





***EPA Office of Ground Water and
Drinking Water's Drinking Water
Mapping Application (DWMA)***

***A National Framework for Analyzing
Hydrogeologic Environments:
With a Focus on UIC Issues***

DWMA Overview

- ' Identifies potential risks to surface water and groundwater used for public drinking water
- ' Currently provides desktop mapping, query, analysis, and reporting functions for key drinking water layers
- ' Generates query driven maps, graphics, and reports at a variety of spatial scales
- ' A secure Web-based geospatial intra-net application
- ' Built with ArcIMS, ArcSDE, Oracle



Web Interface

- Combines queries and maps
- National and local scale queries

The screenshot shows the Drinking Water Mapping Application (DWMA) web interface. The browser window title is "Drinking Water Mapping Application (DWMA) - Microsoft Internet Explorer". The interface features a header with the U.S. Environmental Protection Agency logo and "DWMA Version 1.04". Below the header, there are navigation tabs for "SDWIS/FED Queries" (with sub-tabs "PWS By Name", "PWS By Violation", and "WQS") and "Other Queries" (with sub-tabs "Geol. Setting", "Prot. Areas", and "Adv. Prot. Area"). The main content area is divided into a "Query Frame" on the left, a "Map Frame" in the center, and a layer legend on the right. The "Query Frame" contains "SDWIS Query Filters" (Violation: Not Specified) and "SDWIS System Selection" (State/Region: Nationwide, County_served: First select state, PWS: First select state). The "Map Frame" displays a map with various data points and a scale bar. The layer legend on the right includes categories like "All Layers", "Drinking Water Sources", "Point Source Risks", "Water Quality Standards", "National Hydrography Dataset", "Supplemental Layers", and "Base Map".

Data Sources

- ' Drinking water sources (intakes and wells)
- ' Source water protection areas
- ' Point sources of contamination including wastewater dischargers, hazardous waste disposal sites, & Superfund sites
- ' Non-point sources of contamination including fertilizer use, herbicide use, and animal wastes
- ' Surface waters represented by the NHD (National Hydrography Dataset)
- ' Groundwater represented by USGS digital map products (aquifers) and digitized overlays from paper reports (groundwater atlases and water supply reports)
- ' UIC Class I well locations

DWMA Hydrogeologic Reference System

- ' Information on principal aquifers and regional geology from standard USGS sources
- ' GIS overlays with information on UIC wells and drinking water wells
- ' Overlays for a variety of other environmental data layers
- ' Work in process to define queries for particular ground water management concerns

Hydrogeologic Reference System

Drinking Water Mapping Application (DWMA) - Microsoft Internet Explorer

U.S. Environmental Protection Agency
DWMA Version 1.04

Recent Additions | Contact Us | Help | Metadata | User's Guide Search: **GO**

EPA Home > Water > Ground Water and Drinking Water > DWMA

SDWIS/FED Queries: PWS By Name PWS By Violation WQS Point Source Nonpoint Source SDWIS Basic Advanced

Other Queries: Geol. Setting Prot. Areas Adv. Prot. Areas UIC SSA **Geo. Ref.**

No queries are currently available for the Geology Reference tab.

Layers Refresh

- Drinking Water Sources
- UIC Wells
- Point Source Risks
 - National-Level Risks
 - CERCLA (NPL)
 - Water Discharge
 - Waste Sites
- Protection Areas (PA)
- Florida Geologic Survey
- Geologic Map of the State of FL
- Ground Water Atlas of the US
- Todd 1983 Ground Water Resource
- USGS National Water Summary
- Heath Aquifer Footprints
- Cross Sections
- National Hydrography Dataset
 - Streams/Rivers/Coastlines
 - Waterbodies
- Supplemental Layers
 - Watershed
 - Karst
 - Groundwater Regions

Map: 1396928.41 , 735673.35 -- Image: 208 , 208 -- ScaleFactor: 228.740490278951

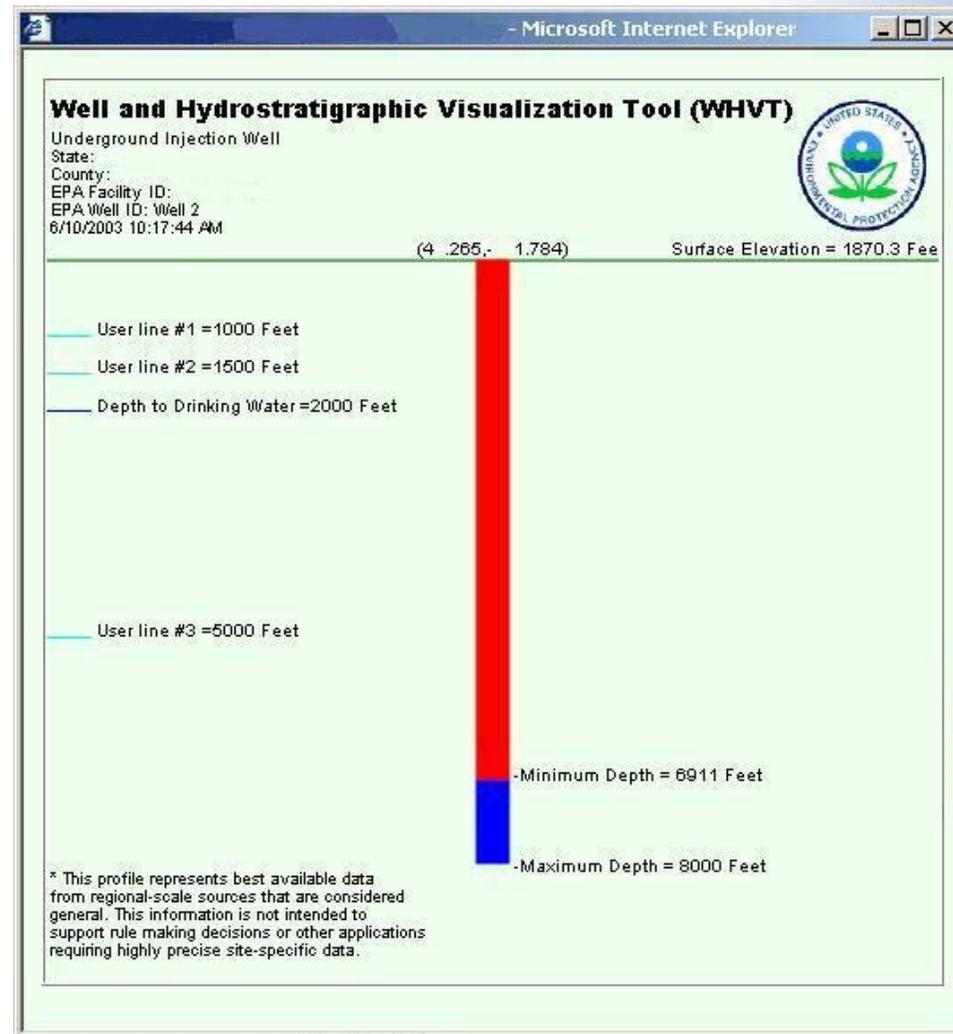
DWMA Well Visualization Tool

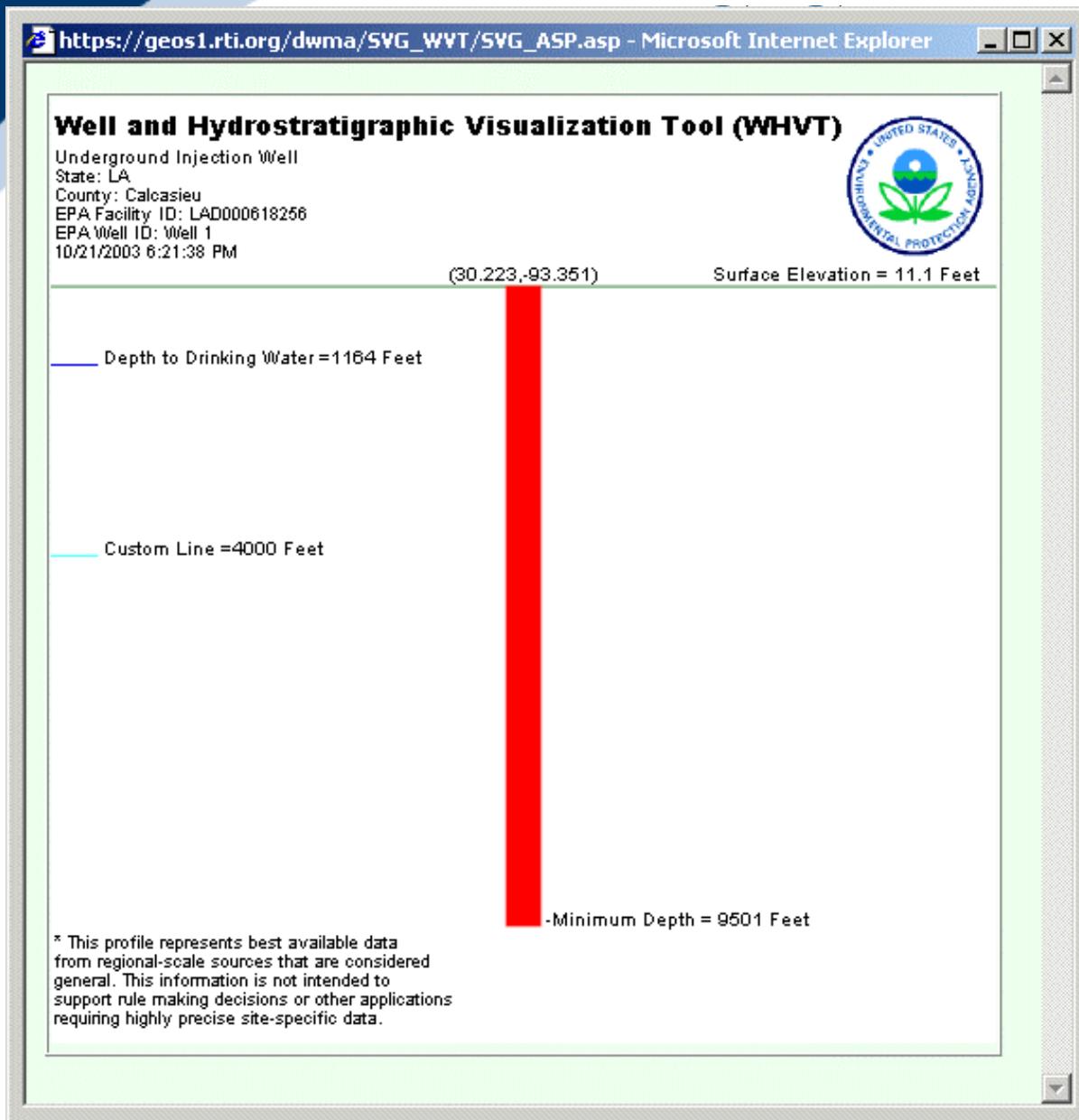
- ' In addition to views at the land surface, tools are under development to provide 2D and 3D geological cross-sections
- ' For the UIC program, helps document ways that risks are minimized for underground sources of drinking water
- ' Provides site specific background information for technical specialists
- ' Helps program managers to illustrate policy options for different regions and geological settings

Well Visualization Tool: UIC Applications



- ' Generate custom well profile by clicking on a well
- ' Show existing or user-defined depths of interest (e.g., depth to drinking water above an injection well)
- ' Planned enhancements include geology, cross sections, water supply wells and monitoring wells





Information is populated
 visualization by editing
 ic reference materials

Advanced

ft

ft

County:

h principle aquifers are
 rce.

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Data base entry form

Microsoft Access - [frm_Aquifer_Exemption_Data_Entry : Form]

File Edit View Insert Format Records Tools Window Help

Tahoma 12 B I U



Aquifer Exemption Database (AQEX)

UIC Permit #/Ref. ID/File No.: UIC-85-2

Select Region and State from pulldown list EPA Region: 6 LA :State (DO NOT TYPE IN THIS FIELD)

County: Jefferson Parish 22051 :FIPS Code 1 (DO NOT TYPE IN THIS FIELD)

Additional County: :FIPS Code 2 (DO NOT TYPE IN THIS FIELD)

Additional County: :FIPS Code 3 (DO NOT TYPE IN THIS FIELD)

Name of Originating Agency: State of Louisiana Office of Conservation

Entity Granted Exemption: Freeport Sulphur Company

Street Address: n/a

City, State, Zip Code: New Orleans, LA

Indian Nation? Name of Indian Nation:

Exemption Type: Post-Primacy Date Exemption Granted (MM/DD/YYYY): 4/8/1985

Exemption Criteria: 146.4 [a] & [b](4)

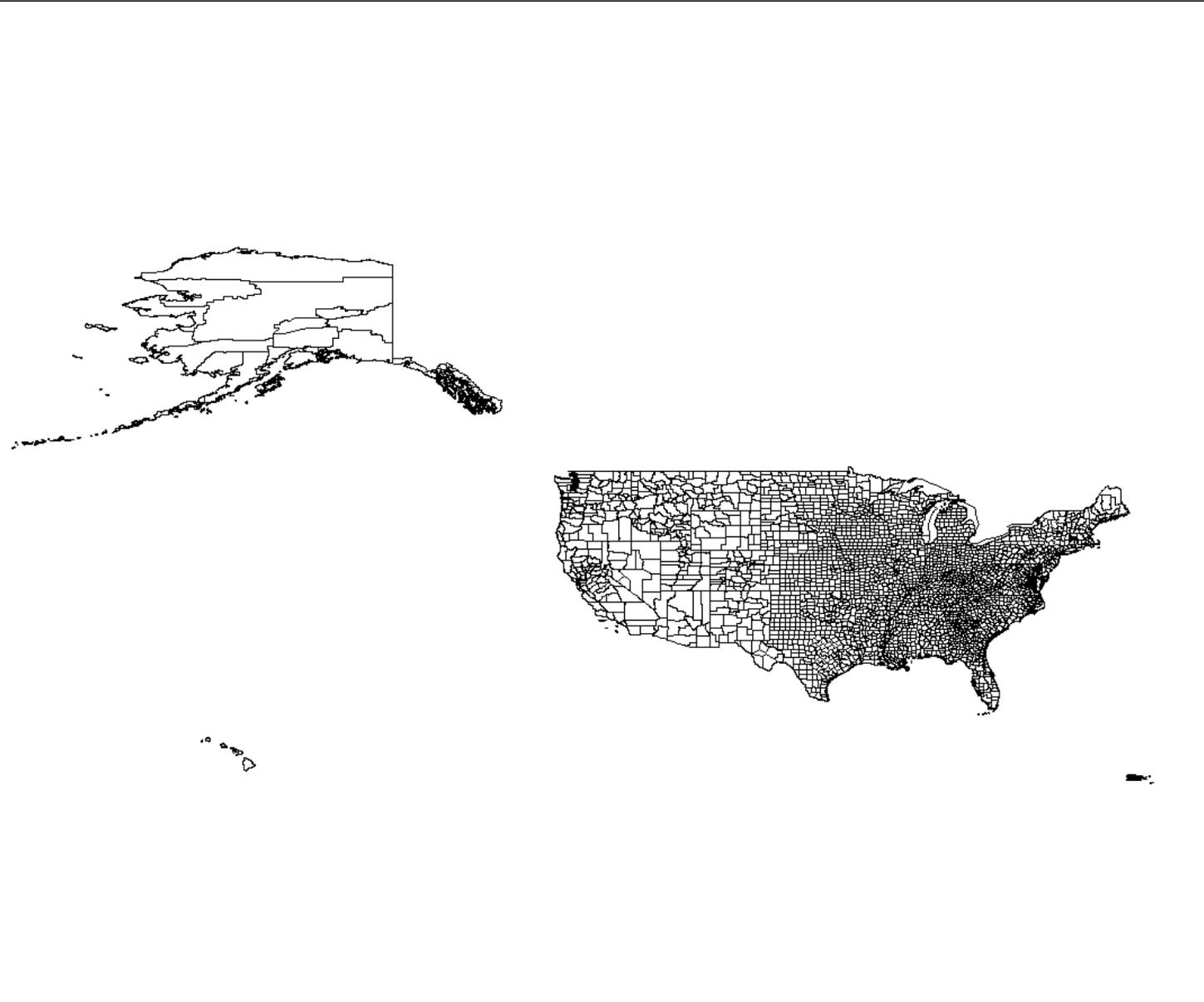
Save Record Add New Record Open UIC Well Information Form Exit Database

Record: 101 of 150

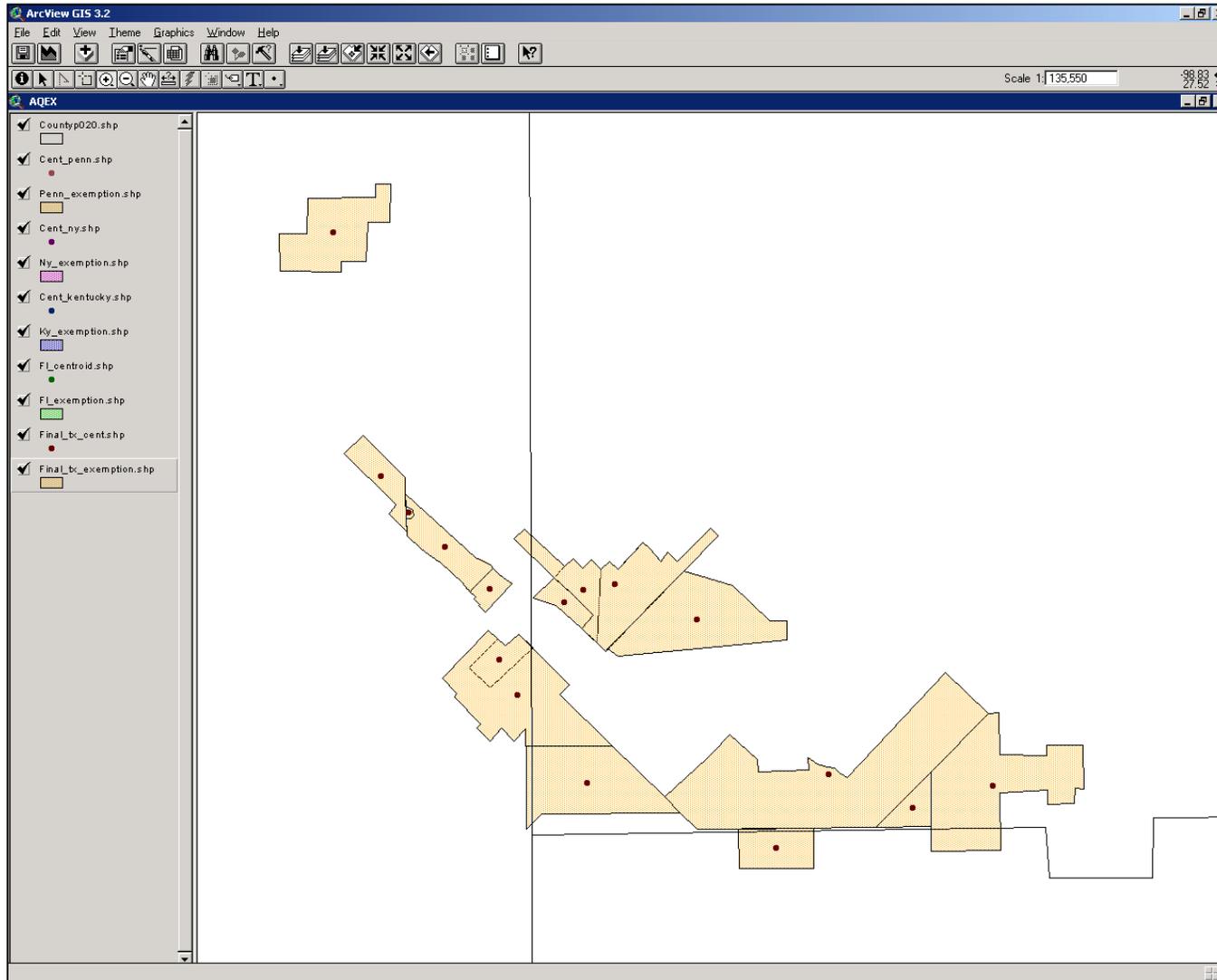
Additional county name if necessary



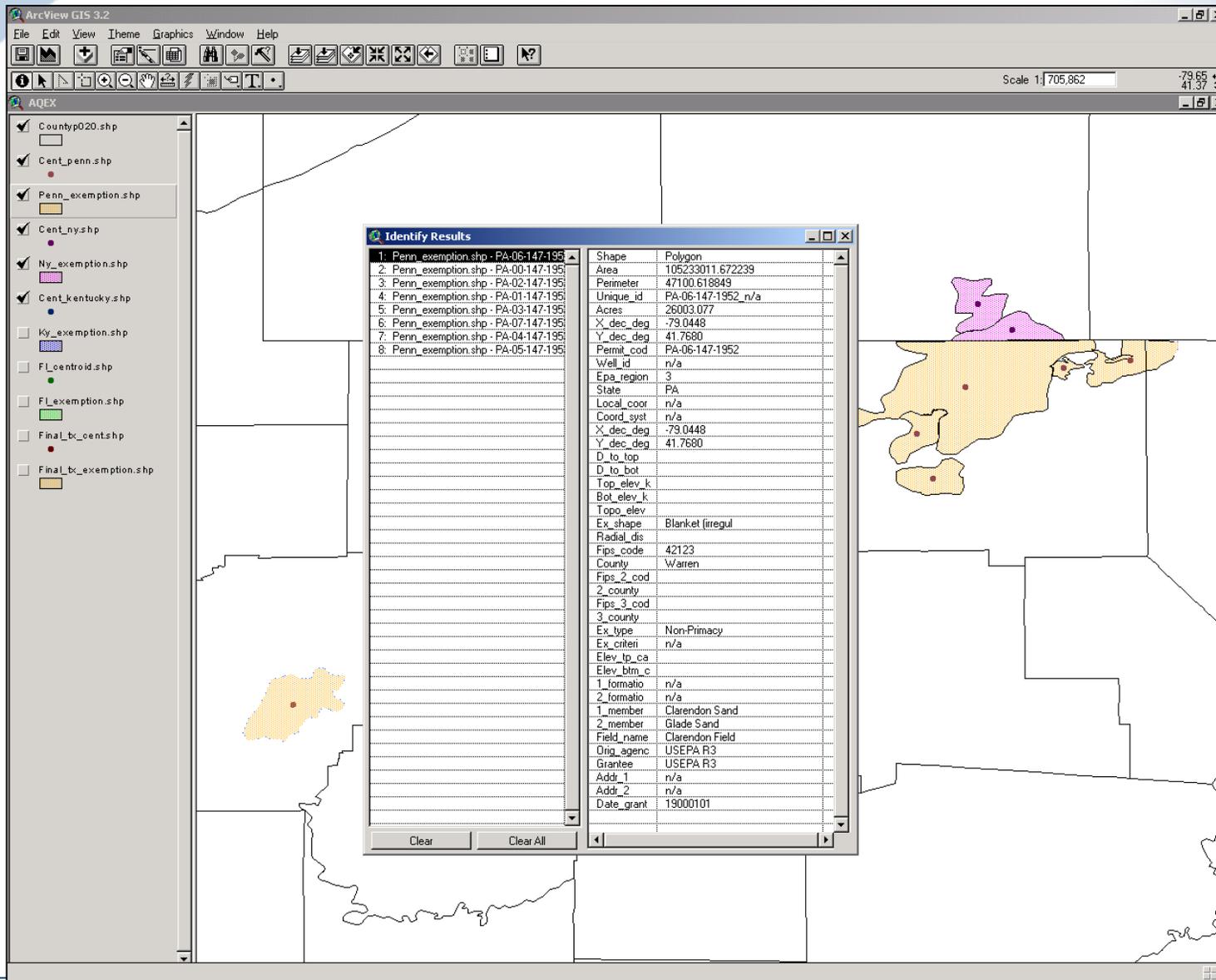
- County020.shp
- Cent_penn.shp
- Penn_exemption.shp
- Cent_ny.shp
- Ny_exemption.shp
- Cent_kentucky.shp
- Ky_exemption.shp
- Fl_centroid.shp
- Fl_exemption.shp
- Final_bc_cent.shp
- Final_bc_exemption.shp



Polygons with centroids



Polygon and Data



Typical information for the exemptions

ArcView GIS 3.2

File Edit Table Field Window Help

1 of 47 selected

Attributes of Final_tx_exemption.shp

<i>Unique_id</i>	<i>X_dec_deg</i>	<i>Y_dec_deg</i>	<i>Femitt_cod</i>	<i>Well_id</i>
UR02827-001a_n/a	-97.7776	27.4424	UR02827-001a	n/a
UR02827-001_n/a	-97.7989	27.4560	UR02827-001	n/a
UR02463-001a_n/a	-98.8414	27.4635	UR02463-001a	n/a
UR02156-001a_n/a	-98.7824	27.4374	UR02156-001a	n/a
UR02156-001b_n/a	-98.7718	27.4394	UR02156-001b	n/a
SU50501_Area 1	-104.1432	31.6268	SU50501	Area 1
SU50501_Area 2	-104.2296	31.6035	SU50501	Area 2
UR02381-001a_n/a	-97.9806	28.1750	UR02381-001a	n/a
UR02463-NW of Bruni Fault_n/a	-98.8294	27.4517	UR02463-NW of Bruni Faul	n/a
UR02463-SE of Bruni Fault_n/a	-98.8141	27.4375	UR02463-SE of Bruni Faul	n/a
UR02914-001_n/a	-98.7174	27.3503	UR02914-001	n/a
UR01941-001a_n/a	-98.8108	27.4139	UR01941-001a	n/a
UR02154-001_n/a	-98.2218	28.2767	UR02154-001	n/a
UR01949-001_n/a	-98.0539	28.4813	UR01949-001	n/a
UR02108-001_n/a	-98.0636	28.4635	UR02108-001	n/a
UR01890-001a_n/a	-98.1921	28.2254	UR01890-001a	n/a
UR01890-001_n/a	-98.2127	28.2437	UR01890-001	n/a
UR01941-001_n/a	-98.8046	27.4020	UR01941-001	n/a
UR02368-001_n/a	-98.1920	28.2850	UR02368-001	n/a
UR02155-001_n/a	-98.7440	27.4274	UR02155-001	n/a
UR02312-001_n/a	-98.7889	27.4333	UR02312-001	n/a
UR02441-001_n/a	-98.6440	27.3711	UR02441-001	n/a
UR02420-001_n/a	-98.6714	27.3638	UR02420-001	n/a
SU50505_n/a	-94.6949	29.8920	SU50505	n/a
SU50506_n/a	-95.9064	29.2789	SU50506	n/a
SU50502_n/a	-102.7641	31.0684	SU50502	n/a
SU50504_n/a	-102.6421	30.9869	SU50504	n/a
SU50503_n/a	-95.7177	29.4022	SU50503	n/a