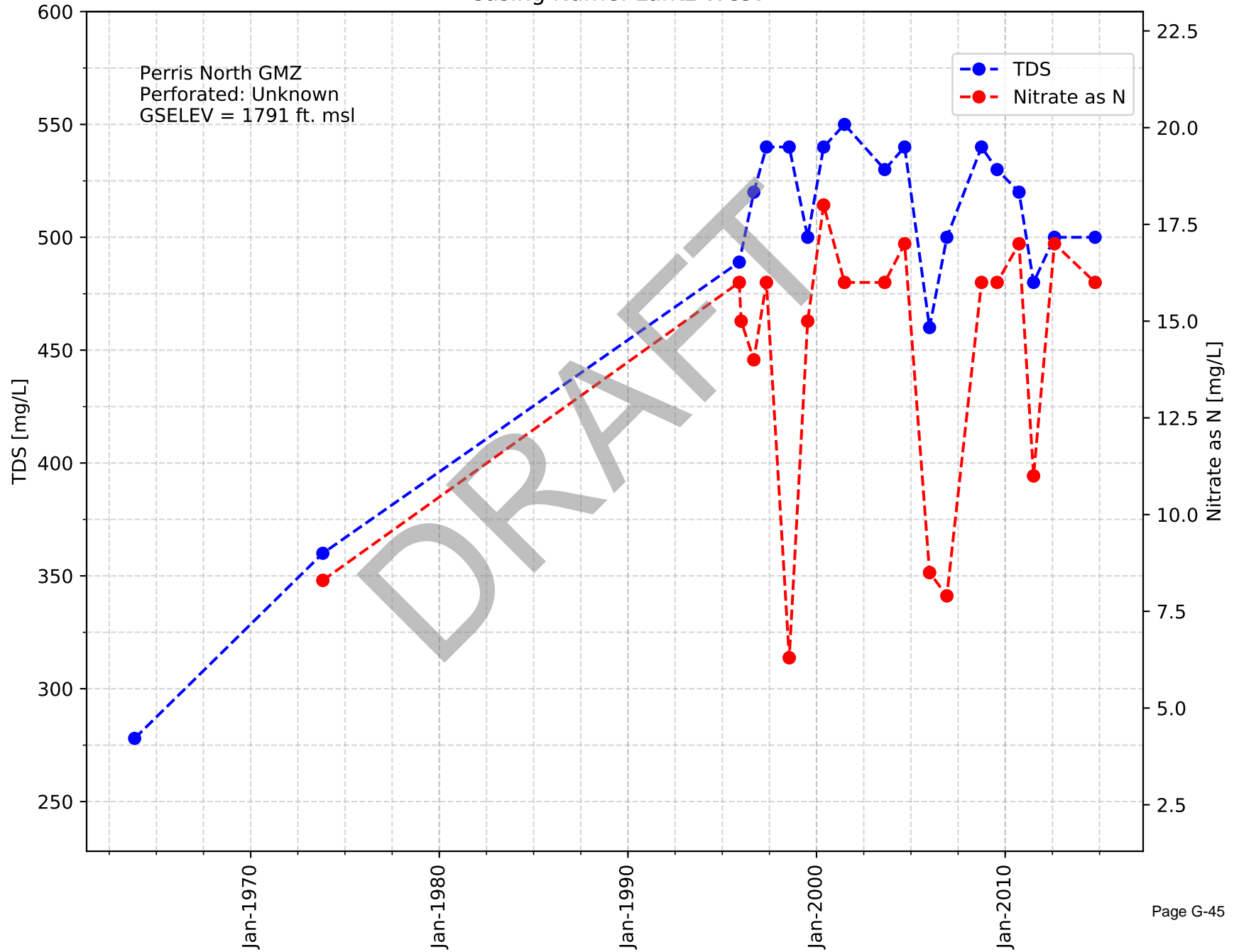
Casing Name: Kadow, J. H.



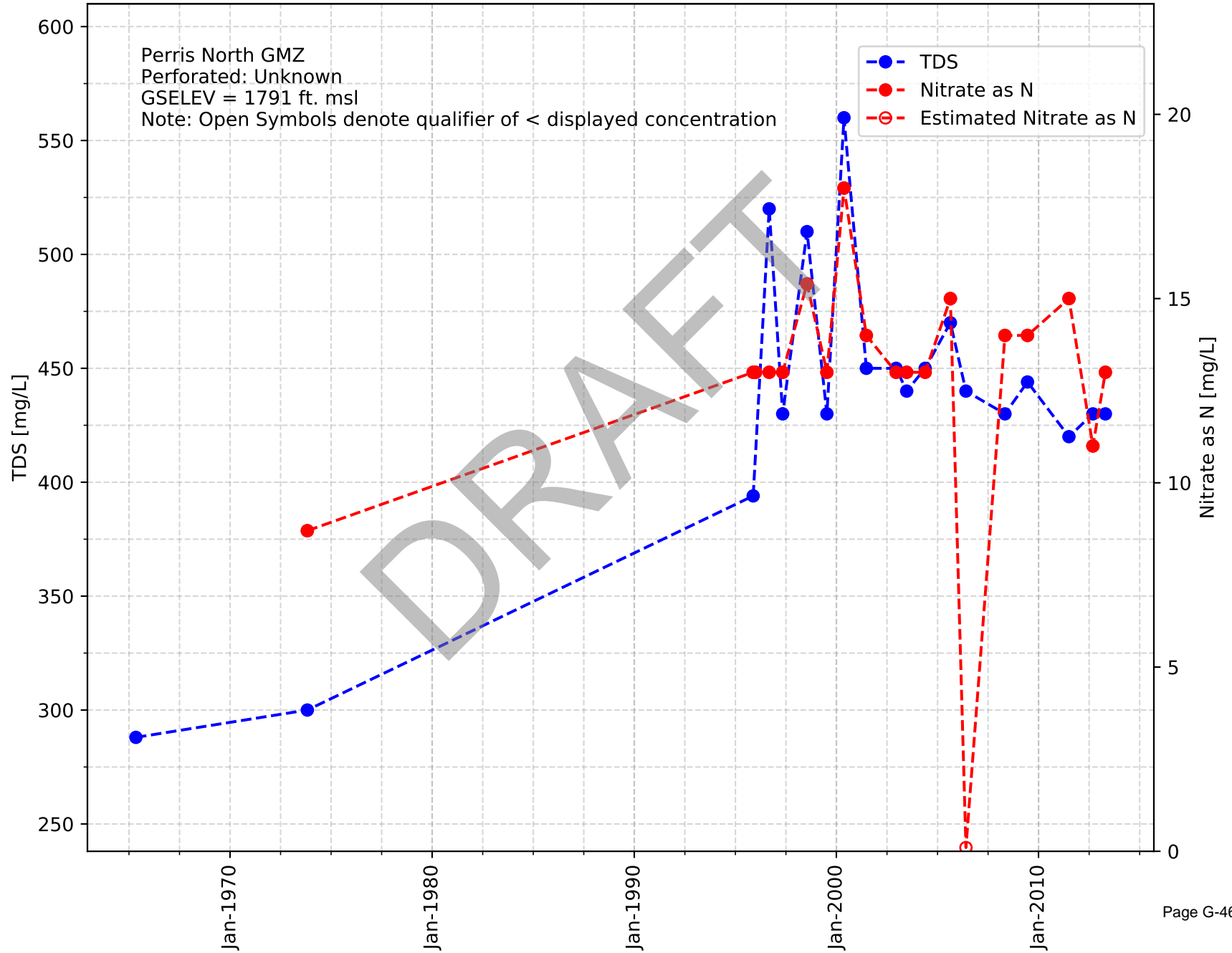
Casing Name: EMWD 41 Maxwell Electirc



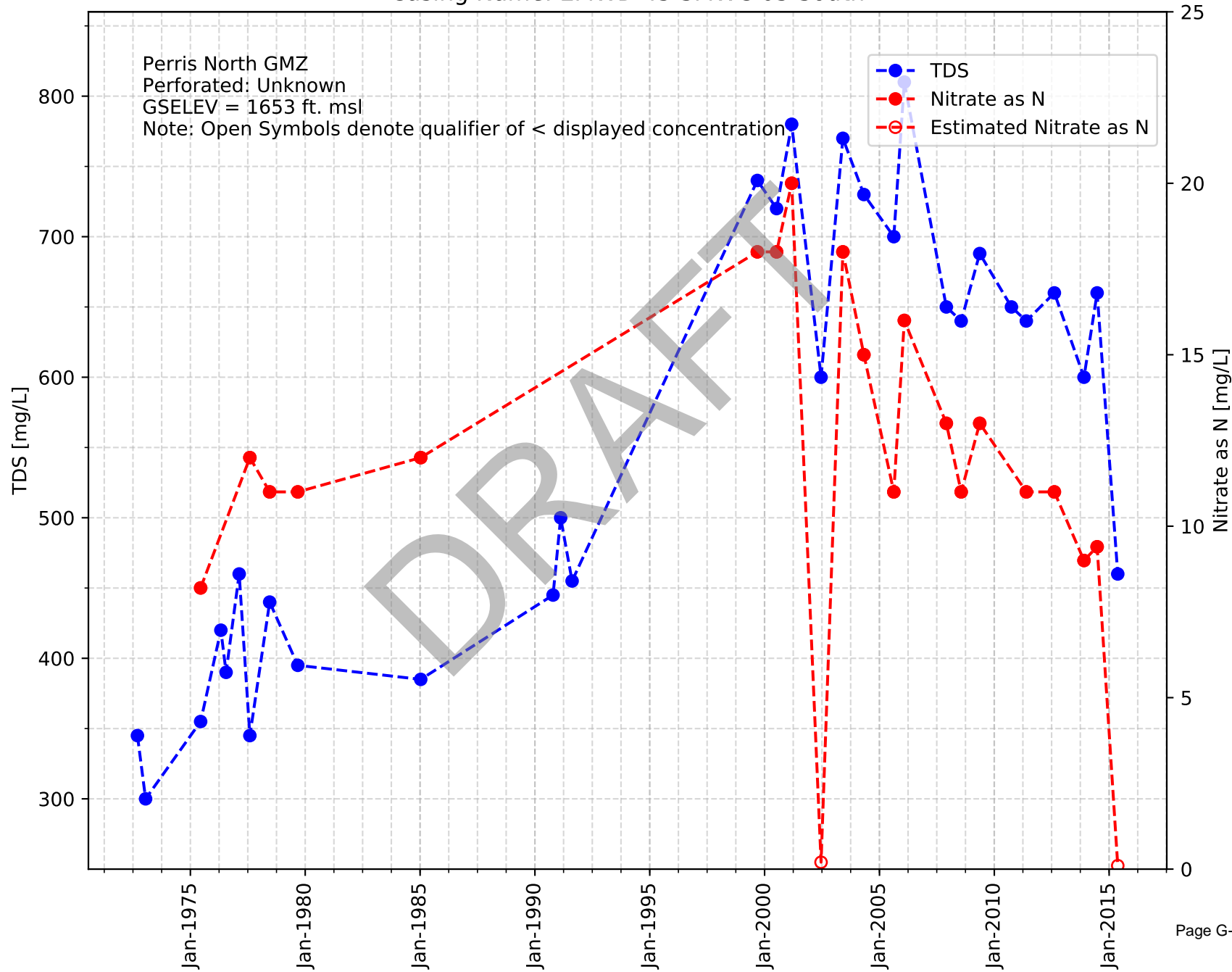
Casing Name: Lantz West



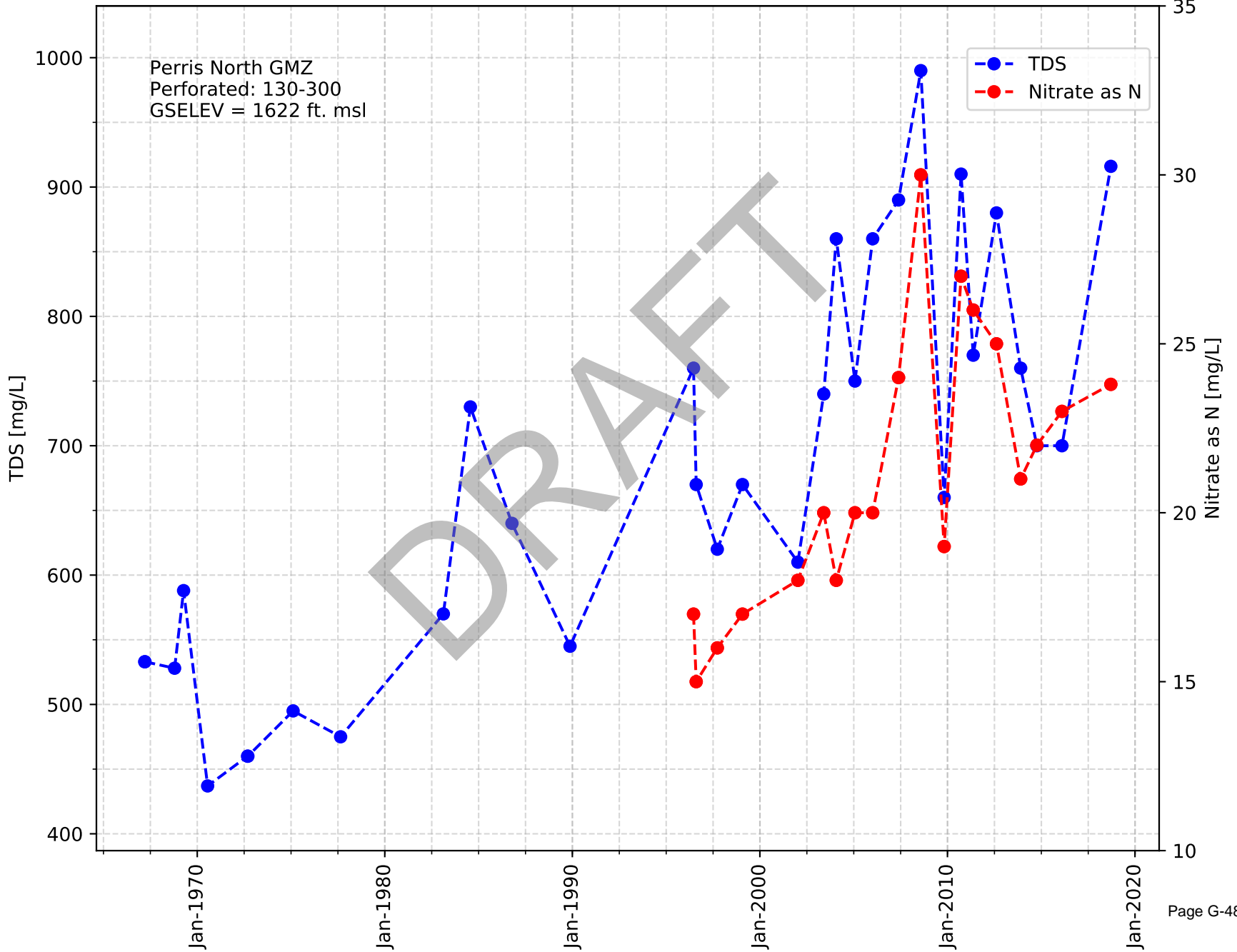
Casing Name: Lantz East



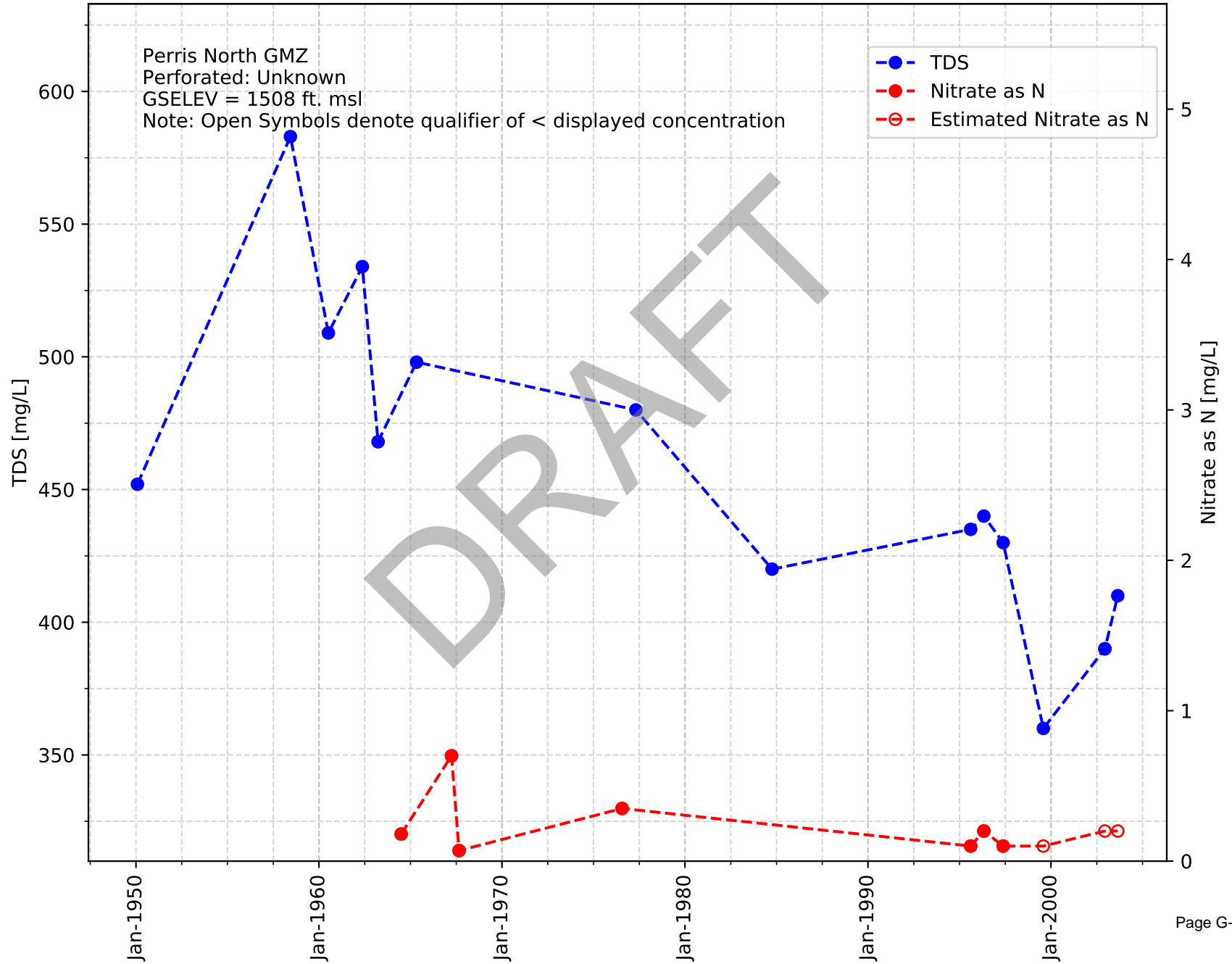
Casing Name: EMWD 43 SMWC 03 South



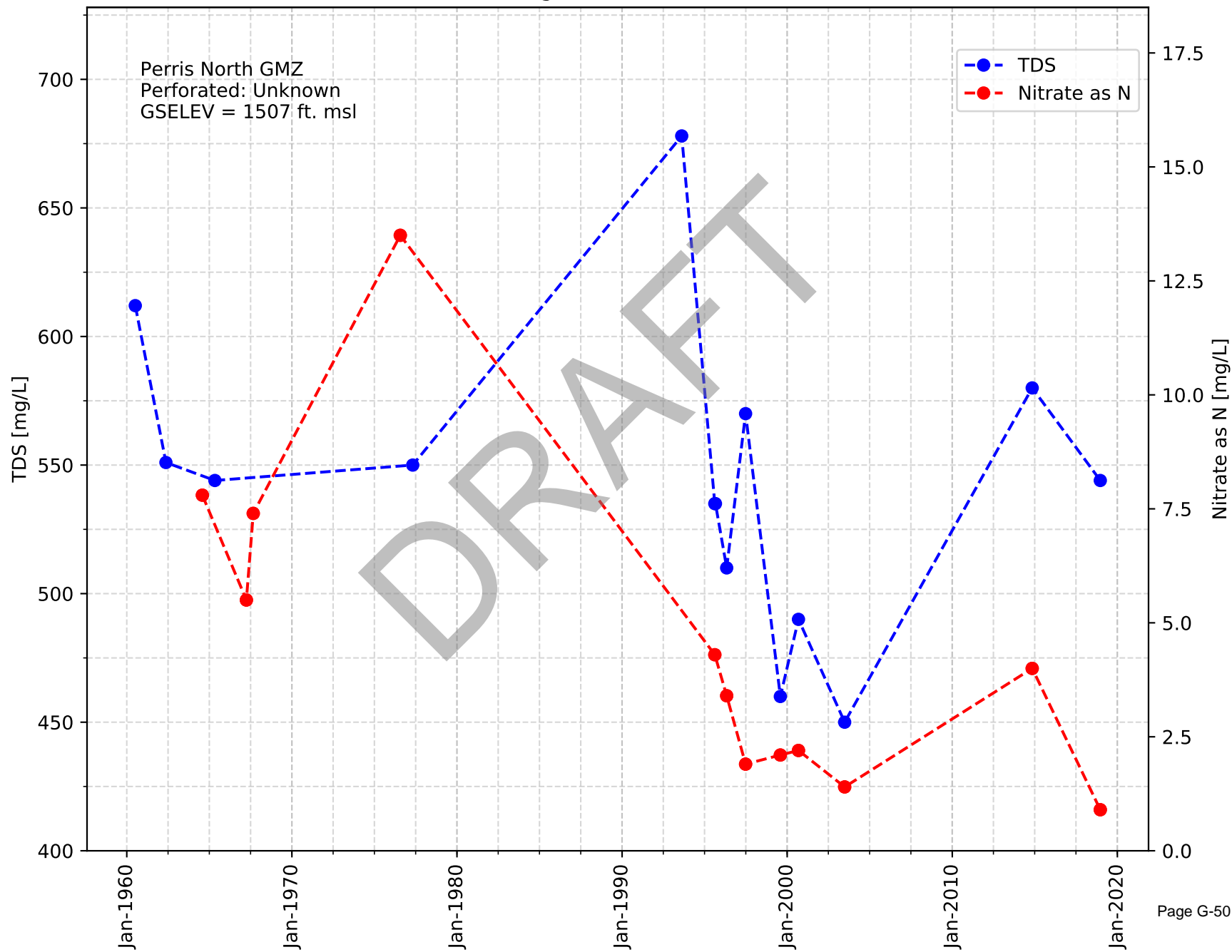
Casing Name: EMWD 46 Edgemont 02



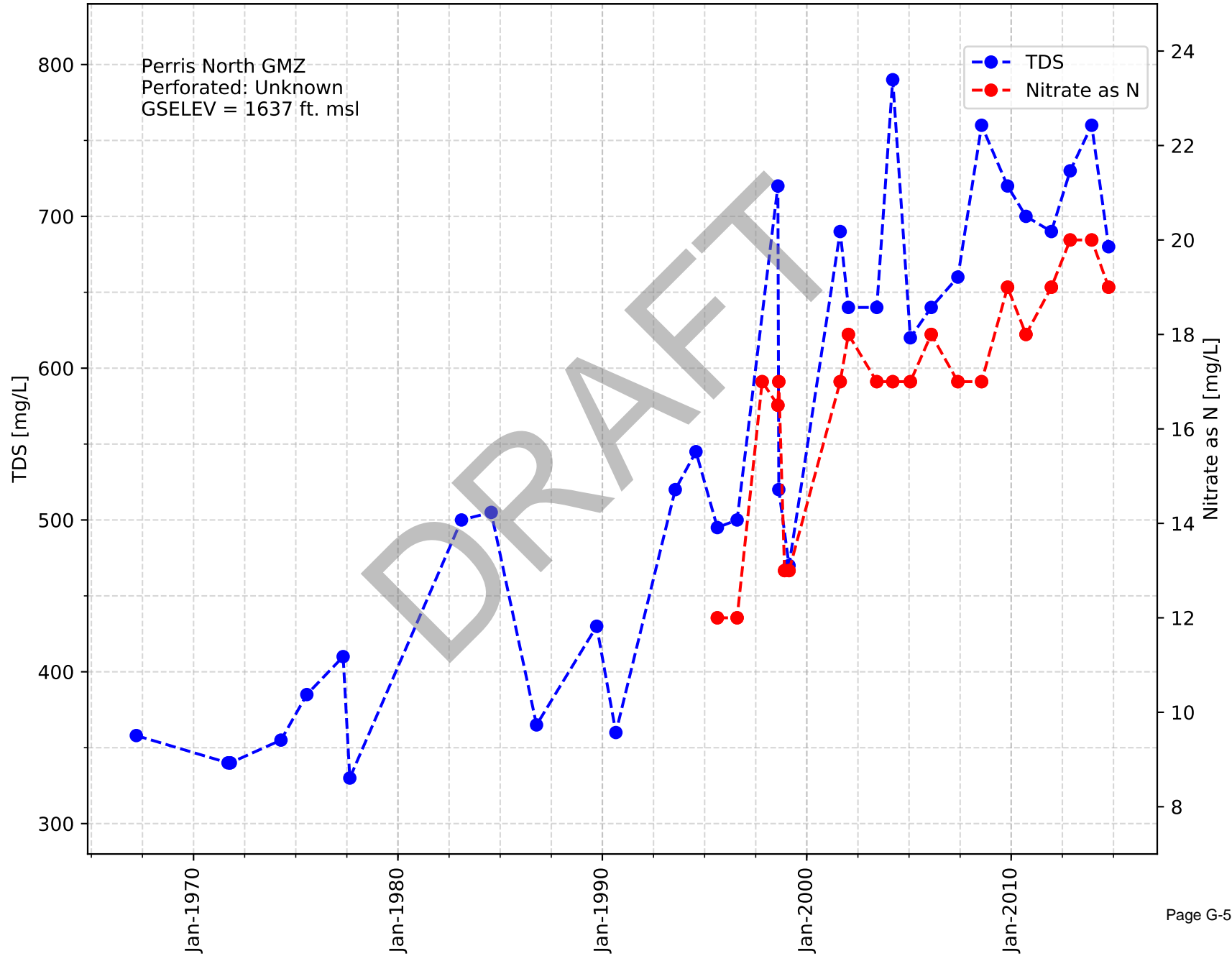
Casing Name: UCR Filaree



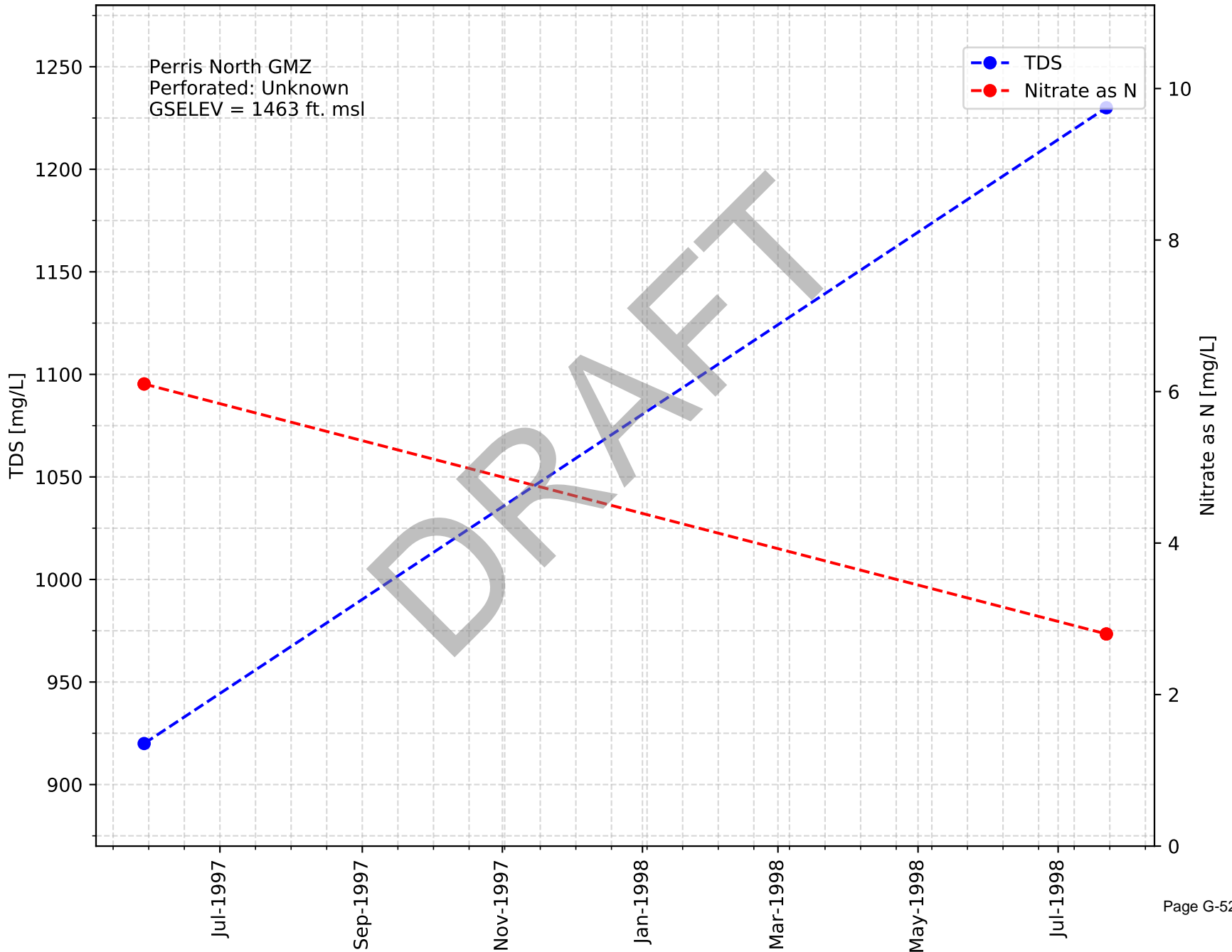
Casing Name: UCR Scott



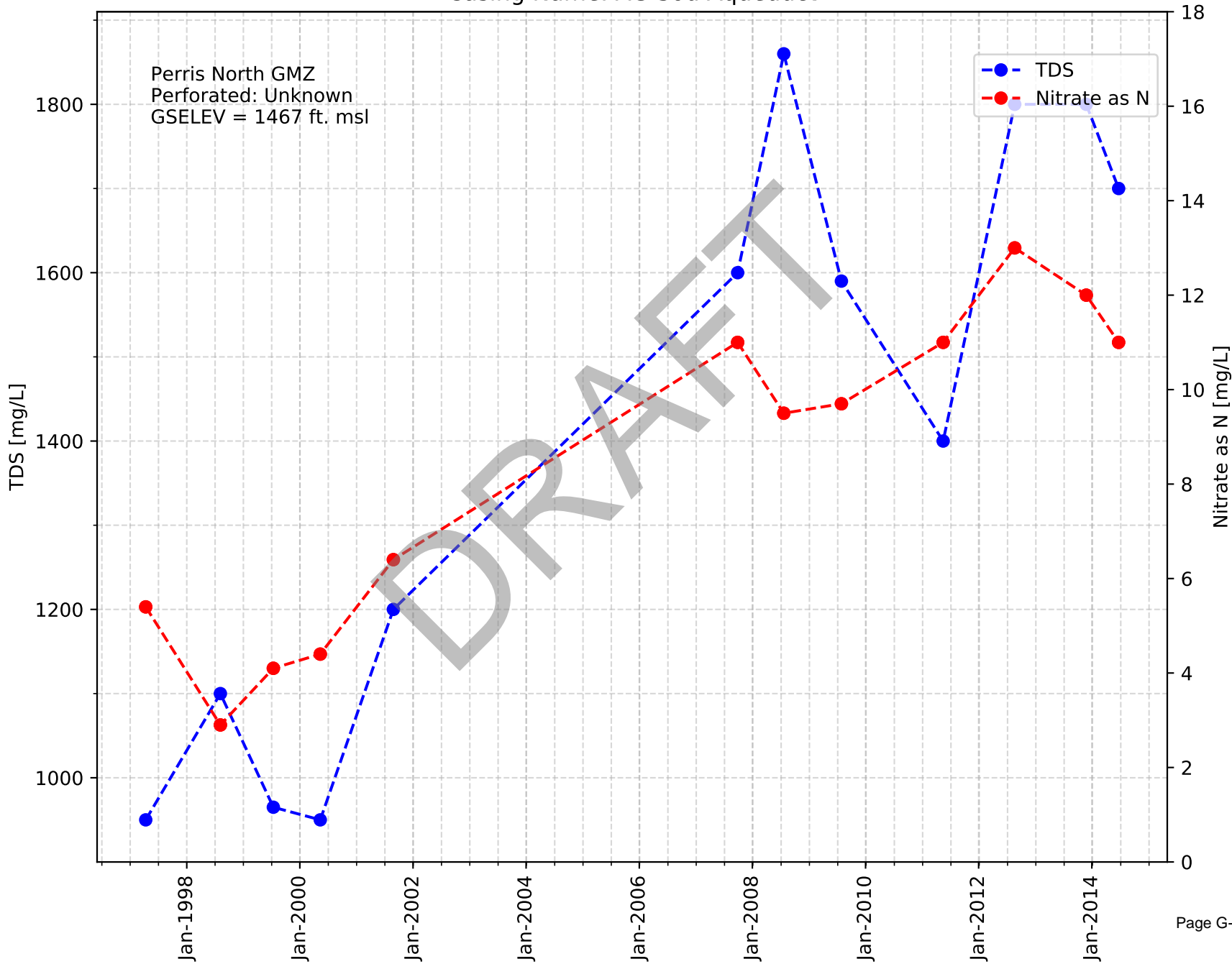
Casing Name: EMWD 48 Edgemont 04



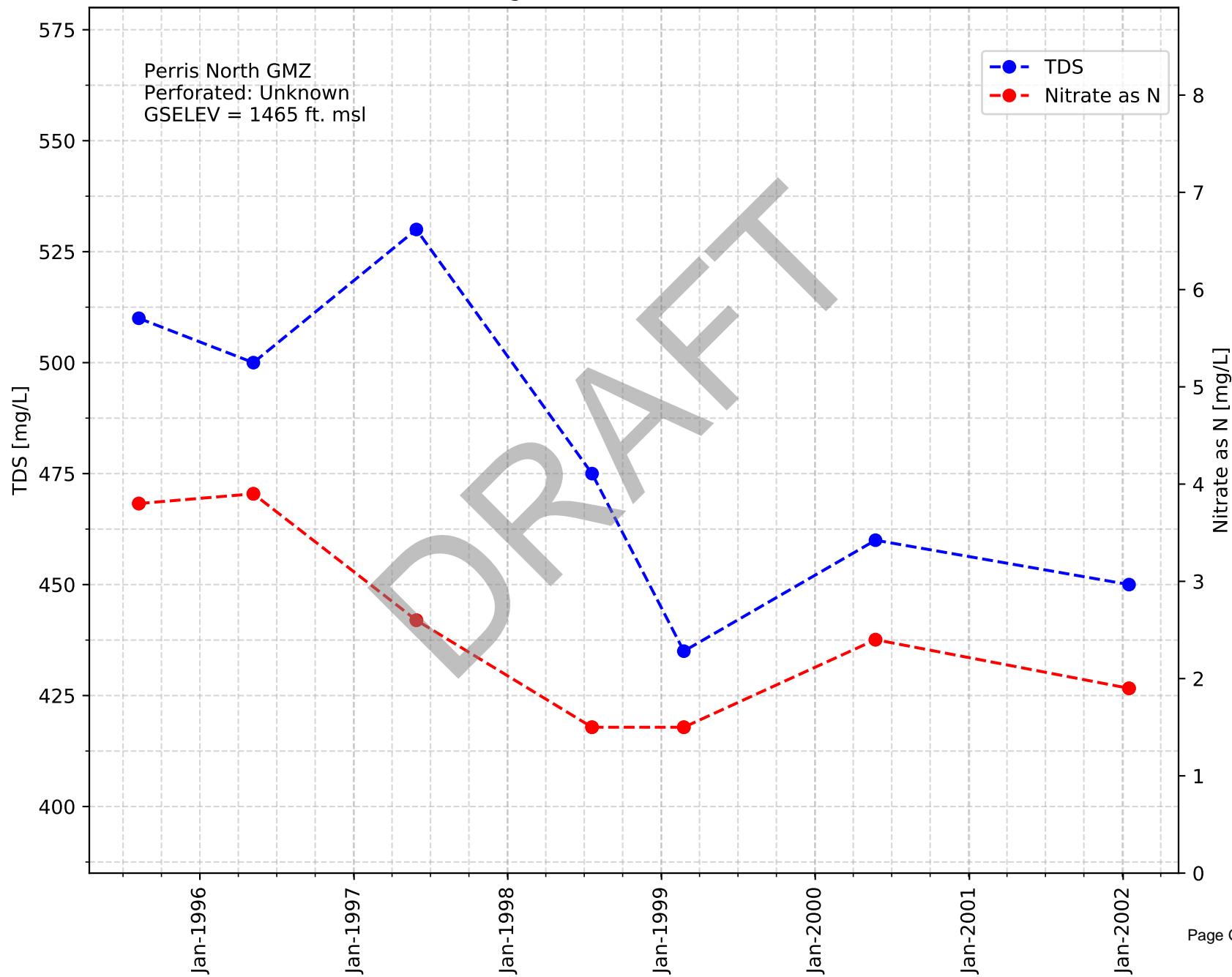
Casing Name: AG Sod Dawes



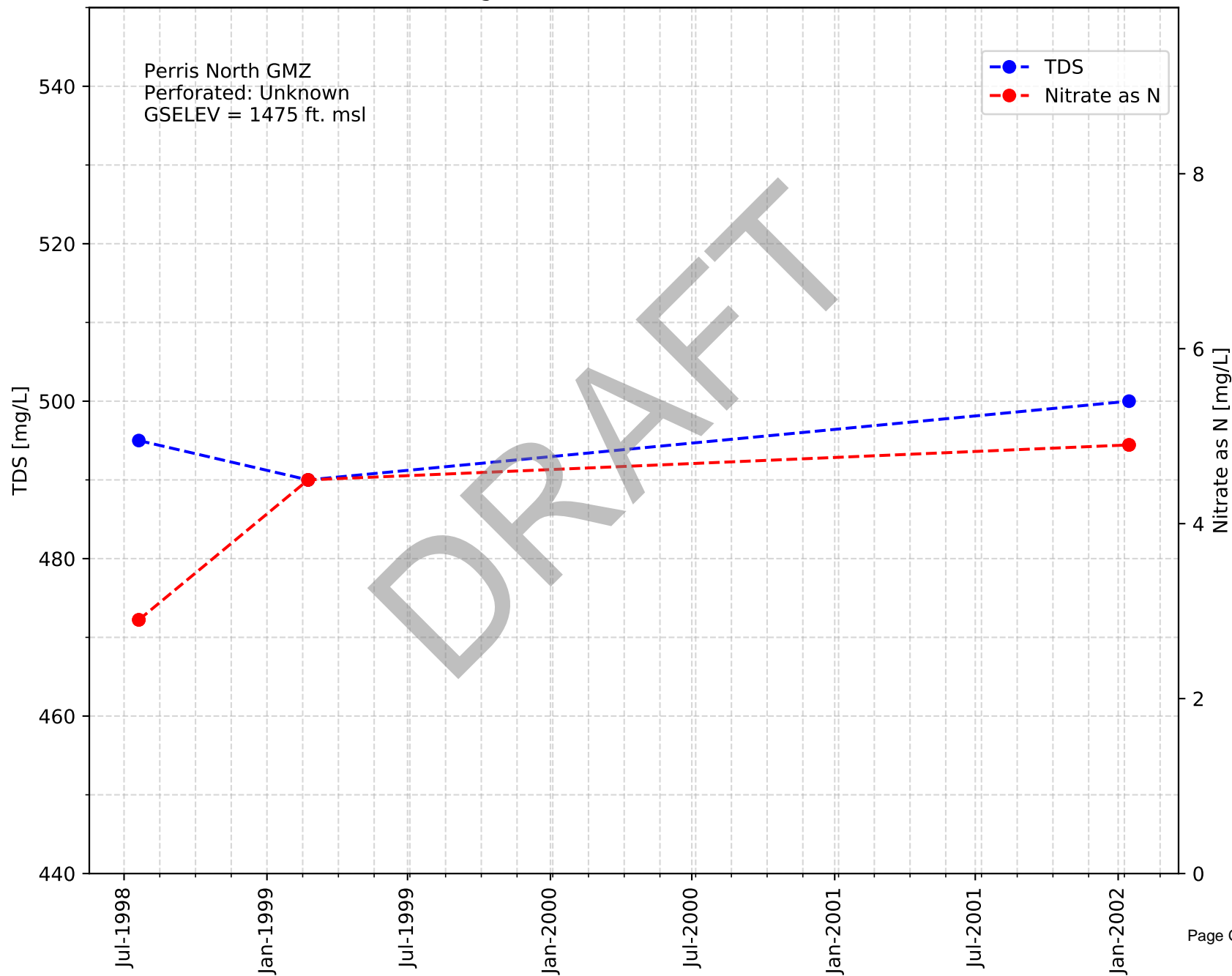
Casing Name: AG Sod Aqueduct



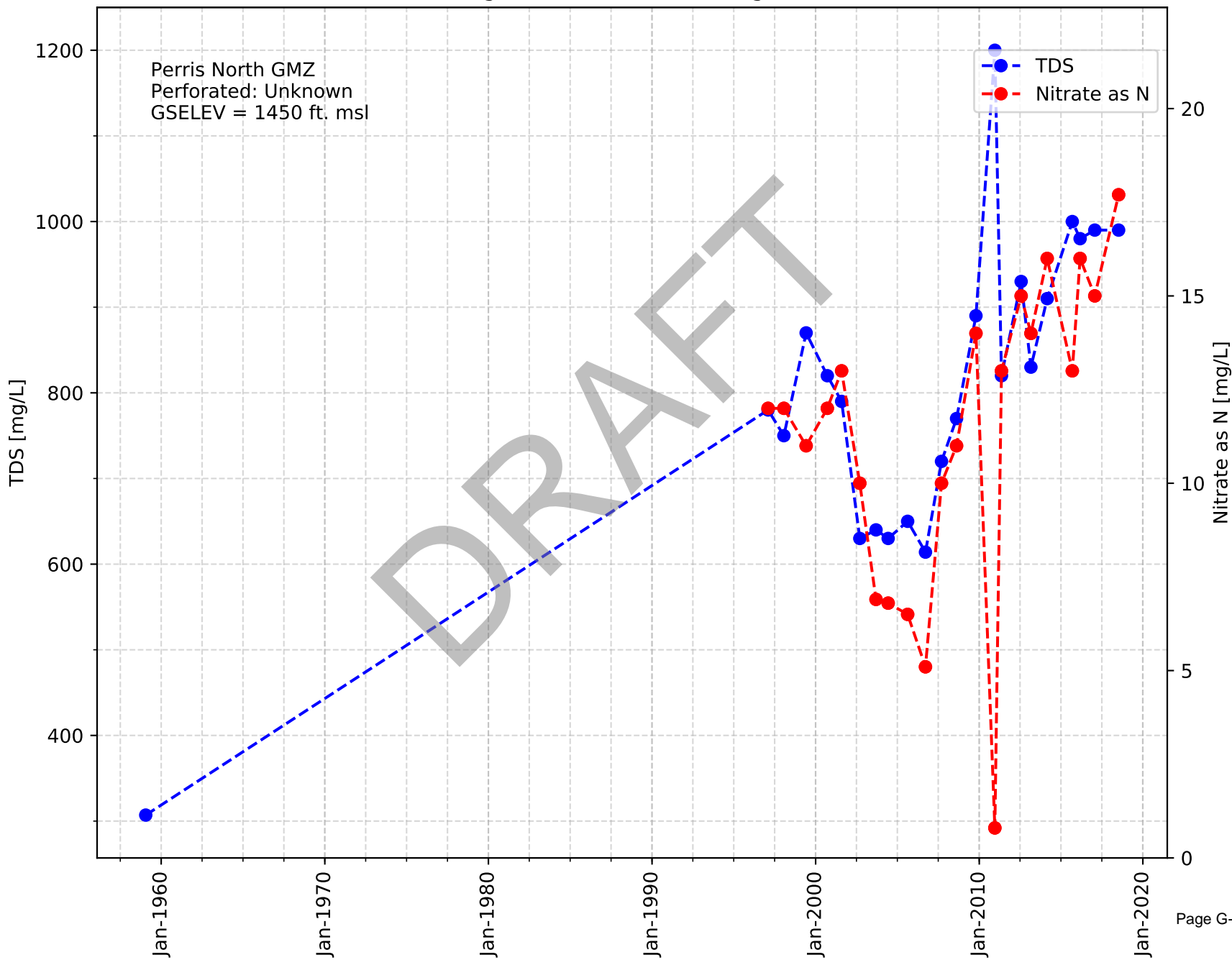
Casing Name: Barrett Homes 01



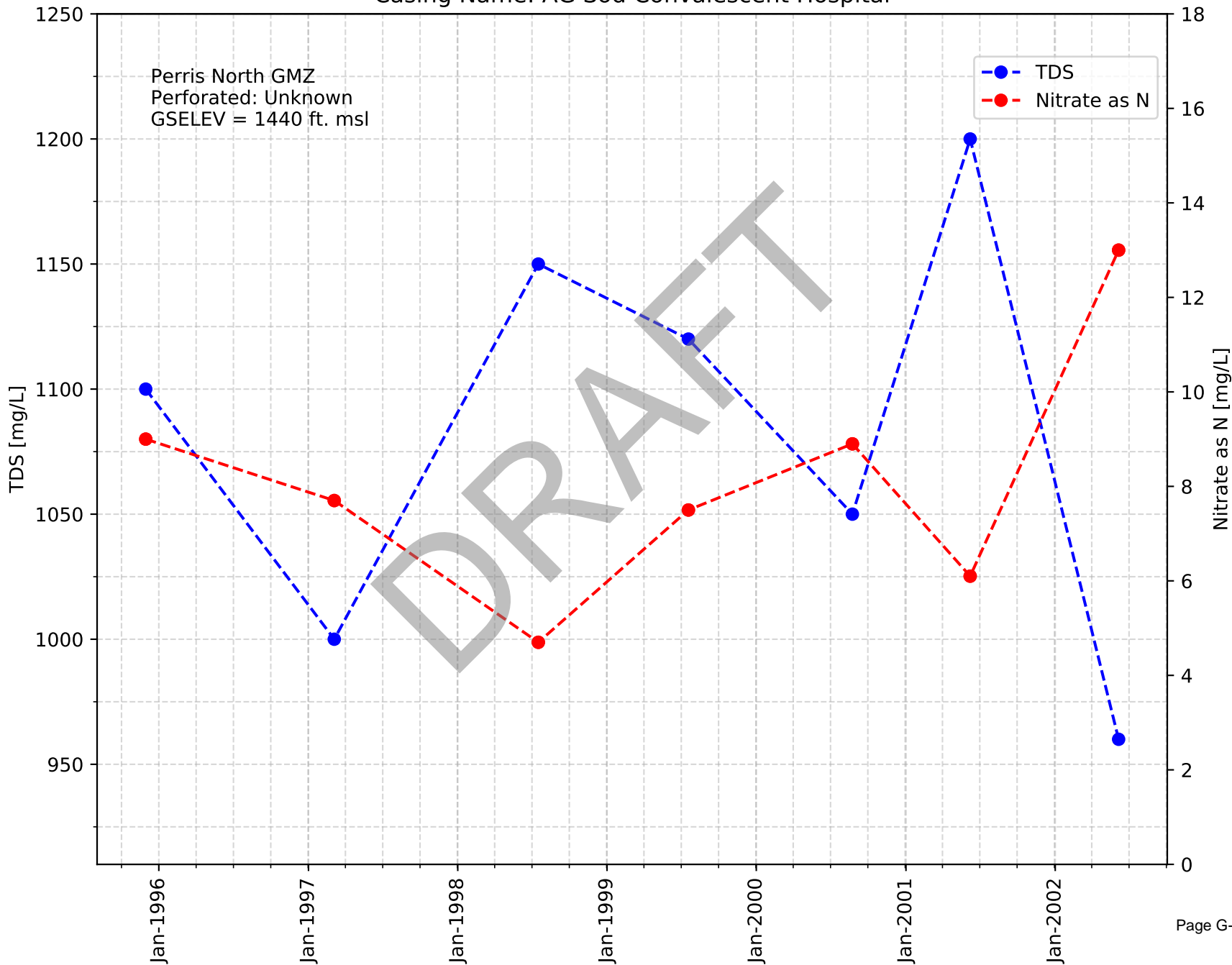
Casing Name: Barrett Homes 02 East



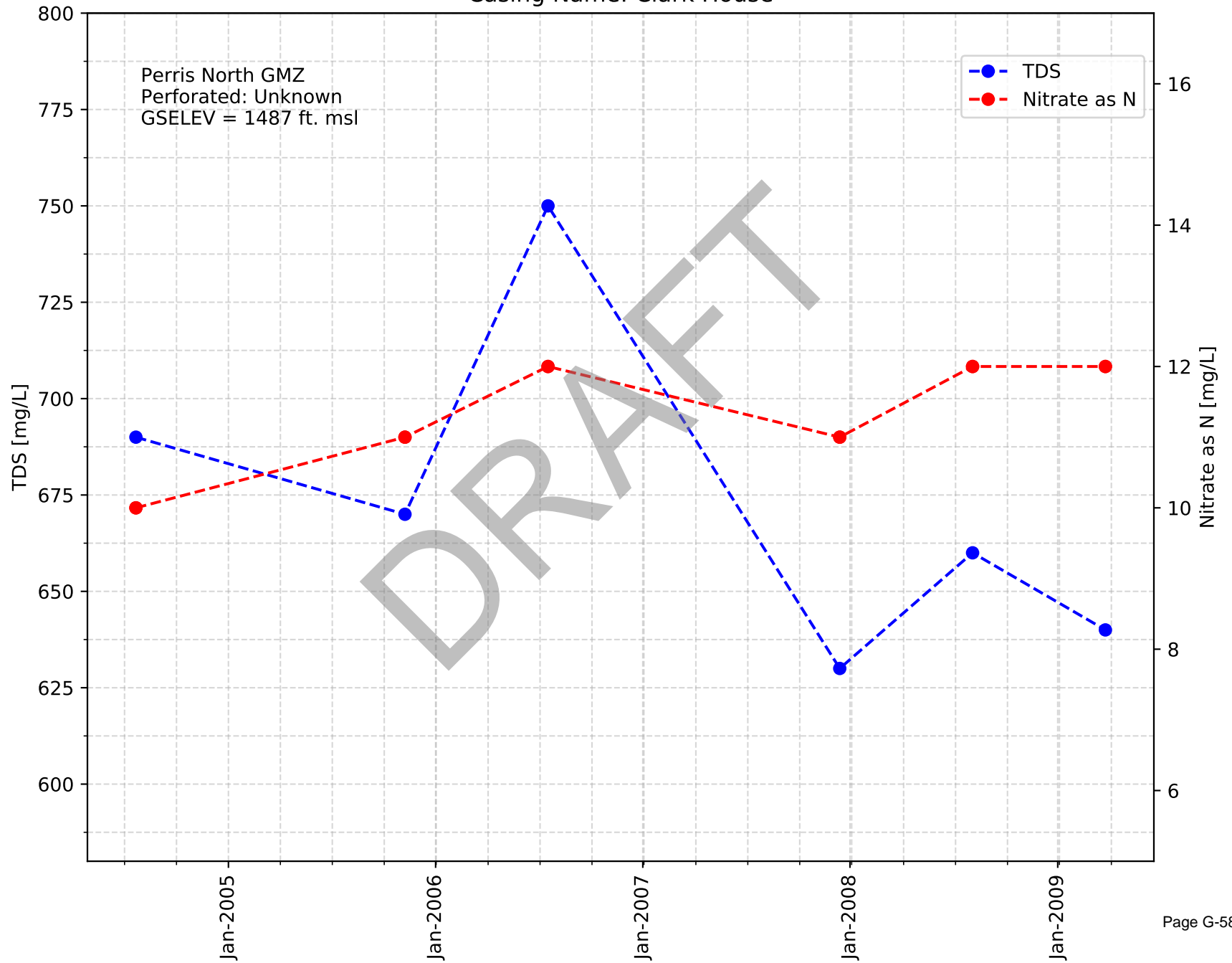
Casing Name: EMWD 51 Bonge West



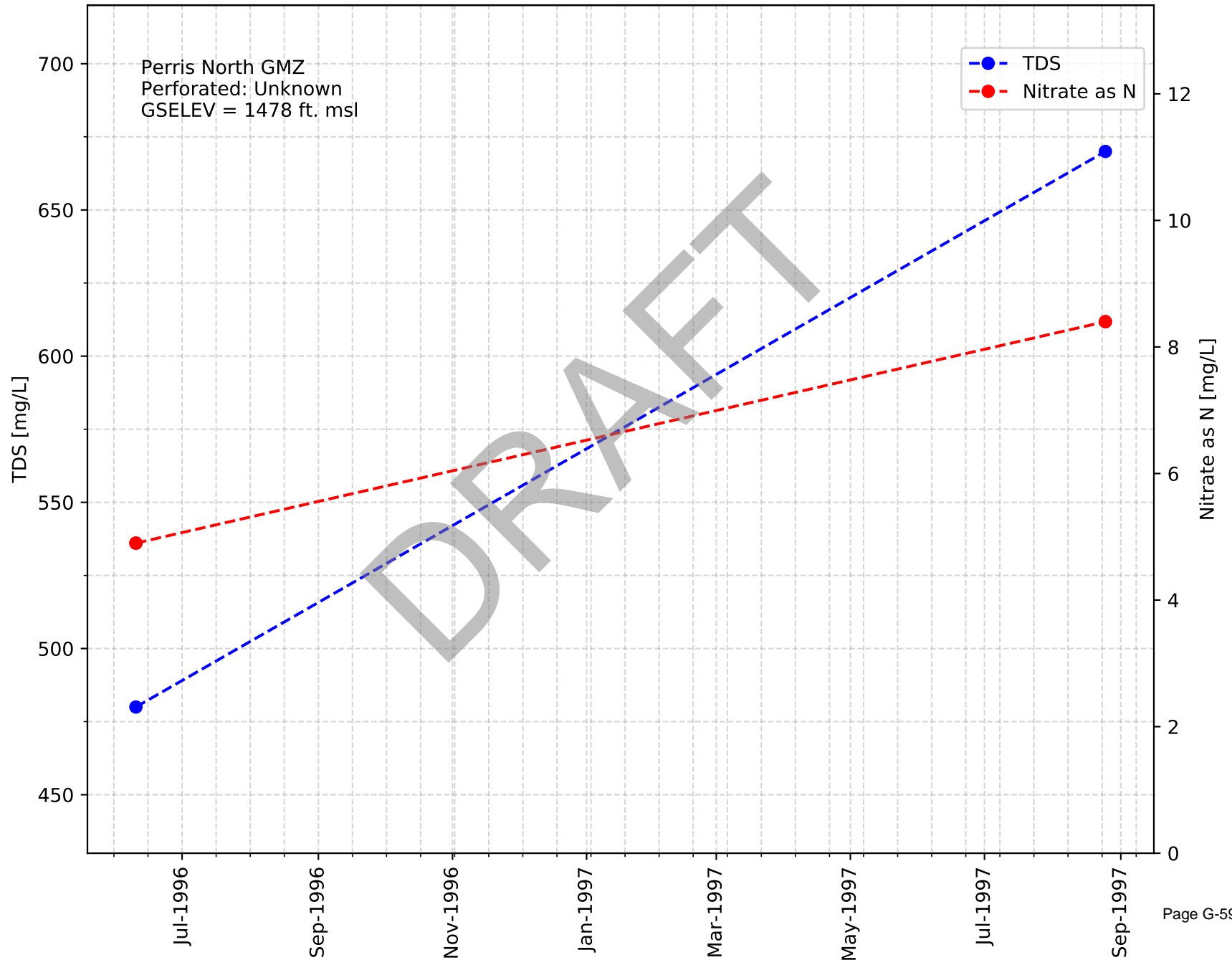
Casing Name: AG Sod Convalescent Hospital



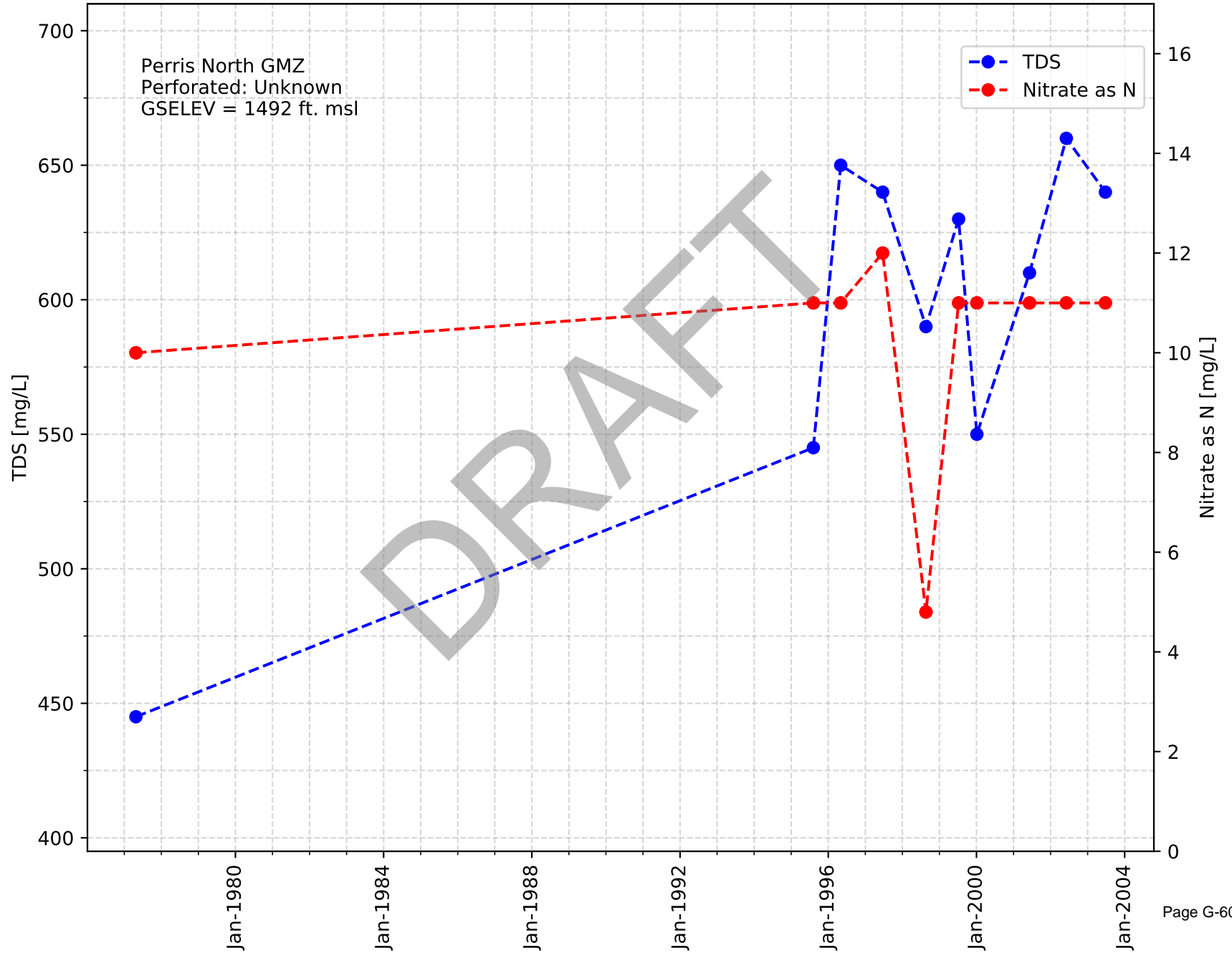
Casing Name: Clark House



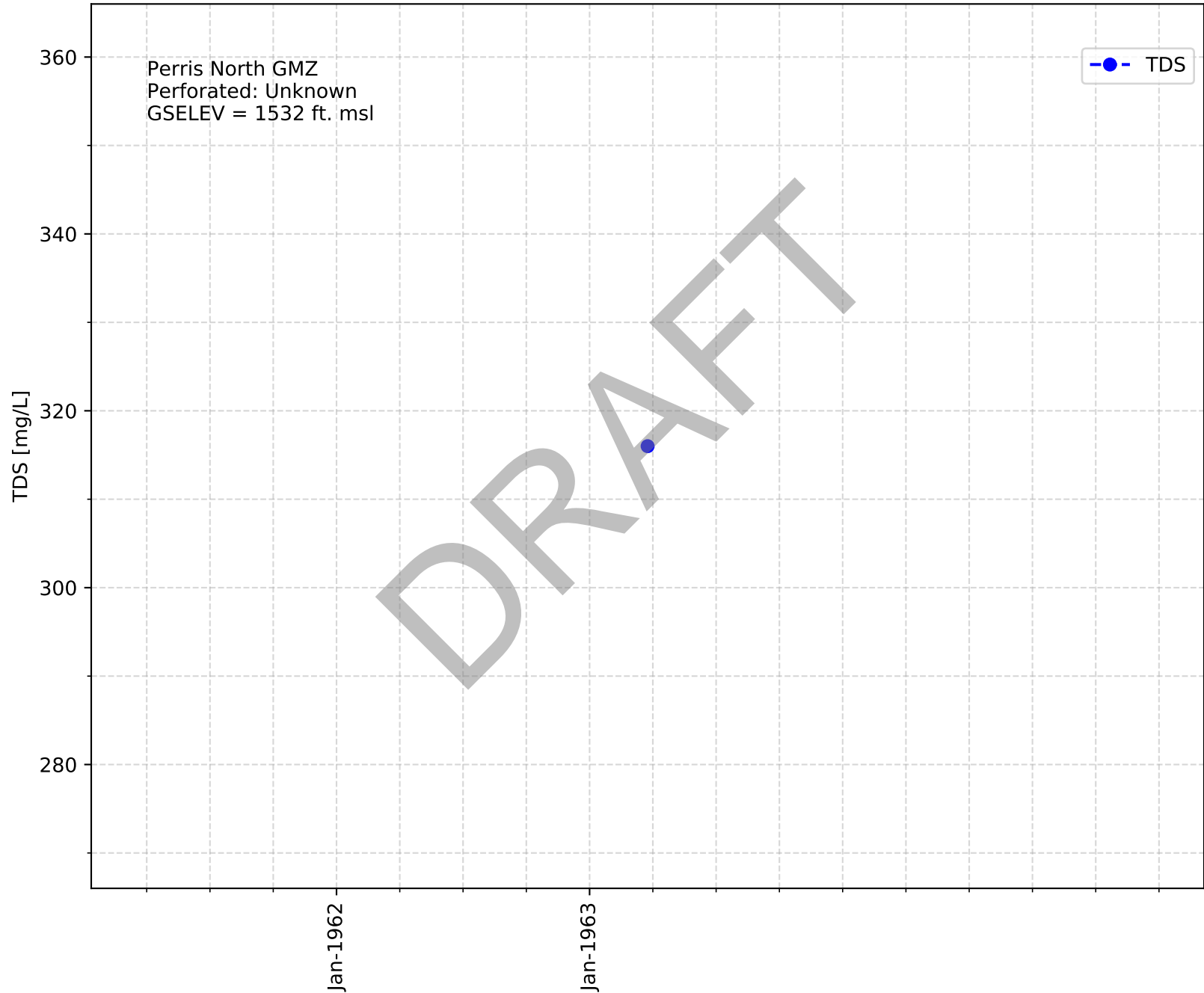
Casing Name: Clark Reservoir



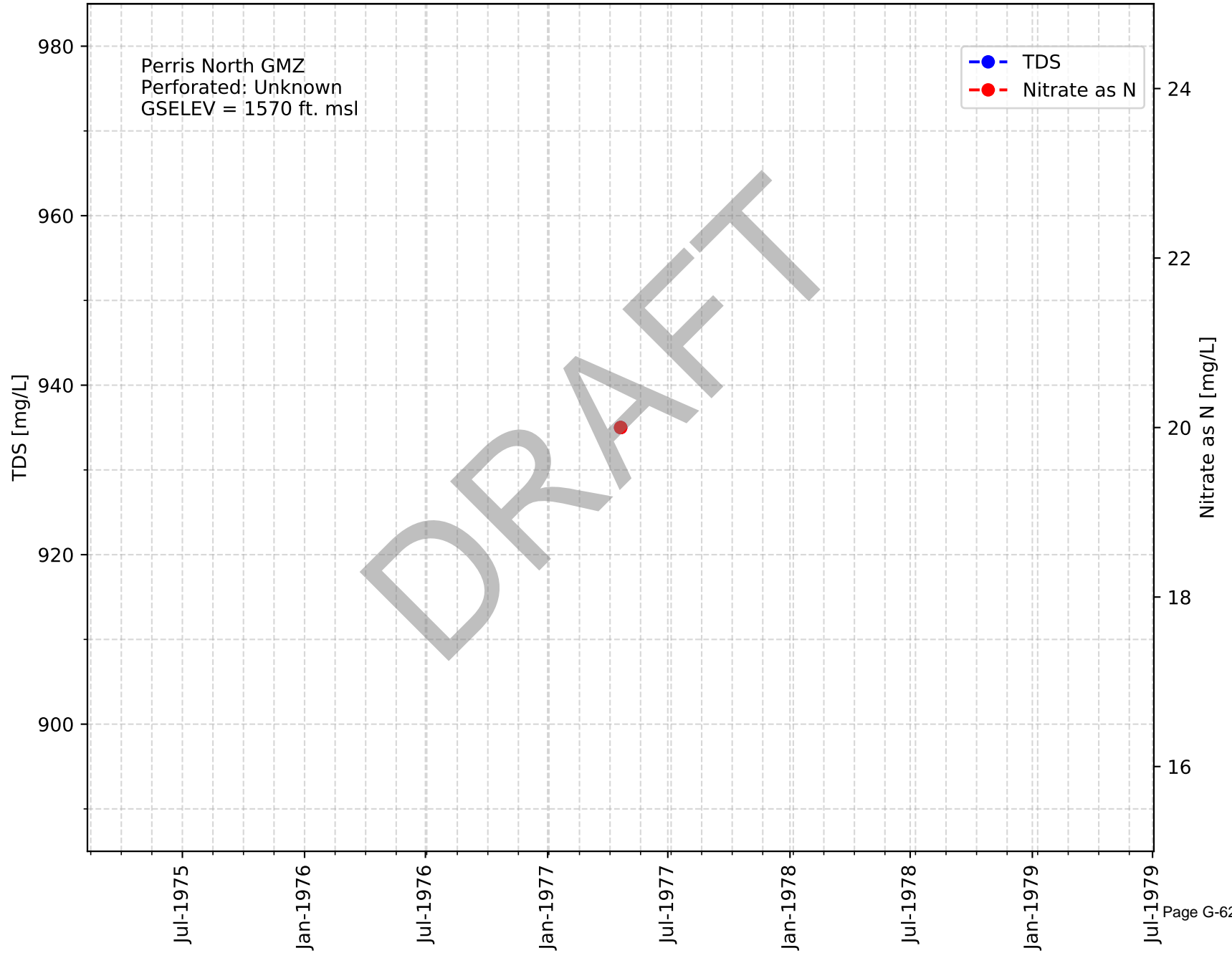
Casing Name: Clark Domestic



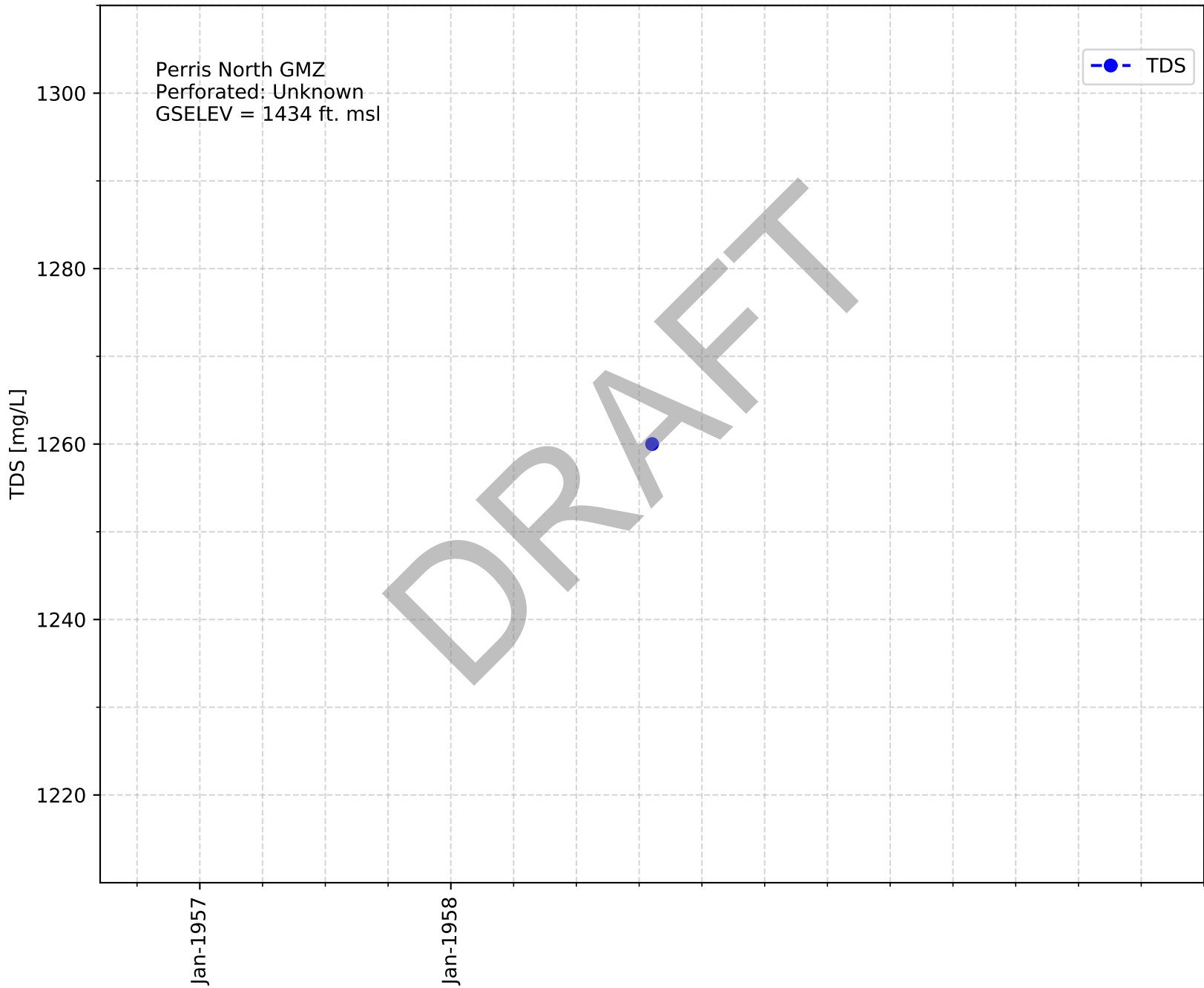
Casing Name: Merchant 01



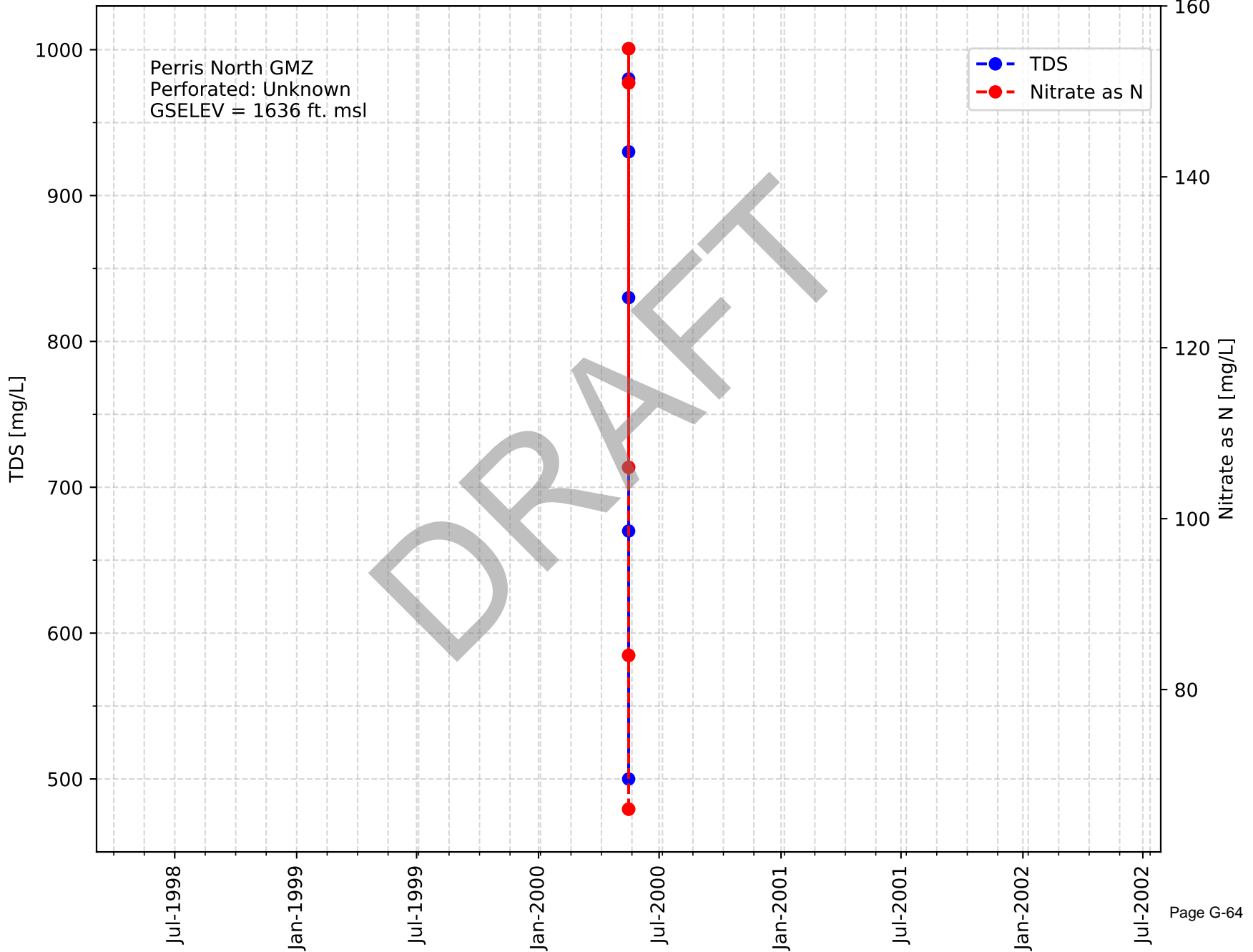
Casing Name: Banta 01



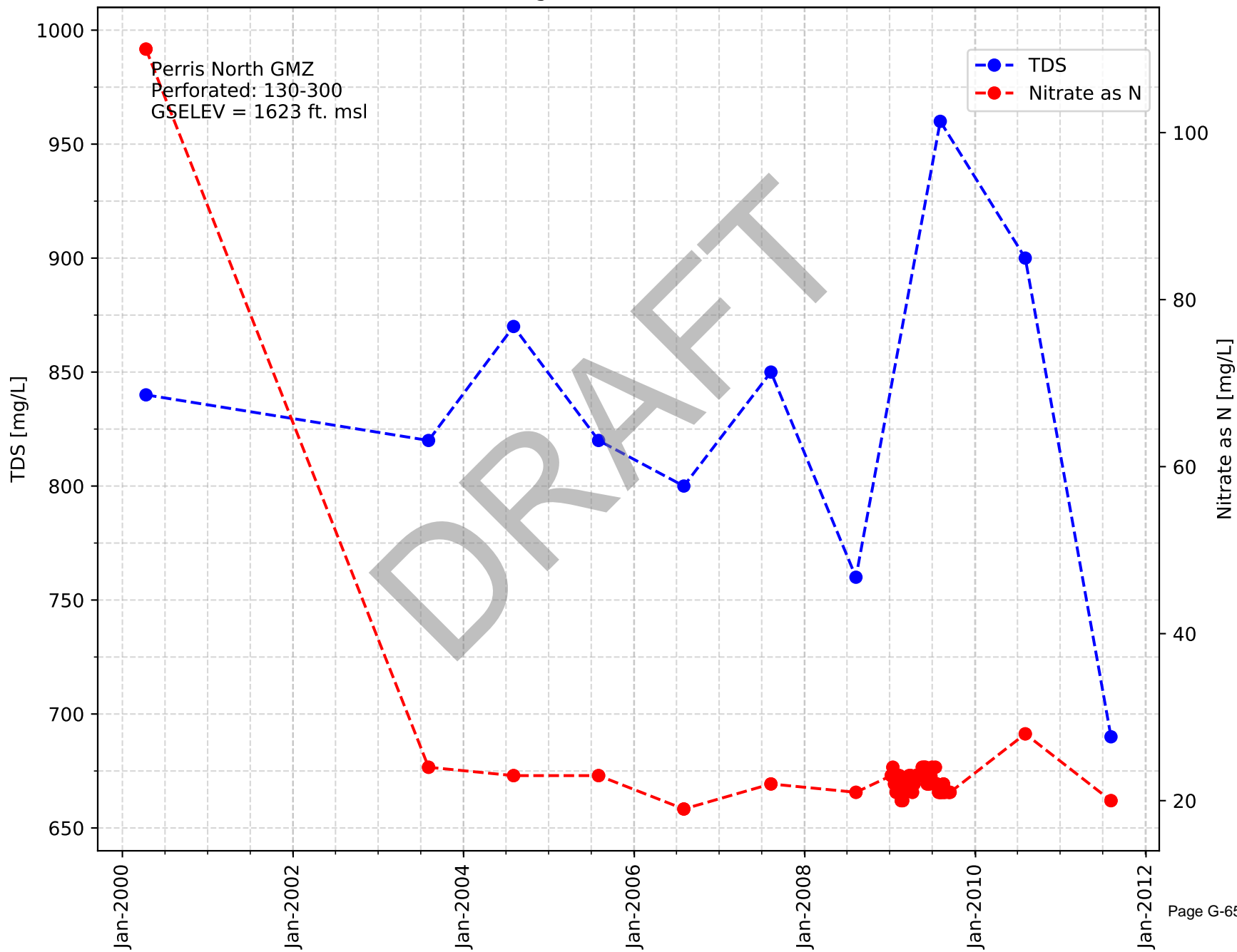
Casing Name: Smith R 02A



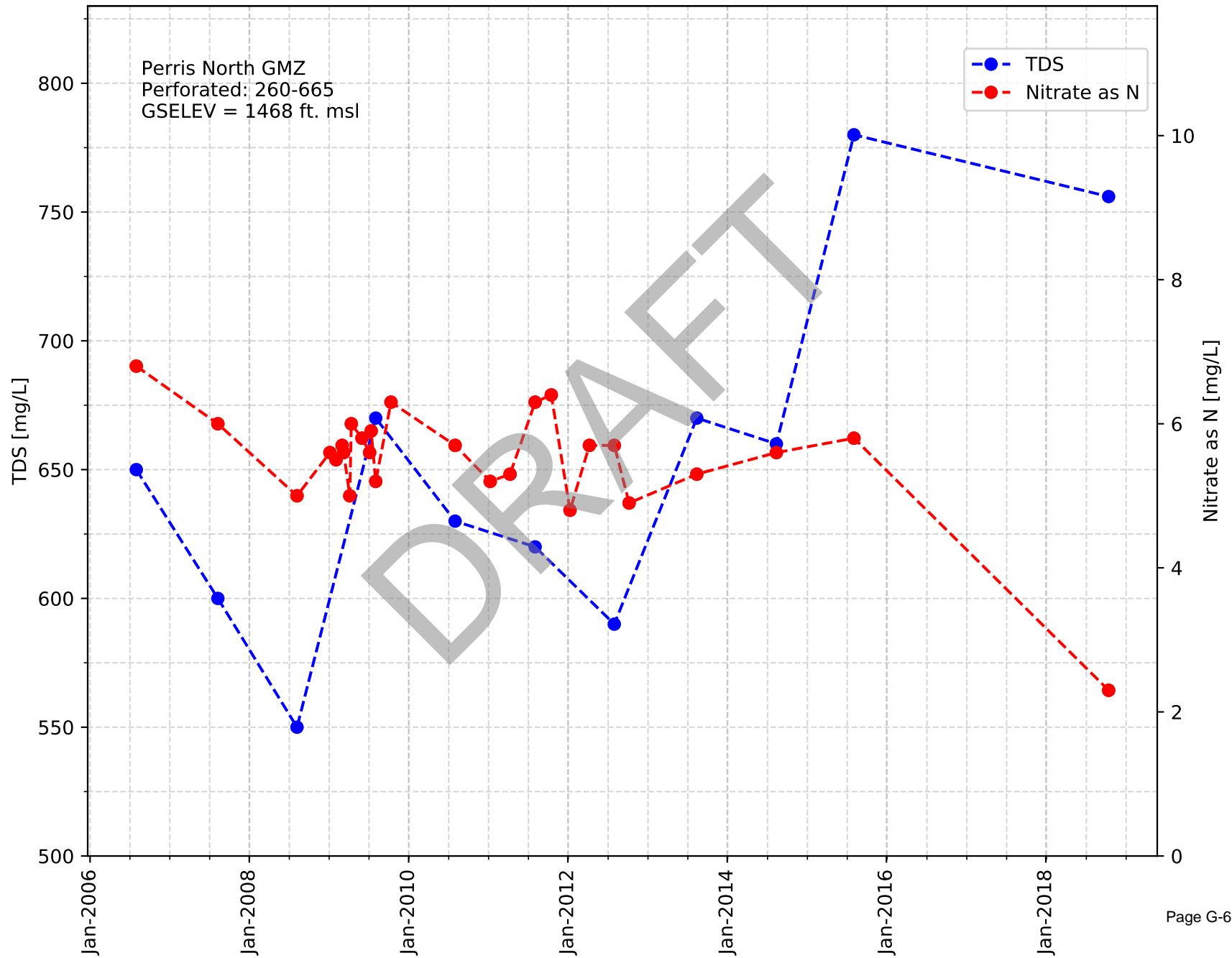
Casing Name: Sunnymead Ranch 02



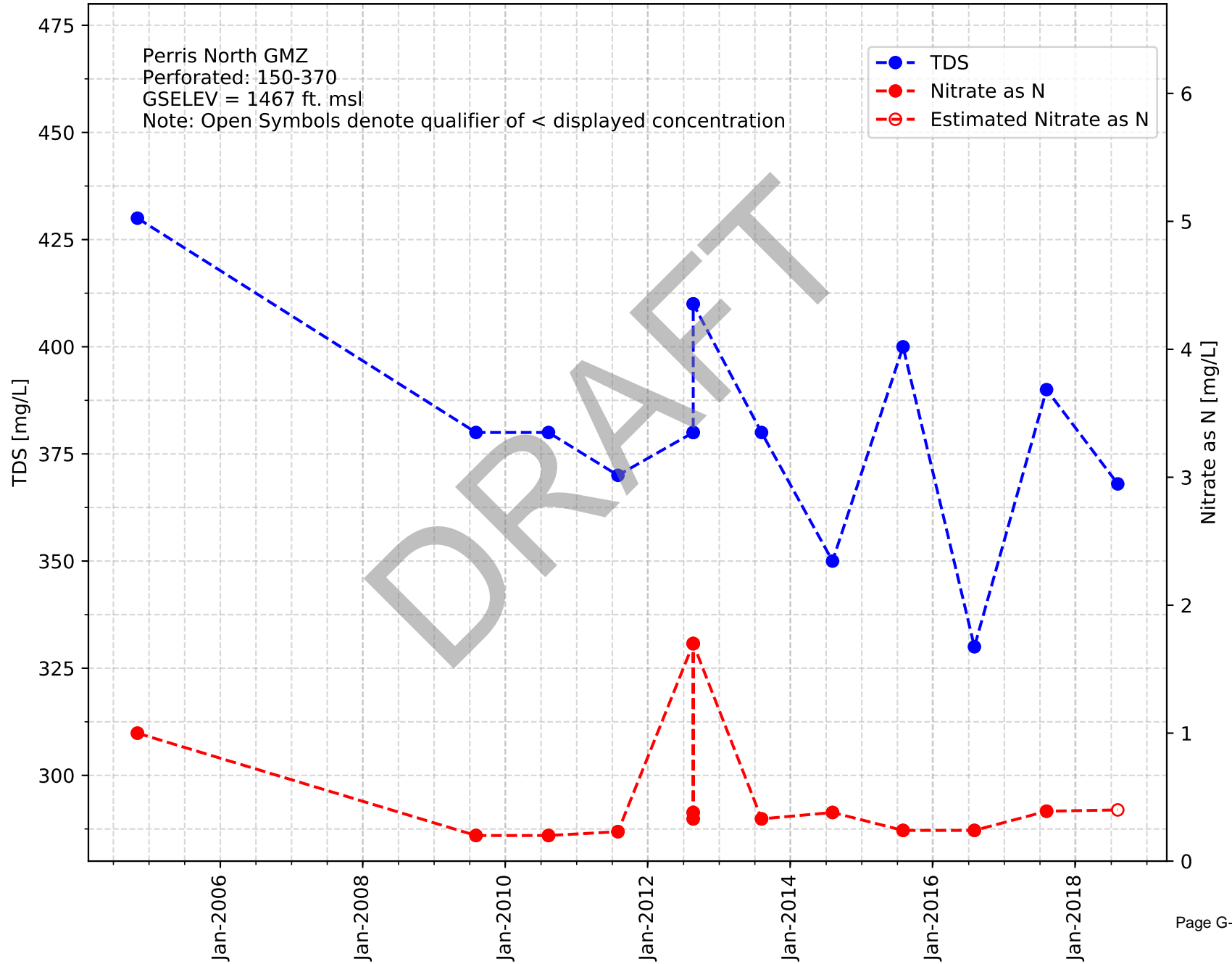
Casing Name: EMWD 49 Fir



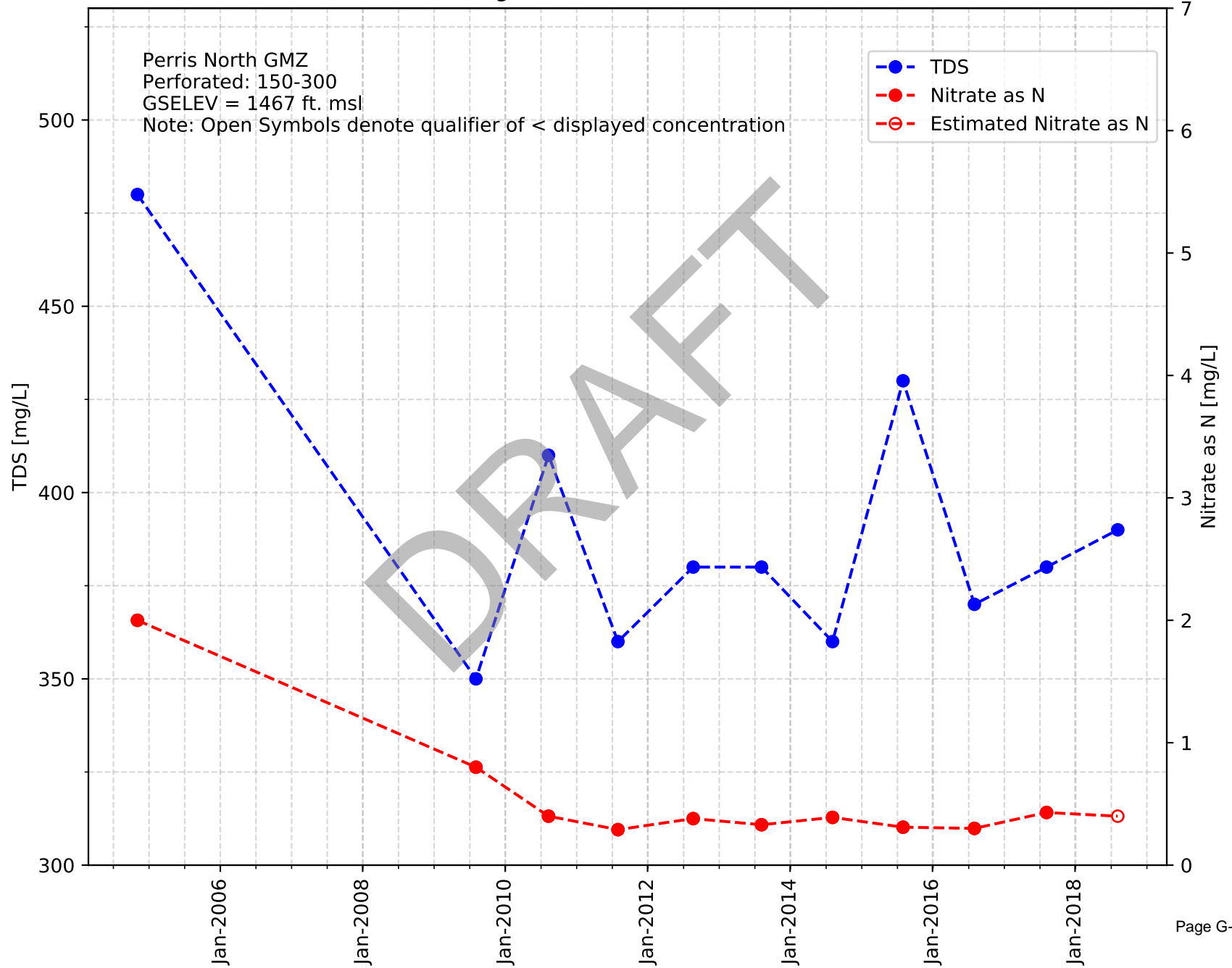
Casing Name: EMWD 59 Indian



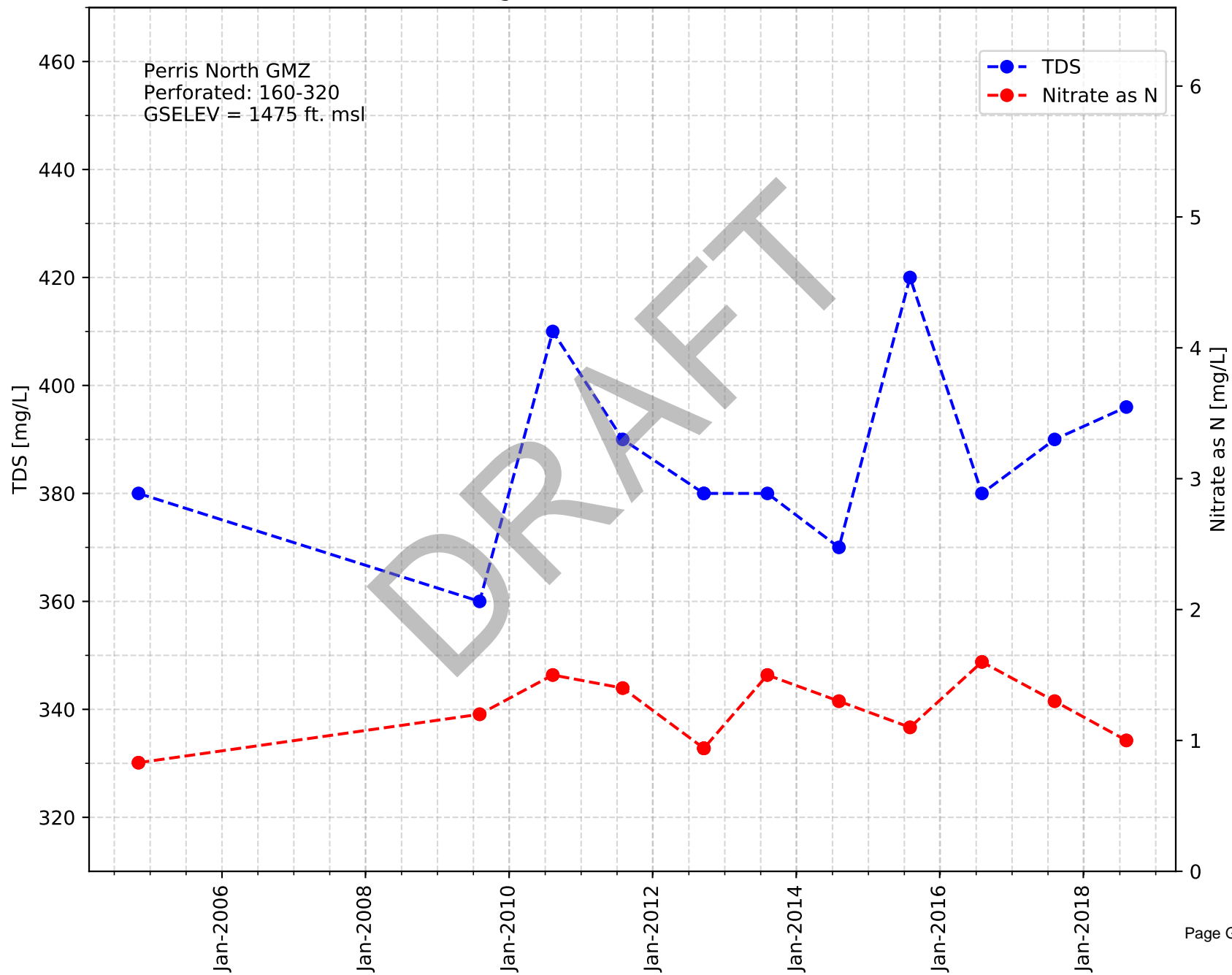
Casing Name: McCanna Ranch 01



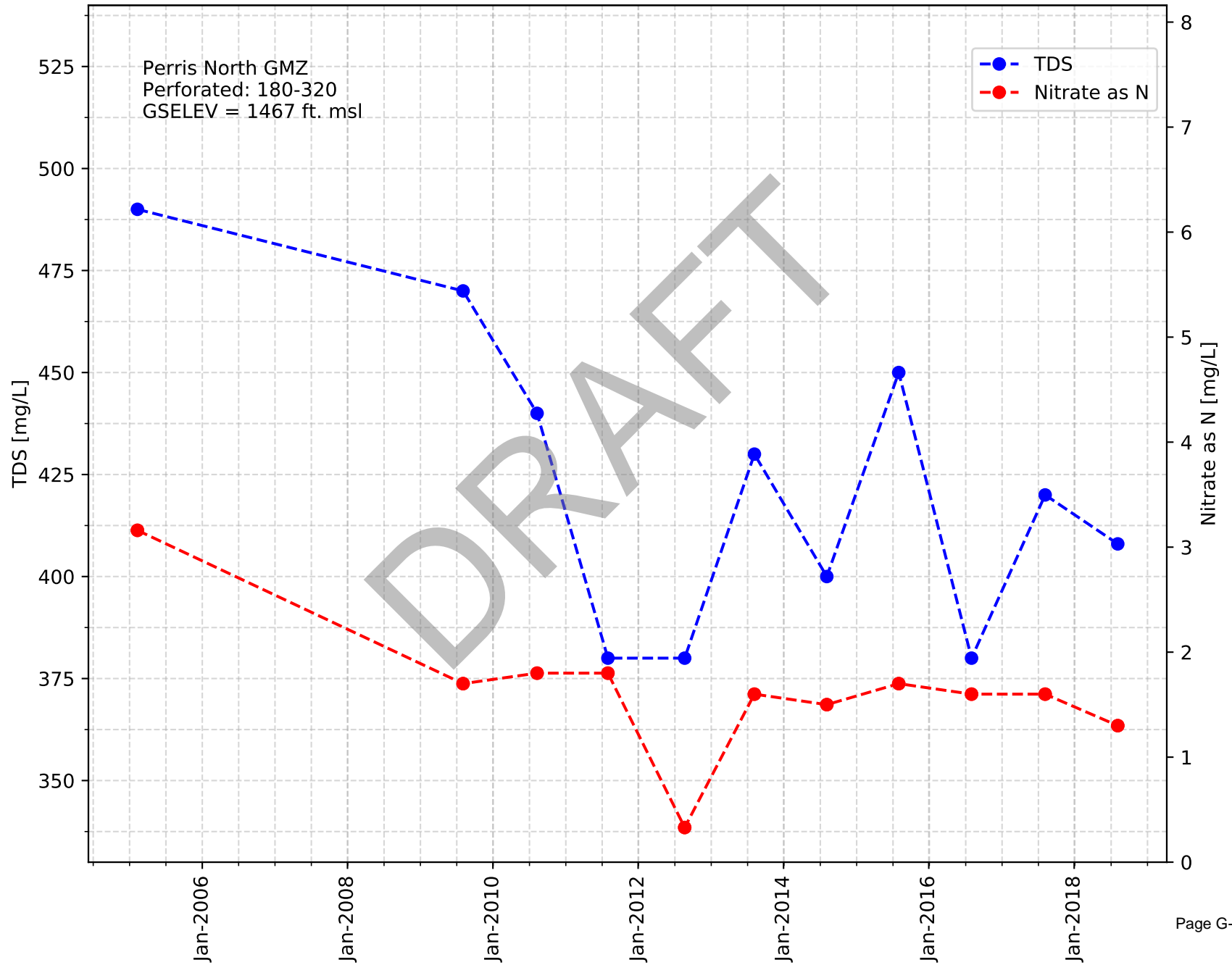
Casing Name: McCanna Ranch 02



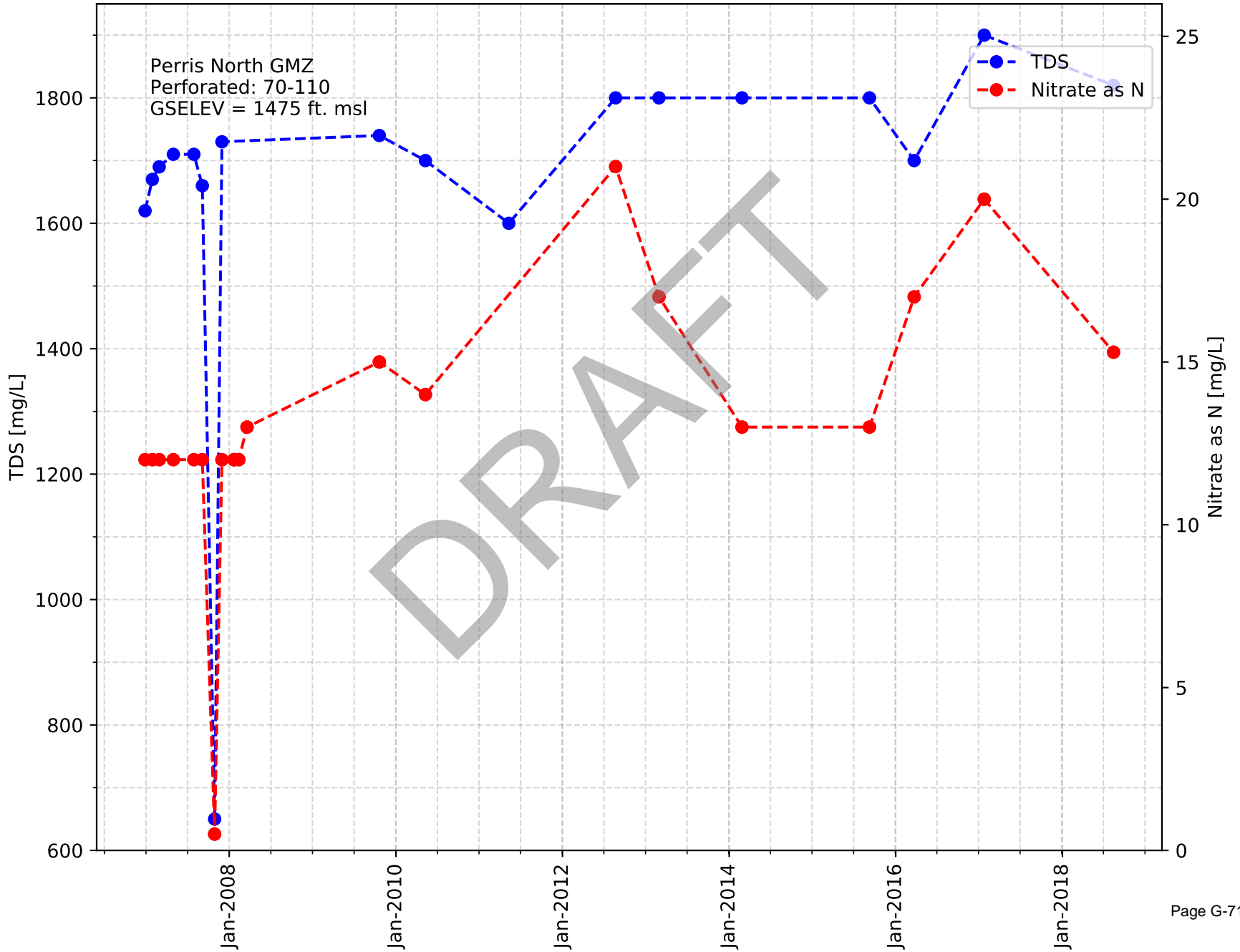
Casing Name: McCanna Ranch 03



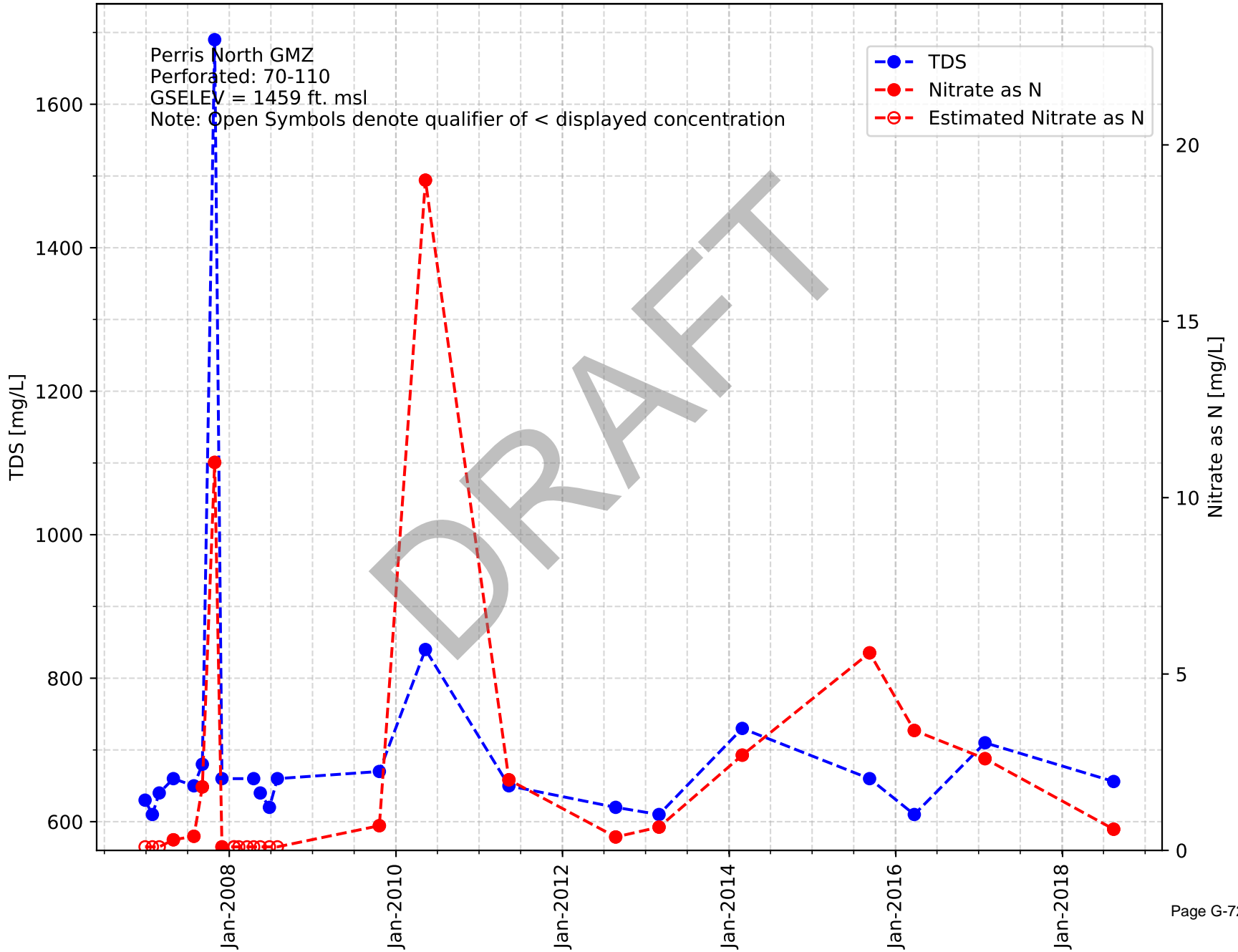
Casing Name: McCanna Ranch 04



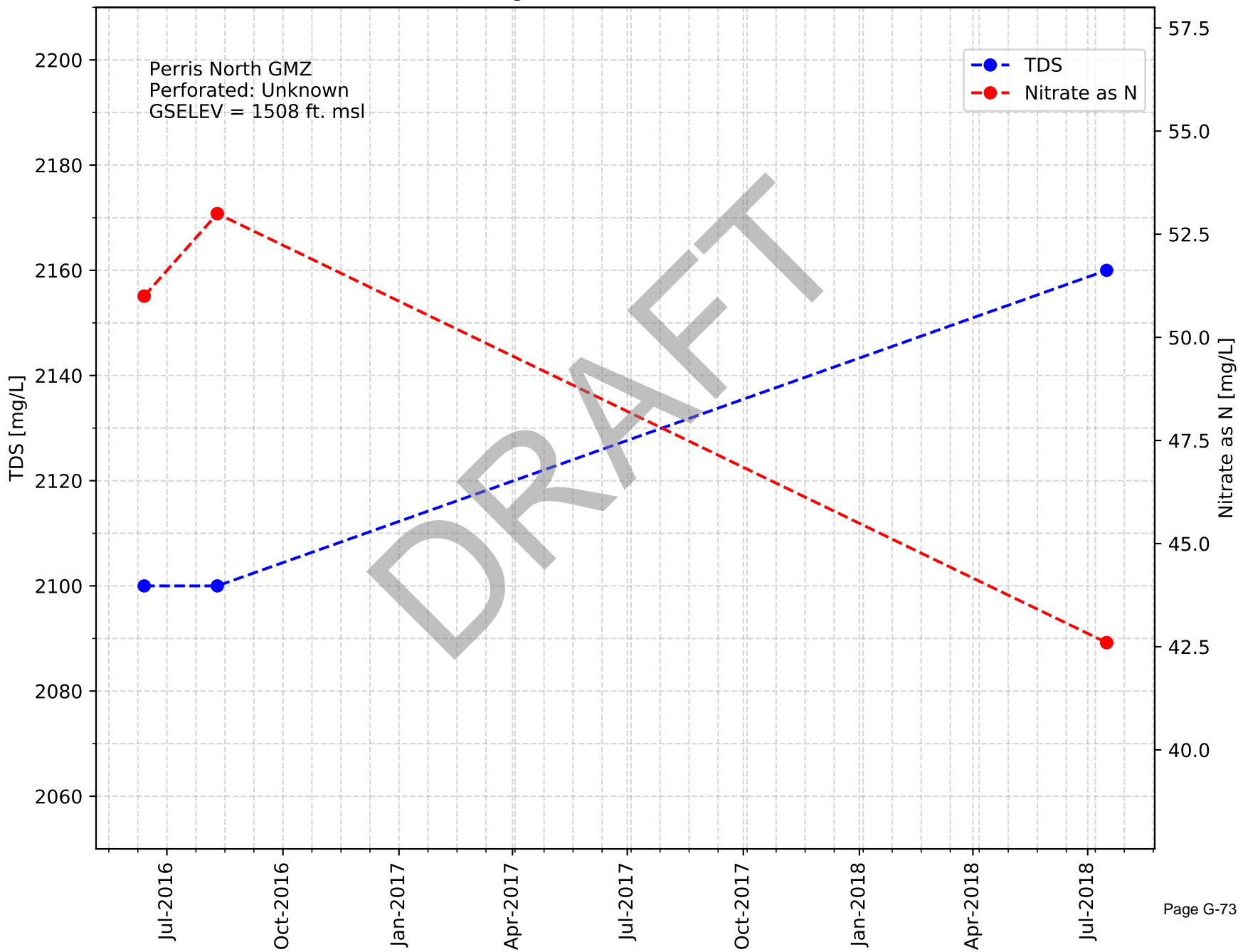
Casing Name: EMWD MVRWRF North



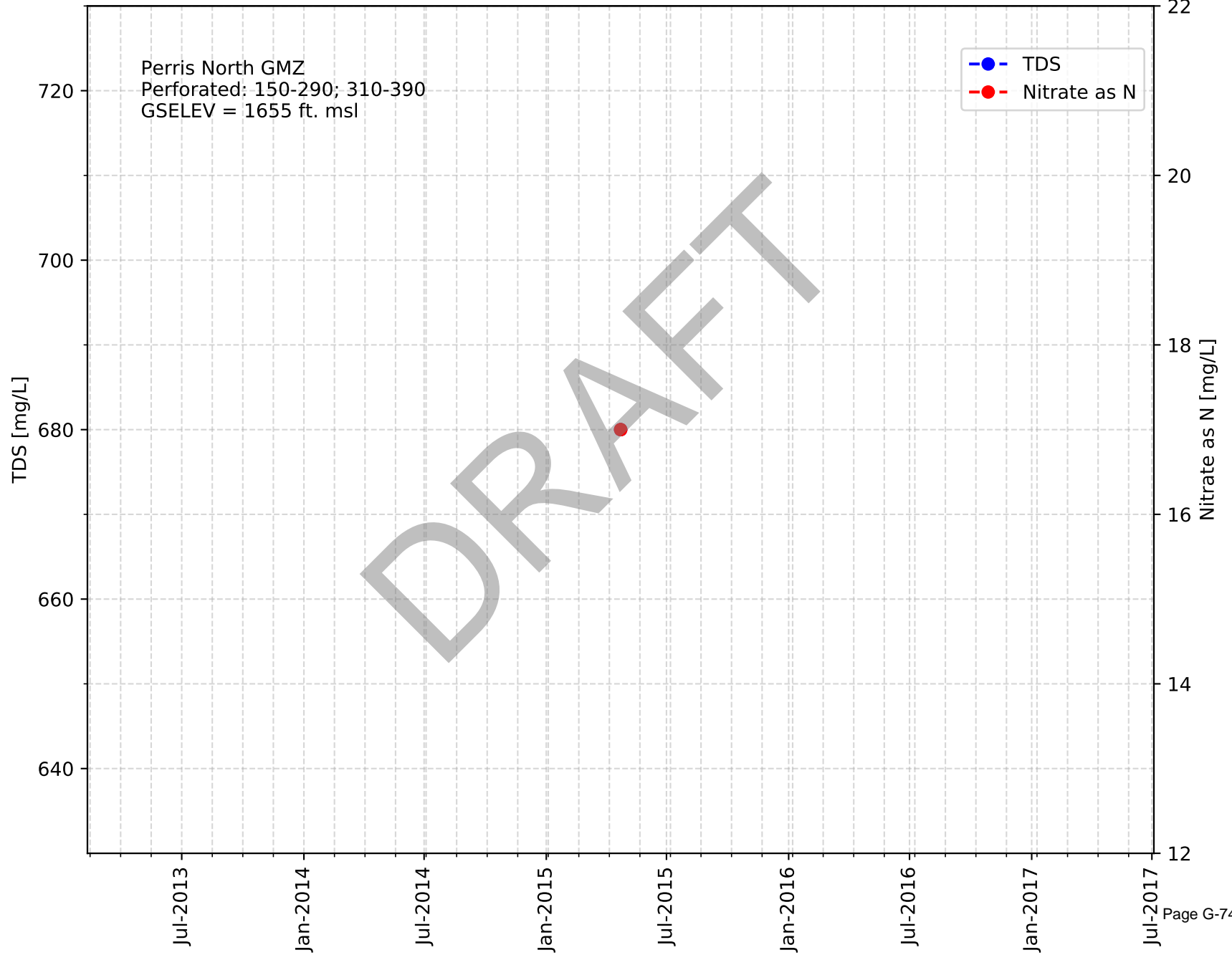
Casing Name: EMWD MVRWRF South



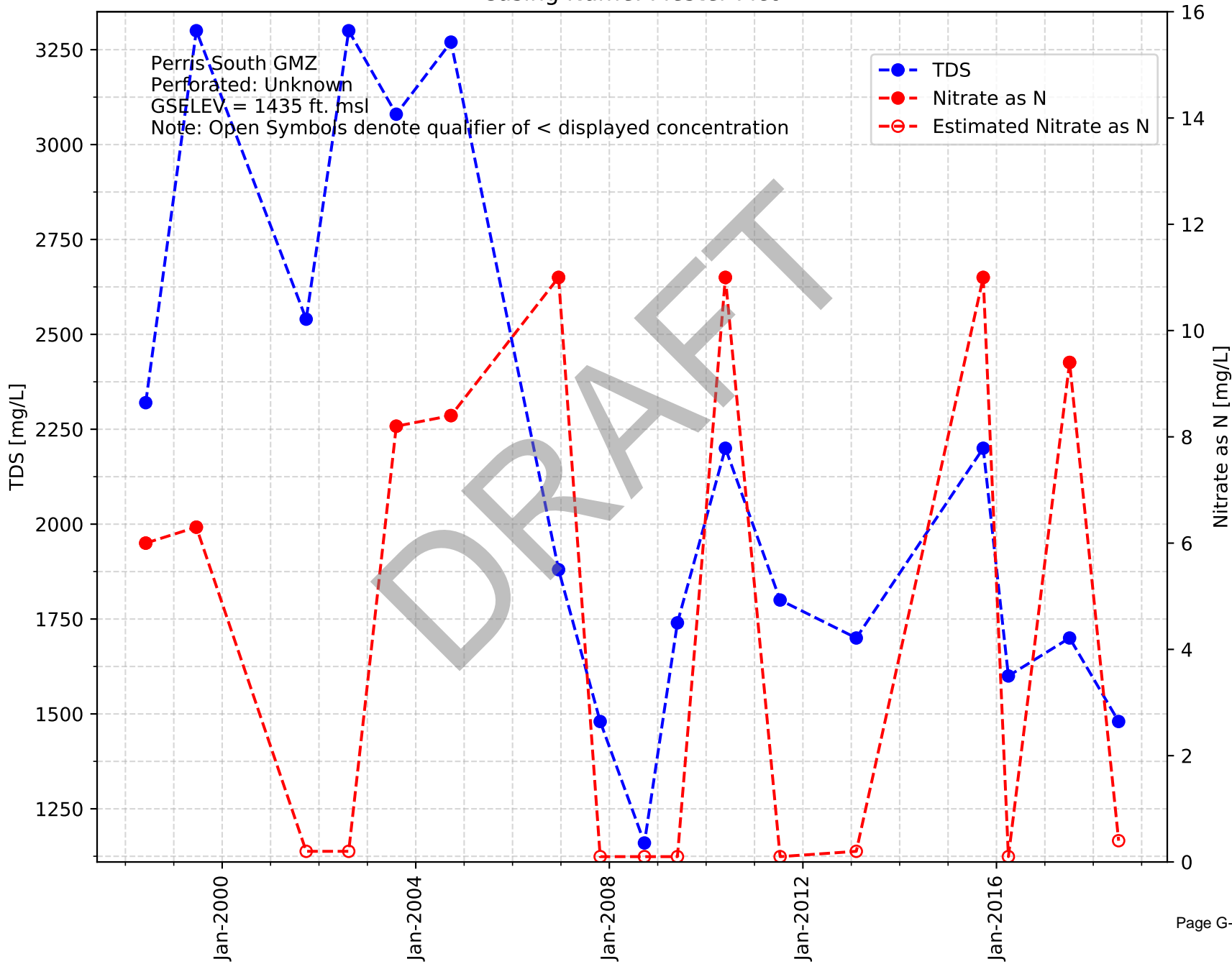
Casing Name: EMWD Perris/Iris



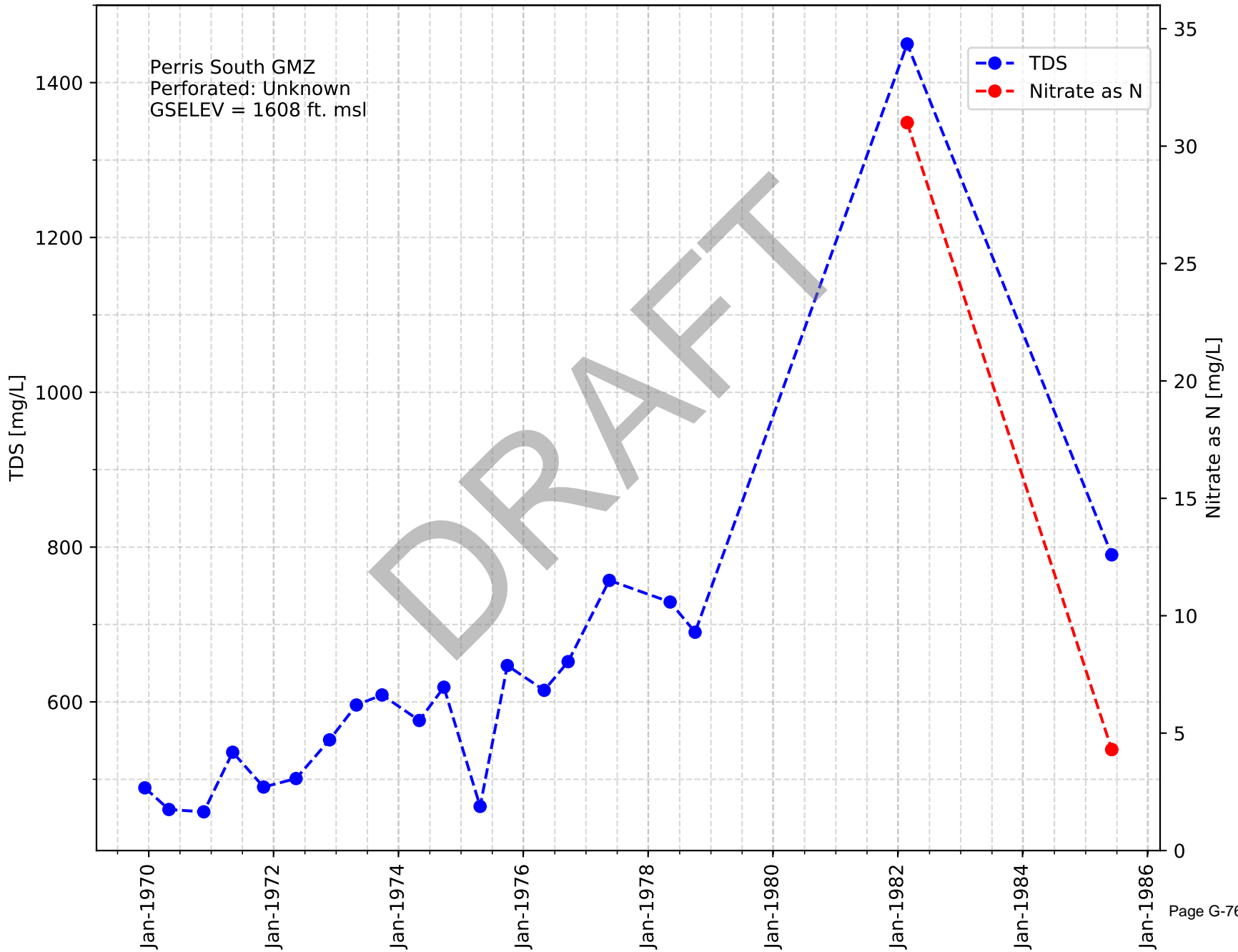
Casing Name: EMWD 64 Hemlock/Davis



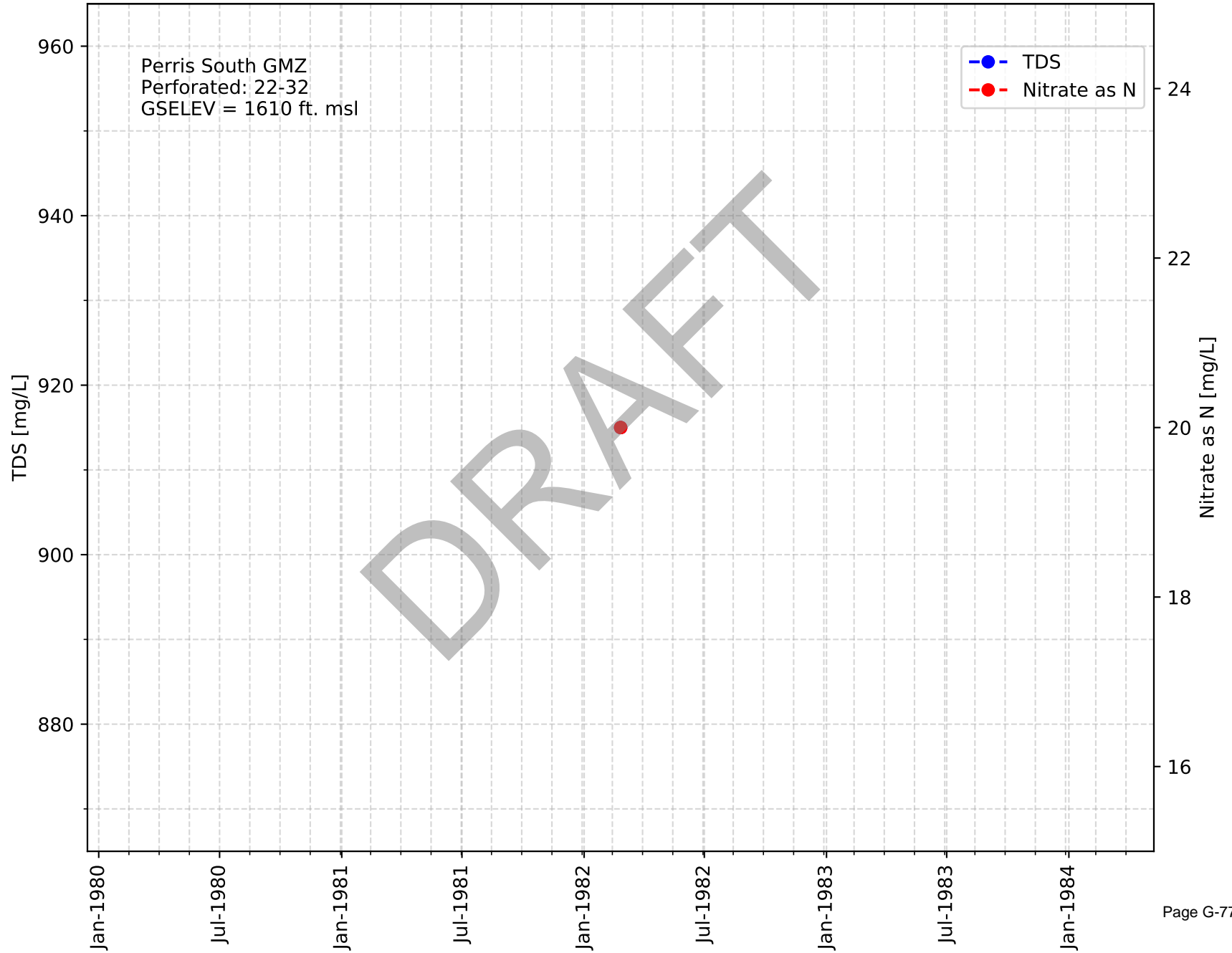
Casing Name: Piester Pico



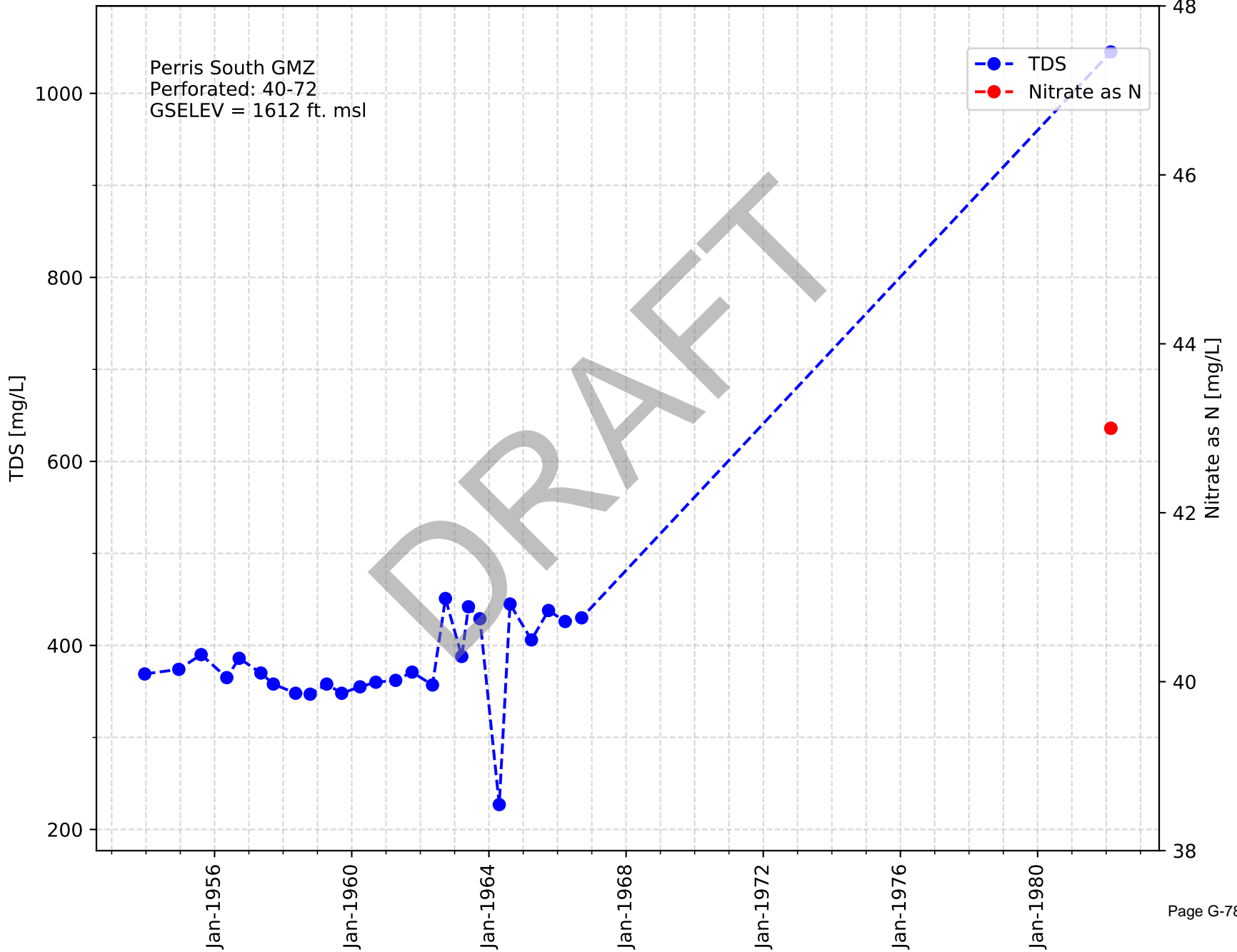
Casing Name: Cadwell, E.



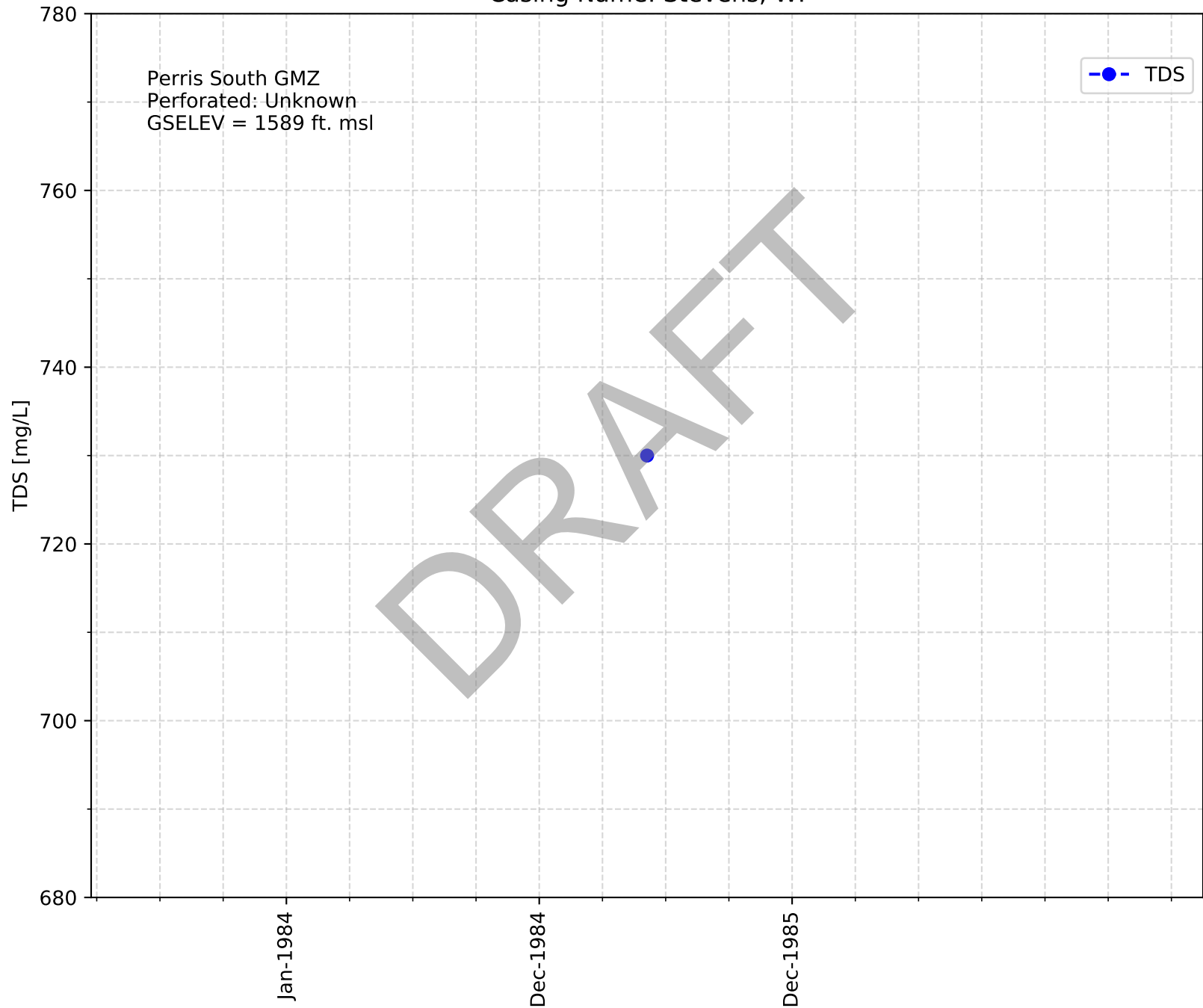
Casing Name: Matheny



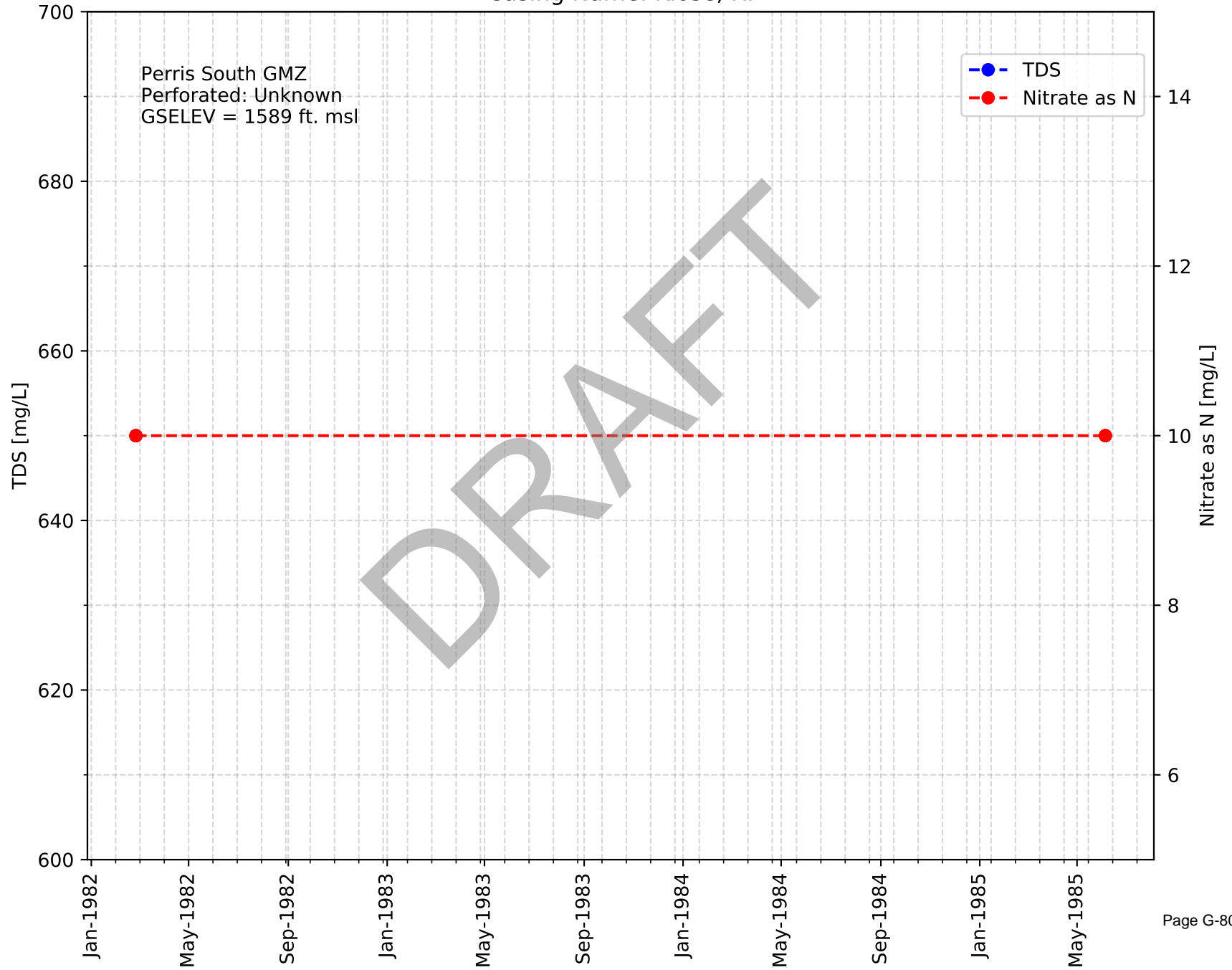
Casing Name: McGee, P.



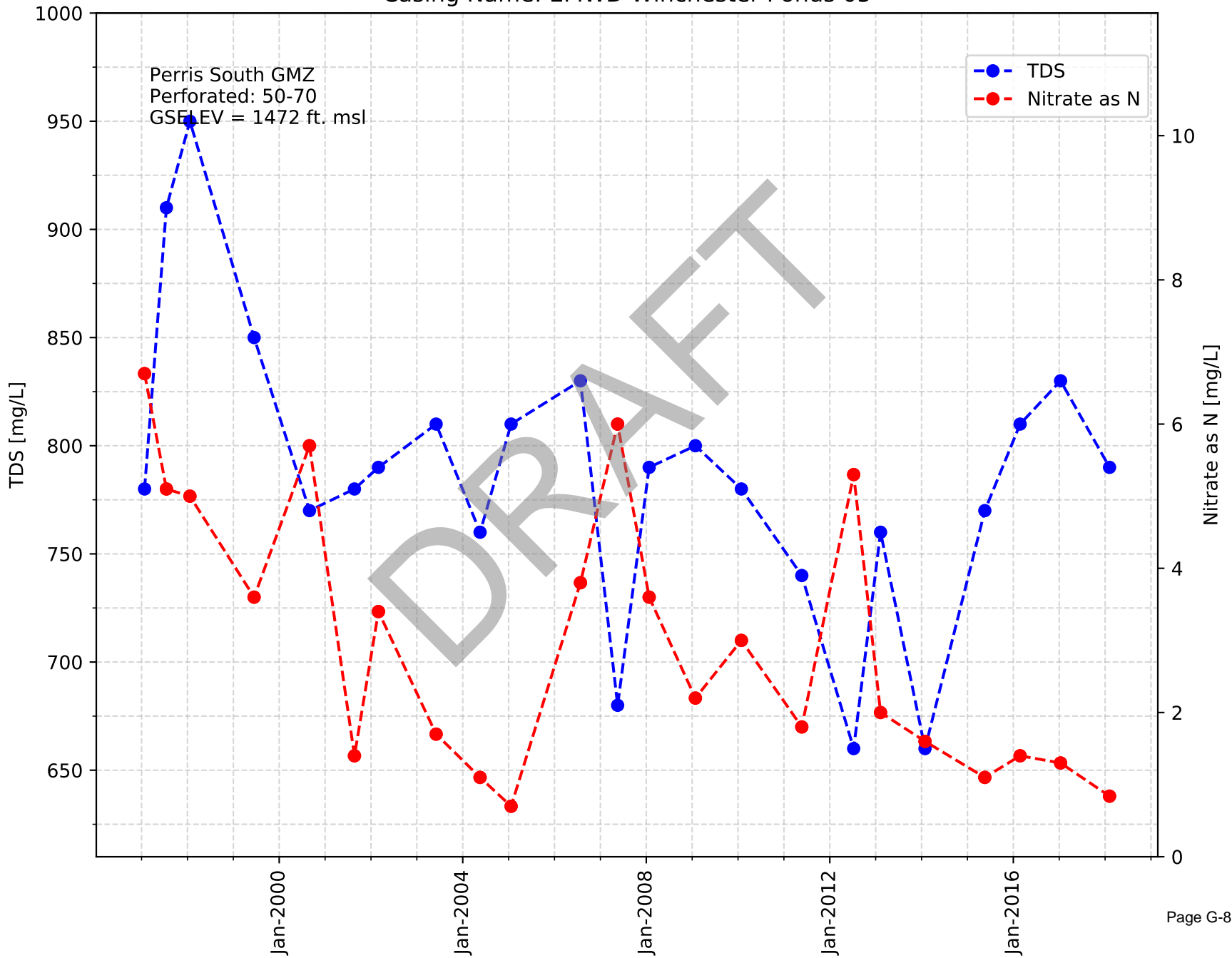
Casing Name: Stevens, W.



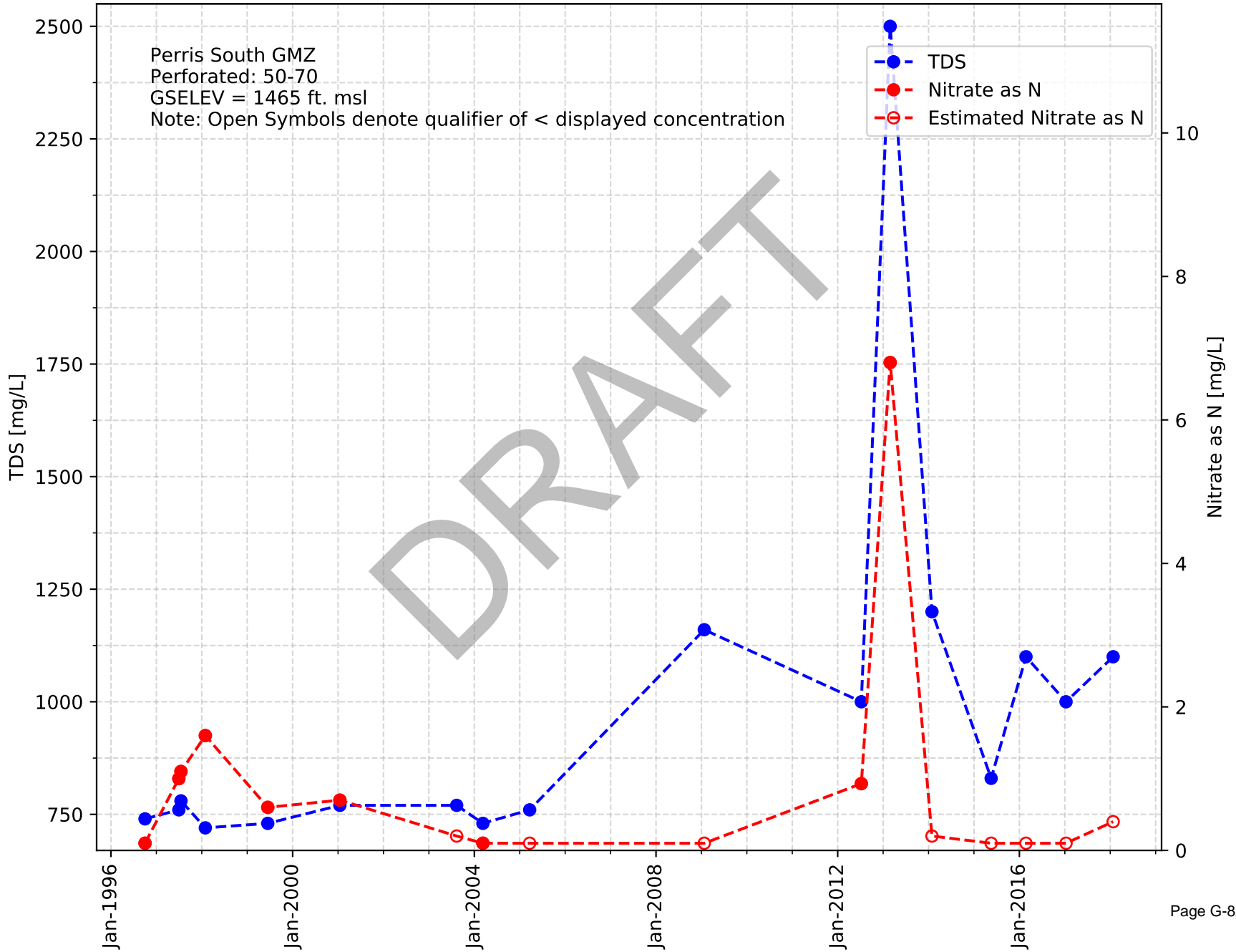
Casing Name: Klose, R.



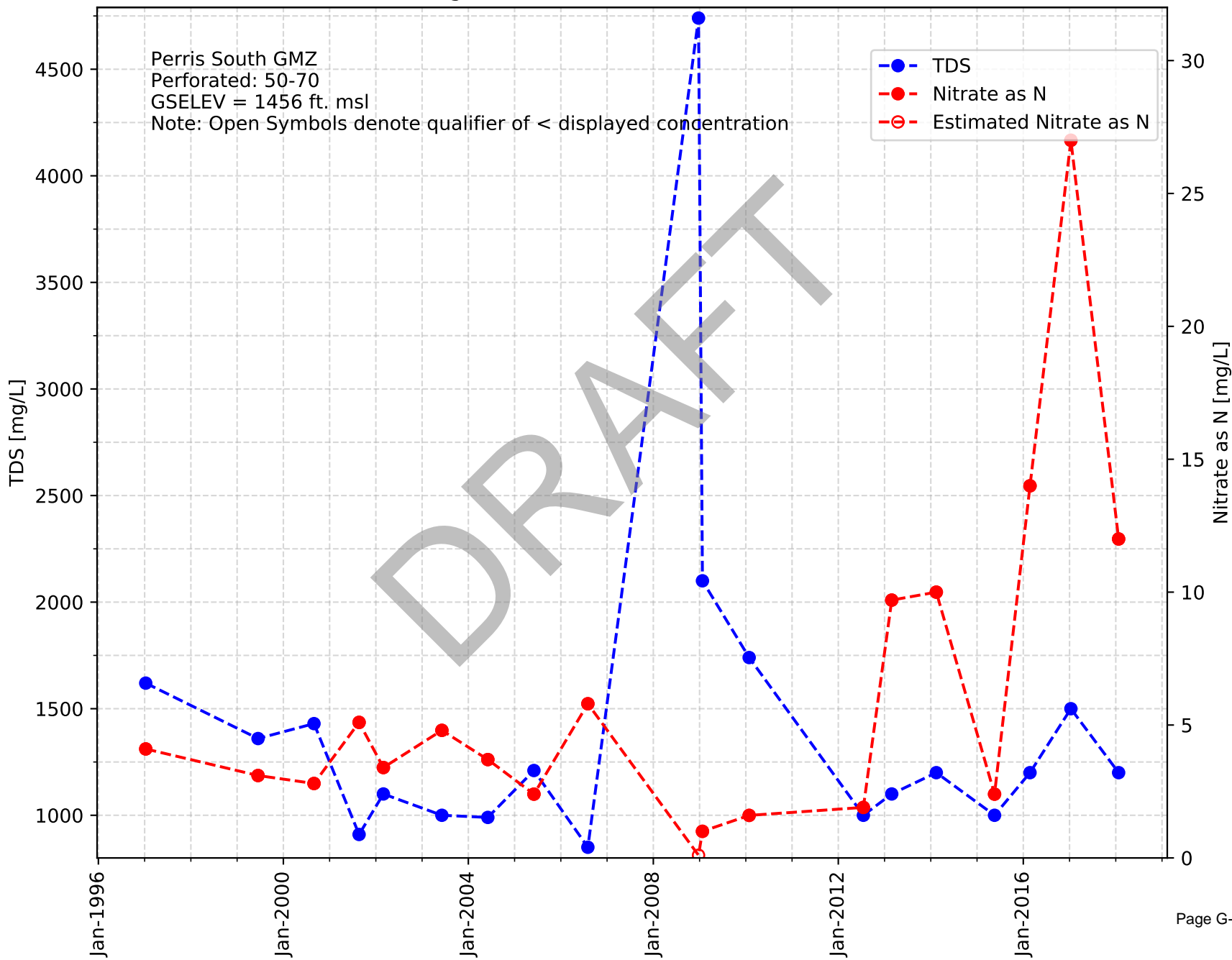
Casing Name: EMWD Winchester Ponds 05



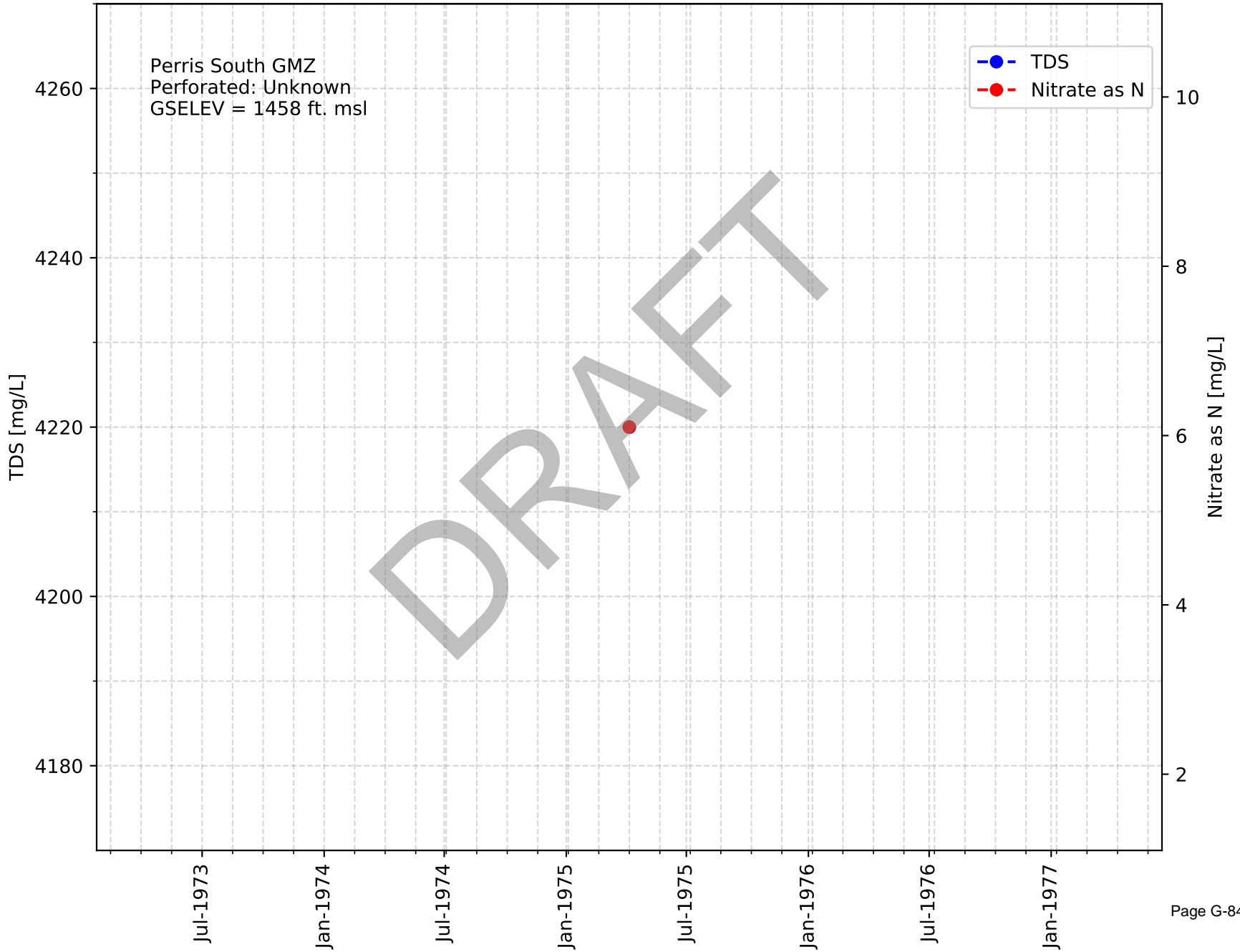
Casing Name: EMWD Winchester Ponds 04



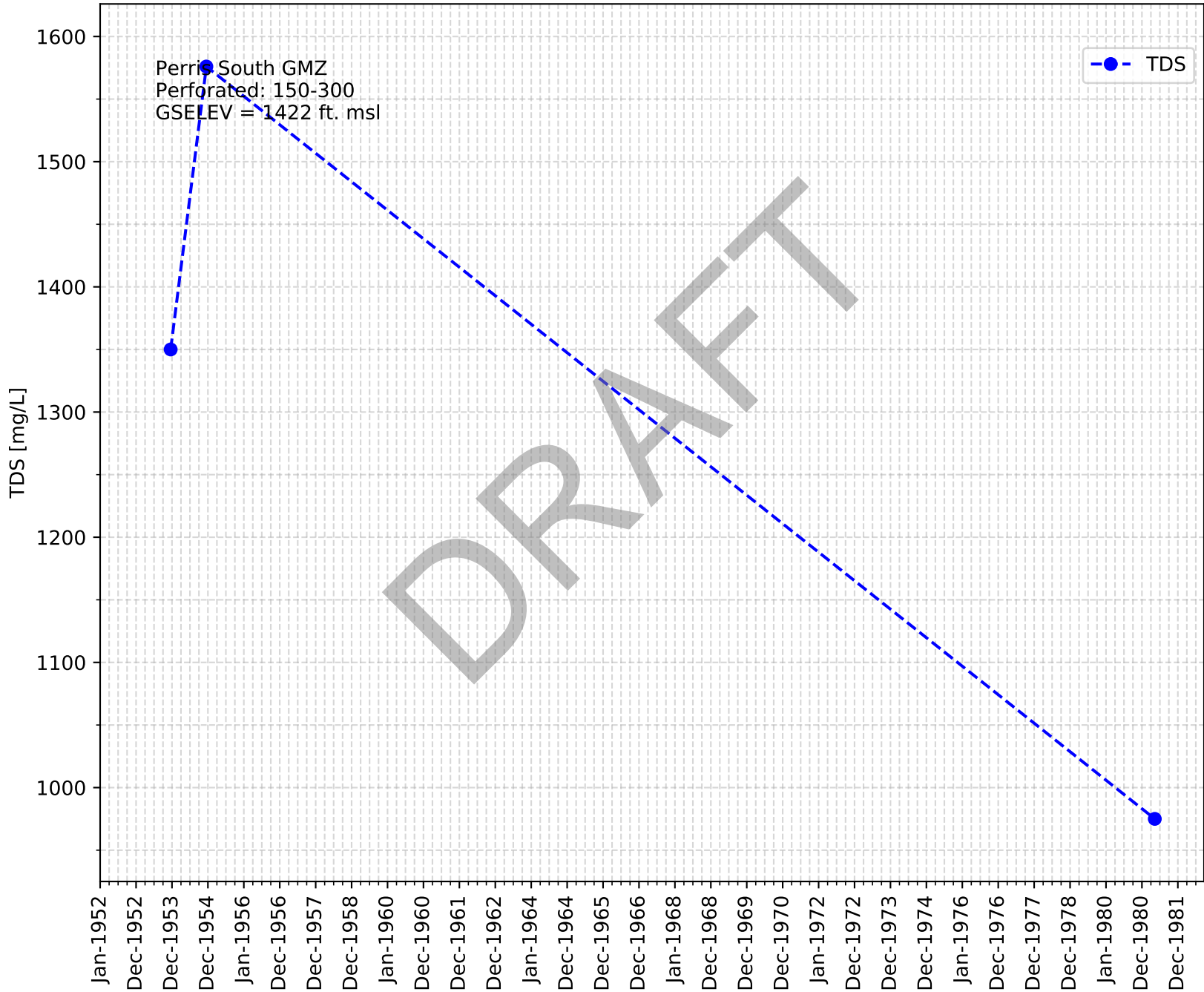
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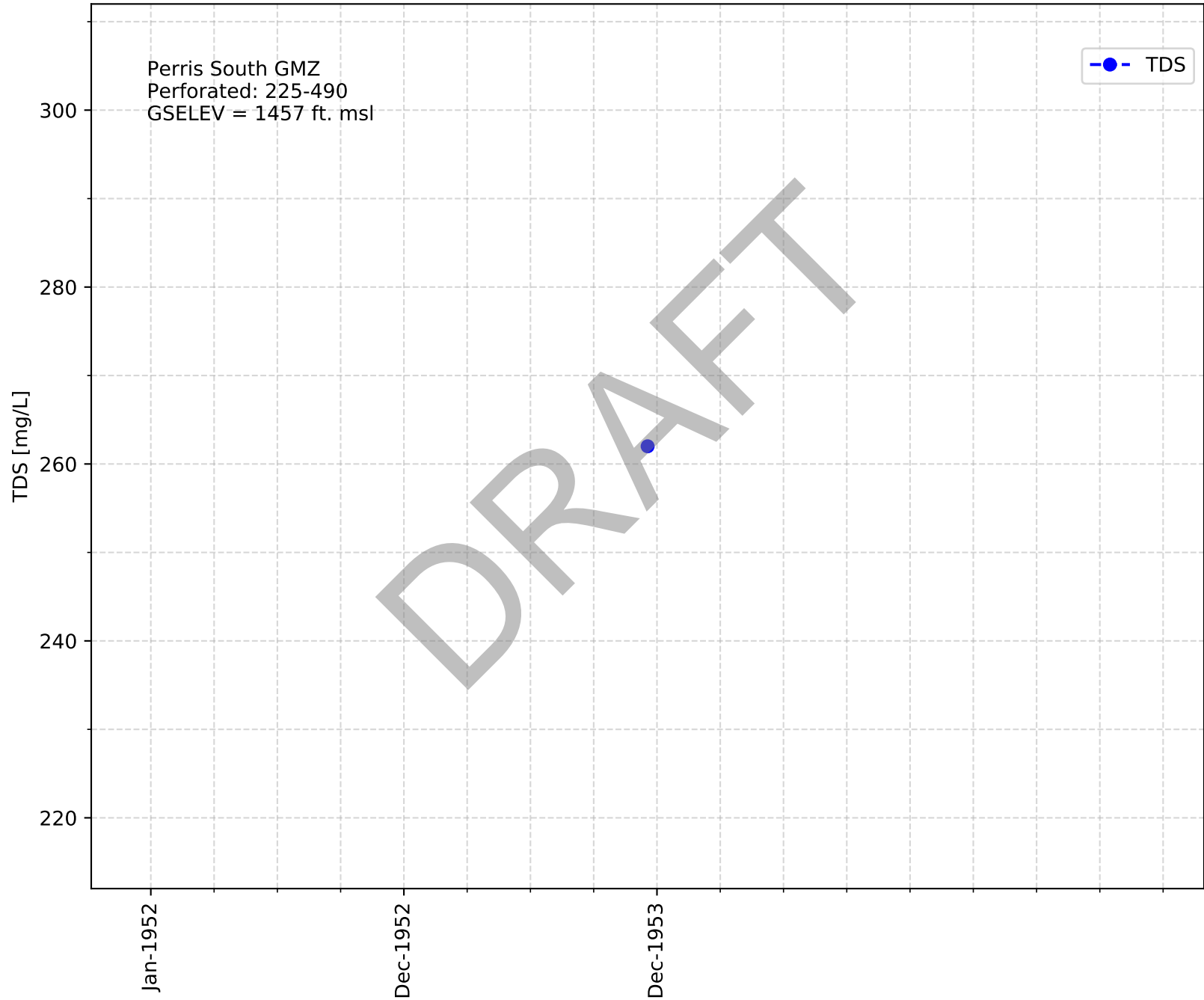
Casing Name: Gonsalves, E.



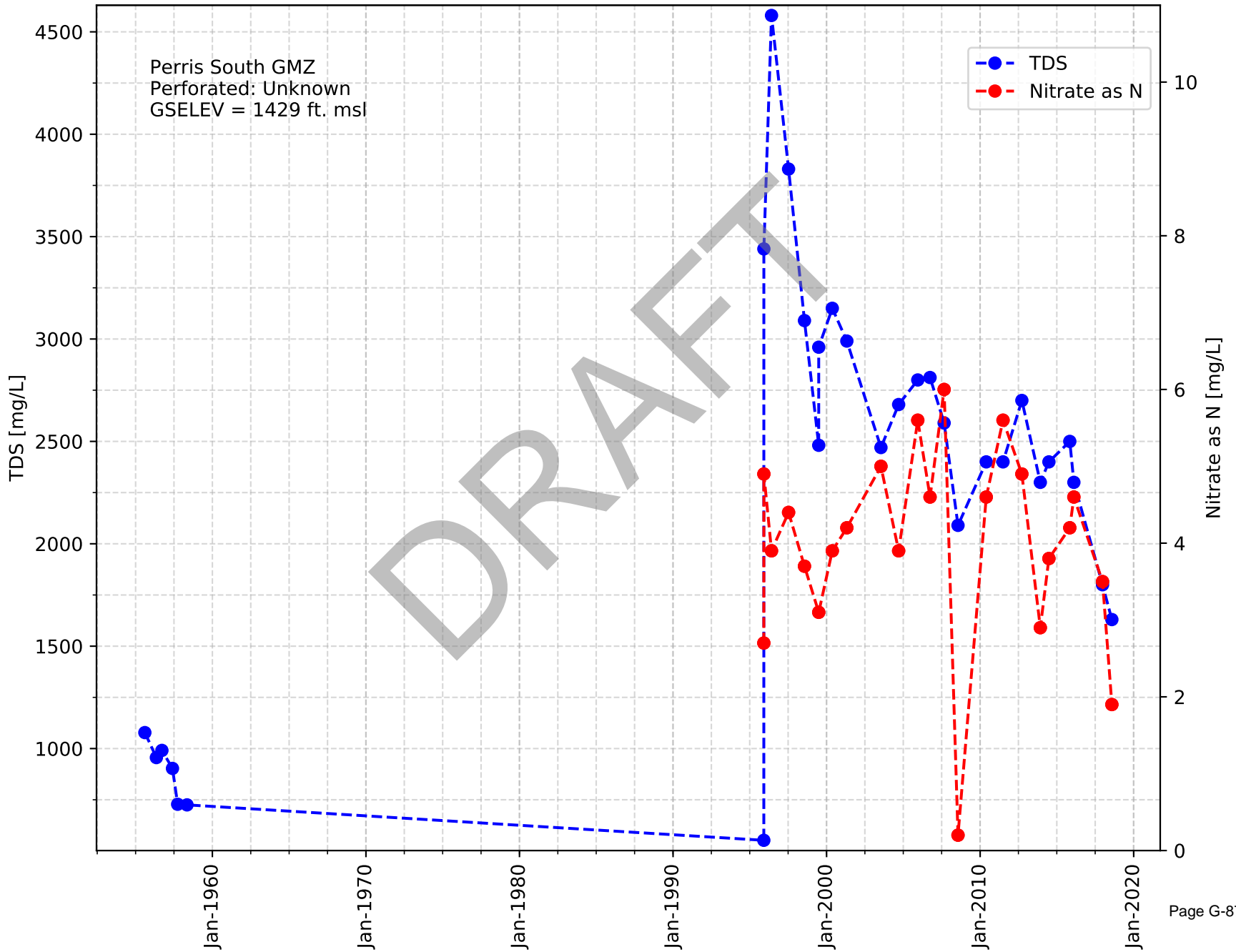
Casing Name: Starnes



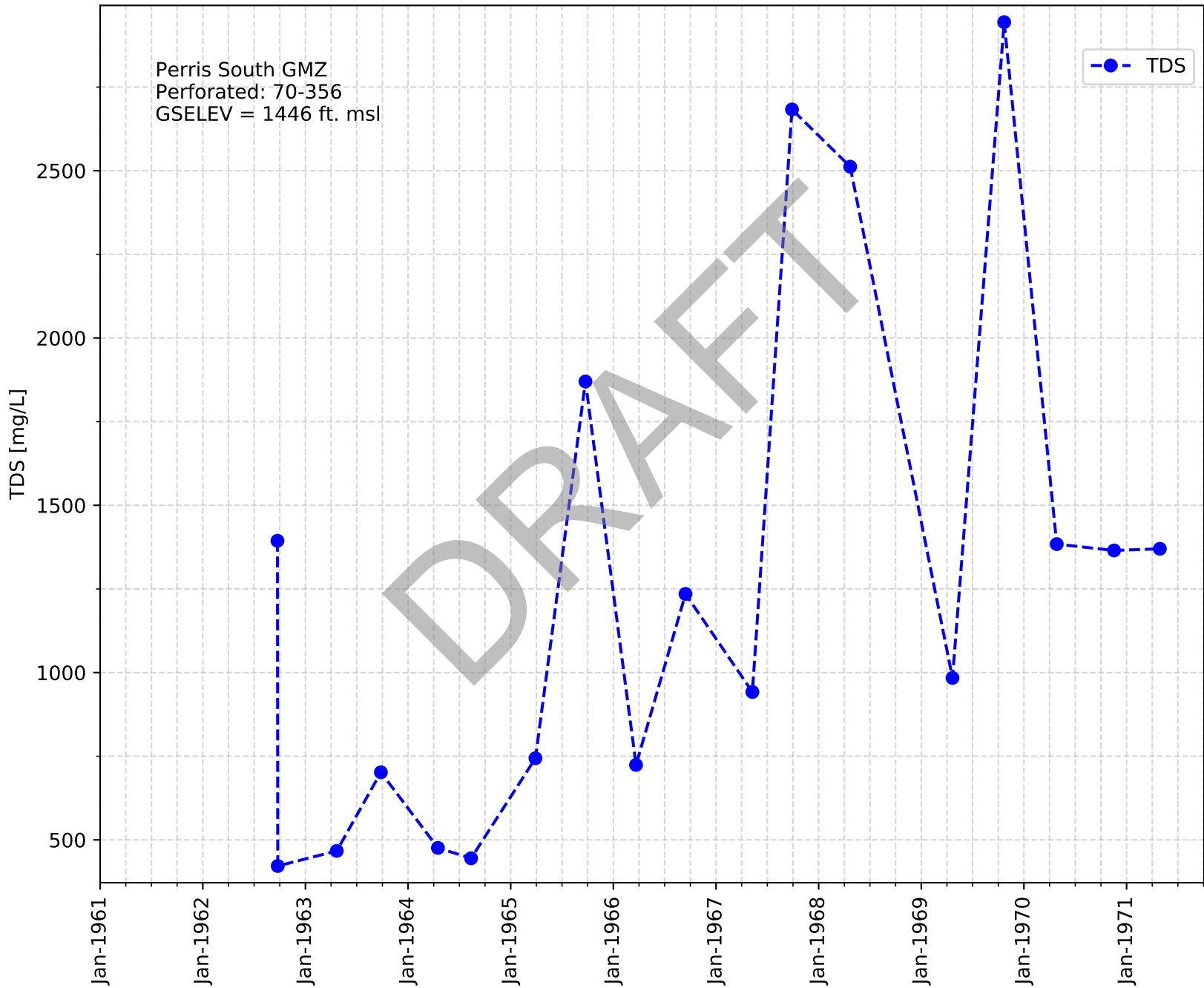
Casing Name: Motte Brothers



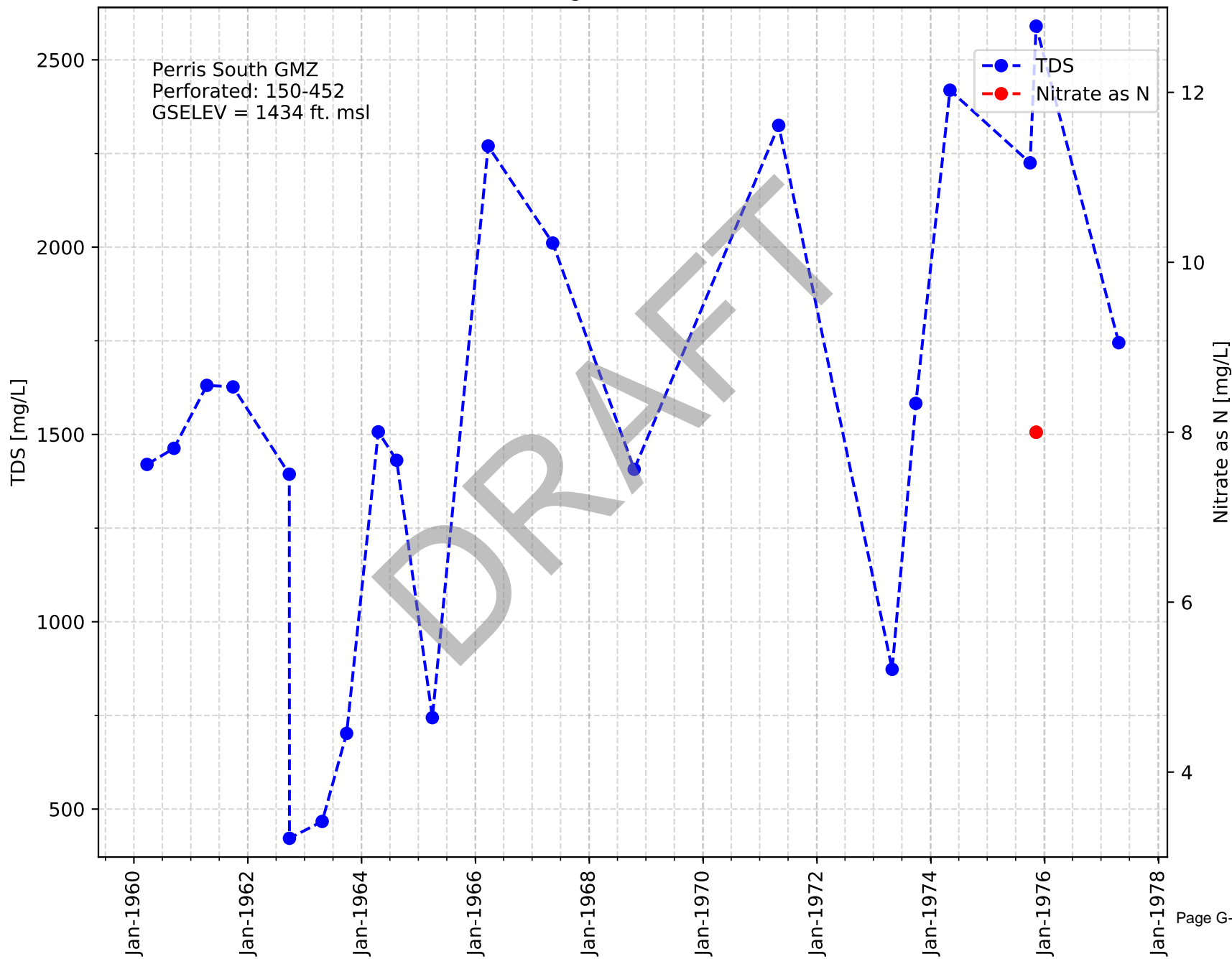
Casing Name: Smith C Rouse OC



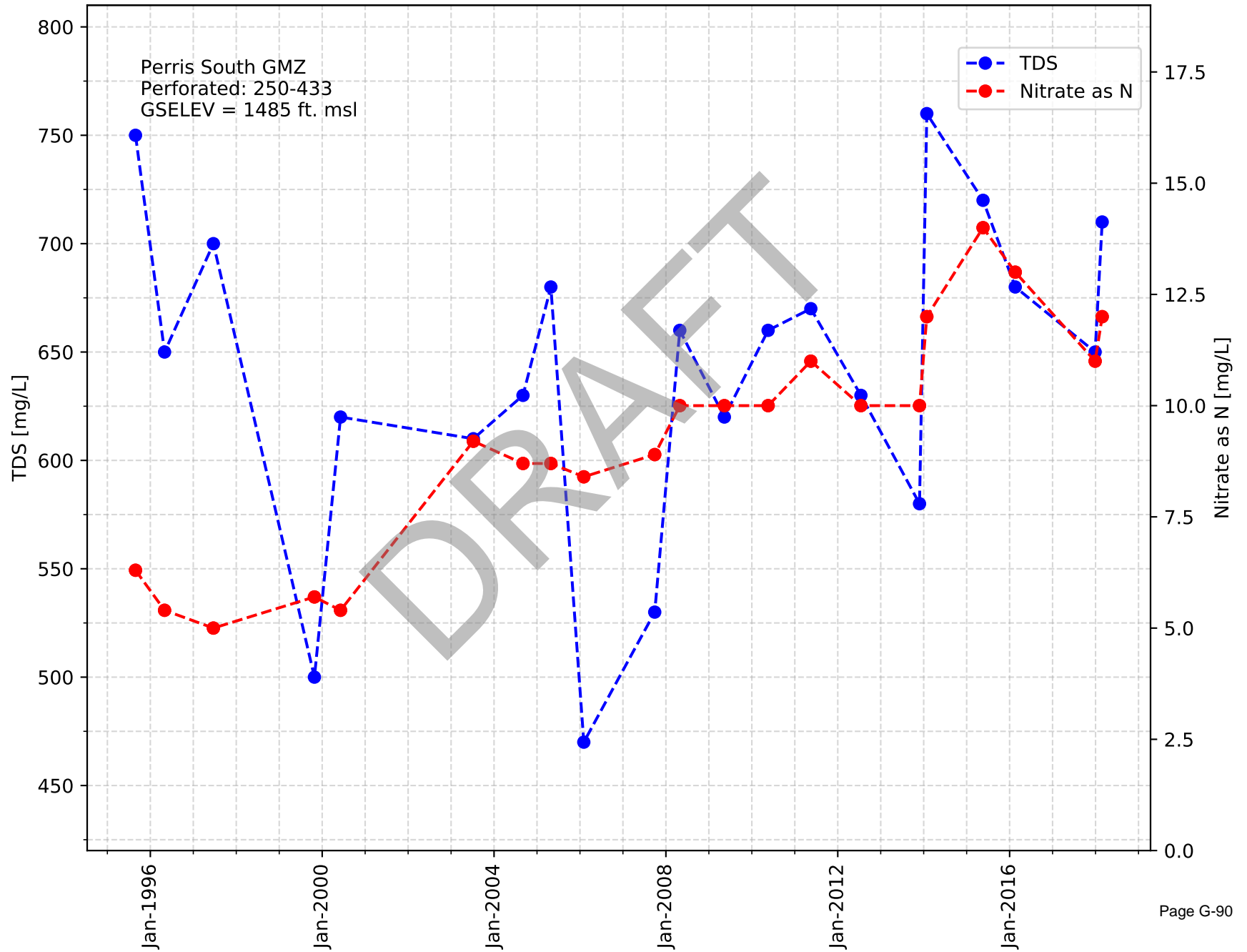
Casing Name: Zieders



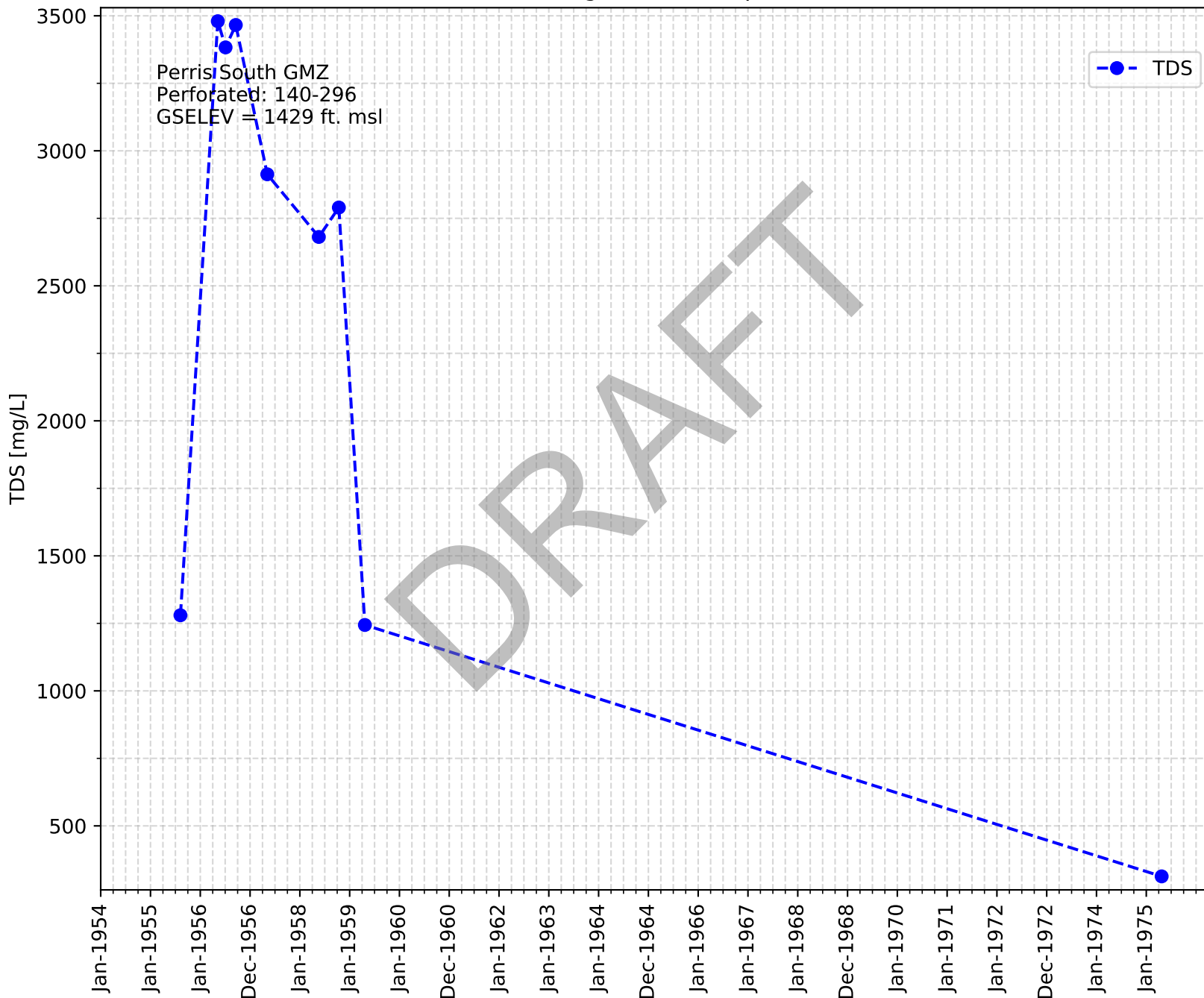
Casing Name: Zeiders



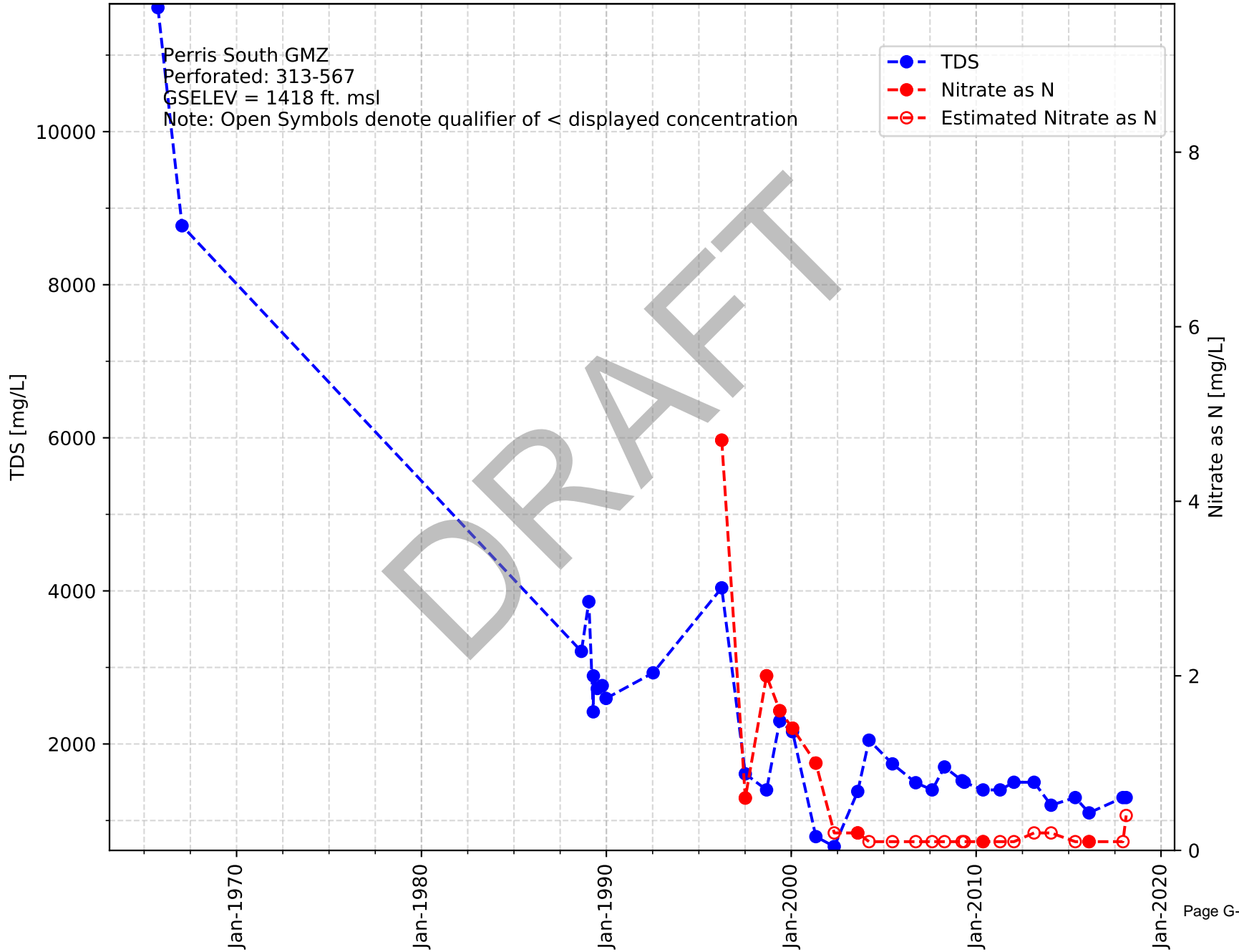
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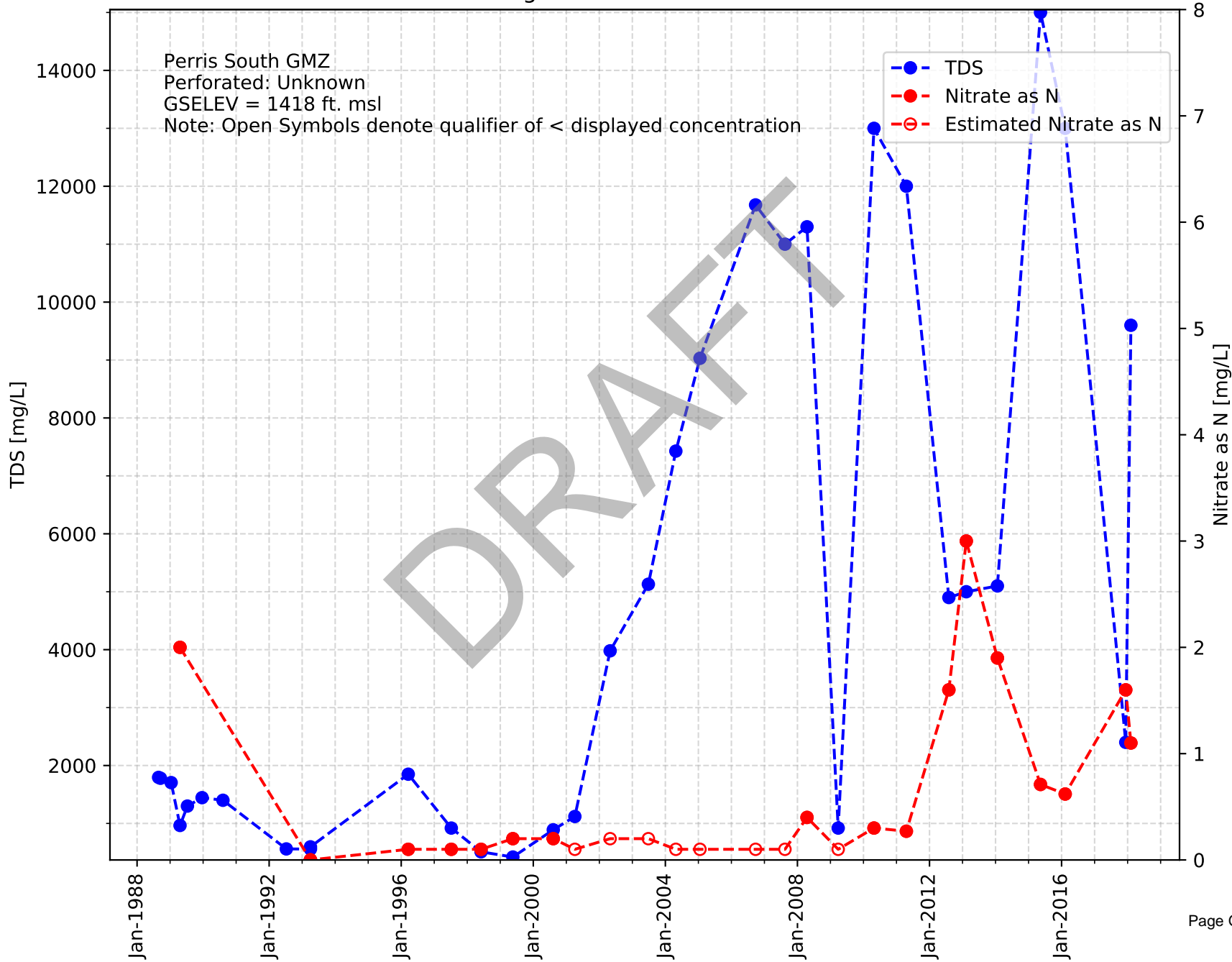
Casing Name: Newport



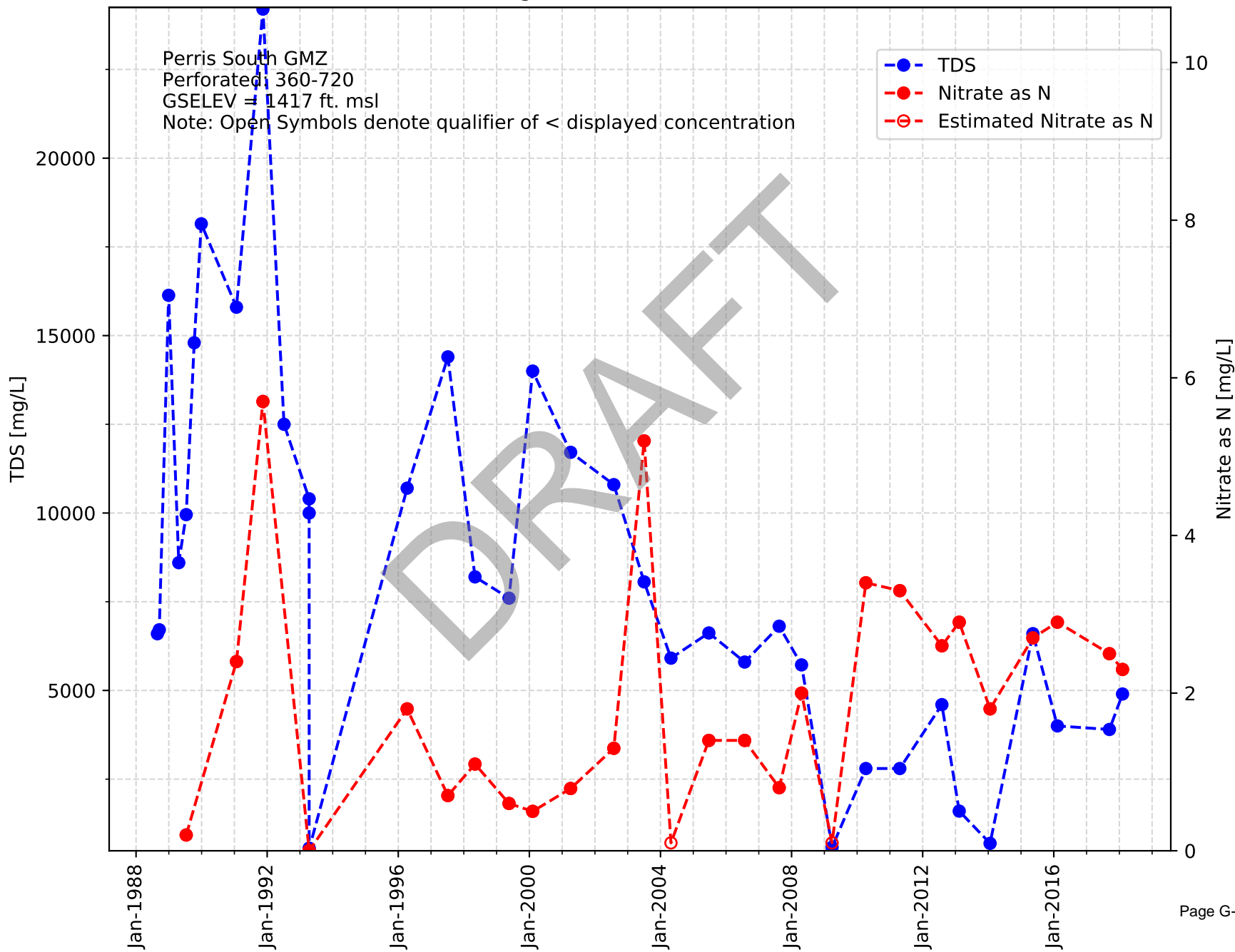
Casing Name: EMWD Skiland 05



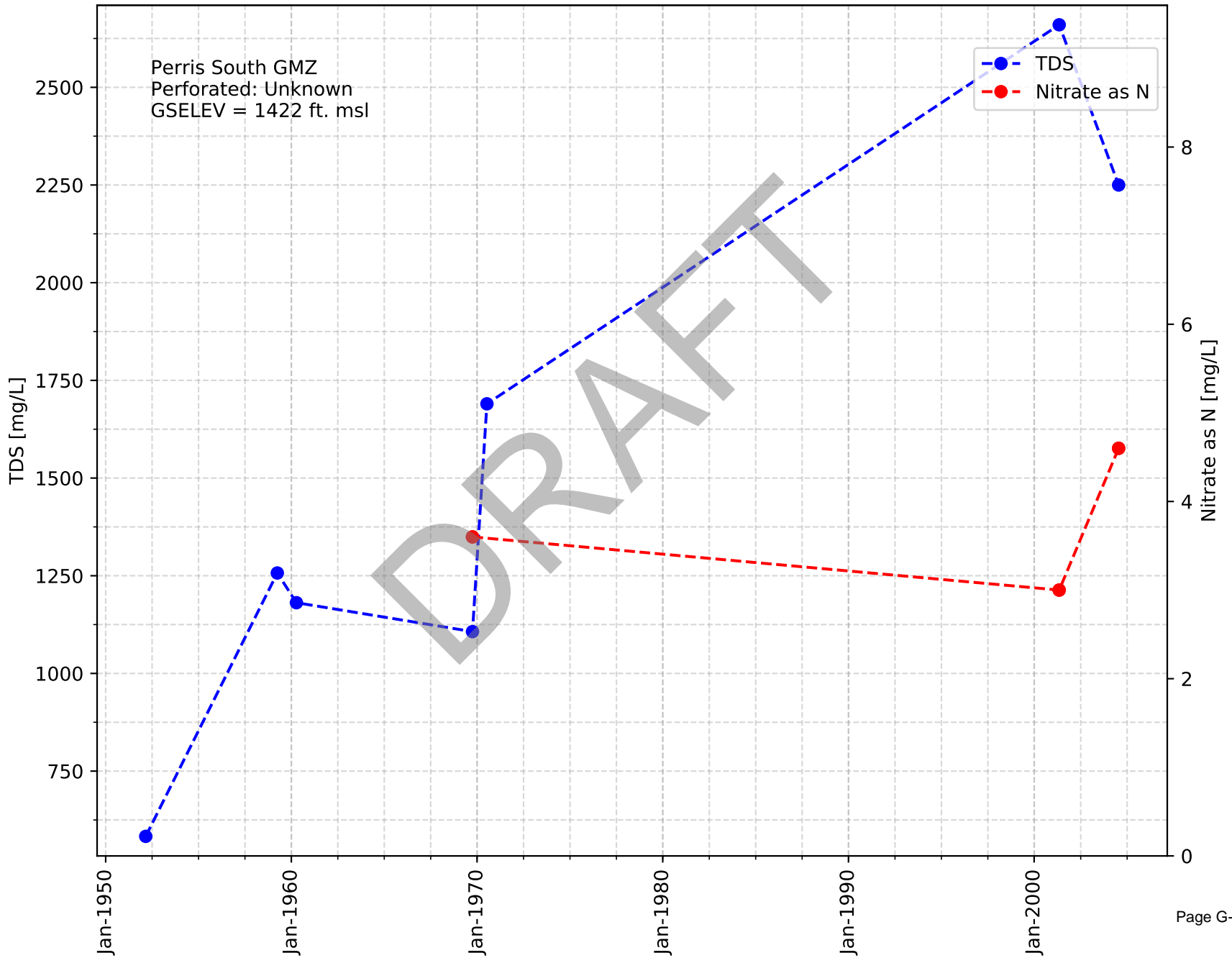
Casing Name: EMWD Skiland 02



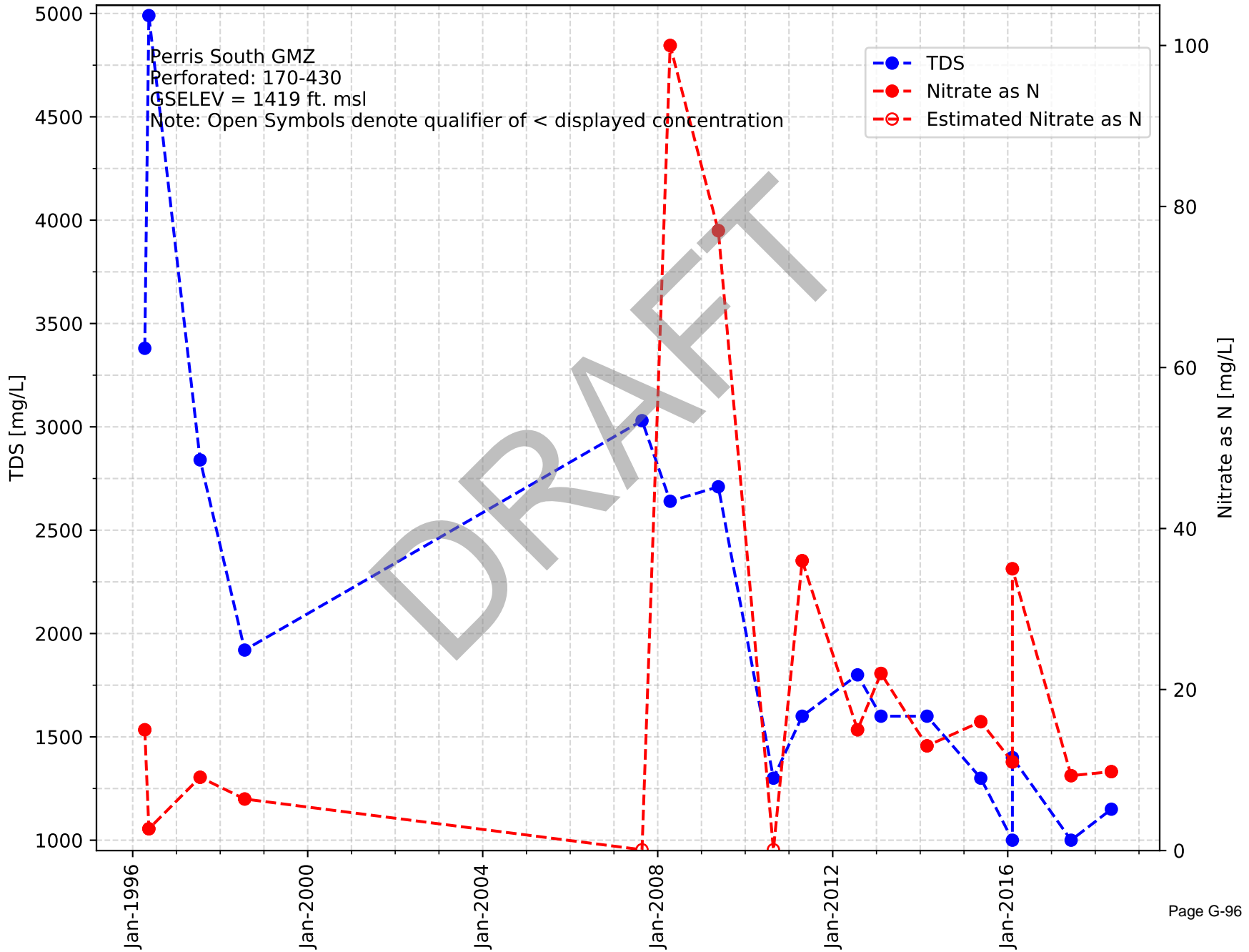
Casing Name: EMWD Skiland 01



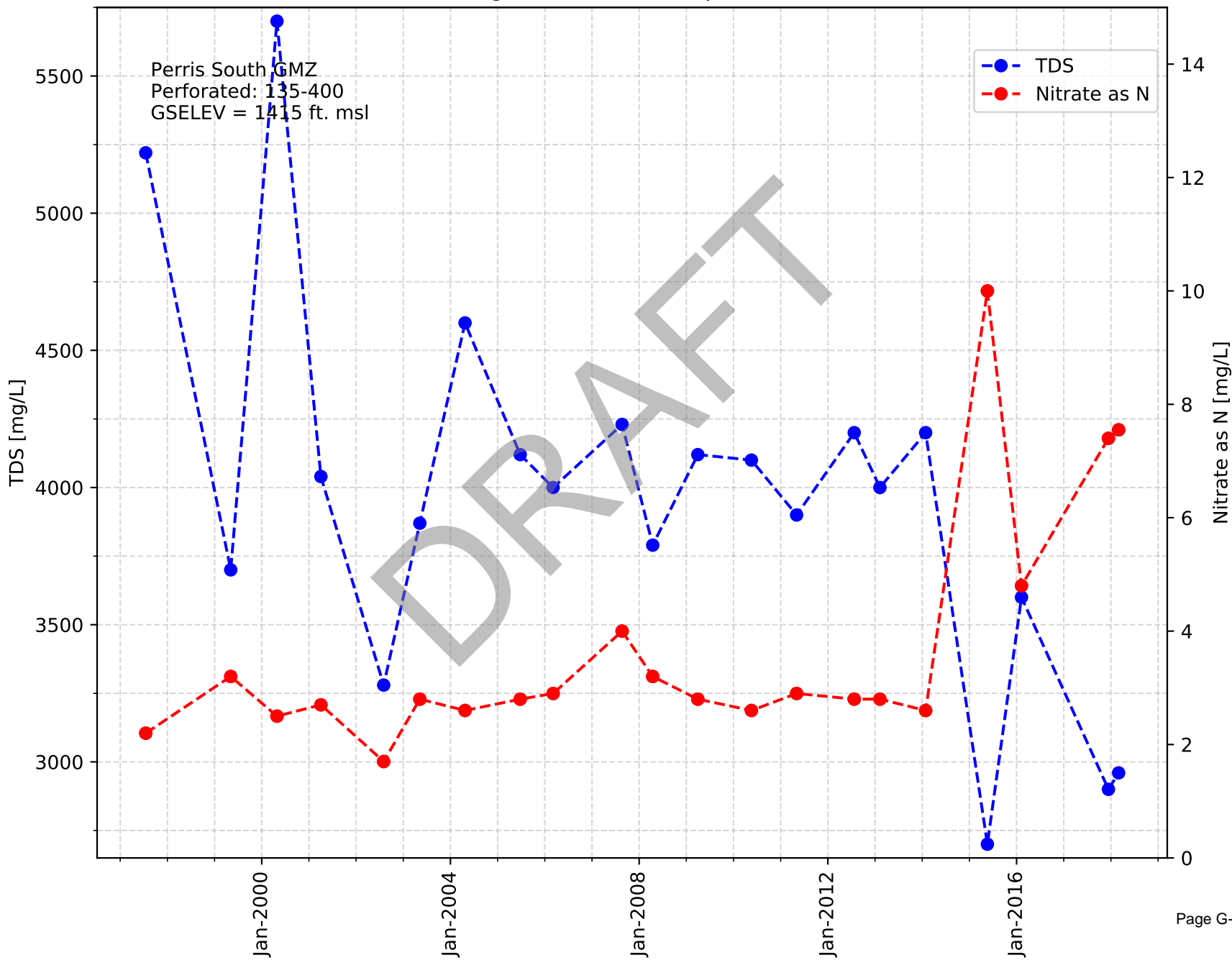
Casing Name: City of Perris Bob Long Memorial Park



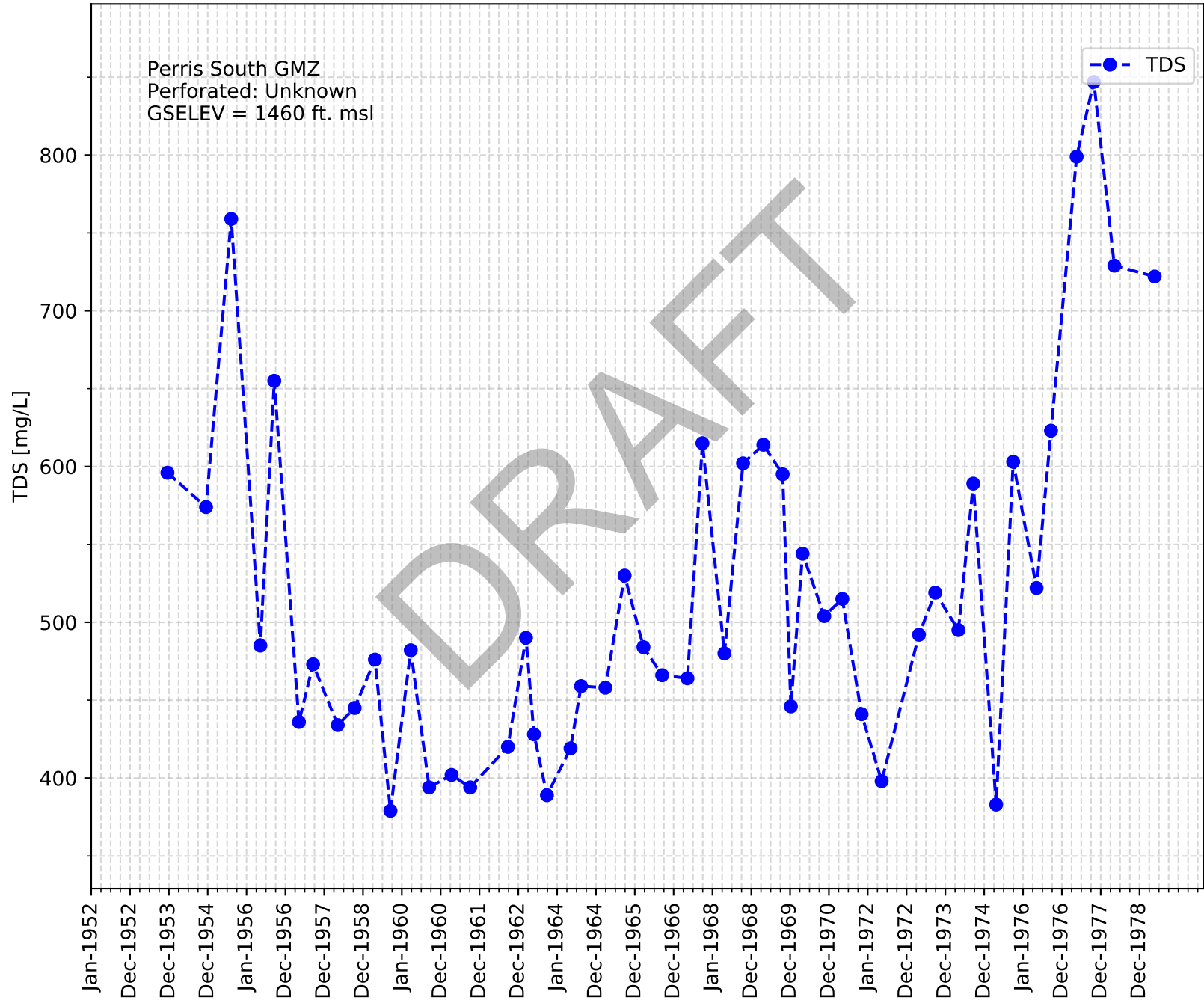
Casing Name: Perris Properties Kmart



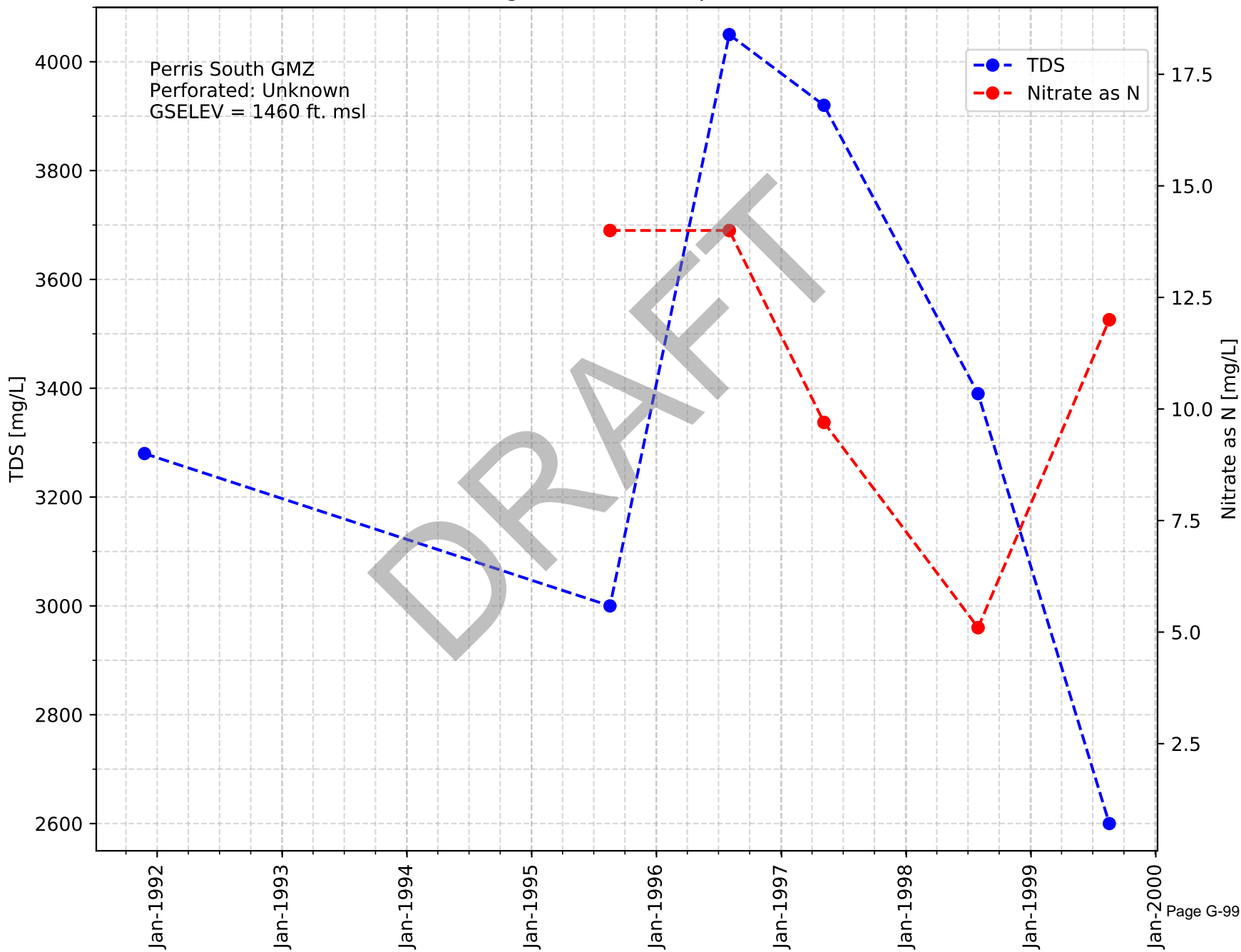
Casing Name: Perris Properties Ellis



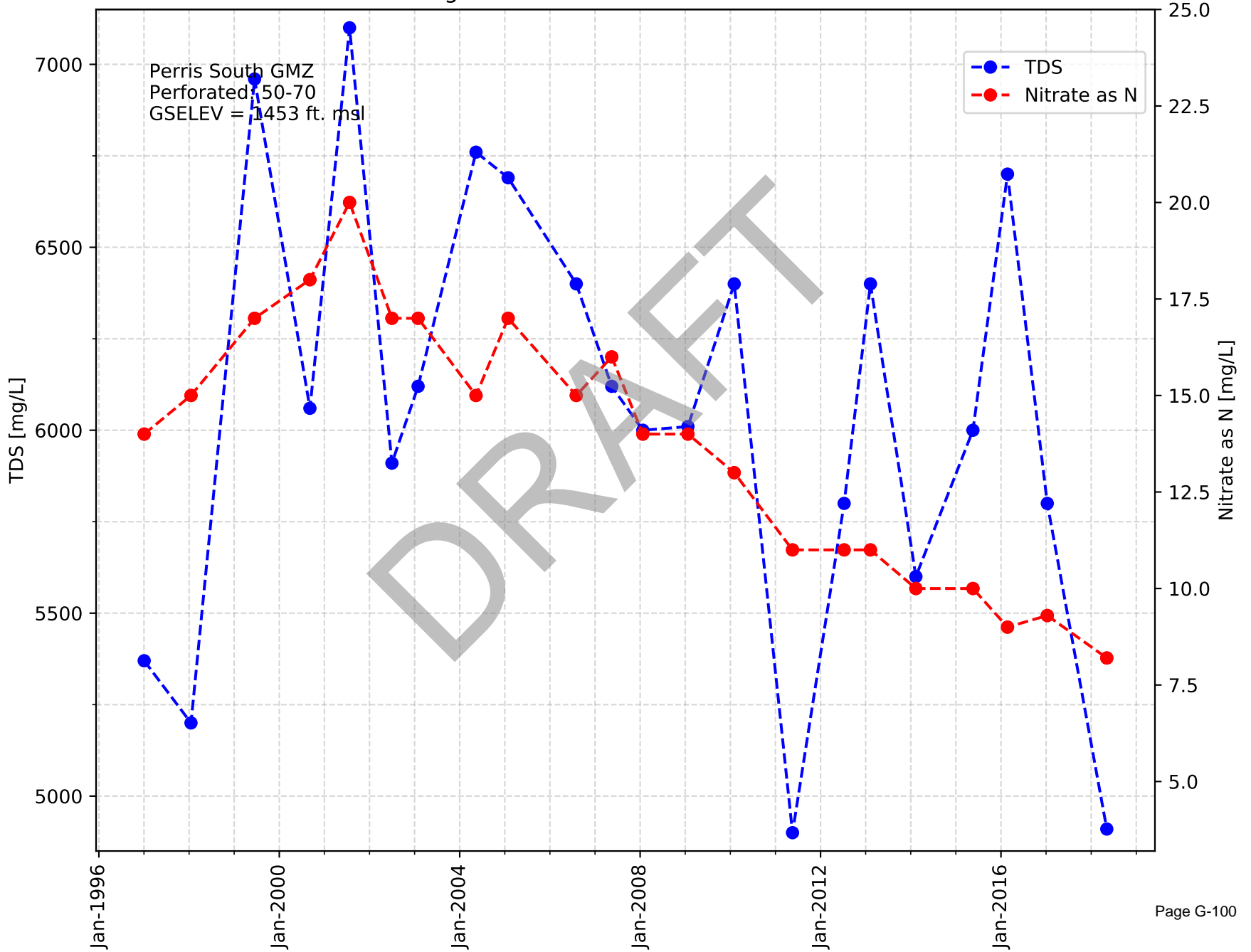
Casing Name: Rheingans



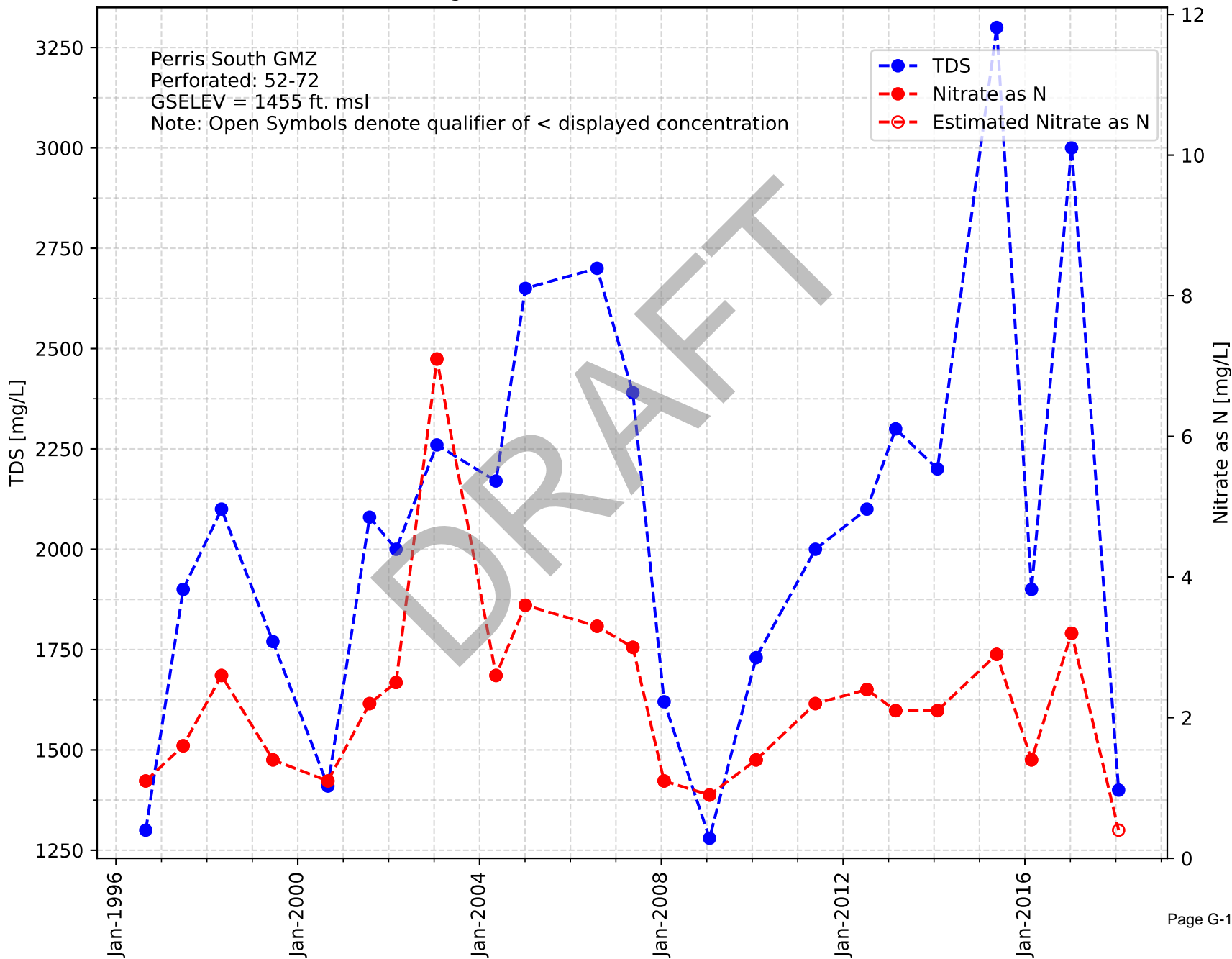
Casing Name: Solar Aqua Farms



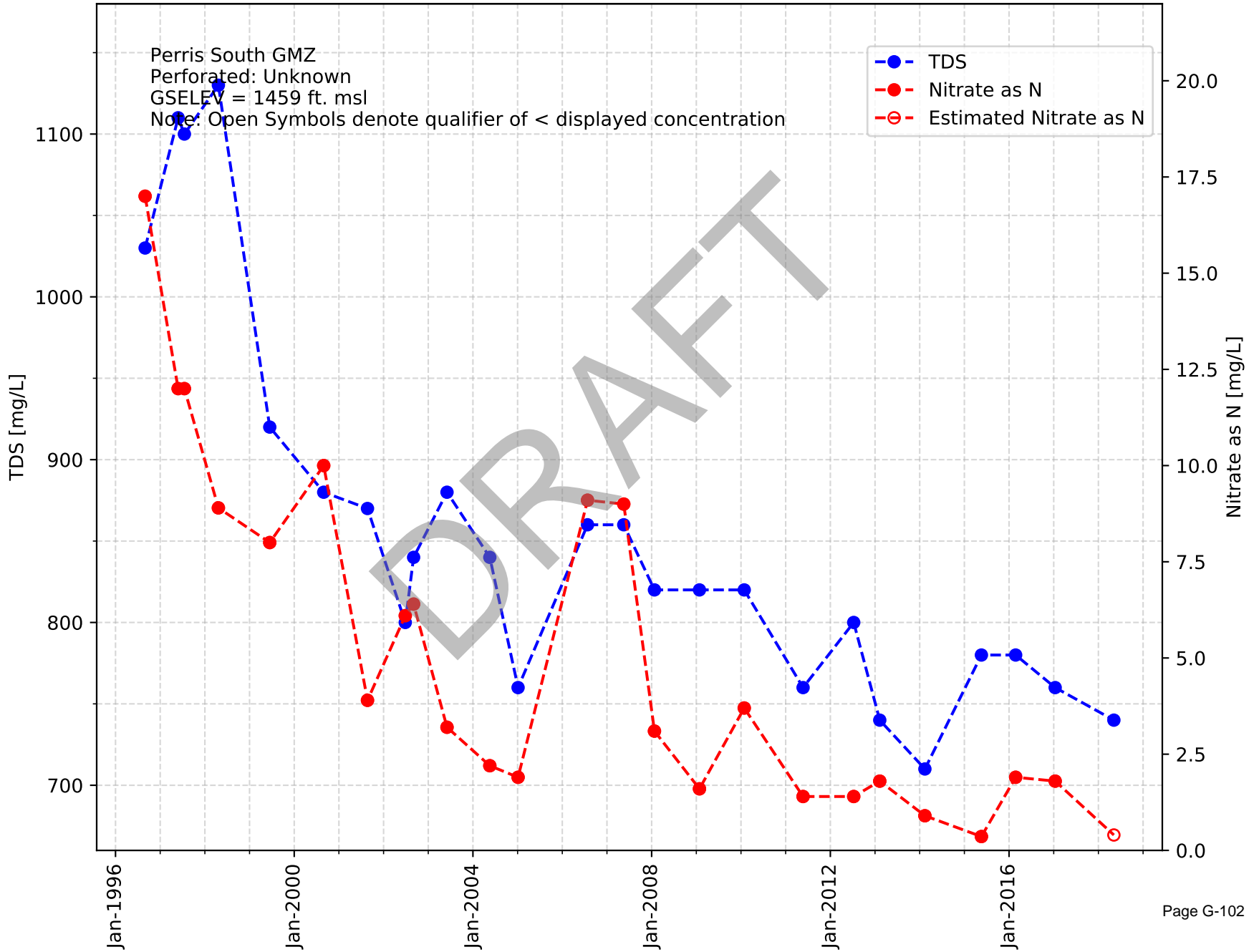
Casing Name: EMWD Winchester Ponds 01



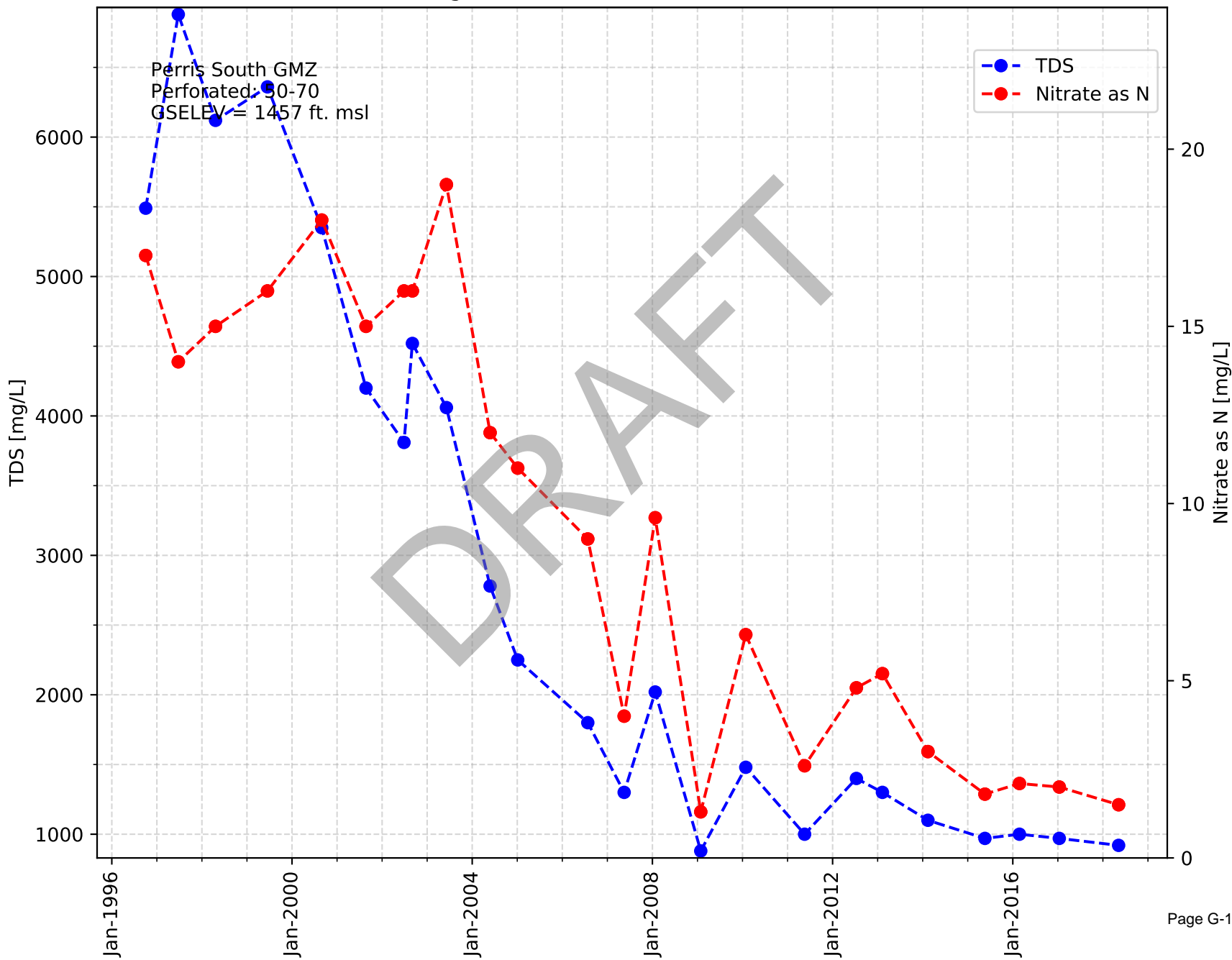
Casing Name: EMWD Winchester Ponds 02



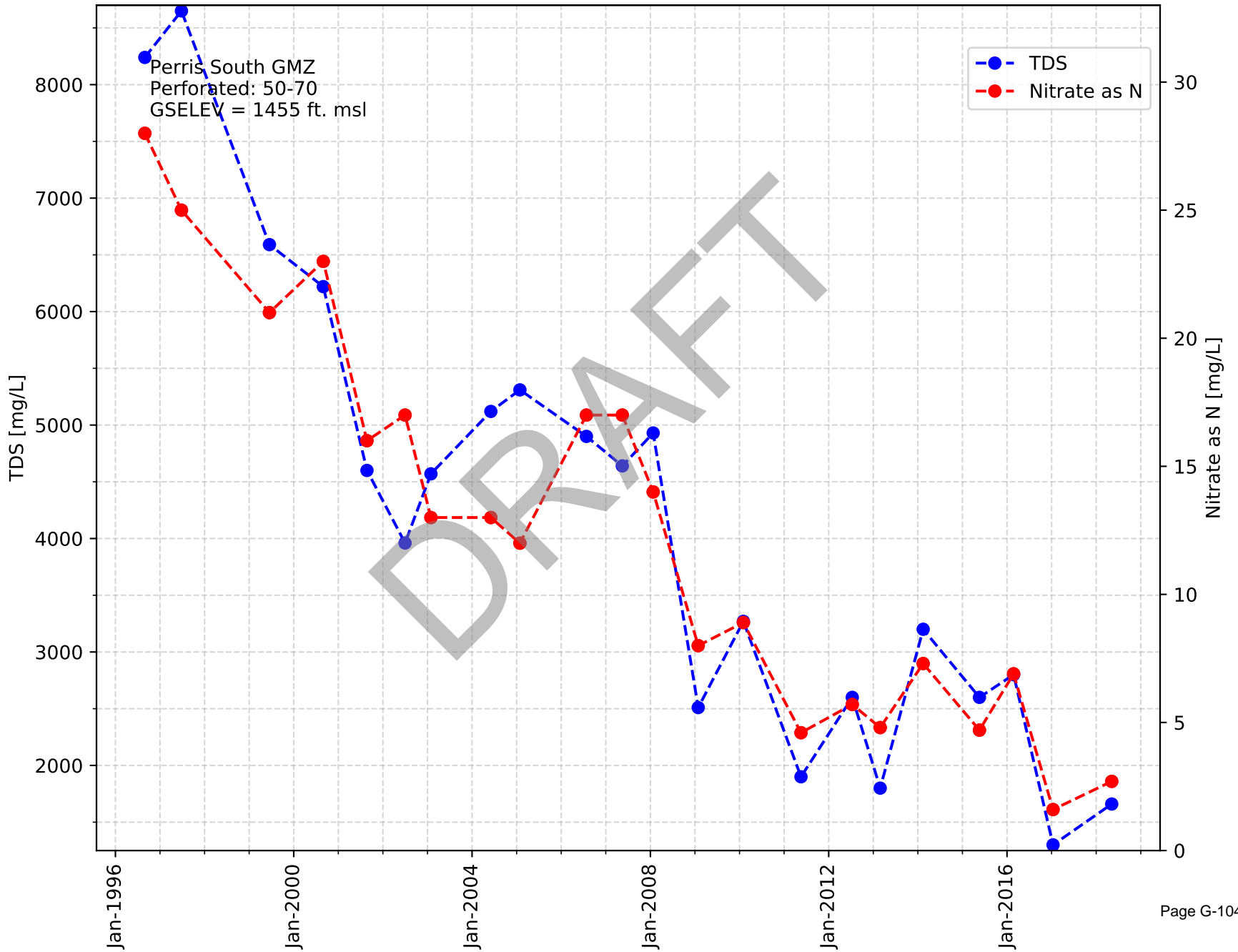
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Casing Name: EMWD Winchester Ponds 07



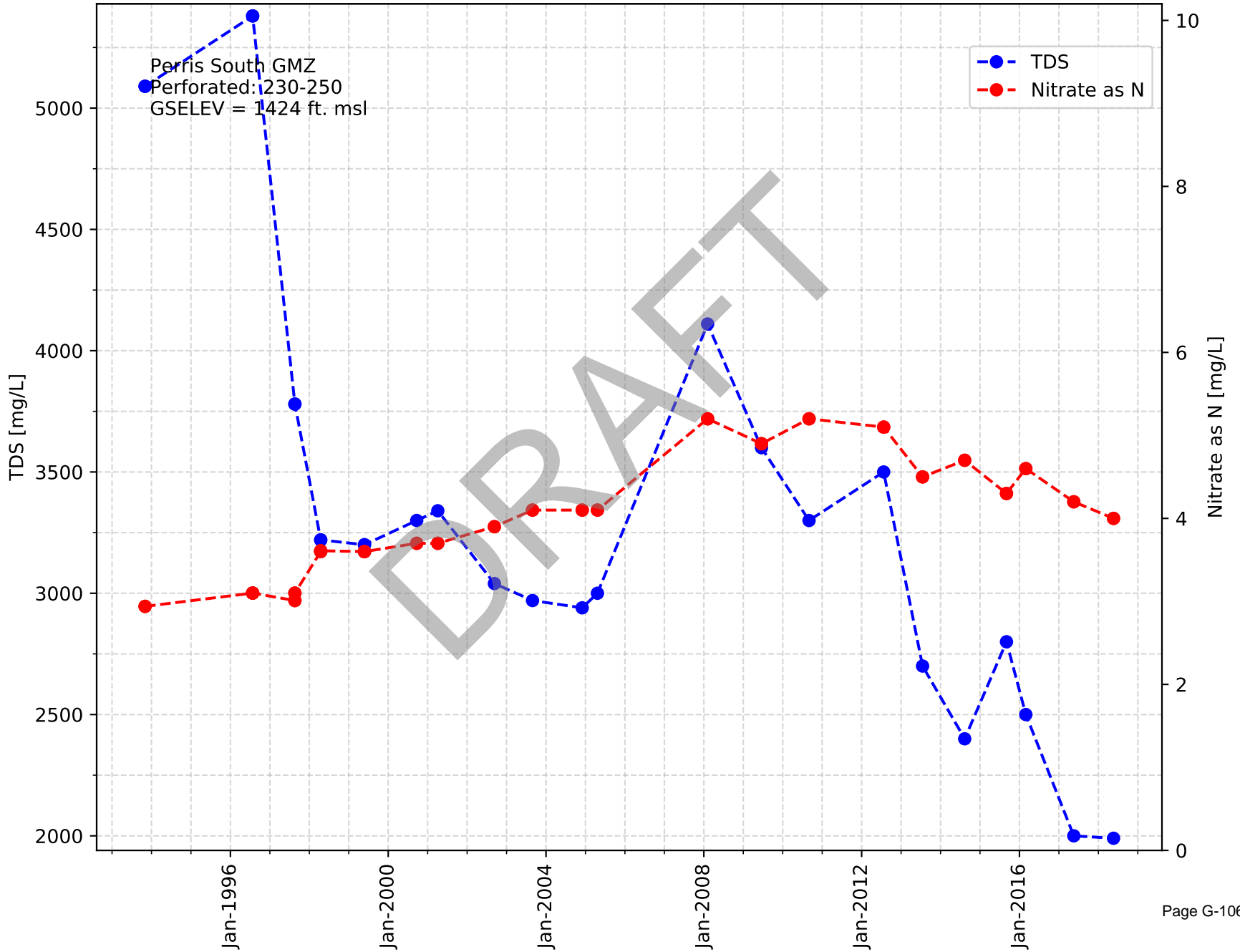
Casing Name: EMWD Winchester Ponds 08



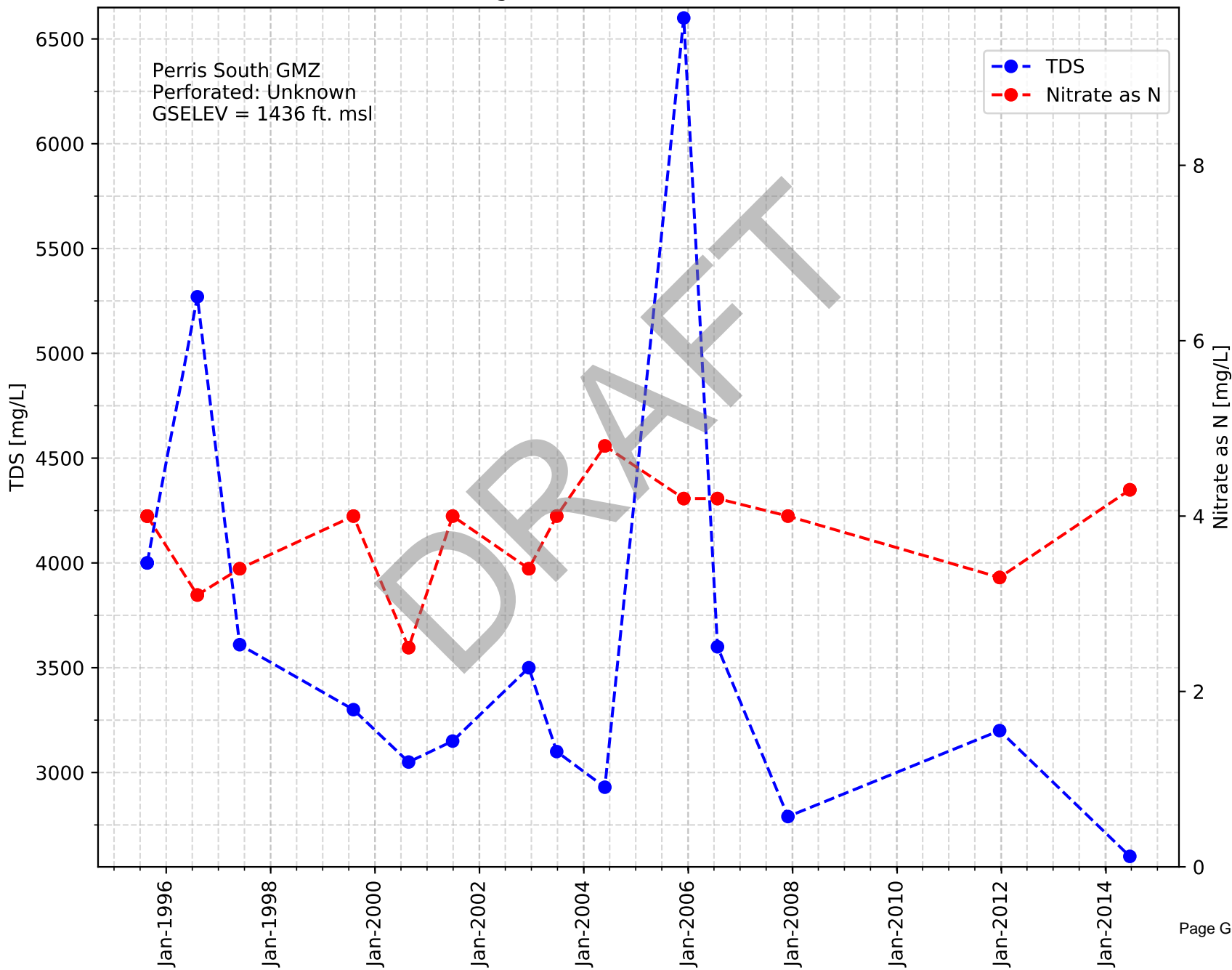
Casing Name: Olive/Rice OC



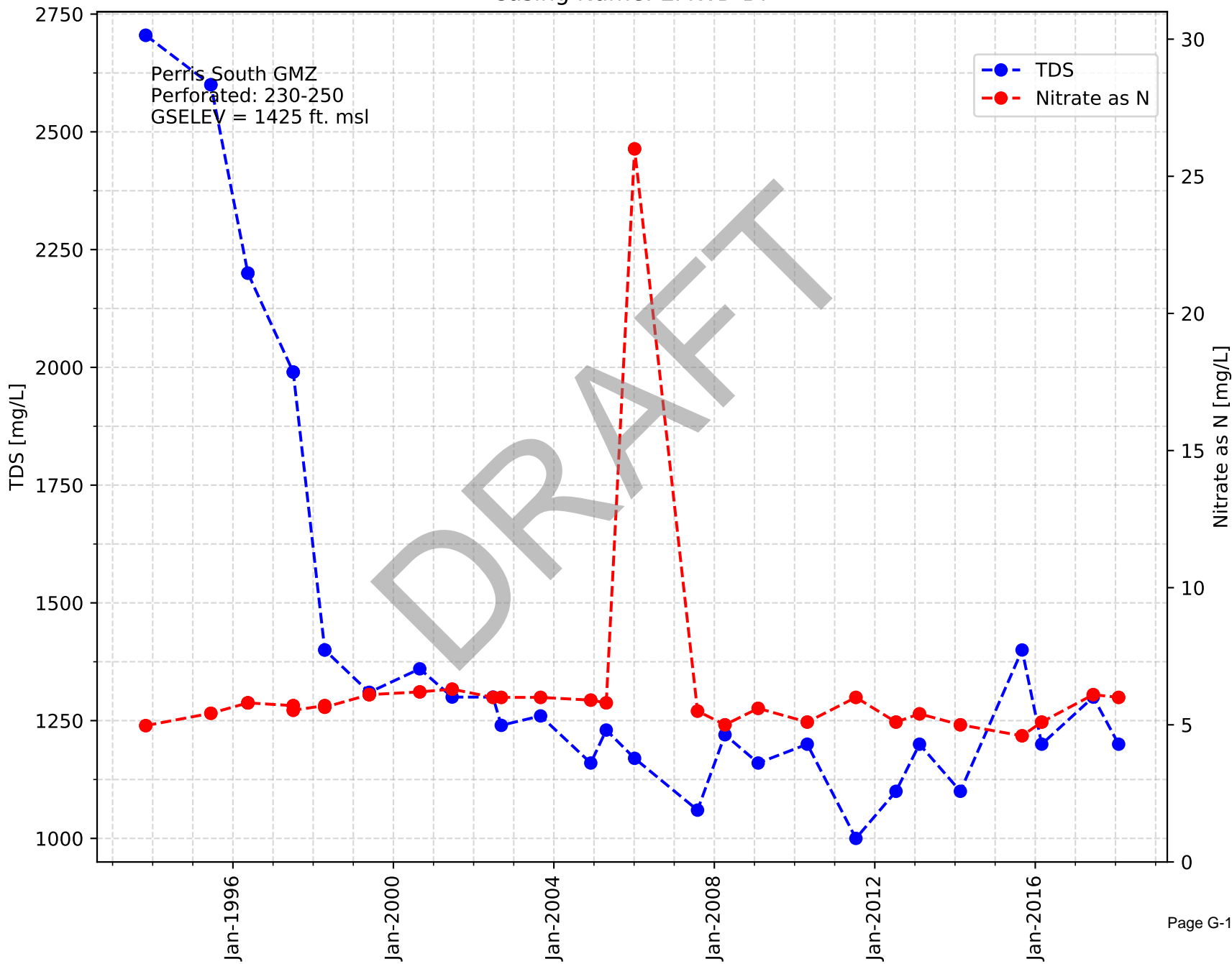
Casing Name: EMWD B6



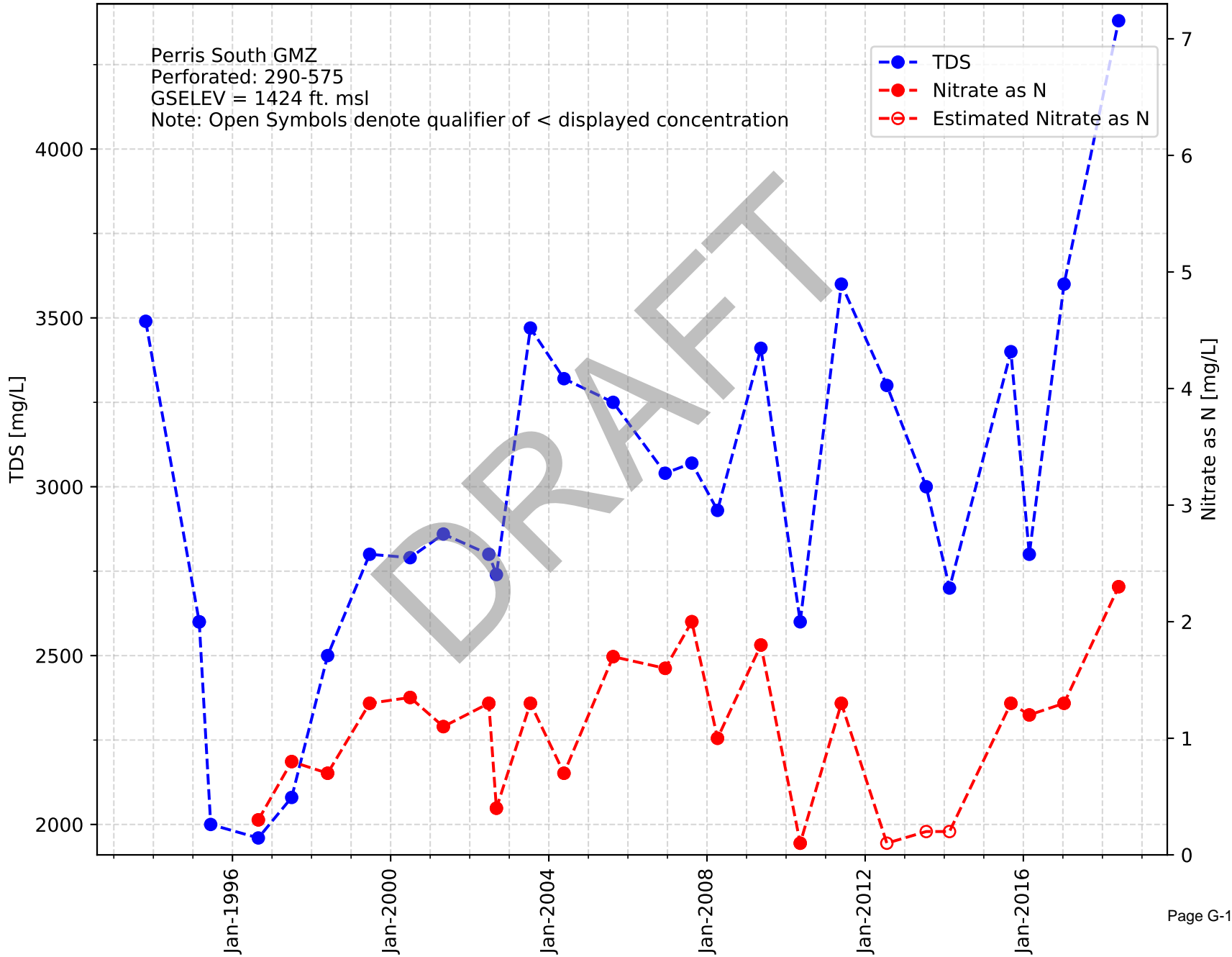
Casing Name: Schvaneveldt, Blaine



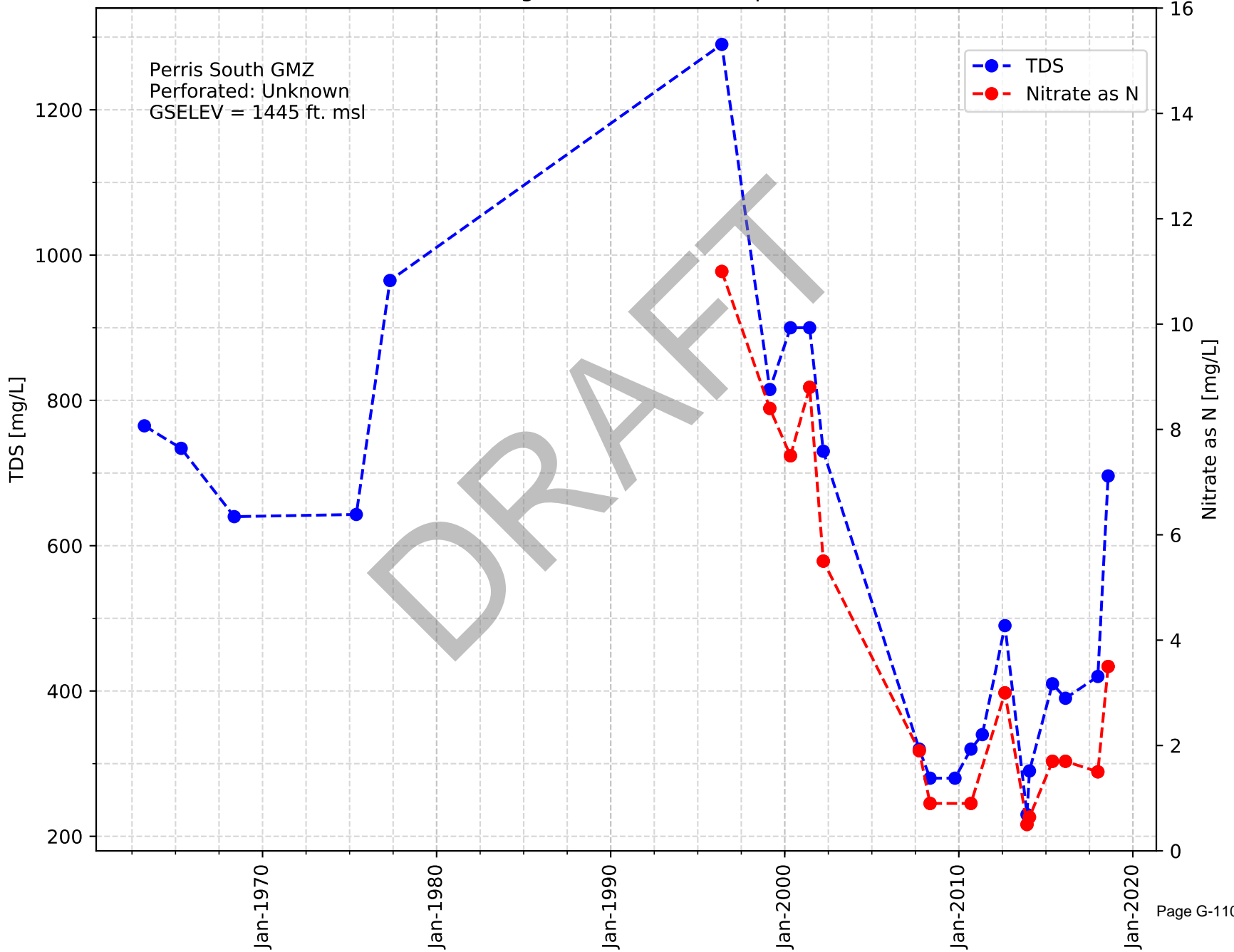
Casing Name: EMWD B7



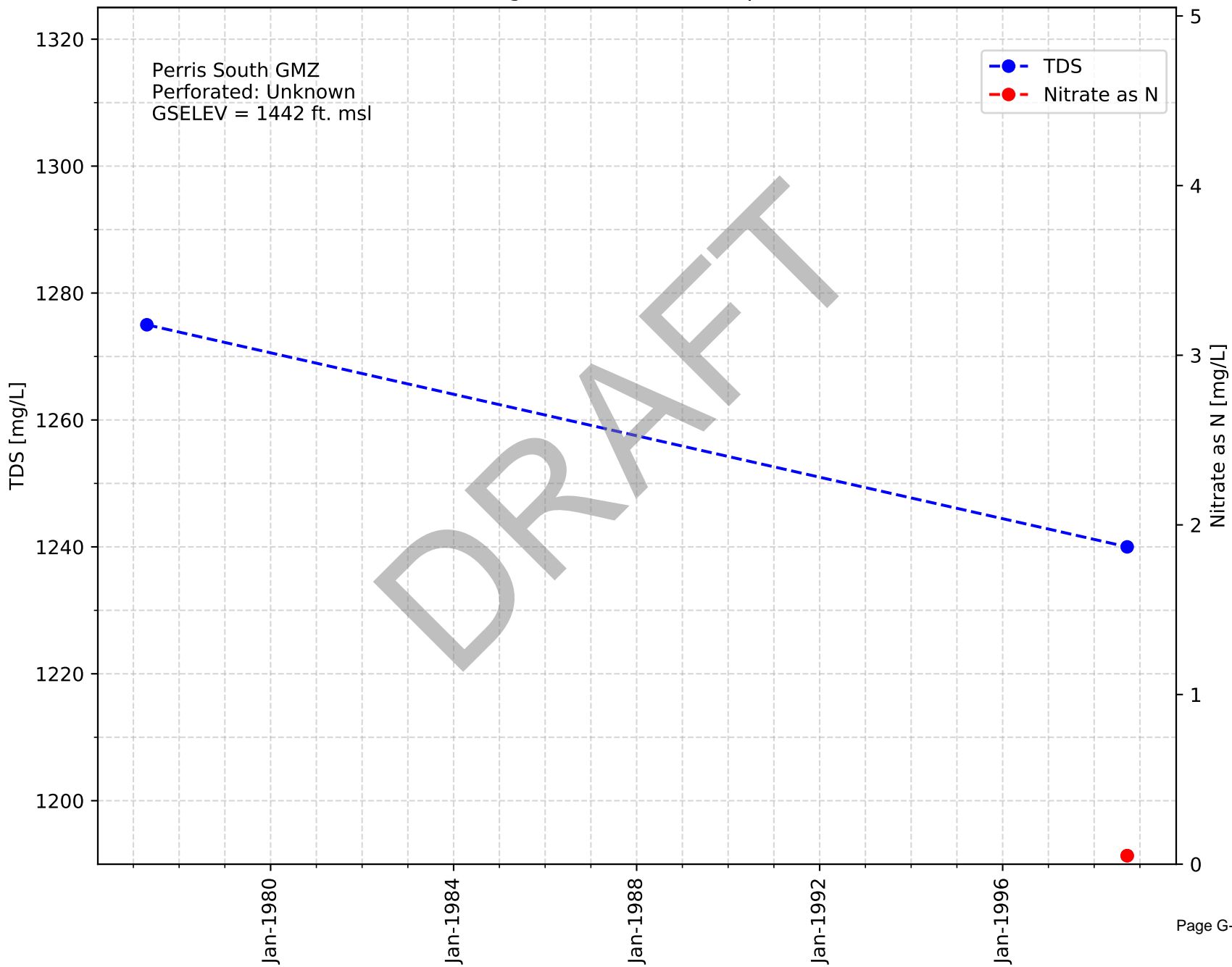
Casing Name: EMWD A1



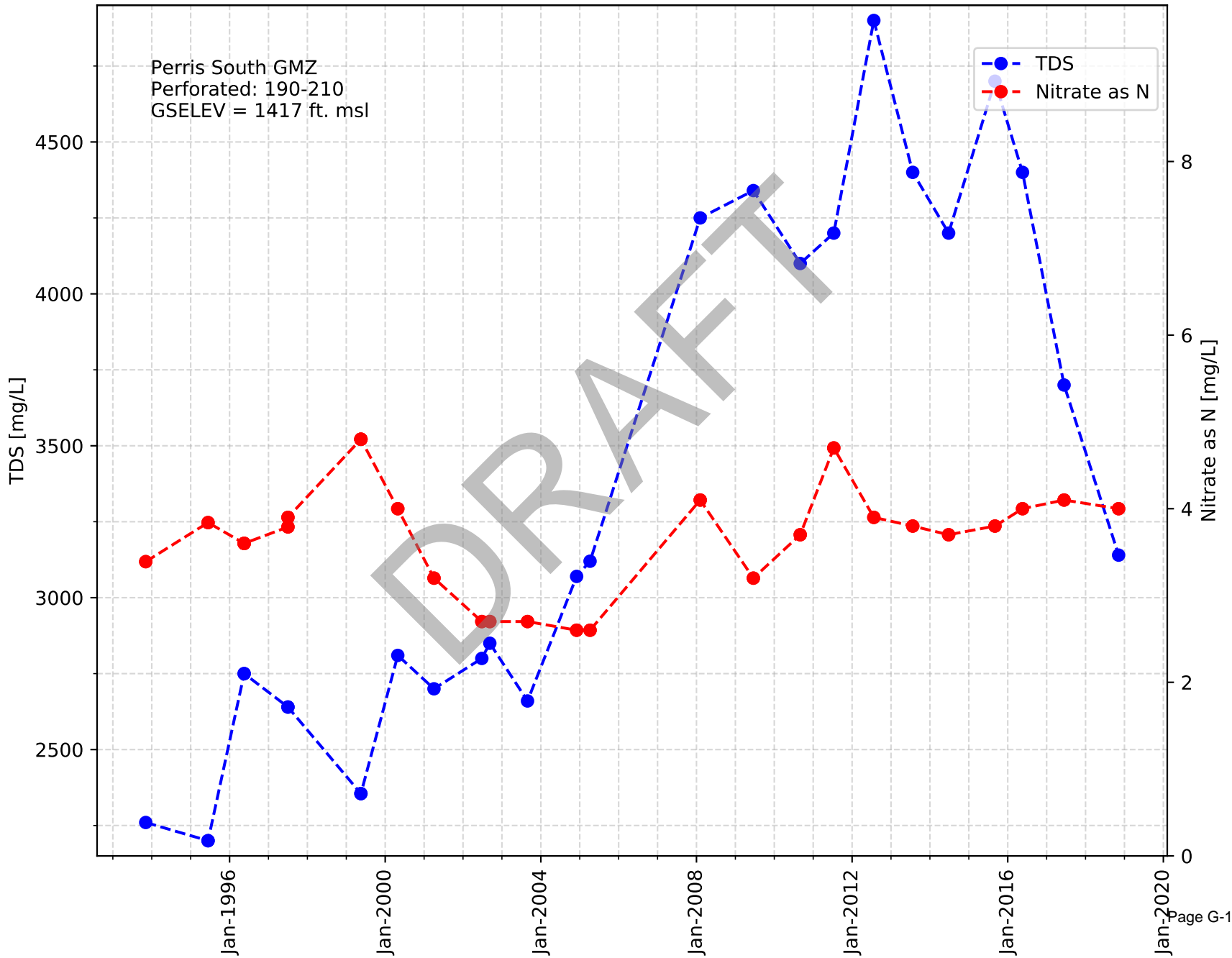
Casing Name: Smith C Mapes



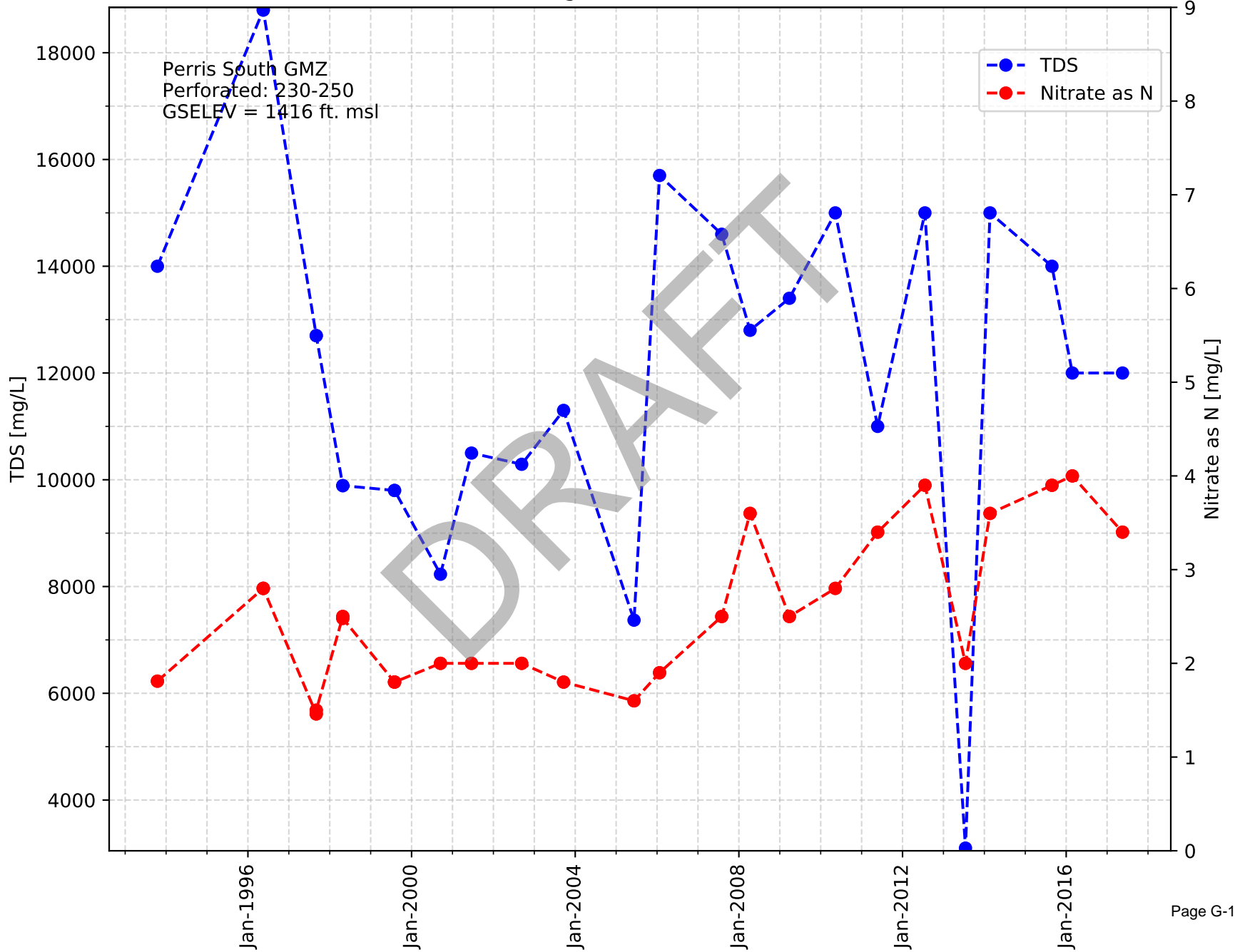
Casing Name: Smith C Mapes OC



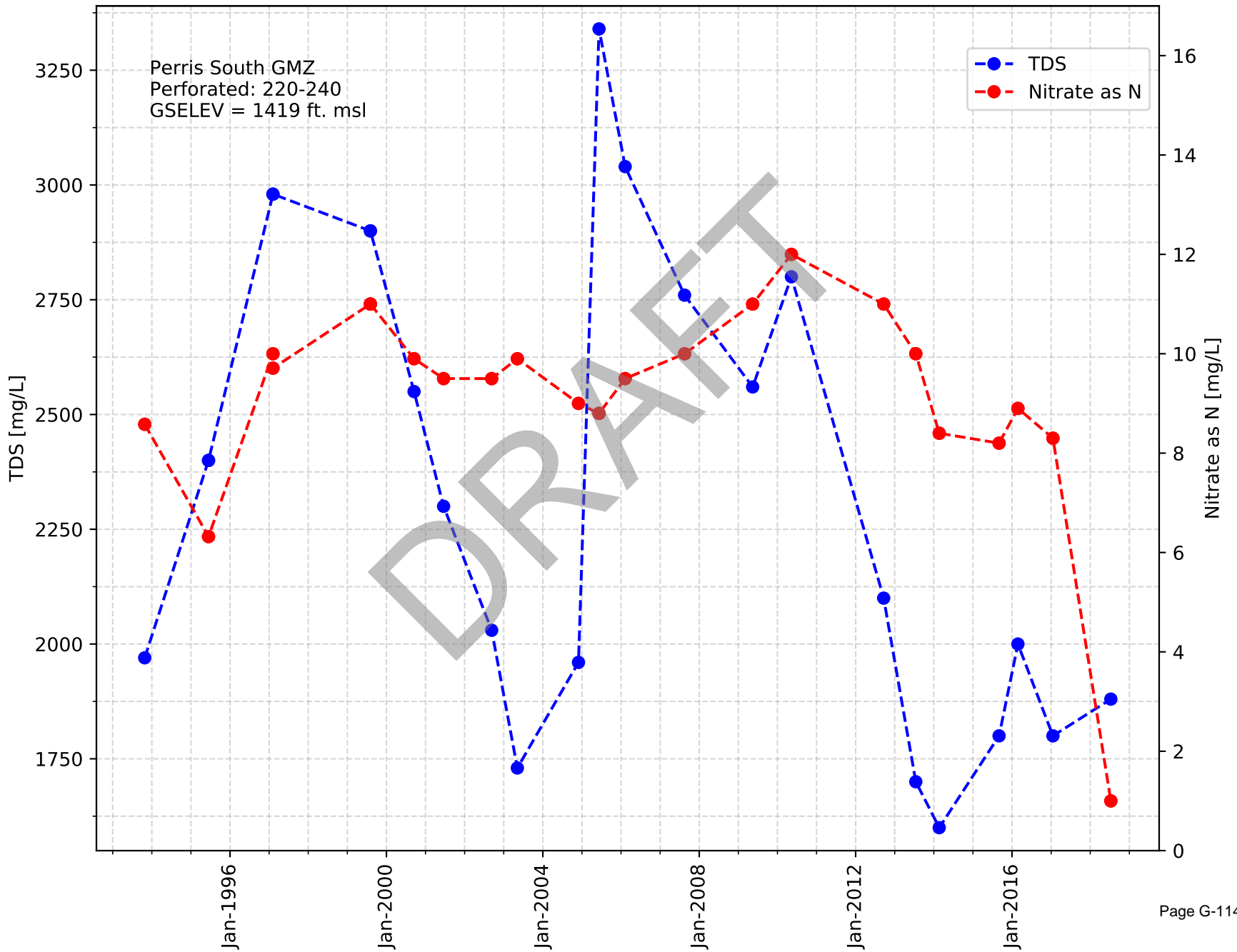
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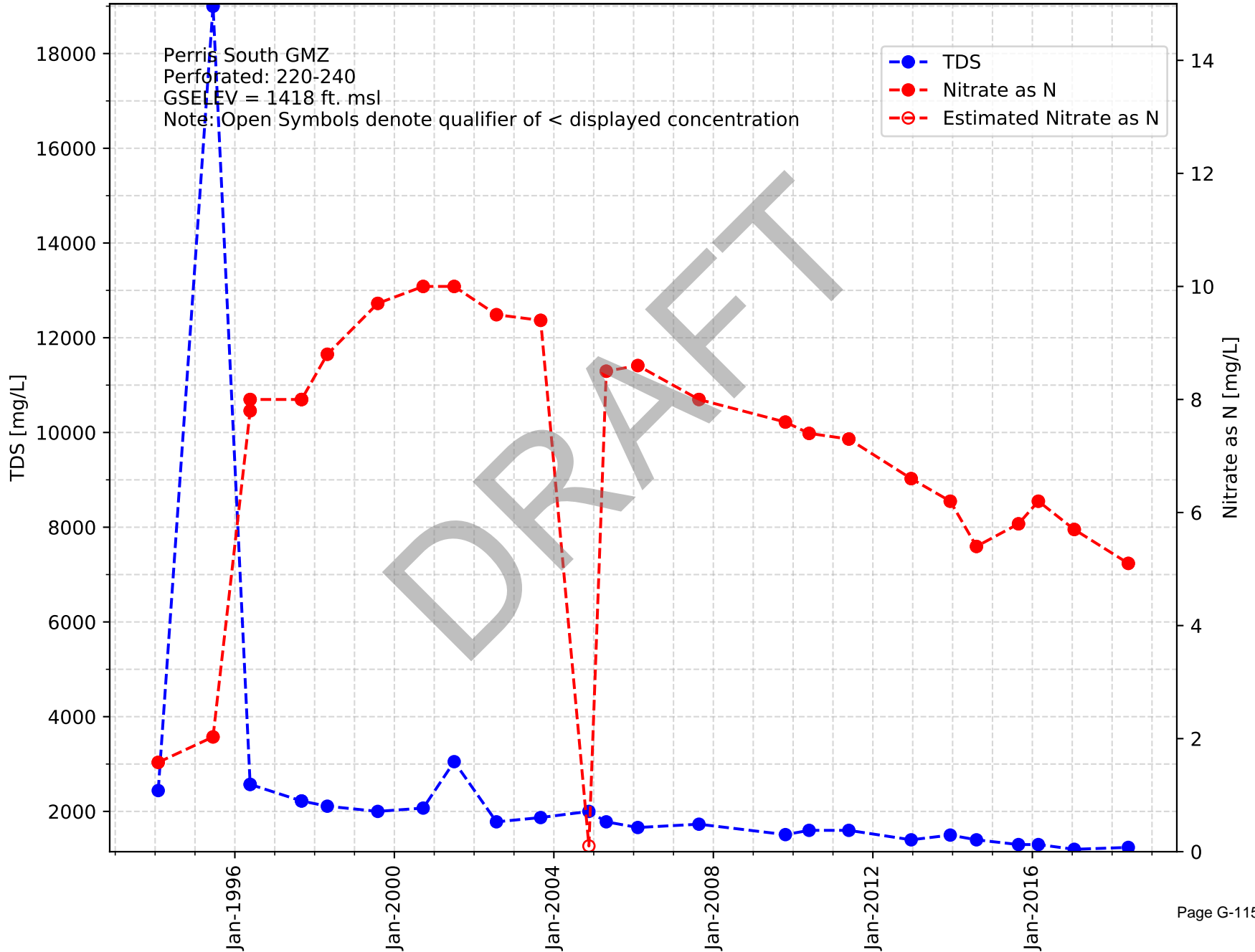
Casing Name: EMWD B1



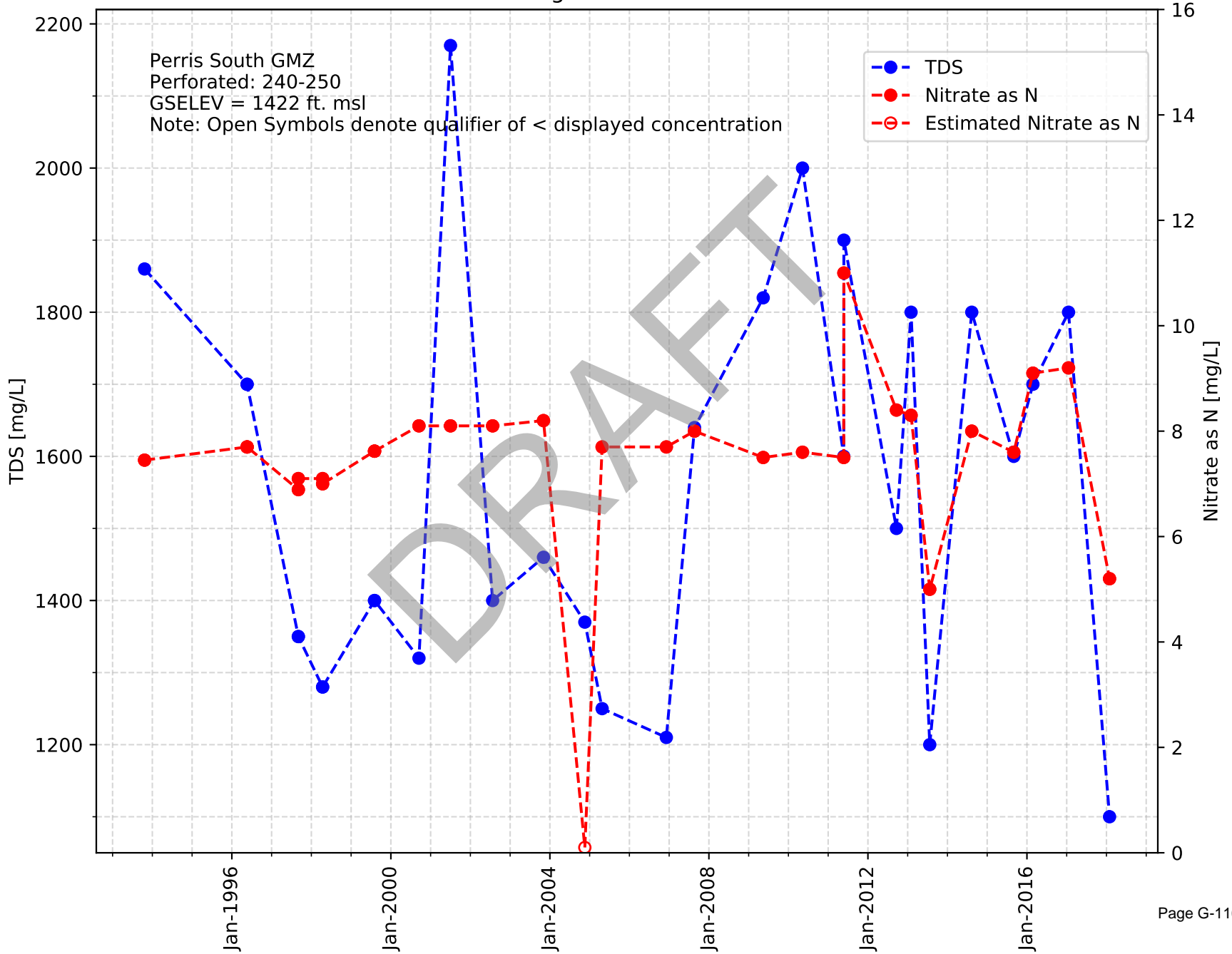
Casing Name: EMWD B3



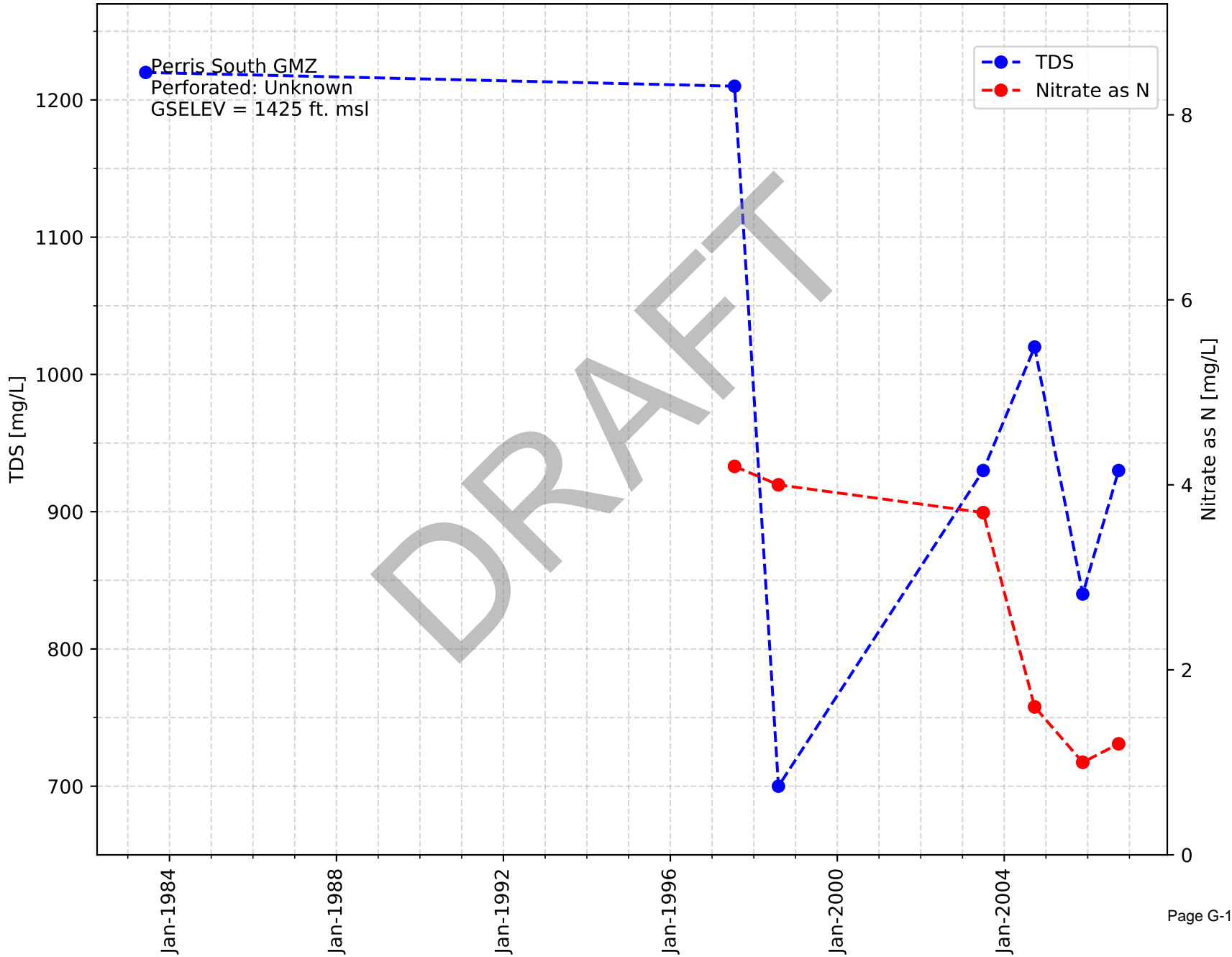
Casing Name: EMWD B2



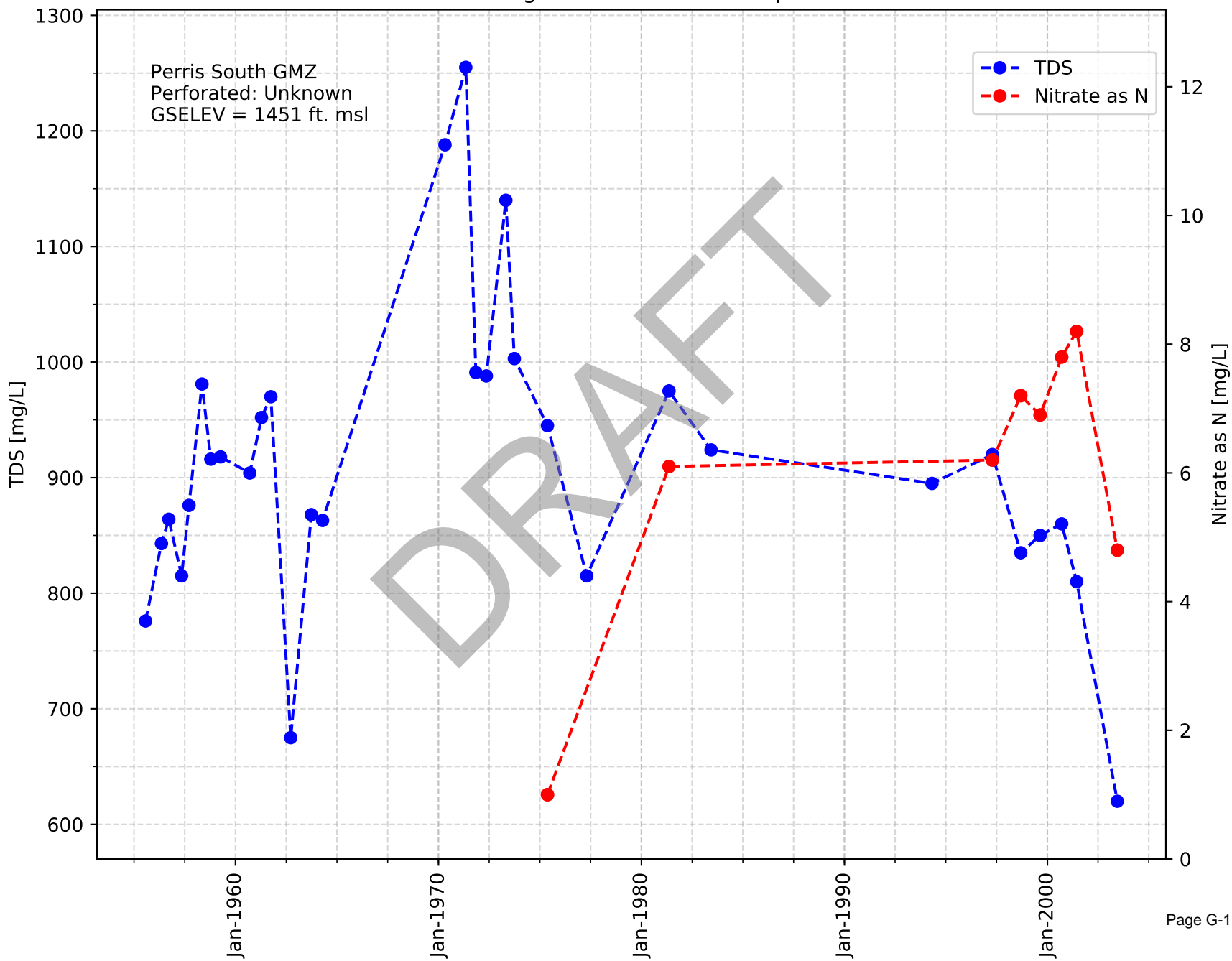
Casing Name: EMWD B4



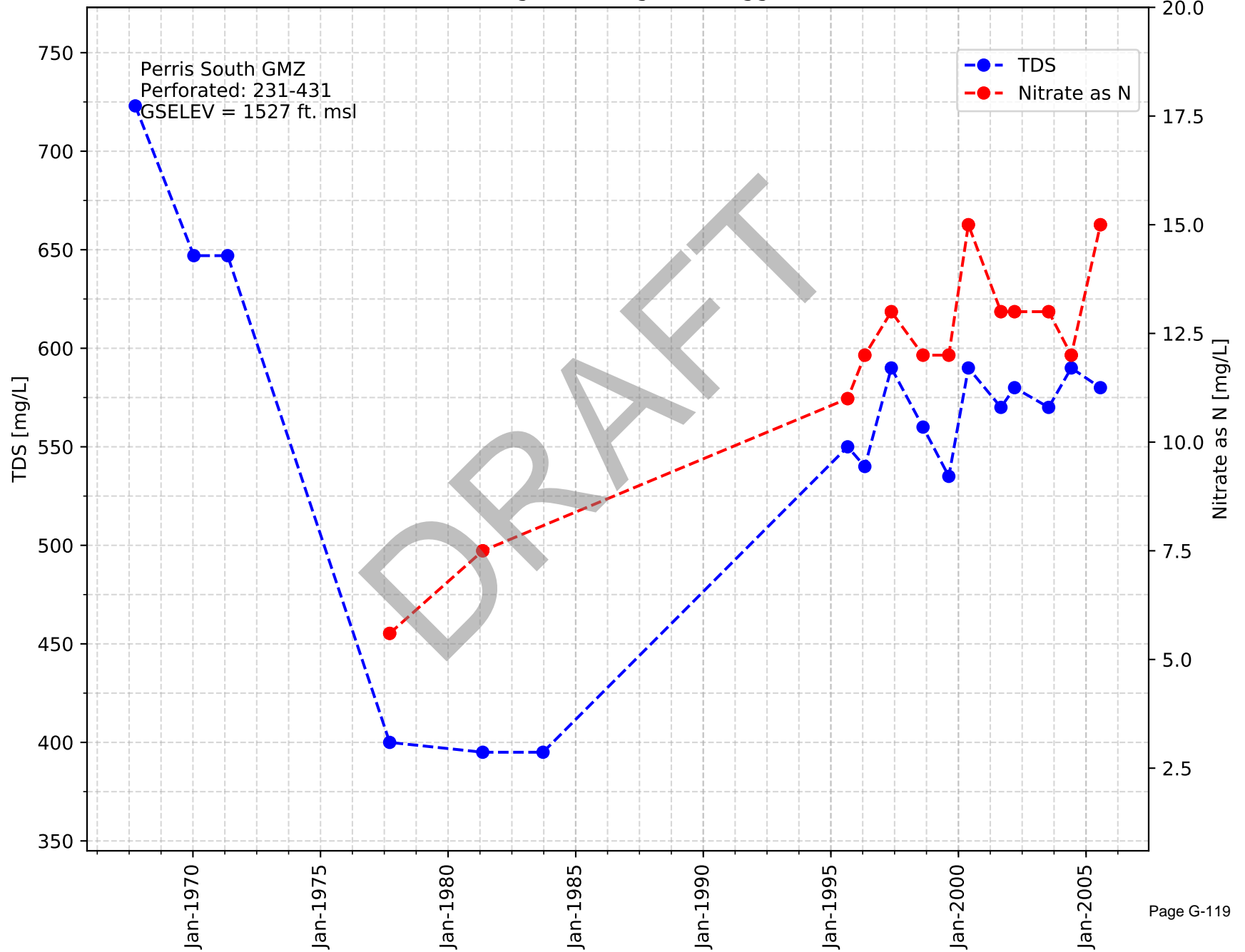
Casing Name: Smith C Ethanac



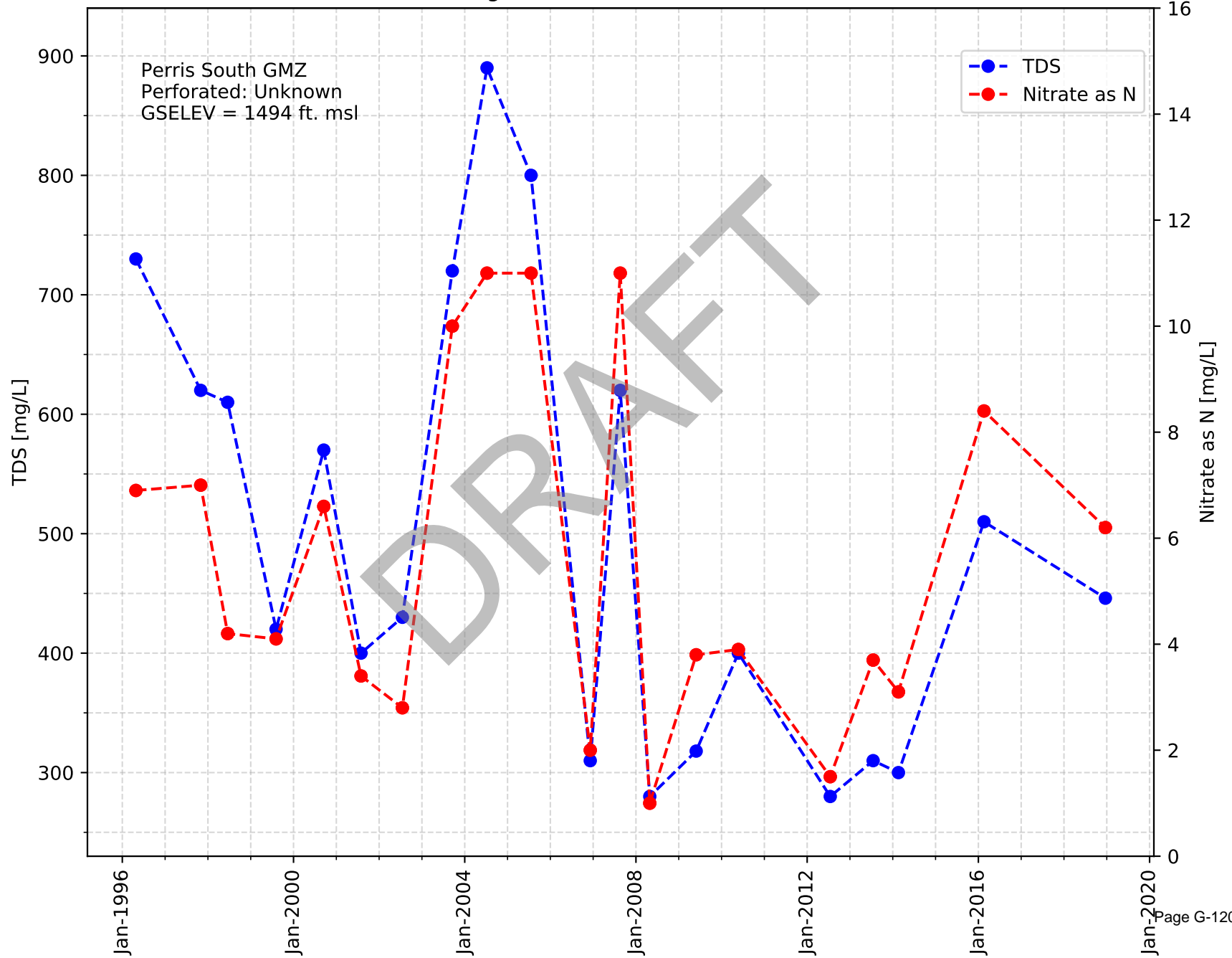
Casing Name: Motte Antelope



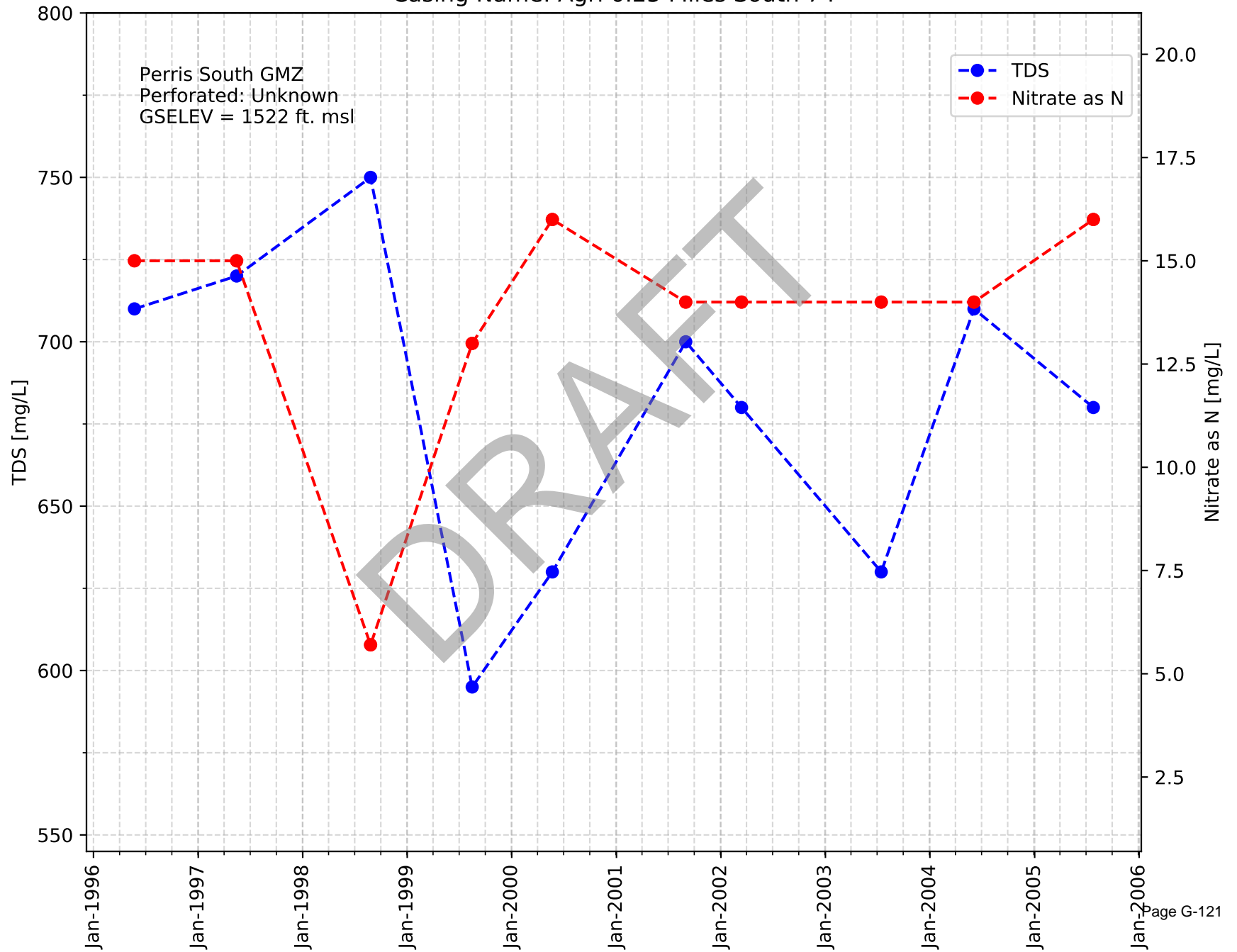
Casing Name: Agri 74/Briggs



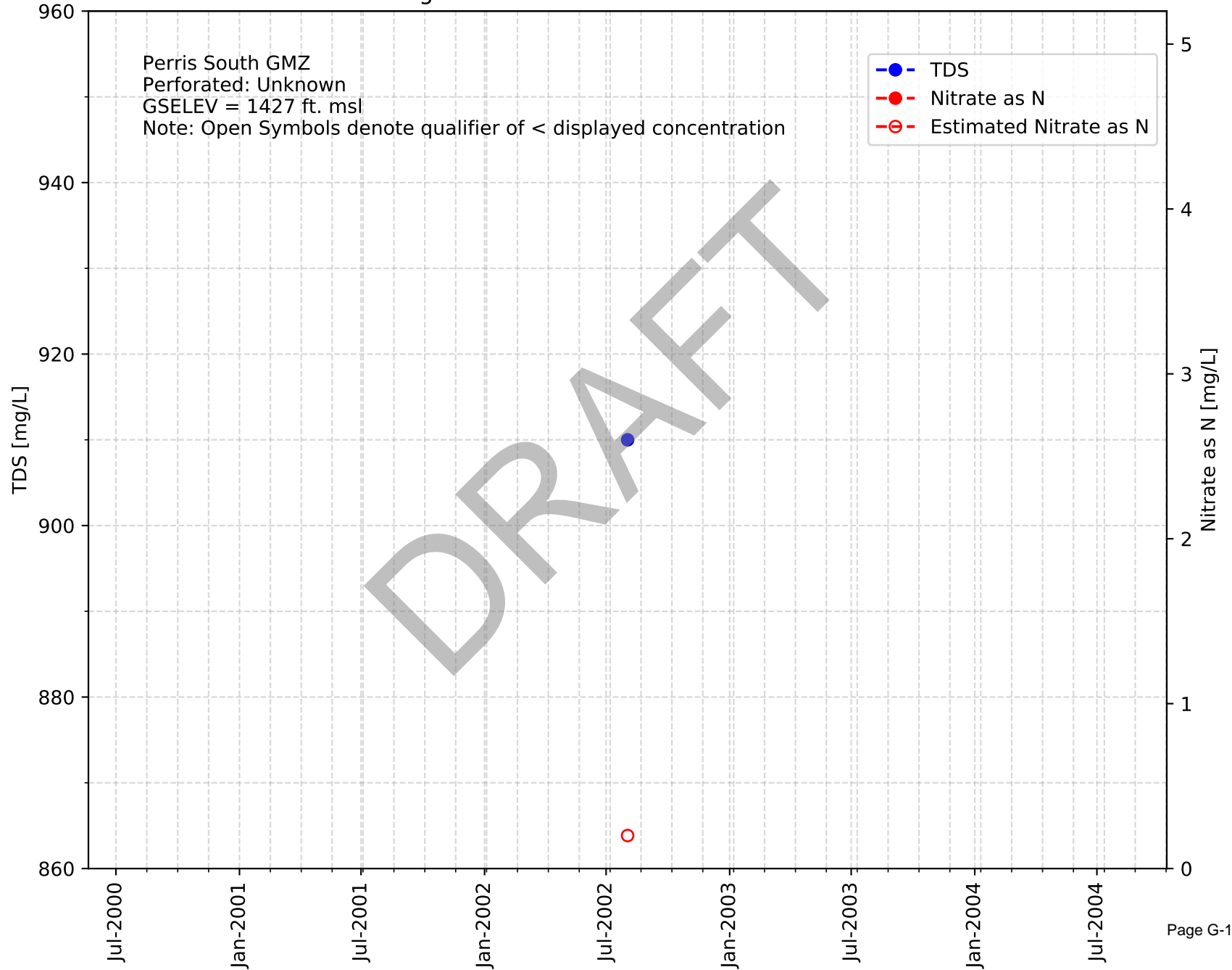
Casing Name: Southern CA Edison



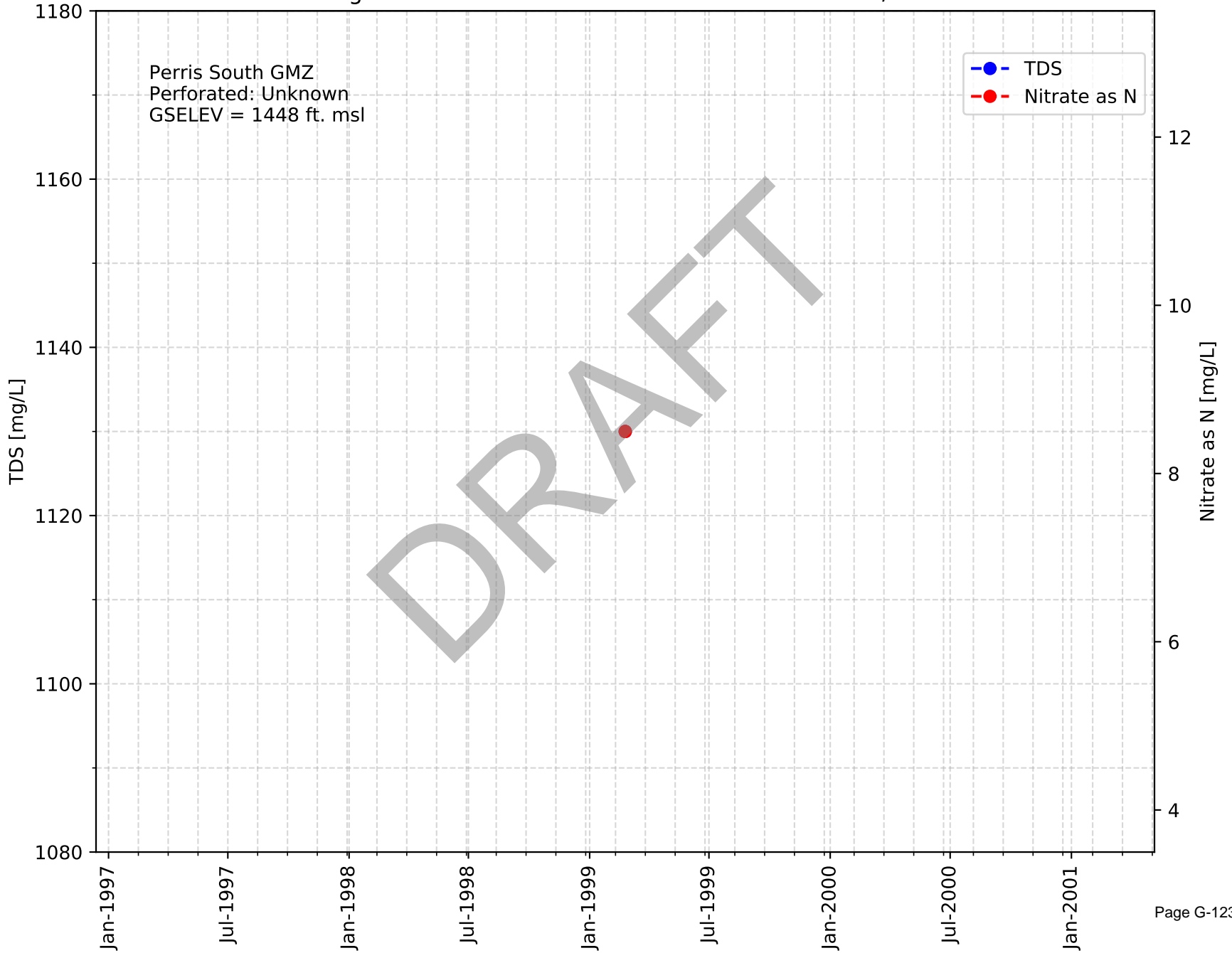
Casing Name: Agri 0.25 Miles South 74



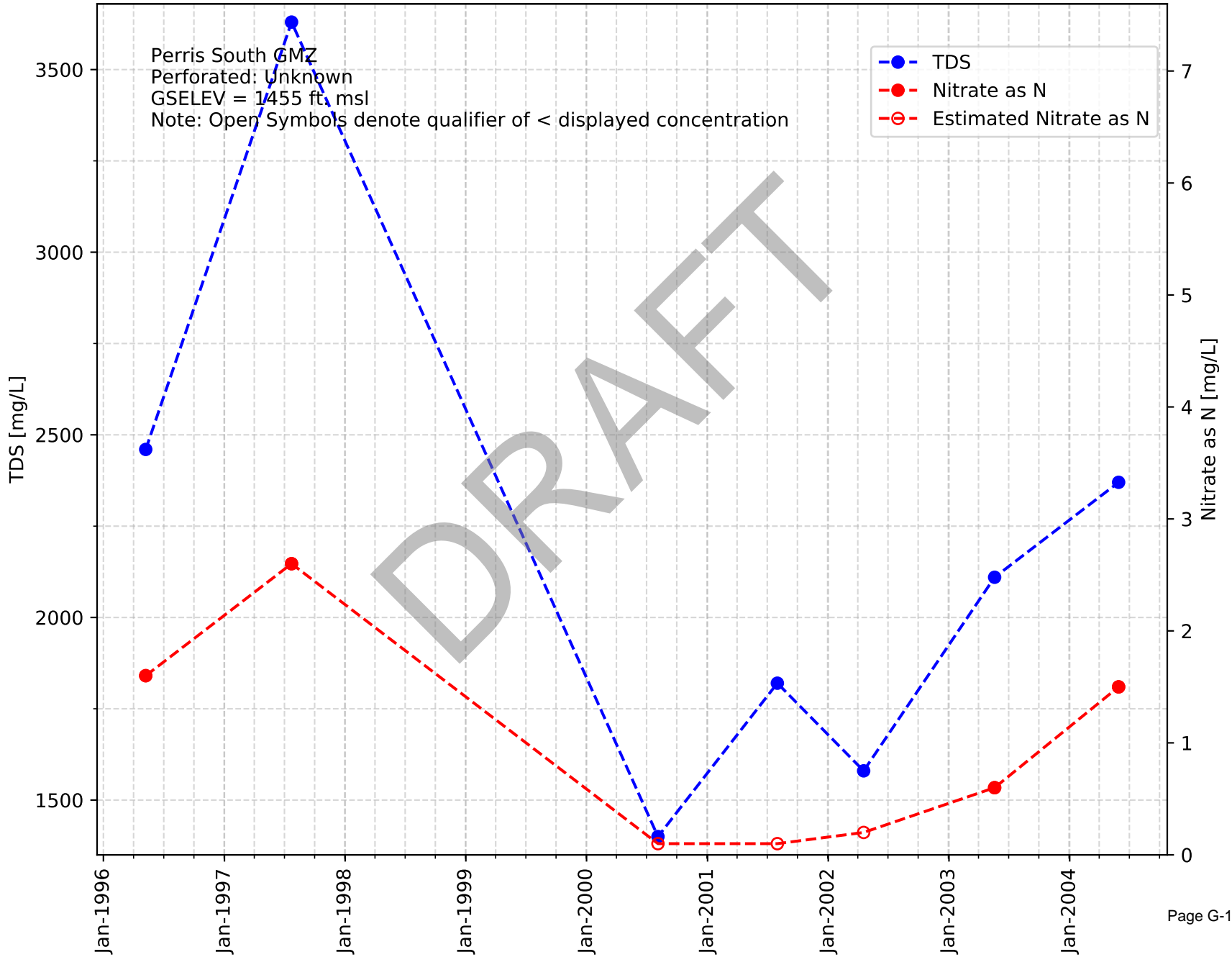
Casing Name: Smith C 1000 Ft. North of Rouse



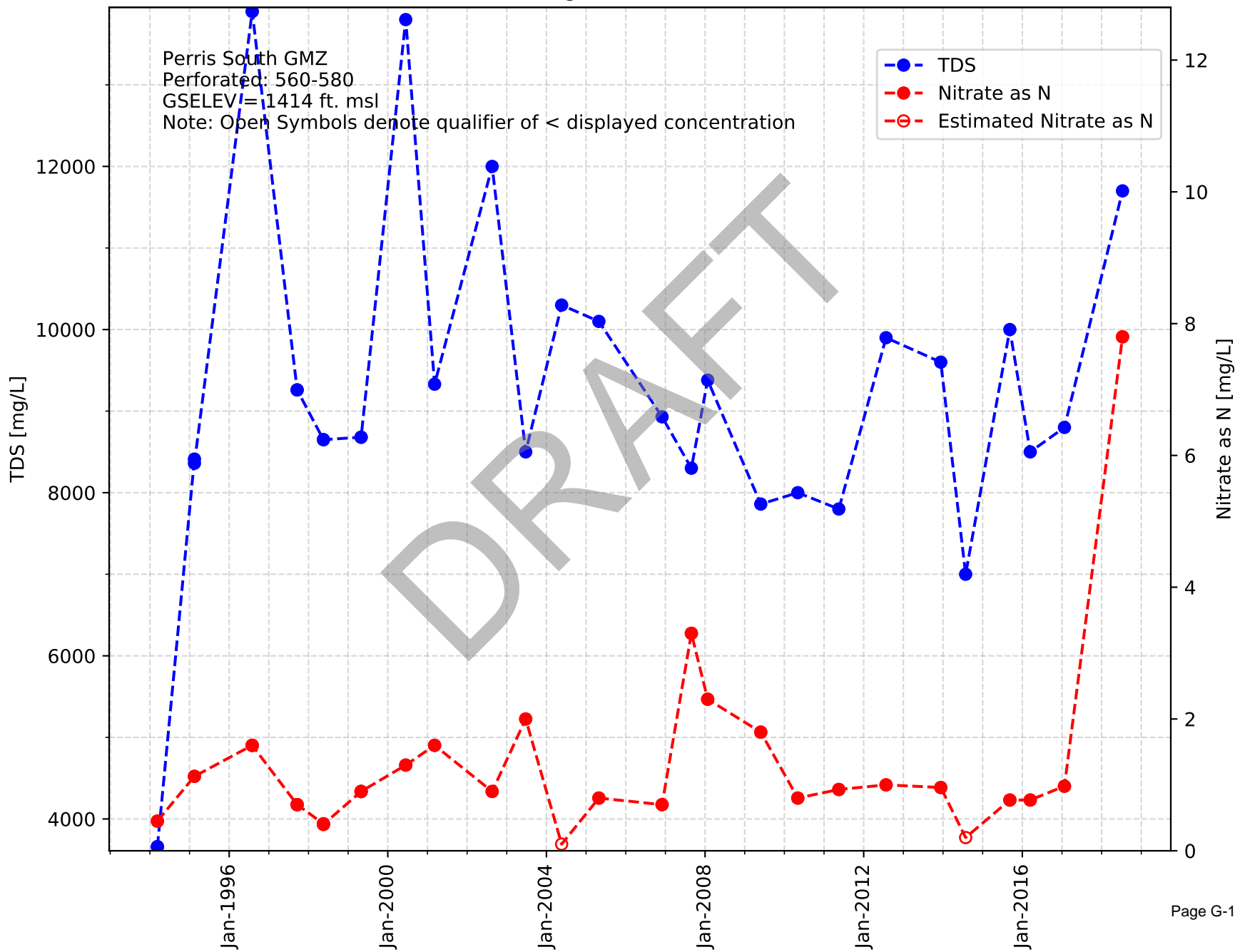
Casing Name: Underwood 0.5 Miles West of Menifee/McCall



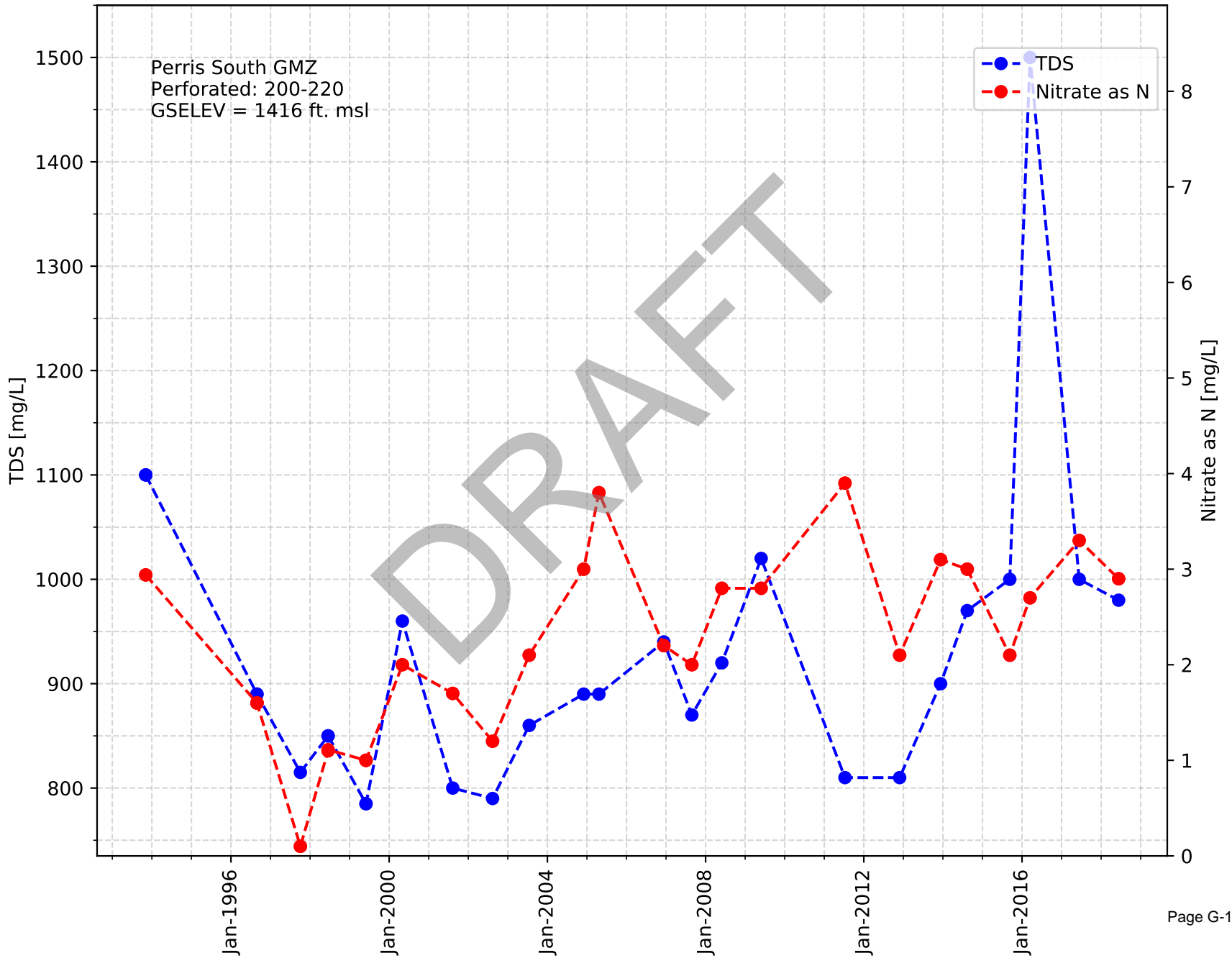
Casing Name: Agri Simpson/Lindenberger



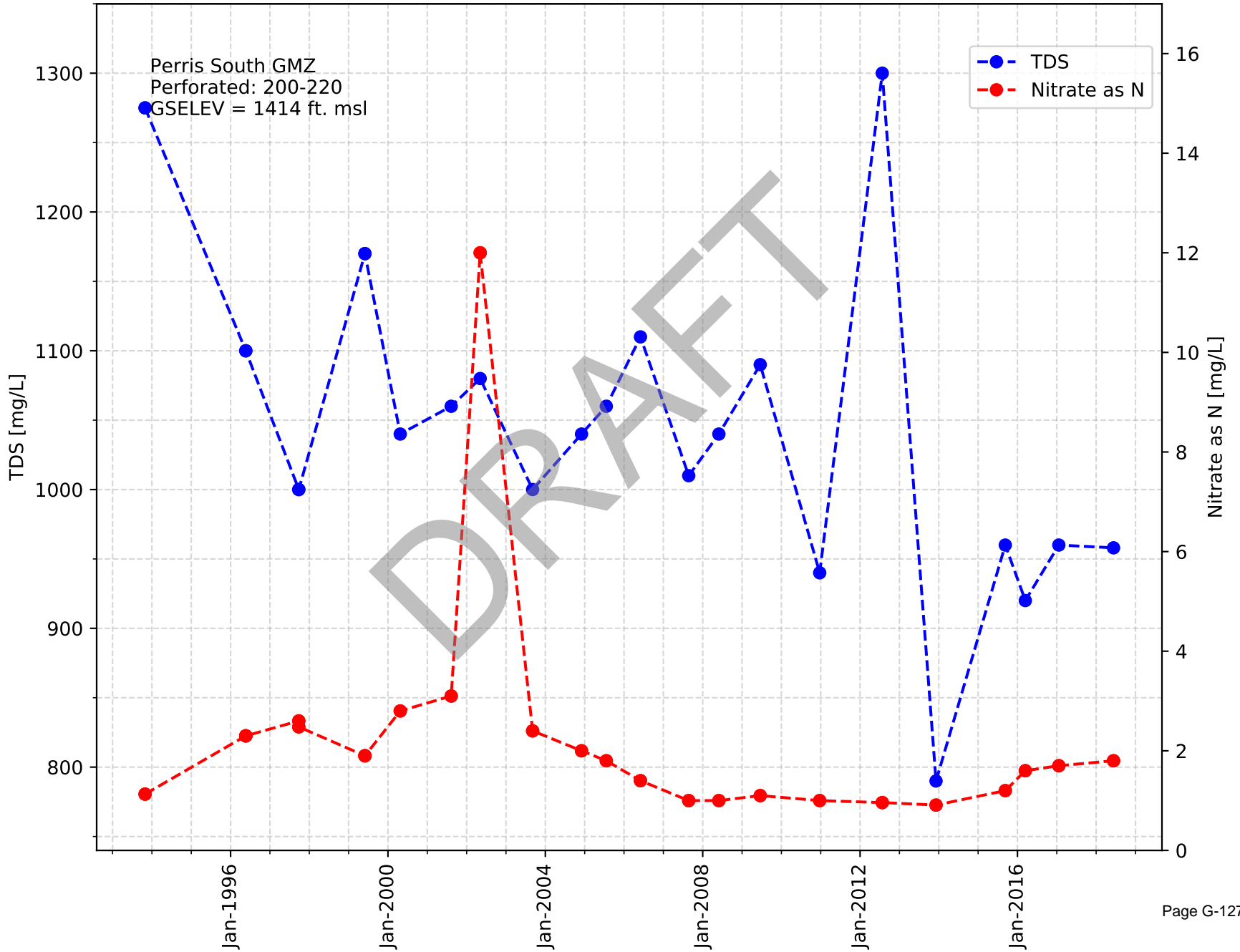
Casing Name: EMWD A3



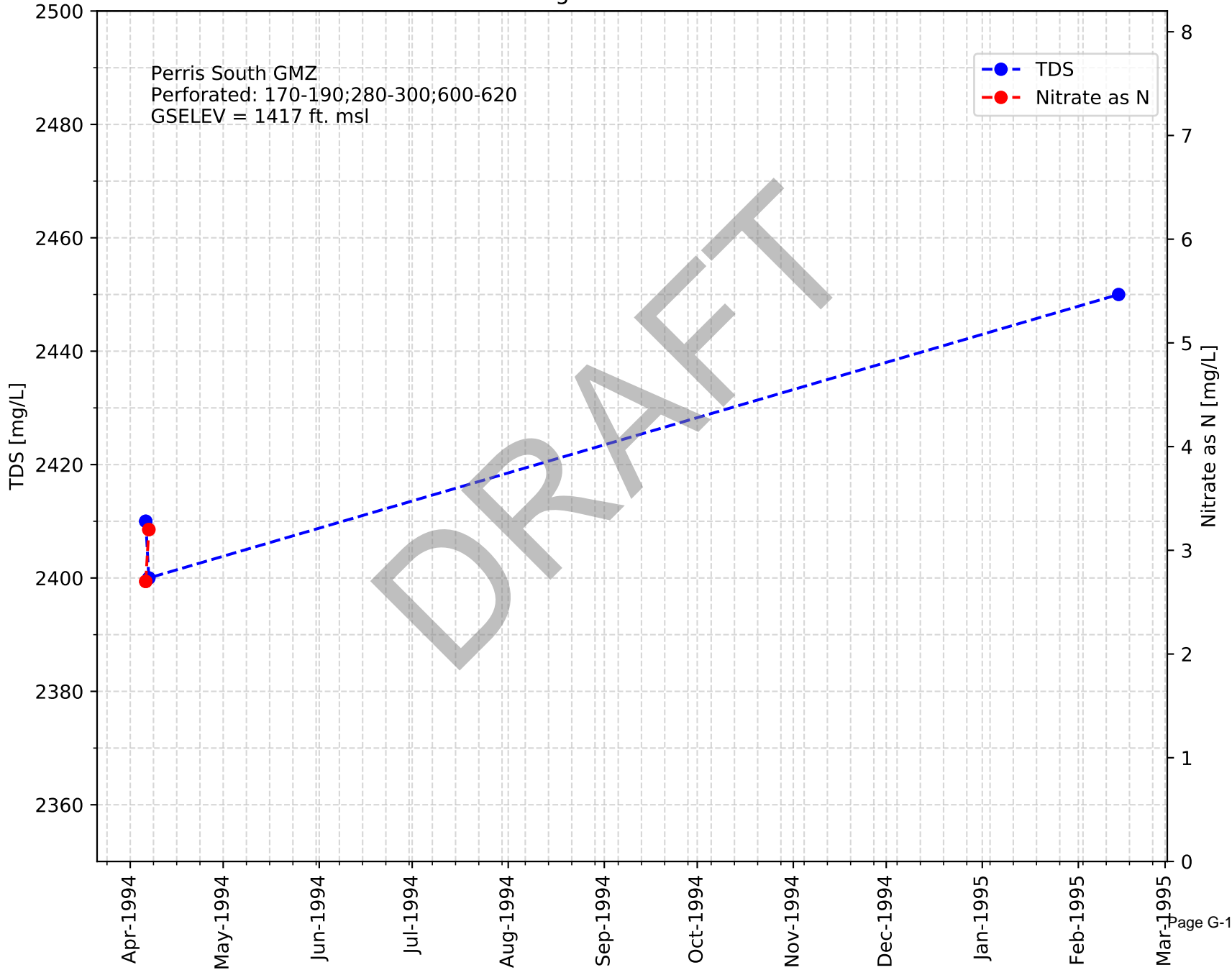
Casing Name: EMWD C2



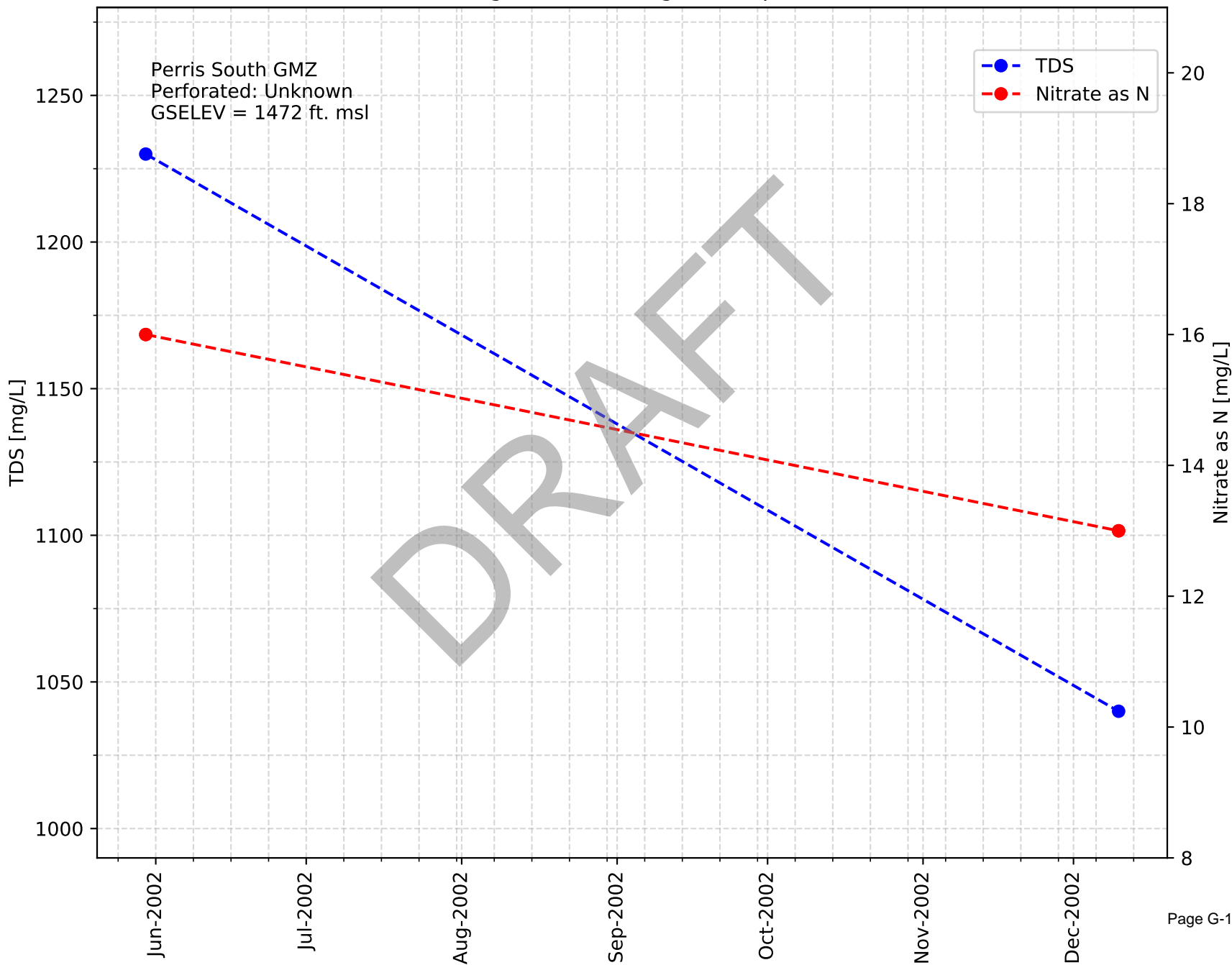
Casing Name: EMWD C1



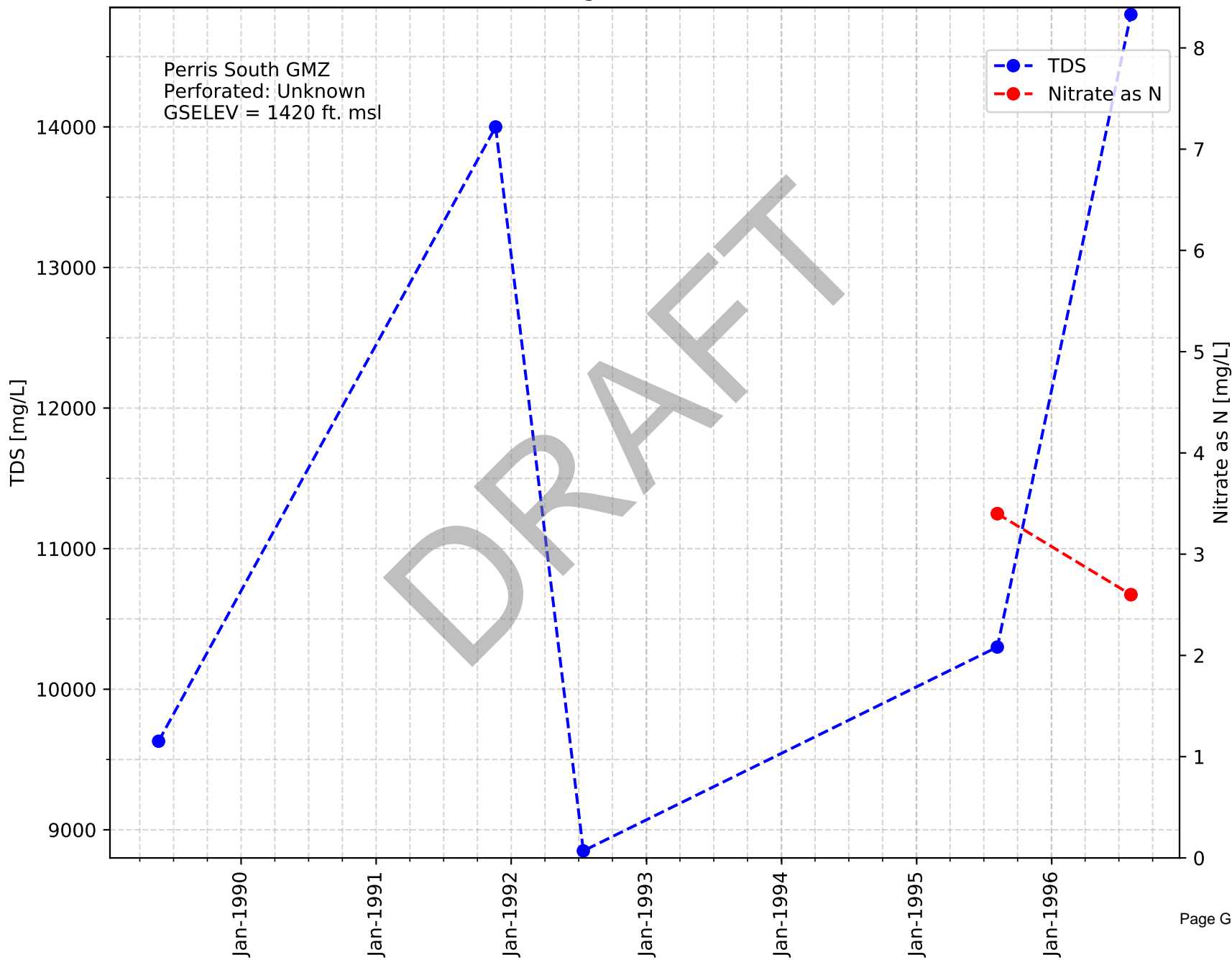
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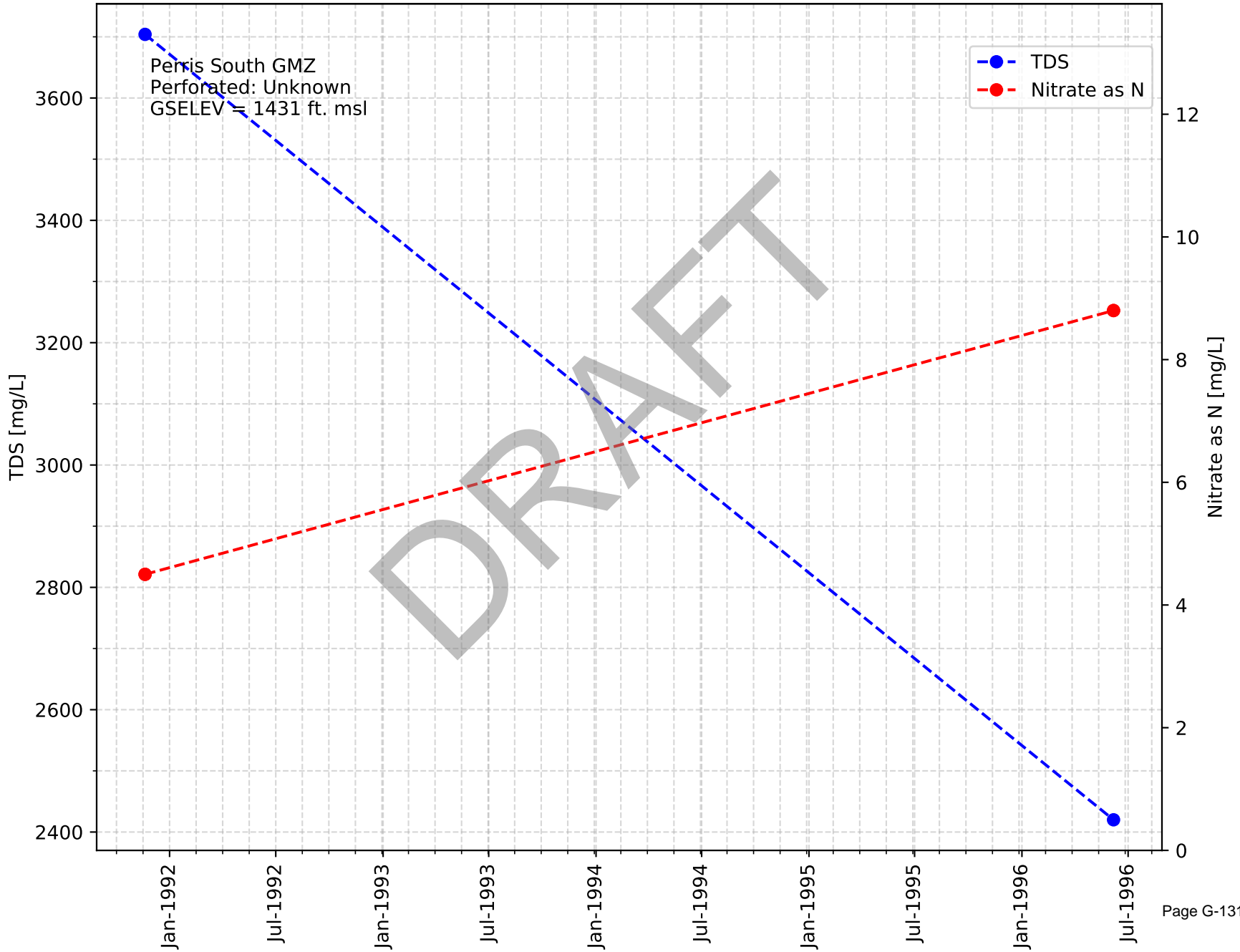
Casing Name: Rheingans Carpenter



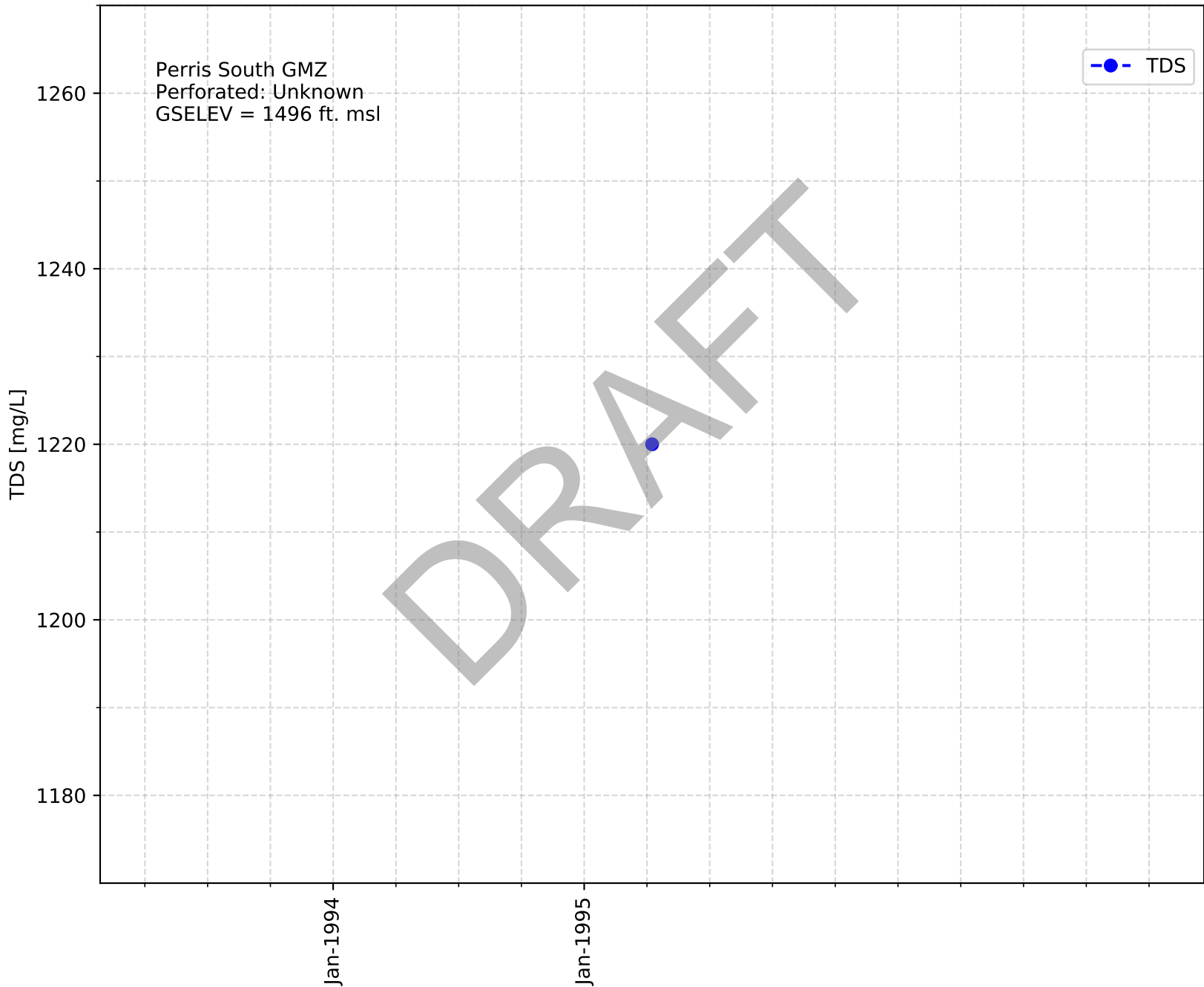
Casing Name: Harries



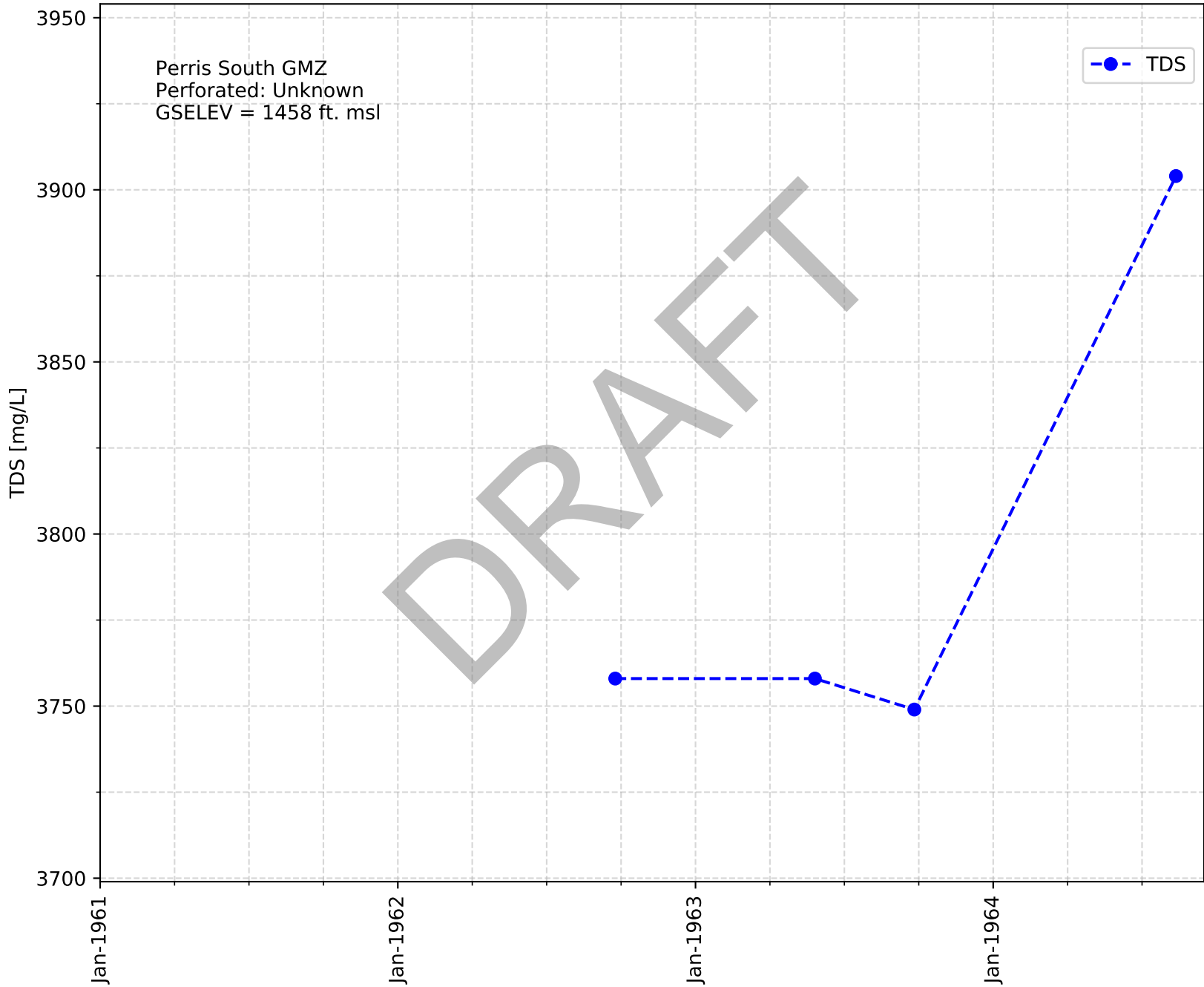
Casing Name: Kreuzer



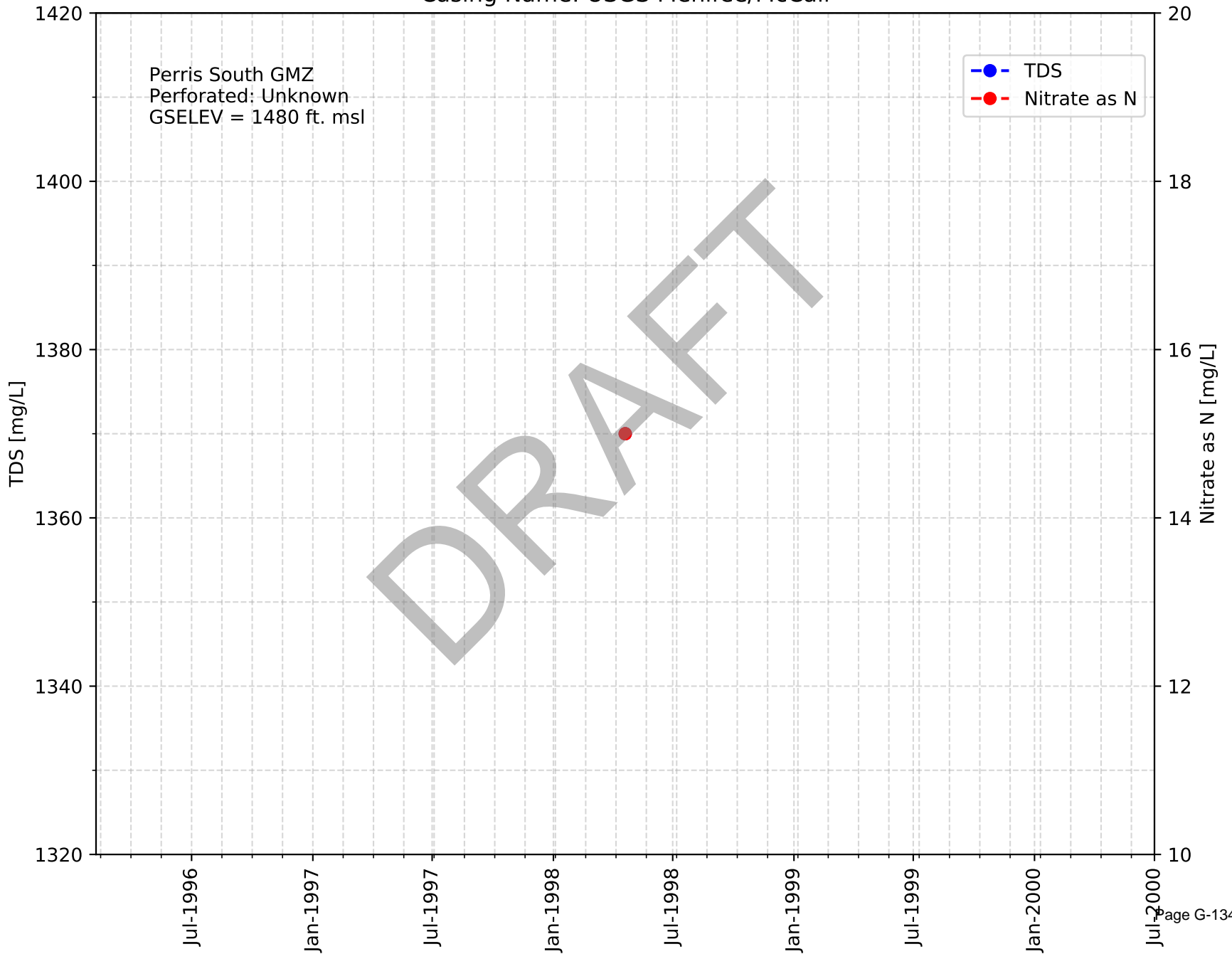
Casing Name: Montemagno



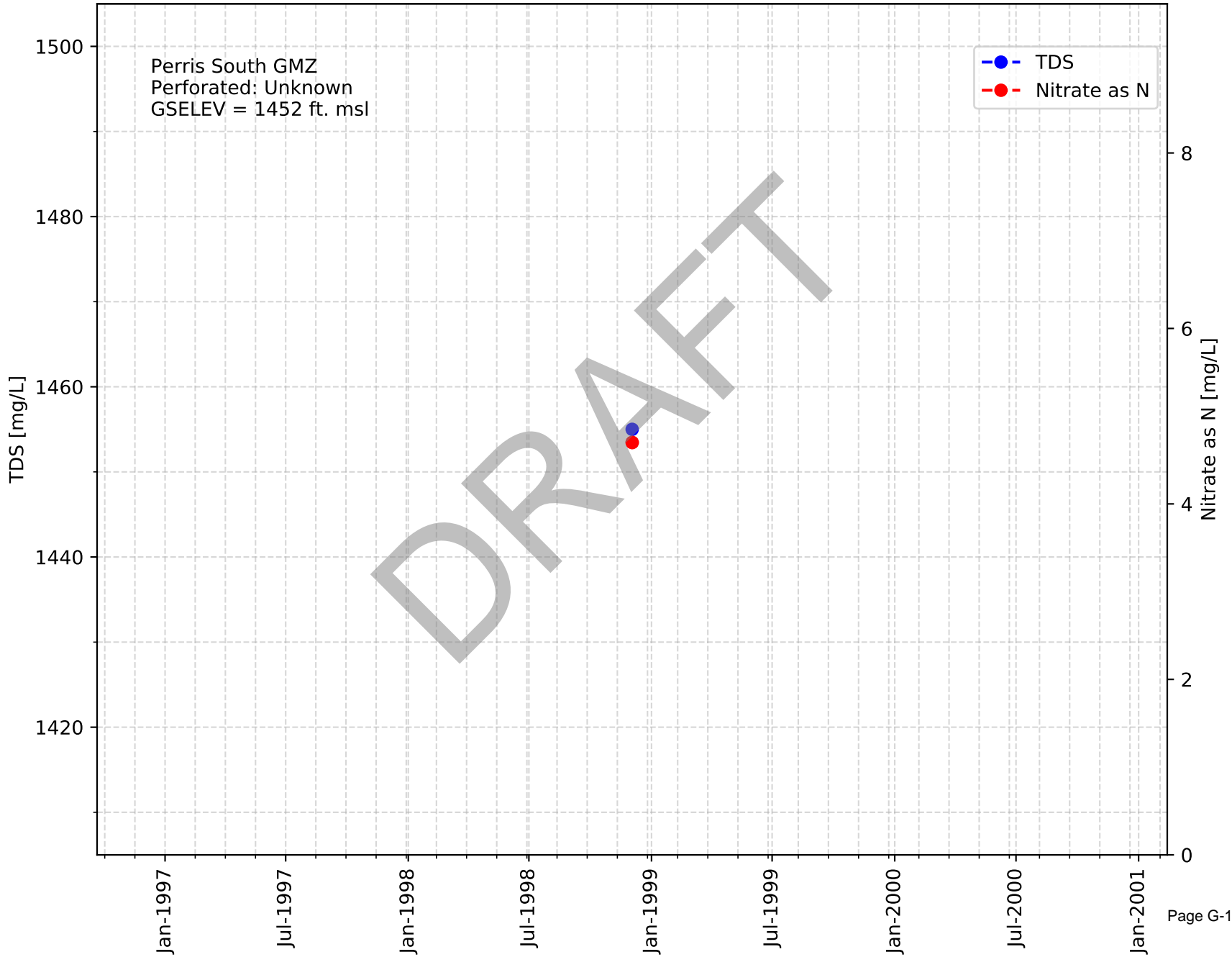
Casing Name: Bross 01



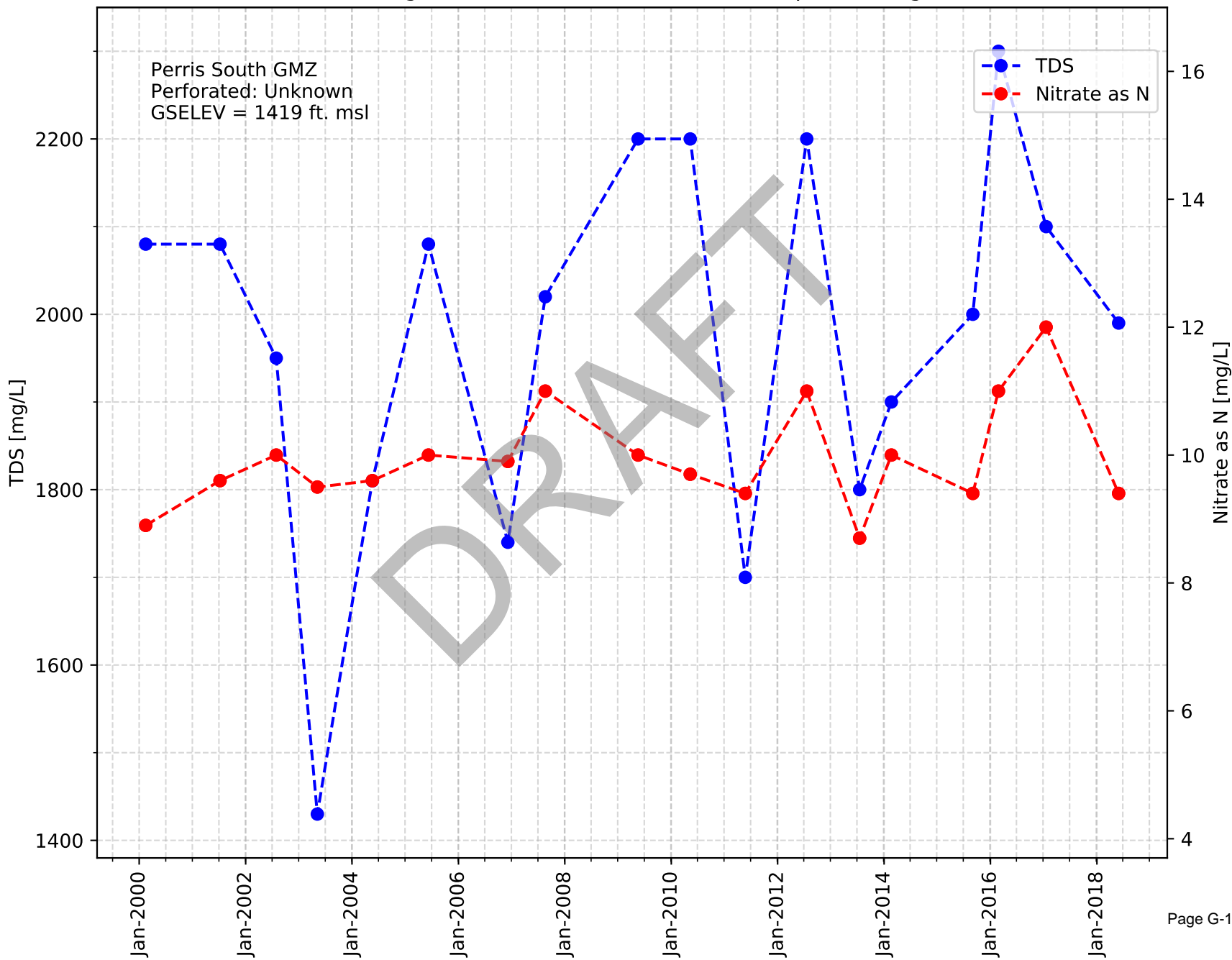
Casing Name: USGS Menifee/McCall



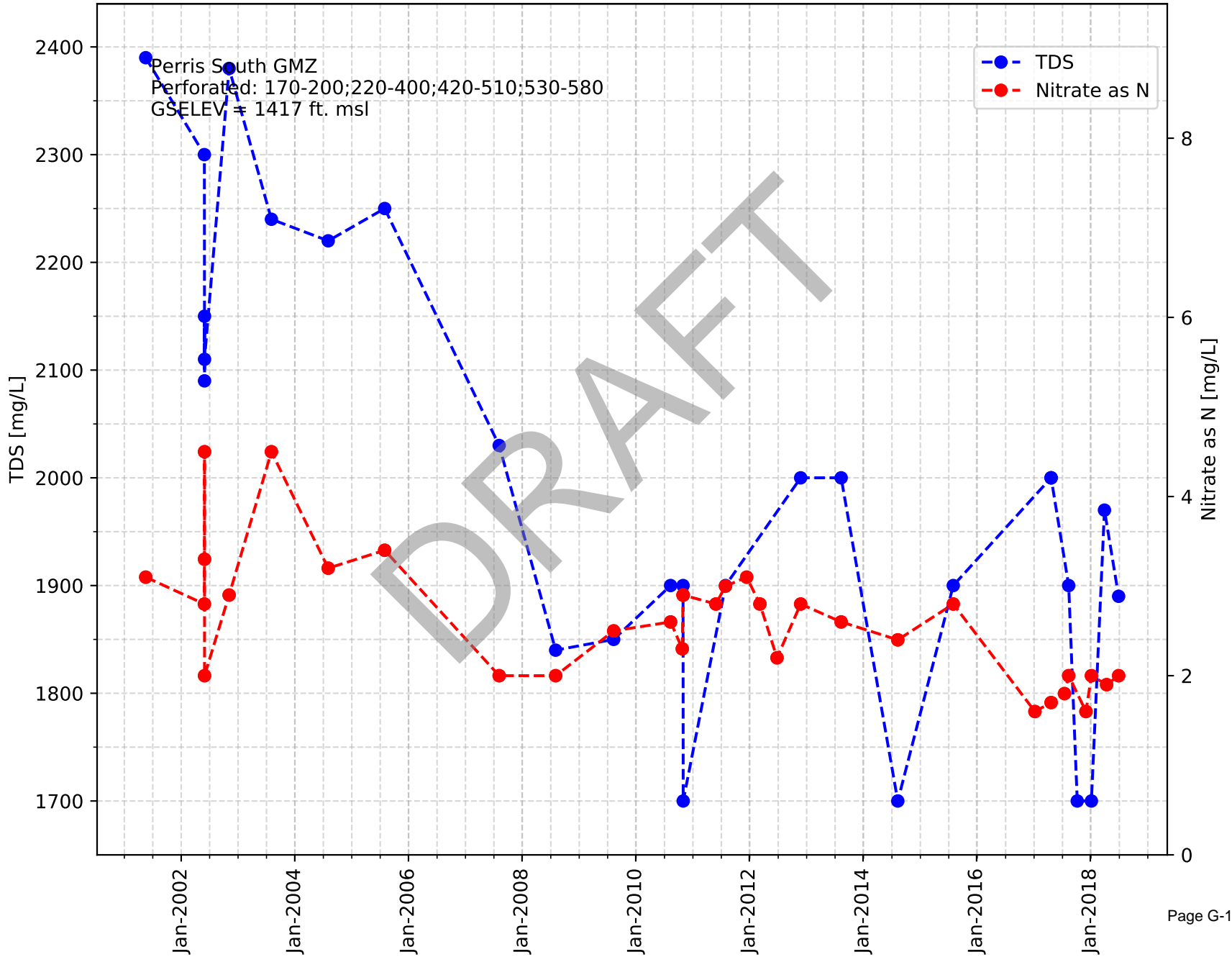
Casing Name: Wilderness Pines Xmas Tree Farm



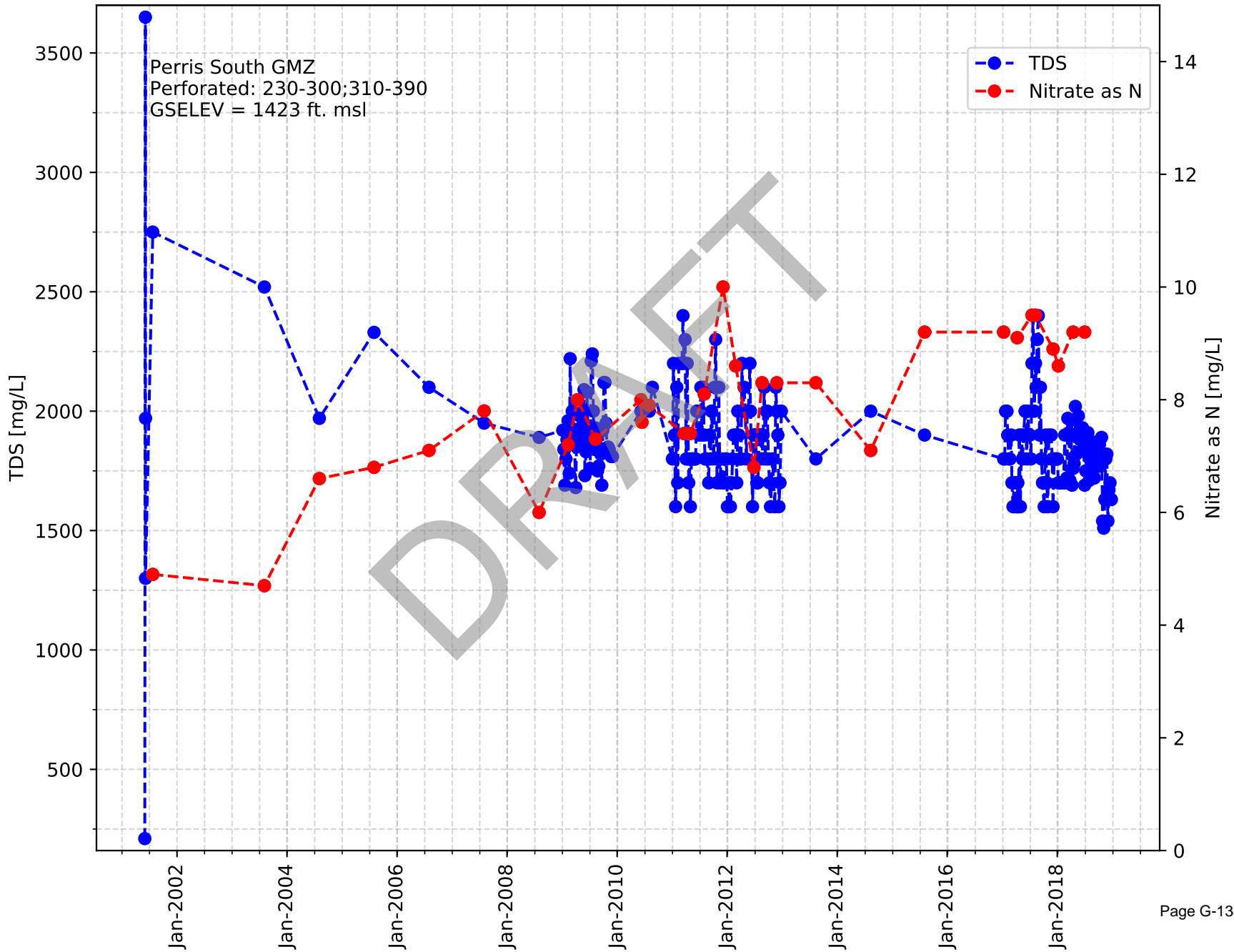
Casing Name: EMWD B8 Perris RWRf Open Casing



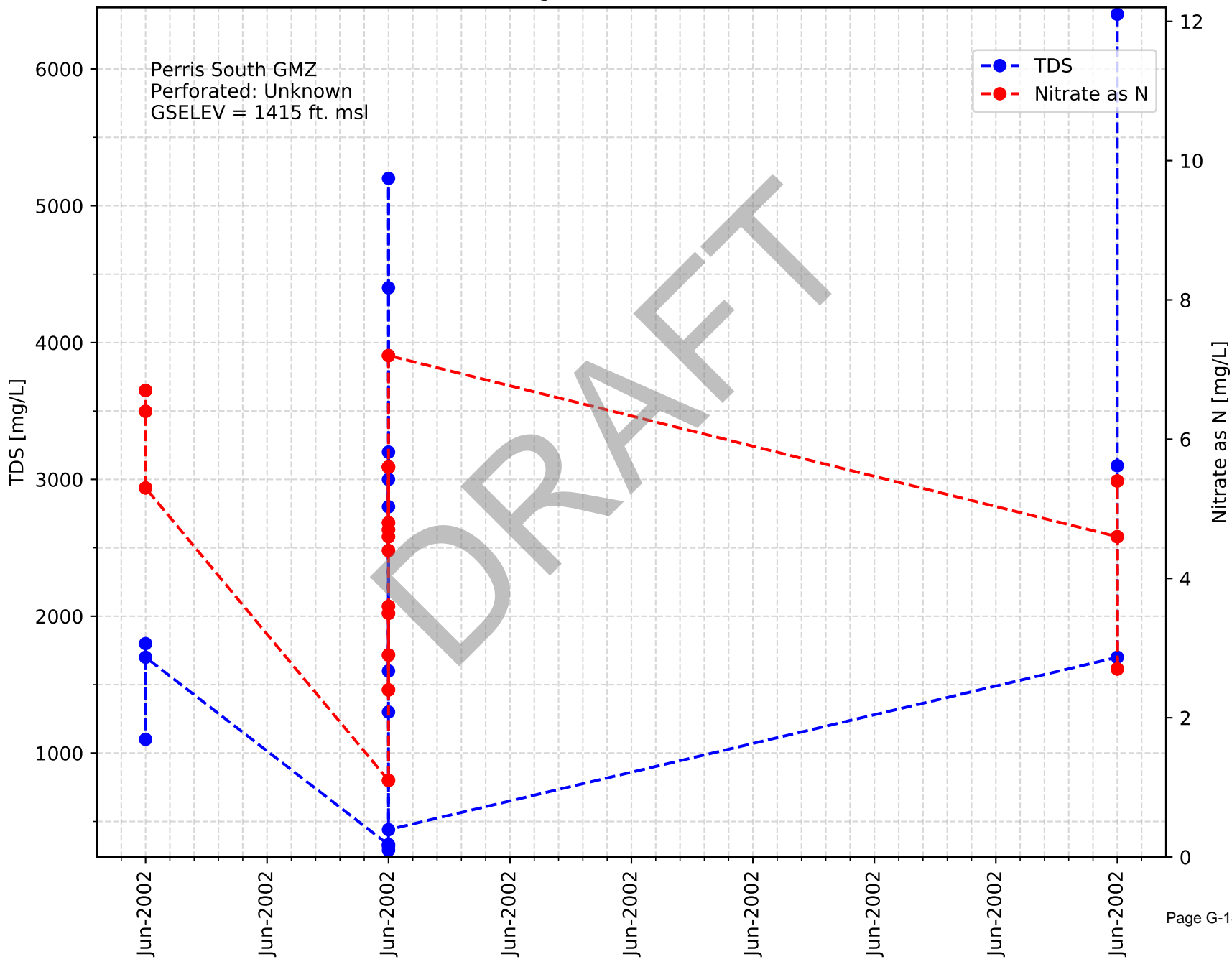
Casing Name: EMWD 75 Salt Creek



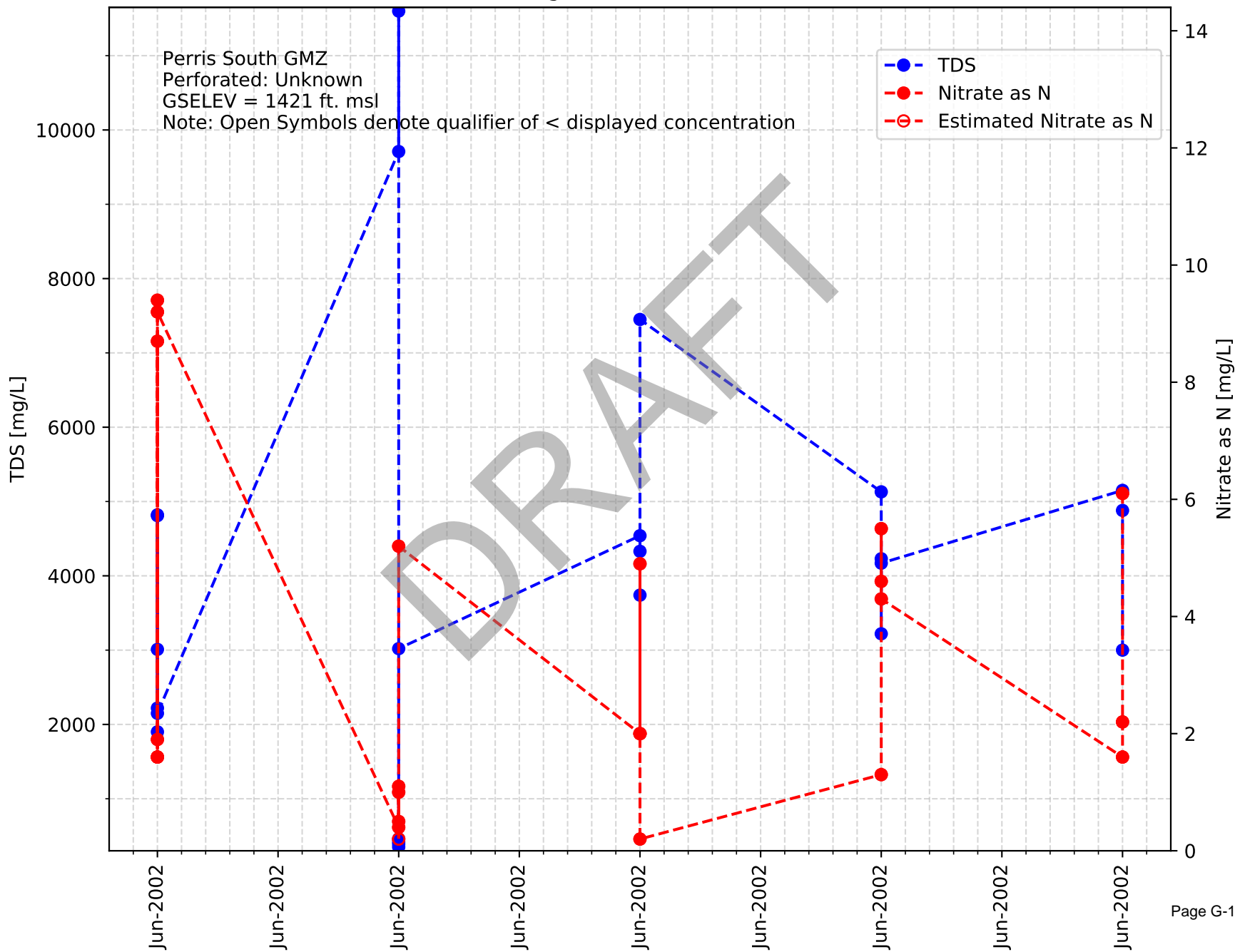
Casing Name: EMWD 76 McLaughlin



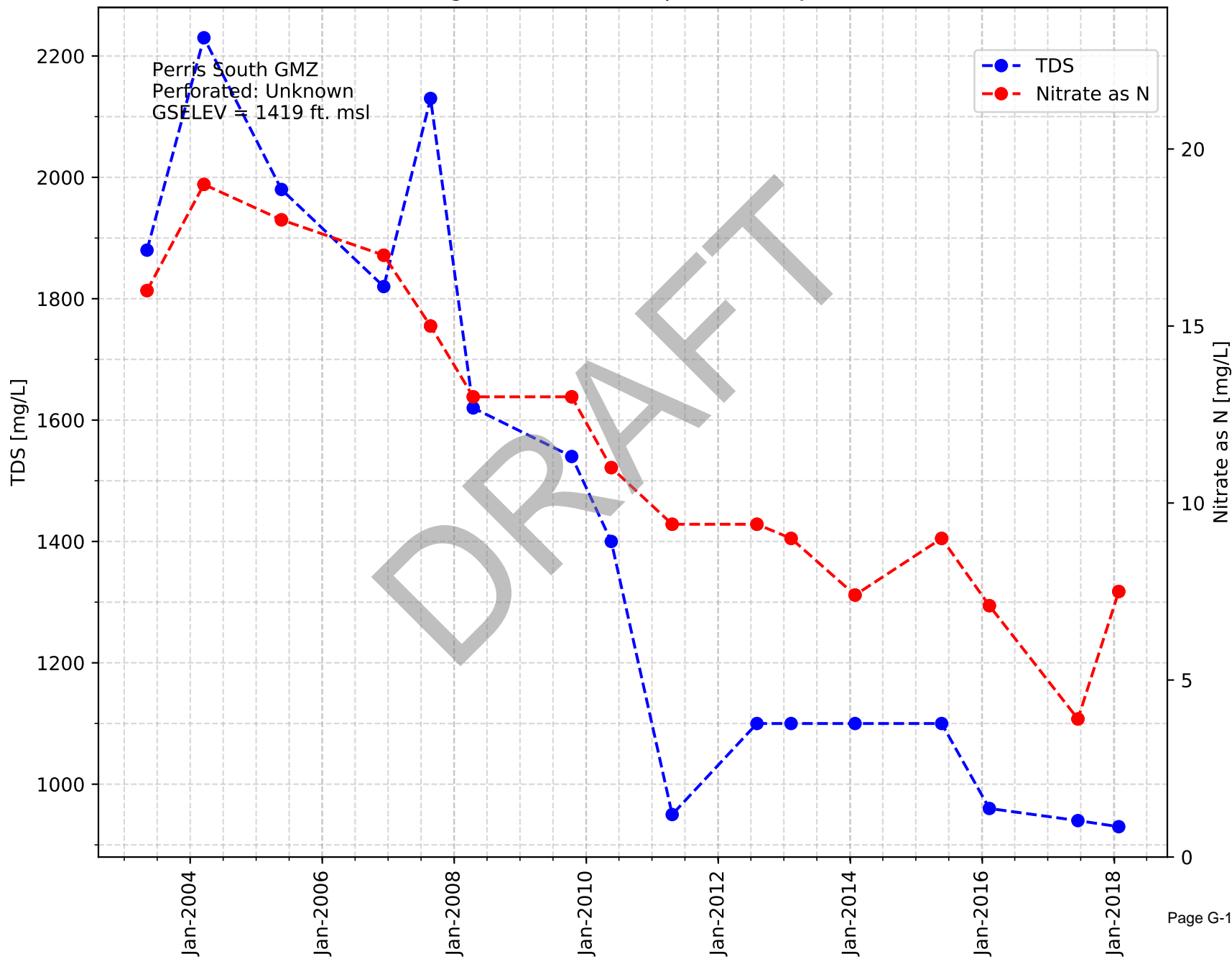
Casing Name: EMWD DW-4



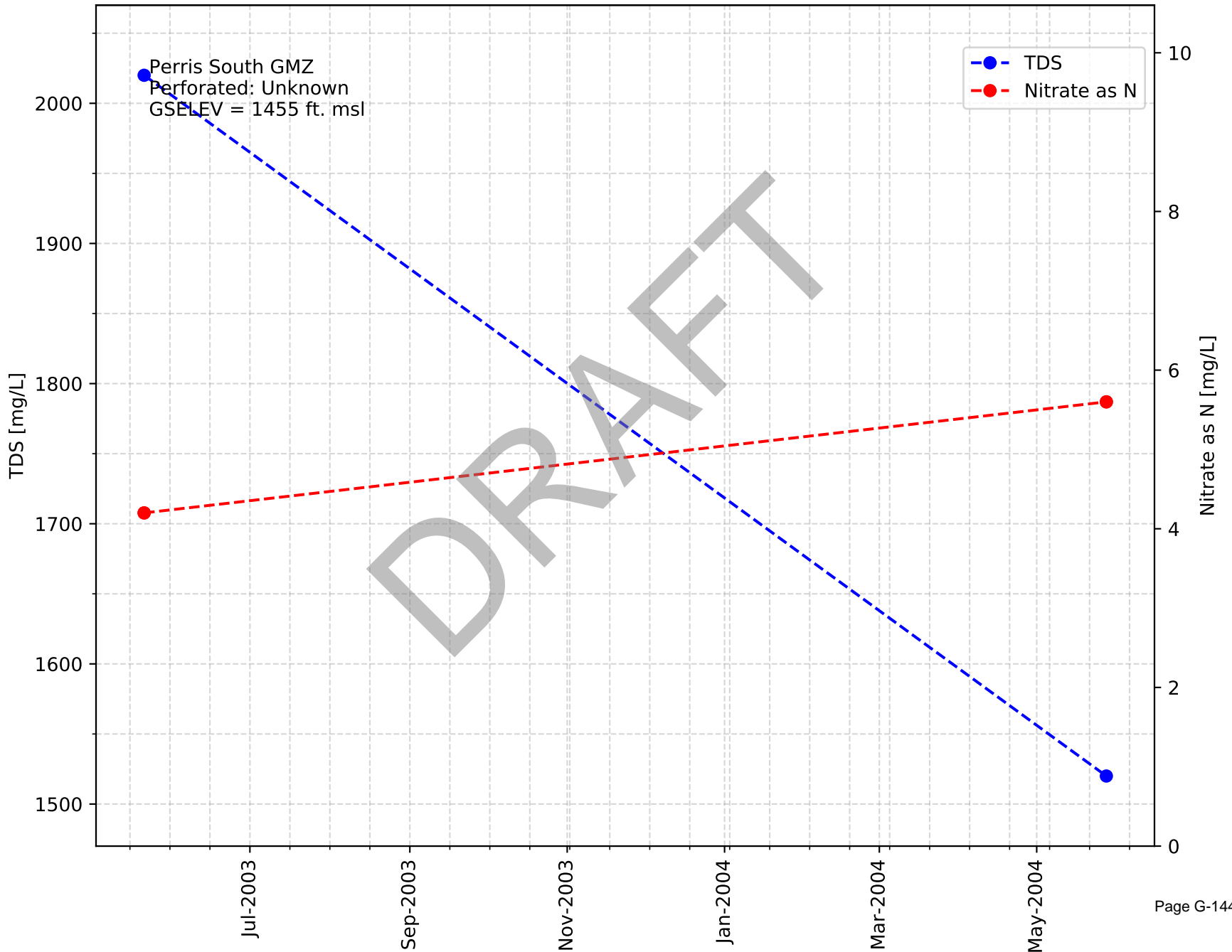
Casing Name: EMWD DW-6



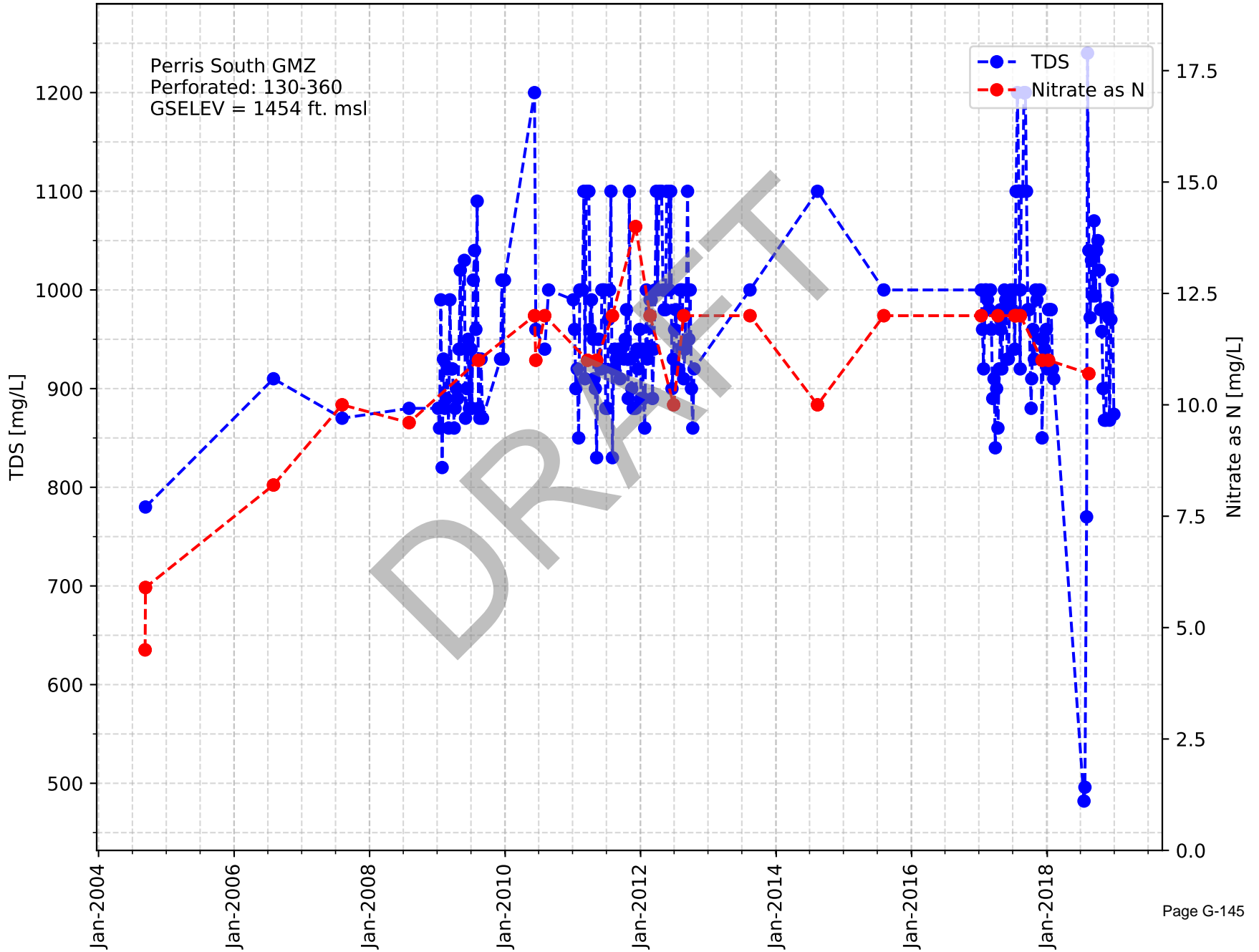
Casing Name: Perris Properties San Jacinto



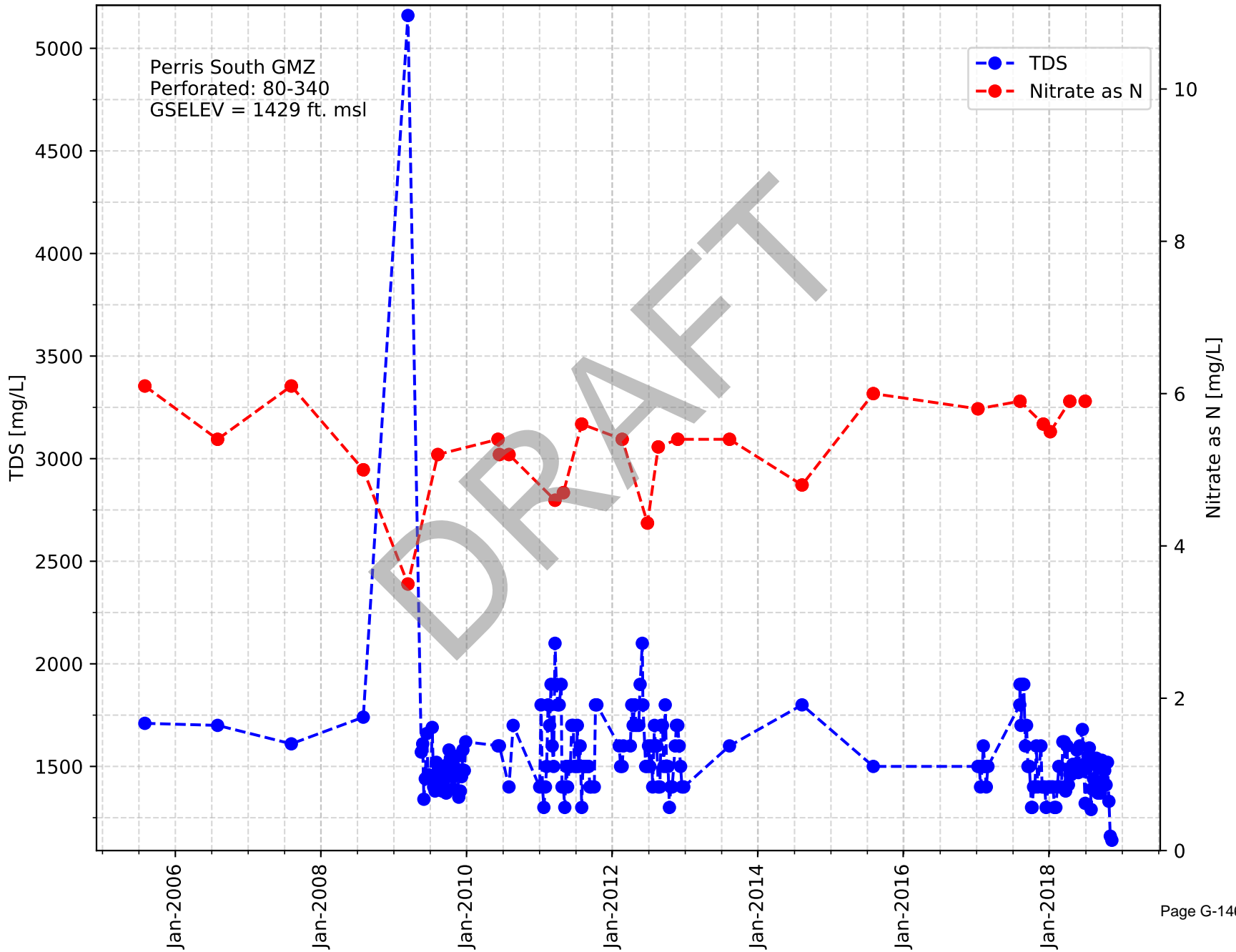
Casing Name: Agri Simpson/Lindenburger East



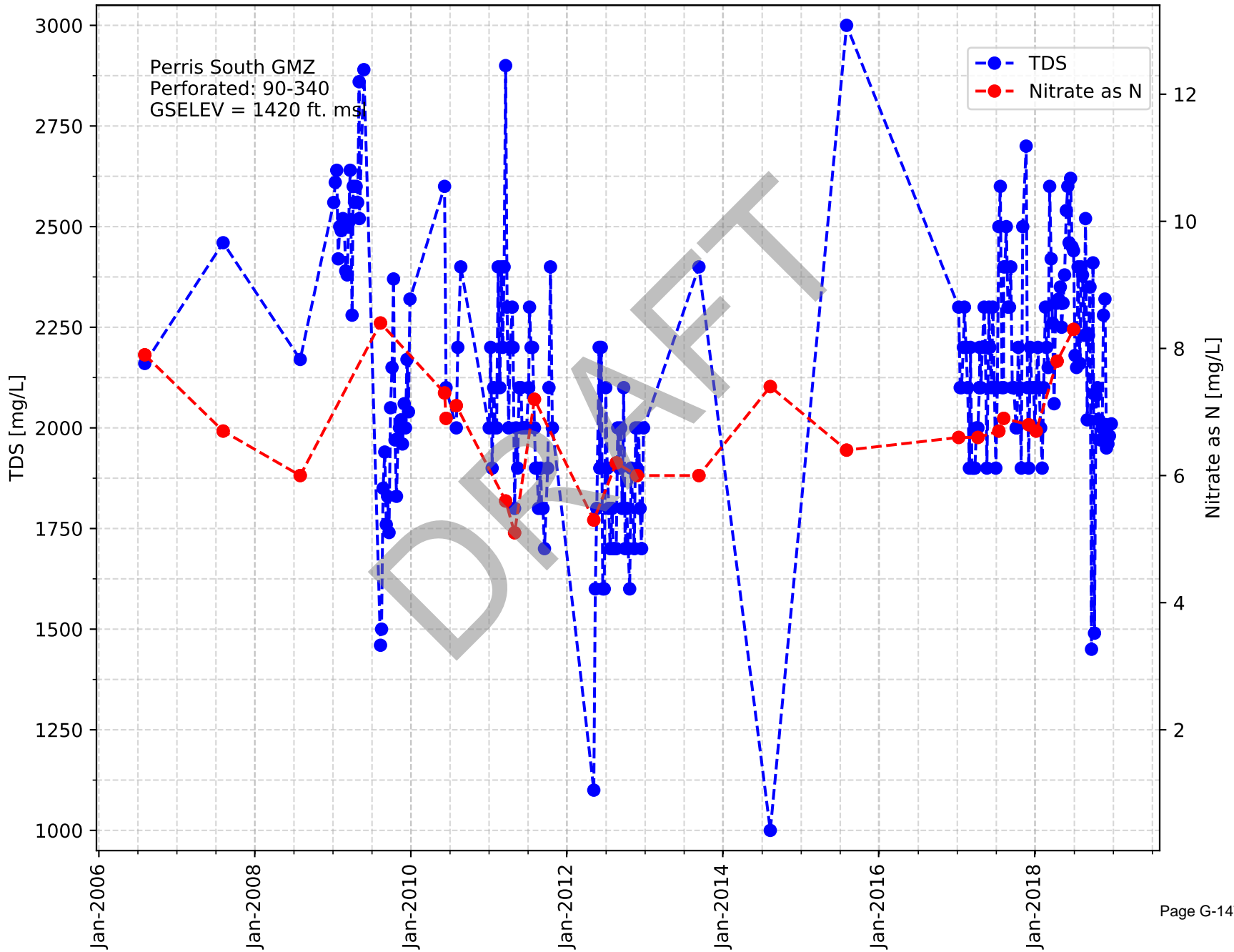
Casing Name: EMWD 81 Antelope/Watson



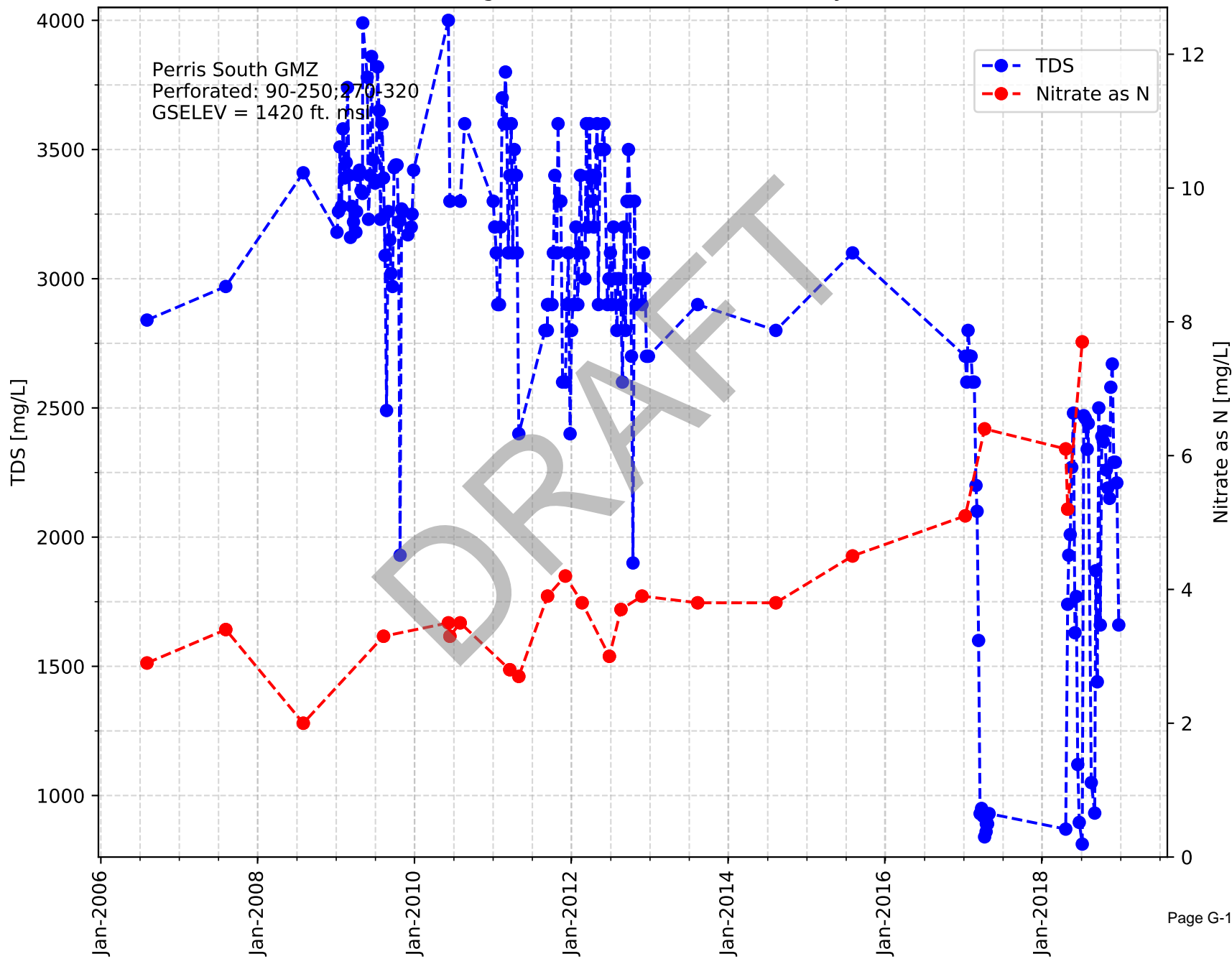
Casing Name: EMWD 82 Mapes/Sherman



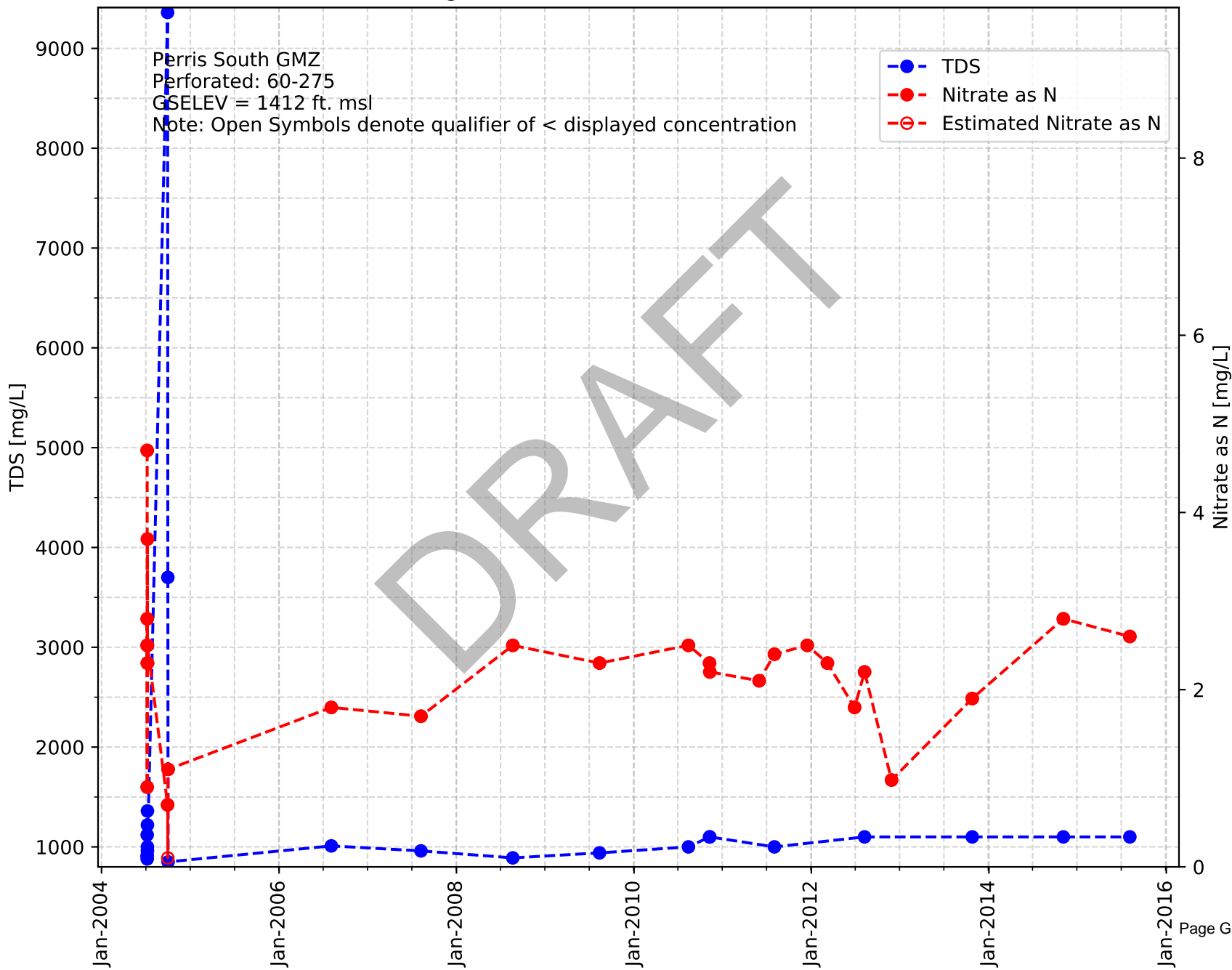
Casing Name: EMWD 83 Ellis/Sherman



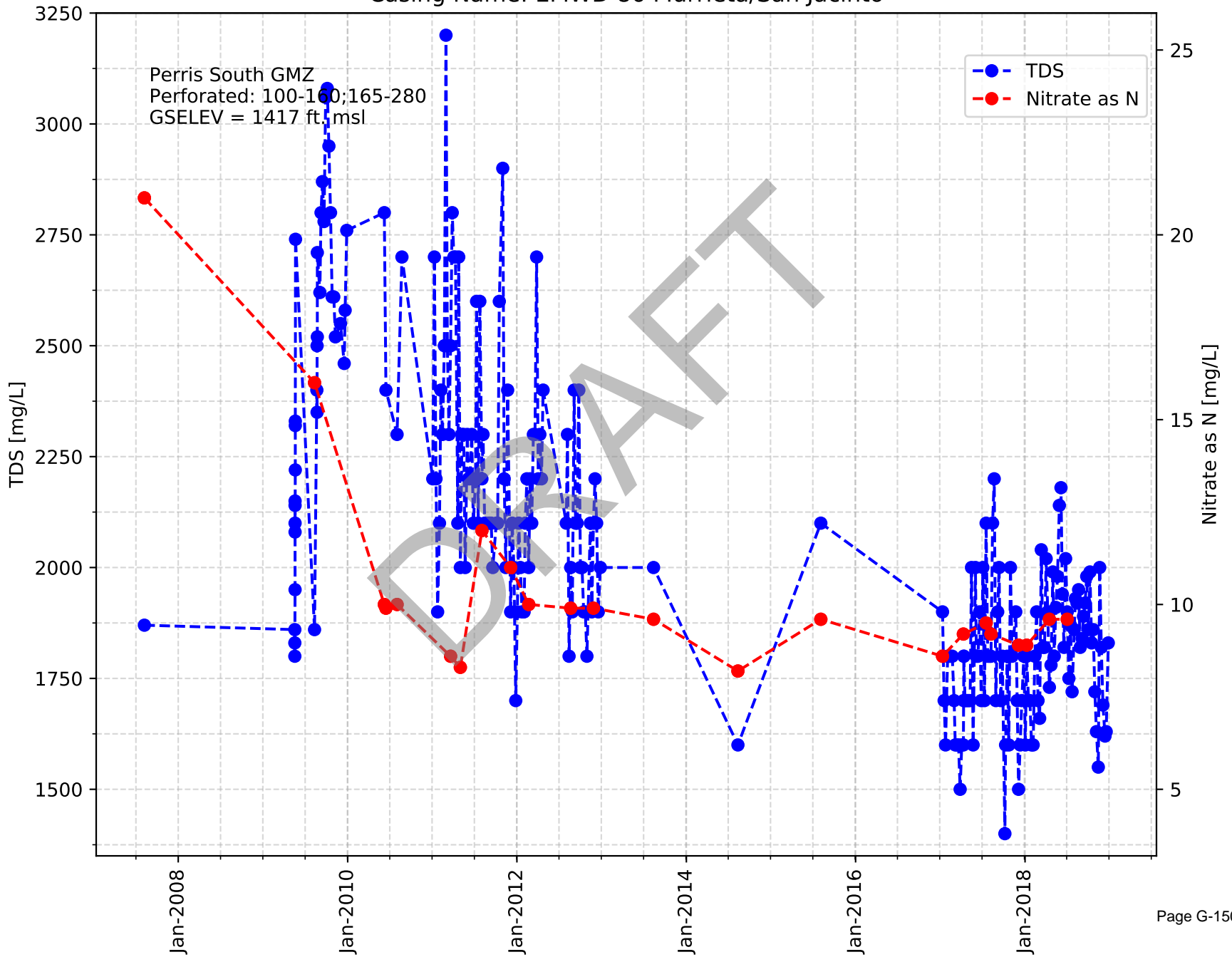
Casing Name: EMWD 84 Ellis/Bradley



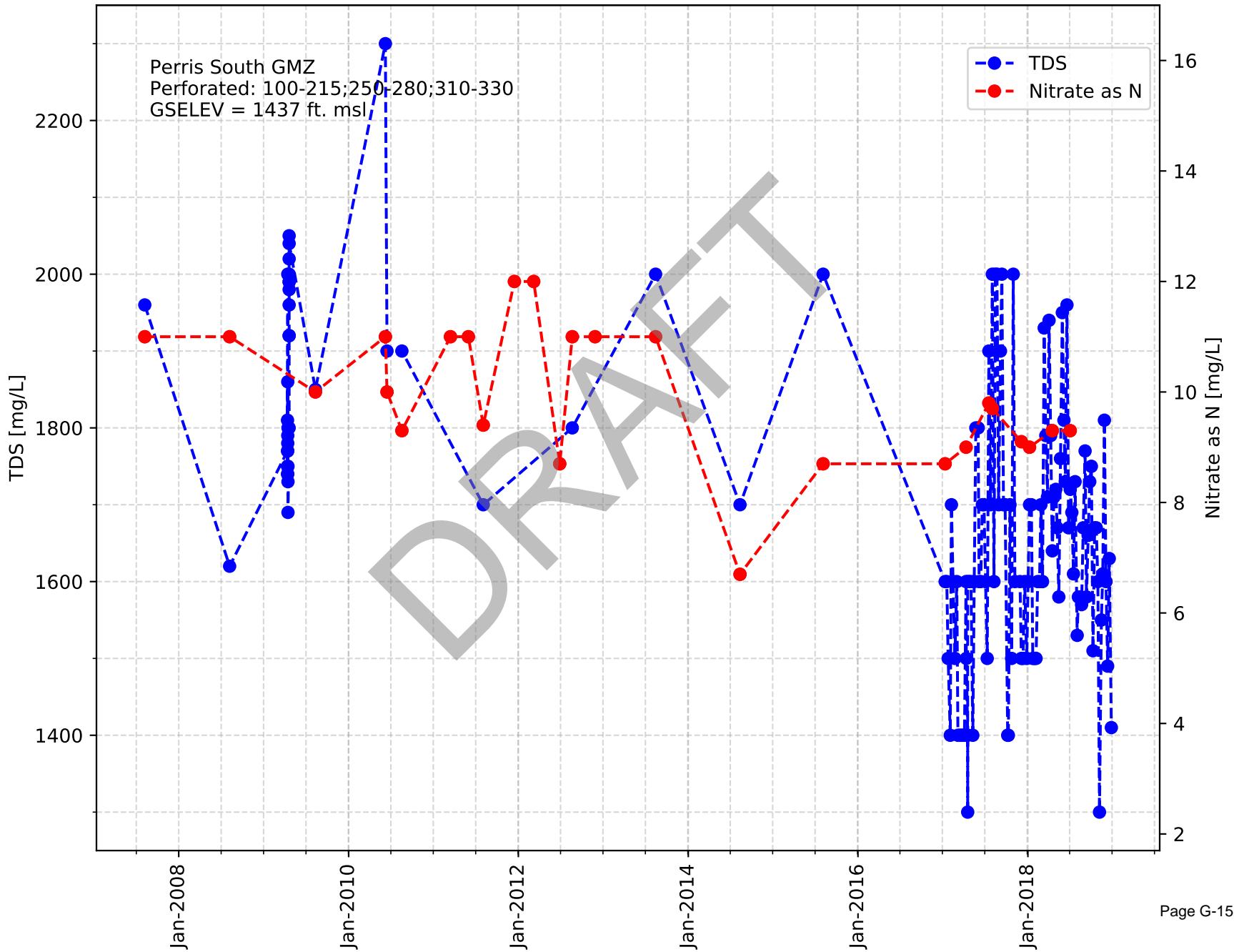
Casing Name: EMWD 85 Murrieta/Salt Creek



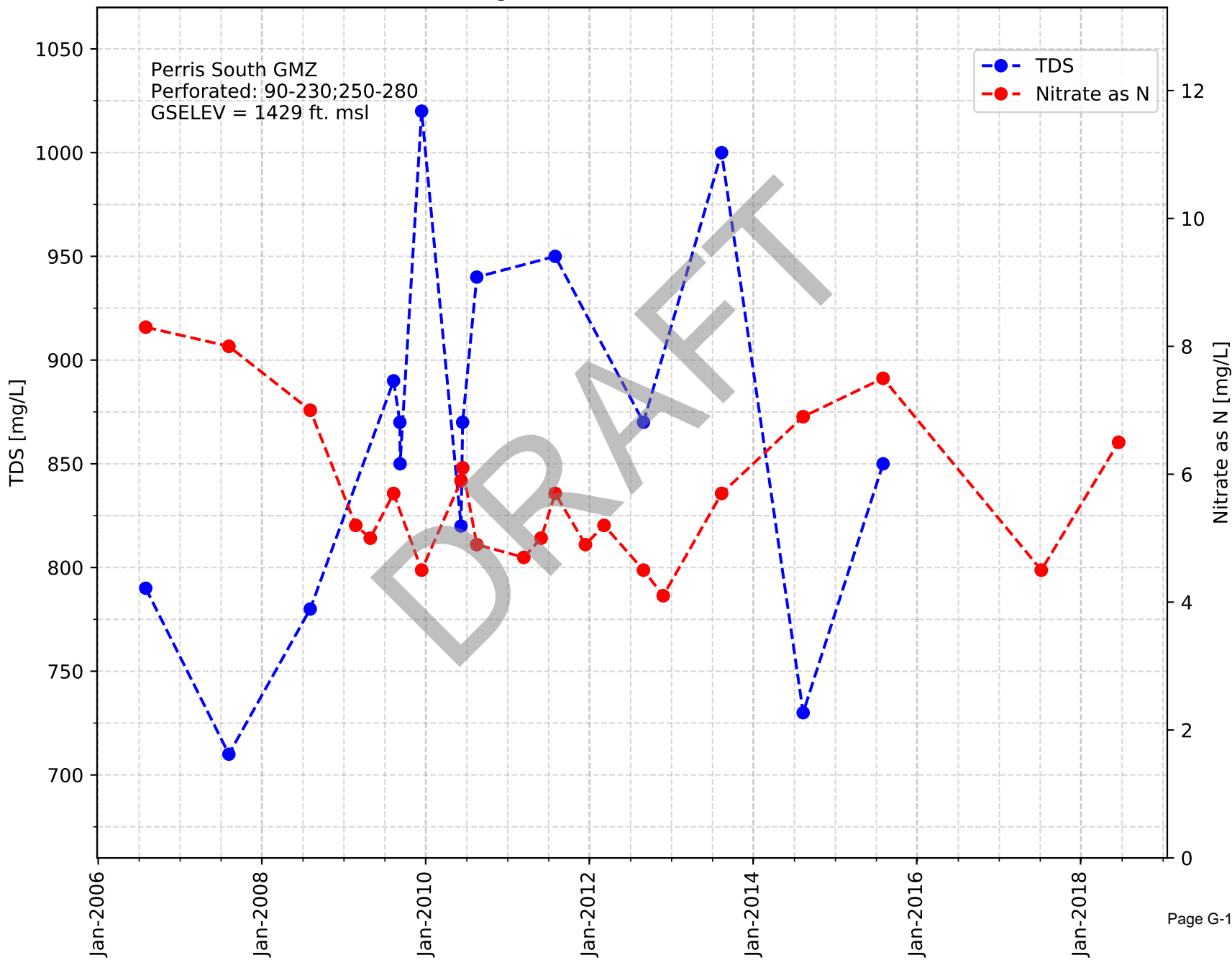
Casing Name: EMWD 86 Murrieta/San Jacinto



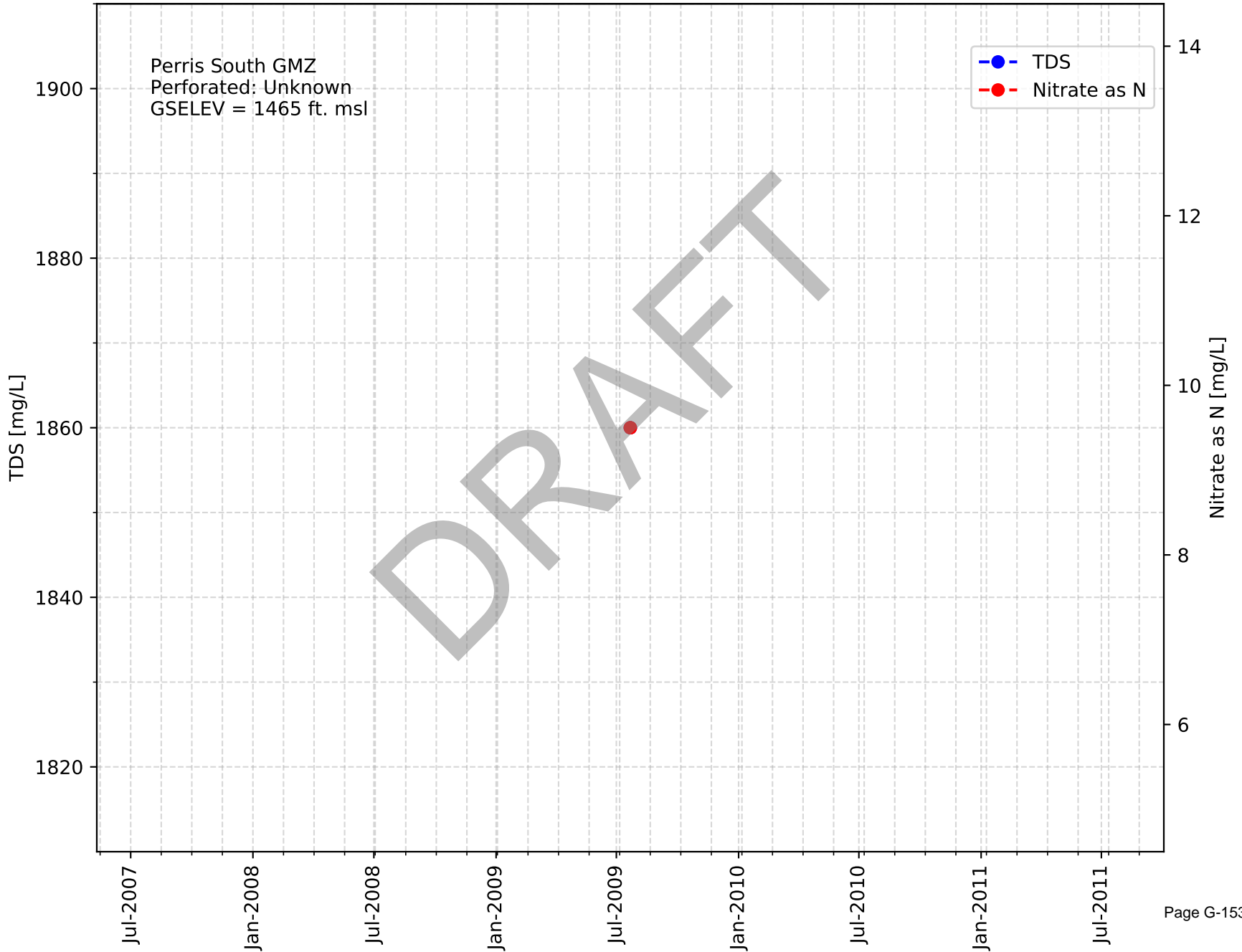
Casing Name: EMWD 88 Pico/San Jacinto



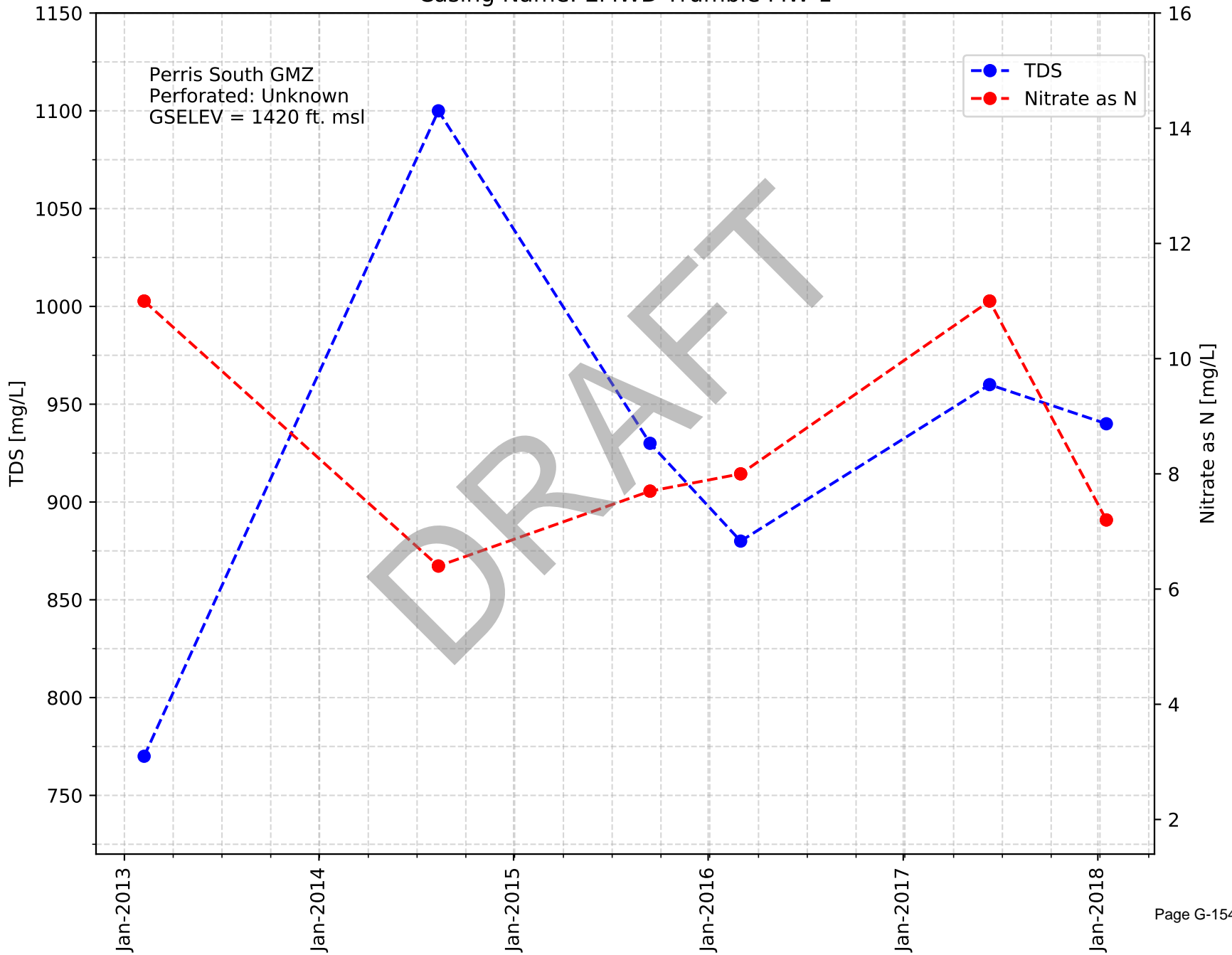
Casing Name: EMWD 89 Ethanac II



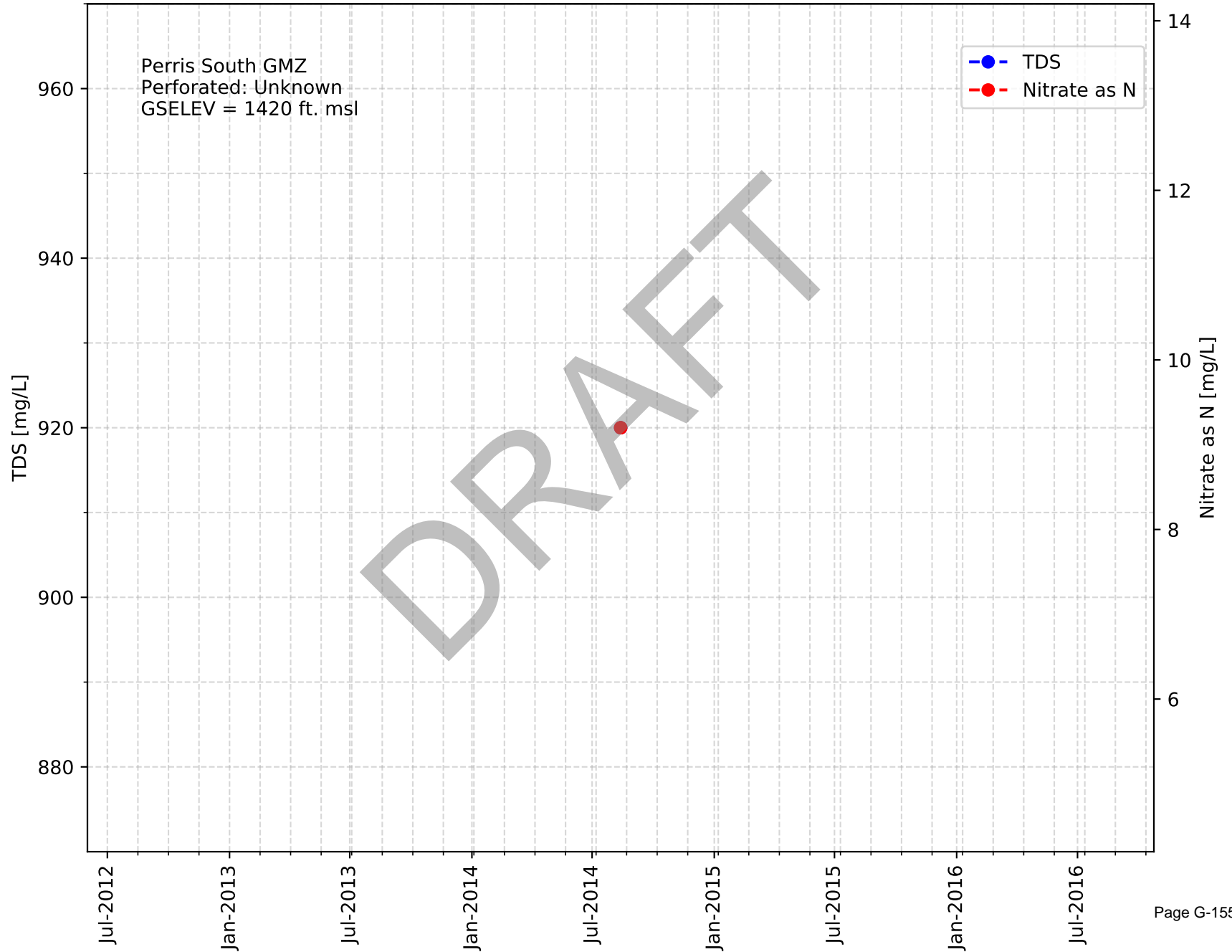
Casing Name: Heritage Lakes North



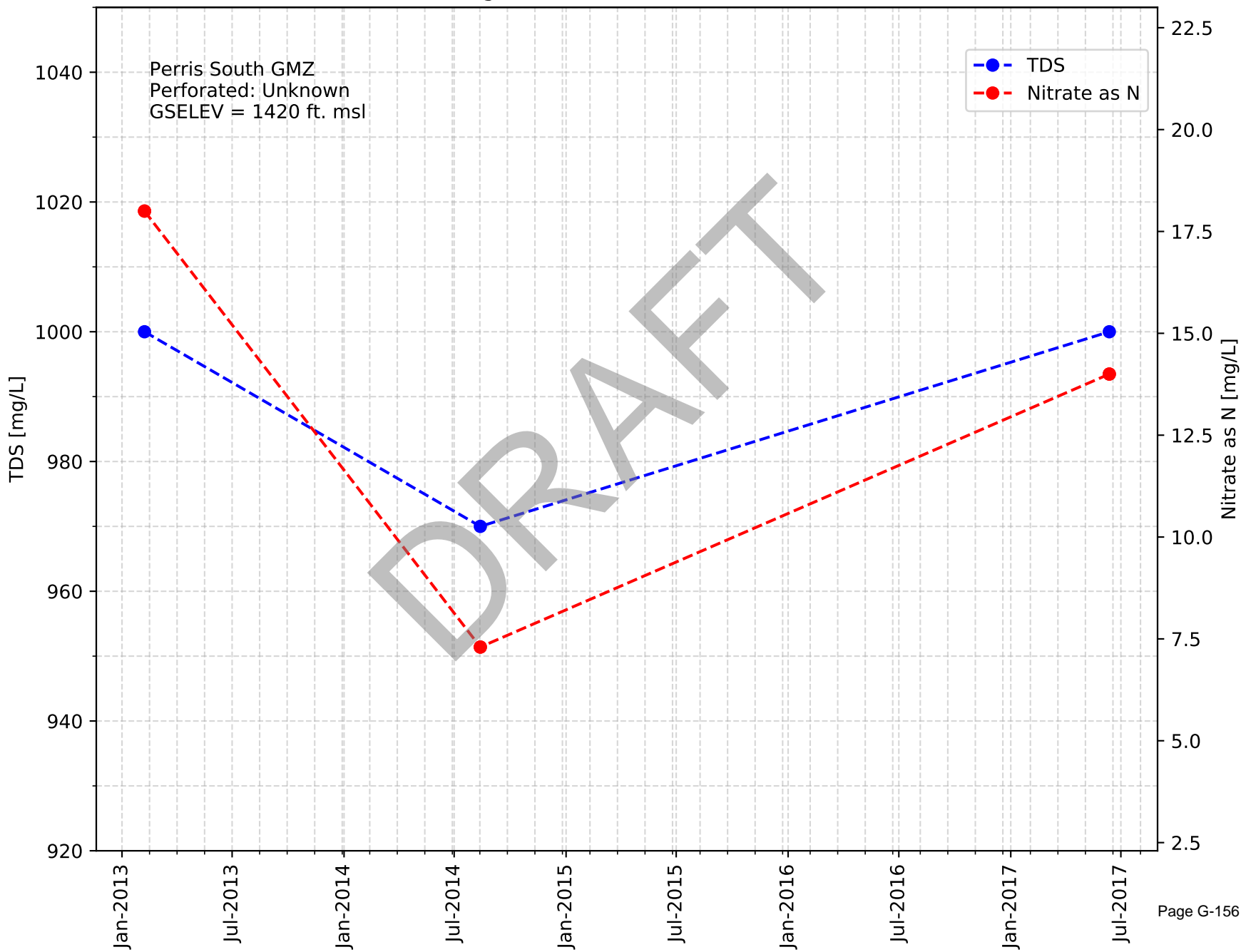
Casing Name: EMWD Trumble MW-1



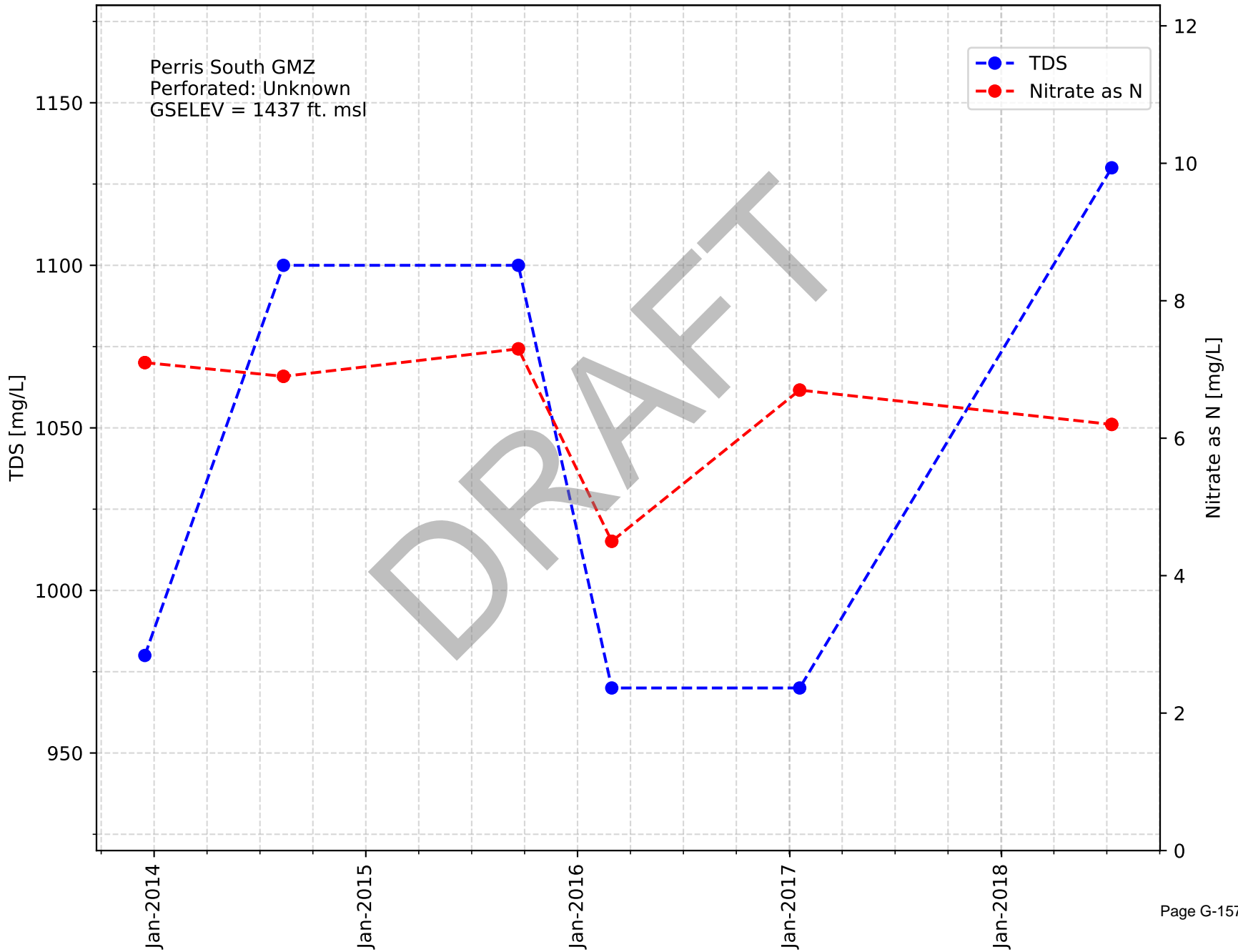
Casing Name: EMWD Trumble MW-2



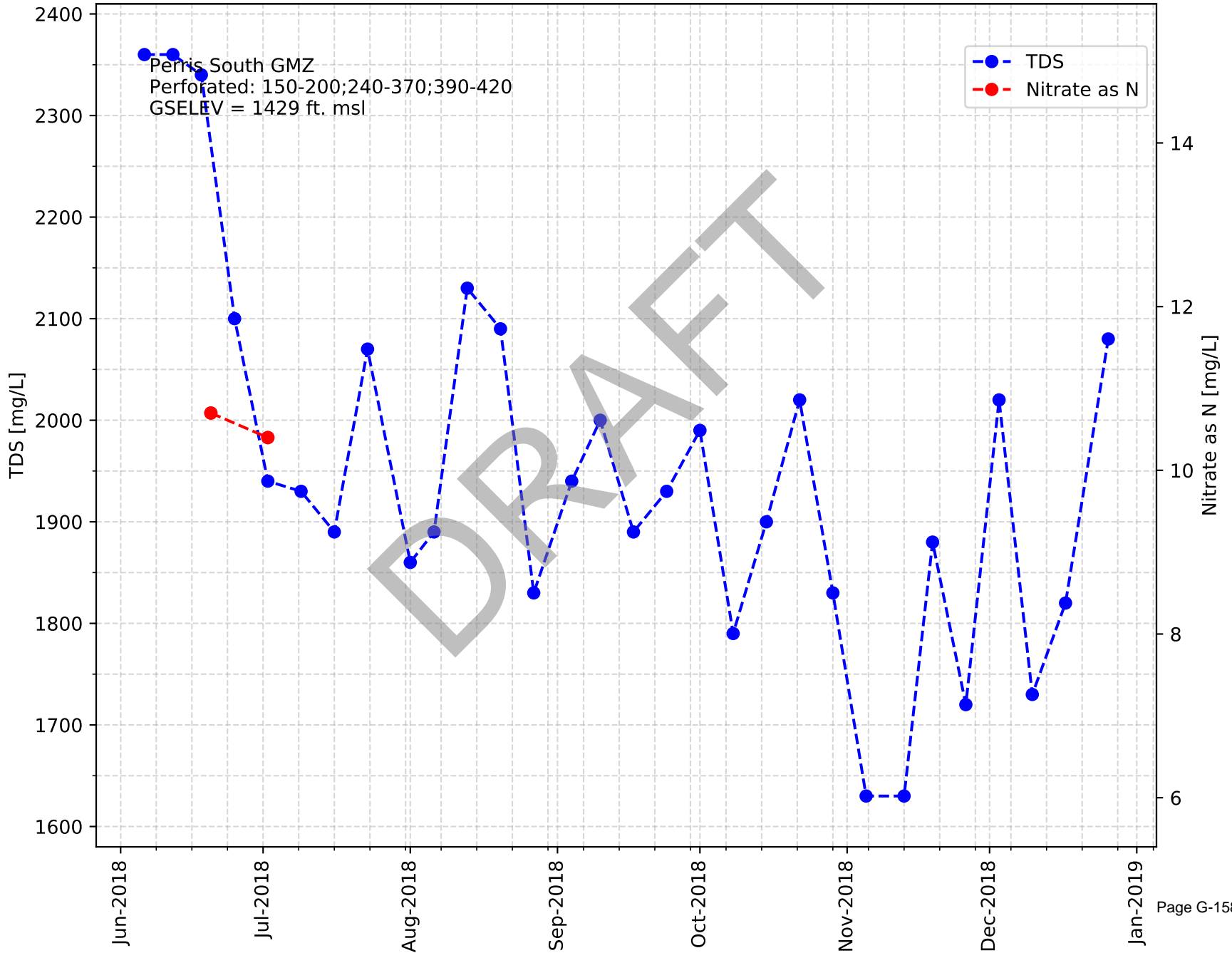
Casing Name: EMWD Trumble MW-3



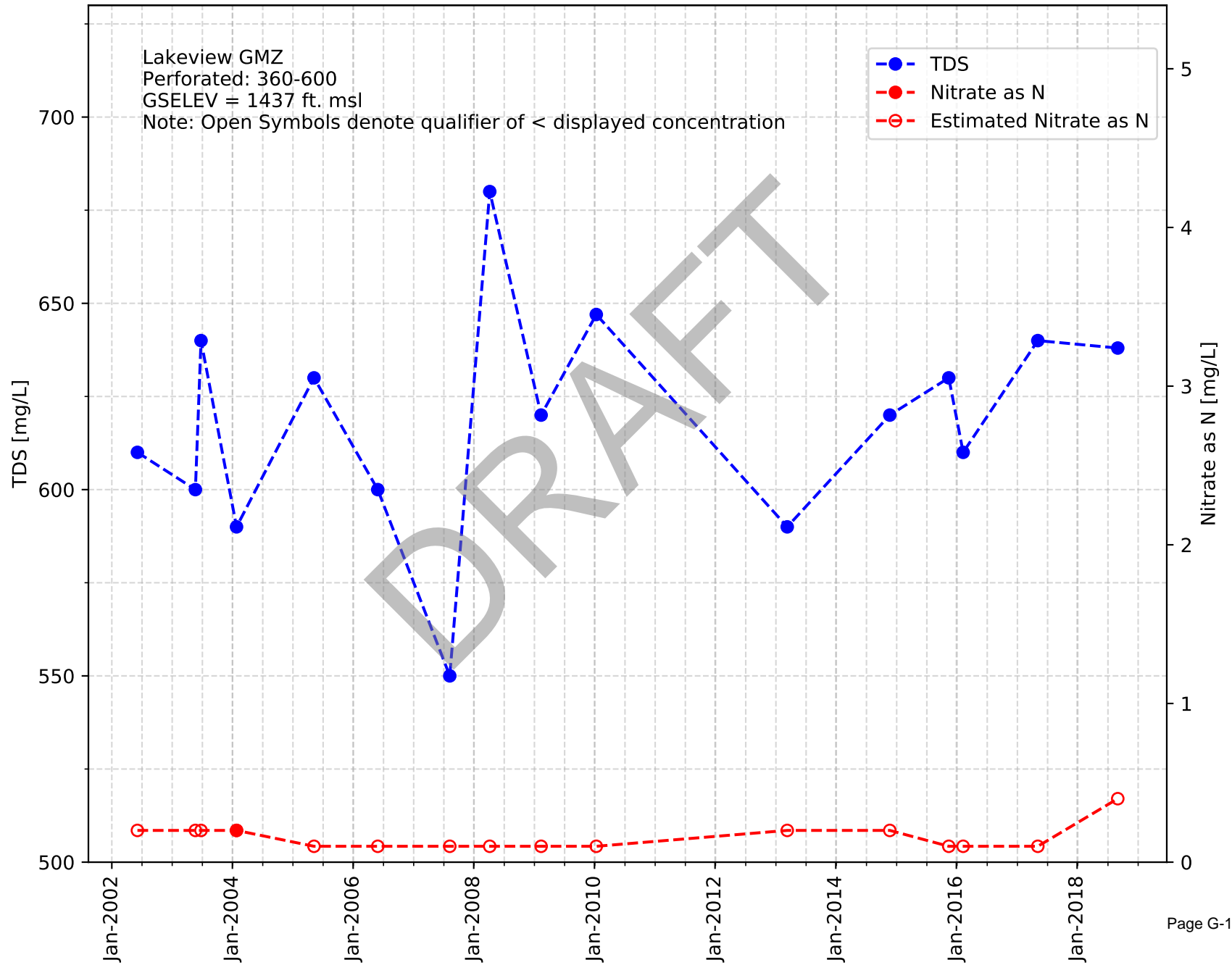
Casing Name: Smith C Jackson



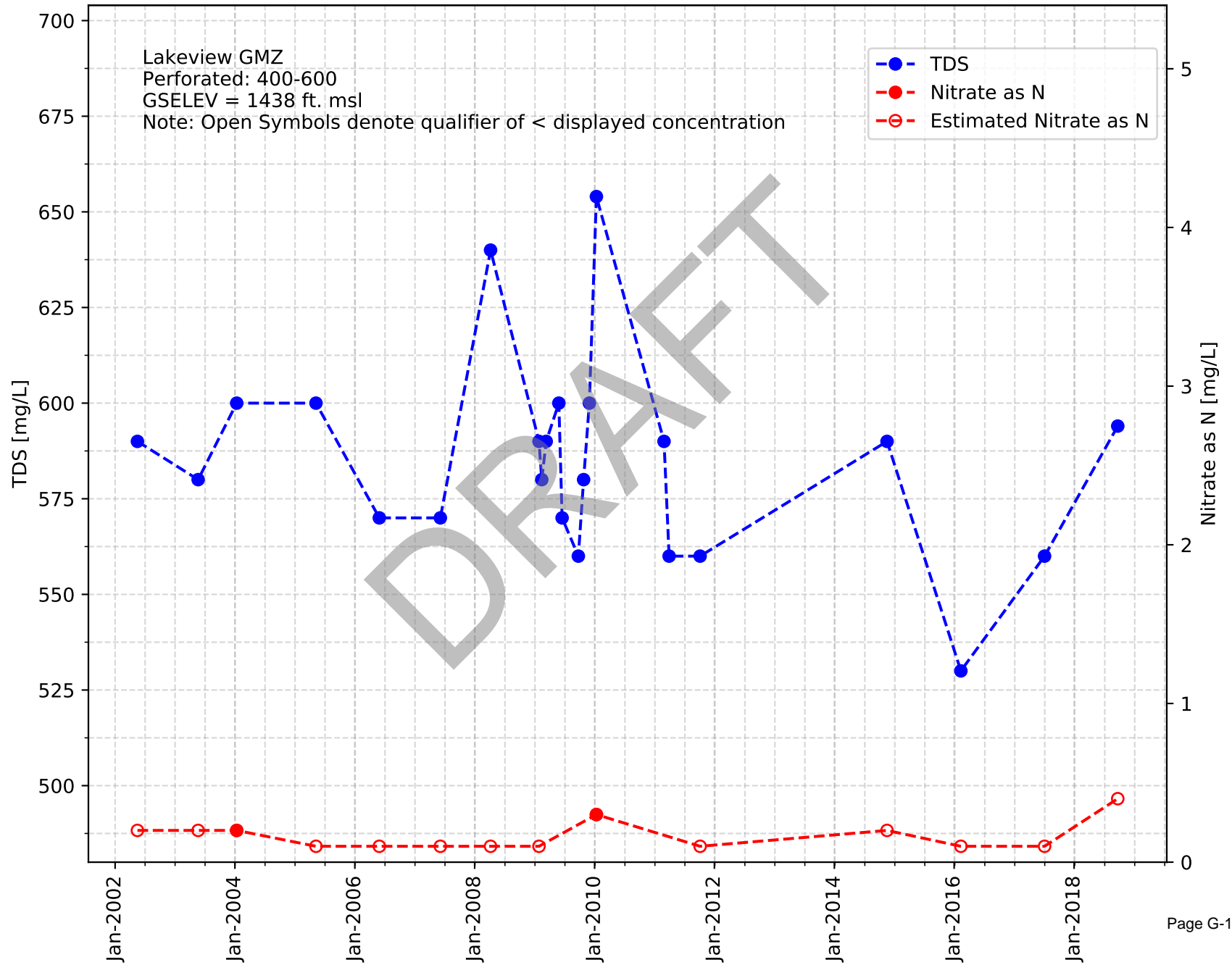
Casing Name: EMWD 96 Santa Rosa



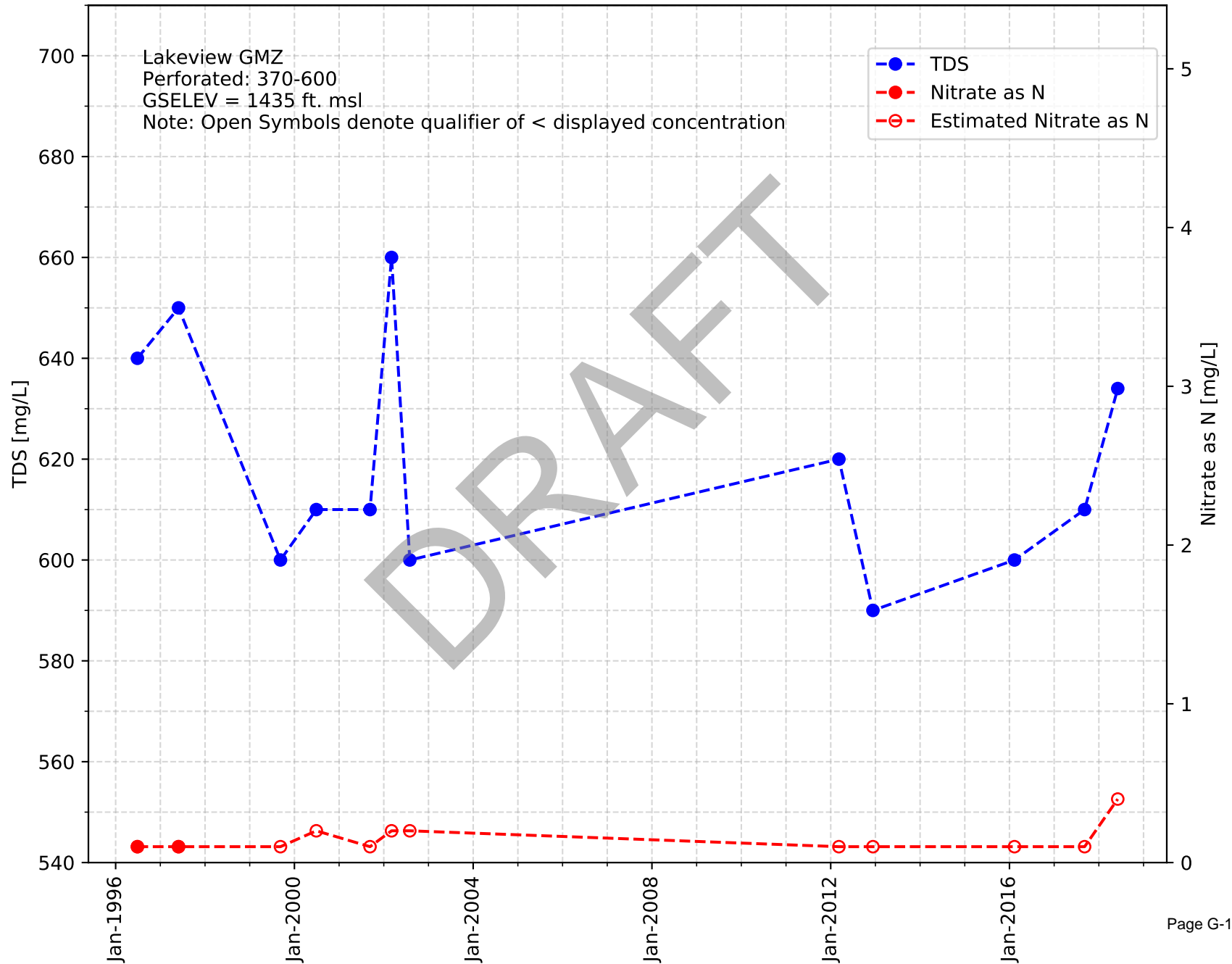
Casing Name: Marvo Holsteins



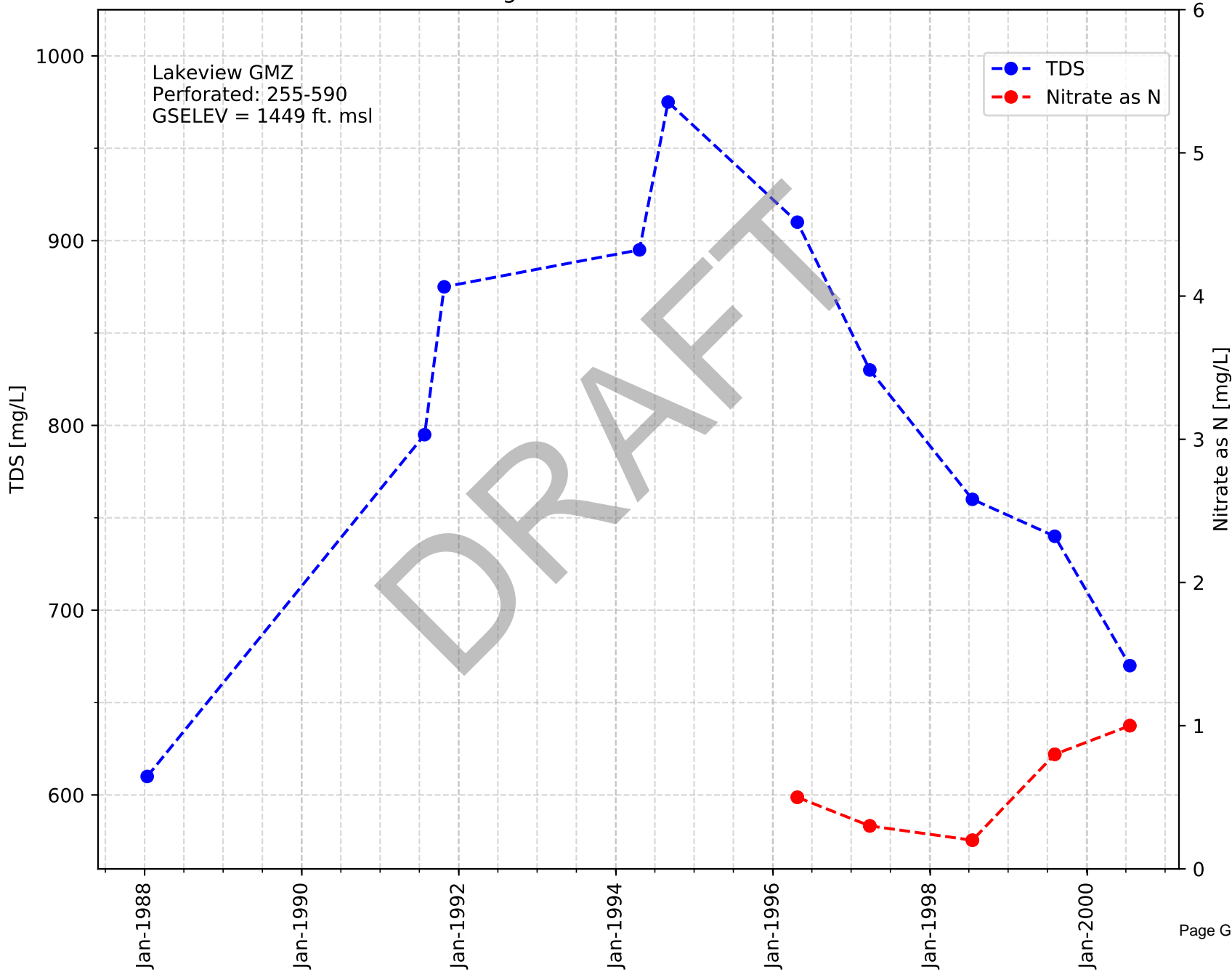
Casing Name: Bootsma South



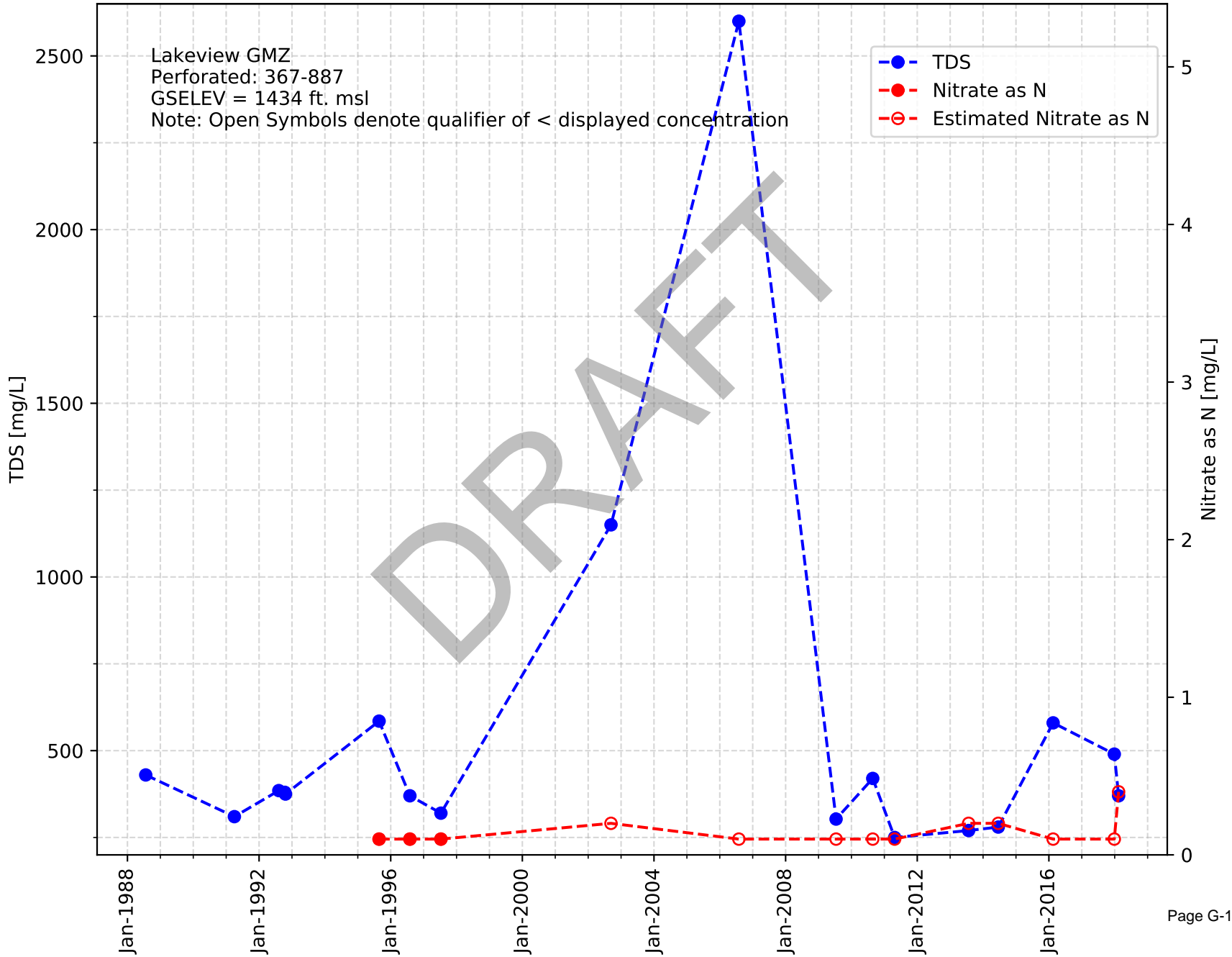
Casing Name: Troost/Bootsma



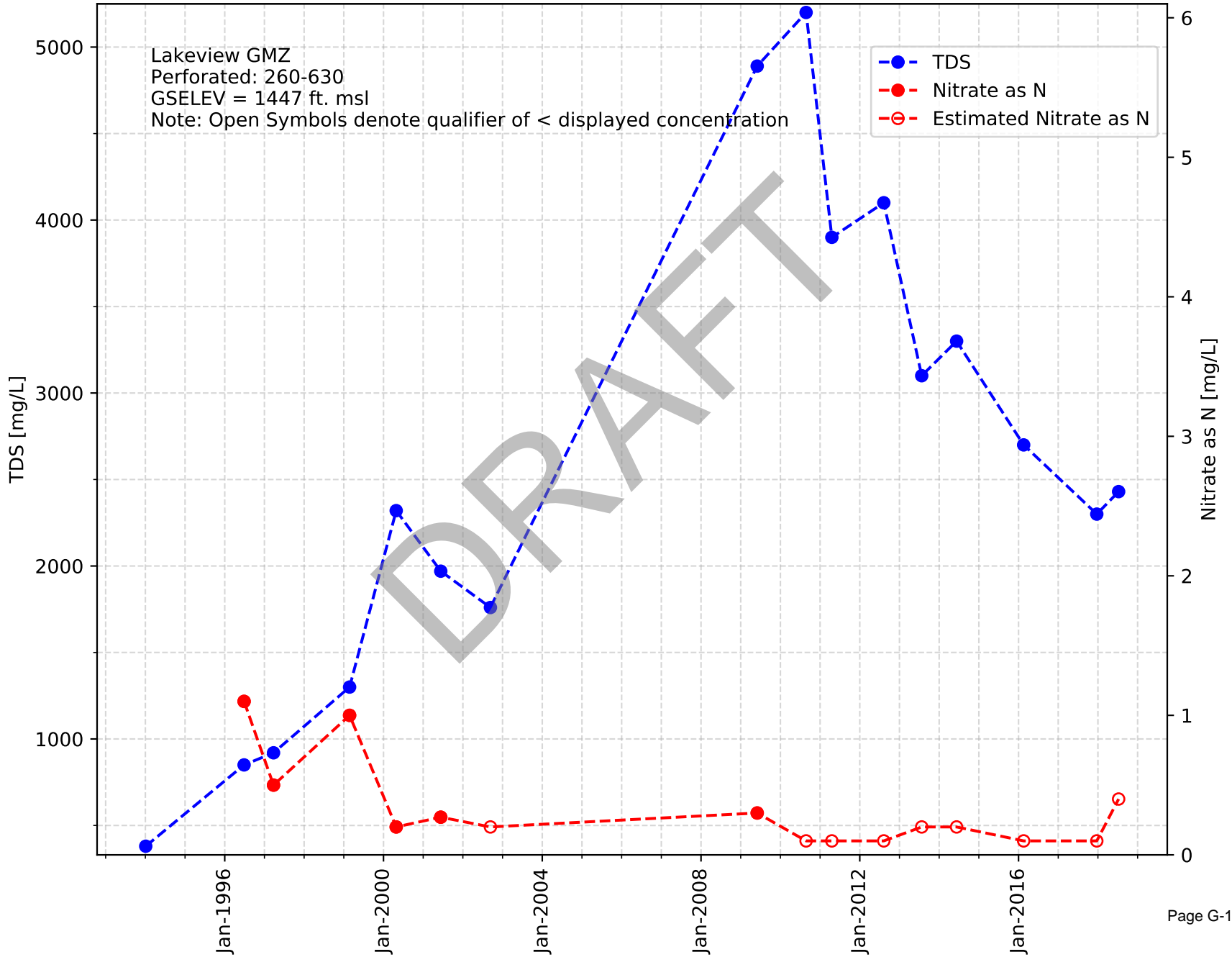
Casing Name: Hammerschmidt 02



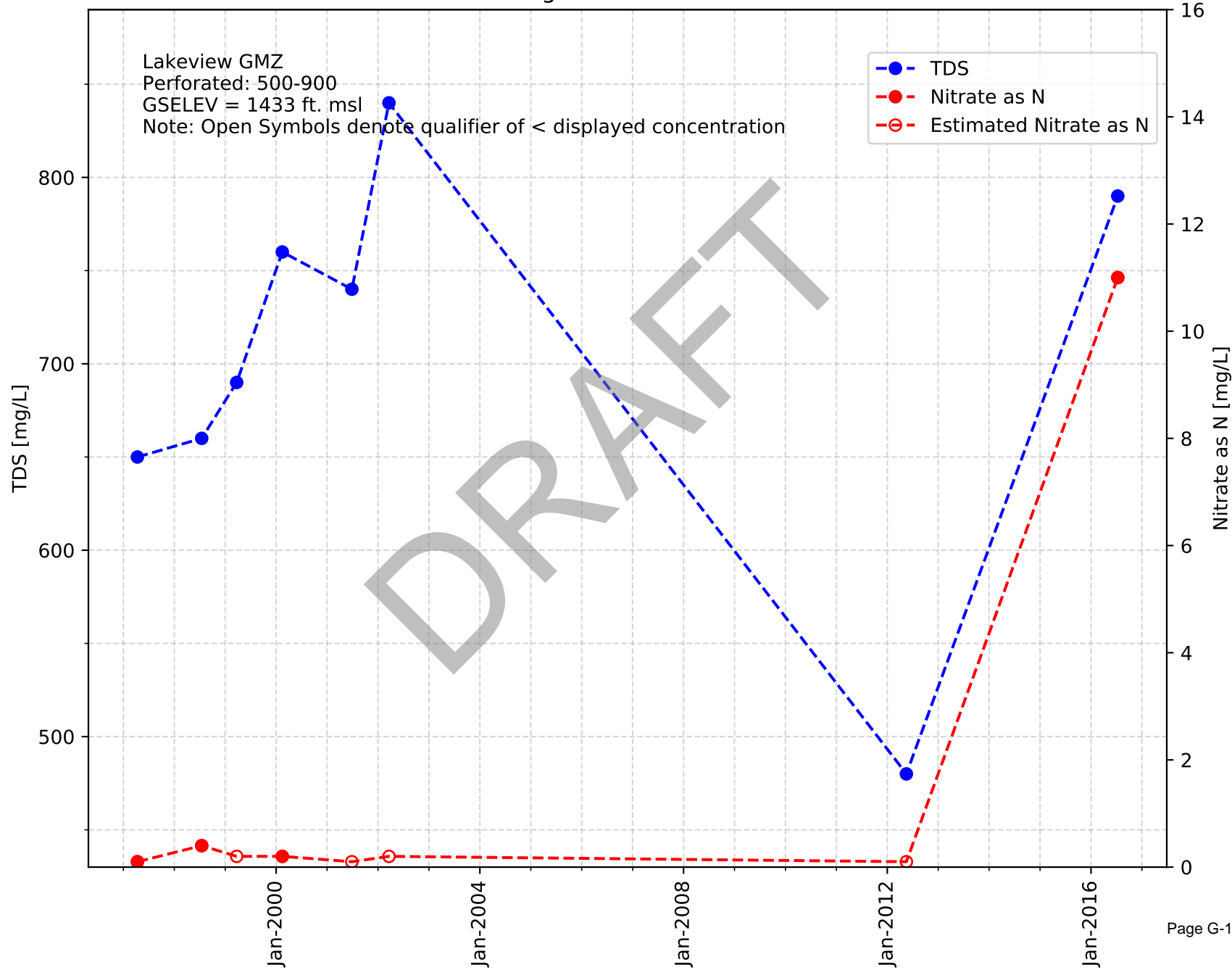
Casing Name: NWC 12



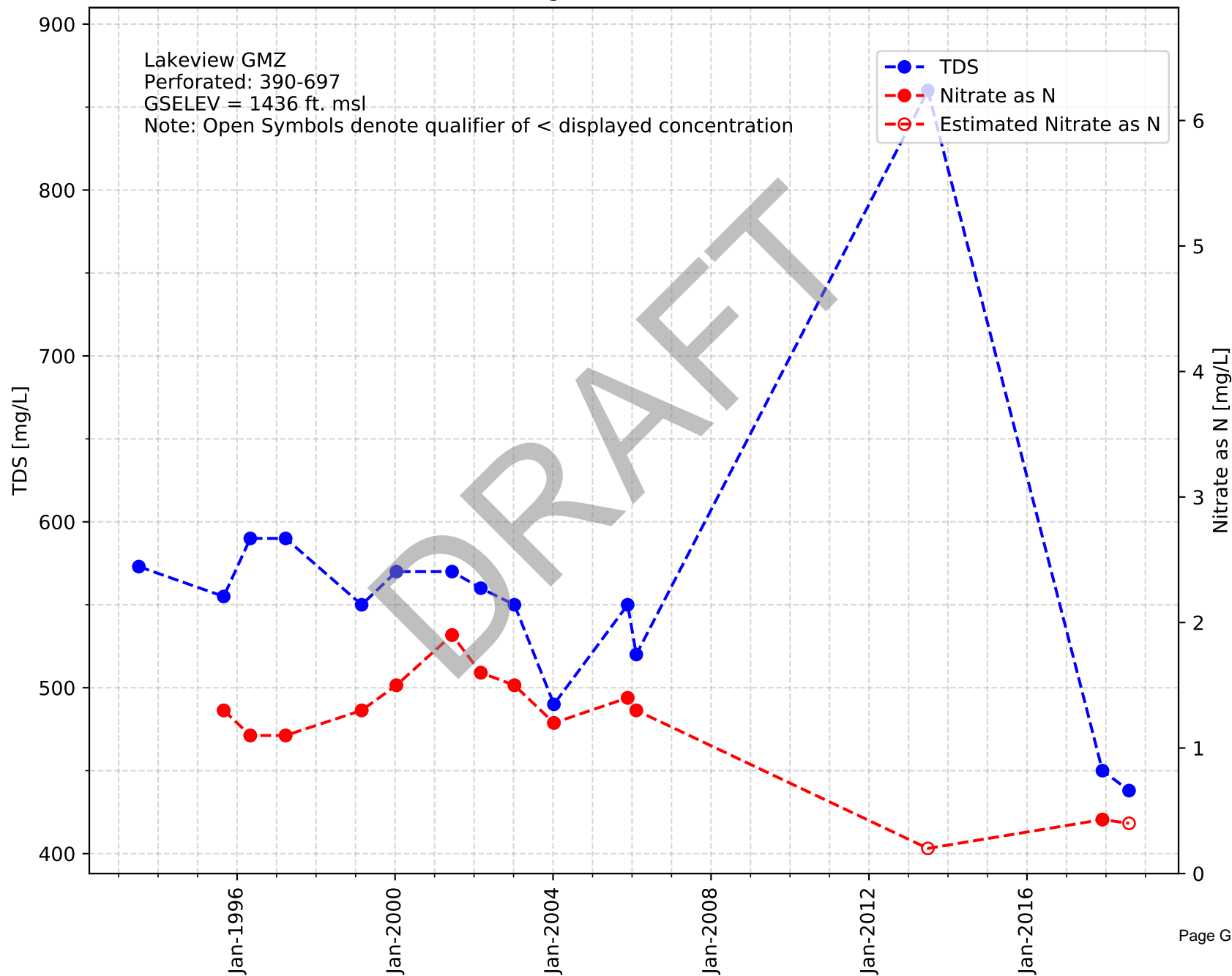
Casing Name: NWC 14



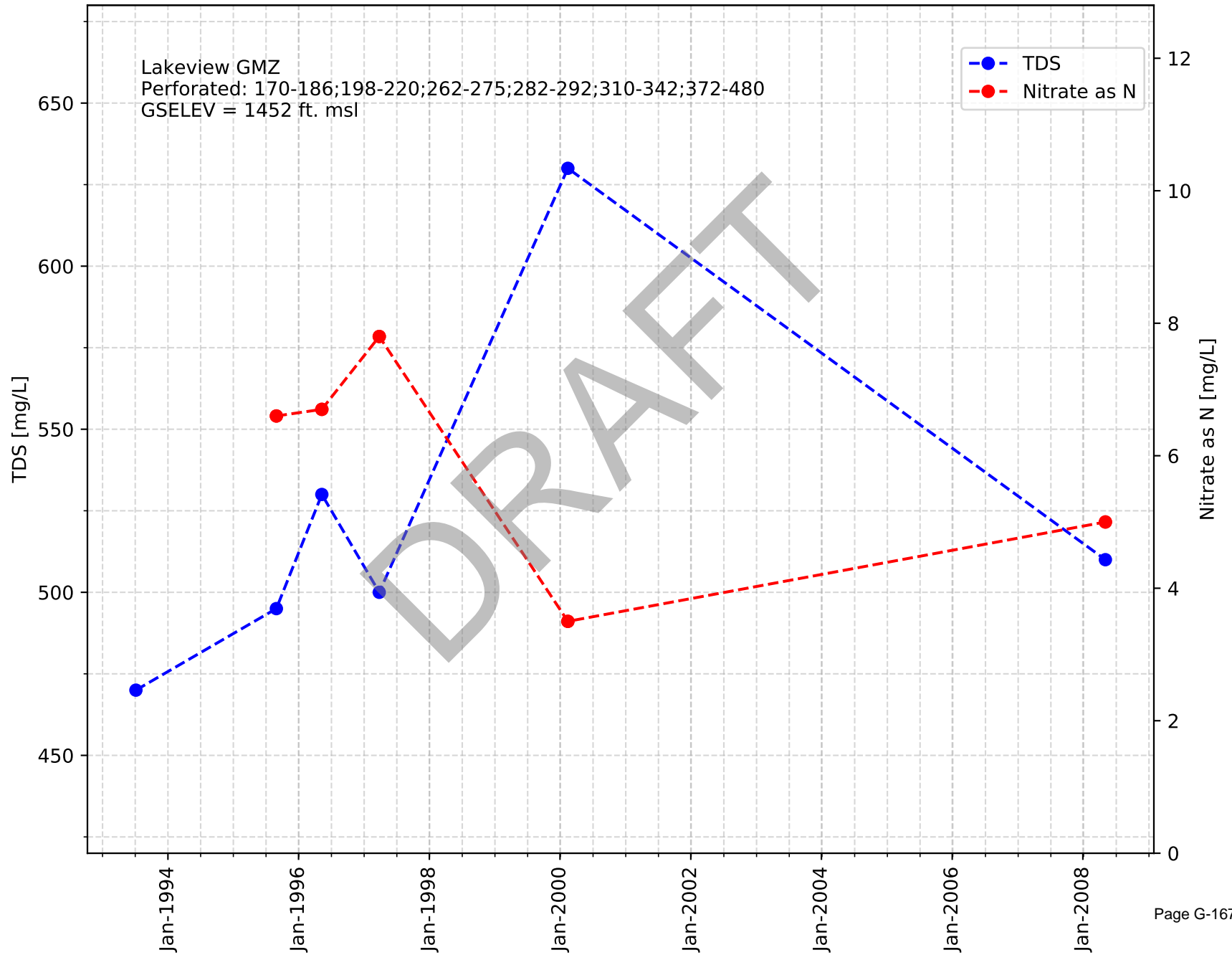
Casing Name: Nutrilite 09



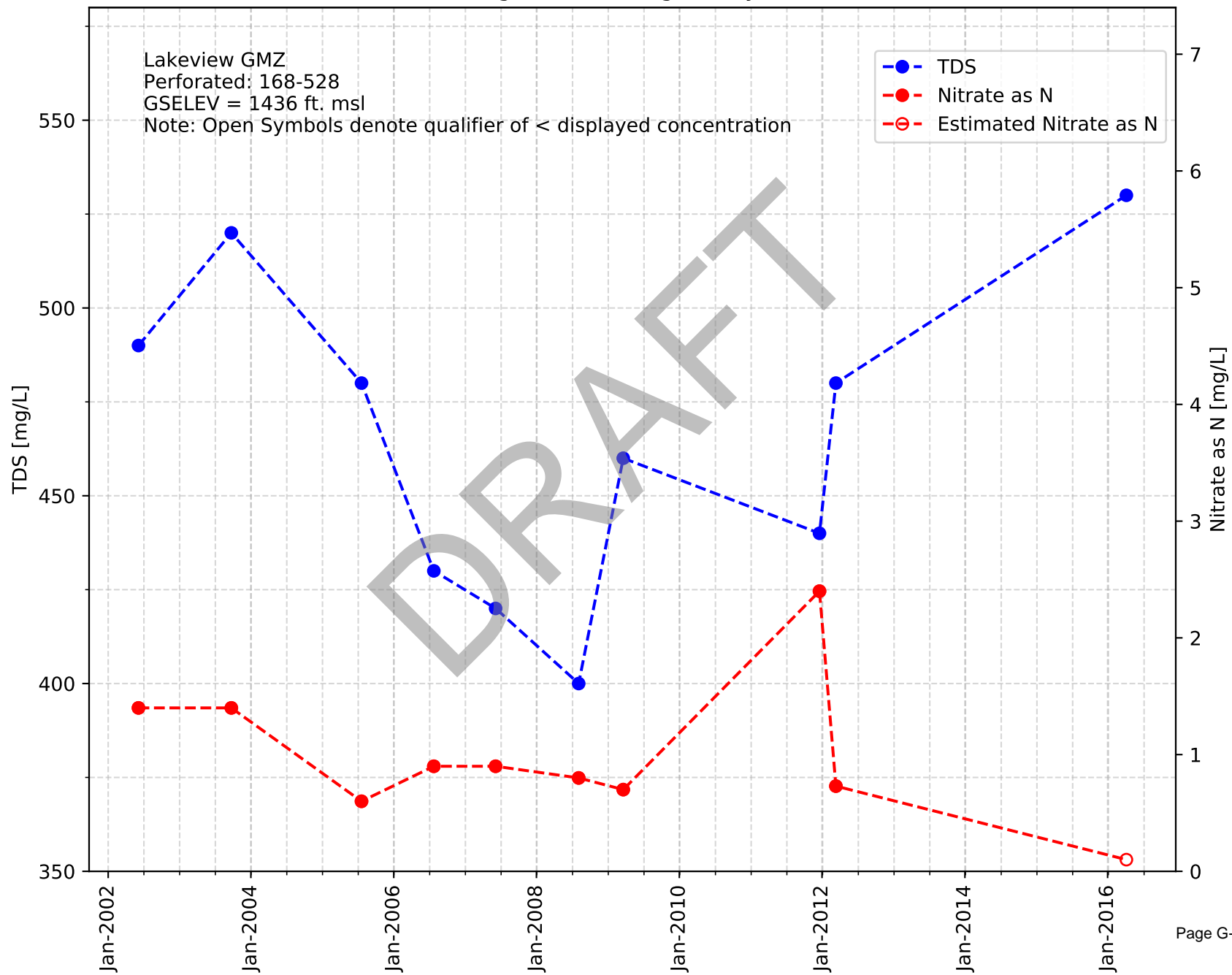
Casing Name: Nutrilite 07



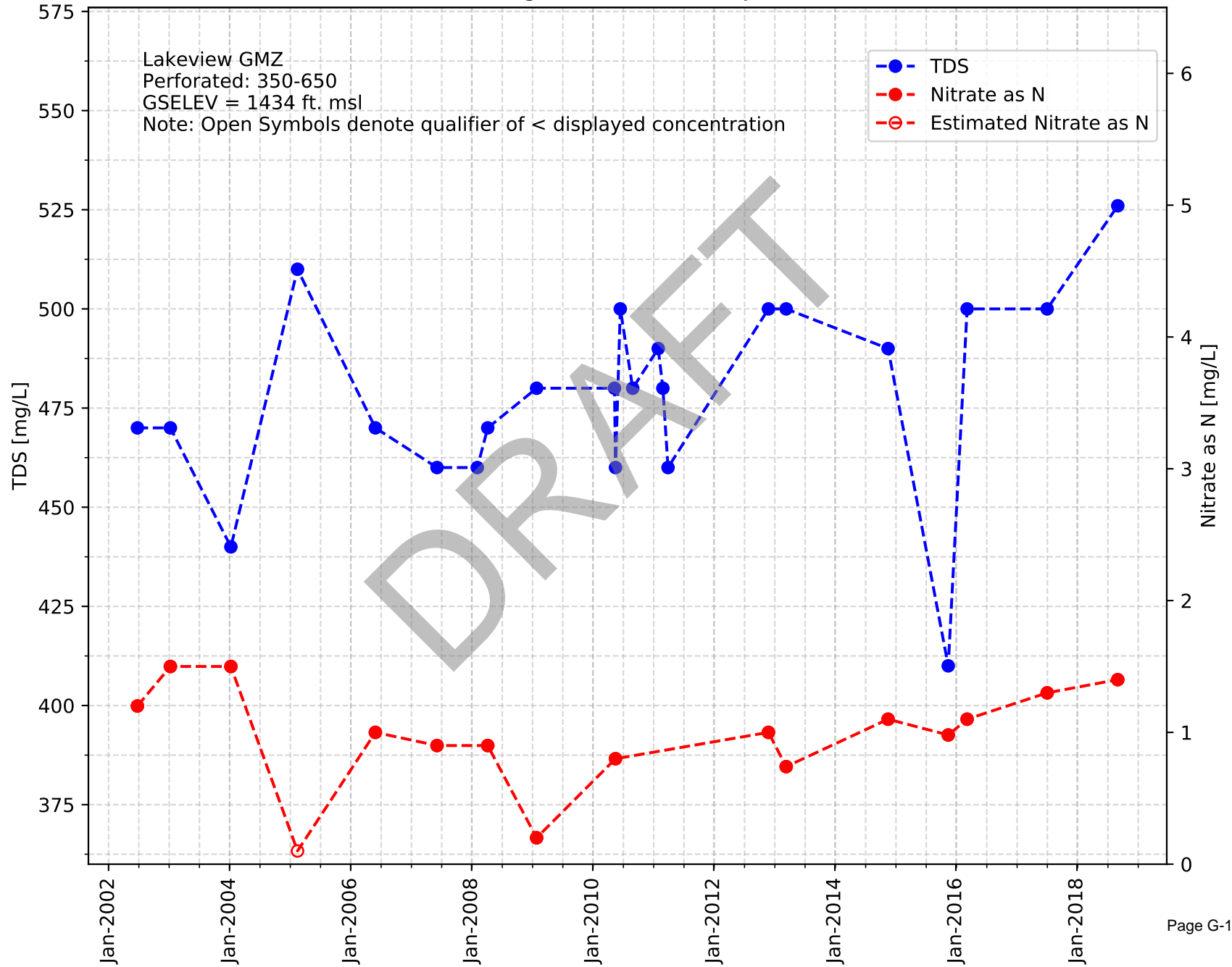
Casing Name: Nutrilite 05



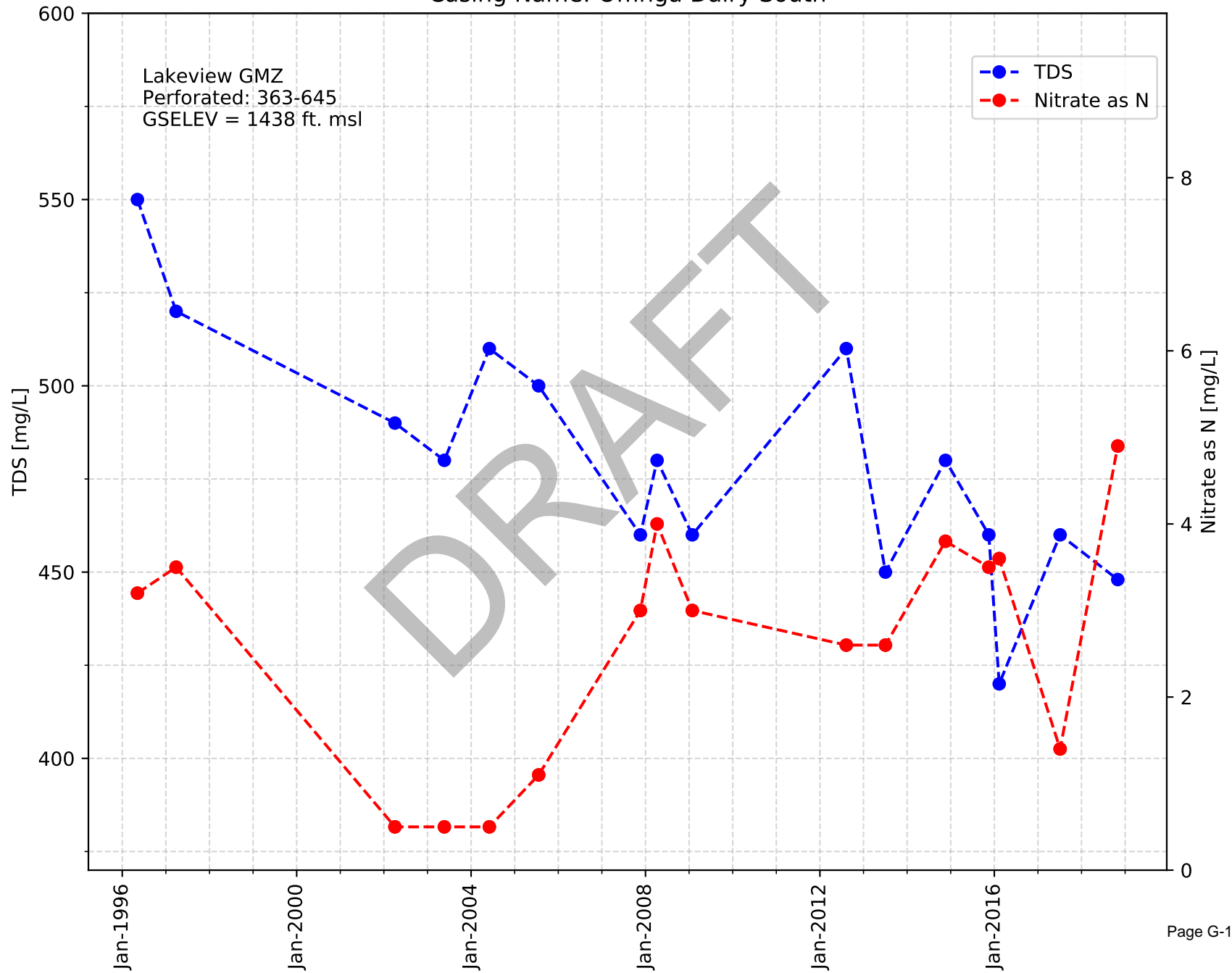
Casing Name: Offinga Dairy North



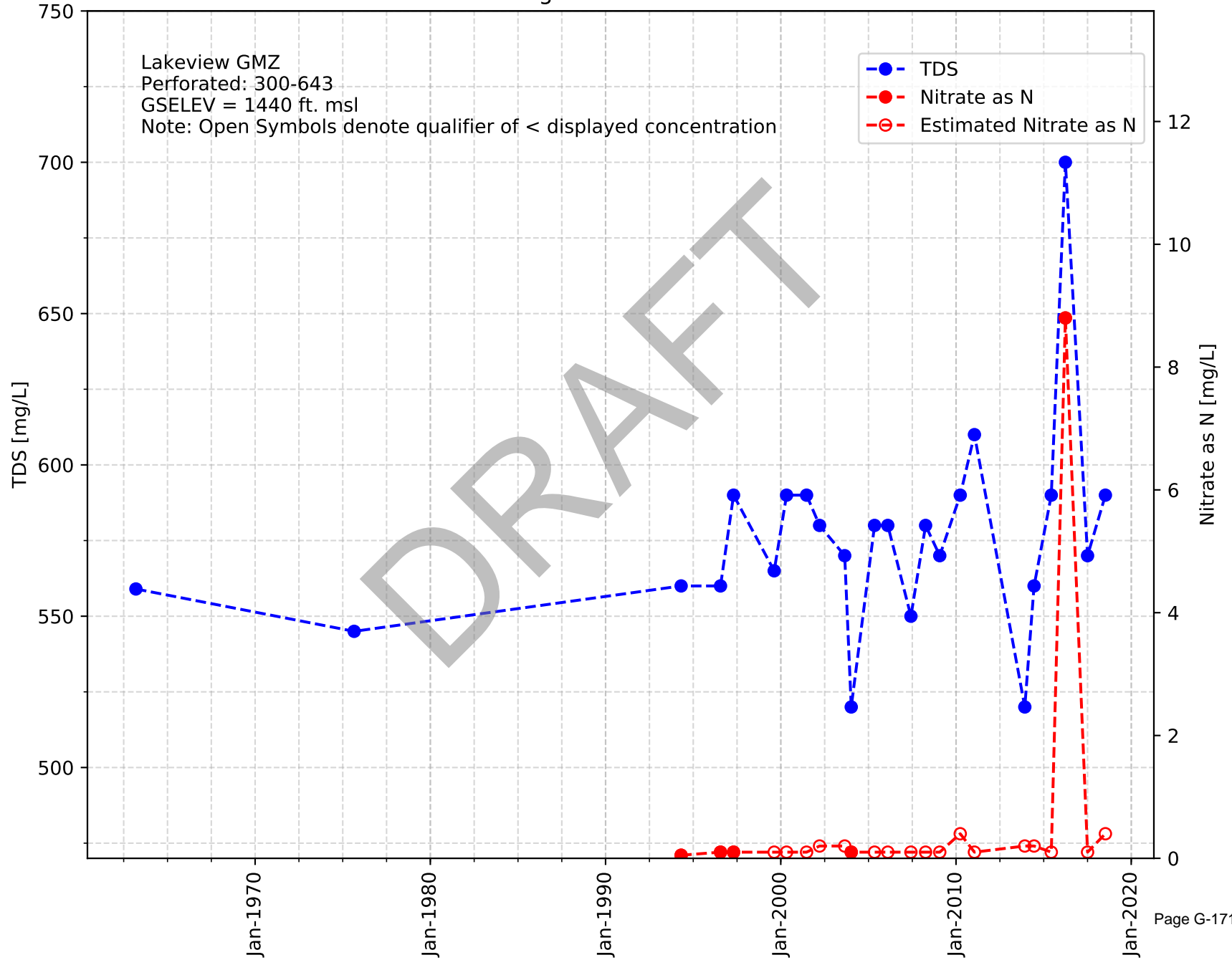
Casing Name: Bootsma, John



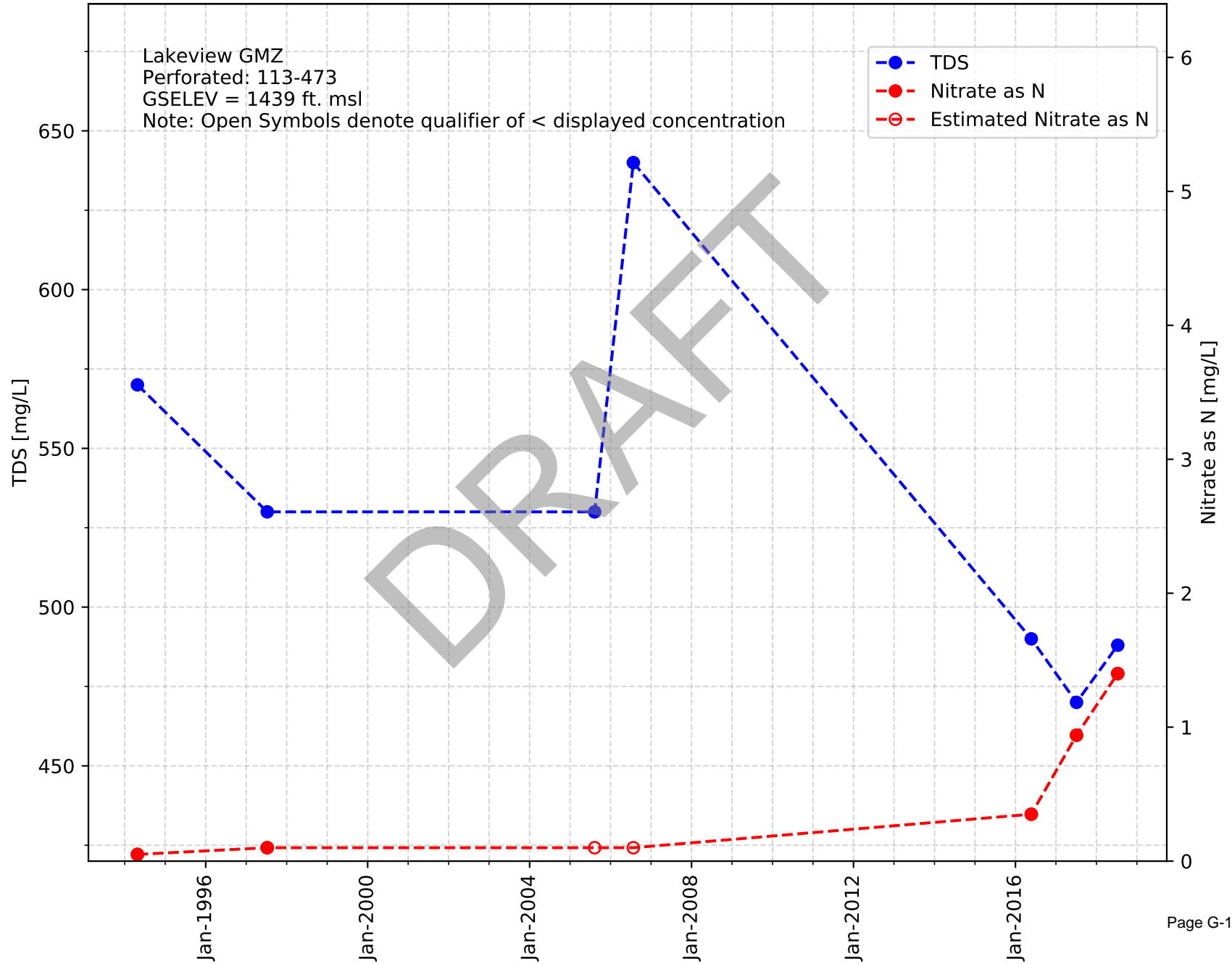
Casing Name: Offinga Dairy South



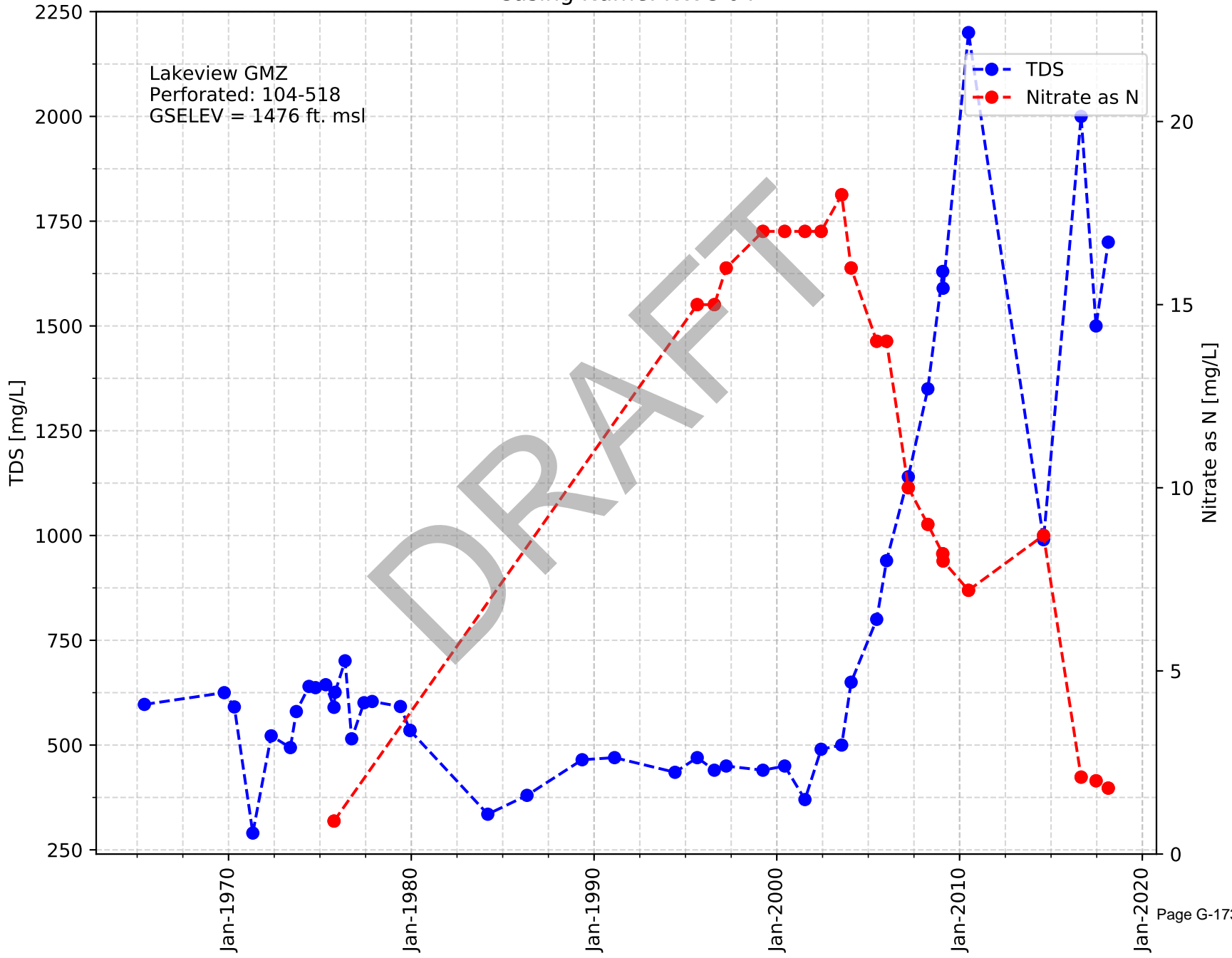
Casing Name: Motte East



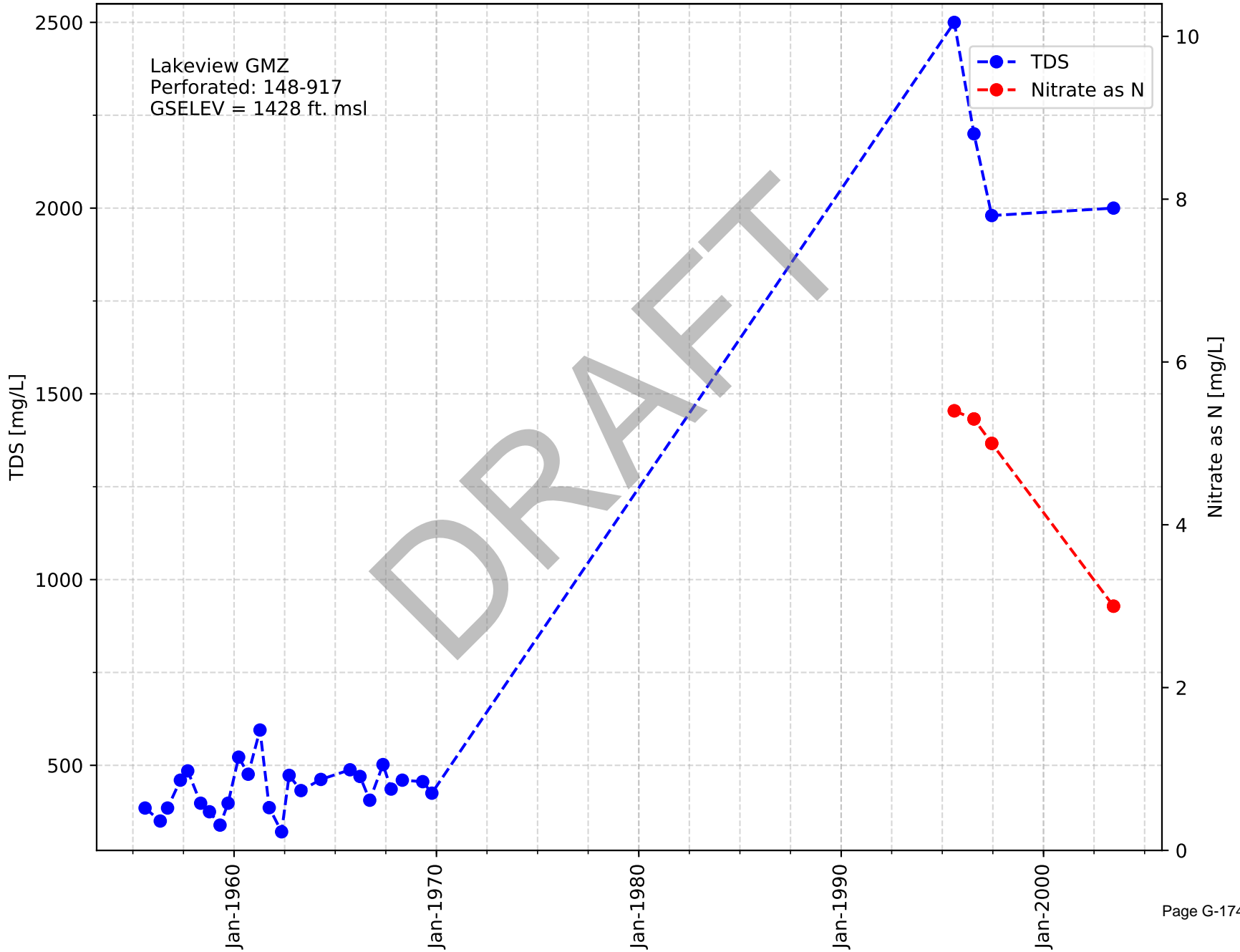
Casing Name: Motte West



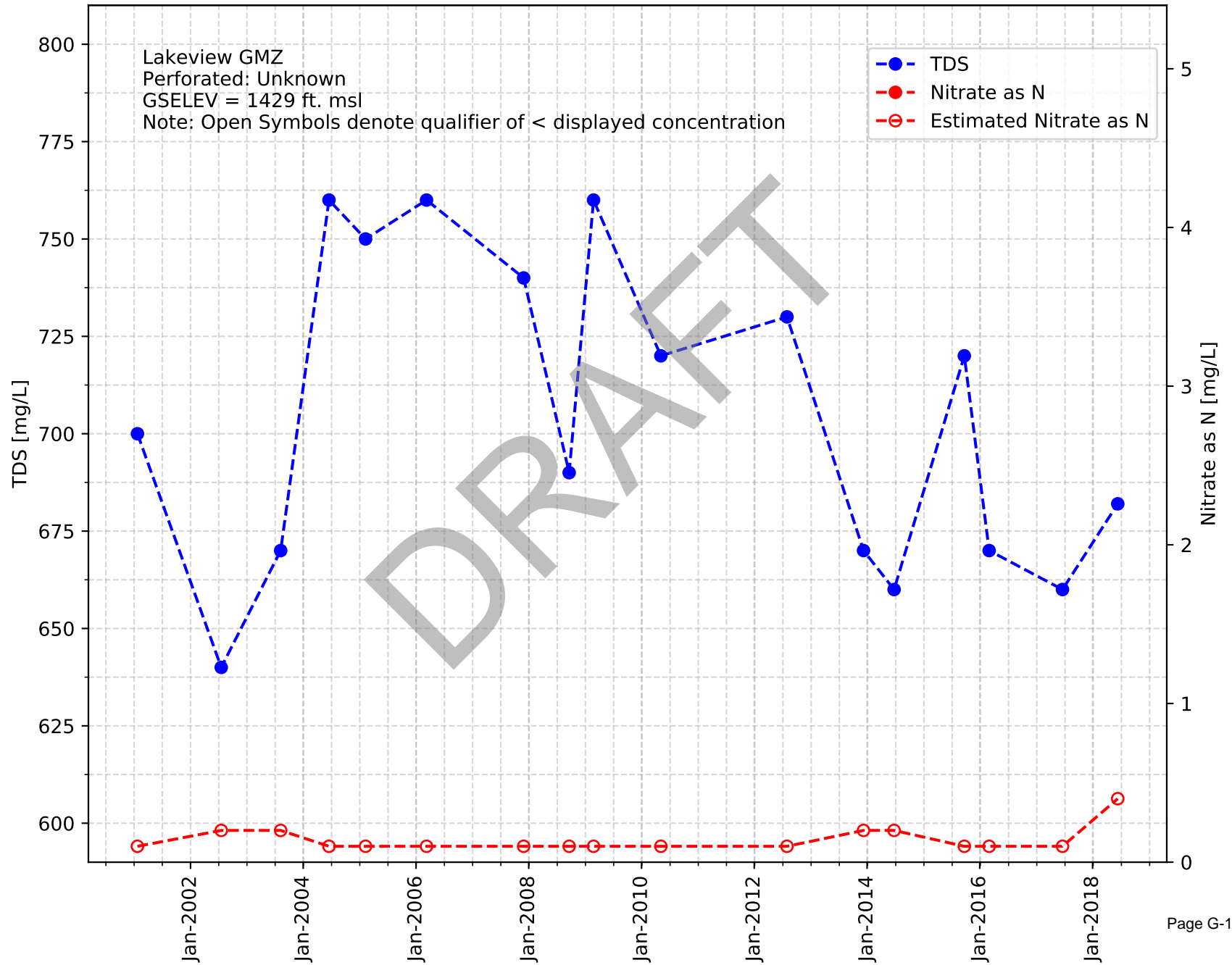
Casing Name: NWC 04



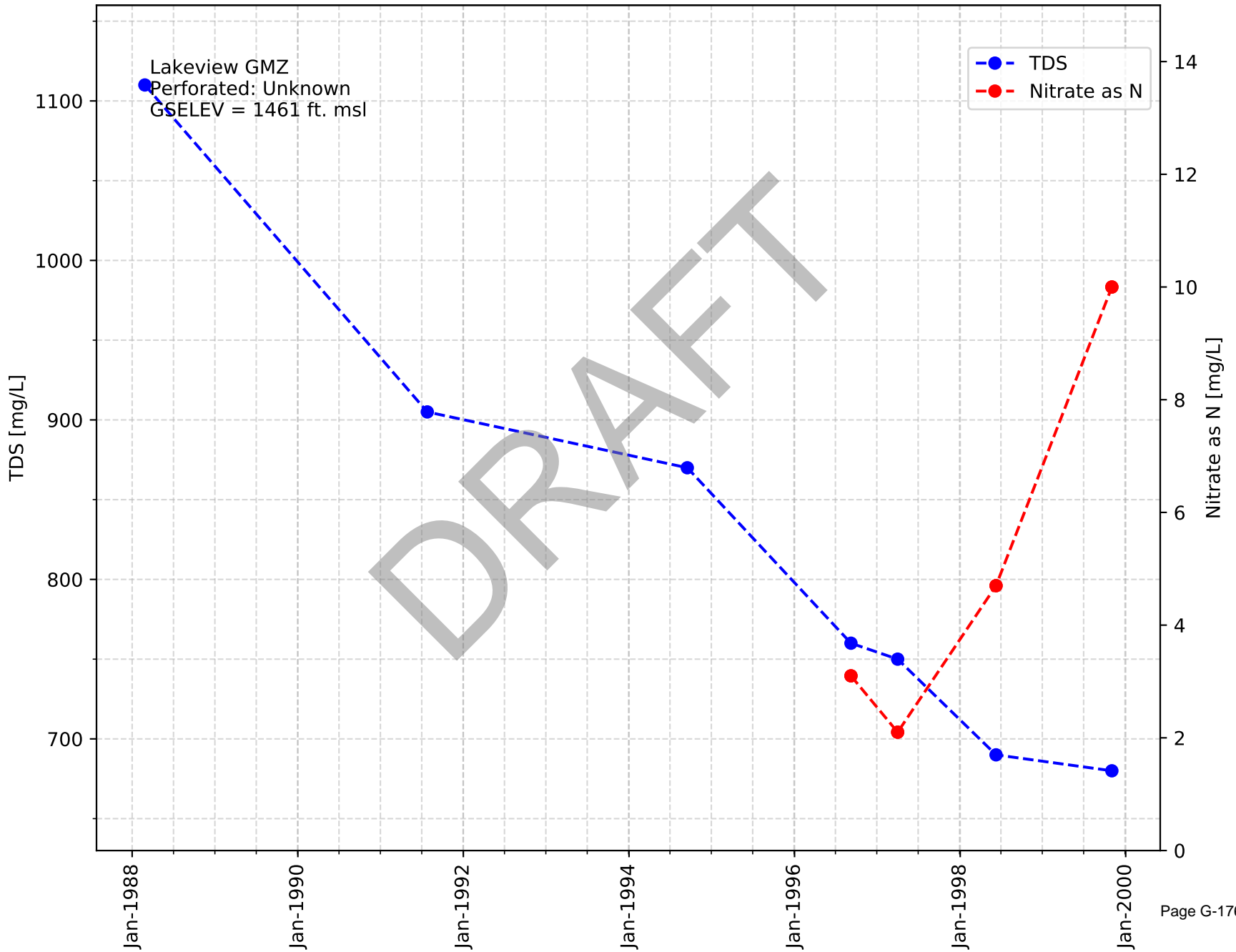
Casing Name: DeVuyst House



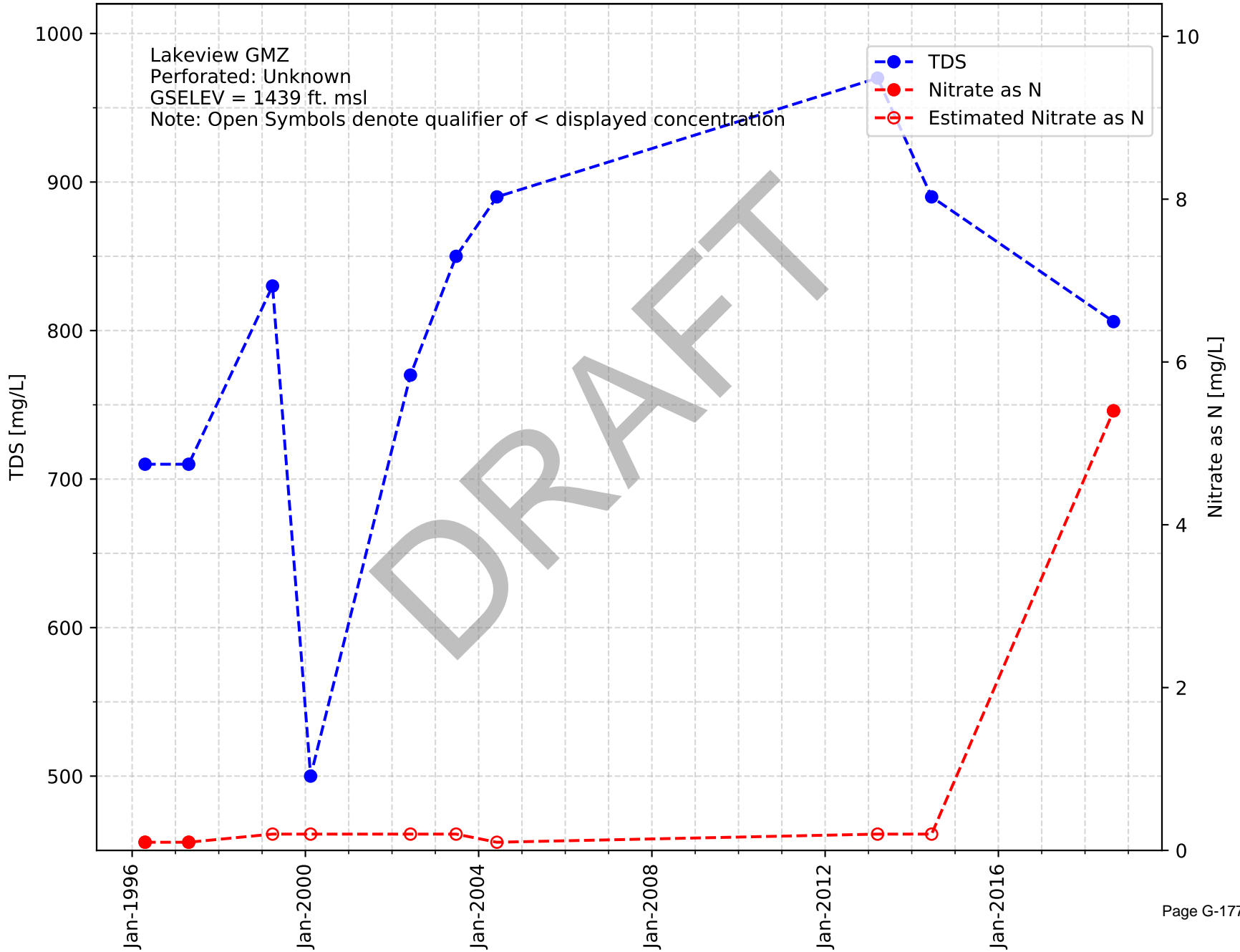
Casing Name: Fish & Game South



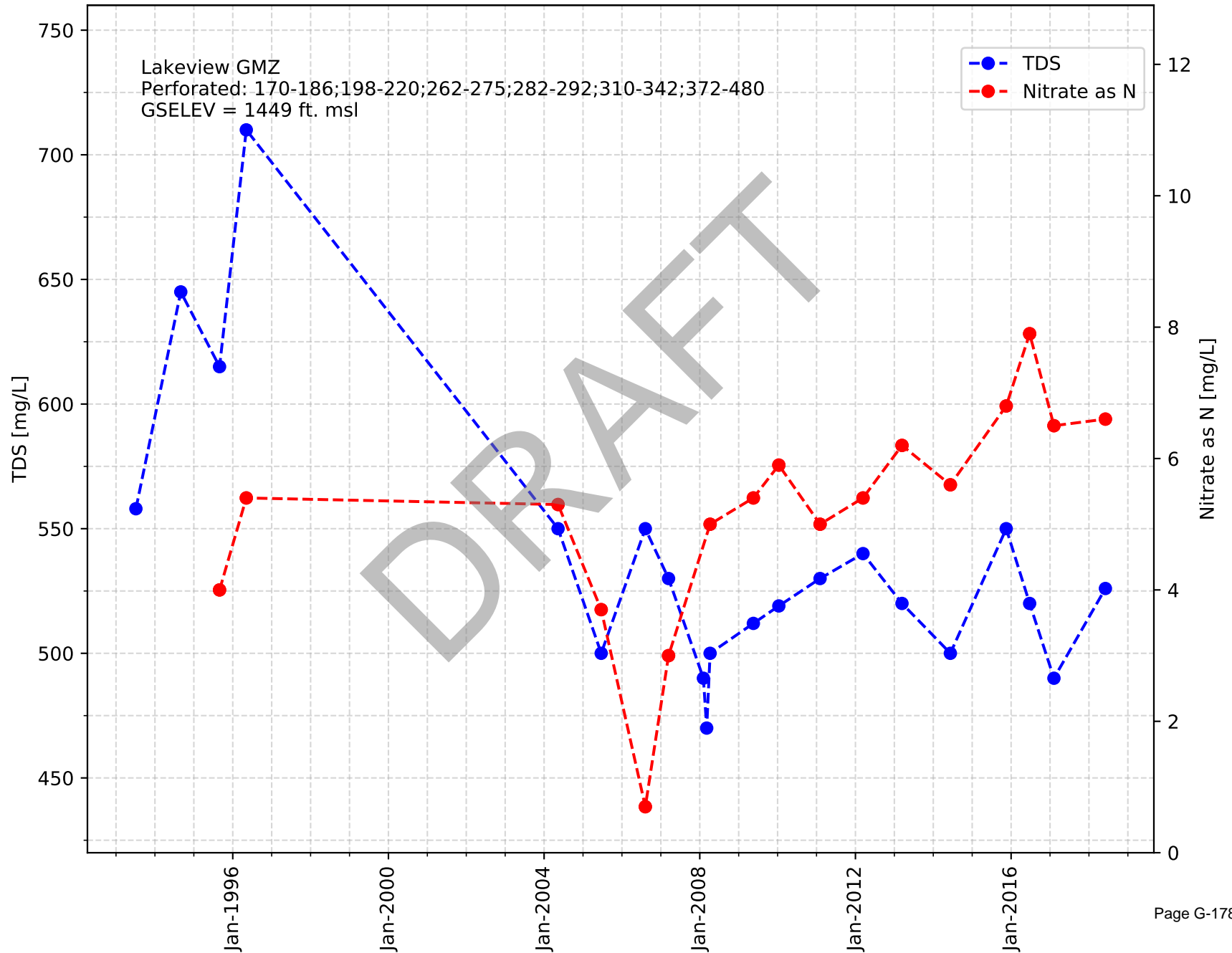
Casing Name: Walker Lakeview



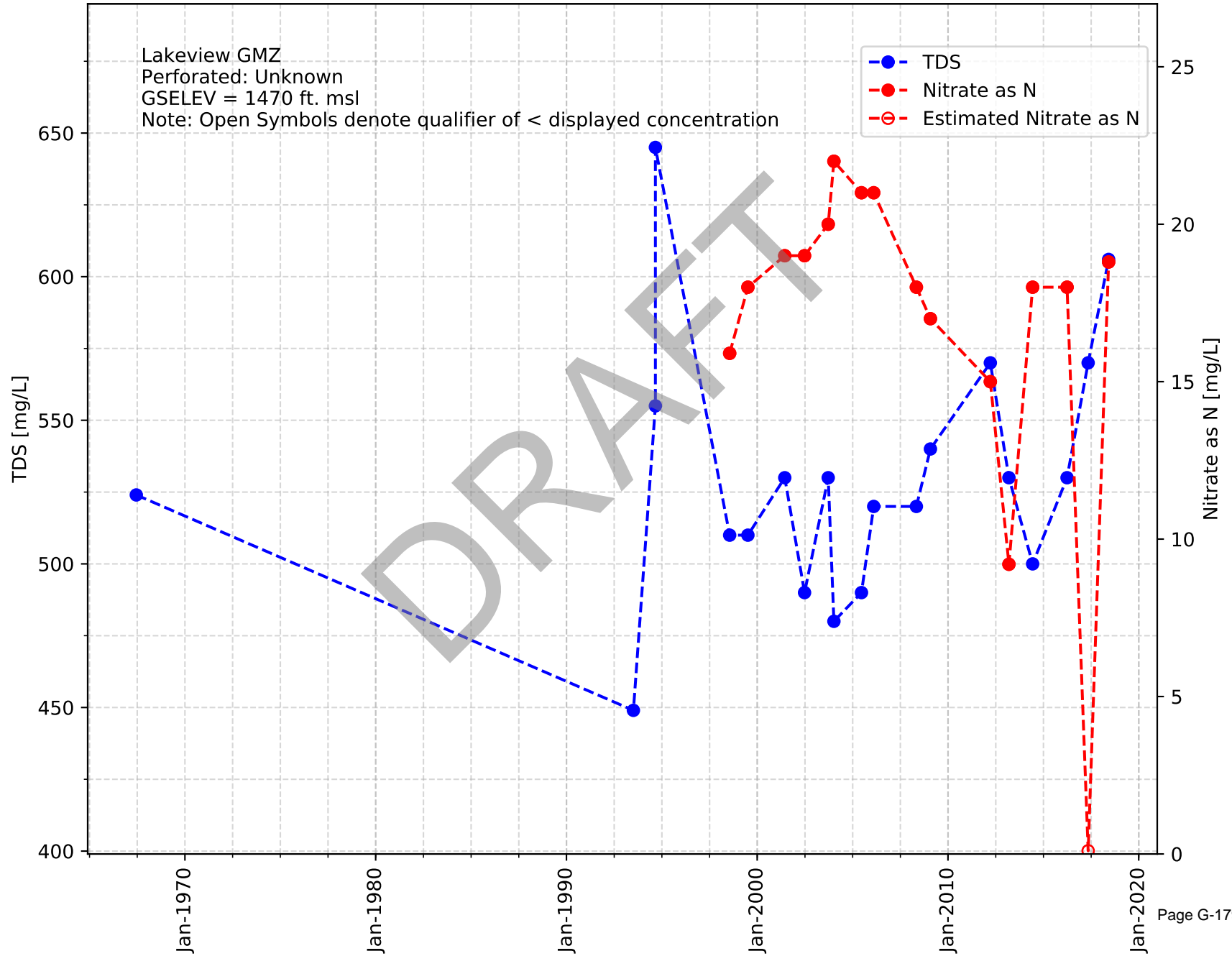
Casing Name: Nutrilite 08



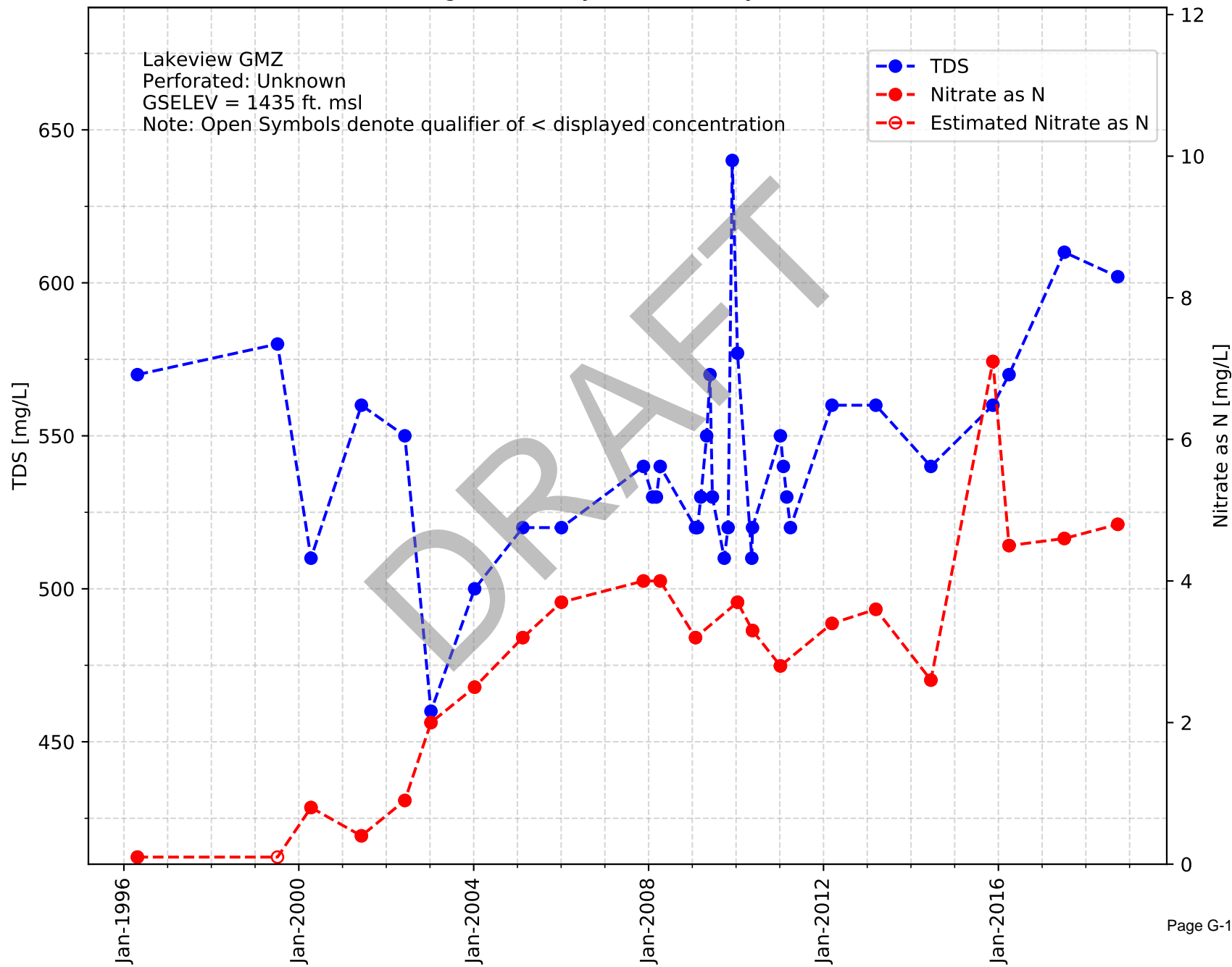
Casing Name: Nutrilite 04



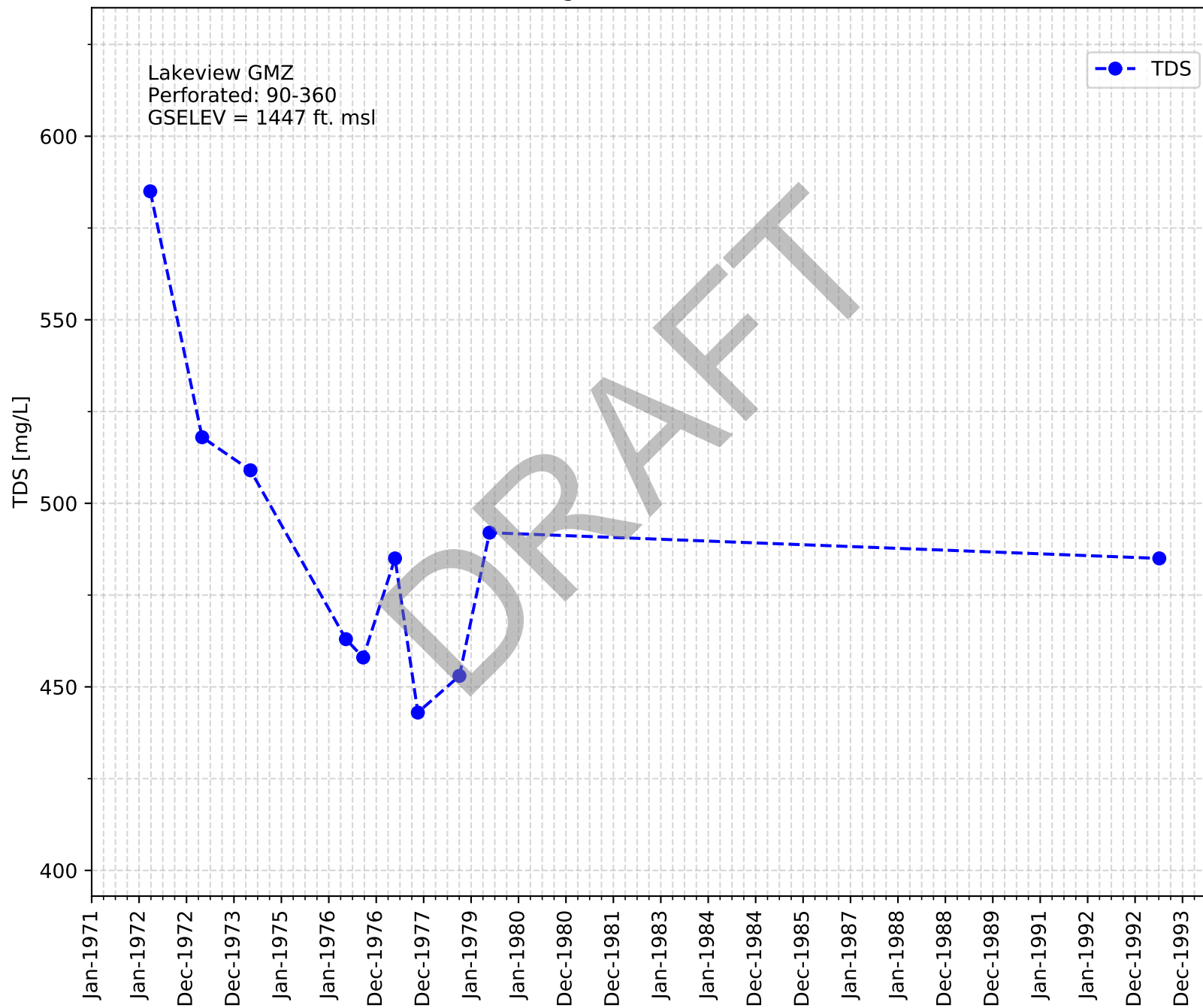
Casing Name: Nutrilite 02



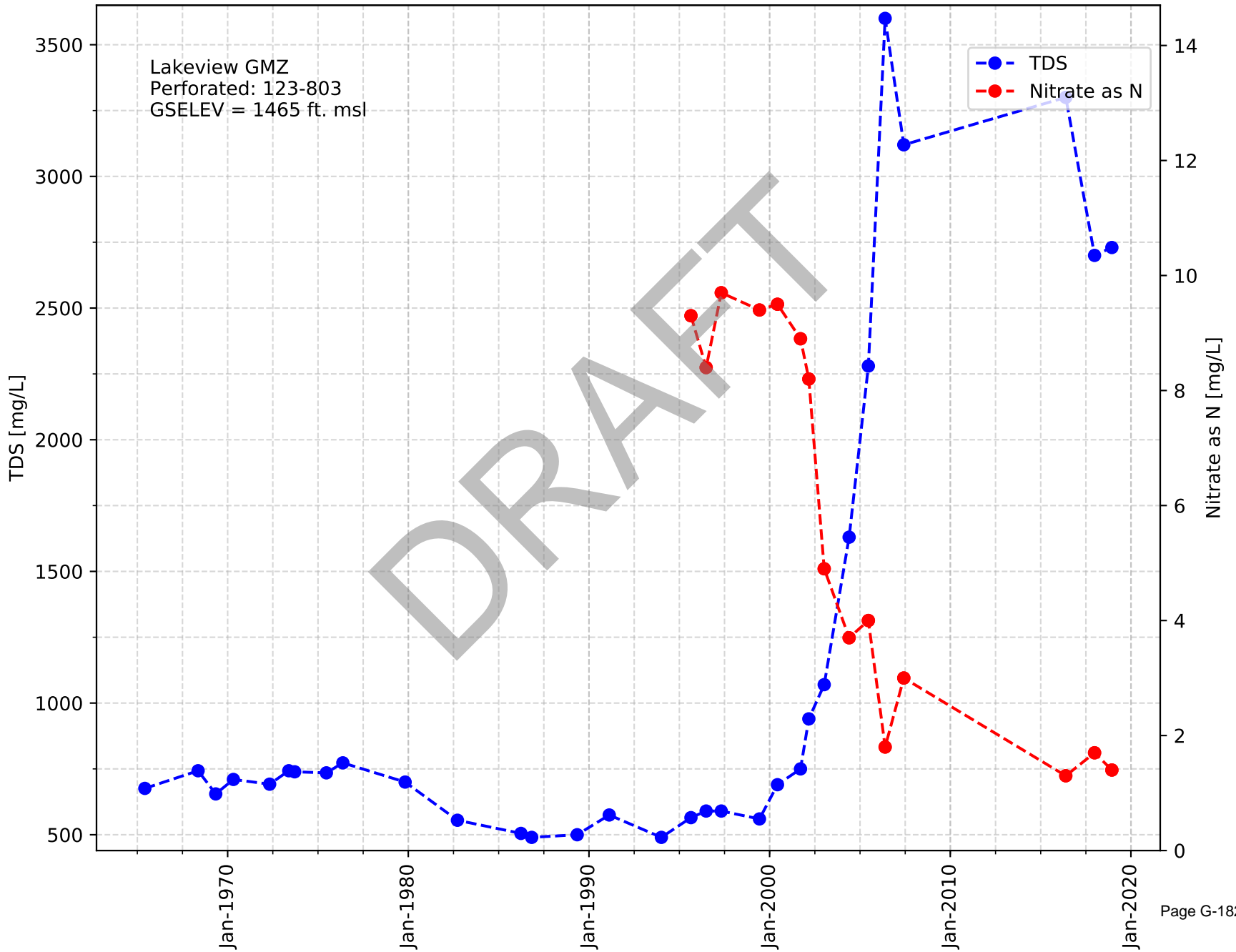
Casing Name: Goyenette Dairy (Ferriera)



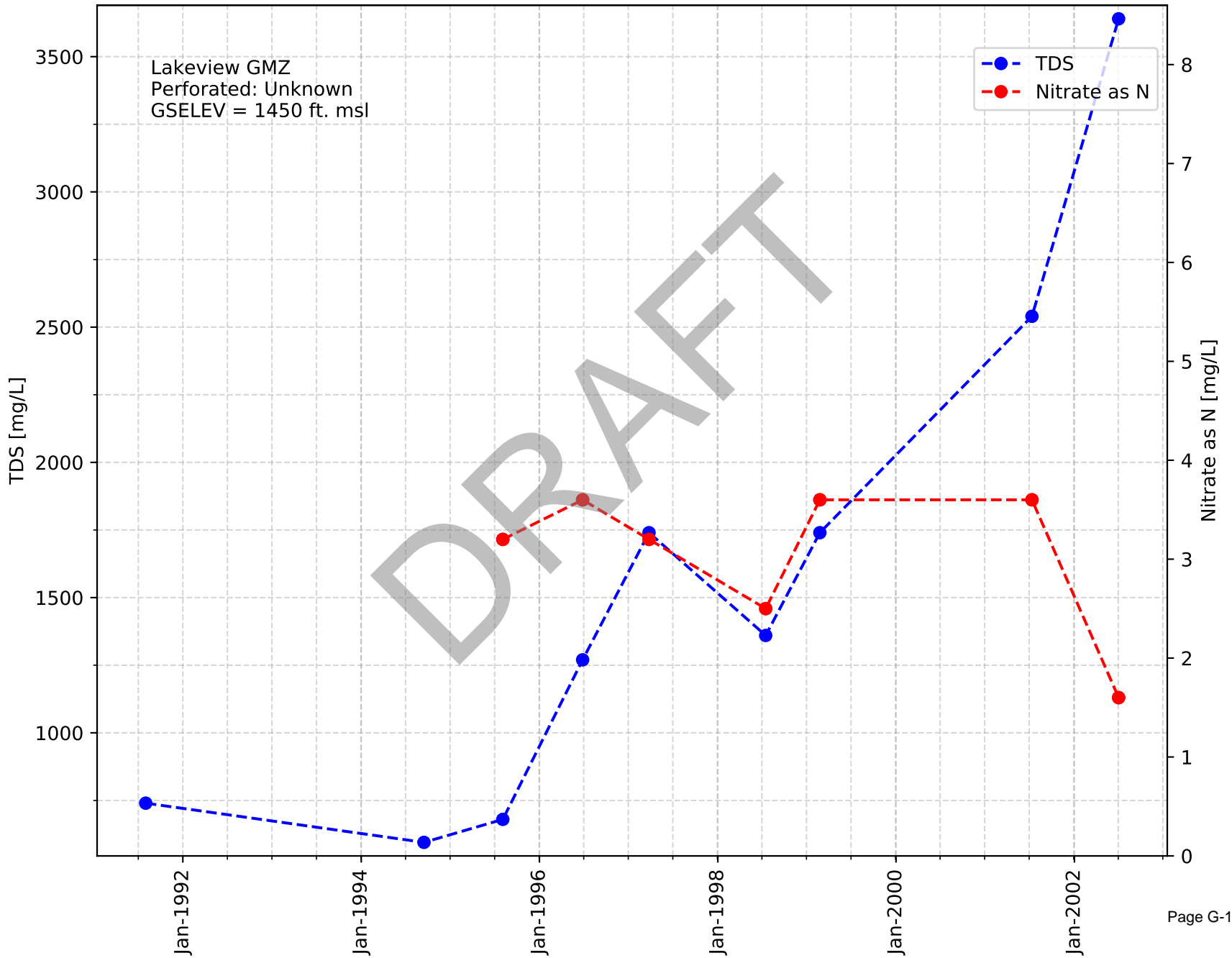
Casing Name: Nutrilite 06



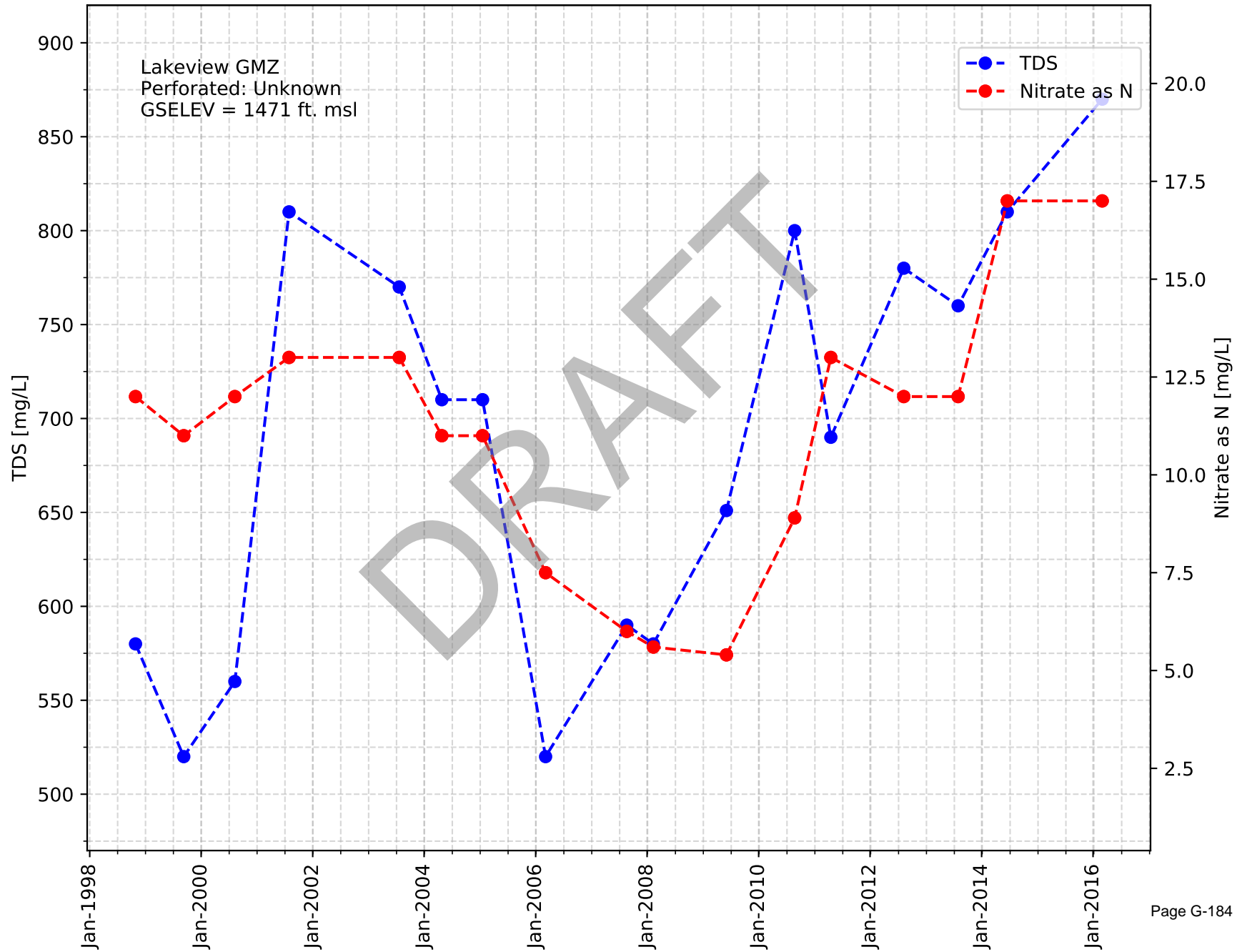
Casing Name: NWC 11



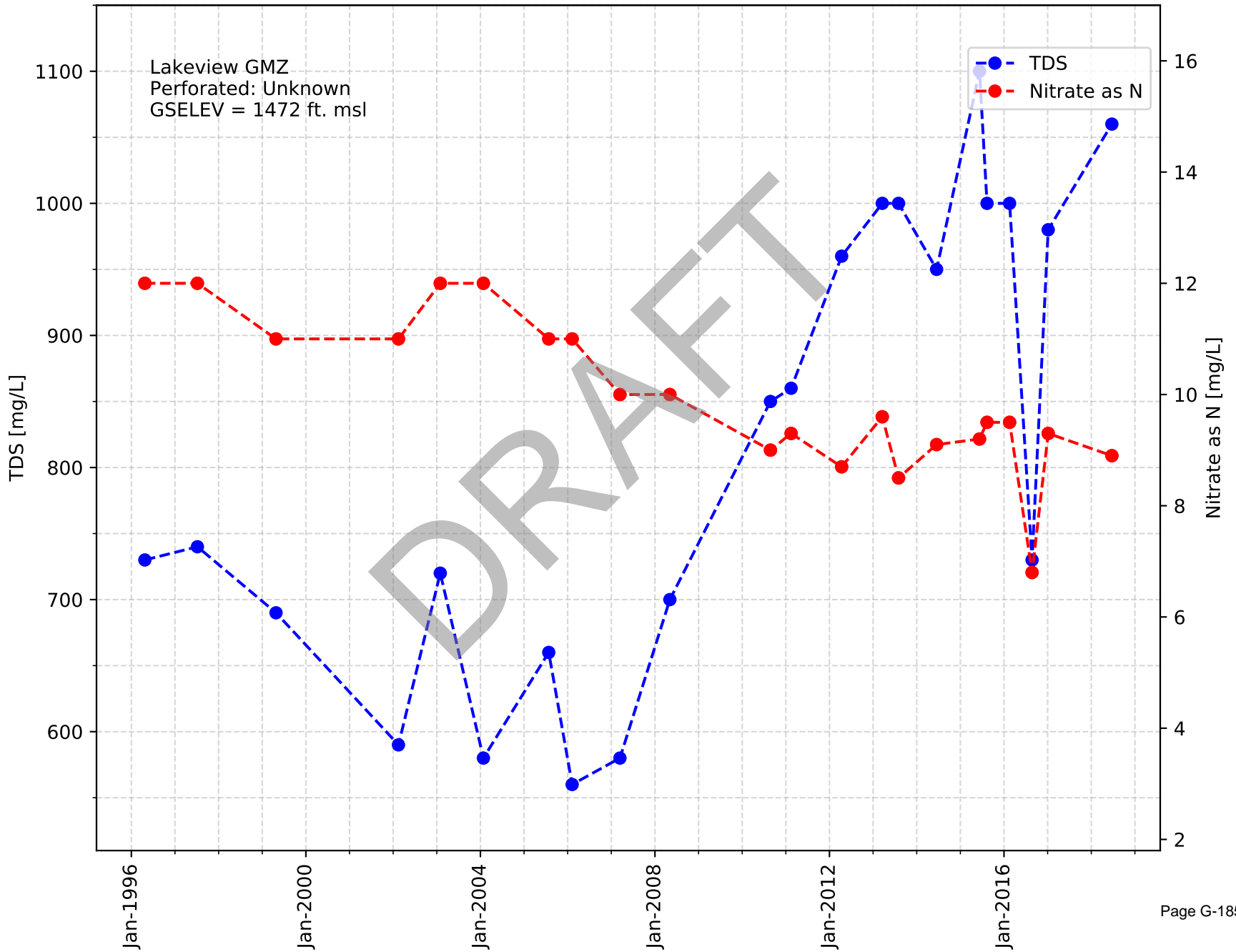
Casing Name: Lauda Electric



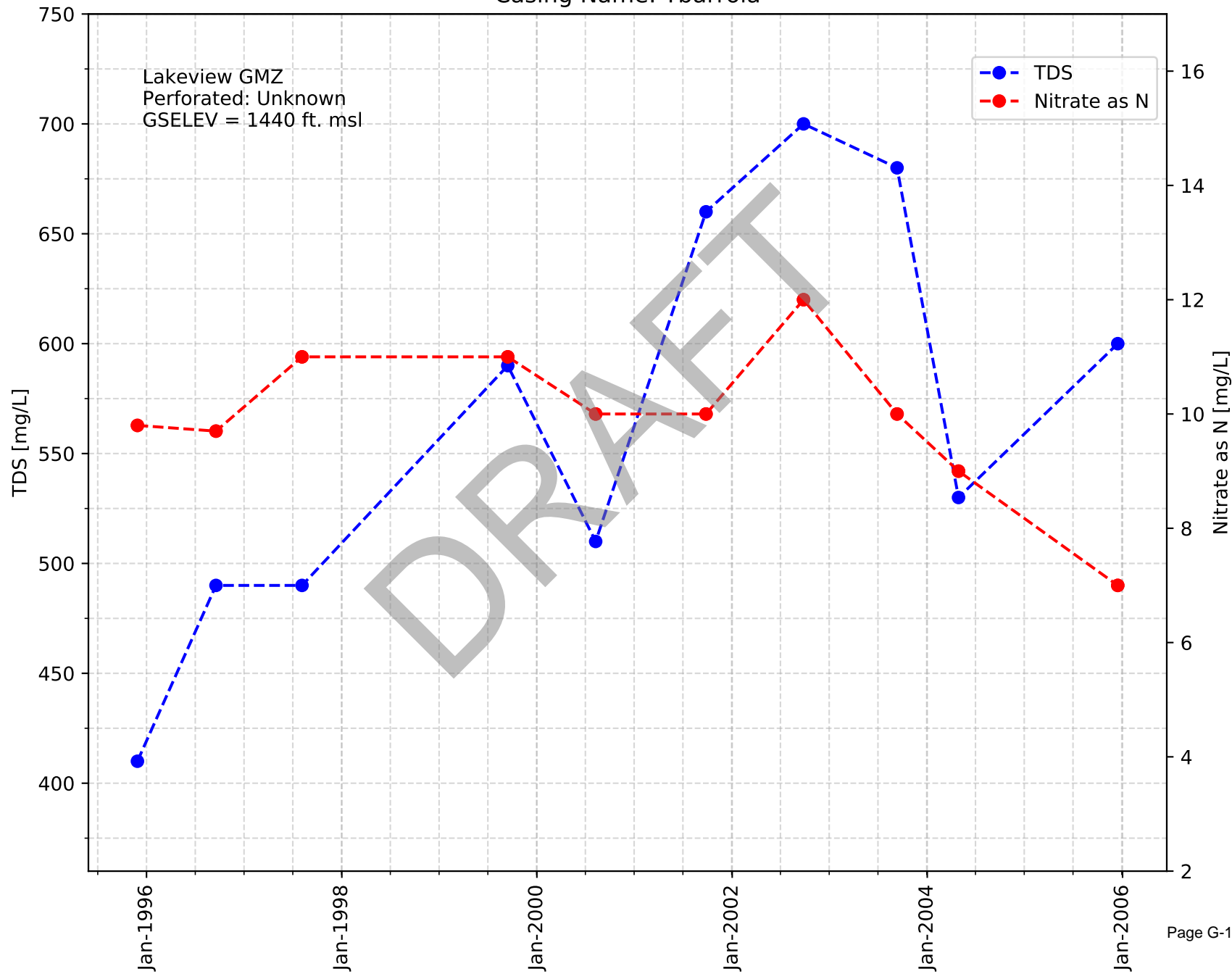
Casing Name: NWC 06



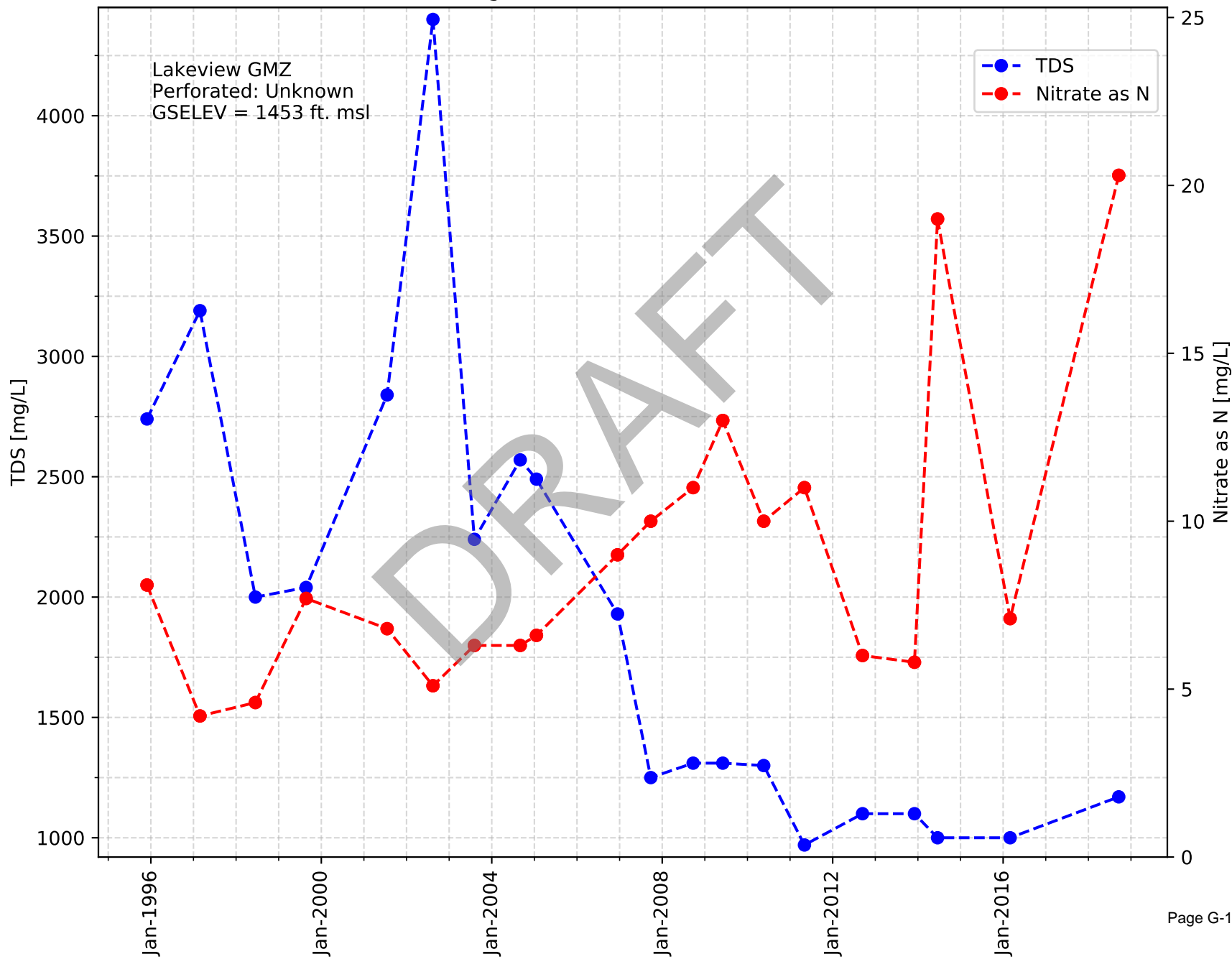
Casing Name: NWC Archibek aka Piester Well



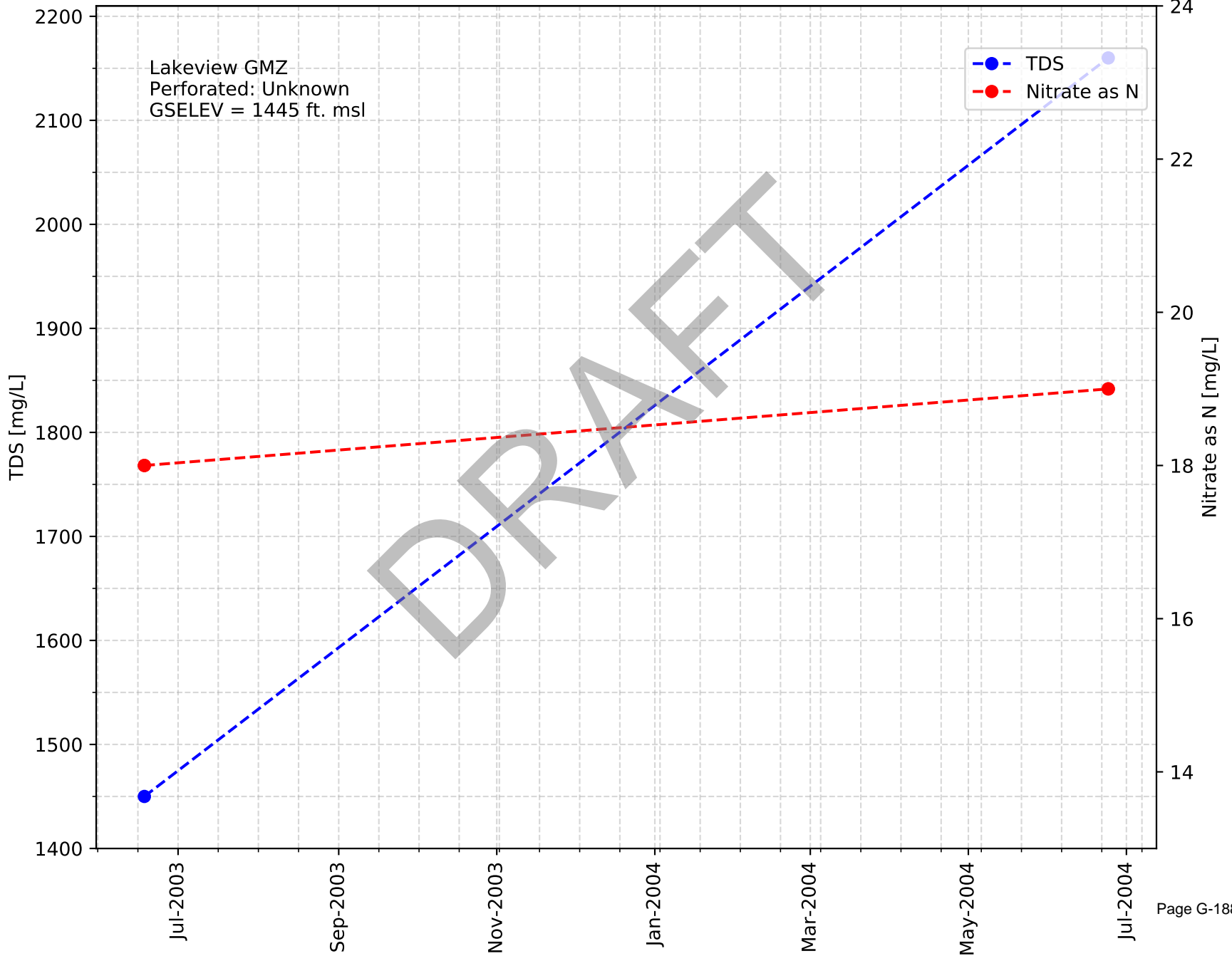
Casing Name: Ybarrola



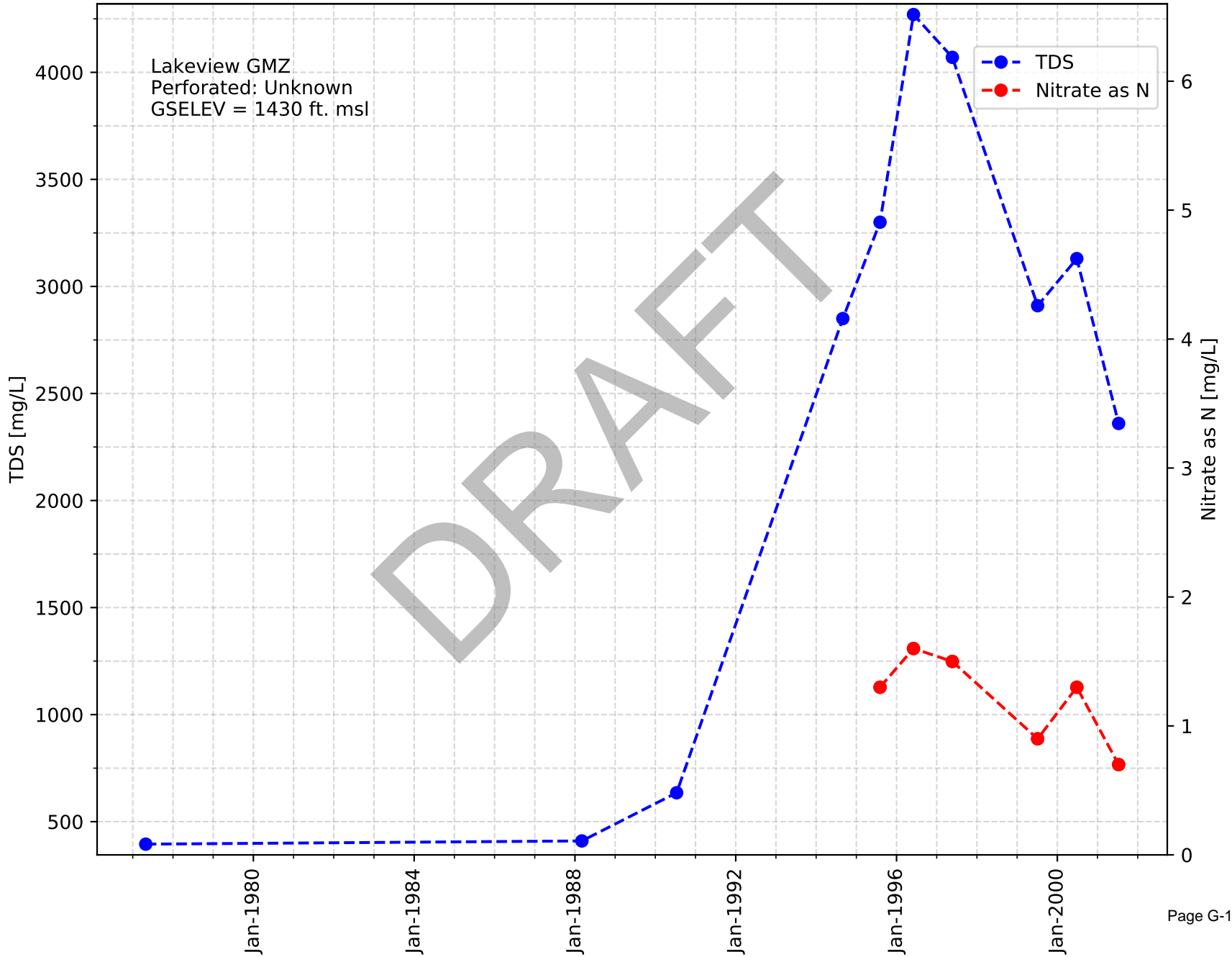
Casing Name: Smith C Nuevo/Olivas



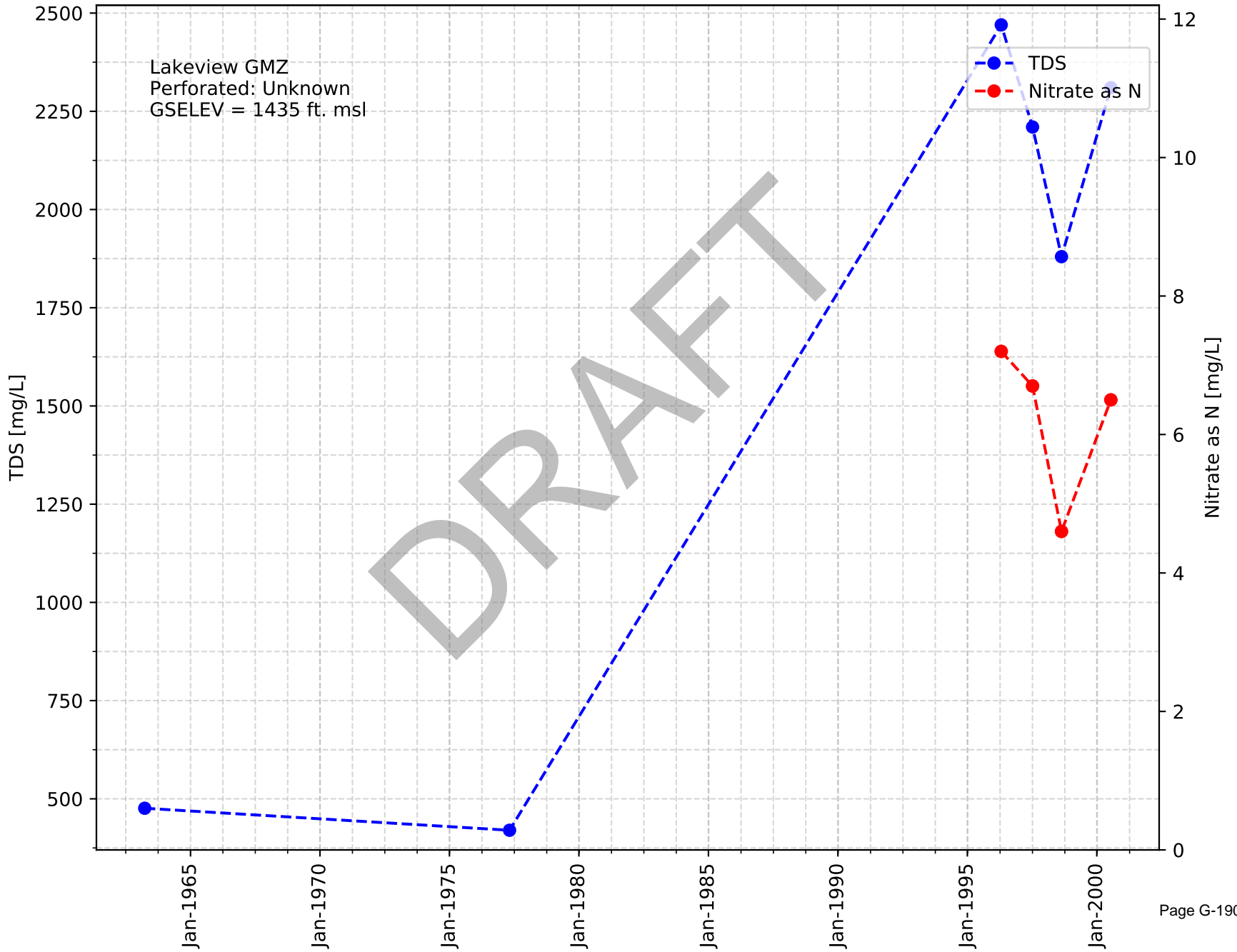
Casing Name: DeVuyst Alfalfa OC



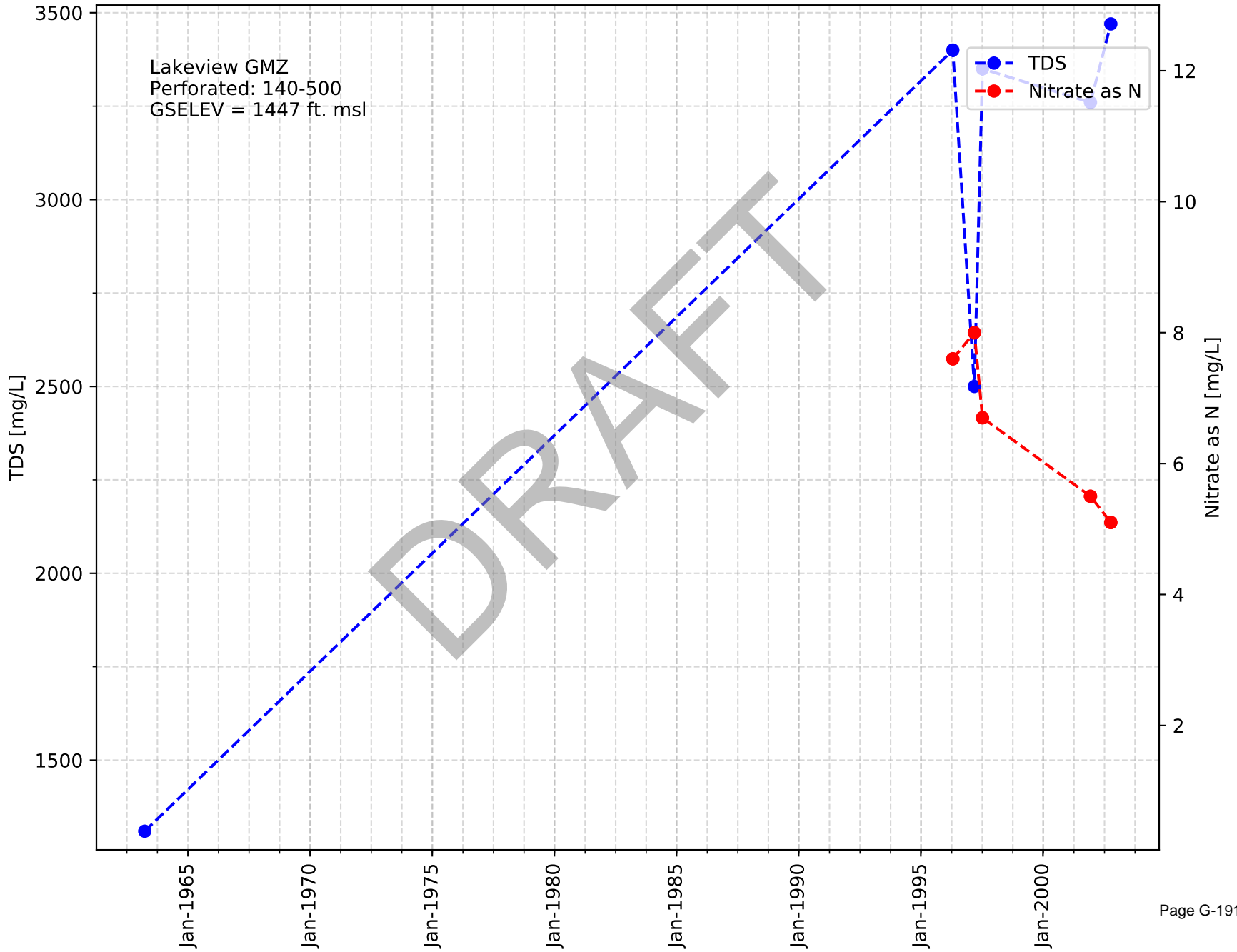
Casing Name: Lauda Diesel



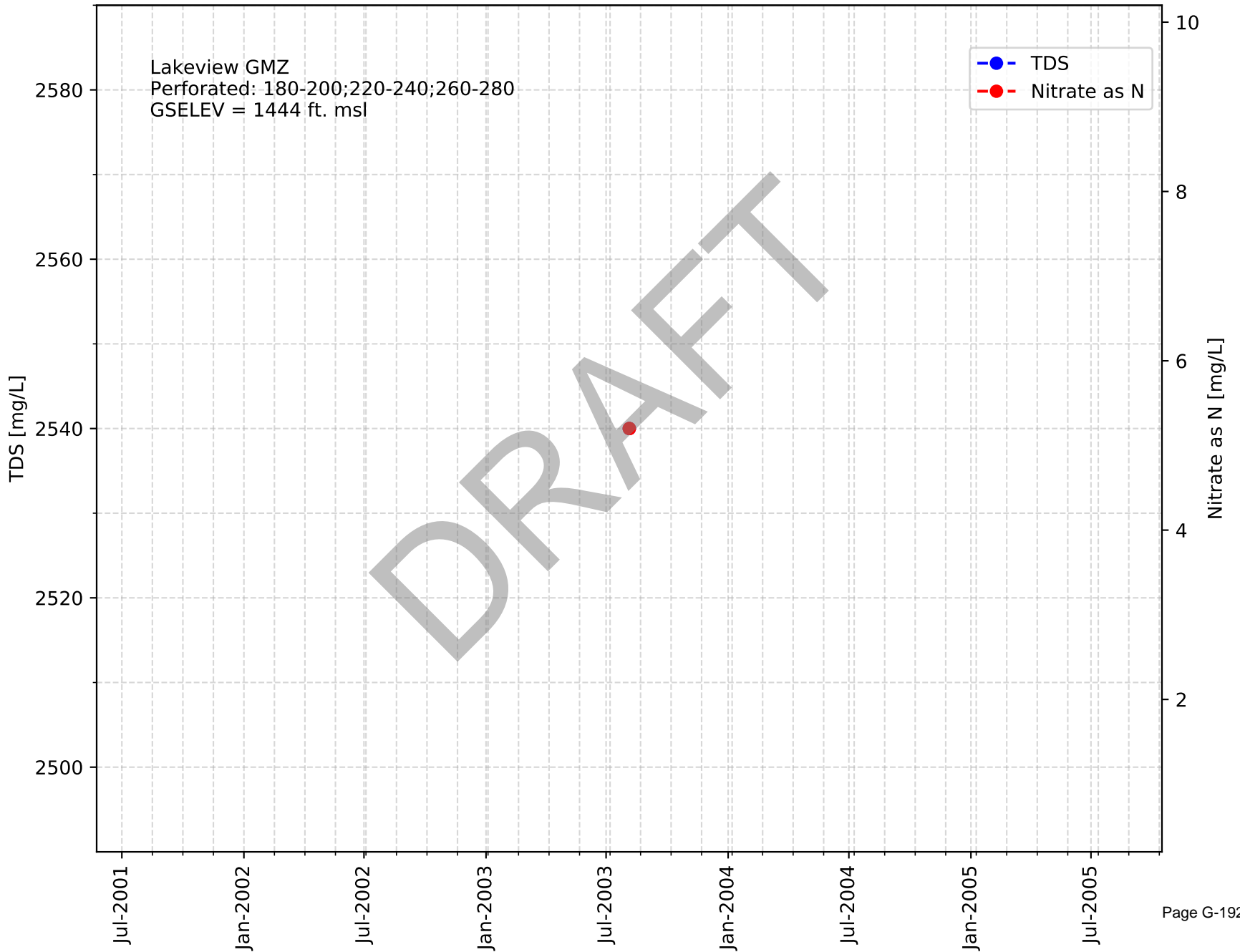
Casing Name: Bean Reservoir/12th



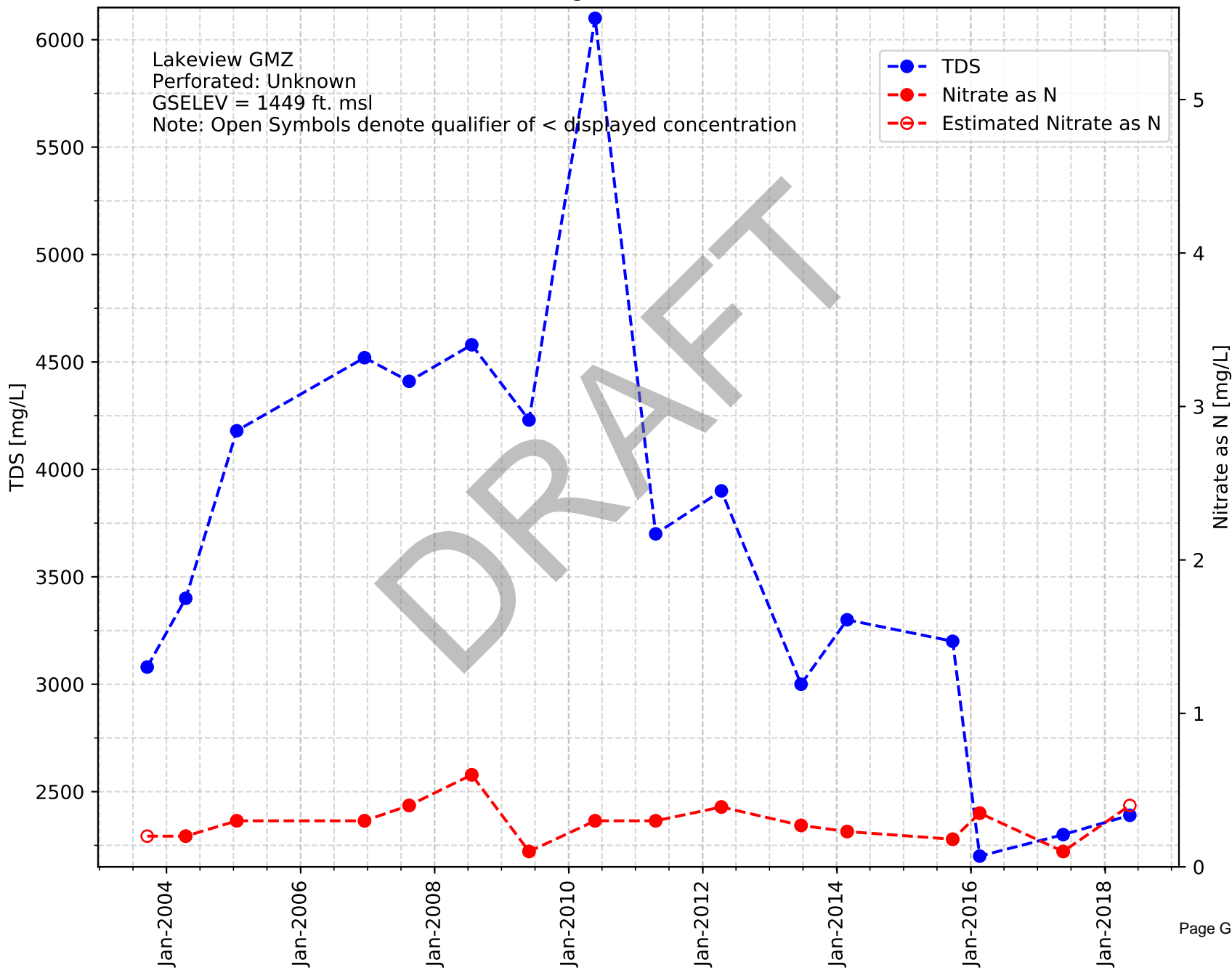
Casing Name: Smith G Nuevo/Olivas



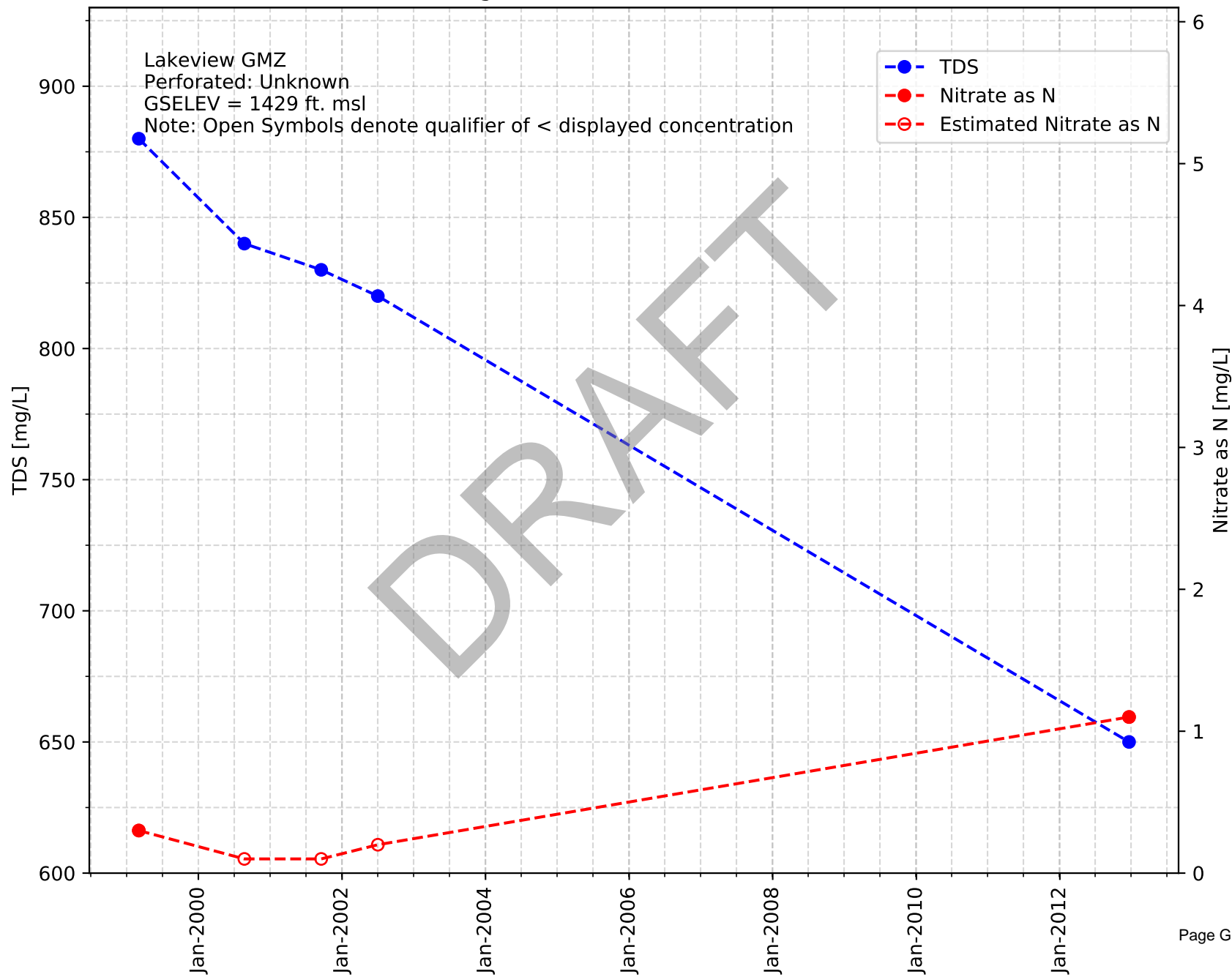
Casing Name: Donathan



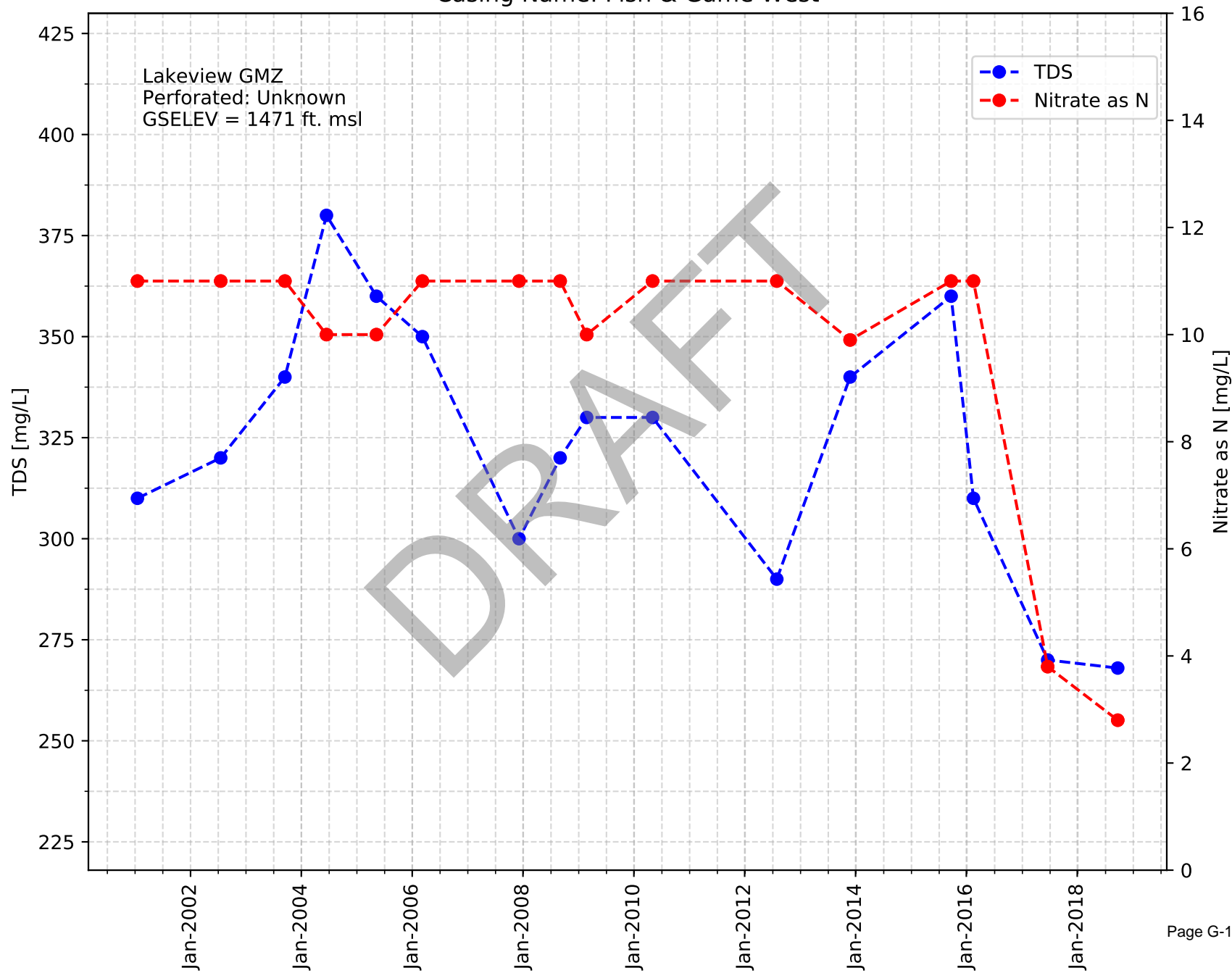
Casing Name: NWC 13



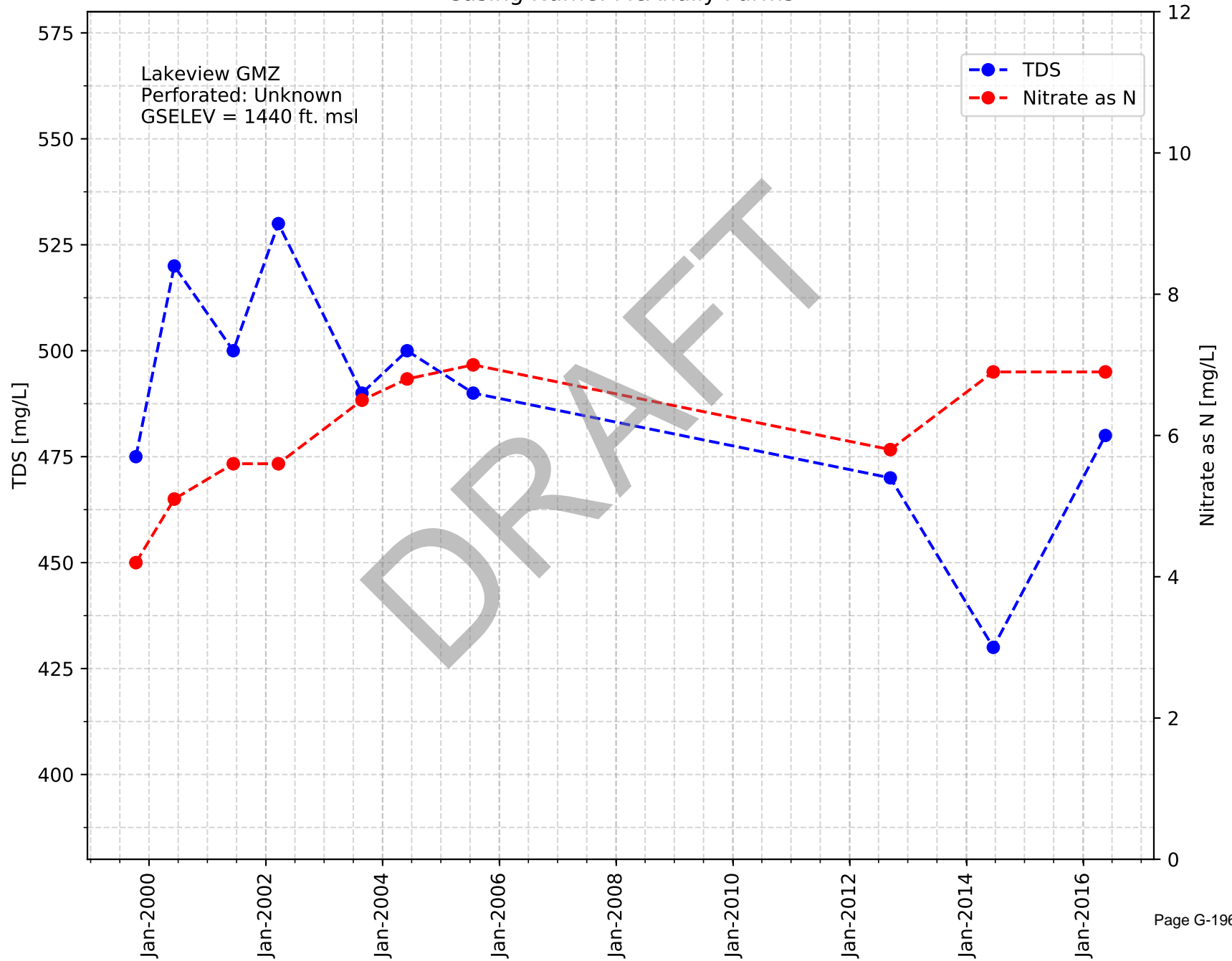
Casing Name: Fish & Game Domestic



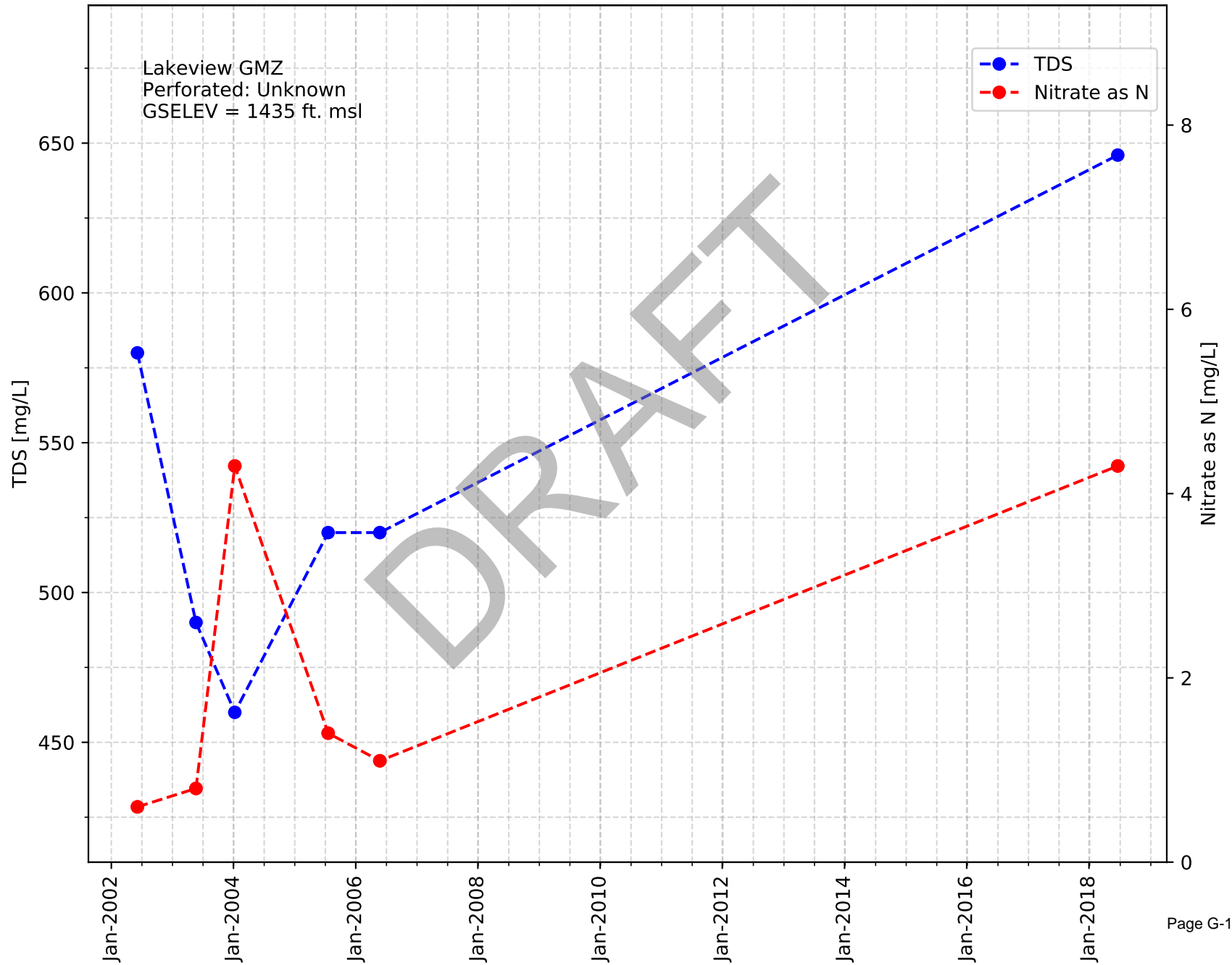
Casing Name: Fish & Game West



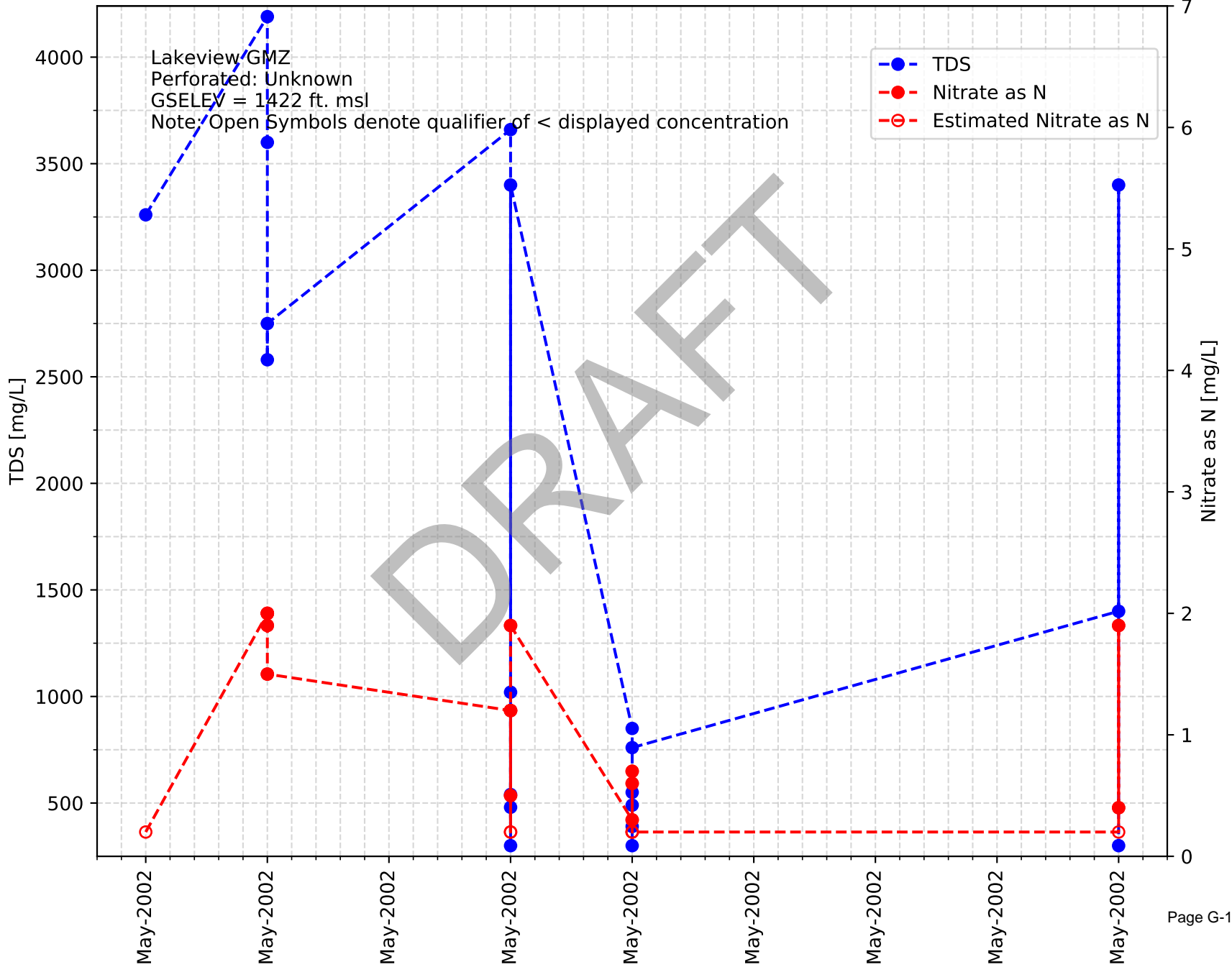
Casing Name: McAnally Farms



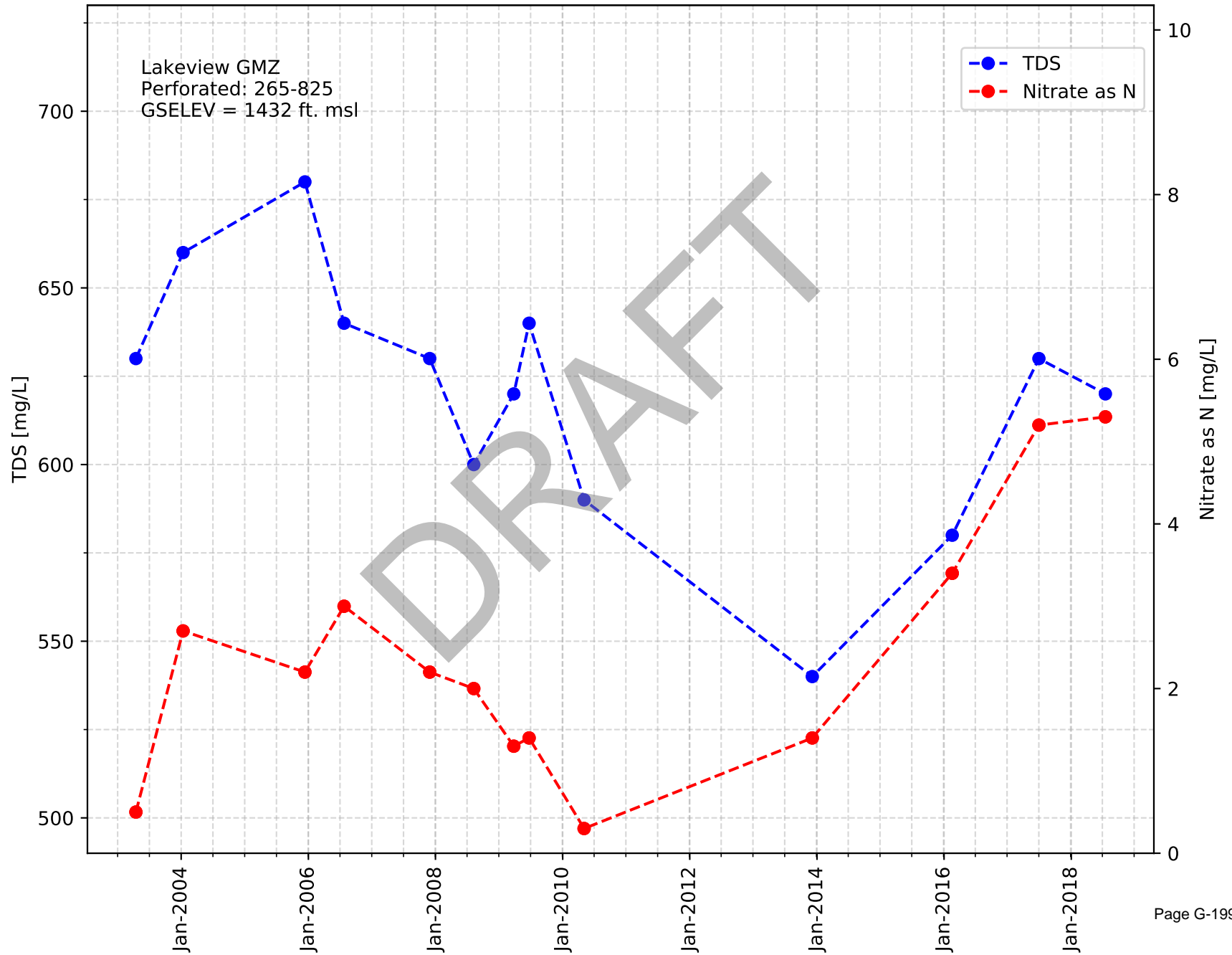
Casing Name: Bootsma/Ferriera



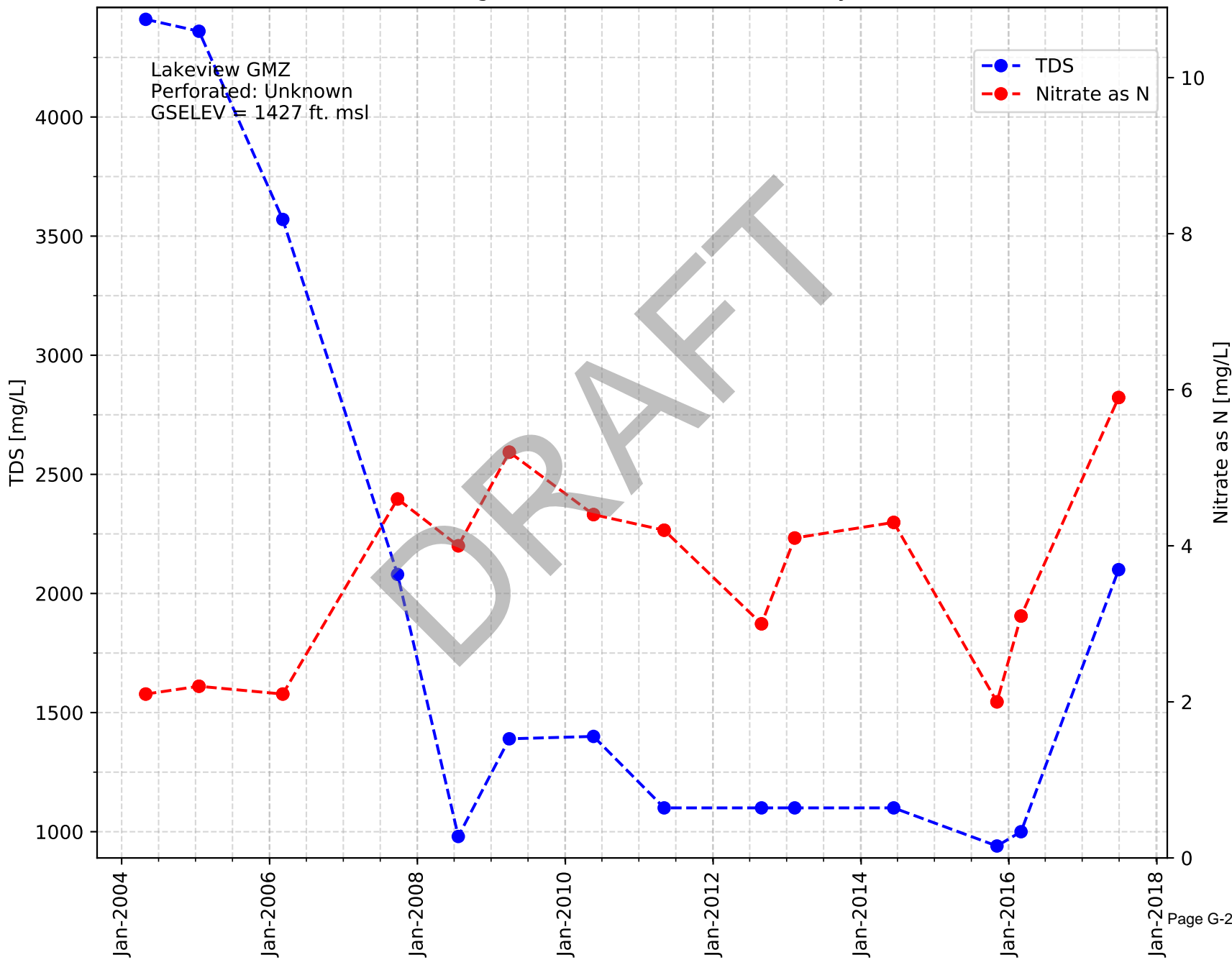
Casing Name: EMWD DW-7



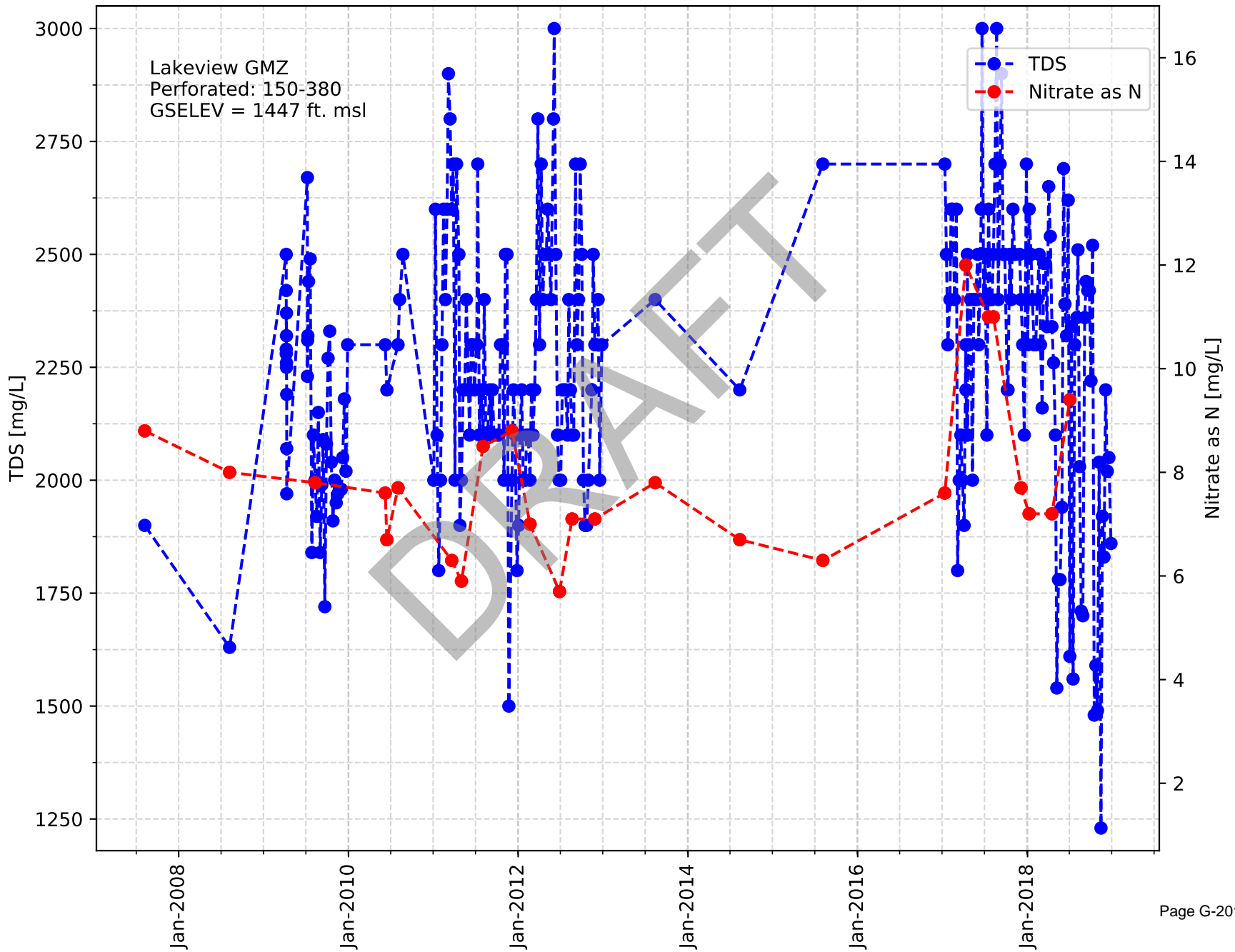
Casing Name: Fish & Game New Domestic



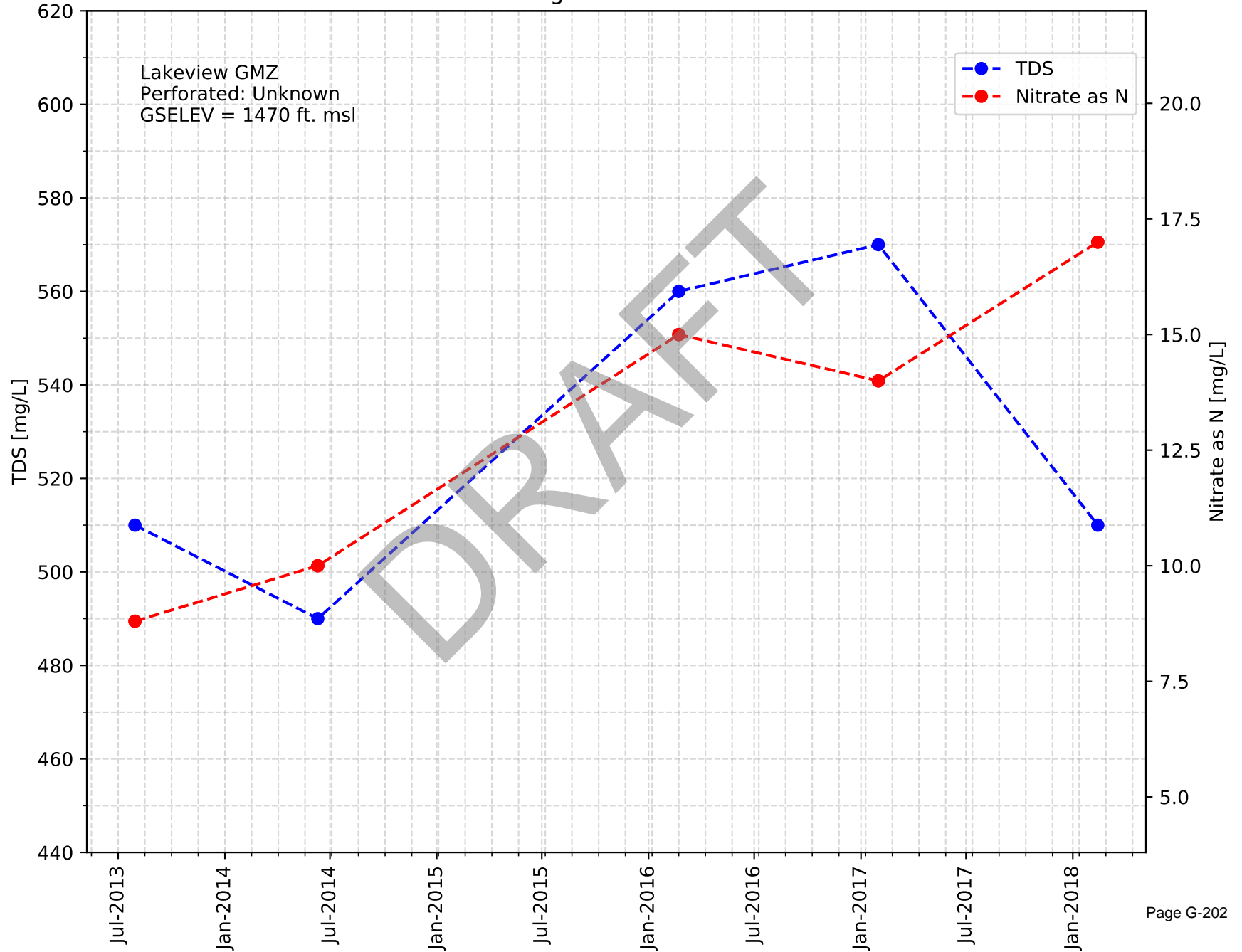
Casing Name: Cal Trans ROW Nursery



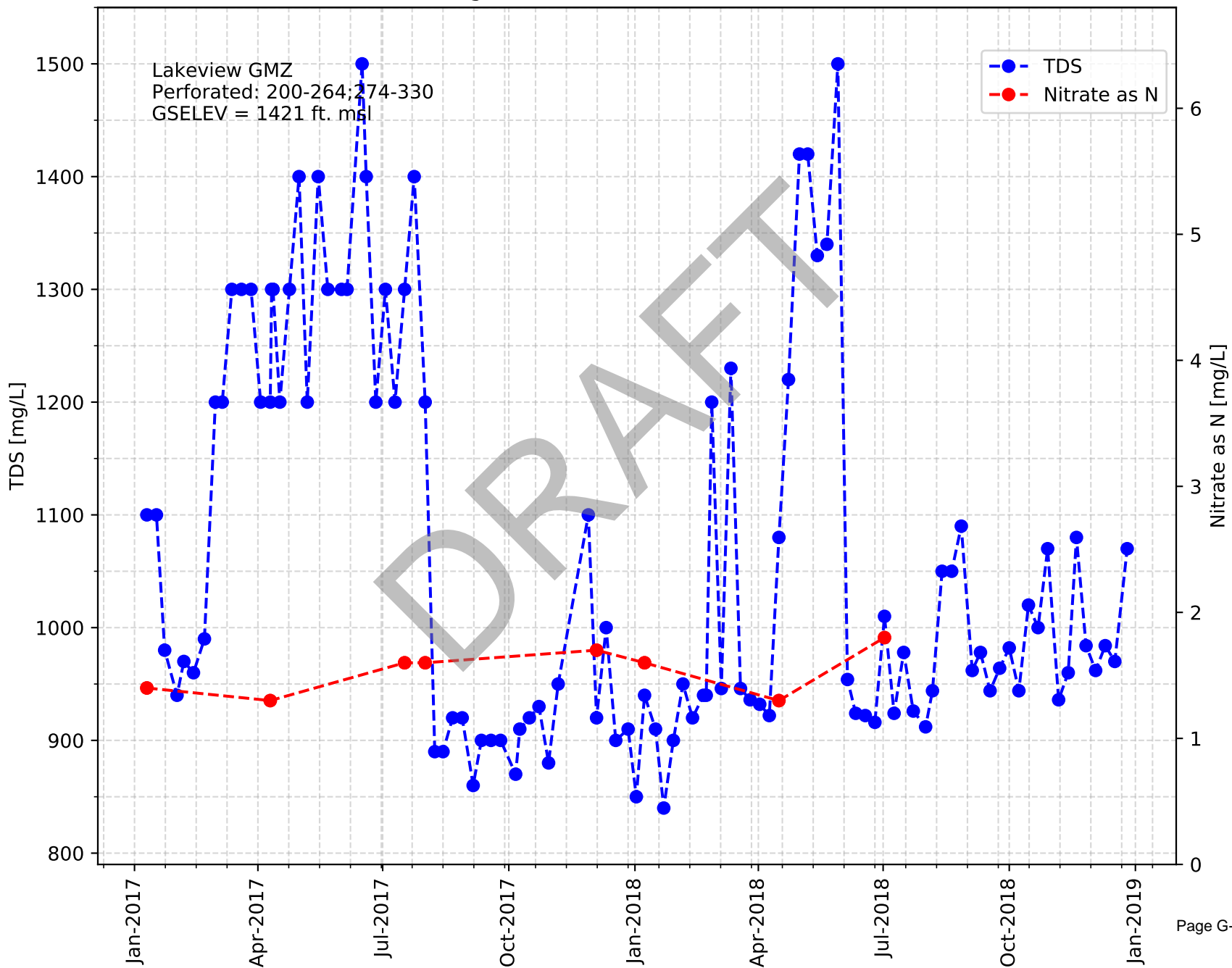
Casing Name: EMWD 87 Nuevo/Olivas



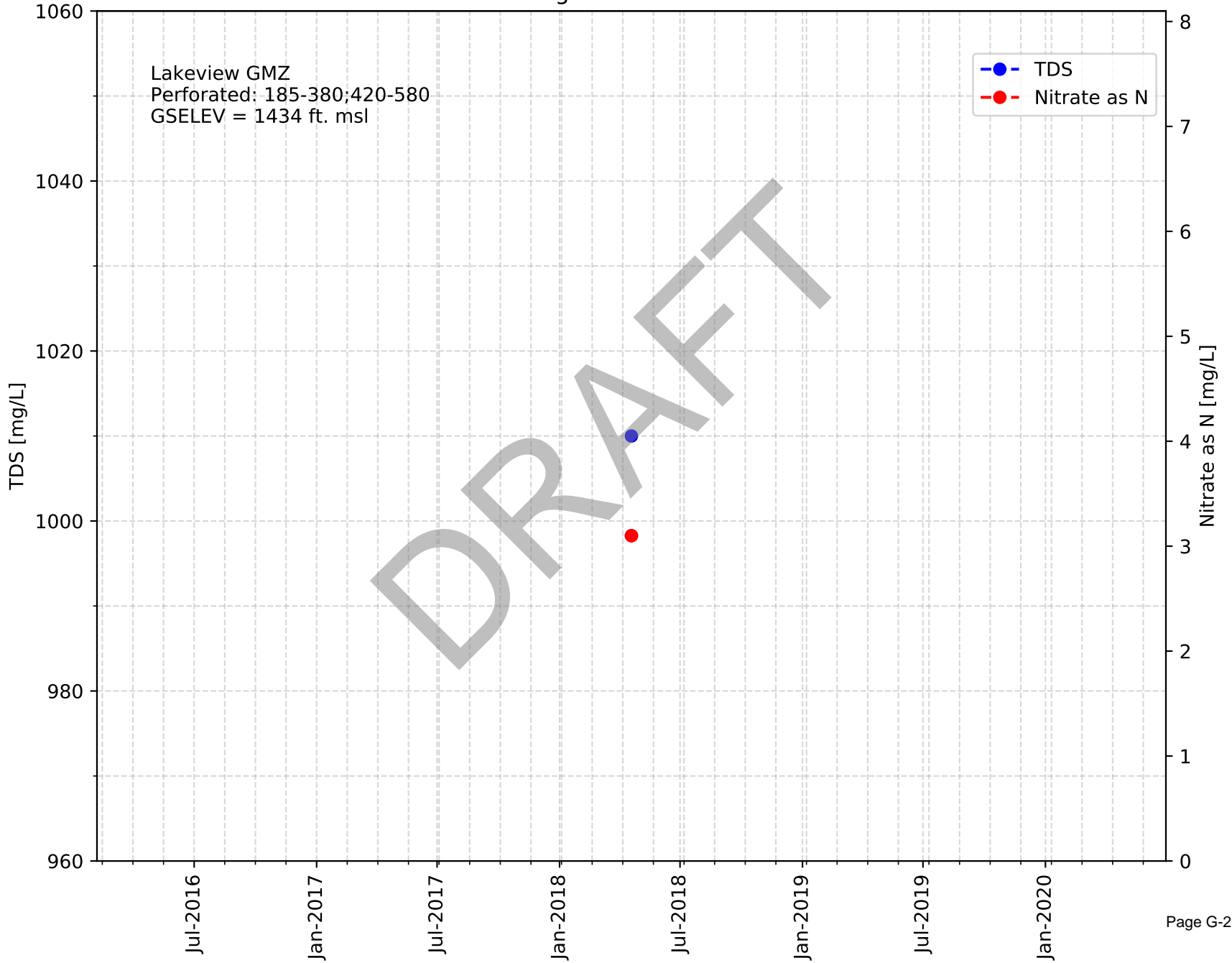
Casing Name: NWC 15



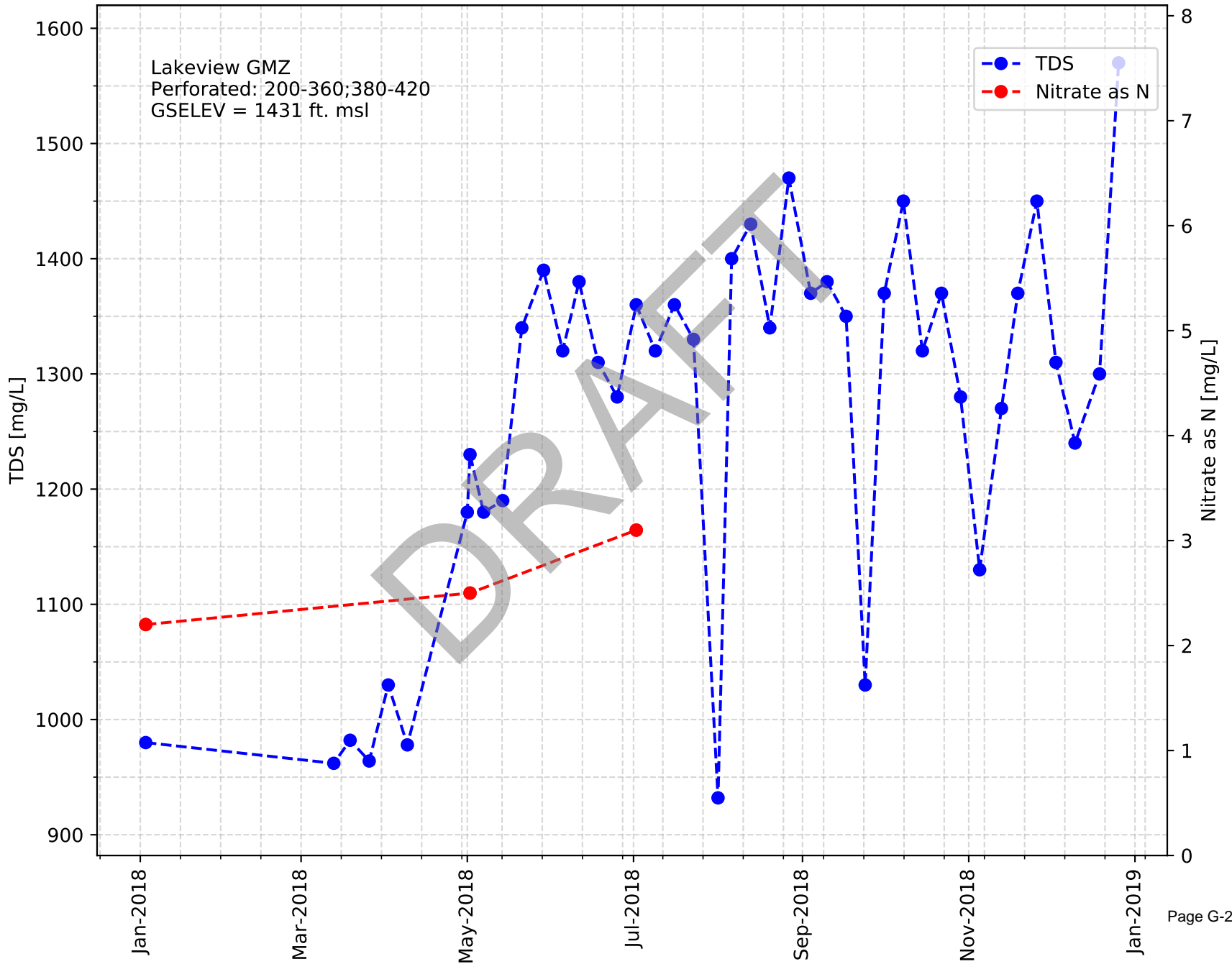
Casing Name: EMWD 93 Nuevo/Meniffee



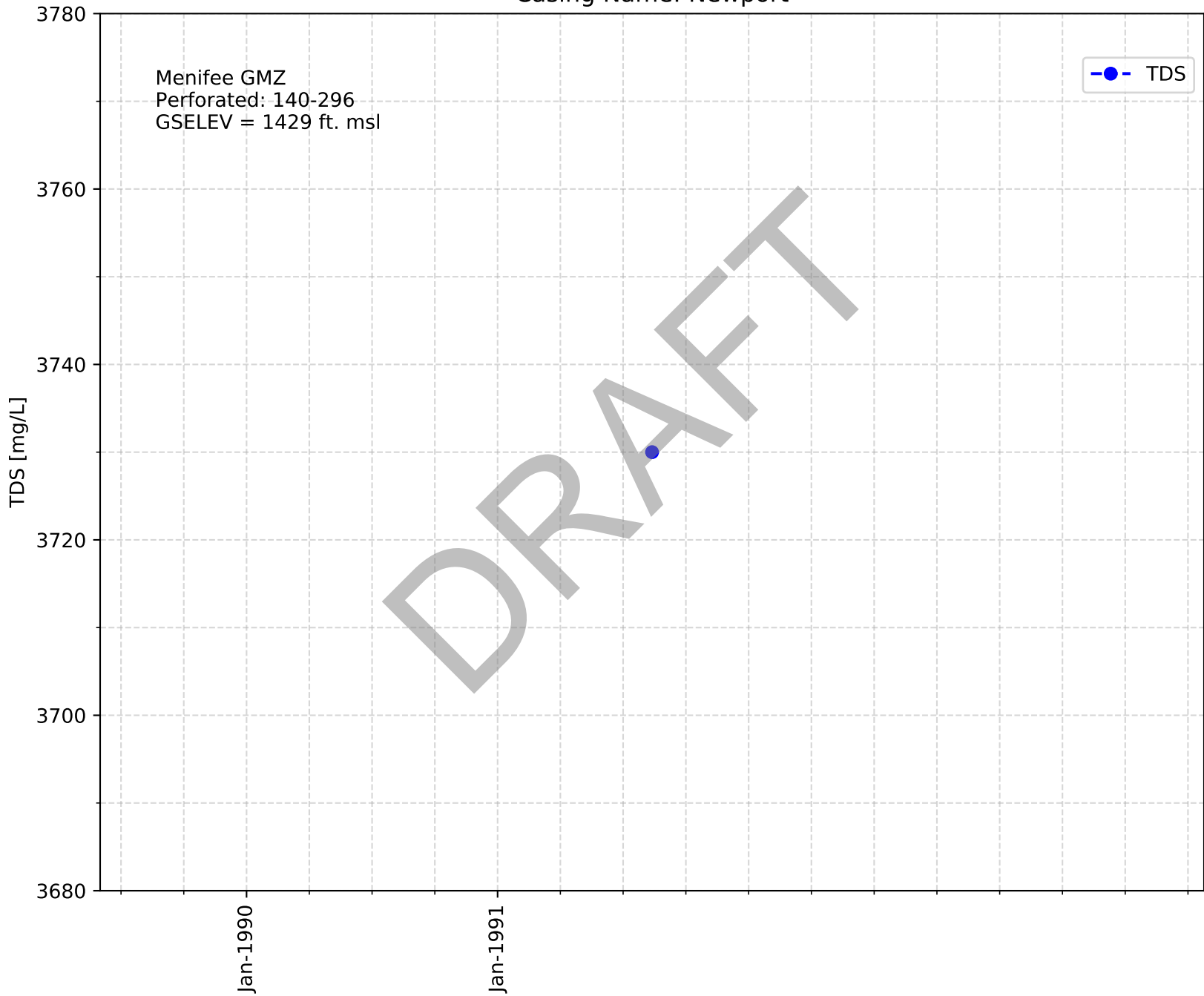
Casing Name: EMWD 94



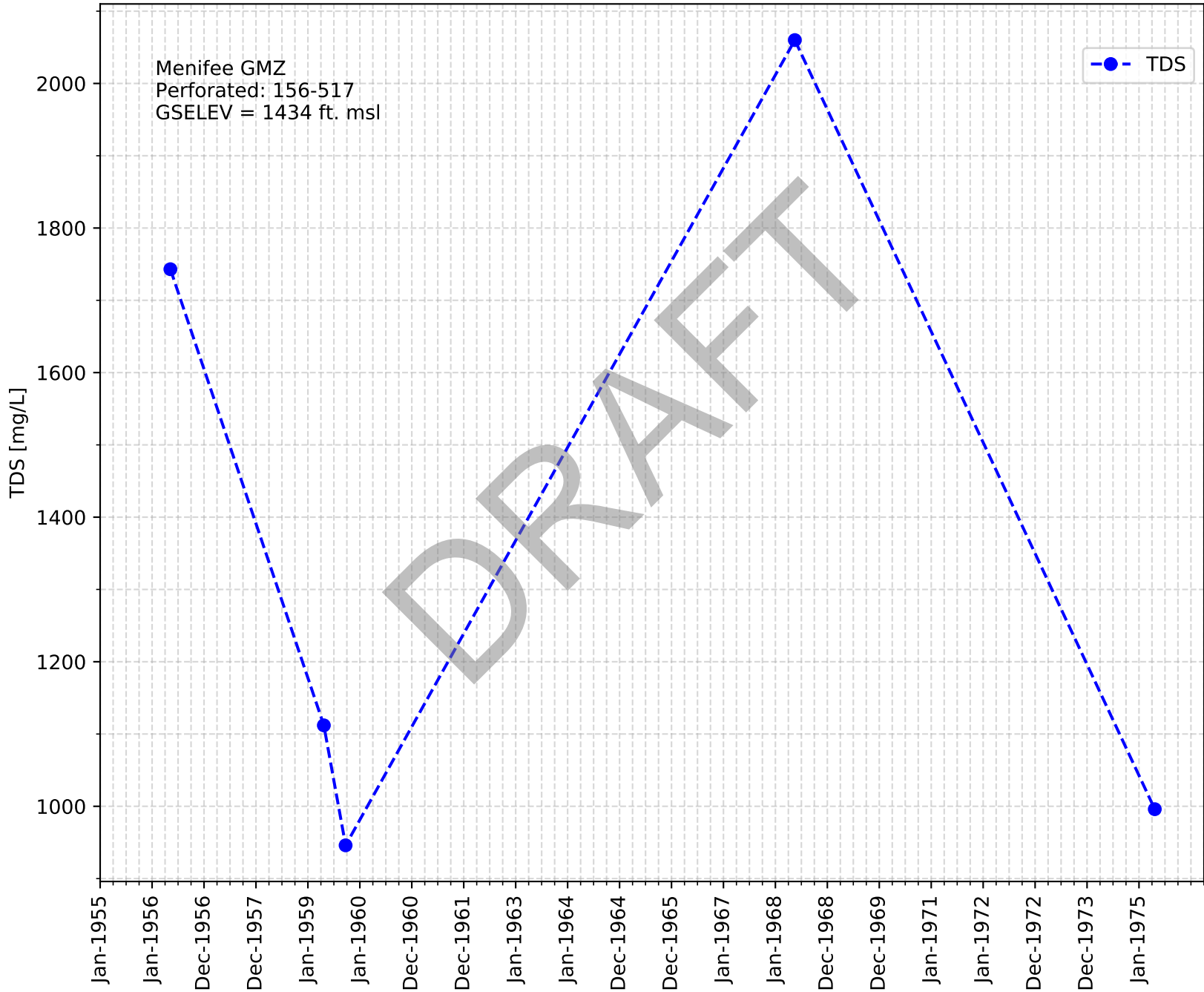
Casing Name: EMWD 95 13th St.



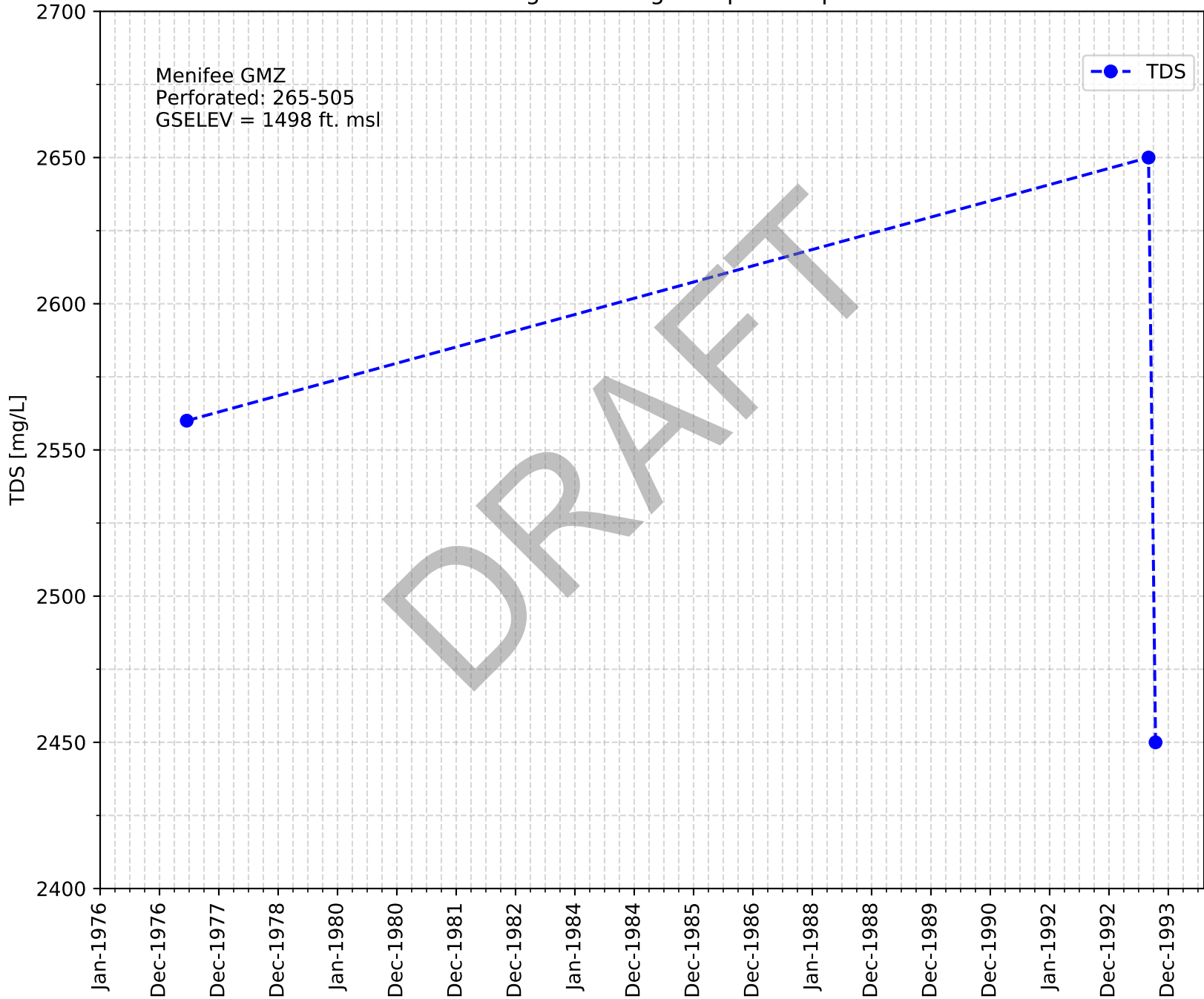
Casing Name: Newport



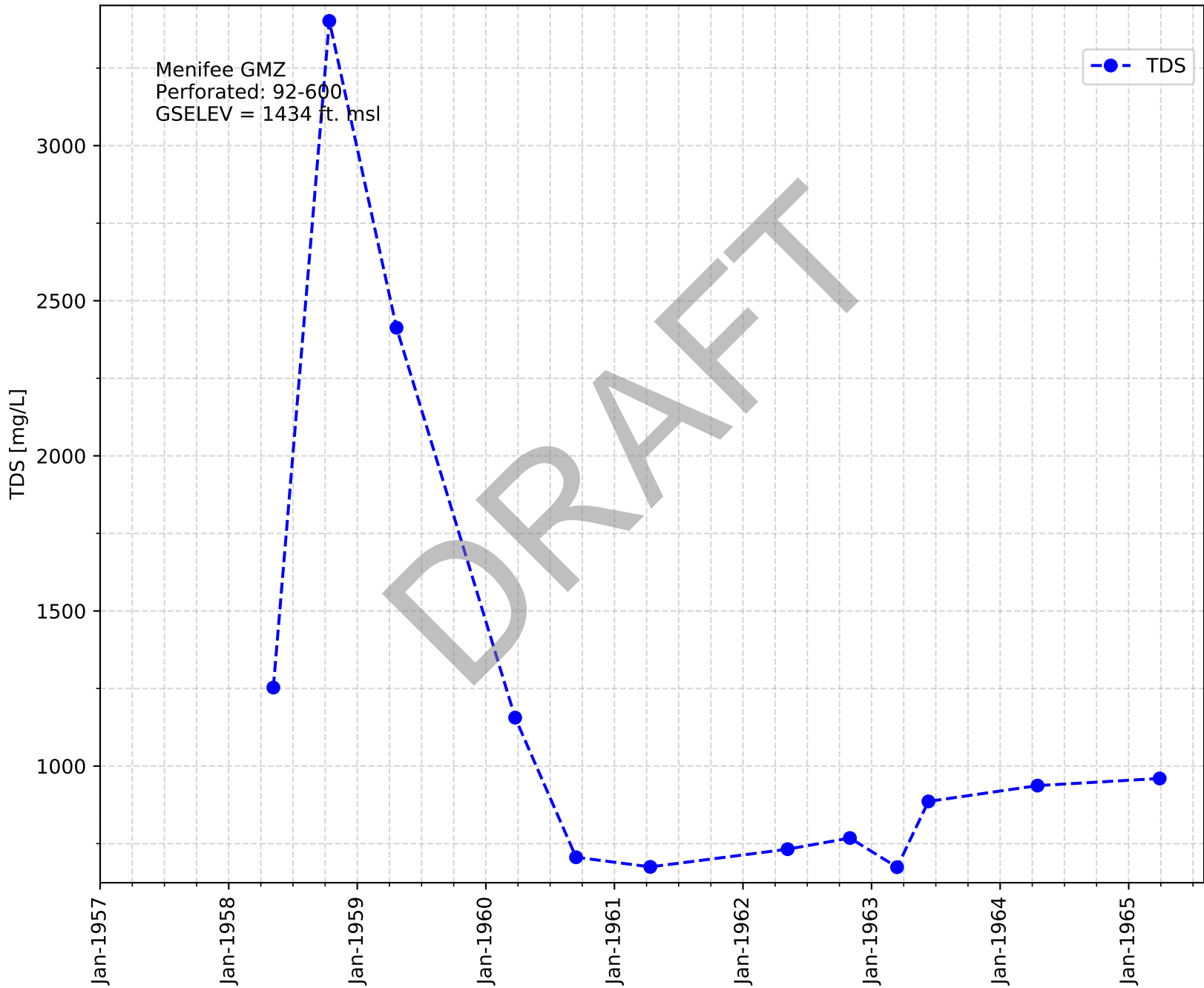
Casing Name: Rheingans, J.



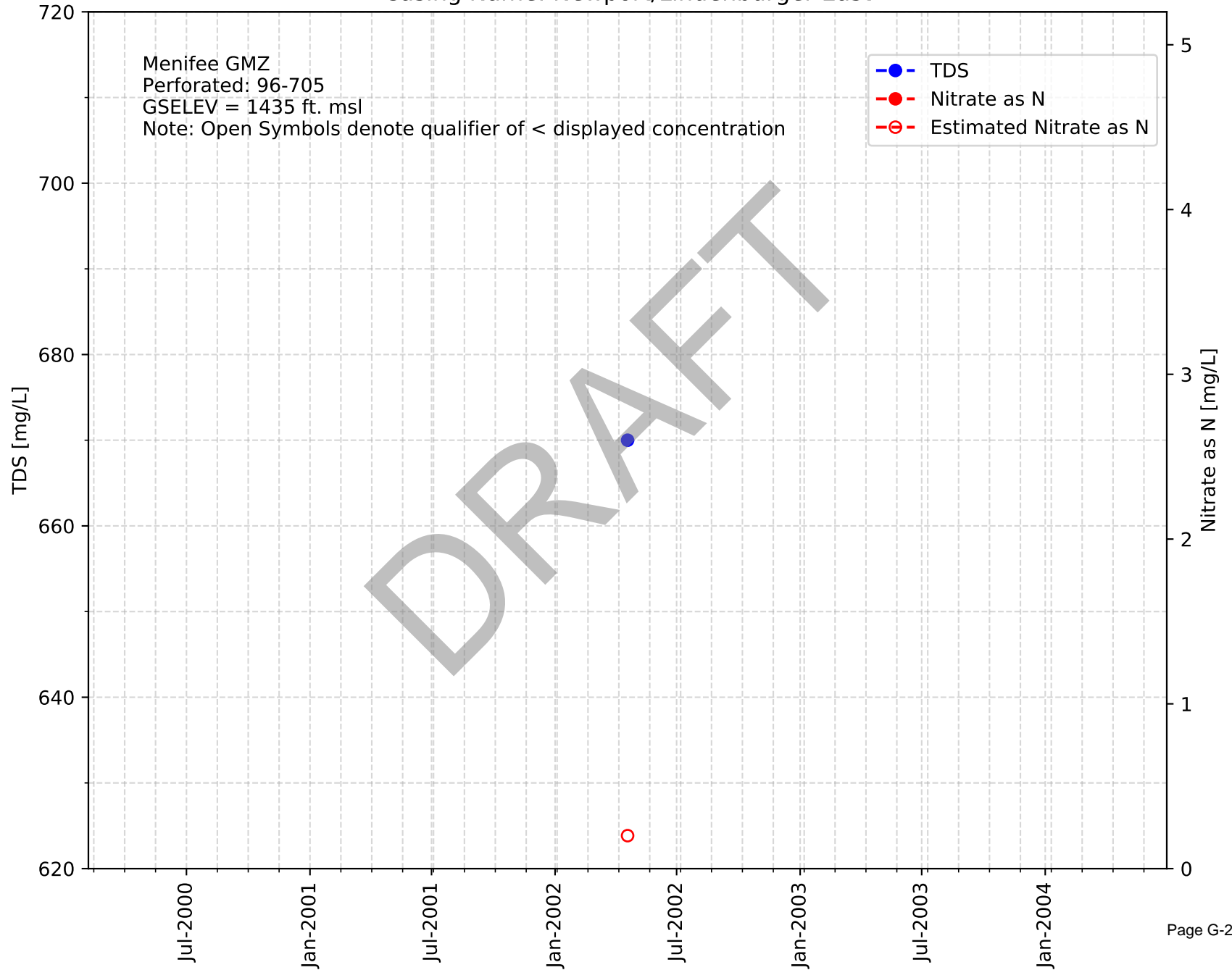
Casing Name: Agri Empire Corp.



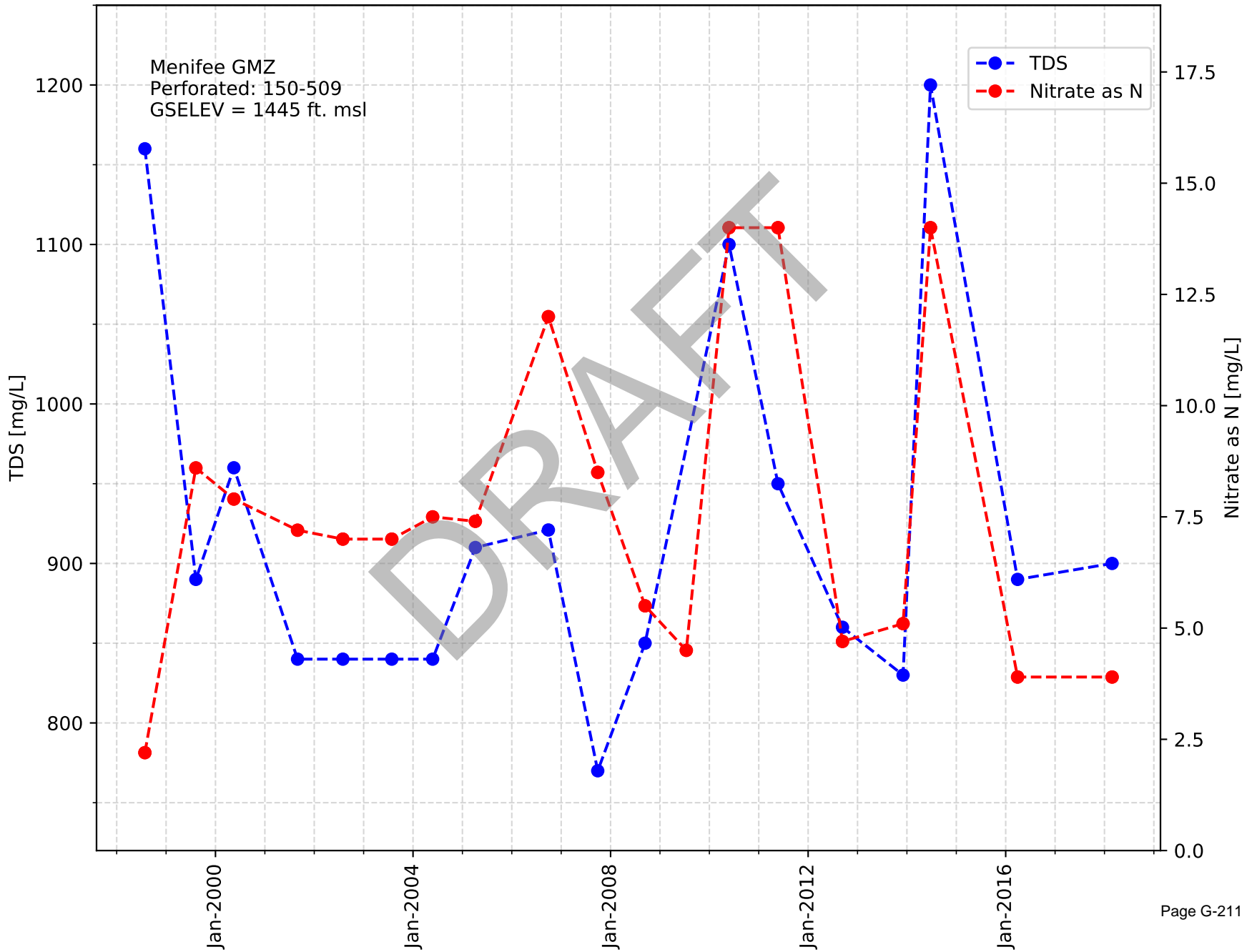
Casing Name: Peterson, A. L.



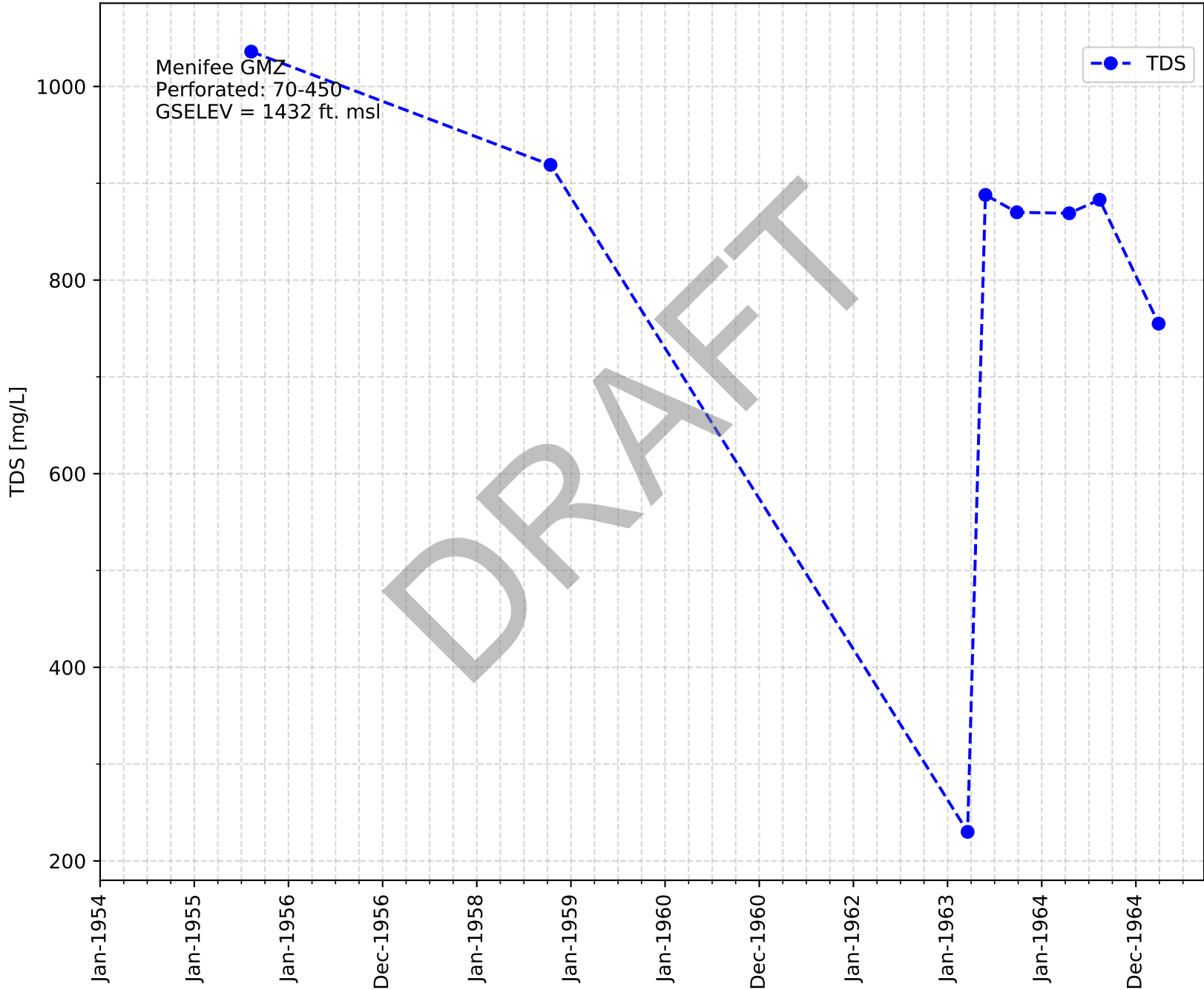
Casing Name: Newport/Lindenburger East



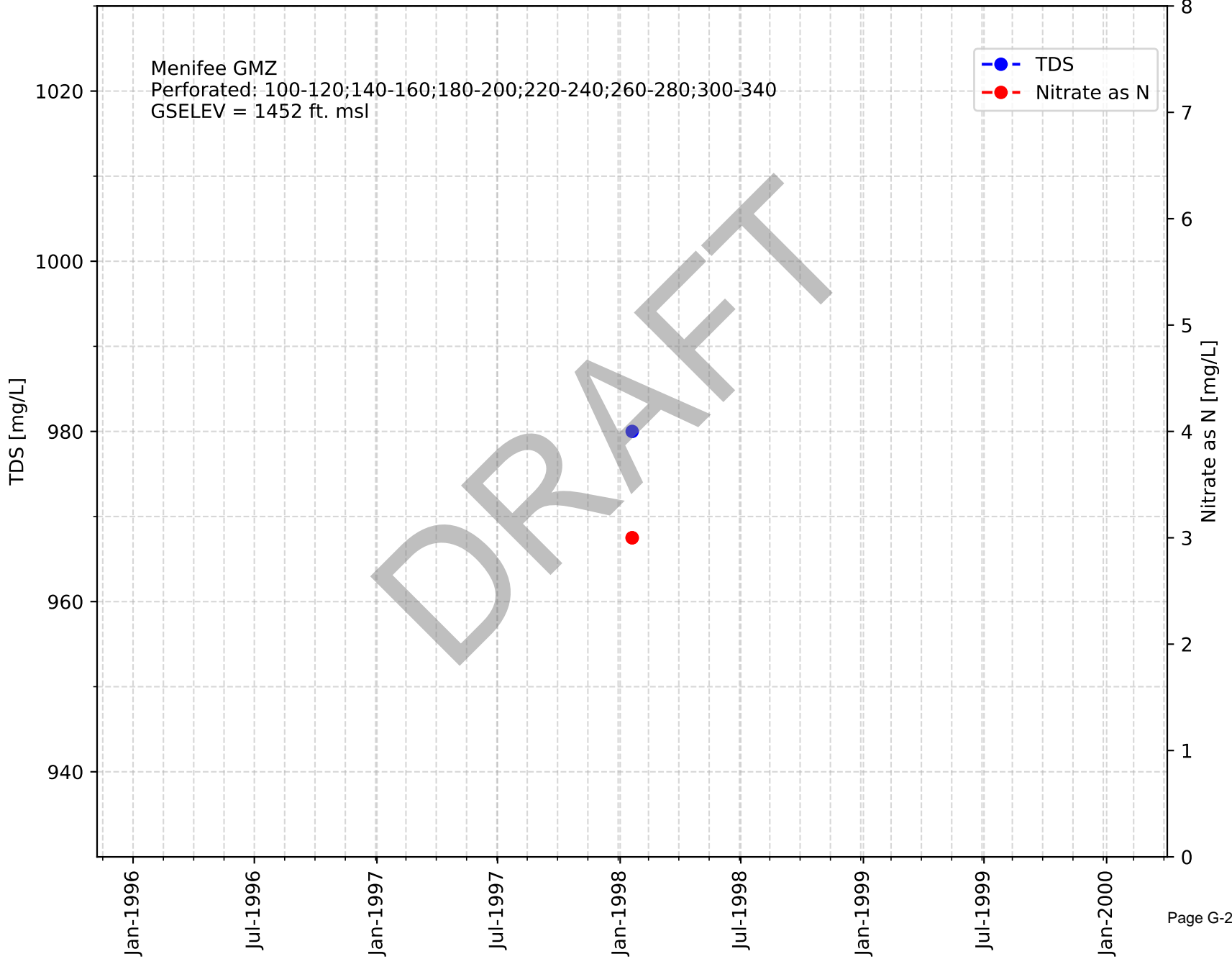
Casing Name: Agri Leon/Holland



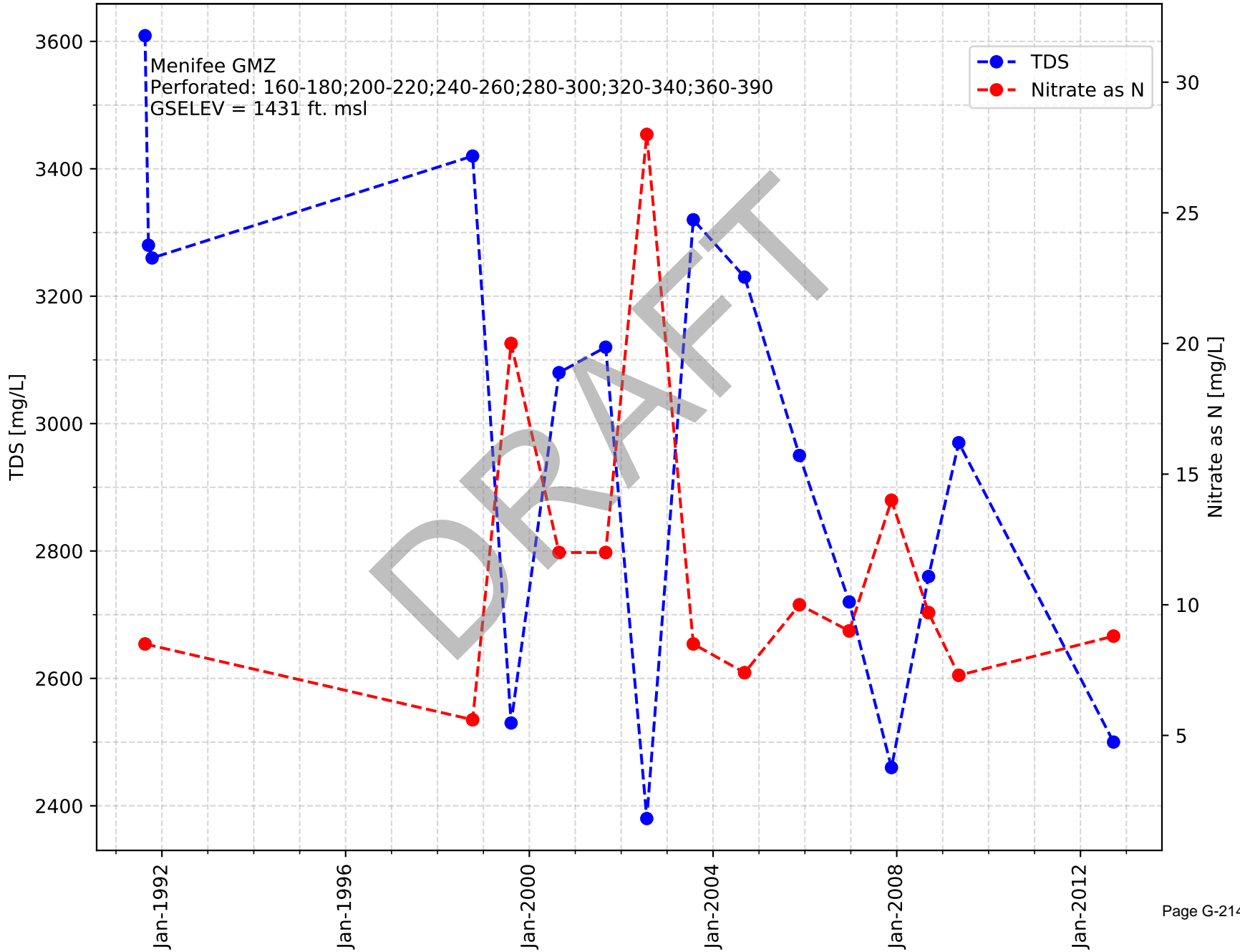
Casing Name: Powell



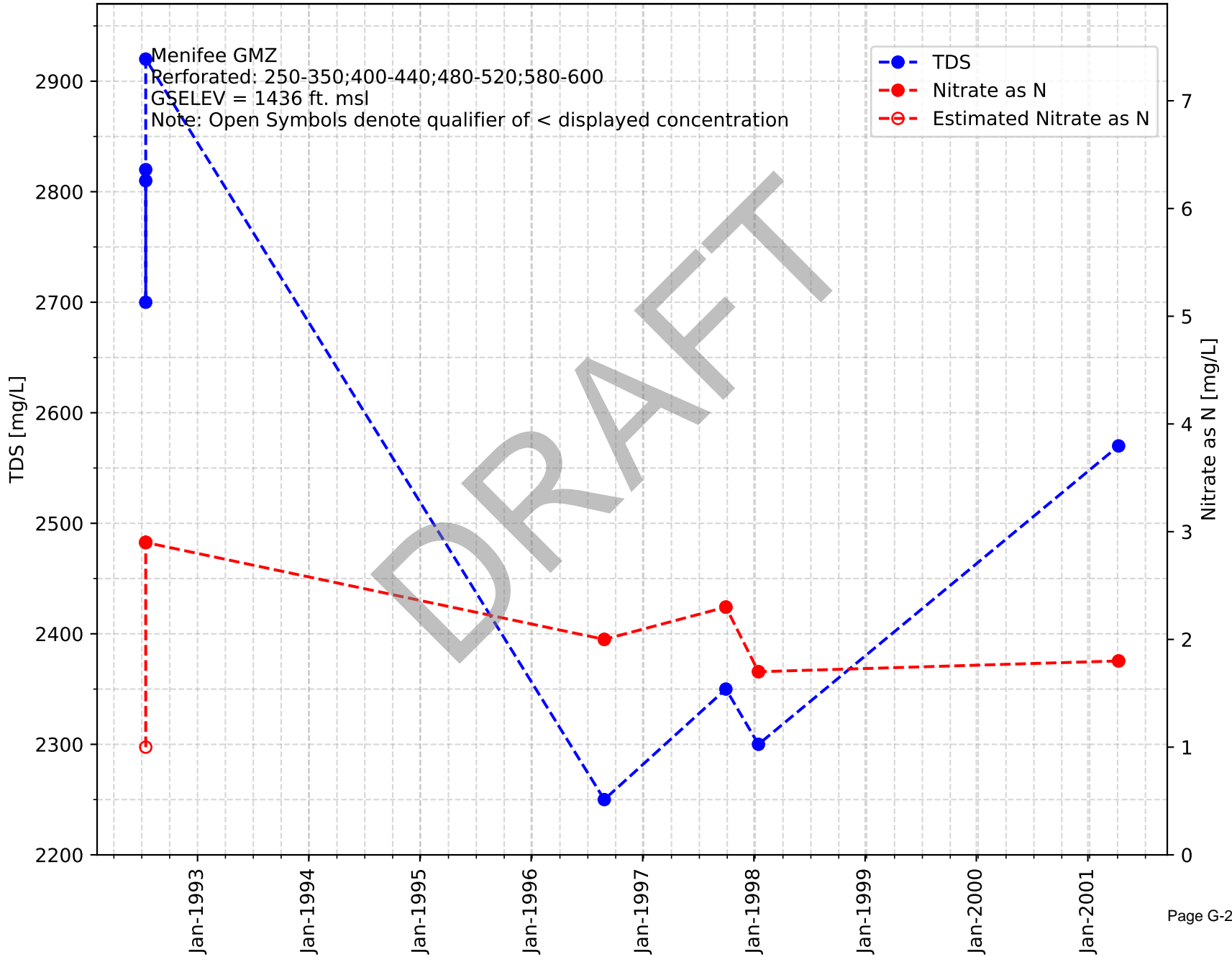
Casing Name: Boer, Dennis



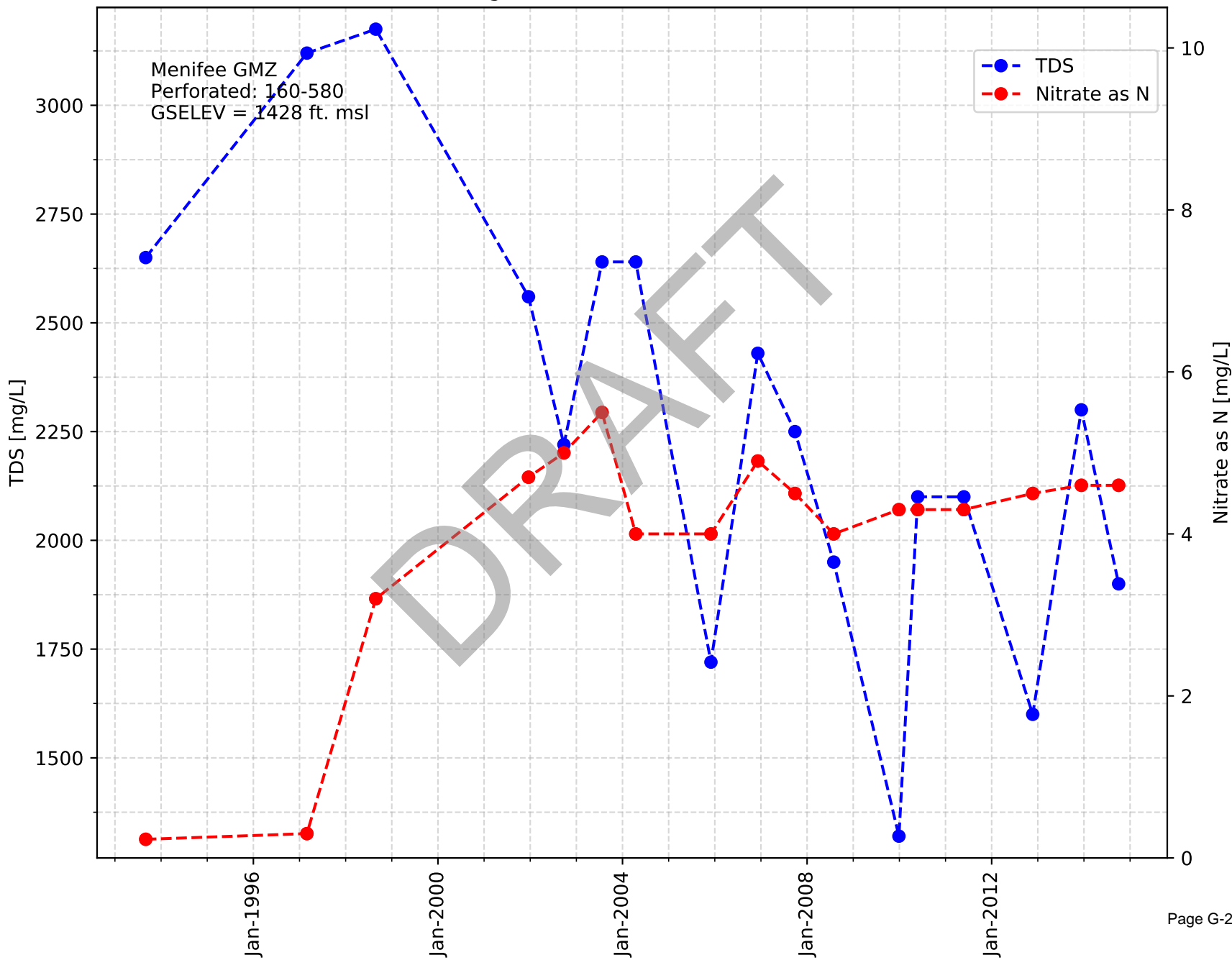
Casing Name: Abacherli Dairy



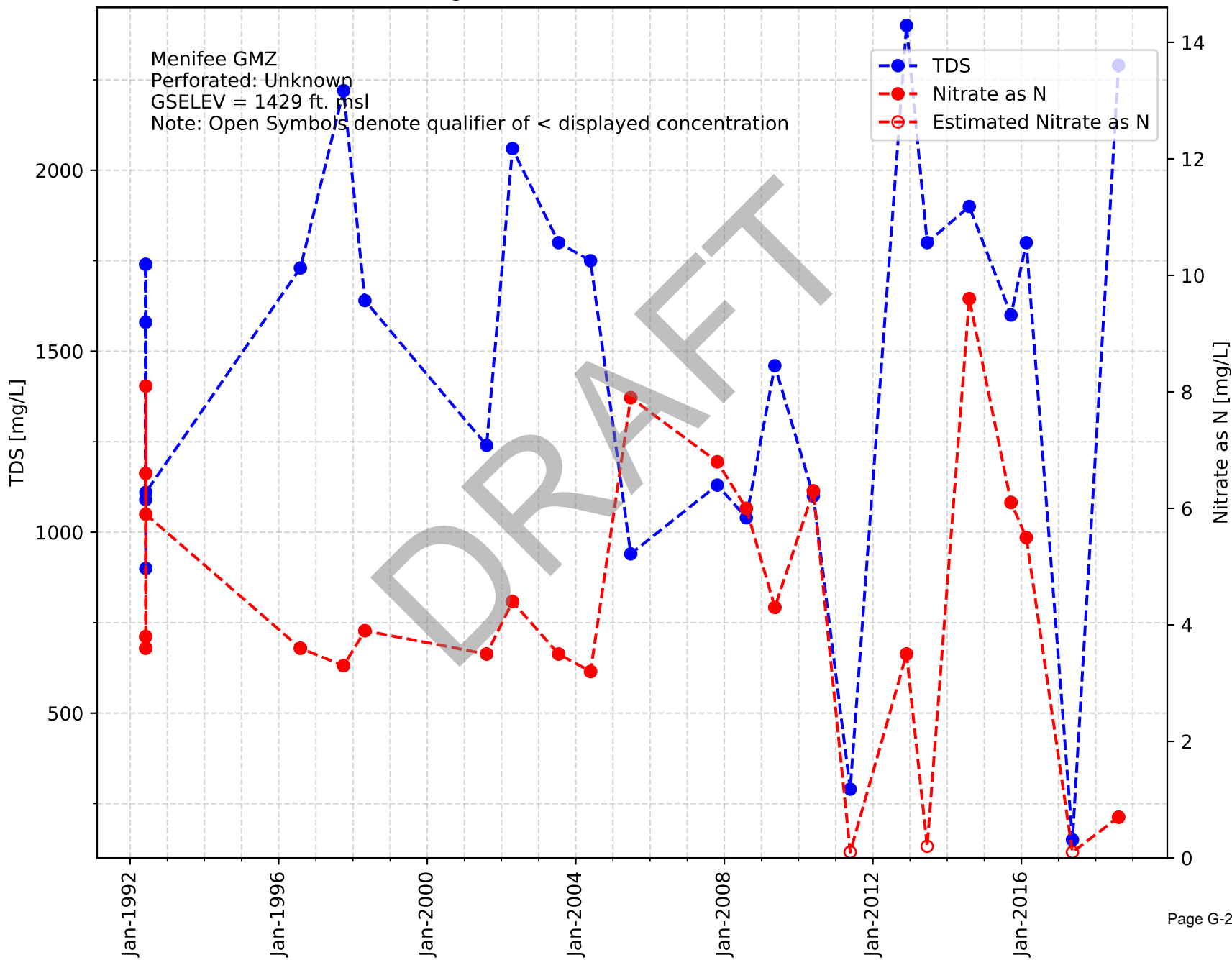
Casing Name: EMWD 54 Menifee Test West



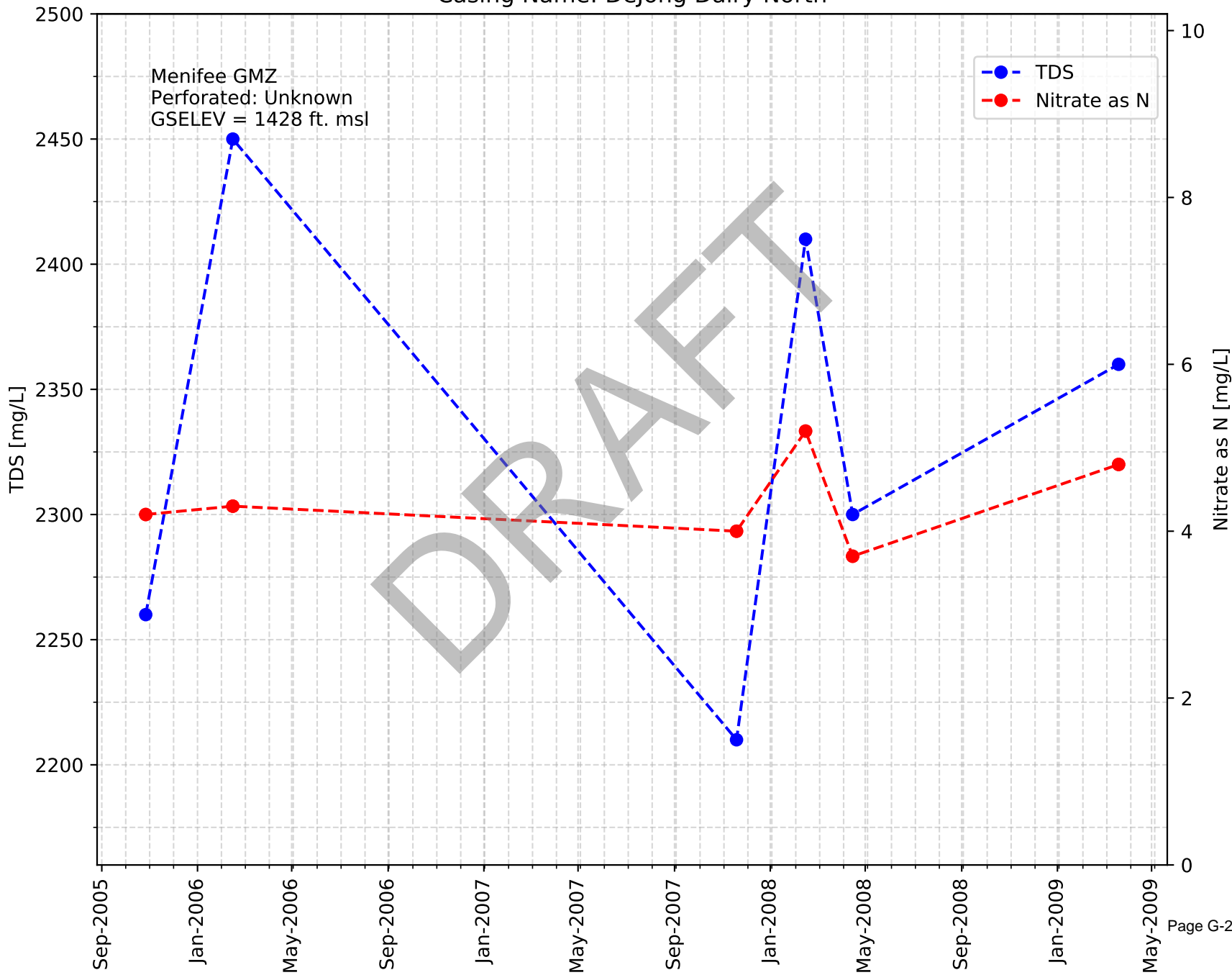
Casing Name: EMWD 72 Menifee 02



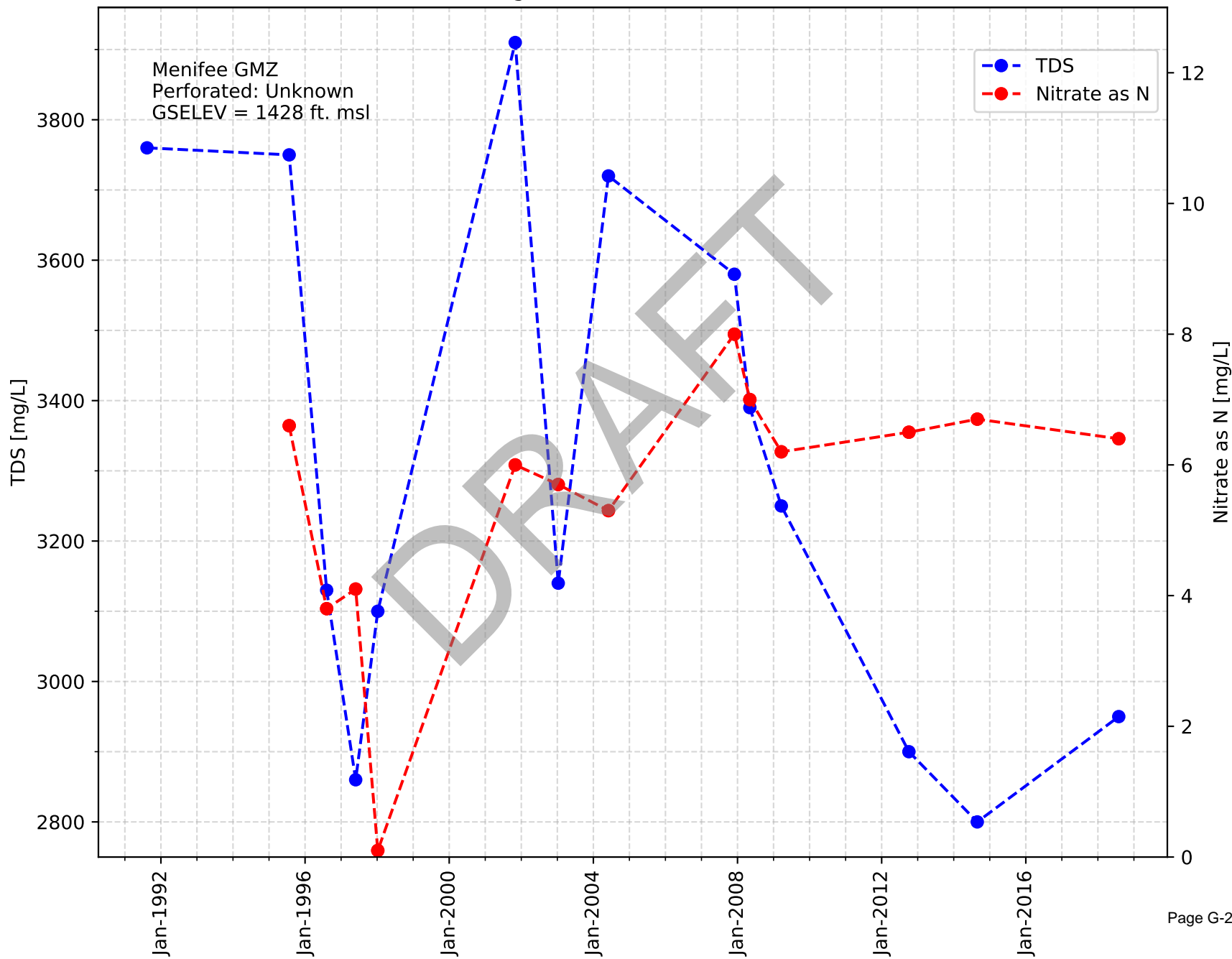
Casing Name: EMWD 53 Menifee Test East



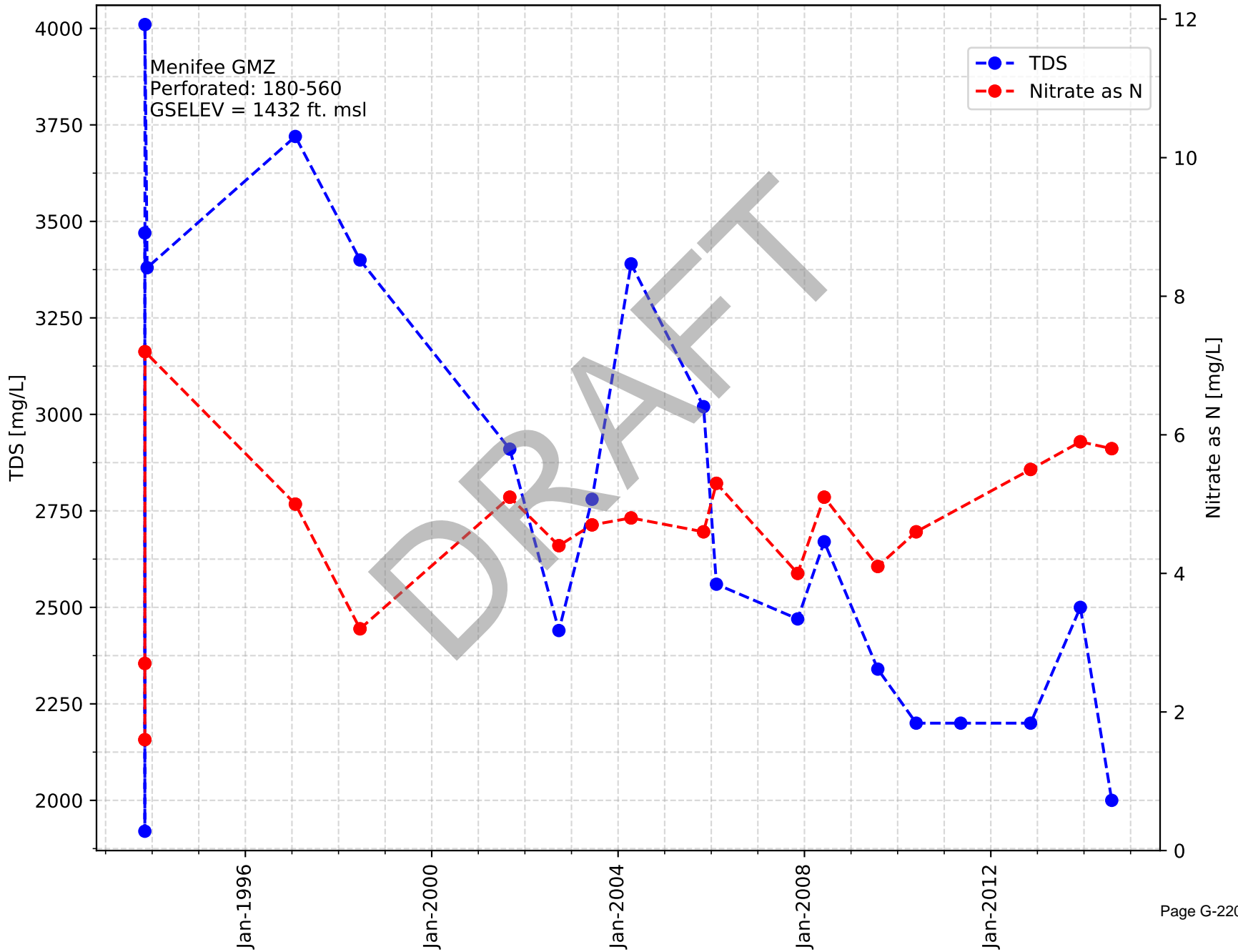
Casing Name: DeJong Dairy North



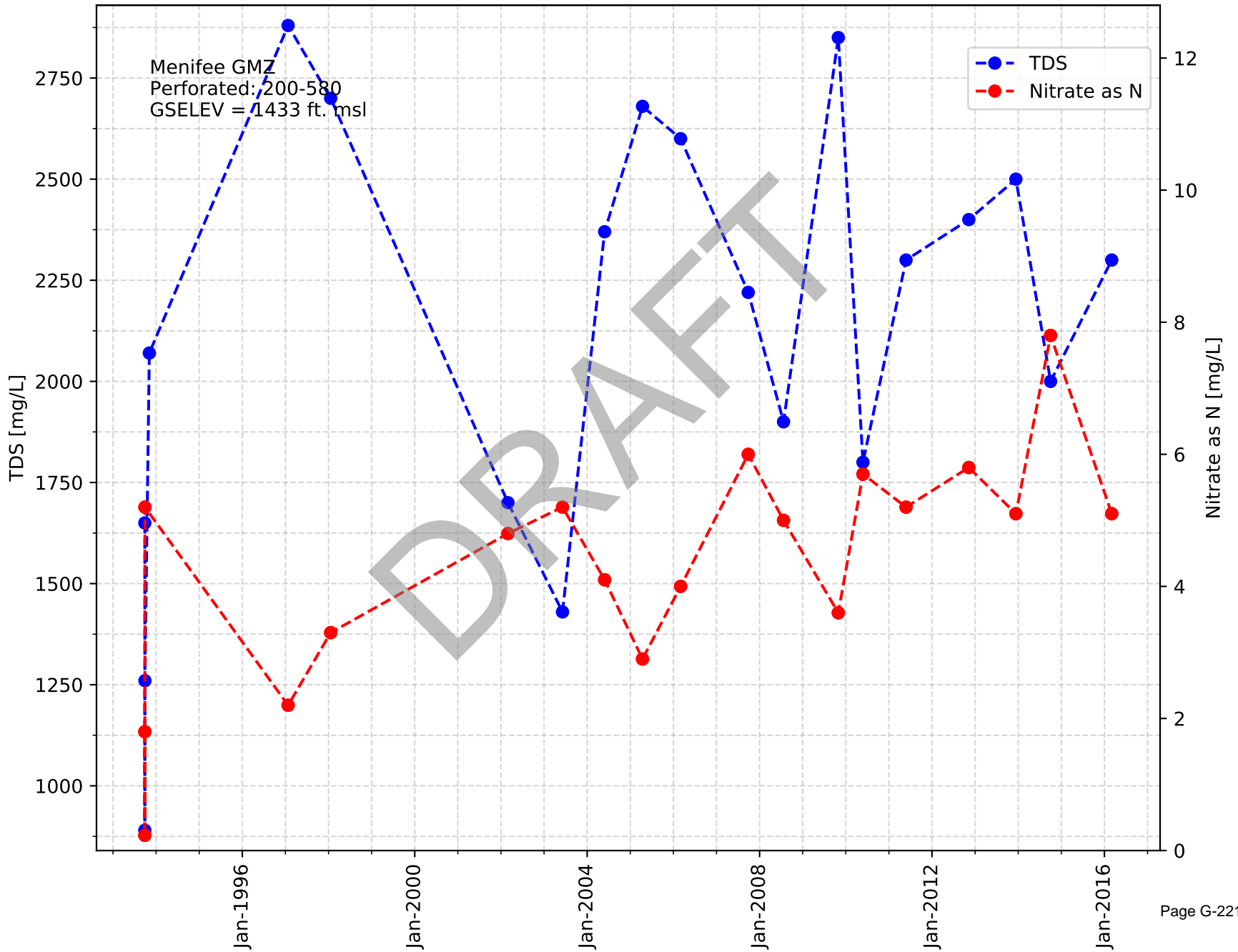
Casing Name: Wilderness Lakes



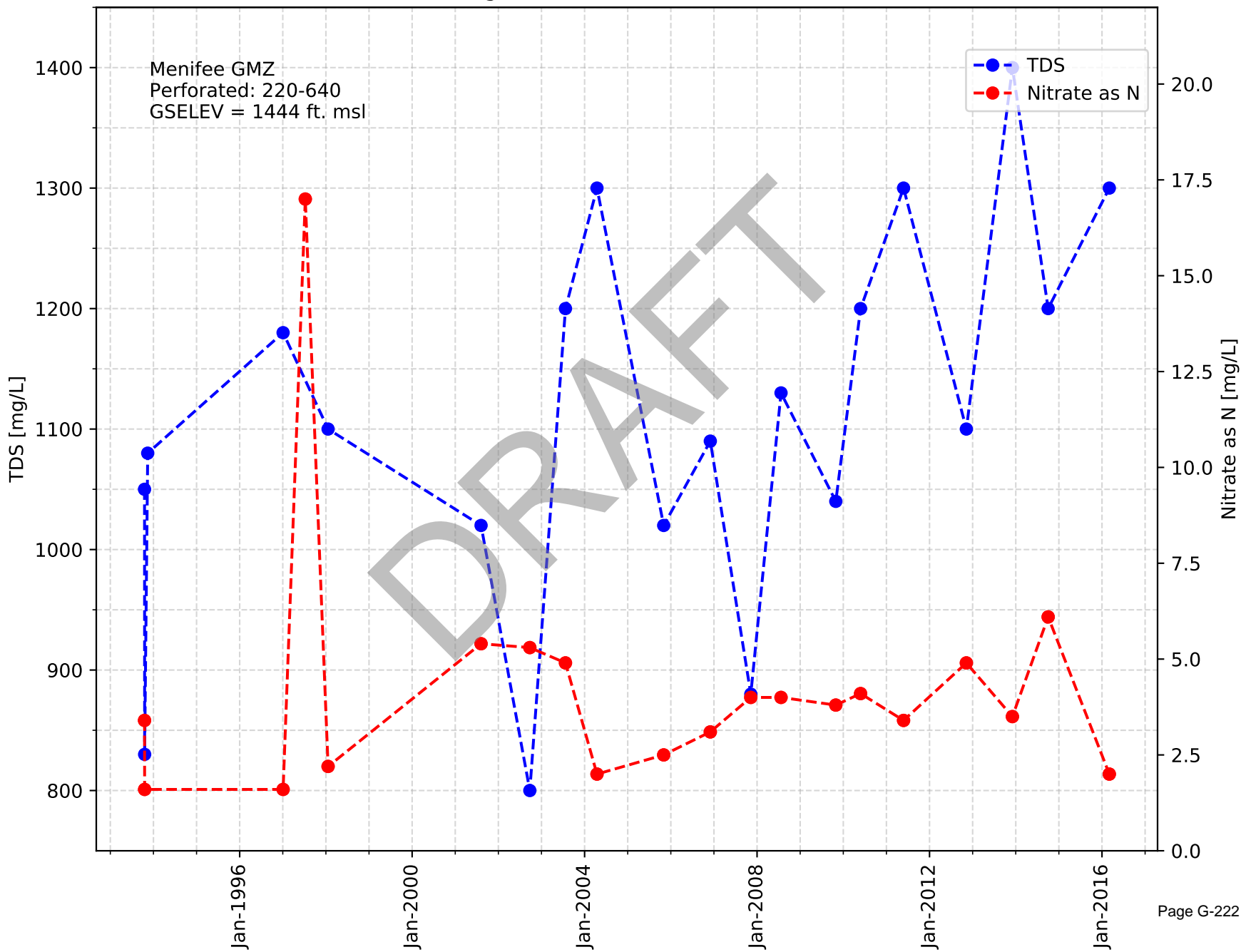
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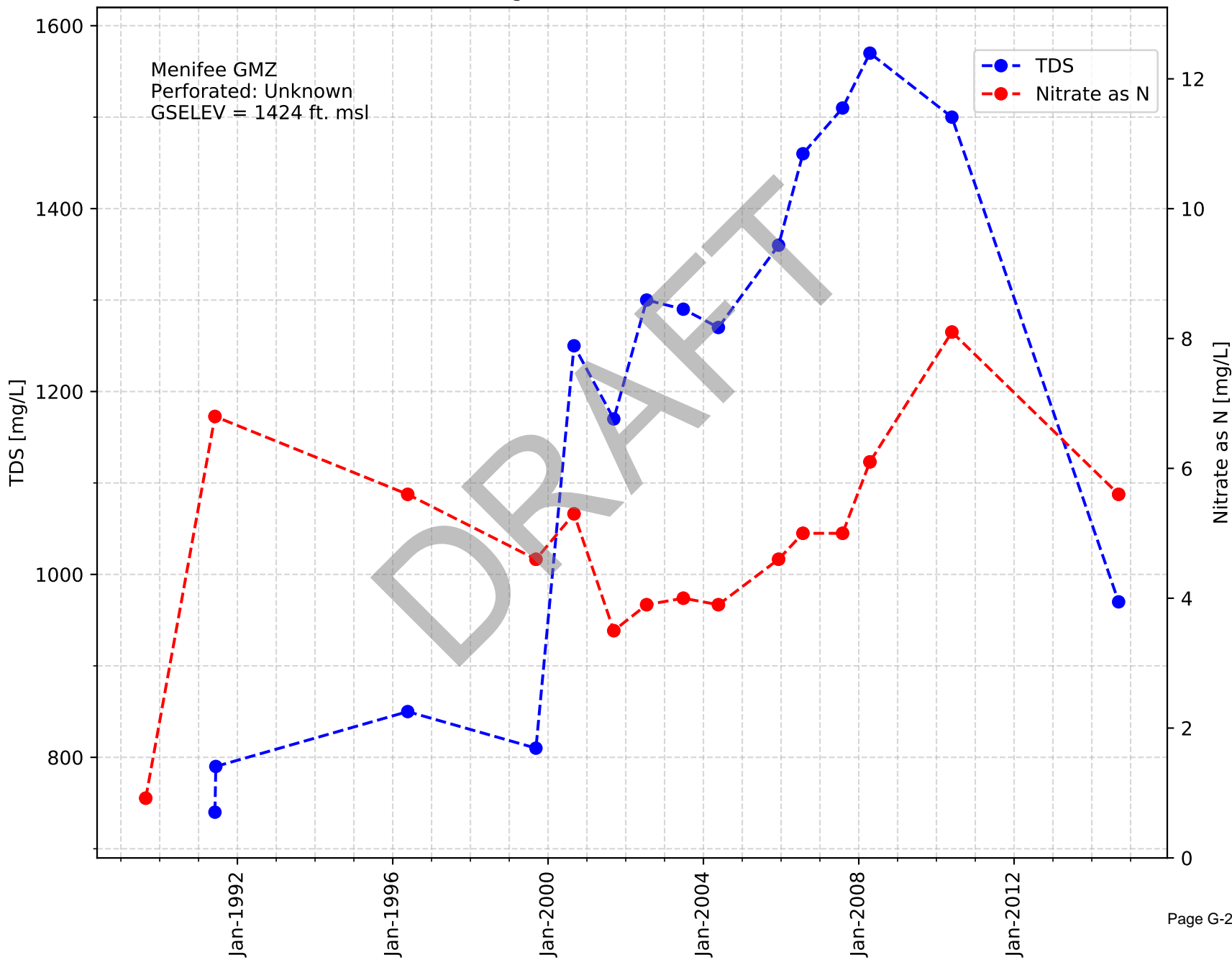
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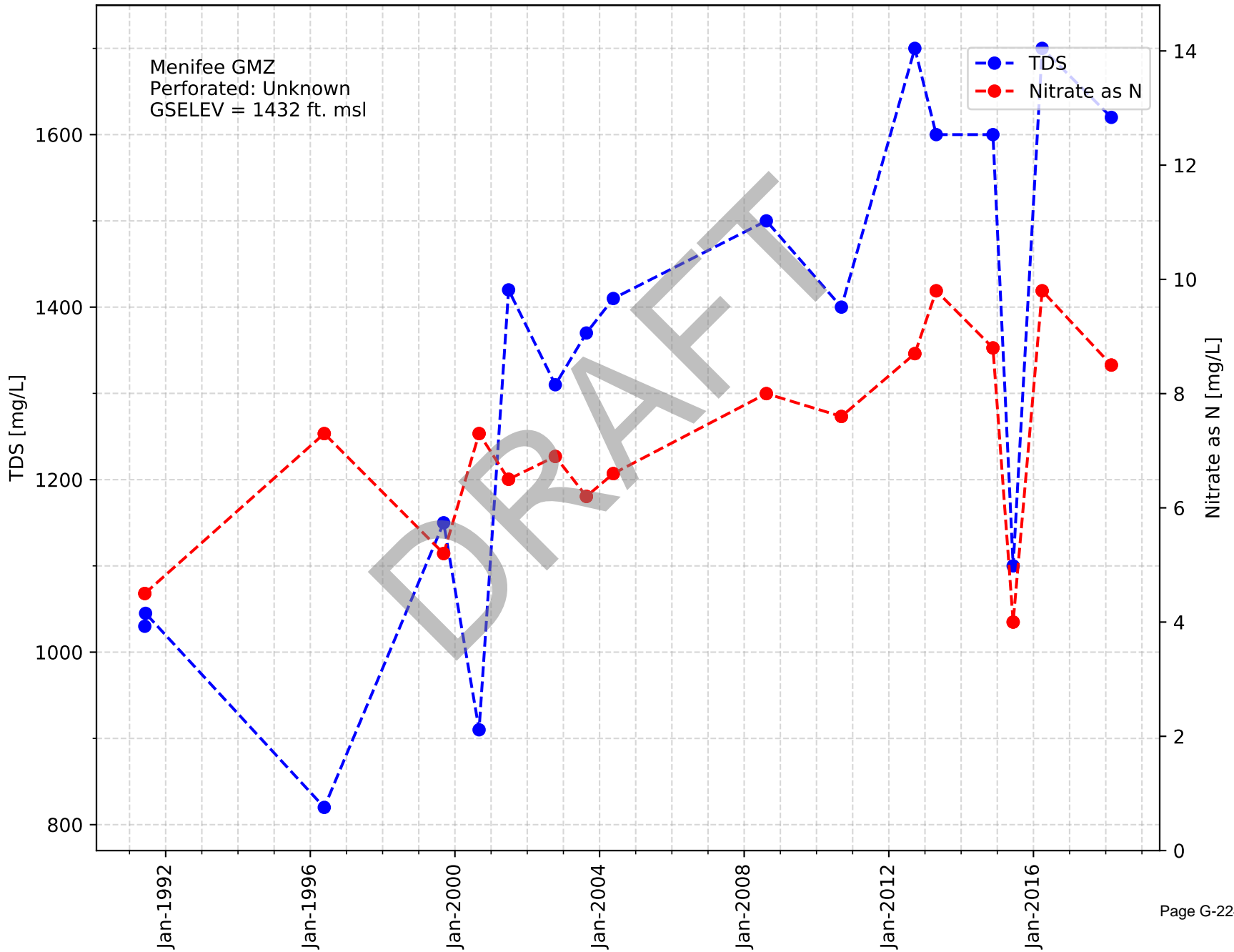
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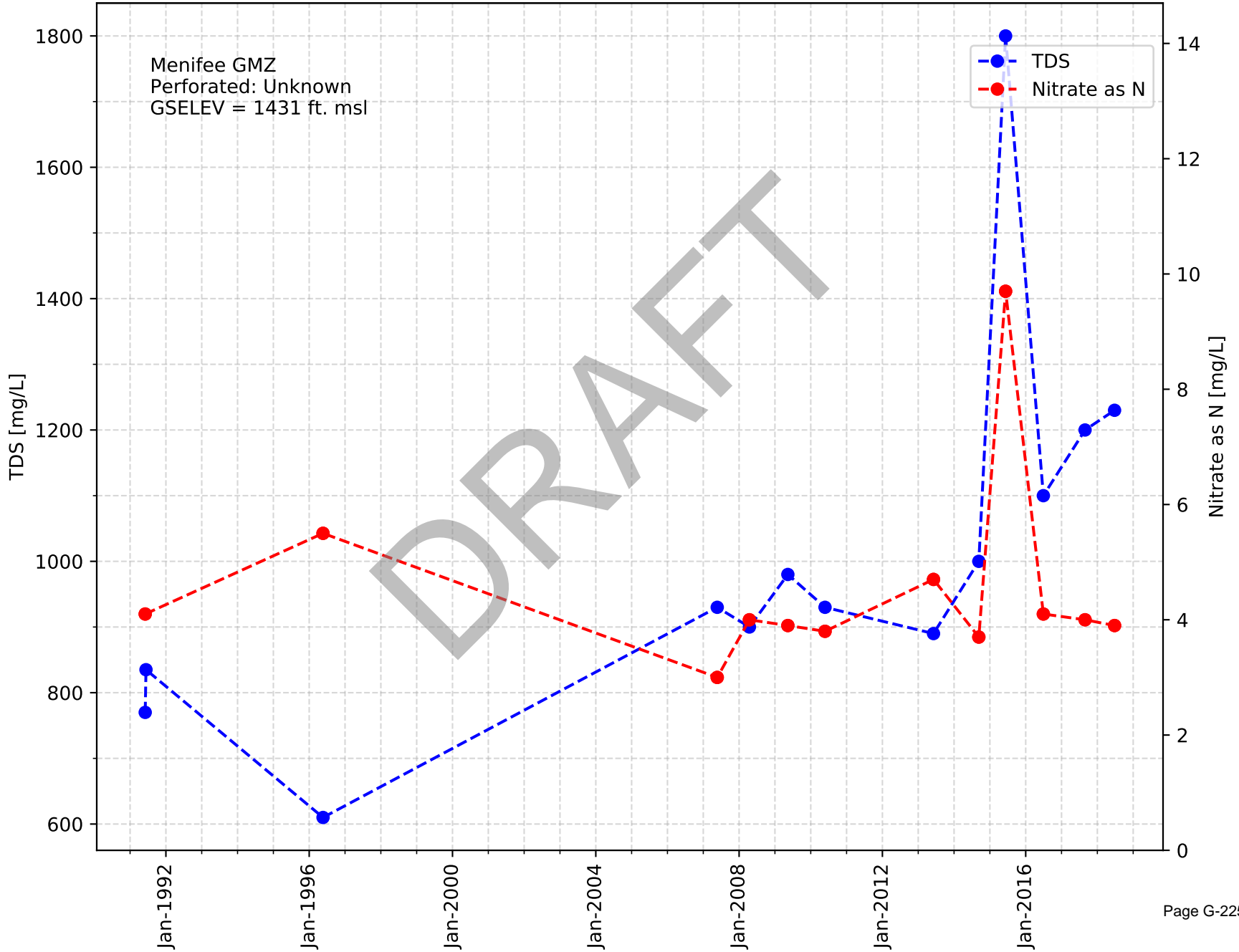
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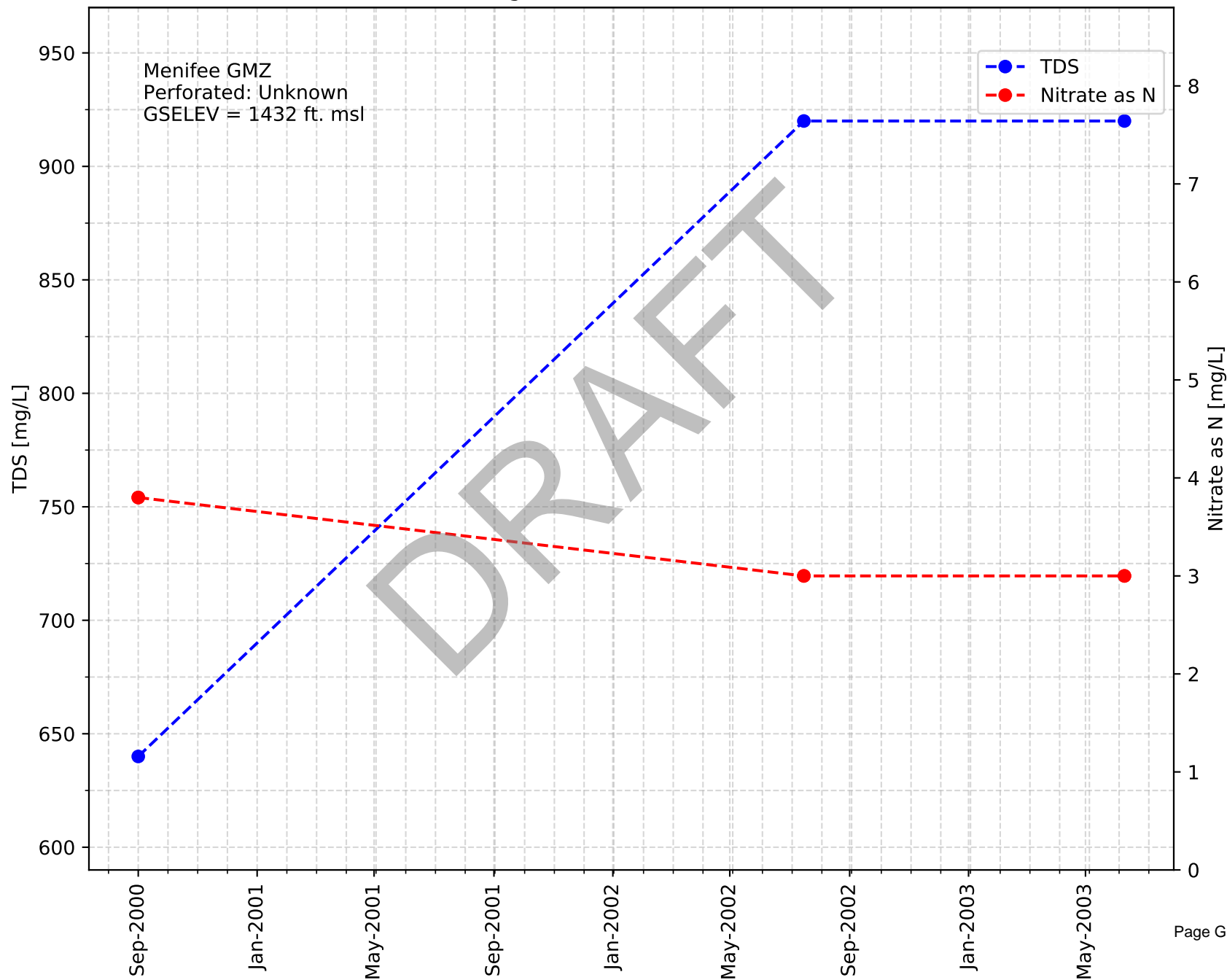
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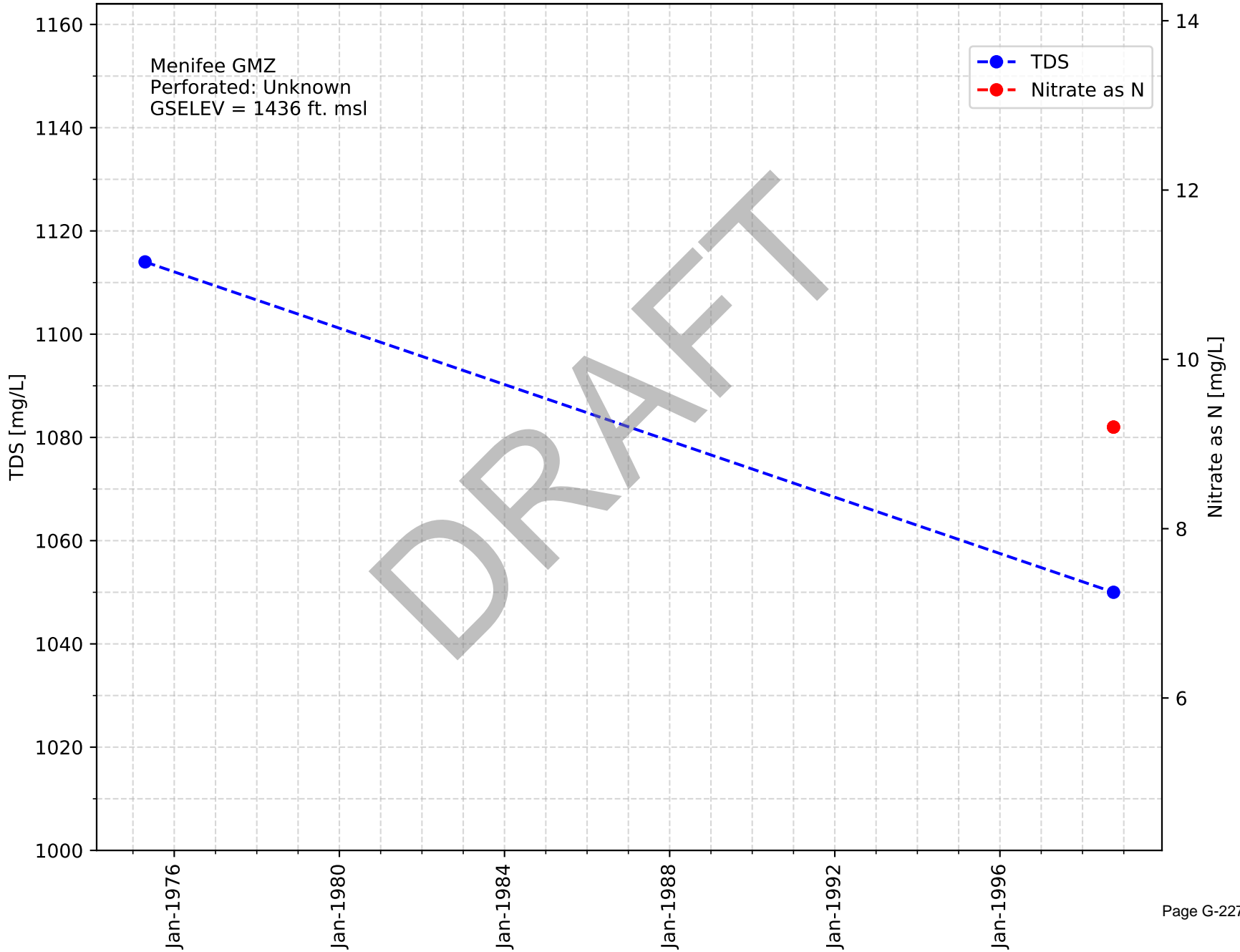
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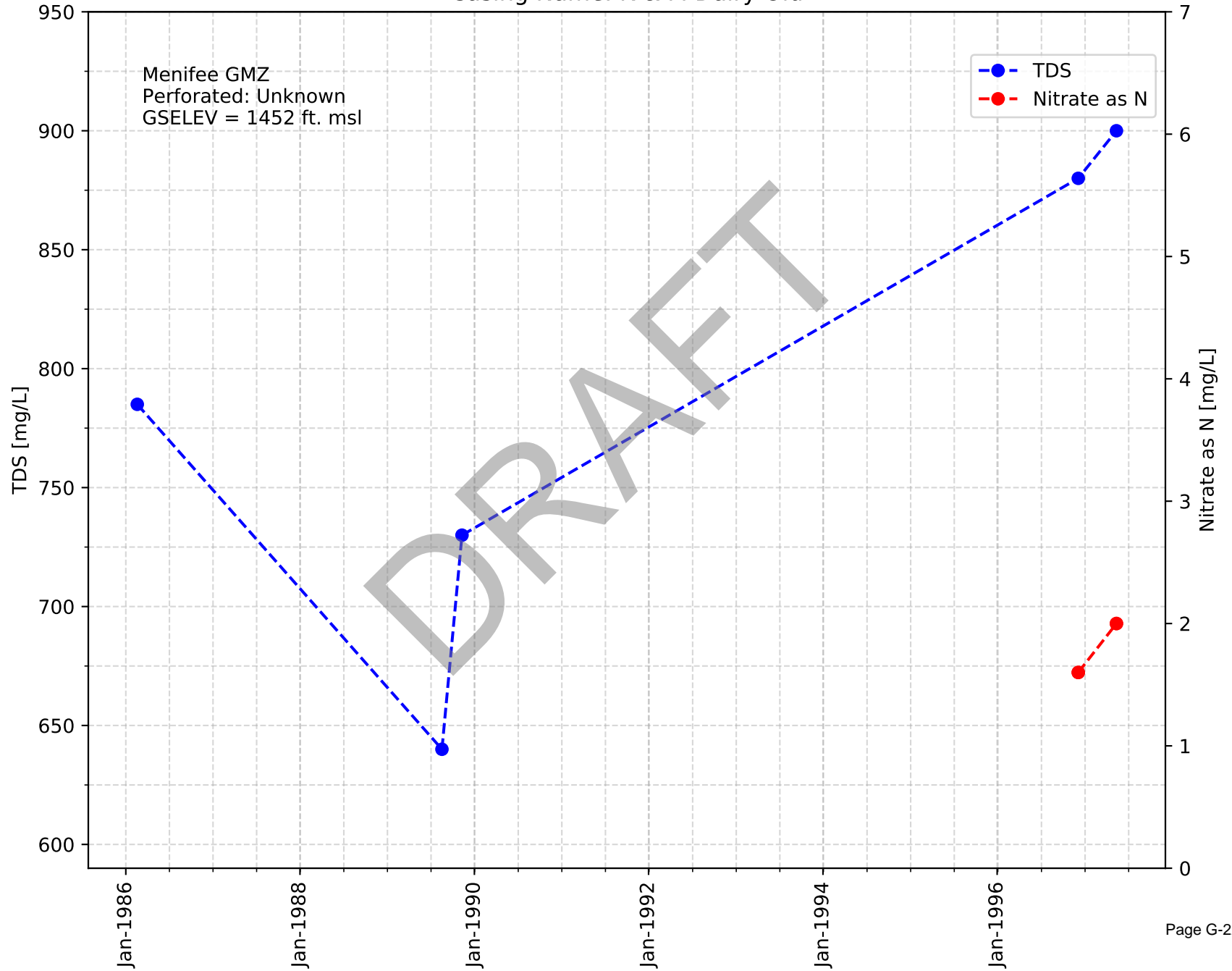
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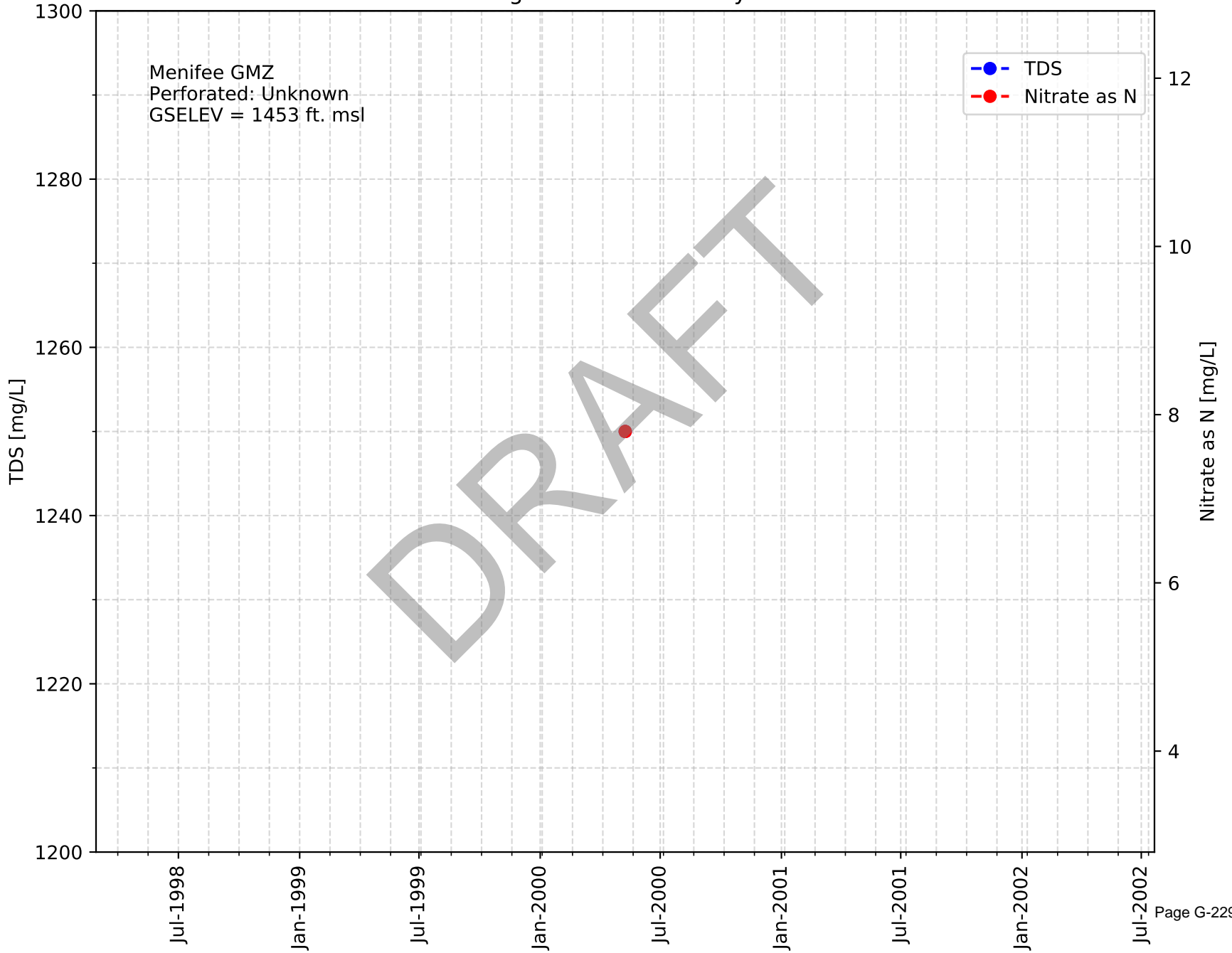
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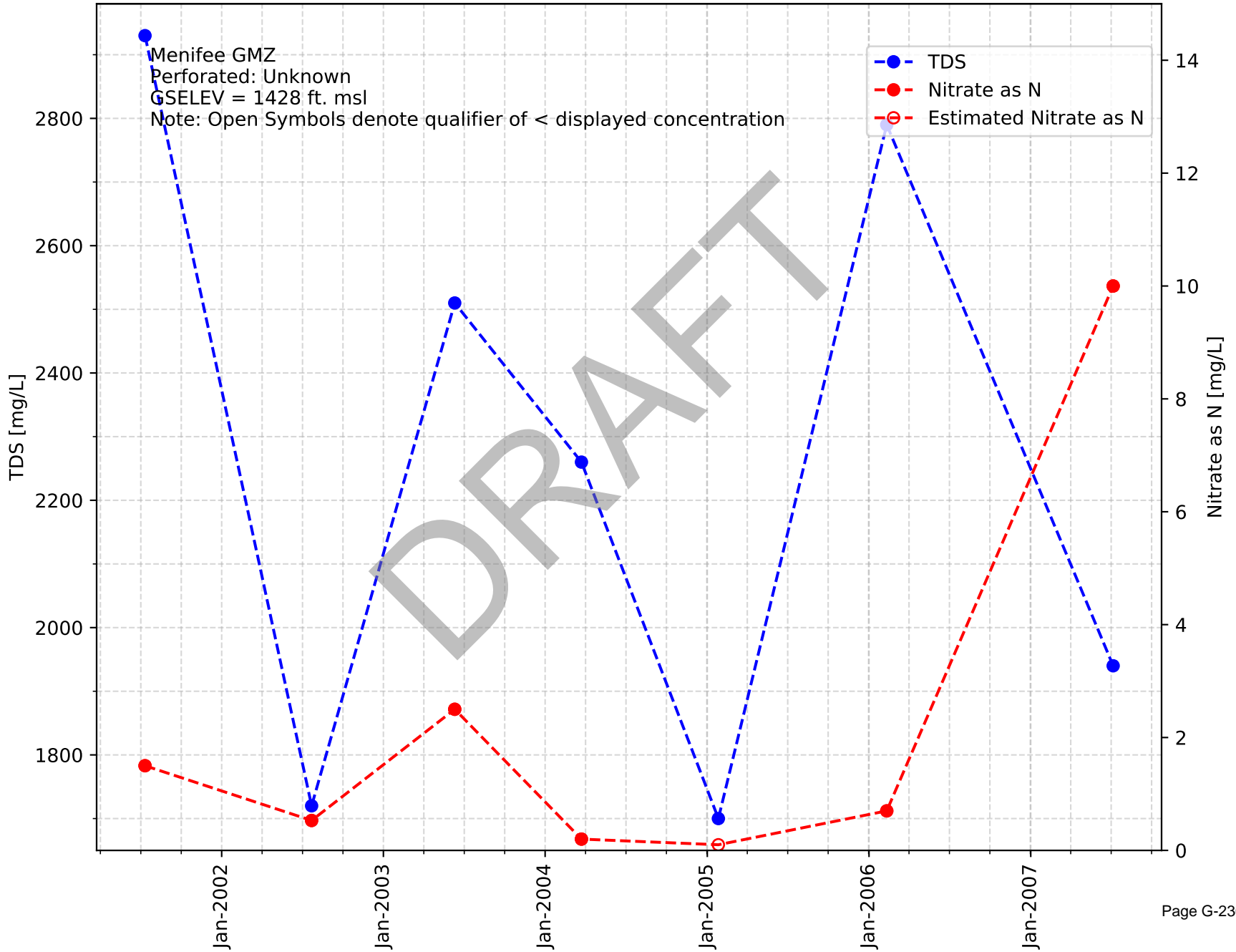
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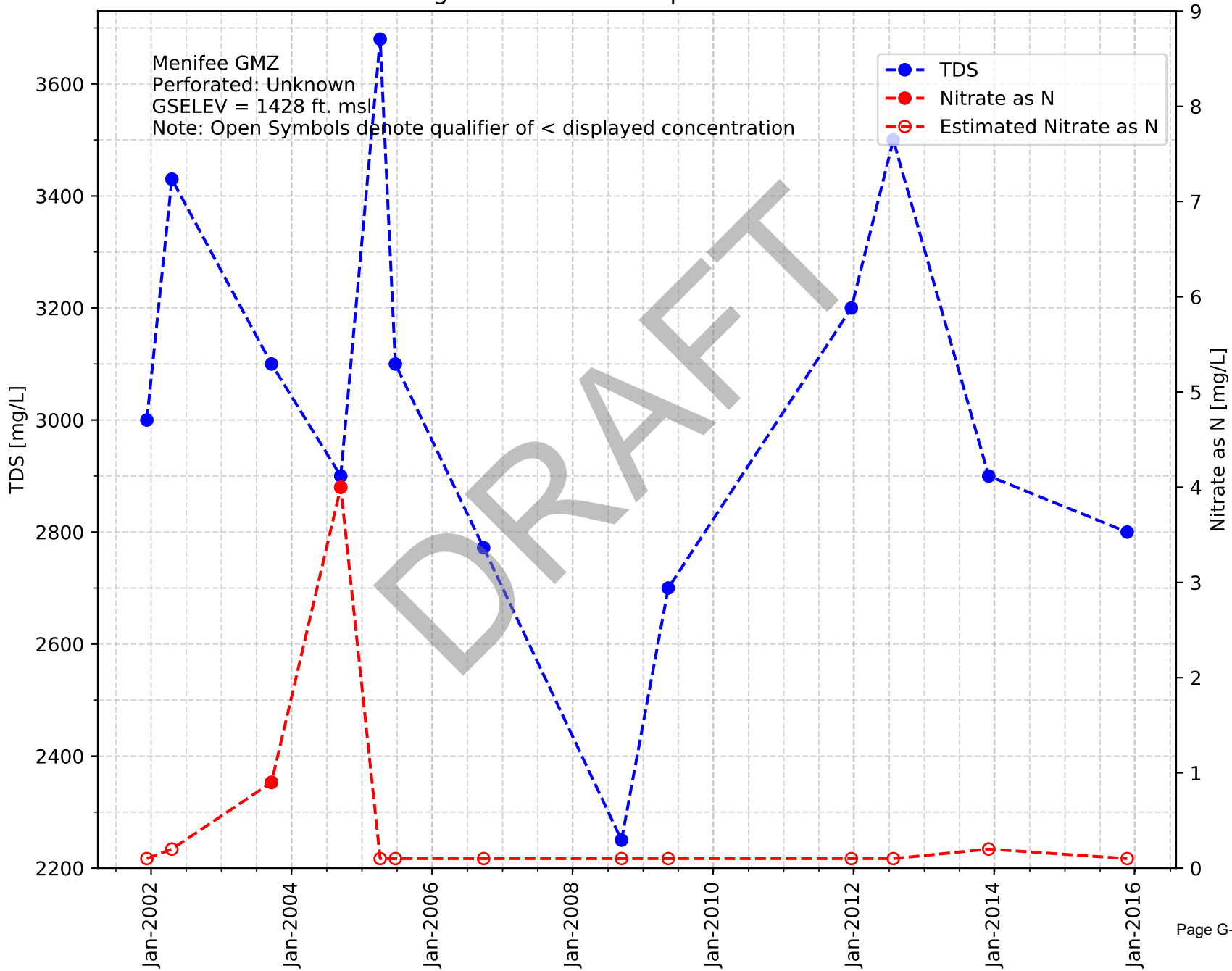
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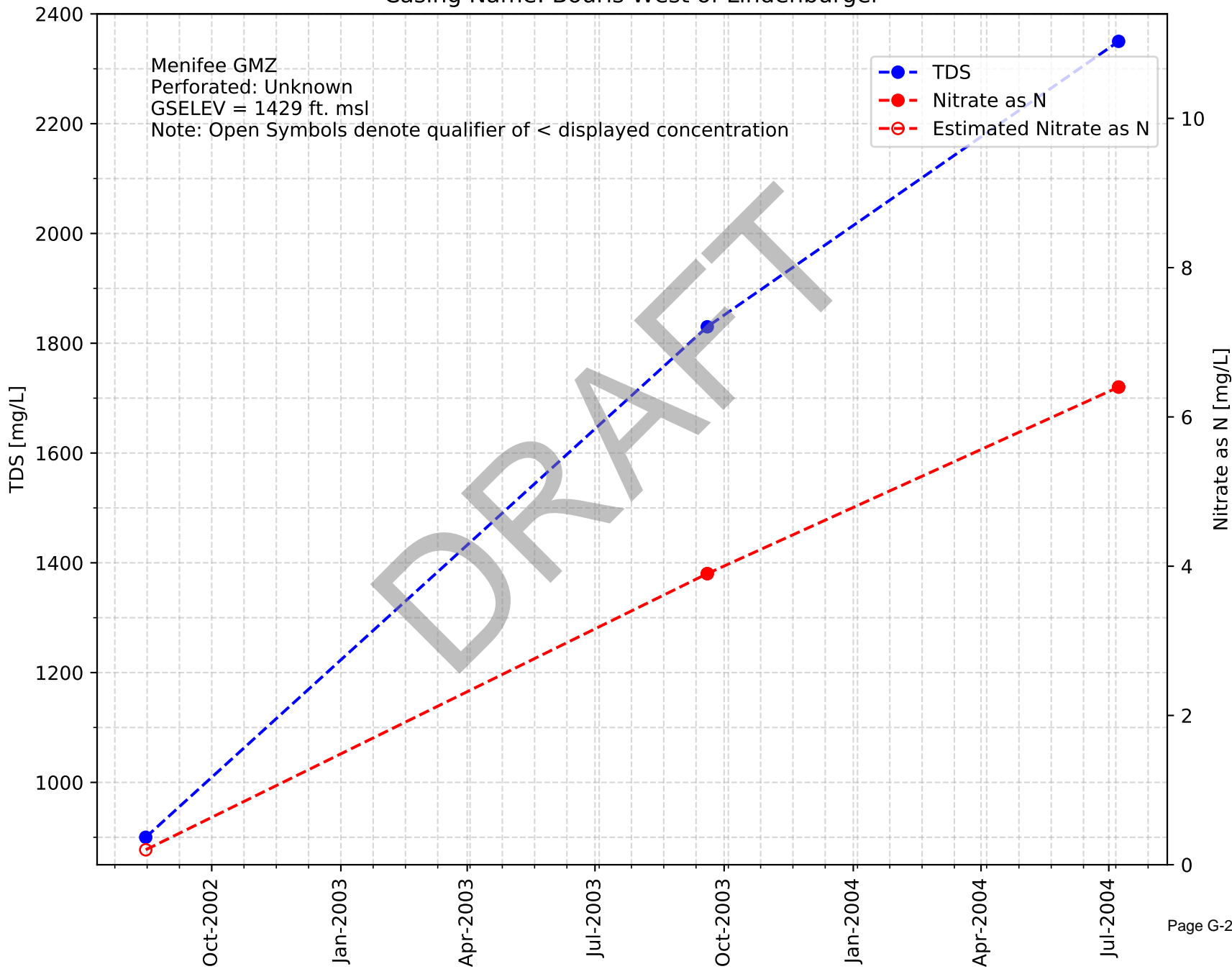
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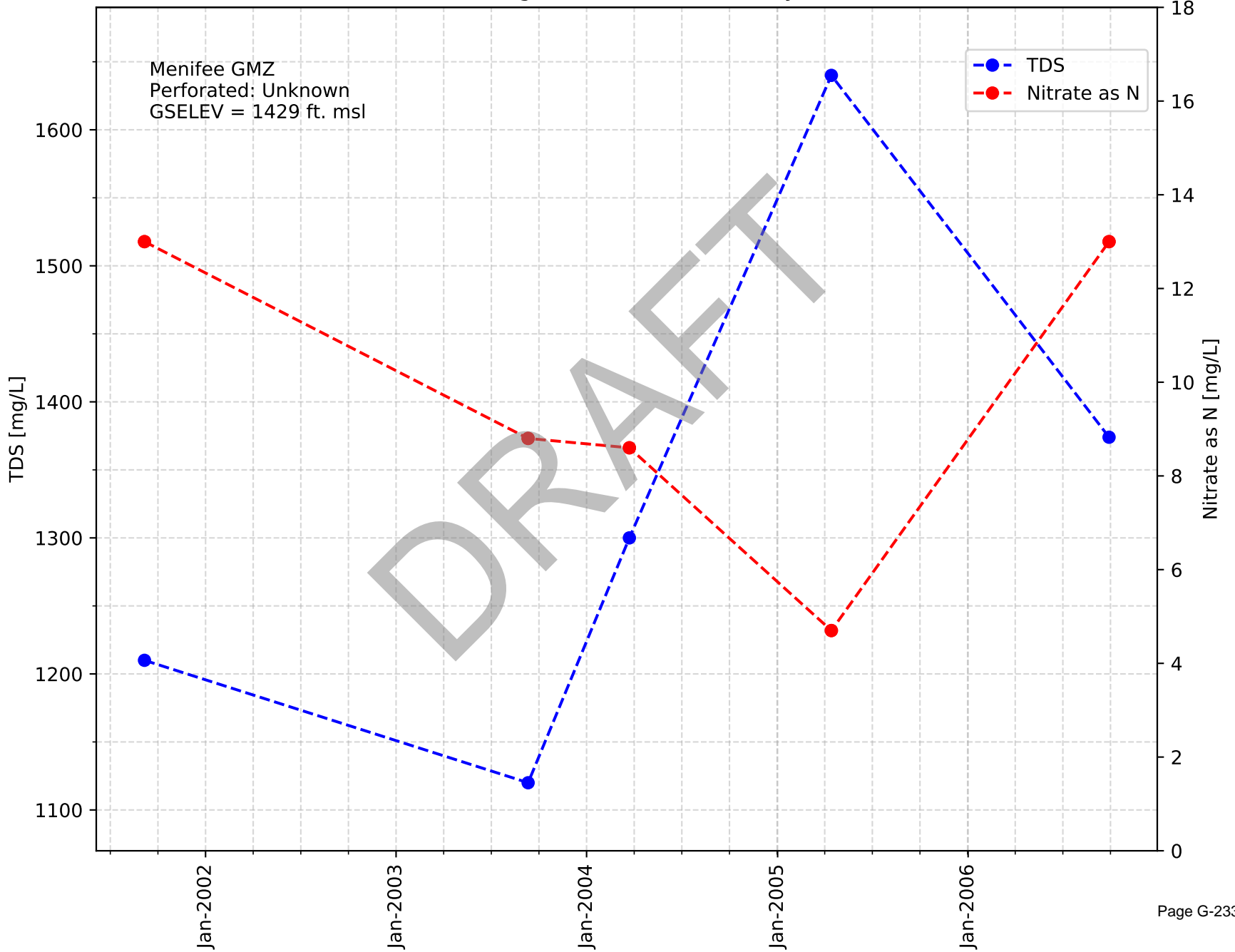
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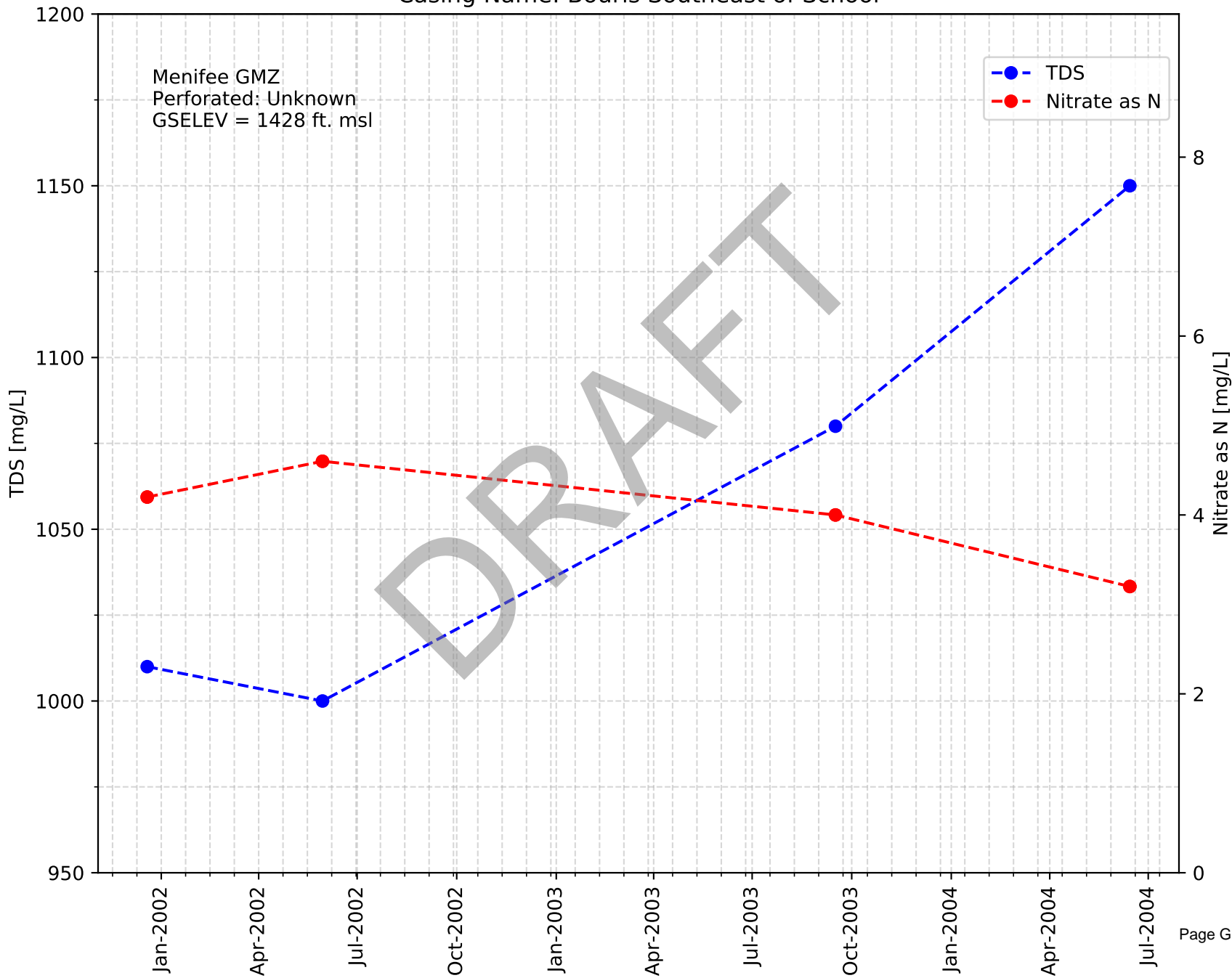
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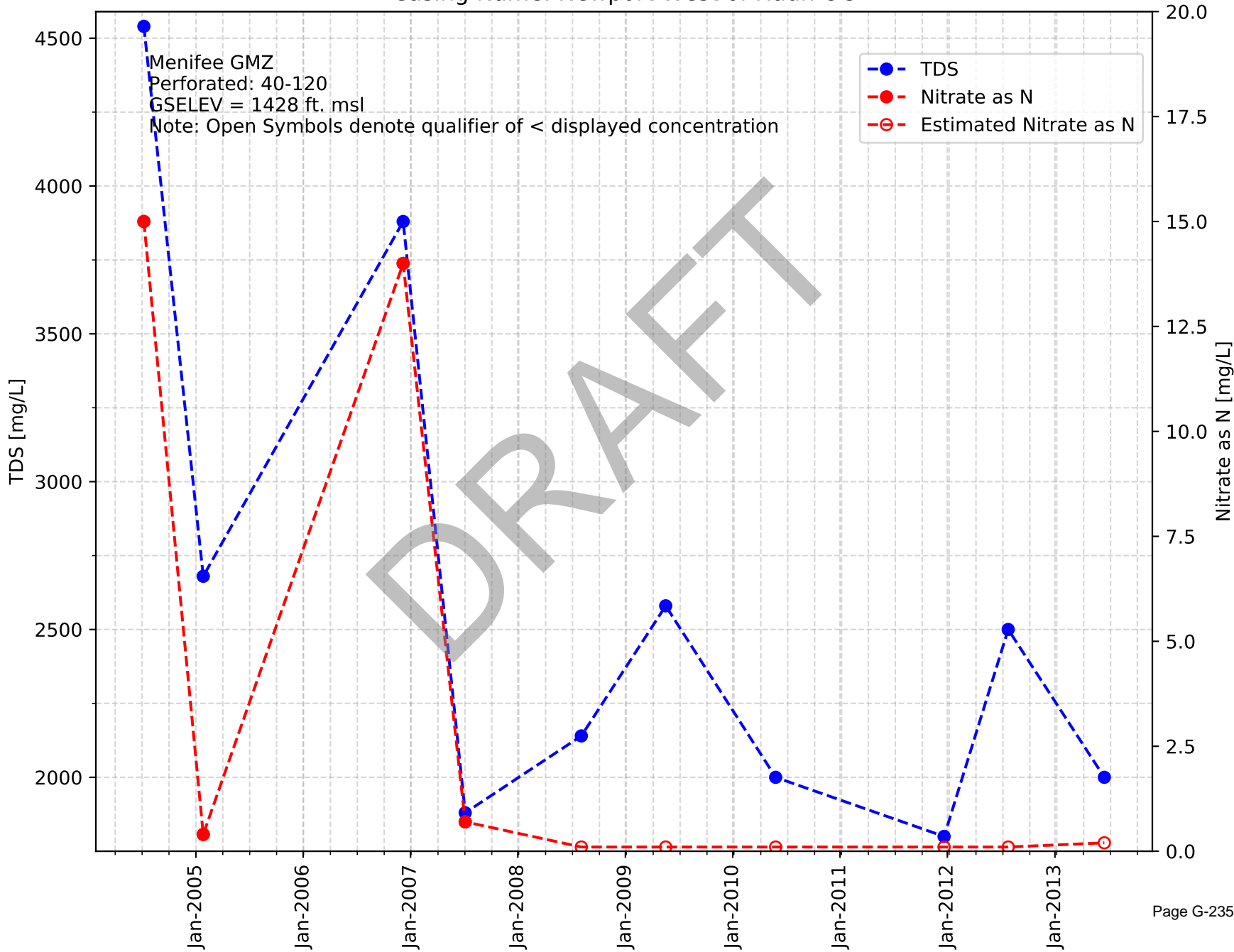
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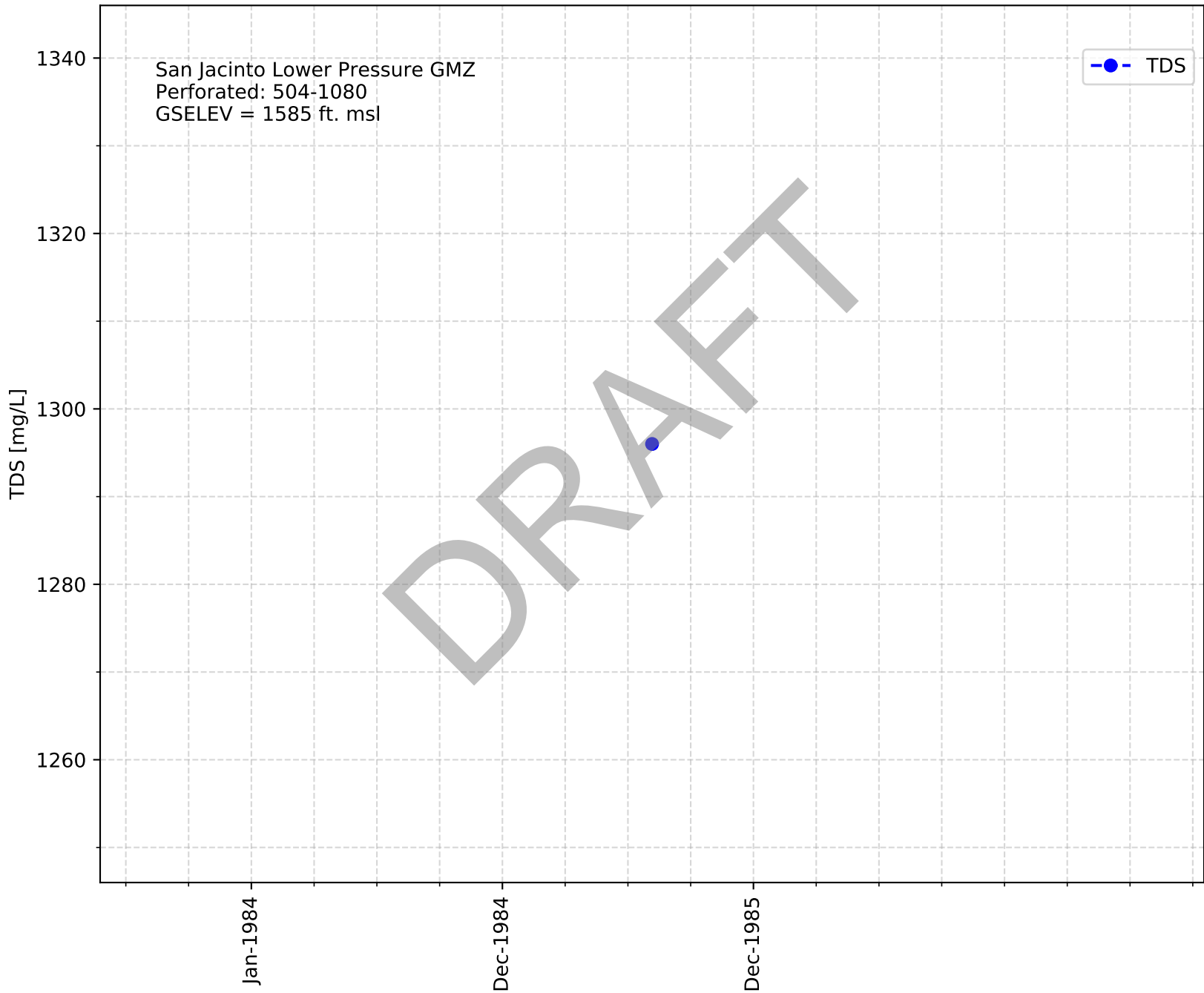
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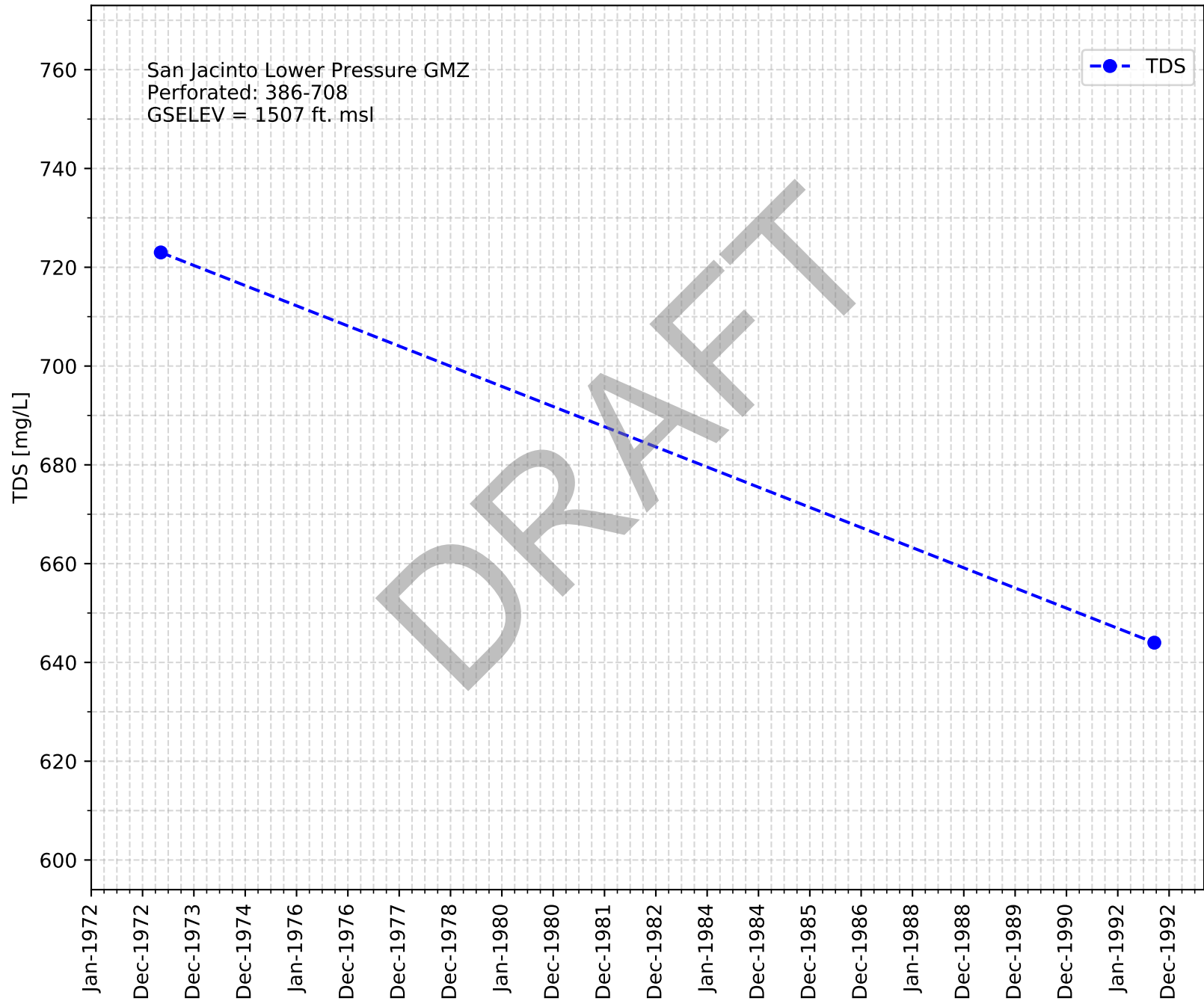
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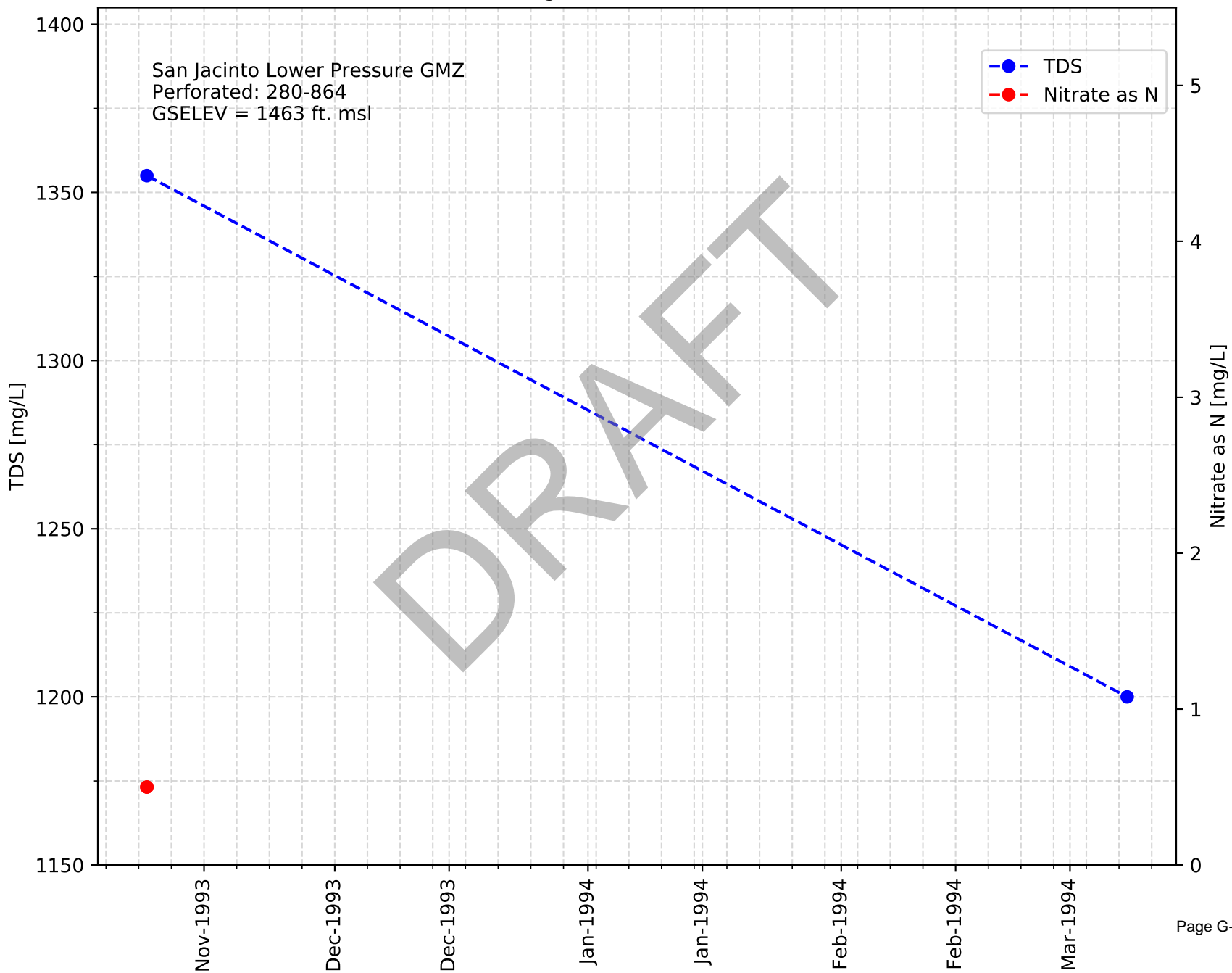
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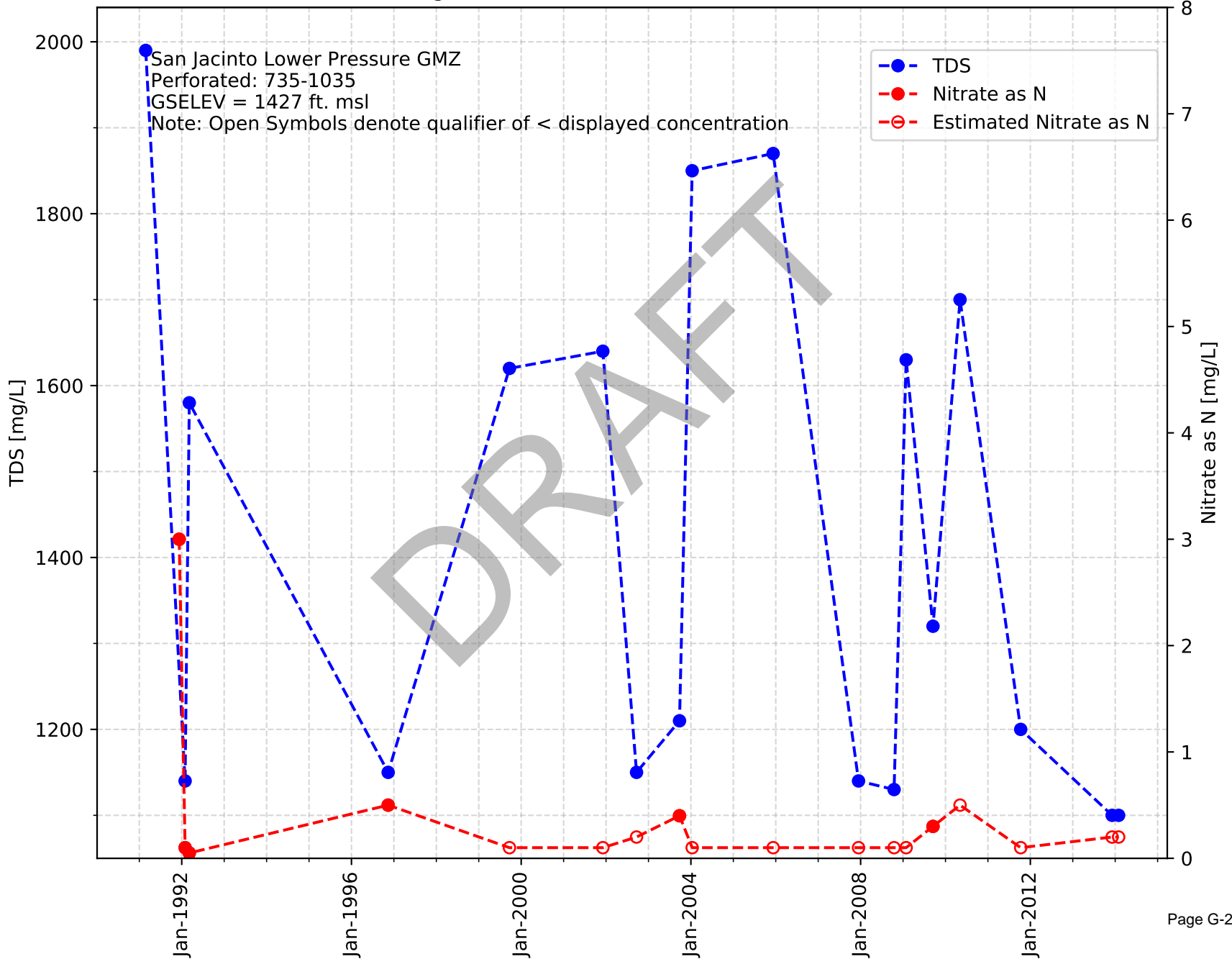
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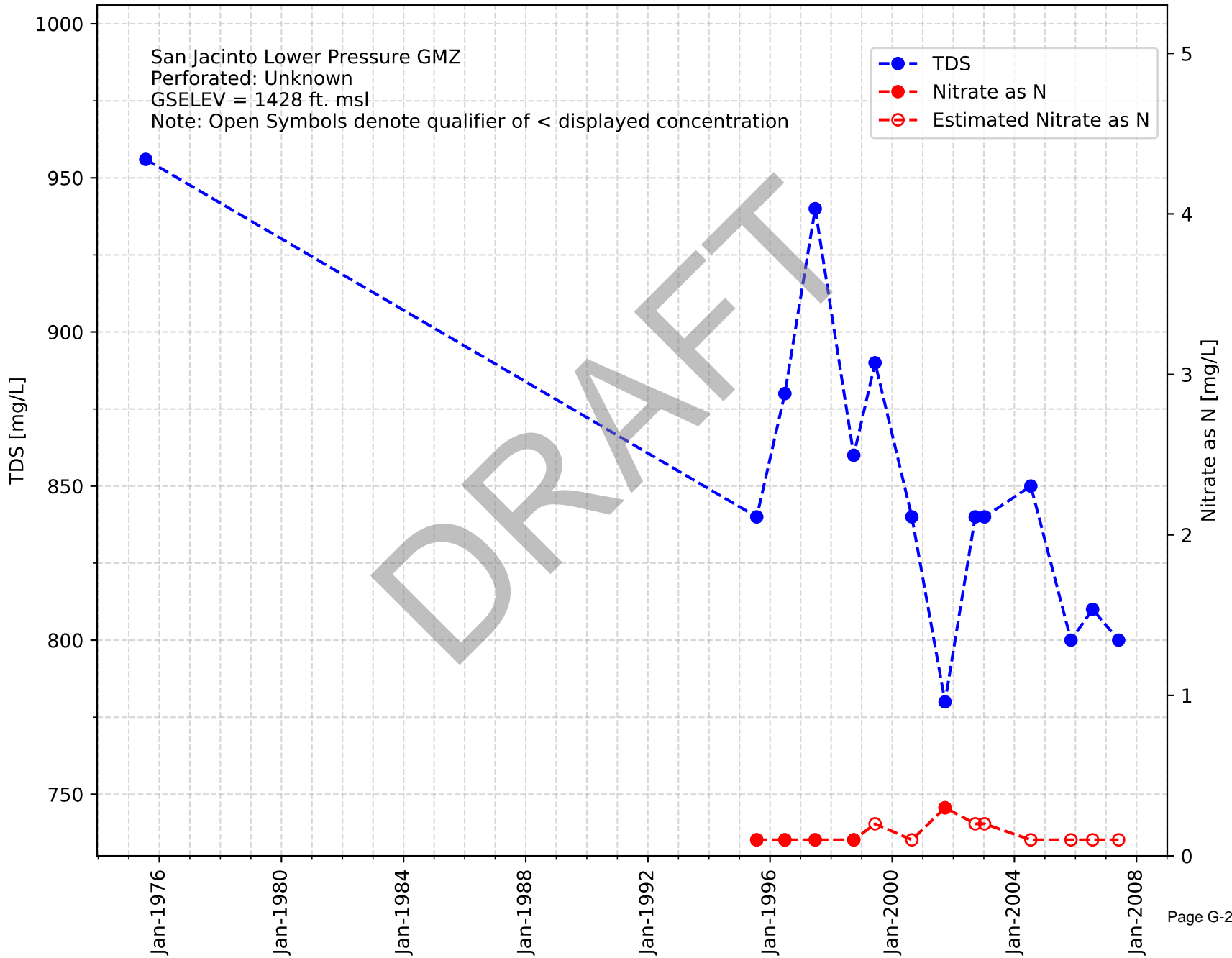
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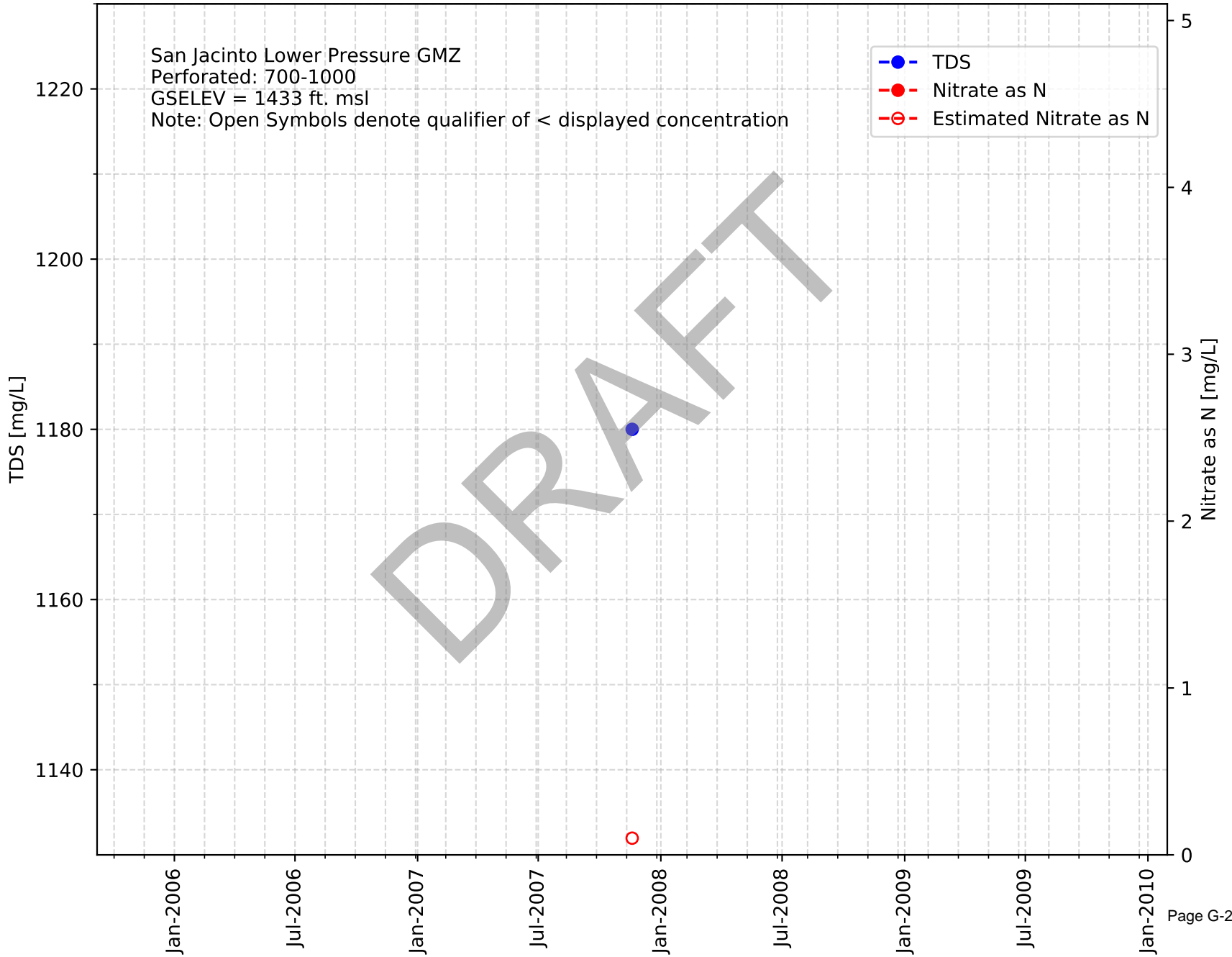
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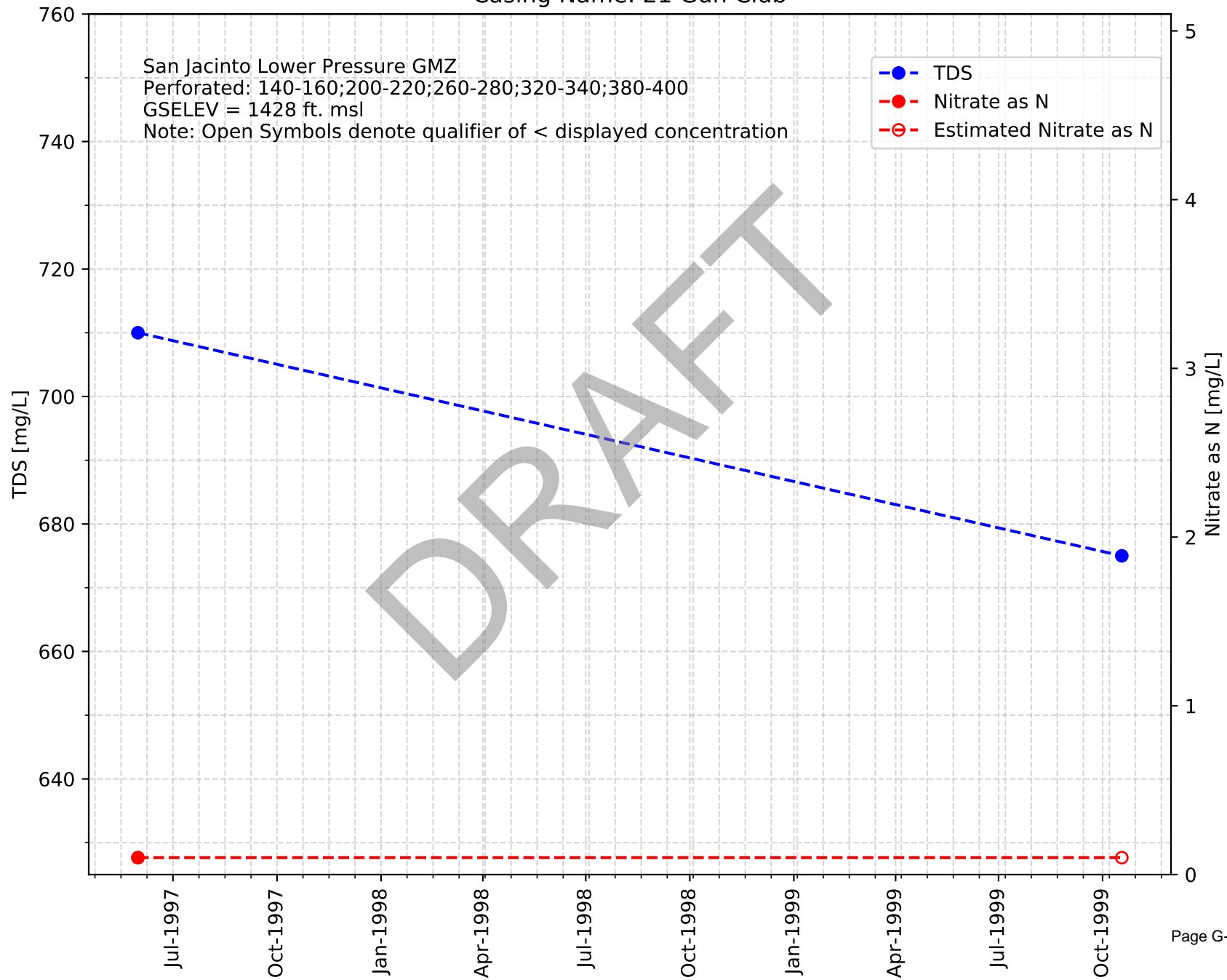
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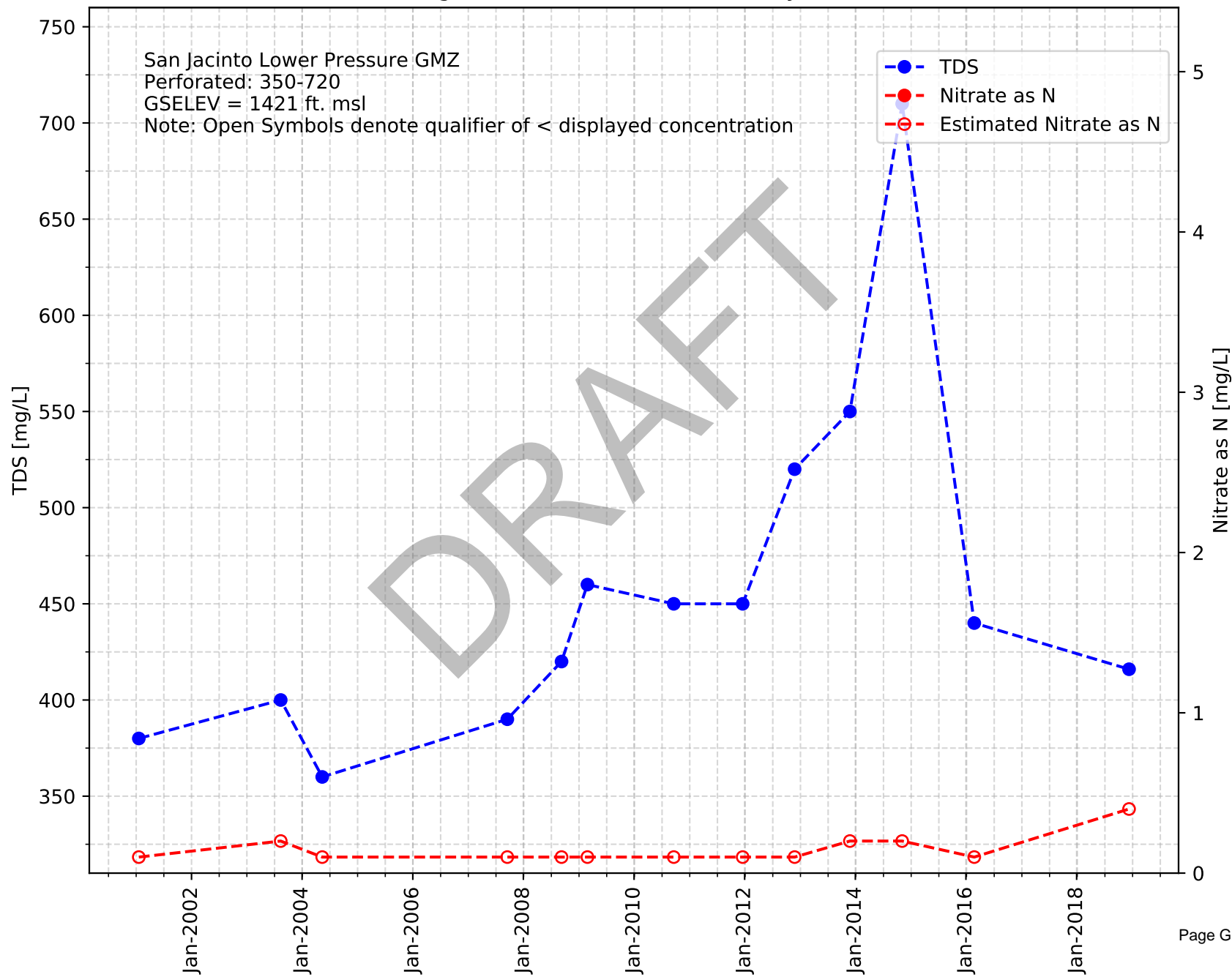
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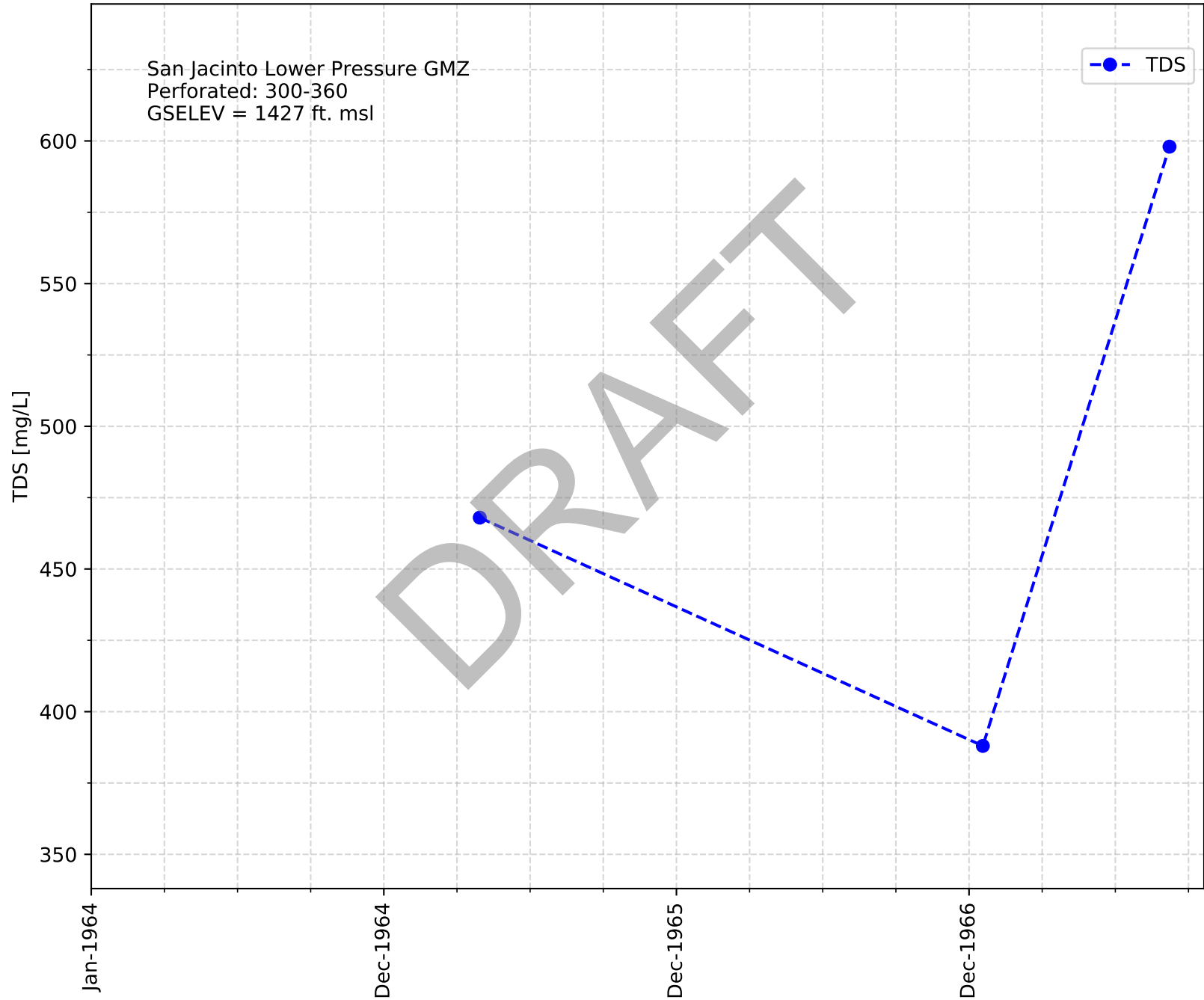
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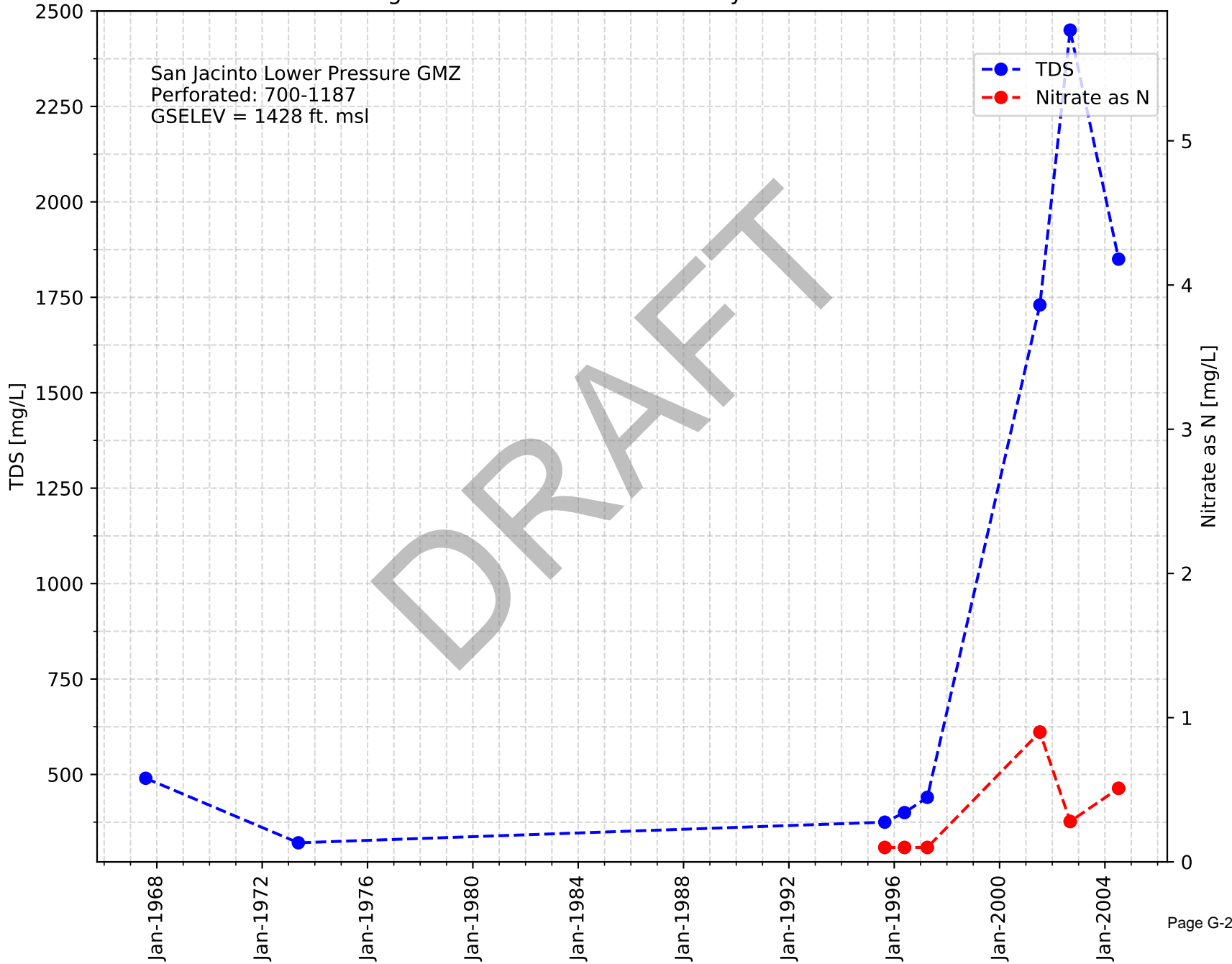
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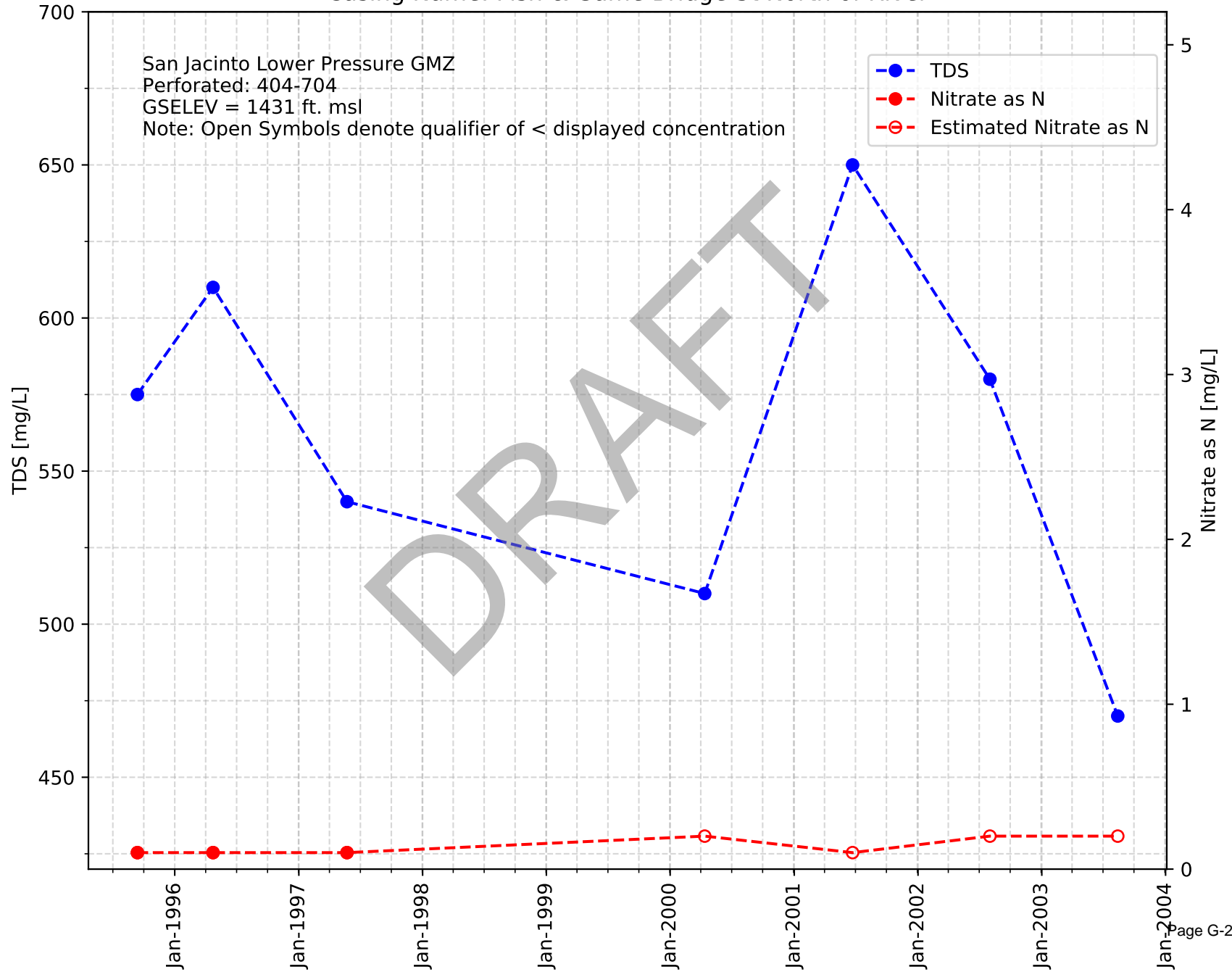
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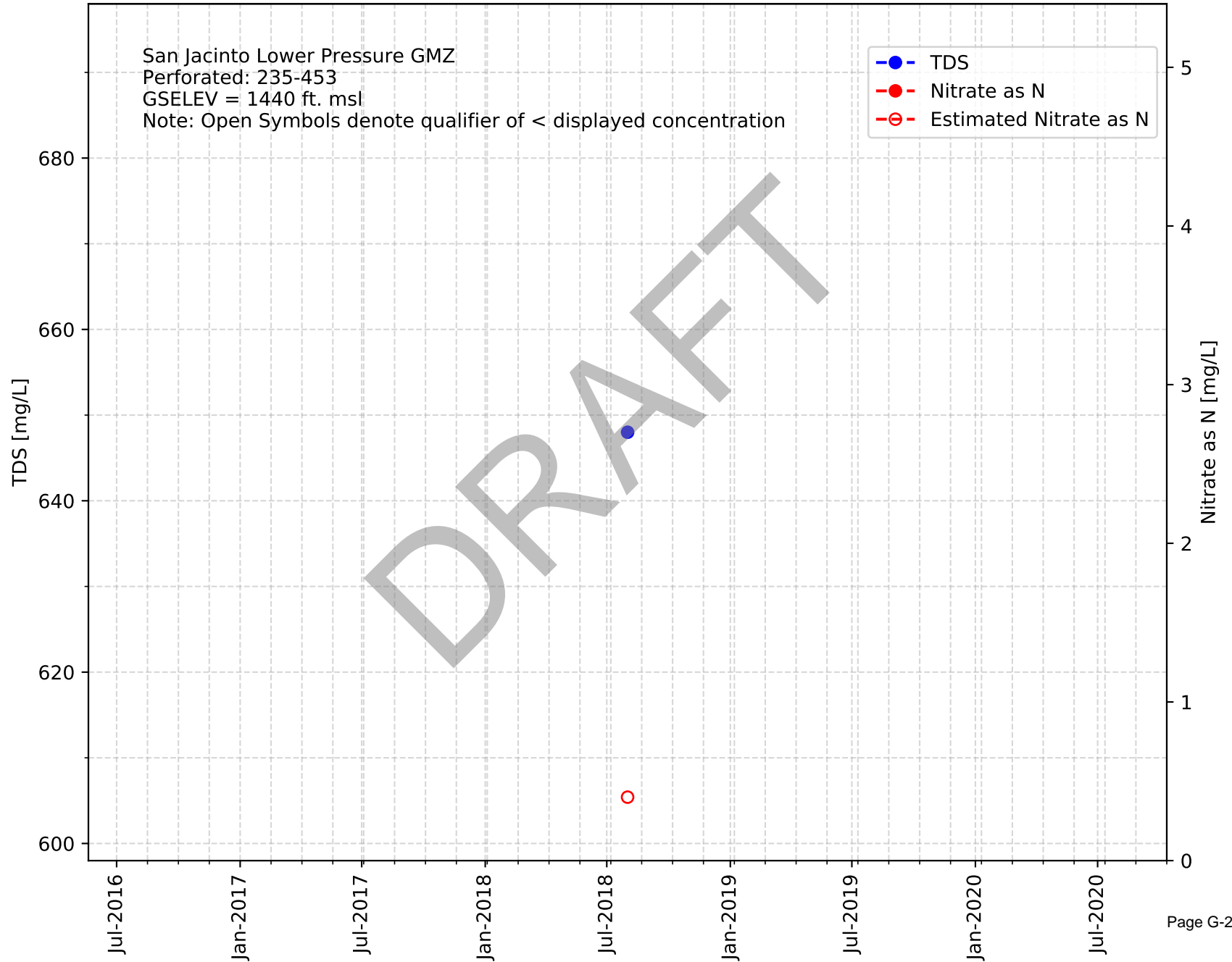
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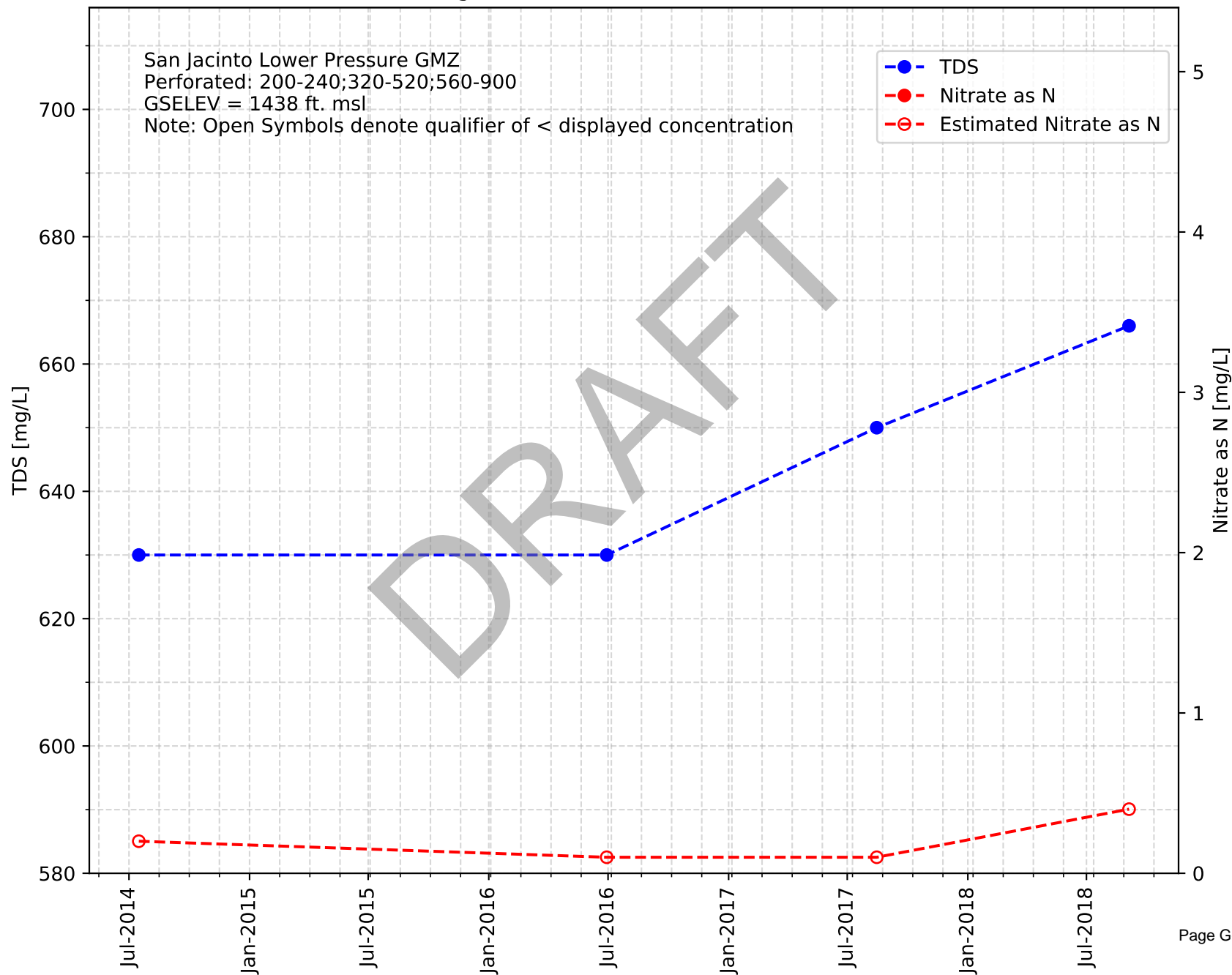
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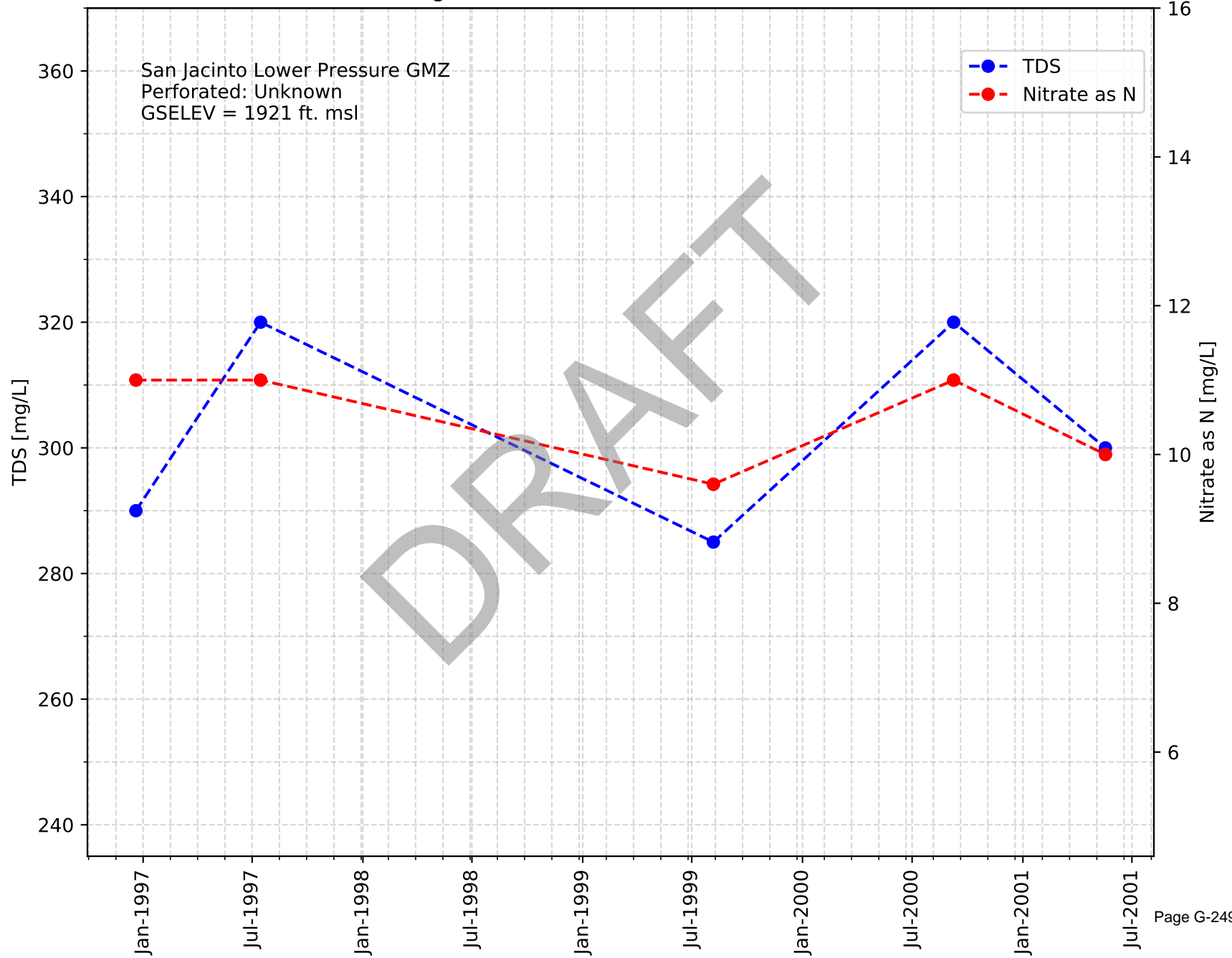
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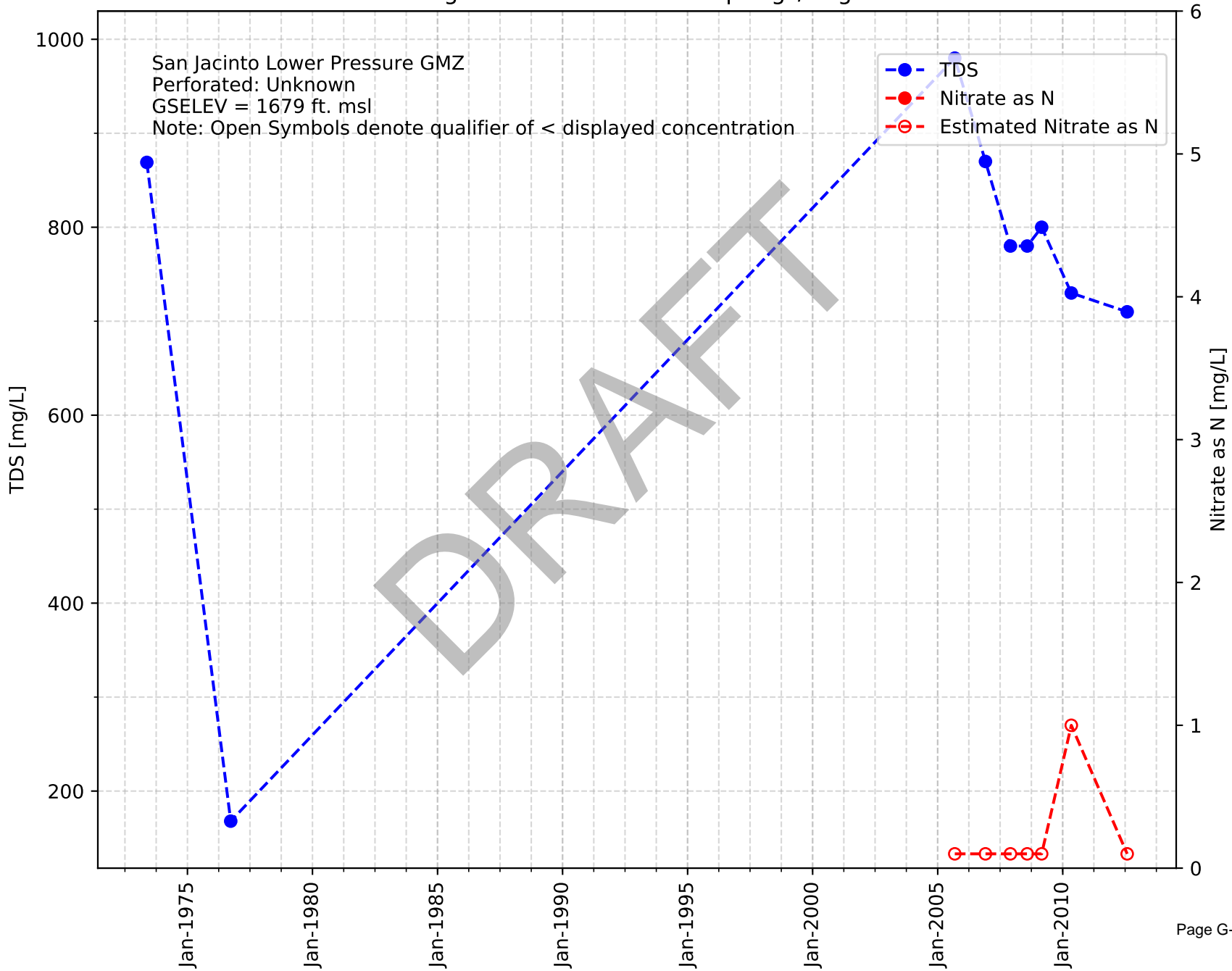
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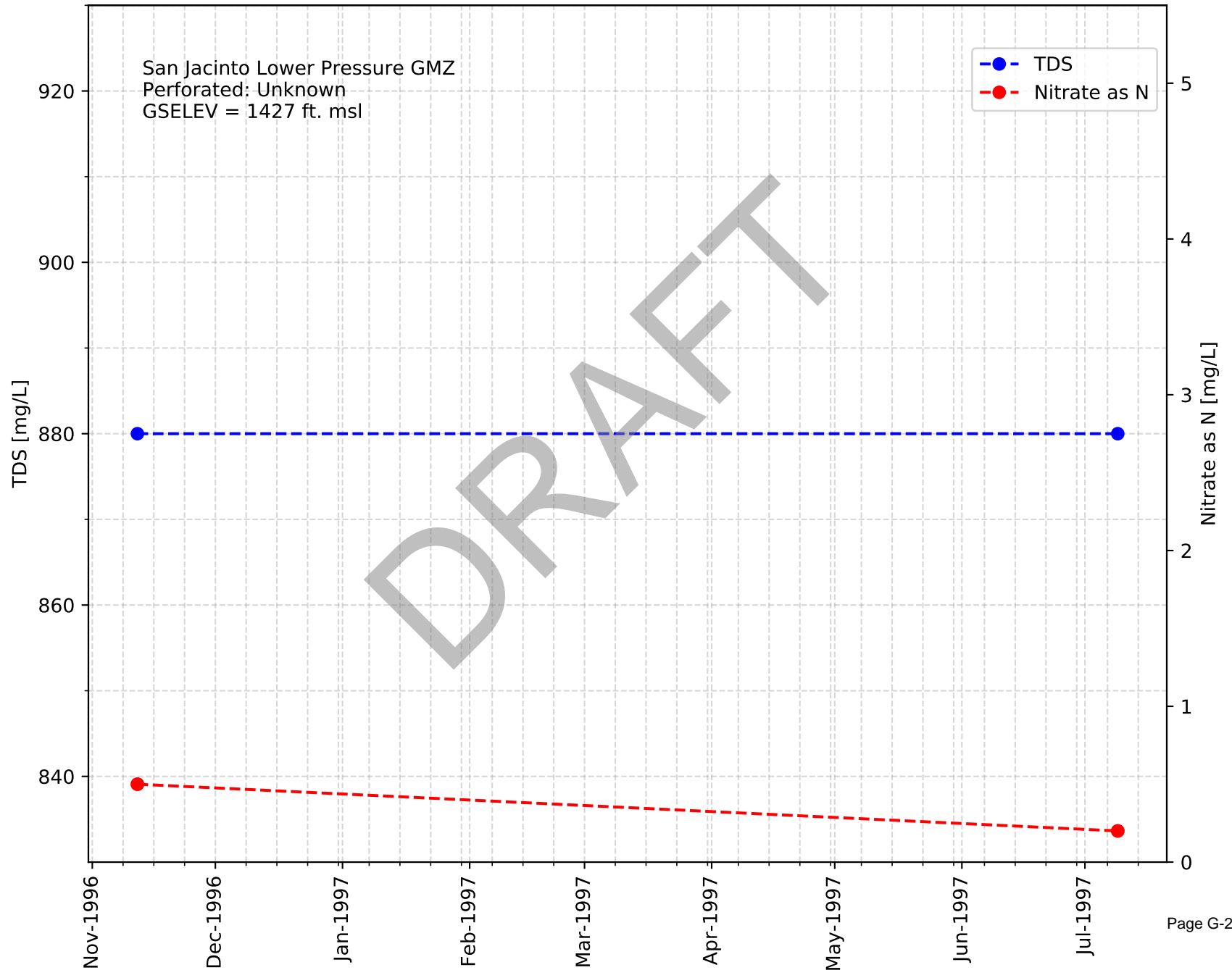
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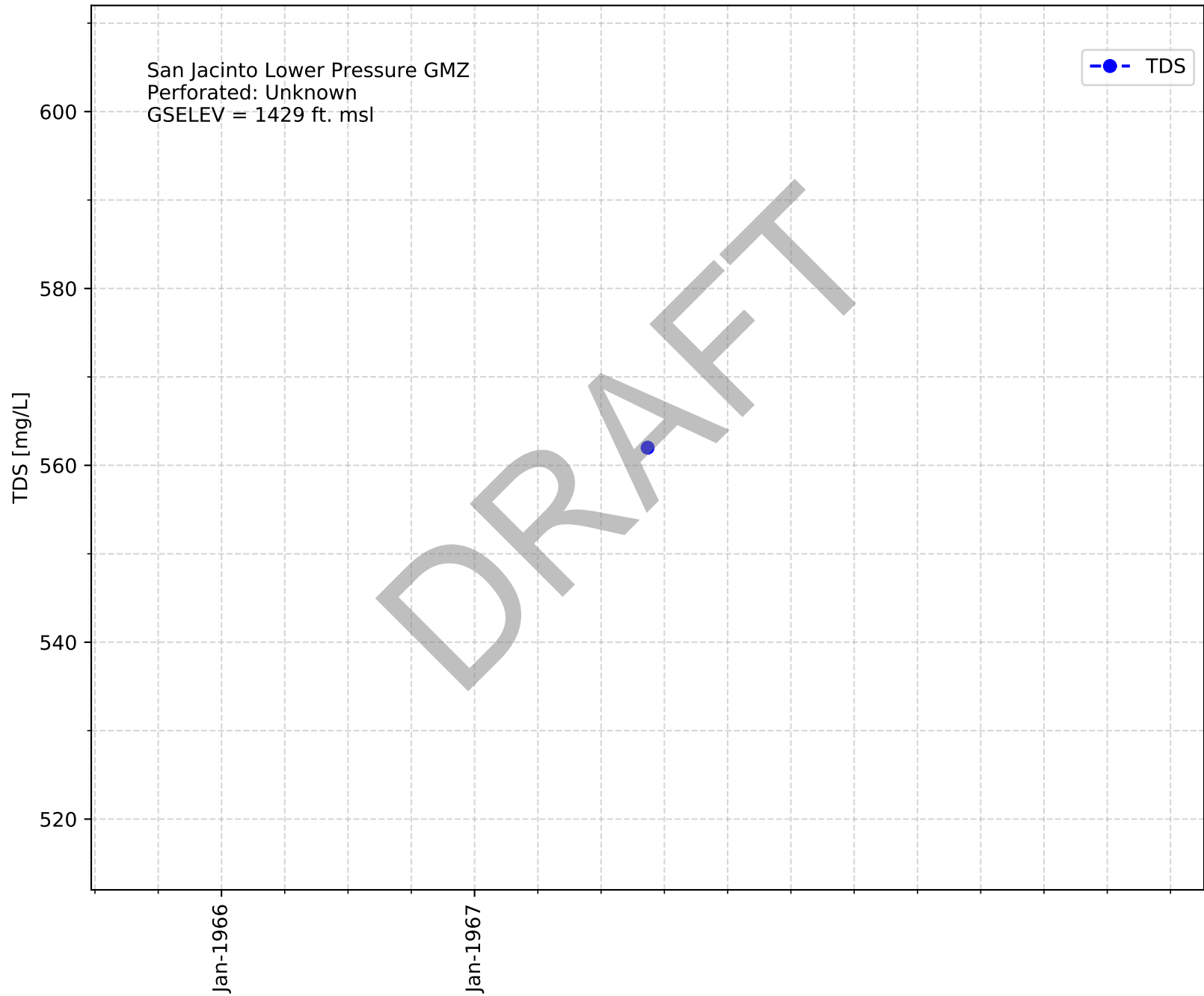
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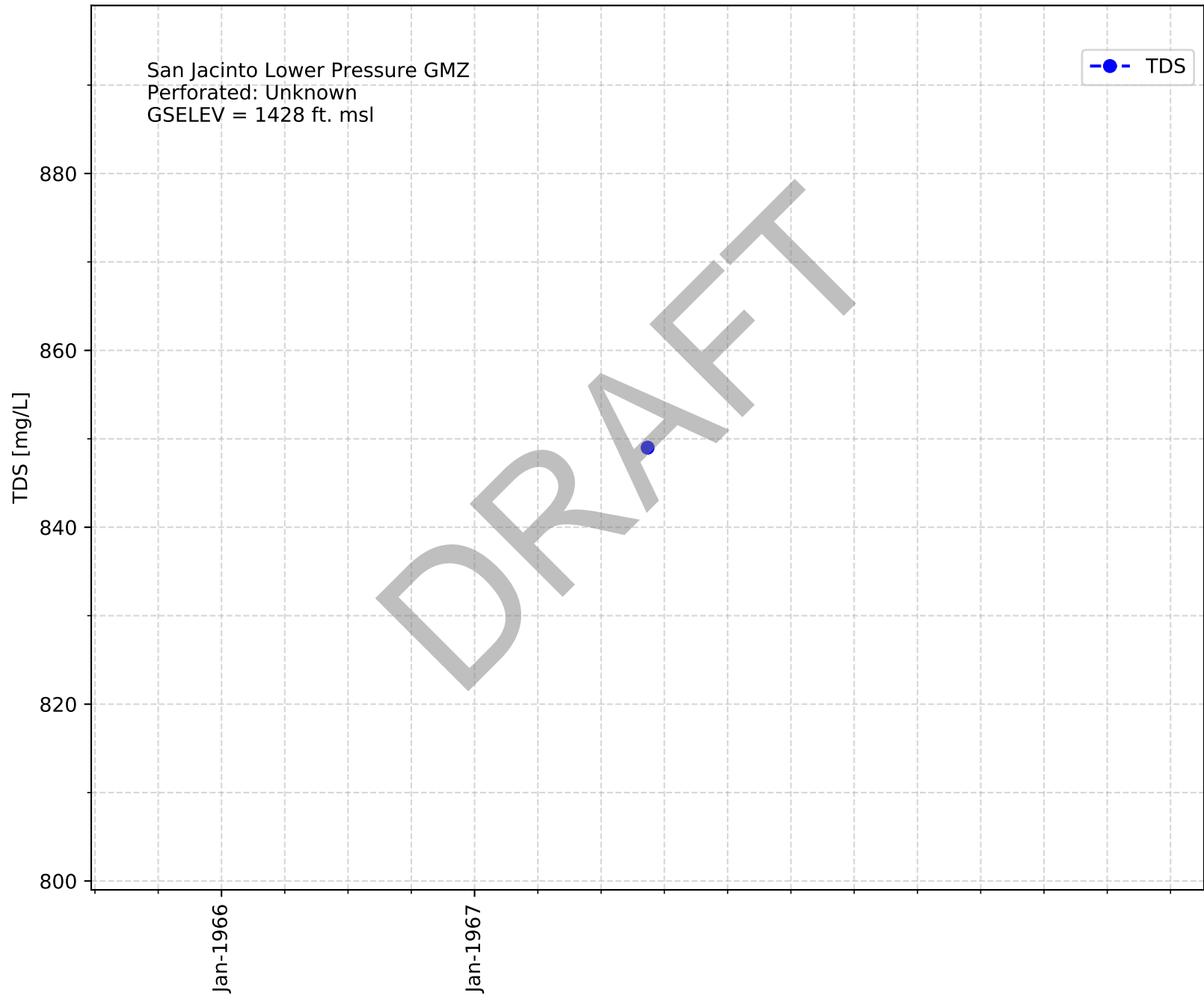
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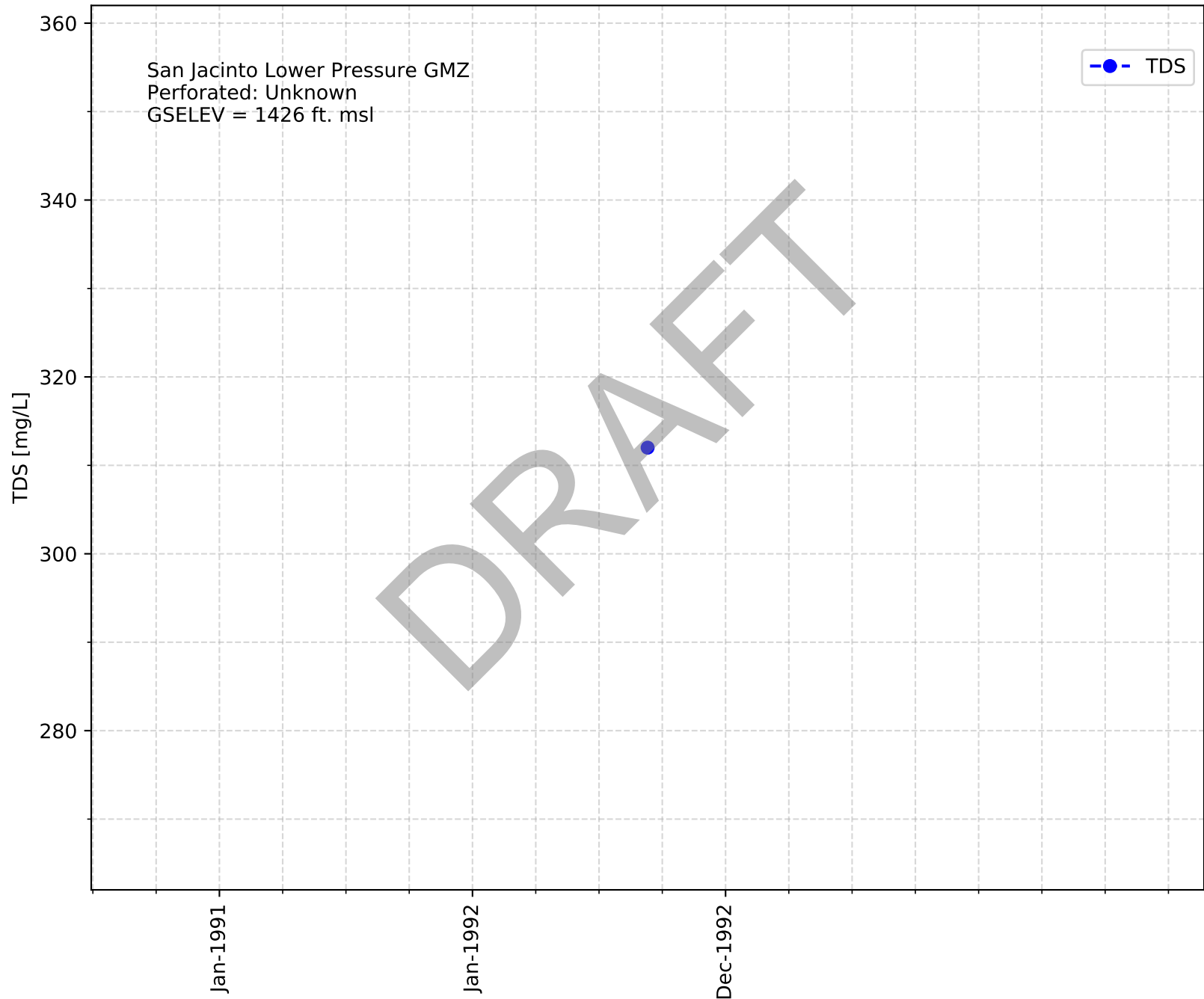
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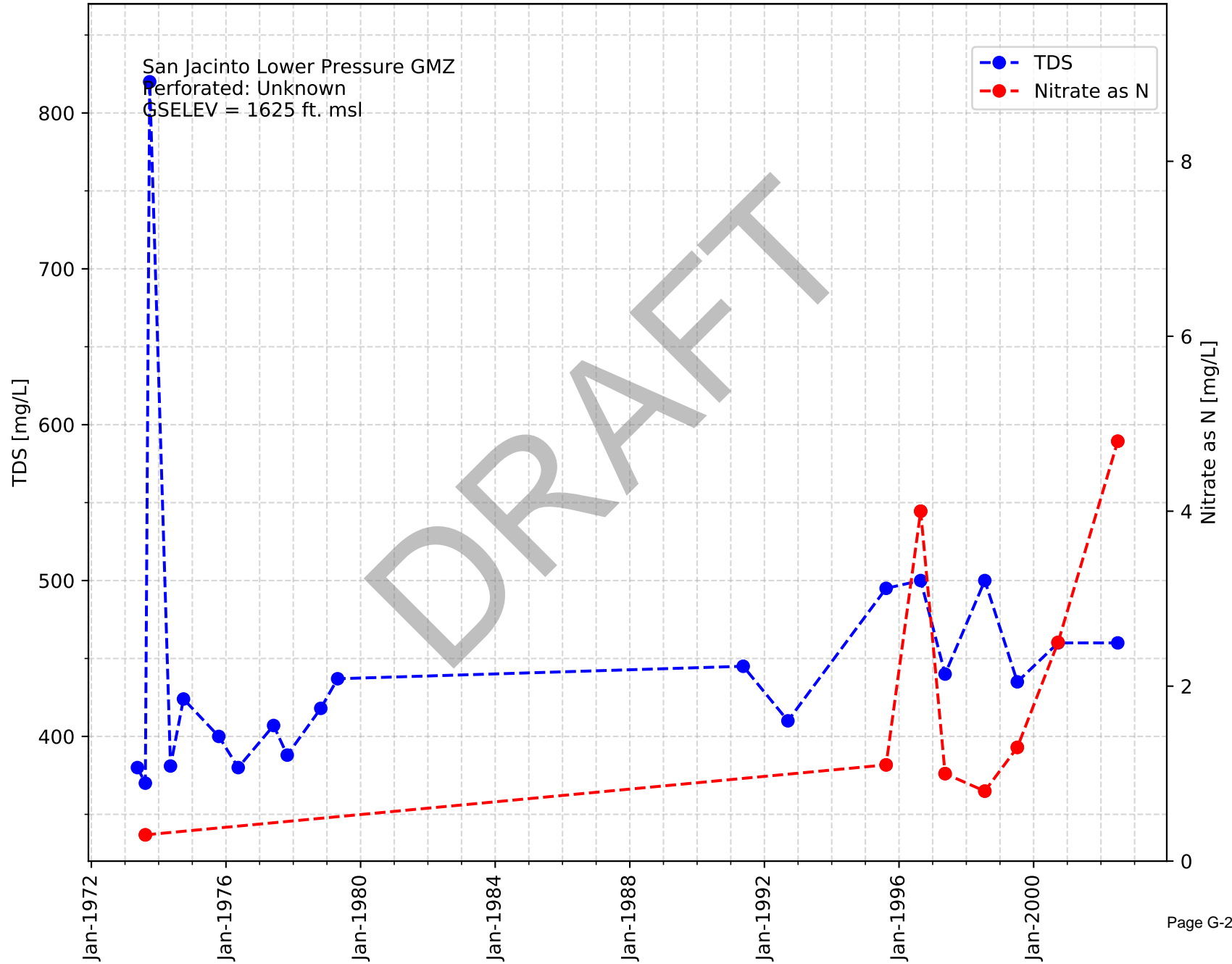
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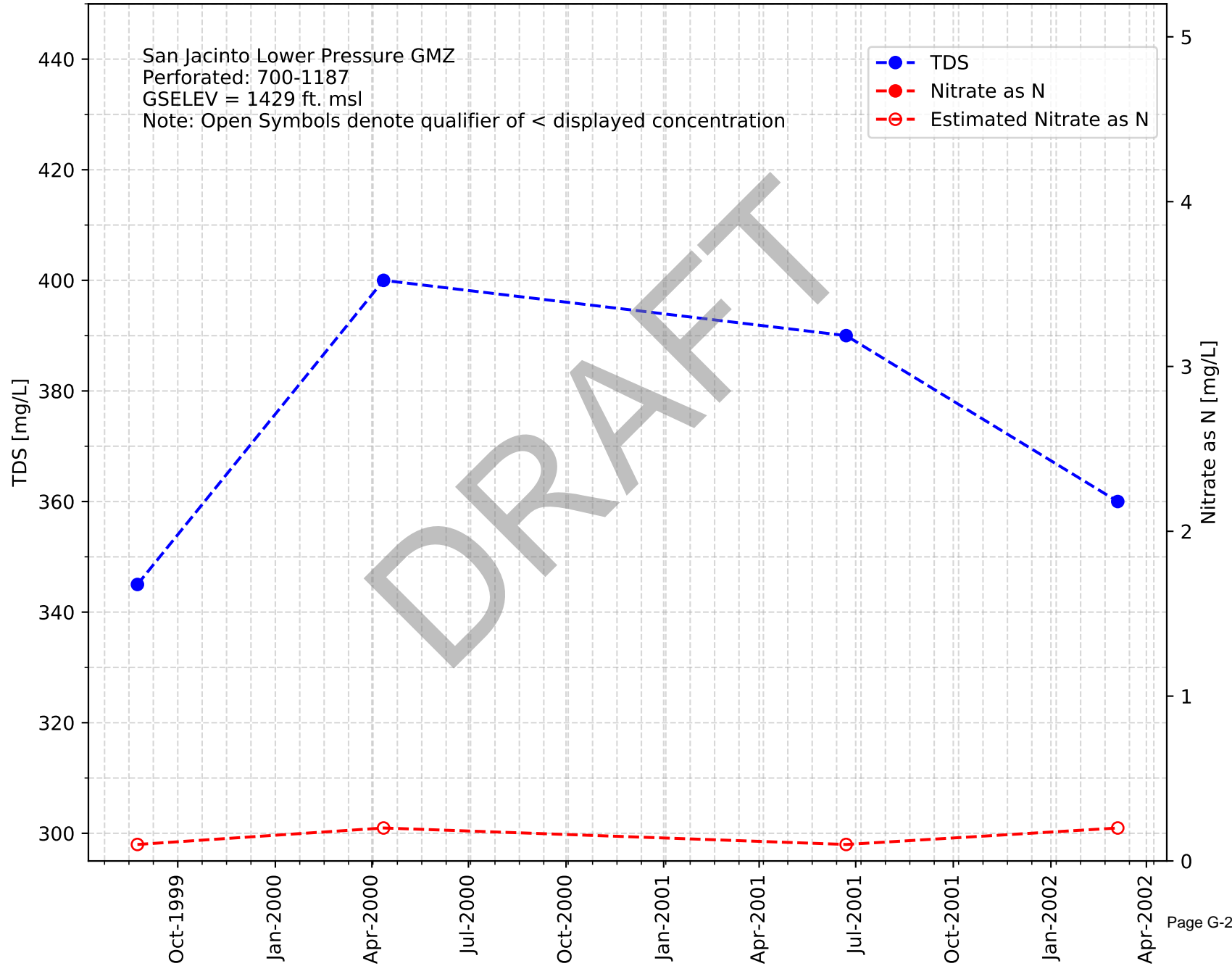
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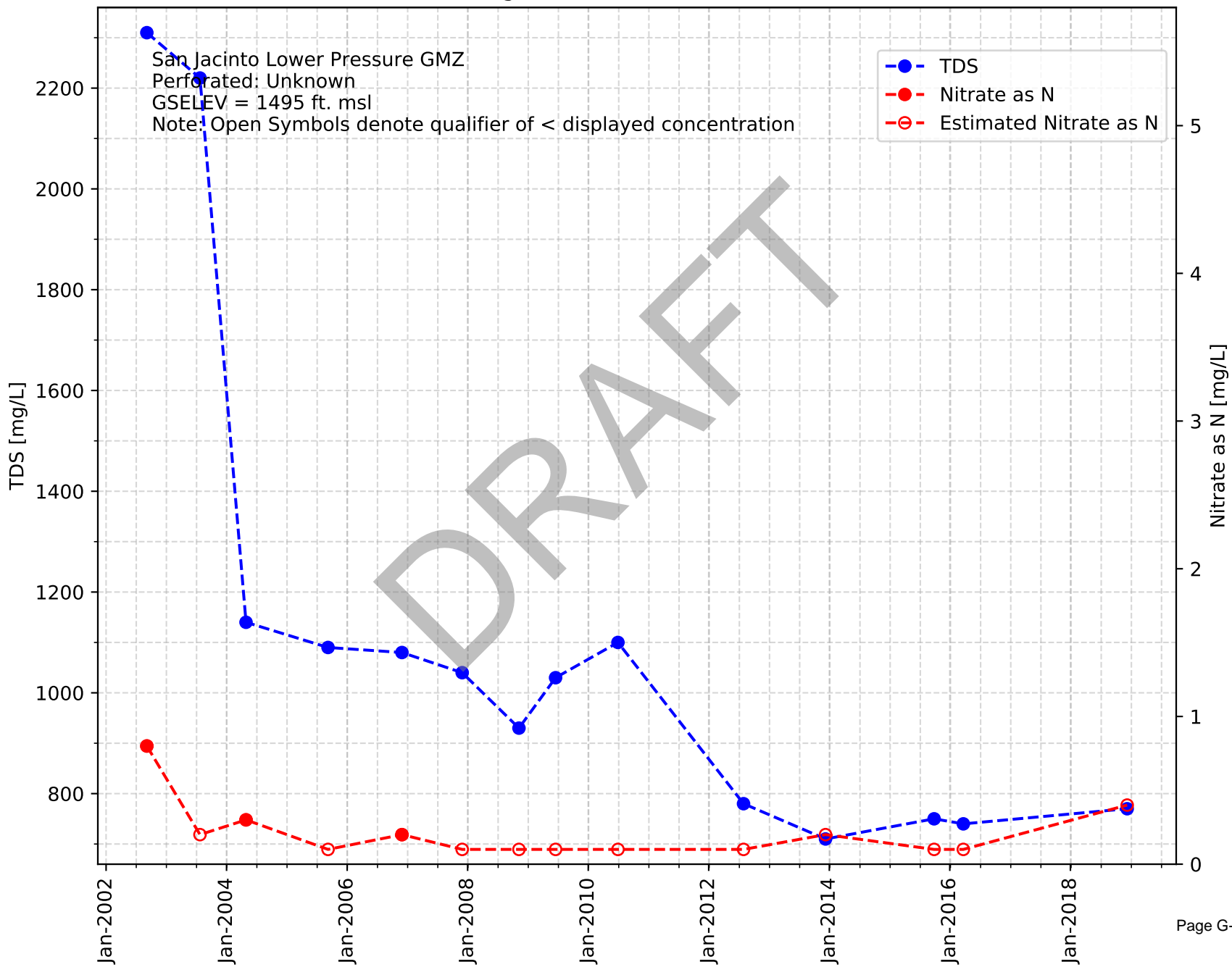
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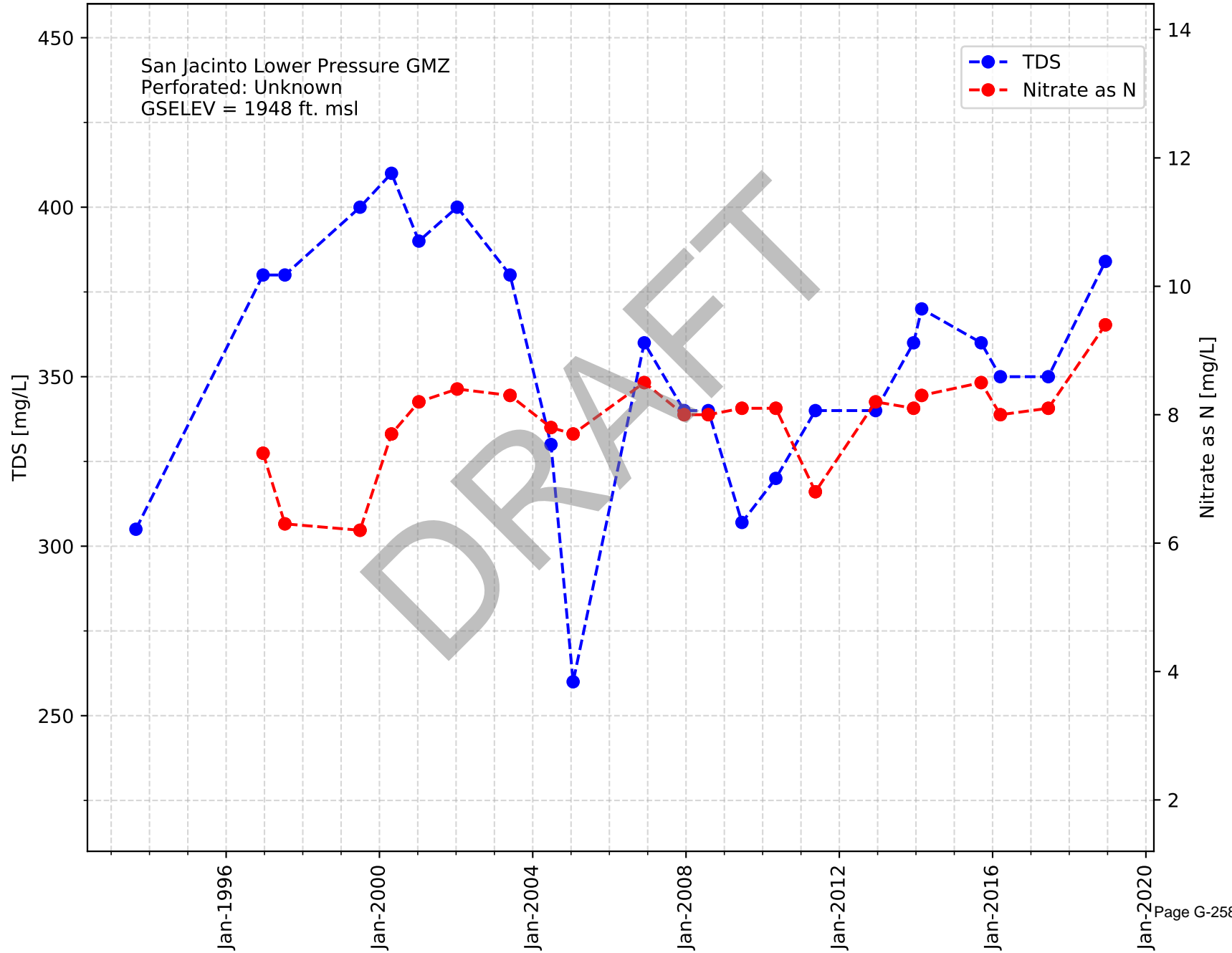
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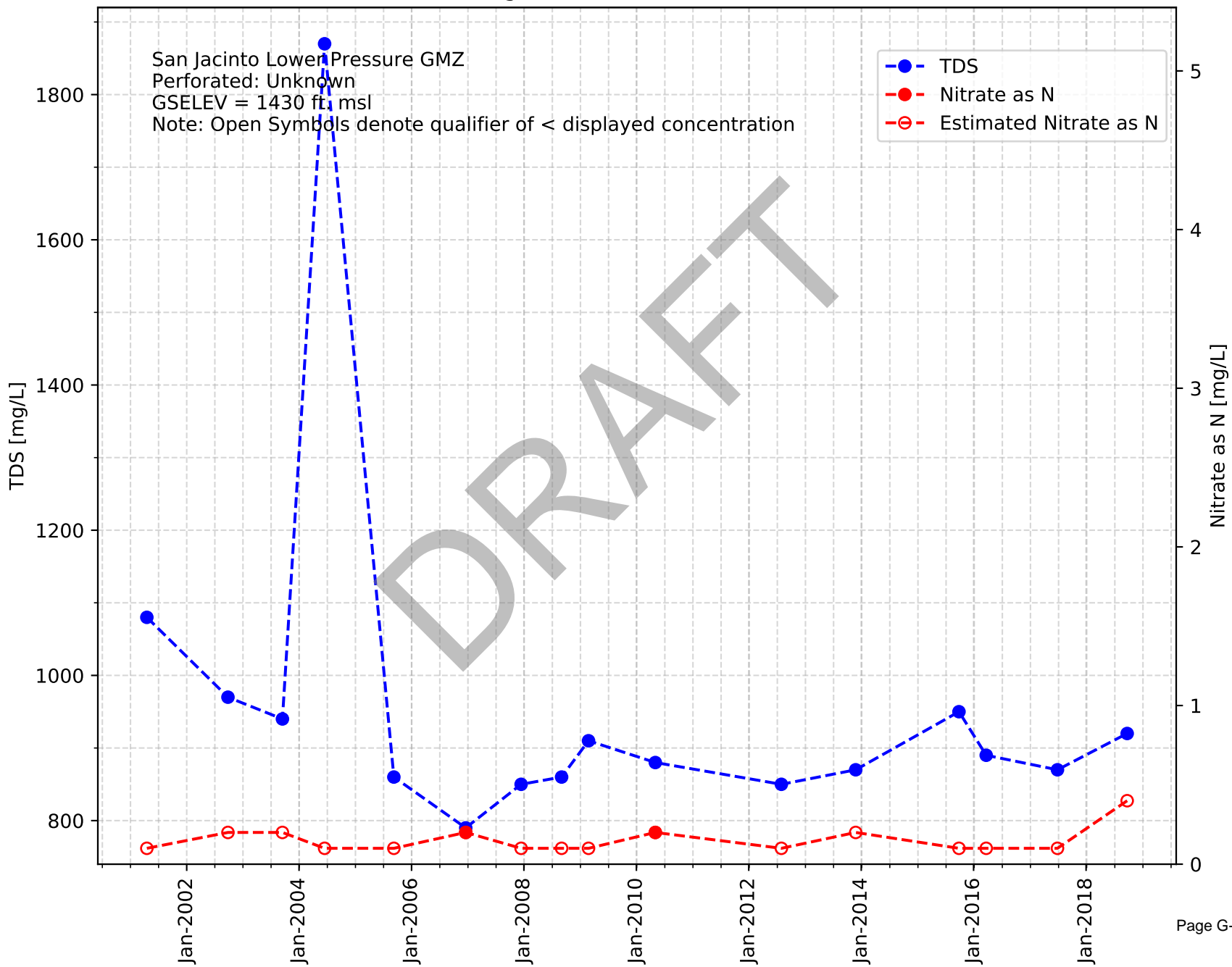
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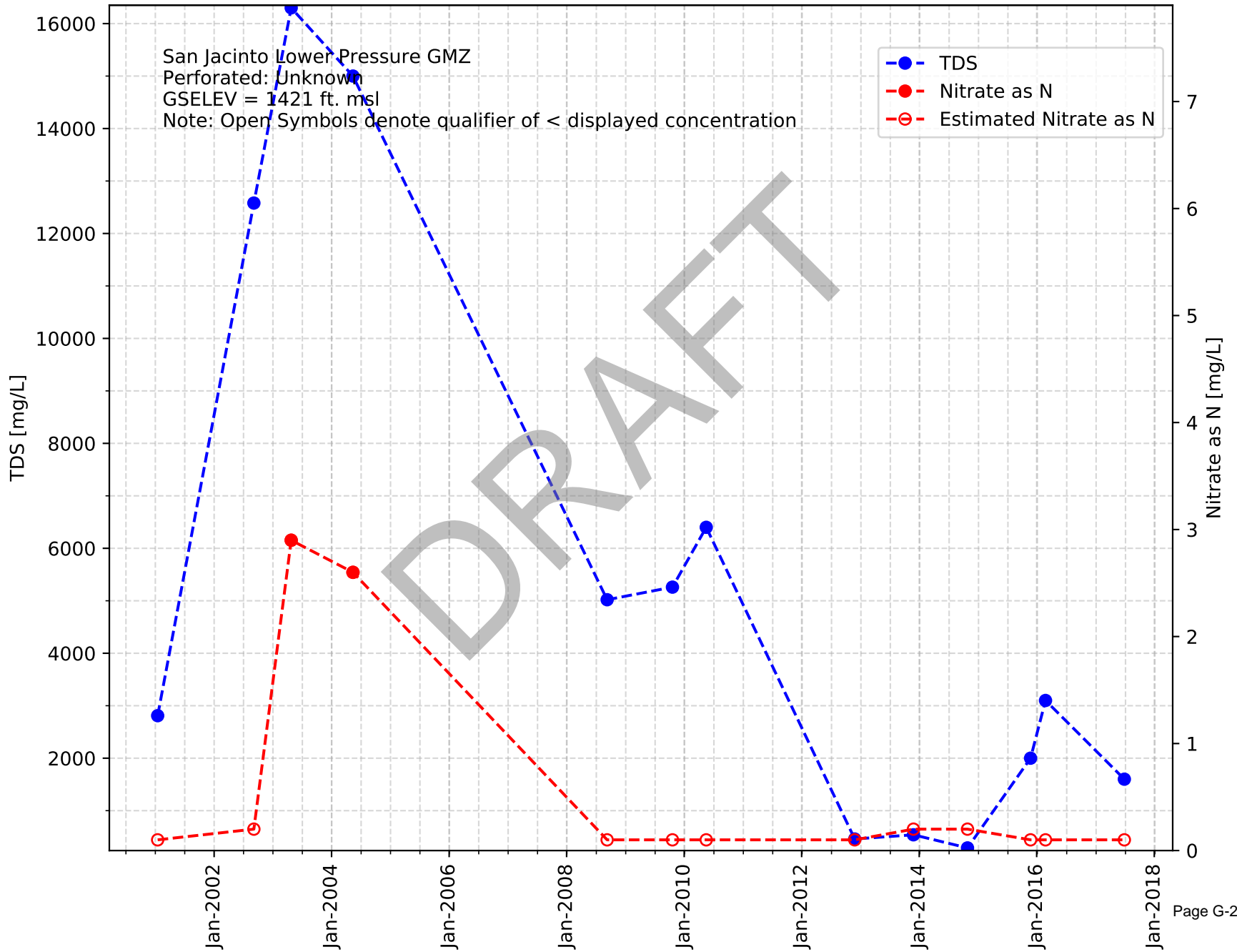
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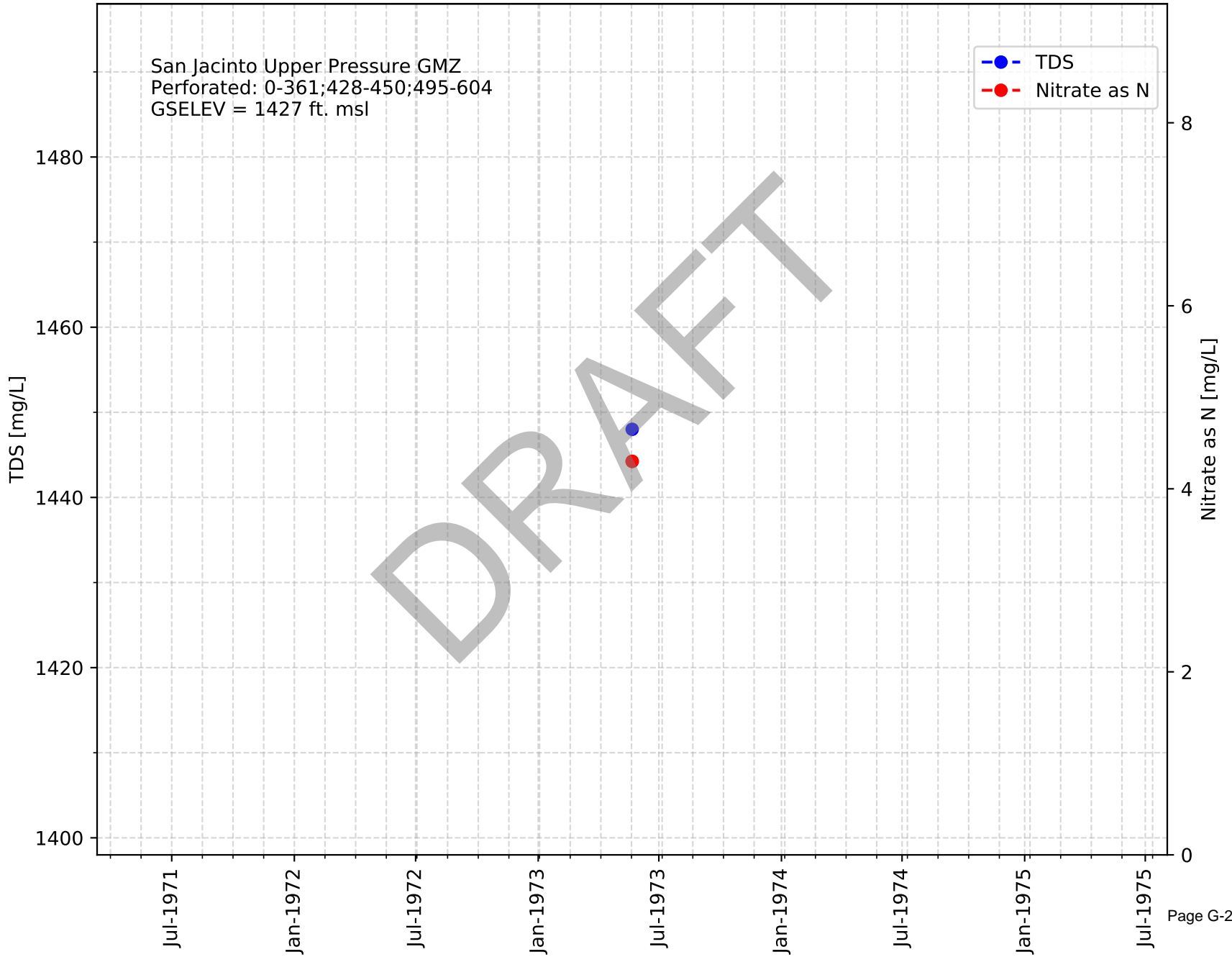
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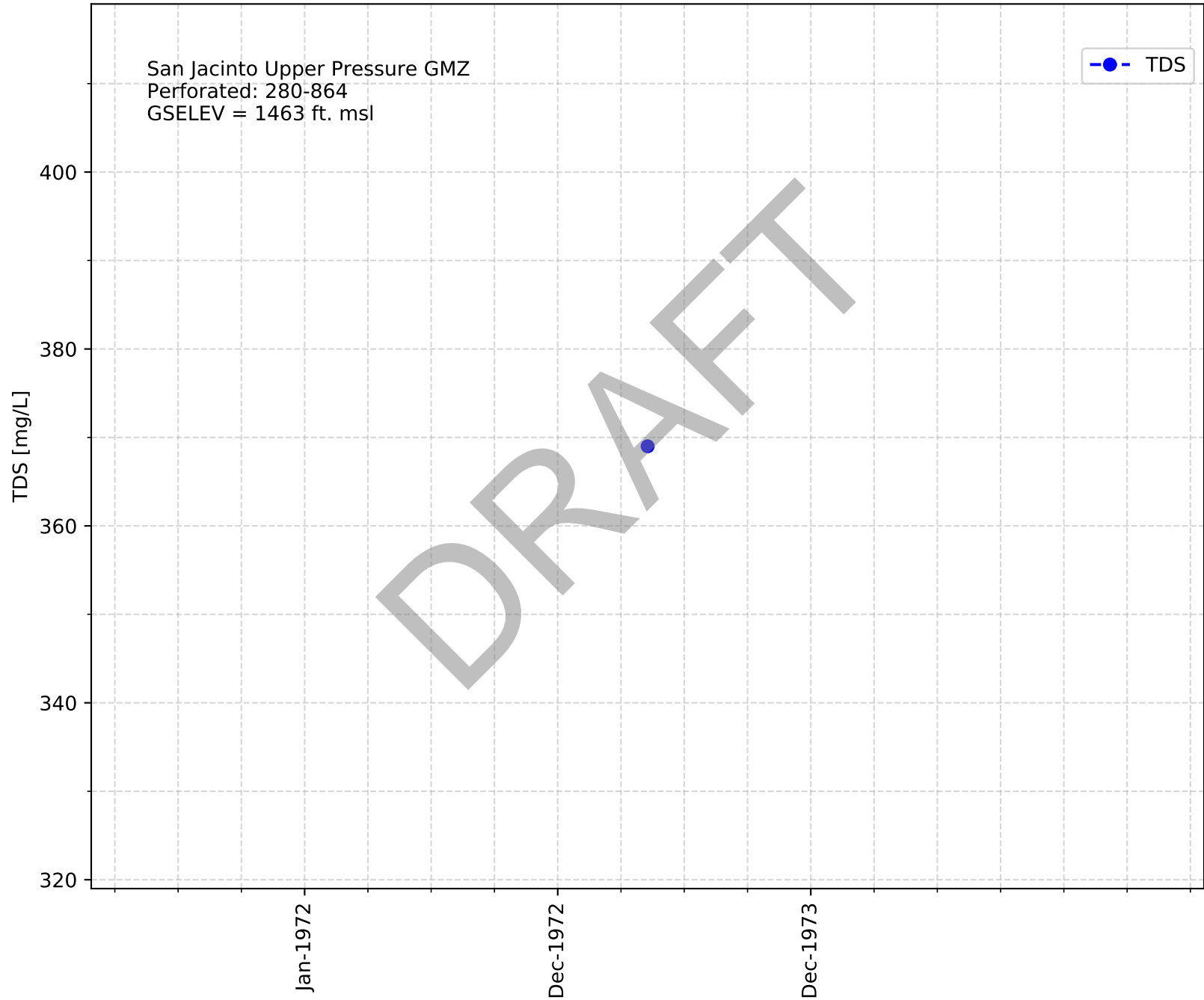
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Casing Name: Sawyer, Donald



Casing Name: Motte, Frank



APPENDIX J
GDEs in the Plan Area

MEMORANDUM

To: Rachel Gray
From: Trevor Jones, Dylan Duverge, and Jill Weinberger
Subject: Characterization of Potential Groundwater Dependent Ecosystems in West San Jacinto GSP Plan Area
Date: October 8, 2020
cc:
Attachment(s): Figures 1-11, Tables 1-8

The Sustainable Groundwater Management Act (SGMA) requires that all beneficial uses and users of groundwater, including environmental users of groundwater, be considered in Groundwater Sustainability Plans (GSPs) (California Water Code (CWC) Section 10723.2).¹ Each GSP shall provide a description of current and historical groundwater conditions in the basin, including data from January 1, 2015, to current conditions, based on the best available information that includes: Identification of groundwater dependent ecosystems (GDE) within the basin, utilizing data available from the Department, as specified in Section 353.2, or the best available information (Title 23 California Code of Regulations (CCR) Section 354.16(g)).²

A GDE is defined under SGMA as “ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface” (Title 23 CCR Section 351.(m)). GDEs encompass a wide range of natural communities, such as seeps and springs, wetlands and lakes, terrestrial vegetation and, rivers, streams, and estuaries.

The Natural Communities Commonly Associated with Groundwater (NCCAG) dataset is provided by the Department of Water Resources (DWR) as a reference dataset and starting point for the identification of GDEs in groundwater basins (DWR, 2018). Because the scale of the NCCAG dataset is statewide (i.e., coarse), and consists of a compilation of vegetation and surface hydrology feature (e.g., wetlands) mapping, it does not incorporate local, basin-specific groundwater conditions such as aquifer characteristics or current data on depth to groundwater. Therefore, the dataset is most appropriately used as an indicator of where GDEs, as defined by SGMA, are more likely to be present. A local, basin-specific analysis is required to verify the degree to which features mapped in the NCCAG dataset depend on groundwater emerging from aquifers or on groundwater occurring shallower than 30 feet below ground surface (ft. bgs).

The NCCAG dataset and its source data can be reviewed in the context of local understanding of surface water hydrology, groundwater conditions, and geology. The NCCAG dataset comprises 48 publicly available state and

¹ SGMA is codified in California Water Code (CWC), Part 2.75 (Sustainable Groundwater Management), Section 10720–10737.8, et al.

² GSP Regulations refers to the emergency regulations adopted by DWR as California Code of Regulations (CCR), Title 23 (Waters), Division 2 (Department of Water Resources), Chapter 1.5 (Groundwater Management), Section 350 et seq. Title 23 CCR Section 353.2(B). States, “The Department [DWR] shall provide information, to the extent available, to assist Agencies in the preparation and implementation of Plans, which shall be posted on the Department’s website.

federal agency mapping datasets.³ After the vegetation, wetland, seeps, and springs data from these 48 datasets were compiled into the NCCAG dataset, data were screened to exclude vegetation and wetland types less likely to be associated with groundwater and retain types commonly associated with groundwater (DWR, 2018). This initial screening was conducted by DWR, California Department of Fish and Wildlife (CDFW), and the Nature Conservancy (TNC).

1 Overview of the NCCAG Dataset within the Plan Area

The GDE characterization described in this document focuses on NCCAG indicators mapped within the non-adjudicated area of the San Jacinto Groundwater Basin (DWR Bulletin 118 Groundwater Basin 8-005), herein referred to as the Plan Area (Figure 1). The Plan Area lies within the Lower and Middle San Jacinto watersheds (USGS and USDA, 2013). Combined, these watersheds cover over 300,000 acres and extend from the Box Spring Mountains, south to the Hemet-San Jacinto Management Area of the San Jacinto Groundwater Basin (Figure 2). The Lower and Middle San Jacinto watersheds are further subdivided into six subwatersheds that lie within the Plan Area (Figure 2): (1) Moreno Valley, (2) Mount Rudolph-San Jacinto River, (3) Perris Reservoir, (4) Perris Valley-San Jacinto River, (5) San Jacinto Valley, and (6) Menifee (USGS, 2013). The six subwatersheds drain to the Lake Perris Reservoir, Mystic Lake, San Jacinto River, Salt Creek, and Perris Drain. The earthen San Jacinto River, Salt Creek, and Perris Drain carry surface water runoff out of the Plan Area boundaries into Canyon Lake.

Within the Plan Area boundary, the NCCAG dataset identified wetland features commonly associated with the surface expression of groundwater (wetland GDEs) and vegetation communities that consist of common phreatophytes (vegetation GDEs). The geographic location of the wetland and vegetation communities were broadly grouped by the six subwatershed boundaries shown in Figure 2.

The NCCAG dataset identified 79 unique potential vegetation GDEs within the Plan Area. Table 1 provides a summary of the potential vegetation GDEs within the Plan Area and shows the areal extent of each species within the six subwatersheds described above. The prominent phreatophyte species identified within the Plan Area are Mule Fat, Goodding's Willow, and Southwestern North American salt basin and high marsh. These vegetation communities are concentrated within the Moreno Valley, Perris Reservoir, and Mount Rudolph-San Jacinto River subwatersheds.

The NCCAG dataset identified 28 unique potential wetland GDEs within the Plan Area. Table 2 provides a summary of the potential wetland GDEs that lie with the Plan Area and shows the areal extent of each wetland type within the six subwatersheds. The dominant wetlands are lacustrine and palustrine seasonally and permanently flooded wetlands. The largest wetland community is located within the Mount Rudolph-San Jacinto River subwatershed.

³ NCCAG dataset includes, but is not limited to, the following: VegCAMP – The Vegetation Classification and Mapping Program, California Department of Fish and Wildlife (CDFW); CALVEG – Classification and Assessment with Landsat Of Visible Ecological Groupings, USDA Forest Service; NWI V 2.0 – National Wetlands Inventory (Version 2.0), United States Fish and Wildlife Service; FVEG – California Department of Forestry and Fire Protection, Fire and Resources Assessment Program (CALFIRE FRAP); United States Geologic Survey (USGS) National Hydrography Dataset (NHD); and Mojave Desert Springs and Waterholes (Mojave Desert Spring Survey). NCCAG dataset viewer is available online at: <https://gis.water.ca.gov/app/NCDatasetViewer/>

This mapped potential wetland GDE is managed by the California Department of Fish and Wildlife (CDFW) and private duck club owners.

Due to the variety and abundance of small-scale ecosystems identified in the NCCAG dataset, potential wetland and vegetation GDEs were aggregated into larger “GDE Evaluation Units” within a subwatershed. The likely interaction between groundwater and the habitats within each GDE Evaluation Unit are described in Section 3 of this document.

2 Methods for Identifying Groundwater Dependent Ecosystems

GDE Evaluation Units in the Plan Area were characterized by reviewing the NCCAG dataset alongside measured groundwater elevations, aerial photographs, lithologic data, and Landsat⁴ data analyzed by TNC. TNC used Landsat data to calculate historical variations in the Normalized Derived Vegetation Index (NDVI) and Normalized Derived Moisture Index (NDMI) (TNC, 2019). These indices provide a quantitative measure of a habitat’s greenness and moisture content during prolonged dry periods. Long-term variations in NDVI and NDMI act as a proxy for habitat health. Groundwater elevation measurements, aerial photographs, lithologic data, and NDVI and NDMI indicators were reviewed following the general guidelines outlined by TNC (2018).

GDE Evaluation Units were characterized as:

- (1) Groundwater dependent ecosystems
- (2) Ecosystems that are not groundwater dependent
- (3) Potential groundwater ecosystems

Ecosystems were characterized as groundwater dependent if NDVI and NDMI were positively correlated with groundwater elevations in the production aquifer adjacent to the habitat, and: (1) groundwater levels measured at nearby (<1km from GDE Evaluation Unit boundary (TNC, 2018)) wells were shallower than 30 ft. bgs underlying potential vegetation GDEs identified in the NCCAG dataset, or (2) groundwater is actively discharged to land surface at potential wetland GDEs identified in the NCCAG dataset. This criteria for groundwater depth is identified by TNC as representative groundwater conditions that may sustain common phreatophytes and wetland ecosystems (TNC, 2018).

Ecosystems were characterized as not groundwater dependent if groundwater levels were not correlated with NDVI and NDMI, there was geologic evidence of a local confining layer separating shallow groundwater from the underlying production zone, the habitats persisted during periods where underlying groundwater levels were much deeper than 30 ft. bgs, or previous site investigations indicate that the habitats are sustained by applied surface water.

⁴ The Landsat mission is the longest running satellite monitoring program used to capture space-based images of the Earth’s surface every 16 days. Landsat is managed by NASA and records visible, near-infrared, middle-infrared, and thermal wavelengths reflected from the Earth’s surface. TNC aggregated this data to generate NDVI and NDMI.

Ecosystems were characterized as potentially groundwater dependent if the source of water sustaining the habitat was not easily identifiable and/or groundwater levels underlying the habitat have not been measured. In these ecosystems, an additional flag was provided to indicate whether or not the habitat will likely be impacted by current production within the Plan Area. GDE Evaluation Units that were farther than 1km from the nearest groundwater extraction well were characterized as not likely impacted by current production within the Plan Area. EMWD will consider the distance from the mapped potential GDEs in the location, design, and pumping rate of new wells drilled in the future within the basin. The GSA will work with Riverside County DEH add a field to its well permitting form that would require permit applications to identify the closest GDE, and would require Riverside DEH to notify the GSA.

3 GDE Characterization

This section describes the characterization of each GDE Evaluation unit within the six subwatersheds. Data supporting the characterization of each unit is described in detail below.

3.1 Moreno Valley Subwatershed

The Moreno Valley subwatershed (Hydrologic Unit Code: 180702020304) encompasses the northern reaches of the Lower San Jacinto watershed (Figure 2). This subwatershed drains over 31,300 acres and extends from the ridgeline of the Box Springs Mountains and San Timoteo Badlands to Lake Perris. Within the subwatershed boundary, the Box Springs Mountains rise to an elevation of approximately 3,000 feet mean sea level (ft msl) and the San Timoteo Badlands rise to an elevation of approximately 2,500 ft msl. The basin floor lies at approximately 1,800 ft msl at the foothills of the Box Springs Mountains, and approximately 2,000 ft msl at the foothills of the San Timoteo Badlands (Google Earth Pro, 2019). Precipitation within the Box Springs Mountains and San Timoteo Badlands is drained into the Perris North and Lower Pressure groundwater management zones (Figure 1).

The NCCAG dataset identified potential wetland and vegetation GDEs within the Moreno Valley subwatershed (Figure 3). Common phreatophytes include Mule Fat (*Baccharis salicifolia*), California Sycamore (*Platanus racemose*), Red Willow (*Salix laevigata*), Common Elderberry (*Sambucus nigra*), Giant Reed (*Arundo donax*), and Scalegroom (*Lepidospartum squamatum*) (Table 3; DWR, 2018). NCCAG-identified wetland habitats include riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands and palustrine, emergent, persistent, seasonally flooded wetlands (Table 3; DWR, 2018).

These NCCAG data were grouped into four distinct GDE Evaluation Units based on geographic location and hydrogeologic settings: (1) Box Springs Mountains, (2) Perris North-Lower Pressure Boundary, (3) North San Timoteo Badlands, and (4) Perris North Area. Figure 3 shows the location and extent of each GDE Evaluation unit within the Moreno Valley subwatershed. Characterization of the four GDE Evaluation Units are described below and a summary of the NCCAG polygon characteristics within the Moreno Valley subwatershed is provided in Table 3.

3.1.1 Box Springs Mountains GDE Evaluation Unit

Vegetation and wetland communities mapped within the Box Springs Mountains GDE Evaluation unit are located along the banks and beds of naturally-derived stream channels in the northern section of the Perris North groundwater management zone (Figures 1 and 3). These communities consist of Mule Fat, California Sycamore,

Red Willow, and the Common Elderberry, as well as riverine, unknown perennial, unconsolidated bottom, permanently flooded wetlands (Table 3; DWR, 2018). Aerial photographs indicate that the stream channels originate within the Box Springs Mountains and coalesce to form larger, earthen channels that route surface water runoff through developed communities. The southern extent of this GDE Evaluation Unit ends in a partially-lined, engineered pit. Stream flows are not measured in this GDE Evaluation unit.

NDVI and NDMI trends for the mapped communities vary across this GDE Evaluation unit. Along the Plan Area margins, NDVI and NDMI have slightly decreased since 2009, indicating a reduction in general habitat health. These trends are correlated with measured annual precipitation (TNC, 2018). Alternatively, NDVI and NDMI have slightly increased in the southern extent of this unit. These trends are not correlated with measured precipitation.

There are a number of privately owned wells within a 1km radius of the Box Springs Mountains GDE Evaluation Unit (Figure 3). However, groundwater levels, production, and lithology at these wells are not reported; therefore, groundwater interactions with the ecosystems within the Box Springs Mountains GDE Evaluation Unit cannot be characterized. Because there is not enough data to characterize groundwater-habitat interactions in this GDE Evaluation Unit, the Box Springs Mountains GDE Evaluation Unit was characterized as a potential groundwater dependent ecosystem. Further characterization of the habitat and its potential dependence on groundwater will be warranted if future groundwater extractions are planned for this area.

3.1.1.1 Exceptions within the Box Springs Mountains GDE Evaluation Unit

The vegetation community indicated by “X0” in Figure 3 lies within the drainage channel that conveys surface water flows to Poorman’s Reservoir (City of Moreno Valley 2019). Surface water flows into Poorman’s Reservoir are contained by Pigeon Dam, which has the capacity to store up to 912 acre-feet of surface water and peak flows up to 120 cfs (RCFCD 2006). Vegetation communities lining Poorman’s Reservoir identified in the NCCAG database include California Sycamore (*Platanus racemosa*), Red Willow (*Salix laevigata*), and Mule Fat (*Baccharis salicifolia*).

Groundwater elevations were measured within 1km of these habitats between April 2005 and October 2015 at the Shell Sunnymead Ranch LUST cleanup site (Site number: T0606506567, Geotracker 2020a). Groundwater levels historically varied across the site and were encountered at depths that ranged from approximately 44 ft. bgs (measured at MW-4 on 2/2/2005) to approximately 23 ft. bgs (measured at MW-10 on 10/28/2009). Groundwater investigations and monitoring at the site indicate that groundwater underlying the Sunnymead Ranch LUST cleanup site occurs in three perched zones (Geotracker 2020a). Between 2005 and 2015, wells screened in the shallow perched zone were generally dry, but intermittently contained groundwater encountered at depths that ranged from 14 to 22 ft. bgs. Groundwater in the middle perched zone was consistently encountered from 23 to 54 ft. bgs. Wells screened in the deep zone were generally dry, indicating that there is little hydraulic connection between the deep zone and the middle or shallow perched zones.

Groundwater in the middle zone may occur at depths that sustain the vegetation communities that line Poorman’s Reservoir. However, the limited hydraulic connection between the middle perched zone and lower zones suggest that this source of water is derived from infiltrating surface water, rather than deeper sources of groundwater. Data collected throughout site investigations and monitoring at the Sunnymead Ranch LUST cleanup site do not

indicate that groundwater levels in the middle and shallow perched zones are affected by groundwater levels in the deeper portions of the aquifer.

Because groundwater occurs under perched conditions in this region, and habitat health is likely sustained by infiltrating surface water, the California Sycamore, Red Willow, and Mule Fat lining Poorman's Reservoir were characterized as habitats that are not groundwater dependent.

One wetland habitat (indicated as "X1" in Figure 3) at the southern tip of the Box Springs Mountains GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent. This habitat was originally identified by DWR as a riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetland (Table 3; DWR, 2018).

Aerial photographs of this habitat indicate that the mapped area is a concrete-lined channel that does not contain vegetation or wetland features. Photographs show that channel was lined by 2002 and diverts surface water runoff to an engineered retention pit managed by Riverside County Flood Control District.

3.1.2 North San Timoteo Badlands GDE Evaluation Unit

Vegetation and wetland communities mapped within the North San Timoteo Badlands GDE Evaluation Unit are located at the base of the San Timoteo Badlands, along the eastern fringe of the Lower Pressure groundwater management zone (Figures 1 and 3). The vegetation communities in this GDE Evaluation Unit consist of Scalebroom and the Common Elderberry (Table 3; DWR, 2018). Mapped wetland communities are characterized as riverine, unknown perennial, unconsolidated bottom, permanently flooded wetlands (Table 3; DWR, 2018).

Aerial photographs from this GDE Evaluation Unit indicate that the vegetation communities are located near earthen stream channels that route surface water runoff into the Lower Pressure groundwater management zone. Stream flows within this GDE Evaluation Unit are not measured.

NDVI and NDMI for the vegetation communities have increased since 2009 within the North San Timoteo Badlands GDE Evaluation Unit. This is not correlated with the general decreasing trend in measured precipitation during this time period (DWR, 2018).

There are no groundwater wells located within 1km of this GDE Evaluation Unit. Therefore, the interaction between groundwater and the overlying ecosystems cannot be characterized. Because of this, the North San Timoteo Badlands GDE Evaluation Unit was characterized as a potential groundwater dependent ecosystem. Further characterization of the habitat and its potential dependence on groundwater will be warranted if future groundwater extractions are planned for this area.

3.1.2.1 Exceptions within the North San Timoteo Badlands GDE Evaluation Unit

The NCCAG dataset identified a riverine, unknown perennial, unconsolidated bottom, permanently flood wetland habitat within the North San Timoteo Badlands GDE Evaluation Unit (indicated as "X2" in Figure 3). Aerial

photographs of this habitat indicate that the mapped ecosystem traverses a mixture of natural and developed landscape near the intersection of Redlands Blvd and Locust Avenue. Aerial photographs between 1996 and 2018 do not show the presence of ponded water or saturated land within the NCCAG polygon, which suggests that a wetland habitat is not supported in this area. Because there is no evidence of wetland conditions, this habitat was characterized as not groundwater dependent.

3.1.3 Perris North-Lower Pressure GDE Evaluation Unit

Vegetation and wetland communities located within the Perris North-Lower Pressure GDE Evaluation Unit extend from the eastern foothills of the Box Springs Mountains, south along the border of the Perris North and Lower Pressure groundwater management zones (Figures 1 and 3). The vegetation communities within this GDE Evaluation Unit consist of Giant Reed, Mule fat, and Scalebroom (Table 3; DWR, 2018). Mapped wetland communities within this GDE Evaluation Unit consist of palustrine, emergent, seasonally flooded wetlands (Table 3; DWR, 2018).

Aerial photographs of this GDE Evaluation Unit indicate that the mapped vegetation and wetland communities surround earthen stream channels that originate at the foothills of the Box Springs Mountains and San Timoteo Badlands. These stream channels divert runoff southward and become deeply incised within the Perris North groundwater management zone. The natural trajectories of these streams are interrupted by residential and agricultural development. The lithology underlying these streams is predominantly composed of clays (EMWD, 2016).

NDVI and NDMI trends vary across the Perris North-Lower Pressure GDE Evaluation Unit. Along the foothills of the Box Springs Mountains, NDVI and NDMI have moderately increased since 2009, which indicates recent improvement in habitat health. Alternatively, NDVI and NDMI show large declines at the southern end of the GDE Evaluation Unit since 2009, which indicates a general decline in habitat health. The decline in NDVI and NDMI in the southern portion of the GDE Evaluation Unit is correlated with a decreasing trend in measured precipitation.

Static groundwater levels in the northern region of this GDE Evaluation Unit were measured at EMWD 42 Reche Canyon (well ID: 21912) and EMWD 9 Robinson LaMirada (well ID 21009) (Figure 3). EMWD 42 Reche Canyon has been used to measure groundwater levels within this GDE Evaluation Unit since 1995. The shallowest depth to groundwater recorded at EMWD 42 Reche Canyon was 90.01 ft. bgs in March 1995. Current depth to groundwater at EMWD 42 Reche Canyon is 145.9 ft. bgs (measured on 9/27/2018). South of EMWD 42 Reche Canyon, static groundwater levels are measured at EMWD 9 Robinson LaMirada. The shallowest depth to groundwater measured at EMWD 9 Robinson LaMirada was 192.2 ft. bgs (measured on 9/8/1995). The current groundwater level at well 21009 is 240.9 ft. bgs (measured on 3/8/2018).

Along the Perris North-Lower Pressure groundwater management zone border, static groundwater levels were measured at Lantz East (well ID: 21052) and Sunnymead Poultry (well ID: 21065) (Figure 3). The shallowest depth to groundwater water measured at Lantz East was 206.7 ft. bgs (measured on 4/12/2016). The average depth to groundwater at Sunnymead Poultry from March 1995 to April 2016 was approximately 230 ft. bgs. Sunnymead

Poultry was used to measure static groundwater levels between May 1991 and November 2007. During this record of measurement, the shallowest depth to groundwater was 127.1 ft. bgs (measured on 11/6/2007).

Groundwater was historically extracted from within 1km of this GDE Evaluation Unit at Lantz West (well ID: 21051) and Lantz East (well ID: 21052) (Figure 3). Well 21051 actively extracted groundwater between 1997 and 2002, and well 21052 actively extracted groundwater between 1997 and 2014. Between 1997 and 2002, well 21051 extracted an average of 225 acre-feet per year (AFY), with a minimum extraction of 75 AFY in 2002 and a maximum extraction of 244 AFY in 1999. Between 1997 and 2014, well 21052 extracted an average of 225 AFY, with a minimum extraction of 6.5 AFY in 2014 and a maximum of extraction of 304.5 AFY in 2003. Historical aerial photographs between 1997 and 2014 indicate that the NCCAG-mapped ecosystems persisted during this period of active groundwater extractions

Because water levels have not been measured shallower than 90 ft. bgs throughout this GDE Evaluation Unit the Perris North-Lower Pressure GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.1.3.1 Exceptions within the Perris North-Lake Perris GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potential GDEs or groundwater dependent ecosystems.

3.1.4 Perris North Area GDE Evaluation Unit

There are two NCCAG mapped habitats within Moreno Valley subwatershed that lie outside of the Box Springs Mountains, North San Timoteo Badlands, and Perris North-Lower Pressure GDE Evaluation Units. These two remaining habitats are collectively called the Perris North Area GDE Evaluation Unit (Figure 3). The vegetation community within the NCCAG-identified habitat located directly north of the Bernasconi Hills is composed of Mule Fat, and the wetland community located along the western fringe of the Perris North groundwater management zone is characterized as a palustrine, emergent seasonally flooded wetland (Table 3; DWR, 2018).

Aerial photographs of the Mule Fat north of the Bernasconi Hills indicate that this habitat is located at the downstream segment of an earthen stream channel that diverts surface water runoff from the Box Springs Mountains into Moreno Valley. Surface water exiting this habitat runs off into a lined channel that diverts water to the Moreno Valley Regional Water Reclamation Facility (RWRF).

Groundwater was extracted near this habitat from well 21082 (Casing Name: UCR Scott) between 1984 and 2003. During the period from 1984 to 2003, well 21082 extracted an average of 290 AFY, with a minimum extraction of 39 AF in 2001 and a maximum extraction of 386 AF in 1996. During this period, static groundwater levels averaged 156 ft. bgs, and ranged between 126 ft. bgs and 169.7 ft. bgs. Aerial photographs indicate that the habitat persisted during the period from 1984 to 2003 despite the relatively deep groundwater levels.

Because the habitat was sustained during periods where static groundwater levels were much deeper than 30 ft. bgs, the vegetation community within the Central Perris North GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

The wetland community identified in the NCCAG dataset located on the west side of the Perris North management area was characterized as a habitat that is not groundwater dependent because the natural habitat was replaced by a parking lot in 2008.

3.1.4.1 Exceptions within the Central Perris North GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potentially groundwater dependent or groundwater dependent ecosystems.

3.2 Perris Reservoir Subwatershed

The Perris Reservoir subwatershed (Hydrologic Unit Code: 180702020305) lies near the center of the Lower San Jacinto watershed, within the Perris North management zone (Figures 1 and 2). This subwatershed drains over 31,800 acres and extends from the March Airforce Reserve Base (MARB) to the eastern edges of the Bernasconi Hills. The topographic highs in the Perris Reservoir subwatershed occur along the ridge of the Bernasconi Hills and along the western side of Perris Valley. Within the subwatershed boundary, the Bernasconi Hills rise to a maximum elevation of approximately 2,500 ft msl, and Perris Valley rises to a maximum elevation of approximately 1,900 ft msl. The basin floor reaches a topographic low of approximately 1,400 ft msl near the intersection of E. Rider Street and N. Perris Blvd (Google Earth Pro, 2019).

The NCCAG dataset identified potential wetland and vegetation GDEs within the Perris Reservoir subwatershed (Figure 4). Common phreatophytes included Mule Fat (*Baccharis salicifolia*), California Sycamore (*Platanus racemose*), Arid West freshwater emergent marsh, Red Willow (*Salix laevigata*), Common Elderberry (*Sambucus nigra*), and Gooding's Willow (*Salix goodingii*) (Table 4; DWR, 2018). NCCAG-identified wetland habitats include riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands (Table 4; DWR, 2018).

These NCCAG data were grouped into three distinct GDE Evaluation Units based on geographic location and hydrogeologic settings (Figure 4): (1) Lake Perris, (2) March Air force Reserve Base (MARB), and (3) the Western Edge of Perris North. Table 4 provides a summary of the NCCAG polygon characteristics within the Perris Reservoir subwatershed.

3.2.1 Lake Perris GDE Evaluation Unit

NCCAG-mapped vegetation and wetland communities located within the Lake Perris GDE Evaluation Unit surround Lake Perris. Lake Perris is an artificial lake that serves as a reservoir for imported State Water Project water. The vegetation communities within this GDE Evaluation Unit consist of Mule fat, California Sycamore, Gooding's Willow, Arid West freshwater emergent marsh, and Scaebroom (Table 4; DWR, 2018). Mapped wetland communities within this GDE Evaluation Unit consist of riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands (Table 4; DWR, 2018).

Historical aerial photographs indicate that these habitats are submerged during wet years, and become exposed during dry years when surface water levels in Lake Perris decline. Groundwater elevations are not measured within 1km of these mapped habitats.

NDVI and NDMI changes in these habitats are correlated to Lake Perris surface water levels that either expose or submerge the mapped habitats. Between 2005 and 2006 these habitats went from being mostly submerged, to fully-exposed along the shoreline of Lake Perris. Figure 5 shows NDVI (orange) and NDMI (blue) for the Lake Perris GDE Evaluation Unit. Measurements along the shoreline of Lake Perris (triangles) show that surface water level declines between 2005 and 2006 correspond with a 400% NDVI increase and a 90% NDMI decrease. From 2006 to 2015, reservoir levels were low and the habitats were not submerged by State Water Project water that was stored in Lake Perris. NDVI increased during this period and NDMI showed little to no change. The habitats remained exposed until early 2018 when water levels in the reservoir rose in response to increased imported water supplies. The increased lake levels in 2018 correspond to a 130% decrease in NDVI and a 230% increase in NDMI.

Because historical aerial photographs and measured NDVI/NDMI indicate that the health of these ecosystems are correlated with surface water levels in Lake Perris, the Lake Perris GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.2.1.1 Exceptions within the Lake Perris GDE Evaluation Unit

The NCCAG dataset contains a mapped vegetation community located directly west of the Lake Perris Dam. This habitat is denoted as “X3” in Figure 4. This ecosystem contains California Sycamore (Table 4; DWR, 2018).

Aerial photographs indicate that this habitat occurs along the banks of a stream channel that collects surface water from a series of toe drains located along the base of the Lake Perris Dam. Comparison of aerial photographs from 1967 to 1978 suggests that the habitat developed after construction of the dam, and is therefore related to surface water levels in Lake Perris.

Although aerial photographs suggest that the habitat may rely on Lake Perris surface water, NDVI trends measured at X3 show different responses to Lake Perris surface water levels than the habitats located along the shoreline of Lake Perris. Figure 5 shows the NDVI (orange) and NDMI (blue) values measured at X3 (circles). Between 1985 and 2005, Figure 5 shows that NDVI steadily declined at X3, while NDVI showed little to no change along the shoreline (triangles) of Lake Perris. Between 2005 and 2007, NDVI increased by approximately 375% along the shoreline of Lake Perris. During this period, NDVI decreased by approximately 30% at X3.

NDMI trends measured at X3 show some temporal similarity to NDMI measured along the shoreline of Lake Perris. Figure 5 shows that NDMI generally decreased in both habitats between 1985 and 2005. Between 2005 and 2006, NDVMI decreased by over 90% along Lake Perris Shoreline and by approximately 50% at X3. However, more recent NDMI measurements show divergent trends between the two habitats. Along the Lake Perris shoreline, NDMI has

increased since 2015 in response to rising surface water levels within Lake Perris, while NDMI has steadily declined since 2015 at X3.

Groundwater levels are not measured within 1km of the mapped vegetation community.

Because groundwater levels are not measured within 1km of the mapped vegetation community, and NDVI and NDMI are not as clearly linked to Lake Perris Surface water levels as the habitats located along the Lake Perris shoreline, the habitat denoted by X3 in Figure 4 was characterized as potentially groundwater dependent. This habitat may be supported by surface water that seeps under the Lake Perris dam and is captured by toe drains in the vicinity of the habitat. Further characterization of the habitat and its potential dependence on surface water or groundwater will be warranted if future groundwater extractions are planned for this area.

3.2.2 March Air force Reserve Base GDE Evaluation Unit

The vegetation and wetland communities within the March Air force Reserve Base (MARB) GDE Evaluation Unit are located along the western fringe of the Plan Area (Figure 4). Vegetation communities within this GDE Evaluation Unit are characterized as Red Willow and Common Elderberry (Table 4; DWR, 2018). Wetland communities within this GDE Evaluation Unit are characterized as Riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands (Table 4; DWR, 2018).

NDVI and NDMI trends vary across the MARB GDE Evaluation Unit. In the western edge of the GDE Evaluation Unit, NDVI and NDMI have decreased since 2009. This decline is correlated with a period of below-average precipitation. In the southwestern edge of the GDE Evaluation Unit (near Western Water Reclamation Facility), NDVI has shown little to no change. Vegetation communities located in the southwestern corner of the MARB GDE Evaluation Unit are near the unlined storage pond that holds excess tertiary water treated at the Western Water Reclamation Facility.

Groundwater levels are generally shallower than 30 ft. bgs underlying the MARB GDE Evaluation Unit (Figure 4). Static groundwater levels measured at the military cleanup site T0606545483 (Site Name: US Army Camp Haan (Former), Site Y, Landfill at Riverside) show that shallow groundwater exists in the southwestern region of the GDE Evaluation Unit (Geotracker, 2019). Along the western edge of the cleanup site, groundwater levels have fluctuated between 19 and 6 ft. bgs between January 2005 and November 2012. Static groundwater levels measured at US Air Force, Former March Air Force Base (DOD100277100) also demonstrate that groundwater occurs at depths shallower than 30 ft. bgs underlying the Riverside National Cemetery (Geotracker, 2020b). Measurements collected in January 2017 indicate that groundwater in this region occurs at depths ranging from 7.51 to 21.94 ft. bgs (Air Force Civil Engineer Center, 2018).

Lithologic data suggests that the MARB GDE Evaluation Unit is underlain by a mixture of sands and gravels with discontinuous lenses of clay (EMWD, 2016).

Because static groundwater levels are generally shallower than 30 ft. bgs, the MARB GDE Evaluation Unit was characterized as a groundwater dependent ecosystem.

3.2.2.1 Exceptions within the March Air Force Reserve Base GDE Evaluation Unit

The wetland habitat located directly adjacent to Cactus II Feeder MW-2 (well ID: 25838) was characterized as a habitat that is not groundwater dependent. Static groundwater levels measured at this well indicate that groundwater is encountered between 19 and 20 ft. bgs in the vicinity of this wetland habitat. Because groundwater does not emerge at land surface at this location, the wetland ecosystem was characterized as a habitat that is not groundwater dependent.

3.3.3 Western Edge of Perris North

The vegetation community mapped within the Western Edge of Perris North GDE Evaluation Unit is located along the periphery of the Perris North groundwater management zone (Figures 1 and 4). The dominant species within this GDE Evaluation Unit is characterized as Mule Fat (Table 4; DWR, 2018).

Aerial photographs indicate that this habitat occurs along the bed of a local wash. NDVI and NDMI have slightly decreased since 2009. This decrease in habitat greenness and wetness is correlated with a decreasing trend in annual precipitation.

There are no groundwater wells within a 1km radius of this GDE Evaluation Unit. Because there is limited data describing underlying groundwater, the Western Edge of Perris North GDE Evaluation Unit was characterized as a potential GDE. Further characterization of the habitat and its potential dependence on groundwater will be warranted if future groundwater extractions are planned for this area.

3.3 Mount Rudolph-San Jacinto River Subwatershed

The Mount Rudolph-San Jacinto River subwatershed (Hydrologic Unit Code: 180702020203) lies in the northwestern region of the Middle San Jacinto watershed (Figure 2). This subwatershed drains over 34,100 acres and extends from the ridgeline of the San Timoteo Badlands into the Hemet-San Jacinto management area. The topographic highs in the Mount Rudolph-San Jacinto River subwatershed occur along the ridge of the San Timoteo Badlands. Within the subwatershed boundary, the San Timoteo Badlands rise to a maximum elevation of approximately 2,400 ft. msl. The basin floor reaches a topographic low of approximately 1,400 ft. msl near the boundary between the Lower Pressure and Lakeview groundwater management zones (Google Earth Pro, 2019).

The dominant hydrologic features within this subwatershed are the San Jacinto River and Mystic Lake (Figure 6). Historically, the San Jacinto River drained into Mystic Lake, a natural sump formed by subsidence between the Casa Loma and San Jacinto Faults (San Jacinto Basin Resource Conservation District, 2009). EMWD currently diverts up to 5,760 AFY of surface water flow from the San Jacinto River upstream of the Plan Area to recharge the groundwater basin within the Hemet-San Jacinto management area (EMWD, 2016b). As a result, surface water only flows into Mystic Lake during wet years or large storms events when surface water flows are not captured. When water levels in Mystic Lake rise above 1,423 ft. msl, surface water will exit Mystic Lake and flow through an

earthen channel that reconnects to the San Jacinto River within the Lakeview groundwater management zone (CDFW, 2017).

The Mount Rudolph-San Jacinto River subwatershed houses a diverse community of wetlands and vegetation. The NCCAG dataset identified vegetation communities that contain Red Willow (*Salix laevigata*), Tamarisk (*Tamarix* spp.), Goodding's Willow (*Salix gooddingii*), Mule Fat (*Baccharis salicifolia*), Arid West freshwater emergent marsh, and Southwestern North American salt basin and high marsh (Table 5; DWR, 2018). The NCCAG dataset characterized wetlands within this subwatershed as: Palustrine, emergent, persistent, seasonally flooded wetlands; Palustrine, forested, seasonally flooded wetlands; Riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands; and Lacustrine, limnetic, unconsolidated bottom, permanently flooded wetlands (Table 5; DWR, 2018).

These NCCAG data were grouped into five distinct GDE Evaluation Units based on geographic location and hydrogeologic settings: (1) California Department of Fish and Wildlife (CDFW)/Private Duck Ponds, (2) Central San Timoteo Badlands, (3) Mystic Lake, (4) Lakeview Area, and (5) the San Jacinto River unit. Table 5 provides a summary of the GDE characteristics within the Mount Rudolph-San Jacinto subwatershed.

3.3.1 CDFW/Private Duck Ponds GDE Evaluation Unit

Vegetation and wetland communities mapped within the CDFW/Private Duck Ponds GDE Evaluation Unit are located between the Bernasconi Hills (east of Lake Perris) and Mystic Lake (Figure 6). This GDE Evaluation Unit lies within the San Jacinto Wildlife Area. The wetland habitats are managed by CDFW and several privately owned duck clubs. The NCCAG dataset mapped Red Willow, Arid West freshwater emergent marsh, and Southwestern North American salt basin and high marsh as vegetation communities located within the CDFW/Private Duck Ponds GDE Evaluation Unit (Table 5; DWR, 2018). The NCCAG dataset also identified wetlands within this GDE Evaluation Unit that were characterized as Lacustrine, limnetic, unconsolidated bottom, permanently flooded, and Palustrine, unconsolidated bottom, semi-permanently flooded wetlands (Table 5; DWR, 2018).

EMWD delivers tertiary-treated recycled water for the management of wetlands and vegetation within this GDE Evaluation Unit. In 2015, EMWD delivered approximately 3,500 AF of recycled water to the managed wetlands, and has plans to allocate up to 4,500 AFY to the San Jacinto Wildlife Area by 2040 (EMWD, 2016).

The vertical infiltration of recycled water within the CDFW/Private Duck Ponds GDE Evaluation Unit was examined by EMWD in 2011. Cone Penetrometer Tests (CPTs) were used to characterize the soils in the shallow, unsaturated zone beneath the GDE Evaluation Unit (EMWD, 2011). The CPT results show that the upper 30-feet of lithology underlying the GDE Evaluation Unit is clay-rich. Along the western bank of Mystic Lake, the first 30-feet of subsurface materials is composed of 100% clay, and along the eastern edge of the Bernasconi Hills, the upper 30-feet of subsurface materials is composed of up to 95% clay. Based on these results, the study concluded that the fine grained materials underlying the GDE Evaluation Unit limit hydraulic communication between infiltrating surface water and groundwater that is stored in deeper groundwater aquifer units.

These conclusions are further supported by the negative correlation between groundwater production and NDVI and NDMI in the northwestern corner of this GDE Evaluation Unit. Groundwater wells Double Bar S North (well ID 20296) and Double S Bar South (well ID: 20297) actively extract groundwater approximately 0.5 km from the GDE

Evaluation Unit (Figure 6). Both wells have extracted 225 AF of groundwater per year since January 2013. NDVI and NDMI measurements at the eastern edge of this GDE Evaluation unit have generally increased since 2009. The increase in NDVI and NDMI indicates habitat health is not correlated to groundwater extractions or groundwater elevations at wells Double Bar S North and Double Bar S South.

Because the vegetation and wetland communities with the CDFW/Private Duck Ponds GDE Evaluation Unit are sustained by recycled water (EMWD, 2011) and do not respond to local groundwater extractions, this GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.3.1.1 Exceptions within the CDFW/Private Duck Pond GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potentially groundwater dependent or groundwater dependent ecosystems.

3.3.2 Mystic Lake

Vegetation and wetland communities mapped by the NCCAG dataset within the Mystic Lake GDE Evaluation Unit are located along the shoreline of the ephemeral Mystic Lake (Figure 6). This GDE Evaluation Unit also lies within the San Jacinto Wildlife Area. During wet years and large storm events, Mystic Lake will fill up with surface water from the San Jacinto River and runoff from the San Timoteo Badlands. Vegetation communities mapped in the NCCAG dataset include Red Willow and Southwestern North American salt basin and high marsh (Table 5; DWR, 2018). Wetland communities mapped in the NCCAG dataset were characterized as Palustrine, emergent, persistent, and seasonally flooded wetlands (Table 5; DWR, 2018).

Groundwater was actively extracted within this GDE Evaluation unit at Fish & Game Cannery Feedlot (well ID: 20304) between January 1984 and December 1992 (Figure 6). During this period, Fish & Game Cannery Feedlot extracted an average of 335 AF per year, with a minimum extraction of 203 AF in 1991 and a maximum extraction of 637 AF in 1989. Semi-annual monitoring of static groundwater elevations at Fish & Game Cannery Feedlot began in February 2001 and is ongoing. The shallowest groundwater level was 230 ft. bgs on 11/20/2018.

Static groundwater levels measured in Fish & Game Feedlot Domestic (well ID: 20306) south of Fish & Game Cannery Feedlot, are shallower than 30 ft. bgs (Figure 6). The shallowest groundwater level measured at this well was 26.1 ft. bgs on 3/18/2003. The deepest groundwater level measured at Fish & Game Feedlot Domestic was 38.2 ft. bgs (measured on 10/12/2017). Current groundwater levels are approximately 37 ft. bgs (measured on 11/20/2018).

Along the western banks of Mystic Lake, static groundwater levels are actively measured at Mystic Duck Club (well ID: 20294) (Figure 6). The screen interval for Mystic Duck Club is unknown. Static groundwater levels have been measured semiannually at this well since 1996. Groundwater levels have averaged approximately 127 ft. bgs between 1996 and 2018. Groundwater has been as shallow as 112.5 ft. bgs (measured on 10/23/2012), and as deep as 143.7 ft. bgs (measured on 11/26/2018).

Lithologic data underlying the Mystic Lake GDE Evaluation Unit suggests Fish & Game Cannery Feedlot and Fish & Game Feedlot Domestic may be screened in different aquifer units (EMWD, 2016). Within this GDE Evaluation Unit, a thick clay extends from land surface to approximately 250-300 ft. bgs. Below approximately 250 ft. bgs, this clay is interrupted by discontinuous lenses of sands and gravels. Fish & Game Feedlot Domestic is screened 160 to 480 ft. bgs, across the thick upper clay and two hydraulically distinct beds of sands and gravel that extend from approximately 275 to 525 ft. bgs. Fish & Game Cannery Feedlot is screened 350 to 720 ft. bgs, predominantly in the lower gravel bed that lies approximately 400 ft. bgs. The thick clay that overlies the sand and gravel beds suggests that there is no hydraulic communication between water stored within the upper clay unit, and deeper gravel beds that are used for groundwater production.

NDVI and NDMI have generally decreased since 2009, which indicates a decline in habitat health. During this period, water levels measured at Fish & Game Cannery Feedlot and Fish & Game Feedlot Domestic have generally been rising. The lack of correlation between NDVI and NDMI and measured groundwater levels further suggests little hydraulic communication between shallow groundwater and deeper aquifer units.

Because the thick clay cap underlying Mystic Lake limits hydraulic communication between groundwater and the vegetation and wetland communities, the habitats within the Mystic Lake GDE Evaluation Unit were characterized as being not groundwater dependent.

3.3.2.1 Exceptions within the Mystic Lake GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potential GDEs or groundwater dependent ecosystems.

3.3.2.2 Interactions with the Hemet San Jacinto Management Area

The Mystic Lake GDE Evaluation Unit borders the management boundary that separates the Plan Area from the adjudicated Hemet-San Jacinto region of the San Jacinto Groundwater Basin (Figure 1). Groundwater management within the Hemet-San Jacinto management area is overseen by the Hemet-San Jacinto Watermaster, as defined by the Stipulated Judgement (Case No. RIC 1207274) entered on April 18, 2013 (www.emwd.org).

Groundwater was actively extracted within 1km of the Mystic Lake GDE Evaluation Unit at Lauda Beebower Lauda (well ID: 20565; located within the Hemet-San Jacinto Management area; screened 2830-604 ft. bgs) between 1985 and 2008 (Figure 6). Lauda Beebower Lauda extracted 650 AFY between 1985 and 1997; groundwater extractions at this well decreased after 1997 and ceased in 2008. Static groundwater levels have been measured semiannually at Lauda Beebower Lauda since March 1997. Groundwater levels at this well have increased from a depth of 308 ft. bgs in March 1997, to a depth of 255 ft. bgs (measured on 4/23/2018). Static groundwater levels at Lauda Beebower Lauda show no seasonal variations.

Static groundwater levels within 1km of the Mystic Lake GDE Evaluation Unit are also measured at well Lauda South of Gilman Springs Road (well ID: 20313; located within the Hemet-San Jacinto Management area; screened 460-950 ft. bgs; Figure 6). Static water levels have been measured semiannually at this well since December 2000. Static water levels at this well have generally declined from a depth of 176 ft. bgs in December 2001, to a depth of 197.9 ft. bgs in October 2018. Water levels at well Lauda South of Gilman Springs Road do not show seasonal variations.

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The thick clay cap that underlies Mystic Lake does not extend into the Hemet-San Jacinto Management Area (EMWD, 2016). However, lithologic data indicates that deep aquifer units within the Hemet-San Jacinto Management Area, from which Lauda Beebower Lauda extracted groundwater, may be contiguous with the sand and gravel beds that underlie the thick clay cap within the Mystic Lake GDE Evaluation Unit. The sand and gravel units within the Hemet-San Jacinto Area contain interbedded, discontinuous lenses of relatively thick (<50-feet) clay. Groundwater level declines measured at Lauda South of Gilman Springs Road are indicative of water levels within deep aquifer units that are not hydraulically connected to the first 30-feet of sediments underlying the Mystic Lake GDE Evaluation Unit.

3.3.3 Central San Timoteo Badlands GDE Evaluation Unit

The NCCAG dataset identified vegetation communities associated with common phreatophytes located along the eastern fringe of the Lower Pressure groundwater management zone within the Mount Rudolph-San Jacinto River subwatershed (Figures 1 and 6). The vegetation communities in this region were aggregated into the Central San Timoteo Badlands GDE Evaluation Unit. Vegetation communities within this GDE Evaluation Unit were characterized as Mule Fat, Red Willow, and Tamarisk (Table 5; DWR, 2018).

Aerial photographs of the GDE Evaluation unit indicate that these vegetation communities are located along earthen stream channels that carry water from the San Timoteo Badlands into the Lower Pressure management zone.

NDVI and NDMI trends vary across the GDE Evaluation Unit. In the southern section of this Unit, NDVI and NDMI have decreased since 2009 – this habitat health degradation is correlated with a period of below-average precipitation. In contrast, in the northern reaches of this GDE Evaluation Unit, NDVI and NDMI show very little change since 2009.

Groundwater elevation data within 1km of this GDE Evaluation Unit is limited. Therefore, the interaction between these vegetation habitats and underlying groundwater cannot be characterized. Because of this the Central San Timoteo Badlands GDE Evaluation Unit was characterized as a potential GDE. Further characterization of these habitats and their potential dependence on groundwater will be warranted if future production is planned near these habitats.

3.3.3.1 Exceptions within the Central San Timoteo Badlands GDE Unit

Three NCCAG-identified vegetation communities located approximately 2.5 miles north of Mystic Lake were characterized as habitats that are not groundwater dependent. These communities are identified as the boxed region labeled “X4” in Figure 6. The vegetation within these mapped communities are characterized as Mule Fat and Red Willow (Table 5; DWR, 2018).

NDVI and NDMI trends along the base of the San Timoteo Badlands are correlated with annual precipitation. A review of aerial photographs indicate that these habitats are located along dry streambeds.

USGS Gilman Springs/Virginia (well ID: 21015) measures groundwater elevations at the base of the San Timoteo Badlands (Figure 6). Static groundwater levels at this location have been measured since 1941. The shallowest recorded depth to groundwater was 102.4 ft. bgs, in 2006. The most recent groundwater level was 111.9 ft. bgs

(measured on 11/26/2018). Aerial photographs indicate that habitats at the base of the San Timoteo Badlands have persisted since at least 1985, despite groundwater elevations that are greater than 100 feet bgs.

Static groundwater levels near the southern portion of this habitat have been measured at Moreno Highlands/Alta Dena Dairy 01 (well ID: 20285) since March 1999 (Figure 6). This well is screened between 504 and 1080 feet bgs. Water levels at this well have increased since 1999 from 125 feet bgs to 120 feet bgs. NDVI and NDMI have shown little to no change during this period, which suggests that the habitat health is not responding to increasing water levels.

Lithology underlying the habitat also suggests that the first 100 feet of subsurface materials are predominantly composed of sands and gravels (EMWD, 2016). Below this, thick units of clay extend to depths greater than 500 ft. bgs. Moreno Highlands/Alta Dena Dairy 01 is screened 504-1080 ft. bgs, in the deeper, more transmissive sand and gravel units.

Because aerial photographs indicate that these three habitats persisted during periods where static groundwater levels were deeper than 100 feet bgs, and the habitats show no clear response to changes in measured water levels, the habitats encompassed by the boxed region in Figure 5 were characterized as not groundwater dependent.

3.3.4 Lakeview GDE Evaluation Unit

Vegetation and wetland communities within the Lakeview GDE Evaluation Unit are located west of the CDFW/Private Duck Ponds GDE Evaluation Unit, within the Lakeview groundwater management zone (Figures 1 and 6). Vegetation communities mapped within the NCCAG dataset were characterized as Southwestern North American salt basin and high marsh (DWR, 2018). Wetland communities mapped within the Lakeview GDE Evaluation Unit are characterized as: Palustrine, emergent, persistent, seasonally flooded wetlands; Palustrine, forested seasonally flooded wetlands; Palustrine, unconsolidated bottom, semi-permanently flooded wetlands; and Riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands (DWR, 2018).

Aerial photographs indicate that the mapped marshes and wetlands within the Lakeview GDE Evaluation Unit are located near active dairy farms.

Groundwater is actively extracted from Nutrilite 08 (well ID: 21340), Nutrilite 09 (well ID: 20797), Nutrilite 04 (well ID: 21342), Bootsma, John (well ID: 20804), and Goyentche Dairy (Ferreira) (well ID: 21345). Nutrilite 08 has extracted groundwater since 1997 at an average rate of 440 AFY, a maximum rate of 1100 AFY in 2018, and was inactive between 2006 and 2012. Nutrilite 09 extracted groundwater between 1997 and 2002. During this period, Nutrilite 09 extracted an average of 430 AFY, with a minimum extraction of 360 AF in 2002, and a maximum extraction of 465 AF in 1999. Nutrilite 04 has been active since 1984 and extracts an average of 200 AF per year, with a maximum extraction of 786 AF in 1984, and was inactive between 1997 and 2002. Bootsma, John has actively extracted groundwater since 1996. Bootsma, John extracts an average of 170 AF per year, with a minimum extraction of 100 AF in year 2001, and a maximum extraction of 250 AF in year 2009. Goyentche Dairy (Ferreira) has actively extracted groundwater since 1984. Goyentche Dairy extracts an average of 88 AF, with a minimum of 64 AF in year 2005, and a maximum of 121 AF in year 2011.

Static groundwater levels within the Lakeview GDE Evaluation Unit are measured at wells Nutrilite 09, Nutrilite 08, and Goyentche Dairy (Ferreira) (Figure 6). Water levels at these wells have characterized static groundwater

levels within the GDE Evaluation Unit since 1995. Static water levels average approximately 230 ft. bgs in the three wells. The shallowest depth to water was measured at well Goyenette Dairy (Ferreira) on 3/14/2018 (189 ft. bgs).

Lithologic data in the southern portion of the GDE Evaluation Unit indicate that beds of clay and fine sand persist from ground surface to approximately 200 ft. bgs (EMWD, 2016). These beds of clay likely separate the upper 30-feet of sediments from deeper aquifer units that groundwater is extracted from.

Aerial photographs of the southern habitats within the Lakeview GDE Evaluation Unit indicate annual variation in habitat health, despite water levels consistently being below 180 ft. bgs. NDVI and NDMI were not calculated for these wetland habitats. In the northern region of the Lakeview GDE Evaluation Unit, NDVI and NDMI generally increased between 2006 and 2018, during a period of below-average precipitation.

Variability in habitat health during periods where groundwater levels were consistently deeper than 150 ft. bgs suggests that these habitats are not sustained by groundwater. Because of this, the Lakeview GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.3.4.1 Exceptions within the Lakeview GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potential GDEs or groundwater dependent ecosystems.

3.3.5 San Jacinto River GDE Evaluation Unit

Vegetation and wetland communities within the San Jacinto River GDE Evaluation Unit are located southwest of the CDFW/Private Duck Pond GDE Evaluation Unit (Figure 6). These habitats are located within the bed, banks, and flood plains of the earthen channel that carries overflow water from Mystic Lake into the San Jacinto River. The vegetation communities within this GDE Evaluation Unit were characterized as Goodding's Willow and Southwestern North American salt basin and high marsh (Table 5; DWR, 2018). The NCCAG dataset did not identify the presence of any wetland habitats within this GDE Evaluation Unit.

Static groundwater levels are monitored semiannually at Fish & Game Domestic (well ID: 22687) (Figure 6). Between 2008 and 2019, static groundwater levels averaged approximately 171 ft. bgs, and have been generally rising over the past 10 years. Water levels underlying the habitat show little seasonal variations. The shallowest water level measured at Fish & Game Domestic was 161.5 ft. bgs on 11/26/2018. The deepest static groundwater level measured at Fish & Game Domestic was 182.4 ft. bgs on 3/14/2008.

Aerial photographs suggest that there is limited hydraulic communication between groundwater and the San Jacinto River GDE Evaluation Unit. For example, aerial photographs of Southwestern North American salt basin and high marsh located along the flood plain of the San Jacinto River shows that the habitat retreated between February and October 2016. During this period, static groundwater levels measured at Fish & Game Domestic remained constant: 164.9 feet bgs in April 2016 and 165.8 feet bgs in October 2016.

Lithology underlying the site is complex. Data from Fish & Game New Domestic (well ID: 22733, 0.1km north of Fish & Game Domestic; Figure 6), indicates that clay may extend from land surface to approximately 25-feet bgs

(EMWD, 2016). This clay is underlain by an approximately 20 feet of sands and gravels, then an additional 30 feet of clay that overlies granitic bedrock. The depth to bedrock on the eastern side of this GDE Evaluation Unit is not well constrained, but lithologic data suggests that relatively thick units of sands and clays alternate in succession to depths greater than 400 ft. bgs.

The limited variation in water levels during periods of habitat change, deep (>150 ft. bgs) static groundwater levels underlying the habitat, and lithologic data suggesting that thick clay layers may separate the first 30 feet of subsurface from deeper aquifer units, suggests that the San Jacinto River GDE Evaluation Unit is not groundwater dependent.

3.3.5.1 Exceptions within the San Jacinto River GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potential GDEs or groundwater dependent ecosystems.

3.4 Perris Valley-San Jacinto River Subwatershed

The Perris Valley-San Jacinto River subwatershed (Hydrologic Unit Code: 180702020306) lies near the center of the Lower San Jacinto watershed (Figure 2). This subwatershed drains over 11,900 acres and covers most of the Lakeview and Perris South management zones. The topographic highs in the Perris Valley-San Jacinto River subwatershed occur along the Lakeview Mountains. Within the subwatershed boundary, the Lakeview Mountains rise to a maximum elevation of approximately 2,400 ft msl (Google Earth Pro, 2019). The basin floor reaches a topographic low of approximately 1,400 ft msl near the intersection Interstate 215 and California Highway 74 (Google Earth Pro, 2019).

The NCCAG dataset identified potential wetland and vegetation GDEs within the Perris Valley-San Jacinto River subwatershed (Figure 7). Common phreatophytes include Scalebroom (*Lepidospartum squamatum*), Fremont Cottonwood (*Populus fremontii*), and Common Elderberry (*Sambucus nigra*) (Table 6; DWR, 2018). NCCAG-identified wetland habitats include: Palustrine, emergent, persistent seasonally flooded wetlands; Palustrine, Scrub-Shrub, seasonally flooded wetlands; and Riverine, Unknown Perennial, Unconsolidated Bottom, Semi-permanently Flooded wetlands (Table 6; DWR, 2018).

These NCCAG data were grouped into three distinct GDE Evaluation Units based on geographic location and hydrogeologic settings (see Figure 6): (1) Lakeview Mountains, (2) Lower San Jacinto River, and (3) Perris South. Table 6 provides a summary of the NCCAG polygon characteristics within the Perris Valley-San Jacinto River subwatershed.

3.4.1 Lakeview Mountains GDE Evaluation Unit

Vegetation communities mapped within the Lakeview Mountains GDE Evaluation Unit are located near the ridgeline of the Lakeview Mountains (Figure 7). NCCAG identified common phreatophytes in this GDE Evaluation Unit that consist of Scalebroom and Common Elderberry (Table 6; DWR, 2018). The NCCAG dataset did not identify wetland habitats within this GDE Evaluation Unit.

Aerial photographs indicate that these habitats lie along the banks of earthen stream channels that carry runoff from the Lakeview Mountains into the Lakeview and Perris South management zones. NDVI and NDMI has increased within this GDE Evaluation Unit since 2009. These NDVI and NDMI increases are not correlated with measured precipitation.

There is no data characterizing groundwater conditions within this GDE Evaluation Unit. Because the interaction between groundwater and this habitat cannot be characterized, this GDE Evaluation Unit was characterized as a potential groundwater dependent ecosystem. Further characterization of the habitat and its potential dependence on groundwater will be warranted if future groundwater extractions are planned for this area.

3.4.1.1 Exceptions within the Lakeview Mountains GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as potential GDEs. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as not groundwater dependent, or groundwater dependent ecosystems.

3.4.2 Lower San Jacinto River GDE Evaluation Unit

Wetland communities mapped within the Lower San Jacinto River GDE Evaluation Unit are located along the segment of the San Jacinto River that extends from the Lakeview groundwater management zone into the Perris South groundwater management zone (Figures 1 and 7). The western edge of this GDE Evaluation Unit ends directly upstream of the confluence between the San Jacinto River and Perris Drain. NCCAG characterized the wetland habitats as Palustrine, emergent, persistent, seasonally flooded wetlands, and Riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetlands (DWR, 2018). There are not NCCAG-mapped vegetation communities within this GDE Evaluation Unit.

Two wells actively extract groundwater within 1km of the GDE Evaluation Unit: EMWD 93 Nuevo/Menifee (well ID: 25779, screened 200-330 ft. bgs) and EMWD 95 13th St (well ID: 25802, screened 200-420 ft. bgs; Figure 7). EMWD 93 Nuevo/Menifee has extracted groundwater since 2016 at an average rate of 930 AFY, with a minimum extraction of 195 AF in year 2018, and a maximum extraction of 1,464 AF in 2017. EMWD 95 13th St has extracted groundwater since 2018. During calendar year 2018, EMWD 95 13th St extracted 1,412 AF of groundwater. Static groundwater levels are not reported at EMWD 95 13th St. Static groundwater levels have been deeper than approximately 90 ft. bgs since 2016.

Static groundwater levels near this GDE Evaluation Unit are also measured at EMWD Skiland 05 (well ID: 21436, screened 313-567 feet bgs), and well Lakeview Hot Springs (well ID: 22681, screened 100-403 feet bgs; Figure 7). Static groundwater levels at EMWD Skiland 05 have been measured as deep as 171.8 ft. bgs (measured on 3/27/1990) and as shallow as 61.9 ft. bgs (measured on 3/10/2013). Water levels rose at EMWD Skiland 05 between 1990 and 2006, and have remained relatively stable around 65 ft. bgs. Static groundwater levels at Lakeview Hot Springs have been measured as deep as 190.1 ft. bgs (measured on 10/18/2002) and as shallow as 144.7 ft. bgs (measured on 3/5/18).

Lithologic data at EMWD Skiland 05 and Lakeview Hot Springs suggest that deeper aquifer units may be separated from groundwater within the first 30-feet of sediments by thick clay beds. At Lakeview Hot Springs, clays persist from land surface down to approximately 100 feet bgs, and are then underlain by higher conductivity sands and gravels that are more conducive to groundwater flow. Similarly, at EMWD Skiland 05, clays and fines predominate

the first 200-feet of the subsurface. Groundwater extractions from EMWD 93 Nuevo/Menifee and EMWD 95 13th St occur within the sand and gravel beds that underlie the thick clay beds encountered at wells EMWD Skiland 05 and Lakeview Hot Springs.

Because static groundwater levels within 1km of the GDE Evaluation Unit are deeper than 50 ft. bgs and lithologic data suggests that infiltrating surface water is separated from deeper aquifer units by relatively thick layers of clay, the Lower San Jacinto River GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.4.2.1 Exceptions within the Lower San Jacinto River GDE Evaluation Unit

The NCCAG-identified habitats within this GDE Evaluation Unit are all characterized as habitats that are not groundwater dependent. There are no NCCAG-mapped ecosystems within this GDE Evaluation Unit that are characterized as potential GDEs or groundwater dependent ecosystems.

3.4.3 Perris South GDE Evaluation Unit

There are two habitats within the NCCAG dataset that lie within the Perris Valley-San Jacinto River subwatershed that do not lie within the Lakeview Mountains and Lower San Jacinto River GDE Evaluation Units. While these habitats are not in geographically similar regions, they have been aggregated into the Perris South GDE Evaluation Unit. These habitats are discussed independently below.

3.4.3.1 Habitat 1

The first habitat within the Perris South GDE Evaluation Unit is located along the western edge of the Plan Area boundary and is denoted by “X5” in Figure 7. DWR characterizes the dominant species in the habitat as Fremont Cottonwood (*Populus fremontii*).

Landsat data analyzed by The Nature Conservancy indicates that NDVI and NDMI have both increased since 2009. This is not correlated with a decrease in measured precipitation.

A review of historical aerial photographs indicate that this habitat lies along the banks of the San Jacinto River. This portion of the river is downstream of the confluence between the Perris Drain and San Jacinto River. This segment of the San Jacinto River flows during wet months due to the diversion of surface water runoff through the Perris Drain into the San Jacinto River.

There are no wells near this habitat that characterize groundwater conditions. Because there is no data characterizing groundwater conditions underling this habitat, the ecosystem was characterized as a potential GDE.

3.4.3.2 Habitat 2

The second habitat within the Perris South GDE Evaluation Unit is located in the western portion of the Perris South groundwater management zone and is denoted by “X6” in Figure 7. DWR characterizes the habitat as a riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetland (Table 6; DWR, 2018).

A review of historical aerial photographs of the site encompassed by iGDE Polygon 18 indicates that no habitat currently exists. The polygon traverses a 105-acre plot of agricultural land.

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Static groundwater levels near X6 are monitored at well EMWD B3 (well ID: 21729; Figure 6). Static groundwater levels increased at this well from a depth of 92 ft. bgs in September 1994 to a depth of 46 ft. bgs in October 2005. Since 2005, groundwater levels have generally declined to the current depth of approximately 58 ft. bgs (measured on 11/14/2018).

Because water levels have not been measured shallower than 40 ft. bgs, and SGMA defines a wetland GDE as a habitat where groundwater emerges at land surface (TNC, 2018), Habitat 2 was characterized as not groundwater dependent.

3.5 Menifee Subwatershed

The Menifee subwatershed (Hydrologic Unit Code: 180702020307) overlies the southern extension of the Perris South groundwater management zone and the northern half of the Menifee groundwater management zone (Figures 1 and 2). The Menifee subwatershed drains over 17,800 acres into Canyon Lake. Within the Plan Area, the Menifee subwatershed reaches a topographic high of approximately 1,700 ft. msl at the western extension of the Lakeview Mountains (Google Earth Pro, 2019). The valley floor drops to a topographic low of approximately 1,400 ft. msl at the intersection of Newport Road and Goetz Road (Google Earth Pro, 2019).

The NCCAG dataset identified two potential wetland GDEs within the Menifee subwatershed (Figure 8). These wetland habitats were characterized as: Palustrine, emergent, persistent seasonally flooded wetlands; and Riverine, Unknown Perennial, Unconsolidated Bottom, Semi-permanently Flooded wetlands (Table 7; DWR, 2018).

Due to the limited number of potential GDEs within this subwatershed, each NCCAG-identified habitat is discussed individually below. Table 7 provides a summary of the NCCAG polygon characteristics within the Menifee subwatershed.

3.5.1 Salt Creek GDE Evaluation Unit

The Salt Creek GDE Evaluation Unit is located in the southern portion of the Perris South groundwater management zone and is denoted using the green symbology in Figure 8. This GDE Evaluation unit is located immediately south of EMWD's Sun City Regional Reclamation Facility within Salt Creek, which has been modified as an engineered soft bottom channel that conveys flows between Menifee Lakes Country Club 2 miles upstream of the GDE and the eastern arm of Canyon Lake 1.8 miles downstream of the GDE. This habitat is characterized as a palustrine, emergent, persistent, seasonally flooded wetland (DWR, 2018).

TNC has not analyzed Landsat data to characterize NDVI and NDMI for this habitat.

Aerial photographs indicate that this habitat lies along the banks of the Salt Creek River and that the areal extent of the wetland varies seasonally. For example, in February 2018, photographs of the habitat show the presence of wetlands, while in August 2018, the habitat appears to be completely dry. Similar seasonal variations were observed in images that date back to 2009. The photograph below shows the Salt Creek GDE Evaluation Unit in December 2018. This image shows that water ponds locally within the engineered channel of the Salt Creek, but also that the habitat is impacted by ongoing disposal of anthropogenic waste.

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Static groundwater levels near this habitat are characterized using EWMD C2 (well ID: 21783), EMWD C1 (well ID: 21786), and EMWD 85 Murrieta/Salt Creek (well ID: 25416; Figure 8). Water levels at EMWD C2 have been measured semi-annually since 1994. During the 14 year record of measurement, static groundwater levels have averaged approximately 26 ft. bgs. The shallowest depth to water measured at EMWD C2 was 17.6 ft. bgs on 10/12/2005, and the deepest static groundwater level measured at EMWD C2 was 35.6 ft. bgs on 11/19/2018. Static groundwater levels measured at EMWD C1 are very similar (within a few feet) of the water levels measured at EMWD C1.

Static groundwater levels have been measured at well EMWD 85 Murrieta/Salt Creek since October 2006. During the 11-year record of measurement, water levels have averaged approximately 28 ft. bgs. The shallowest depth to water measured at EMWD 85 Murrieta/Salt Creek was 23.3 ft. bgs on 3/7/2011, and the deepest static groundwater level measured at EMWD 85 Murrieta/Salt Creek was 40.2 ft. bgs on 7/6/2015.



Groundwater near the Salt Creek GDE Evaluation Unit has been extracted from wells EMWD 85 Murrieta/Salt Creek and EMWD 75 Salt Creek (well ID: 22701). EMWD 85 Murrieta/Salt Creek actively extracted groundwater between 2009 and 2015. During this period, EMWD 85 Murrieta/Salt Creek extracted an average of 340 AFY, with a minimum extraction of 81 AF in 2006 and a maximum extraction of 694 AF in 2014. Well EMWD 85 Murrieta/Salt Creek was inactive between 2007 and 2012. EMWD 75 Salt Creek actively extracted groundwater between 2002 and 2017. During this period, well EMWD 75 Salt Creek extracted an average of 220 AFY, with a minimum extraction of 9 AF in 2017 and a maximum extraction of 463 AF in 2015.

The Salt Creek GDE Evaluation Unit is also located directly downstream of the USGS stream gauge 11070465 (Gauge Name: Salt Creek at Murrieta Road). USGS stream gauge 11070465 has measured daily discharge through the unlined Salt Creek continuously since October 2000. Figure 9 shows monthly discharge measured at 11070465 (orange) and static depth to groundwater levels (blue) measured at well EMWD C2.

The depth to water hydrograph shown in Figure 9 indicates that water levels have remained shallower than 40 ft. bgs since December 2000. Water levels measured in the late winter/early spring months are typically shallower

[Type here]

than the static groundwater levels measured in fall of the same year. This trend in measured groundwater levels is likely impacted by the infiltration of surface water through the unlined channel of Salt Creek

Nearby lithologic data suggests that the subsurface underlying the Salt Creek GDE Evaluation Unit is predominantly composed of sands and gravels with interbedded, discontinuous beds of thin clays and fines (EMWD, 2016). The lack of a contiguous, thick clay underlying the Salt Creek GDE Evaluation Unit further supports the conclusion that surface water percolation through Salt Creek locally recharges the underlying aquifer system.

The measured interaction between Salt Creek and the underlying groundwater indicates the Salt Creek GDE Evaluation Unit is supported by percolating surface water. Because groundwater levels have not been measured shallower than 20 ft. bgs, and SGMA defines a wetland GDE as a habitat where groundwater emerges at land surface (TNC, 2018), the Salt Creek GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.5.2 Menifee GDE Evaluation Unit

The Menifee GDE Evaluation Unit is located just outside of the Perris South groundwater management zone boundary, near McCall Canyon Park. This small (0.2 acres) GDE Evaluation Unit is denoted using the orange symbology in Figure 8. The habitat is characterized as a riverine, unknown perennial, unconsolidated bottom, semi-permanently flooded wetland (Table 7; DWR, 2018).

Aerial photographs shows that the NCCAG-mapped polygon overlies a single-family home that was built prior to 2005. Because this habitat no longer exists, the Menifee GDE Evaluation Unit was characterized as a habitat that is not groundwater dependent.

3.6 San Jacinto Valley Subwatershed

The San Jacinto Valley subwatershed (Hydrologic Unit Code: 180702020302) drains over 36,600 acres (Figures 2 and 10) Surface water runoff within this watershed is drained into Salt Creek. Within the Plan Area, the Menifee subwatershed reaches a topographic high of approximately 1,850 ft. msl along the ridgeline of the Lakeview Mountains (Google Earth Pro, 2019). The valley floor drops to a topographic low of approximately 1,430 ft. msl at the intersection of Newport Road and Interstate 215 (Google Earth Pro, 2019).

The NCCAG dataset identified a wetland habitat (characterized as Palustrine, unconsolidated bottom, semi-permanently flooded wetland) and vegetation community comprised of Mule Fat (*Baccharis salicifolia*) (Table 9; DWR, 2018).

Each NCCAG-identified habitat is discussed individually below. Table 9 provides a summary of the GDE characterizations within the San Jacinto Valley subwatershed.

3.6.1 Habitat 1

Habitat 1 (denoted by "X7" in Figure 10) is located in the southeastern portion of the Perris South groundwater management zone. The dominant species within this habitat is Mule Fat (Table 9; DWR, 2018).

There has been little to no change in NDVI since 2009. NDMI has increased since 2009. A review of historical aerial photographs shows persistent vegetation in this region.

Groundwater levels are not monitored near this habitat.

Because there is no groundwater and lithology data near this habitat, Habitat 1 was characterized as an ecosystem that is potentially groundwater dependent. Further characterization of the habitat and its potential dependence on groundwater will be warranted if future groundwater extractions are planned for this area.

3.6.2 Habitat 2

Habitat 2 (denoted by “X8” in Figure 10) is located in the Menifee groundwater management zone. This habitat is characterized as a Palustrine, unconsolidated bottom, semi-permanently flooded wetland (DWR, 2018).

Aerial photographs indicate that this habitat is located within the Wilderness Lake Recreational Vehicle (RV) Resort. The RV Park is a managed recreational area.

Nearby lithologic data suggests that the subsurface underlying Habitat 2 is predominantly sands and gravels with thin lenses of clays and fines (EMWD, 2016).

Static groundwater levels underlying the habitat have been measured at Abacherli Dairy (well ID: 20981) and DeJong Dairy South (well ID: 22669; Figure 10). Static groundwater levels were measured at 20981 between March 1998 and February 2012. During this period, groundwater levels were averaged approximately 113 ft. bgs. The shallowest depth to water measured at Abacherli Dairy was 96.2 ft. bgs on 2/16/2012, and the deepest static water level measured at Abacherli Dairy was 125.2 ft. bgs on 10/7/2004.

Static groundwater levels at DeJong Dairy South were measured between October 2004 and October 2016. During this record of measurement, groundwater levels averaged 115 ft. bgs. The shallowest depth to water measured at this well was 103.7 ft. bgs on 4/11/2016, and the deepest static water level measured at DeJong Dairy South was 134.1 ft. bgs on 10/7/2004.

Aerial photographs between 1998 and 2012 indicate that the aerial extent of the wetland environment did not diminish despite the underlying groundwater table being deeper than 90 ft. bgs. Because the habitat persists during prolonged periods where water levels are deeper than 90 ft. bgs, Habitat 2 was characterized as an ecosystem that is not groundwater dependent.

4 Concluding Remarks

SGMA requires that all beneficial uses and users of groundwater, including environmental users of groundwater (e.g. groundwater dependent ecosystems (GDEs)), be considered in the development of GSPs. GDEs within the Plan Area were identified and characterized by reviewing the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset (DWR, 2018), alongside local groundwater level and production measurements,

lithology, aerial photographs, and satellite data⁵. Review of these data followed the general guidelines outlined by TNC (2018).

The NCCAG dataset identified 79 unique vegetation communities that consist of common phreatophytes (vegetation GDEs) within the Plan Area (Figure 1). The prominent phreatophytes identified within the NCCAG dataset were Mule Fat (*Baccharis Salicifolia*), Goodding's Willow (*Salix Gooding's*), and Southwestern North American salt basin and high marsh. These communities were concentrated near the San Jacinto Wildlife Area, which is managed by the California Department of Fish and Wildlife, and along base of the large topographic reliefs that border the Plan Area (Figure 1). In addition to these phreatophyte communities, the NCCAG dataset identified 28 unique wetland habitats commonly associated with the surface expression of groundwater (wetland GDEs; Figure 1). These wetlands were predominantly lacustrine and palustrine seasonally flooded wetlands. The largest wetland communities were within the San Jacinto Wildlife Area.

The 107 habitats identified by the NCCAG dataset within the Plan Area were aggregated into larger GDE Evaluation Units based on geography and hydrogeologic conditions (Figures 2-9). The GDE Evaluation Units were grouped by subwatershed (USGS and USDA, 2013) and characterized as either: (1) groundwater dependent ecosystems, (2) potentially groundwater dependent ecosystems, or (3) ecosystems that are not groundwater dependent.

73 of the habitats identified in the NCCAG dataset were characterized as habitats that are not groundwater dependent. Of these, 47 were originally identified in the NCCAG dataset as potential vegetation GDEs and 26 were originally identified as potential wetland GDEs. The characterization of these habitats as not groundwater dependent was supported by data that indicated: (1) groundwater levels underlying the habitat were too deep to support groundwater dependent vegetation, (2) the habitat was sustained by applied surface waters, or (3) the presence of local confining units that limit hydraulic communication between shallow groundwater and deeper aquifer units.

23 of the habitats identified in the NCCAG dataset were characterized as habitats that are potentially groundwater dependent (Figure 11). Dominant species within the potential GDEs are Mule Fat (*Baccharis salicifolia*), California Sycamore (*Platanus racemosa*), Red Willow (*Salix laevigata*), Common Elderberry (*Sambucus nigra*), Scalebroom (*Lepidospartum squamatum*), and Tamarisk (*Tamarix* spp.). These habitats were characterized as potentially groundwater dependent ecosystems because aerial photographs indicated the presence of persistent vegetation communities, but there was limited data characterizing groundwater conditions underlying the habitat. These potential GDEs are largely located along the Plan Area margins, at the foothills of large topographic reliefs surrounding San Jacinto Groundwater Basin. Groundwater is only extracted within 1km of these potential GDEs at the base of the Box Springs Mountains (Figure 3). There are a number of privately owned wells in this area (Figure 2) that may actively extract groundwater, but production rates and groundwater levels at these wells are not reported. Further characterization of these habitats and their potential dependence on groundwater will be warranted if future additional groundwater extractions are planned for this area.

Three of the NCCAG indicators mapped within the Plan Area were characterized as groundwater dependent ecosystems. These habitats are located along the western edge of the Plan Area boundary, near the March Air

⁵ Landsat satellite data was analyzed by The Nature Conservancy to quantify temporal fluctuations in Normalized Derived Vegetation Index (NDVI) and Normalized Derived Moisture Index (NDMI).

force Reserve Base (Figure 11). These habitats consist of Red Willow (*Salix Laevigata*), and Common Elderberry (*Sambucus nigra*). Water levels underlying these habitats are shallower than 30 ft. bgs and, therefore, may support the overlying ecosystem (TNC, 2018). These habitats lie outside of EMWD's service area and current groundwater extraction rates are not known.

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Table 1: Areal coverage of NCCAG-mapped vegetation communities within the Plan Area

NCCAG Vegetation Community		Mapped Area [Acres]					
Vegetation Name	Common Name	Lower San Jacinto Watershed				Middle San Jacinto Watershed	Grand Total
		Moreno Valley	Perris Reservoir	Perris Valley-San Jacinto River	San Jacinto Valley	Mount Rudolph-San Jacinto River	
Arid West freshwater emergent marsh	N/A	-	3.9	-	-	23.9	27.8
Arundo donax	Giant Reed	2.1		-	-	-	2.1
Baccharis salicifolia	Mule Fat	52.9	47.9		1.2	3.9	105.9
Lepidospartum squamatum	Scalebroom	4.8	-	2.1	-	-	6.9
Lepidospartum squamatum - Eriogonum fasciculatum	Scalebroom	-	-	20.4	-	-	20.4
Platanus racemosa	California Sycamore	13.2	1.1	-	-	-	14.3
Populus fremontii - Salix	Fremont Cottonwood	-	-	4.7	-	-	4.7
Salix gooddingii	Goodding's Willow	-	-	-	-	4.1	4.1
Salix gooddingii / Baccharis salicifolia	Goodding's Willow	-	100	-	-	21.6	121.6
Salix laevigata	Red Willow	23	3.5	-	-	42.5	68.9
Sambucus nigra	Common Elderberry	5	1.9	23.3	-	-	30.2
Southwestern North American salt basin and high marsh	N/A	-	-	-	-	1580.9	1580.9
Tamarix spp.	Tamarisk	-	-	-	-	2.4	2.4
Grand Total		101	158.3	50.5	1.2	1990.4	1679.4

Table 2: Areal coverage of NCCAG-mapped wetland communities within the Plan Area

NCCAG Wetland Communities	Lower San Jacinto Watershed					Middle San Jacinto Watershed	Grand Total
	Menifee Valley	Perris Reservoir	Moreno Valley	Perris Valley-San Jacinto River	San Jacinto Valley	Mount Rudolph-San Jacinto River	
Lacustrine, Limnetic, Unconsolidated Bottom, Permanently Flooded	-	-	-	-	-	35.46	35.46
Palustrine, Emergent, Persistent, Seasonally Flooded	0.69	-	3.13	1.59	-	10.16	15.56
Palustrine, Forested, Seasonally Flooded	-	-	-	-	-	2.21	2.21
Palustrine, Scrub-Shrub, Seasonally Flooded	-	-	-	15.7	-	-	15.7
Palustrine, Unconsolidated Bottom, Semipermanently Flooded	-	-	-	-	2.1	15.37	17.47
Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded	0.03	-	2.46	1.19	-	0.38	4.06
Grand Total	0.72	-	5.59	18.47	2.1	63.58	90.47

Table 3: Characterization of NCCAG Polygons within the Moreno Valley Subwatershed

NCCAG Polygon ID	GDE Unit	VEGETATION	Dominant Species	Dominant Common Name	GDE Characterization	Justification	Impacted by Current/Future Production?	Management Zone
91369	Box Spring Mountains	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
99223	Box Spring Mountains	Platanus racemosa	Platanus racemosa	California Sycamore	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
99246	Box Spring Mountains	Platanus racemosa	Platanus racemosa	California Sycamore	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
99251	Box Spring Mountains	Platanus racemosa	Platanus racemosa	California Sycamore	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
99253	Box Spring Mountains	Platanus racemosa	Platanus racemosa	California Sycamore	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
99293	Box Spring Mountains	Platanus racemosa	Platanus racemosa	California Sycamore	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
111733	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
111740	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
111778	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
111806	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Not Groundwater Dependent	GW levels are deeper than 30 ft bgs	Not Likely	Perris North
111809	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
111835	Box Spring Mountains	Salix laevigata	Salix laevigata	Red Willow	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
112941	Box Spring Mountains	Sambucus nigra	Sambucus nigra	Common Elderberry	Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
97851	San Timoteo Badlands North	Lepidospartum squamatum	Lepidospartum squamatum	Scalebroom	Potential GDE	No nearby groundwater/lithology data	Not Likely	Lower Pressure
112844	San Timoteo Badlands North	Sambucus nigra	Sambucus nigra	Common Elderberry	Potential GDE	No nearby groundwater/lithology data	Not Likely	Lower Pressure
112872	San Timoteo Badlands North	Sambucus nigra	Sambucus nigra	Common Elderberry	Potential GDE	No nearby groundwater/lithology data	Not Likely	Lower Pressure

Table 3: Characterization of NCCAG Polygons within the Moreno Valley Subwatershed

88758	Lower Pressure/Perris North Boundary	Arundo donax	Arundo donax	Giant Reed	Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Lower Pressure
91299	Lower Pressure/Perris North Boundary	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Lower Pressure/Perris North
91357	Lower Pressure/Perris North Boundary	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Lower Pressure
97844	Lower Pressure/Perris North Boundary	Lepidospartum squamatum	Lepidospartum squamatum	Scalebroom	Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Lower Pressure
91206	Perris North Area	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Perris North
	GDE Unit	Wetland Type			GDE Characterization	Justification	Impacted by Current/Future Production?	Management Zone
31757	Box Spring Mountains	Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded			Potential GDE	No nearby groundwater/lithology data	Not Likely	Perris North
31793	Box Spring Mountains	Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded			Not Groundwater Dependent	Mapped Habitat has been replaced by a lined pit	No	Perris North
31799	North San Timoteo Badlands	Riverine, Unknown Perennial, Unconsolidated Bottom, Semipermanently Flooded			Not Groundwater Dependent	No wetland habitat supported	No	Lower Pressure
26051	Lower Pressure/Perris North Boundary	Palustrine, Emergent, Persistent, Seasonally Flooded			Not Groundwater Dependent	GW levels are much deeper than 30 ft bgs	No	Lower Pressure
26035	Perris North Area	Palustrine, Emergent, Persistent, Seasonally Flooded			Not Groundwater Dependent	Habitat replaced by a parking lot	No	Perris North

Table 4: Characterization of NCCAG Polygons within the Perris Reservoir Subwatershed

NCCAG Polygon ID	GDE Unit	VEGETATION	Dominant Species	Dominant Common Name	GDE Characterization	Justification	Impacted by Current/Future Production?	Management Zone
88117	Lake Perris	Arid West freshwater emergent marsh	Not applicable	Not applicable	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
91104	Lake Perris	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
91129	Lake Perris	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
99152	Lake Perris	Platanus racemosa	Platanus racemosa	California Sycamore	Potential GDE	No nearby groundwater/lithology data	No	Perris North
110921	Lake Perris	Salix gooddingii / Baccharis salicifolia	Salix gooddingii	Goodding's Willow	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
110931	Lake Perris	Salix gooddingii / Baccharis salicifolia	Salix gooddingii	Goodding's Willow	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
110933	Lake Perris	Salix gooddingii / Baccharis salicifolia	Salix gooddingii	Goodding's Willow	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
110934	Lake Perris	Salix gooddingii / Baccharis salicifolia	Salix gooddingii	Goodding's Willow	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
110936	Lake Perris	Salix gooddingii / Baccharis salicifolia	Salix gooddingii	Goodding's Willow	Not Groundwater Dependent	NDVI/NDMI correlated with Lake Perris reservoir levels	No	Lake Perris
111600	MARB	Salix Laevigata	Salix Laevigata	Red Willow	Groundwater Dependent Ecosystem	Shallow groundwater underlying Habitat	N/A	MARB
111571	MARB	Salix Laevigata	Salix Laevigata	Red Willow	Groundwater Dependent Ecosystem	Shallow groundwater underlying Habitat	N/A	MARB
112766	MARB	Sambucus nigra	Sambucus nigra	Common Elderberry	Groundwater Dependent Ecosystem	Shallow groundwater underlying Habitat	N/A	MARB
91102	Western Edge of Perris No	Baccharis salicifolia	Baccharis salicifolia	Mule fat	Potential GDE	No nearby groundwater/lithology data	No	Perris North

EASTERN MUNICIPAL WATER DISTRICT Groundwater Sustainability Plan

San Jacinto Groundwater Basin

Groundwater Dependent Ecosystems in the Plan Area

□ Plan Area Boundary

Adjudicated Areas

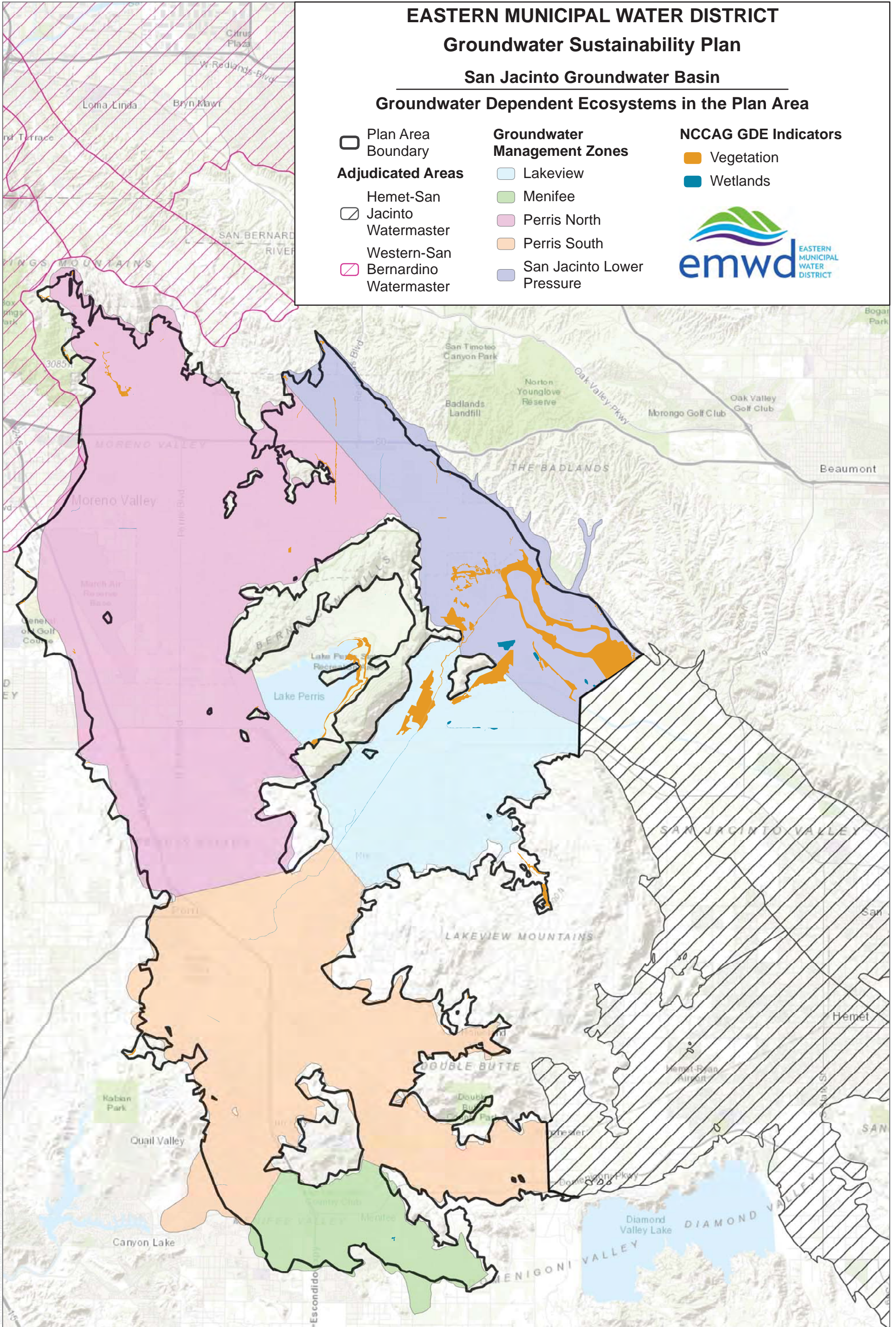
- Hemet-San Jacinto Watermaster
- Western-San Bernardino Watermaster

Groundwater Management Zones

- Lakeview
- Menifee
- Perris North
- Perris South
- San Jacinto Lower Pressure

NCCAG GDE Indicators

- Vegetation
- Wetlands



SOURCE: DWR

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FIGURE 1



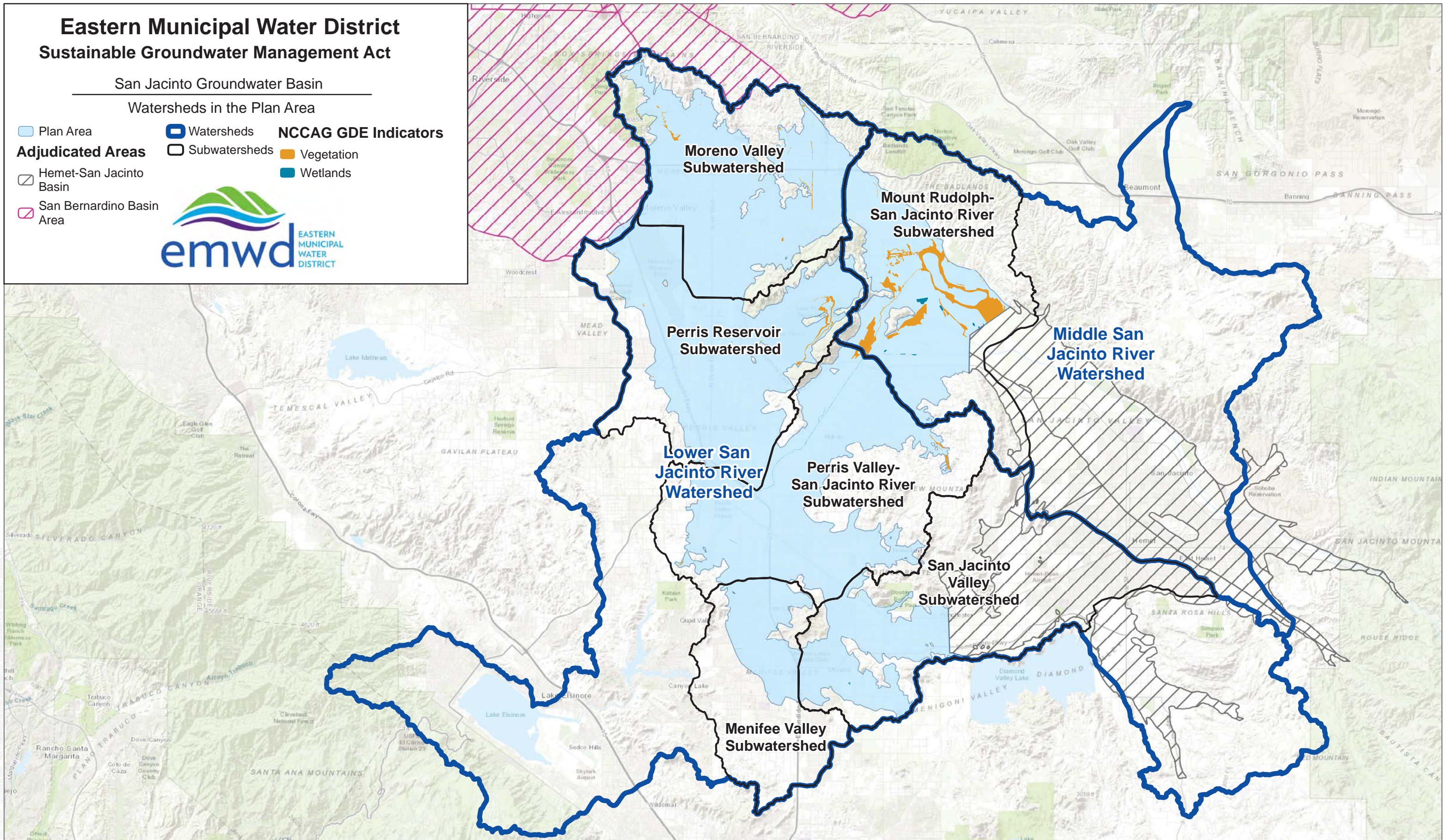
Groundwater Dependent Ecosystem Indicators in the Plan Area
Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

Eastern Municipal Water District Sustainable Groundwater Management Act

San Jacinto Groundwater Basin

Watersheds in the Plan Area

- Plan Area
- Watersheds
- NCCAG GDE Indicators**
- Adjudicated Areas**
- Subwatersheds
- Vegetation
- Wetlands
- Hemet-San Jacinto Basin
- San Bernardino Basin Area



SOURCE: DWR, NHD

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FIGURE 2









Watersheds in the Plan Area

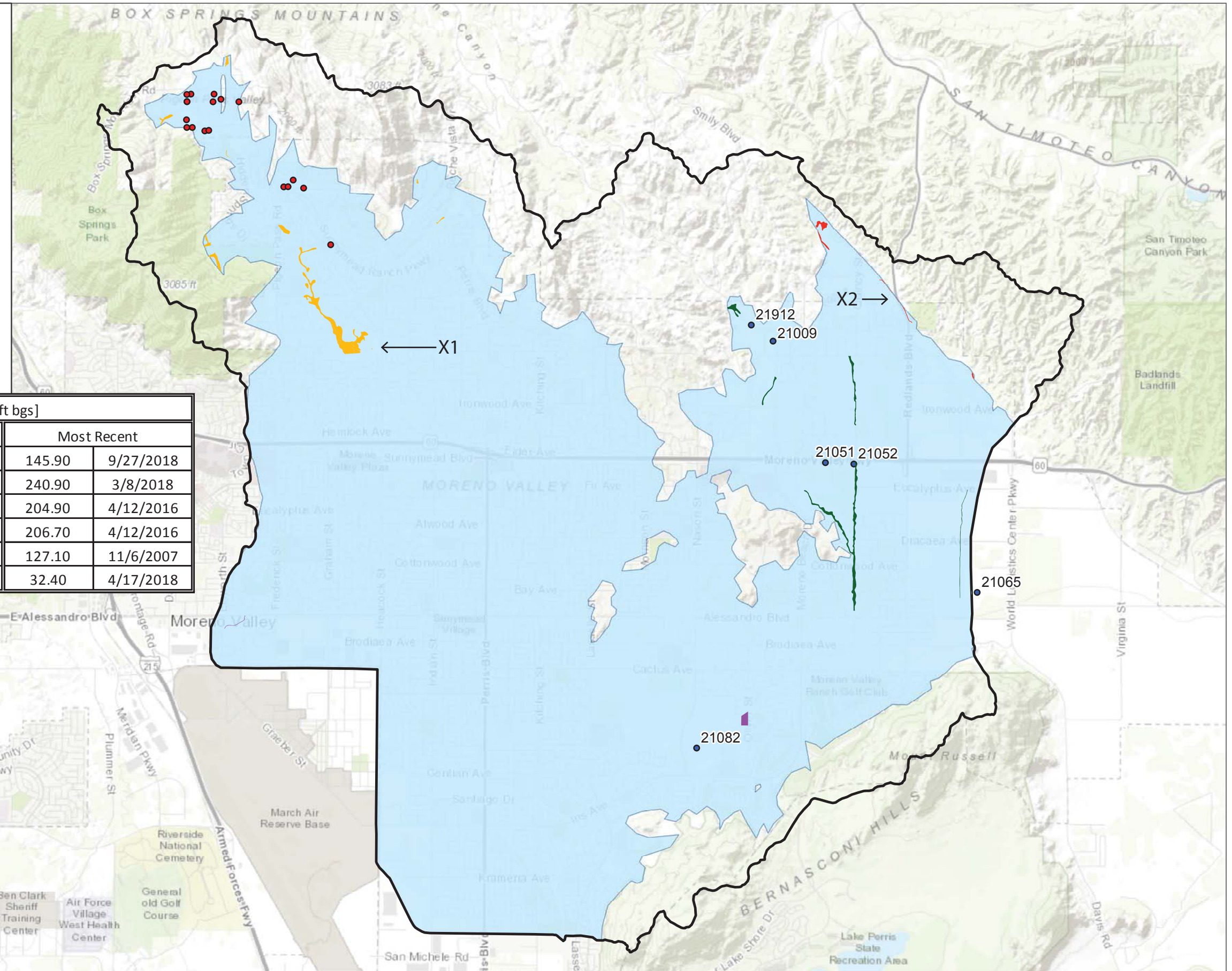
Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

Eastern Municipal Water District Sustainable Groundwater Management Act

San Jacinto Groundwater Basin

Moreno Valley Subwatershed

-  Plan
-  Moreno Valley Subwatershed
-  Private Wells
-  GDE Characterization Wells
-  Perris North-Lower Pressure
-  Perris North
-  Box Spring Mountains
-  North San Timoteo Badlands



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
21912	90.01	3/8/1995	154.40	10/10/2016	145.90	9/27/2018
21009	192.2	9/8/1995	340.10	10/8/2008	240.90	3/8/2018
21051	174.5	11/5/1997	273.82	3/1/1997	204.90	4/12/2016
21052	206.7	4/12/2016	279.84	11/15/1995	206.70	4/12/2016
21065	210	3/20/1997	127.10	11/6/2007	127.10	11/6/2007
21082	169.7	12/5/1997	32.40	4/17/2018	32.40	4/17/2018

SOURCE: DWR, NHD

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FIGURE 3



Moreno Valley Subwatershed

Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

Eastern Municipal Water District Sustainable Groundwater Management Act

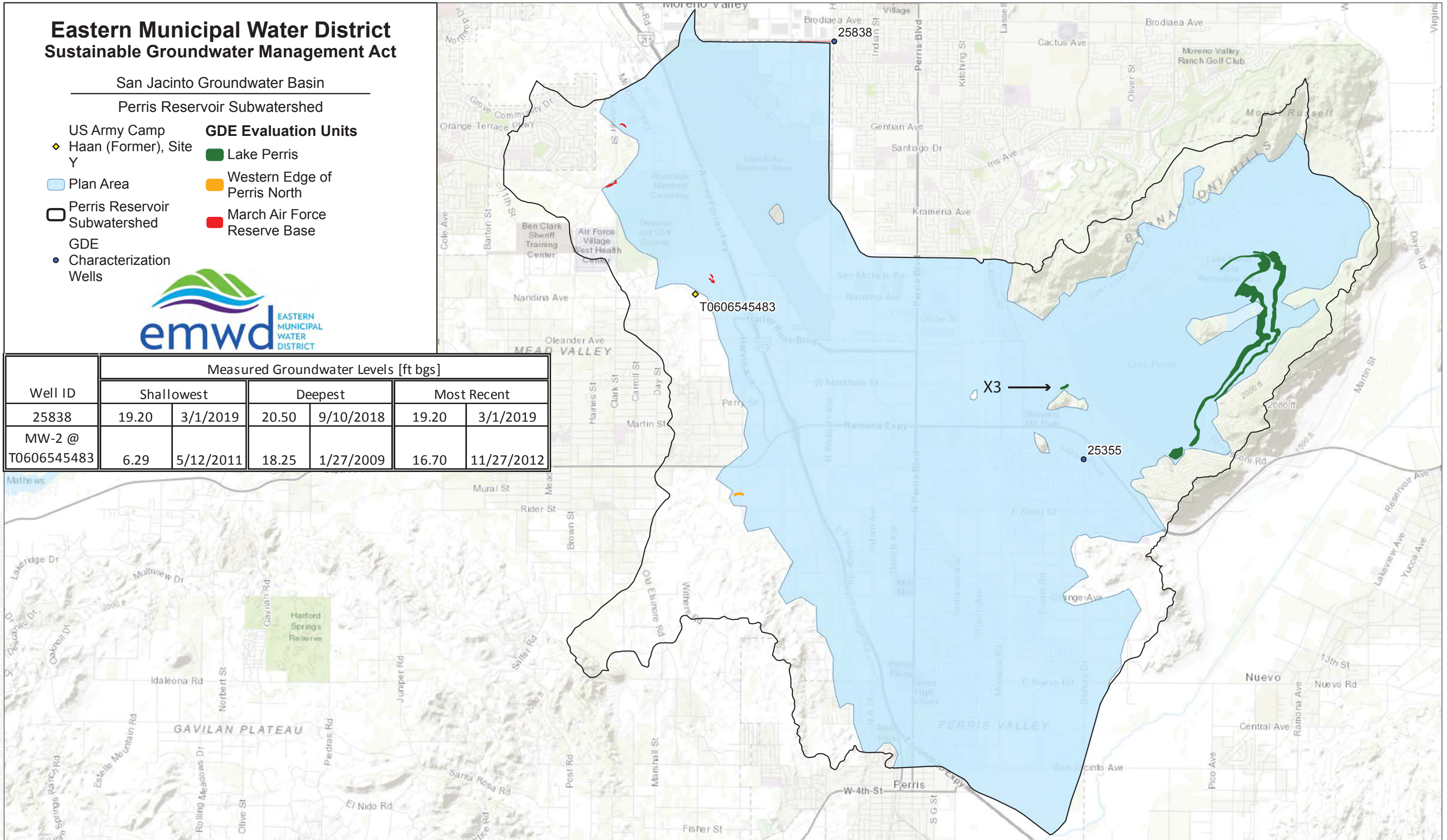
San Jacinto Groundwater Basin

Perris Reservoir Subwatershed

- US Army Camp
- ◆ Haan (Former), Site Y
- Plan Area
- Perris Reservoir Subwatershed
- GDE
- Characterization Wells
- GDE Evaluation Units**
- Lake Perris
- Western Edge of Perris North
- March Air Force Reserve Base



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
25838	19.20	3/1/2019	20.50	9/10/2018	19.20	3/1/2019
MW-2 @ T0606545483	6.29	5/12/2011	18.25	1/27/2009	16.70	11/27/2012



SOURCE: DWR, NHD

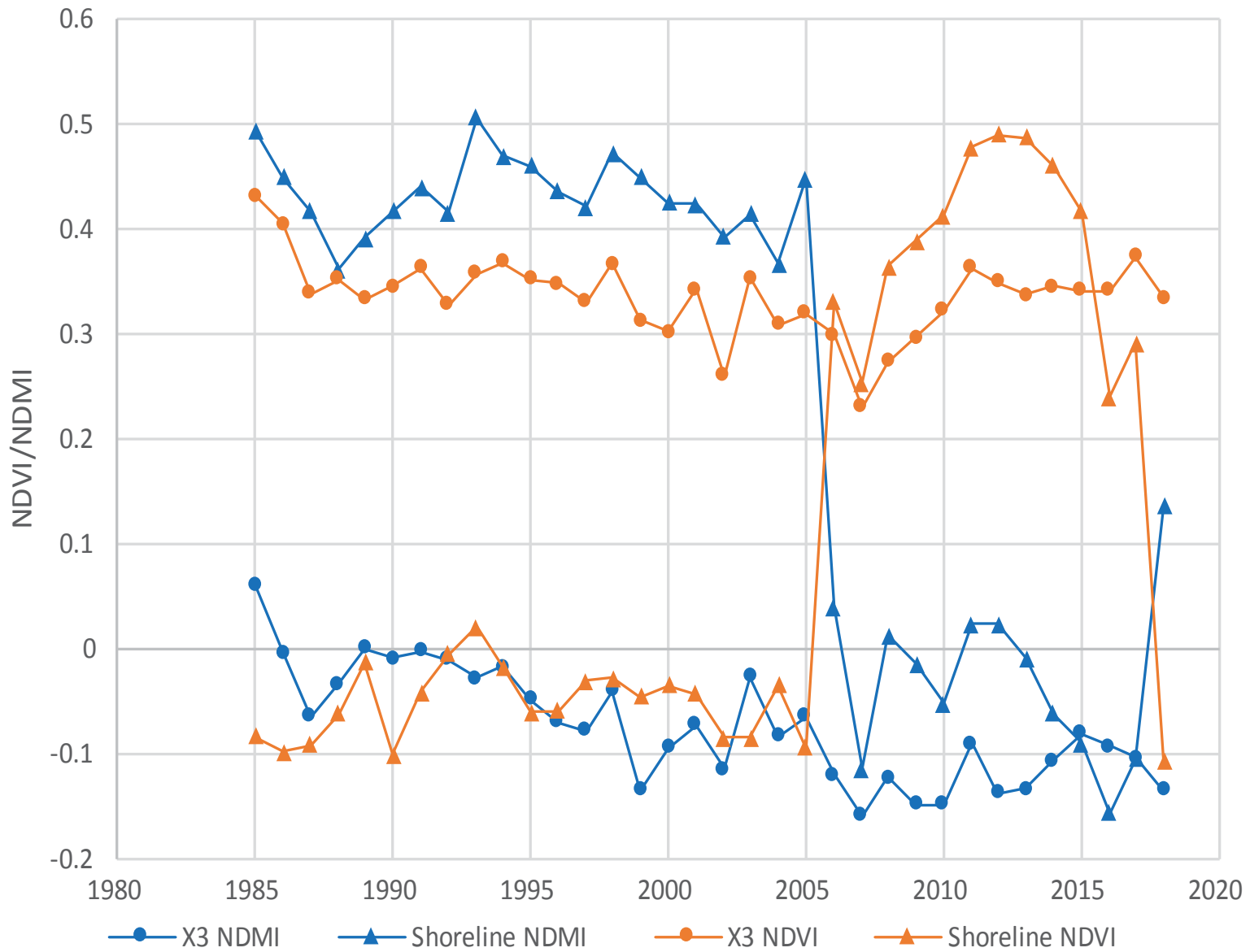
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FIGURE 4

Perris Reservoir Subwatershed

Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

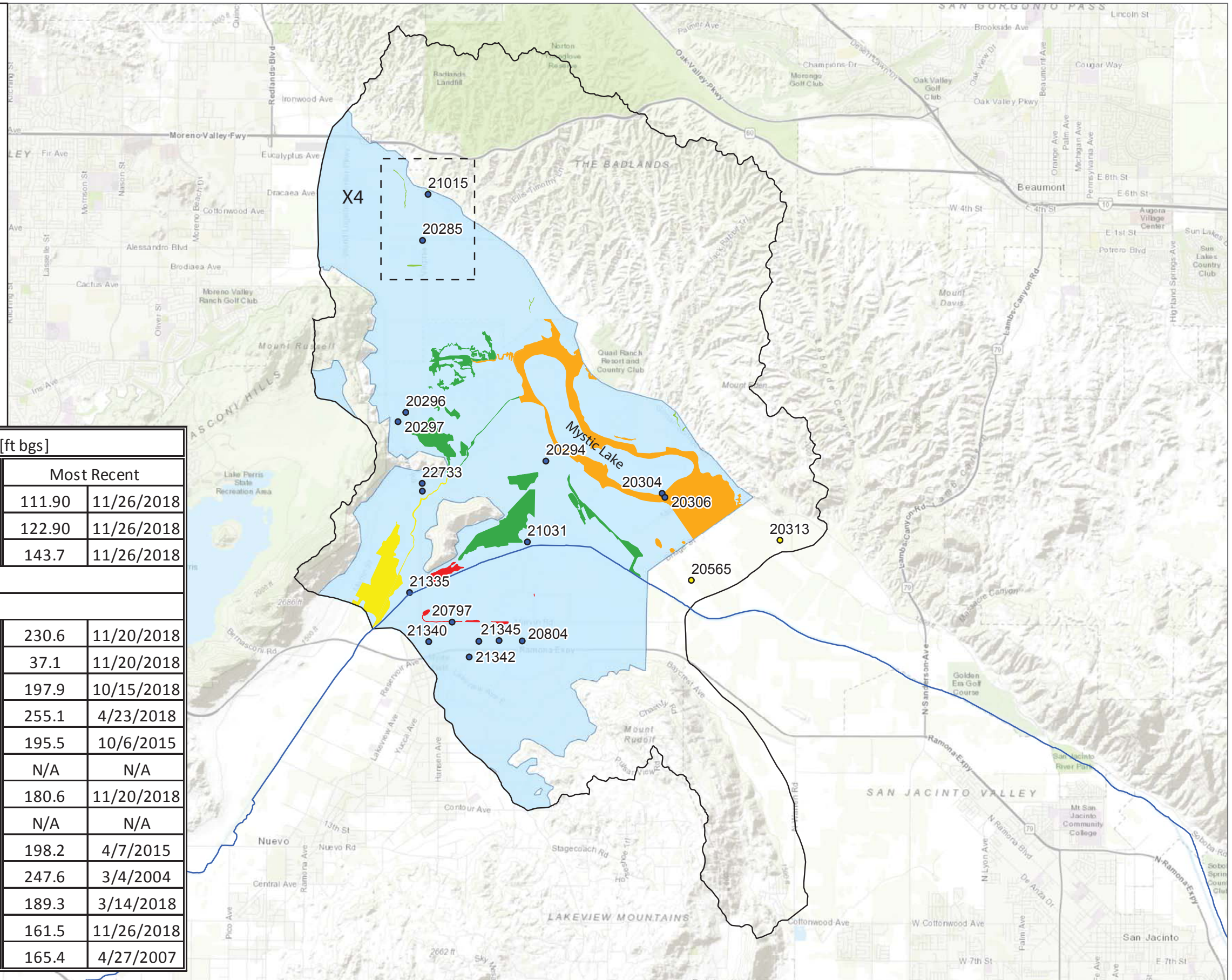


Eastern Municipal Water District Sustainable Groundwater Management Act

San Jacinto Groundwater Basin

Mount Rudolph-San Jacinto River Subwatershed

- Plan Area
- Mount Rudolph-San Jacinto River Subwatershed
- San Jacinto River
- GDE Characterization Wells
- Hemet San Jacinto Wells
- GDE Units
- CDFW/Private Duck Ponds
- Central San Timoteo Badlands
- San Jacinto River
- Mystic Lake
- Lakeview



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
21015	102.40	2/1/2005	141.00	1/16/1941	111.90	11/26/2018
20285	75.2	3/16/1999	125.70	4/1/2009	122.90	11/26/2018
20294	114.9	4/10/2017	143.7	11/26/2018	143.7	11/26/2018
20296	Production Data Only					
20297	Production Data Only					
20304	181.3	3/26/1998	333.3	10/21/2002	230.6	11/20/2018
20306	25.1	3/26/1998	38.2	10/12/2017	37.1	11/20/2018
20313	175.5	3/1/2001	197.9	10/15/2018	197.9	10/15/2018
20565	255.1	4/23/2018	345.5	10/16/2003	255.1	4/23/2018
20797	195.4	12/17/2013	252.8	10/13/1997	195.5	10/6/2015
20804	246.2	10/28/2003	N/A	N/A	N/A	N/A
21031	99.24	3/29/1968	188.3	10/28/2003	180.6	11/20/2018
21335	212.53	6/15/1968	N/A	N/A	N/A	N/A
21340	196	12/20/2013	258.9	10/14/1997	198.2	4/7/2015
21342	247.6	3/4/2004	268.5	10/15/1999	247.6	3/4/2004
21345	189.3	3/14/2018	257.6	10/19/1999	189.3	3/14/2018
22678	161.4	3/5/2018	102.4	3/14/2008	161.5	11/26/2018
22733	93	4/16/2003	165.4	4/27/2007	165.4	4/27/2007

SOURCE: DWR, NHD

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FIGURE 6



Mount Rudolph-San Jacinto River Subwatershed
Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

Eastern Municipal Water District Sustainable Groundwater Management Act

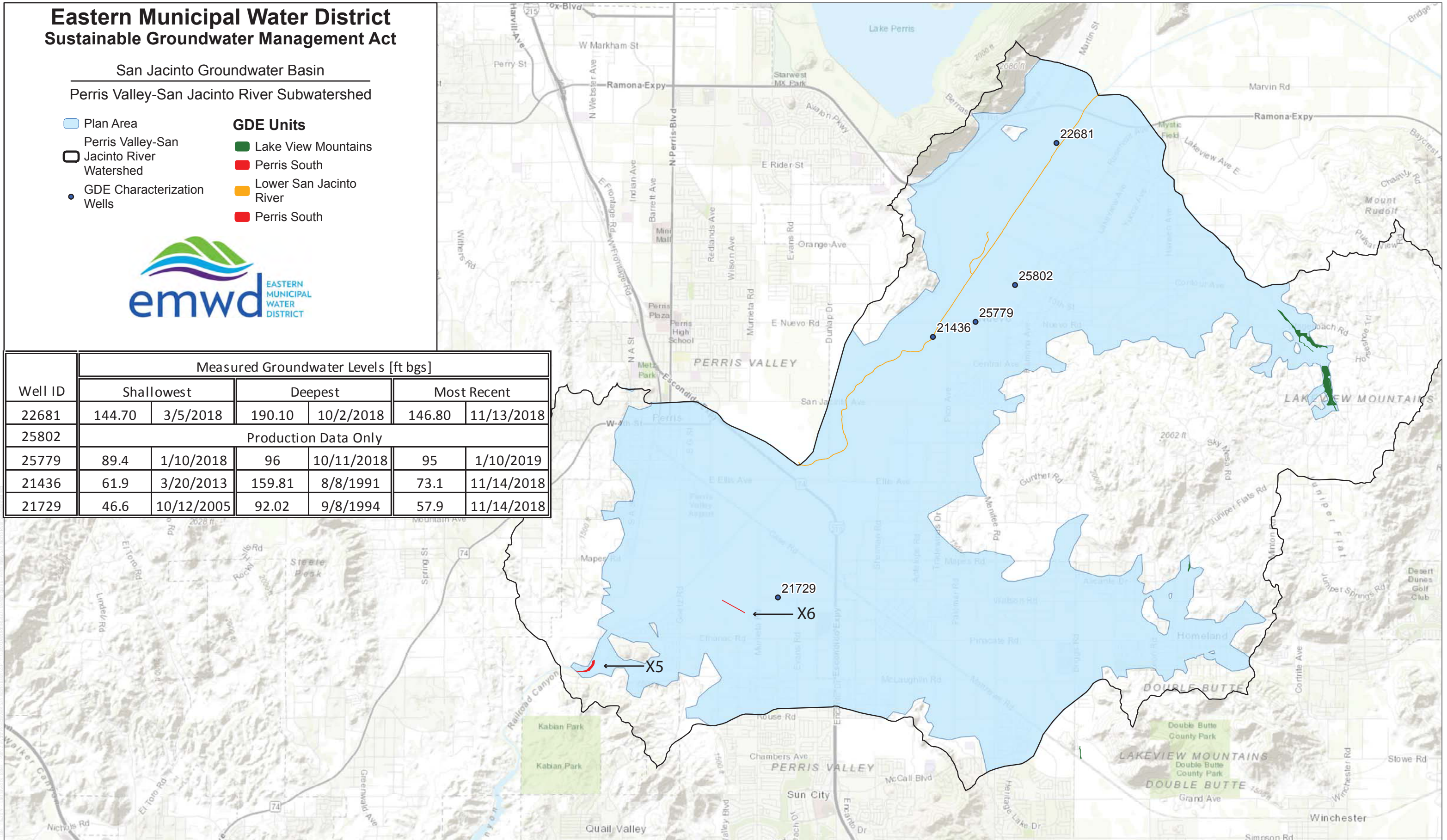
San Jacinto Groundwater Basin

Perris Valley-San Jacinto River Subwatershed

- Plan Area
- Perris Valley-San Jacinto River Watershed
- GDE Characterization Wells
- Lake View Mountains
- Perris South
- Lower San Jacinto River
- Perris South



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
22681	144.70	3/5/2018	190.10	10/2/2018	146.80	11/13/2018
25802	Production Data Only					
25779	89.4	1/10/2018	96	10/11/2018	95	1/10/2019
21436	61.9	3/20/2013	159.81	8/8/1991	73.1	11/14/2018
21729	46.6	10/12/2005	92.02	9/8/1994	57.9	11/14/2018



SOURCE: DWR, NHD

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FIGURE 7

Perris Valley-San Jacinto River Subwatershed

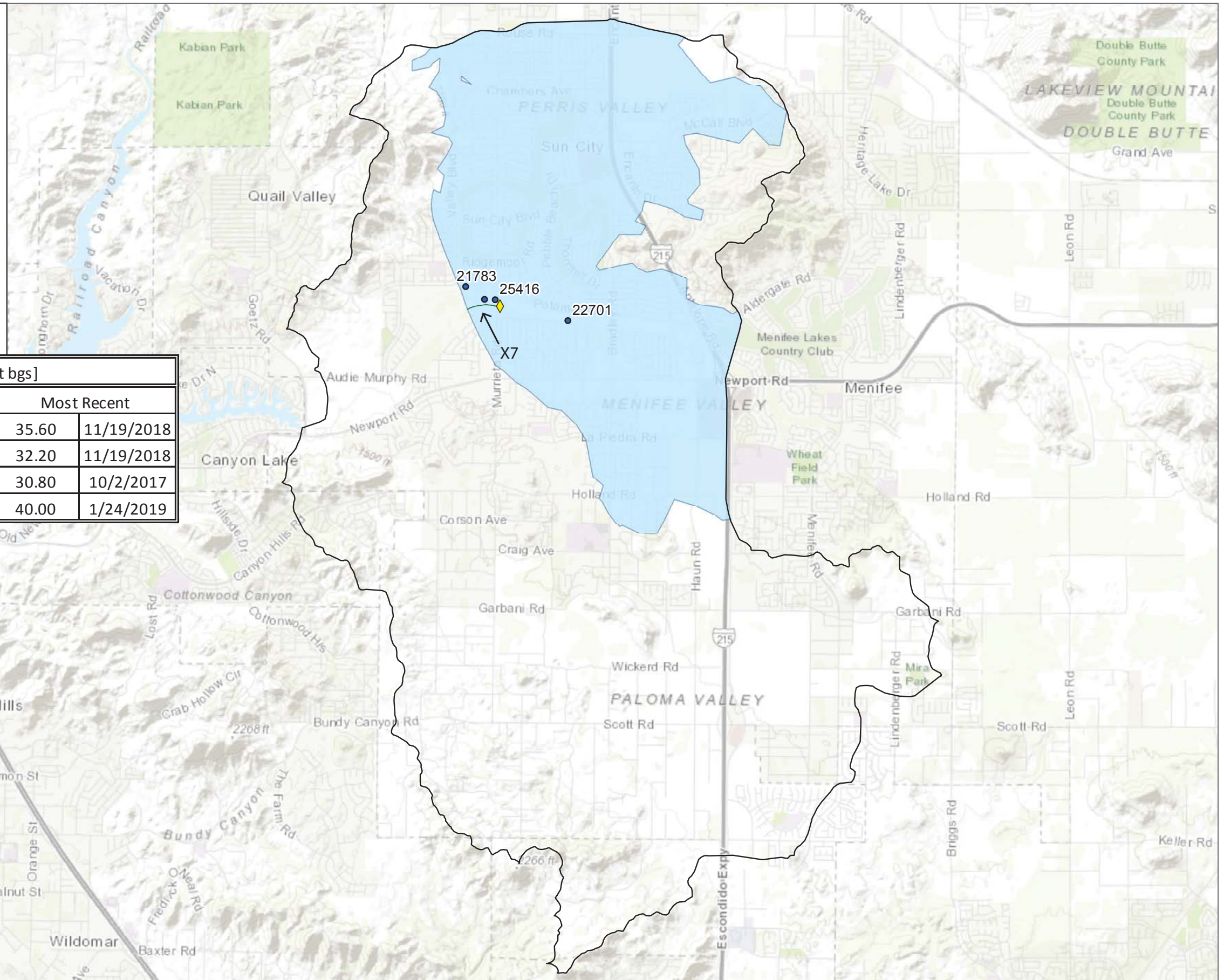
Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area

Eastern Municipal Water District Sustainable Groundwater Management Act

San Jacinto Groundwater Basin

Menifee Subwatershed

- Plan Area
- Menifee Subwatershed
- GDE Characterization Wells
- ◆ USGS Gauge 11070465
- GDE Units**
- Salt Creek
- Menifee



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
21783	17.6	10/12/2005	34.00	10/28/2002	35.60	11/19/2018
21786	16.9	10/12/2005	33.90	11/8/1997	32.20	11/19/2018
25416	23.3	3/7/2011	40.20	7/6/2015	30.80	10/2/2017
22701	29.6	4/12/2011	49.30	12/18/2002	40.00	1/24/2019

SOURCE: DWR, NHD

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FIGURE 8

Menifee Subwatershed

Characterization of Potential Groundwater Dependent Ecosystems in the non-adjudicated portions of the San Jacinto Groundwater Basin

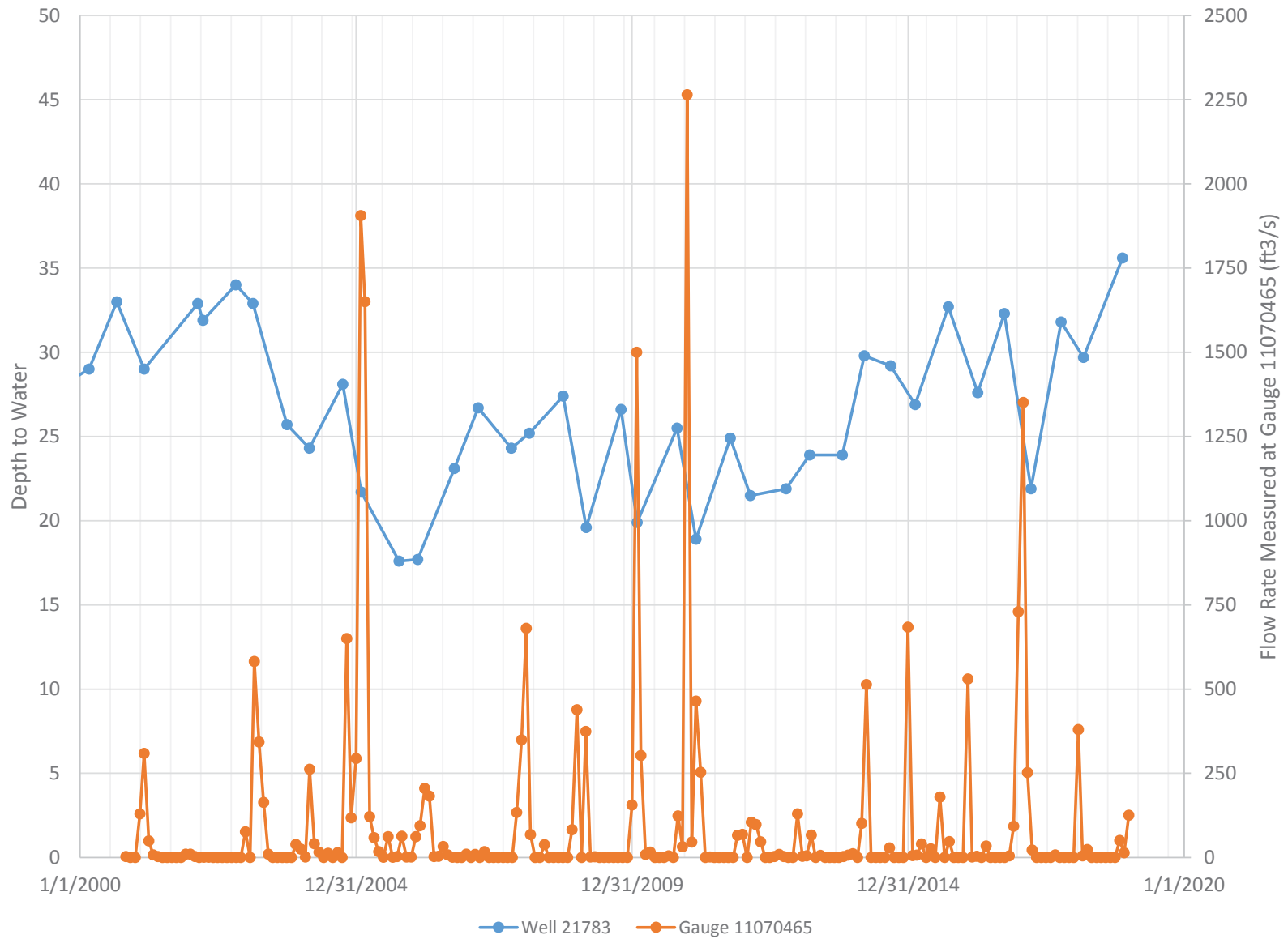


FIGURE 9
Stream flows in Salt Creek and static water levels measured at well 21783

Eastern Municipal Water District Sustainable Groundwater Management Act

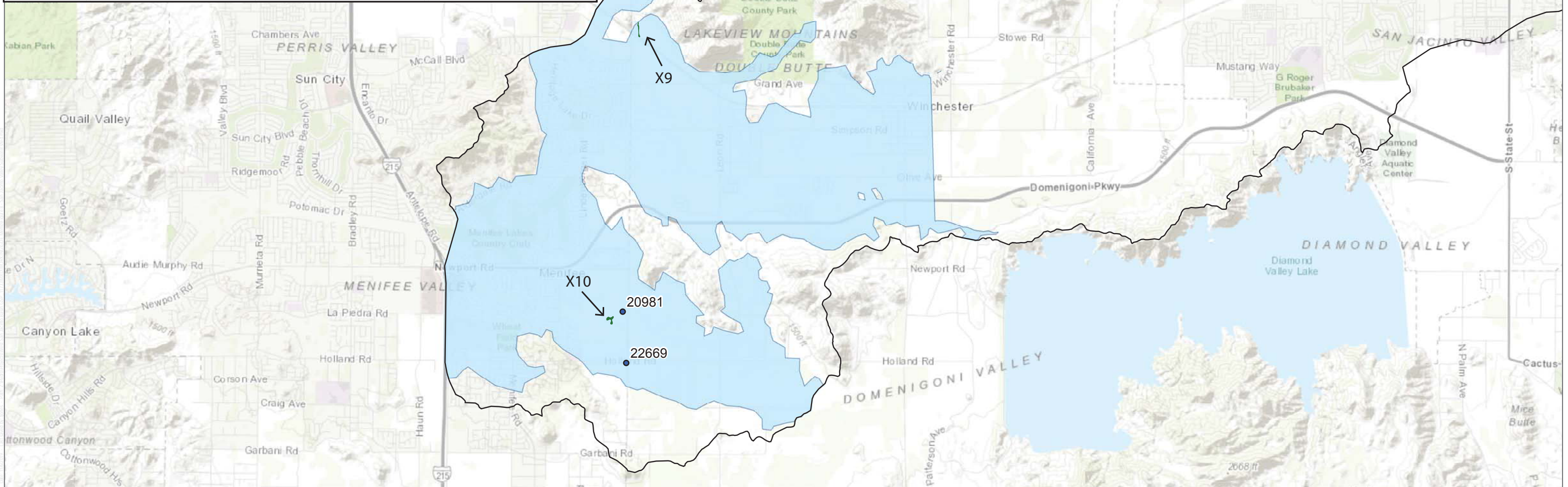
San Jacinto Groundwater Basin

San Jacinto Valley Subwatershed

- Plan Area
- San Jacinto Valley Subwatershed
- GDE Characterization Wells
- GDE Evaluation Units
- Habitats 1 and 2



Well ID	Measured Groundwater Levels [ft bgs]					
	Shallowest		Deepest		Most Recent	
20981	96.2	2/16/2012	125.20	10/7/2004	96.20	2/16/2012
22669	103.7	4/11/2016	134.10	10/7/2004	103.90	10/6/2016



SOURCE: DWR, NHD

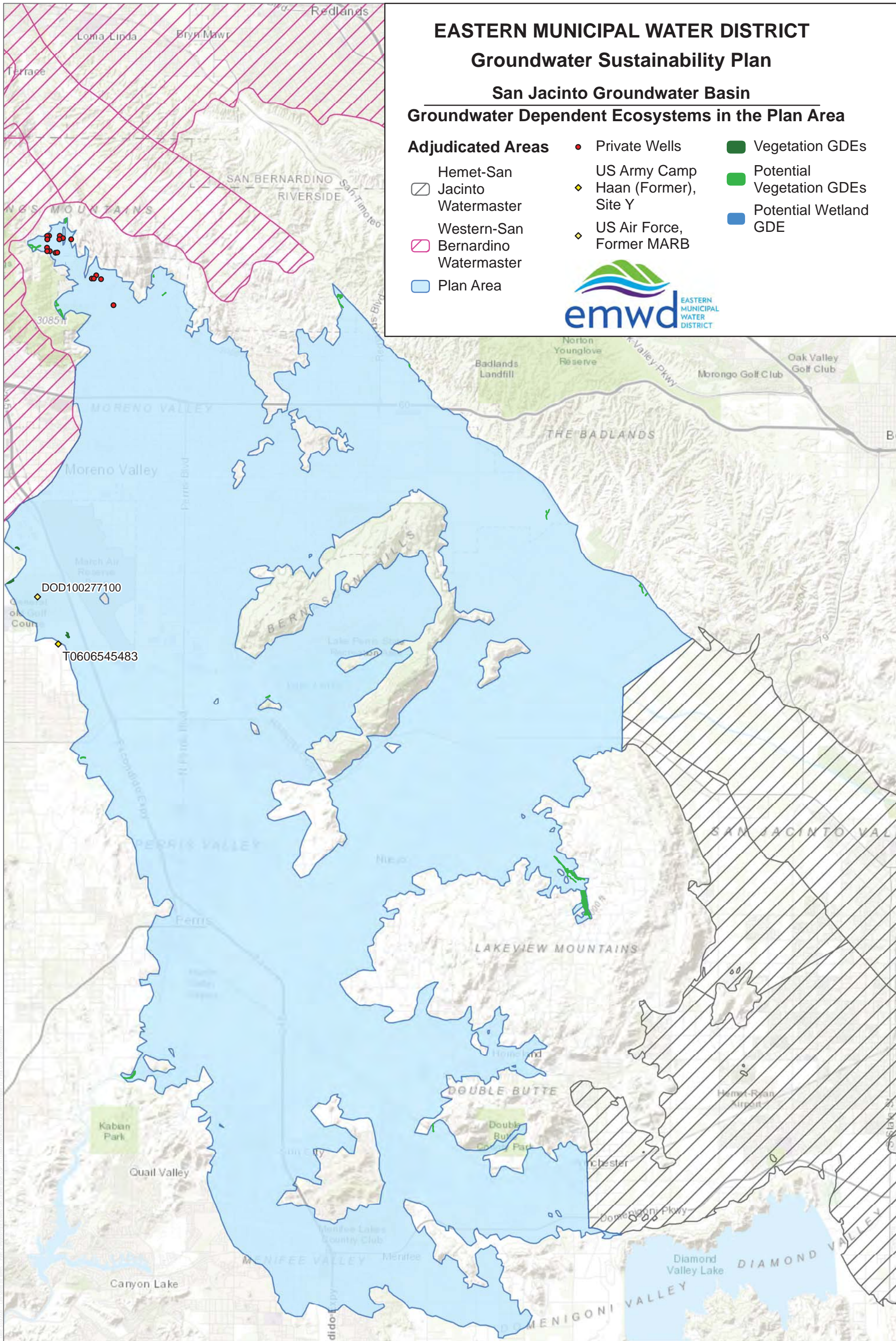
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FIGURE 10

San Jacinto Valley Subwatershed

Characterization of Potential Groundwater Dependent Ecosystems in the West San Jacinto GSP Plan Area



SOURCE: DWR

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FIGURE 11