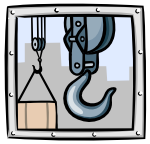


AQS Data Mart

Entity Relationship Diagrams

This document provides and overview of how the AQS Data Mart was modeled and describes the structure so that users are more able to design and optimize queries. To navigate this document, click on a subheading below to see the contents. To return to your previous location, follow the link at the bottom of the page.

Note, this document is not a data dictionary with detailed descriptions of the fields and their meanings. That will be released under separate cover.

Background and Terminology

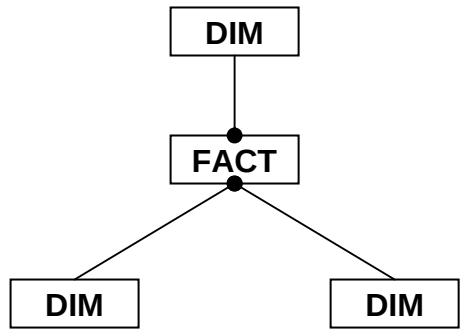
Data Mart Modeling Principles

Data marts are modeled differently than the usual second-normal form for relational databases. They are organized with tables that contain the most data at the "center" of the model and other tables with data useful to qualify (narrow) the central data in tables radiating out from the center. This is generally called a "star schema". The tables with most of the data at the center are called "fact" tables. The tables radiating out from the center are called "dimension" tables.

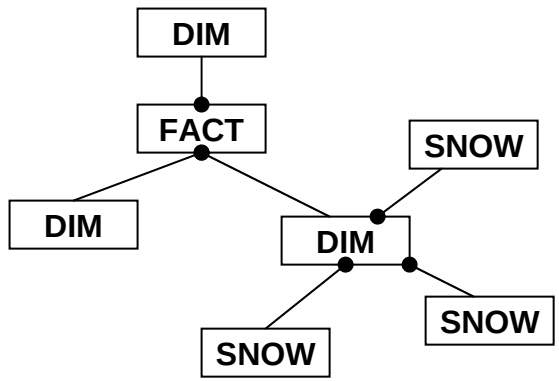
This type of model can be very helpful in constructing SQL queries. The model is designed to conform to the syntax of an SQL SELECT statement which can be constructed as follows: SELECT fact 1, fact 2, … WHERE dimension 1 = x, dimension 2 = y, … This has been simplified to show the advantage of a star schema and the AQS Data Mart also has a variety of front ends that let you construct queries without using SQL. For more SQL examples see the "Hints and FAQS" section.

Below are the key points about the data model design:

- Primary data that you want are in "fact" tables
- Data used to filter / qualify fact data are in "dimension" tables
- Many fact records to one dimension
- These are organized into a "star" schema



- If a dimension also has filtering or qualifying information, these are called "snowflakes"
- AQS example: Data is qualified by monitors, which is in turn qualified by other fields (protocols, agency roles, etc.)
- Many to many relationships are handled by "bridge" tables (not illustrated)



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Data Mart Additional Terminology

Below is a summary of key points of terminology related to reading the entity relationship diagrams of working with the data in the the AQS Data Mart (not already covered in the “Modeling Principles” section).

- Two dimensions are “conformed” so we can merge AQS data with other systems, so the names may not be what you are familiar with. What AQS calls a “parameter” is called substance and what AQS calls “site” is called facility. These are the standard names at the EPA for chemicals and places on the earth. So remember:
  - Parameter ⇔ “Substance”
  - Site ⇔ “Facility”
- One to many relationships are shown by a line with a bulb at the many end: 
- Optional one to many relationships are shown by a dashed line with a bulb at the many end: 
- AQS Data Mart has 4 fact tables with essentially the same dimensions:
  - Measurement (Raw Data)
  - Measurement Blanks (Blanks Data)
  - Daily Summary
  - Annual summary
- Fact tables are prefaced with “FACT_”
- Dimension tables are prefaced with “DIM_”
- DIM_MEASUREMENT_JUNK is for fields that don’t naturally fit into a dimension
- Primary key for a fact table combo of primary keys for dimensions
  - Thus, foreign key and primary key for dimensions are the same

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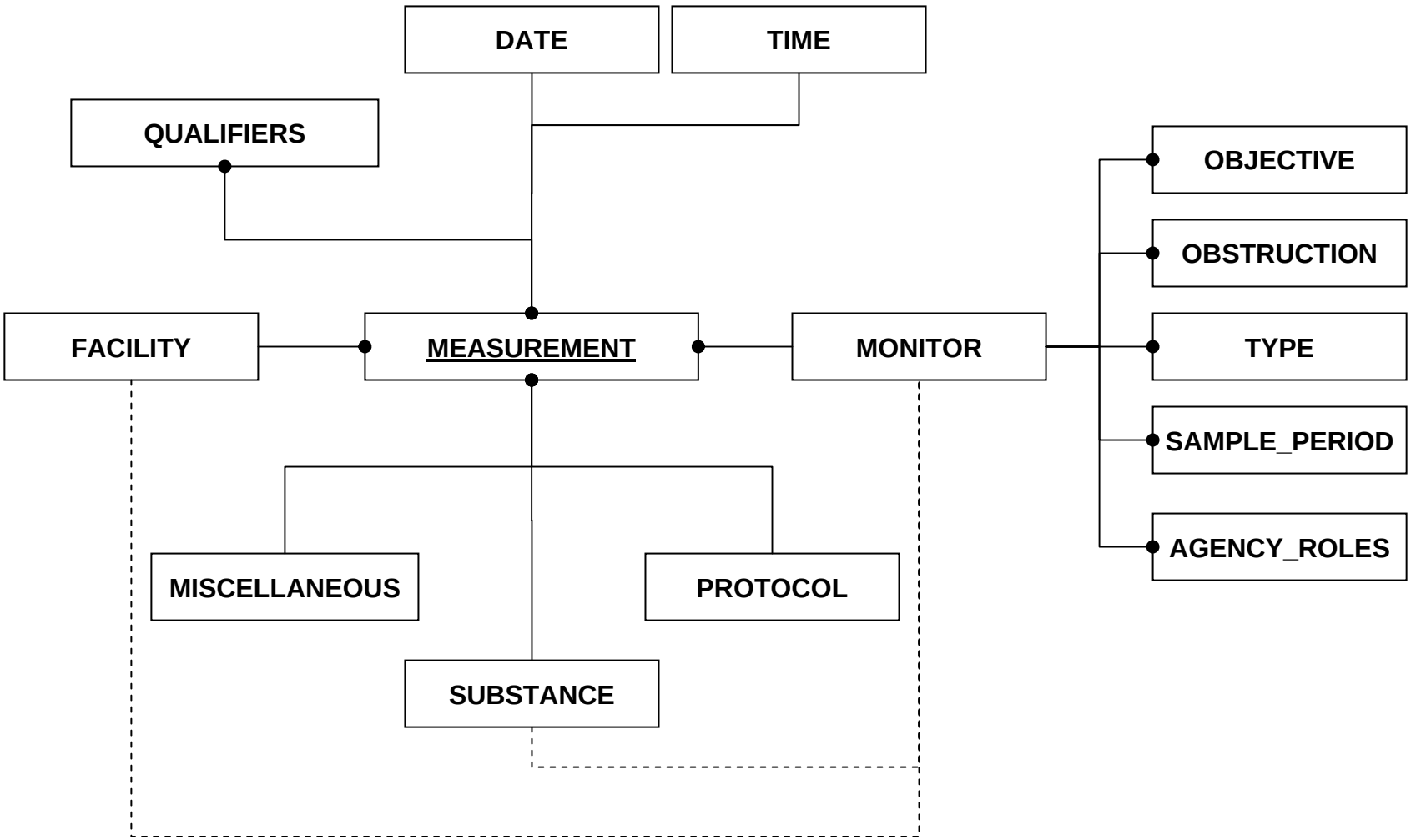
Simplified View of Measurements (With Conceptual Names)

This is a simplified diagram of just the table (entities) in the AQS Data Mart. It does not show the actual table names, but their information contents. It only represents a single fact table: Measurement.

In actuality, the structure for all of the facts is very similar. That is, Measurement could be replaced with Daily Summary, Annual Summary, or Blanks and the structure would be almost the same.



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High Level Data Model

The facts at the center represent 4 separate tables that are not related to each other, but are each related to all the dimensions (with a few exceptions). Only one fact table should ever be included in a single query, thus they can be represented this way in a diagram. Click on any table name below to get its contents.

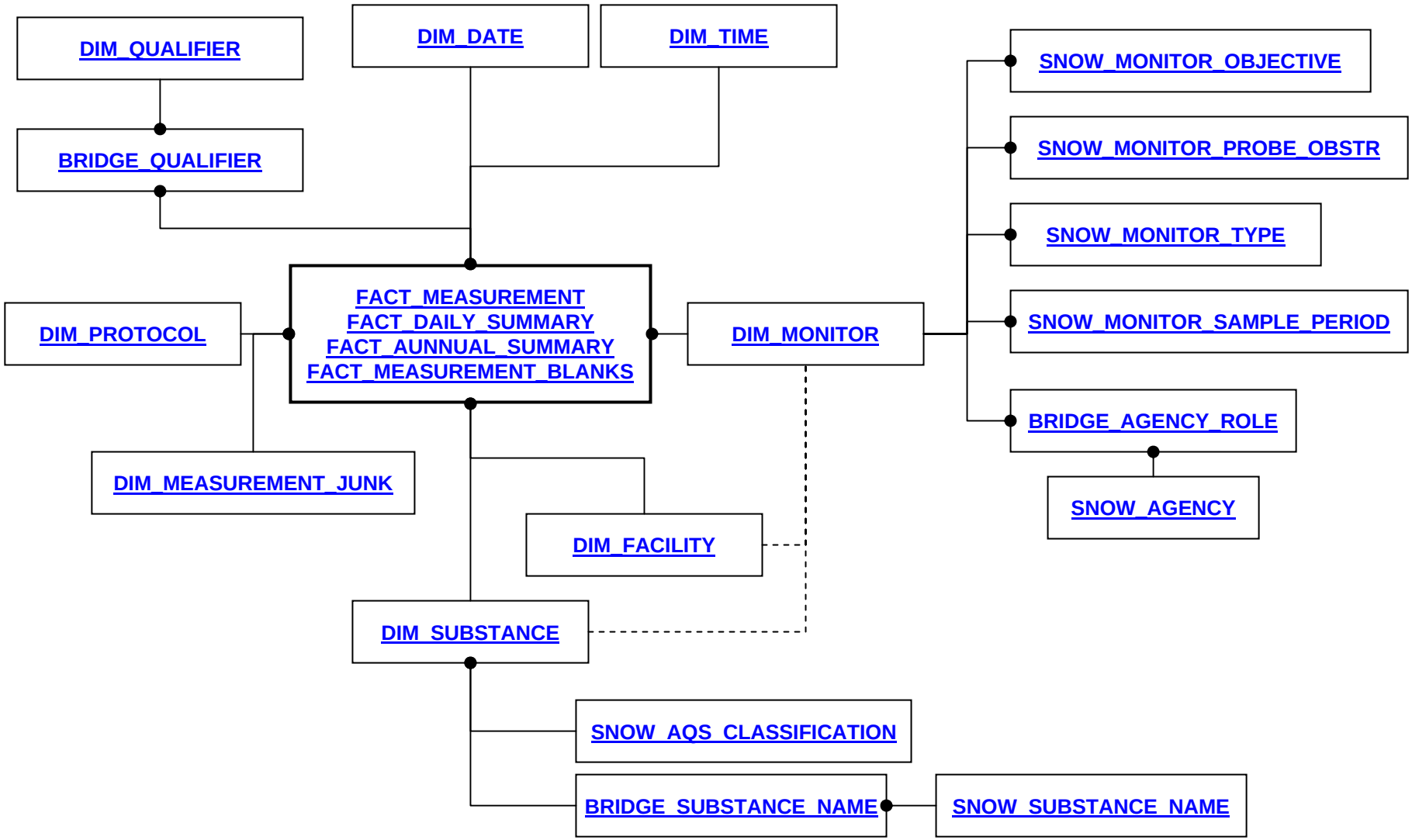

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Table Contents (Attributes): Measurement and Blank Facts

FACT_MEASUREMENT
DATA_ID
DIM_DATE_GMT_KEY
DIM_TIME_GMT_KEY
DIM_DATE_LOCAL_KEY
DIM_TIME_LOCAL_KEY
DIM_FACILITY_KEY
DIM_MONITOR_KEY
DIM_PROTOCOL_KEY
DIM_SUBSTANCE_KEY
DIM_MEASUREMENT_JUNK_KEY
REPORTED_SAMPLE_VALUE
STANDARD_SAMPLE_VALUE
TRANSFORMATION_FLAG
UNCERTAINTY_VALUE
ALTERNATE_MDL

FACT_MEASUREMENT_BLANKS
DIM_DATE_GMT_KEY
DIM_DATE_LOCAL_KEY
DIM_FACILITY_KEY
DIM_MEASUREMENT_JUNK_KEY
DIM_MONITOR_KEY
DIM_PROTOCOL_KEY
DIM_SUBSTANCE_KEY
DIM_TIME_GMT_KEY
DIM_TIME_LOCAL_KEY
DATA_ID
REPORTED_SAMPLE_VALUE
STANDARD_SAMPLE_VALUE
ALTERNATE_MDL
BLANK_TYPE
TRANSFORMATION_FLAG
UNCERTAINTY_VALUE

Return to Data Model

Table Contents (Attributes): Daily and Annual Summary Fact

FACT_DAILY_SUMMARY

DIM_DATE_LOCAL_KEY
DIM_FACILITY_KEY
DIM_MEASUREMENT_JUNK_KEY
DIM_MONITOR_KEY
DIM_PROTOCOL_KEY
DIM_SUBSTANCE_KEY
AGGR_MAX_VALUE
AGGR_MEAN_VALUE
AGGR_OBS_COUNT
AIRNOW_AIR_QUALITY_INDEX
DAILY_AIR_QUALITY_INDEX
DAILY_ARITH_MEAN
DAILY_CRITERIA_IND
DAILY_MAX_COLL_HOUR
DAILY_MAX_SAMPLE_VALUE
DAILY_OBS_COUNT
DAILY_OBS_PERCENT
DAILY_RANKING_NUM
DAILY_SUMMARY_FLAG
NON_OVERLAPPING_AVG_GT_STD
TRANSFORMATION_FLAG
VALUES_GT_PRI_LEVEL_DS
VALUES_GT_SEC_LEVEL_DS

FACT_ANNUAL_SUMMARY

DIM_FACILITY_KEY
DIM_MEASUREMENT_JUNK_KEY
DIM_MONITOR_KEY
DIM_PROTOCOL_KEY
DIM_SUBSTANCE_KEY
ANNUAL_SUMMARY_YEAR
AGGR_1ST_MAX_DATE
AGGR_1ST_MAX_VALUE
AGGR_2ND_MAX_DATE
AGGR_2ND_MAX_VALUE
AGGR_3RD_MAX_DATE
AGGR_3RD_MAX_VALUE
AGGR_4TH_MAX_DATE
AGGR_4TH_MAX_VALUE
AGGR_50TH_PERCENTILE_VALUE
AGGR_75TH_PERCENTILE_VALUE
AGGR_90TH_PERCENTILE_VALUE
AGGR_95TH_PERCENTILE_VALUE
AGGR_98TH_PERCENTILE_VALUE
AGGR_99TH_PERCENTILE_VALUE
AGGR_MEAN_VALUE
AGGR_OBS_COUNT
AGGR_OBS_COUNT_AIRNOW
AGGR_OBS_COUNT_AQS
AGGR_STD_DEV
ANNUAL_ARITH_MEAN
ANNUAL_ARITH_STDDV
ANNUAL_CRITERIA_IND
ANNUAL_DIRECT_ENTRY_IND
ANNUAL_GEOM_MEAN
ANNUAL_GEOM_STDDV
ANNUAL_OBS_COUNT
ANNUAL_OBS_PERCENT
ANNUAL_SUMMARY_FLAG
ANNUAL_SUMMARY_TYPE

FACT_ANNUAL_SUMMARY (Continued)

CERTIFICATION_IND
DAYS_GT_ALERT_LEVEL
EST_DAYS_GT_STD
EXCEPTIONAL_DATA_CNT
LAST_UPDATE_DATE
MIN_SAMPLE_VALUE
MISSING_DAYS_ASSUMED_LT_STD
NON_OVERLAPPING_AVG_GT_STD
NULL_DATA_OBS_CNT
OBS_CNT_LT_HALF_MDL
REQ_MONITORING_CNT
SUMMARY_1ST_MAX_DATE
SUMMARY_1ST_MAX_VALUE
SUMMARY_2ND_MAX_DATE
SUMMARY_2ND_MAX_VALUE
SUMMARY_2ND_NONOVERLAP_MAX_DAT
SUMMARY_2ND_NONOVERLAP_MAX_VAL
SUMMARY_3RD_MAX_DATE
SUMMARY_3RD_MAX_VALUE
SUMMARY_4TH_MAX_DATE
SUMMARY_4TH_MAX_VALUE
SUMMARY_50TH_PERCENTILE_VALUE
SUMMARY_75TH_PERCENTILE_VALUE
SUMMARY_90TH_PERCENTILE_VALUE
SUMMARY_95TH_PERCENTILE_VALUE
SUMMARY_98TH_PERCENTILE_VALUE
SUMMARY_99TH_PERCENTILE_VALUE
SUMMARY_METHOD_CNT
TRANSFORMATION_FLAG
VALID_DAY_CNT
VALUES_GT_PRI_LEVEL
VALUES_GT_SEC_LEVEL
WEIGHTED_ARITH_MEAN

[Return to Data Model]

Table Contents (Attributes): Date and Time Dimensions

DIM_DATE
ACTUAL_DATE
AQS_DAYLIGHT_HOURS_AT_US_CENTE
AQS_EVERY_3RD_DAY_INDICATOR
AQS_EVERY_6TH_DAY_INDICATOR
CALENDAR_MONTH_NAME
CALENDAR_MONTH_NUMBER_IN_YEAR
CALENDAR_QUARTER
CALENDAR_WEEK_ENDING_DATE
CALENDAR_WEEK_NUMBER_IN_YEAR
CALENDAR_YEAR
CALENDAR_YEAR_MONTH
DAY_NUMBER_IN_CALENDAR_MONTH
DAY_NUMBER_IN_CALENDAR_YEAR
DAY_NUMBER_IN_EPOCH
DAY_OF_WEEK
DAY_OF_WEEK_NAME
DAY_OF_WEEK_NAME_ABBR
DIM_DATE_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
FULL_DATE_DESCRIPTION
HOLIDAY_NAME
HOLIDAY_TYPE
LAST_DAY_IN_MONTH_INDICATOR
LAST_DAY_IN_WEEK_INDICATOR
MONTH_NUMBER_IN_EPOCH
WEEKDAY_INDICATOR
WEEK_NUMBER_IN_EPOCH
YEAR_NUMBER_IN_EPOCH

DIM_TIME
AM_PM_INDICATOR
DIM_TIME_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
FRACTION_OF_DAY_SINCE_MIDNIGHT
FULL_TIME_DESCRIPTION
HOUR
HOUR_24
MINUTE
SECOND
SECONDS_SINCE_MIDNIGHT

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Table Contents (Attributes): Monitor Dimension and Snowflakes

DIM_MONITOR

COLLABORATING_PROGRAMS
DIM_FACILITY_KEY
DIM_MONITOR_KEY
DIM_SUBSTANCE_KEY
DOMINANT_SOURCE
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
LAST_SAMPLING_DATE
MEASUREMENT_SCALE
MEASUREMENT_SCALE_DEFINITION
MO_ID
POC
PROBE_HEIGHT
PROBE_HORIZ_DISTANCE
PROBE_LOCATION
PROBE_VERT_DISTANCE
PROJECT_TYPE
PROJECT_TYPE_CODE
SAMPLE_RESIDENCE_TIME
SURROGATE_IND
UNRESTR_AIR_FLOW_IND

SNOW_MONITOR_OBJECTIVE

DIM_MONITOR_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
MONITOR_OBJECTIVE_COMMENT
MONITOR_OBJECTIVE_TARGET_CODE
MONITOR_OBJECTIVE_TARGET_NAME
MONITOR_OBJECTIVE_TARGET_TYPE
MONITOR_OBJECTIVE_TYPE
SNOW_MONITOR_OBJECTIVE_KEY

SNOW_MONITOR_TYPE

ACTION_REASON_CODE
ACTION_REASON_NAME
ACTION_TYPE
DIM_MONITOR_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
MONITOR_TYPE
MONITOR_TYPE_ACTION_DATE
MONITOR_TYPE_BEGIN_DATE
MONITOR_TYPE_COMMENT
MONITOR_TYPE_END_DATE
SNOW_MONITOR_TYPE_KEY

SNOW_MONITOR_PROBE_OBSTR

COMPASS_SECTOR
DIM_MONITOR_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
PROBE_OBSTR_DISTANCE
PROBE_OBSTR_HEIGHT
PROBE_OBSTR_TYPE
SNOW_MONITOR_PROBE_OBSTR_KEY

SNOW_MONITOR_SAMPLE_PERIOD

DIM_MONITOR_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
SAMPLING_BEGIN_DATE
SAMPLING_END_DATE
SNOW_MONITOR_SAMPLE_PERIOD_KEY

BRIDGE_AGENCY_ROLE

BRIDGE_AGENCY_ROLE_KEY
DIM_MONITOR_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
ROLE
ROLE_BEGIN_DATE
ROLE_END_DATE
SNOW_AGENCY_KEY

SNOW_AGENCY

AGENCY_CODE
AGENCY_DESC
AGENCY_TYPE
AGENCY_TYPE_DESC
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
SNOW_AGENCY_KEY

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Table Contents (Attributes): Facility Dimension

DIM_FACILITY

ADDRESS_TYPE
AIRSHED_CODE
AQS_AQCR_CODE
AQS_AQCR_DESC
AQS_BLOCK_GROUP_NUM
AQS_BLOCK_NUM
AQS_CENSUS_TRACT_NUM
AQS_CITY_CODE
AQS_CITY_DISTANCE
AQS_CITY_NAME
AQS_CLASS_1_AREA_CODE
AQS_CLASS_1_AREA_NAME
AQS_CLASS_1_AREA_TYPE
AQS_CMSA_CODE
AQS_CMSA_NAME
AQS_COMPASS_SECTOR_CBD_DIR
AQS_COMPASS_SECTOR_MET_SITE_DI
AQS_CONGR_DISTR_NUM
AQS_COUNTY_CODE
AQS_COUNTY_NAME
AQS_EPA_REGION_CODE
AQS_EPA_REGION_NAME
AQS_LAND_USE_TYPE
AQS_LDP_ACC_VALUE
AQS_LDP_COLL_METHOD_CODE
AQS_LDP_COLL_METHOD_DESC
AQS_LDP_GEOMETRIC_TYPE
AQS_LDP_HORIZ_DATUM
AQS_LDP_REFERENCE_POINT
AQS_LDP_SOURCE_SCALE
AQS_LDP_VERTICAL_ACC_VALUE
AQS_LDP_VERTICAL_DATUM
AQS_LDP_VERTICAL_METHOD_DESC
AQS_LDP_VERT_MEAS
AQS_LDP_VERT_METHOD_CODE
AQS_LOCAL_REGION_CODE
AQS_LOCAL_REGION_NAME
AQS_LOCAL_SITE_NAME
AQS_LOCATION_SETTING
AQS_MET_SITE
AQS_MET_SITE_DISTANCE
AQS_MET_SITE_TYPE
AQS_MSA_CODE
AQS_MSA_NAME
AQS_POST_OFFICE_NAME
AQS_SITE_ESTAB_DATE
AQS_SITE_ID
AQS_SITE_LATITUDE
AQS_SITE_LONGITUDE
AQS_SITE_TERMINATED_DATE
AQS_SI_ID
AQS_STATE_ABBR
AQS_STATE_CODE
AQS_STATE_NAME
AQS_STREET_ADDRESS
AQS_TIME_ZONE_GMT_DIFF
AQS_TIME_ZONE_NAME
AQS_TRIBAL_CODE
AQS_TRIBAL_DESC
AQS_UAR_CODE
AQS_UAR_NAME
AQS_UTM_EASTING
AQS_UTM_NORTHING
AQS_UTM_ZONE_NUM
AQS_ZIP_CODE
CENSUS_BLOCK_CODE
CITY_NAME
COMPLIANCE_IND
CONGRESSIONAL_DISTRICT_NUM
COUNTRY_NAME
COUNTY_NAME
DIM_FACILITY_KEY
END_DATE
END_DATE_QUALIFIER
ENV_JUSTICE_CODE
EPA_REGION_CODE
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
FEDERAL_AGENCY_CODE
FEDERAL_FACILITY_CODE
FIPS_CODE
GEOCODE_LATITUDE
GEOCODE_LONGITUDE
HUC_CODE
INTEREST_STATUS_CODE
INTEREST_TYPE
LAST_REPORTED_DATE
LEGISLATIVE_DISTRICT_NUM
LOCATION_ADDRESS
LOCATION_DESCRIPTION
PARENT_PGM_SYS_ID
PARSED_POST_DIR_CODE
PARSED_PRE_DIR_CODE
PARSED_STREET_NAME
PARSED_STREET_NUMBER
PARSED_STREET_SUFFIX
POSTAL_CODE
PRIMARY_NAME
PROGRAM_LAST_REPORTED_DATE
PROGRAM_SENSITIVE_IND
PROGRAM_SYSTEM_ACRONYM
PROGRAM_SYSTEM_ID
PUBLIC_IND
REGISTRY_ID
SENSITIVE_IND
SITE_TYPE_NAME
SMALL_BUSINESS_IND
SOURCE_OF_DATA
STANDARD_CITY_NAME
STANDARD_COUNTY_NAME
STANDARD_LOCATION_ADDRESS
STANDARD_NAME
START_DATE
START_DATE_QUALIFIER
STATE_CODE
STATE_NAME
SUPPLEMENTAL_LOCATION
TRIBAL_LAND_CODE
TRIBAL_LAND_NAME

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Table Contents (Attributes): Qualifier Bridge and Dimension

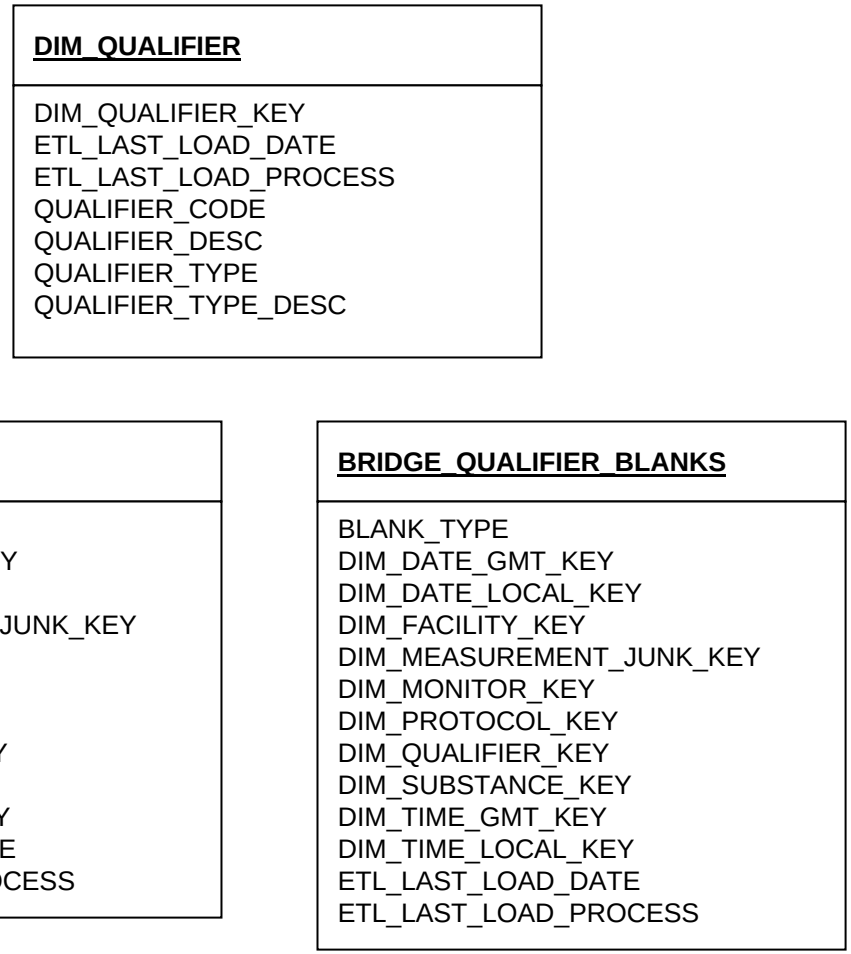

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Table Contents (Attributes): Protocol and Junk Dimensions

DIM_PROTOCOL

ABS_MAX_SAMPLE_VALUE
ABS_MIN_SAMPLE_VALUE
COLLECTION_FREQ_CODE
COLLECTION_FREQ_COMMENT
COLLECTION_FREQ_DESC
COMPOSITE_TYPE
DAILY_INTERVAL
DAILY_SAMPLE_NUM
DIM_PROTOCOL_KEY
DURATION_CODE
DURATION_COMMENT
DURATION_DESC
DURATION_FRACTION_OF_DAY
DURATION_IND
DURATION_LENGTH
DURATION_UNIT
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
FEDERAL_MDL
METHODOLOGY_CODE
METHODOLOGY_COMMENT
METHOD_DESC
PROTOCOL_SOURCE
PRO_ID
RECORDING_MODE
REFERENCE_METHOD_ID
SAMPLE_ANALYSIS_DESC
SAMPLE_COLLECTION_DESC
SUMMARY_SCALE
UNIT
UNIT_ABBR
UNIT_DESC
UNIT_TYPE

DIM_MEASUREMENT_JUNK

DIM_MEASUREMENT_JUNK_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
HALF_MDL_SUBSTITUTION
HALF_MDL_SUBSTITUTION_COMMENT
MEASUREMENT_FLAG
MEASUREMENT_FLAG_COMMENT
MEASUREMENT_STATUS
MEASUREMENT_STATUS_COMMENT
MEASUREMENT_TYPE
MEASUREMENT_TYPE_COMMENT
REPORTED_SCALE
SAMPLE_COUNT

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Table Contents (Attributes): Substance Dimension and Snowflakes

DIM_SUBSTANCE

AQS_CARBON_CNT
AQS_PARAMETER_ABBR
AQS_PARAMETER_ALT_DESC
AQS_PARAMETER_CODE
AQS_PARAMETER_COMMENT
AQS_PARAMETER_DESC
AQS_UNIT_STANDARD
AQS_UNIT_STANDARD_ABBR
AQS_UNIT_STANDARD_DESC
AQS_UNIT_STANDARD_TYPE
COMMENT_TEXT
CONTEXT_NAME
CURRENT_CAS_NUMBER
CURRENT_ICTVDB_NUMBER
CURRENT_TAXONOMETRIC_NUMBER
DEFINITION_DESCRIPTION
DIM_SUBSTANCE_KEY
EPA_ACRONYM
EPA_CLASS_SCHEME_TYPE
EPA_IDENTIFIER
EPA_NAME
EPA_REGISTRY_NAME
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
IDENTIFICATION_CONTEXT
MOLECULAR_FORMULA
MOLECULAR_WEIGHT
SUBSTANCE_CONTEXT
SUBSTANCE_ID_NUMBER
SUBSTANCE_TYPE
SYSTEMATIC_ACRONYM
SYSTEMATIC_CLASS_SCHEME_TYPE
SYSTEMATIC_NAME
SYSTEMATIC_REGISTRY_NAME

SNOW_AQS_CLASSIFICATION

CLASSIFICATION_CODE
CLASSIFICATION_COMMENT
CLASSIFICATION_DESC
DIM_SUBSTANCE_KEY
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
SNOW_AQS_CLASSIFICATION_KEY

BRIDGE_SUBSTANCE_NAME

This table is temporarily removed from the database. The user can get this information by making two queries, the first in SNOW_SUBSTANCE_NAME to get the SUBSTANCE_ID_NUMBER(s) for the name(s) of interest and then use those numbers to query the DIM_SUBSTANCE dimension.

SNOW_SUBSTANCE_NAME

ABSTRACT
CLASS_SCHEME_ACRONYM
CLASS_SCHEME_TYPE
COMMENT_TEXT
DEFINITION_DESCRIPTION
ETL_LAST_LOAD_DATE
ETL_LAST_LOAD_PROCESS
PROGRAM_OFFICE_EFFECTIVE_DATE
PROGRAM_OFFICE_END_DATE
PROGRAM_OFFICE_RATIONALE
PROGRAM_OFFICE_SORT_ORDER
PURPOSE
REGISTRATION_AUTHORITY
REGISTRY_DEFINITION
REGISTRY_NAME
SNOW_SUBSTANCE_NAME_KEY
SUBSTANCE_ID_NUMBER
SUBSTANCE_NAME
SUBSTANCE_NAME_STATUS

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Data Model Notes

This section indicates where the actual table linkages from particular facts to dimensions deviates from the “generic” diagram on the previous page.

- Model for FACT_MEASUREMENT_BLANKS is the same except:
  - Bridge to BRIDGE_QUALIFIER_BLANKS instead of BRIDGE_QUALIFIER
- Model for FACT_DAILY_SUMMARY is the same except:
  - No link to DIM_TIME
- Model for FACT_ANNUAL_SUMMARY is the same except:
  - No link to DIM_TIME or DIM_DATE
  - ANNUAL_SUMMARY_YEAR field in fact table
- All data is linked twice to time: once for local and once for GMT
  - Synoptic queries allowed!
- The dashed lines connecting DIM_FACILITY to DIM_MONITOR and DIM_SUBSTANCE to DIM_MONITOR represent the fact that we included shared elements in these tables to make links common to AQS queries easier (without having to go through FACT_MEASUREMENT).
  - DIM_MONITOR contains a DIM_FACILITY_KEY field
  - DIM_MONITOR contains a DIM_SUBSTANCE_KEY field
  - Thus you can select monitors based on the site they are in or the substances they measure.

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Hints and FAQs - General

Below are some tips we've found helpful in using the AQS Data Mart. If you have a question or suggestion, please pass it along and we'll include it.

- Never include data from more that one fact table in a query.
- The Annual Summary Fact table is not linked to a any time dimensions, but rather has an ANNUAL_SUMMARY_YEAR field within it that should be used for queries.
- On the Annual Summary Fact table, many of the "same" data elements are repeated prefaced once with AGGR_ and once with SUMMARY_. The AGGR values are aggregates including AirNow data where present, and the SUMMARY values are copied directly from AQS.

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Hints and FAQs – SQL Snippets

Below are example SQL code snippets showing the recommended way for performing certain queries.

- To Be Done, below are some examples to start with:
- How does this summer's ozone level compare to last summers (daily or annual AQI)
- Give me all the ozone measurements for XX state in year YY
- Give me all the speciation data for last year
- What latitudes and longitudes were toxics data collected at last year

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Hints and FAQs – Other Data

Some of the tables in the Data Mart have been left out of the following diagrams for simplicity. They are related to measurement data in ancillary ways even less direct than the dimensions. They are called “factoid” tables and you might stumble across them. They are:

- FACTOID_POLLUTANT_STANDARD
- FACTOID_MONITORING_SEASON
- FACTOID_POLLUTANT_AREA, AND
- FACTOID_REQ_FREQUENCY
- The Data Mart also contains tables for temporarily holding data (Staging tables) and tables listing data loading errors.

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