



# Public GIS Viewer

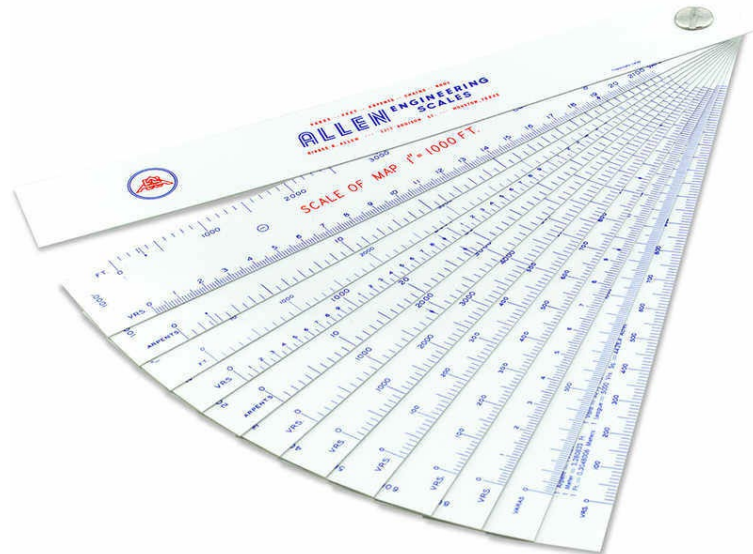
Mark Maddox & Larry Elliot  
July 2025



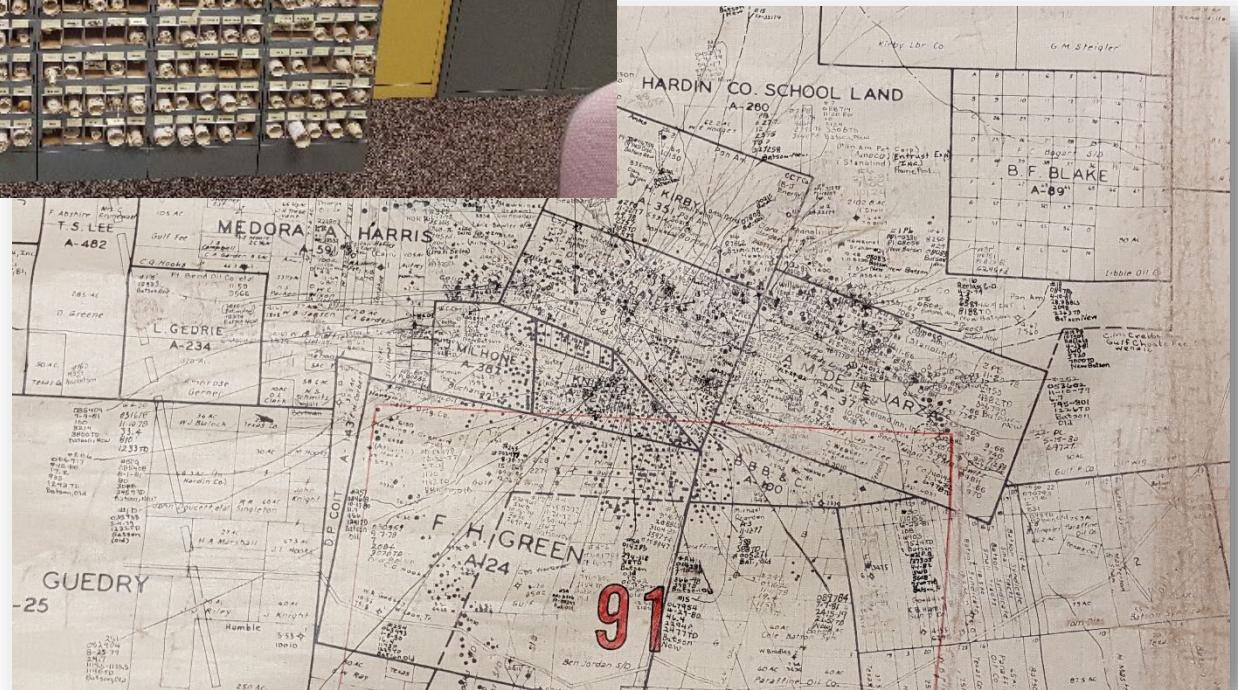
# Before GIS (1 of 2)



- Cloth or linen maps
  - One or more maps for each county plus field maps
  - Typical scales
    - 1" = 2000'
    - 1" = 4000'
  - Hand posted wells



# Before GIS (2 of 2)



# Linen Map Preservation



- Maps date back to 1930's.
  - Oldest and most frequently used maps deteriorating.
- All linen maps scanned.
- Hardcopy maps archived and available on as needed basis.

# Lincoln Maps to Computerized Maps




- 10 year digitization project.
  - 1984 to 1995 with all layers created by RRC staff.
- Survey information digitized from GLO records.
- Well information digitized from linen maps.
- Staff updates as needed.

- Research historic General Land Office records for survey line placements.
- Work with Registered Land Surveyors to compare notes with on survey construction.
- Research Railroad Commission well records and maps to validate well location information and API numbers.

# Reliability Codes



<u>Reliability</u>	<u>Code</u>	<u>GIS Location Source</u>
Lowest	10	Historic map
	15	Commission's hardcopy map
	16	Spotted from Reliability Code 15 wells
	17	Location adjusted during survey maintenance
	20	Mainframe WELLBORE distances
	25	Hearing file - Plat and/or documentation
	30	Operator reported location - Distances without plat or plat without distances
	40	Operator reported location - Distances and plat
	45	Field inspection by Commission personnel - Distances and/or plat
	48	Spotted from Reliability Code 50 wells
	50	U.S.G.S. 7.5-min. quadrangle or aerial photograph
Highest	55	Coordinates - Operator reported
	60	Coordinates - Commission reported



- Maintain and enhance well location GIS map layers by:
  - Relocate existing wells.
  - Adding omitted oil and gas wells.
  - Add or update well API numbers.

*This is done through normal day-to-day research activities or requests from the public who provide documentation to support a research request.*



What can you provide to support your API resolution request:

- Records helpful in resolving discrepancies
  - W-1 and Plats
  - W-2 / G-1
  - P-4 / P-6
  - W-3
- Requests for records research should be directed to [IMS@rrc.texas.gov](mailto:IMS@rrc.texas.gov).

# Request to Change Information



- Contact us with any questions
  - 512-463-6851
  - [rrc.mapping@rrc.texas.gov](mailto:rrc.mapping@rrc.texas.gov)
- Provide as much information as possible
  - Ex. – Well records, Plats, Maps, etc.

# Coordinates: Datums

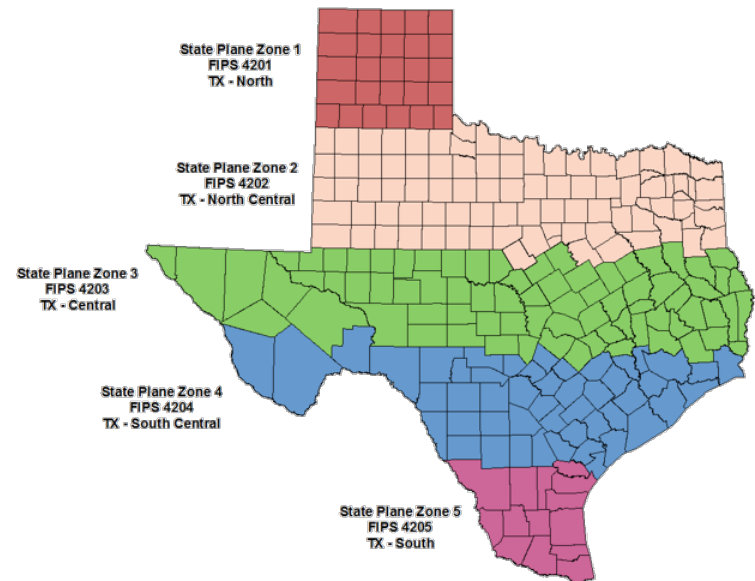


- **Datum** – A set of numbers which describe the shape, size, and position of an ellipsoid that approximates the surface of the Earth
- The datum can be Local or Global.
  - Local – Best matches the area of interest.
    - Ex. – NAD 27 and NAD 83.
  - Global – Can be used for any location.
    - Ex. – WGS 84

# Coordinates: What We Accept



- Geographic Coordinate Systems
  - NAD 27, NAD 83, WGS 84
    - Degrees Minutes Seconds
    - Decimal Degrees
- State Plane Coordinate Systems
  - NAD 27 and NAD 83
  - 5 Zones in Texas



# Accessing the Public GIS Viewer

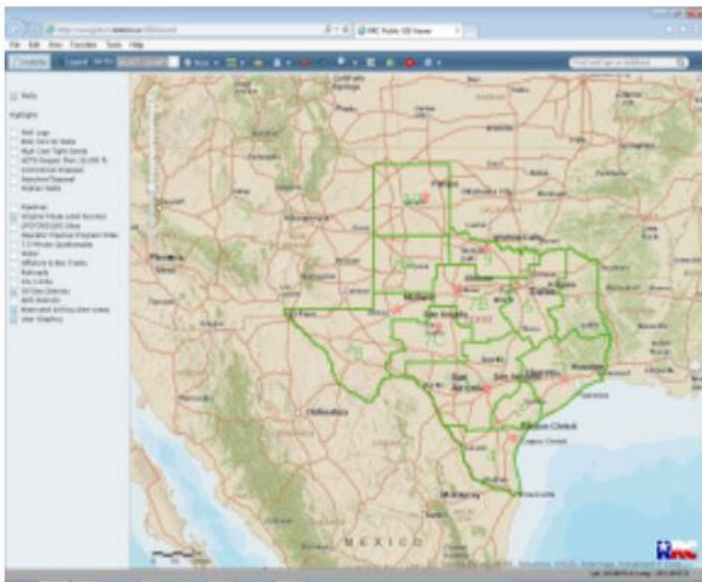


[Home](#) / [Resource Center](#) / [Research](#)

## Public GIS Viewer (Map)

The Public GIS Viewer allows users to view oil, gas and pipeline data in a map view.

### Public GIS Viewer



[LAUNCH PUBLIC GIS VIEWER](#)



### User Guide

[GIS User Guide \(PDF\)](#)

### Training Videos

The following training videos provide step-by-step instruction for new features of the Public GIS Viewer. The videos will open in a separate window, allowing you to toggle between the video and viewer.

**Note: These videos do not contain audio.**

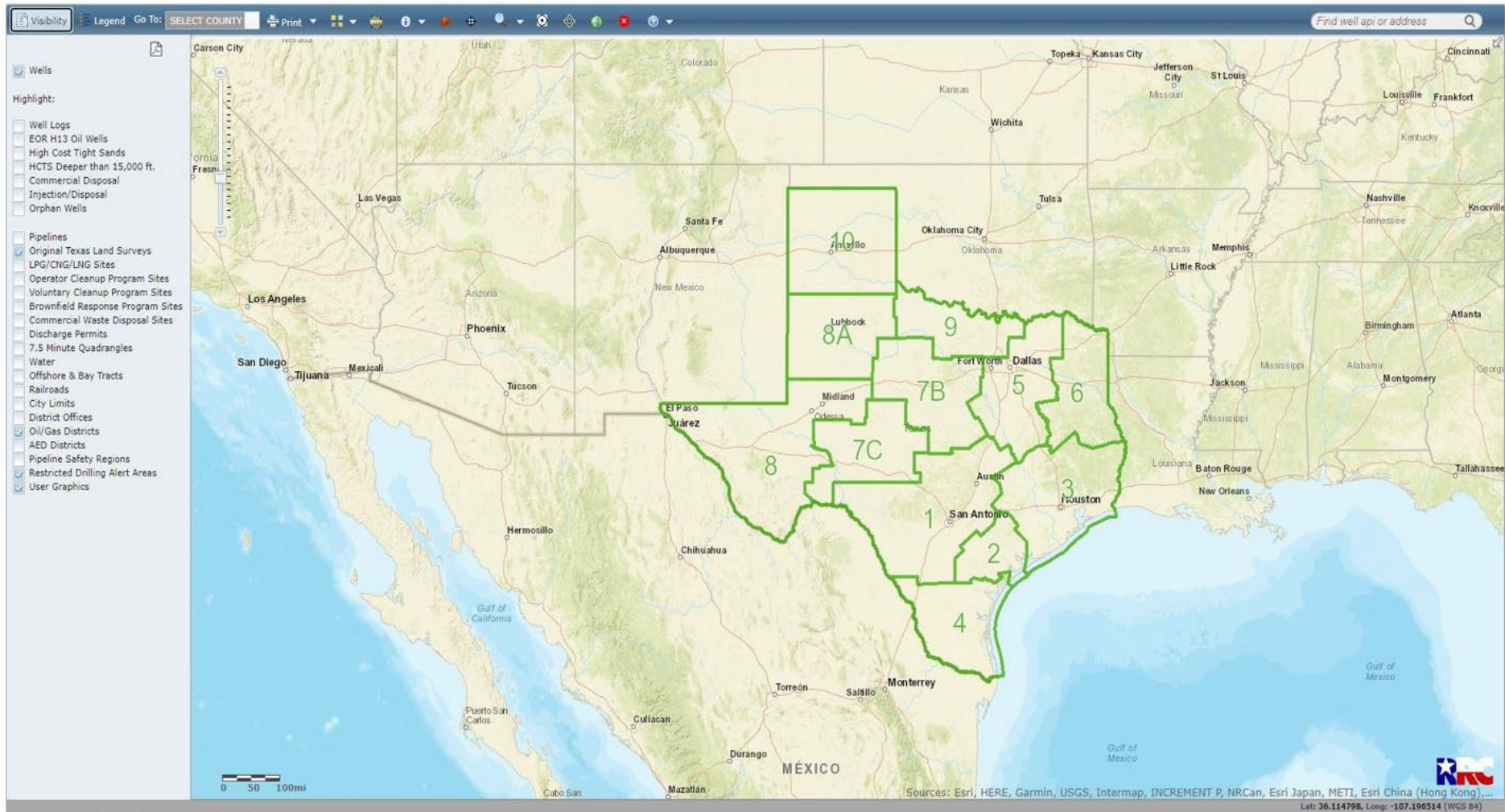
[API# or Address Search](#)

[Survey Search](#)

[Locating Pipelines](#)

[Viewing Coordinates](#)

# GIS Viewer Load Screen

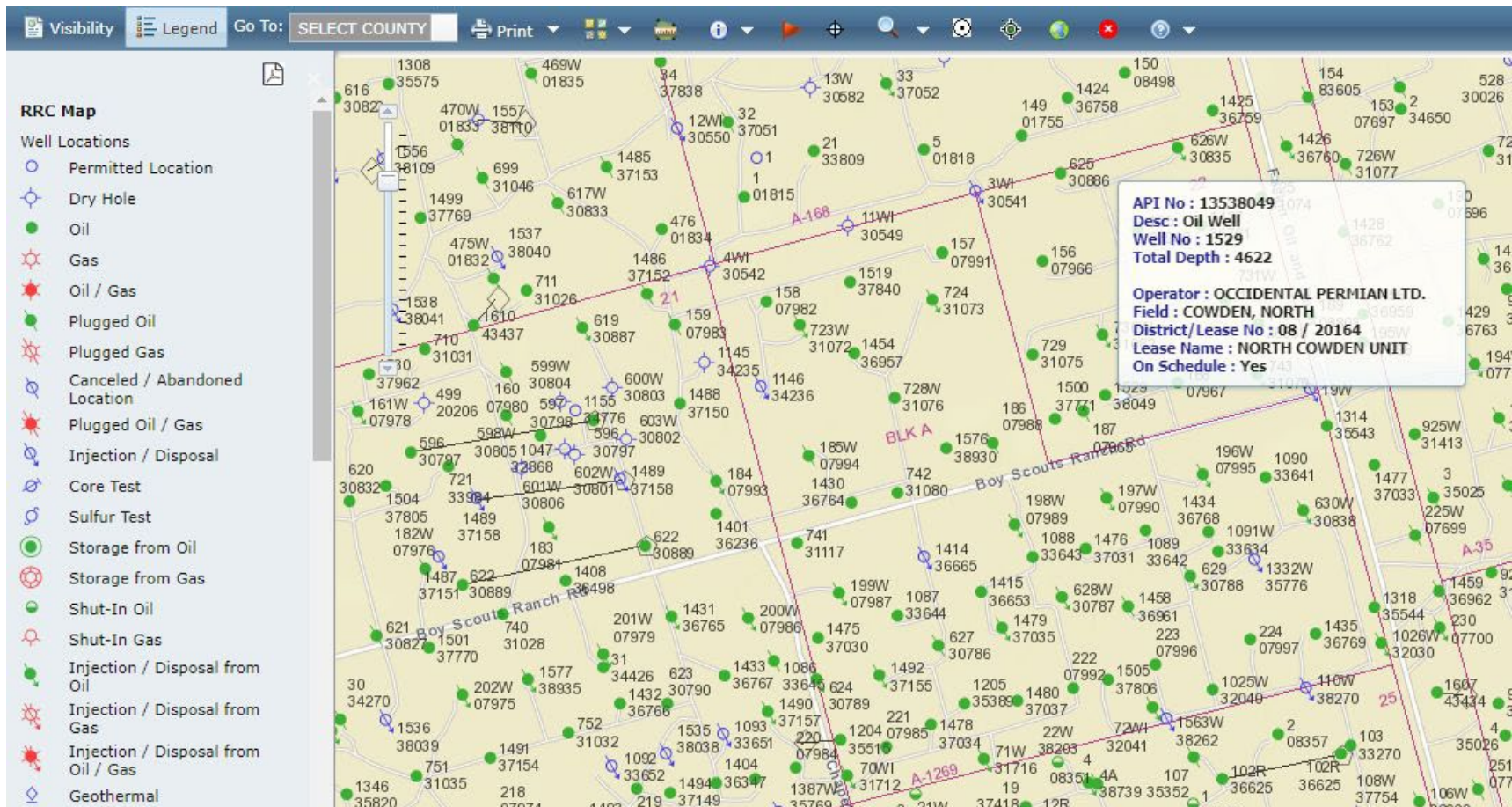


# Search and Navigation



- API Number
  - Must include 8 digits, FIPS & Unique Identifier
- RRC Lease ID
  - 5 digit oil ID or 6 digit gas ID
  - Single gas well displays or all wells under oil lease ID displayed
- Survey Information
  - Not all attributes need to be entered
  - Spelling, punctuation and spaces are important and will affect results.

- Move the cursor over any well
  - Dialogue box appears with well information



# Identify



- Click on the feature using the Identify tool
  - Additional information appears in the dialogue box window

The screenshot displays a GIS application window with a map of well locations. The 'Identify Wells' dialog box is open, showing the following information:

**Number of identify results: 1**

Result #1	
API	13537840
GIS WELL NUMBER	1519
GIS SYMBOL DESCRIPTION	Oil Well
GIS LOCATION SOURCE	Coordinates - Operator reported
GIS LAT (NAD27)	32.050043
GIS LONG (NAD27)	-102.504747
GIS LAT (NAD83)	32.050159
GIS LONG (NAD83)	-102.505174

[Well Logs](#)   [Drilling Permits](#)   [Disposal Permits](#)

OPERATOR/WELLBORE	
WELLBORE STATUS	OPEN
LAST PERMIT ISSUED	496118
LAST PERMIT OPERATOR NUMBER	617544
LAST PERMIT OPERATOR	OCCIDENTAL PERMIAN LTD.
LAST PERMIT USE NAME	NORTH OCEAN UNIT

# Identify Results




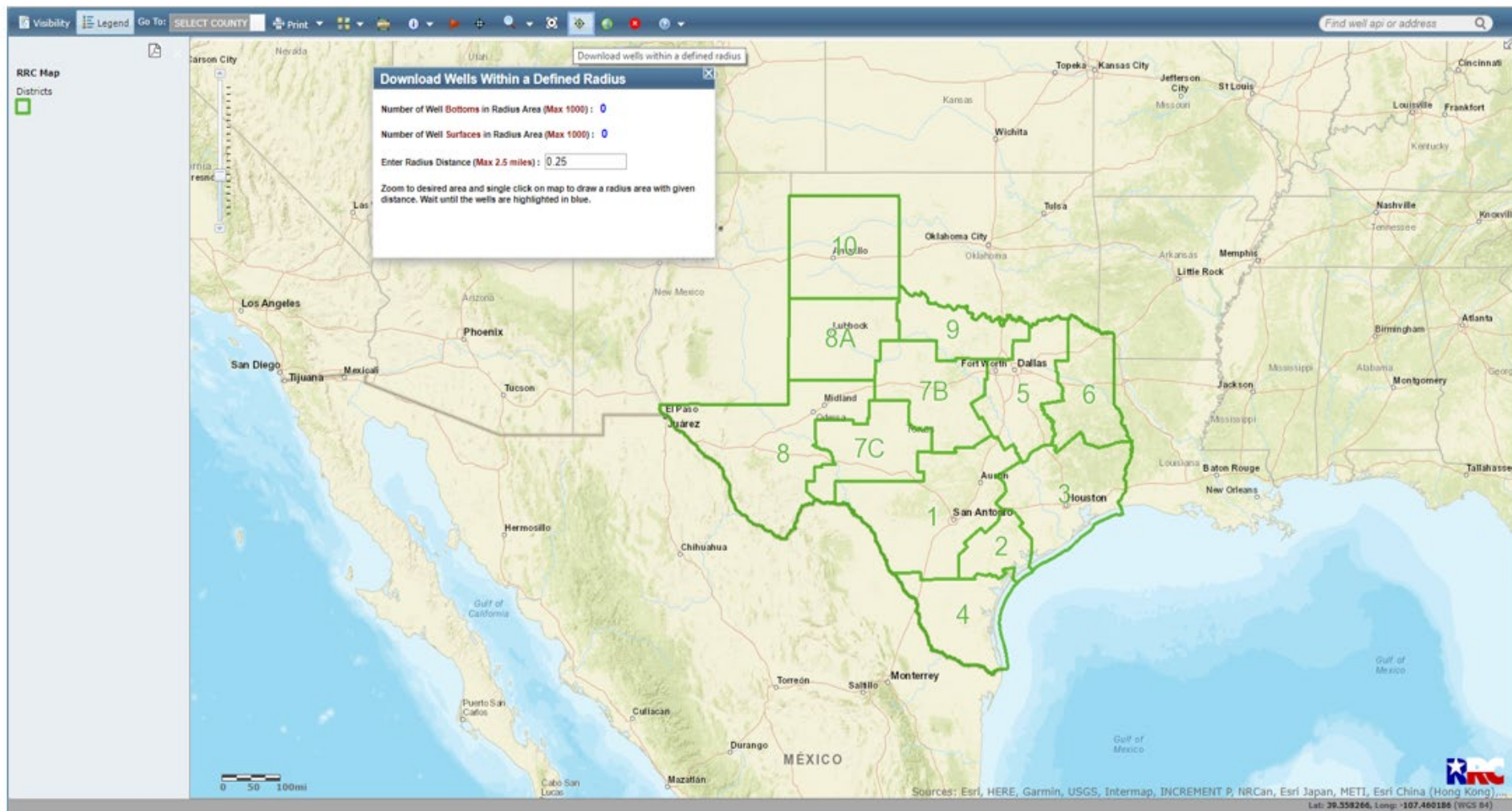
- API
  - Geographic information
  - Links to Well Logs and Permits
- Operator/Wellbore
  - Information from most recent approved drilling permit
- Completion Record
  - Current *and* historical records
  - Links to production and hardcopy records

GIS Identify Results - Well Location Attributes		
Number of identify results: 1		
Result #1		
API	44133780	
GIS WELL NUMBER	1	
GIS SYMBOL DESCRIPTION	Oil Well	
GIS LOCATION SOURCE	Operator reported location - Distances and Plat	
GIS LAT (NAD27)	32.511745	
GIS LONG (NAD27)	-100.041566	
GIS LAT (NAD83)	32.511865	
GIS LONG (NAD83)	-100.041941	
<a href="#">Well Logs</a>	<a href="#">Drilling Permits</a>	<a href="#">Disposal Permits</a>
OPERATOR/WELLBORE		
WELLBORE STATUS	OPEN	
LAST PERMIT ISSUED	744958	
LAST PERMIT OPERATOR NUMBER	884527	
LAST PERMIT OPERATOR	VENTEX OPERATING CORP.	
LAST PERMIT LEASE NAME	IRVIN UNIT	
TOTAL DEPTH	4750	
SURFACE LOCATION	Land	
ABSTRACT	366	
SURVEY	T & P RR. CO.	
BLOCK	18	
SECTION	23	
DISTANCE 1	851	
DIRECTION 1	1217	
DISTANCE 2		
DIRECTION 2	78	
COMPLETION RECORD		
PRORATION SCHEDULE	OIL	
DISTRICT	7B	
LEASE/ID	28082	
OPERATOR NUMBER	884527	
OPERATOR	VENTEX OPERATING CORP.	
LEASE NAME	IRVIN UNIT	
FIELD	CASADY (STRAWN)	
WELL NUMBER	1	
TYPE WELL	HISTO RY	
ON SCHEDULE	NO	
<a href="#">Production Data Query(PDQ)</a>	<a href="#">Oil/Gas Imaged Records for Lease/ID: 28082</a>	

# Download Wells Within a Defined Radius



- Select the icon 
- Enter the radius (up to 2.5 miles) by typing in the number

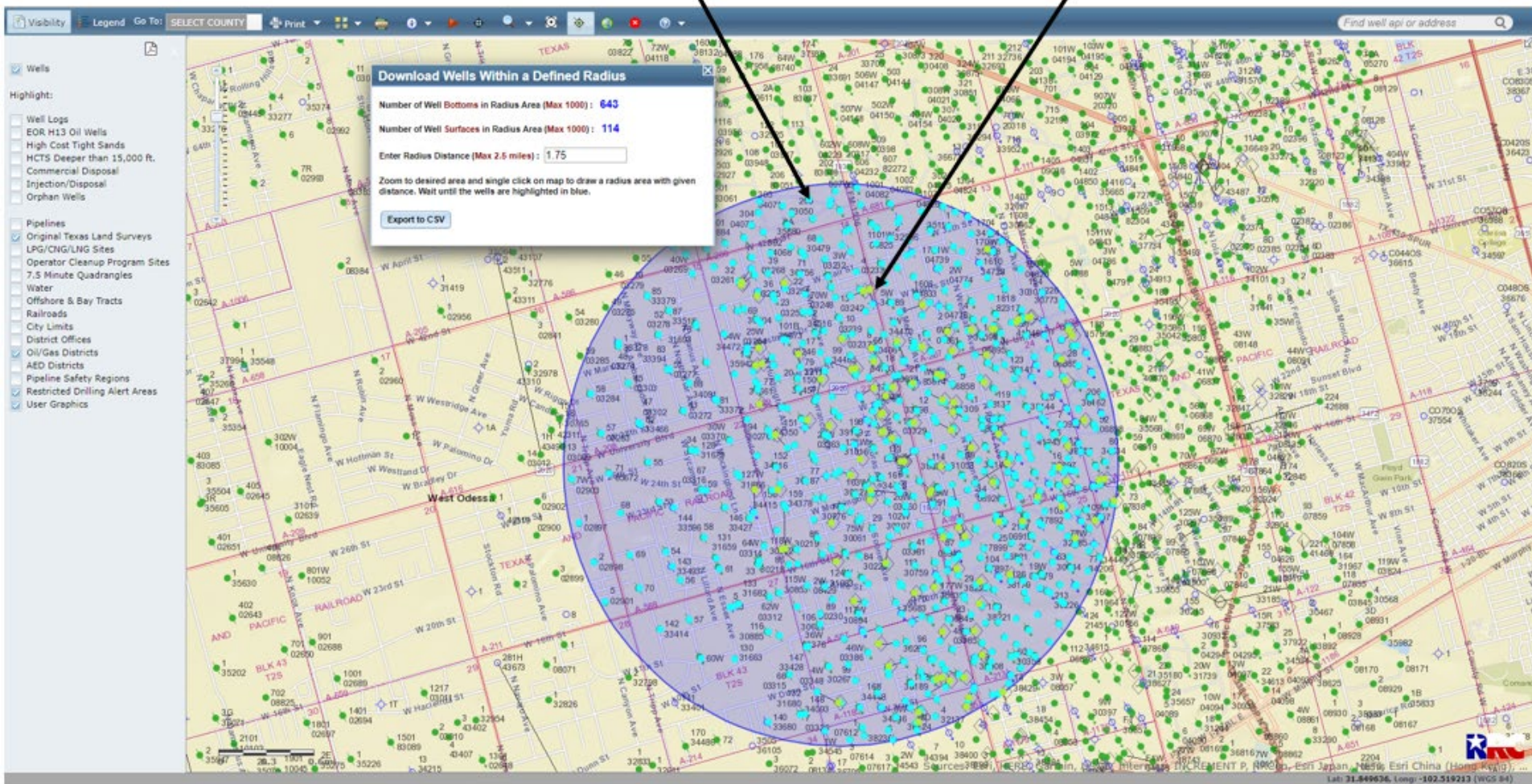




# Download Wells Results

Cyan: Well Bottom Location

Green: Well Surface Location



# More Than 1000 wells inside the Radius...



- The 'Too Many Results' dialogue box appears
  - The first 1000 wells are exported

gis.rrc.texas.gov says

There are too many results to display on the map, not all of the selected wells will be highlighted.

OK

**Download Wells Within a Defined Radius**

Number of Well Bottoms in Radius Area (Max 1000): 0

Number of Well Surfaces in Radius Area (Max 1000): 0

Enter Radius Distance (Max 2.5 miles): 2.5

Zoom to desired area and single click on map to draw a radius area with given distance. Wait until the wells are highlighted in blue.

**If this dialogue box appears, continue to wait. You will eventually receive the .csv download file.**

This page isn't responding

RRC Public GIS Viewer

Wait Exit page

# Exported Well Results



- Export results are .csv file
  - Lat and Long are automatically generated by the GIS when well is created
  - Well location source document determines reliability
- Use lat and long to convert to geospatial data

File Home Insert Page Layout Formulas Data Review View Help												
Clipboard		Font			Alignment			Number		Styles		
A1		API										
A	B	C	D	E	F	G	H	I	J	K	L	
1	API	Well_Number	Symbol_Desc	Symbol	Reliab	Location_Source	Lat27	Long27	Lat83	Long83	Wellbore_Status	Last_Permit_Issued
2	00342277	9	Oil Well	4	40	Operator reported location - Distances and Plat	32.08853566	-102.27372872	32.08865371	-102.27415121	OPEN	705543
3	00346959	3502	Oil Well	4	55	Coordinates - Operator reported	32.09076111	-102.26542778	32.09090586	-102.26586841	OPEN	801167
4	00346960	3503	Oil Well	4	55	Coordinates - Operator reported	32.08883607	-102.26849449	32.08895418	-102.26891688	OPEN	801174
5	00346961	3505	Oil Well	4	55	Coordinates - Operator reported	32.08966389	-102.25695556	32.0898087	-102.25739594	OPEN	813705
6	00346961	3505	Oil Well	4	55	Coordinates - Operator reported	32.08966389	-102.25695556	32.0898087	-102.25739594	OPEN	813705
7	00346963	3506	Oil Well	4	55	Coordinates - Operator reported	32.08788885	-102.26451393	32.08800698	-102.26493616	OPEN	813712
8	00346963	3506	Oil Well	4	55	Coordinates - Operator reported	32.08788885	-102.26451393	32.08800698	-102.26493616	OPEN	813712
9	00346964	3508	Oil Well	4	55	Coordinates - Operator reported	32.08710833	-102.25982778	32.0872532	-102.26026823	OPEN	801189
10	00346966	3504	Oil Well	4	55	Coordinates - Operator reported	32.09061111	-102.26093056	32.09075588	-102.26137106	OPEN	801203
11	00347002 2H		Permitted Location	2	55	Coordinates - Operator reported	32.07336708	-102.28298241	32.07348554	-102.28340475	LOCATION	802006
12	00347003 3H		Permitted Location	2	55	Coordinates - Operator reported	32.07390067	-102.28069413	32.07401916	-102.2811164	LOCATION	802009
13	00347004 4H		Permitted Location	2	55	Coordinates - Operator reported	32.07443455	-102.27840584	32.07455297	-102.27882806	LOCATION	802010
14	00347005 5H		Permitted Location	2	55	Coordinates - Operator reported	32.07496815	-102.27611755	32.07508658	-102.27653971	LOCATION	802013



- Live Demo
  - <https://gis.rrc.texas.gov/GISViewer/>
  - Search and navigation
  - Well highlights
  - Identify a well
  - Well log
  - Historic well records (Neudocs)
  - Download wells

# Digital Map Data (1 of 3)



- Data is free to download
  - Click on Resources, Resource Center and Data Sets

A screenshot of the Railroad Commission of Texas website. The header includes a navigation bar with links: ABOUT US, RESOURCES, FORMS, EVENTS, COMPLAINTS, ACCIDENTS, and CONTACT US. A red arrow points from the "RESOURCES" link to a dropdown menu containing "Resource Center", "Subscription Services", "Rules", and "What's New". Another red arrow points from the "Resource Center" link to a "Data Sets" box. The "Data Sets" box contains a database icon and the text: "Data Sets" and "Access and download information electronically generated or stored by the Railroad Commission of Texas". The main content area features a large banner for "Texas Completions Statistics" with a "View Stats for May 2021" link. Below the banner are five circular icons representing different sectors: OIL &amp; GAS, PIPELINE SAFETY, ALTERNATIVE FUELS, SURFACE MINING, and GAS SERVICES. The footer includes a "RECENT ANNOUNCEMENT" section with a link to "Attendance Policy for Alternative Fuel Safety Events" dated June 07, 2021, and a "COVID-19 RESOURCES AND RESPONSE" section with a link to "Important Note for In-person Filings".

# Digital Map Data (2 of 3)



- Choose your layer
  - Click on ArcView Shape File (Updated Nightly)
- Download zipped file by county
  - Counties are listed numerically by FIPS code.
- Open in GIS Software

## Digital Map Data

Data Set Description	Download	Manual	Updated	
Pipeline Layers By County	<a href="#">ArcView Shape File</a>	<a href="#">PDF</a> <a href="#">FIPS Code</a>	Nightly	<a href="#">Details</a>
Survey Layers By County	<a href="#">ArcView Shape File</a>	<a href="#">PDF</a> <a href="#">FIPS Code</a>	Nightly	<a href="#">Details</a>
Well Layers By County	<a href="#">ArcView Shape File</a>	<a href="#">PDF</a> <a href="#">FIPS Code</a>	Nightly	<a href="#">Details</a>
Base Layers By County	<a href="#">ArcView Shape File</a>	<a href="#">PDF</a> <a href="#">FIPS Code</a>	Nightly	<a href="#">Details</a>
All Layers By County	<a href="#">ArcView Shape File</a>	<a href="#">PDF</a> <a href="#">FIPS Code</a>	Nightly	<a href="#">Details</a>
Statewide API Data	<a href="#">ASCII Format</a>	<a href="#">PDF</a>	Nightly	<a href="#">Details</a>
Statewide API Data	<a href="#">dBase Format</a>	<a href="#">PDF</a>	Nightly	<a href="#">Details</a>

The screenshot shows the Railroad Commission of Texas website interface. At the top is the "ARC" logo. Below it are buttons for "Refresh" and "Media Viewer". The main content area is titled "/ (Home)" and displays a table of files. Each row includes a checkbox, a file icon (a folder with a 'zip' label), the file name, the last modified date and time, and the file size.

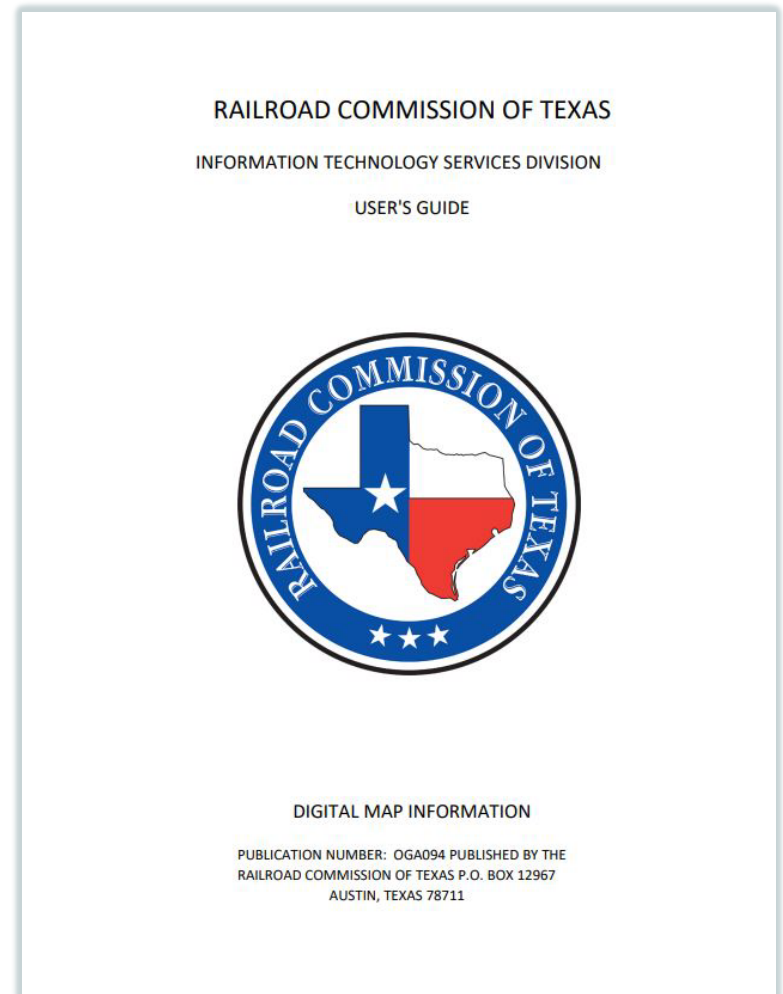
<input type="checkbox"/>	Name	Last Modified	Size
<input type="checkbox"/>	well001.zip	6/22/21 4:07:34 PM	591.09 KB
<input type="checkbox"/>	well003.zip	6/22/21 4:07:35 PM	3.21 MB
<input type="checkbox"/>	well005.zip	6/22/21 4:07:35 PM	84.85 KB
<input type="checkbox"/>	well007.zip	6/22/21 4:07:35 PM	199.01 KB
<input type="checkbox"/>	well009.zip	6/22/21 4:07:36 PM	4.07 MB

# Digital Map Data (3 of 3)



## Digital Map Information User Guide

- PDF Manual
- Projection Information
- Naming Conventions
- Attribute Descriptions
- FIPS Codes
- Reliability Codes



# Texas Open Data Portal (1 of 2)



- Official State of Texas repository for publicly accessible open data.

A screenshot of the Texas Open Data Portal homepage. The header includes the URL "data.texas.gov" and the site name "Texas Open Data Portal". A search bar is located in the top right. The navigation menu includes "Home", "Texas ODP Catalog", "Stories", "Help", "\*\*\*NEW: User Guide\*\*\*", and "Other Texas Data Sites". Social media icons for Facebook, Twitter, YouTube, and LinkedIn are present, along with a "Sign In" button. The main banner features a field of bluebonnets with the text "Welcome to the Texas Open Data Portal". Below the banner are four featured categories: Blockchain, Permits & Licensing, Business & Economy, and Government & Taxes, each with an icon and a brief description.

data.texas.gov Texas Open Data Portal

Search

Home Texas ODP Catalog Stories Help \*\*\*NEW: User Guide\*\*\* Other Texas Data Sites

Sign In

## Welcome to the Texas Open Data Portal

### Blockchain

Learn about the Texas Work Group on Blockchain Matters

### Permits & Licensing

Data on Permitting and Licensing in Texas

### Business & Economy

Economic and business data in

### Government & Taxes

Explore the information on the government and how taxes are spent

<https://data.texas.gov/>

# Texas Open Data Portal (2 of 2)



- Data sets, visualizations, Filtered view, stories.
- Open the catalog.
- Sort using key words or publishing agency.
- View, visualize or export the data.
- Use Contact Dataset Owner button with:
  - Questions, concerns or suggestions.

# Digital Map Data Use Case



- Using digital map data in Google Earth.
  - Designed for use in GIS software.
  - With some data manipulation digital map data can be imported into Google Earth.
- Demonstration will follow 'Digital Map Data to Google Earth' handout available with conference materials.



Questions?

# Points of Contact



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