

PWCSA CAPITAL IMPROVEMENT PROJECT DATA SHEET

PROJECT INFORMATION

Project Title: Bull Run Mountain Well Upgrades
Project CIP: WZXXX3 (Old WSUP-111)
JDE Job Number(s): Not Assigned
Location: Bull Run Upper and Lower and Evergreen Pressure Zones
Pressure Zone: Multiple
Sewershed: None
Magisterial District: GN – Gainesville
Criteria: 1, 2, 3, 4, 5
Project Estimate: Order of Magnitude
Estimate By: Engineering and Planning Division, and Operations and Maintenance

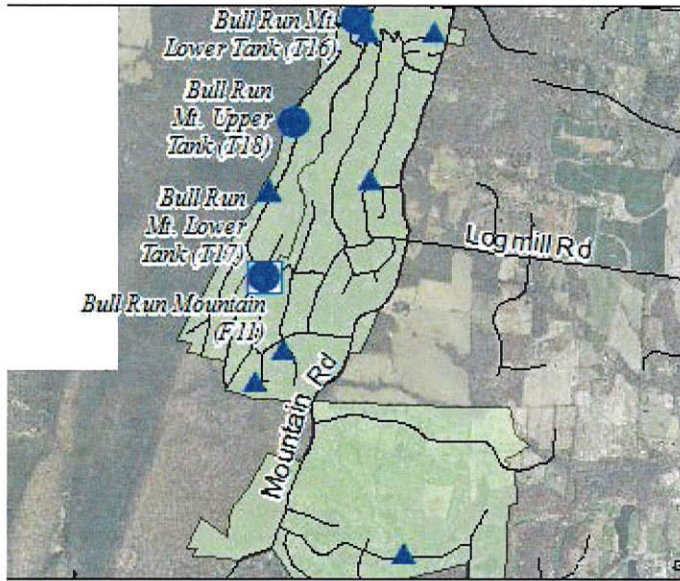
PROJECT DESCRIPTION

Project Description: Evaluation of nine well facilities in the Bull Run Mountain and Evergreen Water Systems to determine improvements required to bring the facilities into full compliance with VDH standards. The assessment will also evaluate structural modifications required to house updated chemical feed equipment for pH adjustment, This project will also include the installation of disinfection facilities at each well site and the modifications required by the assessment.

Project Benefit: These modifications will maintain the water supply system in compliance with the Safe Drinking Water Act and remove any deficiencies. Disinfection facilities will enhance these systems which are subject to main breaks due to the age of the pipe lines.

Source Derivation: Operations and Maintenance Division, and Engineering and Planning Division

PROJECT PICTURE



PROJECT FUNDING

ITEM	PRE-FY17	FY17	FY18	FY19	FY20	FY21	POST-FY21	TOTALS
PER/Study 8111	-	75	-	-	-	-	-	75
Design & Bid 8211	-	-	175	-	-	-	-	175
Construction 8311	-	-	-	350	368	-	-	718
PROJECT TOTAL	0	75	175	350	368	0	0	968

Proposed Funding Sources	
Expansion Fund (02)	-
Commitment Fund (03)	-
Replacement Fund (04)	\$968,000
Other Contribution	-
PROJECT TOTAL	\$ 968,000

Bull Run Mountain and Evergreen Water Supply Improvements Program Frequently Asked Questions (FAQ)

1. What is the remaining timeline for this project? (Updated in Nov 2021)

The timeline is dependent on weather and time required to acquire the appropriate easements for the project. However, the current anticipated schedule is as follows.

- September 2019: Develop test wells, conduct pumping and water quality tests
- December 2019: Convert selected test wells into production wells
- July 2021: Develop preliminary engineering report for well house and piping connection from the new well to the existing distribution system
- April 2022: Complete final design of well house and piping
- November 2022: Begin construction of well house and piping
- March 2023: System startup and full operation

2. Once the project is complete, will I be required to become a Service Authority customer? (Question and response updated November 2021)

No one will be required to become a Service Authority customer. No one will be required to connect to the Service Authority's water system.

However, every resident on Bull Run Mountain and in Evergreen could become a Service Authority customer, **if they so choose**. The process of applying for and obtaining access to the Service Authority's public water system will remain unchanged through the course of this project. You can learn more about become a Service Authority customer at <https://www.pwcsa.org/service-connection-policy>

3. Once this project is completed, who will have access to the Service Authority's water service?

This project is designed **exclusively** to enhance existing water supply to Service Authority customers living on Bull Run Mountain and in the Evergreen (BRM/E) community. Since our BRM/E service area is fed entirely from groundwater, it is a separately permitted water system. Thus, it does not and, by permit, cannot connect to other nearby water systems, such as the Gainesville and Haymarket (including Dominion Valley) water systems, which are supplied water from other surface water sources.

4. What changes to the water supply system will result from this program?

This Bull Run Mountain and Evergreen Water Supply Improvements Program consists of three primary components:

- Expanding the existing well system to increase the water supply;
- Modifying existing and new wells to enhance water quality; and
- Constructing piped connections between the new wells and the existing distribution system.

Service Authority customers may experience a very slight change in water taste and smell as the project nears completion due to the introduction of chlorine for water disinfection. The addition of chlorine will not occur until near the end of the project.

5. Why is the Service Authority conducting this program now?

As with all groundwater well systems, the chemistry and availability of groundwater changes over time. These changes result from numerous possible causes. Among these are changes in underground geological formations, changes in groundwater patterns and changes as a result of new wells in the area. The Service Authority has operated the wells that supply Bull Run Mountain and Evergreen since 1990 and, based on the changes we have observed, has determined this is an appropriate time to move forward with the program.

6. Is there a problem with our water supply on Bull Run Mountain and Evergreen?

No. The program is designed to make the existing well system even more reliable as well as more resilient to system emergencies, such as water main breaks.

7. Is there a problem with diminishing yields for wells in the Bull Run Mountain and Evergreen (BRME) area?

The issue varies by time and location. However, of the 14 wells the Service Authority originally purchased in its agreement to operate the BRME system, only six (6) are still in use.

8. What is the process for those whose property has been identified for test well sites?

In spring 2019, the Service Authority completed geophysical surveys of groundwater resources in the BRME area. Based on these surveys, the Service Authority selected and prioritized 12 potential sites for development of test wells. Among these 12 potential sites, up to six sites will be drilled as test wells.

The Service Authority has contacted property owners who may be asked to provide access for test well sites. In addition, the Service Authority held a meeting for these owners on August 28, 2019, to answer their specific questions. These property owners may be contacted directly by the Service Authority's contractor, ERM & Associates, with regard to ingress/egress, temporary easements and other issues related to the test well sites. The Service Authority will only access property with the owner's permission, with prior notification and during weekdays between 8 a.m. and 5 p.m. The work on test well sites should only require a few weeks at each location.

9. Why did I receive a letter from the Service Authority about this project? (response updated May 2021)

In March 2019, the Service Authority sent letters to more than 1,600 property owners in the Bull Run Mountain, Evergreen and surrounding area. The letter was intended to inform a broad area of the community that activity by the Service Authority and its contractors would be increasing over the next few months. The notification letter was sent to both Service Authority customers and non-customers in this area. Since that time, several letters have been sent to specific landowners who may be impacted by on-going field activities or access to whose property the Service Authority may need for ongoing, project-related activities.

10. Will you be coming onto my property for the survey work?

Through the design phase, the Service Authority will only request access to private property if necessary to complete field or survey work. We will not access any private property without obtaining permission beforehand. If we do request access to your property for the geophysical surveys, it will be for a very short period and we will leave the property as we found it, with the potential exceptions of some minor brush clearing and posting of small flags or markers.

11. Will this program affect private wells on Bull Run Mountain or at Evergreen?

No. This project is specifically designed to avoid impacts to surrounding private potable water wells. A small non-potable well located on Evergreen Country Club notwithstanding, a robust monitoring program demonstrated no impacts to nearby monitoring locations during the stress test pumping of the two proposed production wells. Since nearby monitoring points showed no impacts, we have confidence that private wells located further away from the proposed wells than our monitoring points will also be unaffected. However, in the unlikely event of such an impact, the Service Authority not only maintains fund balances to cover such liabilities; we also maintain a liability insurance policy.

12. I am concerned about my private well. Will the Service Authority's project cause my private well to lose capacity?

The aquifers underlying Bull Run Mountain and Evergreen are regional and interconnected. Every well that draws water from these aquifers has some effect, even if very small, on other wells drawing water from the same aquifers. That said, this project is being specifically designed to eliminate or greatly mitigate impacts to surrounding wells. Our project has involved conducting both short- and long-term pumping tests to determine each well's safe yield. This will allow us to set a maximum pumping rate so as to minimize impacts on surrounding wells. As discussed in the previous question, the Service Authority would not be able to definitively demonstrate "no impact" unless private well owners were to give us permission to monitor their wells during our pumping tests.

13. Will this program impact the existing water distribution system for Bull Run Mountain or Evergreen?

No. This program will enhance the reliability of the existing groundwater well network and water supply system only. It will not impact the existing water main distribution network.

14. Will this program impact current water rates for existing Service Authority customers?

No. This program will not impact current water rates. Water rates are determined on a three-year cycle based on audit results by an independent, third-party firm. The Service Authority's Board of Directors approves all changes to water rates.

15. What other options has the Service Authority considered for improving the reliability of the water supply on Bull Run Mountain and at Evergreen? Why was this program selected?

The Service Authority has evaluated a number of other options to enhance the water supply and water quality on Bull Run Mountain and at Evergreen, and this program has been determined to be the most cost-effective and practical solution.

16. What is the quality of our water on Bull Run Mountain and Evergreen?

Water quality in the Bull Run Mountain and Evergreen service area continues to meet or exceed all Virginia Department of Health standards. This project is intended to ensure that this level of service continues into the future as the existing infrastructure ages. Each year, the Service Authority develops a report that details the water chemistry in our distribution systems. The most recent Water Quality Report for the Bull Run Mountain and Evergreen Distribution System can be found on our website at: <https://www.pwcsa.org/water-quality/water-quality-reports>

17. How will this project impact the Rural Crescent?

The Service Authority's project has no bearing on the Rural Crescent. Its purpose is to enhance the drinking water supply and quality available to current and future Service Authority customers residing within our area of service on Bull Run Mountain and at Evergreen.

18. Once you complete this project, will I have to become a Service Authority customer?

No. The purpose of the project is to enhance the drinking water supply and quality available for current Service Authority customers on Bull Run Mountain and at Evergreen, and for those in our current area of service who may elect to become customers in the future.

19. Is the intent of this project to expand the Service Authority's service area?

No. This project does not expand our service area. It is intended only to ensure the continued level of service to our current Bull Run Mountain and Evergreen customers and to provide sufficient water for others within our existing service area who decide to become Service Authority customers.

20. How much more water capacity is the Service Authority trying to obtain with this project?

The Service Authority is developing additional water supply sources that will produce an additional 60 gallons per minute of capacity for the system serving Bull Run Mountain and Evergreen Estates and to improve our system redundancy by augmenting water supply.

21. Will all personnel working on this project carry identification or drive marked vehicles?

Yes. Both Service Authority employees and our contractors carry identification and will be driving commercial vehicles. They will also wear appropriate safety vests and other attire for increased visibility and safety. Again, please remember that we will not come onto your private property without prior permission.

22. When construction begins, could the Service Authority notify neighbors near construction activities in addition to those directly affected?

Yes. As part of its outreach process, the Service Authority will notify neighboring properties about planned construction activities.

23. Will the drilling process for this project involve the use of chemicals?

No. Unlike the process known as "hydraulic fracturing," or "fracking," the drilling for this project involved an air rotary drilling process, which is a method used to drill boreholes in rock formations. No chemicals are involved. Fracking, on the other hand, is a process used to create small fractures in rock to facilitate release of gases trapped in the rock itself.

24. What is the likelihood that Bull Run Mountain and Evergreen will be tied into the public water system at Dominion Valley?

Highly unlikely, for several reasons. First, the Service Authority recognizes citizens' concerns related to the "Rural Crescent." Construction of utilities within the Rural Crescent may be viewed as encouraging development, which is contrary to the Service Authority's policy of "growth pays for growth." Second, the Service Authority has performed a preliminary analysis on connecting Bull Run Mountain and

Evergreen to its central system through Dominion Valley. The costs associated with additional easement acquisition and construction and operation of the piping, pumping and storage systems are exorbitant on a “per customer” basis. Finally, cost considerations notwithstanding, such a piping network could potentially lead to water quality problems by the time water from our central system reached customers on the mountain.

25. Will the water obtained through these new wells be used anywhere other than the Bull Run Mountain and Evergreen Water System?

No. The water obtained from this project will serve only those customers in our defined area of service on Bull Run Mountain and at Evergreen.

26. Will this project serve the new Catholic Church at Route 15?

No. St. Katherine Drexel Parish and School is planning to use a private well and septic system.

27. Will the Service Authority use County bond financing to pay for this project?

No. The Service Authority is an independent authority and is not part of the Prince William County government. We do not receive Prince William County tax revenue and very rarely rely on State-backed bonds or loans (*e.g.*, State Revolving Fund). We are a fee-for-service entity and will utilize Service Authority funds for this project.

28. Will there be a new water tower associated with this project?

No. This project will only add new wells, associated well houses and some additional piping needed to connect any new wells to our existing distribution system.

29. What will the well houses for the new wells look like?

We will not be able to provide that information until later in the process. Depending on the size and location of the well, it could range from a simple, marked well head to a more formal well house. Examples of our wells in our current system are located near Evergreen Country Club. One well is located just to the left of the 12th fairway, not far from the tee box. Another well is located just off Berkeley Drive near the pond directly east of the main complex parking lot.

30. With all the rainfall we have had in the past year, why haven't the Service Authority's existing wells refilled?

Wells are impacted not only by the volume of water in the aquifer, but the rate at which the water moves through the aquifer; which is termed the “transmissivity” of the aquifer. In other words, an aquifer can contain a lot of water, but if it has low transmissivity, the rate at which water can be pumped from the aquifer is quite limited.

Two major factors are affecting the yield of our existing wells and these factors are not impacted by recent rainfall amounts:

- All wells have a “safe yield” pumping rate, which is the rate that water can be extracted from the aquifer over a long period of time without producing unacceptable effects. As the geology has changed over time, the yields of our wells have decreased; possibly due to declining aquifer transmissivity.
- Some of our wells are more than 40 years old and their yields have been impacted, in part, by the development of other private wells around them.

31. What is the Service Authority's standard availability fee?

Fees for connecting to water and sewer service are separate. The Service Authority posts its rates and fees for connection to both water and sewer service on our website at <https://www.pwcsa.org/rates-and-fees>.

32. Will this program disturb our roads or affect emergency access?

No. This program will not cause disturbances to existing roads or emergency access.

33. I am concerned about noise. What noise impacts will this program have on Bull Run Mountain or at Evergreen?

This program will have some minor noise impacts in a later phase as some small excavating and boring equipment will be required to complete the work. However, this work will only occur on weekdays between 8 a.m. and 4 p.m. and will more than likely occur in locations that are buffered from residential locations.

34. Where can I find more information on this program?

The Service Authority maintains and regularly updates a project page for this program on its website, located at <https://www.pwcsa.org/brme-project>. In addition, the Service Authority will be conducting public information meetings to provide updates about the program and give residents an opportunity to ask questions. Finally, if you have specific questions, you can call 703-335-7980 during regular business hours.

Bull Run Mountain / Evergreen Water Supply Improvements

Glenn D. Pearson, PE
Deputy Director of Operations & Maintenance
August 28, 2019



Service Authority
Exceptional Water Service

Project Team

- ◆ Prince William County Service Authority:
 - ◆ Glenn Pearson, Deputy Director, O&M

- ◆ Consultants:
 - ◆ Peter Foster, Emery and Garrett Groundwater Investigations (EGGI)
 - ◆ Kevin Wood & Carmen Bere, Dewberry Engineers, Inc.
 - ◆ Craig Anderson & Kevin Dugan, ERM & Associates, LLC

Mission & Vision

Mission

Service Authority is dedicated to excellence in providing safe, reliable water service to our customers and returning clean water to the environment.

Vision

To be a nationally acclaimed leader in providing clean water and excellent customer service through sustainable, innovative business practices, community partnerships and environmental stewardship.

Service Authority by the Numbers

- \$1.4 Billion in assets
- 93,000 accounts
- Serving nearly 350,000 people in Prince William County



Project Need

- Some wells are more than 40 years old.
- SA is experiencing diminishing yields from some wells.
- SA is committed to maintaining the level of service and water quality our customers have enjoyed for decades.

Project Impacts

- Enhance the level of service (*i.e.*, quality, reliability and redundancy) of water supply to customers in SA's current area of service.
- Designed to eliminate or greatly mitigate impacts on other private wells.
- SA desires rights of entry for test well sites.
- SA will need ingress/egress, temporary and permanent easements based on test well results.

Project Will NOT Impact

- ◆ No expansion of current SA service area.
- ◆ No impact on current water rates.
- ◆ No impact on Rural Crescent designation.
- ◆ No impact on the existing water distribution system for Bull Run Mountain or Evergreen.
- ◆ No requirement to become an SA customer.

Project Timeline

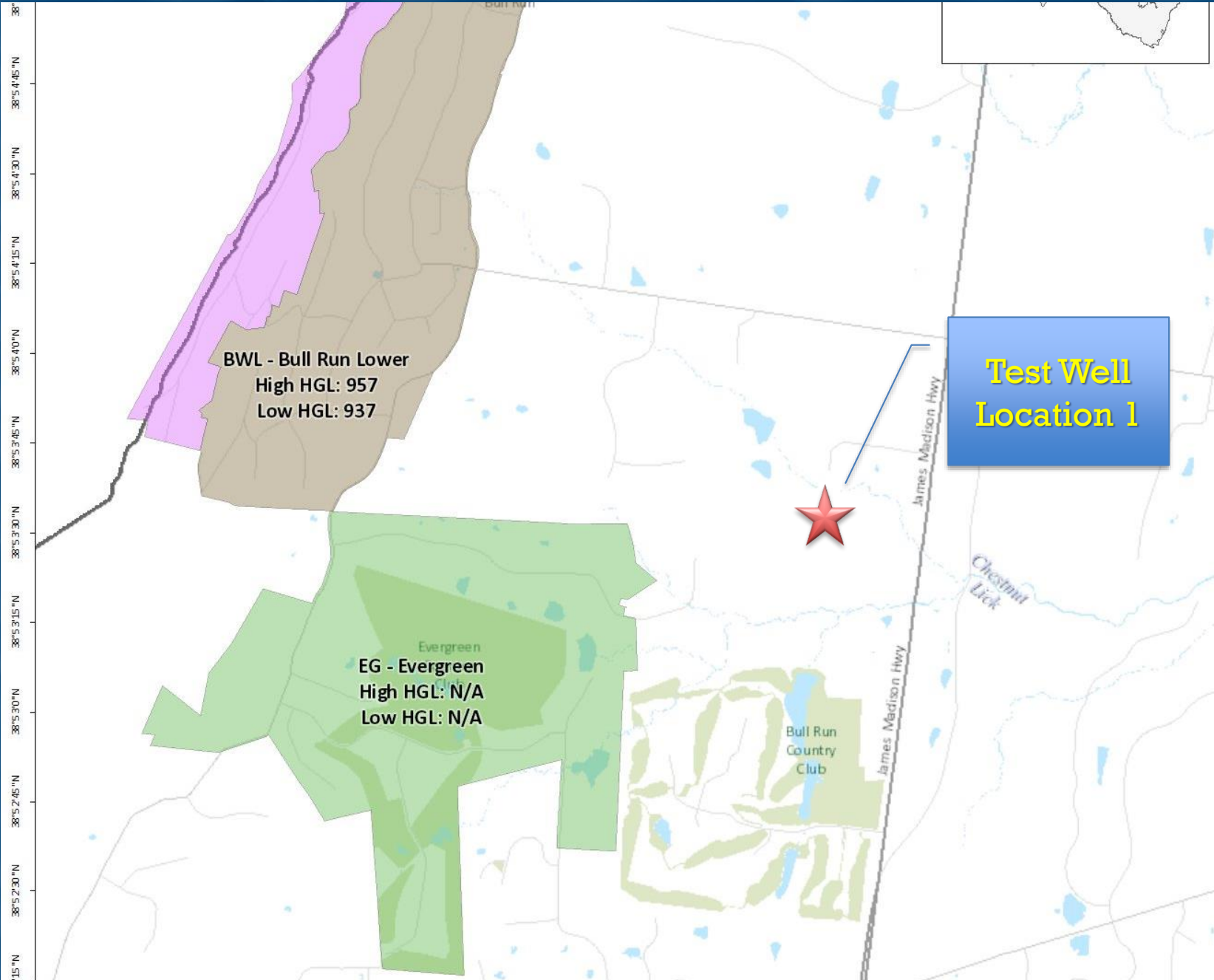
- ◆ ~~**May 2019:** Conduct geophysical surveys~~
- ◆ **September 2019:** Develop test wells, conduct pumping and water quality tests
- ◆ **Late Fall 2019:** Convert test wells into production wells
- ◆ **2020:** Design well houses and piped connections to existing distribution system
- ◆ **2021:** Construct well houses and piping systems
- ◆ **2022:** System startup, check-out and full operation

Right of Entry for Test Wells

- ◆ SA will give notice prior to entry
- ◆ Only during normal business hours (M-F, 8-5)
- ◆ Work should require only a few weeks at each location
- ◆ Owner is fully released from any liability
- ◆ SA will restore all affected work areas to prior condition
- ◆ Owner agrees to work with the SA in good faith for ingress/egress, temporary and permanent easement **should test well site be selected for conversion to production well**

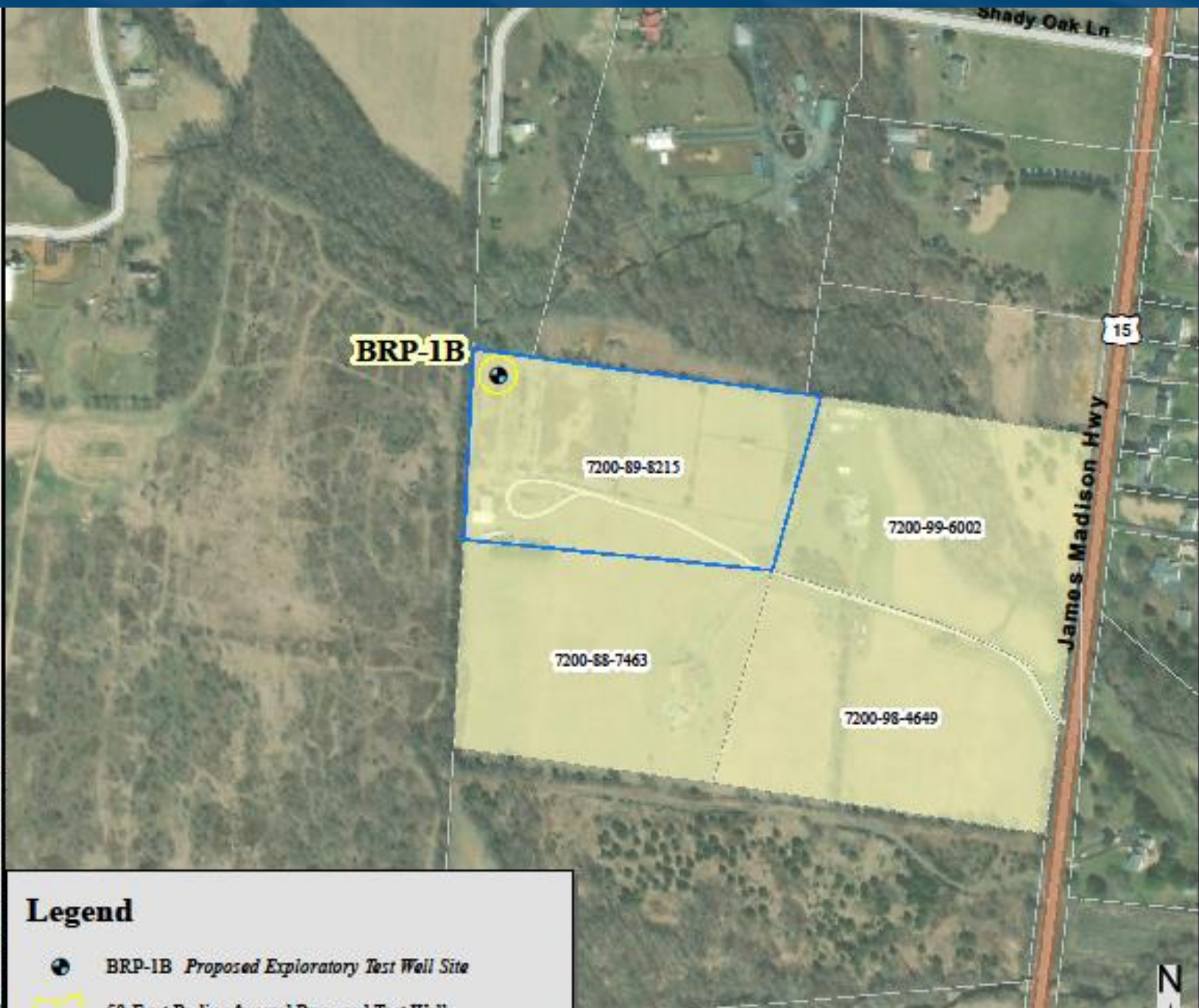
Easements

- ◆ Ingress/egress easement
 - ◆ Temporary – expires when construction is completed
 - ◆ Used mainly for vehicle access to work site
- ◆ Temporary easement
 - ◆ Temporary – expires when construction is completed
 - ◆ Used mainly for storage of materials along/near permanent easement
- ◆ Permanent easement
 - ◆ Remains in place after construction
 - ◆ Used for drive/road access, buried water mains and production well heads and housing





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Legend

-  BRP-1B *Proposed Exploratory Test Well Site*
-  50-Foot Radius Around Proposed Test Well

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Legend

-  BRP-2A *Proposed Exploratory Test Well Site*
-  50-Foot Radius Around Proposed Test Well

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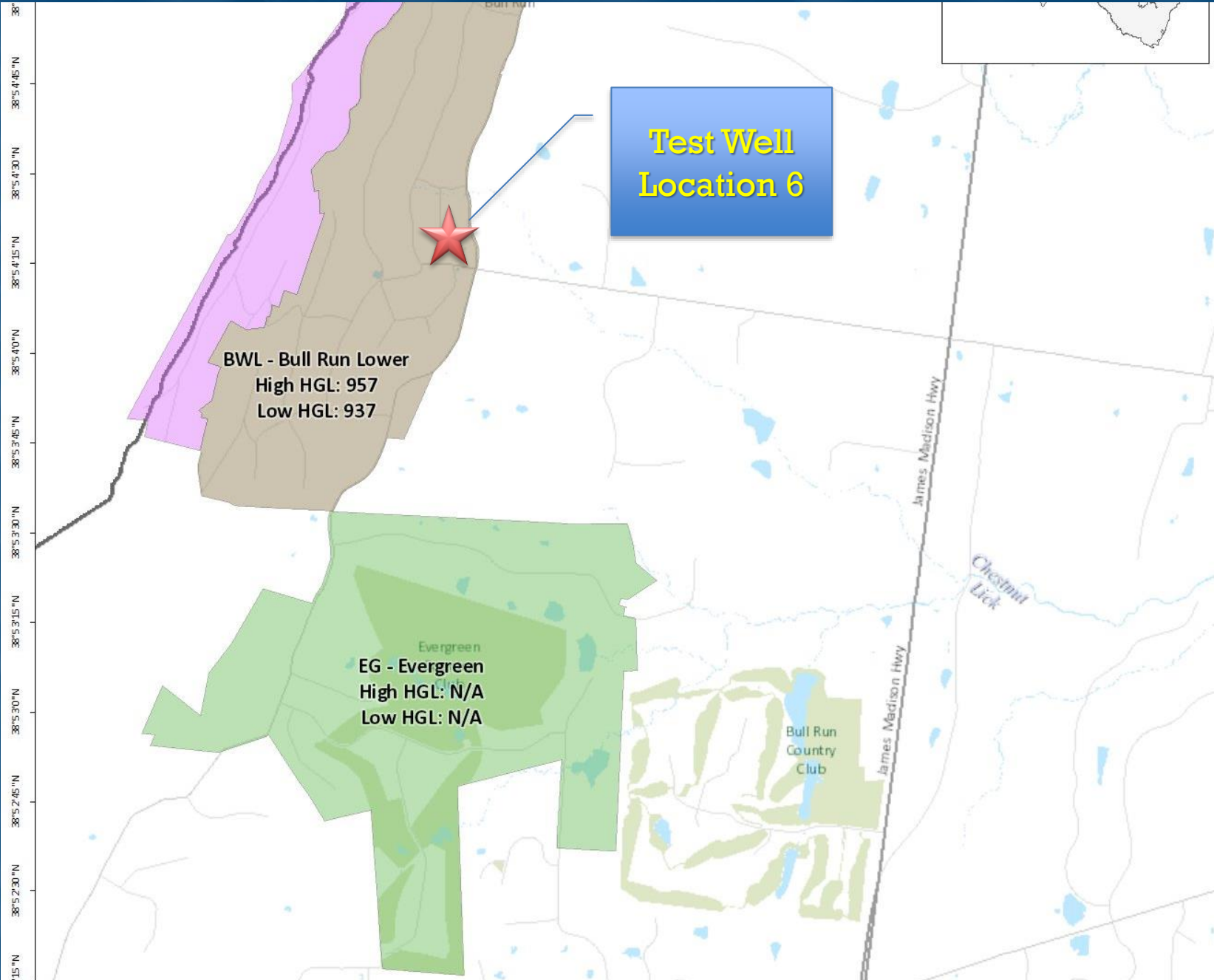
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-  50-Foot Radius Around Proposed Test Well

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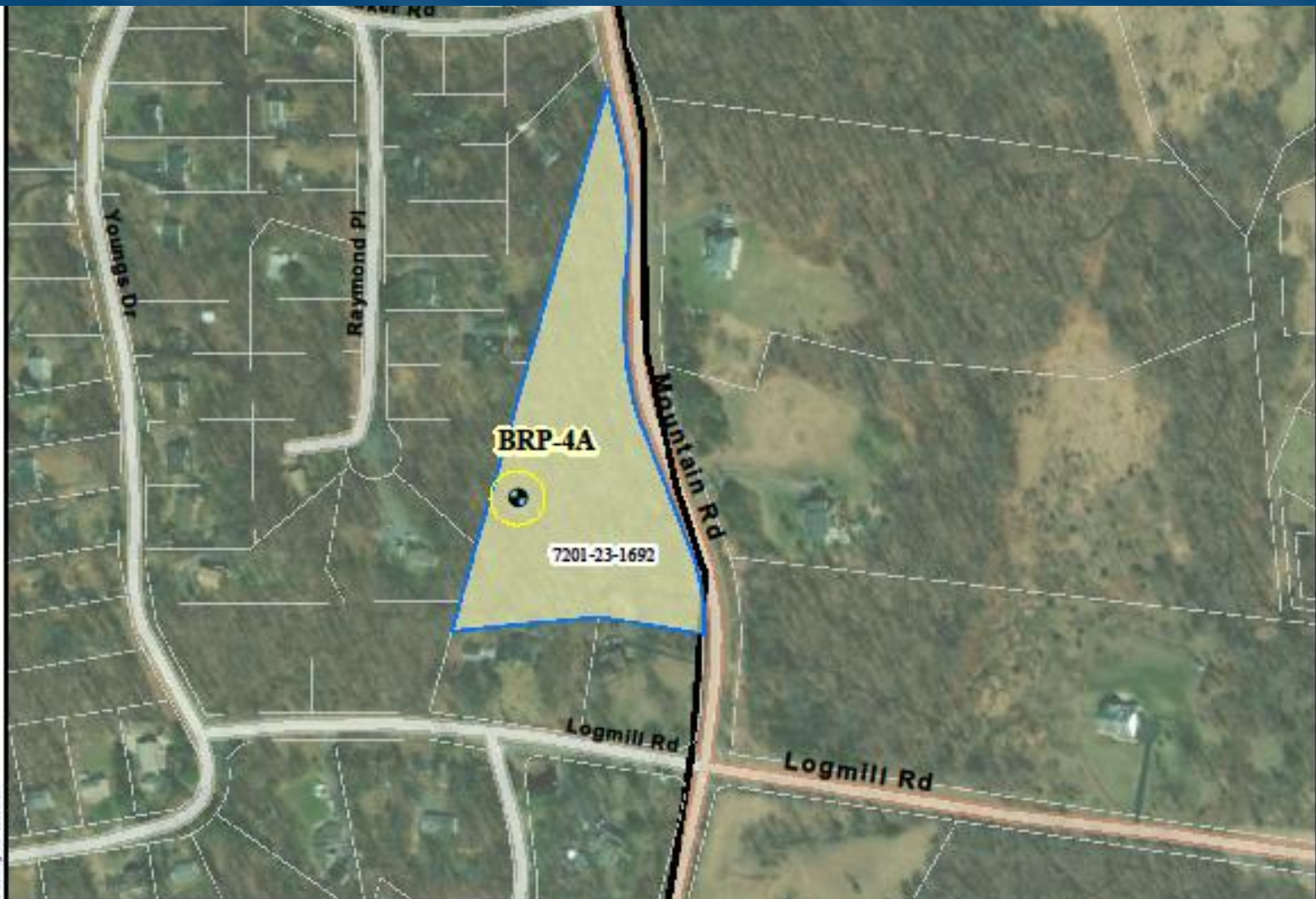
Legend

-  BRP-3A *Proposed Exploratory Test Well Site*
-  50-Foot Radius Around Proposed Test Well
-  Parcel 7200-09-1476






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Legend

-  BRP-4A *Proposed Exploratory Test Well Site*
-  50-Foot Radius Around Proposed Test Well
-  Parcel 7201-23-1692

Questions?

Project website:

<https://www.pwcsa.org/brme-project>

Email: BRMEWater@pwcsa.org



Service Authority
Exceptional Water Service

Bull Run Mountain / Evergreen Water Supply Improvements

Glenn D. Pearson, PE
Deputy Director of Operations & Maintenance
April 17, 2019



Service Authority
Exceptional Water Service

Project Team

- ◆ Prince William County Service Authority:
 - ◆ Glenn Pearson, Deputy Director, O&M
 - ◆ John DeRosa, Regulatory Affairs Officer

- ◆ Consultants:
 - ◆ Peter Foster, Emery and Garrett Groundwater Investigations (EGGI)
 - ◆ Kevin Wood, Dewberry Engineers, Inc.

Mission & Vision

Mission

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Service Authority (SA) Numbers

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History of Bull Run Mountain Water System

- ◆ **1980** – Paul (Butch) Baugher acquires private system, creates *Bull Run Mountain Water Works*
- ◆ **1985** – County reinstates Bull Run Sanitary District
- ◆ **1987** – System fails, months-long outage, Commonwealth files lawsuit against Baugher
- ◆ **1990** – *Bull Run Mountain Water Works* acquired by Sanitary District
- ◆ **1993 to 1996** – SA constructed numerous improvements (wells, piping and storage)
- ◆ **1997** – Sanitary District dissolved, SA assumes full ownership and operation

Project Need

- ◆ Some wells are more than 40 years old.
- ◆ SA is experiencing diminishing yields from some wells.
- ◆ SA is committed to maintaining the level of service and water quality our customers have enjoyed for decades.

Project Impacts

- ◆ Enhance the level of service (*i.e.*, quality, reliability and redundancy) of water supply to customers in SA's current area of service.
- ◆ Designed to eliminate or greatly mitigate impacts on other private wells.
- ◆ SA may require temporary access easements for test well sites.
- ◆ SA will need access and maintenance easements for permanent wells, well houses and piping.

Project Will NOT Impact

- ◆ No expansion of current SA service area.
- ◆ No impact on current water rates.
- ◆ No impact on the Rural Crescent.
- ◆ No impact on the existing water distribution system for Bull Run Mountain or Evergreen.
- ◆ No requirement to become an SA customer.

Non-SA Customer Notification

- ◆ SA commitment to openness and transparency.
- ◆ Prefer access to some non-customer properties to better characterize the regional aquifers.
- ◆ Enhanced water supply in the region bolsters property values.
- ◆ Share the knowledge – information may be valuable to non-customers.
- ◆ We will continue to keep you informed!

Project Timeline

- ◆ **Next month:** Conduct geophysical surveys
- ◆ **Summer 2019:** Develop test wells, conduct pumping and water quality tests
- ◆ **Fall 2019:** Convert test wells into production wells
- ◆ **2020:** Design well houses and piped connections to existing distribution system
- ◆ **2021:** Construct well houses and piping systems
- ◆ **2022:** System startup, check-out and full operation

We Need Your Support!

- Under ***no circumstances*** will the Service Authority access your property without your ***explicit permission*** beforehand.
- Return SASE's indicating your preference in allowing us access (or not) to your property for our surveys.
- Follow the progress of our project on our website.

Questions?

Project website:

<https://www.pwcsa.org/brme-project>

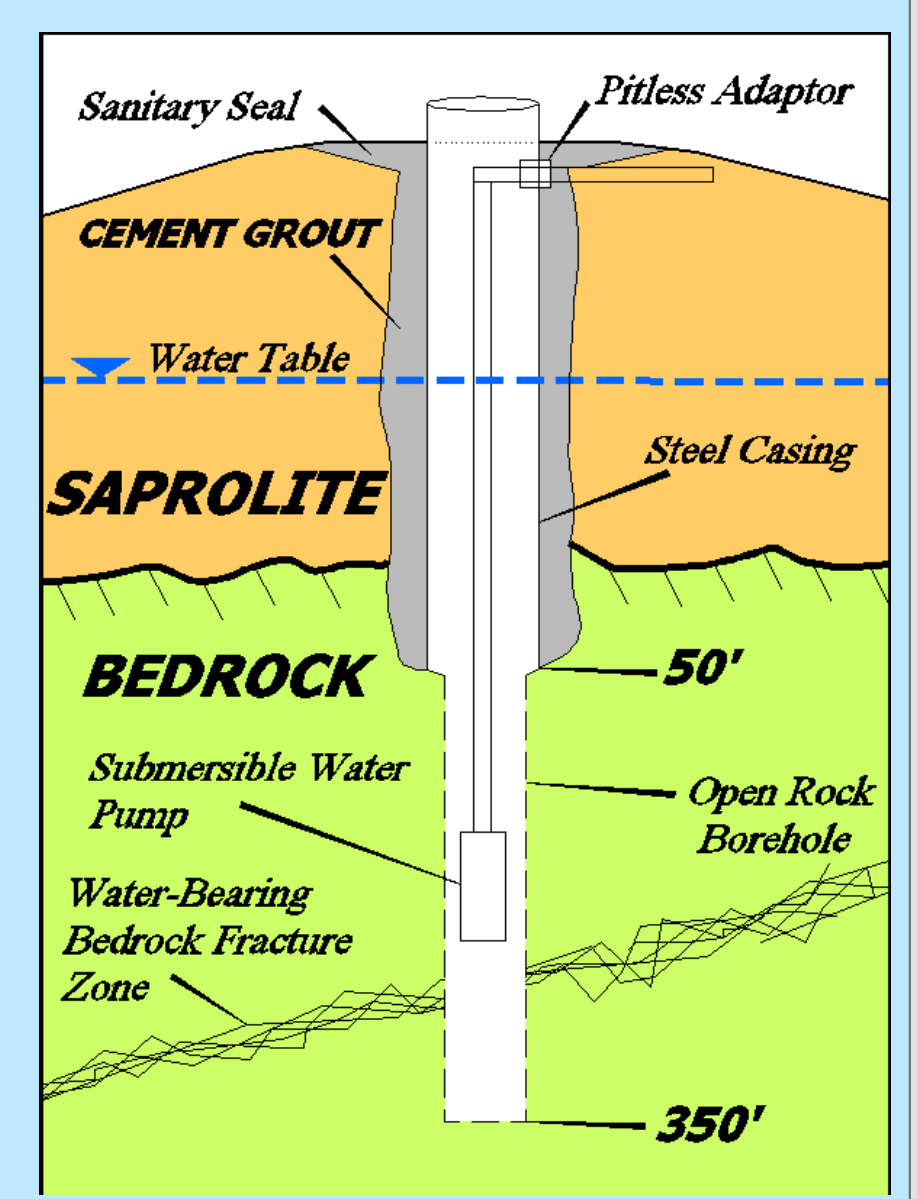
Email: BRMEWater@pwcsa.org



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Exceptional Water Service

PHASES III through VI

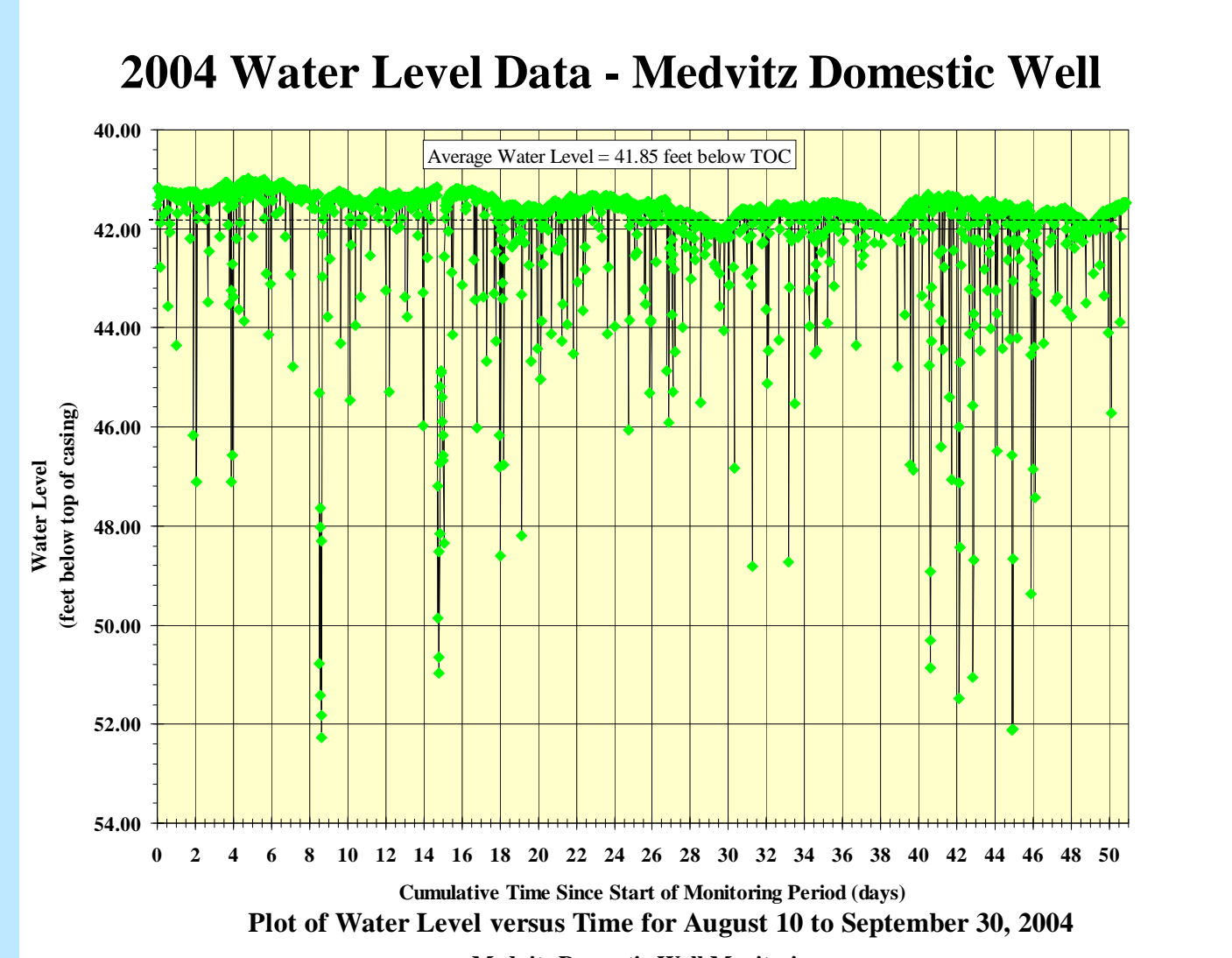
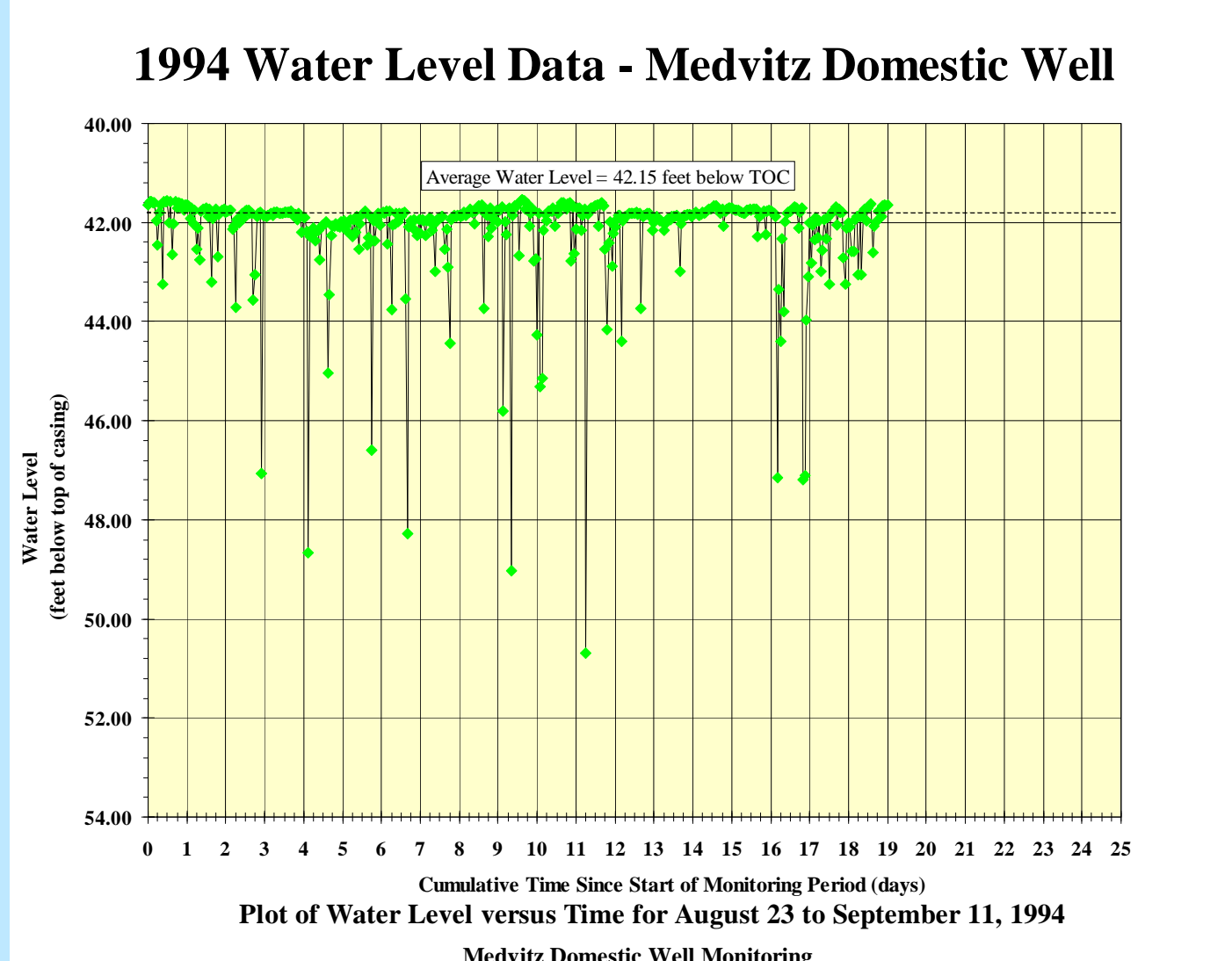
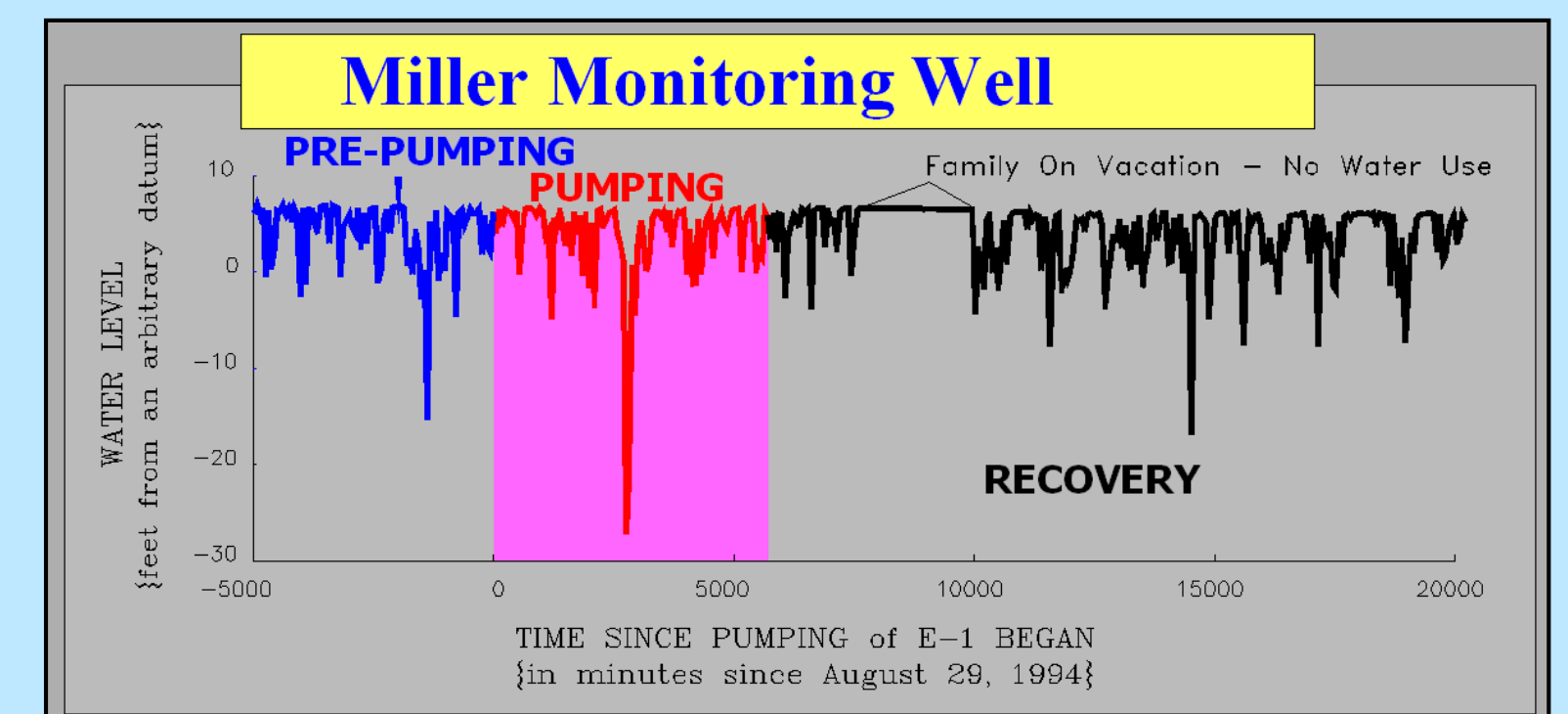
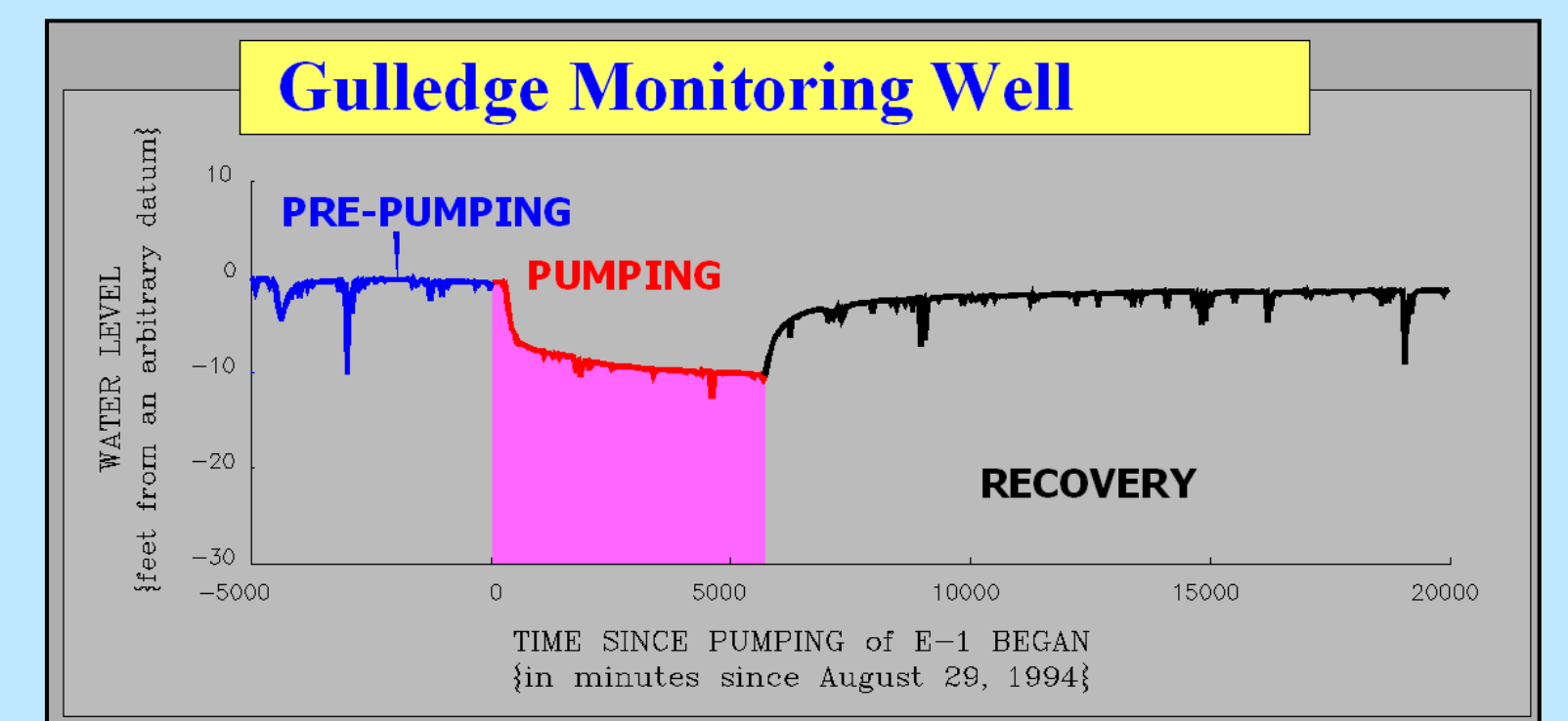
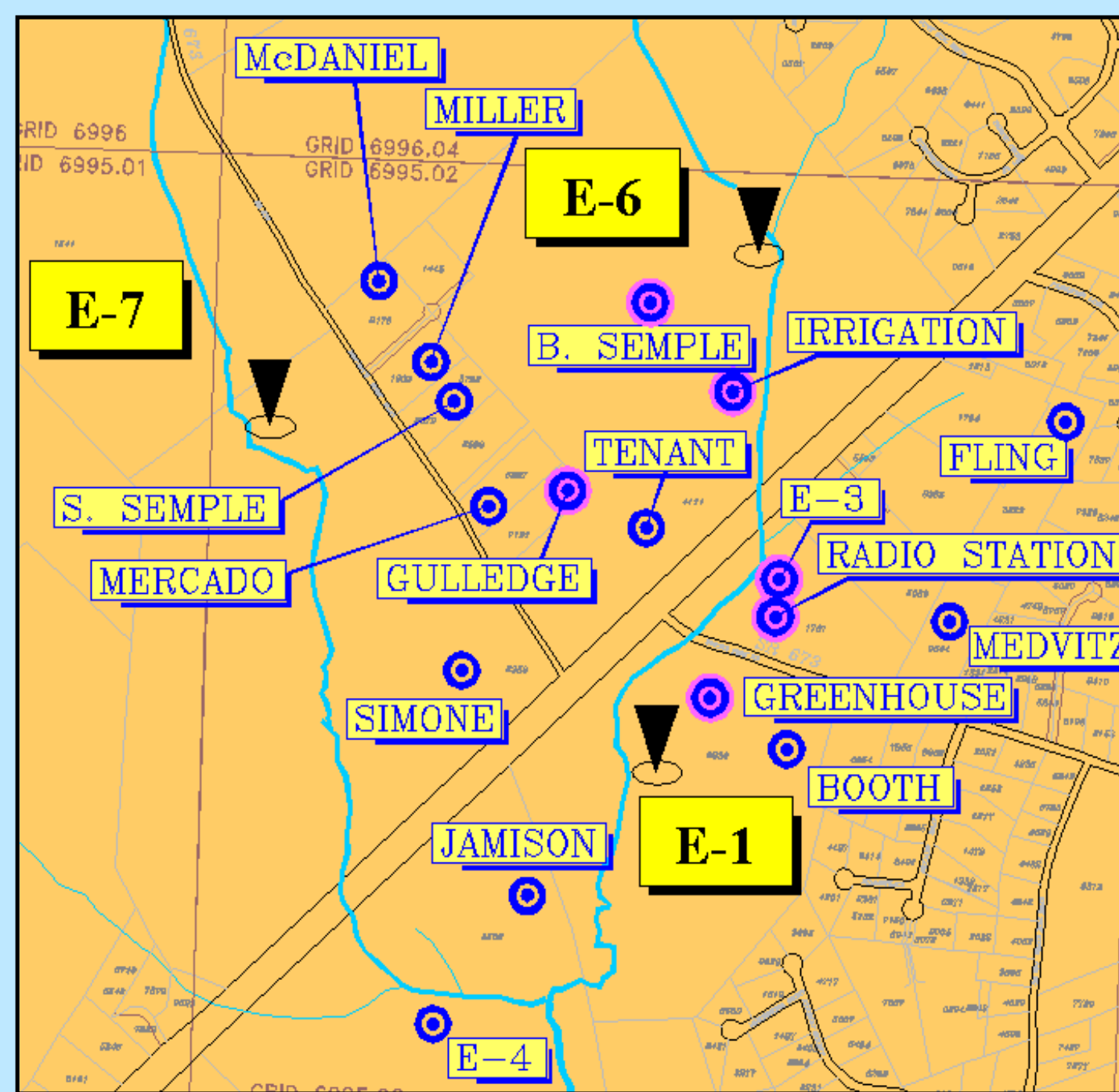
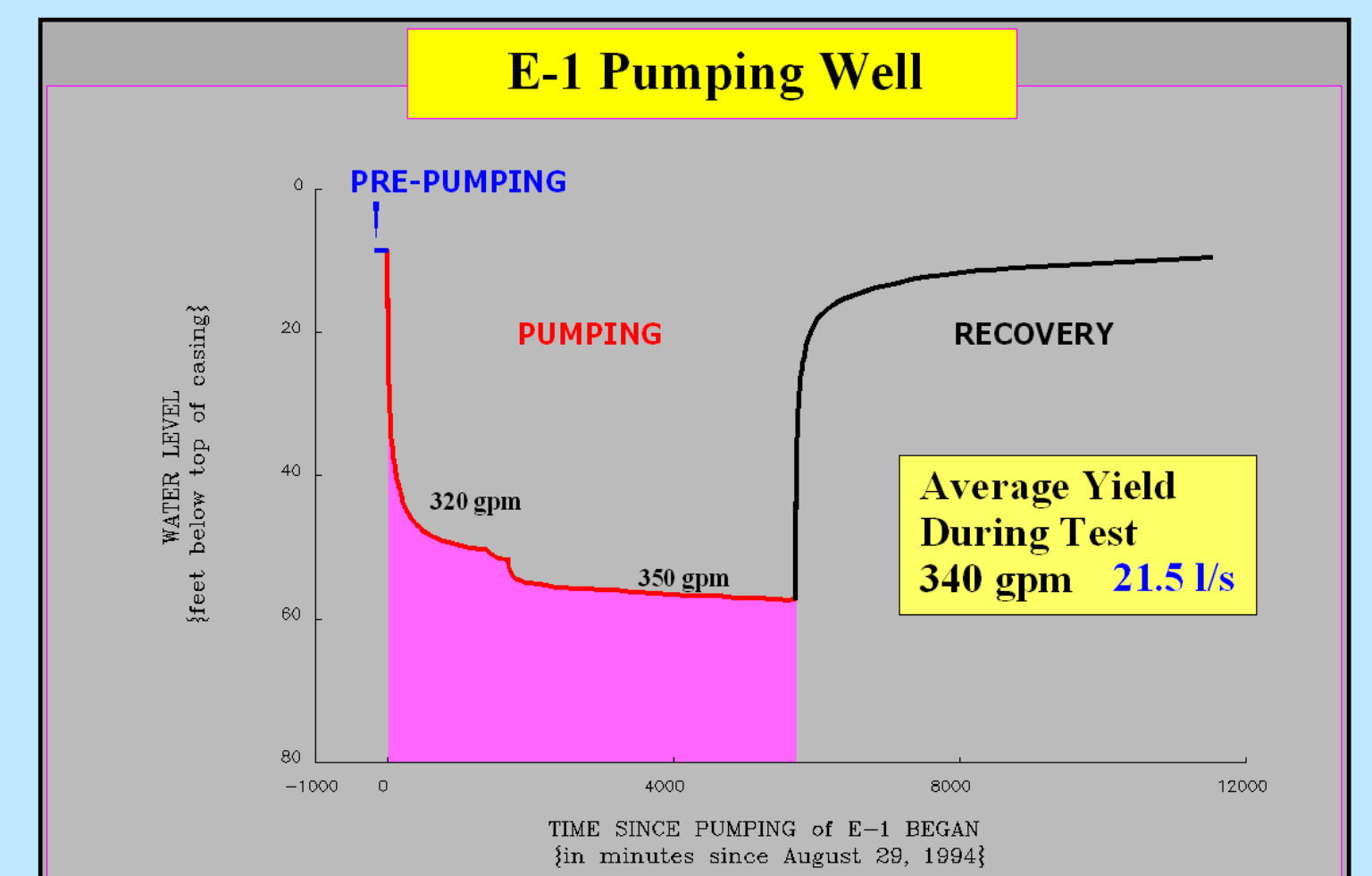
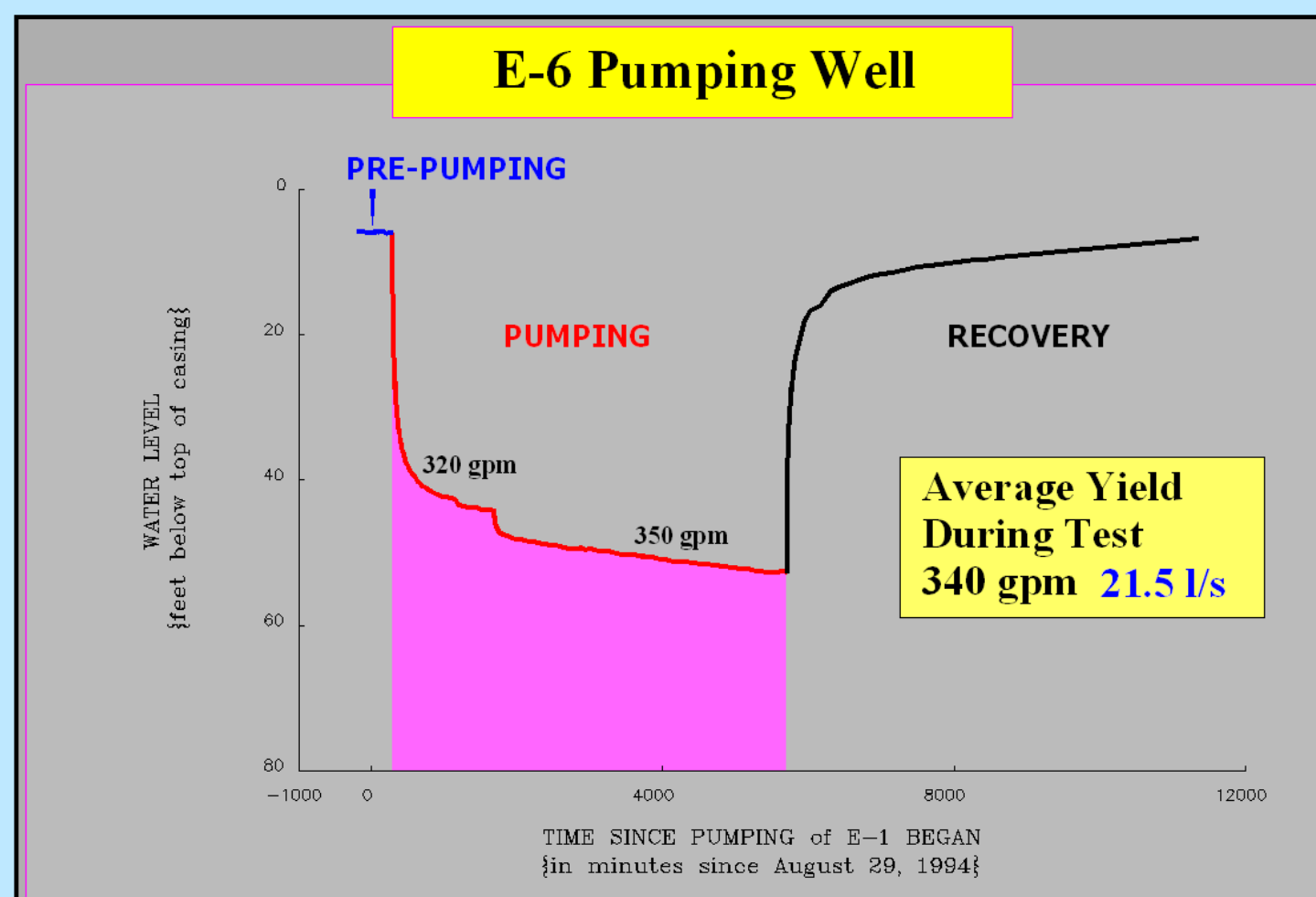
Drilling of Exploratory Test Wells - PHASE III



Production Well Drilling - PHASE IV

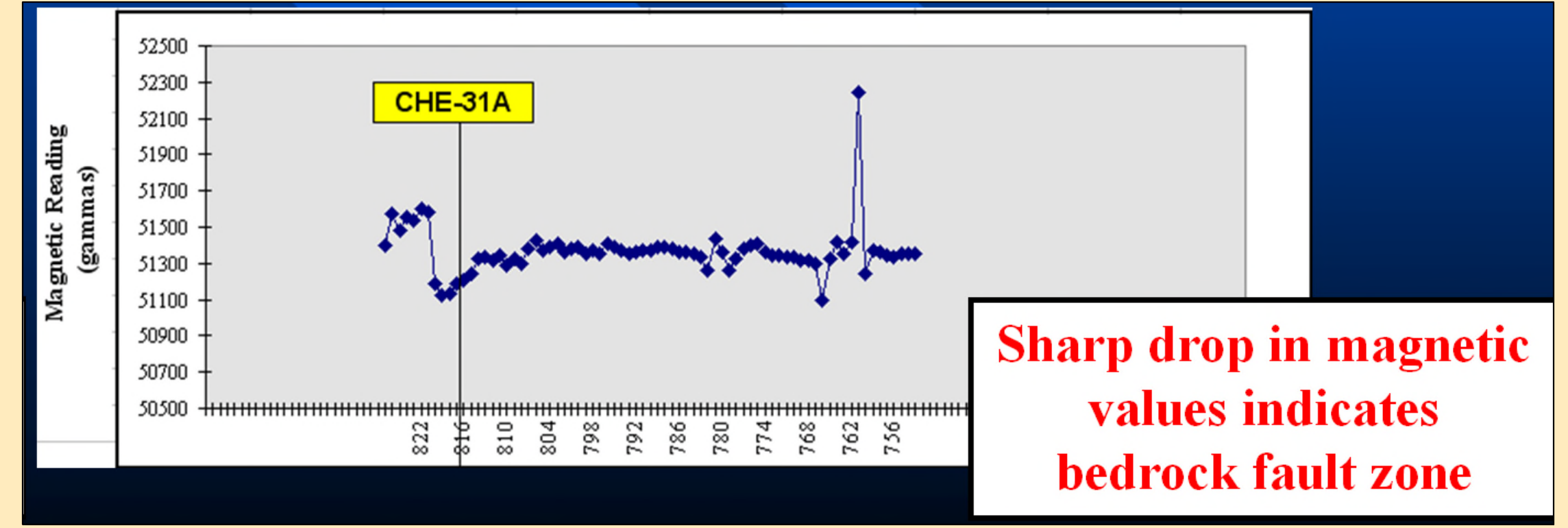
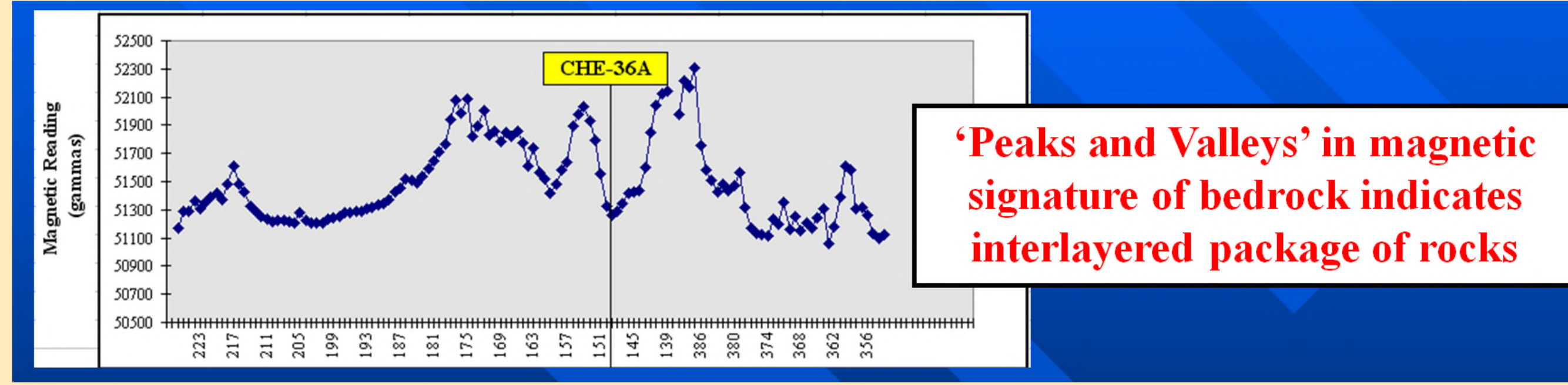


Long Term Pumping Tests - PHASE V

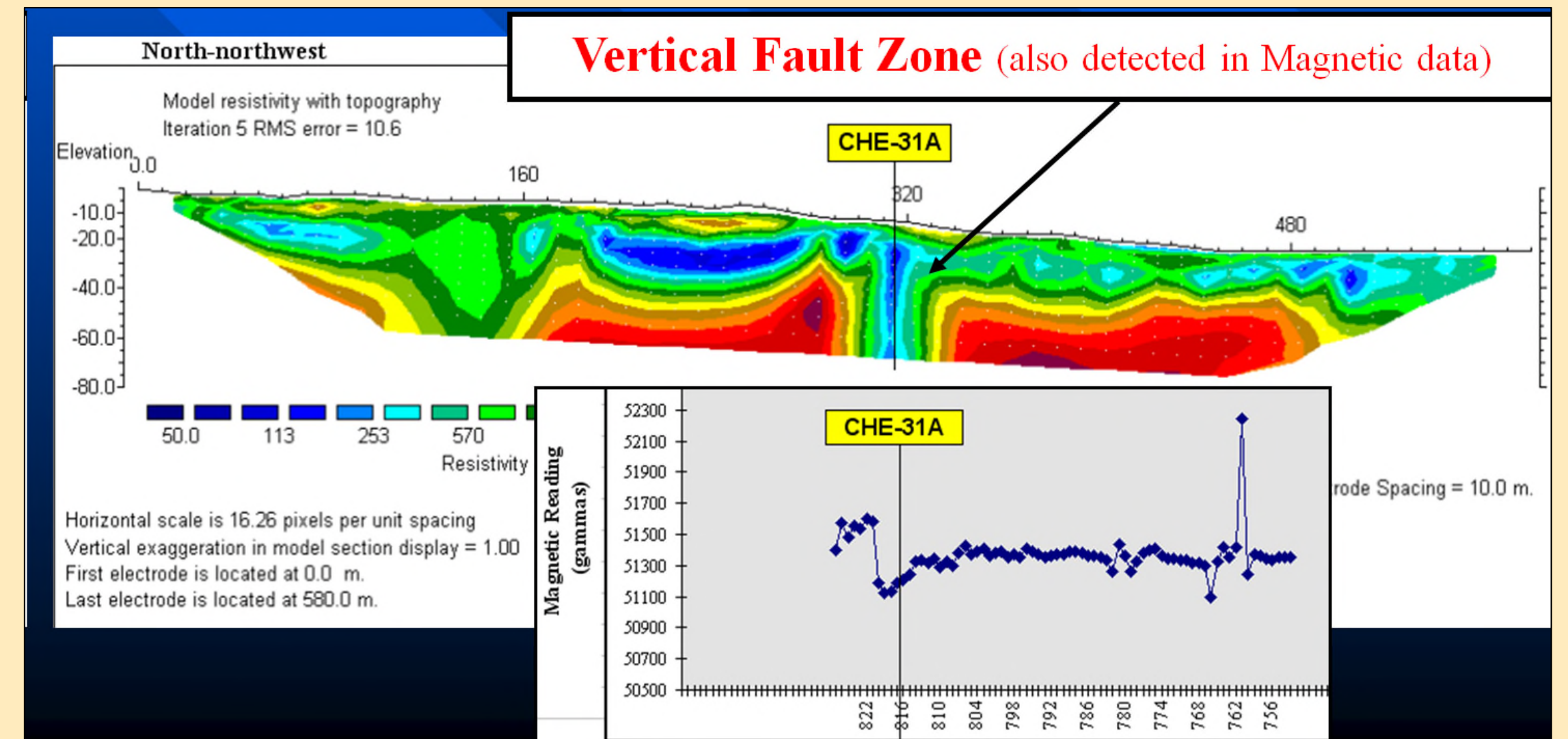
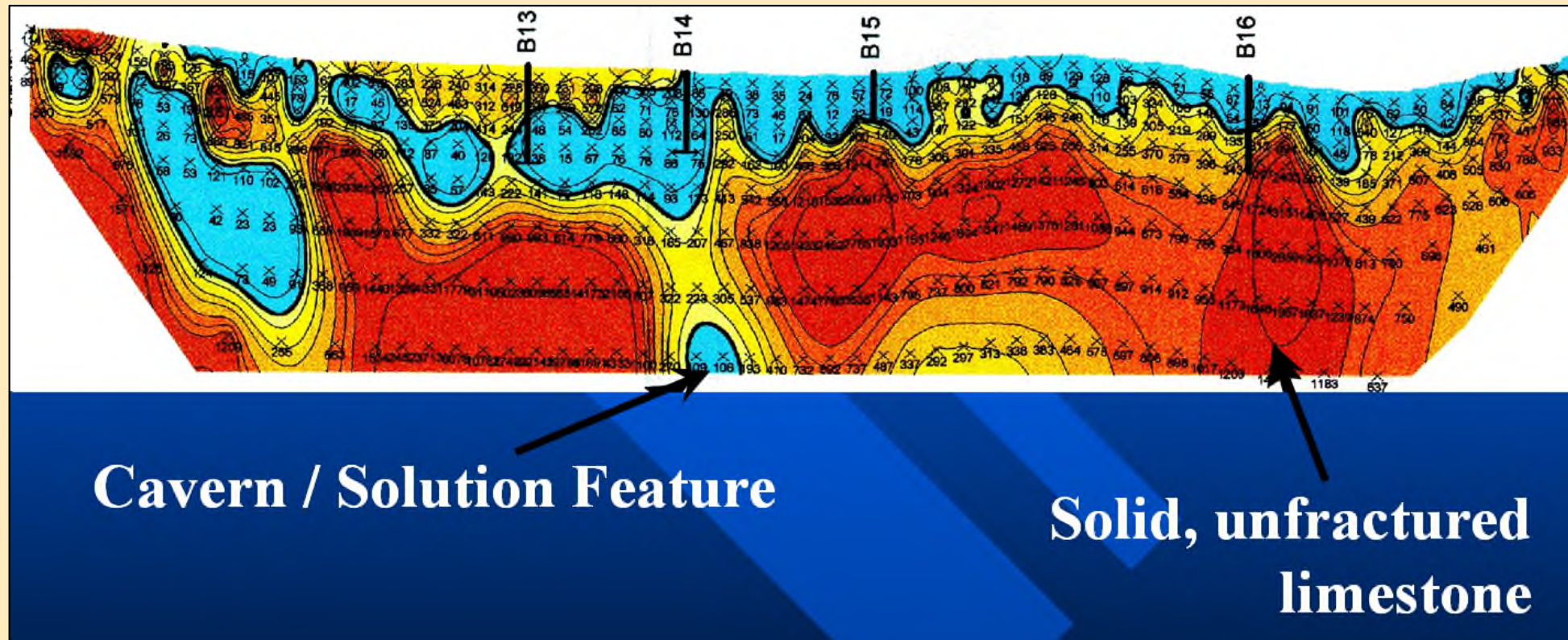
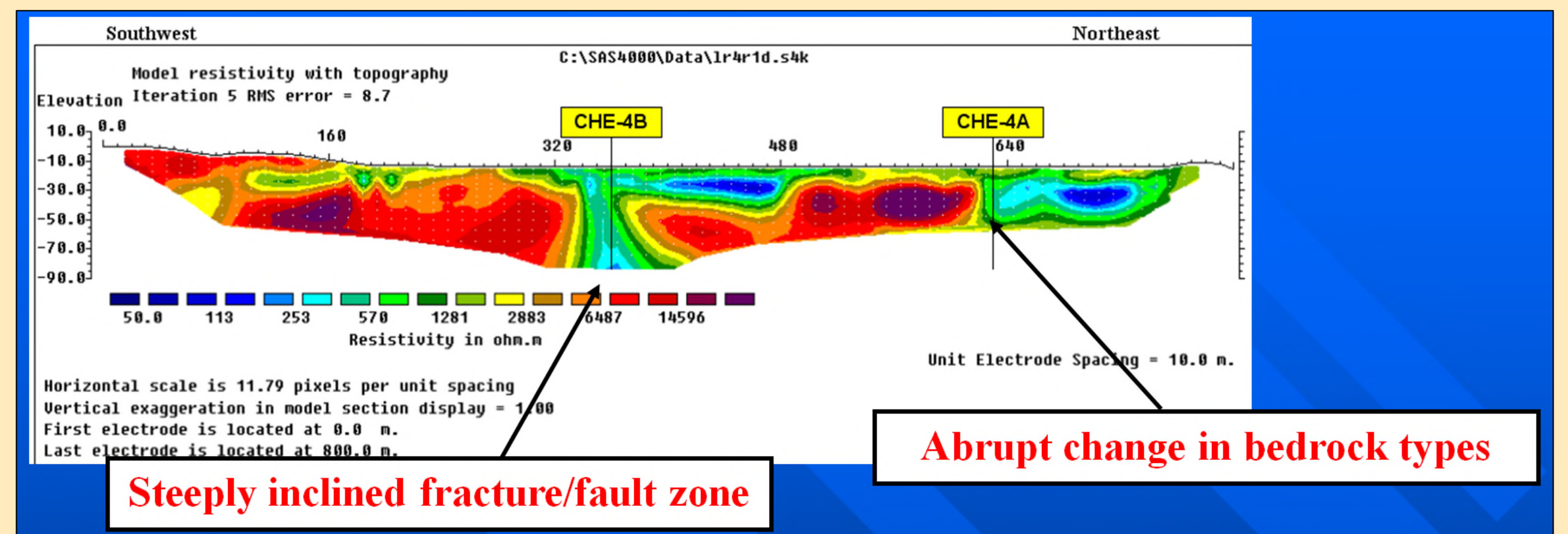


PHASE II GEOPHYSICS and SELECTION OF EXPLORATORY TEST WELL SITES

Magnetic and VLF Surveys

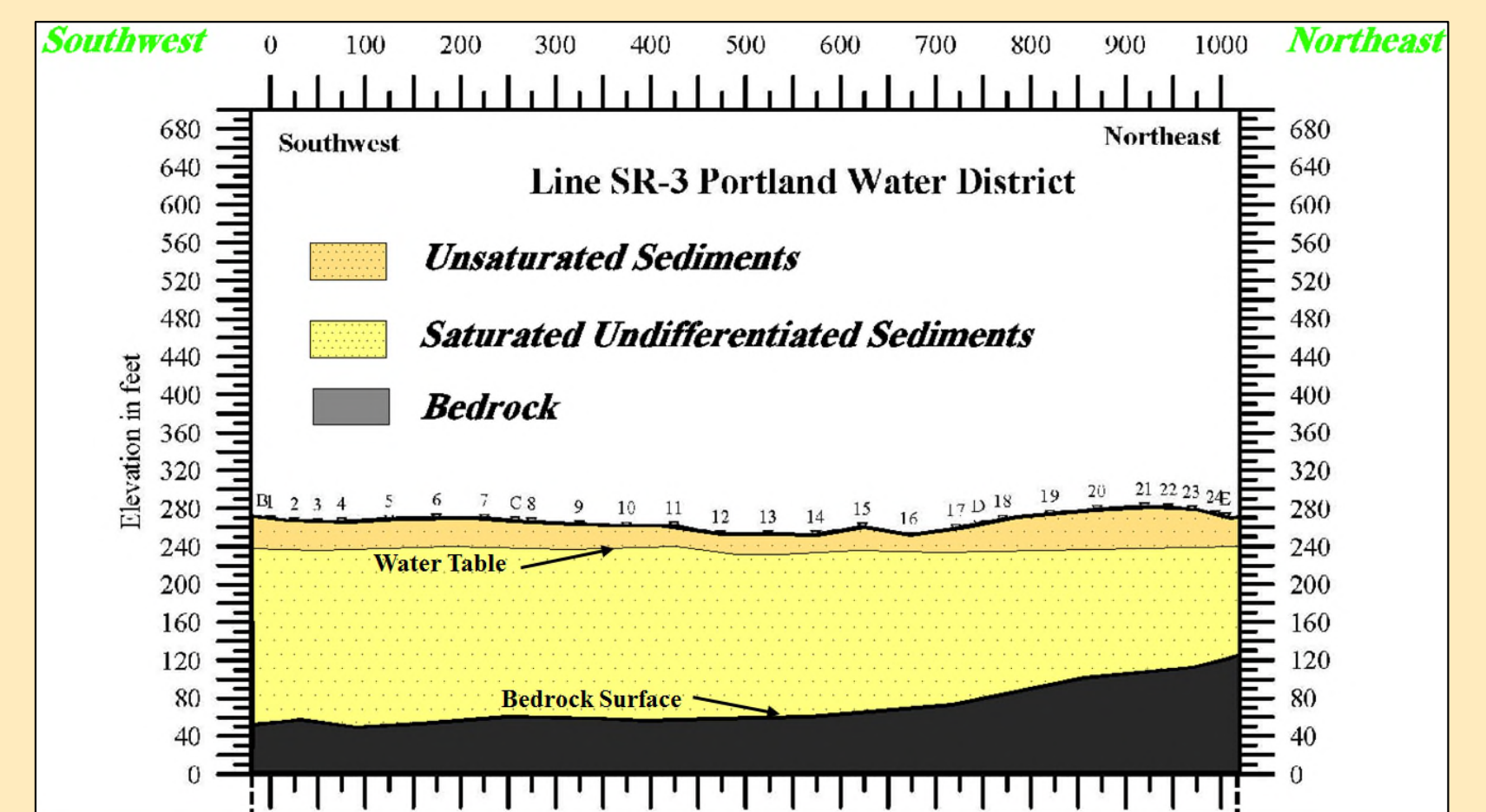


Electrical Resistivity Surveys (ABEM)

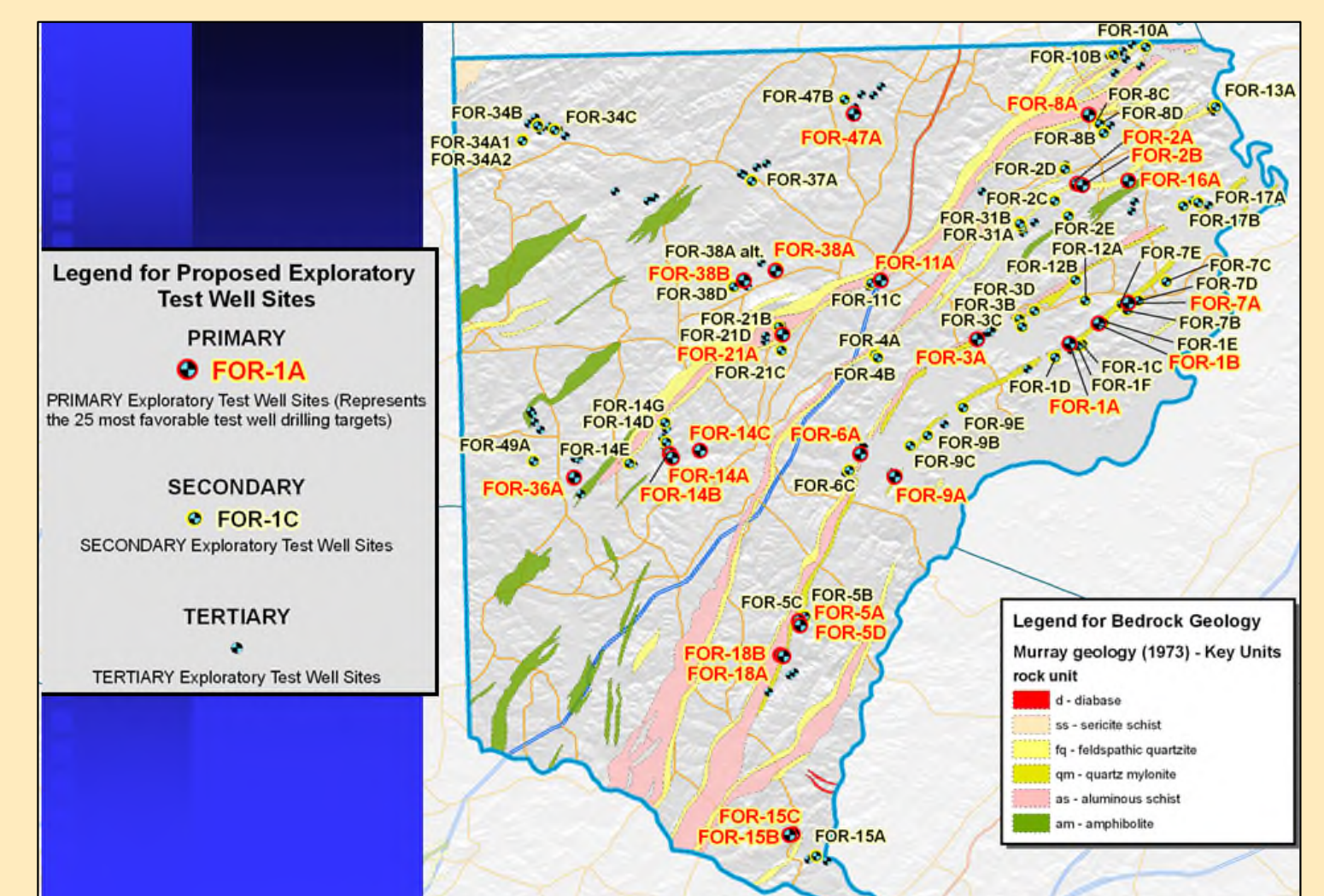
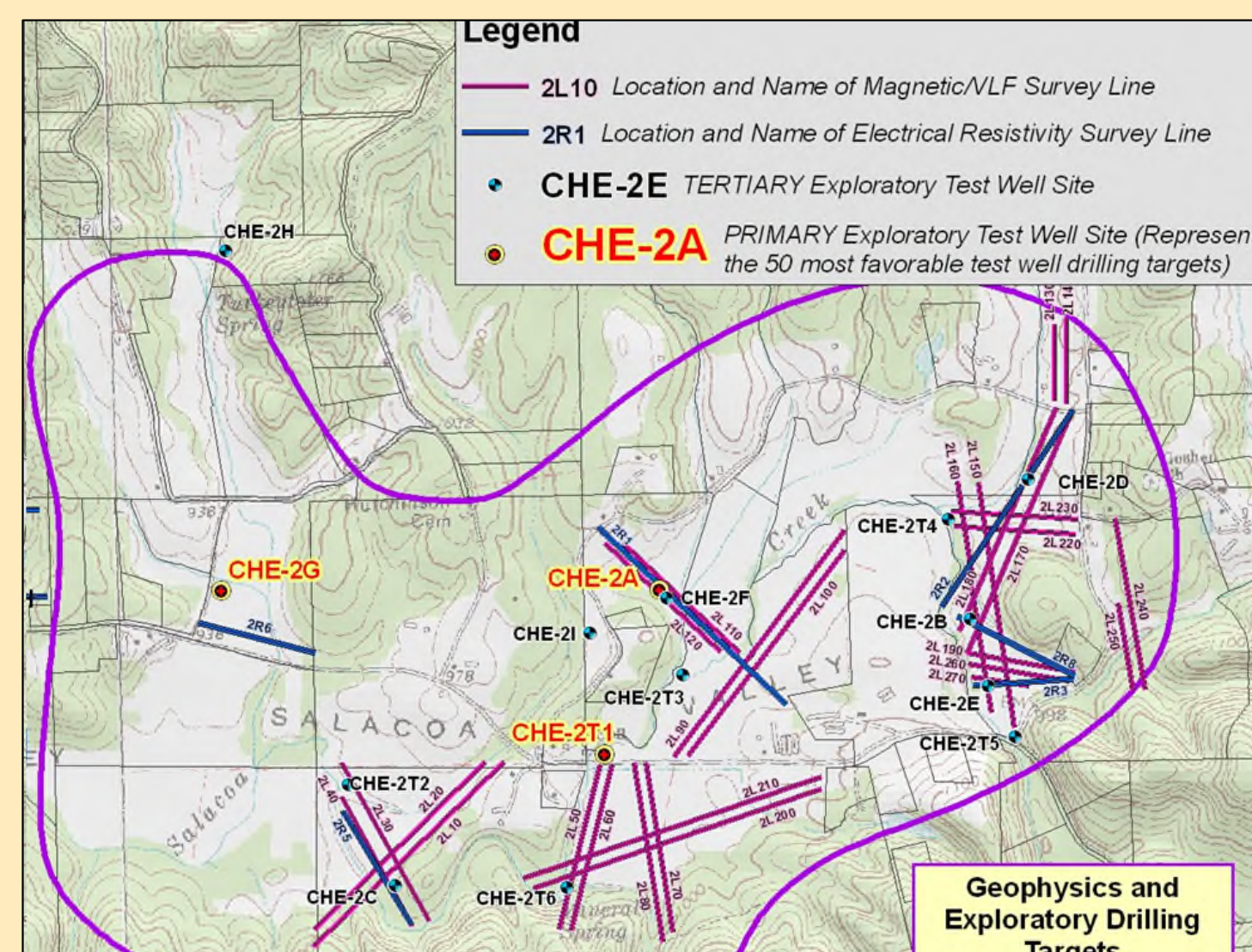
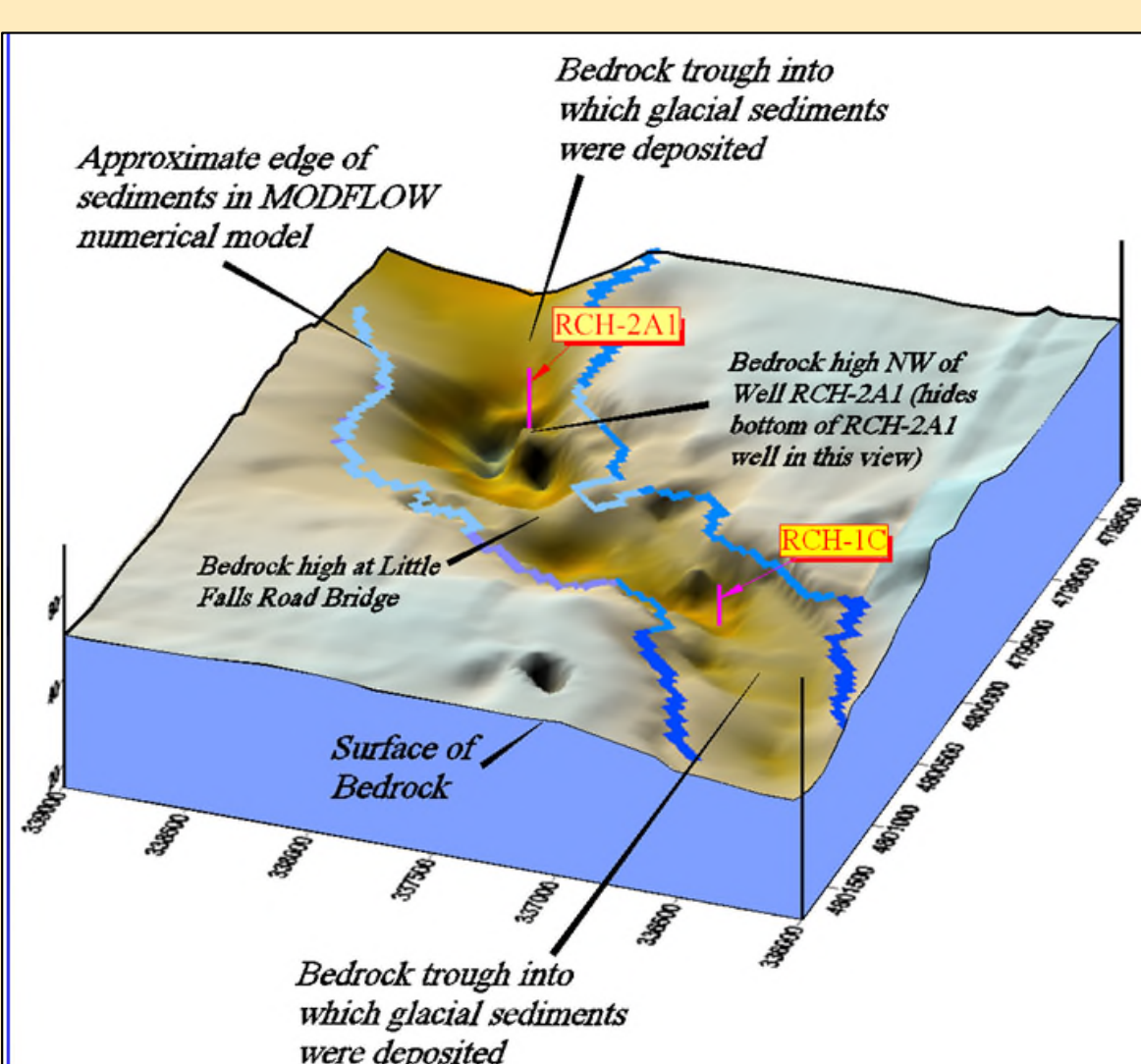


Seismic Surveys

Setting explosive charge into ground



Selection of Exploratory Test Wells



Bull Run Mountain / Evergreen Water Supply Improvements

Glenn D. Pearson, PE
Deputy Director of Operations & Maintenance
February 23, 2022



Service Authority
Exceptional Water Service

Project Team

- ◆ Prince William County Service Authority (SA):
 - ◆ Glenn Pearson, Deputy Director, O&M
- ◆ Consultants:
 - ◆ Dewberry Engineers, Inc.
 - ◆ Emery and Garrett Groundwater Investigations, a division of GZA (EGGI)
 - ◆ ERM & Associates, LLC

Mission & Vision

Mission

PWCSA is dedicated to excellence in providing safe, reliable water service to our customers and returning clean water to the environment.

Vision

To be a nationally acclaimed leader in providing clean water and excellent customer service through sustainable, innovative business practices, community partnerships and environmental stewardship.

Service Authority by the Numbers

- \$1.6 Billion in assets.
- 96,400 accounts.
- Serving about 370,000 people in Prince William County.



Percentages based on total value of assets.

Project Needs

- ◆ Some SA wells are more than 40 years old.
- ◆ SA is experiencing diminishing yields from some wells, mainly due to age.
- ◆ SA is committed to **maintaining the level of service** and water quality our customers have enjoyed for decades.

Project Impacts

- ◆ Maintain the level of service (*i.e.*, quality, reliability and redundancy) of water supply to customers in SA's current area of service:
 - ◆ The amount of water supplied is based on demand, not the number or size of wells.
 - ◆ We will supply the same amount of water before and after this project.
- ◆ Designed to **avoid or greatly mitigate impacts on other private wells.**
- ◆ SA is working with landowners to secure access and permanent easements.
- ◆ Above ground infrastructure will be low-key and in keeping with local architecture.

Project Will NOT Impact...

- ◆ The SA's current service area.
- ◆ Our customers' current water rates.
- ◆ The County's Rural Crescent designation or land uses.
- ◆ Our existing water distribution system for Bull Run Mountain and Evergreen.
- ◆ Citizens' obligations to become an SA customer.

Project Timeline

- ◆ **May 2019:** Conduct geophysical surveys
- ◆ **September 2019:** Develop test wells, conduct pumping and water quality tests
- ◆ **November 2019:** Convert test wells into production wells
- ◆ **2020 - 2022:** Design well houses and piped connections to existing distribution system
- ◆ **Early 2022:** Conduct Public Facility Review with the County Planning Commission
- ◆ **2022 - 2023:** Construct well houses and piping systems
- ◆ **2023:** System startup, check-out and full operation

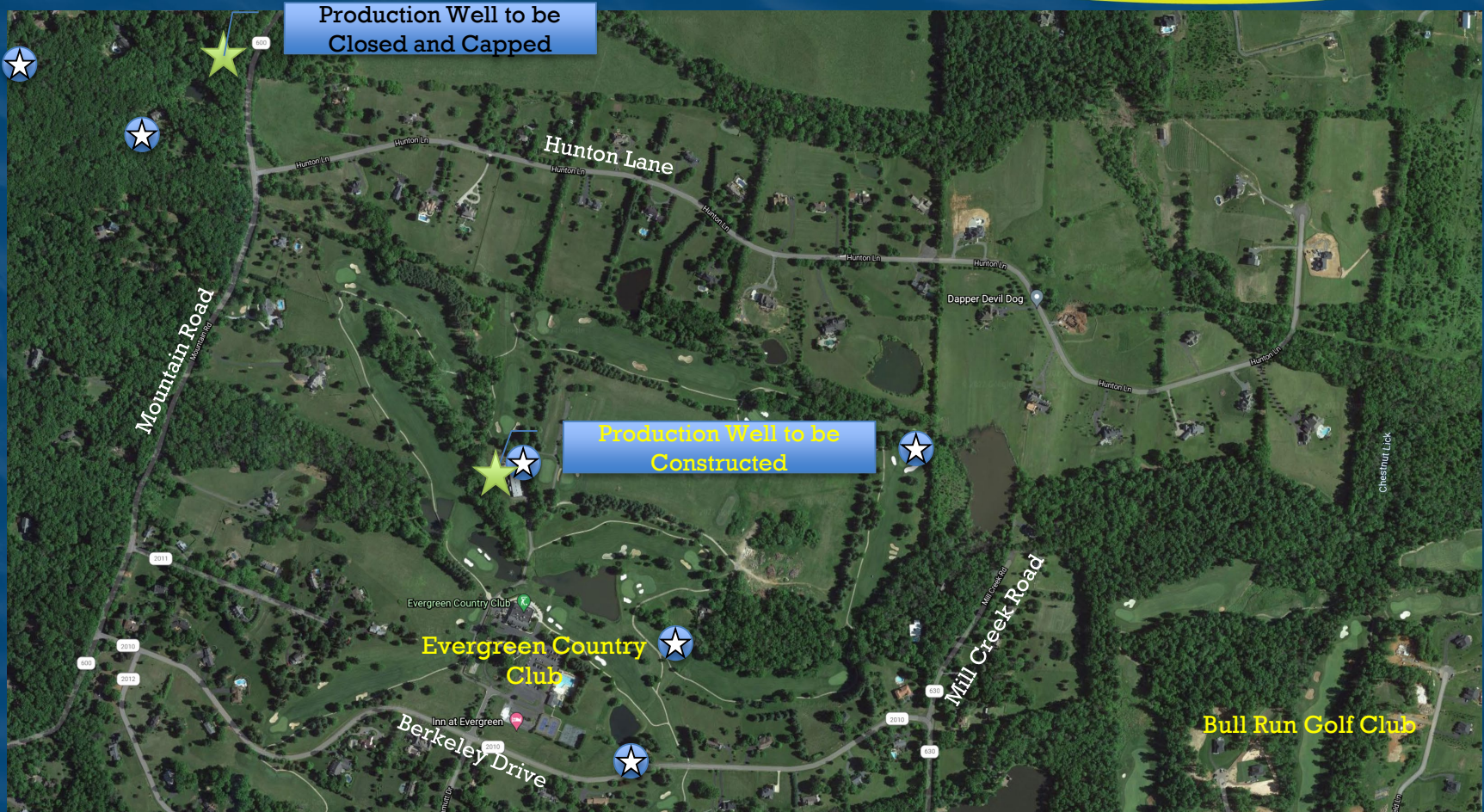
Easements

- ◆ Ingress/egress easement:
 - ◆ Temporary – expires when construction is completed.
 - ◆ Used mainly for vehicle access to work site.
- ◆ Temporary easement:
 - ◆ Temporary – expires when construction is completed.
 - ◆ Used mainly for storage of materials along/near permanent easement.
- ◆ Permanent easement:
 - ◆ Remains in place after construction.
 - ◆ Used for drive/road access, buried water mains and production well heads and housing.

Production Wells

- Two production wells:
 - One well will be developed for this project.
 - 60 gpm maximum safe yield.
 - Well depth of 330 feet below existing ground elevation.
 - One well will be capped and closed unless/until needed.
 - 10 gpm maximum safe yield.
 - Well depth of 220 feet below existing ground elevation.
- Remaining test wells drilled in 2019 were capped and closed to prevent potential contamination from the surface.

Locations of Production Wells



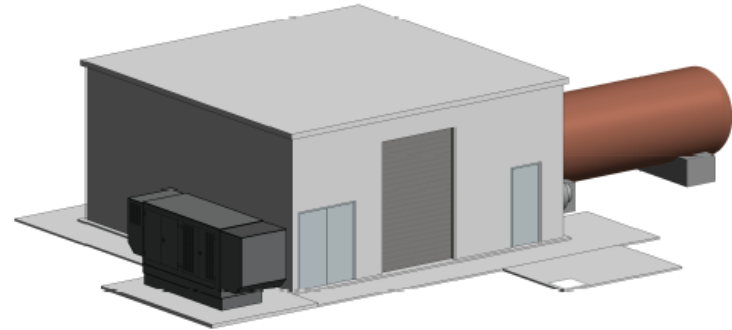
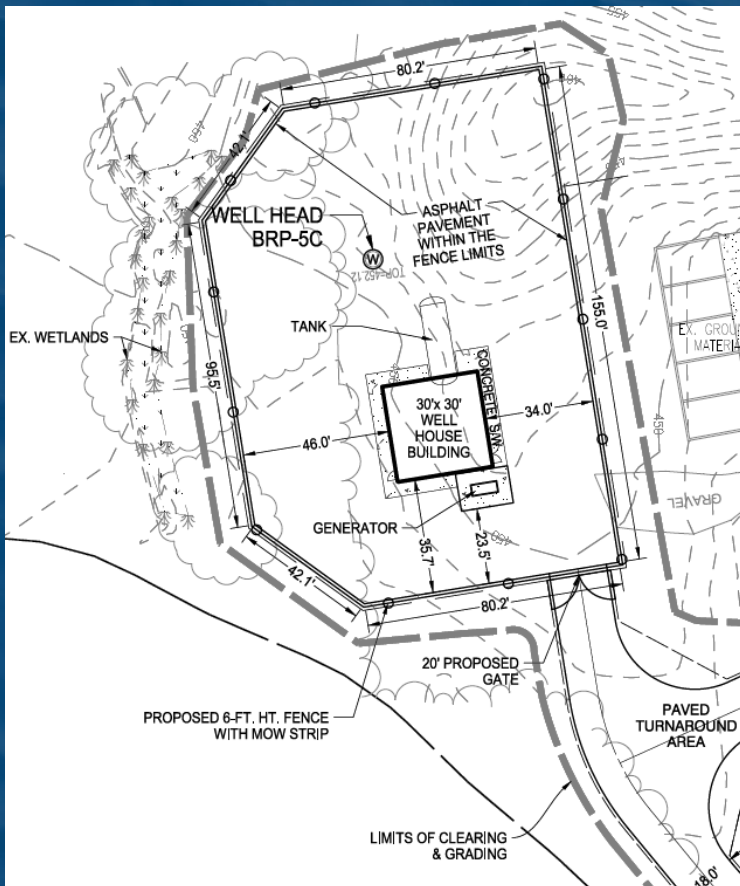
★ Production wells

★ Locations of wells monitored and sampled during drawdown tests

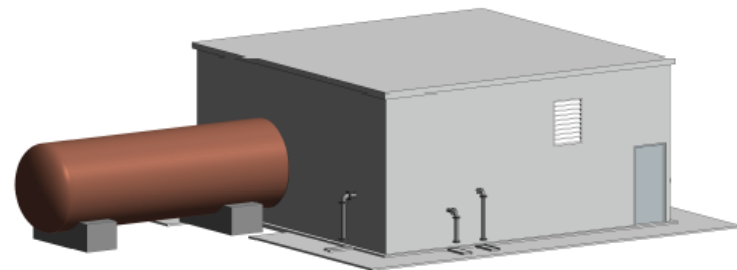
Production Well Impact Testing

- 3-day pump testing applied “maximum stress” to the underlying aquifer.
- Water levels at surrounding monitoring locations were surveilled continuously:
 - Three days prior to testing,
 - During testing,
 - Throughout the six days after pumping test completion.
- **Water levels at all monitoring locations, except the well on the golf course, indicated no impacts.**

Well House on Evergreen CC Property

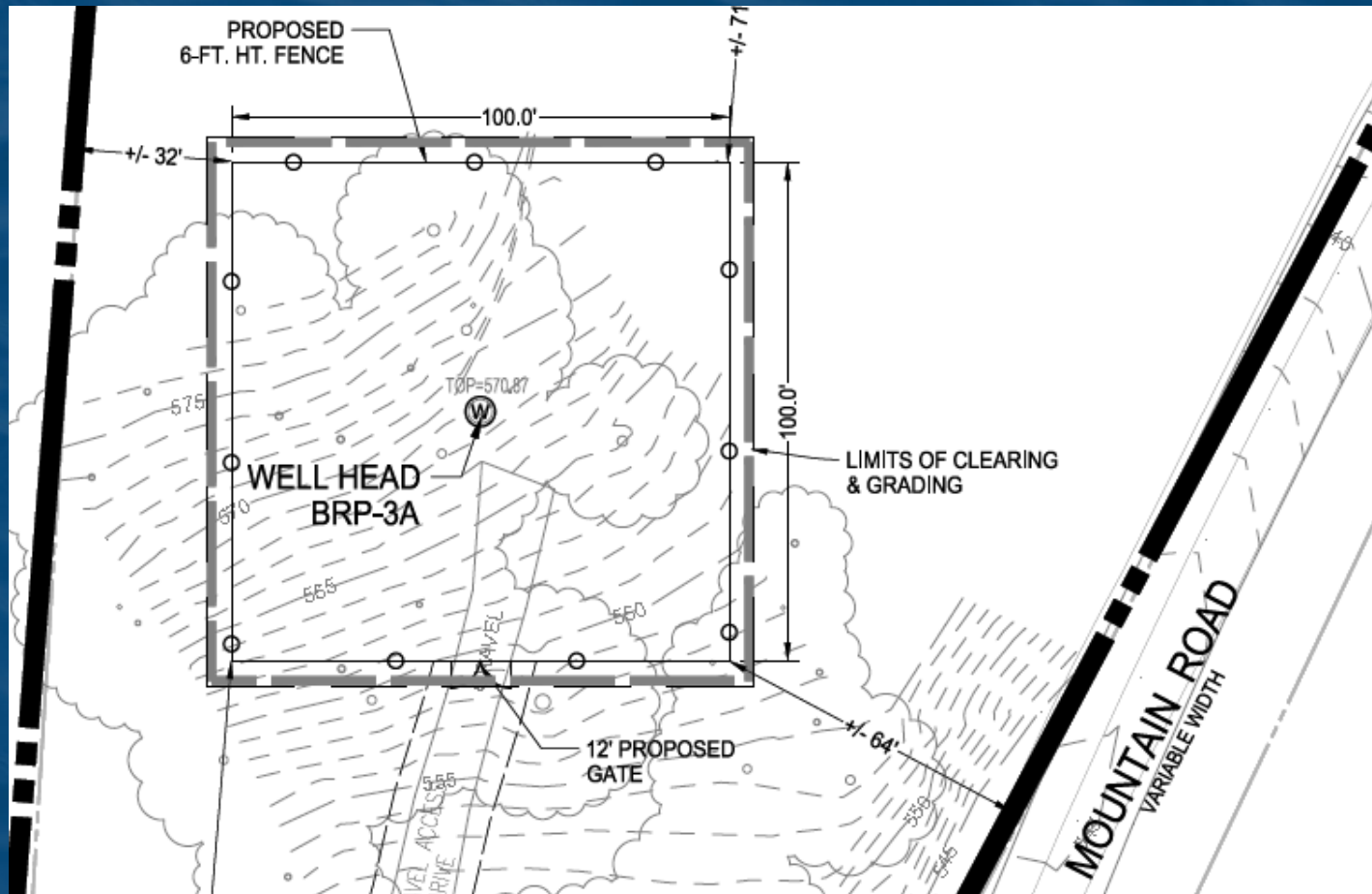


① 3D VIEW 1
S:\M\NTS



② 3D VIEW 2
S:\M\NTS

Production Well to be Closed and Capped



Questions?

Project website:

<https://www.pwcsa.org/brme-project>

Email: BRMEWater@pwcsa.org



Service Authority
Exceptional Water Service

Zoom Video Conferencing Platform Tutorial

Zoom is a virtual conferencing platform that facilitates virtual meetings with real-time audio and video. Users can join the meeting by calling a phone number (audio only) or by simply clicking a hyperlink that opens the virtual meeting space in an Internet browser or in the Zoom software (audio and/or video). Below is a guide on how to participate in a Zoom meeting through either method.

Phone Call

To join via phone:

1. Locate the unique Meeting ID within a Zoom meeting invitation,

Example:



Join Zoom Meeting
<https://us02web.zoom.us/j/89229885421>
Meeting ID: 892 2988 5421

2. Dial the provided phone number for a Washington DC-based meeting: (301) 715 8592,
3. When prompted, enter the Meeting ID followed by the pound sign (#).

You will enter the meeting and be able to hear the audio. However, you will not be able to see presentations or meeting participants as this is an audio-only format.

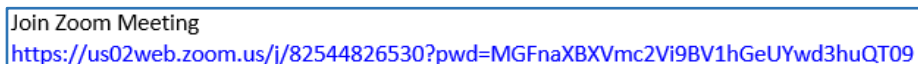
Computer/Online

To join on a computer, you can either click on the meeting link provided to see and hear the meeting through an Internet browser or you can click the meeting link to download the free version of Zoom and open the virtual meeting space in the Zoom software.

To join through an Internet browser:

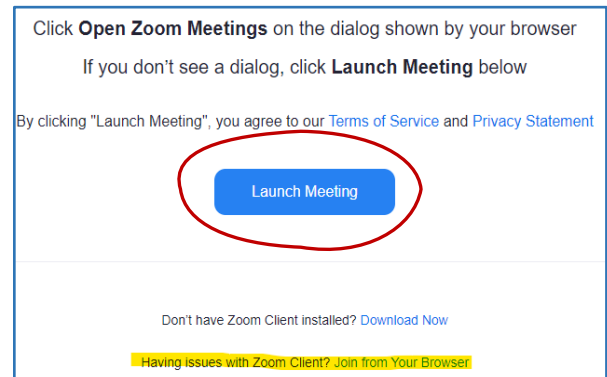
1. Locate the Zoom meeting link within a meeting invitation or email sent to you by the Service Authority.

Example:



Join Zoom Meeting
<https://us02web.zoom.us/j/82544826530?pwd=MGFnaXBXVmc2Vi9BV1hGeUYwd3huQT09>

2. Click the link and open the Zoom webpage.
3. Click on the blue button that says, 'Launch Meeting' (see image at right).
4. A prompt will appear asking you to download the software.
 - Select the 'Cancel' option,
5. Then, below the blue button, click the link to
 - 'Join from Your Browser'



To join through the Zoom software:

1. Locate the Zoom meeting link as above and follow the invitation to the Zoom webpage,
2. Click the 'Launch Meeting' button; and select 'Open' when prompted,
 - The Zoom software will automatically download and bring you into the meeting.

Both computer options give access to the video and audio components of a Zoom meeting. You will be able to see any images or speakers on the screen as well as use the "Chat" feature to ask questions.