

## NOTICE OF OPEN MEETING

Notice is given that a **Regular Meeting** of the Board of Directors of the Barton Springs/Edwards Aquifer Conservation District will be held at the **District office**, located at 1124 Regal Row, Austin, Texas, on **Thursday, May 11, 2017**, commencing at **6:00 p.m.** for the following purposes, which may be taken in any order at the discretion of the Board.

Note: The Board of Directors of the Barton Springs/Edwards Aquifer Conservation District reserves the right to meet in Executive Session at any time during the course of this meeting to discuss any of the matters listed on this agenda, as authorized by the Texas Government Code Sections §551.071 (Consultation with Attorney), 551.072 (Deliberations about Real Property), 551.073 (Deliberations about Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations about Security Devices), 551.087 (Economic Development), 418.183 (Homeland Security). No final action or decision will be made in Executive Session.

1. **Call to Order.**
2. **Citizen Communications (Public Comments of a General Nature).**
3. **Routine Business.**
  - a. **Consent Agenda.** *(Note: These items may be considered and approved as one motion. Directors or citizens may request any consent item be removed from the consent agenda, for consideration and possible approval as a separate item of Regular Business on this agenda.)*
    1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000. NBU
    2. Approval of minutes of the Board's April 27, 2017 regular Meeting. **Not for public review at this time**
  - b. **General Manager's Report.** *(Note: Topics discussed in the General Manager's Report are intended for general administrative and operational information-transfer purposes. The Directors will not take any action unless the topic is specifically listed elsewhere in this agenda.)*
    1. **Standing Topics.**
      - i. Personnel matters and utilization
      - ii. Upcoming public events of possible interest
      - iii. Aquifer conditions and status of drought indicators
    2. **Special Topics.** *(Note: Individual topics listed below may be discussed by the Board in this meeting, but no action will be taken unless a topic is specifically posted elsewhere in this agenda as an item for possible action. A Director may request an individual topic that is presented only under this agenda item be placed on the posted agenda of some future meeting for Board discussion and possible action.)*
      - i. Review of Status Update Report – at directors' discretion **Pg. 9**
      - ii. Update on GMA and regional water planning
      - iii. Update on regulatory and enforcement activities

- iv. Update on District grant projects and other Aquifer Science Team projects
- v. Update on activities related to area roadway projects
- vi. Update on Board committee activity

**4. Presentation**

A presentation by Dr. Brian Smith, Principal District Hydrogeologist, on the data and findings from the District's multi-port monitor well network. **Pg. 14**

**5. Discussion and Possible Action.**

- a. Discussion and possible action related to the City of Dripping Springs TPDES permit application to authorize direct discharge of treated wastewater to Onion Creek in the contributing zone of the Barton Springs segment of the Edwards Aquifer. **NBU**
- b. Discussion and possible action related to activities in the 85<sup>th</sup> Legislative session of interest to the District. **NBU**

**6. Adjournment.**

**Please note:** This agenda and available related documentation have been posted on our website, [www.bseacd.org](http://www.bseacd.org). If you have a special interest in a particular item on this agenda and would like any additional documentation that may be developed for Board consideration, please let staff know at least 24 hours in advance of the Board Meeting so that we can have those copies made for you.

The Barton Springs/Edwards Aquifer Conservation District is committed to compliance with the Americans with Disabilities Act (ADA). Reasonable accommodations and equal opportunity for effective communications will be provided upon request. Please contact the District office at 512-282-8441 at least 24 hours in advance if accommodation is needed.

**Item 1**

**Call to Order**

## **Item 2**

### **Citizen Communications**

## **Item 3**

### **Routine Business**

#### **a. Consent Agenda**

*(Note: These items may be considered and approved as one motion. Directors or citizens may request any consent item be removed from the consent agenda, for consideration and possible approval as a separate item of Regular Business on this agenda.)*

- 1. Approval of Financial Reports under the Public Funds Investment Act, Directors' Compensation Claims, and Specified Expenditures greater than \$5,000.**
- 2. Approval of minutes of the Board's April 27, 2017 regular Meeting.**

## Item 3

### Routine Business

- b. **General Manager's Report.** *(Note: Topics discussed in the General Manager's Report are intended for general administrative and operational information-transfer purposes. The Directors will not take any action unless the topic is specifically listed elsewhere in this agenda.)*

#### 1. Standing Topics.

- i. **Personnel matters and utilization**
- ii. **Upcoming public events of possible interest**
- iii. **Aquifer conditions and status of drought indicators**

2. **Special Topics.** *(Note: Individual topics listed below may be discussed by the Board in this meeting, but no action will be taken unless a topic is specifically posted elsewhere in this agenda as an item for possible action. A Director may request an individual topic that is presented only under this agenda item be placed on the posted agenda of some future meeting for Board discussion and possible action.)*

- i. **Review of Status Update Report – at directors' discretion**
- ii. **Update on GMA and regional water planning**
- iii. **Update on regulatory and enforcement activities**
- iv. **Update on District grant projects and other Aquifer Science Team projects**
- v. **Update on activities related to area roadway projects**
- vi. **Update on Board committee activity**

STATUS REPORT UPDATE FOR MAY 11, 2017 BOARD MEETING

Prepared by District Team Leaders

Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
<b>GENERAL MANAGEMENT TEAM</b>			
John Dupnik			
JD	5/4/17	Meetings, Training, Presentations, and Conferences	<p><b>External Meetings Attended:</b> TAGD lege committee (con call); Dripping Springs (DS) settlement talks; with LCRA on DS permit; with Tech staff on DS water balance; INRC committee on HB3071; RWQPP work group; Region K; Other Meetings; None Presentations; Testimony at SAWRA committee on SB 1392; Conferences/Seminars: None</p>
JD	5/4/17	Ongoing Special Projects, Committees, and Workgroups	<p><b>Ongoing Special Projects:</b> TWDB RFP grant; Dripping Springs TPDES permit settlement; Management Plan revision; Database overhaul; Salary structure review; Procurement Policy review; ASR pilot project; HCP finalization; 30th Anniversary planning; SH 45 and Consent Decree Compliance; Legislative Tracking/bill analysis. Committees and Workgroups: Region K (voting member); Region K executive committee; GMA 10 (voting member); Regional WQ Plan workgroup; Region K Legislation and Policy committee; Region K water supply strategy committee; TAGD legislative committee (regional planning); ASR, brackish gw; TWCA groundwater committee; Hill Country Conservancy Trust organizing group.</p>
JD	5/4/17	Routine Activities and Day-to-Day operations	<p><b>Routine Activities/Day-to-Day Operations:</b> provided general oversight of staff incentive projects and activities, and oversight of day-to-day operations; approved purchase orders and expenditures; approved timesheets; prepared agendas and backup for and attended Board meetings; prepared GM report and assigned tasks in response to Board commitments; held regular one-on-one meetings with Team Leaders; presided over Planning Team meetings; serve as liaison between Board and staff; support Board subcommittees; respond to media requests; disseminate media reports and journal articles of possible interest. Consultation with Attorney on: Dripping Springs TPDES permit. Needmore contested case; PIA compliance and responses; HCPUA easement; bill analysis. Other Activities: coordinate with Legislative support consultant; tracking legislation; bill analysis; attend lege committee hearings; prepare Legislative testimony; TAGD committee meetings; HB 922 review; Management Plan revision planning; Develop 2018 MP content; Salary study project; coordinate PIA request responses; work on draft Dripping Springs settlement agreement; review database SOOs; GMA 10 explanatory report; 2017 budget amendment; 2018 budget planning; review Water Con Period press release.</p>
<b>ADMINISTRATION TEAM</b>			
Dana/Christine/Wilson			
DCW	5/5/2017	Permittee accounts carrying a past due balance:	Currently there are a couple past due account balances.
DCW	5/5/2017	Billings - current month	May 16th statement date for June monthly invoices and 4th quarter invoices (Jun/Jul/Aug). Payments will be due on June 5th and considered late on June 16th.
DCW	5/5/2017	Most current, available financial reports to be posted.	Balance Sheet, and Profit and Loss Statement through November, 2016. Still need to update budget revision and annual report section. This has stopped as it is necessary to go back and change the format (from pdf to excel) of all financial reports due to transparency star requirements.
TR/DCW	5/5/2017	Transparency Stars	Started the process "Open Government is Accountable Government."
DCW	5/5/2017	Invoice was previously submitted to the TWDB.	Payment expected is \$108,081.01. UPDATE 2/27/2017 Invoice on hold by TWDB for contract/budget amendment/extension. UPDATE: 4/30/17 Invoice deleted and has to be redone under whatever new terms will be in the amended Contract.

	Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
Litigation Liability Insurance	DCW	5/5/2017	Currently looking into specialty insurance companies for more information, to perhaps bring to the Board at a later date for their opinion/approval.	Research phase only. Have placed a couple calls but to no avail.
<b>REGULATORY COMPLIANCE TEAM</b> Vanessa Escobar				
Temporary/ Regular Permits	KBE, VE	5/5/17	Conversion of a Temporary Permit to a Regular Permit	Needmore Water LLC is currently a Temporary Permit that has been determined to be administratively complete. Public notice was published on 11/29/16 and comment period closed on 12/19/16. The District received a request for a contested case hearing from both the applicant and TESPA. TESPA requested the hearing to go before the State Office of Administrative Hearings (SOAH). BSACD Board decided that the preliminary hearing to determine party status will be heard by SOAH. Hearing dates are still to be determined. The General Manager has provided a Preliminary Decision with recommended Special Provisions, and a Technical Evaluation, that is available on the website www.bsacd.org
Electro Purification	KBE, VE	5/5/17	Test Well Permit - General Permit	On 3/15/16 Electro Purification withdrew its Temporary/ Regular Permit application for 30,000,000 gal/yr and submitted a contemporaneous filing of 6 test well permit applications. EP has completed the aquifer test and has provided staff with the pumping and monitor well data. Currently both Wetreck and Distrect staff are independently reviewing and analyzing the data.
General Manager Approved Permits	KBE, VE	5/5/17	Individual Permits < 2,000,000 gal/yr	N/A
Drought Statue - No-Drought	KBE, VE	5/5/17	Drought Compliance Monitoring and Enforcement	No new update. No-drought was declared on January 29, 2015.
<b>EDUCATION &amp; OUTREACH</b> Robin Gary				
Water Conservation Period (Stage I)	RG	5/4/17	Announcements	When the District is in No Drought Status, Water Conservation Period extends from May 1- September 31—the time of highest water use. Water Conservation Period announcements went out as a press release, on social media, and the website.
Interns	RG, JD	5/4/17	Media Specialist, Public Information intern	Alicia Eastes began work in January as a part time media specialist. She is working on a dye trace capability video and getting familiar with the District's programs, expertise, and functions. Alicia is putting the final touches on the Dye Trace video and it should be ready for debut in the next week or so. Anna Curl began a 10hr/week internship that will serve as a 3hr course credit towards her UT Marketing degree. She has been working on a Do This/Not That campaign promoting water conservation and water quality protection.
Augmented Reality Water Quality Teaching Tool	RG	5/4/17	Benthic macroinvertebrates	Robin is in discussions with educators and animators to develop a teaching tool that uses augmented reality to allow students to explore the macroinvertebrates and amphibians commonly found in the Eliza Springs pool. The augmented reality will highlight morphology, relationships, life cycles, and notable characteristics. Benthic macroinvertebrates are commonly used as an indicator of water quality. Presence of pollution intolerant species indicates good water quality. In this first phase of the tool, students will be introduced to several the pollution sensitive species present at Eliza Springs. The contract and scope of work have been finalized and signed. Work has begun.
Earth Day event	RG	5/4/17	Water Conservation Toss and Protect the Recharge Zone activities	Robin collaborated with volunteers to host two stations at the Austin Discovery School. From the Ground Up Earth Day event. 80 students cycled through the Water Conservation Toss and Protect the Recharge Zone stations and learned how water quantity and water quality protection is essential.



	Leader/Staff	Date	PROJECT /ACTIVITY DESCRIPTION	STATUS/COMMENTS
Scholarship Program	RG	5/4/17	Camp and College	College scholarship winner was nominated at the second April meeting. He was notified and will likely attend the second meeting in June to meet the Board and staff.
Well Water Checkup	AB staff	5/4/17	Event	Thirty-nine well owners participated in the event. Experts included a well servicer, septic system expert, septic system maintenance specialist, water quality expert, water quality lab manager, and District staff. Twenty-one samples were positive for total coliform bacteria; only 3 had ecoli bacteria presence. All well owners received results letters and appropriate guidance (resample if total coliform present, switch to bottled water and resample if ecoli present).
Enews Blast	RG	5/4/17	April eNews	The April eNews included the following articles: Well water checkup info, scientific presentations links, legislative updates in the news, camp scholarship winners announcements, and Groundwater to the Gulf registration announcement. It was released on April 13, 2017 and was opened 1,227 times.
Internet Traffic Report	RG	5/4/17	Page views and visits to the District Website	There were 2,390 total page views by 1,974 unique visitors. Top sites in order of number of views are the home page (605), Maps (166), Well Owner Edu (115), Staff (112). The District Facebook page now has 561 'Likes' and responses to posts have been very positive.
<b>AQUIFER SCIENCE</b>				
Dye Tracing	BS, BH	5/4/17	Dye tracing	Discussions are underway with the HTGCD, EAA and CoA about potential dye tracings in the upcoming months in the Blanco and Onion watersheds.
Central Hays County Groundwater Evaluation	BH, BS, JC	5/4/17	Well and hydrogeology characterization	EP completed aquifer testing in mid-January. In February, a multipoint well was installed in the Rolling Oaks subdivision close to several of the EP wells. A second multipoint well was also completed in February at a site in Travis County on Hamilton Pool Rd. near Hwy 71. AS staff are taking water level measurements and plan sampling and permeability testing through summer 2017.
Antioch Cave	BS, BH, JC	5/4/17	Onion Creek Recharge Enhancement Project	Flow in Onion Creek has diminished significantly due to low rain amount in April. New equipment to control the Antioch valve were installed in March 2017.
Water-Quality Studies	BS, BH, JC	5/4/17	Sampling and analysis of groundwater and surface water	District staff are busy sampling on behalf of the TWDB through the summer 2017. Annual sampling for potential hydrocarbon contaminants (funded by Magellan) was completed in April 2017 and awaiting results.
Saline Zone Studies	BS, BH	5/4/17	Installation of multipoint monitor well	Drilling began August 3, 2016 at the TDS site. Installation of the multipoint well was finished on August 24. Testing and sampling of the well began on Oct. 13 and was finished by mid November. Aquifer Science staff are working on a report of the multipoint well testing and sampling that will be a part of the RFP grant report. Follow-up sampling was conducted in March 2017.
Drought and Water-Level Monitoring	BH, BS, JC	5/4/17	Drought status, monitor wells, and synoptic water level events	As of May 4, the water level in the Lovelady well was at 540.8 ft above msl, and Barton Springs was flowing at 108 cfs.
Information Transfer	BS, BH, JC	5/4/17	Presentations, conferences, reports, and publications	District staff presented five papers at the Southeast Geological Society of America meeting in San Antonio in mid-March. Brian Huett spoke about the hydrogeology of the Blanco River at a book launch in Kyle (4/8/17). Brian Smith gave a presentation to the Texas Aquifers Conference on Antioch Cave, and he gave a presentation to the Jackson School (UT) on the District's saline Edwards studies.
Aquifer Testing	BS, BH, JC	4/7/17	Planning, participation, and review of aquifer tests	EP aquifer testing finished in January 2017. Data has been compiled.
<b>AD-HOC TEAMS</b>				

	Leader, Staff	Date	PROJECT / ACTIVITY DESCRIPTION	STATUS/COMMENTS
<b>Technical Team</b>	BAS	5/4/17	Current areas of discussion	Topics of discussion at the technical team meeting in April were the RTP grant, Hays and Travis County multipoint wells, SH45, TWDB sampling program, and the Water Well Checkup.
<b>Planning Team</b>	JD	5/5/17	Strategic and tactical planning and discussion topics	New Business: management plan revisions; Legislative update; budget planning
<b>Database Team</b>	RC/VE	5/5/17	Database Enhancement	We received 9 Statements of Qualifications from firms in response to our posted RFQ. Technical Staff is reviewing those qualification and developing a scope of work for the RFP.
<b>UPCOMING ITEMS OF INTEREST</b>				
1st May Board Meeting		5/11/17		
CAPCOG Water Exploratory Committee		5/11/17	10am, CAPCOG offices	
7th USGS Karst Interest Group Workshop		5/16/17	thru 5/17, San Antonio	
District staff retreat		5/18/17		
2nd May Board Meeting		5/25/17		
Regional WQPP working group lunch		5/27/17	11am, NXNW at Slaughter and Mopac	
Memorial Day		5/29/17	District Holiday - Office closed	
<b>GMA 10</b>		<b>5/30/17</b>	<b>11am, EAA offices, San Antonio</b>	
TAGID Regular Business Meeting		5/31/17	thru 6/1, Austin	
1st June Board meeting		6/8/17		
Groundwater to Gulf		6/13/17	thru 6/15	
2nd June Board meeting		6/22/17		
Independence Day		7/4/17	District Holiday - Office closed	
Region K		7/12/17		
1st July Board Meeting		7/13/17		
2nd July Board Meeting		7/27/17		


## **Item 4**

### **Presentation**

**A presentation by Dr. Brian Smith, Principal District Hydrogeologist, on the data and findings from the District's multi-port monitor well network.**

## Desalination and ASR Potential in the Saline Edwards Aquifer

Brian A. Smith, Ph.D., PG  
Brian B. Hunt, PG



**30** Barton Springs  
Edwards Aquifer  
CONSERVATION DISTRICT

UT Austin Program  
July 5, 2017

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### Edwards Aquifer



The map shows the Edwards Aquifer system in Texas, divided into three segments: Fort Worth Segment (north), Barton Springs Segment (center), and San Antonio Segment (south). Major cities like Dallas, Austin, and San Antonio are marked. A red line highlights the Barton Springs Segment.

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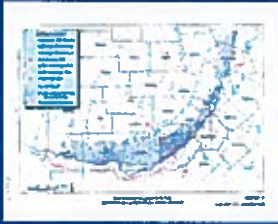
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### Previous Saline Edwards Studies



- TWDB (Flores 1990)
- EUWD (Potter 1992; Schultz)
- SAWS
- USGS (Thomas/Lambert etc.)
- EAA
- UT Austin (Oetting, Banner and Sharp, 1995)
- Dutton and others

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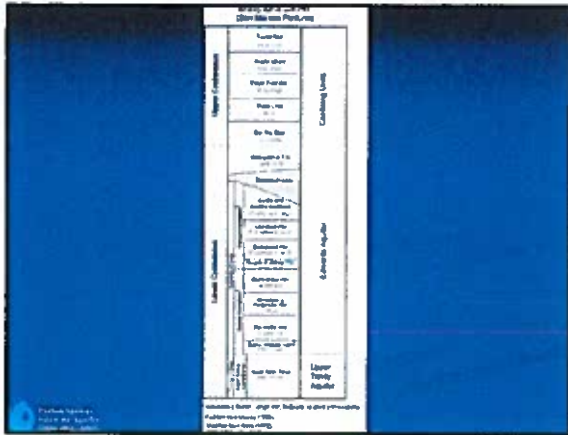
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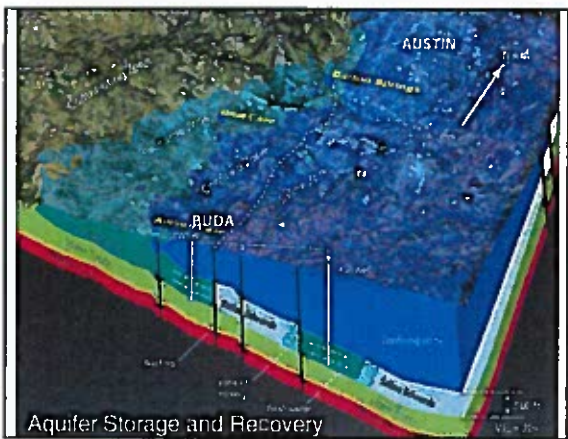
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**TWDB Regional Facilities Planning Grant**  
Feasibility study for desalination and ASR

- BSEACD- hydrogeologic characterization with the installation of multiport monitor well, project management
- Carollo Engineers
- ASR Systems (David Pyne)
- New Gen (financial analysis)

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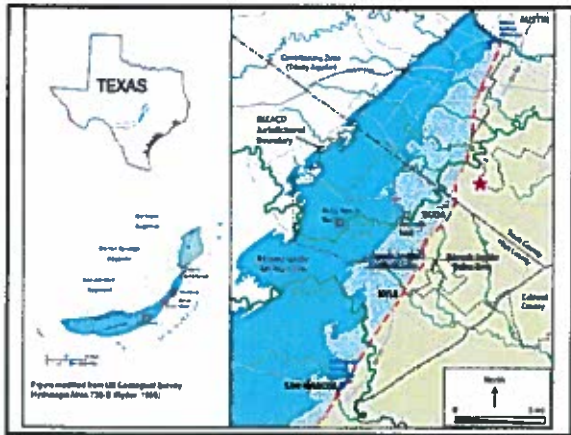
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### Multipoint Monitor Well



- Long-term data collection:
- Fluid pressure (water levels)
- Hydraulic conductivity (slug testing)
- Sampling (geochemistry)



© 2016 Westbay  
Environmental Technology  
www.westbay.com

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### Drilling



- August 2016
- Depth: 1,100 ft
- Entire Edwards Group perched

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Environmental Technology  
www.westbay.com

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### Geophysical Logging



Caliper Gamma

Budds Fin  
Del

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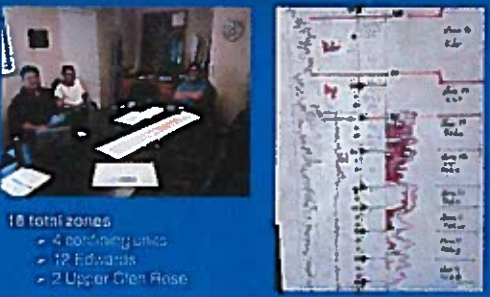
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### Multiport Well Design



18 total zones

- 4 bonding units
- 12 Edwards
- 2 Upper Glen Rose

© 2017 Schlumberger

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### Multiport Installation



© 2017 Schlumberger

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### Multiport Installation

1. Photo courtesy of  
2. Photo courtesy of

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### Packers

1. Photo courtesy of  
2. Photo courtesy of

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### Purging and Slug Testing

1. Photo courtesy of  
2. Photo courtesy of

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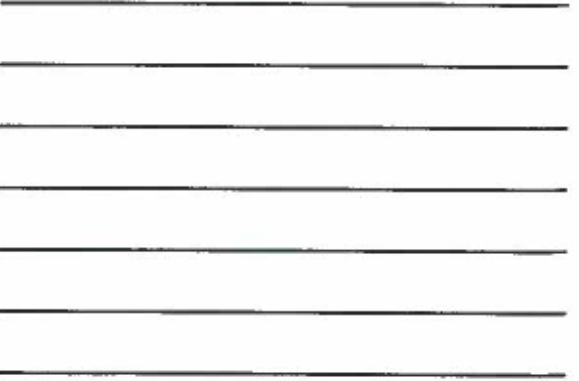
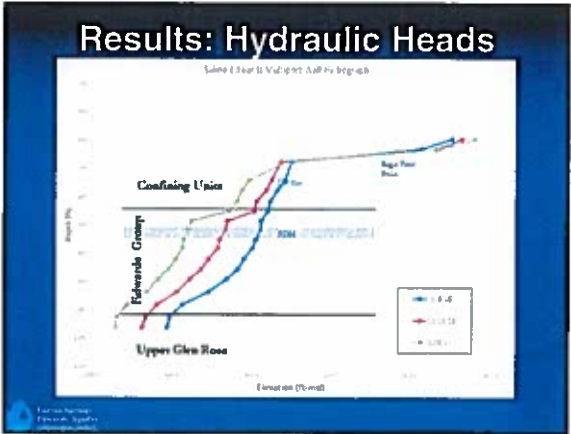
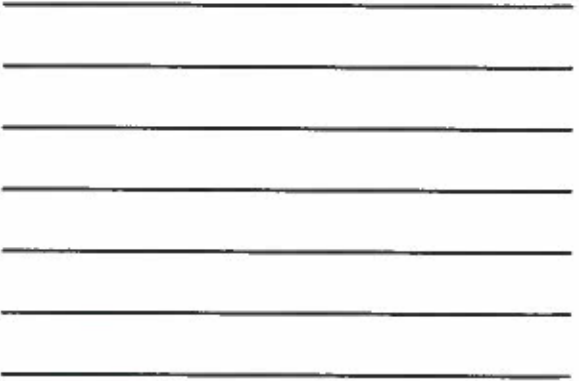
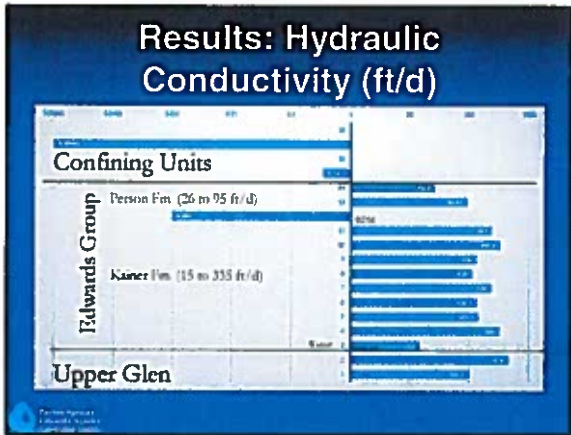
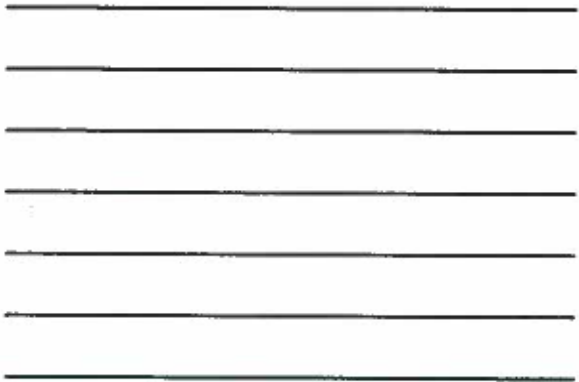
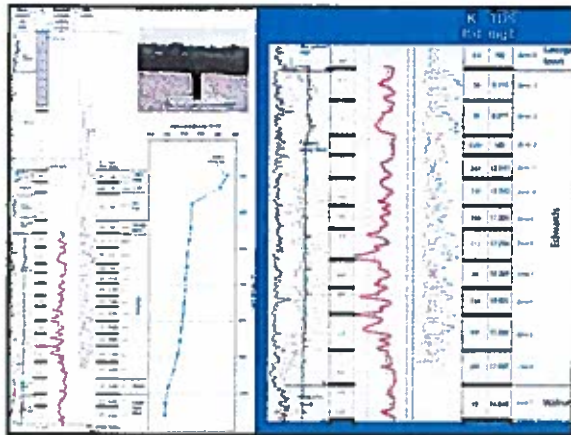
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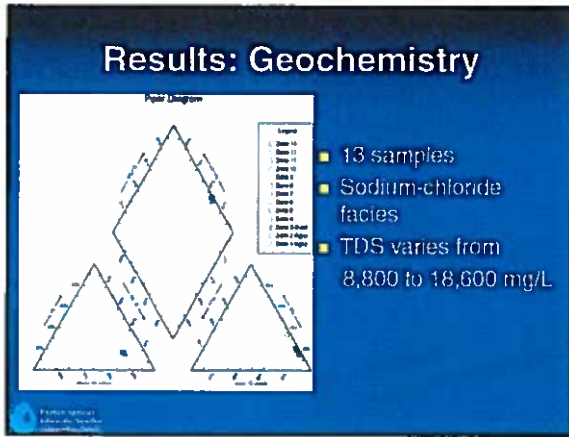
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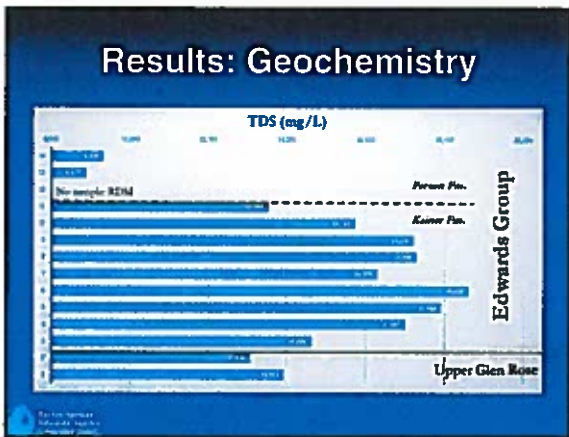
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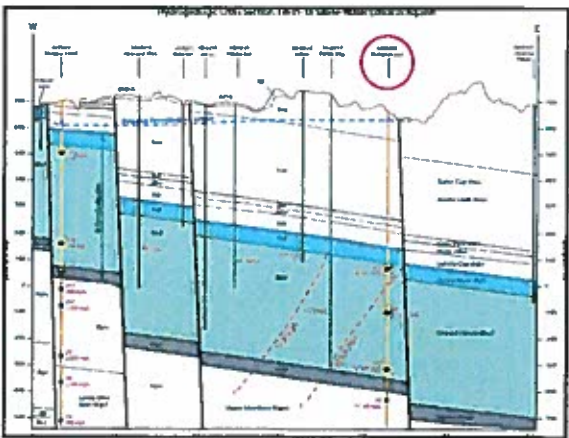
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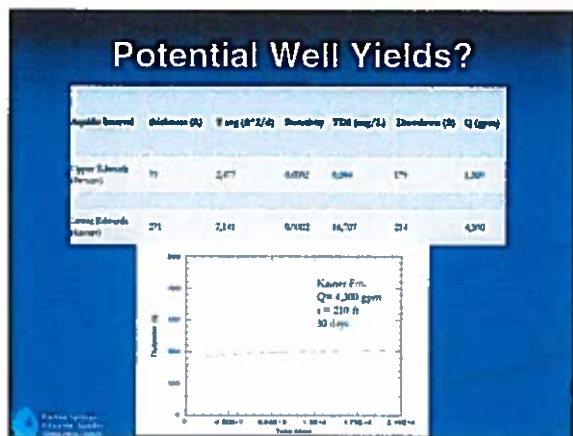
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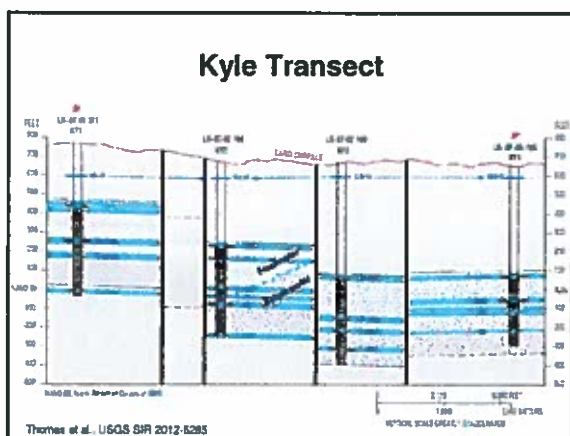
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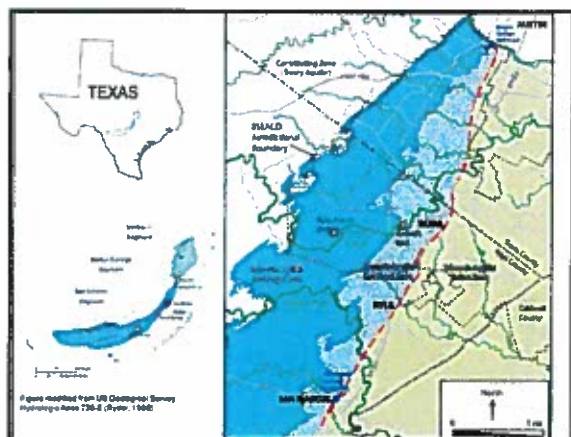
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### Conclusions

- Data provide detailed data on the brackish Edwards
  - TDS 9k-18k mg/L, K 0.001- 474 ft/d
- RDM appears to provide hydrogeologic stratification between Person and Kainer Fms.
- Saline Edwards/Upper Glen Rose appear very transmissive
- High-yielding wells possible
- Good potential for long-term storage

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### Questions?

A photograph of a landscape with a wellhead in the foreground. The wellhead is a concrete structure with a pipe extending upwards. The background shows a grassy hillside with some trees and a fence.

Thank you:

- TWDB
- Texas Disposal Systems

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## **Item 5**

### **Board Discussions and Possible Actions**

- a. Discussion and possible action related to the City of Dripping Springs TPDES permit application to authorize direct discharge of treated wastewater to Onion Creek in the contributing zone of the Barton Springs segment of the Edwards Aquifer.**

## **Item 5**

### **Board Discussions and Possible Actions**

**b. Discussion and possible action related to activities in the 85th Legislative session of interest to the District.**

## **Item 6**

### **Adjournment**