



**Barton Springs
Edwards Aquifer**
CONSERVATION DISTRICT

Public Hearing - July 29, 2019

Needmore Water LLC.

BSEACD:

Bill Dugat, District General Counsel

Vanessa Escobar, Regulatory Compliance Coordinator

Brian Hunt P.G. , Hydrogeologist

Kendall Bell-Enders, Regulatory Compliance Coordinator



Barton Springs
Edwards Aquifer
CONSERVATION DISTRICT

Procedural History

January 12, 2017	Board meeting matter referred to SOAH
March 6, 2017	SOAH telephonic hearing: briefing schedule
May 19, 2017	SOAH denies Needmore's Jurisdictional Plea
July 31, 2017	Hearing on Party Status
Feb-Mar 2018	Cross motions for summary disposition and hearing before ALJ
July 23, 2018	Proposal for Decision granting Needmore's Motion for Summary Disposition (no remaining issues to resolve)
August 7, 2018	GM's Motion to Recommend Permit Issuance Needmore's Request for Clarification TESPA's Exceptions to PFD
September 10, 2018	ALJ's letter – SOAH lacks jurisdiction and District may issue permit
October 30, 2018	Board remand order
April 1, 2019	Order No. 11 Dismissing Case



Overview

- ❖ **Permitting per H.B. 3405**
- ❖ **Summary of Needmore LLC's Temporary Permit**
- ❖ **Considerations for converting to a Regular Permit**
- ❖ **Aquifer testing and evaluation of impacts**
- ❖ **Permit Special Provisions**
- ❖ **Rule 11 Agreement**



H.B. 3405 - Purpose and Intent

- ▶ **2015 Annexation** - Extended groundwater protection to previously unmanaged aquifers in Hays County; Nonexempt uses must now be permitted.

- ▶ **Temporary Permits** - Provided an interim authorization to operate a well until conversion to a Regular Historical Production Permit. Expedited review and Board approval.

- ▶ **Conversion to Regular Permit** – Shall convert to a regular permit for the amount requested. May only reduce the volume for :
 - **A failure to achieve the DFC; or**
 - **Unreasonable impacts on existing wells.**



H.B. 3405: Temporary Permits

Unique Statutory Requirements

▶ Eligibility

- ❖ operated the well before 6/19/15 or well owner must have an executed contract (before 6/19/15) to drill/operate

▶ Beneficial Use

- ❖ Put towards a beneficial use – Water Code
- ❖ Permitted for existing use type sought in application

▶ Permitted Volume

- ❖ Maximum Production Capacity – based on 36hr pump test
- ❖ Volume does not have to be based on reasonable, non-speculative demand



Barton Springs
Edwards Aquifer
CONSERVATION DISTRICT

Temporary Permit Summary:

Needmore Water LLC issued 10/18/2015

Permitted Volume = 179,965,440 gpy

- ❖ Maximum Production Capacity defined by GM interpretation

Use Type – Agricultural Livestock

- ❖ Existing uses: Wildlife Management and Recreation

Special Provision

- ❖ Prohibited operation of the damaged well until repairs were made



Considerations for Conversion to a Regular Permit

Temporary Permit

- ✓ Timely filed application
- ✓ Ownership & Declarations
- ✓ Eligibility & Beneficial Use
- ✓ Volume = Max Capacity
- ✓ Receiving Area & Well Location
- ✓ Well Condition

Regular Permit

- ✓ Current Temporary Permit
- ✓ DFC & Unreasonable Impacts
 - Aquifer test to evaluate impacts



Considerations for Conversion to Regular Permit

- ✓ **Eligibility** – demonstrated well was in existing operation before effective date of HB 3405
- ✓ **Timely filed application**
- ✓ **Verified Ownership** – Needmore Water LLC holds all the rights to groundwater production
- ✓ **Declarations** – The applicant will comply with District Rules

✓ **Volume = Maximum Production Capacity**

- ❖ **Temporary Permit Volume** - original calculation based on actual pump test rate of 428 gpm at 80% of the year = **179,965,440 MGY**

GM changed its determination to 289,000,000 based on a current pump test and lack of industry references.

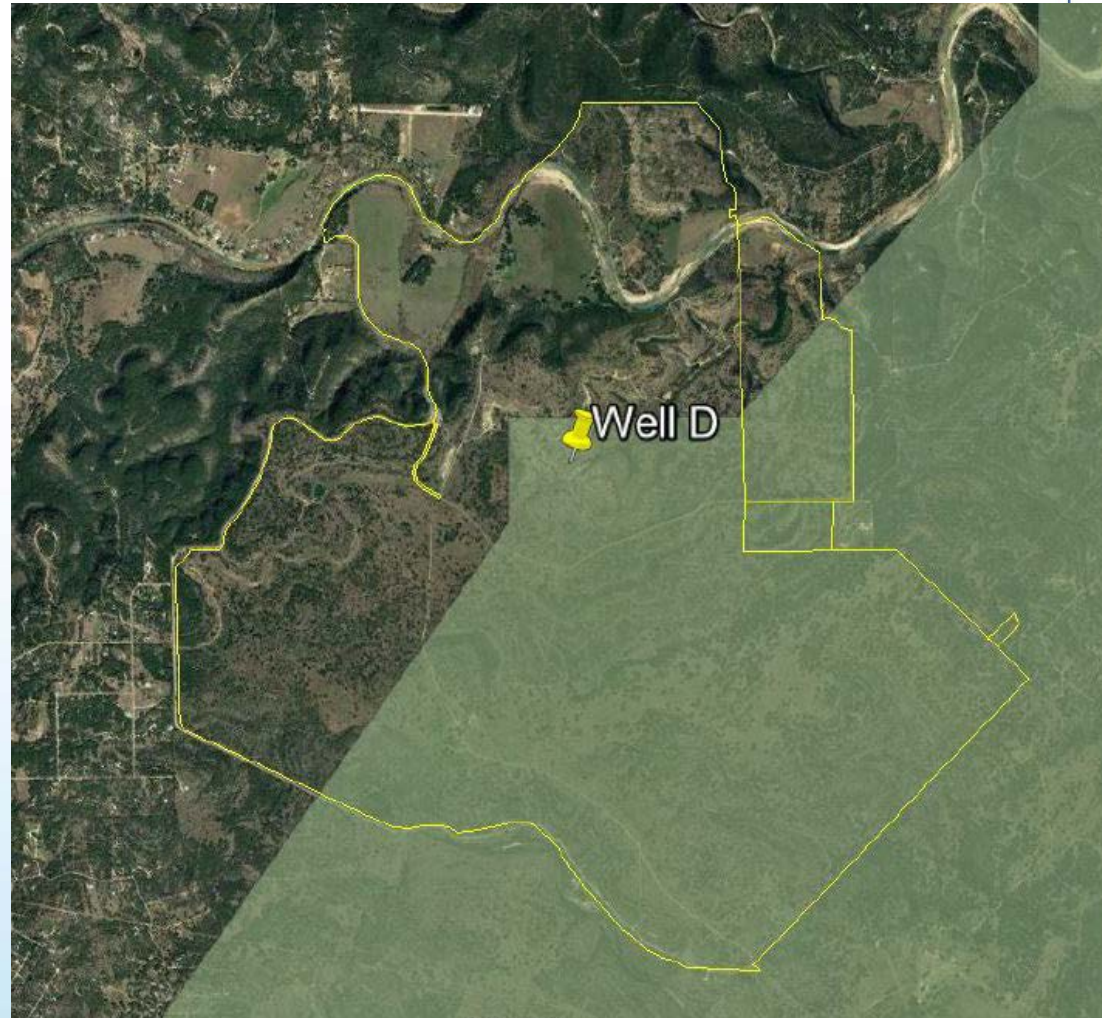
- ❖ **Regular Permit** – current calculation based on maximum pump size of 550 gpm/operating 24 hrs a day/365 days a yr = **289,080,000 MGY**
- ❖ Unique volume (Max Capacity) is a result of H.B. 3405

✓ Well Location & Receiving Area

Current Use*: to supplement a ponded water feature for Agricultural Use (wildlife management) and recreational activities.

Future Use: agricultural irrigation on pasture areas

* Well condition has been fully repaired as of December 2015



✓ Beneficial Use

Beneficial use type – existing use types documented as ‘Agricultural Use (Wildlife Management)’ and ‘Recreational Use’



The definition of “**Agricultural Use**” under District Rule 2.1 includes “**wildlife management**”. The District has a copy of an approved TPWD wildlife management plan.



Under 2015 District Rules “Agricultural Well” -- means a well for agricultural livestock or agricultural irrigation uses.

Water Code Section 36.001 definitions broader than 2015 District Rules:

- “Agricultural Use” – any use or activity involving *agriculture*, including irrigation.
- “Agriculture” – any of the following activities:
 - Crop production
 - Plant cultivation
 - Livestock production
 - Cover crops
 - Wildlife management
 - Raising horses

2016 Rule amendments conform BSEACD definitions to Water Code Chapter 36 Water Code definition treats all agriculture uses the same and HB 3405 requires permit for amount set forth in application not to exceed maximum production capacity for “activities associated” (e.g. Ag) with a well.

AG Op KP-247 (2019) – GCD not authorized to define agricultural terms more narrowly than section 36.001 Water Code allows



✓ Aquifer Test

- Evaluation of Potential Impacts

BSEACD Mission

Preserve and protect the groundwater resources for everyone by managing groundwater production on a long-term basis while avoiding the occurrence of unreasonable impacts.



Evaluation of Unreasonable Impacts

Aquifer Testing is the primary tool for the evaluation:

- Measures short-term effects on water level and quality.
- Aquifer parameters from the test allow the forecast of drawdown and potential well interference.

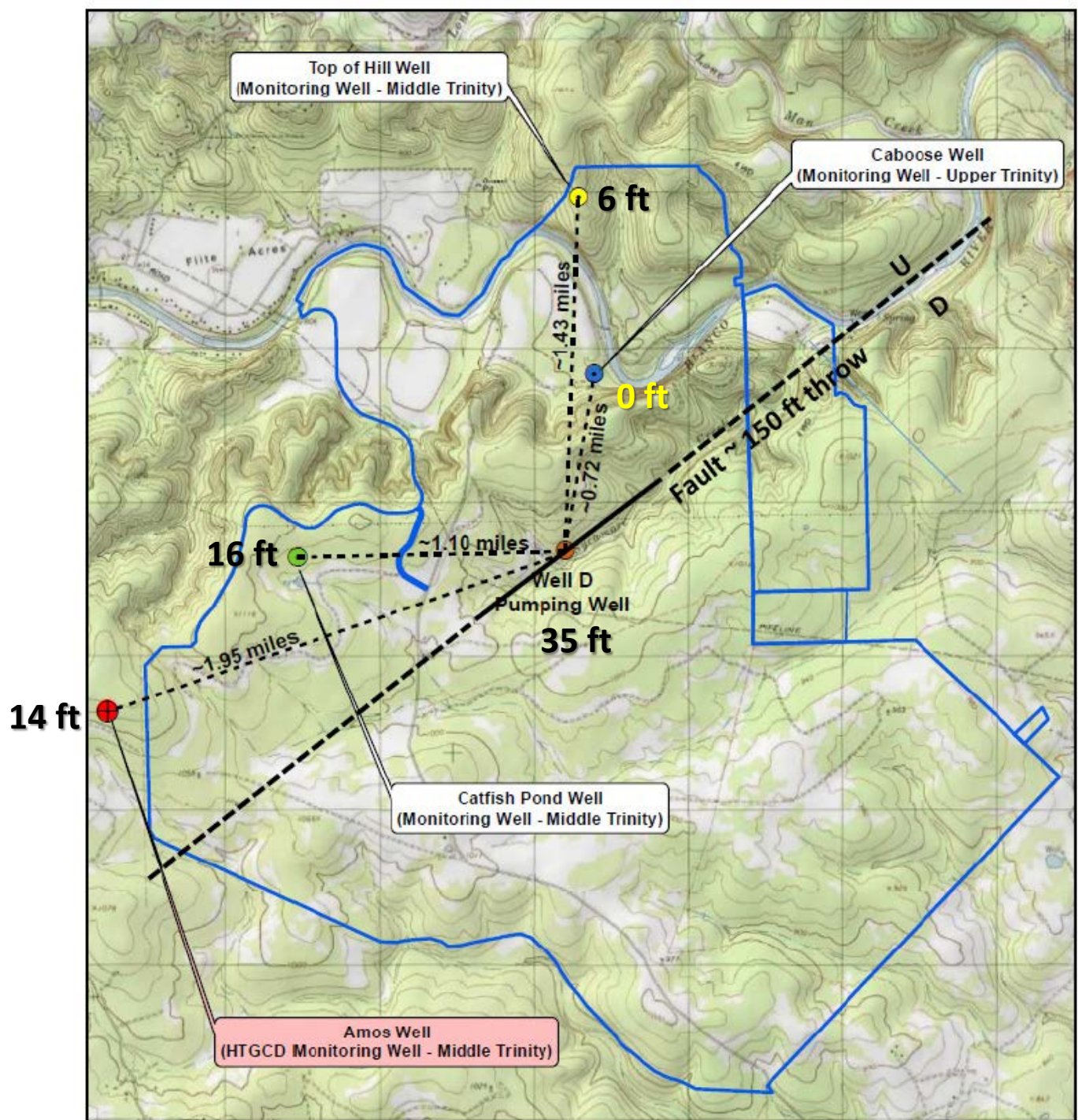


Barton Springs
Edwards Aquifer
CONSERVATION DISTRICT

Aquifer Test



- January 2016
- 5 days pumping
- 544 gpm



Needmore Middle Trinity Hydrographs

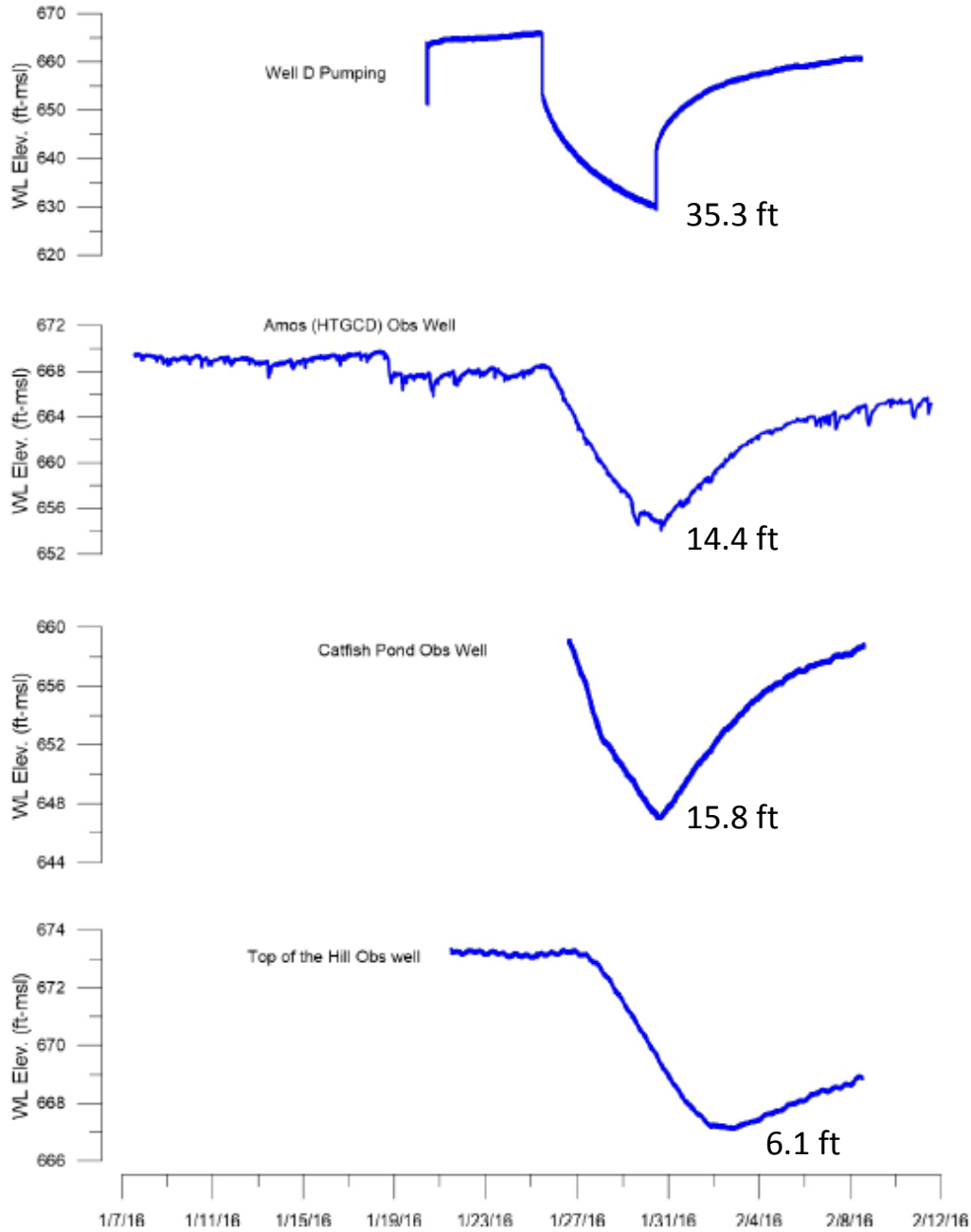
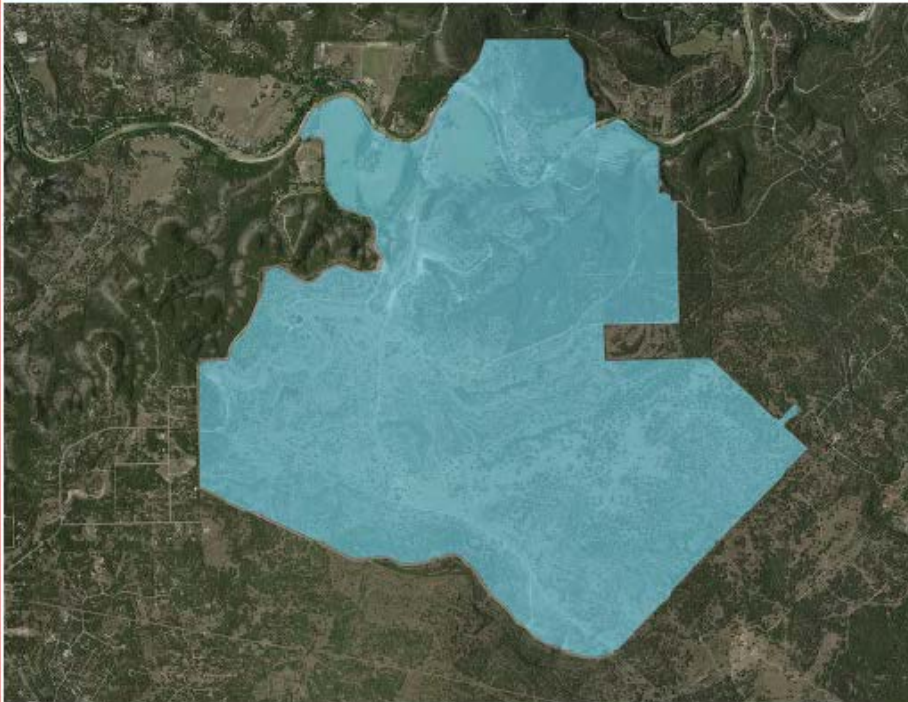


Figure A-2. Hydrograph from transducer data for all Middle Trinity wells.

Report of Findings
Water Resources Evaluation of the
Needmore River Ranch: Hays County, Texas

For:
Needmore Ranch II, Ltd.
3900 N. McColl
McAllen, Texas 78501



- The aquifer test was done according to BSEACD guidelines and the District was consulted and involved in all aspects of the test.
- Data collected from the test allows good aquifer parameter estimation for modeling (forecasting).



Wet Rock Groundwater Services, L.L.C.
Groundwater Specialists
TBPG Firm No: 50038
311 Ranch Road 620 South, Suite 103
Austin, TX 78734 Ph: 512.773.3226
www.wetrockgs.com

Evaluation for Unreasonable Impacts: Needmore Water, LLC, Well D Permit Application

Brian B. Hunt, P.G., and Brian A. Smith, Ph.D., P.G.

Introduction

The Barton Springs/Edwards Aquifer Conservation District's (District) territory was expanded on June 19, 2015 through the passage of H.B. 3405 (the Act). The Act requires all nonexempt, non-Edwards wells to be permitted and provides a three-month period to apply for a Temporary Permit, which expired on September 19, 2015. The Temporary Permits provide well owners with an interim authorization to operate a well prior to conversion to a Regular Historical Production Permit. In accordance with Section 4(e) of the Act, the District is also required to evaluate the proposed production prior to permit conversion to Regular Permits to determine if the amount authorized will cause:

1. A failure to achieve the applicable adopted desired future conditions for the aquifer; or
2. An unreasonable impact on existing wells.

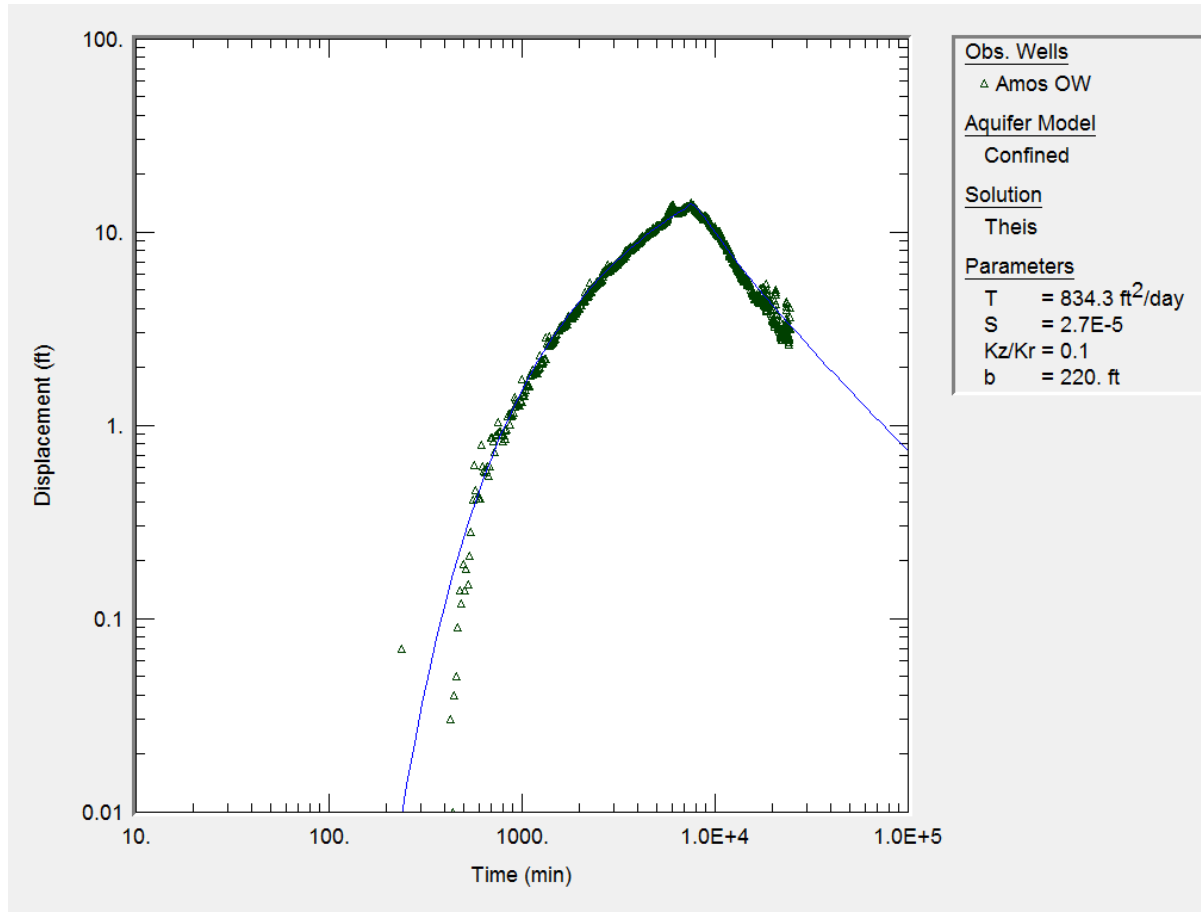
The determination of whether the proposed production "will cause" one of the above conditions requires a projection of the future effects on the aquifer using the best available science. Regarding factor 2 above, the District has developed policies and protocols to guide the application process and review, and the requisite evaluation of any proposed groundwater production in order to provide a systematic and consistent means assessing impacts to existing wells. The term "unreasonable impacts" is not defined in statute, therefore, the District has to rely on its interpretation which includes a suite of factors. To facilitate this evaluation, the District interprets "unreasonable impacts on existing wells" to include:

1. well interference related to one or more water wells ceasing to yield water at the ground surface;
2. well interference related to a significant decrease in well yields that results in one or more water wells being unable to obtain either an authorized, historic, or usable volume or rate from a reasonably efficient water well;
3. well interference related to the lowering of water levels below an economically feasible pumping lift or reasonable pump intake level; and
4. the degradation of groundwater quality such that the water is unusable or requires the installation of a treatment system.

Section 4 of the Act further describes the District's authority to reduce permits if the District finds that the production "will cause" unreasonable impacts. This forward looking evaluation requires a projected forecast based on the application of the best available analytical tools and aquifer testing data provided with the application. Given the inherent uncertainty in the evaluation of future projected impacts, the District has applied a reasonable and logical approach that is consistent with District's objective to

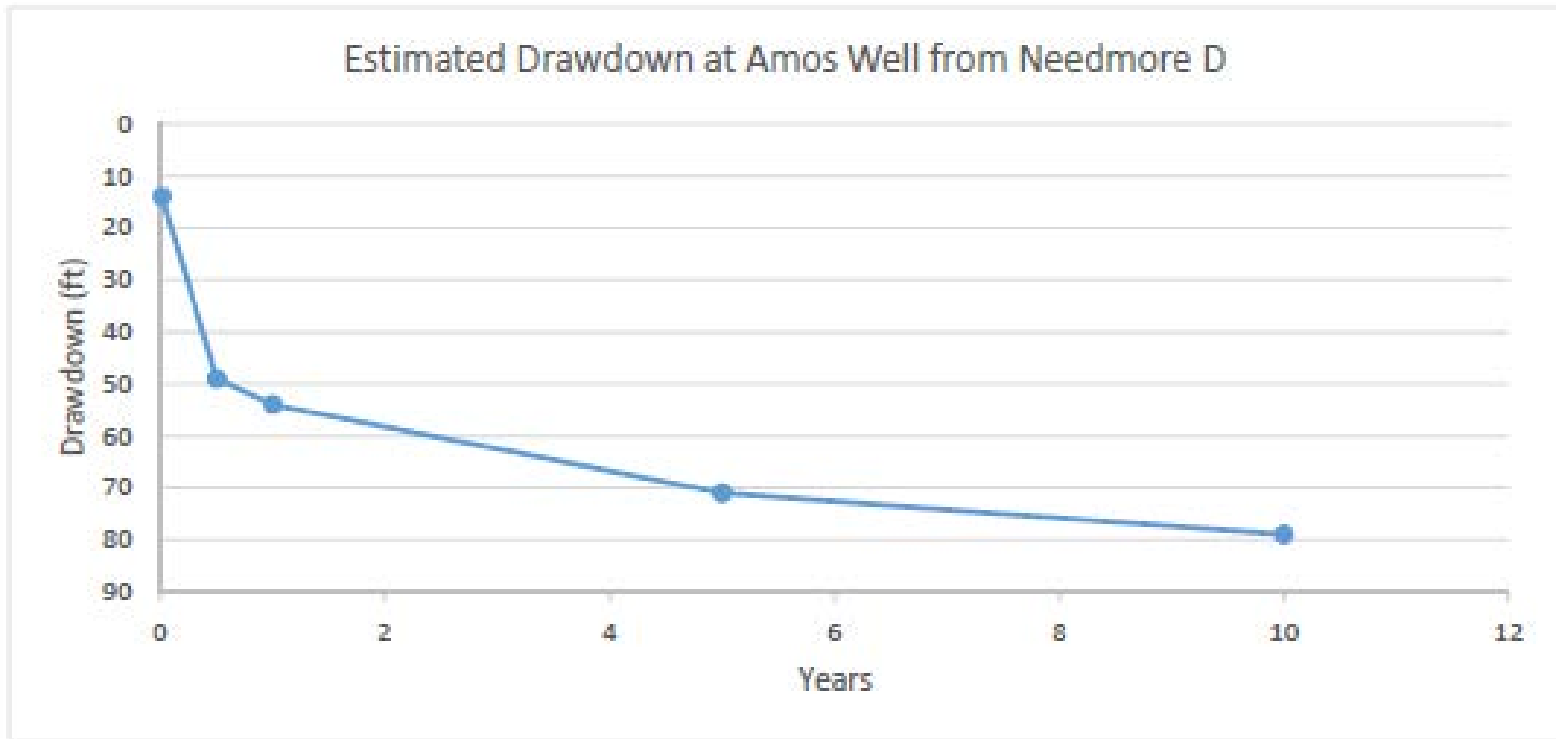
- BSEACD evaluated the aquifer test data.
- BSEACD estimated aquifer properties based on aquifer test data.
- BSEACD evaluated the potential for unreasonable impacts.

Example of Analytical Modeling



Modeling software using the Theis equation to estimate aquifer parameters from the aquifer test.

Aquifer parameters then help to forecast drawdown.



Modeled (forecasted) drawdown at the Amos well from Well D pumping over time.



Unreasonable Impact Findings

- ▶ At maximum pumping capacity, and during severe drought conditions, drawdown from Well D is modeled to cause well interference on surrounding supply wells.
- ▶ Thus, the data and modeling indicates there will be an unreasonable impact.



Uncertainty...

- ▶ While the evaluations use methods that are the best available practices, we recognize there is inherent uncertainty with any modeling or forecasting.
- ▶ **Measured data** is the best way to address the uncertainty of forecasted drawdown.



**Barton Springs
Edwards Aquifer**
CONSERVATION DISTRICT

Aquifer Science Recommendation

HB 3405 - District shall issue an order granting the Regular Permit unless the production will cause an unreasonable impact or failure to achieve the DFC

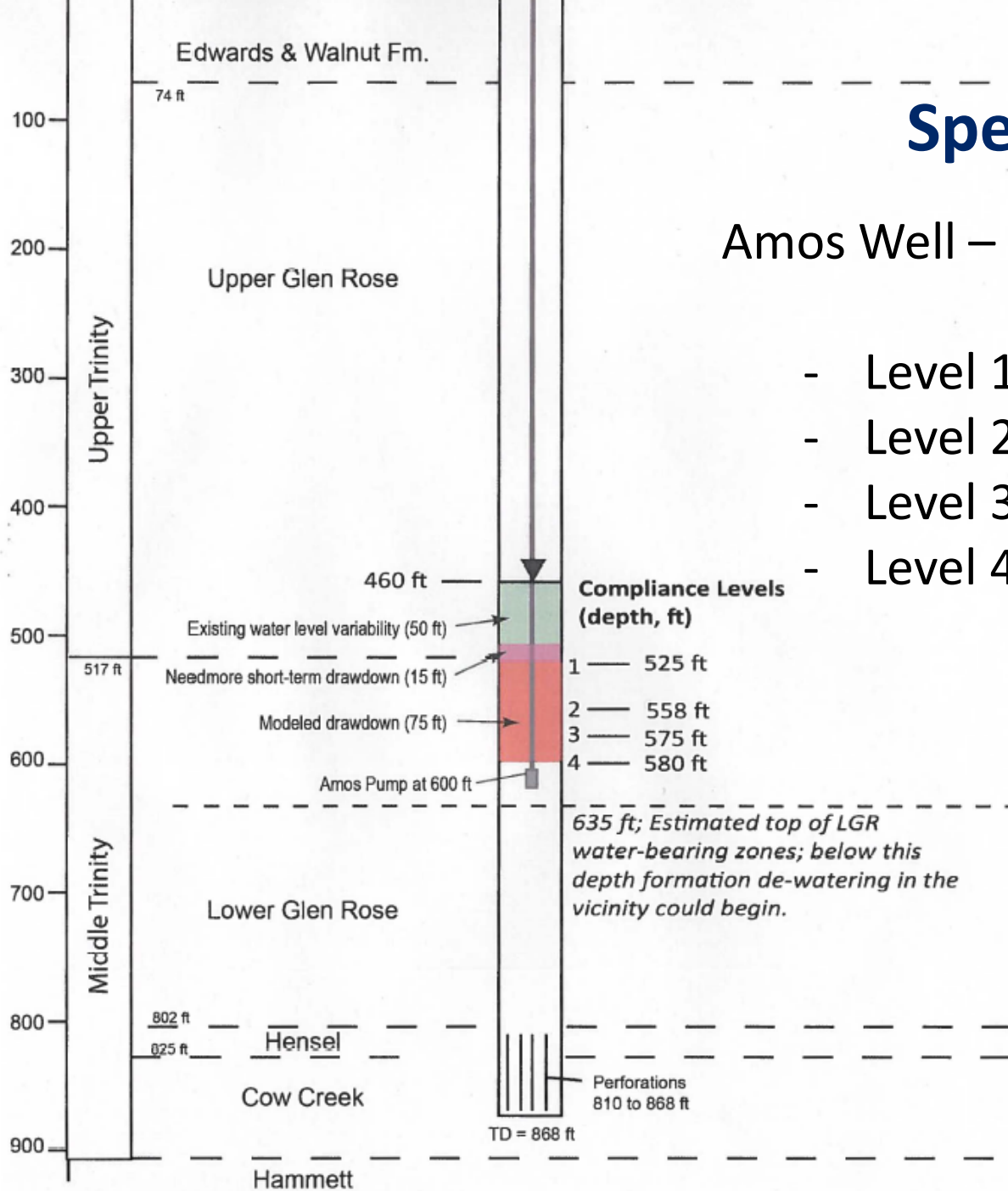
Aquifer Science recommends to the GM to approve the permit with special conditions tied to actual aquifer data in order to avoid unreasonable impacts.

- 1. Collect real-time data from the Amos well to monitor water level depths over time;**
- 2. Implement pumping reductions (up to 100% curtailment) indexed to levels in the Amos well.**

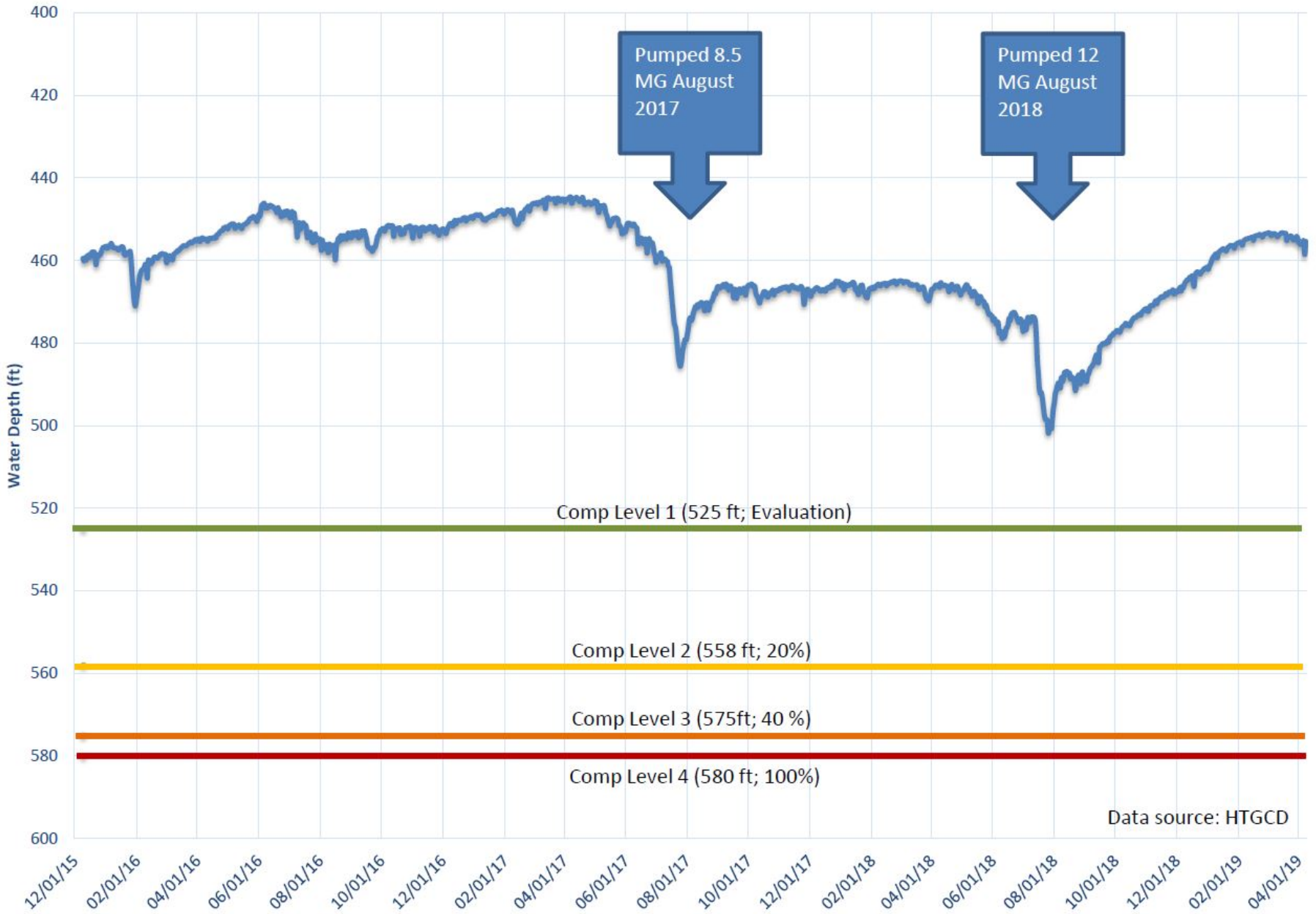
Special Provisions

Amos Well – Permit Compliance Levels

- Level 1 Trigger – Evaluation
- Level 2 Trigger – 20%
- Level 3 Trigger – 40%
- Level 4 Trigger – 100%



Amos Monitor Well (68-08-203)



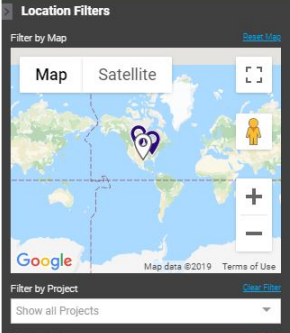
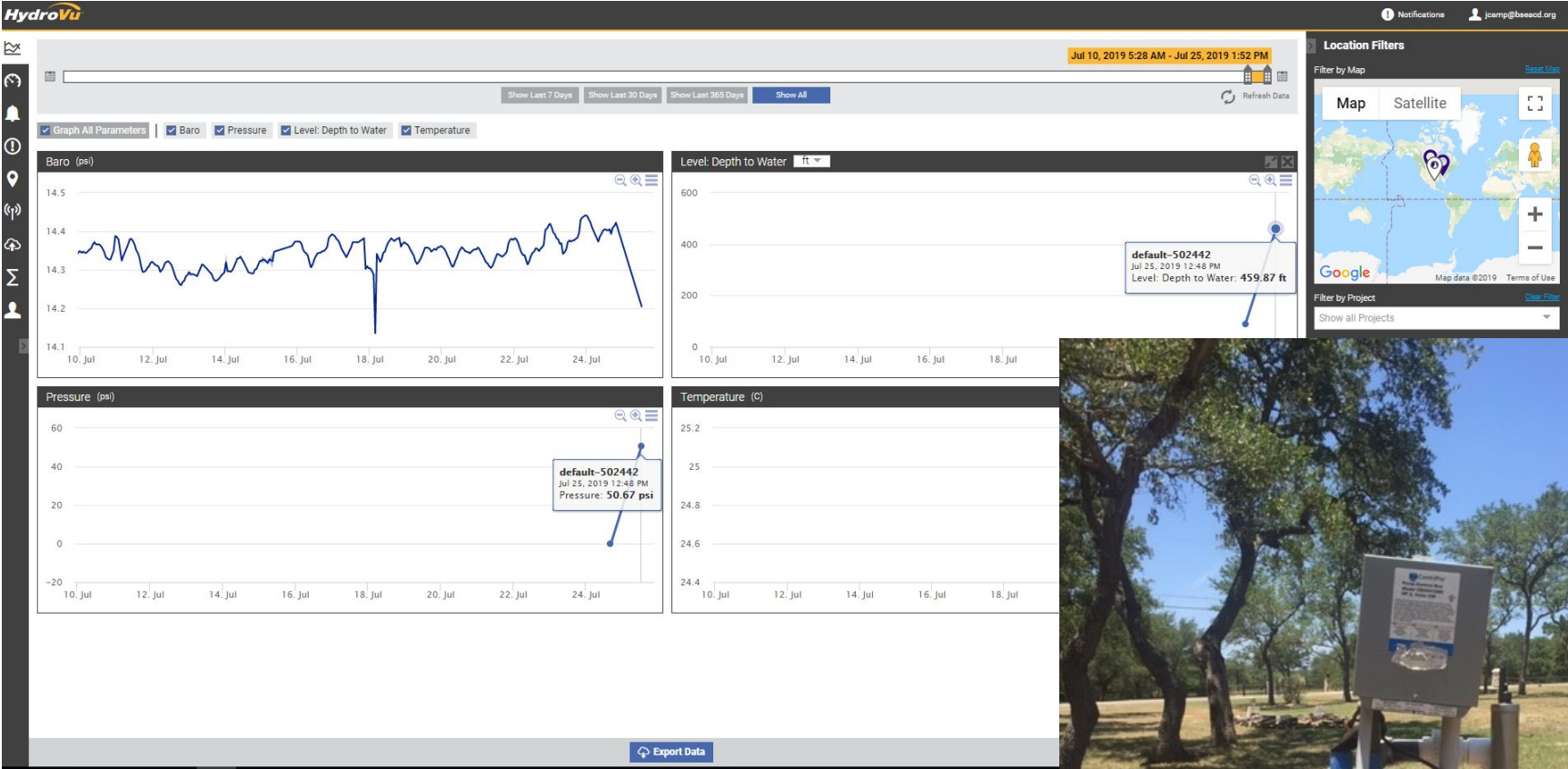
Comp Level 1 (525 ft; Evaluation)

Comp Level 2 (558 ft; 20%)

Comp Level 3 (575ft; 40%)

Comp Level 4 (580 ft; 100%)

Data source: HTGCD



Amos Well Active Telemetry Site



H.B. 3405 – Factors for Consideration

- ▶ Limited factors for reducing a temporary permit upon the conversion to Regular Permit:
 - **A failure to achieve the DFC; or**
 - **Unreasonable impacts on existing wells.**
- ▶ Total authorized production from the Middle Trinity Aquifer in the District including the requested permitted production would not exceed the MAG estimate as determined by the TWDB

	gallons/year	acre-ft/year
Trinity MAG (Shared and Exclusive)	1,068,139,578	3,278
Current Trinity Permitted Production	324,716,117	997
Needmore Production	289,080,000	887
Needmore + Current Trinity	613,796,117	1,884
% of Total MAG	57%	57%



Special Provisions

Special provisions are necessary to avoid causing unreasonable impacts to existing wells

- Permit-specific Response Actions
- Temporary reductions at times when there is demonstrable evidence
 - ❖ Measured water levels in index wells



Special Provisions – Index Wells

Primary Index Well – Amos Well

- Operational Domestic
- Access Agreement
- District is responsible for purchasing, installing, maintaining, repairing all monitoring equipment (pressure transducer/telemetry)
 - ❖ Installed within 90 days of permit issuance
- Water level data on website

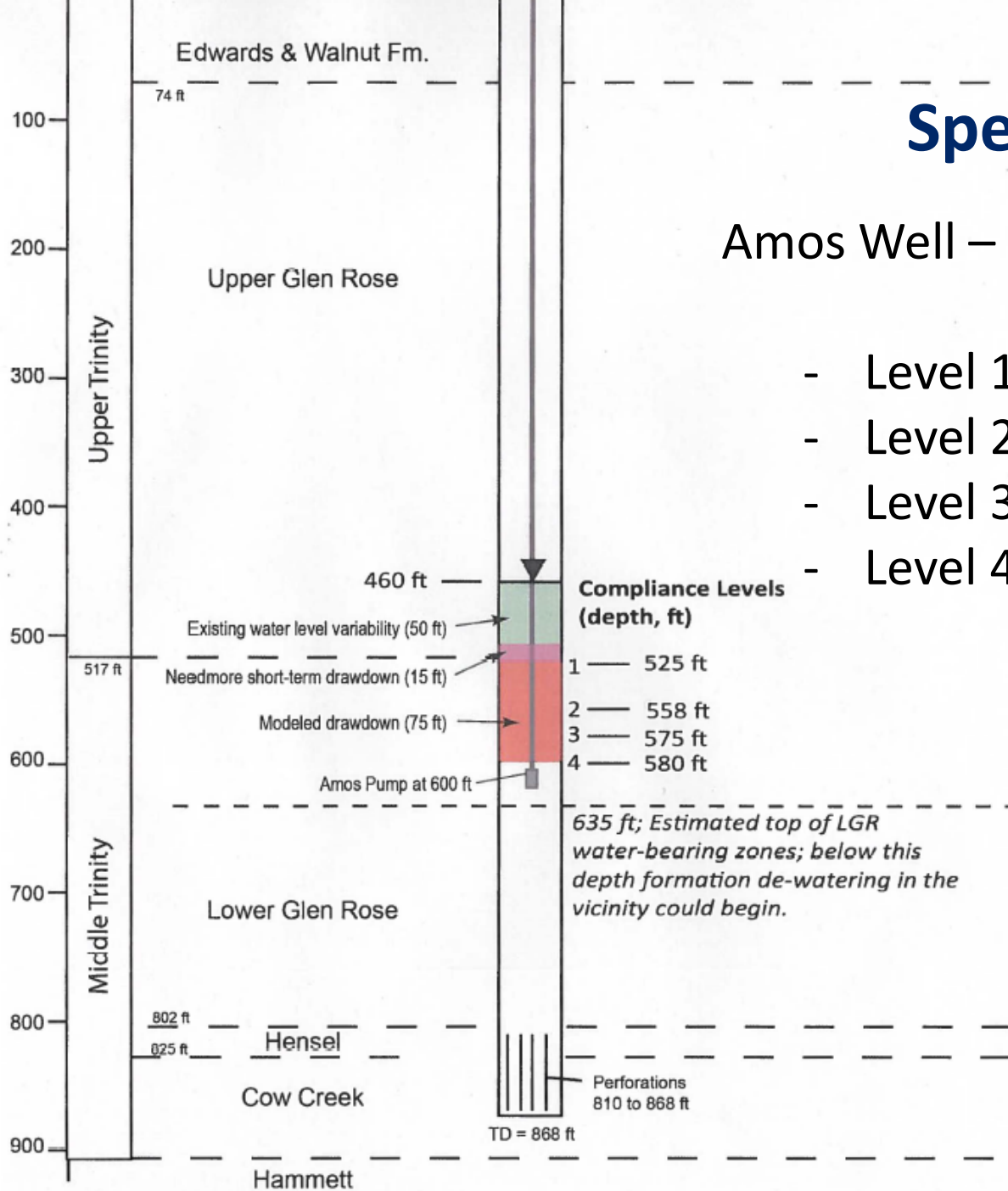
Secondary Index Well – Needmore “Catfish” well

- Operational livestock
- Established to correlate data with primary
- Access agreement
- Permittee is responsible for monitoring equipment (pressure transducer)
 - ❖ Install within 90 days of permit issuance
 - ❖ Continuous data provided to District quarterly
- In lieu of installing telemetry, manual water level measurements shall be provided each month with meter reading

Special Provisions

Amos Well – Permit Compliance Levels

- Level 1 Trigger – Evaluation
- Level 2 Trigger – 20%
- Level 3 Trigger – 40%
- Level 4 Trigger – 100%





Special Provisions

“Baseline Curtailment Rate (BCR)” - is a calculated annual volume based on the actual metered and reported monthly pumping volumes of the previous 12 months.

- BCR is an adjusted annual volume
- Compliance Level 2 Trigger (558 ft bls) = 20%
- All temporary curtailments are applied to the BCR volume on a monthly basis
- District will notify the Permittee via certified mail within ten business days
 - ❖ Notification will include a revised pumping chart.
- Every time Level 2 Trigger is reached the revised chart will replace the chart in place at the time



Special Provisions

- If unreasonable impacts cannot be avoided through temporary reductions (unforeseen circumstance)
 - ❖ Amendment and hearing
 - ❖ Temporary cessation
 - ❖ Permit reduction
 - ❖ Voluntary mitigation

- The Permittee may submit an amendment application to request revisions or modifications to the permit volume or the permit special provisions.



Rule 11 Agreement and Revised Special Provisions

Rule 11 TRCP = To be enforceable agreement must be in writing, signed, filed with the “court”

October 31, 2017 “Rule 11 Agreement” Needmore and GM agreed and filed with the ALJ:

- Change special provision, Section 2, Number 8
- Lower Compliance Level 2 trigger
- Needmore withdraws contest of Regular Permit
- If Board issues permit as recommended by GM, Needmore will not appeal.
- Needmore and GM request Regular Permit Issuance with the Rule 11 modifications.



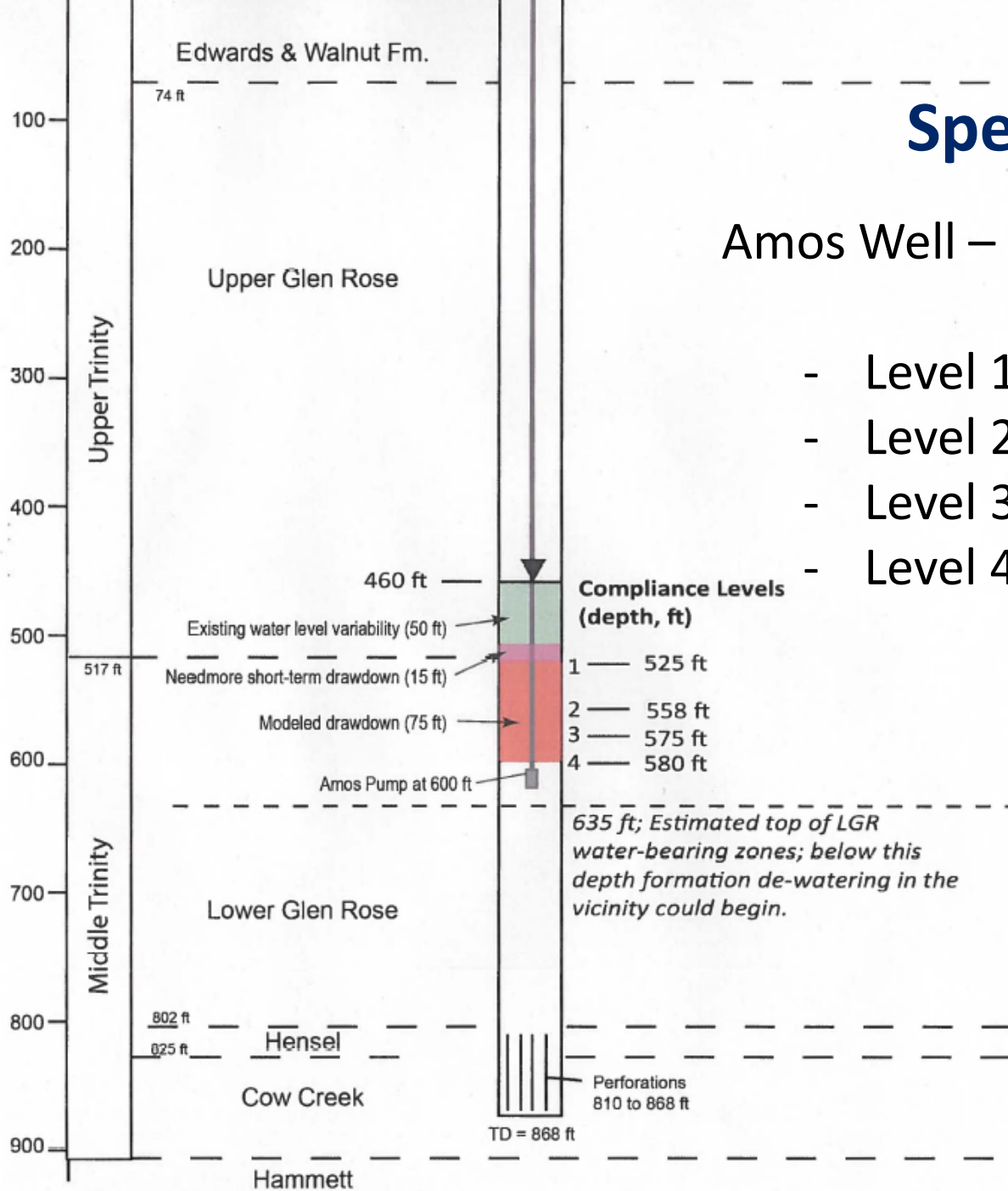
Rule 11 Agreement and Revised Special Provisions

8. If the District determines that new pumping centers or large-scale groundwater production within the area of influence are significantly affecting drawdown relative to the permit Compliance Levels, then the District ~~may~~ shall consider revision of these permit provisions and permit Compliance Levels. For drawdown significantly affected by production located outside of the jurisdiction of the District, the District's General Manager, with Needmore Water LLC's input, will determine the amount of drawdown not related to Well D and, as appropriate, the General Manager will recommend to the Board adjustment to the present conditions relative to the amount of draw down. Any permit revisions must be approved by the Board through a permit amendment.

Special Provisions

Amos Well – Permit Compliance Levels

- Level 1 Trigger – Evaluation
- Level 2 Trigger – 20%
- Level 3 Trigger – 40%
- Level 4 Trigger – 100%





General Manager's Preliminary Decision

Because the GM found that there will be unreasonable impacts, the GM recommends that the Board approve the conversion to a regular permit, with special conditions tied to actual aquifer data in order to avoid unreasonable impacts.

- Collect real-time data from the Amos well to monitor water level depths over time;
- Implement pumping reductions (up to 100% curtailment) indexed to levels in the Amos well.



**Barton Springs
Edwards Aquifer**
CONSERVATION DISTRICT

Questions