Pennsylvania Coalbed Methane Wells Database
Tables and Fields

Elements of 111 fields in 15 information tables (IT) and 52 fields in 12 lookup tables (LT) are listed on the following pages. Introductory table and field descriptions are followed by a list of field names as they appear in the database. The data type for each field is listed in parentheses.

Table relationships are shown in dark red font. For example, CBM/OT Permit Number (text) ← IT Location indicates that CBM/OT Permit Number is related (joined) to the Location information table. The primary key for each table is indicated by an asterisk (*). Actual data types and detailed field descriptions are in the Design View of each table in the database.

Note: Most of the information tables are uniquely identified by a numerical counter or ID when there are multiple records for a permitted well. The other tables have a permit number as the unique identifier when there is one record per permit number as in IT Header, IT Location, IT Open Flow/Rock Pressure, IT Total Depth, and IT Well Type.

Part I - Information Tables

IT CBM/Other Target
IT CBM/Other Target contains the following CBM well and/or other associated target fields: unique counter code for IT CBM/Other Target (primary key), link for IT CBM/Other Target and IT Well Completion, CBM/other target permit number, if CBM/other target/completion unit exists, WIS and author target unit codes, additional information on target unit, WIS and author producing unit codes, additional information on producing unit, CBM/other target top depth, CBM/other target bottom depth, and if deepest target/producing unit exists.

CBM/OT ID* (autonumber)
CBM/OT Link IT Well Completion (number)
CBM/OT Permit Number (text) ← IT Location
CBM/OT/Compl Unit (yes/no)
Target Unit ID (text)
Target Unit Detail (text)
Prod Unit ID (text) → LT Stratigraphic/Rock Unit
Prod Unit Detail (text)
CBM/OT Top (number)
CBM/OT Bottom (number)
Deepest Target/Producing Unit (yes/no)

IT Coal Owner/Lessee/Operator
IT Coal Owner/Lessee/Operator contains the following fields regarding coal ownership, leasing, and operation: unique counter code for IT Coal Owner/Lessee/Operator (primary key), coal owner/lessee/operator permit number, coal owner, coal lessee, WIS and author coal seam codes,

operator or owner of coal mine, and additional information (including local names of coal seams) as remarks.

CO/L/Op ID* (autonumber)
CO/L/Op Permit Number (text) ← IT Location
Coal Owner (text)
Coal Lessee (text)
Coal Seam ID (text) → LT Stratigraphic/Rock Unit
Mine Operator (text)
Remarks (text)

IT Driller/Geologist Log
IT Driller/Geologist Log contains the following fields regarding rock units derived from the driller and/or geologist log: unique counter code for IT Driller/Geologist Log (primary key), driller/geologist log permit number, WIS and author rock interval codes, additional information on rock interval, rock interval top depth, rock interval bottom depth, and if geologist log exists.

D/G Log ID* (autonumber)
D/G Log Permit Number (text) ← IT Location
Interval ID (text)
Interval Detail (text)
Interval Top (number)
Interval Bottom (number)
Geologist Log (yes/no)

IT Gas Show
IT Gas Show contains the following fields regarding the occurrence and depth of gas shows: unique counter code for IT Gas Show (primary key), gas show permit number, WIS and author codes for rock units with reported gas shows, additional information on rock unit, gas show unit top depth, gas show unit bottom depth, and additional information on depth.

Gas Show ID* (autonumber)
Gas Show Permit Number (text) ← IT Location
Unit ID (text)
Unit Detail (text)
Unit Top (number)
Unit Bottom (number)
Depth Detail (text)

IT Geophysical Well Log
IT Geophysical Well Log contains the following fields regarding geophysical well logs: unique counter code for IT Geophysical Well Log (primary key), geophysical well log permit number, former Department of Environmental Resources (DER) log type code, number of geophysical logs per CBM well, and additional information on log as geophysical well log remarks.

GWL ID* (autonumber)
GWL Permit Number (text) ← IT Location

GWL Type ID (text) → LT Geophysical Well Log
Number of GWLs (number)
GWL Remarks (text)

IT Header

IT Header contains the following fields regarding basic header information: unique permit number for IT Header (primary key), well operator, surface landowner, surface landowner and water purveyor, WIS and author codes for well/permit status, additional information on well/permit status, historical and/or additional information on production, additional information in header remarks, year well completed, additional information on year well completed, and if well record exists in PA*IRIS.

Header Permit Number* (text) ← IT Location
Well Operator (text)
Surface Landowner (text)
Surface Landowner & Water Purveyor (text)
Well/Permit Status ID (number) → LT Well/Permit Status
Well/Permit Status Detail (text)
Historical/Production Info (text)
Header Remarks (memo)
Year Completed (text)
Year Completed Detail (text)
PA*IRIS Well Record Status (yes/no)

IT Location

IT Location contains the following fields regarding general and specific locations: unique permit number for IT Location (primary key), FIPS county code, former DER quadrangle code, WIS field code, WIS pool code, farm name, FIPS municipality/township code, mine name, decimal degrees latitude, and decimal degrees longitude. The datum can be found, in most cases, on scanned well location plats in the PA*IRIS. Most of the plats show that location data are NAD27 based, except for some cases in Cambria County that are reported at NAD83.

Location Permit Number* (text) → IT CBM/Other Target, IT Coal Owner/Lessee/Operator, IT Driller/Geologist Log, IT Gas Show, IT Geophysical Well Log, IT Header, IT Open Flow/ Rock Pressure, IT Production 1988-2009, IT Reference, IT Total Depth, IT Water, IT Well Completion, and IT Well Type.
County ID (text) → LT County
Quadrangle ID (text) → LT Quadrangle
Field ID (number)
Pool ID (number) → LT Field/Pool/Discovery Date
Farm (text)
Mun/Twp ID (text) → LT Municipality/Township
Mine (text)
DD Latitude (number)
DD Longitude (number)

IT Miscellaneous

IT Miscellaneous contains the following fields regarding descriptive terms and measurement units: miscellaneous term and author code for miscellaneous term. No relationships or primary key are assigned to IT Miscellaneous.

Misc Term (text)
Misc ID (text)

IT Open Flow/Rock Pressure
IT Open Flow/Rock Pressure contains the following fields regarding gas and pressure yields: unique permit number for IT Open Flow/Rock Pressure (primary key), natural open flow, additional information on natural open flow, other flow information such as short-term production (usually historic) and depths, after treatment open flow, additional information on after treatment open flow, natural rock pressure, natural rock pressure time, additional information on natural rock pressure, after treatment rock pressure, after treatment rock pressure time, and additional information on after treatment rock pressure.

OF/RP Permit Number* (text) ← IT Location
Natural Open Flow (number)
Natural Open Flow Detail (text)
Other Flow Detail (text)
AT Open Flow (number)
AT Open Flow Detail (text)
Natural Rock Pressure (number)
Natural Rock Pressure Time (number)
Natural Rock Pressure Detail (text)
AT Rock Pressure (number)
AT Rock Pressure Time (number)
AT Rock Pressure Detail (text)

IT Production 1988-2009
IT Production 1988-2009 contains the following fields regarding gas and water (brine) production: unique counter code for IT Production 1988-2009 (primary key), production permit number, year of reporting, total quantity gas, total days production reported, and total quantity water (brine).

Prod ID* (autonumber)
Prod Permit Number (text) ← IT Location
Year (text)
Total Quantity Gas (number)
Total Days (number)
Total Quantity Water (number)

IT Reference
IT Reference contains the following fields regarding reference citations for specific CBM wells: unique counter code for IT Reference (primary key), reference permit number, and reference citation.

Ref ID* (autonumber)
Ref Permit Number (text) ← IT Location
Ref Citation (memo)

IT Total Depth
IT Total Depth contains the following fields regarding various methods of obtaining total depths and the rock unit at total depth: unique permit number for IT Total Depth (primary key), total projected/ anticipated depth, additional information on total projected/anticipated depth, total driller log depth, total logger depth, total depth reported on well record, additional information on well record's total depth, WIS and author codes for unit at total depth, and additional information on unit at total depth.

TD Permit Number* (text) ← IT Location
TD Projected (number)
TD Projected Detail (text)
TD Driller (number)
TD Logger (number)
TD Well Record (number)
TD Well Record Detail (text)
TD Unit ID (text) → LT Stratigraphic/Rock Unit
TD Unit Detail (text)

IT Water
IT Water contains the following fields regarding occurrence and depth of water: unique counter code for IT Water (primary key), water permit number, WIS and author codes for rock unit with reported presence of water, additional information on water unit, water unit top depth, water unit bottom depth, additional information on water quantity and depth (top), and additional information on water quality and/or quantity as remarks.

Water ID* (autonumber)
Water Permit Number (text) ← IT Location
Water Unit ID (text)
Water Unit Detail (text)
Water Unit Top (number)
Water Unit Bottom (number)
Water Depth Detail (text)
Water Remarks (text)

IT Well Completion
IT Well Completion contains the following fields regarding CBM well completion: unique counter code for IT Well Completion (primary key), link for IT Well Completion and IT CBM/Other Target, well completion permit number, author code for well completion, well completion top depth, well completion bottom depth, and completion/stimulation method.

Well Compl ID 1* (autonumber)
Well Compl Link IT CBM/Other Target (number)
Well Compl Permit Number (text) ← IT Location

Well Compl ID 2 (text) → LT Well Completion
Well Compl Top (number)
Well Compl Bottom (number)
Method and Detail (memo)

IT Well Type
IT Well Type contains the following fields regarding CBM well type: unique permit number for IT Well Type (primary key), WIS and author codes for well type, additional information for well type, WIS code for general well class, WIS code for special well class, and WIS code for exploratory type.

Well Type Permit Number* (text) ← IT Location
Well Type ID (number) → LT Well Type
Well Type Detail (text)
General Well Class ID (number) → LT General Well Class
Special Well Class ID (number) → LT Special Well Class
Exploratory Type ID (number) → LT Exploratory Type

Part II - Lookup Tables

LT County
LT County contains the following fields: county name and unique county code (primary key).

County (text)
County ID* (text) ← IT Location

LT Exploratory Type
LT Exploratory Type contains the following fields regarding an exploratory type well: exploratory type, WIS short name for exploratory type, unique WIS and author codes for exploratory type (primary key), and definition of exploratory type.

Exploratory Type (text)
Short Name Exploratory Type (text)
Exploratory Type ID* (number) ← IT Well Type
Exploratory Type Definition (memo)

LT Field/Pool/Discovery Date
LT Field/Pool/Discovery Date contains the following fields: unique field/pool/discovery date code (primary key), field name, WIS codes for field and pool names, pool name, discovery well date for pool, and WIS code for discovery well of pool.

F/P/DD ID* (autonumber)
Field (text)
Field ID (number)
Pool (text)
Pool ID (number) ← IT Location

Discovery Well Date (date/time)
Discovery Well ID (number)

LT General Well Class
LT General Well Class contains the following fields: general well class (production status of well), WIS short name for general well class, unique WIS code for general well class (primary key), and definition of general well class.

General Well Class (text)
Short Name General Well Class (text)
General Well Class ID* (number) ← IT Well Type
General Well Class Definition (memo)

LT Geophysical Well Log
LT Geophysical Well Log contains the following fields: geophysical well log name, unique former DER code for geophysical well log (primary key), and former DER short name for oil and gas code.

GWL (text)
GWL ID* (text) ← IT Geophysical Well Log
Oil and Gas ID (text)

LT Municipality/Township
LT Municipality/Township contains the following fields: unique municipality/township code (primary key), municipality/township name, FIPS code for municipality/township, FIPS code for county, proper name of municipality/township, and full name of municipality/township.

Mun/Twp ID 1* (autonumber)
Mun/Twp (text)
Mun/Twp ID 2 (text) ← IT Location
County ID (text)
Proper Name (text)
Full Name (text)

LT Quadrangle
LT Quadrangle contains the following fields: quadrangle name, unique former DER code for quadrangle (primary key), and code for UTM zone.

Quadrangle (text)
Quadrangle ID* (text) ← IT Location
UTM Zone (number)

LT Special Well Class
LT Special Well Class contains the following fields: special well class, WIS short name for special well class, unique WIS code for special well class (primary key), and definition of special well class.

Special Well Class (text)
Short Name Special Well Class (text)
Special Well Class ID* (number) ← IT Well Type
Special Well Class Definition (memo)

LT Stratigraphic/Rock Unit
LT Stratigraphic/Rock Unit contains the following fields: stratigraphic/rock unit name, unique WIS and author codes for stratigraphic/rock unit (primary key), local name, and driller name or other explanation.

Strat/Rock Unit (text)
Strat/Rock Unit ID* (text) ← IT CBM/Other Target, IT Coal Owner/Lessee/Operator, and IT Total Depth
Local Name (text)
Driller Name/Other Explanation (memo)

LT Well Completion
LT Well Completion contains the following fields: well completion type, unique author code for well completion (primary key), definition of well completion, and additional source of information on well completion at the hyperlink.

Well Compl (text)
Well Compl ID* (text) ← IT Well Completion
Well Compl Definition (memo)
Well Compl Hyperlink (hyperlink)

LT Well Type
LT Well Type contains the following fields: well type, WIS short name for well type, unique WIS and author codes for well type (primary key), definition of well type, additional information on well type, and additional source of well type information at the hyperlink.

Well Type (text)
Short Name Well Type (text)
Well Type ID* (number) ← IT Well Type
Well Type Definition (memo)
Well Type Detail (text)
Well Type Hyperlink (hyperlink)

LT Well/Permit Status
LT Well/Permit Status contains the following fields: well/permit status, WIS short name for well/permit status, unique WIS and author codes for well/permit status (primary key), additional information on well/permit status, and additional source of well/permit status information at the hyperlink.

Well/Permit Status (text)
Short Name Well/Permit Status (text)
Well/Permit Status ID* (number) ← IT Header

Well/Permit Status Detail (memo)
Well/Permit Status Hyperlink (hyperlink)

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