

RAILROAD COMMISSION OF TEXAS  
INFORMATION TECHNOLOGY SERVICES DIVISION  
USER'S GUIDE



DIGITAL MAP INFORMATION

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The Information Technology Services Division (ITS) developed this publication for the general public in response to inquiries concerning the availability of digital map data. Any request for assistance with using the manual will be given every consideration.

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**I. GENERAL INFORMATION**

## IDENTIFICATION

Developed For: Users of RRC Mapping Information  
By: RRC of Texas, Information Technology  
Services Division

## OUTPUT MEDIA

The Digital Well Location Mapping information is available for output onto the following mediums:

- **CD-ROM (Compact Disk)**
- **FTP (File Transfer Protocol-Binary Transfer)**

## ZIP

The Railroad Commission uses the zip file format on all GIS export files. Zip is commonly used to combine - or "archive" -- two or more files for storage or distribution.

RRC GIS data files can be unarchived using many file archiver software packages.

The Railroad Commission has successfully uncompressed and unarchived GIS export files using 7-Zip 15.12 on Windows 7. It is assumed more recent versions of 7-Zip will retain their previous extract capabilities.

Once the original RRC GIS digital data file is unarchived, the user will have all requested data layers in the appropriate format for a particular county.

## DISK SIZE REQUIREMENTS

The amount of compression obtained depends on the size of the input and the distribution of common substrings. Therefore, users should expect and plan for uncompressed RRC GIS export files to occupy anywhere from 1.5 to twice the disk space of the compressed files.

## **SYSTEM DESCRIPTION**

The Railroad Commission of Texas exports double-precision map data from ARCSDE version 10.2. Exports are to Environmental Systems Research Institute's (ESRI) shapefile (.SHP) format.

Shapefiles, developed by ESRI for use with its ArcMap software, store a feature's geographic location and attribute information. The shapefile format is a collection of different files listed under the File Naming Conventions (II.3).

## **COORDINATE SYSTEM**

The Railroad Commission exports all map data to the Geographic projection (Latitude/Longitude). The following parameters define the Geographic projection:

Projection:	Geographic
Units:	Decimal Degrees
Datum:	NAD27

## **DISCLAIMER**

The digital mapping data described in this manual were generated by the Geographic Information System of the Railroad Commission of Texas and are provided for informational purposes only. Base map information was obtained directly from U.S. Geological Survey 7.5 minute quadrangle maps. Patent Survey lines from Texas General Land Office maps were interpreted as accurately as possible over the U.S. Geological Survey base. Oil and gas well data or pipeline data (if included) were obtained from public records of the Railroad Commission. The mapping system from which this data were extracted is currently under development and is continually being updated and refined. These data are intended solely for the internal use of the Railroad Commission, which makes no claim as to its accuracy or completeness. Users are responsible for checking the accuracy, completeness, currency, and/or suitability of this data.

## II. DISCUSSION OF FILES

## AVAILABLE MAP DATA

\*\*\*\*\*  
Please note that GIS feature layers may not necessarily exist in all counties. If a GIS feature layer - such as ship channels or government lands - does not exist in a particular county, you will not receive a file for that feature layer. The absence of feature layers in particular counties are already accounted for in the data pricing.  
\*\*\*\*\*

The digital data used to create the files was taken from the forms system within the RRC, from the General Land Office (GLO) county survey maps, and, United States Geological Survey (USGS) quadrangle maps.

ESRI's shapefile format is recognized and accepted industry-wide and is easily imported to and used in many GIS and CAD software packages. However, the user is responsible for confirming that their specific GIS or CAD software fully supports the importation and use of shapefiles.

Available digital map data layers includes:

1. Basemap:
  - a. Airports
  - b. Cemeteries
  - c. Cities
  - d. Government Lands
  - e. Political Boundaries (Includes, where applicable, county, state, coastal and gulf area boundaries.)
  - f. Railroads
  - g. Roads
  - h. Ship Channels
  - i. Subdivisions
  - j. Water Features
  - k. Offshore Surveys (where applicable)
2. Wells:
  - a. Surface Well Locations
  - b. Bottom Well Locations
  - c. For horizontal and directional wells, arcs connecting surface and bottom locations.
2. Surveys:
  - a. lines, polygons, baytracts (where applicable)
3. Pipelines:
  - a. Pipelines - Abandoned
  - b. Pipelines - Liquid
  - c. Pipelines - Gas

## FILE NAMING CONVENTIONS

The archived shapefile(s) you will receive from the Railroad Commission are named as follows:

When ordering **ALL DATA**:

1. The 1<sup>st</sup> three letters are "Shp"
2. The county FIPS code follows the "Shp"
3. All files have the suffix ".zip"

Example:

- a. County FIPS code 307 exported: Shp307.zip

When ordering **BASEMAP DATA** only:

1. The 1<sup>st</sup> seven letters are "Basemap"
2. The county FIPS code follows the "Basemap"
3. All files have the suffix ".zip"

Example:

- a. County FIPS code 307 exported: Basemap307.zip

When ordering **PIPELINE DATA** only:

1. The 1<sup>st</sup> eight letters are "pipeline"
2. The county FIPS code follows the "pipeline"
3. All files have the suffix ".zip"

Example:

- a. County FIPS code 307 exported: pipeline307.zip

When ordering **SURVEY DATA** only:

1. The 1<sup>st</sup> four letters are "surv"
2. The county FIPS code follows the "surv"
3. All files have the suffix ".zip"

Example:

- a. County FIPS code 307 exported: surv307.zip

When ordering **WELL DATA** only:

1. The 1<sup>st</sup> four letters are "well"
2. The county FIPS code follows the "well"
3. All files have the suffix ".zip"

Example:

- a. County FIPS code 307 exported: well307.zip

A. Exports by *County FIPS Code* to ArcView Shapefiles:

Each shapefiles will contain the following extensions (ext):

- <shapefile>.cpg - contains the code page information for the attributes.
- <shapefile>.dbf - contains a feature's dBase attribute information.
- <shapefile>.prj - contains the feature's projection file.
- <shapefile>.sbn - contains the feature's spatial index format
- <shapefile>.sbx - contains the feature's spatial index format
- <shapefile>.shp - contains a feature's geometry.
- <shapefile>.shp.xml - contains a feature's metadata.
- <shapefile>.shx - contains a feature's geometry index.

1. Airport lines: air<fips\_number>l.<ext>
2. Cemetery lines: cem<fips\_number>l.<ext>  
polygons: cem<fips\_number>p.<ext>
3. City polygons: cit<fips\_number>p.<ext>
4. County Boundary  
coastal polygons: cty<fips\_number>g.<ext>  
gulf areas polygons: cty<fips\_number>i.<ext>  
state polygons: cty<fips\_number>k.<ext>
5. Government Land lines: gov<fips\_number>l.<ext>
6. Railroad lines: rail<fips\_number>l.<ext>
7. Road lines: road<fips\_number>l.<ext>
8. Ship Channel lines: ship<fips\_number>l.<ext>
9. Subdivision lines: subd<fips\_number>l.<ext>
10. Survey lines: surv<fips\_number>l.<ext>  
polygons: surv<fips\_number>p.<ext>  
baytract polygons: surv<fips\_number>b.<ext>
11. Water lines: watr<fips\_number>l.<ext>  
polygons: watr<fips\_number>a.<ext>
12. Wells:  
Surface Well points: well<fips\_number>s.<ext>  
Bottom Well points: well<fips\_number>b.<ext>  
Surface/Bottom lines: well<fips\_number>l.<ext>
13. Pipelines lines: pipe<fips\_number>l.<ext>
14. Offshore Survey polys: offs<fips\_number>a.<ext>

III. RAILROAD COMMISSION MAPPING TERMS

## MAPPING TERMS USED AT THE RRC

### **Survey**

A survey is a certified measured description of a piece of land. The term sometimes refers to the land itself. In Texas, original surveys were performed as part of the patenting process whereby land was transferred from the public domain. These "*patent surveys*," recorded at the Texas General Land Office, constitute an official land grid for the State and are the basis for subsequent land surveys.

### **Block**

A block is a defined set of original land surveys. A block has an identifying name and/or number, and surveys within it are usually consecutively numbered, mile-square sections. Land grants from the State of Texas to railroad companies were often patented in blocks and sections. The term block is also used as a unit of a subdivision, i.e., subdivision/block/lot.

### **Section**

A section refers to a square land survey measuring exactly one mile on each side. Some of the land transferred from the public domain by the state of Texas was surveyed and patented in units of square miles. The Texas General Land Office officially considers these units sections. Also, it was common that larger land grants, such as school lands and capitol lands, were subsequently surveyed into square mile units for the convenience of sale; these surveys are also called sections. In addition, the term "*section*" is commonly used to describe surveys in a group that have been assigned consecutive survey numbers, even though some of them do not have the proper shape or size to truly be sections.

### **Abstract**

In Texas, the term abstract refers to an original land survey describing an area transferred from the public domain by either the Republic of Texas or the State of Texas. These surveys are recorded in the "*State Abstract of Land Titles*," which is maintained by the Texas General Land Office. Each survey so recorded is assigned an abstract number, which is unique within the county in which the survey falls. Because Texas has never performed a uniform statewide land survey, these original surveys called "*Patent Surveys*" constitute the State's Official Land Survey System.

#### IV. DATA DICTIONARY AND FILE LAYOUT

## DATA DICTIONARY

This data dictionary defines unique RRC map attribute items and is structured as follows:

*For attribute items with a DATA TYPE of text:*

<ITEM NAME> <DATA TYPE> <LENGTH>

**Item Name:**

The name of an attribute item in a data file.

**Data Type:**

Type of data (Text).

**Length:**

Number of spaces for text data types.

*For attribute items with a DATA TYPE of numeric, double, or float:*

<ITEM NAME> <DATA TYPE> <PRECISION> <SCALE>

**Item Name:**

The name of an attribute item in a data file.

**Data Type:**

Type of data (Numeric, Double, Float, etc.).

**Precision:**

Field length - for double, float, and numeric data types.

**Scale:**

Decimal places - for double, float, and numeric data types.

## ATTRIBUTE INFORMATION

DATA ITEMS IN THE CTY<FIPS>G:

**FIPS: TEXT 3**

Federal Information Processing Standard code (FIPS) is a three character county code. FIPS codes are listed in Appendix B.

**COUNTY NAM: TEXT 14**

The county name is in upper case letters.

DATA ITEMS IN THE CTY<FIPS>I:

**FIPS: TEXT 3**

Federal Information Processing Standard code (FIPS) is a three character county code. FIPS codes are listed in Appendix B.

**AREANAME: TEXT 50**

County name for a gulf area. County names are listed in Appendix B.

## RAILROAD ATTRIBUTE INFORMATION

**QUAD15M: TEXT 6**

15 Minute Quadrangle number the rail line is in.

IV.1

## SURVEY ATTRIBUTE INFORMATION

DATA ITEMS IN THE SURV<FIPS>P:

**ABSTRACT\_N: TEXT 12**

Abstract number. The Anum is comprised of the county FIPS code and the abstract number. Assigned to the surveyed parcel by the General Land Office at the time of patenting. If the abstract number field contains a "?" or is blank, then no abstract number was found.

**LEVEL1\_SUR: TEXT 32**

Survey name. The name of the original grantee or the name of the company, individual or eleemosynary institution that is common among a formed group of surveys as shown on the General Land Office (GLO) county patent survey map or the GLO State Abstract of Land Titles.

**LEVLE2\_BLO: TEXT 10**

Block Number. The number or letter used in description of a group of surveys identified as a Block on the GLO map. Example: 101

**LEVEL3\_SUR: TEXT 8**

Section number. Further describes an abstracted surveyed parcel. Or, when preceded by "SUR", a surveyed parcel further divided into numbered abstracted areas. Example: SUR 101

**LEVEL4\_SUR: TEXT 32**

Sub-Survey name of the grantee when the survey is a part of a larger refined area surveyed by a common party, and is only added if it is shown on the GLO map. A scrap file number corresponding to GLO records may also appear in the field.

**ABSTRACT\_L: TEXT 11**

Abstract label. Label for the abstract number.

**SCRAP\_FILE: TEXT 9**

Scrap or mineral file number from the GLO Abstract of Land Titles.

DATA ITEMS IN THE SURV<FIPS>B:

**BAYNUM: TEXT 9**

Bay number provided by the General Land Office.

**BAYID: TEXT 3**

Bay area name abbreviations.

**TRACTNUM: TEXT 6**

Provided by the General Land Office.

DATA ITEMS IN THE SURV<FIPS>L:

**LTYPE: SHORT NUMERIC**

Line type, all line types are given in Appendix A.

**QUAD15M: TEXT 6**

15 Minute Quadrangle number the survey is in.

**WATER ATTRIBUTE INFORMATION**

*DATA ITEMS IN THE WATR<FIPS>L:*

**QUAD15M: TEXT 6**

15 Minute Quadrangle number the water is in.

*DATA ITEMS IN THE WATR<FIPS>A:*

**LW\_CODE: TEXT 1**

Identifies a polygon water (W).

**WELL ATTRIBUTE INFORMATION**

\*\*\*\*\*  
For some historical wells, APINUM field may be blank due to the limited amount of research time to capture this information.  
\*\*\*\*\*

**BOTTOM WELLS - DATA ITEMS IN THE WELL<FIPS>B:**

**API: TEXT 8**

Three character county code with 5 character American Petroleum Institute (API) number. FIPS codes are listed in Appendix B.

**API10: TEXT 10**

Ten character field equivalent to APINUM minus the 2 digit STATE Code.

**APINUM: TEXT 12**

The American Petroleum Institute (API) number of the wellbore in which the well is located. This 12-digit number includes a two-digit state code (Texas=42), an eight-digit API code, and a two-digit sidetrack code. (A sidetrack code identifies wells drilled from within a wellbore.)

**BOTTOM-ID: DOUBLE 10 0**

Bottom well identification number.

**CWELLNUM: TEXT 6**

Current well number as assigned by the operator.

**OUT\_FIPS: TEXT 1**

If given the value "Y", indicates a bottom well location in a county other than that indicated by the FIPS code portion of the API number.

**LAT27: DOUBLE 18 8**

Latitudinal position of the well. Datum is 1927.

**LONG27: DOUBLE 18 8**

Longitudinal position of the well. Datum is 1927.

**LAT83: DOUBLE 18 8**

Latitudinal position of the well. Datum is 1983.

**LONG83: DOUBLE 18 8**

Longitudinal position of the well. Datum is 1983+.

**RADIOACT: TEXT 1**

Whether the well is radioactive (if the bore contains any known radioactive material).

- Y - well is radioactive.
- N - well is not radioactive.

**RELIAB: TEXT 2**

Indicates the reliability of the well spot (the accuracy of the location of the well). Valid reliability codes are listed in Appendix C.

**STCODE: TEXT 2**

Side Track Code. Side tracks are numbered incrementally from 1 to 9, then from A through Z.

<u>POSITION 1:1</u>	<u>POSITION 2:2</u>
D = Directional	1 to 9 or,
H = Horizontal	A to Z
W = Well	

**SURFACE-ID: DOUBLE 10 0**

Surface well identification number.

**SYMNUM: LONG NUMERIC**

Indicates the type of well under Datatype 50 in Appendix A.

**WELLID: TEXT 5**

Character field equal to APINUM's last five digits.

**SURFACE WELLS - DATA ITEMS IN THE WELL<FIPS>S:**

**API: TEXT 8**

Three character county code with 5 character American Petroleum Institute (API) number. FIPS codes are listed in Appendix B.

**LAT27: DOUBLE 18 8**

Latitudinal position of the well. Datum is 1927.

**LONG27: DOUBLE 18 8**

Longitudinal position of the well. Datum is 1927.

**LAT83: DOUBLE 18 8**

Latitudinal position of the well. Datum is 1983.

**LONG83: DOUBLE 18 8**

Longitudinal position of the well. Datum is 1983.

**RELIAB: TEXT 2**

Indicates the reliability of the well spot (the accuracy of the location of the well). Valid reliability codes are listed in Appendix C.

**SURFACE-ID: DOUBLE 10 0**

Surface well identification number.

**SYMNUM: LONG NUMERIC**

Indicates the type of well under Data type 50 in Appendix A.

**WELLID: TEXT 5**

Character field equal to APINUM's last five digits.

**WELL SURFACE/BOTTOM LINES - DATA ITEMS IN THE WELL<FIPS>L:**

**API: TEXT 8**

Three character county code with 5 character American Petroleum Institute (API) number. FIPS codes are listed in Appendix B.

**API\_NUM: TEXT 12**

The American Petroleum Institute (API) number of the wellbore in which the well is located. This 12-digit number includes a two-digit state code (Texas=42), an eight-digit API code, and a two-digit sidetrack code. (A sidetrack code identifies wells drilled from within a wellbore.)

**BOTTOM-ID: DOUBLE 10 0**

Bottom well identification number.

**SURFACE-ID: DOUBLE 10 0**

Surface well identification number.

**STCODE: TEXT 2**

Side Track Code. Side tracks are numbered incrementally from 1 to 9, then from A through Z.

POSITION 1:1  
D = Directional  
H = Horizontal  
W = Well

POSITION 2:2  
1 to 9 or,  
A to Z

**PIPELINE ATTRIBUTE INFORMATION**

\*\*\*\*\*  
The Texas Railroad Commission is currently in the process of modifying and updating pipeline attributes to conform to the National Pipeline Mapping System (NPMS). Users of RRC pipeline data can expect specific items within the pipeline attribute table to be updated at any time.  
\*\*\*\*\*

**TPMS\_ID: DOUBLE 10 0**  
Texas Pipeline Mapping System id.

**OPS\_ID: LONG NUMERIC**  
Accounting number assigned by the U.S. Department of Transportation Office of Pipeline Safety to the company that physically operates the pipeline system.

**P5\_NUM: TEXT 6**  
P5 number - A six-digit number generated and used by the RRC to identify a pipeline operator.

**OPER\_NM: TEXT 40**  
Operator Name - Name of the firm that operates the facility.

**SYS\_NM: TEXT 40**  
System Name - Name of a single pipeline system.

**SUBSYS\_NM: TEXT 40**  
Subsystem Name - A unique name for a smaller sub-section of a pipeline system. A subset of SYS\_NM

**PLINE\_ID: TEXT 20**  
Pipeline ID - This is an identifier for a specific section of the pipeline within a pipeline system.

**DIAMETER: FLOAT 5 2**  
Nominal diameter of the pipeline segment, in inches.

**COMMODITY1: TEXT 3**  
Abbreviation for the primary commodity carried by the pipeline system.  
HG = Hydrogen gas  
CRD = Crude Oil  
LPG = Liquid Petroleum Gas  
NG = Natural Gas  
PRD = Product  
AA = Anhydrous Ammonia  
CO2 = Carbon Dioxide  
NGL = Natural Gas Liquids  
HVL = Highly Volatile Liquid  
EMT = Empty

**COMMODITY2: TEXT 3**

Abbreviation for the secondary commodity carried by the pipeline system. Same as Commodity1, except EMT is not valid.

**COMMODITY3: TEXT 3**

Abbreviation for the tertiary commodity carried by the pipeline system. Same as Commodity1 except EMT is not valid.

**CMDTY\_DESC: TEXT 40**

Commodity Description - Descriptive information of the commodities carried by the pipeline system. Appendix D has a complete listing of specific products within the commodity categories.

**INTERSTATE: TEXT 1**

Designates a pipeline as either inter or intrastate. "Y" indicates an interstate pipeline, "N" indicates an intrastate pipeline.

**STATUS\_CD: TEXT 1**

Status Code - Identifies the current status of the pipeline segment. "I" = in service, "B" = abandoned, "R" = retired.

**QUALITY\_CD: TEXT 1**

Quality Code - Operator's estimate of the positional accuracy of the submitted pipeline segment. "E"=excellent: within 50 feet, "V"=very good: 50-300 feet, "G"=good: 301-500 feet, "P"=poor: 501-1000 feet, "U"=unknown.

**T4PERMIT: TEXT 5**

RRC assigned five-digit pipeline permit number.

**SYSTYPE: TEXT 1**

Abbreviation for the system type description.

- G = Gas Gathering
- K = Carbon Dioxide
- L = Crude Gathering
- O = Crude Transmission
- P = Non\_HVL Liquid Products
- Q = HVL Products
- T = Gas Transmission

See Appendix D for full listing of systypes.

**COUNTY: TEXT 3**

The County FIPS code. FIPS codes are listed in Appendix B.

**COM\_CARRIER: TEXT 1**

Common Carrier - Declaration of common carrier or gas utility status.

Y = it is a common carrier OR gas utility

N = it is neither

**SYS\_ID: TEXT 6**

System ID - A six-digit RRC-generated system identifier. This item may not be present in all pipeline attribute files. The first number is the region number. Second is the system-type number. A four digit RRC assigned sequence number completes the item.

<u>Region Numbers</u>	<u>Region Name</u>
1	Amarillo
2	Midland
3	Kilgore
4	Austin
5	Houston
6	Dallas
7	Corpus Christi
8&9	Multi-Regional

  

<u>System Type Number</u>	<u>System Type Name</u>
3	Gas
4	Liquid
5	

**NPMS\_SYS\_I: LONG NUMERIC**

National Pipeline Mapping System (System ID) - Unique ID for the pipeline system to which the segment belongs, assigned by the National Repository.

**ALBERS\_MILES: DOUBLE 18 10**

Mileage of the pipeline segment calculated using the Albers projection.

## V. APPENDIX A

## **LINE TYPE ASSIGNMENTS**

This appendix lists the line types. Line types are RRC defined data categories relevant to RRC mapping.

### **ORIGINAL LAND SURVEYS**

- 3 - County Boundary
- 5 - Block Line
- 6 - Overlap Block Lines
- 7 - Survey, Section Lines
- 8 - Abstract Division Lines
- 10 - Creek
- 11 - Coastline
- 27 - River or Small Lake
- 28 - Offshore Abstract Division
- 29 - Offshore Tract, Survey Line
- 30 - Offshore Block Line
- 31 - Lake
- 32 - Offshore Overlap Tract, Survey Line
- 77 - Annotation Outline Arrow
- 113 - Overlap Survey, Section Lines
- 126 - Survey Annotation Outline

### **SUBDIVISION LINES**

- 9 - Subdivision Lot Line
- 124 - Subdivision Outline
- 125 - Subdivision Labor Line

**OIL & GAS WELLS (SYMNUM)**

- 2 Permitted Location
- 3 Dry Hole
- 4 Oil Well
- 5 Gas Well
- 6 Oil/Gas Well
- 7 Plugged Oil Well
- 8 Plugged Gas Well
- 9 Canceled Location
- 10 Plugged Oil/Gas Well
- 11 Injection/Disposal Well
- 12 Core Test
- 13 Directional Surface Location
- 15 Radioactive Well
- 16 Sulfur Core Test
- 17 Storage from Oil
- 18 Storage from Gas
- 19 Shut-In Well (Oil)
- 20 Shut-In Well (Gas)
- 21 Injection/Disposal From Oil
- 22 Injection/Disposal From Gas
- 23 Injection/Disposal From Oil/Gas
- 24 Offshore Platform
- 36 Geothermal Well
- 73 Brine Mining Well
- 74 Water Supply Well
- 75 Water Supply from Oil
- 76 Water Supply from Gas
- 77 Water Supply from Oil/Gas
- 78 Observation Well
- 79 Observation from Oil
- 80 Observation from Gas
- 81 Observation from Oil/Gas
- 86 Horizontal Drainhole
- 87 Sidetrack Well Surface Location
- 88 Storage Well
- 89 Service Well
- 90 Service from Oil
- 91 Service from Gas
- 92 Service from Oil/Gas
- 103 Storage from Oil/Gas
- 104 Injection/Disposal from Storage
- 105 Injection/Disposal from Storage/Oil
- 106 Injection/Disposal from Storage/Gas
- 107 Injection/Disposal from Storage/Oil/Gas
- 108 Observation from Storage
- 109 Observation from Storage/Oil
- 110 Observation from Storage/Gas
- 111 Observation from Storage/Oil/Gas
- 112 Service from Storage
- 113 Service from Storage/Oil
- 114 Service from Storage/Gas
- 115 Service from Storage/Oil/Gas

116 Plugged Storage  
117 Plugged Storage/Oil  
118 Plugged Storage/Gas  
119 Plugged Storage/Oil/Gas  
121 Brine Mining from Oil  
122 Brine Mining from Gas  
123 Brine Mining from Oil/Gas  
124 Injection/Disposal from Brine Mining  
125 Injection/Disposal from Brine Mining/Oil  
126 Injection/Disposal from Brine Mining/Gas  
127 Injection/Disposal from Brine Mining/Oil/Gas  
128 Observation from Brine Mining  
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140 Storage/Brine Mining  
141 Storage/Brine Mining/Oil  
142 Storage/Brine Mining/Gas  
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146 Inj/Disposal from Storage/Brine Mining/Gas  
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150 Observation from Storage/Brine Mining/Gas  
151 Observation from Storage/Brine Mining/Oil/Gas  
152 Plugged Storage/Brine Mining  
153 Plugged Storage/Brine Mining/Oil  
154 Plugged Storage/Brine Mining/Gas  
155 Plugged Storage/Brine Mining/Oil/Gas

**DIRECTIONAL DRILL LINES**

25 - Horizontal Drainhole Line  
42 - Directional Well Line

OIL & GAS WELLS SYMBOLOGY  
 GRAPHICAL REPRESENTATION OF SYMNUM

1		20		39	+	58	+	77	WS	
2		21		40	+	59	+	78	OB	
3		22		41	+	60	+	79	OB	
4		23		42	+	61	+	80	OB	
5		24		43	+	62	+	81	LB	
6		25	+	44	+	63	+	82	+	
7		26	+	45	+	64	+	83	+	
8		27	+	46	+	65	+	84	+	
9		28	+	47	+	66	+	85	+	
10		29	<sup>LM</sup>	48		67	+	86		
11		30	+	49	+	68	+	87		
12		31	+	50	+	69	+	88		
13		32	+	51	+	70	+	89	SV	
14	+	33		52	+	71	+	90	SV	
15		34	+	53	+	72	+	91	SV	
16		35	+	54	+	73	BR	92	SV	
17		36		55	+	74	WS	93	+	
18		37	+	56	+	75	WS	94	+	
19		38	+	57	+	76	WS	95	+	

96	+	111 <sup>CB</sup>	124 <sup>BR</sup>	136 <sup>BR</sup>	148 <sup>CB</sup>
97	+	112 <sup>SV</sup>	125 <sup>BR</sup>	137 <sup>BR</sup>	149 <sup>CB</sup>
98	+	113 <sup>SV</sup>	126 <sup>BR</sup>	138 <sup>BR</sup>	150 <sup>CB</sup>
99	+	114 <sup>SV</sup>	127 <sup>BR</sup>	139 <sup>BR</sup>	151 <sup>CB</sup>
103		115 <sup>SV</sup>	128 <sup>CB</sup>	140 <sup>BR</sup>	152 <sup>BR</sup>
104		116	129 <sup>CB</sup>	141 <sup>BR</sup>	153 <sup>BR</sup>
105		117	130 <sup>CB</sup>	142 <sup>BR</sup>	154 <sup>BR</sup>
106		118	131 <sup>CB</sup>	143 <sup>BR</sup>	155 <sup>BR</sup>
107		119	132 <sup>SV</sup>	144 <sup>BR</sup>	
108 <sup>CB</sup>		121 <sup>BR</sup>	133 <sup>SV</sup>	145 <sup>BR</sup>	
109 <sup>CB</sup>		122 <sup>BR</sup>	134 <sup>SV</sup>	146 <sup>BR</sup>	
110 <sup>CB</sup>		123 <sup>BR</sup>	135 <sup>SV</sup>	147 <sup>BR</sup>	

**VI. APPENDIX B**

## County FIPS Codes

<b>COUNTY</b>	<b>FIPS Code</b>
Anderson	001
Andrews	003
Angelina	005
Aransas	007
Archer	009
Armstrong	011
Atascosa	013
Austin	015
Bailey	017
Bandera	019
Bastrop	021
Baylor	023
Bee	025
Bell	027
Bexar	029
Blanco	031
Borden	033
Bosque	035
Bowie	037
Brazoria	039
Brazos	041
Brewster	043
Briscoe	045
Brooks	047
Brown	049
Burleson	051
Burnet	053
Caldwell	055
Calhoun	057
Callahan	059
Cameron	061
Camp	063
Carson	065
Cass	067
Castro	069
Chambers	071
Cherokee	073
Childress	075
Clay	077
Cochran	079
Coke	081
Coleman	083
Collin	085
Collingsworth	087
Colorado	089
Comal	091
Comanche	093
Concho	095
Cooke	097
Coryell	099

Cottle	101
Crane	103
Crockett	105
Crosby	107
Culberson	109
Dallam	111
Dallas	113
Dawson	115
Deaf Smith	117
Delta	119
Denton	121
Dewitt	123
Dickens	125
Dimmitt	127
Donley	129
Duval	131
Eastland	133
Ector	135
Edwards	137
Ellis	139
El Paso	141
Erath	143
Falls	145
Fannin	147
Fayette	149
Fisher	151
Floyd	153
Foard	155
Fort Bend	157
Franklin	159
Freestone	161
Frio	163
Gaines	165
Galveston	167
Garza	169
Gillespie	171
Glasscock	173
Goliad	175
Gonzales	177
Gray	179
Grayson	181
Gregg	183
Grimes	185
Guadalupe	187
Hale	189
Hall	191
Hamilton	193
Hansford	195
Hardeman	197
Hardin	199
Harris	201
Harrison	203
Hartley	205

Haskell	207
Hays	209
Hemphill	211
Henderson	213
Hidalgo	215
Hill	217
Hockley	219
Hood	221
Hopkins	223
Houston	225
Howard	227
Hudspeth	229
Hunt	231
Hutchinson	233
Irion	235
Jack	237
Jackson	239
Jasper	241
Jeff Davis	243
Jefferson	245
Jim Hogg	247
Jim Wells	249
Johnson	251
Jones	253
Karnes	255
Kaufman	257
Kendall	259
Kenedy	261
Kent	263
Kerr	265
Kimble	267
King	269
Kinney	271
Kleberg	273
Knox	275
Lamar	277
Lamb	279
Lampasas	281
La Salle	283
Lavaca	285
Lee	287
Leon	289
Liberty	291
Limestone	293
Lipscomb	295
Live Oak	297
Llano	299
Loving	301
Lubbock	303
Lynn	305
McCulloch	307
McLennan	309
McMullen	311

Madison	313
Marion	315
Martin	317
Mason	319
Matagorda	321
Maverick	323
Medina	325
Menard	327
Midland	329
Milam	331
Mills	333
Mitchell	335
Montague	337
Montgomery	339
Moore	341
Morris	343
Motley	345
Nacogdoches	347
Navarro	349
Newton	351
Nolan	353
Nueces	355
Ochiltree	357
Oldham	359
Orange	361
Palo Pinto	363
Panola	365
Parker	367
Parmer	369
Pecos	371
Polk	373
Potter	375
Presidio	377
Rains	379
Randall	381
Reagan	383
Real	385
Red River	387
Reeves	389
Refugio	391
Roberts	393
Robertson	395
Rockwall	397
Runnels	399
Rusk	401
Sabine	403
San Augustine	405
San Jacinto	407
San Pactoricio	409
San Saba	411
Schleicher	413
Scurry	415
Shakelford	417

Shelby	419
Sherman	421
Smith	423
Somervell	425
Starr	427
Stephens	429
Sterling	431
Stonewall	433
Sutton	435
Swisher	437
Tarrant	439
Taylor	441
Terrell	443
Terry	445
Throckmorton	447
Titus	449
Tom Green	451
Travis	453
Trinity	455
Tyler	457
Upshur	459
Upton	461
Uvalde	463
Val Verde	465
Van Zandt	467
Victoria	469
Walker	471
Waller	473
Ward	475
Washington	477
Webb	479
Wharton	481
Wheeler	483
Wichita	485
Wilbarger	487
Willacy	489
Williamson	491
Wilson	493
Winkler	495
Wise	497
Wood	499
Yoakum	501
Young	503
Zapata	505
Zavala	507

<b>GULF COUNTY AREAS</b>	<b>FIPS CODE</b>
South Padre Island-SB	600
North Padre Island-SB	601
Mustang Island-SB	602
Matagorda Island-SB	603
Brazos-SB	604
Galveston-SB	605
High Island-SB	606
South Padre Island-LB	700
North Padre Island-LB	701
Mustang Island-LB	702
Matagorda Island-LB	703
Brazos-LB	704
Brazos-S	705
Galveston-LB	706
Galveston-S	707
High Island-LB	708
High Island-S	709
High Island-E	710
High Island-E-S	711
Mustang Island-E	712
North Padre Island-E	713
South Padre Island-E	714
Sabine Pass	715

VII. APPENDIX C

## WELL RELIABILITY CODES

The reliability of a well's location is determined by the source used to spot the well into the Well Location Database. Valid codes are:

### RELIAB CODES

- 10 Historic Map (non-RRC)
- 15 RRC Hardcopy Map
- 16 Spotted from Reliability Code 15 wells
- 17 Location adjusted during survey maintenance
- 20 WELLBORE Distances
- 25 Unit or hearing plat, plat with form for another well, or form for this well without a plat.
- 30 Operator reported location (distances without plat or plat without distances).
- 40 Operator reported location (distances and plat).
- 45 Field Inspection by RRC personnel.
- 48 Spotted from Reliability Code 50 wells
- 50 U.S.G.S. 7.5 minute quad or aerial photograph.
- 55 Coordinates from operator.
- 59 Coordinates - RRC personnel reported 2D GPS (Accuracy of 200 - 300 feet.)
- 60 Coordinates - RRC personnel reported 3D GPS (Accuracy of about 15 feet.)

VIII. APPENDIX D

**COMMODITY DESCRIPTIONS AND SYSTYPES**

<u>COMMODITY DESCRIPTION</u>	<u>COMMODITY</u>	<u>SYSTYPE</u>
<b>Acetylene</b>	PRD	Q
<b>Acetylene Off Gas</b>	PRD	T
<b>Alcohols</b>	PRD	P
<b>Ammonia</b>	AA	P
<b>Anhydrous Ammonia</b>	AA	P
<b>Anhydrous HCL</b>	PRD	P
<b>Benzenes</b>	PRD	P
<b>Brine</b>	PRD	Y
<b>Butanes</b>	HVL	Q
Butadiene		
Butane/Butylene		
Butane/Distillates		
Butane/Pentane		
Butylene		
Iso-Butane		
Isobutane		
<b>Carbon Dioxide</b>	CO2	K
<b>Chemical Grade Propylene</b>	HVL	Q
<b>Chlorine Gas</b>	PRD	Q
<b>Condensate</b>	NGL	Q
Slop Oil Water		
<b>Crude</b>	CRD	L (Gathering)
<b>Crude</b>	CRD	O (Transmission)
O/G		
Oil		
Petroleum		
<b>Cyclohexane</b>	PRD	P
<b>Diesels</b>	PRD	P
<b>Dripolene</b>	HVL	Q
<b>Ethanes</b>	HVL	Q
<b>Ethylene</b>	HVL	Q
<b>Ethylene (Gas)</b>	PRD	T
<b>E/P Mix</b>	LPG	Q
E/P Propane		
Ethane/Propane		
Ethane/Propane Mix		
P/P Mix		
EPBC		
<b>Feedstock</b>	HVL	P
<b>Fuel Oil</b>	PRD	P
Bistone		
Fuel Gas		
Fuel Oil/Natural Gas		
Fuel Oils/Gas		
Fuel Residum		

<b>Gasoline</b>	PRD	P
Gasoline/Diesel/Jet		
Gasoline/Fuel Oils		
High Purity Ethane	HVL	Q
Hydrogen Chloride	PRD	T
<b>Hydrogen Gas</b>	HG	T
Liquid Hydrogen		
Pure H2		
Raw H2		
<b>Isobutane</b>	HVL	Q
<b>Jet Fuel</b>	PRD	P
<b>Kerosene</b>	PRD	P
<b>LPG</b>	LPG	Q
Raw LPG		
<b>Methanol/MTBE</b>	PRD	P
<b>MTBE</b>	PRD	P
<b>Natural Gas</b>	NG	T (Transmission)
<b>Natural Gas</b>	NG	G (Gathering)
Dry Gas		
Natural		
Natural Gas/Cond		
Sweet Gas		
Synthesis		
<b>Natural Gas Liquids</b>	NGL	Q
Refinery Off Gas		
<b>Nitrogen</b>	PRD	P
<b>Oxygen</b>	PRD	T
Oxygen/Nit.		
<b>Pentanes</b>	HVL	Q
<b>Propane</b>	HVL	Q
Methyl Propane		
Propadiene		
Propane/Butane		
Propane/LPG		
Propane/Propylene		
Propyne		
<b>Propylene</b>	HVL	Q
<b>Propylene Oxide</b>	PRD	P

<b>Refined Products</b>	PRD	P
Acnylonitrile		
Cutter Stock		
Cyclohexane		
Deisohex Stock		
Distillates		
Dripoline		
Feed Gas		
HCL Acid Anhydrous		
Hexene		
HPG		
Isoprene		
Methanol		
MTBE		
Naptha		
Products		
Raffinate		
RPG		
Tertiary Butyl Alcohol		
Toluene		
<b>TBA</b>	PRD	P

**SYSTYPES**

A = Offshore (Liquids)  
 B = Apartment Complexes  
 C = Compressor Station  
 D = Distribution  
 E = Interstate Transmission Gas  
 F = Non-Jurisdictional Gathering  
 G = Gas Gathering  
 H = Government (Housing Authority)  
 I = LP Gas Distribution  
 J = Direct Sales Customer  
 K = Carbon Dioxide Pipelines  
 O = Crude Transmission  
 M = Municipal Distribution  
 N = City Not Served  
 L = Crude Gathering  
 P = Product Lines (NOT Highly Volatile)  
 Q = Other Liquid Lines (Highly Volatile)  
 S = Municipal Supply Line  
 T = Transmission  
 U = Underground Liquid Storage  
 V = Underground Gas Storage  
 W = Mobile Home Parks  
 X = Liquefied Natural Gas  
 Y = Brine  
 Z = Offshore (Gas) Gathering

**IX. APPENDIX E**

### 8.3 NAMING CONVENTIONS

The 8.3 naming convention stipulates that, exclusive of the filename suffix, a digital filename cannot be more than 8 characters long.

Although some computer operating systems and software programs accept file names longer than 8 characters, the Railroad Commission adheres to the 8.3 naming convention for a number of reasons.

1. ESRI, the manufacturer of ArcMap, suggests that their users adhere to the 8.3 naming convention for shapefiles. ESRI, in various ways and to various extents, codes its software to enforce compliance with the 8.3 naming convention.
2. All RRC GIS data are compressed. Unfortunately, some decompression software packages truncate long filenames such as, "county2031.shp" to meaningless names like, "county2~1.shp"
3. The Railroad Commission is committed to making its digital data accessible and usable to as wide an audience as possible. Adherence to the 8.3 naming convention ensures that at least one major hurdle of data portability is cleared.