



Railroad Commission of Texas

Optimizing GIS and Office 365 Applications to Manage Energy-related Regulatory Activities

Jared Ware, Oil & Gas Division
October 23, 2024



Agenda



- **Overview**
- **GIS applications by regulatory function**
- **GIS applications used by staff and stakeholders**
- **Administrative and technical requirements**
- **Summary**

Railroad Commission of Texas (RRC)



COMMISSIONERS



Christi Craddick
Chairman



Wayne Christian
Commissioner



Jim Wright
Commissioner

RRC Mission Statement

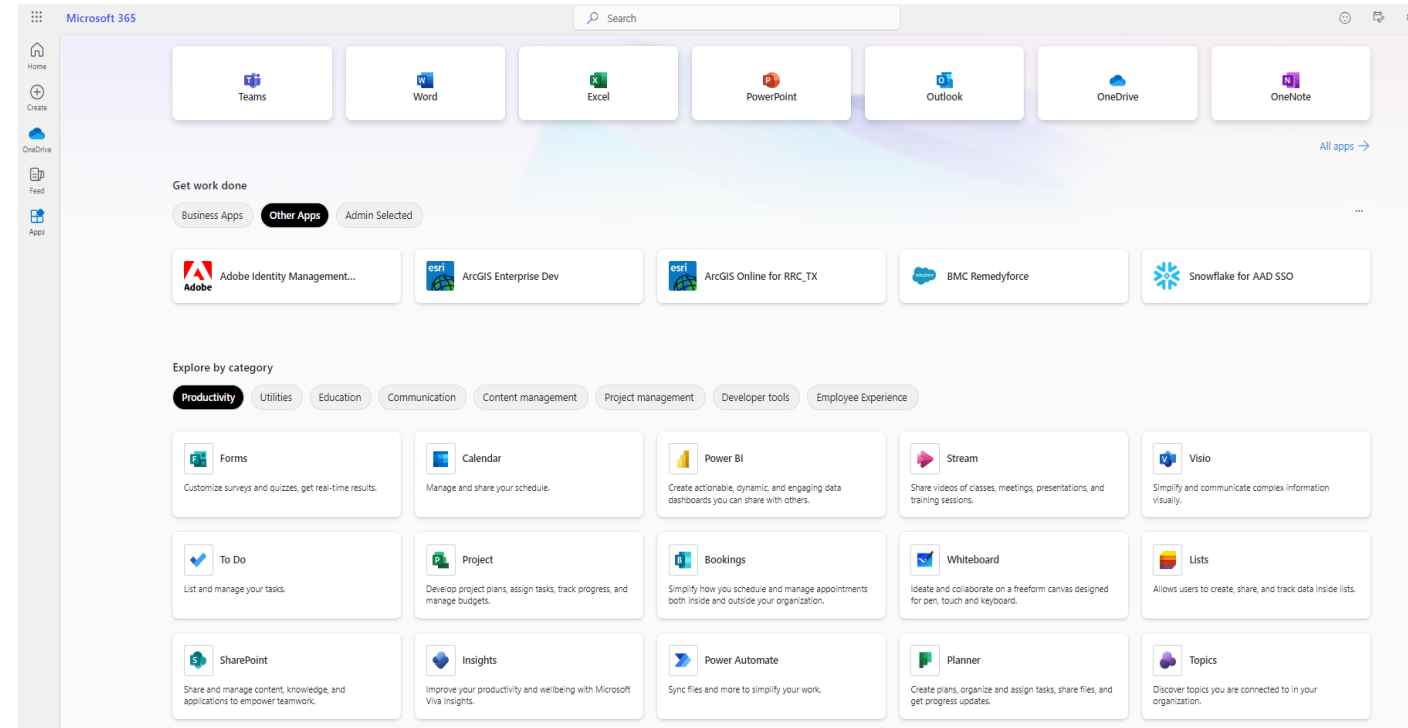
Our mission is to serve Texas by our stewardship of natural resources and the environment, our concern for personal and community safety, and our support of enhanced development and economic vitality for the benefit of Texans.

The Railroad Commission of Texas (Commission) is the state agency with primary regulatory jurisdiction over the oil and natural gas industry, pipeline transporters, natural gas and hazardous liquid pipeline industry, natural gas utilities, the LP-gas industry, critical natural gas infrastructure, and coal and uranium surface mining operations.

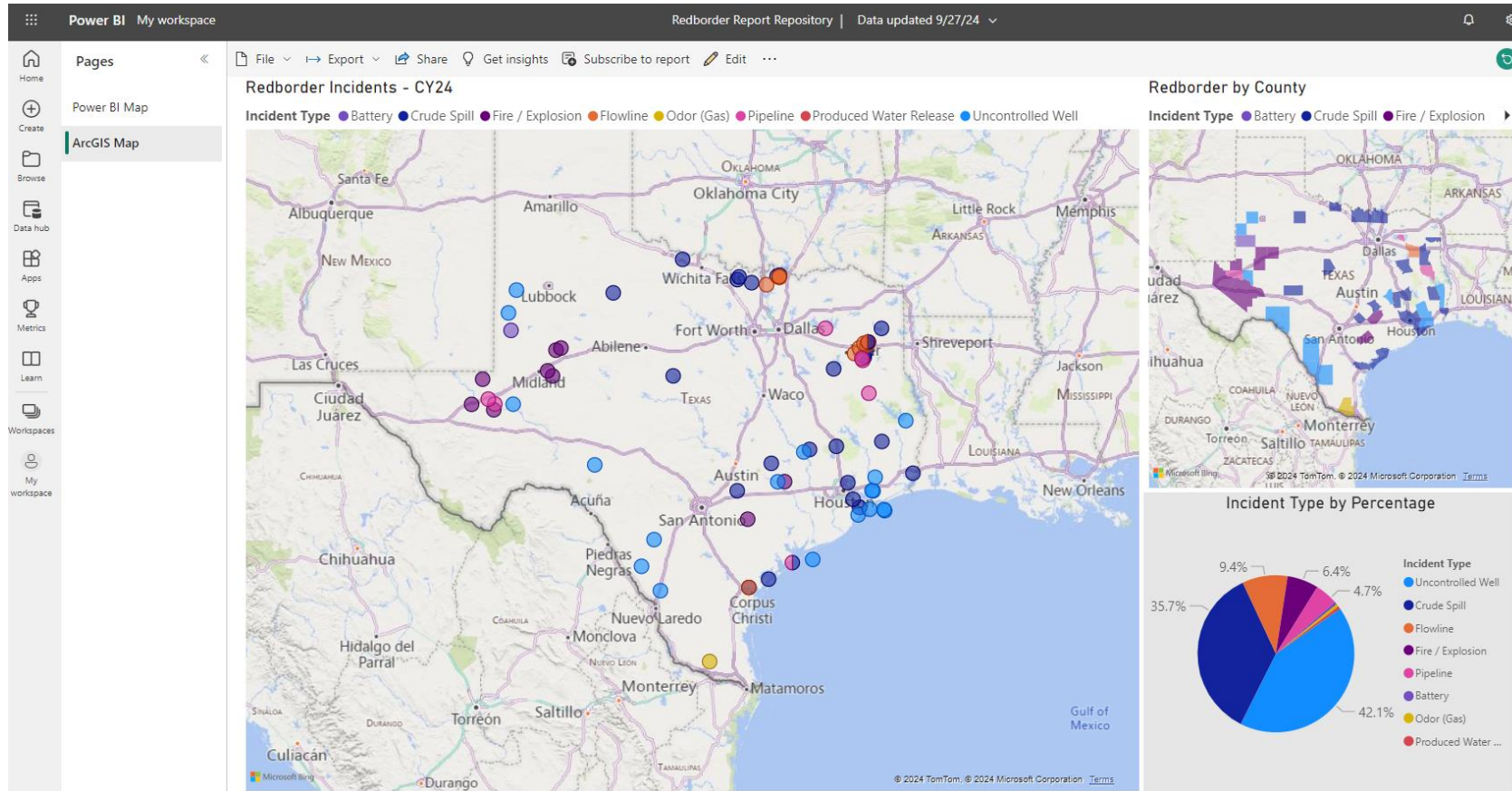
GIS and Office 365 for Regulatory Requirements



- **Common applications in the public sector**
 - Most agencies use Microsoft products applications
 - Esri's ArcPro is used throughout the public sector
- **Cost effective support**
 - Lower maintenance costs
 - Lower training costs
- **Ease of use**
 - Recognized data types
 - Sharable information



- Enhance data access and security by connecting ArcGIS Maps for Power BI to ArcGIS Online / Enterprise
- Enables secure data distribution in dashboards and reports



Power Automate



Power Automate

Edit Share Save As Delete **Run** Send a copy Export Analytics Turn off Repair tips off

Flows > Extract data from TDLR well report form

Details Edit

Flow Extract data from TDLR well report form	Status On
Primary owner J Ware	Created Feb 28, 01:28 PM
	Modified Feb 29, 03:44 PM
	Type Instant
	Plan The user who runs the flow

28-day run history Edit columns All runs

Start	Duration	Status
Oct 2, 11:51 AM (0 sec ago)	697 ms	Running

STATE OF TEXAS WELL REPORT for Tracking #678934

Owner: Georgetown I.S.D.	Owner Well #: No Data
Address: 507 E. University Georgetown, TX 78626	Grid #: 58-27-3
Well Location: 4101 Southwestern Blvd Georgetown, TX 78626	Latitude: 30° 36' 07.34" N
Well County: Williamson	Longitude: 097° 38' 07.23" W
Number of Wells Drilled: 2	Elevation: 815 ft. above sea level

Type of Work: **New Well** Proposed Use: **Closed-Loop Geothermal**

Drilling Start Date: 8/27/2024 Drilling End Date: 8/27/2024

	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
Borehole:	4.75	0	300

Drilling Method: **Air Rotary**

Borehole Completion: **Straight Wall**

	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
Annular Seal Data:	0	300	Bentonite 15 Bags/Sacks

Seal Method: **Tremie** Distance to Property Line (ft.): 50+

Sealed By: **Driller** Distance to Septic Field or other concentrated contamination (ft.): **N/A**

Distance to Septic Tank (ft.): **N/A**

Method of Verification: **Tape**

Surface Completion: **Closed Loop Geo** Surface Completion by Driller

Water Level: **No Data**

Packers: **No Data**

Type of Pump: **No Data**

Well Tests: **No Test Data Specified**

Permit Approval - Shallow Closed Loop Geothermal Injection Well

J Ware To J Ware Expires 1/1/2025

Hello Michael Tolle - 58457

You are permitted to drill a shallow closed loop geothermal injection well at 4101 Southwestern Blvd Georgetown, TX 78626 with a start date of 8/27/2024 in accordance with Senate Bill 786 and Railroad Commission of Texas Rule 4G.

The proposed use is for a Closed-Loop Geothermal at the following coordinates: Latitude: 30° 36' 07.34" N and Longitude 097° 38' 07.23" W in Williamson County at a depth not to exceed 600 feet.

Within 30 days of the drilling end date, please submit a completed State of Texas Well Report to the Railroad Commission of Texas to geothermal@rrc.texas.gov and j.ware@rrc.texas.gov in .pdf format.

Thank you,
Permit Review Team

Owner: Georgetown I.S.D.
Address: 507 E. University Georgetown, TX 78626
Well Location: 4101 Southwestern Blvd Georgetown, TX 78626
Well County: Williamson
Number of Wells Drilled: 2
Owner Well Number: No Data
Grid Number: 58-27-3
Latitude: 30° 36' 07.34" N
Longitude: 097° 38' 07.23" W
Elevation: 815 ft. above sea level
Type of Work: New Well
Proposed Use: Closed-Loop Geothermal
Drilling Start Date: 8/27/2024
Drilling End Date: 8/27/2024
Bore Hole Diameter (inches): 4.75
Bore Hole Top Depth (feet): 0
Bore Hole Bottom Depth (feet): 300
Drilling Method: Air Rotary
Company Information: Michael Tolle 6556 Indian Trail Sanger, TX 76266
Driller Name: Michael Tolle
License Number: 58457

AI Modeling (in Power Automate)



- Use a consistently formatted form to train the AI model
- Ensure form fields have data or the training results will vary

Power Automate

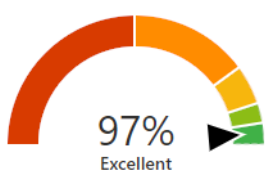
Edit model | Share | Settings | Delete

Models > TDLR Well Report (Data Extract)

Document Processing • Fixed template documents • Published • J Ware

Published version | Last trained version

Accuracy score ① [More details](#)



97%
Excellent

This model correctly predicted 97% of actual results and may be ready to be used. To improve the accuracy score, [review full evaluation](#).

[Use model](#) [Quick test](#) ⋮

Information to extract [More details](#)

Owner	99	🟢🟢🟢
Address	99	🟢🟢🟢
Well Location	99	🟢🟢🟢
Well County	99	🟢🟢🟢
Number of Wells Drilled	99	🟢🟢🟢
Owner Well Number	80	🟡🟡🟡
Grid Number	80	🟡🟡🟡
Latitude	99	🟢🟢🟢

Manually trigger a flow

Extract information from documents

Send an email (V2)

*To: J.Ware@rrc.texas.gov

*Subject: Well Report - Data Extracted

*Body:

Font 12 B I U

Owner: Owner text x

Address: Address text x

Well Location: Well Location text x

Well County: Well County text x

Number of Wells Drilled: Number of Wells Drilled text x

Owner Well Number: Owner Well Number text x

Grid Number: Grid Number text x

Latitude: Latitude text x

Longitude: Longitude text x

Elevation: Elevation text x

Type of Work: Type of Work text x

Proposed Use: Proposed Use text x

Drilling Start Date: Drilling Start Date text x

Drilling End Date: Drilling End Date text x

Bore Hole Diameter (inches): Borehole Diameter (inches) text x

Bore Hole Top Depth (feet): Borehole Top Depth (Feet) text x

Bore Hole Bottom Depth (feet): Borehole Bottom Depth (Feet) text x

Drilling Method: Drilling Method text x

Company Information: Company Information text x

Driller Name: Driller Name text x

License Number: License Number text x

Class V Geothermal Defined

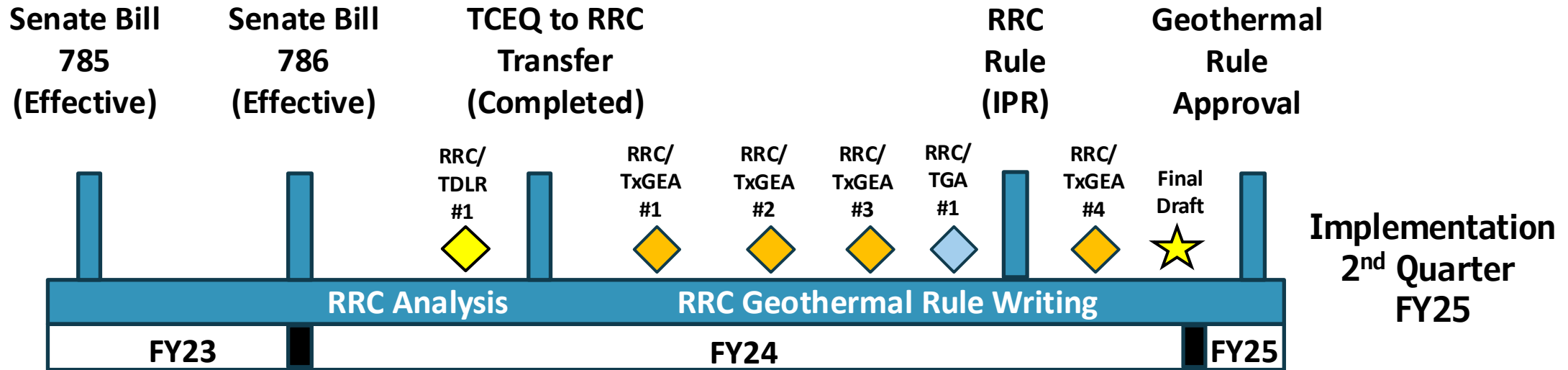


- **Closed-loop geothermal injection well means a closed system geothermal well**
 - used to circulate water, other fluids, or gases
 - through the earth as a heat source or heat sink
 - to generate power or heat or cool a structure.
- **Designated as a Class V well under the underground injection control program administered by RRC**

Regulatory Timeline & Key Events



- Timeline of events over the past 15+ months



6/18/2023 *“Defines ownership of geothermal energy & associated resources”*

9/1/2023 *“RRC has jurisdiction over closed loop geothermal injection wells”*

12/1/2023 *“All functions and activities related to regulating closed loop geothermal injection wells are transferred to RRC”*

6/27/2024 *“Focus on shallow, closed-loop geothermal; deep geothermal rule writing begins in 1st Quarter FY25”*

9/24/2024

IT Timeline

- Research & Assess Requirements
- FY24 Projects Priorities & Funding
- Convert hardcopy items to digital format
- Determine & develop data model and applications
- Test Office 365 and GIS applications



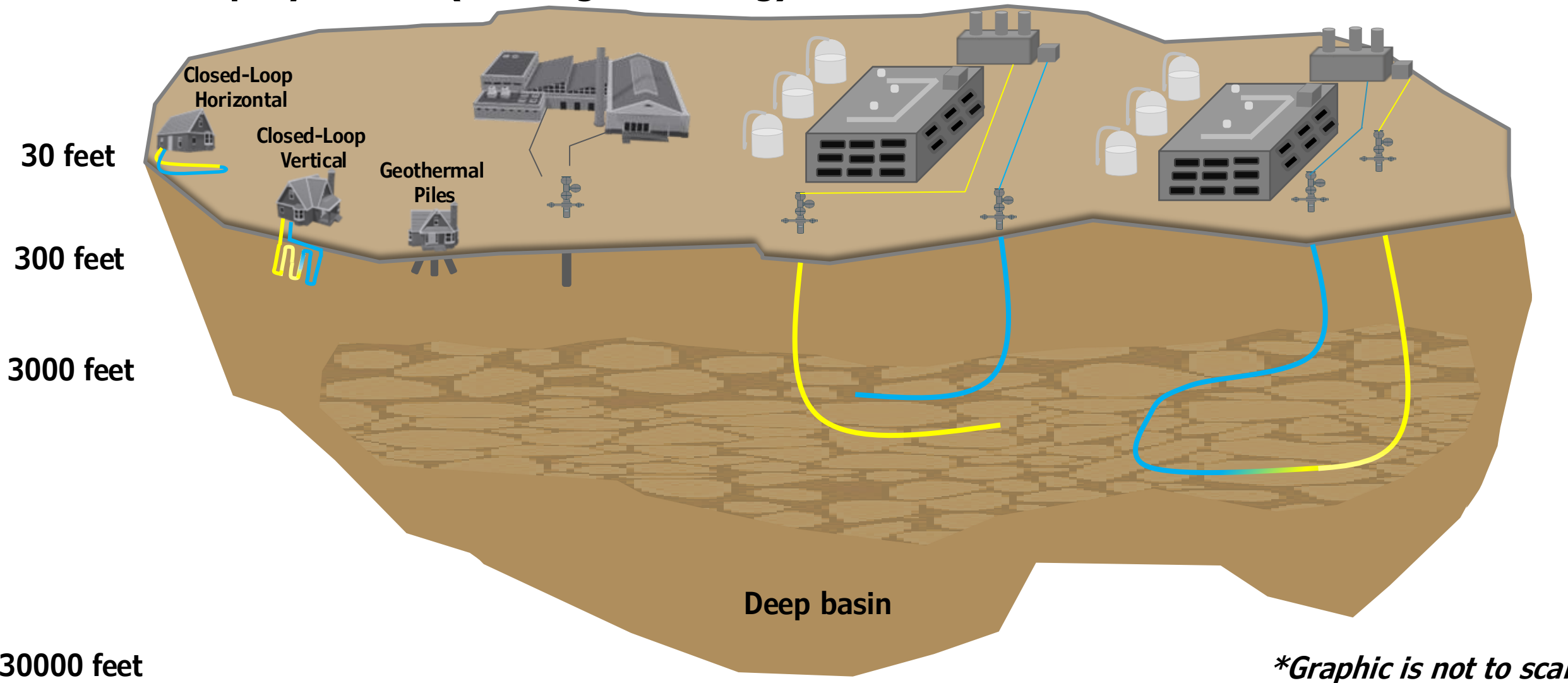
Categories of Class V Geothermal Wells

**Ground Source
Heat Pump System**

**Direct Use
(Heating & cooling)**

Enhanced

Advanced



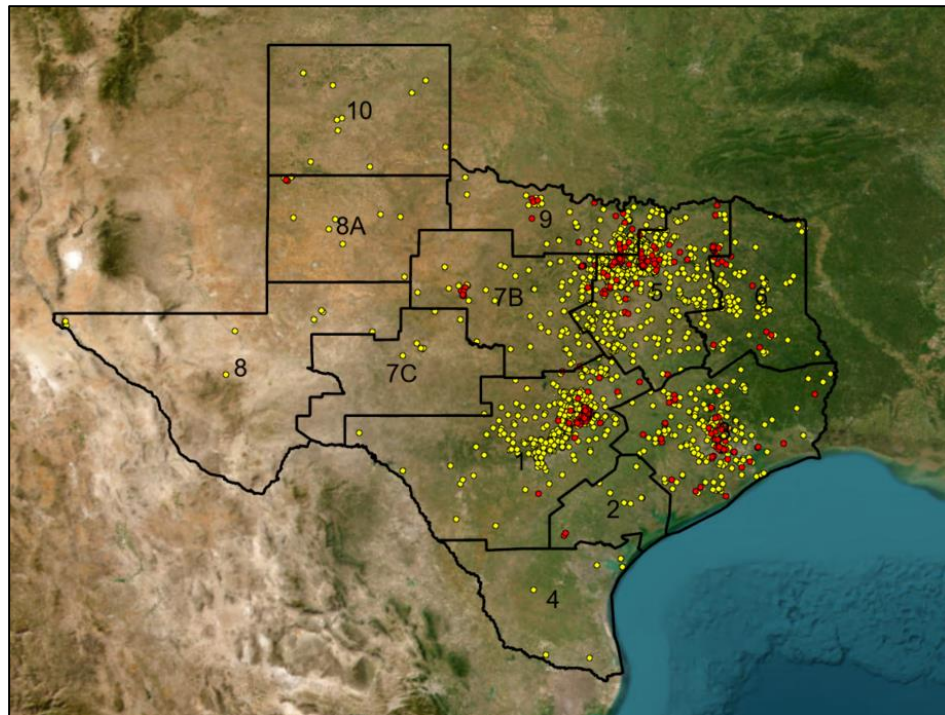
**Graphic is not to scale*

Tracking Class V Wells Using GIS and Power BI

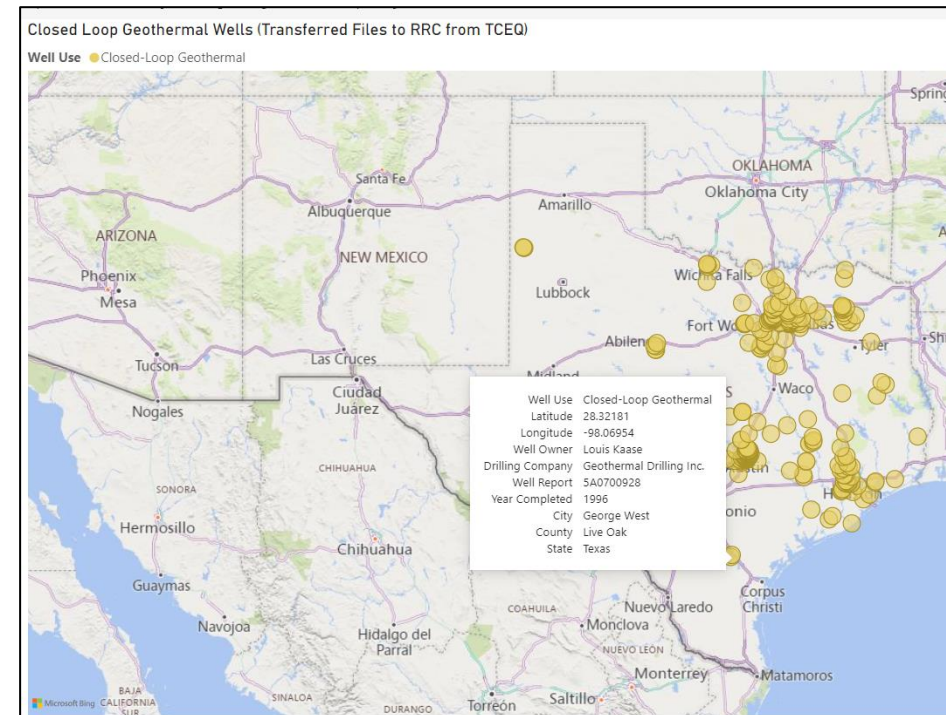


- Tracking legacy and new well reports
 - Determining the proper digital data model
 - Ensuring all regulatory information is captured

Geographic Information System



Microsoft Power BI



Class V Geothermal Wells – Data Modeling



- **Attributes:** Capturing requirements from permitting to plugging

The screenshot displays a GIS interface with a map of Class V Geothermal Wells. A yellow circle on the map indicates the location of a specific well. A pop-up window provides the following details:

FY24_Class_V_Geothermal_Wells_TDLR_Hyperlink - New Well	
FID	29
TDLR_Track	664254
Work_Code	New Well
Well_Type	Closed-Loop Geothermal
Owner	Western Midstream
County	Loving
Address	2930 SH 302, Mentone, 79754
Latitude	31.773289
Longitude	-103.417481
GridNumber	46-13-8
StartDate	1/27/2024
EndDate	3/1/2024
Bore_Depth	300
Driller	Michael Tolle
Company	Michael Tolle
License	58457
ReportLink	https://www3.twdb.texas.gov/apps/waterdatainteractive//GetReports.aspx?Num=664254&Type=SDR-Well

The detailed well report for Tracking #664254 includes the following information:

STATE OF TEXAS WELL REPORT for Tracking #664254

Owner: **Western Midstream** Owner Well #: **No Data**
 Address: **9950 Woodloch Forest Dr. Ste2800 The Woodlands, TX 77380** Grid #: **46-13-8**
 Well Location: **2930 SH 302 Mentone, TX 79754** Latitude: **31° 46' 23.84" N**
 Well County: **Loving** Longitude: **103° 25' 02.93" W**
 Number of Wells Drilled: **70** Elevation: **2956 ft. above sea level**

Type of Work: **New Well** Proposed Use: **Closed-Loop Geothermal**

Drilling Start Date: **1/27/2024** Drilling End Date: **3/1/2024**

Borehole:	Diameter (in.)	Top Depth (ft.)	Bottom Depth (ft.)
	4.75	0	300

Drilling Method: **Mud (Hydraulic) Rotary**
 Borehole Completion: **Straight Wall**

Annular Seal Data:	Top Depth (ft.)	Bottom Depth (ft.)	Description (number of sacks & material)
	0	300	Bentonite 14 Bags/Sacks

Seal Method: **Tremie** Distance to Property Line (ft.): **280**
 Sealed By: **Driller** Distance to Septic Field or other concentrated contamination (ft.): **N/A**
 Distance to Septic Tank (ft.): **N/A**
 Method of Verification: **owner**

Surface Completion: **Closed loop geothermal** Surface Completion by Driller

Water Level: **No Data**
 Packers: **No Data**
 Type of Pump: **No Data**
 Well Tests: **No Test Data Specified**

Geothermal Wells - Regulatory Requirements



- **Track lifecycle of the well: pre & post construction**
 - Permitting, Completion, and Plugging
 - Well characteristics (bore hole depth, drilling method)
- **Establish well accountability**
 - Transfer of authority (TCEQ to RRC)
 - Transfer of ownership (facility owners)
- **Achieve well design and construction standards**
 - Type of permit required based on methodologies
 - Informed inspection process
- **Protect drinking water**
 - Location and depth of well
 - Total dissolved solids

Setting up the process



- **Download report from TDLR in Excel or .CSV format**
- **Edit the columns/rows to set up required attribute fields**
- **Import into ArcPro and assign XY coordinates using latitude/longitude**
- **Save as a shapefile or feature class**
- **Extract data from individual reports using Power Automate and AI modeling**
- **Add extracted data to ArcPro**
- **Establish an email contact list of owners and operators**
- **Use Power Automate to send an email to owner upon receipt of well report**

- **Refining the Geothermal Injection Well categories**
 - Geothermal wells are classified as “Class V Geothermal”
 - Taxonomy to define construction and design methodologies
 - Address technology innovations in shallow and deep wells
- **Updating permitting requirements**
 - Consolidate several rules into a single geothermal rule
 - Construction specifications to permit-by-rule
 - Well compliance and enforcement standards

Drilling Insight and Casing Estimator (DICE)

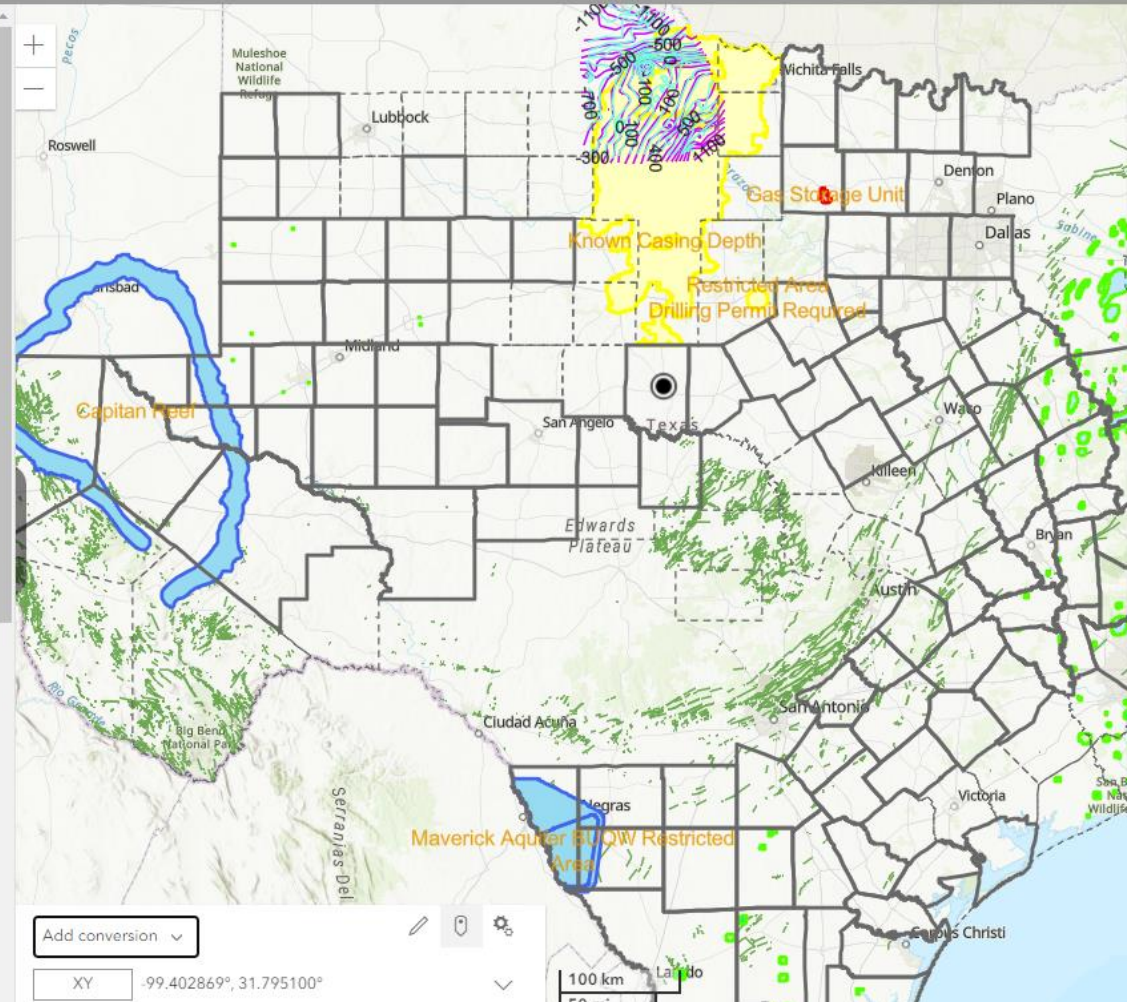


- **Interactive website that provides depth and elevation estimates for select subsurface water-quality zones**
 - Base of usable quality water (BUQW)
 - Base of underground sources of drinking water (BUSDW)
- **Displays various layers**
 - Water-bearing stratigraphic units
 - Aquifers
 - Drilling alerts
 - Well locations
- **Partnering with Bureau of Economic Geology (BEG)**
 - Common GIS Software (Esri)
 - Common Desktop Software (Microsoft Office 365)

Drilling Insight & Casing Estimator (DICE)



- Logged Well
- Oil and Gas Wells
- Original Texas Land Survey
- County Boundaries
- Casing Data Available
- Log Scanning Completed
- Public Drilling Alerts
 - Coleman Junction Top (Ft. Sub-Sea)
 - Coleman Junction Bottom (Ft. Sub-Sea)
 - Alert Areas
 - Alert
 - Aquifer
 - Gas Storage



Zoom to Copy Link Print Results

Casing Query Result

Well Casing Result	
Longitude	-99.40287
Latitude	31.7951
Ground Elevation	1698 ft.
Aquifers	Cross Timbers
Top of Fresh Water Isolation Zone:	0' Depth (1698' Above MSL)
Base of Fresh Water Isolation Zone:	See base of usable quality water
Base of Usable Quality Water:	108' Depth (1591' Above MSL)
Base of USDW:	320' Depth (1379' Above MSL)

The Fresh Water Isolation Zone occurs at a depth of 0 feet (1698 feet Above MSL).

The base of the Usable Quality Water is estimated to occur at a depth of 108 feet (1591 feet Above MSL).

The base of the USDW is estimated to occur at a depth of 320 feet (1379 feet Above MSL).

Injection wells have additional requirements for isolation from Base of Usable-Quality water (BUWQ) and Underground Source of Drinking Water (USDW). In cases where the depth to BUWQ/USDW is not indicated consult the Groundwater Advisory Unit (GAU) at 512-463-2741.

DICE: A Full-Service Application & Website



Alert Area Details	
Alert Area Type	Alert
Name	RRC North Central Area Groundwater Protection Determination
More Information at RRC	View
Comment	The interval from the land surface to 20 feet beneath the base of Quaternary deposits, or 20 feet into the top of the Permian red beds, or to a depth of 100 feet, whichever is deepest, must be protected. If an operator encounters conditions during drilling that are inconsistent with the North Central Texas Area Groundwater Protection Determination, the operator must install and cement surface casing to protect all usable-quality water and notify the District Office and the Groundwater Advisory Unit. Notification must include, at a minimum, a copy of the information and a description of how the information is inconsistent with the groundwater protection determination. The North Central Texas Area Groundwater Protection Determination applies to the survey abstracts in the 14-county area listed in the Excel

North Central Texas Area Groundwater Protection Determination

Introduction

Background: Commission (RRC) rules require operators to obtain a groundwater protection determination from the RRC's Groundwater Advisory Unit (GAWU) before drilling a well. The determination identifies the depth to which surface casing must be set and cemented to protect usable-quality water.

Normally, a Groundwater Protection Determination is issued on a well-specific basis for a point location. However, in certain parts of the state, a Groundwater Protection Determination may be issued for a designated area when available information indicates the water depth is uniform in that area. As part of the RRC Texas Oilfield Relief Effort, the GAWU has established areas where consistent groundwater protection applies to the following counties: Archer, Baylor, Callahan, Foard, Haskell, Jones, Knox, Shackelford, Stephens, Taylor, Throckmorton, Wichita, Wilbarger, and Young.

Class VI Permitting: Technical Reviews



- **Geologic Storage of Carbon Dioxide (Class VI Well)**
- **Environmental Justice (Federal guidelines for permitting)**
- **Federal-level Online GIS Applications**
 - **Environmental Protection Agency: *EJScreen Tool***
 - **Department of Energy: *Energy Justice Dashboard***
 - **Department of Agriculture: *Food Access Research Atlas (FARA)***
 - **Council on Environmental Quality: *Climate and Economic Justice Screening Tool***
 - **Based on U.S. Census Data and a version of Esri online GIS applications**

Federal agency GIS applications: EJScreen 2.3



EPA EJScreen EPA's Environmental Justice Screening and Mapping Tool (Version 2.3)

Please note: Territory data (except Puerto Rico) is not available as comparable to the US. It is only comparable to the territory itself by using the 'Compare to State' functionality. Likewise, some of the indicators may not be available for territories.

Compare to US Compare to State

Environmental Burden Indicators

- Particulate Matter 2.5
- Ozone
- Nitrogen Dioxide (NO₂)
- Diesel Particulate Matter
- Toxic Releases to Air
- Traffic Proximity
- Lead Paint
- Superfund Proximity
- RMP Facility Proximity
- Hazardous Waste Proximity
- Underground Storage Tanks
- Wastewater Discharge
- Drinking Water Non-Compliance

Socioeconomic Indicators

Environmental Justice Indexes

Supplemental Indexes

- Climate Change
- Health Disparities
- Critical Service Gaps

Add Map Services

Choose one of the following options and enter a proper URL to add publicly available data from the web to the map.

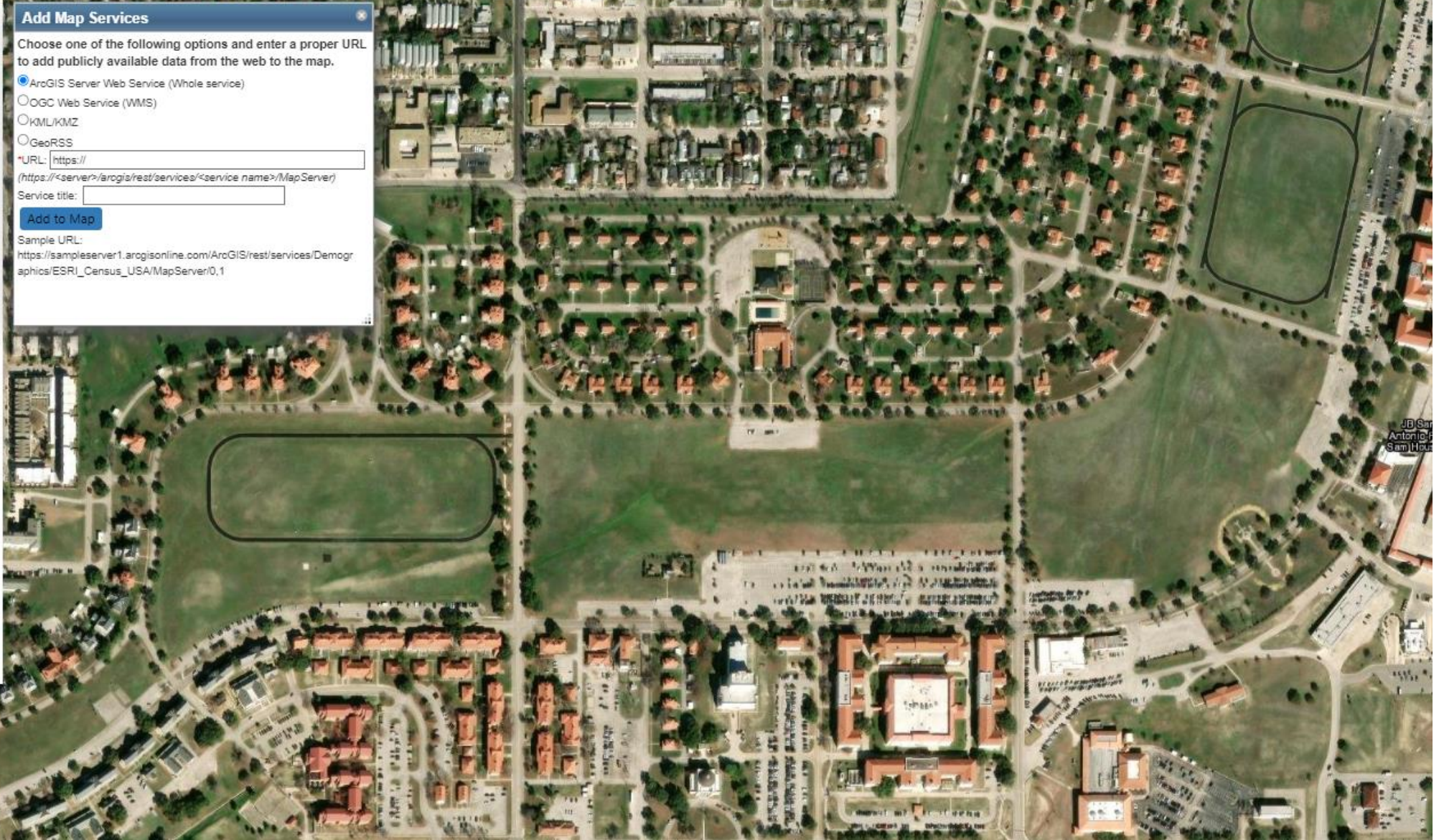
ArcGIS Server Web Service (Whole service)
 OGC Web Service (WMS)
 KML/KMZ
 GeoRSS

*URL:
(<https://<server>/arcgis/rest/services/<service name>/MapServer>)

Service title:

Add to Map

Sample URL:
https://sampleserver1.arcgisonline.com/ArcGIS/rest/services/Demographics/ESRI_Census_USA/MapServer/0,1



Technical review process: Site analysis



EPA EJScreen EPA's Environmental Justice Screening and Mapping Tool (Version 2.3)

Please note: Territory data (except Puerto Rico) is not available as comparable to the US. It is only comparable to the territory itself by using the 'Compare to State' functionality. Likewise, some of the indicators may not be available for territories.

The screenshot displays the EPA EJScreen web application interface. On the left, a sidebar contains navigation icons and a menu for selecting a location to access reports, with options: "Drop a Pin", "Draw an Area", "Add a Path", and "Select an Area". The main area is a satellite map of Fort Sam Houston, TX, with labels for "Mahncke Park", "The Dossium", "Brackenridge Park Golf Course", "San Antonio Botanical Gardens", and "Joint Base San Antonio". A blue location pin is placed on the map, and a white pop-up window titled "EJScreen Reports and Charts" is open, showing the site name "Fort Sam Houston, TX" and a buffer of "5 mi". The pop-up includes links for "EJScreen Community Report", "Explore Charts", and "Socioeconomic (ACS) Report", along with a "Delete this site" link.

Technical review process: Reports



EJScreen Community Report

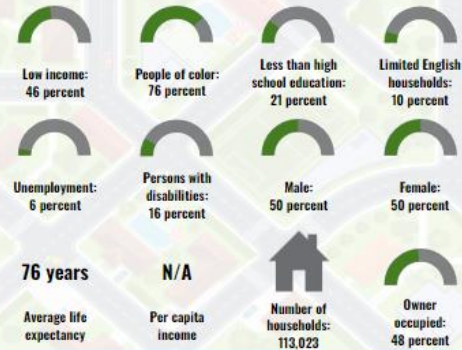
This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Fort Sam Houston, TX

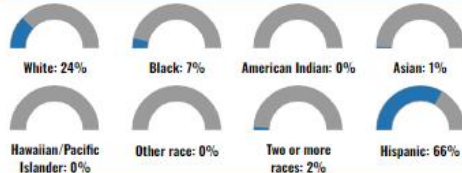
5 miles Ring Centered at 29.451514,-98.457921
Population: 290,841
Area in square miles: 78.53



COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	57%
Spanish	41%
Total Non-English	43%

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	Yes
Selected location contains an EPA IRA disadvantaged community	Yes

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 (µg/m ³)	8.83	8.86	45	8.45	70
Ozone (ppb)	66.9	63	81	61.8	77
Nitrogen Dioxide (NO ₂) (ppbv)	12	9.5	74	7.8	88
Diesel Particulate Matter (µg/m ³)	0.224	0.151	84	0.191	70
Toxic Releases to Air (toxicity-weighted concentration)	120	12,000	36	4,600	26
Traffic Proximity (daily traffic count/distance to road)	2,300,000	1,000,000	87	1,700,000	75
Lead Paint (% Pre-1960 Housing)	0.5	0.16	88	0.3	74
Superfund Proximity (site count/km distance)	0.08	0.11	73	0.39	56
RMP Facility Proximity (facility count/km distance)	1.8	0.95	86	0.57	92
Hazardous Waste Proximity (facility count/km distance)	3.3	1.5	88	3.5	70
Underground Storage Tanks (count/km ²)	3.9	2.3	79	3.6	74
Wastewater Discharge (toxicity-weighted concentration/m distance)	200	3800	82	700000	61
Drinking Water Non-Compliance (points)	0.077	2.3	75	2.2	74
SOCIOECONOMIC INDICATORS					
Demographic Index USA	2.28	N/A	N/A	1.34	84
Supplemental Demographic Index USA	2.26	N/A	N/A	1.64	83
Demographic Index State	2.28	1.72	70	N/A	N/A
Supplemental Demographic Index State	1.94	1.49	75	N/A	N/A
People of Color	76%	58%	64	40%	81
Low Income	46%	34%	70	30%	77
Unemployment Rate	6%	5%	69	6%	68
Limited English Speaking Households	10%	8%	73	5%	84
Less Than High School Education	21%	16%	70	11%	83
Under Age 5	6%	6%	57	5%	64
Over Age 64	14%	15%	56	18%	42

*Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	11
Water Dischargers	774
Air Pollution	75
Brownfields	38
Toxic Release Inventory	56

Other community features within defined area:

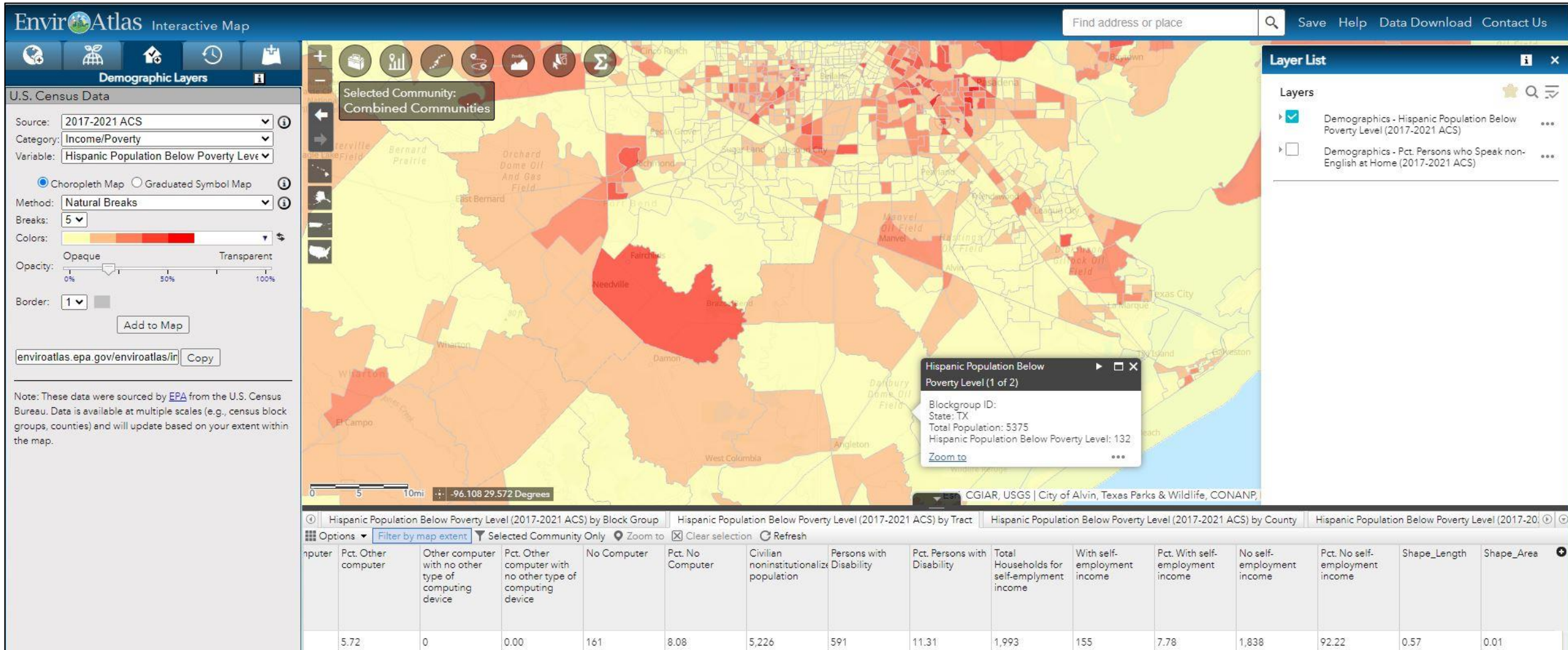
Schools	141
Hospitals	12
Places of Worship	449

Other environmental data:

GIS Analysis – Review and Assessment Tools



- **EPA: EnviroAtlas (or Esri's *ArcGIS Living Atlas of the World*)**



Well Plugging - Tracking federally funded projects

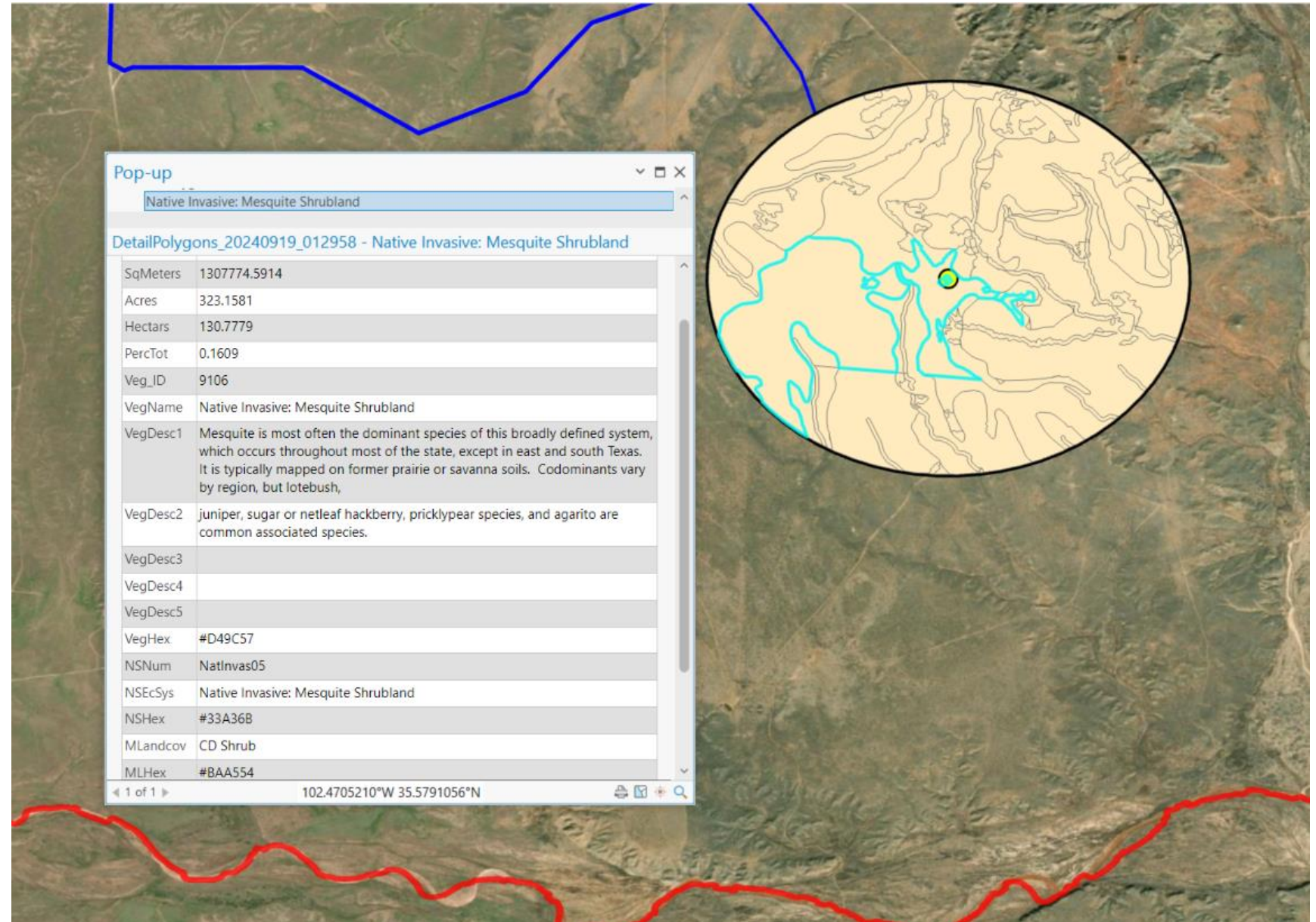


- **State grants to plug abandoned/orphaned oil & gas wells**
- **Confirmation of well bore locations**
- **Geospatial analysis requirements**
 - **Internal data (well locations and geospatial analysis)**
 - **External data (GIS applications and services)**
- **Environmental (Environmental Species Act)**
 - **Biological Landscape (Types of grasslands)**
 - **Cultural Landscape (Types of land use)**
- **Historical (National Historic Preservation Act)**
 - **Historical Resources (Texas Historic Commission)**

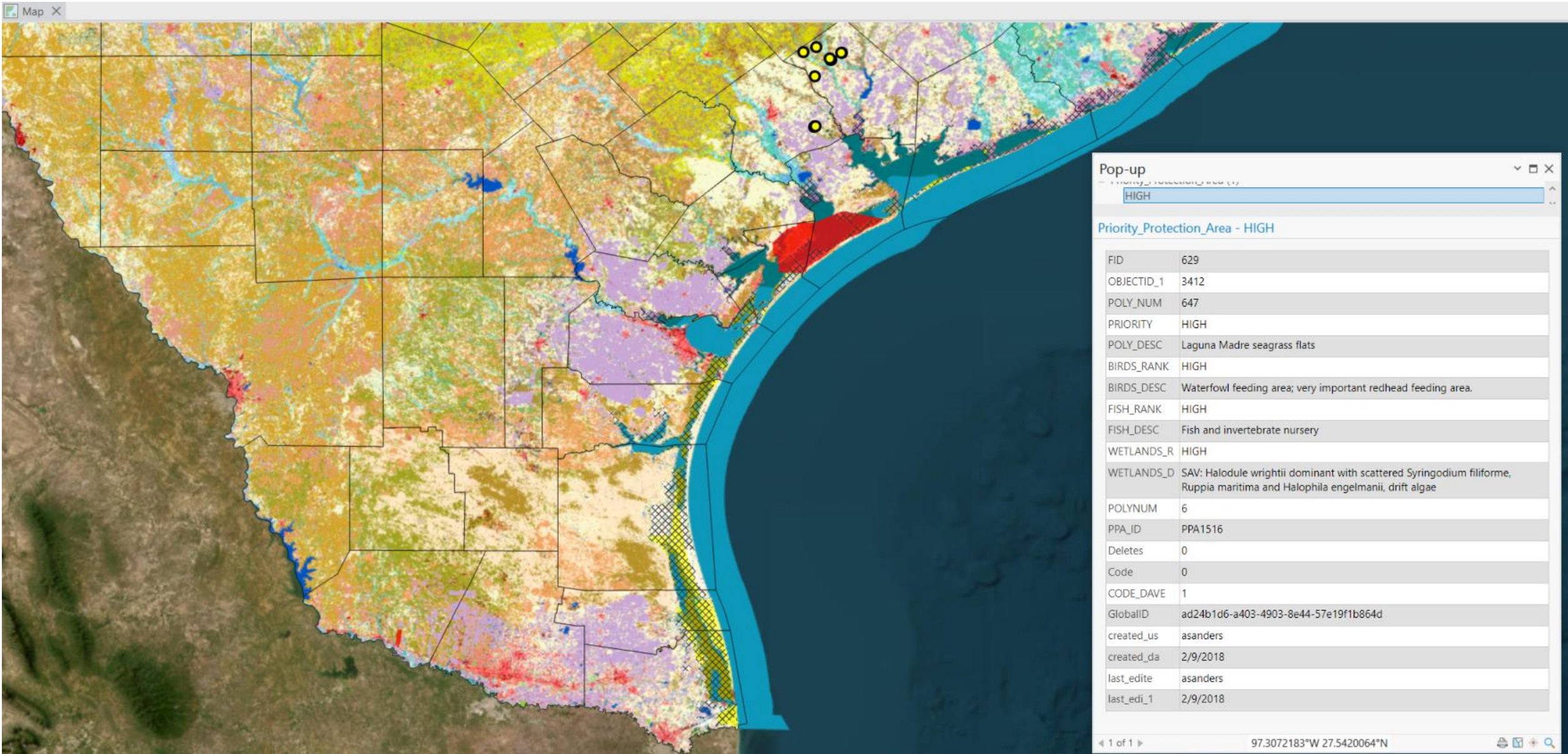
Well Plugging – Site Analysis



- ArcPro Project
- Credible data sources for analysis (federal or state sources)
- Analysis conducted to meet or exceed DOI or federal requirements
- Sharable from one repository



Ecological Analysis of a Specific Area (Habitat)



Administrative & Technical Considerations



- **Applications & Data Governance (The Plan)**
 - Who needs what and why
 - How often is it used and to what extent
- **IT & Cybersecurity (The Practice)**
 - Access to applications
 - Exchange and storage of information
- **Technical (The Process)**
 - Hardware and Software
 - Training and education

Summary: Optimizing the regulatory requirements



- **Enhancing GIS applications and data for the agency's regulatory requirements**
 - Ability to “scale up” as required using existing resources
- **Embracing common digital applications (Esri and Office 365) and sharable data formats**
 - Speeds up the review process and eliminates silos
- **Extending GIS throughout the lifecycle of a regulated activity**
 - “Permitting to Production to Plugging” using a consistent data set

RRC Webpage



Railroad Commission of Texas Website

www.rrc.texas.gov

For information on the newer programs, navigate to the agency homepage

Select this icon



Then select this tab

APPLICATIONS & PERMITS

Then select



Injection Storage Permits

Enhanced Recovery

Enhanced Oil Recovery (EOR) Tax Incentives

Oil and Gas Waste Disposal

Mechanical Integrity Tests (MITs)

Injection Reporting

Reservoir Gas Storage

Cavern Storage

Geologic Storage of Carbon Dioxide (CO2)

Brine Mining

Geothermal

TCEQ Class I - Disposal Wells

Injection-Storage Resources

<https://www.rrc.texas.gov/oil-and-gas/applications-and-permits/injection-storage-permits/geothermal>