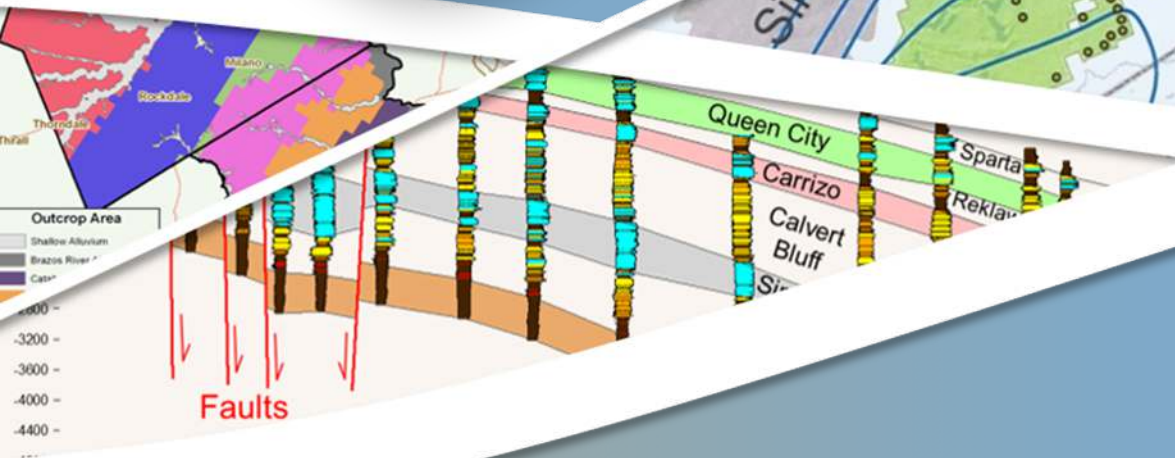


# Excerpts from Presentation to Board of Directors by Intera June 6, 2019

Presented To:



Presented By:

Steve Young  
Jevon Harding  
Tingting Yan



March 5, 2019

# Outline

- Potential for land subsidence (Item 5)
- Possible contamination of groundwater resources due to deposits of coal ash (Item 7)
- Progress report on hydrologic studies (Item 6)
  - Predictive Simulations using Updated GAM
  - Aquifer Storage and Recovery
  - Surface Water - Groundwater Interaction
  - Update of Stratigraphy/Structure/Water Quality

# AX Coal Ash Landfill

- AX Landfill is in Milam County discussed in recent EIP report
- EIP report covers 16 Texas Coal-fired Power Plants
- Drinking Water Standards exceeded at Sandow Facility

## Groundwater Contamination from Texas Coal Ash Dumps

*New Data Reveal Pollution Leaking from 100 Percent of Coal Power Plants With Available Records*

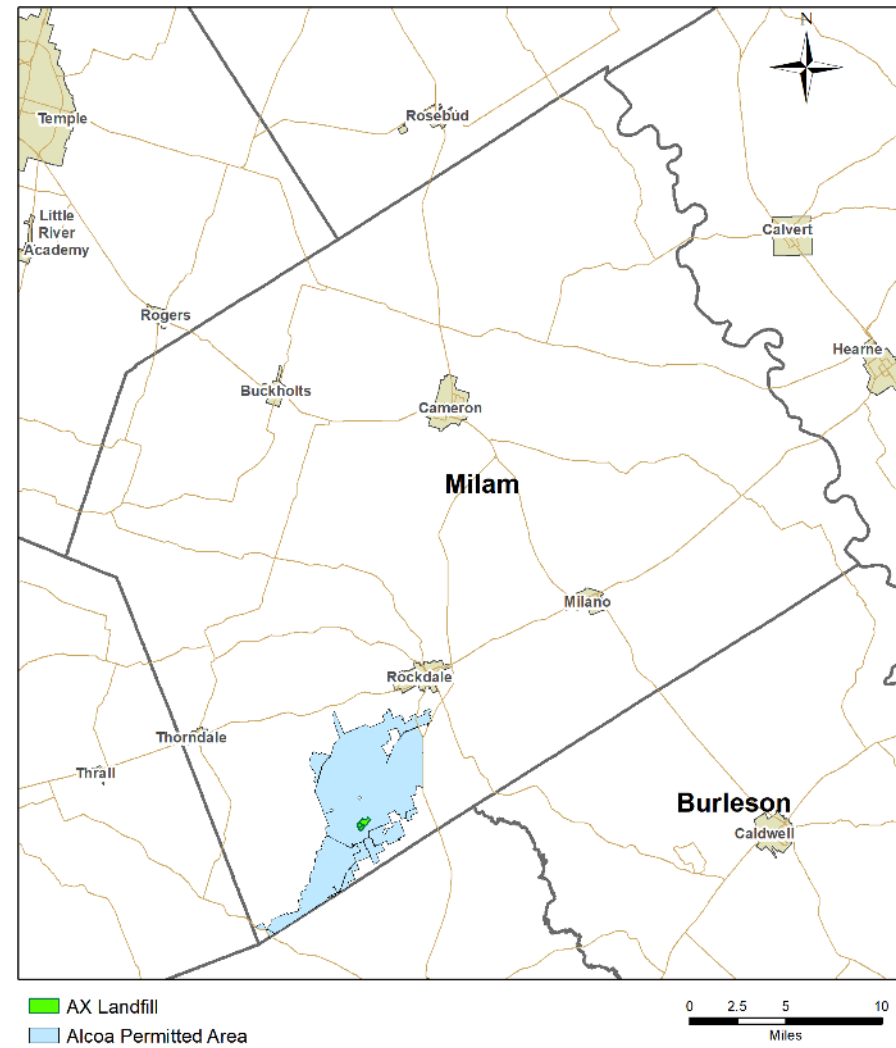


JANUARY 17, 2019



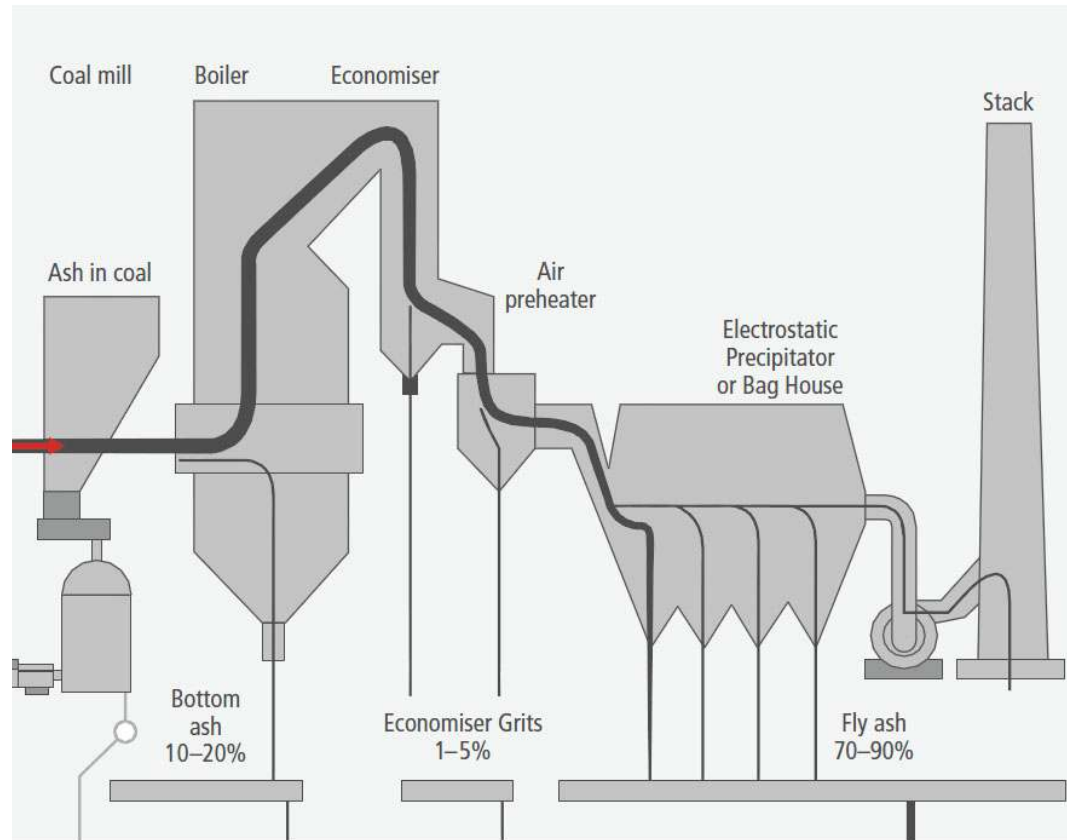
# AX Landfill: History and Location

- Landfill created to handle fly ash from Sandow 5 Generating Plant, which came online in 2009
- Covers approximately 160 acres
- Located approximately 8 miles southwest of Rockdale
- Landfill registered with TCEQ as Class 2 non-hazardous waste landfill in 2008 and updated in 2015
- Fly ash and bottom ash are transported to landfill via trucks
- Ash is disposed as dry material
- Information available at <https://www.luminant.com/ccr/#>



# Fly Ash and Bottom Ash

- Ash is non-flammable minerals or residue remaining after coal is incinerated
- Ash
- Bottom Ash
  - About 20% of ash
  - Coarse residual at bottom of combustion chamber
- Fly Ash
  - About 80% of ash
  - Finer residual at caught in gas in combustion chamber
- Disposal of Ash
  - Historically through mid 80's, mainly sluiced to ponds
  - Since 80's dry stacking has become increasingly prevalent



<http://report.hazelwoodinquiry.vic.gov.au/part-four-health-wellbeing/health-wellbeing-background/ash-2.html>

# Coal Combustion Rule (CCR) and Reporting

- CCR(40 CFF 257 Subpart D) effected on Oct 19, 2015
  - Operation standards for active landfills for bottom ash and fly ash
  - In 2012, 470 coal plants and over 1,000 landfills and surface impoundments
- CCR Action Items
  - Record keeping
  - Install groundwater wells and groundwater monitoring by October 2017
  - Construction standards
  - Landfill closure plans
  - Internet site that posts documentation
- Rule is self-implementing meaning facilities must comply with requirements without regulatory oversight
- States not required to adopt the program
- Citizens have ability to enforce under RCRA citizen suit authoring

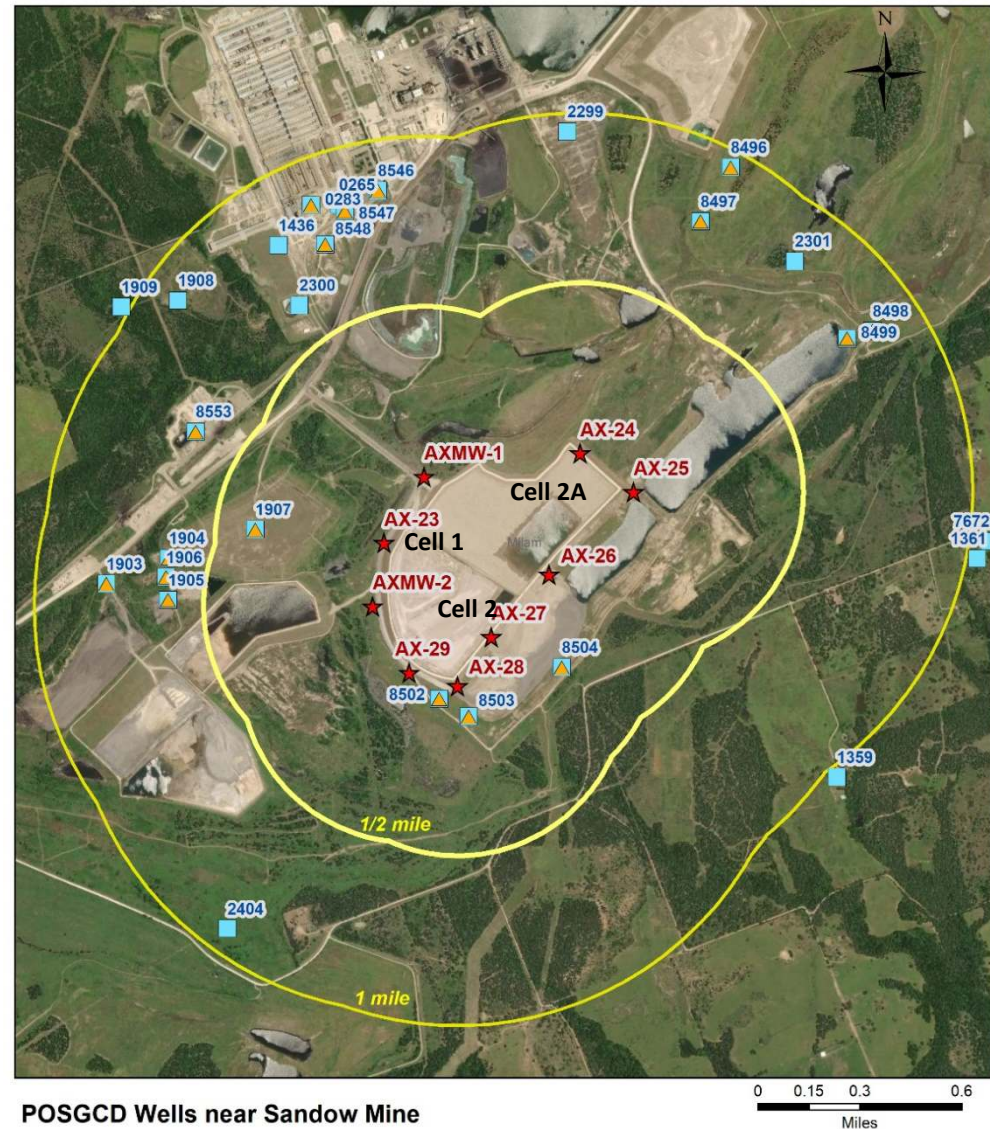
## Parameters That Must be Monitored

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 and 228 combined

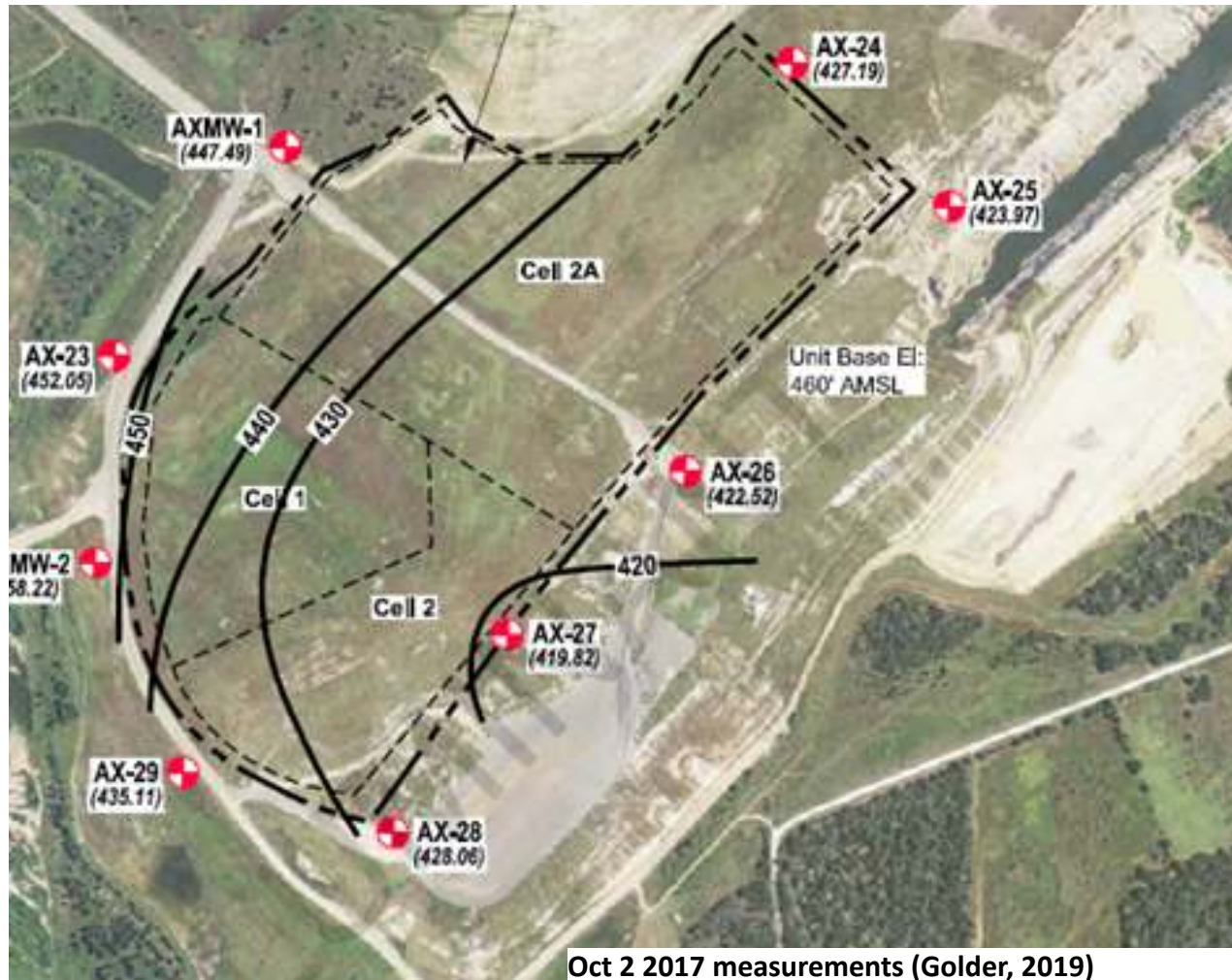


# Monitoring Well Locations

- AX Landfill Construction
  - Cell 1 constructed in 2013
  - Cell 2 constructed in 2015
  - Cell 2a has not received CCR wastes (PBW, 2018)
  - Cells 1 and 2 have low-permeability geotextile liner
  - Under liner is clay with a low permeability
  - Constructed using excavated material from mining lignite coal
- AX Well Construction
  - All have 10 ft or 20 ft well s
  - MW-1 and MW-1 installed in 2012 and have max depth of 63 feet
  - Other wells installed in 2015 had have max depth of 98 feet
- Monitoring
  - Sampled bimonthly from 2015 to 2016
  - Identify which constituents are above background concentrations in 2019 report
  - 2019 identified another source other than landfill as source of several elevated concentrations



# Measured Water Levels





# On-going Activity

- CCR Rule

- Continued monitoring and reporting for active facilities
- In August 2018, DC Circuit Court ruled that CCR Rule should apply also to inactive sites
- July 2019 -- Ruling on Appeal to DC Circuit Court expected

- TCEQ

- Notifying Coal Ash Facilities that if analyte concentrations exceeds TRRP Tier 1 PCLs, then they need to be reported to TCEQ Remediation Division (Corrective Action Group)
- Exceedances of PCL triggers
  - Drinking Water Survey Report
  - Affected Property Assessment Report



## **TCEQ REGULATORY GUIDANCE**

Remediation Division

RG-366/TRRP-12 • Revised May 2010

## **Affected Property Assessment Requirements under TRRP**

- Identifying source areas and types of Chemicals of Concern (CoCs)
- Characterizing the geologic and hydrogeologic properties of the area that influence COC fate and transport
- Determining COC migration pathways, and
- Evaluating exposure pathways

# POSGCD Efforts of Verification

- GCDs have no regulatory authority, but can monitor
  - POSGCD staff efforts to verify appropriate actions according to law
  - Meeting with 8 TCEQ staff and 8 other GCDs May 10, 2019
  - Meeting with 2 Luminant management and 4 other GCDs May 15, 2019
- TCEQ notified all 17 CCR sites March 2019
- TCEQ is engaged with all sites
  - Coal Ash Facilities- if analyte concentrations exceeds Texas Risk Reduction Process (TRRP) Tier 1 PCLs, then they need to be reported to TCEQ Remediation Division (Corrective Action Group)
  - Exceedances of PCL triggers
    - Drinking Water Survey Report
    - Affected Property Assessment Report
- TCEQ is working through new EPA Rules
- TCEQ is responsive to GCD requests



## **TCEQ REGULATORY GUIDANCE**

Remediation Division

RG-366/TRRP-12 • Revised May 2010

## **Affected Property Assessment Requirements under TRRP**

- Identifying source areas and types of Chemicals of Concern (CoCs)
- Characterizing the geologic and hydrogeologic properties of the area that influence COC fate and transport
- Determining COC migration pathways, and
- Evaluating exposure pathways
- Legacy sites are currently exempt, but may be brought in later



Questions ?