



Public GIS Viewer

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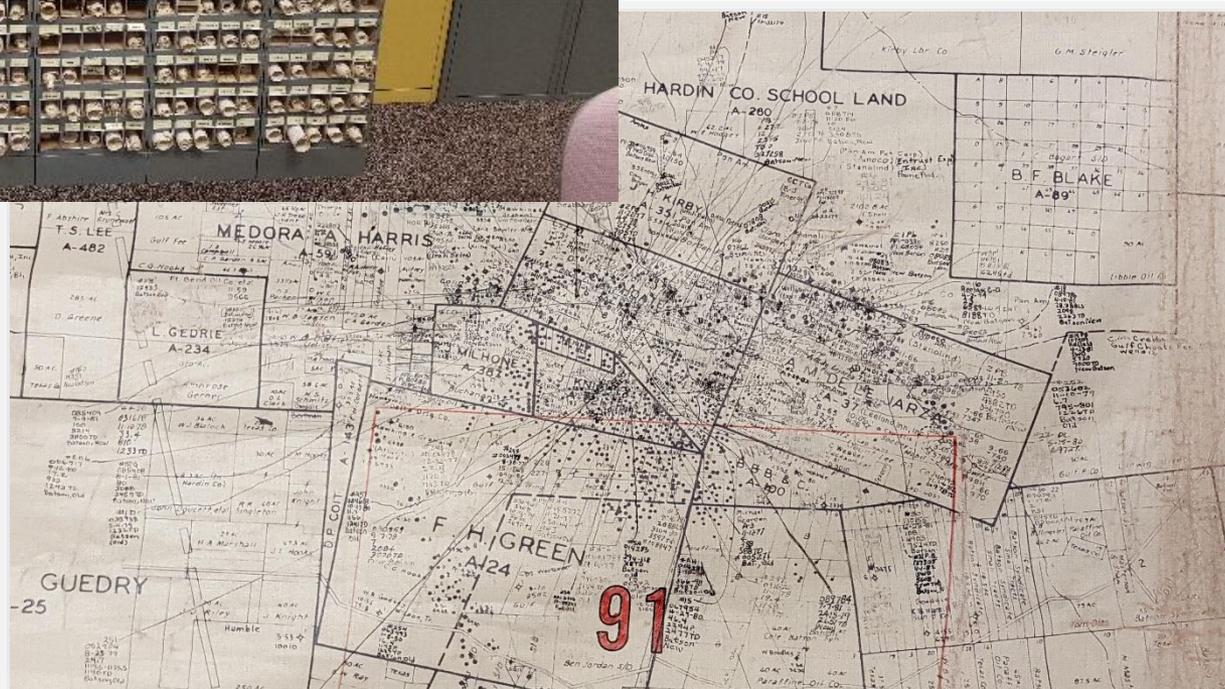
Before GIS (1 of 2)



- 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)



Linien Map Preservation



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

Linens 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.

GIS Updates



- 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	
	55	Coordinates - Operator reported	
	Highest	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.

Request to Change Information



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

Coordinates: Datums

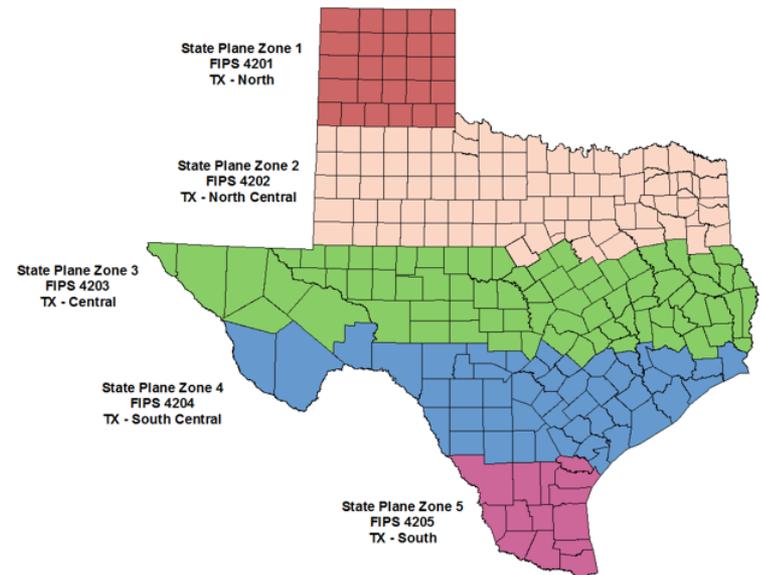


- **Datum** – A set of numbers which describe the shape, size, and position of an ellipsoid that approximates the surface of the Earth
- The datum can be Local or Global.
 - Local – Best matches the area of interest.
 - Ex. – NAD 27 and NAD 83.
 - Global – Can be used for any location.
 - Ex. – WGS 84

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

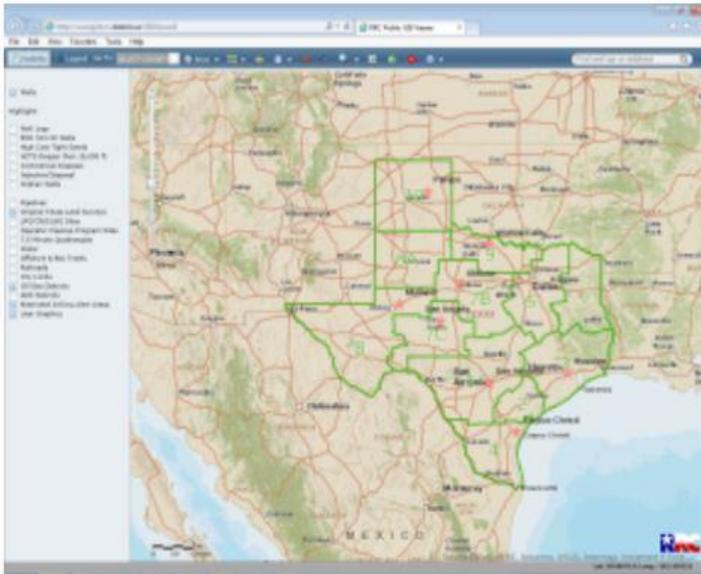


Home / Resource Center / Research

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.

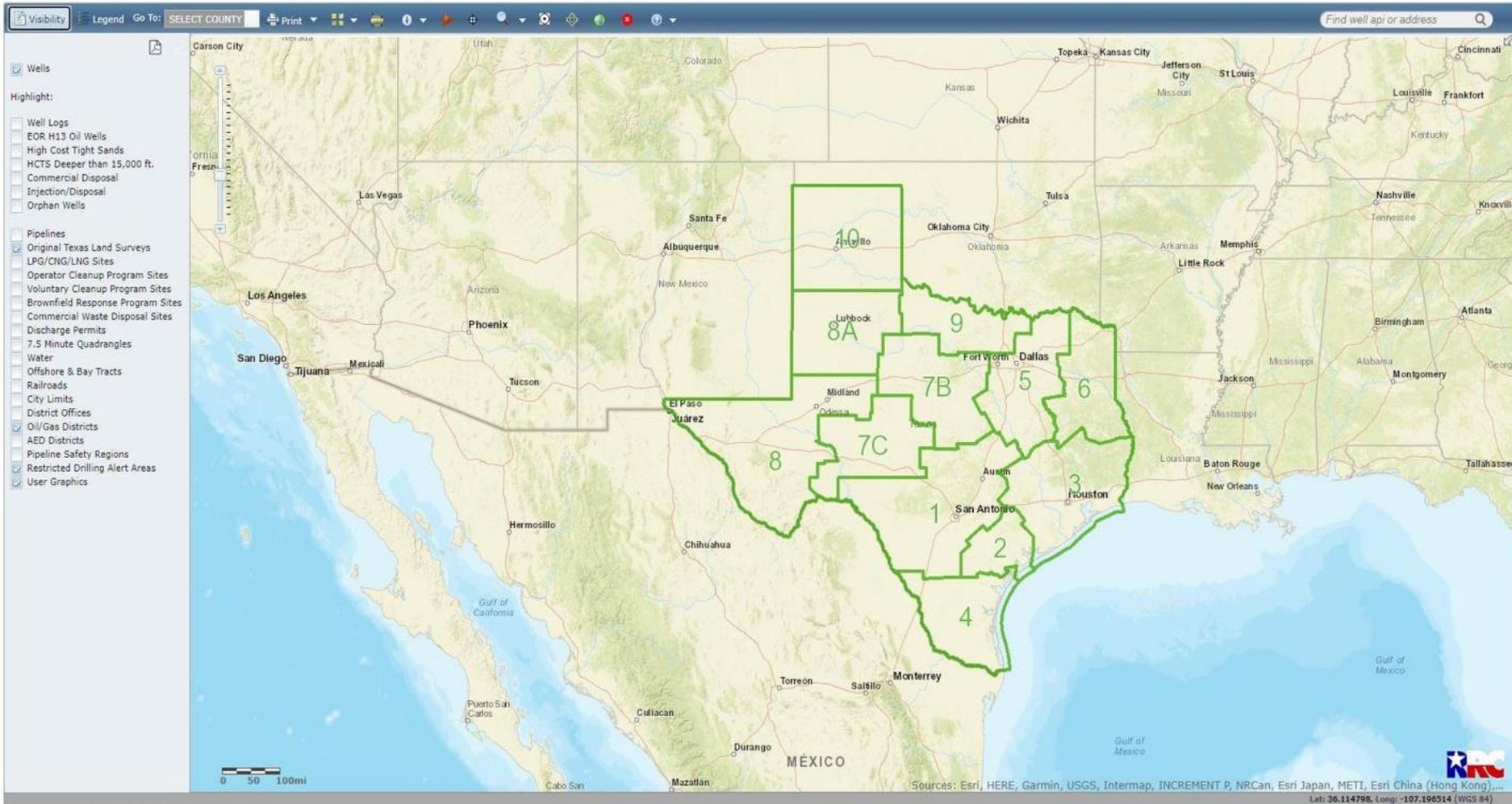
[API# or Address Search](#)

[Survey Search](#)

[Locating Pipelines](#)

[Viewing Coordinates](#)

GIS Viewer Load Screen



Search and Navigation

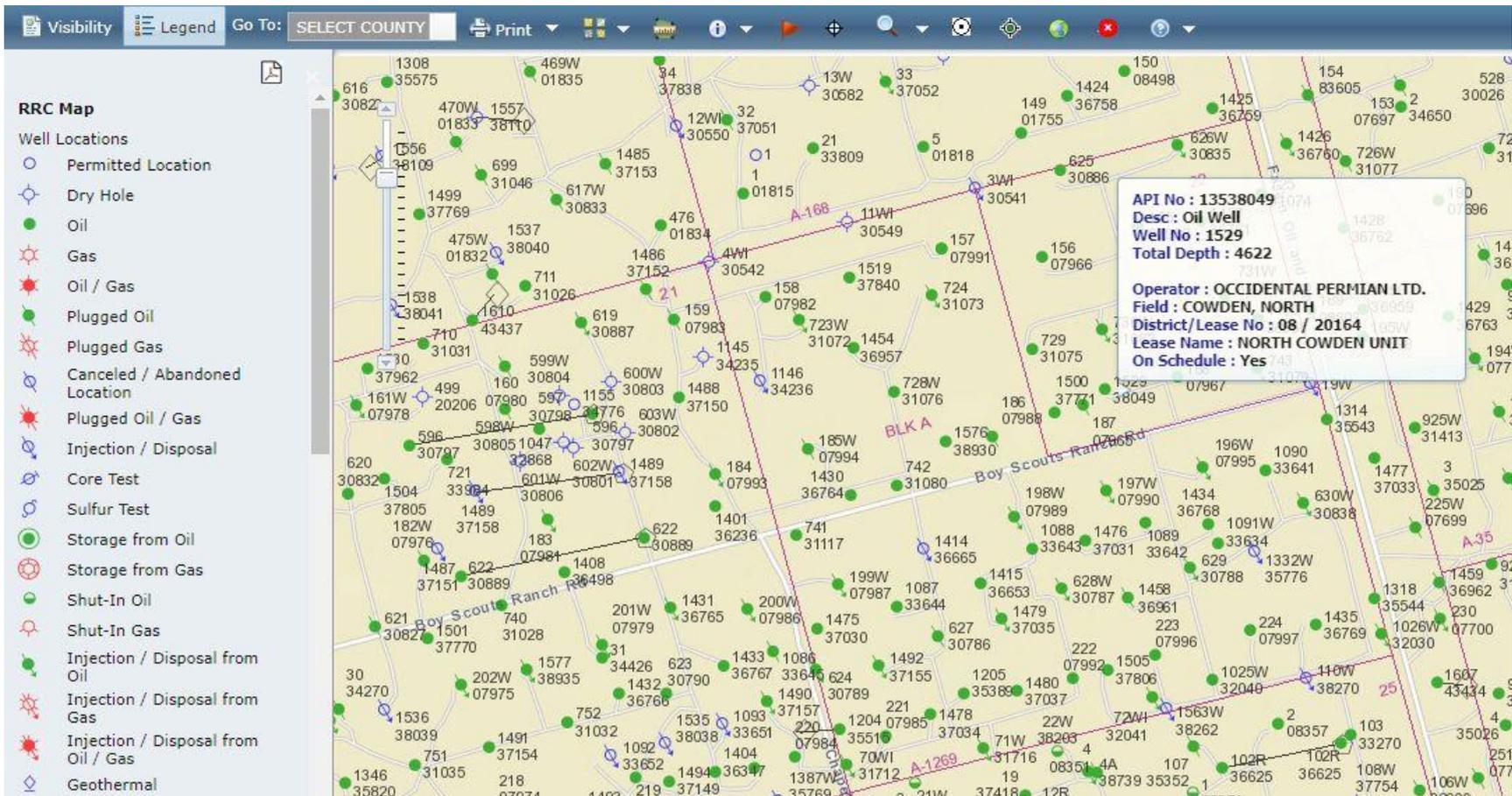


- API Number
 - Must include 8 digits, FIPS & Unique Identifier
- RRC Lease ID
 - 5 digit oil ID or 6 digit gas ID
 - Single gas well displays or all wells under oil lease ID displayed
- Survey Information
 - Not all attributes need to be entered
 - Spelling, punctuation and spaces are important and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

Hover



- 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 shows a GIS application interface. The top toolbar includes 'Visibility', 'Legend', 'Go To: SELECT COUNTY', 'Print', and an 'Identify Wells' tool highlighted with a red circle. The map displays various well locations with different symbols. A dialog box titled 'GIS Identify Results - Well Location Attributes' 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 CASE NAME	

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

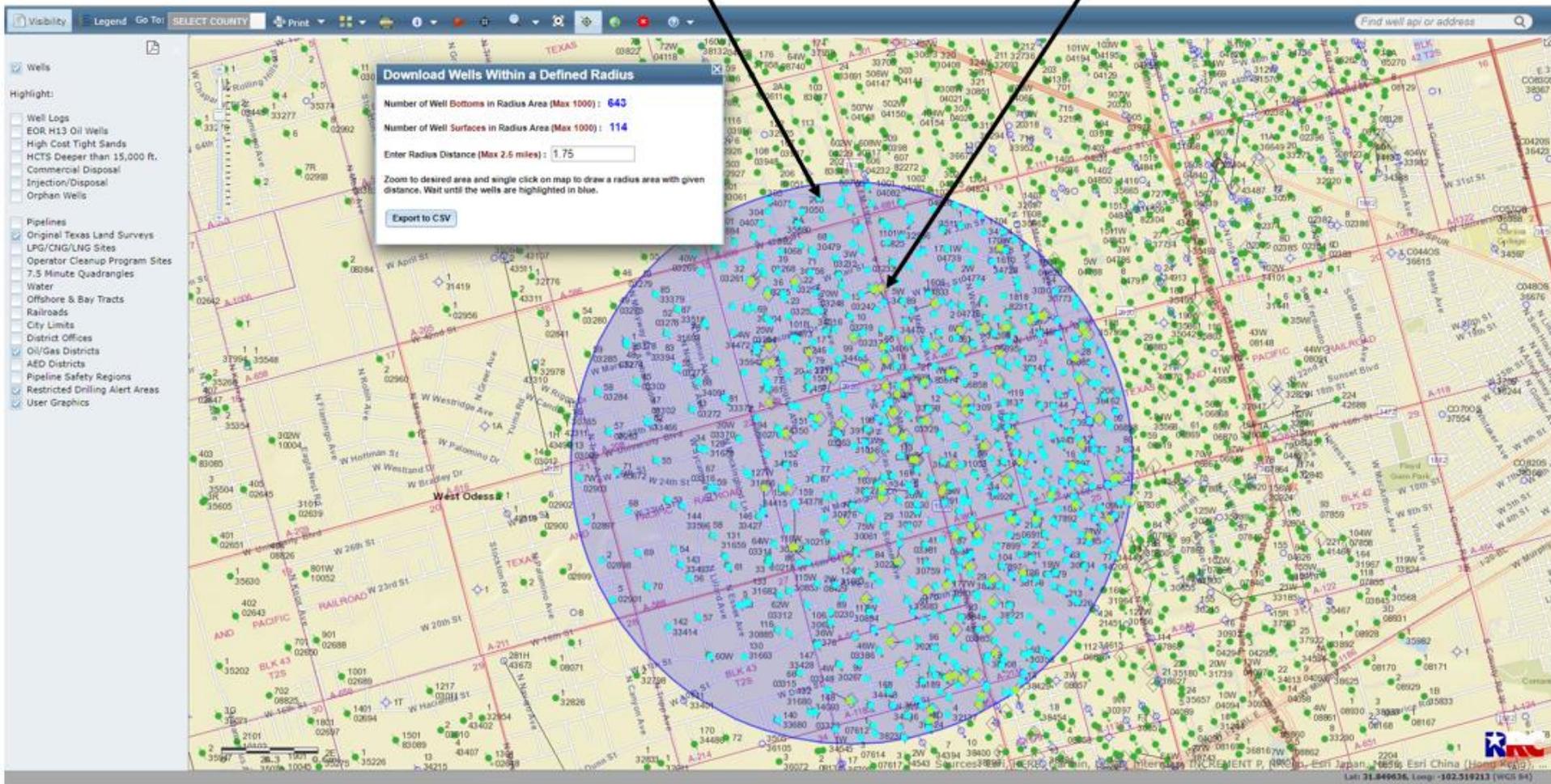
GIS Identify Results - Well Location Attributes	
Number of identify results: 1	
Result #1	
API	44133780
GIS WELL NUMBER	1
GIS SYMBOL DESCRIPTION	Oil Well
GIS LOCATION SOURCE	Operator reported location - Distances and Plat
GIS LAT (NAD27)	32.511745
GIS LONG (NAD27)	-100.041566
GIS LAT (NAD83)	32.511865
GIS LONG (NAD83)	-100.041941
Well Logs	Drilling Permits
	Disposal Permits
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	7B
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
Production Data Query(PDQ)	Oil/Gas Imaged Records for Lease/ID: 28082

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

The screenshot shows the RRC Public GIS Viewer interface. A large blue circle on the map indicates a search radius containing more than 1000 wells. A dialog box titled "Download Wells Within a Defined Radius" is open, showing "Number of Well Bottoms in Radius Area (Max 1000): 0" and "Number of Well Surfaces in Radius Area (Max 1000): 0". The "Enter Radius Distance (Max 2.5 miles)" field is set to 2.5. A "Too Many Results" dialog box from "gis.rrc.texas.gov" states: "There are too many results to display on the map, not all of the selected wells will be highlighted." A "This page isn't responding" error message from "RRC Public GIS Viewer" is also visible, with "Wait" and "Exit page" buttons. A red arrow points from the error message to the "Download Wells Within a Defined Radius" dialog box.

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

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

The screenshot shows the Microsoft Excel interface with a table of well data. The table has columns for API, Well Number, Symbol Desc, Symbol, Reliab, Location Source, Lat27, Long27, Lat83, Long83, Wellbore Status, and Last Permit Issued. The data includes various oil wells and permitted locations with their respective coordinates and status.

API	Well Number	Symbol Desc	Symbol	Reliab	Location Source	Lat27	Long27	Lat83	Long83	Wellbore Status	Last Permit Issued
00342277	9	Oil Well	4	40	Operator reported location - Distances and Plat	32.08853566	-102.27372872	32.08865371	-102.27415121	OPEN	705543
00346959	3502	Oil Well	4	55	Coordinates - Operator reported	32.09076111	-102.26542778	32.09090586	-102.26586841	OPEN	801167
00346960	3503	Oil Well	4	55	Coordinates - Operator reported	32.08883607	-102.26849449	32.08895418	-102.26891688	OPEN	801174
00346961	3505	Oil Well	4	55	Coordinates - Operator reported	32.08966389	-102.25695556	32.0898087	-102.25739594	OPEN	813705
00346961	3505	Oil Well	4	55	Coordinates - Operator reported	32.08966389	-102.25695556	32.0898087	-102.25739594	OPEN	813705
00346963	3506	Oil Well	4	55	Coordinates - Operator reported	32.08788885	-102.26451393	32.08800698	-102.26493616	OPEN	813712
00346963	3506	Oil Well	4	55	Coordinates - Operator reported	32.08788885	-102.26451393	32.08800698	-102.26493616	OPEN	813712
00346964	3508	Oil Well	4	55	Coordinates - Operator reported	32.08710833	-102.25982778	32.0872532	-102.26026823	OPEN	801189
00346966	3504	Oil Well	4	55	Coordinates - Operator reported	32.09061111	-102.26093056	32.09075588	-102.26137106	OPEN	801203
00347002	2H	Permitted Location	2	55	Coordinates - Operator reported	32.07336708	-102.28298241	32.07348554	-102.28340475	LOCATION	802006
00347003	3H	Permitted Location	2	55	Coordinates - Operator reported	32.07390067	-102.28069413	32.07401916	-102.2811164	LOCATION	802009
00347004	4H	Permitted Location	2	55	Coordinates - Operator reported	32.07443455	-102.27840584	32.07455297	-102.27882806	LOCATION	802010
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 top navigation bar includes links for ABOUT US, RESOURCES, FORMS, EVENTS, COMPLAINTS, ACCIDENTS, and CONTACT US. A red arrow points to the RESOURCES dropdown menu, which is open and shows options for Resource Center, Subscription Services, Rules, and What's New. Below the navigation is a large blue banner for "Texas Completions Statistics" with a "View Stats for May 2021" link. A red arrow points from the banner to a white box on the right side of the page titled "Data Sets". This 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". Below the banner are five circular icons representing different sectors: OIL & GAS, PIPELINE SAFETY, ALTERNATIVE FUELS, SURFACE MINING, and GAS SERVICES. At the bottom, there are sections for "RECENT ANNOUNCEMENT" (Attendance Policy for Alternative Fuel Safety Events) and "COVID-19 RESOURCES AND RESPONSE".

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	ArcView Shape File	PDF FIPS Code	Nightly	Details
Survey Layers By County	ArcView Shape File	PDF FIPS Code	Nightly	Details
Well Layers By County	ArcView Shape File	PDF FIPS Code	Nightly	Details
Base Layers By County	ArcView Shape File	PDF FIPS Code	Nightly	Details
All Layers By County	ArcView Shape File	PDF FIPS Code	Nightly	Details
Statewide API Data	ASCII Format	PDF	Nightly	Details
Statewide API Data	dBase Format	PDF	Nightly	Details

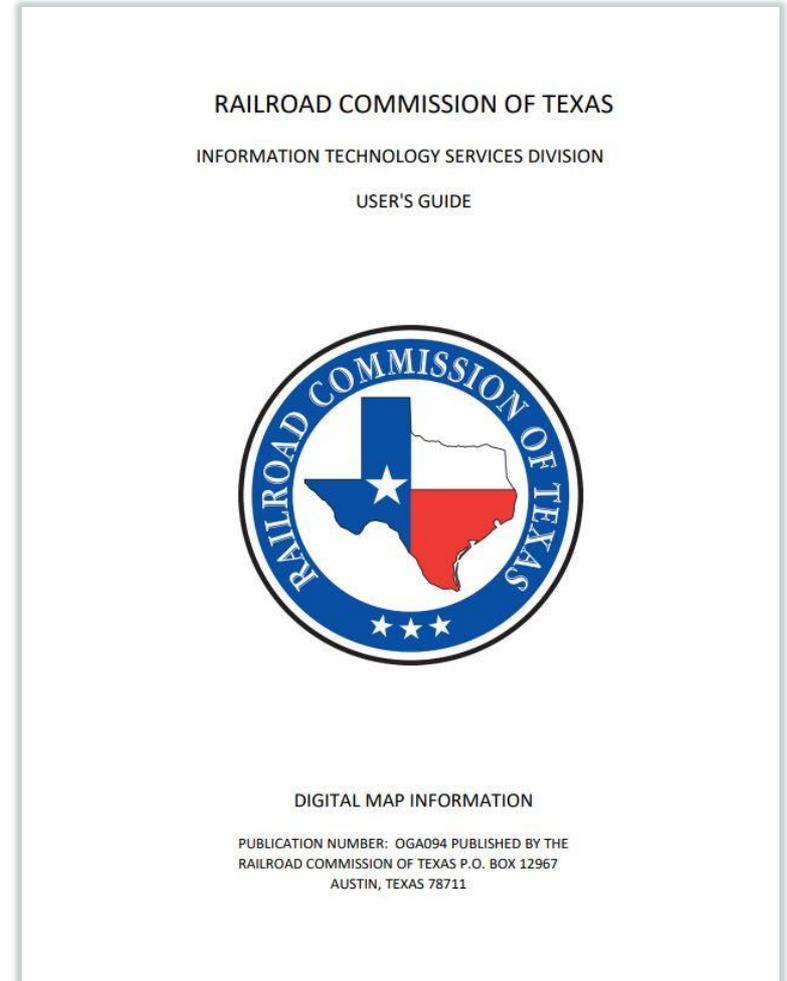
A screenshot of a web-based file browser interface. At the top left is the logo for the Railroad Commission of Texas (RC). Below the logo are buttons for "Refresh" and "Media Viewer". The main area shows a directory listing for "/ (Home)". The listing has columns for "Name", "Last Modified", and "Size". There are six entries, each with a checkbox and a ZIP icon: well001.zip (591.09 KB), well003.zip (3.21 MB), well005.zip (84.85 KB), well007.zip (199.01 KB), and well009.zip (4.07 MB). All files were last modified on 6/22/21 between 4:07:34 PM and 4:07:36 PM.

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.

The screenshot shows the homepage of the Texas Open Data Portal. At the top left, there is a logo with a red square containing a white outline of Texas, followed by the text "data.texas.gov Texas Open Data Portal". To the right is a search bar with a magnifying glass icon and the word "Search". Below this is a dark blue navigation bar with links for "Home", "Texas ODP Catalog", "Stories", "Help", "***NEW: User Guide***", and "Other Texas Data Sites". On the right side of the navigation bar are social media icons for Facebook, Twitter, YouTube, and LinkedIn, along with a "Sign In" button. The main content area features a large banner image of a field of bluebonnets with the text "Welcome to the Texas Open Data Portal" overlaid in white. Below the banner are four white boxes, each with an icon and a title: "Blockchain" (chain link icon), "Permits & Licensing" (paperclip icon), "Business & Economy" (line graph icon), and "Government & Taxes" (classical building icon). Each box also contains a short description of the data available in that category.

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



- 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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