Task 1

# NAPA COUNTY
# DATA MANAGEMENT SYSTEM

*Prepared for:*

Napa County

***November 2010***

LUHDORFF & SCALMANINI
CONSULTING ENGINEERS

## TABLE OF CONTENTS

**1.0 Introduction ..... 1**

1.1 Countywide Groundwater Resources Data Management System ..... 1

1.2 Technical Memorandum ..... 2

**2.0 Data Collection ..... 2**

2.1 California Department of Water Resources ..... 3

2.2 U.S. Geological Survey ..... 3

2.3 California Department of Public Health ..... 4

2.4 State Water Resources Control Board ..... 4

2.5 Napa County ..... 5

**3.0 Data Management System ..... 5**

3.1 Structure and Format ..... 5

3.2 Data Entry and Customized Output ..... 8

3.3 Quality Control ..... 9

**4.0 Current Groundwater Monitoring ..... 10**

**5.0 Data Security ..... 10**

**6.0 Summary and Recommendations ..... 10**

## List of Tables

Table 2.1 – Summary by Subarea of Data Received for Wells with Water Level and Water Quality Information
Table 3.1 – Napa County Database Tables
Table 4.1 – Current Groundwater Monitoring, Napa County
Table 6.1 – Well List by State Well Number that are Reported by More Than One Enitity

## List of Figures

Figure 3.1 – Napa County Subareas
Figure 4.1 – Groundwater Level Monitoring Network Since 2007
Figure 4.2 – Groundwater Quality Monitoring Network Since 2008

**Appendix A**
**Appendix A - Tables**
**Appendix A - Figures**

# 1.0 Introduction

On behalf of Napa County, Luhdorff & Scalmanini, Consulting Engineers (LSCE) is conducting a regional assessment of groundwater conditions that includes the development of an overall Data Management System (DMS) and also a countywide groundwater monitoring network and program. This work complements other work being conducted for the County and involves improving the data that serve as the basis for assessing the County's surface and groundwater resources.

## 1.1 Countywide Groundwater Resources Data Management System

The Napa County DMS is being developed to establish a centralized repository for recording and archiving countywide well construction data (as related to groundwater monitoring wells), historical groundwater level and quality measurements, pumpage, usage and groundwater permit information, and for developing procedures for analyzing data on a programmatic basis. The current DMS effort focuses on groundwater-related data; however, some surface water information has been incorporated. In the future, the database could be expanded to include additional surface water data.

The DMS has five key attributes, including: 1) flexibility for importing data from and exporting data to other systems, 2) sufficient capacity to store existing (qualified) historical data, 3) ability to export data to numerous kinds of commercially available software, 4) ability to transition to a larger data management system in the future, and 5) a widely available interactive platform. It is anticipated that the County will, in the future, be able to export data from the core database to software programs that allow three-dimensional or animated depiction of the data.

At this stage, the emphasis has been to establish the DMS structure, ensure the quality of the historical and baseline water quality data that have been and/or will in the future be entered by the County, establish procedures for the ongoing quality control of future data compilation and entry into the core database, and develop procedures for preliminary data evaluation and data transfer to the California Department of Water Resources (DWR), or other central data repositories, as applicable.

While the Napa County DMS has been in development, DWR has also been developing the framework for the California Statewide Groundwater Elevation Monitoring (CASGEM) Program following the passage of legislation SBx7-6 in November, 2009. Preliminary guidelines for monitoring entities were published in November, 2010, and while the Napa County DMS was essentially completed, many of the components of monitoring and storing groundwater elevation data had already been incorporated into the DMS. Some additional modification will need to be made to the DMS to transfer groundwater level data to DWR once final guidelines are adopted by DWR.

### 1.2 Technical Memorandum

The work to develop the DMS has included receipt and review of the County's existing database and meeting with the County on June 22 , 2009 to define the DMS structure that meets the County's needs. Following the June 22 meeting, and with an understanding of data currently in the County's database, this Technical Memorandum has been prepared to describe the following:

- **Data Collection:** Describes groundwater data collected from such sources as DWR, U.S. Geological Survey, California Department of Public Health, State Water Resources Control Board, and Napa County.

- **Data Management System:** Provides details on database structure and format, types of data entered and suggestions for additional entry, procedures for data entry and customized output, and quality control.

- **Current Groundwater Monitoring:** Provides an overview of the groundwater monitoring currently being conducted by federal, state, local, and two public wastewater treatment entities in Napa County.

- **Data Security:** Describes data confidentiality and security issues that need to be recognized when using, displaying, and exchanging data.

- **Recommendations:** Summarizes recommendations for future actions, including reconciling data discrepancies; addressing data information needs (e.g., actual or more accurate sampling locations); expanding the historical data set, including data from other entities having less accessible information; collaboration and cooperation with other County departments to build the DMS as a centralized County data repository; and facilitating use of the DMS by non database users through additional software that provides a map-interface tool.

## 2.0 Data Collection

Several different public agencies collect and maintain groundwater data, including DWR, the U.S. Geological Survey (USGS), the California Department of Public Health (DPH; GeoTracker-GAMA), and the State Water Resources Control Board (SWRCB; GeoTracker). These sources can be accessed through the SWRCB website that summarizes the current data and databases available on the web at www.waterboards.ca.gov/resources/data_databases/. These programs and publicly available databases are continually evolving to expand and merge to create a more useful and powerful network of information. Data collection methods and sources will likely change in the future, but the current methods and sources are documented herein for reference.

These data sources were combined with Napa County's own records in order to populate the Napa County DMS. **Table 2.1** lists the agencies and data accumulated along with the number of wells and period of record in the DMS. Generally, well construction, well location, groundwater levels, and groundwater quality results were obtained and entered into the database, where

available, from the agencies described. Additionally, surface water quality data were incorporated into the DMS, where readily available; however, surface water data were not a focus for this project. Key sources of data for development of the DMS are described below.

## 2.1 California Department of Water Resources

DWR maintains a variety of databases that contain hydrologic data for the State of California, including the Water Data Library (WDL), the Water Data Information System (WDIS) and the WellMA database. For Napa County, the WDL consists of water level measurements (1918 to present) and the WDIS consists of water quality results (1944 to present). Water level data in the WDL have been through DWR's quality assurance/quality control (QA/QC) checks, while no such process is in place for the WDIS, and these data are included 'as is' without the usual corresponding analytical information. No additional QA/QC was conducted during the incorporation of the WDL and the WDIS data into the DMS. Out of 166 wells with water levels from DWR in the database, 135 have some construction information (at least well depth) provided through a special request to DWR's Central District. 23 of those 135 wells with construction information have associated water quality data from the DWR WDIS.

In addition to water level and quality data, well log data from DWR were also obtained in different formats. One format was in the form of a compact disc which contained over 7,700 scanned and indexed well logs for wells located in Napa County. These scanned images are not included in the physical DMS, however, they are available for Napa County as a separate index file and collection of images. The transfer of information from the scanned well logs into the database was not part of this task and would involve a substantial level of effort. However, the data contained on most of these well logs are already entered into a formatted data table by DWR's Central District in the form of their "WellMA" database. The WellMA database included well construction, well use, yield, owner, and some location information for 6,231 wells in Napa County. It is currently incorporated into the DMS as a separate table unrelated to the water level and water quality records. Most of the WellMA data do not include specific locations (detailed latitude and longitude coordinates) or an official State Well Number which would allow the well data to be linked to water level and quality data obtained from the WDL database or other agency databases.

## 2.2 U.S. Geological Survey

The USGS maintains a publicly accessible database of water quality and groundwater level information (National Water Information System, or NWIS database). The NWIS database has water quality and/or water level data for 396 groundwater sites in the Napa region. Sites and related data were queried and downloaded from NWIS based on a latitude/longitude coordinate box of 38º00'00"N /122º00'00"W - 38º50'00"N /122º47'00"W. Of those 396 sites, 176 are located outside Napa County and 220 are located within Napa County according to their latitude/longitude coordinates provided by the USGS. These locations have not been verified, but they are believed to be generally accurate. All 220 sites within Napa County have historical groundwater level and/or groundwater quality data. Of the 220 groundwater sites in Napa County, the NWIS database provides some well construction information, including construction date, well depth, and/or hole depth information on 198 of the sites. All USGS NWIS data have

undergone QA/QC by the USGS. The groundwater level data in the DMS span from 1920 to 2007 while the groundwater quality data range from 1949 to 2007. However, within the County, no direct monitoring by the USGS has occurred since 2002.

Additionally, there are 98 surface water sites with associated historical water quality data; 30 of those sites are located outside of Napa County based on the coordinates from the USGS.

## 2.3 California Department of Public Health

DPH's Drinking Water Program is within the Division of Drinking Water and Environmental Management. The Drinking Water Program regulates all public drinking water systems in the state. Water quality information for public drinking water systems in California is stored in a database for large (>199 connections) and small (five to 199 connections) public drinking water systems. Many local agencies at the county level regulate smaller public drinking water systems, including Napa County's Environmental Management Department, but water quality data are also reported to DPH and entered into the DPH database. A copy of DPH's statewide water quality database was requested and received in May 2009. All records were exported for Napa County (County Number 49) from the CHEMICAL, CHEMHIST AND CHEMARCV databases and incorporated into the DMS.

These records include data for 433 sites in Napa County, and they are identified in the DMS by the DPH Primary Station Code. Each site has a corresponding System Number and Source Name and other site specific information and related data that were incorporated in the DMS from the DPH database. The sites have been interpreted as a groundwater (290 sites), surface water (21 sites), or other unknown type (122 sites) based on the DPH designated Source Name and Status. Some of the currently 'unknown' types may represent a groundwater or surface water source, and therefore, are still included in the DMS. Of the 290 groundwater sites, 197 sites have related water quality data.

Most groundwater sites have been assigned a latitude/longitude from two additional sources. Current versions of the DPH database do not include site x-y coordinate information as had been previously included prior to September 2001. For the DMS, coordinates were incorporated from the SWRCB GeoTracker-GAMA website (newly available as of November 2009 and currently in beta testing) and an older version of the DPH database. Similar to the GeoTracker-GAMA coordinates' level of precision, the coordinates from the older DPH database that have been incorporated in the DMS, have been sufficiently generalized (to the nearest 0.001 of a degree) so that exact well/facility location cannot be determined to within 350 feet.

## 2.4 State Water Resources Control Board

The SWRCB stores environmental data for regulated facilities in California in their GeoTracker database, including groundwater levels and groundwater quality. Data from these regulated facilities usually consist of data from groundwater monitoring wells (typically shallow) associated with each site location. In Napa County, there are 101 GeoTracker sites with 1,715 wells (including extraction and monitoring wells). 1,667 of these wells have water level or water quality data between 1998 and 2010. Out of the 1,715 wells, 414 have well construction

information. The identifier for each well is the concatenated text string of the Global ID and the Field Point Name. These well and site identifiers, and well construction information where available, have been incorporated in the DMS.

### 2.5 Napa County

Napa County's groundwater level records from 1949 to 2009 were incorporated into the DMS. 148 wells of various uses (domestic, irrigation, public, or unknown) are included in this data set. Well construction information is available for 52 of the sites. Several wells have well diameter and well yield information. The historical records contained in the County's dataset are from the DWR and/or USGS monitoring programs. They are associated by their common State Well Number (SWN) and can to be grouped in the DMS on the SWN field.

## 3.0 Data Management System

This section discusses the structure and format of the DMS, including an overview of the tables, queries, and relationships that are essential elements of the DMS. This section also discusses some general steps for data entry and output.

### 3.1 Structure and Format

The Napa County DMS has been constructed to incorporate existing and new data about groundwater resources in Napa County. Some surface water data have also been incorporated; these data could be expanded in the future. The data incorporated in the DMS will be used on an ongoing basis by the County to evaluate countywide groundwater supply and quality conditions and to develop one central data storage location.

In order to ensure user flexibility, the database was designed using Microsoft Access 2000 and the *.mdb* database format. Access has the capacity to store historical and future data, up to a total of 2 GB of data, and can be transitioned to larger-scale database software as necessary. The currently archived data occupy about 75 MB of the available storage capacity. As with other database software, Access is capable of importing data from and exporting data to other commercially available software programs.

The database structure was designed to maximize the utility of the data by using a similar structure as developed by the USGS, DPH, and DWR. All of the data entered into the database identifies the data source. Each site is uniquely identified by a Local Well ID, usually corresponding to the SWN, Site ID, or Source Name. When more than one agency maintains data for a specific well, the agencies sometimes refer to the same well by a different name or to a common name formatted differently (usually representing the SWN). Each of these unique well names specific to the agency is entered into the database as the Local Well ID along with the actual SWN for the well that is common between entities. This allows records from the different agencies to be entered by the well name used by that agency (which streamlines data entry), but the records can also be combined to form a complete dataset for each well by SWN.

In anticipation of transferring groundwater level data to DWR for the CASGEM Program, some fields have been added to the DMS structure, but these have not been populated yet. Since monitoring and reporting guidelines are only preliminary at this point, the fields are included as a tentative placeholder to be modified and populated or rejected when the County is ready to proceed with participation in CASGEM. There may be other fields and data descriptions that will become necessary to include, but the DMS is capable of adding related tables and more fields. Future additions are discussed in the recommendations section below.

Seventeen geographical subareas were established in a GIS for Napa County (**Figure 3.1**) based on the main watersheds, groundwater basins and the County's planning areas. All wells and sites in the DMS were then assigned to a specific subarea based on their available latitude/longitude coordinates. Additional subarea designations were instituted for those sites without latitude/longitude coordinates ("NA" – NO LAT/LONG) and for those sites that are indicated by their coordinates as outside of the county ("OUTSIDE" – OUTSIDE NAPA COUNTY). This information was incorporated into the DMS as a geographical index that allows for more rapid and concise querying of information on a subarea basis.

**Table 3.1** lists the tables and types of information included in the DMS, the number of records in each table and the information included for each entry. Further detailed descriptions of these tables and examples of the data they contain can be found in the **Appendix**. As a general overview, there are three main related tables in the DMS and several additional supporting tables. The central table is the well table {T_Well}. It currently contains 2,961 entries that are described by attributes with the following fields [Field Name]:

- Autonumber field [ID]
- Local Well or site identification [WellID]
- CASGEM ID [CASGEM_ID] (not populated-to be assigned by DWR)
- State Well Number [SWN]
- Source name of well or site [SRC_NM]
- System number [SYS_NO]
- Source of well information [SRC]
- Designated subarea [Subarea]
- Location information [Latitude], [Longitude], [LL_Src], and [LL_Datum]
- Elevation information [Elev_value] and [ElevDatum]
- Well construction information, including construction date, well depth, borehole depth, depth to top of well screen, depth to bottom of well screen, DWR drillers' log number, well yield in gallons per minute, and well casing diameter [ConstructionDate], [WellDepth], [HoleDepth], [Top_Perf], [Bot_Perf], [Dlog], [Yield], and [Diameter]
- Type of data whether groundwater level and/or water quality or no related data [DATA_TYPE]
- Type of site, including the water type, whether groundwater, surface water, or other is embedded in the site type [SITE_TYPE]
- Status of site and date of most recent data available for DPH and most GeoTracker sites; USGS and DWR sites are indicated as unknown status [STATUS] and [STATUS_DT]
- Whether there are multiple identifiers for the same SWN [Duplicate]

The two main data tables in the DMS are the Water Quality Table {T_WQ} and the Water Level Table {T_WL}. These contain the historical records for sites in {T_Well} and are related in the DMS by the [WellID] field.

The Water Level Table {T_WL} contains 123,709 records with well identification, measurement date, reference point elevation, depth to water from reference point, source of data, water level code (indicating special conditions, if any) and comments. Fields for ground surface elevation [GSE] and depth to water from ground surface elevation [DTWgs] have been added but not populated; these are recommended data fields for the CASGEM Program.

The Water Quality Table {T_WQ} contains 320,936 records with each record containing well identification, sampling date, parameter code (indicating the analyzed constituent), unit of measure, data value, reporting limit, data source, analytical method, comments and conditional codes. Each record in {T_WQ} is entered with the appropriate parameter code selected from the Water Quality Parameter Table {T_WQParam} to indicate the constituent that was analyzed and reported in the record.

The Water Quality Parameter Table {T_WQParam} contains almost 1,200 records and is the compiled list of parameter codes and descriptions from three main entities: USGS, DPH, and GeoTracker. It was constructed as a 'lookup' table to maintain the list of constituents in the various ways that they may be reported or analyzed (e.g., Nitrate as Nitrate versus Nitrate as Nitrogen or Zinc, filtered versus Zinc, unfiltered) and to indicate a consistent unit of measure. Currently, the DPH and USGS databases primarily use U.S. Environmental Protection Agency (USEPA) STORET codes and descriptions, while GeoTracker uses another unique list of codes. Most of these entity-specific codes were incorporated so that updating the DMS could be as automated as possible. For some data, where specific sampling or analytical information is not known, codes have been added to the list to allow for general data as well. {T_WQParam} also has a field where an abbreviated parameter name [WQ_ParamSH] may be present. This field is utilized for grouping and summarizing multiple specific parameters together in a more generalized format regardless of reporting agency, analytical reporting, or sampling process. For example, a sodium analysis from the USGS has a different parameter code and corresponding description than does a sodium analysis from DPH. The short parameter name (in this case, "Na" for sodium) may be used to retrieve all sodium data from DPH and the USGS entries.

A formatted Water Quality Table {T_WQf} is also utilized to provide a more basic and commonly-accessed subset of {T_WQ} for purposes of reporting and to allow a database person or other user to review or query historical water quality data in a more familiar and user-friendly format. The table is generated by a series of queries within the DMS, and a record is included in this table based on the presence of a short name defined for a parameter in [WQ_ParamSH] field of {T_WQParam}. This table includes water quality records for only selected parameters (primarily general mineral and inorganic) with the corresponding site or well identification, sample date, parameter units, result value, data source, reporting limit, and comments.

Other tables in the database include the following:

- Water system table {T_Sys} that includes information on 365 public water systems or GeoTracker sites in Napa County;
- Well log table {T_WellMA_NapaCounty} that includes 6,231 records with drillers' log information and location information from the DWR WellMA database;
- Permit table {T_ASMT_PMT} for groundwater and usage permit information; associated Metering {T_ASMT_PMT_MTR} and Water Quality {T_ASMT_PMT_WQ} data table; non-related Incident table {T_ASMT_INCDNT}with information related to groundwater incident at a particular parcel (these tables are not populated with actual data); and
- Other accessory or 'lookup' tables to store defined lists of potential variables for a field. For example, {T_Subarea} is one lookup table for {T_Well} that contains the lookup list for the 19 subarea designations for Napa County. {T_WL_code} is a lookup table for {T_WL} to indicate special conditions for a water level data record (e.g., well pumping, or no measurement due to obstruction).

## 3.2 Data Entry and Customized Output

The **Appendix** contains guidelines for data entry and steps to create or update the formatted water quality table. Data can be entered by importing files or by pasting data directly into the tables, provided the data are in the correct format as described in the **Appendix**. Certain fields in the database are protected and do not allow for duplicate entries ([WellID] in {T_Well} or [WQ_ParamCd] in {T_WQParam}, for example). The well name or ID must be entered into the [WellID] field in the exact format as it appears in {T_Well}; water quality parameters must also be entered in [WQ_ParamCd] exactly as they appear in the Water Quality Parameter table {T_WQParam}. Additional parameters may be added to the Parameter table, if necessary, after verifying that an appropriate code does not already exist.

It is important to note that consistency is critical when adding data to the DMS. When adding new data to {T_WQ} and {T_WL}, the unit of measure must be considered and changed, if necessary, to match the existing unit of measure for a particular type of data. In {T_WL}, for example, all depth to water measurements are entered in decimal feet. Records in {T_WQ} are reported with a unit of measure that is specified by the parameter code in {T_WQParam}. Common groundwater constituents (e.g., chloride, nitrate, or potassium) are expressed as a measured concentration usually in milligrams per liter (mg/L). Other common constituents that are usually found in smaller concentrations in groundwater (e.g., boron, iron, or manganese) are expressed in micrograms per liter (µg/L). The data entry process for all water quality records must involve a verification that the unit of measure is consistent with the existing unit of measure indicated in {T_WQParam}, or it should be converted prior to entry.

Future input of data to the DMS should be done in a systematic way through a centralized person or department. It is expected that there will be regular updates from internal County sources and external agencies of new data for new and existing wells/sites already in the DMS. For external

agencies, a timeframe of about 2 to 3 years is a reasonable span between obtaining updates. This can be a sizeable effort to integrate multiple datasets, and planning should be done to avoid inconsistencies or gaps or duplications of data over a historical record. Updates from internal sources should follow a process that fits the needs of the County and the respective departments/groups that are generating the data. The process should consider this document when outlining the steps necessary for internal updating.

The database is equipped with several outputs that can be manipulated or used 'as is'. These are in the form of Access database queries and reports and are described in more detail in the Appendix. A sequence of queries is set up in the DMS for creating {T_WQf}, a formatted subset of {T_WQ}. {T_WQf} can be used for reviewing water quality data in a more familiar and user-friendly format than {T_WQ}, but the formatted dataset is primarily utilized for generating automated summary tables from the database. Certain queries are utilized for QA/QC purposes, specifically for identifying inconsistencies with site information (multiple reference point elevations) and other common problems that occur through data entry. Other queries are utilized to produce reports within the DMS. {R_WQSummaryTableGenMin} and {R_WQSummaryTableTrcElmts} are two reports that produce a summary by well of historical results for general minerals and trace elements. {R_NapaCountyHydrographs} is another report that presents groundwater data as time-series plots of water level elevations and depths to water by well. These reports are generated by queries and subqueries that progressively format and summarize the data for tabular or graphical presentation. These reports may be customized to fit the user's needs. Additionally, with replication and slight modification of any of these three existing reports, similar summary tables and time-series plots for different water quality constituents or water level data can be easily created. Knowledge of relational databases and Visual Basic scripting is necessary for this more advanced level of modification.

Spatial analysis using GIS technology can be done using ArcGIS software. This allows for direct links to Microsoft Access data and also allows the user to pull location data from tables or queries. The data displayed and analyzed using ArcGIS are updated whenever data within the Access database are updated.

## 3.3 Quality Control

Quality control of the database can be performed by maintaining consistency in water quality units, removing duplicate entries, identifying water levels influenced by pumping, etc. Some quality control checks may be performed by graphing water level data and spot-checking water quality data used for further analysis. The most important component of quality control in the DMS is the preparation and review of data *before* entry to the DMS. These data are technical and should be scrutinized for inconsistencies and completely described before data entry.

Tools have been set up in the DMS for troubleshooting and error checking. Automatic reports (described in the previous section) have been constructed for presenting data in graphical and tabular format. These reports can be reviewed by a technical person with a conceptual understanding of groundwater data to identify any questionable data or functional problems of the DMS (should they arise). Additional queries have been set up to identify conflicting records (e.g., where multiple units of measure exist for one parameter or multiple reference point

elevations exist for one well). Exporting data for a particular analytical application is generally (and most easily) done by preparing a query that returns the desired data, and then either exporting the data or copying and pasting it into spreadsheet software such as Microsoft Excel.

Content of the DMS (structure, data, queries, and relationships between tables) may be altered over time. It is good practice to regularly save backups of the DMS prior to major updates or structural alterations to preserve functionality and data content. This backup provides a resource if problems or questions arise.

# 4.0 Current Groundwater Monitoring

Currently in Napa County, groundwater monitoring is being conducted in over 300 wells (**Table 4.1**). These data are being collected either directly by or are being submitted to DWR, DPH, SWRCB, and the County. Since 2007, most groundwater level monitoring has been conducted by regulated facilities that submit data to the SWRCB/RWQCB and also by Napa County. Some limited groundwater level monitoring also occurs by the DWR. Since 2008, most groundwater quality monitoring has been conducted by community water systems and those data are submitted to DPH; very limited monitoring has been conducted by DWR.

Groundwater level monitoring is primarily conducted in the Napa Valley Floor portion of Napa County as shown in **Figure 4.1**. Within the Napa Valley Floor, the majority of the monitoring is conducted in the southern portion.

Groundwater quality monitoring is more dispersed in Napa County as compared to the groundwater level monitoring locations (**Figure 4.2**). Most groundwater quality monitoring occurs in the Napa Valley Floor; some monitoring also occurs in the Eastern Mountains, Western Mountains, Carneros, Knoxville and the Berryessa Subareas.

# 5.0 Data Security

Several components of the DMS contain confidential information and should, therefore, not be made publicly available. For example, well owner information, private and public well construction information, particularly drillers' reports, received from DWR are confidential. Similarly, well location information for wells from the DPH database should remain confidential for the necessary security of these public water supplies. Any maps prepared from data in the DMS should represent well locations with large symbols without local roads as a reference. Well construction information should only be discussed or displayed in general terms by assigning a well to an aquifer zone based on well construction information. Individual well construction information should not be disclosed.

# 6.0 Summary and Recommendations

As part of the program to establish the core DMS, LSCE has entered historical groundwater level data available from DWR, the USGS, the SWRCB, and the County. Groundwater quality data as

available from these entities as well as from the SWRCB GeoTracker site and DPH have also been incorporated. In this memo, LSCE has:

- Provided details on database format, types of data incorporated in the DMS, procedures for data entry, and information on the QA/QC of existing data.
- Summarized monitoring programs currently conducted by state, local, and private entities in Napa County. Additional details on these programs are included in the report *Napa County Groundwater Conditions and Groundwater Monitoring Recommendations*[1]; this report also includes County-specific monitoring program recommendations.
- Prepared automated data queries, tabular and graphical output, and report formats.

At the outset of the development of the DMS, it was recognized that the County would assist with the entry of other historical groundwater level and groundwater quality data. It was anticipated that future County staff time would be needed for this effort and also to incorporate well construction information for wells historically monitored in the County, recent surface water delivery information (as desired) and municipal pumpage data, and especially for checking the functionality of the system. Other recommendations for refinements to the DMS are provided below:

- It is important to remove redundancy in the groundwater level and groundwater quality data. This can occur when two sources of information provide identical or similar data for the same well. The wells with redundant data need to be identified and flagged as such. Then the duplicated data (water level or quality) need to be examined and appropriate steps taken to remove the redundancy. Several wells and their related data are reported by more than one agency. **Table 6.1** is a list of 180 wells that are reported by all or one of the following agencies: DWR, Napa County, or USGS. The historical data from the various entities need to be merged and one Well ID should remain for each physical well.

- Currently, the WellMA table is not linked to wells in the main database tables. This is due to the lack of a complete SWN in the WellMA table. SWNs need to be determined or, where driller's report numbers are provided, the wells in the well table {T_Well} in the DMS need to be linked with the wells in the WellMA table.

- The monitoring agency and/or schedule of monitoring for water quality and levels of each well should be indicated in Monitoring Table {T_Monitor} for each well.

- Location data for several DPH and GeoTracker wells were unavailable at the time of download and entry to the DMS. These data should be requested from the respective source agencies and appropriate measures taken to ensure data security.

- Continue to locate wells that have groundwater level or quality measurements but do not yet have x-y coordinates and assign them to their applicable geographic subareas.

[1] Luhdorff & Scalmanini, Consulting Engineers. 2010. *Napa County Groundwater Conditions and Groundwater Monitoring Recommendation. Prepared for Napa County.*

Additionally, verify coordinates to confirm the location of a site as in or outside of Napa County. Upon verification that coordinates for a site are correct and that the site is located outside of Napa County, that site and the related data may be removed from the DMS.

- Continue to fill in the Water Quality Parameter table with abbreviated (short) parameter names as necessary.

- Some groundwater level data contain measuring point discrepancies. These differences may arise when a well gets surveyed and the measuring point subsequently is changed. There also might be errors in the reference point elevations; in this case, the reporting agency should be notified to resolve the error. For example, one well, 05N03W06M001M with groundwater level data from DWR, has reference point elevations of 130.6 feet and 280 feet. This type of difference is significant and unacceptable. Other differences in reference point elevations are smaller, several are less than one foot, but the differences should be considered when making interpretations of water level changes and should, therefore, be rectified.

- To enhance DMS data viewing and retrieval by non-database users, it is suggested that a map-interface be established that allows for the display of well locations and the ability to click on the well location on the map to view or retrieve its various properties (for example a hydrograph of water levels, water quality tables, construction information, etc.). Different options exist for such a map-interface tool, including acquiring outside contractors to develop software specific to clients' needs, as well as scripts and hyperlinks attached to geospatial files viewable on the internet and created by in-house Information Technicians.

- Future data entry and QA/QC is anticipated to be a cooperative effort overseen and managed by the County. The County would have overall responsibility for the centralized DMS; however, other entities (e.g., other County departments and potentially other entities in the County) could assist with the creation of data sets to be imported to the main database. Quality control protocols for merging newly entered data into the core database are recommended to avoid duplication.

To transfer monitoring data to DWR as part of the CASGEM Program, additional fields may need to be incorporated into the DMS and populated. The guidelines for transferring data to DWR as part of the CASGEM program are preliminary at this point, but the final guidelines may require fields to describe additional well construction details (reference point height above ground surface, ground surface elevation), method and accuracy for measuring depth to water (steel tape, electric or sonic sounder, etc.), method and accuracy for location and/or elevation approximation of the monitoring well (topographic map approximation, GPS survey, etc.), and name of measuring agency (Napa County, DWR, etc.). Lastly, reporting of the elevation datum will be required in NAVD88. The Well Table (T_Well) currently contains the elevation and the associated vertical datum (whether NGVD29, NAVD88, or unknown) of top of casing or other non-defined points. The Water Level Table (T_WL)

includes the reporting point elevation value, however, the datum is not specified for each record. The reference point elevation value referenced to the NAVD88 datum should be added to the database.

# TABLES

## Table 2.1
## Summary by Subarea of Data Received for Wells with Water Level and Water Quality Information

| Source | Water Level and/or Water Quality | Period of Record | Angwin | Berryessa | Carneros | Central Interior Valleys | Eastern Mountains | Jameson/ American Canyon | Knoxville | Livermore Ranch | Napa River Marshes | Napa Valley Floor | | | | | Pope Valley | Southern Interior Valleys | Western Mountains | Latitude / Longitude NA | Indicated outside Napa County | Total in County with XY | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | Calistoga | MST | Napa | St. Helena | Yountville | | | | | | | |
| DPH | NoData | -- | 1 | | | | | | | | | | | | 1 | | | | 2 | 89 | | **4** | **93** |
| | WQ | 1984-2009 | 12 | 1 | 6 | 9 | 32 | | | | 8 | 15 | 8 | 7 | 26 | 16 | 2 | 3 | 14 | 36 | 2 | **159** | **197** |
| DWR | WL | 1918-2009 | | | 4 | | 2 | | | | | 14 | 24 | 21 | 31 | 22 | | | | | | **118** | **118** |
| | WL & WQ | 1928-2009 | | | 3 | | | 5 | | | | 4 | 3 | 4 | 1 | 4 | | | | | | **24** | **24** |
| | WQ | 1949-2008 | | | 5 | | 1 | 1 | | | 1 | 2 | 1 | 7 | 3 | 2 | | | 1 | | | **24** | **24** |
| Geotracker | NoData | -- | | | | 1 | | 12 | | | | 2 | 9 | 16 | 6 | | | | | 2 | | **46** | **48** |
| | WL | 2001-2010 | 3 | 14 | | | | | | | 22 | 4 | 13 | 25 | | | | | | 75 | | **81** | **156** |
| | WL & WQ | 1998-2009 | 7 | 36 | | 27 | | 20 | | | 33 | 80 | 100 | 242 | 38 | 4 | 9 | | | 167 | 17 | **596** | **780** |
| | WQ | 2001-2010 | | 1 | 7 | 4 | | 1 | | | | | 6 | 29 | | | | | | 683 | | **48** | **731** |
| NapaCounty | WL | 1949-2008 | | | | | 3 | | | | | 3 | 115 | 3 | 4 | 6 | | | | 6 | | **134** | **140** |
| | WL & WQ | 2006-2009 | | 3 | | | | | 5 | | | | | | | | | | | | | **8** | **8** |
| USGS | WL | 1920-2007 | | | 7 | | 3 | 4 | | | | 15 | 113 | 19 | 24 | 18 | | | | | 80 | **203** | **283** |
| | WL & WQ | 1934-2007 | | | | | 1 | | | | | 1 | 13 | 1 | 1 | | | | | | 42 | **17** | **59** |
| | WQ | 1951-2003 | | | | | | | | | | | | | | | | | | | 54 | **0** | **54** |

This summary represents a count of wells that may be reported by more than one entity (180 wells are reported by two or three entities).
See additional list for cross-referencing by State Well Number (SWN).

# Table 3.1
# Napa County Database Tables

| Table Name | Description | No. of Records | Database Tables - Major Field Names/Groups | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **SITE INFORMATION TABLES** | | | | | | | | | | |
| Well Table {T_Well} | Wells and Surface Water Sites in Database (most have associated historical WL and/or WQ) | 2,961 | Local Well ID | Official State Well Number | CASGEM ID (not populated- to be issued by DWR) | System Number | Source of Well/Site Data | Location Information (*Latitude, Longitude, LL_Src, LL_Datum, Elev_value, ElevDatum, GIS Subarea)* | Construction Information *(ConstructionDate, WellDepth, HoleDepth, Diameter, Top_Perf, Bot_Perf, Yield, Dlog)* | Other Site Info *(Comments, Source Name, Status, Site Type)* |
| System Table {T_Sys} | Public Water Systems and Geotracker Sites | 365 | System Number | System Name | Address | Population Served | No. of Connections | Service Area | Geotracker Status and Type | |
| Monitor Table {T_Monitor} | Well Monitoring Information (not populated) | 0 | Local Well ID | Network ID | Monitoring Agency | Monitoring Frequency | Monitoring Program | Monitoring Type (WL or WQ) | Comments | Start/Stop Date |
| Aquifer Table {T_Aquifer} | Well Aquifer Designation (not populated) | 0 | Local Well ID | Aquifer Code | Perforated Length | | | | | |
| Perforation Table {T_Perf} | Well Casing Perforations and Screened Section Detail (not populated) | 0 | Local Well ID | Number of Perforated Sections | Perforated Length | Top and Bottom Depths of Individual Perforated Sections | Note | | | |
| Well Logs {T_Wellma_NapaCounty} | Driller's Log Information (from WellMa) | 6,231 | Log Number | Owner Name | Owner Information | Location Information *(Address, Latitude, Longitude, Township/Range, APN)* | Construction Information *(Driller, Method, Casing/Perforations, Annular Material, Pump Test Information)* | | | |
| Permit Table {T_ASMT_PMT} | Usage and Groundwater Permits (populated with examples only) | 3* | Permit Number | APN Number (associated parcel) | Permit Type | Permit Approval Date | Meter Install Date & Initial Meter Reading | Fair Share | Approved Use | Comment |
| APN Table {T_ASMT} | Assessor's Parcel Number List | 49,338 | Assessor Parcel Number | APN Count | | | | | | |
| **DATA TABLES** | | | | | | | | | | |
| Water Quality Table {T_WQ} | Water Quality Records | 320,936 | Well ID | Sample Date | Parameter Code | Result Value | Reporting Limit Value | Data Source *(Name of Entity, Collecting and Analyzing Entity)* | Additional Info *(Comments, Analysis Method, Quality Codes)* | Units |
| Water Quality Formatted {T_WQf} | Formatted Water Quality Records for Tabular Presentation | 58,819 | Formatted Site Name | Well ID | Sample Date | Formatted Parameter Code | Formatted Result and Reporting Limit | Data Source | Comment | Units |
| Water Level Table {T_WL} | Water Level Records | 123,709 | Well ID | Measurement Date | Reference Point Elevation | Depth to Water (from reference point) | Ground Surface Elevation | Depth to Water (from ground surface) | Water Level Code | Additional Info *(Source, Comments)* |
| APN Incident Table {T_ASMT_INCDNT} | Property Incident Records | 0 | APN Number | Incident Date | Incident ID | Incident Type | Incident Description | | | |
| APN Permit Meter Table {T_ASMT_PMT_MTR} | Permit Metering Records | 22* | Permit Number | Meter Read Date | Meter Reading | Comment | | | | |
| APN Permit Water Quality Table {T_ASMT_PMT_WQ} | Water Quality Results for Issued Permits | 1* | Permit Number | Sample Date | Parameter Code | Result Value | Reporting Limit Value | Units | Additional Info (Comments, Analysis Method, Quality Codes, Data Source) | |
| **ACCESSORY 'LOOKUP' TABLES** | | | | | | | | | | |
| Water Level Code {T_WL_code} | Codes to describe conditions affecting water level measurements | 33 | Water Level Code | DWR Questionable Measurement Code | DWR No Measurement Code | USGS Level Status Code | Code Description | | | |
| Subarea Table {T_Subarea} | Subareas (Napa County 2050 Subarea Designation and [geo_eval]) | 19 | Subarea Code | Subarea Description | | | | | | |
| Water Quality Parameter {T_WQParam} | Water Quality Parameters | 1,199 | Parameter Code | Parameter Code Source | Parameter Description | Parameter Units | Parameter Abbreviation | Source/Entity Code Checkboxes | | |
| Source {T_Src} | Sources of Well Information or Data | 5 | Source Code | Code Description | | | | | | |
| Status {T_Stat} | Well Status (as designated by entity) | 16 | Status Code | Code Description | Entity | | | | | |
| Date Type {T_Type_data} | Water Level and/or Water Quality Record indicator for entries in Well Table | 4 | Data Type Code | Code Description | | | | | | |
| Site Type {T_Type_site} | Description for entries in Well Table (MW, River, Public well, etc.) | 30 | Site Type Code | Water Type | Site Type Description | Entity | DWR Code | | | |
| Water type {T_Type_water} | Description for Site Types (groundwater or surface water) | 3 | Water Type Code | Code Description | | | | | | |
| WQ Units {T_WQ_units} | Units of Measure for Water Quality Results | 16 | Unit Code | Code Description | | | | | | |
| WQ Remark Code {T_WQ_remark_cd} | Remark Codes (expanded from USGS) | 10 | Remark Code | Code Description | | | | | | |
| WQ Value Qualifier Code {T_WQ_val_qual_cd} | Codes to indicate the issues in the measurement process used to determine the result (USGS WQ only) | 38 | Value Qualifier Code | Code Description | | | | | | |
| WQ Data Quality Indicator {T_WQ_dqi_cd} | Codes to indicate the QA status of water quality results (expanded from USGS) | 5 | Data Quality Indicator Code | DQI Code Description | Entity | | | | | |
| WQ Reporting Level Code {T_WQ_rpt_lev_cd} | Codes to describe the type of reporting level (USGS WQ only) | 8 | Reporting Level Code | Code Description | | | | | | |
| Type of Lat/Long Datum {T_Type_datum_LL} | Datum for horizontal coordinates (latitude/longitude) in T_Well | 3 | Latitude/ Longitude Datum Code | Code Description | | | | | | |
| Type of Elevation Datum {T_Type_datum_elev} | Vertical datum for [Elev_value] in T_Well | 5 | Elevation Datum Code | Code Description | | | | | | |
| Permit Type {T_ASMT_PMT_TYP} | Type of Permit (usage or groundwater) | 2 | Permit Type | Permit Type Description | | | | | | |

**Indicates that number of records are for example only. They do not represent actual data.*

**Table 4.1**
**Current Groundwater Monitoring, Napa County**

| Agencies | Last Measured WQ | Current Number of Water Quality Sites | Last Measured WL | Current Number of Water Level Sites |
|---|---|---|---|---|
| DWR | 2008 | 5 | 2009 | 29 |
| DPH | 2009 | 114 | NA | NA |
| SWRCB | 2010 | 793 | 2010 | 476 |
| USGS | 2002 | 0 | 2001 | 0 |
| Napa County | 2009 | 8 | 2009 | 110 |

# Table 6.1

Well List by State Well Number that are reported by more than one entity.

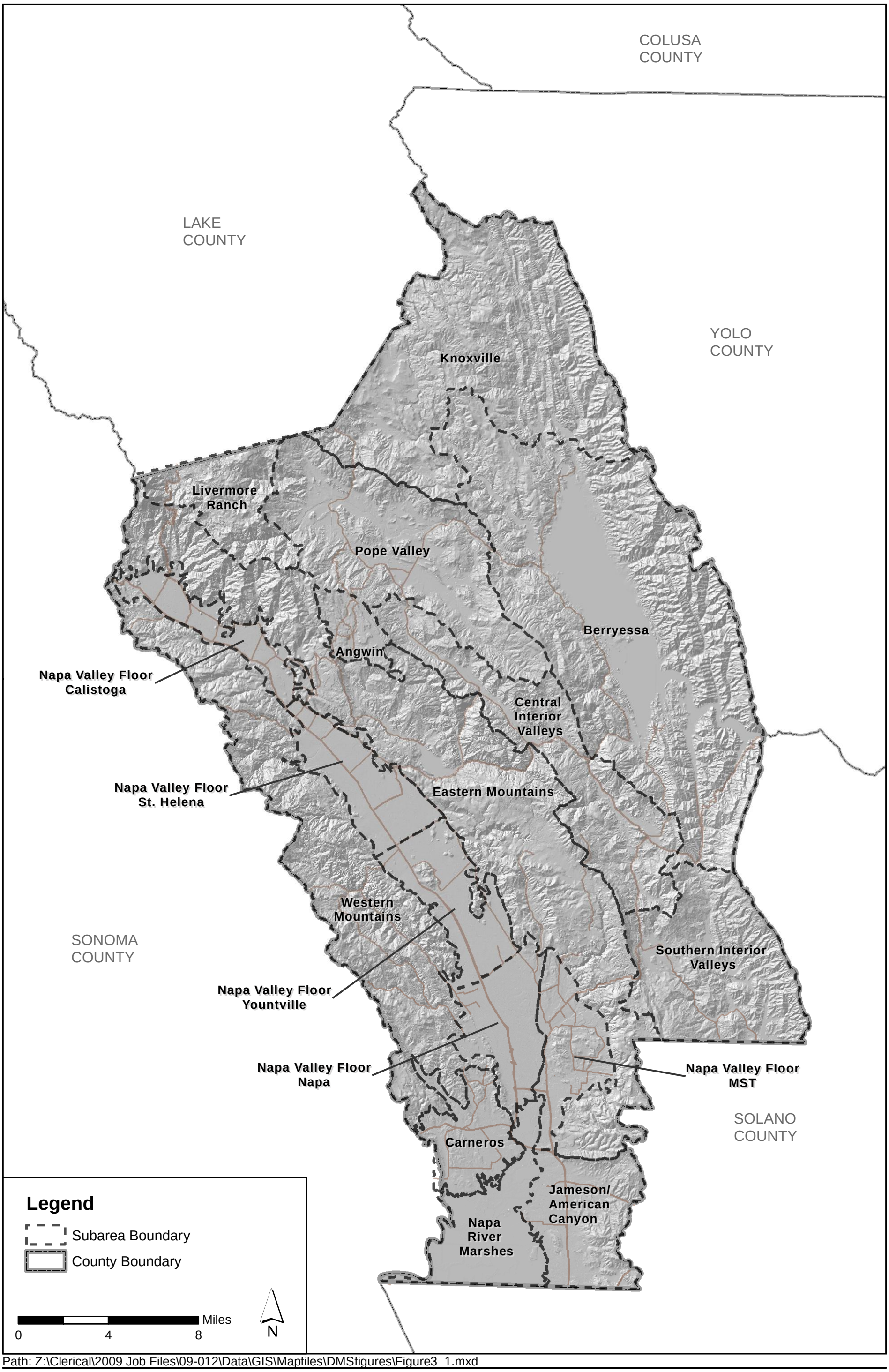
| SWN | DWR | NapaCounty | USGS |
|---|---|---|---|
| 004N004W02L001M | 04N04W02L001M | | 381316122162401 |
| 004N004W04C001M | 04N04W04C001M | | 381348122183601 |
| 004N004W05B001M | 04N04W05B001M | | 381348122190901 |
| 004N004W05D002M | 04N04W05D002M | | 381338122194801 |
| 004N004W12M001M | 04N04W12M001M | | 381225122154301 |
| 004N004W14C002M | 04N04W14C002M | | 381153122162801 |
| 004N004W25K001M | | | 380945122150301 |
| 005N003W05M001M | 05N03W05M001M | | 381818122133201 |
| 005N003W06A001M | 05N03W06A001M | | 381858122132601 |
| 005N003W06B002M | 05N03W06B002M | | 381831122140501 |
| 005N003W06E002M | | NapaCounty-104 | 381842122142901 |
| 005N003W06J002M | | NapaCounty-9 | 381821122134001 |
| 005N003W06J003M | | NapaCounty-10 | 381819122134001 |
| 005N003W06K002M | | NapaCounty-6 | 381819122135301 |
| 005N003W06L001M | | NapaCounty-90 | 381830122141201 |
| 005N003W06L002M | | NapaCounty-94 | 381824122140801 |
| 005N003W06M003M | | NapaCounty-74 | 381820122144001 |
| 005N003W06N004M | | NapaCounty-63 | 381814122142901 |
| 005N003W06N005M | | NapaCounty-73 | 381807122143401 |
| 005N003W06N006M | | NapaCounty-61 | 381814122143101 |
| 005N003W06P002M | | NapaCounty-89 | 381815122141901 |
| 005N003W06P003M | | NapaCounty-62 | 381809122141401 |
| 005N003W06Q003M | | NapaCounty-7 | 381815122135201 |
| 005N003W06Q004M | | NapaCounty-105 | 381815122135101 |
| 005N003W06R001M | | NapaCounty-8 | 381817122134901 |
| 005N003W06R002M | | NapaCounty-17 | 381813122133701 |
| 005N003W06R003M | | NapaCounty-106 | 381813122134101 |
| 005N003W07C003M | 05N03W07C003M | NapaCounty-20 | 381744122141901 |
| 005N003W07C004M | | NapaCounty-85 | 381802122142001 |
| 005N003W07C005M | | NapaCounty-86 | 381804122141501 |
| 005N003W07D003M | | NapaCounty-72 | 381801122144201 |
| 005N003W07D004M | | NapaCounty-71 | 381753122143901 |
| 005N003W07E004M | | NapaCounty-78 | 381744122142801 |
| 005N003W07E005M | | NapaCounty-70 | 381748122143601 |
| 005N003W07E006M | | NapaCounty-77 | 381744122143201 |
| 005N003W07E007M | | NapaCounty-79 | 381746122143301 |
| 005N003W07E008M | | NapaCounty-16 | 381744122142701 |
| 005N003W07F001M | | NapaCounty-24 | 381749122141801 |
| 005N003W07F002M | | NapaCounty-84 | 381751122142001 |
| 005N003W07F003M | | NapaCounty-81 | 381748122142401 |
| 005N003W07F004M | | NapaCounty-82 | 381748122142402 |
| 005N003W07F005M | | NapaCounty-83 | 381749122142501 |
| 005N003W07F006M | | NapaCounty-80 | 381748122142501 |
| 005N003W07M004M | | NapaCounty-32 | 381732122142801 |
| 005N003W07N002M | | NapaCounty-34 | 381717122143501 |
| 005N003W07N003M | | NapaCounty-33 | 381720122143601 |

| SWN | DWR | NapaCounty | USGS |
|---|---|---|---|
| 005N003W07P001M | 05N03W07P001M | | 381700122141301 |
| 005N003W08E001M | | NapaCounty-22 | 381746122133101 |
| 005N003W18D001M | | NapaCounty-35 | 381712122144101 |
| 005N004W01F002M | | NapaCounty-27 | 381831122153001 |
| 005N004W01F003M | | NapaCounty-29 | 381841122152401 |
| 005N004W01L001M | | NapaCounty-28 | 381830122152001 |
| 005N004W01R002M | | NapaCounty-60 | 381809122145101 |
| 005N004W03G001M | 05N04W03G001M | | 381837122170901 |
| 005N004W04G001M | 05N04W04G001M | | 381833122181901 |
| 005N004W04Q001M | 05N04W04Q001M | | 381813122181601 |
| 005N004W05P001M | 05N04W05P001M | | 381814122193601 |
| 005N004W05P002M | 05N04W05P002M | | 381815122193701 |
| 005N004W11F003M | 05N04W11F003M | | 381742122162601 |
| 005N004W12B004M | | NapaCounty-25 | 381753122151001 |
| 005N004W12B005M | | NapaCounty-26 | 381755122151001 |
| 005N004W12F001M | 05N04W12F001M | | 381746122151901 |
| 005N004W12G001M | | NapaCounty-14 | 381740122150201 |
| 005N004W12H001M | 05N04W12H001M | | 381747122144501 |
| 005N004W12H002M | | NapaCounty-15 | 381744122145001 |
| 005N004W12J002M | | NapaCounty-13 | 381738122145701 |
| 005N004W13G004M | | NapaCounty-18 | 381648122151501 |
| 005N004W13H001M | 05N04W13H001M | NapaCounty-137 | 381700122145001 |
| 005N004W13H003M | | NapaCounty-36 | 381649122144901 |
| 005N004W13J001M | | NapaCounty-19 | 381646122145601 |
| 005N004W14C001M | 05N04W14C001M | | 381710122162501 |
| 005N004W14J003M | 05N04W14J003M | | 381644122154601 |
| 005N004W15C002M | 05N04W15C002M | | 381702122173501 |
| 005N004W15E001M | 05N04W15E001M | | 381652122174901 |
| 005N004W19R002M | 05N04W19R002M | | 381538122201801 |
| 005N004W20R002M | 05N04W20R002M | | 381532122191101 |
| 005N004W21B001M | 05N04W21B001M | | 381616122181701 |
| 005N004W22M001M | 05N04W22M001M | | 381550122175501 |
| 005N004W28R001M | 05N04W28R001M | | 381442122180401 |
| 005N004W29H001M | 05N04W29H001M | | 381513122191101 |
| 006N003W30P001M | | NapaCounty-58 | 381958122141601 |
| 006N003W31B001M | 06N03W31B001M | | 381942122135301 |
| 006N003W31D001M | | NapaCounty-65 | 381941122143201 |
| 006N003W31H001M | 06N03W31H001M | | 381926122134501 |
| 006N003W31N002M | 06N03W31N002M | | 381910122143401 |
| 006N003W31N003M | | NapaCounty-39 | 381904122143001 |
| 006N004W05R001M | 06N04W05R001M | | 382323122190101 |
| 006N004W06L002M | 06N04W06L002M | NapaCounty-134 | 382342122205501 |
| 006N004W06N001M | 06N04W06N001M | | 382318122205801 |
| 006N004W07N001M | 06N04W07N001M | | 382230122211001 |
| 006N004W09Q001M | 06N04W09Q001M | NapaCounty-125 | |
| 006N004W09Q002M | 06N04W09Q002M | NapaCounty-126 | |
| 006N004W14Q001M | | NapaCounty-4 | 382143122160301 |
| 006N004W15Q001M | 06N04W15Q001M | | 382134122171301 |
| 006N004W17A001M | 06N04W17A001M | | 382218122190101 |
| 006N004W17R002M | 06N04W17R002M | NapaCounty-139 | 382138122191001 |
| 006N004W19B001M | 06N04W19B001M | NapaCounty-135 | 382121122203401 |

| SWN | DWR | NapaCounty | USGS |
|---|---|---|---|
| 006N004W21G001M | 06N04W21G001M | | 382113122182101 |
| 006N004W22R001M | 06N04W22R001M | | 382047122170501 |
| 006N004W23B001M | | NapaCounty-3 | 382128122161001 |
| 006N004W23J001M | 06N04W23J001M | | 382053122154701 |
| 006N004W23Q003M | 06N04W23Q003M | | 382050122160901 |
| 006N004W25E003M | | NapaCounty-99 | 382019122153201 |
| 006N004W25G001M | | NapaCounty-51 | 382016122145801 |
| 006N004W25J001M | | NapaCounty-52 | 382003122145001 |
| 006N004W26B002M | | NapaCounty-23 | 382035122160601 |
| 006N004W26F002M | | NapaCounty-55 | 382022122162601 |
| 006N004W26G001M | 06N04W26G001M | NapaCounty-56 | 382035122161101 |
| 006N004W26G002M | | NapaCounty-47 | 382021122161401 |
| 006N004W26G003M | | NapaCounty-45 | 382018122161301 |
| 006N004W26R003M | | NapaCounty-102 | 381956122155101 |
| 006N004W27N001M | 06N04W27N001M | NapaCounty-136 | 381953122175401 |
| 006N004W28K001M | 06N04W28K001M | | 382010122182501 |
| 006N004W29B001M | 06N04W29B001M | | 382039122192901 |
| 006N004W30C001M | 06N04W30C001M | | 382037122204301 |
| 006N004W32J006M | 06N04W32J006M | | 381924122191101 |
| 006N004W32L002M | 06N04W32L002M | | 381921122194301 |
| 006N004W35G003M | 06N04W35G003M | | 381927122160901 |
| 006N004W35G005M | | NapaCounty-69 | 381929122160701 |
| 006N004W36A001M | | NapaCounty-98 | 381947122145401 |
| 006N004W36E001M | | NapaCounty-37 | 381927122154001 |
| 006N004W36G001M | 06N04W36G001M | | 381939122150401 |
| 006N004W36H001M | 06N04W36H001M | | 381926122144301 |
| 006N004W36H004M | | NapaCounty-40 | 381926122144201 |
| 006N004W36H006M | | NapaCounty-97 | 381935122145501 |
| 006N004W36H007M | | NapaCounty-108 | 381935122145401 |
| 006N004W36K002M | | NapaCounty-54 | 381910122150101 |
| 006N004W36P001M | | NapaCounty-31 | 381907122152301 |
| 006N004W36R001M | | NapaCounty-53 | 381905122145601 |
| 006N005W12R001M | 06N05W12R001M | | 382231122211501 |
| 007N004W30L001M | 07N04W30L001M | | 382530122204701 |
| 007N004W30M001M | 07N04W30M001M | | 382533122210001 |
| 007N004W31M001M | 07N04W31M001M | NapaCounty-133 | 382442122210501 |
| 007N004W32B002M | 07N04W32B002M | | 382502122192701 |
| 007N005W04E001M | 07N05W04E001M | NapaCounty-130 | 383746122254001 |
| 007N005W04R002M | 07N05W04R002M | | 382856122243801 |
| 007N005W05A001M | 07N05W05A001M | | 382933122255201 |
| 007N005W06J001M | 07N05W06J001M | | 382902122270701 |
| 007N005W08A001M | 07N05W08A001M | | 382837122260001 |
| 007N005W08M001M | 07N05W08M001M | | 382812122265201 |
| 007N005W09Q003M | 07N05W09Q003M | | 382749122250801 |
| 007N005W10C001M | 07N05W10C001M | | 382837122241001 |
| 007N005W14B002M | 07N05W14B002M | NapaCounty-132 | 382742122224901 |
| 007N005W14J001M | 07N05W14J001M | | 382720122222301 |
| 007N005W15A001M | 07N05W15A001M | | 382743122233501 |
| 007N005W15F001M | 07N05W15F001M | | 382738122241601 |
| 007N005W16L001M | 07N05W16L001M | NapaCounty-131 | 382721122251701 |
| 007N005W16N002M | 07N05W16N002M | NapaCounty-138 | 382707122254201 |

| SWN | DWR | NapaCounty | USGS |
|---|---|---|---|
| 007N005W17B002M | 07N05W17B002M | | 382753122261001 |
| 007N005W21G001M | 07N05W21G001M | | 382646122245301 |
| 007N005W22E003M | 07N05W22E003M | | 382637122242201 |
| 007N005W22H001M | 07N05W22H001M | | 382642122234201 |
| 007N005W23D002M | 07N05W23D002M | | 382658122231901 |
| 007N005W24P001M | 07N05W24P001M | | 382612122215401 |
| 007N005W25A001M | 07N05W25A001M | | 382606122211601 |
| 007N005W26D002M | 07N05W26D002M | | 382604122232701 |
| 007N005W34C002M | 07N05W34C002M | | 382513122241201 |
| 007N005W35F002M | 07N05W35F002M | | 382455122230401 |
| 007N006W01A001M | 07N06W01A001M | | 382954122281101 |
| 008N005W31H001M | 08N05W31H001M | | 383011122270001 |
| 008N005W31P002M | 08N05W31P002M | | 382944122273501 |
| 008N005W32K004M | 08N05W32K004M | | 382954122260701 |
| 008N006W03M001M | 08N06W03M001M | | 383418122310301 |
| 008N006W04F001M | 08N06W04F001M | | 383432122315501 |
| 008N006W06L004M | 08N06W06L004M | NapaCounty-129 | 383418122340201 |
| 008N006W09D002M | 08N06W09D002M | | 383353122321201 |
| 008N006W09H001M | 08N06W09H001M | | 383335122311401 |
| 008N006W09H002M | 08N06W09H002M | | 383334122311501 |
| 008N006W10Q001M | 08N06W10Q001M | | 383326122311801 |
| 008N006W14N001M | 08N06W14N001M | | 383219122295201 |
| 008N006W14Q001M | 08N06W14Q001M | | 383219122192001 |
| 008N006W23M001M | 08N06W23M001M | | 383146122300201 |
| 008N006W24B001M | 08N06W24B001M | | 383212122282901 |
| 008N006W25G002M | 08N06W25G002M | | 383103122282601 |
| 008N006W26B004M | 08N06W26B004M | | 383122122291601 |
| 009N006W31Q001M | 09N06W31Q001M | NapaCounty-128 | 383446122334301 |
| 009N007W24L001M | 09N07W24L001M | | 383641122350601 |
| 009N007W25N001M | 09N07W25N001M | NapaCounty-127 | 383536122352901 |
| 009N007W25N002M | 09N07W25N002M | | 383535122352801 |
| 009N007W35K001M | 09N07W35K001M | | 383505122360601 |

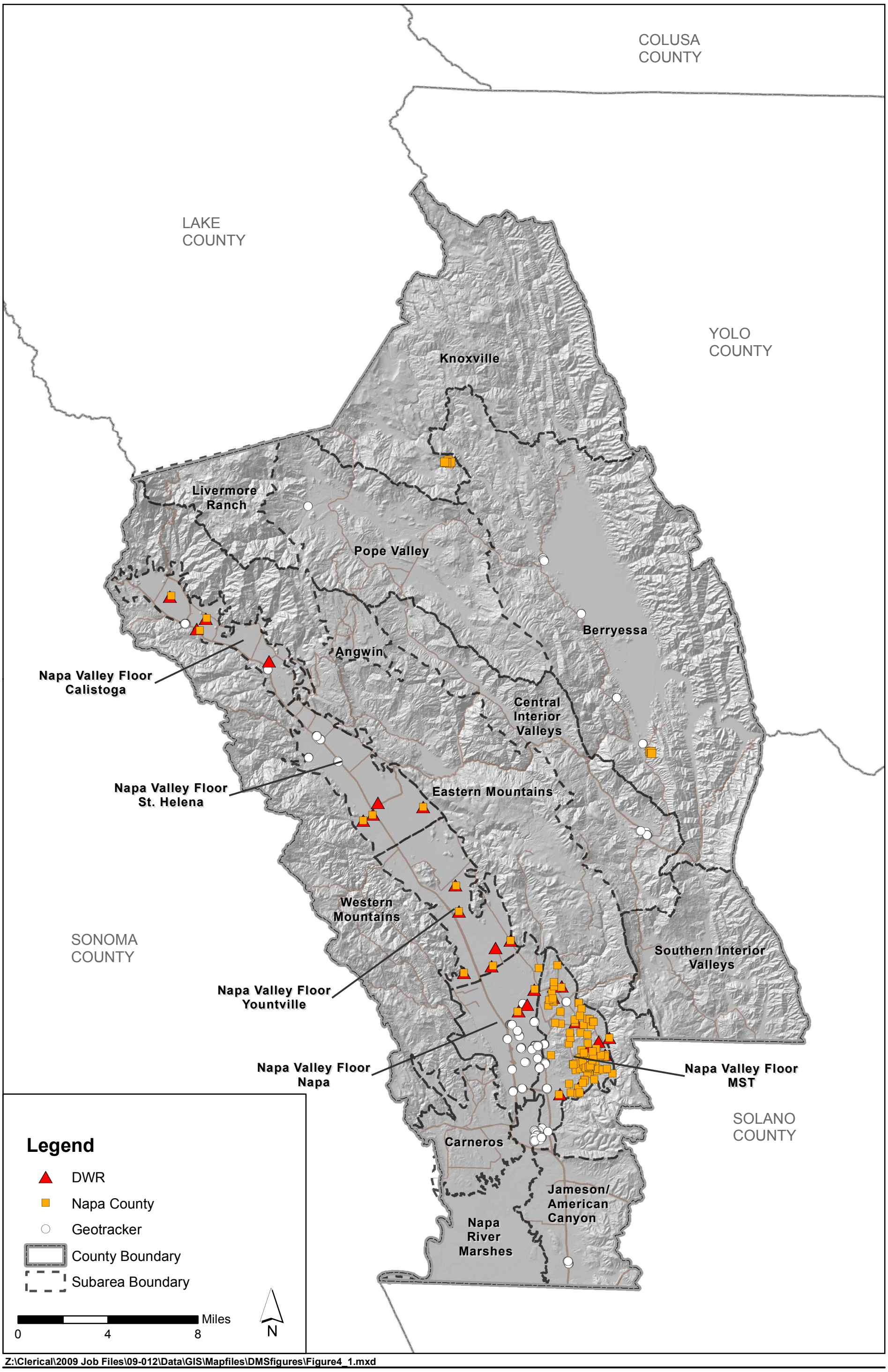
# FIGURES




Path: Z:\Clerical\2009 Job Files\09-012\Data\GIS\Mapfiles\DMSfigures\Figure3_1.mxd

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

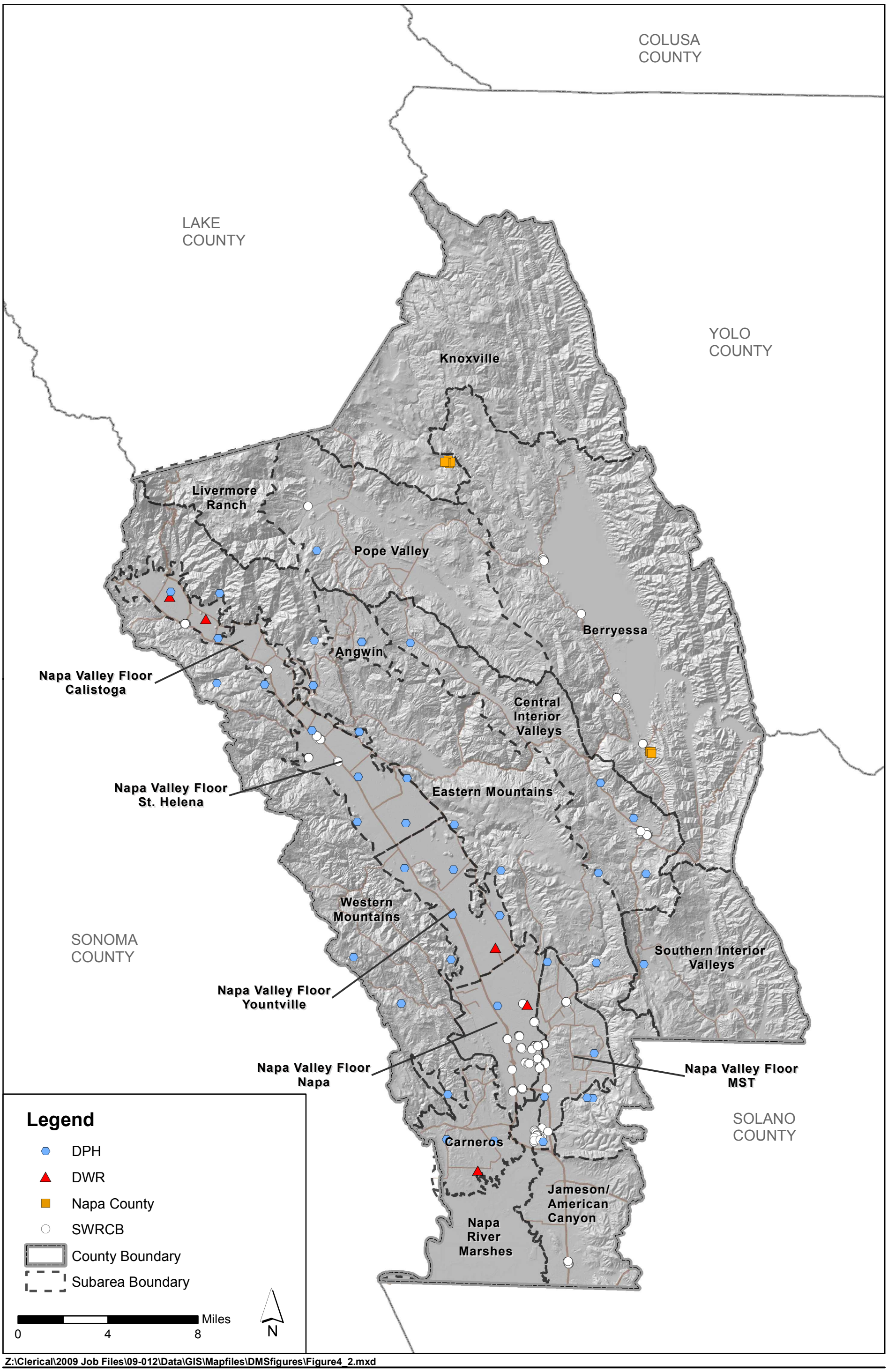
**Figure 3.1**
**Napa County Subareas**
**Napa County, CA**




Z:\Clerical\2009 Job Files\09-012\Data\GIS\Mapfiles\DMSfigures\Figure4_1.mxd

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

**Figure 4.1**
**Groundwater Level Monitoring Network Since 2007**
**Napa County, CA**




Z:\Clerical\2009 Job Files\09-012\Data\GIS\Mapfiles\DMSfigures\Figure4_2.mxd

LUHDORFF & SCALMANINI CONSULTING ENGINEERS

**Figure 4.2**
**Groundwater Quality Monitoring Network Since 2008**
**Napa County, CA**

# APPENDIX A

# Appendix A
# Napa County Data Management System
# Structure and Guidelines for Data Entry

The Napa County Data Management System (DMS) stores groundwater and surface water data for locations throughout Napa County. The database is designed to provide flexibility and simplicity for users, while maximizing the ability to analyze data within the database. This Appendix provides a diagram of the database structure and relationships and general guidelines for preparing data to be entered into the DMS.

## DATABASE STRUCTURE

The main components of the DMS are three Microsoft Access Database Tables: the well table {T_WELL} and the related water level {T_WL} and water quality {T_WQ} tables. There are also several additional supporting tables that primarily serve as well or site information tables or secondarily as lookup tables of acceptable values for the various fields of those three main tables. Figure A1 is the Microsoft Access Relationships Diagram of these table and fields lists. While Table 3.1 summarized the list of tables in the DMS and the major fields, this section will expand on that summary. Each table is outlined here in detail in Figures A2 through A5 with individual screen shots of each database table in the Design View that shows field name, data type and field description and the corresponding Datasheet View that shows some or all of the entered records in that table.

The main tables ({T_WELL}, {T_WQ}, and {T_WL}) serve as the repository of data. All of the tables in the DMS have a primary key (primary key field name is shown in bold in the table field lists in Figure A1) and most of them serve as the common link between tables. The primary key maintains structural integrity of a relational database, prohibits duplicate entries in a field that requires unique information, and it is a useful field for linking tables with a defined relationship. The main entity table, {T_WELL}, has the primary key [WellID]. This primary key field relates (by a one-to-many relationship) to the [WellID] fields of {T_WL} and {T_WQ}. By this relationship, data for wells (or sites) that are not in {T_WELL} cannot be entered into {T_WQ} or {T_WL}. Similar primary keys exist in the supporting 'lookup' tables for {T_Well}. [DataType] of {T_Type_data} and [SiteType] of {T_Type_site} are codes (and primary keys for the respective tables) that describe whether a well/site has associated quality or level of data, and whether a well/site is for monitoring or production or some other type and of a ground or surface water source, respectively.

The temporal data tables, {T_WL} and {T_WQ}, also have related tables that provide useful qualitative codes that describe the data. Water level codes describe conditions that affect water levels that can't be expressed in the measurement (or lack of measurement) itself and should be considered in analysis (e.g., active pumping, dry well, or inaccessible well, etc.). Water quality codes may be necessary to describe a particular laboratory result where conditions exist such as an approximated or questionable result. Several 'lookup' tables are utilized for this purpose; they are linked by the primary key in the

‘lookup’ table to the data table in a one-to-many relationship. Relationships and primary keys for the data and ‘lookup’ tables can be viewed in this appendix.

## GENERAL DATA ENTRY GUIDELINES

The goal of the database, as described above, is to maximize the usefulness of the data and allow for consistent summary of several data that originate from various sources. In order to accomplish this, certain general guidelines need to be employed:

1. Text fields, such as [WellID] or water quality parameter code [WQ_ParamCd], need to be entered consistently with the same spelling, spacing, and punctuation. The database will not recognize, for example, “4024” and “04024” as the same within [WQ_ParamCd].

2. Date entries can be in any standard format that includes the month, day, and year of the measurement in that order. Some examples are given below:

| *Date Formats* |
|---|
| 1/23/2003 |
| 01/23/03 |
| 1/23/03 |
| 1/23/03 12:00 AM |

For data where the day of the measurement is not available, the measurement should be entered as the first of the month. If a better approximation of the day of the measurement can be made, that approximation should be used. For historic data that is only identified by year, the measurement should be entered as the first of the year. Ideally, a comment would be added to describe the original, generalized form of the data. For example:

| *Date in Record* | *Enter As* | *Comment* |
|---|---|---|
| March 1980 | 3/1/1980 | approx date w/i mnth |
| March 1980 (middle of month) | 3/15/1980 | approx measure date |
| 1963 | 1/1/1963 | approx date w/i yr |

3. Numeric entries, such as *Depth to Water* [DTW] and *water quality values* [WQV], should contain only numeric values. No text, spacing, or punctuation should be included in numeric data. Non-detect concentration values that are reported with a less than sign should be entered as “–9999,” and the *Measurement Reporting Limit* should also be entered. If values denoted as “non-detect” are reported, then “-9999” should be entered. Some water quality examples are given below:

| Data in Record from Source | Enter As Result | Enter As Reporting Limit |
|---|---|---|
| 45 | 45 | |
| <0.02 | –9999 | 0.02 |
| ND (with no *Reporting Limit*) | –9999 | |
| 0 (with no *Reporting Limit*) | –9999 | |

## WELL AND SURFACE WATER POINT NAMING

Wells within the database are identified by *Local Well ID*, *Source Name*, and by *State Well Number*, where available. Different agencies report data for the same well by different *Well IDs*, but these data are related in the database by State Well Number.

| *Local Well ID [WellID]* | *State Well Number [SWN]* | *Source [SRC]* |
|---|---|---|
| NapaCounty-137 | 005N004W13H001M | Napa County |
| 05N04W13H001M | 005N004W13H001M | DWR |
| 381700122145001 | 005N004W13H001M | USGS |

As illustrated in the table above, Napa County, DWR, and USGS all have reported data for a particular well; accordingly, the well has three different *Local Well IDs* in the database, all with the same *State Well Number*. When DWR provides water quality data for the well, it uses the *Local Well ID* "05N04W13H001M." When the USGS provides similar data, it uses the *Local Well ID* "381700122145001."

## WATER LEVEL DATA (WELLS)

Water level data should be provided in the following format:

| *Local Well ID [WellID]* | *Measurement Date [Date]* | *Reference Point Elevation [RPE]* | *Depth to Water (feet, measured from reference point) [DTWrp]* | *Water Level Code [WL_CD]* | *Source [SRC]* |
|---|---|---|---|---|---|
| 383326122311801 | 9/19/1967 | 290 | 13 | Pump_rcnt | USGS |
| 383326122311801 | 10/18/1967 | 290 | 5.2 | No_code | USGS |
| 383326122311801 | 11/15/1967 | 290 | 4.9 | No_code | USGS |

The *Local Well ID* should be entered as described above under "Well and Surface Water Point Naming."

The *Measurement Date* is the actual date the measurement is made.

If the *Reference Point Elevation* of the well has been surveyed and is available, it should be entered for each water level measurement. The reference point is the point from which the *Depth to Water* is measured. The *Reference Point Elevation* of a well may

change if the wellhead is modified, if the well is re-surveyed, or if a different reference point is used.

The *Depth to Water* should be reported in feet below the reference point. This value should be reported in decimal feet; data in feet and inches should be converted to decimal feet for entry into the database. If possible, field measurements should be made to the nearest one-hundredth foot; however, all measurements should be reported regardless of precision.

If the measurement is known to be faulty, it should not be reported. However, if the measurement is suspected to be faulty, it should be reported with a *Comment* about the problem, as shown in the first row of the table above. The *Comment* can also be used to make a general remark about the measurement, e.g. "10 AM" or "30 minutes after shutoff," although this is not necessary. Some agencies also report a *Questionable*, *No Measurement*, or *Status Code*, that may be entered if available.

## WATER QUALITY DATA (WELLS AND SURFACE WATER)

Water quality data should be provided in the following format:

| *Well ID (or Surface Water Point) [WellID]* | *Sample Date [WQ_DATE]* | *Parameter Code [WQ_ParamCd]* | *Water Quality Value [WQV]* | *Measurement Reporting Limit [MRL]* | *Units [units]* | *Method [meth_cd]* |
|---|---|---|---|---|---|---|
| 382500122330501 | 6/3/2003 | 00945 | 4.08 | 0.18 | mg/L | IC022 |
| 382308122463902 | 8/22/2007 | 00453 | 234 | | mg/L | TT017 |
| 2800298-001 | 10/24/2006 | 34301 | –9999 | 0.5 | µg/L | |

The *Local Well ID* or *Surface Water Point* should be entered as described above under "Well and Surface Water Point Naming."

The *Sample Date* is the actual date the water quality sample was collected (not the analysis date).

The *Parameter Code* is the constituent being analyzed; every record in {T_WQ} must have a parameter that is found in {T_WQParam}. When entering a result into {T_WQ}, the [WQ_ParamCd] value must be a complete text string as shown in {T_WQParam}. Table A1 documents the currently available parameter codes; if the *Parameter Code* does not appear in this table, the *Parameter Code* should be added to {T_WQParam} and named consistently throughout the reported data.

The *Water Quality Value* is the numerical result of the analysis. As described above, if the *Water Quality Value* is non-detect and reported as a number with a less than sign, a value of "–9999" should be entered.

The units of the analysis must be consistent as reported in the {T_WQParam} table. If results are submitted for input to the DMS and are reported in a different unit of measure from the existing [WQ_ParamCd], they must be mathematically converted to the appropriate unit of measure.

Results below the *Measurement Reporting Limit* are considered non-detects. For example, a water quality result of <2.0 would have a *Reporting Limit* of 2.0. The *Measurement Reporting Limit* is also known as the Detection Limit for Reporting, or DLR. The *Measurement Reporting Limit* should be entered for all non-detect results; entering the *Measurement Reporting Limit* for quantified results is recommended but not required.

The analytical *Method* can be entered where known and available; entering the *Method* is preferred but not required.

All water quality *Water Quality Values* should be submitted. If the results are known or suspected to be faulty, a *Comment* describing data problems may be submitted. Additional code fields that exist primarily for the description of externally collected data (USGS) can be utilized to qualify the result and reporting levels.

## Creating the Formatted Water Quality Table

The following steps are necessary to create or update the formatted water quality table. These steps should also be followed if an analyte needs to be added to the formatted water quality table (if it does not currently have a [WQ_ParamSH], or a short parameter name designated in the {T_WQParam} table).

1) Run the {MAKE T_WQf} query. This will overwrite the previous formatted water quality table.
2) Open the newly created {T_WQf} table in design view. Change the [WQVf] field data type from "Number" to "Text" and remove the "f" from the Field Name so that the field is now called [WQV]. Delete the "f" from the Field Names: [WQParam_SHf] and [WQ_MRLf]. Close the {T_WQf} table and save changes. (Altering the field name serves as an easy reminder that this step has been done)
3) Run the append query: {MAKE T_WQf_appendNDs_withMRL}. This adds non-detect data that were reported with a reporting limit using the "<" denotation.
4) Run the append query: {MAKE T_WQf_appendNDs_withoutMRL}. This adds non-detect data that does not have a reporting limit using the "ND" abbreviation for non-detect.

Note that the formatted water quality table {T_WQf} is a static table created anew as necessary, and user-changes to the table will not be propagated the next time it is created without serious modification to the above queries.

# APPENDIX A

# TABLES

# Table A1
## Current List of Parameter Codes in {T_WQParam}

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 00003 | USGS | Sampling depth, feet | | | TRUE | FALSE | FALSE | |
| 2 | 00004 | USGS | Stream width, feet | | | TRUE | FALSE | FALSE | |
| 3 | 00009 | USGS | Location in cross section, distance from left bank looking downstream, feet | | | TRUE | FALSE | FALSE | |
| 4 | 00010 | DPHandUSGS | Temperature, water, degrees Celsius | degrees C | Temp | TRUE | FALSE | TRUE | |
| 5 | 00020 | USGS | Temperature, air, degrees Celsius | | | TRUE | FALSE | FALSE | |
| 6 | 00022 | USGS | Duration of exposure, sample or test, days | | | TRUE | FALSE | FALSE | |
| 7 | 00025 | USGS | Barometric pressure, millimeters of mercury | | | TRUE | FALSE | FALSE | |
| 8 | 00028 | USGS | Agency analyzing sample, code | | | TRUE | FALSE | FALSE | |
| 9 | 00029 | USGS | Project number | | | TRUE | FALSE | FALSE | |
| 10 | 00059 | USGS | Flow rate, instantaneous, gallons per minute | | | TRUE | FALSE | FALSE | |
| 11 | 00060 | USGS | Discharge, cubic feet per second | | | TRUE | FALSE | FALSE | |
| 12 | 00061 | USGS | Discharge, instantaneous, cubic feet per second | | | TRUE | FALSE | FALSE | |
| 13 | 00063 | USGS | Number of sampling points, count | | | TRUE | FALSE | FALSE | |
| 14 | 00065 | USGS | Gage height, feet | | | TRUE | FALSE | FALSE | |
| 15 | 00070 | USGS | Turbidity, water, unfiltered, Jackson Turbidity Units | | | TRUE | FALSE | FALSE | |
| 16 | 00074 | USGS | Light transmission, 1 meter pathlength, water, unfiltered, percent | | | TRUE | FALSE | FALSE | |
| 17 | 00075 | USGS | Turbidity, water, unfiltered, Hellige turbidimeter, milligrams per liter as silicon dioxide | MG/L | | TRUE | FALSE | FALSE | |
| 18 | 00076 | USGS | Turbidity, water, unfiltered, nephelometric turbidity units | NTU | Turb | TRUE | FALSE | FALSE | |
| 19 | 00078 | USGS | Transparency, water, in situ, Secchi disc, meters | | | TRUE | FALSE | FALSE | |
| 571 | 00081 | DPH | COLOR | UNITS | | FALSE | FALSE | TRUE | |
| 572 | 00086 | DPH | ODOR THRESHOLD @ 60 C | TON | | FALSE | FALSE | TRUE | |
| 20 | 00095 | DPHandUSGS | Specific conductance, water, unfiltered, microsiemens per centimeter at 25 degrees Celsius | US | EC | TRUE | TRUE | TRUE | me1.lab_ec |
| 21 | 00098 | USGS | Sampling depth, meters | | | TRUE | FALSE | FALSE | |
| 22 | 00191 | USGS | Hydrogen ion, water, unfiltered, calculated, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 23 | 00300 | USGS | Dissolved oxygen, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 24 | 00301 | USGS | Dissolved oxygen, water, unfiltered, percent of saturation | | | TRUE | FALSE | FALSE | |
| 25 | 00310 | USGS | Biochemical oxygen demand, water, unfiltered, 5 days at 20 degrees Celsius, milligrams per liter | MG/L | | TRUE | TRUE | FALSE | |
| 26 | 00335 | USGS | Chemical oxygen demand, low level, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 27 | 00340 | USGS | Chemical oxygen demand, high level, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 28 | 00400 | DPHandUSGS | pH, water, unfiltered, field, standard units | pH Units | pH-field | TRUE | FALSE | TRUE | |
| 29 | 00403 | DPHandUSGS | pH, water, unfiltered, laboratory, standard units | pH Units | pH-lab | TRUE | TRUE | TRUE | me1.lab_pH |
| 30 | 00405 | USGS | Carbon dioxide, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 31 | 00410 | DPHandUSGS | Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | TRUE | |
| 32 | 00417 | USGS | Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 33 | 00419 | USGS | Acid neutralizing capacity, water, unfiltered, inflection-point titration method (incremental titration method), field, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 34 | 00440 | DPHandUSGS | Bicarbonate, water, unfiltered, fixed endpoint (pH 4.5) titration, field, milligrams per liter | MG/L | HCO3 | TRUE | TRUE | TRUE | |
| 35 | 00445 | DPHandUSGS | Carbonate, water, unfiltered, fixed endpoint (pH 8.3) titration, field, milligrams per liter | MG/L | CO3 | TRUE | TRUE | TRUE | |
| 36 | 00450 | USGS | Bicarbonate, water, unfiltered, inflection-point titration method (incremental titration method), field, milligrams per liter | MG/L | HCO3 | TRUE | FALSE | FALSE | |
| 37 | 00452 | USGS | Carbonate, water, filtered, inflection-point titration method (incremental titration method), field, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 38 | 00453 | USGS | Bicarbonate, water, filtered, inflection-point titration method (incremental titration method), field, milligrams per liter | MG/L | HCO3 | TRUE | FALSE | FALSE | |
| 39 | 00480 | USGS | Salinity, water, unfiltered, parts per thousand | | | TRUE | FALSE | FALSE | |
| 40 | 00515 | USGS | Residue on evaporation, dried at 105 degrees Celsius, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 41 | 00530 | USGS | Residue, total nonfilterable, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 42 | 00535 | USGS | Loss on ignition, from nonfilterable residue, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 43 | 00540 | USGS | Residue, fixed nonfilterable, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 44 | 00572 | USGS | Biomass, periphyton, ash weight, grams per square meter | | | TRUE | FALSE | FALSE | |
| 45 | 00573 | USGS | Biomass, periphyton, dry weight, grams per square meter | | | TRUE | FALSE | FALSE | |
| 46 | 00600 | USGS | Total nitrogen, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 47 | 00602 | USGS | Total nitrogen, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 48 | 00605 | USGS | Organic nitrogen, water, unfiltered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 49 | 00607 | USGS | Organic nitrogen, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 50 | 00608 | USGS | Ammonia, water, filtered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 51 | 00610 | USGS | Ammonia, water, unfiltered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 579 | 00612 | DPH | AMMONIA (NH3-N) | MG/L | | FALSE | FALSE | TRUE | |
| 52 | 00613 | USGS | Nitrite, water, filtered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 53 | 00615 | USGS | Nitrite, water, unfiltered, milligrams per liter as nitrogen | MG/L | | TRUE | TRUE | FALSE | |
| 54 | 00618 | DPHandUSGS | Nitrate, water, filtered, milligrams per liter as nitrogen | MG/L | NO3-N | TRUE | FALSE | TRUE | |
| 55 | 00620 | USGS | Nitrate, water, unfiltered, milligrams per liter as nitrogen | MG/L | NO3-N | TRUE | TRUE | FALSE | |
| 1129 | 00620_DPH | DPH | NITRITE (AS N) | UG/L | | FALSE | FALSE | TRUE | |
| 56 | 00623 | USGS | Ammonia plus organic nitrogen, water, filtered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 57 | 00624 | USGS | Ammonia plus organic nitrogen, suspended sediment, total, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 58 | 00625 | USGS | Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 59 | 00630 | USGS | Nitrate plus nitrite, water, unfiltered, milligrams per liter as nitrogen | MG/L | NO3+NO2-N | TRUE | TRUE | FALSE | |
| 60 | 00631 | USGS | Nitrate plus nitrite, water, filtered, milligrams per liter as nitrogen | MG/L | NO3+NO2-N | TRUE | FALSE | FALSE | |
| 61 | 00635 | USGS | Ammonia plus organic nitrogen, water, unfiltered, milligrams per liter as nitrogen | MG/L | | TRUE | FALSE | FALSE | |
| 62 | 00650 | DPHandUSGS | Phosphate, water, unfiltered, milligrams per liter | UG/L | | TRUE | FALSE | TRUE | |
| 63 | 00660 | DPHandUSGS | Orthophosphate, water, filtered, milligrams per liter | MG/L | | TRUE | TRUE | TRUE | |
| 64 | 00665 | USGS | Phosphorus, water, unfiltered, milligrams per liter as phosphorus | MG/L | | TRUE | FALSE | FALSE | |
| 65 | 00666 | USGS | Phosphorus, water, filtered, milligrams per liter as phosphorus | MG/L | | TRUE | FALSE | FALSE | |
| 66 | 00671 | USGS | Orthophosphate, water, filtered, milligrams per liter as phosphorus | MG/L | | TRUE | FALSE | FALSE | |
| 67 | 00680 | DPHandUSGS | Organic carbon, water, unfiltered, milligrams per liter | MG/L | | TRUE | TRUE | TRUE | |
| 68 | 00681 | USGS | Organic carbon, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 69 | 00689 | USGS | Organic carbon, suspended sediment, total, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 585 | 00726 | DPH | SODIUM CHLORATE | UG/L | | FALSE | FALSE | TRUE | |
| 586 | 00745 | DPH | SULFIDE | MG/L | | FALSE | TRUE | TRUE | |
| 70 | 00900 | DPHandUSGS | Hardness, water, milligrams per liter as calcium carbonate | MG/L | HardnessCaCO3 | TRUE | TRUE | TRUE | min.diss_hardness |
| 71 | 00902 | USGS | Noncarbonate hardness, water, unfiltered, field, milligrams per liter as calcium carbonate | MG/L | | TRUE | FALSE | FALSE | |
| 72 | 00904 | USGS | Noncarbonate hardness, water, filtered, field, milligrams per liter as calcium carbonate | MG/L | | TRUE | FALSE | FALSE | |
| 73 | 00905 | USGS | Noncarbonate hardness, water, filtered, lab, milligrams per liter as calcium carbonate | MG/L | | TRUE | FALSE | FALSE | |
| 74 | 00915 | USGS | Calcium, water, filtered, milligrams per liter | MG/L | Ca | TRUE | FALSE | FALSE | min.ca |
| 588 | 00916 | DPH | CALCIUM | MG/L | Ca | FALSE | TRUE | TRUE | |
| 75 | 00925 | USGS | Magnesium, water, filtered, milligrams per liter | MG/L | Mg | TRUE | FALSE | FALSE | min.mg |
| 589 | 00927 | DPH | MAGNESIUM | MG/L | Mg | FALSE | TRUE | TRUE | |
| 590 | 00929 | DPH | SODIUM | MG/L | Na | FALSE | TRUE | TRUE | |
| 76 | 00930 | USGS | Sodium, water, filtered, milligrams per liter | MG/L | Na | TRUE | FALSE | FALSE | min.na |
| 77 | 00931 | DPHandUSGS | Sodium adsorption ratio, water, number | | SAR | TRUE | FALSE | TRUE | |
| 78 | 00932 | USGS | Sodium fraction of cations, water, percent in equivalents of major cations | | | TRUE | FALSE | FALSE | |
| 79 | 00933 | USGS | Sodium plus potassium, water, filtered, milligrams per liter as sodium | MG/L | | TRUE | FALSE | FALSE | |
| 80 | 00935 | USGS | Potassium, water, filtered, milligrams per liter | MG/L | K | TRUE | FALSE | FALSE | min.k |
| 592 | 00937 | DPH | POTASSIUM | MG/L | K | FALSE | TRUE | TRUE | |
| 81 | 00940 | DPHandUSGS | Chloride, water, filtered, milligrams per liter | MG/L | Cl | TRUE | TRUE | TRUE | min.cl |
| 82 | 00945 | DPHandUSGS | Sulfate, water, filtered, milligrams per liter | MG/L | SO4 | TRUE | TRUE | TRUE | min.so4 |
| 83 | 00950 | USGS | Fluoride, water, filtered, milligrams per liter | MG/L | F | TRUE | TRUE | FALSE | min.f |
| 595 | 00951 | DPH | FLUORIDE (F) (NATURAL-SOURCE) | MG/L | F | FALSE | FALSE | TRUE | |
| 84 | 00955 | DPHandUSGS | Silica, water, filtered, milligrams per liter as SiO2 | MG/L | | TRUE | FALSE | TRUE | min.sio2 |
| 85 | 01000 | USGS | Arsenic, water, filtered, micrograms per liter | UG/L | As | TRUE | FALSE | FALSE | |
| 86 | 01001 | USGS | Arsenic, suspended sediment, total, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 87 | 01002 | DPHandUSGS | Arsenic, water, unfiltered, micrograms per liter | UG/L | As | TRUE | TRUE | TRUE | me1.as_t |
| 88 | 01003 | USGS | Arsenic, bed sediment, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 89 | 01005 | USGS | Barium, water, filtered, micrograms per liter | UG/L | Ba | TRUE | FALSE | FALSE | |
| 90 | 01006 | USGS | Barium, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 91 | 01007 | DPHandUSGS | Barium, water, unfiltered, recoverable, micrograms per liter | UG/L | Ba | TRUE | TRUE | TRUE | |
| 92 | 01010 | USGS | Beryllium, water, filtered, micrograms per liter | UG/L | Be | TRUE | FALSE | FALSE | |
| 599 | 01012 | DPH | BERYLLIUM | UG/L | Be | FALSE | TRUE | TRUE | |
| 93 | 01020 | DPHandUSGS | Boron, water, filtered, micrograms per liter | UG/L | B | TRUE | TRUE | TRUE | min.b |
| 94 | 01025 | USGS | Cadmium, water, filtered, micrograms per liter | UG/L | Cd | TRUE | FALSE | FALSE | |
| 95 | 01026 | USGS | Cadmium, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 96 | 01027 | DPHandUSGS | Cadmium, water, unfiltered, micrograms per liter | UG/L | Cd | TRUE | TRUE | TRUE | me1.cd_t |
| 97 | 01028 | USGS | Cadmium, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 98 | 01029 | USGS | Chromium, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 99 | 01030 | USGS | Chromium, water, filtered, micrograms per liter | UG/L | Cr-f | TRUE | FALSE | FALSE | me1.cr_d |
| 100 | 01031 | USGS | Chromium, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 602 | 01032 | DPH | CHROMIUM, HEXAVALENT | UG/L | Cr-6 | FALSE | TRUE | TRUE | |
| 101 | 01034 | DPHandUSGS | Chromium, water, unfiltered, recoverable, micrograms per liter | UG/L | Cr | TRUE | TRUE | TRUE | me1.cr_t |
| 102 | 01035 | DPHandUSGS | Cobalt, water, filtered, micrograms per liter | UG/L | Co | TRUE | TRUE | TRUE | |
| 103 | 01036 | USGS | Cobalt, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 104 | 01037 | USGS | Cobalt, water, unfiltered, recoverable, micrograms per liter | UG/L | Co | TRUE | FALSE | FALSE | |
| 105 | 01040 | USGS | Copper, water, filtered, micrograms per liter | UG/L | Cu | TRUE | FALSE | FALSE | me1.cu_d |
| 106 | 01041 | USGS | Copper, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 107 | 01042 | DPHandUSGS | Copper, water, unfiltered, recoverable, micrograms per liter | UG/L | Cu | TRUE | TRUE | TRUE | me1.cu_t |
| 108 | 01043 | USGS | Copper, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 109 | 01044 | USGS | Iron, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 110 | 01045 | DPHandUSGS | Iron, water, unfiltered, recoverable, micrograms per liter | UG/L | Fe-u | TRUE | TRUE | TRUE | me1.fe_t |
| 111 | 01046 | DPHandUSGS | Iron, water, filtered, micrograms per liter | UG/L | Fe-f | TRUE | FALSE | TRUE | me1.fe_d |
| 112 | 01049 | USGS | Lead, water, filtered, micrograms per liter | UG/L | Pb | TRUE | FALSE | FALSE | me1.pb_d |
| 113 | 01050 | USGS | Lead, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 114 | 01051 | DPHandUSGS | Lead, water, unfiltered, recoverable, micrograms per liter | UG/L | Pb | TRUE | TRUE | TRUE | me1.pb_t |
| 115 | 01052 | USGS | Lead, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 116 | 01053 | USGS | Manganese, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 117 | 01054 | USGS | Manganese, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 118 | 01055 | DPHandUSGS | Manganese, water, unfiltered, recoverable, micrograms per liter | UG/L | Mn-u | TRUE | TRUE | TRUE | me1.mn_t |
| 119 | 01056 | DPHandUSGS | Manganese, water, filtered, micrograms per liter | UG/L | Mn-f | TRUE | FALSE | TRUE | me1.mn_d |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 120 | 01057 | USGS | Thallium, water, filtered, micrograms per liter | UG/L | Th | TRUE | FALSE | FALSE | |
| 611 | 01059 | DPH | THALLIUM | UG/L | Th | FALSE | TRUE | TRUE | |
| 121 | 01060 | USGS | Molybdenum, water, filtered, micrograms per liter | UG/L | Mo | TRUE | FALSE | FALSE | |
| 612 | 01062 | DPH | MOLYDBENDUM | UG/L | Mo | FALSE | TRUE | TRUE | |
| 122 | 01065 | USGS | Nickel, water, filtered, micrograms per liter | UG/L | Ni | TRUE | FALSE | FALSE | |
| 123 | 01066 | USGS | Nickel, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 124 | 01067 | DPHandUSGS | Nickel, water, unfiltered, recoverable, micrograms per liter | UG/L | Ni | TRUE | TRUE | TRUE | |
| 125 | 01075 | USGS | Silver, water, filtered, micrograms per liter | UG/L | Ag | TRUE | FALSE | FALSE | |
| 126 | 01076 | USGS | Silver, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 127 | 01077 | DPHandUSGS | Silver, water, unfiltered, recoverable, micrograms per liter | UG/L | Ag | TRUE | TRUE | TRUE | |
| 128 | 01080 | USGS | Strontium, water, filtered, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 129 | 01085 | USGS | Vanadium, water, filtered, micrograms per liter | UG/L | Vn | TRUE | FALSE | FALSE | |
| 615 | 01087 | DPH | VANADIUM | UG/L | Vn | FALSE | TRUE | TRUE | |
| 130 | 01090 | USGS | Zinc, water, filtered, micrograms per liter | UG/L | Zn | TRUE | FALSE | FALSE | me1.zn_d |
| 131 | 01091 | USGS | Zinc, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 132 | 01092 | DPHandUSGS | Zinc, water, unfiltered, recoverable, micrograms per liter | UG/L | Zn | TRUE | TRUE | TRUE | me1.zn_t |
| 133 | 01093 | USGS | Zinc, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 134 | 01095 | USGS | Antimony, water, filtered, micrograms per liter | UG/L | Sb | TRUE | FALSE | FALSE | |
| 617 | 01097 | DPH | ANTIMONY | UG/L | Sb | FALSE | TRUE | TRUE | |
| 135 | 01105 | DPHandUSGS | Aluminum, water, unfiltered, recoverable, micrograms per liter | UG/L | Al-u | TRUE | TRUE | TRUE | |
| 136 | 01106 | DPHandUSGS | Aluminum, water, filtered, micrograms per liter | UG/L | Al-f | TRUE | FALSE | TRUE | |
| 137 | 01130 | USGS | Lithium, water, filtered, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 620 | 01132 | DPH | LITHIUM | UG/L | | FALSE | FALSE | TRUE | |
| 138 | 01145 | USGS | Selenium, water, filtered, micrograms per liter | UG/L | Se-f | TRUE | FALSE | FALSE | |
| 139 | 01146 | USGS | Selenium, suspended sediment, total, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 140 | 01147 | DPHandUSGS | Selenium, water, unfiltered, micrograms per liter | UG/L | Se-u | TRUE | TRUE | TRUE | |
| 141 | 01148 | USGS | Selenium, bed sediment, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 142 | 01155 | USGS | Tungsten, water, filtered, micrograms per liter | UG/L | | TRUE | TRUE | FALSE | |
| 622 | 01291 | DPH | CYANIDE | UG/L | | FALSE | TRUE | TRUE | |
| 623 | 01302 | DPH | LAMPREYCIDE | UG/L | | FALSE | FALSE | TRUE | |
| 624 | 01501 | DPH | GROSS ALPHA | PCI/L | | FALSE | FALSE | TRUE | |
| 625 | 01502 | DPH | GROSS ALPHA COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 626 | 03501 | DPH | GROSS BETA | PCI/L | | FALSE | FALSE | TRUE | |
| 627 | 03502 | DPH | GROSS BETA COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 143 | 04024 | USGS | Propachlor, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 144 | 04028 | USGS | Butylate, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 145 | 04035 | USGS | Simazine, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 146 | 04037 | USGS | Prometon, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 147 | 04040 | USGS | 2-Chloro-4-isopropylamino-6-amino-s-triazine, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 148 | 04041 | USGS | Cyanazine, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 149 | 04095 | DPHandUSGS | Fonofos, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 150 | 04117 | USGS | Tether line used for collecting sample (yes=1), code | | | TRUE | FALSE | FALSE | |
| 151 | 04118 | USGS | Composited samples in cross-sectional bedload measurement, number | | | TRUE | FALSE | FALSE | |
| 152 | 04119 | USGS | Verticals in composite sample, number | | | TRUE | FALSE | FALSE | |
| 153 | 04120 | USGS | Rest time on bed for bed load sample, seconds | | | TRUE | FALSE | FALSE | |
| 154 | 04121 | USGS | Horizontal width of vertical, feet | | | TRUE | FALSE | FALSE | |
| 155 | 04122 | USGS | Bedload sediment discharge, daily average, per unit width of river, composite samples, tons per day per foot of width | | | TRUE | FALSE | FALSE | |
| 629 | 04240 | DPH | ACETOCHLOR | UG/L | | FALSE | FALSE | TRUE | |
| 156 | 07000 | DPHandUSGS | Tritium, water, unfiltered, picocuries per liter | PCI/L | | TRUE | FALSE | TRUE | |
| 631 | 07001 | DPH | TRITIUM COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 632 | 09501 | DPH | RADIUM 226 | PCI/L | | FALSE | FALSE | TRUE | |
| 633 | 09502 | DPH | RADIUM 226 COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 634 | 11501 | DPH | RADIUM 228 | PCI/L | | FALSE | FALSE | TRUE | |
| 635 | 11502 | DPH | RADIUM 228 COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 636 | 11503 | DPH | COMBINED RA 226 + RA 228 | PCI/L | | FALSE | FALSE | TRUE | |
| 637 | 11504 | DPH | COMBINED RA 226 + RA 228 COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 638 | 13501 | DPH | STRONTIUM-90 | PCI/L | | FALSE | FALSE | TRUE | |
| 639 | 13502 | DPH | STRONTIUM-90 COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 157 | 22703 | USGS | Uranium (natural), water, filtered, micrograms per liter | UG/L | U | TRUE | FALSE | FALSE | |
| 640 | 28011 | DPH | URANIUM (UG/L) | UG/L | U | FALSE | FALSE | TRUE | |
| 641 | 28012 | DPH | URANIUM (PCI/L) | PCI/L | | FALSE | FALSE | TRUE | |
| 158 | 29801 | USGS | Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 159 | 29802 | USGS | Alkalinity, water, filtered, Gran titration, field, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 160 | 29804 | USGS | Bicarbonate, water, filtered, fixed endpoint (pH 4.5) titration, field, milligrams per liter | MG/L | HCO3 | TRUE | FALSE | FALSE | |
| 161 | 29807 | USGS | Carbonate, water, filtered, fixed endpoint (pH 8.3) titration, field, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 162 | 30207 | USGS | Gage height, above datum, meters | | | TRUE | FALSE | FALSE | |
| 163 | 30208 | USGS | Discharge, cubic meters per second | | | TRUE | FALSE | FALSE | |
| 164 | 30209 | USGS | Discharge, instantaneous, cubic meters per second | | | TRUE | FALSE | FALSE | |
| 165 | 30210 | USGS | Depth to water level, below land surface datum (LSD), meters | | | TRUE | FALSE | FALSE | |
| 166 | 30333 | USGS | Bag mesh size, bedload sampler, millimeters | | | TRUE | FALSE | FALSE | |
| 167 | 31501 | USGS | Total coliform, M-Endo MF method, immediate, water, colonies per 100 milliliters | | | TRUE | FALSE | FALSE | |
| 168 | 31616 | USGS | Fecal coliform, M-FC MF (0.45 micron) method, water, colonies per 100 milliliters | | | TRUE | FALSE | FALSE | |
| 169 | 31625 | USGS | Fecal coliform, M-FC MF (0.7 micron) method, water, colonies per 100 milliliters | | | TRUE | FALSE | FALSE | |
| 170 | 31673 | USGS | Fecal streptococci, KF streptococcus MF method, water, colonies per 100 milliliters | | | TRUE | FALSE | FALSE | |
| 171 | 31679 | USGS | Fecal streptococci, m-enterococcus MF method, water, colonies per 100 milliliters | | | TRUE | FALSE | FALSE | |
| 642 | 32101 | DPH | BROMODICHLORMETHANE (THM) | UG/L | | FALSE | TRUE | TRUE | |
| 643 | 32102 | DPH | CARBON TETRACHLORIDE | UG/L | | FALSE | TRUE | TRUE | |
| 644 | 32104 | DPH | BROMOFORM (THM) | UG/L | | FALSE | TRUE | TRUE | |
| 645 | 32105 | DPH | DIBROMOCHLOROMETHANE (THM) | UG/L | | FALSE | TRUE | TRUE | |
| 646 | 32106 | DPH | CHLOROFORM (THM) | UG/L | | FALSE | TRUE | TRUE | |
| 172 | 32226 | USGS | Chlorophyll b, periphyton, spectrophotometric method, uncorrected, milligrams per square meter | | | TRUE | FALSE | FALSE | |
| 173 | 32228 | USGS | Chlorophyll a, periphyton, spectrophotometric method, uncorrected, milligrams per square meter | | | TRUE | FALSE | FALSE | |
| 647 | 34010 | DPH | TOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 648 | 34030 | DPH | BENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 649 | 34200 | DPH | ACENAPHTHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 650 | 34205 | DPH | ACENAPHTHENE | UG/L | | FALSE | TRUE | TRUE | |
| 651 | 34210 | DPH | ACROLEIN | UG/L | | FALSE | TRUE | TRUE | |
| 652 | 34216 | DPH | ACRYLONITRILE | UG/L | | FALSE | TRUE | TRUE | |
| 653 | 34220 | DPH | ANTHRACENE | UG/L | | FALSE | TRUE | TRUE | |
| 654 | 34230 | DPH | BENZO (B) FLUORANTHENE | UG/L | | FALSE | TRUE | TRUE | |
| 655 | 34242 | DPH | BENZO (K) FLUORANTHENE | UG/L | | FALSE | TRUE | TRUE | |
| 656 | 34247 | DPH | BENZO (A) PYRENE | UG/L | | FALSE | TRUE | TRUE | |
| 174 | 34253 | USGS | alpha-HCH, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 657 | 34259 | DPH | DELTA-BHC | UG/L | | FALSE | TRUE | TRUE | |
| 658 | 34273 | DPH | BIS (2-CHLOROETHYL) ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 659 | 34278 | DPH | BIS (2-CHLOROEHOXY) METHANE | UG/L | | FALSE | TRUE | TRUE | |
| 660 | 34283 | DPH | BIS (2-CHLOROISOPROPYL) ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 661 | 34292 | DPH | BENZYL BUTYL PHTHALATE | UG/L | | FALSE | TRUE | TRUE | |
| 662 | 34301 | DPH | MONOCHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 663 | 34307 | DPH | CHLORODIBROMOMETHANE | UG/L | | FALSE | FALSE | TRUE | |
| 664 | 34311 | DPH | CHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 665 | 34320 | DPH | CHRYSENE | UG/L | | FALSE | TRUE | TRUE | |
| 666 | 34328 | DPH | DICHLORBROMOMETHANE | UG/L | | FALSE | FALSE | TRUE | |
| 667 | 34336 | DPH | DIETHYL PHTHALATE | UG/L | | FALSE | TRUE | TRUE | |
| 668 | 34341 | DPH | DIMETHYL PHTHALATE | UG/L | | FALSE | TRUE | TRUE | |
| 669 | 34346 | DPH | 1,2-DIPHENYLHYDRAZINE | UG/L | | FALSE | TRUE | TRUE | |
| 670 | 34351 | DPH | ENDOSULFAN SULFATE | UG/L | | FALSE | TRUE | TRUE | |
| 671 | 34356 | DPH | ENDOSULFAN II | UG/L | | FALSE | TRUE | TRUE | |
| 672 | 34361 | DPH | ENDOSULFAN I | UG/L | | FALSE | TRUE | TRUE | |
| 673 | 34366 | DPH | ENDRIN ALDEHYDE | UG/L | | FALSE | TRUE | TRUE | |
| 674 | 34371 | DPH | ETHYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 675 | 34376 | DPH | FLUORANTHENE | UG/L | | FALSE | TRUE | TRUE | |
| 676 | 34381 | DPH | FLUORENE | UG/L | | FALSE | TRUE | TRUE | |
| 677 | 34386 | DPH | HEXACHLOROCYCLOPENTADIENE | UG/L | | FALSE | TRUE | FALSE | |
| 678 | 34391 | DPH | HEXACHLOROBUTADIENE | UG/L | | FALSE | TRUE | TRUE | |
| 679 | 34396 | DPH | HEXACHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 680 | 34403 | DPH | INDENO (1,2,3-CD) PYRENE | UG/L | | FALSE | FALSE | TRUE | |
| 681 | 34408 | DPH | ISOPHORONE | UG/L | | FALSE | TRUE | TRUE | |
| 682 | 34413 | DPH | BROMOMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 683 | 34418 | DPH | CHLOROMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 684 | 34423 | DPH | DICHLOROMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 685 | 34428 | DPH | N-NITROSODI-N-PROPYLAMINE (NDPA) | UG/L | | FALSE | FALSE | TRUE | |
| 686 | 34433 | DPH | N-NITROSODIPHENYLAMINE | UG/L | | FALSE | TRUE | TRUE | |
| 687 | 34438 | DPH | N-NITROSODIMETHYLAMINE (NDMA) | UG/L | | FALSE | TRUE | TRUE | |
| 688 | 34447 | DPH | NITROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 689 | 34452 | DPH | 4-CHLORO-3-METHYLPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 690 | 34453 | DPH | PARACHLOROMETA CRESOL | UG/L | | FALSE | FALSE | TRUE | |
| 691 | 34461 | DPH | PHENANTHRENE | UG/L | | FALSE | TRUE | TRUE | |
| 692 | 34469 | DPH | PYRENE | UG/L | | FALSE | TRUE | TRUE | |
| 693 | 34475 | DPH | TETRACHLOROETHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 694 | 34488 | DPH | TRICHLOROFLUOROMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 695 | 34496 | DPH | 1,1-DICHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 696 | 34501 | DPH | 1,1-DICHLOROETHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 697 | 34506 | DPH | 1,1,1-TRICHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 698 | 34511 | DPH | 1,1,2-TRICHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 699 | 34516 | DPH | 1,1,2,2-TETRACHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 700 | 34521 | DPH | BENZO (GHI) PERYLENE | UG/L | | FALSE | TRUE | TRUE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 701 | 34526 | DPH | BENZO (A) ANTHRACENE | UG/L | | FALSE | TRUE | TRUE | |
| 702 | 34531 | DPH | 1,2-DICHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 703 | 34536 | DPH | 1,2-DICHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 704 | 34541 | DPH | 1,2-DICHLOROPROPANE | UG/L | | FALSE | TRUE | TRUE | |
| 705 | 34546 | DPH | TRANS-1,2-DICHLOROETHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 706 | 34551 | DPH | 1,2,4-TRICHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 707 | 34556 | DPH | DIBENZO (A,H) ANTRACENE | UG/L | | FALSE | FALSE | TRUE | |
| 708 | 34561 | DPH | 1,3-DICHLOROPROPENE (TOTAL) | UG/L | | FALSE | FALSE | TRUE | |
| 709 | 34566 | DPH | 1,3-DICHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 710 | 34571 | DPH | 1,4-DICHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 711 | 34576 | DPH | 2-CHLOROETHYLVINYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 712 | 34581 | DPH | 2-CHLORONAPHTHALENE | UG/L | | FALSE | TRUE | TRUE | |
| 713 | 34586 | DPH | 2-CHLOROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 714 | 34591 | DPH | 2-NITROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 715 | 34596 | DPH | DI-N-OCTYLPHTHALATE | UG/L | | FALSE | TRUE | TRUE | |
| 716 | 34601 | DPH | 2,4-DICHLOROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 717 | 34606 | DPH | 2,4-DIMETHYLPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 718 | 34611 | DPH | 2,4-DINITROTOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 719 | 34616 | DPH | 2,4-DINITROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 720 | 34621 | DPH | 2,4,6-TRICHLOROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 721 | 34626 | DPH | 2,6-DINITROTOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 722 | 34631 | DPH | 3,3-DICHLOROBENZIDINE | UG/L | | FALSE | FALSE | TRUE | |
| 723 | 34636 | DPH | 4-BROMOPHENYL PHENYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 724 | 34641 | DPH | 4-CHLOROPHENYL PHENYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 725 | 34646 | DPH | 4-NITROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 175 | 34653 | USGS | p,p'-DDE, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 726 | 34657 | DPH | 2-METHYL-4,6-DINITROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 727 | 34668 | DPH | DICHLORODIFLUOROMETHANE (FREON 12) | UG/L | | FALSE | TRUE | TRUE | |
| 728 | 34671 | DPH | PCB-1016 (AS DECACHLOROBIPHENYL (DCB)) | UG/L | | FALSE | FALSE | TRUE | |
| 729 | 34676 | DPH | 2,3,7,8-TCDD (DIOXIN) | PG/L | | FALSE | FALSE | TRUE | |
| 730 | 34694 | DPH | PHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 731 | 34696 | DPH | NAPHTHALENE | UG/L | | FALSE | TRUE | TRUE | |
| 732 | 34699 | DPH | TRANS-1,3-DICHLOROPROPENE | UG/L | | FALSE | TRUE | TRUE | |
| 733 | 34704 | DPH | CIS-1,3-DICHLOROPROPENE | UG/L | | FALSE | TRUE | TRUE | |
| 176 | 34790 | USGS | Aluminum, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 177 | 34795 | USGS | Antimony, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 178 | 34800 | USGS | Arsenic, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 179 | 34805 | USGS | Barium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 180 | 34810 | USGS | Beryllium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 181 | 34816 | USGS | Bismuth, bed sediment smaller than 177 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 182 | 34825 | USGS | Cadmium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 183 | 34830 | USGS | Calcium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 184 | 34835 | USGS | Cerium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 185 | 34840 | USGS | Chromium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 186 | 34845 | USGS | Cobalt, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 187 | 34850 | USGS | Copper, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 188 | 34855 | USGS | Europium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 189 | 34860 | USGS | Gallium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 190 | 34870 | USGS | Gold, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 191 | 34875 | USGS | Holmium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 192 | 34880 | USGS | Iron, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 193 | 34885 | USGS | Lanthanum, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 194 | 34890 | USGS | Lead, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 195 | 34895 | USGS | Lithium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 196 | 34900 | USGS | Magnesium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 197 | 34905 | USGS | Manganese, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 198 | 34910 | USGS | Mercury, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 199 | 34915 | USGS | Molybdenum, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 200 | 34920 | USGS | Neodymium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 201 | 34925 | USGS | Nickel, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 202 | 34930 | USGS | Niobium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 203 | 34935 | USGS | Phosphorus, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 204 | 34940 | USGS | Potassium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 205 | 34945 | USGS | Scandium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 206 | 34950 | USGS | Selenium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 207 | 34955 | USGS | Silver, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 208 | 34960 | USGS | Sodium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 209 | 34965 | USGS | Strontium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 210 | 34970 | USGS | Sulfur, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 211 | 34975 | USGS | Tantalum, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 212 | 34980 | USGS | Thorium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 213 | 34985 | USGS | Tin, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 214 | 35000 | USGS | Uranium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 215 | 35005 | USGS | Vanadium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 216 | 35010 | USGS | Yttrium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 217 | 35015 | USGS | Ytterbium, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 218 | 35020 | USGS | Zinc, bed sediment smaller than 62.5 microns, wet sieved, field, total digestion, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 219 | 38260 | DPHandUSGS | Methylene blue active substances, water, unfiltered, recoverable, milligrams per liter | MG/L | | TRUE | TRUE | TRUE | |
| 735 | 38404 | DPH | AMINOCARB | UG/L | | FALSE | FALSE | TRUE | |
| 736 | 38418 | DPH | BARBAN | UG/L | | FALSE | FALSE | TRUE | |
| 737 | 38423 | DPH | CHLORONEB | UG/L | | FALSE | FALSE | TRUE | |
| 738 | 38429 | DPH | CHLOROPROPYLATE | UG/L | | FALSE | FALSE | TRUE | |
| 739 | 38432 | DPH | DALAPON | UG/L | | FALSE | TRUE | TRUE | |
| 740 | 38447 | DPH | DICHLORAN | UG/L | | FALSE | FALSE | TRUE | |
| 741 | 38454 | DPH | DICROTOPHOS | UG/L | | FALSE | FALSE | TRUE | |
| 742 | 38458 | DPH | DIMETHOATE | UG/L | | FALSE | FALSE | TRUE | |
| 743 | 38468 | DPH | FENURON | UG/L | | FALSE | FALSE | TRUE | |
| 744 | 38473 | DPH | FENURON-TCA | UG/L | | FALSE | FALSE | TRUE | |
| 745 | 38478 | DPH | LINURON | UG/L | | FALSE | FALSE | TRUE | |
| 746 | 38486 | DPH | MCPB | UG/L | | FALSE | FALSE | TRUE | |
| 747 | 38492 | DPH | MCPP | UG/L | | FALSE | TRUE | TRUE | |
| 748 | 38500 | DPH | METHIOCARB | UG/L | | FALSE | FALSE | TRUE | |
| 749 | 38507 | DPH | MEXACARBATE | UG/L | | FALSE | FALSE | TRUE | |
| 750 | 38512 | DPH | MONURON | UG/L | | FALSE | FALSE | TRUE | |
| 751 | 38517 | DPH | MONURON-TCA | UG/L | | FALSE | FALSE | TRUE | |
| 752 | 38522 | DPH | NEBURON | UG/L | | FALSE | FALSE | TRUE | |
| 753 | 38533 | DPH | PROPACHLOR | UG/L | | FALSE | FALSE | TRUE | |
| 754 | 38537 | DPH | PROPOXUR | UG/L | | FALSE | FALSE | TRUE | |
| 755 | 38542 | DPH | SECBUMETON | UG/L | | FALSE | FALSE | TRUE | |
| 756 | 38548 | DPH | SIDURON | UG/L | | FALSE | FALSE | TRUE | |
| 757 | 38555 | DPH | SWEP | UG/L | | FALSE | FALSE | TRUE | |
| 758 | 38559 | DPH | TERBUTHYLAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 759 | 38705 | DPH | BENOMYL | UG/L | | FALSE | FALSE | TRUE | |
| 760 | 38710 | DPH | BENTAZON | UG/L | | FALSE | FALSE | TRUE | |
| 761 | 38735 | DPH | CARBENDAZIM | UG/L | | FALSE | FALSE | TRUE | |
| 762 | 38746 | DPH | 2,4-DB | UG/L | | FALSE | TRUE | TRUE | |
| 763 | 38761 | DPH | DIBROMOCHLOROPROPANE (DBCP) | UG/L | | FALSE | TRUE | TRUE | |
| 764 | 38775 | DPH | DDVP | UG/L | | FALSE | FALSE | TRUE | |
| 765 | 38783 | DPH | DIOXATHION | UG/L | | FALSE | FALSE | TRUE | |
| 766 | 38797 | DPH | FENSULFOTHION | UG/L | | FALSE | TRUE | TRUE | |
| 767 | 38801 | DPH | FENTHION | UG/L | | FALSE | TRUE | TRUE | |
| 768 | 38806 | DPH | FERBAM | UG/L | | FALSE | FALSE | TRUE | |
| 769 | 38811 | DPH | FLUOMETURON | UG/L | | FALSE | FALSE | TRUE | |
| 770 | 38815 | DPH | HEXAZINONE | UG/L | | FALSE | FALSE | TRUE | |
| 771 | 38831 | DPH | MANCOZEB | UG/L | | FALSE | FALSE | TRUE | |
| 772 | 38835 | DPH | MANEB | UG/L | | FALSE | FALSE | TRUE | |
| 773 | 38851 | DPH | NABAM | UG/L | | FALSE | FALSE | TRUE | |
| 774 | 38855 | DPH | NALED | UG/L | | FALSE | TRUE | TRUE | |
| 775 | 38865 | DPH | OXAMYL | UG/L | | FALSE | FALSE | TRUE | |
| 776 | 38870 | DPH | PHORATE | UG/L | | FALSE | TRUE | TRUE | |
| 777 | 38872 | DPH | PROFLURALIN | UG/L | | FALSE | FALSE | TRUE | |
| 778 | 38877 | DPH | STIROFOS | UG/L | | FALSE | FALSE | TRUE | |
| 779 | 38882 | DPH | TERBACIL | UG/L | | FALSE | FALSE | TRUE | |
| 780 | 38887 | DPH | TERBUTRYN | UG/L | | FALSE | FALSE | TRUE | |
| 781 | 38892 | DPH | TRIADIMEFON | UG/L | | FALSE | FALSE | TRUE | |
| 782 | 38897 | DPH | TRICHLORONATE | UG/L | | FALSE | TRUE | TRUE | |
| 783 | 38912 | DPH | ZINEB | UG/L | | FALSE | FALSE | TRUE | |
| 784 | 38917 | DPH | ZIRAM | UG/L | | FALSE | FALSE | TRUE | |
| 785 | 38926 | DPH | ENDOTHALL | UG/L | | FALSE | FALSE | TRUE | |
| 786 | 38927 | DPH | METHAMIDOPHOS | UG/L | | FALSE | FALSE | TRUE | |
| 787 | 38928 | DPH | ETHYLENE THIO UREA | UG/L | | FALSE | FALSE | TRUE | |
| 788 | 38929 | DPH | FENAMIPHOS | UG/L | | FALSE | FALSE | TRUE | |
| 220 | 38933 | USGS | Chlorpyrifos, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 789 | 38935 | DPH | MSMA | UG/L | | FALSE | FALSE | TRUE | |
| 790 | 39002 | DPH | BENFLURALIN | UG/L | | FALSE | FALSE | TRUE | |
| 791 | 39014 | DPH | DYLOX | UG/L | | FALSE | FALSE | TRUE | |
| 792 | 39019 | DPH | MERPHOS | UG/L | | FALSE | TRUE | TRUE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 793 | 39020 | DPH | METASYSTOX | UG/L | | FALSE | FALSE | TRUE | |
| 794 | 39022 | DPH | OVEX | UG/L | | FALSE | FALSE | TRUE | |
| 795 | 39024 | DPH | PROPAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 796 | 39029 | DPH | PCNB | UG/L | | FALSE | FALSE | TRUE | |
| 797 | 39031 | DPH | CAPTATOL | UG/L | | FALSE | FALSE | TRUE | |
| 798 | 39032 | DPH | PENTACHLOROPHENOL | UG/L | | FALSE | TRUE | TRUE | |
| 799 | 39033 | DPH | ATRAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 221 | 39034 | DPHandUSGS | p,p'-Ethyl-DDD, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 222 | 39036 | USGS | Alkalinity, water, filtered, fixed endpoint (pH 4.5) titration, field, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | min.diss_tot_alk |
| 801 | 39037 | DPH | PROPANIL | UG/L | | FALSE | FALSE | TRUE | |
| 802 | 39040 | DPH | S,S,S-TRIBUTYLPHOSPHOROTRITHIOATE | UG/L | | FALSE | FALSE | TRUE | |
| 803 | 39045 | DPH | 2,4,5-TP (SILVEX) | UG/L | | FALSE | TRUE | TRUE | |
| 804 | 39051 | DPH | METHOMYL | UG/L | | FALSE | FALSE | TRUE | |
| 805 | 39052 | DPH | PROPHAM | UG/L | | FALSE | FALSE | TRUE | |
| 806 | 39053 | DPH | ALDICARB | UG/L | | FALSE | FALSE | TRUE | |
| 807 | 39054 | DPH | SIMETRYN | UG/L | | FALSE | FALSE | TRUE | |
| 808 | 39055 | DPH | SIMAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 809 | 39056 | DPH | PROMETON | UG/L | | FALSE | FALSE | TRUE | |
| 810 | 39057 | DPH | PROMETRYN | UG/L | | FALSE | FALSE | TRUE | |
| 811 | 39080 | DPH | PROPAMIDE | UG/L | | FALSE | FALSE | TRUE | |
| 223 | 39086 | USGS | Alkalinity, water, filtered, inflection-point titration method (incremental titration method), field, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 812 | 39100 | DPH | DI(2-ETHYLHEXYL)PHTHALATE | UG/L | | FALSE | FALSE | TRUE | |
| 813 | 39110 | DPH | DI-N-BUTYLPHTHALATE | UG/L | | FALSE | TRUE | TRUE | |
| 814 | 39120 | DPH | BENZIDINE | UG/L | | FALSE | TRUE | TRUE | |
| 815 | 39140 | DPH | CRESOTE | UG/L | | FALSE | FALSE | TRUE | |
| 816 | 39151 | DPH | MCPA | UG/L | | FALSE | TRUE | TRUE | |
| 817 | 39175 | DPH | VINYL CHLORIDE | UG/L | | FALSE | TRUE | TRUE | |
| 818 | 39180 | DPH | TRICHLOROETHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 819 | 39300 | DPH | 4,4-DDT | UG/L | | FALSE | TRUE | TRUE | |
| 820 | 39310 | DPH | 4,4-DDD | UG/L | | FALSE | TRUE | TRUE | |
| 821 | 39320 | DPH | 4,4-DDE | UG/L | | FALSE | TRUE | TRUE | |
| 224 | 39330 | DPHandUSGS | Aldrin, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 225 | 39333 | USGS | Aldrin, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 823 | 39337 | DPH | ALPHA-BHC | UG/L | | FALSE | TRUE | TRUE | |
| 824 | 39338 | DPH | BETA-BHC | UG/L | | FALSE | TRUE | TRUE | |
| 226 | 39340 | DPHandUSGS | Lindane, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 227 | 39341 | USGS | Lindane, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 228 | 39343 | USGS | Lindane, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 229 | 39350 | DPHandUSGS | Chlordane (technical), water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 230 | 39351 | USGS | Chlordane (technical), bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 827 | 39356 | DPH | METOLACHLOR | UG/L | | FALSE | FALSE | TRUE | |
| 828 | 39357 | DPH | RONNEL | UG/L | | FALSE | TRUE | TRUE | |
| 231 | 39360 | DPHandUSGS | p,p'-DDD, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 232 | 39363 | USGS | p,p'-DDD, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 233 | 39365 | DPHandUSGS | p,p'-DDE, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 234 | 39368 | USGS | p,p'-DDE, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 235 | 39370 | DPHandUSGS | p,p'-DDT, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 236 | 39373 | USGS | p,p'-DDT, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 237 | 39380 | DPHandUSGS | Dieldrin, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 238 | 39381 | USGS | Dieldrin, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 239 | 39383 | USGS | Dieldrin, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 240 | 39388 | USGS | alpha-Endosulfan, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 241 | 39390 | DPHandUSGS | Endrin, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 242 | 39393 | USGS | Endrin, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 834 | 39398 | DPH | ETHION | UG/L | | FALSE | FALSE | TRUE | |
| 243 | 39399 | USGS | Ethion, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 244 | 39400 | DPHandUSGS | Toxaphene, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 245 | 39403 | USGS | Toxaphene, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 246 | 39410 | DPHandUSGS | Heptachlor, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 247 | 39413 | USGS | Heptachlor, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 248 | 39415 | USGS | Metolachlor, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 249 | 39420 | DPHandUSGS | Heptachlor epoxide, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 250 | 39423 | USGS | Heptachlor epoxide, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 838 | 39460 | DPH | CHLOROBENZILATE | UG/L | | FALSE | FALSE | TRUE | |
| 839 | 39480 | DPH | METHOXYCHLOR | UG/L | | FALSE | TRUE | TRUE | |
| 840 | 39488 | DPH | PCB-1221 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 841 | 39492 | DPH | PCB-1232 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 842 | 39496 | DPH | PCB-1242 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 843 | 39500 | DPH | PCB-1248 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 844 | 39504 | DPH | PCB-1254 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 845 | 39508 | DPH | PCB-1260 (AS DCB) | UG/L | | FALSE | FALSE | TRUE | |
| 251 | 39516 | DPHandUSGS | PCBs, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 252 | 39519 | USGS | PCBs, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 253 | 39530 | DPHandUSGS | Malathion, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 254 | 39531 | USGS | Malathion, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 255 | 39532 | USGS | Malathion, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 256 | 39540 | DPHandUSGS | Parathion, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 257 | 39541 | USGS | Parathion, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 258 | 39542 | USGS | Parathion, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 849 | 39560 | DPH | DEMETON | UG/L | | FALSE | FALSE | TRUE | |
| 259 | 39570 | DPHandUSGS | Diazinon, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 260 | 39571 | USGS | Diazinon, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 261 | 39572 | USGS | Diazinon, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 851 | 39580 | DPH | GUTHION | UG/L | | FALSE | FALSE | TRUE | |
| 262 | 39600 | DPHandUSGS | Methyl parathion, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 263 | 39601 | USGS | Methyl parathion, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 853 | 39610 | DPH | PHOSDIN | UG/L | | FALSE | FALSE | TRUE | |
| 854 | 39620 | DPH | TEPP | UG/L | | FALSE | FALSE | TRUE | |
| 264 | 39632 | USGS | Atrazine, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 855 | 39640 | DPH | CAPTAN | UG/L | | FALSE | FALSE | TRUE | |
| 856 | 39650 | DPH | DIURON | UG/L | | FALSE | FALSE | TRUE | |
| 857 | 39700 | DPH | HEXACHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 858 | 39720 | DPH | PICLORAM | UG/L | | FALSE | FALSE | TRUE | |
| 265 | 39730 | DPHandUSGS | 2,4-D, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 266 | 39731 | USGS | 2,4-D, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 267 | 39740 | DPHandUSGS | 2,4,5-T, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | TRUE | TRUE | |
| 268 | 39741 | USGS | 2,4,5-T, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 269 | 39755 | DPHandUSGS | Mirex, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | TRUE | |
| 270 | 39760 | USGS | Silvex, water, unfiltered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 271 | 39761 | USGS | Silvex, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 862 | 39770 | DPH | DACTHAL | UG/L | | FALSE | FALSE | TRUE | |
| 863 | 39780 | DPH | DICOFOL | UG/L | | FALSE | FALSE | TRUE | |
| 864 | 39786 | DPH | CARBOPHENOTHION | UG/L | | FALSE | FALSE | TRUE | |
| 272 | 39787 | USGS | Carbophenothion, bed sediment, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 865 | 39790 | DPH | METHYL TRITHION | UG/L | | FALSE | FALSE | TRUE | |
| 273 | 39791 | USGS | Methyl trithion, bed sediment, dry weight, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 866 | 39800 | DPH | IMIDAN | UG/L | | FALSE | FALSE | TRUE | |
| 867 | 39808 | DPH | TEDION | UG/L | | FALSE | FALSE | TRUE | |
| 868 | 39920 | DPH | DNOC | UG/L | | FALSE | FALSE | TRUE | |
| 869 | 39930 | DPH | PYRETHRINS | UG/L | | FALSE | FALSE | TRUE | |
| 870 | 39941 | DPH | ROUND-UP | UG/L | | FALSE | FALSE | TRUE | |
| 871 | 45046 | DPH | C3-ALKYLBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 872 | 45049 | DPH | C4-ALKYLBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 873 | 45058 | DPH | METHYL PHENOL | UG/L | | FALSE | FALSE | TRUE | |
| 874 | 45606 | DPH | NORTRON | UG/L | | FALSE | FALSE | TRUE | |
| 875 | 45607 | DPH | TEBUTHIURON | UG/L | | FALSE | FALSE | TRUE | |
| 876 | 45608 | DPH | ALICEP | UG/L | | FALSE | FALSE | TRUE | |
| 877 | 45609 | DPH | PYRAMIN | UG/L | | FALSE | FALSE | TRUE | |
| 878 | 45612 | DPH | TERBUFOS SULFONE | UG/L | | FALSE | FALSE | TRUE | |
| 879 | 46315 | DPH | ETHYL PARATHION | UG/L | | FALSE | FALSE | TRUE | |
| 274 | 46342 | USGS | Alachlor, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 880 | 46491 | DPH | METHYL-TERT-BUTYL-ETHER (MTBE) | UG/L | | FALSE | TRUE | TRUE | |
| 275 | 49266 | USGS | Organic carbon, bed sediment smaller than 62.5 microns, wet sieved (native water), field, recoverable, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 276 | 49267 | USGS | Carbon (inorganic plus organic), bed sediment smaller than 62.5 microns, wet sieved (native water), field, recoverable, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 277 | 49269 | USGS | Inorganic carbon, bed sediment smaller than 62.5 microns, wet sieved (native water), field, recoverable, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 278 | 49270 | USGS | Inorganic carbon, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, grams per kilogram | | | TRUE | FALSE | FALSE | |
| 279 | 49271 | USGS | Organic carbon, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, grams per kilogram | | | TRUE | FALSE | FALSE | |
| 280 | 49272 | USGS | Carbon (inorganic plus organic), bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, grams per kilogram | | | TRUE | FALSE | FALSE | |
| 281 | 49274 | USGS | Titanium, bed sediment smaller than 62.5 microns, wet sieved (native water), field, recoverable, dry weight, percent | | | TRUE | FALSE | FALSE | |
| 282 | 49275 | USGS | alpha-HCH-d6, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 283 | 49276 | USGS | PCB congener 204, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 284 | 49277 | USGS | PCB congener 14, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 285 | 49278 | USGS | p-Terphenyl-d14, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 286 | 49279 | USGS | 2-Fluorobiphenyl, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 287 | 49280 | USGS | Nitrobenzene-d5, surrogate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, percent recovery | | | TRUE | FALSE | FALSE | |
| 288 | 49316 | USGS | cis-Nonachlor, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 289 | 49317 | USGS | trans-Nonachlor, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 290 | 49318 | USGS | Oxychlordane, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 291 | 49319 | USGS | Aldrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 292 | 49320 | USGS | cis-Chlordane, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 293 | 49321 | USGS | trans-Chlordane, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 294 | 49322 | USGS | Chloroneb, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 295 | 49324 | USGS | DCPA, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 296 | 49325 | USGS | o,p'-DDD, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 297 | 49326 | USGS | p,p'-DDD, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 298 | 49327 | USGS | o,p'-DDE, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 299 | 49328 | USGS | p,p'-DDE, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 300 | 49329 | USGS | o,p'-DDT, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 301 | 49330 | USGS | p,p'-DDT, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 302 | 49331 | USGS | Dieldrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 303 | 49332 | USGS | alpha-Endosulfan, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 304 | 49335 | USGS | Endrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 305 | 49338 | USGS | alpha-HCH, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 306 | 49339 | USGS | beta-HCH, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 307 | 49341 | USGS | Heptachlor, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 308 | 49342 | USGS | Heptachlor epoxide, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 309 | 49343 | USGS | Hexachlorobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 310 | 49344 | USGS | Isodrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 311 | 49345 | USGS | Lindane, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 312 | 49346 | USGS | p,p'-Methoxychlor, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 313 | 49347 | USGS | o,p'-Methoxychlor, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 314 | 49348 | USGS | Mirex, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 315 | 49349 | USGS | cis-Permethrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 316 | 49350 | USGS | trans-Permethrin, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 317 | 49351 | USGS | Toxaphene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 318 | 49381 | USGS | Di-n-butyl phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 319 | 49382 | USGS | Di-n-octyl phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 320 | 49383 | USGS | Diethyl phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 321 | 49384 | USGS | Dimethyl phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 322 | 49387 | USGS | Pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 323 | 49388 | USGS | 1-Methylpyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 324 | 49389 | USGS | Benzo[a]pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 325 | 49390 | USGS | Indeno[1,2,3-cd]pyrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 326 | 49391 | USGS | 2,2'-Biquinoline, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 327 | 49392 | USGS | Quinoline, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 328 | 49393 | USGS | Phenanthridine, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 329 | 49394 | USGS | Isoquinoline, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 330 | 49395 | USGS | 2,4-Dinitrotoluene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 331 | 49396 | USGS | 2,6-Dinitrotoluene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 332 | 49397 | USGS | Benzo[k]fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 333 | 49398 | USGS | 1-Methyl-9H-fluorene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 334 | 49399 | USGS | 9H-Fluorene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 335 | 49400 | USGS | Isophorone, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 336 | 49401 | USGS | Bis(2-chloroethoxy)methane, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 337 | 49402 | USGS | Naphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 338 | 49403 | USGS | 1,2-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 339 | 49404 | USGS | 1,6-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 340 | 49405 | USGS | 2,3,6-Trimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 341 | 49406 | USGS | 2,6-Dimethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 342 | 49407 | USGS | 2-Chloronaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 343 | 49408 | USGS | Benzo[ghi]perylene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 344 | 49409 | USGS | Phenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 345 | 49410 | USGS | 1-Methylphenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 346 | 49411 | USGS | 4H-Cyclopenta[def]phenanthrene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 347 | 49413 | USGS | Phenol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 348 | 49421 | USGS | 3,5-Dimethylphenol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 349 | 49422 | USGS | 4-Chloro-3-methylphenol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 350 | 49424 | USGS | C8-Alkylphenol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 351 | 49426 | USGS | Bis(2-ethylhexyl) phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 352 | 49427 | USGS | Benzyl n-butyl phthalate, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 353 | 49428 | USGS | Acenaphthylene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 354 | 49429 | USGS | Acenaphthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 355 | 49430 | USGS | Acridine, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 356 | 49431 | USGS | N-Nitrosodi-n-propylamine, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 357 | 49433 | USGS | N-Nitrosodiphenylamine, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 358 | 49434 | USGS | Anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 359 | 49435 | USGS | 2-Methylanthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 360 | 49436 | USGS | Benzo[a]anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 361 | 49437 | USGS | 9,10-Anthraquinone, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 362 | 49438 | USGS | 1,2,4-Trichlorobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 363 | 49439 | USGS | 1,2-Dichlorobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 364 | 49441 | USGS | 1,3-Dichlorobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 365 | 49442 | USGS | 1,4-Dichlorobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 366 | 49443 | USGS | Azobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 367 | 49444 | USGS | Nitrobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 368 | 49446 | USGS | Pentachloronitrobenzene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 369 | 49449 | USGS | Carbazole, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 370 | 49450 | USGS | Chrysene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 371 | 49451 | USGS | p-Cresol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 372 | 49452 | USGS | Dibenzothiophene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 373 | 49454 | USGS | 4-Bromophenyl phenyl ether, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 374 | 49455 | USGS | 4-Chlorophenyl phenyl ether, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 375 | 49458 | USGS | Benzo[b]fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 376 | 49459 | USGS | PCBs, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 377 | 49460 | USGS | Pentachloroanisole, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 378 | 49461 | USGS | Dibenzo[a,h]anthracene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 379 | 49466 | USGS | Fluoranthene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 380 | 49467 | USGS | 2-Chlorophenol, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 381 | 49468 | USGS | Benzo[c]cinnoline, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 382 | 49933 | USGS | Carbon-14, water, filtered, percent modern | | | TRUE | FALSE | FALSE | |
| 383 | 49934 | USGS | Carbon-14 counting error, water, filtered, percent modern | | | TRUE | FALSE | FALSE | |
| 384 | 49948 | USGS | 2-Ethylnaphthalene, bed sediment smaller than 2 millimeters, wet sieved (native water), field, recoverable, dry weight, micrograms per kilogram | UG/KG | | TRUE | FALSE | FALSE | |
| 385 | 49954 | USGS | Biomass, periphyton, ash free dry mass, grams per square meter | | | TRUE | FALSE | FALSE | |
| 881 | 50070 | DPH | CHLORINE DIOXIDE | MG/L | | FALSE | FALSE | TRUE | |
| 882 | 50074 | DPH | CHLORITE | MG/L | | FALSE | FALSE | TRUE | |
| 386 | 50280 | USGS | Purpose, site visit, code | | | TRUE | FALSE | FALSE | |
| 387 | 50281 | USGS | Trichlorofluoromethane, for age dating, water, unfiltered, recoverable, picograms per kilogram | | | TRUE | FALSE | FALSE | |
| 388 | 50282 | USGS | Dichlorodifluoromethane, for age dating, water, unfiltered, recoverable, picograms per kilogram | | | TRUE | FALSE | FALSE | |
| 389 | 50283 | USGS | 1,1,2-Trichloro-1,2,2-trifluoroethane, for age dating, water, unfiltered, recoverable, picograms per kilogram | PG/KG | | TRUE | FALSE | FALSE | |
| 883 | 508N | DPH | NEGATIVE 508 (PESTICIDES & PCB) | UG/L | | FALSE | FALSE | TRUE | |
| 884 | 508PN | DPH | NEGATIVE 508 (PESTICIDES-NO PCB) | UG/L | | FALSE | FALSE | TRUE | |
| 885 | 52.1N | DPH | NEGATIVE 502.1 | UG/L | | FALSE | FALSE | TRUE | |
| 886 | 52.2N | DPH | NEGATIVE 502.2 | UG/L | | FALSE | FALSE | TRUE | |
| 887 | 525N | DPH | NEGATIVE 525 (BNA) | UG/L | | FALSE | FALSE | TRUE | |
| 888 | 525-N | DPH | NEGATIVE 525 (BNA) | UG/L | | FALSE | FALSE | TRUE | |
| 889 | 53.1N | DPH | NEGATIVE 503.1 | UG/L | | FALSE | FALSE | TRUE | |
| 890 | 54.1N | DPH | NEGATIVE 524.1 | UG/L | | FALSE | FALSE | TRUE | |
| 891 | 54.2N | DPH | NEGATIVE 524.2 | UG/L | | FALSE | FALSE | TRUE | |
| 390 | 60050 | USGS | Phytoplankton, total, cells per milliliter | | | TRUE | FALSE | FALSE | |
| 892 | 601-N | DPH | METHOD 601 NEGATIVE - NO 602 REPORTED | | | FALSE | FALSE | TRUE | |
| 893 | 602-N | DPH | METHOD 602 NEGATIVE - NO 601 REPORTED | | | FALSE | FALSE | TRUE | |
| 894 | 608-N | DPH | METHOD 608 NEGATIVE - AG'S STORED SEPERATELY | | | FALSE | FALSE | TRUE | |
| 895 | 625-N | DPH | NEGATIVE 625 (BNA) | UG/L | | FALSE | FALSE | TRUE | |
| 391 | 63675 | USGS | Turbidity, water, unfiltered, broad band light source (400-680 nm), detection angle 90 +/- 30 degrees to incident light, nephelometric turbidity units (NTU) | | | TRUE | FALSE | FALSE | |
| 392 | 70299 | USGS | Suspended solids, dried at 110 degrees Celsius, water, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 393 | 70300 | DPHandUSGS | Residue on evaporation, dried at 180 degrees Celsius, water, filtered, milligrams per liter | MG/L | TDS | TRUE | TRUE | TRUE | min.tds_180 |
| 394 | 70301 | USGS | Residue, water, filtered, sum of constituents, milligrams per liter | MG/L | TDS | TRUE | FALSE | FALSE | |
| 395 | 70302 | USGS | Residue, water, dissolved, tons per day | | | TRUE | FALSE | FALSE | |
| 396 | 70303 | USGS | Residue, water, filtered, tons per acre-foot | | | TRUE | FALSE | FALSE | |
| 897 | 70314 | DPH | CHLOROTHALONIL | UG/L | | FALSE | FALSE | TRUE | |
| 397 | 70331 | USGS | Suspended sediment, sieve diameter, percent smaller than 0.0625 millimeters | | | TRUE | FALSE | FALSE | |
| 398 | 70332 | USGS | Suspended sediment, sieve diameter, percent smaller than 0.125 millimeters | | | TRUE | FALSE | FALSE | |
| 399 | 70333 | USGS | Suspended sediment, sieve diameter, percent smaller than 0.25 millimeters | | | TRUE | FALSE | FALSE | |
| 400 | 70334 | USGS | Suspended sediment, sieve diameter, percent smaller than 0.5 millimeters | | | TRUE | FALSE | FALSE | |
| 401 | 70335 | USGS | Suspended sediment, sieve diameter, percent smaller than 1 millimeters | | | TRUE | FALSE | FALSE | |
| 402 | 70336 | USGS | Suspended sediment, sieve diameter, percent smaller than 2 millimeters | | | TRUE | FALSE | FALSE | |
| 403 | 70337 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.002 millimeters | | | TRUE | FALSE | FALSE | |
| 404 | 70338 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.004 millimeters | | | TRUE | FALSE | FALSE | |
| 405 | 70339 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.008 millimeters | | | TRUE | FALSE | FALSE | |
| 406 | 70340 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.016 millimeters | | | TRUE | FALSE | FALSE | |
| 407 | 70341 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.031 millimeters | | | TRUE | FALSE | FALSE | |
| 408 | 70342 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.0625 millimeters | | | TRUE | FALSE | FALSE | |
| 409 | 70343 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.125 millimeters | | | TRUE | FALSE | FALSE | |
| 410 | 70344 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.25 millimeters | | | TRUE | FALSE | FALSE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 411 | 70345 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 0.5 millimeters | | | TRUE | FALSE | FALSE | |
| 412 | 70346 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 1 millimeter | | | TRUE | FALSE | FALSE | |
| 413 | 70347 | USGS | Suspended sediment, fall diameter (deionized water), percent smaller than 2 millimeters | | | TRUE | FALSE | FALSE | |
| 414 | 70507 | USGS | Orthophosphate, water, unfiltered, milligrams per liter as phosphorus | MG/L | | TRUE | TRUE | FALSE | |
| 415 | 70950 | USGS | Biomass/chlorophyll ratio, periphyton, number | | | TRUE | FALSE | FALSE | |
| 416 | 70957 | USGS | Chlorophyll a, periphyton, chromatographic-fluorometric method, milligrams per square meter | | | TRUE | FALSE | FALSE | |
| 417 | 70958 | USGS | Chlorophyll b, periphyton, chromatographic-fluorometric method, milligrams per square meter | | | TRUE | FALSE | FALSE | |
| 418 | 70964 | USGS | Productivity, primary, net, milligrams oxygen per square meter per day | | | TRUE | FALSE | FALSE | |
| 419 | 70968 | USGS | Respiration, milligrams oxygen per square meter per day | | | TRUE | FALSE | FALSE | |
| 420 | 70971 | USGS | Light attenuation coefficient, alphas per meter | | | TRUE | FALSE | FALSE | |
| 898 | 71813 | DPH | LANGELIER INDEX @ 60 C | | | FALSE | FALSE | TRUE | |
| 899 | 71814 | DPH | LANGELIER INDEX AT SOURCE TEMP. | | | FALSE | FALSE | TRUE | |
| 900 | 71830 | DPH | HYDROXIDE ALKALINITY | MG/L | OH | FALSE | FALSE | TRUE | |
| 421 | 71845 | USGS | Ammonia, water, unfiltered, milligrams per liter as NH4 | MG/L | | TRUE | FALSE | FALSE | |
| 422 | 71846 | USGS | Ammonia, water, filtered, milligrams per liter as NH4 | MG/L | | TRUE | FALSE | FALSE | |
| 423 | 71850 | DPHandUSGS | Nitrate, water, unfiltered, milligrams per liter | MG/L | NO3-NO3 | TRUE | FALSE | TRUE | |
| 424 | 71851 | USGS | Nitrate, water, filtered, milligrams per liter | MG/L | NO3 | TRUE | TRUE | FALSE | min.no3 |
| 425 | 71856 | USGS | Nitrite, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 426 | 71865 | DPHandUSGS | Iodide, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | TRUE | |
| 427 | 71870 | USGS | Bromide, water, filtered, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 903 | 71875 | DPH | HYDROGEN SULFIDE | MG/L | | FALSE | FALSE | TRUE | |
| 904 | 71880 | DPH | FORMALDEHYDE | MG/L | | FALSE | FALSE | TRUE | |
| 428 | 71885 | USGS | Iron, water, unfiltered, micrograms per liter | UG/L | Fe-u | TRUE | FALSE | FALSE | |
| 429 | 71886 | USGS | Phosphorus, water, unfiltered, milligrams per liter as phosphate | MG/L | | TRUE | FALSE | FALSE | |
| 430 | 71887 | USGS | Total nitrogen, water, unfiltered, milligrams per liter as nitrate | MG/L | | TRUE | FALSE | FALSE | |
| 431 | 71890 | USGS | Mercury, water, filtered, micrograms per liter | UG/L | Hg | TRUE | FALSE | FALSE | |
| 432 | 71895 | USGS | Mercury, suspended sediment, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 433 | 71900 | DPHandUSGS | Mercury, water, unfiltered, recoverable, micrograms per liter | UG/L | Hg | TRUE | TRUE | TRUE | |
| 434 | 71921 | USGS | Mercury, bed sediment, recoverable, dry weight, micrograms per gram | | | TRUE | FALSE | FALSE | |
| 435 | 71999 | USGS | Sample purpose, code | | | TRUE | FALSE | FALSE | |
| 436 | 72006 | USGS | Sampling condition, code | | | TRUE | FALSE | FALSE | |
| 437 | 72019 | USGS | Depth to water level, feet below land surface | | | TRUE | FALSE | FALSE | |
| 906 | 73283 | DPH | N-NITROSOPIPERIDINE (NPIP) | UG/L | | FALSE | FALSE | TRUE | |
| 907 | 73609 | DPH | AMINOTRIAZOLE | UG/L | | FALSE | FALSE | TRUE | |
| 438 | 75985 | USGS | Tritium 2-sigma combined uncertainty, water, unfiltered, picocuries per liter | | | TRUE | FALSE | FALSE | |
| 908 | 77000 | DPH | CARBON DIOXIDE | UG/L | | FALSE | FALSE | TRUE | |
| 909 | 77001 | DPH | ACETALDEHYDE | UG/L | | FALSE | FALSE | TRUE | |
| 910 | 77004 | DPH | ETHANOL | UG/L | | FALSE | TRUE | TRUE | |
| 911 | 77015 | DPH | ISOPROPYL ALCOHOL | UG/L | | FALSE | FALSE | TRUE | |
| 912 | 77023 | DPH | ETHYLENE GLYCOL | UG/L | | FALSE | FALSE | TRUE | |
| 913 | 77035 | DPH | TERT-BUTYL ALCOHOL | UG/L | | FALSE | TRUE | TRUE | |
| 914 | 77041 | DPH | CARBON DISULFIDE | UG/L | | FALSE | TRUE | TRUE | |
| 915 | 77057 | DPH | VINYL ACETATE | UG/L | | FALSE | TRUE | TRUE | |
| 916 | 77093 | DPH | CIS-1,2-DICHLOROETHYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 917 | 77128 | DPH | STYRENE | UG/L | | FALSE | TRUE | TRUE | |
| 918 | 77135 | DPH | O-XYLENE | UG/L | | FALSE | TRUE | TRUE | |
| 919 | 77168 | DPH | 1,1-DICHLOROPROPENE | UG/L | | FALSE | TRUE | TRUE | |
| 920 | 77170 | DPH | 2,2-DICHLOROPROPANE | UG/L | | FALSE | TRUE | TRUE | |
| 921 | 77173 | DPH | 1,3-DICHLOROPROPANE | UG/L | | FALSE | TRUE | TRUE | |
| 922 | 77221 | DPH | 1,2,3-TRIMETHYLBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 923 | 77222 | DPH | 1,2,4-TRIMETHYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 924 | 77223 | DPH | ISOPROPYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 925 | 77224 | DPH | 1-PHENYLPROPANE (N-PROPYLBENZENE) | UG/L | | FALSE | TRUE | TRUE | |
| 926 | 77226 | DPH | 1,3,5-TRIMETHYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 927 | 77285 | DPH | 1,4-DICHLOROBUTANE | UG/L | | FALSE | FALSE | TRUE | |
| 928 | 77288 | DPH | DICHLOROACETIC ACID (DCAA) | UG/L | | FALSE | FALSE | TRUE | |
| 929 | 77350 | DPH | SEC-BUTYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 930 | 77353 | DPH | TERT-BUTYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 931 | 77356 | DPH | CUMENE | UG/L | | FALSE | FALSE | TRUE | |
| 932 | 77403 | DPH | SALICYLIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 933 | 77441 | DPH | 1-NAPHTHOL | UG/L | | FALSE | FALSE | TRUE | |
| 934 | 77443 | DPH | 1,2,3-TRICHLOROPROPANE | UG/L | | FALSE | TRUE | TRUE | |
| 935 | 77548 | DPH | CHLOROPICRIN | UG/L | | FALSE | FALSE | TRUE | |
| 936 | 77562 | DPH | 1,1,1,2-TETRACHLORETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 937 | 77596 | DPH | DIBROMOMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 938 | 77613 | DPH | 1,2,3-TRICHLOROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 939 | 77614 | DPH | 1,3,5-TRICHLOROBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 940 | 77651 | DPH | ETHYLENE DIBROMIDE (EDB) | UG/L | | FALSE | TRUE | TRUE | |
| 941 | 77700 | DPH | CARBARYL | UG/L | | FALSE | FALSE | TRUE | |
| 942 | 77745 | DPH | NONYLPHENOL | UG/L | | FALSE | FALSE | TRUE | |
| 943 | 77793 | DPH | PENTACHLOROBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 944 | 77822 | DPH | NONADECANE (N) | UG/L | | FALSE | FALSE | TRUE | |
| 945 | 77825 | DPH | ALACHLOR | UG/L | | FALSE | FALSE | TRUE | |
| 946 | 77860 | DPH | BUTACHLOR | UG/L | | FALSE | FALSE | TRUE | |
| 947 | 77953 | DPH | CHLORDIMEFORM | UG/L | | FALSE | FALSE | TRUE | |
| 948 | 77969 | DPH | CHLORPYRIFOS | UG/L | | FALSE | TRUE | TRUE | |
| 949 | 77970 | DPH | CHLOROTOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 950 | 78004 | DPH | DIPHENAMIDE | UG/L | | FALSE | FALSE | TRUE | |
| 951 | 78116 | DPH | N-OCTACOSANE | UG/L | | FALSE | FALSE | TRUE | |
| 952 | 78132 | DPH | P-XYLENE | UG/L | | FALSE | FALSE | TRUE | |
| 953 | 78136 | DPH | TRIMETHYL BENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 954 | 78151 | DPH | ETHYLENEDIAMINE TETRA-ACETIC ACID (EDTA) | UG/L | | FALSE | FALSE | TRUE | |
| 955 | 78200 | DPH | N-NITROSODIETHYLAMINE (NDEA) | UG/L | | FALSE | FALSE | TRUE | |
| 956 | 78206 | DPH | N-NITROSOPYRROLIDINE (NPYR) | UG/L | | FALSE | FALSE | TRUE | |
| 957 | 78207 | DPH | N-NITROSODI-N-BUTYLAMINE (NDBA) | UG/L | | FALSE | FALSE | TRUE | |
| 958 | 78214 | DPH | DIETHYLBENZENE | UG/L | | FALSE | FALSE | TRUE | |
| 959 | 78878 | DPH | KEROSENE | UG/L | | FALSE | TRUE | TRUE | |
| 960 | 78879 | DPH | METHIDATHION | UG/L | | FALSE | FALSE | TRUE | |
| 961 | 78880 | DPH | TOPSIN-MR | UG/L | | FALSE | FALSE | TRUE | |
| 962 | 78881 | DPH | PHOSPHAMIDON | UG/L | | FALSE | FALSE | TRUE | |
| 963 | 78882 | DPH | DIFENZOQUAT | UG/L | | FALSE | FALSE | TRUE | |
| 964 | 78883 | DPH | MODOWN | UG/L | | FALSE | FALSE | TRUE | |
| 965 | 78884 | DPH | ORYZALIN | UG/L | | FALSE | FALSE | TRUE | |
| 966 | 78885 | DPH | DIQUAT | UG/L | | FALSE | FALSE | TRUE | |
| 967 | 79191 | DPH | PERMETHRIN | UG/L | | FALSE | FALSE | TRUE | |
| 968 | 79193 | DPH | ACIFLURFEN | UG/L | | FALSE | FALSE | TRUE | |
| 969 | 79194 | DPH | FLUCHLORALIN | UG/L | | FALSE | FALSE | TRUE | |
| 970 | 79195 | DPH | NAPROPAMIDE | UG/L | | FALSE | FALSE | TRUE | |
| 971 | 79743 | DPH | GLYPHOSATE | UG/L | | FALSE | FALSE | TRUE | |
| 439 | 80154 | USGS | Suspended sediment concentration, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 440 | 80155 | USGS | Suspended sediment discharge, tons per day | | | TRUE | FALSE | FALSE | |
| 441 | 80164 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 0.0625 millimeters | | | TRUE | FALSE | FALSE | |
| 442 | 80165 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 0.125 millimeters | | | TRUE | FALSE | FALSE | |
| 443 | 80166 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 0.25 millimeters | | | TRUE | FALSE | FALSE | |
| 444 | 80167 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 0.5 millimeters | | | TRUE | FALSE | FALSE | |
| 445 | 80168 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 1 millimeter | | | TRUE | FALSE | FALSE | |
| 446 | 80169 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 2 millimeters | | | TRUE | FALSE | FALSE | |
| 447 | 80170 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 4 millimeters | | | TRUE | FALSE | FALSE | |
| 448 | 80171 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 8 millimeters | | | TRUE | FALSE | FALSE | |
| 449 | 80172 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 16 millimeters | | | TRUE | FALSE | FALSE | |
| 450 | 80173 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 32 millimeters | | | TRUE | FALSE | FALSE | |
| 451 | 80174 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 64 millimeters | | | TRUE | FALSE | FALSE | |
| 452 | 80175 | USGS | Bed sediment, dry sieved, sieve diameter, percent smaller than 128 millimeters | | | TRUE | FALSE | FALSE | |
| 453 | 80225 | USGS | Bedload sediment discharge, tons per day | | | TRUE | FALSE | FALSE | |
| 454 | 80226 | USGS | Bedload sediment, sieve diameter, percent smaller than 0.0625 millimeters | | | TRUE | FALSE | FALSE | |
| 455 | 80227 | USGS | Bedload sediment, sieve diameter, percent smaller than 0.125 millimeters | | | TRUE | FALSE | FALSE | |
| 456 | 80228 | USGS | Bedload sediment, sieve diameter, percent smaller than 0.25 millimeters | | | TRUE | FALSE | FALSE | |
| 457 | 80229 | USGS | Bedload sediment, sieve diameter, percent smaller than 0.5 millimeters | | | TRUE | FALSE | FALSE | |
| 458 | 80230 | USGS | Bedload sediment, sieve diameter, percent smaller than 1 millimeter | | | TRUE | FALSE | FALSE | |
| 459 | 80231 | USGS | Bedload sediment, sieve diameter, percent smaller than 2 millimeters | | | TRUE | FALSE | FALSE | |
| 460 | 80232 | USGS | Bedload sediment, sieve diameter, percent smaller than 4 millimeters | | | TRUE | FALSE | FALSE | |
| 461 | 80233 | USGS | Bedload sediment, sieve diameter, percent smaller than 8 millimeters | | | TRUE | FALSE | FALSE | |
| 462 | 80234 | USGS | Bedload sediment, sieve diameter, percent smaller than 16 millimeters | | | TRUE | FALSE | FALSE | |
| 463 | 80235 | USGS | Bedload sediment, sieve diameter, percent smaller than 32 millimeters | | | TRUE | FALSE | FALSE | |
| 464 | 80236 | USGS | Bedload sediment, sieve diameter, percent smaller than 64 millimeters | | | TRUE | FALSE | FALSE | |
| 972 | 81281 | DPH | CHLORDECONE | UG/L | | FALSE | FALSE | TRUE | |
| 973 | 81284 | DPH | TRIFLURALIN | UG/L | | FALSE | FALSE | TRUE | |
| 974 | 81285 | DPH | ZYTRON | UG/L | | FALSE | FALSE | TRUE | |
| 975 | 81287 | DPH | DINOSEB | UG/L | | FALSE | TRUE | TRUE | |
| 976 | 81290 | DPH | EPN | UG/L | | FALSE | FALSE | TRUE | |
| 977 | 81291 | DPH | PHOSALONE | UG/L | | FALSE | FALSE | TRUE | |
| 978 | 81292 | DPH | AZINPHOS ETHYL | UG/L | | FALSE | FALSE | TRUE | |
| 979 | 81293 | DPH | COUMAPHOS | UG/L | | FALSE | TRUE | TRUE | |
| 980 | 81294 | DPH | DYFONATE | UG/L | | FALSE | FALSE | TRUE | |
| 981 | 81303 | DPH | NITROFEN | UG/L | | FALSE | FALSE | TRUE | |
| 982 | 81313 | DPH | HYBRAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 983 | 81322 | DPH | CHLOROPROPHAM | UG/L | | FALSE | FALSE | TRUE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 984 | 81327 | DPH | DICHLOROPROPANE | UG/L | | FALSE | FALSE | TRUE | |
| 985 | 81360 | DPH | 2,4,6-TRINITROTOLUENE (TNT) | UG/L | | FALSE | FALSE | TRUE | |
| 986 | 81364 | DPH | RDX (HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE) | UG/L | | FALSE | FALSE | TRUE | |
| 987 | 81405 | DPH | CARBOFURAN | UG/L | | FALSE | FALSE | TRUE | |
| 988 | 81408 | DPH | METRIBUZIN | UG/L | | FALSE | FALSE | TRUE | |
| 989 | 81410 | DPH | BUTYLATE | UG/L | | FALSE | FALSE | TRUE | |
| 990 | 81436 | DPH | CAFFEINE | UG/L | | FALSE | FALSE | TRUE | |
| 991 | 81501 | DPH | PENTACHLOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 992 | 81551 | DPH | XYLENES (TOTAL) | UG/L | | FALSE | TRUE | TRUE | |
| 993 | 81552 | DPH | ACETONE | UG/L | | FALSE | TRUE | TRUE | |
| 994 | 81555 | DPH | BROMOBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 995 | 81591 | DPH | HEXANOL | UG/L | | FALSE | FALSE | TRUE | |
| 996 | 81595 | DPH | METHYL ETHYL KETONE | UG/L | | FALSE | TRUE | TRUE | |
| 997 | 81596 | DPH | METHYL ISOBUTYL KETONE | UG/L | | FALSE | TRUE | TRUE | |
| 998 | 81611 | DPH | 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 999 | 81651 | DPH | BISPHENOL A | UG/L | | FALSE | FALSE | TRUE | |
| 1000 | 81710 | DPH | M-XYLENE | UG/L | | FALSE | FALSE | TRUE | |
| 1001 | 81757 | DPH | CYANAZINE | UG/L | | FALSE | FALSE | TRUE | |
| 1002 | 81815 | DPH | ACEPHATE | UG/L | | FALSE | FALSE | TRUE | |
| 1003 | 81849 | DPH | TETRACHLOROPHENOL | UG/L | | FALSE | FALSE | TRUE | |
| 1004 | 81855 | DPH | ASBESTOS | MFL | | FALSE | FALSE | TRUE | |
| 1005 | 81888 | DPH | DISULFOTON | UG/L | | FALSE | TRUE | TRUE | |
| 1006 | 81890 | DPH | MONOCROTOPHOS | UG/L | | FALSE | FALSE | TRUE | |
| 1007 | 81892 | DPH | CYCLOATE | UG/L | | FALSE | FALSE | TRUE | |
| 1008 | 81894 | DPH | EPTC | UG/L | | FALSE | FALSE | TRUE | |
| 465 | 81903 | USGS | Depth to bottom at sample location, feet | | | TRUE | FALSE | FALSE | |
| 1009 | 82051 | DPH | AMIBEN | UG/L | | FALSE | FALSE | TRUE | |
| 1010 | 82052 | DPH | DICAMBA | UG/L | | FALSE | TRUE | TRUE | |
| 1011 | 82065 | DPH | PROPARGITE | MG/L | | FALSE | FALSE | TRUE | |
| 466 | 82068 | USGS | Potassium-40, water, filtered, picocuries per liter | | | TRUE | FALSE | FALSE | |
| 467 | 82073 | USGS | Starting time, 24 hour clock, hour-minute (hhmm) | | | TRUE | FALSE | FALSE | |
| 468 | 82074 | USGS | Ending time, 24 hour clock, hour-minute (hhmm) | | | TRUE | FALSE | FALSE | |
| 1012 | 82078 | DPH | TURBIDITY, FIELD | NTU | Turb-field | FALSE | FALSE | TRUE | |
| 1013 | 82079 | DPH | TURBIDITY, LABORATORY | NTU | Turb-lab | FALSE | FALSE | TRUE | |
| 1014 | 82080 | DPH | TOTAL TRIHALOMETHANES | UG/L | | FALSE | FALSE | TRUE | |
| 469 | 82081 | USGS | Carbon-13/Carbon-12 ratio, water, unfiltered, per mil | | | TRUE | FALSE | FALSE | |
| 470 | 82082 | USGS | Deuterium/Protium ratio, water, unfiltered, per mil | | | TRUE | FALSE | FALSE | |
| 471 | 82085 | USGS | Oxygen-18/Oxygen-16 ratio, water, unfiltered, per mil | | | TRUE | FALSE | FALSE | |
| 1015 | 82088 | DPH | TERBUFOS | UG/L | | FALSE | FALSE | TRUE | |
| 1016 | 82184 | DPH | AMETRYN | UG/L | | FALSE | FALSE | TRUE | |
| 1017 | 82185 | DPH | ATRATON | UG/L | | FALSE | FALSE | TRUE | |
| 1018 | 82197 | DPH | BETASAN | UG/L | | FALSE | FALSE | TRUE | |
| 1019 | 82198 | DPH | BROMACIL | UG/L | | FALSE | FALSE | TRUE | |
| 1020 | 82199 | DPH | MOLINATE | UG/L | | FALSE | FALSE | TRUE | |
| 1021 | 82200 | DPH | VERNOLATE | UG/L | | FALSE | FALSE | TRUE | |
| 1022 | 82203 | DPH | HMX | UG/L | | FALSE | FALSE | TRUE | |
| 1023 | 82297 | DPH | CASORON | UG/L | | FALSE | FALSE | TRUE | |
| 1024 | 82298 | DPH | BROMIDE | MG/L | | FALSE | TRUE | TRUE | |
| 1025 | 82302 | DPH | RADON 222 COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 1026 | 82303 | DPH | RADON 222 | PCI/L | | FALSE | FALSE | TRUE | |
| 1027 | 82356 | DPH | DICHLORPROP | UG/L | | FALSE | TRUE | TRUE | |
| 1028 | 82358 | DPH | PROPANE | UG/L | | FALSE | FALSE | TRUE | |
| 1029 | 82383 | DPH | AGGRSSIVE INDEX (CORROSIVITY) | | | FALSE | FALSE | TRUE | |
| 472 | 82398 | USGS | Sampling method, code | | | TRUE | FALSE | FALSE | |
| 1030 | 82410 | DPH | PENOXALIN | UG/L | | FALSE | FALSE | TRUE | |
| 1031 | 82416 | DPH | PARAQUAT | UG/L | | FALSE | FALSE | TRUE | |
| 1032 | 82418 | DPH | CIS-PERMETHRIN | UG/L | | FALSE | FALSE | TRUE | |
| 1033 | 82420 | DPH | TRANS-PERMETHRIN | UG/L | | FALSE | FALSE | TRUE | |
| 1034 | 82565 | DPH | CIODRIN | UG/L | | FALSE | FALSE | TRUE | |
| 473 | 82630 | USGS | Metribuzin, water, filtered, recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 474 | 82660 | USGS | 2,6-Diethylaniline, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 475 | 82661 | USGS | Trifluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 476 | 82663 | USGS | Ethalfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 477 | 82664 | USGS | Phorate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 478 | 82665 | USGS | Terbacil, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 479 | 82666 | USGS | Linuron, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 480 | 82667 | USGS | Methyl parathion, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 481 | 82668 | USGS | EPTC, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 482 | 82669 | USGS | Pebulate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 483 | 82670 | USGS | Tebuthiuron, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 484 | 82671 | USGS | Molinate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 485 | 82672 | USGS | Ethoprop, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 486 | 82673 | USGS | Benfluralin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 487 | 82674 | USGS | Carbofuran, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 488 | 82675 | USGS | Terbufos, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 489 | 82676 | USGS | Propyzamide, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 490 | 82677 | USGS | Disulfoton, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 491 | 82678 | USGS | Triallate, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 492 | 82679 | USGS | Propanil, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 493 | 82680 | USGS | Carbaryl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 494 | 82681 | USGS | Thiobencarb, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 495 | 82682 | USGS | DCPA, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 496 | 82683 | USGS | Pendimethalin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 497 | 82684 | USGS | Napropamide, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 498 | 82685 | USGS | Propargite, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 499 | 82686 | USGS | Azinphos-methyl, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 500 | 82687 | USGS | cis-Permethrin, water, filtered (0.7 micron glass fiber filter), recoverable, micrograms per liter | UG/L | | TRUE | FALSE | FALSE | |
| 1035 | 82721 | DPH | DIBROMOACETIC ACID (DBAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1036 | 82723 | DPH | TRICHLOROACETIC ACID (TCAA) | UG/L | | FALSE | FALSE | TRUE | |
| 501 | 84164 | USGS | Sampler type, code | | | TRUE | FALSE | FALSE | |
| 502 | 90095 | USGS | Specific conductance, water, unfiltered, laboratory, microsiemens per centimeter at 25 degrees Celsius | US | EC | TRUE | FALSE | FALSE | |
| 503 | 90410 | USGS | Acid neutralizing capacity, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, milligrams per liter as calcium carbonate | MG/L | Alk-CaCO3 | TRUE | FALSE | FALSE | |
| 504 | 91063 | USGS | Diazinon-d10, surrogate, water, filtered (0.7 micron glass fiber filter), percent recovery | | | TRUE | FALSE | FALSE | |
| 505 | 91064 | USGS | Terbuthylazine, surrogate, water, filtered (0.7 micron glass fiber filter), percent recovery | | | TRUE | FALSE | FALSE | |
| 506 | 91065 | USGS | alpha-HCH-d6, surrogate, water, filtered (0.7 micron glass fiber filter), percent recovery | | | TRUE | FALSE | FALSE | |
| 507 | 95100 | USGS | Conversion factor, number | | | TRUE | FALSE | FALSE | |
| 508 | 95200 | USGS | Total cell count, water, cells per milliliter | | | TRUE | FALSE | FALSE | |
| 509 | 95902 | USGS | Noncarbonate hardness, water, milligrams per liter as calcium carbonate | MG/L | | TRUE | FALSE | FALSE | |
| 510 | 96013 | USGS | CARTERIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 511 | 96014 | USGS | CHLAMYDOMONAS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 512 | 96067 | USGS | SPHAEROCYSTIS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 513 | 96167 | USGS | CHLOROCOCCUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 514 | 96197 | USGS | PEDIASTRUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 515 | 96200 | USGS | COELASTRUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 516 | 96202 | USGS | ANKISTRODESMUS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 517 | 96205 | USGS | CHLORELLA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 518 | 96209 | USGS | DICTYOSPHAERIUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 519 | 96215 | USGS | KIRCHNERIELLA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 520 | 96218 | USGS | OOCYSTIS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 521 | 96225 | USGS | SELENASTRUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 522 | 96226 | USGS | TETRAEDRON (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 523 | 96230 | USGS | CHODATELLA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 524 | 96232 | USGS | GLOEOACTINIUM (4) USGS,ACL- | | | TRUE | FALSE | FALSE | |
| 525 | 96240 | USGS | CRUCIGENIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 526 | 96243 | USGS | SCENEDESMUS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 527 | 96294 | USGS | MOUGEOTIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 528 | 96387 | USGS | EUGLENA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 529 | 96392 | USGS | TRACHELOMONAS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 530 | 96413 | USGS | CHROOMONAS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 531 | 96416 | USGS | CRYPTOMONAS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 532 | 96430 | USGS | CRYPTOMONAS (4) USGS,ACL-74 -96416 | | | TRUE | FALSE | FALSE | |
| 533 | 96484 | USGS | GLENODINIUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 534 | 96487 | USGS | PERIDINIUM (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 535 | 96595 | USGS | MALLOMONAS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 536 | 96706 | USGS | CYCLOTELLA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 537 | 96707 | USGS | MELOSIRA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 538 | 96708 | USGS | STEPHANODISCUS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 539 | 96759 | USGS | DIATOMA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 540 | 96764 | USGS | FRAGILARIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 541 | 96765 | USGS | SYNEDRA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 542 | 96777 | USGS | ACHNANTHES (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 543 | 96778 | USGS | COCCONEIS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 544 | 96779 | USGS | RHOICOSPHENIA (4) USGS,ACL-75 | | | TRUE | FALSE | FALSE | |
| 545 | 96782 | USGS | AMPHIPLEURA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 546 | 96791 | USGS | NAVICULA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 547 | 96793 | USGS | PINNULARIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 548 | 96801 | USGS | GOMPHONEIS (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 549 | 96802 | USGS | GOMPHONEMA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 550 | 96806 | USGS | CYMBELLA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 551 | 96807 | USGS | EPITHEMIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 552 | 96808 | USGS | RHOPALODIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 553 | 96812 | USGS | NITZSCHIA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 554 | 98082 | USGS | ANACYSTIS (4) MENEGH,1837 -98066 | | | TRUE | FALSE | FALSE | |
| 555 | 98090 | USGS | AGMENELLUM (4) BREB. ,1839 | | | TRUE | FALSE | FALSE | |
| 556 | 98131 | USGS | LYNGBYA (4) AGARD' ,1824 | | | TRUE | FALSE | FALSE | |
| 557 | 98136 | USGS | OSCILLATORIA (4) VAUCHER,1803 | | | TRUE | FALSE | FALSE | |
| 558 | 98150 | USGS | SCHIZOTHRIX (4) KUETZ. ,1843 | | | TRUE | FALSE | FALSE | |
| 559 | 98165 | USGS | ANABAENA (4) USGS,ACL-74 | | | TRUE | FALSE | FALSE | |
| 560 | 99119 | USGS | Sulfide, water, unfiltered, field, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 561 | 99430 | USGS | Carbonate, water, unfiltered, inflection-point titration method (incremental titration method), field, milligrams per liter as calcium carbonate | MG/L | CO3-CaCO3 | TRUE | FALSE | FALSE | |
| 562 | 99440 | USGS | Bicarbonate, water, unfiltered, inflection-point titration method (incremental titration method), field, milligrams per liter | MG/L | HCO3 | TRUE | FALSE | FALSE | |
| 563 | 99445 | USGS | Carbonate, water, unfiltered, inflection-point titration method (incremental titration method), field, milligrams per liter | MG/L | | TRUE | FALSE | FALSE | |
| 564 | 99630 | USGS | Set number, lab code 0113 | | | TRUE | FALSE | FALSE | |
| 565 | 99660 | USGS | Set number, lab code 0305 | | | TRUE | FALSE | FALSE | |
| 566 | 99824 | USGS | Set number, Schedule 2501 | | | TRUE | FALSE | FALSE | |
| 567 | 99825 | USGS | Set number, Schedule 2502 | | | TRUE | FALSE | FALSE | |
| 568 | 99853 | USGS | Sample weight, Schedule 2501, grams | | | TRUE | FALSE | FALSE | |
| 569 | 99857 | USGS | Sample volume, Schedule 2010, milliliters | | | TRUE | FALSE | FALSE | |
| 1037 | 998-A | DPH | PHOSTOXIN | UG/L | | FALSE | FALSE | TRUE | |
| 1038 | A-001 | DPH | THIOBENCARB | UG/L | | FALSE | FALSE | TRUE | |
| 1039 | A-002 | DPH | ACTI-DIONE | UG/L | | FALSE | FALSE | TRUE | |
| 1040 | A-003 | DPH | VENDEX | UG/L | | FALSE | FALSE | TRUE | |
| 1041 | A-004 | DPH | GARLON | UG/L | | FALSE | FALSE | TRUE | |
| 1042 | A-005 | DPH | SULFOMETURON METHYL | UG/L | | FALSE | FALSE | TRUE | |
| 1043 | A-006 | DPH | CHLORSULFURON | UG/L | | FALSE | FALSE | TRUE | |
| 1044 | A-007 | DPH | 1,1-DICHLOROPROPANE | UG/L | | FALSE | TRUE | TRUE | |
| 1045 | A-008 | DPH | 2-CHLOROTOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 1046 | A-009 | DPH | 4-CHLOROTOLUENE | UG/L | | FALSE | TRUE | TRUE | |
| 1047 | A-010 | DPH | N-BUTYLBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 1048 | A-011 | DPH | P-ISOPROPYLTOLUENE | UG/L | | FALSE | FALSE | TRUE | |
| 1049 | A-012 | DPH | BROMOCHLOROMETHANE | UG/L | | FALSE | TRUE | TRUE | |
| 1050 | A-013 | DPH | D-D MIXTURE | UG/L | | FALSE | FALSE | TRUE | |
| 1051 | A-014 | DPH | M,P-XYLENE | UG/L | | FALSE | FALSE | TRUE | |
| 1052 | A-015 | DPH | BIS 1,1-DIMETHYLPEROXIDE | UG/L | | FALSE | FALSE | TRUE | |
| 1053 | A-016 | DPH | LONDAX | UG/L | | FALSE | FALSE | TRUE | |
| 1054 | A-018 | DPH | BIS 1,1-DIMETHYLETHYLPEROXIDE | UG/L | | FALSE | FALSE | TRUE | |
| 1055 | A-019 | DPH | ALDICARB SULFOXIDE | UG/L | | FALSE | FALSE | TRUE | |
| 1056 | A-020 | DPH | ALDICARB SULFONE | UG/L | | FALSE | FALSE | TRUE | |
| 1057 | A-021 | DPH | 3-HYDROXYCARBOFURAN | UG/L | | FALSE | FALSE | TRUE | |
| 1058 | A-026 | DPH | DI(2-ETHYLHEXYL)ADIPATE | UG/L | | FALSE | FALSE | TRUE | |
| 1059 | A-027 | DPH | BROMATE | UG/L | | FALSE | FALSE | TRUE | |
| 1060 | A-028 | DPH | URANIUM COUNTING ERROR | PCI/L | | FALSE | FALSE | TRUE | |
| 1061 | A-029 | DPH | NITRATE + NITRITE (AS N) | MG/L | NO3+NO2-N | FALSE | FALSE | TRUE | |
| 1062 | A-031 | DPH | PERCHLORATE | UG/L | ClO4 | FALSE | FALSE | TRUE | |
| 1063 | A-032 | DPH | 1,4-DIOXANE | UG/L | | FALSE | TRUE | TRUE | |
| 1064 | A-033 | DPH | ETHYL-TERT-BUTYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 1065 | A-034 | DPH | TERT-AMYL-METHYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 1066 | A-035 | DPH | FLUORIDE (TREATMENT RELATED-DISTRIBUTION) | MG/L | | FALSE | FALSE | TRUE | |
| 1067 | A-036 | DPH | DIISOPROPYL ETHER | UG/L | | FALSE | TRUE | TRUE | |
| 1068 | A-037 | DPH | CHLORATE | UG/L | | FALSE | FALSE | TRUE | |
| 1069 | A-038 | DPH | BROMOCHLOROACETIC ACID (BCAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1070 | A-039 | DPH | BROMODICHLOROACETIC ACID (BDCAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1071 | A-040 | DPH | DIBROMOCHLOROACETIC ACID (CDBAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1072 | A-041 | DPH | MONOBROMOACETIC ACID (MBAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1073 | A-042 | DPH | MONOCHLOROACETIC ACID (MCAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1074 | A-043 | DPH | TRIBROMOACETIC ACID (TBAA) | UG/L | | FALSE | FALSE | TRUE | |
| 1075 | A-044 | DPH | CHROMIUM (TOTAL CR-CRVI SCREEN) | UG/L | Cr | FALSE | FALSE | TRUE | |
| 1076 | A-045 | DPH | DCPA (TOTAL DI & MONO ACID DEGRADATES) | UG/L | | FALSE | FALSE | TRUE | |
| 1077 | A-046 | DPH | 2-METHYLPHENOL | UG/L | | FALSE | FALSE | TRUE | |
| 1078 | A-047 | DPH | TERTIARY BUTYL FORMATE (TBF) | UG/L | | FALSE | TRUE | TRUE | |
| 1079 | A-048 | DPH | GLYOXAL | UG/L | | FALSE | FALSE | TRUE | |
| 1080 | A-049 | DPH | HALOACETIC ACIDS (5) (HAA5) | UG/L | | FALSE | FALSE | TRUE | |
| 1081 | A-050 | DPH | 4,6-DINITRO-O-CRESOL | UG/L | | FALSE | FALSE | TRUE | |
| 1082 | A-051 | DPH | ETHINYL ESTRADIOL | UG/L | | FALSE | FALSE | TRUE | |
| 1083 | A-052 | DPH | 17-B ESTRADIOL | UG/L | | FALSE | FALSE | TRUE | |
| 1084 | A-053 | DPH | ESTRONE | UG/L | | FALSE | FALSE | TRUE | |
| 1085 | A-054 | DPH | NONYLPHENOL POLYETHOXYLATE(S) | UG/L | | FALSE | FALSE | TRUE | |
| 1086 | A-055 | DPH | OCTYLPHENOL | UG/L | | FALSE | FALSE | TRUE | |
| 1087 | A-056 | DPH | OCTYLPHENOL POLYETHOXYLATE(S) | UG/L | | FALSE | FALSE | TRUE | |
| 1088 | A-057 | DPH | POLYBROMINATED DIPHENYL ETHERS | UG/L | | FALSE | FALSE | TRUE | |
| 1089 | A-058 | DPH | ACETAMINOPHEN | UG/L | | FALSE | FALSE | TRUE | |
| 1090 | A-059 | DPH | AMOXICILLIN | UG/L | | FALSE | FALSE | TRUE | |
| 1091 | A-060 | DPH | AZITHROMYCIN | UG/L | | FALSE | FALSE | TRUE | |
| 1092 | A-061 | DPH | CARBAMAZEPINE | UG/L | | FALSE | FALSE | TRUE | |
| 1093 | A-062 | DPH | CIPROFLOXACIN | UG/L | | FALSE | FALSE | TRUE | |
| 1094 | A-063 | DPH | GEMFIBROZIL | UG/L | | FALSE | FALSE | TRUE | |
| 1095 | A-064 | DPH | IBUPROFEN | UG/L | | FALSE | FALSE | TRUE | |
| 1096 | A-065 | DPH | IODINATED CONTRAST MEDIA | UG/L | | FALSE | FALSE | TRUE | |
| 1097 | A-066 | DPH | LIPITOR | UG/L | | FALSE | FALSE | TRUE | |
| 1098 | A-067 | DPH | METHADONE | UG/L | | FALSE | FALSE | TRUE | |
| 1099 | A-068 | DPH | MORPHINE | UG/L | | FALSE | FALSE | TRUE | |
| 1100 | A-069 | DPH | TRICLOSAN | UG/L | | FALSE | FALSE | TRUE | |
| 1101 | A-070 | DPH | N-NITROSOMETHYLETHYLAMINE (NMEA) | UG/L | | FALSE | FALSE | TRUE | |
| 1102 | A-071 | DPH | GROSS BETA CALCULATED DOSE EQUIVALENT | MREM/Y | | FALSE | FALSE | TRUE | |
| 1103 | A-072 | DPH | GROSS ALPHA MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1104 | A-073 | DPH | URANIUM MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1105 | A-074 | DPH | RADIUM 226 MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1106 | A-075 | DPH | RADIUM 228 MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1107 | A-076 | DPH | COMBINED RA 226 + RA 228 MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1108 | A-077 | DPH | GROSS BETA MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1109 | A-078 | DPH | STRONTIUM - 90 MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1110 | A-079 | DPH | TRITIUM MDA95 | PCI/L | | FALSE | FALSE | TRUE | |
| 1111 | A-080 | DPH | RA-226 FOR CWS OR TOTAL RA FOR NTNC BY 903.0 | PCI/L | | FALSE | FALSE | TRUE | |
| 1112 | A-081 | DPH | RA-226 OR TOTAL RA BY 903.0 C.E. | PCI/L | | FALSE | FALSE | TRUE | |
| 1113 | A-082 | DPH | RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0 | PCI/L | | FALSE | FALSE | TRUE | |
| 1114 | A-083 | DPH | 1,3-DINITROBENZENE | UG/L | | FALSE | TRUE | TRUE | |
| 1115 | A-084 | DPH | 2,2',4,4'-TETRABROMODIPHENYL ETHER | UG/L | | FALSE | FALSE | TRUE | |
| 1116 | A-085 | DPH | 2,2',4,4',5-PENTABROMODIPHENYL ETHER | UG/L | | FALSE | FALSE | TRUE | |
| 1117 | A-086 | DPH | 2,2',4,4',5,5'-HEXABROMOBIPHENYL (HBB) | UG/L | | FALSE | FALSE | TRUE | |
| 1118 | A-087 | DPH | 2,2',4,4',5,5'-HEXABROMODIPHENYL ETHER | UG/L | | FALSE | FALSE | TRUE | |
| 1119 | A-088 | DPH | 2,2',4,4',6-PENTABROMODIPHENYL ETHER | UG/L | | FALSE | FALSE | TRUE | |
| 1120 | A-089 | DPH | ACETOCHLOR ETHANE SULFONIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1121 | A-090 | DPH | ACETOCHLOR OXANILIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1122 | A-091 | DPH | ALACHLOR OXANILIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1123 | A-092 | DPH | METOLACHLOR ETHANE SULFONIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1124 | A-093 | DPH | METOLACHLOR OXANILIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1125 | A-094 | DPH | ALACHLOR ETHANE SULFONIC ACID | UG/L | | FALSE | FALSE | TRUE | |
| 1137 | ACCN | Geotracker | Acetonitrile | UG/L | | FALSE | TRUE | FALSE | |
| 1136 | ACRN | Geotracker | Acrylamide | UG/L | | FALSE | TRUE | FALSE | |
| 1130 | ALK | Geotracker | Alkalinity, Total | MG/L | Alk | FALSE | TRUE | FALSE | |
| 1131 | ALK_CaCO3 | Geotracker | Total Alkalinity as CaCO3 | MG/L | Alk-CaCO3 | FALSE | TRUE | FALSE | |
| 1132 | ALKB | Geotracker | Bicarbonate Alkalinity as CACO3 | MG/L | HCO3-CaCO3 | FALSE | TRUE | FALSE | |
| 1133 | ALKC | Geotracker | Carbonate Alkalinity as CACO3 | MG/L | CO3-CaCO3 | FALSE | TRUE | FALSE | |
| 1134 | ALKH | Geotracker | Hydroxide Alkalinity as CACO3 | MG/L | OH-CaCO3 | FALSE | TRUE | FALSE | |
| 1263 | Ammon_NH4 | Napa County | Ammonia as NH4, unspecific, milligrams per liter | MG/L | | FALSE | FALSE | FALSE | |
| 1135 | ANILINE | Geotracker | Aniline | UG/L | | FALSE | TRUE | FALSE | |
| 1265 | Arsenic_unsp | Napa County | Arsenic, unspecific, micrograms per liter | UG/L | As | FALSE | FALSE | FALSE | |
| 1138 | AZIPM | Geotracker | Azinphos methyl | UG/L | | FALSE | TRUE | FALSE | |
| 1139 | AZOBENZENE | Geotracker | Azobenzene | UG/L | | FALSE | TRUE | FALSE | |
| 1229 | BHCGAMMA | Geotracker | gamma-BHC (Lindane) | UG/L | | FALSE | TRUE | FALSE | |
| 1228 | BIPHENYL | Geotracker | Biphenyl | UG/L | | FALSE | TRUE | FALSE | |
| 1227 | BIS2EHP | Geotracker | bis-(2-ethylhexyl)phthalate | UG/L | | FALSE | TRUE | FALSE | |
| 1126 | B-NEG | DPH | NEGATIVE BASE/NEUTRAL & ACID ANALYSIS | | | FALSE | FALSE | TRUE | |
| 1256 | Boron_unsp | Napa County | Boron, unspecific, micrograms per liter | UG/L | B | FALSE | FALSE | FALSE | |
| 1232 | BZLAL | Geotracker | Benzyl alcohol | UG/L | | FALSE | TRUE | FALSE | |
| 1156 | C2H4 | Geotracker | Ethene | MG/L | | FALSE | TRUE | FALSE | |
| 1157 | C2H6 | Geotracker | Ethane | MG/L | | FALSE | TRUE | FALSE | |
| 1231 | CARBAZOLE | Geotracker | Carbazole | UG/L | | FALSE | TRUE | FALSE | |
| 1140 | CH4 | Geotracker | Methane | UG/L | | FALSE | TRUE | FALSE | |
| 1233 | CHLORDANEA | Geotracker | alpha-Chlordane | UG/L | | FALSE | TRUE | FALSE | |
| 1234 | CHLORDANEG | Geotracker | gamma-Chlordane | UG/L | | FALSE | TRUE | FALSE | |
| 1260 | Cl_unsp | Napa County | Chloride, unspecific, milligrams per liter | MG/L | Cl | FALSE | FALSE | FALSE | |
| 1235 | CLANIL4 | Geotracker | 4-Chloroaniline | UG/L | | FALSE | TRUE | FALSE | |
| 1141 | COD | Geotracker | Chemical Oxygen Demand | MG/L | | FALSE | TRUE | FALSE | |

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 1266 | Copper_unsp | Napa County | Copper, unspecific, micrograms per liter | UG/L | Cu | FALSE | FALSE | FALSE | |
| 1211 | CYHEKET | Geotracker | Cyclohexanone | UG/L | | FALSE | TRUE | FALSE | |
| 1210 | CYMP | Geotracker | 4-Isopropyltoluene | UG/L | | FALSE | TRUE | FALSE | |
| 1212 | DBA | Geotracker | Dibromoethane | UG/L | | FALSE | TRUE | FALSE | |
| 1213 | DBAHA | Geotracker | Dibenzo(a,h)anthracene | UG/L | | FALSE | TRUE | FALSE | |
| 1214 | DBF | Geotracker | Dibenzofuran | UG/L | | FALSE | TRUE | FALSE | |
| 1216 | DBZD33 | Geotracker | 3,3'-Dichlorobenzidine | UG/L | | FALSE | TRUE | FALSE | |
| 1217 | DCBE14T | Geotracker | trans-1,4-Dichloro-2-butene | UG/L | | FALSE | TRUE | FALSE | |
| 1159 | DEMETONO | Geotracker | Demeton-0 | UG/L | | FALSE | TRUE | FALSE | |
| 1160 | DEMETONS | Geotracker | Demeton-S | UG/L | | FALSE | TRUE | FALSE | |
| 1237 | DICHLORVOS | Geotracker | Dichlorovos | UG/L | | FALSE | TRUE | FALSE | |
| 1158 | DIESEL2 | Geotracker | Diesel Fuel #2 | UG/L | | FALSE | TRUE | FALSE | |
| 1218 | DNBZ12 | Geotracker | 1,2-Dinitrobenzene | UG/L | | FALSE | TRUE | FALSE | |
| 1219 | DNBZ14 | Geotracker | 1,4-Dinitrobenzene | UG/L | | FALSE | TRUE | FALSE | |
| 1224 | DOA | Geotracker | bis(2-ethylhexyl)adipate | UG/L | | FALSE | TRUE | FALSE | |
| 1153 | DRO | Geotracker | Diesel Range Organics | UG/L | | FALSE | TRUE | FALSE | |
| 1200 | DROC10C23 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1161 | DROC10C28 | Geotracker | Diesel Range Organics (C10-C28) | UG/L | | FALSE | TRUE | FALSE | |
| 1201 | DROC10C36 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1202 | DROC12C23 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1203 | DROC12C24 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1204 | DROC13C32 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1162 | ENDRINKET | Geotracker | Endrin ketone | UG/L | | FALSE | TRUE | FALSE | |
| 1209 | ETHOPROP | Geotracker | Ethoprop | UG/L | | FALSE | TRUE | FALSE | |
| 1253 | F_DO | Napa County | Field Dissolved Oxygen | mg/L | DO-field | FALSE | FALSE | FALSE | |
| 1251 | F_EC | Napa County | Field Specific Conductance, umhos/cm | umhos/cm | EC-field | FALSE | FALSE | FALSE | |
| 1252 | F_ORP | Napa County | Field Oxygen Reduction Potential, millivolts | mV | ORP-field | FALSE | FALSE | FALSE | |
| 1250 | F_pH | Napa County | Field pH, pH Units | pH Units | pH-field | FALSE | FALSE | FALSE | |
| 1249 | F_Temp | Napa County | FieldTemperature, degrees C | degrees C | Temp-field | FALSE | FALSE | FALSE | |
| 1167 | FE2 | Geotracker | Ferrous Iron | UG/L | | FALSE | TRUE | FALSE | |
| 1254 | Fecal_Colfm | Napa County | Fecal Coliform (MPN/100mL) | MPN/100mL | | FALSE | FALSE | FALSE | |
| 1147 | GASOLINE | Geotracker | Gasoline | UG/L | | FALSE | TRUE | FALSE | |
| 1148 | GRO | Geotracker | Gasoline Range Organics | UG/L | | FALSE | TRUE | FALSE | |
| 1205 | GROC4C12 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1206 | GROC5C12 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1166 | GROC6C10 | Geotracker | Gasoline Range Organics (C6-C10) | UG/L | | FALSE | TRUE | FALSE | |
| 1207 | GROC6C12 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1208 | GROC9C23 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1264 | Hard_unsp | Napa County | Hardness, unspecific, milligrams per liter | MG/L | Hard | FALSE | FALSE | FALSE | |
| 1168 | HEM | Geotracker | n-Hexane Extractable Material | MG/L | | FALSE | TRUE | FALSE | |
| 1154 | HXO2 | Geotracker | 2-Hexanone | UG/L | | FALSE | TRUE | FALSE | |
| 1169 | IME | Geotracker | Methyl iodide | UG/L | | FALSE | TRUE | FALSE | |
| 1170 | INP123 | Geotracker | Indeno(l,2,3-cd)pyrene | UG/L | | FALSE | TRUE | FALSE | |
| 1257 | Iron_unsp | Napa County | Iron, unspecific, micrograms per liter | UG/L | Fe | FALSE | FALSE | FALSE | |
| 1171 | ISOBTOH | Geotracker | Isobutanol | UG/L | | FALSE | TRUE | FALSE | |
| 1172 | ISOPROH | Geotracker | Isopropanol | UG/L | | FALSE | TRUE | FALSE | |
| 1155 | KN | Geotracker | Nitrogen, Kjeldahl, Total | MG/L | | FALSE | TRUE | FALSE | |
| 1258 | Mangn_unsp | Napa County | Manganese, unspecific, micrograms per liter | UG/L | Mn | FALSE | FALSE | FALSE | |
| 1145 | MEOH | Geotracker | Methanol | UG/L | | FALSE | TRUE | FALSE | |
| 1163 | MEPH2 | Geotracker | 2-Methylphenol (o-Cresol) | UG/L | | FALSE | TRUE | FALSE | |
| 1164 | MEPH34CO | Geotracker | 3-Methylphenol/4-Methylphenol Coelution | UG/L | | FALSE | TRUE | FALSE | |
| 1165 | MEPH4 | Geotracker | 4-Methylphenol (p-Cresol) | UG/L | | FALSE | TRUE | FALSE | |
| 1173 | MEVINPHOS | Geotracker | Mevinphos | UG/L | | FALSE | TRUE | FALSE | |
| 1238 | MINSPRT | Geotracker | Mineral Spirits | UG/L | | FALSE | TRUE | FALSE | |
| 1146 | MOIL | Geotracker | Motor Oils | UG/L | | FALSE | TRUE | FALSE | |
| 1150 | MTLNCL | Geotracker | Methylene chloride | UG/L | | FALSE | TRUE | FALSE | |
| 1151 | MTNPH1 | Geotracker | 1-Methylnaphthalene | UG/L | | FALSE | TRUE | FALSE | |
| 1152 | MTNPH2 | Geotracker | 2-Methylnaphthalene | UG/L | | FALSE | TRUE | FALSE | |
| 1225 | N | Geotracker | Nitrogen | MG/L | | FALSE | TRUE | FALSE | |
| 1267 | Nickel_unsp | Napa County | Nickel, unspecific, micrograms per liter | UG/L | Ni | FALSE | FALSE | FALSE | |
| 1177 | NNSPR | Geotracker | n-Nitrosodi-n-propylamine | UG/L | | FALSE | TRUE | FALSE | |
| 1174 | NO2ANIL2 | Geotracker | 2-Nitroaniline | UG/L | | FALSE | TRUE | FALSE | |
| 1175 | NO2ANIL3 | Geotracker | 3-Nitroaniline | UG/L | | FALSE | TRUE | FALSE | |
| 1176 | NO2ANIL4 | Geotracker | 4-Nitroaniline | UG/L | | FALSE | TRUE | FALSE | |
| 1262 | NO3N_unsp | Napa County | Nitrate as Nitrogren (NO3-N), unspecific, milligrams per liter | MG/L | NO3-N | FALSE | FALSE | FALSE | |
| 1188 | PARAE | Geotracker | Parathion ethyl | UG/L | | FALSE | TRUE | FALSE | |
| 1178 | PCB1016 | Geotracker | PCB-1016 (Aroclor 1016) | UG/L | | FALSE | TRUE | FALSE | |
| 1179 | PCB1221 | Geotracker | PCB-1221 (Aroclor 1221) | UG/L | | FALSE | TRUE | FALSE | |
| 1180 | PCB1232 | Geotracker | PCB-1232 (Aroclor 1232) | UG/L | | FALSE | TRUE | FALSE | |
| 1181 | PCB1242 | Geotracker | PCB-1242 (Aroclor 1242) | UG/L | | FALSE | TRUE | FALSE | |
| 1182 | PCB1242/1016 | Geotracker | PCB-1242/1016 (Aroclor 1242/1016) | UG/L | | FALSE | TRUE | FALSE | |
| 1183 | PCB1248 | Geotracker | PCB-1248 (Aroclor 1248) | UG/L | | FALSE | TRUE | FALSE | |
| 1184 | PCB1254 | Geotracker | PCB-1254 (Aroclor 1254) | UG/L | | FALSE | TRUE | FALSE | |
| 1185 | PCB1260 | Geotracker | PCB-1260 (Aroclor 1260) | UG/L | | FALSE | TRUE | FALSE | |
| 1186 | PCB1262 | Geotracker | PCB-1262 (Aroclor 1262) | UG/L | | FALSE | TRUE | FALSE | |
| 1187 | PFBZ | Geotracker | Pentafluorobenzene | UG/L | | FALSE | TRUE | FALSE | |
| 1144 | PHC | Geotracker | Petroleum Hydrocarbons (TPH) | UG/L | | FALSE | TRUE | FALSE | |
| 1143 | PHCD | Geotracker | PHC as Diesel Fuel (TPHD) | UG/L | | FALSE | TRUE | FALSE | |
| 1142 | PHCG | Geotracker | PHC as Gasoline (TPHG) | UG/L | | FALSE | TRUE | FALSE | |
| 1226 | PHCLUB | Geotracker | PHC as Lube Oil | UG/L | | FALSE | TRUE | FALSE | |
| 1127 | P-NEG | DPH | NEGATIVE PURGEABLE ORGANIC ANALYSIS | | | FALSE | FALSE | TRUE | |
| 1189 | PYRDN | Geotracker | Pyridine | UG/L | | FALSE | TRUE | FALSE | |
| 1190 | SN | Geotracker | Tin | UG/L | | FALSE | TRUE | FALSE | |
| 1261 | SO4_unsp | Napa County | Sulfate, unspecific, milligrams per liter | MG/L | SO4 | FALSE | FALSE | FALSE | |
| 1191 | STIROFOS | Geotracker | Tetrachlorvinphos (Stirophos) | UG/L | | FALSE | TRUE | FALSE | |
| 1192 | SULPROFOS | Geotracker | Bolster (Sulprofos) | UG/L | | FALSE | TRUE | FALSE | |
| 1193 | SURFACT | Geotracker | Surfactants | MG/L | | FALSE | TRUE | FALSE | |
| 1194 | TAL | Geotracker | Tannin and Lignin | MG/L | | FALSE | TRUE | FALSE | |
| 1195 | TCP245 | Geotracker | 2,4,5-Trichlorophenol | UG/L | | FALSE | TRUE | FALSE | |
| 1259 | TDS_unsp | Napa County | Total Dissolved Solids, unspecific, milligrams per liter | MG/L | TDS | FALSE | FALSE | FALSE | |
| 1196 | THF | Geotracker | Tetrahydrofuran | UG/L | | FALSE | TRUE | FALSE | |
| 1128 | THMN | DPH | NEGATIVE TRIHALOMETHANES (501.1,501.2,&501.3) | UG/L | | FALSE | FALSE | TRUE | |
| 1197 | TOKUTHION | Geotracker | Tokuthion (Prothiofos) | UG/L | | FALSE | TRUE | FALSE | |
| 1255 | Total_Colfm | Napa County | Total Coliform (MPN/100mL) | MPN/100mL | | FALSE | FALSE | FALSE | |
| 1198 | TOTPCB | Geotracker | Total Polychlorinatedbiphenyls | UG/L | | FALSE | TRUE | FALSE | |
| 1199 | TOTPHEN | Geotracker | Phenolics, Total recoverable | MG/L | | FALSE | TRUE | FALSE | |
| 1239 | TPH | Geotracker | Triphenylene | MG/L | | FALSE | TRUE | FALSE | |
| 1240 | TPHC12C16 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1241 | TPHC18C36 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1242 | TPHC6C10 | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1243 | TPHC9C12SS | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1244 | TPHCREOSOTE | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1245 | TPHHYDROIL | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1246 | TPHMOTOROIL | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1247 | TPHSTDSOLV | Geotracker | | UG/L | | FALSE | TRUE | FALSE | |
| 1248 | TSS | Geotracker | | MG/L | | FALSE | TRUE | FALSE | |
| 1149 | XYLENES1314 | Geotracker | Xylene, Isomers m & p | UG/L | | FALSE | TRUE | FALSE | |
| 1268 | Zinc_unsp | Napa County | Zinc, unspecific, micrograms per liter | UG/L | Zn | FALSE | FALSE | FALSE | |

# APPENDIX A

# FIGURES

FIGURE A1 – RELATIONSHIPS

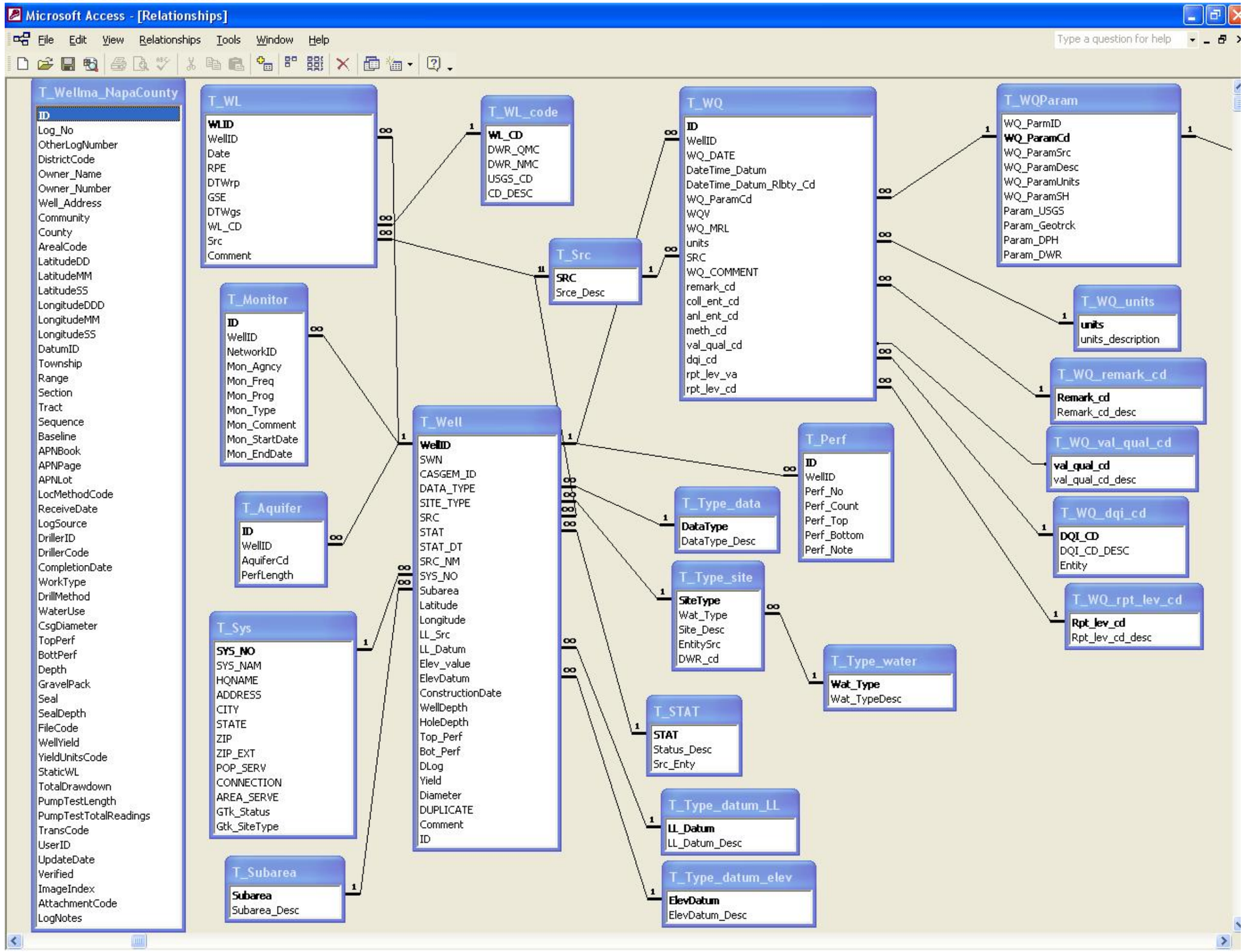


FIGURE A1(continued) – RELATIONSHIPS

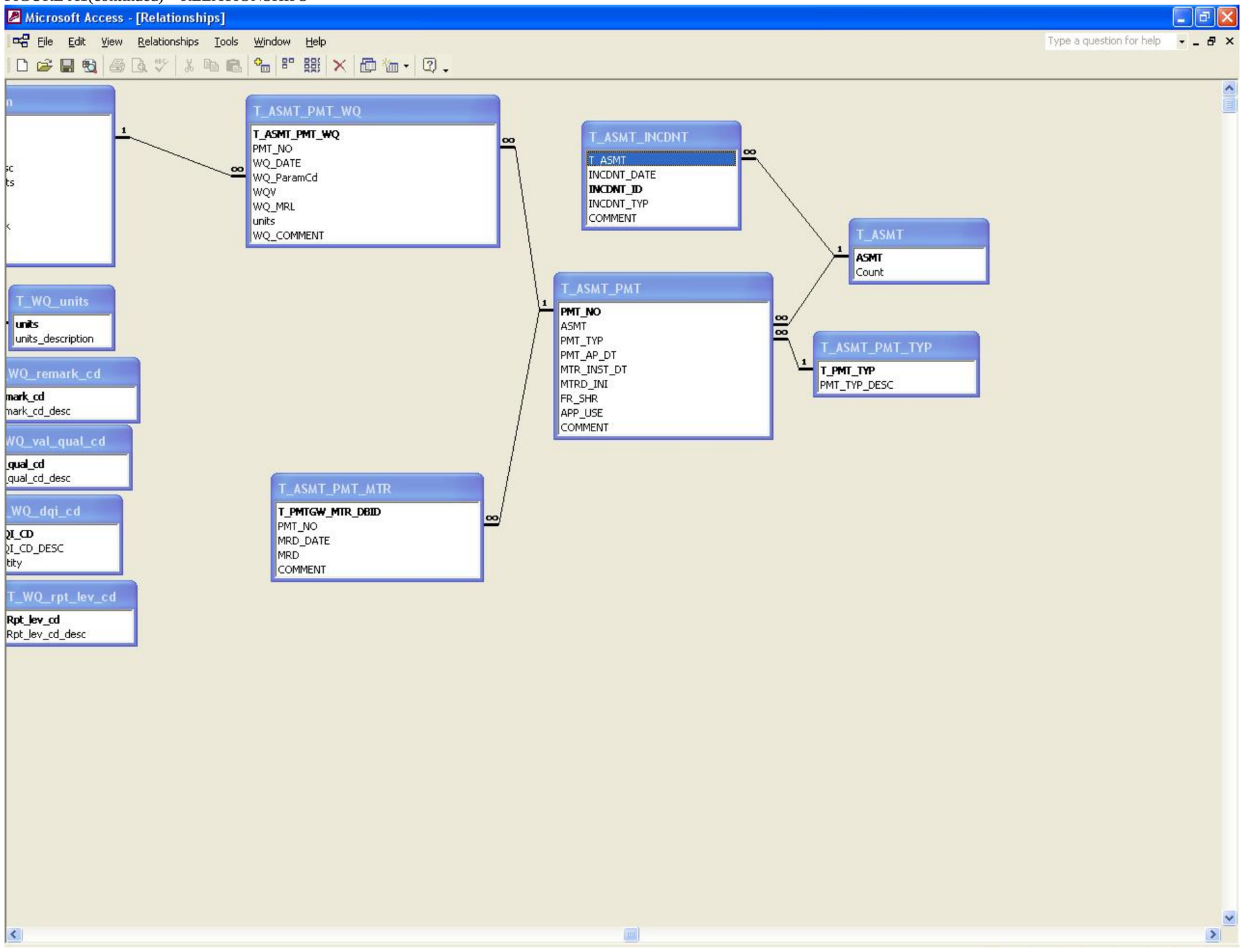


FIGURE A2 - WELL TABLE

Design View

Microsoft Access - [T_Well : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| WellID | Text | LOCAL WELL ID: USGS Site_No; DWR GST_Number; DPH PRIM_STA_C; Geotracker GlobalID concatenated with Field Pt Name (links to all supporting data tables) |
| SWN | Text | formatted (official) State Well Number: USGS Station_Nm (for GW sites); DWR swn with added zeros - Use for grouping wells identified by SWN (do not use field for other well names) |
| CASGEM_ID | Text | California Statewide Groundwater Elevation Monitoring ID (issued by CA Dept of Water Resources) |
| DATA_TYPE | Text | Type of data: water level, water quality, both or none (Lookup table) |
| SITE_TYPE | Text | Type of Well or Site (Lookup table); water type is embedded in the type (see lookup table) |
| SRC | Text | Source of Well/Site Information (Lookup table) |
| STAT | Text | Status of well at last measurement (per entity designation); this may be not known because entity does not specify (Lookup table) |
| STAT_DT | Date/Time | Date of of last msmt |
| SRC_NM | Text | USGS Sfc Station Name; DPH Source Name; Geotracker Field Pt Name; Napa Cty DB Number (otherwise a secondary or local well name) |
| SYS_NO | Text | DPH System Number; Geotracker GlobalID (Lookup table) |
| Subarea | Text | Subarea assigned by position in GIS and lat/long (LSCE_hydbridSubareas.shp) subareas in 20091118 LSCE hybrid of 2050_subregions and geo_eval layers (Lookup table) |
| Latitude | Number | NAD83 or NAD27; Decimal Degree Format |
| Longitude | Number | NAD83 or NAD27; Decimal Degree Format |
| LL_Src | Text | Source of Lat/Long Information (DPH, DHS 2001 DB, USGS, DWR, Geotracker, Geotracker-GAMA) |
| LL_Datum | Text | Horizontal Datum (Lookup table) |
| Elev_value | Number | Elevation (feet) |
| ElevDatum | Text | Vertical Datum of Elevation (Lookup Table) |
| ConstructionDate | Text | Well Contruction Date (yyyymmdd format); mm and dd may not be available |
| WellDepth | Number | Well Depth (feet) |
| HoleDepth | Number | Borehole Depth (feet) |
| Top_Perf | Number | DWR_WellCon Table (formerly [GST_TOP_PERF]) |
| Bot_Perf | Number | DWR_WellCon Table (formerly [GST_BOTTOM_PERF]) |
| DLog | Text | Drillers Log Number; DWR_WellCon Table (formerly [GST_LOG_NUMBER]) |
| Yield | Text | Yield (gallons per minute) |
| Diameter | Text | Well Diameter (inches) |
| DUPLICATE | Text | Yes if State Well Number shows up in DWR and/or USGS and/or Napa County datasets; Null otherwise |
| Comment | Text | |
| ID | AutoNumber | (maintains sequenced order of entry-keep hidden) |

Datasheet View (partial)

| WellID | SWN | CASGEM_ID | DATA_TYPE | SITE_TYPE | SRC | STAT | STAT_DT | SRC_NM | SYS_NO | Subarea | Latitude | Longitude | LL_Src | LL_Datum | Elev_value | ElevDatum | ConstructionDate | WellDepth | HoleDepth | Top_Perf | Bot_Perf | DLog | Yield | Diameter | DUPLICATE | Comment | ID |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06N04W06P001M | 006N004W06P001M | | WL_WQ | Irr | DWR | Unk | 01-Aug-72 | | NA | NVF_Yount | 38.3905 | -122.3471 | DWR | NAD83 | | | | 120 | | | | | | | | | 45 |
| 06N04W07N001M | 006N004W07N001M | | WL | Dom_Irr | DWR | Unk | 21-Mar-78 | | NA | NVF_Yount | 38.3766 | -122.3536 | DWR | NAD83 | | | | 90 | | | | | | | YES | | 46 |
| 382230122211001 | 006N004W07N001M | | WL | Unk_GW | USGS | Unk | 05-Oct-77 | | NA | NVF_Yount | 38.3749122 | -122.3538657 | USGS | NAD83 | 135 | NGVD29 | | 90 | | | | | | | YES | | 360 |
| 06N04W08E001M | 006N004W08E001M | | WL | Dom_Stk | DWR | Unk | 23-Mar-72 | | NA | NVF_Yount | 38.3835 | -122.3347 | DWR | NAD83 | | | | 32 | | | | | | | | | 47 |
| NapaCounty-125 | 006N004W09Q001M | | WL | Unk_GW | NapaCounty | Unk | 06-Oct-08 | 125 | NA | NVF_Yount | 38.3769 | -122.3065 | | | 62.8 | UNK | 19710823 | 160 | 160 | | | | | | YES | xy coord from coSWN | 2790 |
| 06N04W09Q001M | 006N004W09Q001M | | WL | Dom | DWR | Unk | 21-Apr-08 | | NA | NVF_Yount | 38.3769 | -122.3065 | DWR | NAD83 | | | | 160 | | 63 | 160 | 59015 | | | YES | | 48 |
| NapaCounty-126 | 006N004W09Q002M | | WL | Dom_Irr | NapaCounty | Unk | 06-Oct-08 | 126 | NA | NVF_Yount | 38.377 | -122.3067 | | | 62.8 | UNK | 19710823 | 160 | 160 | | | | | | YES | xy coord from coSWN | 2791 |
| 06N04W09Q002M | 006N004W09Q002M | | WL | Dom | DWR | Unk | 21-Apr-08 | | NA | NVF_Yount | 38.377 | -122.3067 | DWR | NAD83 | | | | 345 | | 140 | 345 | 59036 | | | YES | | 49 |
| NapaCounty-5 | 006N004W13D001M | | WL | Dom | NapaCounty | Unk | 08-Oct-02 | 5 | NA | East_Mnts | 38.36766137 | -122.2624066 | | | 515.52 | UNK | 19860410 | 510 | 510 | | | | 18 | 8 3/4 | | | 2680 |
| 382204122154501 | 006N004W13E001M | | WL | Unk_GW | USGS | Unk | 08-Oct-02 | | NA | East_Mnts | 38.3676972 | -122.262411 | USGS | NAD83 | 515.02 | NGVD29 | 19860410 | 510 | 510 | | | | | | | | 354 |
| NapaCounty-4 | 006N004W14Q001M | | WL | Unk_GW | NapaCounty | Unk | 13-Oct-08 | 4 | NA | NVF_MST | 38.36196024 | -122.2676378 | | | 138.93 | UNK | 19890913 | 385 | 390 | | | | 40 | | YES | | 2679 |
| 382143122160301 | 006N004W14Q001M | | WL | Unk_GW | USGS | Unk | 08-Oct-02 | | NA | NVF_MST | 38.36193889 | -122.267625 | USGS | NAD83 | 138.43 | NGVD29 | 19890913 | 385 | 390 | | | | | | YES | | 352 |
| 06N04W15Q001M | 006N004W15Q001M | | WL_WQ | Dom_Stk | DWR | Unk | 25-Jul-89 | | NA | NVF_Napa | 38.3598 | -122.2885 | DWR | NAD83 | | | | 303 | | | | | | | YES | | 50 |
| 382134122171301 | 006N004W15Q001M | | WL | Unk_GW | USGS | Unk | 04-Oct-77 | | NA | NVF_Napa | 38.35935707 | -122.2880302 | USGS | NAD83 | 67 | NGVD29 | | 303 | | | | | | | YES | | 348 |
| NapaCounty-76 | 006N004W15R003M | | WL | Unk_GW | NapaCounty | Unk | 13-Oct-08 | 76 | NA | NVF_Napa | 38.35974845 | -122.2829725 | | | 95.01 | UNK | | | | | | | | | | | 2748 |
| 382135122165901 | 006N004W15R005M | | WL_WQ | Unk_GW | USGS | Unk | 07-Oct-02 | | NA | NVF_Napa | 38.35973889 | -122.2830028 | USGS | NAD83 | 94.01 | NGVD29 | 19860723 | 395 | 405 | | | | | | | | 349 |
| 382153122185001 | 006N004W16M001M | | WL | Unk_GW | USGS | Unk | 13-Apr-81 | | NA | NVF_Yount | 38.3646347 | -122.3149755 | USGS | NAD83 | 74.5 | NGVD29 | 19681004 | 297 | | | | | | | | | 353 |
| 06N04W16P001M | 006N004W16P001M | | WL | Dom | DWR | Unk | 23-Mar-72 | | NA | NVF_Napa | 38.3598 | -122.3107 | DWR | NAD83 | | | | 76 | | | | | | | | | 51 |
| 382218122190101 | 006N004W17A001M | | WL | Unk_GW | USGS | Unk | 12-Oct-83 | | NA | NVF_Yount | 38.37157894 | -122.3180312 | USGS | NAD83 | 67 | NGVD29 | 1948 | 250 | | | | | | | YES | | 355 |
| 06N04W17A001M | 006N004W17A001M | | WL_WQ | Dom | DWR | Unk | 25-Nov-08 | | NA | NVF_Yount | 38.3721 | -122.3189 | DWR | NAD83 | | | | 250 | | | | 239 | | | YES | | 52 |

FIGURE A3 – OTHER SITE INFORMATION TABLES (Page 1 of 4)

SYSTEM TABLE

Design View

Microsoft Access - [T_Sys : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| SYS_NO | Text | DPH System Number: water system number (county number + system type + sequence number) or Geotracker Global ID |
| SYS_NAM | Text | Name of Sytem (from providing entity) |
| HQNAME | Text | DPH: organization that operates system |
| ADDRESS | Text | DPH: mailing address of water system |
| CITY | Text | DPH: mailing address city |
| STATE | Text | DPH: mailing address state |
| ZIP | Text | DPH: zipcode |
| ZIP_EXT | Text | DPH: zipcode extension |
| POP_SERV | Number | DPH: population served |
| CONNECTION | Number | DPH: connections served |
| AREA_SERVE | Text | DPH: Area served |
| GTk_Status | Text | Geotracker Status |
| Gtk_SiteType | Text | Geotracker Site Type |

Datasheet View (partial)

| SYS_NO | SYS_NAM | HQNAME | ADDRESS | CITY | STATE | ZIP | ZIP_EXT | POP_SERV | CONNECTION | AREA_SERVE | GTk_Status | Gtk_SiteType |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2810002 | Calistoga, City of | CALISTOGA MUNICIPAL WATER DEPT | 1232 WASHINGTON STREET | CALISTOGA | CA | 94515 | | 5237 | 1439 | CALISTOGA MUNICIPAL WATER DEPT | | |
| T0605500206 | A & M MARKET | | 2877 SOLANO AVE | NAPA | | 94558 | | | | | COMPLETED - CASE CLOSED | LUST CLEANUP SITE |
| T10000000621 | CONOCOPHILLIPS | | 2005 REDWOOD RD | NAPA | | 94558 | | | | | OPEN - SITE ASSESSMENT | LUST CLEANUP SITE |
| 2810001 | Howell Mountain Mutual Water Company | HOWELL MTN. MUTUAL WATER CO. | 1100 Friesen Drive | ANGWIN | | 94508 | | 1500 | 382 | ANGWIN AND DEER PARK | | |

MONITOR TABLE (not populated)

Microsoft Access - [T_Monitor : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| ID | AutoNumber | |
| WellID | Text | |
| NetworkID | Text | Well ID within Monitoring Network |
| Mon_Agncy | Text | Monitoring Agency |
| Mon_Freq | Text | Schedule or Monitoring Frequency |
| Mon_Prog | Text | Program Participation |
| Mon_Type | Text | WL or WQ type monitoring |
| Mon_Comment | Text | Comment |
| Mon_StartDate | Date/Time | |
| Mon_EndDate | Date/Time | |

FIGURE A3 – OTHER SITE INFORMATION TABLES (continued – Page 2 of 4)

AQUIFER TABLE (not populated)

Microsoft Access - [T_Aquifer : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| ID | AutoNumber | |
| WellID | Text | |
| AquiferCd | Text | Aquifer Code/Name |
| PerfLength | Number | Length of Perforated/Screened Section in Aquifer |

PERFORATION TABLE (not populated)

Microsoft Access - [T_Perf : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| ID | AutoNumber | |
| WellID | Text | |
| Perf_No | Text | Number of perforated/screened sections |
| Perf_Count | Text | Sequence Number of Perf section ( top perf section =1, etc.) |
| Perf_Top | Number | Top of Perf Section |
| Perf_Bottom | Number | Bottom of Perf Section |
| Perf_Note | Text | (comment/material note/damage note/aquifer note) |

FIGURE A3 – OTHER SITE INFORMATION TABLES (continued – Page 3 of 4)

WELLMA TABLE (not linked to other tables; Datasheet View not shown)

Microsoft Access - [T_Wellma_NapaCounty : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| ID | AutoNumber | |
| Log_No | Text | |
| OtherLogNumber | Text | |
| DistrictCode | Text | |
| Owner_Name | Text | |
| Owner_Number | Text | |
| Well_Address | Text | |
| Community | Text | |
| County | Text | |
| ArealCode | Text | |
| LatitudeDD | Text | |
| LatitudeMM | Text | |
| LatitudeSS | Text | |
| LongitudeDDD | Text | |
| LongitudeMM | Text | |
| LongitudeSS | Text | |
| DatumID | Text | |
| Township | Text | |
| Range | Text | |
| Section | Number | |
| Tract | Text | |
| Sequence | Text | |
| Baseline | Text | |
| APNBook | Number | |
| APNPage | Number | |
| APNLot | Number | |
| LocMethodCode | Text | |
| ReceiveDate | Text | |
| LogSource | Text | |
| DrillerID | Text | |
| DrillerCode | Number | |
| CompletionDate | Text | |
| WorkType | Text | |
| DrillMethod | Text | |
| WaterUse | Text | |
| CsgDiameter | Number | |
| TopPerf | Number | |
| BottPerf | Number | |
| Depth | Number | |
| GravelPack | Yes/No | |
| Seal | Yes/No | |
| SealDepth | Number | |
| FileCode | Text | |
| WellYield | Number | |
| YieldUnitsCode | Text | |
| StaticWL | Number | |
| TotalDrawdown | Number | |
| PumpTestLength | Number | |
| PumpTestTotalReadings | Number | |
| TransCode | Text | |
| UserID | Text | |
| UpdateDate | Text | |
| Verified | Yes/No | |
| ImageIndex | Text | |
| AttachmentCode | Text | |
| LogNotes | Text | |

FIGURE A3 – OTHER SITE INFORMATION TABLES (continued – Page 4 of 4)

## PERMIT TABLE

### Design View

Microsoft Access - [T_ASMT_PMT : Table]

| Field Name | Data Type | Description |
|---|---|---|
| PMT_NO | Text | Permit Number (assign unique ID to differ between Usage and GW Permit) |
| ASMT | Text | Link to Entity Table (T_ASMT) |
| PMT_TYP | Text | Permit Type |
| PMT_AP_DT | Date/Time | Permit Approval Date |
| MTR_INST_DT | Date/Time | Meter Install Date |
| MTRD_INI | Number | Initial Meter Reading |
| FR_SHR | Number | Fair Share |
| APP_USE | Text | Approved Use |
| COMMENT | Text | |

### Datasheet View (populated with example entries only)

| PMT_NO | ASMT | PMT_TYP | PMT_AP_DT | MTR_INST_DT | MTRD_INI | FR_SHR | APP_USE | COMMENT |
|---|---|---|---|---|---|---|---|---|
| GW123 | 025370043000 | GW | 01-Jan-10 | | | | | example entry |
| GW999 | 015160014000 | GW | 01-Jan-06 | | | | | example entry |
| US456 | 015160014000 | USG | 01-Jan-05 | | | | | example entry |

## APN TABLE

### Design View

Microsoft Access - [T_ASMT : Table]

| Field Name | Data Type | Description |
|---|---|---|
| ASMT | Text | Parcel Number from PARCEL feature class |
| Count | Number | Number of related polygons in PARCEL feature class |

### Datasheet View (partial)

| ASMT | Count |
|---|---|
| 001022011000 | 1 |
| 001022012000 | 1 |

FIGURE A4 – DATA TABLES (Page 1 of 5)

WATER QUALITY TABLE

Design View

Microsoft Access - [T_WQ : Table]

File Edit View Insert Tools Window Help

Type a question for help

| Field Name | Data Type | Description |
|---|---|---|
| ID | AutoNumber | |
| WellID | Text | Well ID link to T_Well |
| WQ_DATE | Date/Time | Sample Date/Time |
| DateTime_Datum | Text | USGS original field formerly [sample_start_time_datum_cd] ('PDT'-Pacific Daylight Time, 'PST'-Pacific Standard Time) |
| DateTime_Datum_Rlbty_Cd | Text | USGS original field formerly [tm_datum_rlbty_cd] reliability code: ('K'-Known, 'T'-Transferred) |
| WQ_ParamCd | Text | parameter code link to T_WQParam (EPA/USGS storet number or Ca DPH storet number) (see T_WQParam for necessary units of measure associated with each parameter) |
| WQV | Number | -9999 is a non-detect |
| WQ_MRL | Text | general field for reporting limit |
| units | Text | unit of measure: must match the corresponding unit of measure in T_WQParam table (Lookup Table) |
| SRC | Text | Source of Water Quality Data (Lookup Table) |
| WQ_COMMENT | Text | LSCE comment; USGS remark_cd ('A'-Average, 'E'-Estimated, 'M'-Presence verified but not quantified, 'U'-Not Detected, '>'-Greater Than, '>'-Less Than) |
| remark_cd | Text | USGS remark code (Lookup Table) |
| coll_ent_cd | Text | USGS original field |
| anl_ent_cd | Text | USGS original field |
| meth_cd | Text | USGS original field |
| val_qual_cd | Text | USGS Value Qualifier Codes: val_qual_cd (Lookup Table) |
| dqi_cd | Text | USGS Data Quality Indicator Codes: dqi_cd (Lookup Table) |
| rpt_lev_va | Text | USGS original field |
| rpt_lev_cd | Text | USGS Report Type Code: rpt_lev_cd (Lookup Table) |

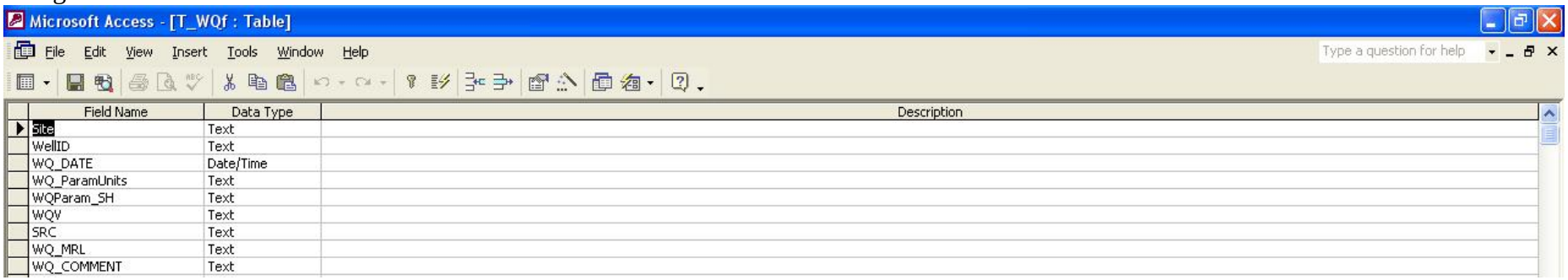
Datasheet view (partial)

| ID | WELL_ID | WQ_DATE | WQ_ParamCd | WQV | WQ_MRL | units | SRC | WQ_COMMENT | remark_cd | Collect_EntityCode | Analyze_EntityCode | meth_cd | val_qual_cd | dqi_cd | rpt_lev_va | rpt_lev_cd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5848 | 383049122094801 | 07-Jun-78 | 00191 | | | MG/L | USGS | | M | | | | | A | | |
| 5850 | 383049122094801 | 07-Jun-78 | 00400 | 8.5 | | pH Units | USGS | | | | | | | A | | |
| 5851 | 383049122094801 | 07-Jun-78 | 00600 | 0.29 | | MG/L | USGS | | | | | | | A | | |
| 6275 | 383049122094801 | 04-Oct-78 | 01046 | -9999 | 10 | UG/L | USGS | | < | | | | | A | | |
| 8398 | 383332122122401 | 04-Apr-79 | 98082 | 440 | | | USGS | | | USGS-WRD | | | j | A | | |
| 56737 | 05N04W09Q002M | 25-Sep-64 | 00930 | 60 | | MG/L | DWR | | | | | | | | | |
| 127088 | 2800848-001 | 02-Aug-88 | 77700 | -9999 | 0.5 | UG/L | DPH | | | | | | | | | |
| 143552 | 2801011-002 | 17-Jun-02 | 00403 | 7.4 | | pH Units | DPH | | | | | | | | | |
| 878538 | T0605500007BC-3 | 25-Jul-06 | 34010 | 0.55 | | UG/L | Geotracker | | | | | 8260FA | | | | |

FIGURE A4 – DATA TABLES (continued – Page 2 of 5)

WATER QUALITY FORMATTED (not linked to other tables)

Design View




| Field Name | Data Type | Description |
|---|---|---|
| Site | Text | |
| WellID | Text | |
| WQ_DATE | Date/Time | |
| WQ_ParamUnits | Text | |
| WQParam_SH | Text | |
| WQV | Text | |
| SRC | Text | |
| WQ_MRL | Text | |
| WQ_COMMENT | Text | |

Datasheet View (partial)

| Site | WellID | WQ_DATE | WQ_ParamUnits | WQParam_SH | WQV | SRC | WQ_MRL | WQ_COMMENT |
|---|---|---|---|---|---|---|---|---|
| 005N006W10Q002M | 381712122301901 | 22-Nov-02 | MG/L | Cl | 9.12 | USGS | 0.2 | |
| 005N006W10Q002M | 381712122301901 | 22-Nov-02 | MG/L | SO4 | 4.19 | USGS | 0.18 | |
| 010N002W26M001M | 384101122034301 | 25-Aug-69 | UG/L | B | ND | USGS | | |
| 383046122122901 | 383046122122901 | 06-Oct-78 | UG/L | Fe-f | <10 | USGS | 10 | |
| 383049122094801 | 383049122094801 | 04-Oct-78 | US | EC | 309 | USGS | | |
| T0605500304IN | T0605500304IN | 19-Oct-05 | MG/L | K | 1.31 | Geotracker | | |
| T0605500304MW-2 | T0605500304MW-2 | 25-Nov-03 | US | EC | 2500 | Geotracker | | |
| LBRID_MW1 | LBRID_MW1 | 07-Apr-07 | MG/L | HCO3-CaCO3 | 390 | NapaCounty | | |
| AETNA SPRINGS RESORT, INC.-WELL #2 | 2800569-002 | 21-Jun-06 | UG/L | B | ND | DPH | | |

FIGURE A4 – DATA TABLES (continued – Page 3 of 5)

WATER LEVEL TABLE

Design View

Microsoft Access - [T_WL : Table]

File Edit View Insert Tools Window Help

Type a question for help

| Field Name | Data Type | Description |
|---|---|---|
| WLID | AutoNumber | |
| WellID | Text | |
| Date | Date/Time | |
| RPE | Number | Reference Point Elevation: elevation at point from where depth to water measurement made (e.g. notch in casing, ground surface) |
| DTWrp | Number | Measured Depth to Water from Reference Point: negative number indicates water level above reference point, (USGS lev_va, DWR GWL_RPWS) |
| GSE | Number | Ground Surface Elevation (suggested for CASGEM-need to populate) |
| DTWgs | Number | Depth to Water from Ground Surface (suggested for CASGEM-need to populate) |
| WL_CD | Text | Water Level Code: incorporates DWR NMC (GWL_GNC_CODE), DWR QMC (GWL_GQC_CODE), and USGS WL Code (lev_status_cd) (Lookup Table) |
| Src | Text | Source of Water Quality Data (Lookup Table) |
| Comment | Text | DWR GWL_Comment |

Datasheet View (partial)

| WLID | WellID | Date | RPE | DTWrp | GSE | DTWgs | WL_CD | Src | Comment |
|---|---|---|---|---|---|---|---|---|---|
| 1338 | 06N04W22P001M | 4/8/1963 0:00 | 55.1 | 19.1 | | | Pump_rcnt | DWR | |
| 1631 | 06N04W23J001M | 4/13/1953 0:00 | 88.5 | | | | Flowing | DWR | |
| 1994 | 06N04W22R001M | 3/24/1982 0:00 | 38.5 | 27.5 | | | No_code | DWR | |
| 1995 | 06N04W27L002M | 5/22/1992 0:00 | 51 | | | | Pumping | DWR | |
| 3966 | 06N03W31B001M | 4/6/1992 0:00 | 241 | | | | Discontinued | DWR | CAPPED; NO ACCESS |
| 8112 | 381432122063801 | 12/23/1974 0:00 | 42.64 | 15.3 | | | No_code | USGS | |
| 8169 | 381442122180401 | 1/24/1977 0:00 | 37 | 41.9 | | | No_code | USGS | |
| 8175 | 381450122243701 | 5/13/2003 0:00 | 70 | 46.6 | | | Pump_rcnt | USGS | |
| 10159 | 381904122143001 | 8/29/2001 0:00 | 213.47 | | | | Dry | USGS | |
| 15743 | T0605500044MW-15 | 8/26/2008 0:00 | 45.22 | 11.53 | | | No_code | Geotracker | |
| 174149 | NapaCounty-129 | 10/12/2001 0:00 | 336 | 18.6 | | | No_code | NapaCounty | existing well prog. |

Figure A4 – DATA TABLES (continued Page 4 of 5)

PROPERTY INCIDENT TABLE (not populated)

Microsoft Access - [T_ASMT_INCDNT : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| T_ASMT | Text | Lookup to T_ASMT |
| INCDNT_DATE | Date/Time | Date of Incident |
| INCDNT_ID | Text | Incident ID (concatenation of APN no. and date of Incident)-Manually Enter; Primary Key field |
| INCDNT_TYP | Text | Incident Type |
| COMMENT | Text | Incident Description |

APN PERMIT METER TABLE

Design View

Microsoft Access - [T_ASMT_PMT_MTR : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| T_PMTGW_MTR_DBID | AutoNumber | Groundwater Permit Meter DBID |
| PMT_NO | Text | Lookup GW Permit Number MANUAL INPUT |
| MRD_DATE | Date/Time | Meter Reading Date MANUAL INPUT |
| MRD | Number | Present Meter Reading (gallons) MANUAL INPUT |
| COMMENT | Text | Meter Reading Comment MANUAL INPUT |

Datasheet View (populated with example entries only)

| T_PMTGW_MTR_DBID | PMT_NO | MRD_DATE | MRD | COMMENT |
|---|---|---|---|---|
| 3 | GW123 | 01-Jan-04 | 876111 | example entry |
| 4 | GW123 | 30-Jan-04 | 902622 | example entry |
| 5 | GW123 | 27-Feb-04 | 944208 | example entry |
| 6 | GW123 | 30-Apr-04 | 975714 | example entry |
| 7 | GW123 | ######## | 1016641 | example entry |
| 8 | GW123 | 30-Jun-04 | 1169147 | example entry |
| 9 | GW123 | 31-Jul-04 | 1336534 | example entry |
| 10 | GW123 | 30-Aug-04 | 1548645 | example entry |
| 11 | GW123 | 29-Sep-04 | 1691937 | example entry |
| 12 | GW123 | 30-Oct-04 | 1863480 | example entry |
| 13 | GW123 | 27-Nov-04 | 1905337 | example entry |
| 14 | GW123 | 30-Dec-04 | 1926898 | example entry |
| 15 | GW123 | 31-Dec-05 | 3051174 | example entry |
| 16 | GW999 | 01-Jan-04 | 123456 | example entry |
| 17 | GW999 | 01-Feb-04 | 135658 | example entry |
| 18 | GW999 | 01-Mar-04 | 155678 | example entry |
| 19 | GW999 | 01-Apr-04 | 161586 | example entry |
| 20 | GW999 | ######## | 168568 | example entry |
| 21 | GW999 | 01-Jun-04 | 172485 | example entry |
| 22 | GW999 | 01-Jul-04 | 177568 | example entry |
| 23 | GW999 | 01-Aug-04 | 180889 | example entry |
| 24 | GW999 | 01-Sep-04 | 188796 | example entry |

Figure A4 – DATA TABLES (continued Page 5 of 5)

APN PERMIT WATER QUALITY TABLE (not populated)

Microsoft Access - [T_ASMT_PMT_WQ : Table]

File Edit View Insert Tools Window Help

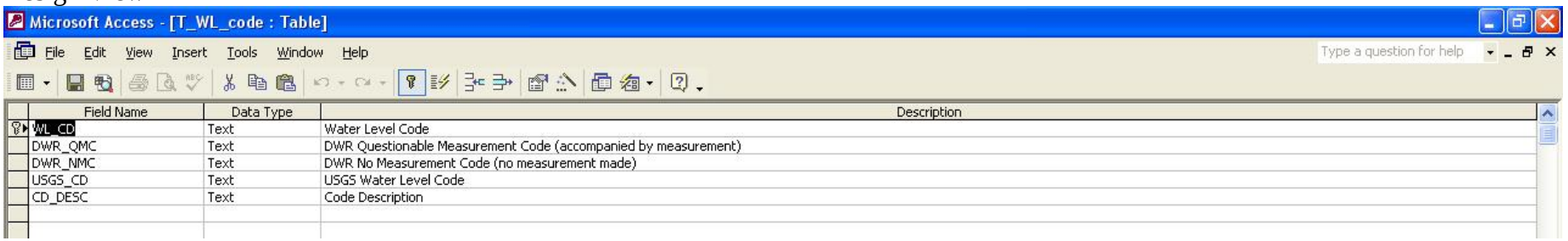
Type a question for help

| Field Name | Data Type | Description |
|---|---|---|
| T_ASMT_PMT_WQ | AutoNumber | |
| PMT_NO | Text | Lookup to [T_ASMT_PMT] |
| WQ_DATE | Date/Time | Sample Date/Time |
| WQ_ParamCd | Text | parameter code link to T_WQParam (see T_WQParam for necessary units of measure associated with each parameter) |
| WQV | Number | -9999 is a non-detect |
| WQ_MRL | Text | general field for reporting limit |
| units | Text | unit of measure: must match the corresponding unit of measure in T_WQParam table (Lookup Table) |
| WQ_COMMENT | Text | |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (Page 1 of 14)

WATER LEVEL CODE

Design View




| Field Name | Data Type | Description |
|---|---|---|
| WL_CD | Text | Water Level Code |
| DWR_QMC | Text | DWR Questionable Measurement Code (accompanied by measurement) |
| DWR_NMC | Text | DWR No Measurement Code (no measurement made) |
| USGS_CD | Text | USGS Water Level Code |
| CD_DESC | Text | Code Description |

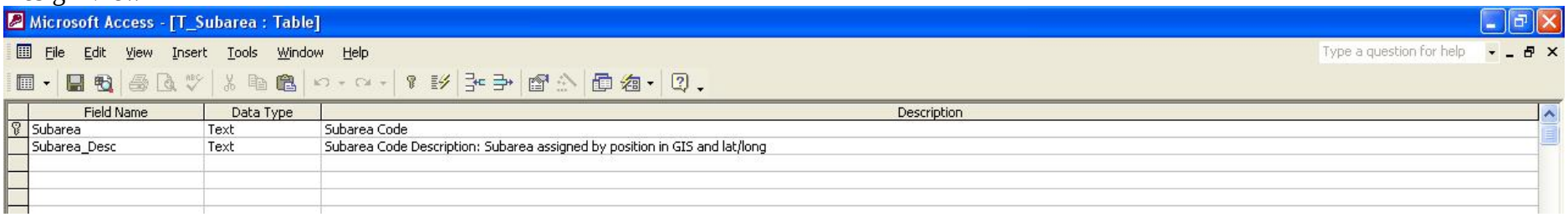
Datasheet View (complete)

| WL_CD | DWR_QMC | DWR_NMC | USGS_CD | CD_DESC |
|---|---|---|---|---|
| Acous_msmt | 9 | | | Acoustical sounder measurement |
| Air_Press_msmt | 5 | | | Air or pressure gauge measurement |
| Atmos_pres | | | A | Water level was affected by atmospheric pressure |
| Casing_lkng_wet | 3 | 8 | | Casing leaking or wet |
| Caved | 0 | | | Caved or deepened |
| Destroyed | | 6 | W | The well was destroyed (no water level was recorded) |
| Discontinued | | 0 | N | The measurement was discontinued |
| Dry | | D | D | The site was dry (no water level is recorded) |
| Flow_rcnt | | | E | The site was flowing recently |
| Flowing | | F | F | The site was flowing. Water level or head could not be measured without additional equipment |
| Foreign_sub | 8 | | V | A foreign substance was present on the surface of the water |
| Ice_effect | | | C | Water level was affected by ice |
| No_code | | | | No code necessary; Measurement represents static water level |
| No_locate | | 5 | | Unable to locate well |
| Nr_flow | | | G | A nearby site that taps the same aquifer was flowing |
| Nr_flow_rcnt | | | H | A nearby site that taps the same aquifer had been flowing recently |
| Nr_pump | 2 | | S | A nearby site that taps the same aquifer was being pumped |
| Nr_pump_rcnt | | | T | A nearby site that taps the same aquifer had been pumped recently |
| Nr_rchrg | 7 | | J | A nearby site that taps the same aquifer was injecting recharge water |
| Nr_sfc | | | X | The water level was affected by stage in nearby surface-water site |
| Obstruction | | 4 | O | An obstruction was encountered in the well (no water level was recorded) |
| Other_DWR | 6 | | | Other |
| Other_USGS | | | Z | Other conditions existed that would affect the measured water level |
| Plugged | | | M | Well was plugged and not in hydraulic contact with formation |
| Pump_rcnt | 4 | | R | The site had been pumped recently |
| Pumphs_lck | | 2 | | Pumphouse locked |
| Pumping | 1 | 1 | P | The site was being pumped |
| Rechrg | | | I | Recharge water was being injected into the aquifer at the site |
| Special | | 7 | | Special |
| Tape_Hung | | 3 | | Tape hung up |
| Temp_inacc | | 9 | | Temporarily inaccessible |
| Tidal_effect | | | B | Water level was affected by tide stage |
| Unk | | | | No DTW; unknown reason |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 2 of 14)

SUBAREA TABLE

Design View




| Field Name | Data Type | Description |
|---|---|---|
| Subarea | Text | Subarea Code |
| Subarea_Desc | Text | Subarea Code Description: Subarea assigned by position in GIS and lat/long |

Datasheet View (complete)

| Subarea | Subarea_Desc |
|---|---|
| Ang | Angwin Area |
| Berryessa | Berryessa Area |
| Carn | Carneros Area |
| Cent_Int_Val | Central Interior Valleys |
| East_Mnts | Eastern Mountains |
| Jam_AmerCan | Jamieson/American Canyon |
| Knox | Knoxville Area |
| NA | NA - NO LAT/LONG |
| NR_Marsh | Napa River Marshes |
| NVF_Calis | Napa Valley Floor-Calistoga |
| NVF_MST | Napa Valley Floor-MST |
| NVF_Napa | Napa Valley Floor-Napa |
| NVF_SH | Napa Valley Floor-St. Helena |
| NVF_Yount | Napa Valley Floor-Yountville |
| Outside | OUTSIDE NAPA CTY |
| PV | Pope Valley |
| South_Int_Val | Southern Interior Valleys |
| West_Mnts | Western Mountains |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 3 of 14)

WATER QUALITY PARAMETER

Design View

Microsoft Access - [T_WQParam : Table]

File Edit View Insert Tools Window Help

| Field Name | Data Type | Description |
|---|---|---|
| WQ_ParmID | AutoNumber | |
| WQ_ParamCd | Text | Parameter Code containing USGS and DPH parameter code (epa storet number?) or other unique identifier |
| WQ_ParamSrc | Text | Source of Parameter Code: DPH, USGS (or both), Geotracker or LSCE (indicated as Napa County) |
| WQ_ParamDesc | Text | Parameter Description (USGS description used if available, otherwise DPH description) |
| WQ_ParamUnits | Text | Units of measure |
| WQ_ParamSH | Text | Abbreviation/Code to group parameters and display in queries or reports |
| Param_USGS | Yes/No | Source of Parameter Code: USGS |
| Param_Geotrck | Yes/No | Source of Parameter Code: Geotracker |
| Param_DPH | Yes/No | Source of Parameter Code: DPH |
| Param_DWR | Text | DWR Parameter code |

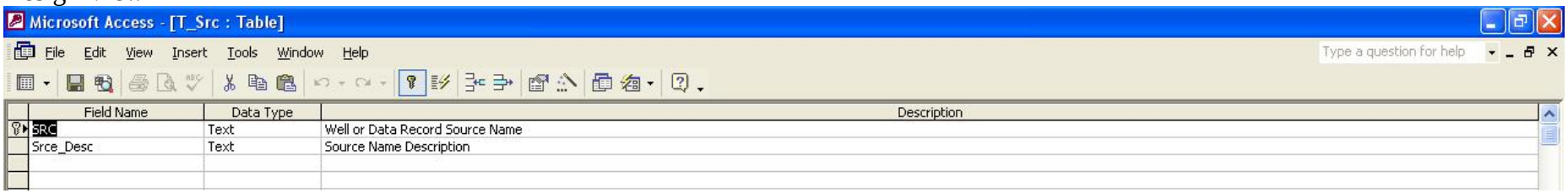
Datasheet View (partial)

| WQ_ParmID | WQ_ParamCd | WQ_ParamSrc | WQ_ParamDesc | WQ_ParamUnits | WQ_ParamSH | Param_USGS | Param_Geotrck | Param_DPH | Param_DWR |
|---|---|---|---|---|---|---|---|---|---|
| 424 | 71851 | USGS | Nitrate, water, filtered, milligrams per liter | MG/L | NO3 | TRUE | TRUE | FALSE | min.no3 |
| 114 | 01051 | DPHandUSGS | Lead, water, unfiltered, recoverable, micrograms per liter | UG/L | Pb | TRUE | TRUE | TRUE | me1.pb_t |
| 28 | 00400 | DPHandUSGS | pH, water, unfiltered, field, standard units | pH Units | pH-field | TRUE | FALSE | TRUE | |
| 132 | 01092 | DPHandUSGS | Zinc, water, unfiltered, recoverable, micrograms per liter | UG/L | Zn | TRUE | TRUE | TRUE | me1.zn_t |
| 1268 | Zinc_unsp | Napa County | Zinc, unspecific, micrograms per liter | UG/L | Zn | FALSE | FALSE | FALSE | |
| 590 | 00929 | DPH | SODIUM | MG/L | Na | FALSE | TRUE | TRUE | |
| 76 | 00930 | USGS | Sodium, water, filtered, milligrams per liter | MG/L | Na | TRUE | FALSE | FALSE | min.na |
| 85 | 01000 | USGS | Arsenic, water, filtered, micrograms per liter | UG/L | As | TRUE | FALSE | FALSE | |
| 87 | 01002 | DPHandUSGS | Arsenic, water, unfiltered, micrograms per liter | UG/L | As | TRUE | TRUE | TRUE | me1.as_t |
| 1265 | Arsenic_unsp | Napa County | Arsenic, unspecific, micrograms per liter | UG/L | As | FALSE | FALSE | FALSE | |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 4 of 14)

SOURCE

Design View




| Field Name | Data Type | Description |
|---|---|---|
| SRC | Text | Well or Data Record Source Name |
| Srce_Desc | Text | Source Name Description |

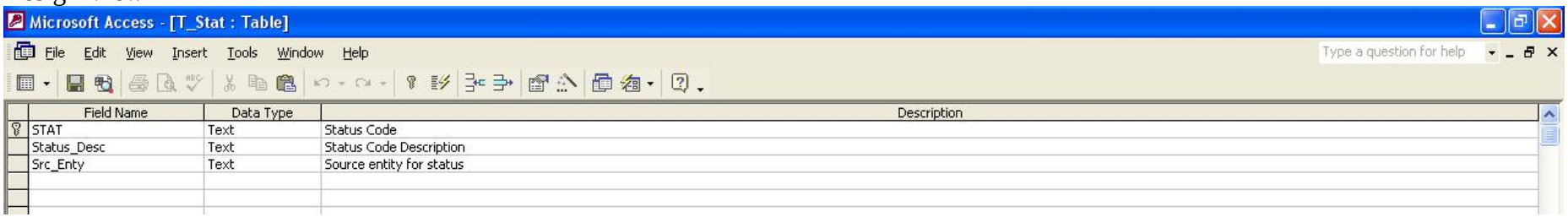
Datasheet View (complete)

| SRC | Srce_Desc |
|---|---|
| DPH | California Department of Public Health |
| DWR | California Department of Water Resources |
| Geotracker | California State Water Resources Control Board-Geotracker |
| NapaCounty | Napa County (including other Local Entities) |
| USGS | United States Geological Survey |

FIGURE A5– ACCESSORY ‘LOOKUP’ TABLES (continued – Page 5 of 14)

STATUS

Design View




| Field Name | Data Type | Description |
|---|---|---|
| STAT | Text | Status Code |
| Status_Desc | Text | Status Code Description |
| Src_Enty | Text | Source entity for status |

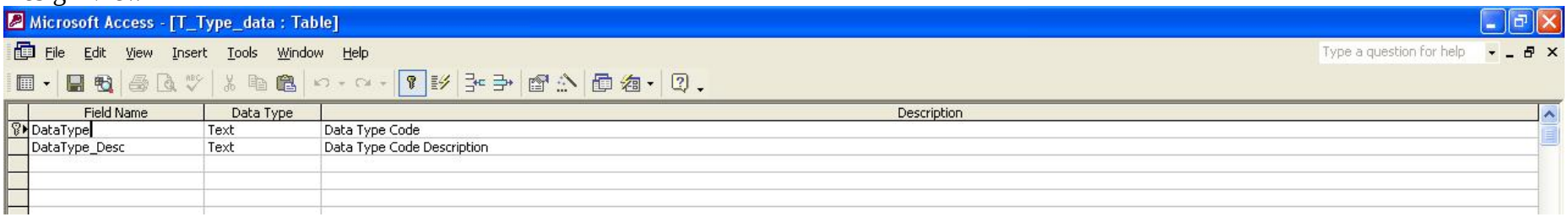
Datasheet View (complete)

| STAT | Status_Desc | Src_Enty |
|---|---|---|
| AB | Abandoned-A source which is no longer being used, with no intention of being used in the future, and which is not destroyed | DPH |
| ACT | Active-Groundwater well currently used for monitoring | Geotracker; Napa County |
| AR | Active Raw-An active source which is sampled before any treatment. | DPH |
| AU | Active Untreated-An active source which is not treated | DPH |
| CR | Combined Raw-Combined raw sources | DPH |
| DEST | Destroyed-Groundwater well has been properly and legally destroyed; no longer is conduit to the subsurface | Geotracker |
| DRY | Dry-Groundwater well is dry and cannot be sampled | Geotracker; Napa County |
| INACT | Inactive-Groundwater well is NOT included in groundwater monitoring program | Geotracker |
| IR | Inactive Raw-A source which is not in service for periods of one year or greater and which provides raw water which is sampled before any treatment. | DPH |
| IU | Inactive Untreated-A source which is not in service for periods of one year or greater and which provides raw water to a system without any treatment. | DPH |
| NA | Not Available (no historical data available) | |
| NOACC | No Access-Presently no access to groundwater well | Geotracker |
| PN | Pending | DPH |
| SR | Standby Raw-A source which is used less than 15 calendar days per year, with periods not to exceed five consecutive days and which provides raw water which is sampled before any treatment. | DPH |
| SU | Standby Untreated-A source which is used less than 15 calendar days per year, with periods not to exceed five consecutive days and which provides raw water without any treatment. | DPH |
| Unk | Unknown Status (some historical data available) | |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 6 of 14)

DATA TYPE

Design View



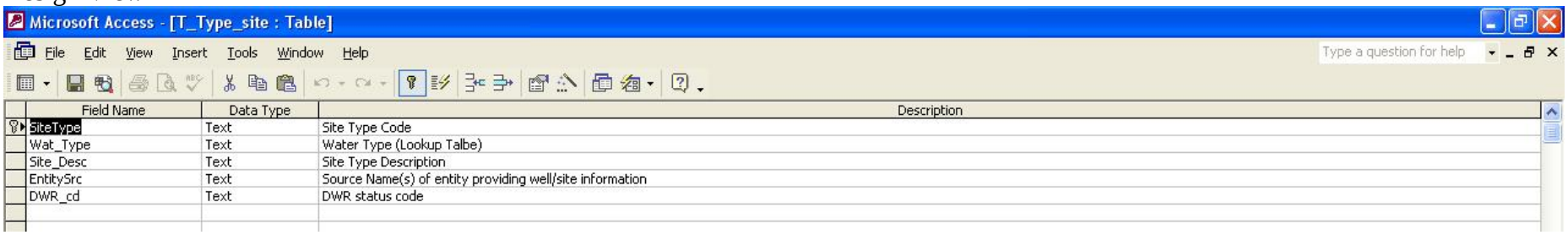

Datasheet View (complete)

| DataType | DataType_Desc |
|---|---|
| NoData | No Water Level or Water Quality Data currently in DB |
| WL | Water Levels (related records in T_WL) |
| WL_WQ | Water Levels and Water Quality (related records in T_WQ and T_WL) |
| WQ | Water Quality (related records in T_WQ) |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 7 of 14)

SITE TYPE

Design View




| Field Name | Data Type | Description |
|---|---|---|
| SiteType | Text | Site Type Code |
| Wat_Type | Text | Water Type (Lookup Talbe) |
| Site_Desc | Text | Site Type Description |
| EntitySrc | Text | Source Name(s) of entity providing well/site information |
| DWR_cd | Text | DWR status code |

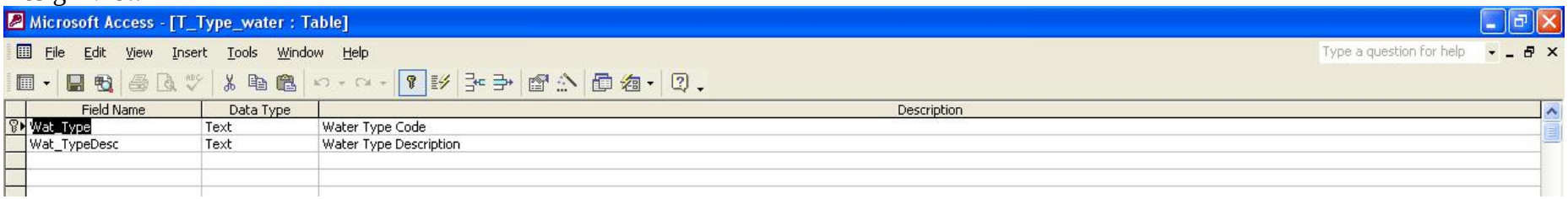
Datasheet View (complete)

| SiteType | Wat_Type | Site_Desc | EntitySrc | DWR_cd |
|---|---|---|---|---|
| AMB | GW | Ambient drinking water aquifer monitoring well (NOT a remediation well) | Geotracker | |
| BH | GW | Borehole | Geotracker | |
| Creek | SW | Moving Body of Water | LSCE | |
| Dist | Other | Distribution System (Based on Site Name) | DPH | |
| Dom | GW | Domestic | Napa County, DWR | H |
| Dom_Ind | GW | Domestic & Industrial | Napa County | |
| Dom_Irr | GW | Domestic & Irrigation | Napa County, DWR | IH |
| Dom_Pub | GW | Domestic & Public | Napa County | |
| Dom_Stk | GW | Domestic & Stock | DWR | HS |
| Irr | GW | Irrigation | Napa County, DWR | I |
| Lake | SW | Body of Water (size constraint?) | LSCE | |
| MW | GW | Remediation/Groundwater Monitoring Well | Geotracker | |
| Pond | SW | Body of Water (size constraint?) | LSCE | |
| PRIW | GW | Domestic/Private Drinking Water Well | Geotracker | |
| Pub | GW | Public | Napa County | |
| PZ | GW | Piezometer | Geotracker | |
| River | SW | Moving Body of Water | LSCE | |
| Stk | GW | Stock | DWR | S |
| Unk_Ag | GW | TYPE Unknown (Agricultural Well-Not confirmed; Groundwater Source) | LSCE | |
| Unk_GW | GW | TYPE Unknown (Groundwater Source) | Napa County, DWR, LSCE | Z |
| Unk_MW | GW | TYPE Unknown (Monitoring Well-Not confirmed; Groundwater Source) | LSCE | |
| Unk_Other | Other | TYPE Unknown | LSCE | |
| Unk_PrivWell | GW | TYPE Unknown (Private/Domestic Well-Not confirmed; Groundwater Source) | LSCE | |
| Unk_Public | GW | TYPE Unknown (Public Supply Well-Not confirmed; Groundwater Source) | LSCE | |
| Unk_Sprg | GW | TYPE Unknown (Spring-Not confirmed; Groundwater Source) | LSCE | |
| Unk_SW | SW | TYPE Unknown (Surface Water Source) | LSCE | |
| Unused | GW | Unused | DWR | U |
| VEW | GW | Vapor Extraction Well | Geotracker | |
| WSW | GW | Water Supply Well | Geotracker | |
| WW | Other | Wastewater (Based on Site Name) | DPH | |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 8 of 14)

WATER TYPE

Design View



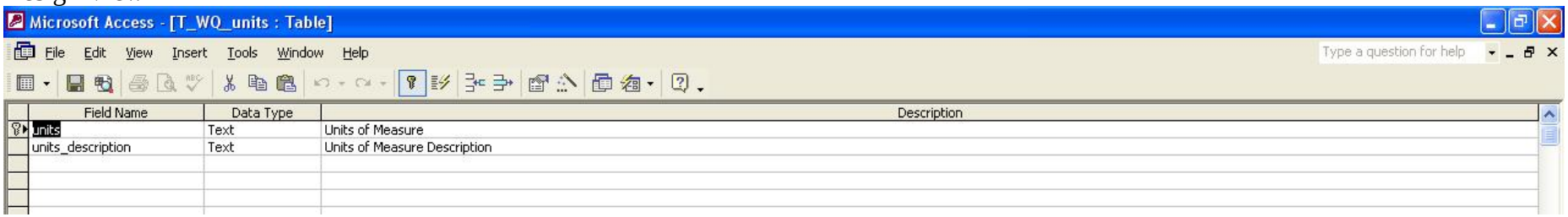

Datasheet View (complete)

| Wat_Type | Wat_TypeDesc |
|---|---|
| GW | Groundwater |
| Other | Other Miscellaneous |
| SW | Surface Water |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 9 of 14)

WATER QUALITY UNITS

Design View



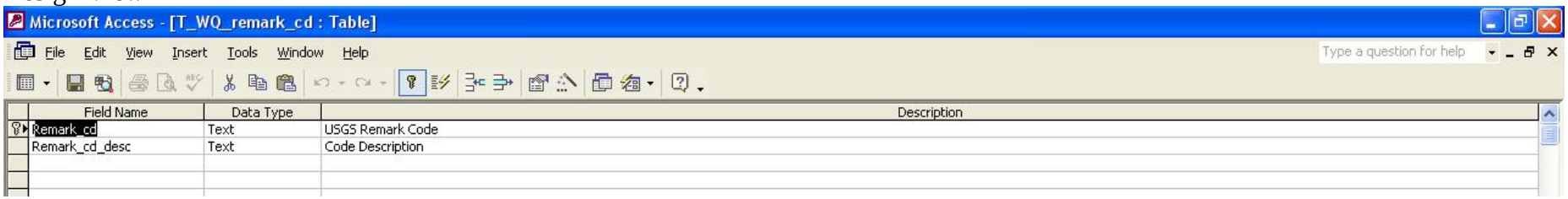

Datasheet View (complete)

| units | units_description |
|---|---|
| degrees C | degrees Celsius |
| MFL | million fibers per liter |
| MG/L | milligrams per liter |
| MPN/100mL | most probable number per 100 milliliters |
| MREM/Y | millirems per year |
| mV | milliVolts |
| NTU | nephelometric turbidity units |
| PCI/L | picocuries per liter |
| PG/KG | picograms per kilogram |
| PG/L | picograms per liter |
| pH Units | pH Units |
| TON | Threshold Odor Number |
| UG/KG | micrograms per kilogram |
| UG/L | micrograms per liter |
| UNITS | Color Units |
| US | microsiemens per centimeter |

FIGURE A5 – ACCESSORY ‘LOOKUP’ TABLES (continued – Page 10 of 14)

WATER QUALITY REMARK CODE

Design View



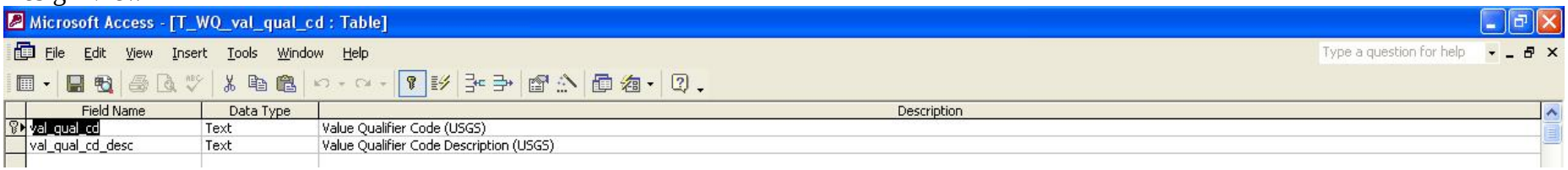

Datasheet View (complete)

| Remark_cd | Remark_cd_desc |
|---|---|
| < | Less than. |
| > | Greater than. |
| A | Average. |
| E | Estimated. |
| M | Presence verified but not quantified. |
| N | Presumptive evidence of presence. |
| R | Radchem non-detect, below ssLc |
| S | Most probable value. |
| U | Analyzed for but not detected. |
| V | Value affected by contamination. |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 11 of 14)

WATER QUALITY VALUE QUALIFIER CODE

Design View




| Field Name | Data Type | Description |
|---|---|---|
| val_qual_cd | Text | Value Qualifier Code (USGS) |
| val_qual_cd_desc | Text | Value Qualifier Code Description (USGS) |

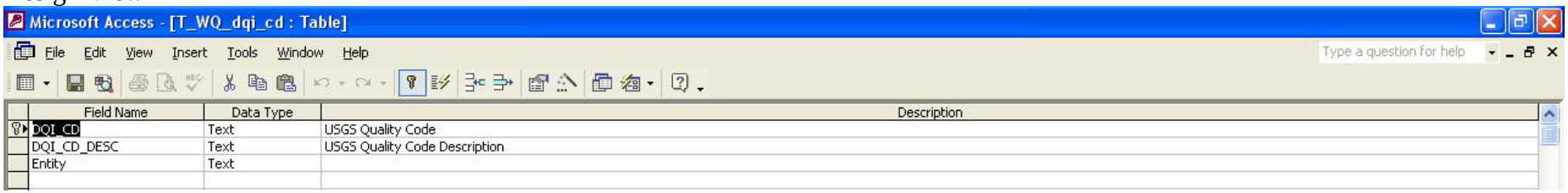
Datasheet View (complete)

| val_qual_cd | val_qual_cd_desc |
|---|---|
| $ | Used incorrect bottle type as requested |
| & | Biological organism est. as dominant |
| ( | Blank greater than the sample-specific Critical Level |
| ) | Sample specific MDC (ssMDC) above contractual MDC |
| * | Sample was warm when received |
| / | Matrix Spike (MS) recovery outside of acceptable range |
| @ | Holding time exceeded |
| \ | Laboratory Control Sample (LCS) recovery outside of accept range |
| ^ | Yield outside of contractual acceptable range |
| ~ | Duplicates do not check (not within the acceptance limits) |
| + | Improper preservation |
| = | Negative result may indicate potential negative bias |
| a | Value extrapolated at high end |
| b | Value extrapolated at low end |
| c | See result laboratory comment |
| d | Diluted sample: method hi range exceeded |
| e | See result field comment |
| f | Sample field preparation problem |
| g | Count < 0.5 percent |
| h | Cmpd. ident. verified by 2nd method |
| i | Result may be affected by interference |
| j | Count >= 15 percent (dominant) |
| k | Counts outside acceptable range |
| l | Sample lab preparation problem |
| m | Value is highly variable by this method |
| n | Below the LRL and above the LT-MDL |
| o | Result determined by alternate method |
| p | Value reported is preferred |
| q | Insufficient sample received |
| r | Value verified by rerun, same method |
| s | Instrument sensitivity problem |
| t | Below the long-term MDL |
| u | Value reported not confirmable, interference |
| v | Analyte detected in laboratory blank |
| w | High variability: questionable precision and accuracy |
| x | Interference from sample matrix |
| y | Sample variability described in comment |
| z | Value verified by rerun, 2nd method |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 12 of 14)

## WATER QUALITY DATA QUALITY INDICATOR

### Design View



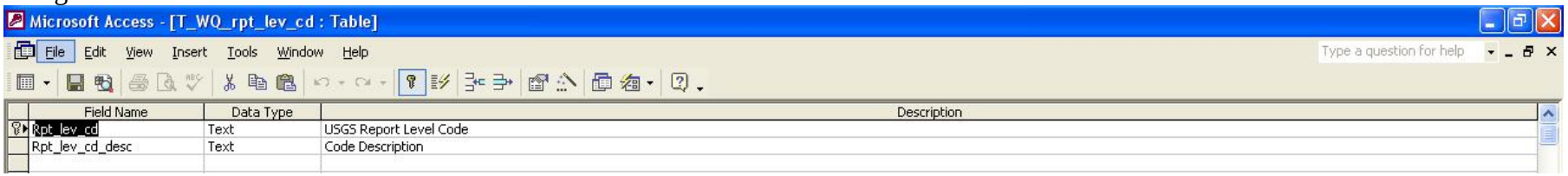

| Field Name | Data Type | Description |
|---|---|---|
| DQI_CD | Text | USGS Quality Code |
| DQI_CD_DESC | Text | USGS Quality Code Description |
| Entity | Text | |

### Datasheet View (complete)

| DQI_CD | DQI_CD_DESC | Entity |
|---|---|---|
| A | Historical data | USGS |
| NR | Not reviewed | County and other |
| Ques | Questionable Record | County and other |
| R | Reviewed and accepted | USGS |
| S | Presumed satisfactory | USGS |

## WATER QUALITY REPORTING LEVEL CODE

### Design View




| Field Name | Data Type | Description |
|---|---|---|
| Rpt_lev_cd | Text | USGS Report Level Code |
| Rpt_lev_cd_desc | Text | Code Description |

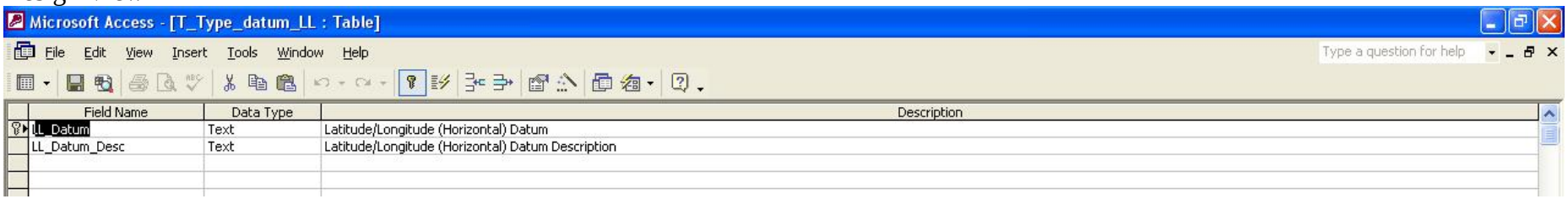
### Datasheet View (complete)

| Rpt_lev_cd | Rpt_lev_cd_desc |
|---|---|
| INT | Interim reporting level |
| IRL | Interim reporting level |
| LRL | Laboratory reporting level |
| LT-MDL | Long term method detection level |
| MDL | Method detection limit |
| MRL | Minimum reporting level |
| SSLC | Sample-specific critical level |
| SSMDC | Sample-specific min detect concentration |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 13 of 14)

## TYPE OF LAT/LONG DATUM

### Design View



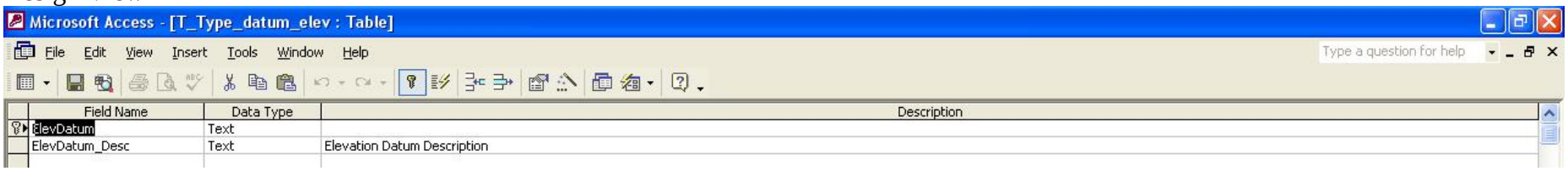

| Field Name | Data Type | Description |
|---|---|---|
| LL_Datum | Text | Latitude/Longitude (Horizontal) Datum |
| LL_Datum_Desc | Text | Latitude/Longitude (Horizontal) Datum Description |

### Datasheet View (complete)

| LL_Datum | LL_Datum_Desc |
|---|---|
| NAD27 | North American Datum 1927 |
| NAD83 | North American Datum 1983 |
| UNK | Unknown |

## TYPE OF ELEVATION DATUM

### Design View




| Field Name | Data Type | Description |
|---|---|---|
| ElevDatum | Text | |
| ElevDatum_Desc | Text | Elevation Datum Description |

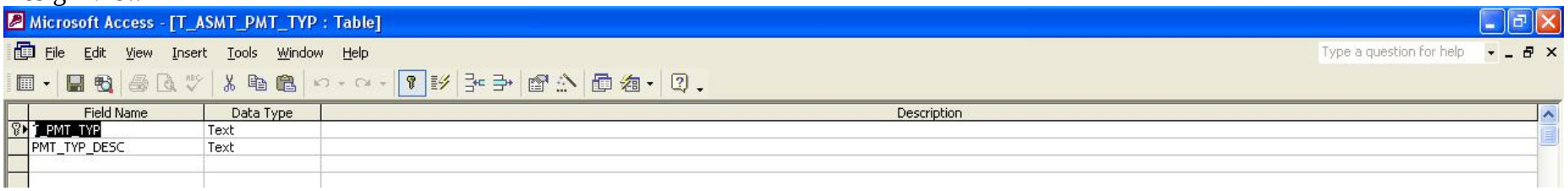
### Datasheet View (complete)

| ElevDatum | ElevDatum_Desc |
|---|---|
| ASSD | Assorted? (unknown) |
| LOC | Local System |
| NAVD88 | North American Vertical Datum 88 |
| NGVD29 | National Geodetic Vertical Datum 29 |
| UNK | Unknown |

FIGURE A5 – ACCESSORY 'LOOKUP' TABLES (continued – Page 14 of 14)

PERMIT TYPE

Design View




Datasheet View

| T_PMT_TYP | PMT_TYP_DESC |
|---|---|
| GW | Groundwater |
| USG | Usage |