

GROUNDWATER DATA SUBMITTAL GUIDANCE DOCUMENT

(Version 3.0)

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PREPARED BY:

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WASTE PROGRAMS DIVISION
SUPERFUND PROGRAMS SECTION**

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Attachment A. GWDB Electronic Data Submittal Transmittal Form

I. SUMMARY OF CHANGES

This section highlights some of the changes between Version 2.1 (dated August 1, 2000) and Version 3.0 of the Groundwater Data Submittal Guidance Document.

Mandatory vs. Optional Fields

Fields in all 3 tables: Table A- Well Inventory Submittal, Table B- Water Quality Data Submittal and Table C- Water Elevation Data Submittal, are no longer designated as mandatory or optional. In version 3.0 of the Submittal Guidance, all fields are mandatory. If data is not available for a particular field, please contact Submittal Coordinator, Lowell Carty at Carty.Lowell@ev.state.az.us or (602) 771-4413. Requirements may be relaxed by the Submittal Coordinator on a case by case basis for historical submittals.

A. Well Inventory Changes

Fields Added

- Measuring point elevation
- Measuring point elevation method

B. Water Quality Data Submittal Changes

Fields Added:

- Sample Depth
- ADHS Lab Qualifier (up to 10 lab qualifiers)

Fields Renamed:

- Detection Limit is now called Lab Reporting Limit
- Detection Limit Units is now called Lab Reporting Limit Units

Fields Deleted:

- Analyte (STORET code and Method adequately identify the analyte)
- Low Calib Std field
- High Calib Std field

C. Water Elevation Data Submittal Changes

Fields Added:

- Well Status
- Collecting Agency

In Groundwater Data Submittal Guidance Document (version 3.0), Section V. Table Definitions, incorporates sections VI. Downloadable Look-up Tables, and VII. Glossary of Terms of Groundwater Data Submittal Guidance Document (version 2.1).

II. INTRODUCTION

The Superfund Programs Section (SPS) of the Arizona Department of Environmental Quality (ADEQ) receives a large volume of data in hard copy format which is difficult to manage and time consuming to enter into ADEQ's Groundwater Quality Database. In order to manage the large volume of groundwater data that the SPS receives, it has become imperative that these data are submitted electronically in a format compatible with the ADEQ Water Quality Database.

This guidance document describes the format and procedures for the submittal of groundwater data electronically. This cooperative effort between the SPS and the facilities for which the SPS has oversight responsibility will lead to more efficient and effective data management that will benefit all parties involved. The SPS expects to be able to analyze and synthesize data more readily, providing a higher level of service to our internal and external customers.

The SPS has identified three general types of data that would most readily be managed electronically:

- 1) well inventories,
- 2) water quality data, and
- 3) water elevation data.

To facilitate the loading of electronic data, the SPS has worked with outside laboratories and environmental consultants to identify the minimum critical data necessary that will allow the Section to manage these data efficiently, and has attempted to develop a procedure that will be minimally burdensome on the facilities that submit data.

To ensure consistency, many of the fields of the requested format have a pre-defined list of entries. In the description of these fields, reference is made to the appropriate look-up table that contains the list of entries and codes. Look-up tables are downloadable in .pdf format from the ADEQ website at: <http://www.adeq.state.az.us/environ/waste/sps/index.html>. Please see Section V. Table Definitions for more information.

Data will be managed in the State of Arizona's Groundwater Quality Database (Database) and will become public records. As public records, these data will be available to all interested parties in both electronic and print media. We welcome your comments and suggestions regarding this effort.

Any questions or comments regarding this document should be directed to SPS Submittal Coordinator, Lowell Carty at Carty.Lowell@ev.state.az.us or (602) 771-4413.

III. PROCEDURE NARRATIVE

A. Well Inventory Submittal

Identify all wells in the facility/organization groundwater monitoring network. ADEQ staff can query the Database by township and range to provide the submitter with a fixed-width ASCII file of wells already in the Database; contact SPS Submittal Coordinator, Lowell Carty at Carty.Lowell@ev.state.az.us or (602) 771-4413.

All groundwater data will be related to an **ADEQ well number**, which will be assigned by ADEQ. The ADEQ well number will serve as the unique identifier, or primary key, to which all other data will be related.

Single Screened Interval

Wells with a single screened interval and will be assigned a single ADEQ well number.

Multiple Screened Intervals or Sampling Ports

Specialty wells installed to collect depth specific samples from multiple screened intervals or sampling ports (e.g. Westbay or nested wells) will be assigned an ADEQ well number for each sampling port or interval. For those specialty wells, please list each sampling port or interval as a separate record. For wells with multiple screened intervals that were not designed for depth specific sampling (e.g. production and dewatering wells), please contact the SPS Project Manager to determine the most appropriate method for identifying the sampled interval.

The SPS anticipates the submitter will make every effort to compile information for each of the data fields requested. However, the SPS recognizes the variability of historical data, therefore, the requirements may be relaxed for historical well inventory data submittals on a case by case basis. A complete description of the table structure, required data fields, and applicable look-up tables can be found in Section V.

Once ADEQ receives the well inventory from the facility/organization, ADEQ well numbers will be assigned. An electronic copy of the inventory that includes the ADEQ numbers will then be returned to the facility/organization. This procedure is required only one time so that ADEQ can establish entries in the database for each of your wells.

B. Water Quality Data Submittal

Once ADEQ well numbers have been established, it is possible to submit groundwater quality sampling results. Due to the variable nature of historical water quality data, the data requirements may be relaxed on a case by case basis for historical submittals. A complete description of the table structure, required data fields, and applicable look-up tables can be found in Section V.

C. Water Elevation Data Submittal

Once ADEQ well numbers have been established, it is possible to submit groundwater quality sampling results. Due to the variable nature of historical data, the data requirements may be relaxed on a case by case basis for historical submittals. A complete description of the table structure, required data fields, and applicable look-up tables can be found in Section V.

IV. PROCEDURE SNAPSHOT

1. Develop and submit well inventory to the SPS Submittal Coordinator.
2. ADEQ will return an electronic copy of the ADEQ well number(s) within approximately 21 days of the date of receipt. The six digit field (ADEQ WELL NUMBER) will contain a unique identifier that will be attached to all groundwater quality results and water level elevation data submitted for that sampling port/screened interval.
3. Following receipt of the unique identifiers, groundwater quality and water level elevation data may be submitted in accordance with the formats described in the groundwater quality table definitions and the groundwater elevation table definitions, found in section V of this document.

If you find that there are missing lookup codes in associated lookup tables for data you've collected, please contact Lowell Carty at Carty.Lowell@ev.state.az.us or (602) 771-4413. Arrangements will be made for updating ADEQ's database with new lookup codes reflecting your data submittal. Because lookup tables can change monthly, it is important to download an updated version of the look-up tables each time an electronic data submittal is prepared.

V. TABLE DEFINITIONS

A table for each of the 3 types of submittal is included in this section. The Field Name column identifies the data elements that will be submitted; descriptive definitions can be found in the Requirements/Comments column. The Field Length column identifies the maximum length for each data element. The Position column identifies the position that the field will begin and end. The Look-up Table Name and Look-Up Table No. columns identify the associated look-up table, if any.

A. Well Inventory Submittal

Format: ASCII fixed-width. (All fields are left justified.)

Do not export header row with data.

Submittal may be upper or lower case or combination. ADEQ program will automatically convert all text to caps.

Note: In the case of multi-port wells, please list each sampling port a a separate record entry.

Field Name	Field Length	Position	Look-Up Table Name	Look Up Table No.	Requirements/Comments
ADEQ Well Number	6	01-06			Unique identifier of the well in the database. Field should be left blank In well inventory submittal.
Well Name	25	07-31			Facility or common name of well.
ADWR Number	9	32-40			55-xxxxxx ADWR registration number for the well.
Longitude	12	41-52			dddmmss.sss Longitude of well using NAD 27 datum.
Latitude	11	53-63			ddmmss.sss Latitude of well using NAD 27 datum.
Latitude/Longitude Method	1	64	Latitude/Longitude Measuring Methods	WQR218	Method used to determine lat/long location of well.
Top of Screened Interval	7	65-71			In feet below measuring point elevation.
Bottom of Screened Interval	7	72-78			In feet below measuring point elevation.
Drill Depth	7	79-85			Total drilled depth of the borehole, in feet below ground surface . This may or may not be the same as the total depth of the well.
Measuring Point Elevation	7	86-92			Measurement point elevation of the well (datum NAVD29), in feet above mean sea level .
Measuring Point Elevation Method	1	93	Elevation Measuring Methods	WQR202	Method used to determine the measurement point elevation of the well.

B. Water Quality Data Submittal

Format:ASCII fixed-width. (All fields are left justified.)

Do not export header row with data. Submittal may be upper or lower case or combination. ADEQ program will automatically convert all text to caps.

Starred fields (*) are not required for field analysis methods.

Do not include data from trip blanks, field blanks, or equipment rinsate blanks.

Field Name	Field Length	Position	Look-Up Table Name	Look Up Table No.	Requirements/Comments
ADEQ Well Number	6	01-06			Unique identifier of the well in the database. Well number must be submitted exactly as it was assigned. If it was assigned as 10, then there would be no leading zeros; if it was assigned as 00010, then the leading zeros are required.
Lab Name*	5	07-11	Laboratories	WQR231	Name of the laboratory conducting the analysis.
Reporting Agency	5	12-16	Agencies	WQR201	Name of agency/consulting firm submitting the data to ADEQ.
Collecting Agency	5	17-21	Agencies	WQR201	Name of agency/consulting firm that collected the data.
Sample ID	60	22-81			Sample identifier given by the sampler.
Sample Type	1	82	Sample Types	WQR227	Type of sample collected.
Lab ID*	15	83-97			Sample identifier assigned by the lab.
Sample Date	10	98-107			mm/dd/yyyy Date the sample was collected.
Sample Time	4	108-111			military format (e.g. 1330) Time the sample was collected. Sample time must be unique for each Sample id.
Sample Depth	7	112-118			The depth of the sample is defined as the depth to the intake of the pump, the depth to the sample collection opening on the bailer, or the depth to the center of a passive diffusion bag sampler or a depth specific sampling device. Measure in feet below measuring point elevation (datum NAVD29).
Extraction Date*	10	119-128			mm/dd/yyyy Date the sample was extracted, if applicable. If this is not applicable to the analysis, leave null.
Analysis Date	10	129-138			mm/dd/yyyy Date sample was analyzed.
Method	20	139-158	Accepted Laboratory Methods	WQR206	EPA/ADHS method number.
STORET	5	159-163	STORET Codes	WQR246	Include leading zeros in STORET code. A STORET code is a numeric ID number for analytes based on media & analysis type. If you do not find a STORET code that matches your analysis, contact ADEQ Submittal Coordinator.
Lab Reporting Limit*	8	164-171			Lab reporting limit of the analyte. Lab Reporting Limit Units must also be filled in.
Lab Reporting Limit Units*	8	172-179	Measuring Units	WQR222	Units in which limits are detected. Must be included with Lab Reporting Limit field.
Continued					

continuation of: **B. Water Quality Data Submittal**

Field Name	Field Length	Position	Look-Up Table Name	Look-Up Table No.	Requirements/Comments
Results	12	180-191			Sample result. Must be numeric value only . If results cannot be reported numerically (i.e. <0.5) use 'LT' code in Lab Notification field and 0.5' in results field. If result is non-detect leave result field null and use 'ND' in Lab Notation field. If Results is null, Lab Notation field MUST have a Lab Notation Code.
Lab Notation	3	192-194	Laboratory Notation	WQR243	The laboratory notation of a result value This may include ND, "not detected"; Q "holding time exceeded", M "duplicate analysis outside of control limits or others in Laboratory Notation look-up table.
Result Units	8	195-202	Measuring Units	WQR222	Units in which results are reported.
Dilution*	4	203-206			Dilution factor for the analysis, if any. If no dilution was applied, enter a '1'.
ADHS Lab Qualifier1*	3	207-209	ADHS Lab Data Qual	WQR282	ADHS Lab Qualifiers are reported on lab sheets. Lab Qualifiers provide an additional description about the result. Up to 10 Lab Qualifiers can be submitted per result.
ADHS Lab Qualifier2*	3	210-212	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier3*	3	213-215	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier4	3	216-218	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier5*	3	219-221	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier6*	3	222-224	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier7*	3	225-227	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier8*	3	228-230	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier9*	3	231-233	ADHS Lab Data Qual	WQR282	
ADHS Lab Qualifier10*	3	234-236	ADHS Lab Data Qual	WQR282	

C. Water Elevation Data Submittal

Format: ASCII fixed-width. (All fields are left justified.)

Do not export header row with data

Submittal may be upper or lower case or combination. ADEQ program will automatically convert all text to caps.

Field Name	Field Length	Position	Look-Up Table Name	Look-Up Table No.	Requirements/Comments
ADEQ Well Number	6	01-06			Unique identifier of the well in the database. Well number must be submitted exactly as it was assigned . If it was assigned as 10, then there would be no leading zeros; if it was assigned as 0010, then the leading zeros would be required.
Measuring Point Elevation	7	07-13			Measurement point elevation of the well (datum NAVD29), in feet above mean sea level .
Measuring Point Elevation Method	1	14	Elevation Measuring Methods	WQR202	Method used to determine the measurement point elevation of the well.
Measurement Date	10	15-24			mm/dd/yyyy Date of the water level measurement.
Measurement Time	4	25-28			military format (i.e.1350) Time of the water level measurement Measurement time must be unique for each measurement .
Depth to Water	7	29-35			Depth to water, in feet below measuring point elevation .
Well Status	1	36	Well Status Types	WQR238	Conditions that may affect the measured water level.
Water Level Measurement Method	1	37	Water Level Meas Method	WQR233	Method used to measure depth to water.
Collecting Agency	5	43-47	Agency	WQR201	Name of agency/consulting firm that collected the data.

VI. Questions and Answers

- Q:** Our office uses Microsoft Access. How do I create an ASCII fixed width text file?
- A:**
- 1) In the database window, click the name of the table or query you want to export, and then in the **File** menu, click **Save As/Export**.
 - 2) In the **Save As** dialog box, click **To An External File Or Database**, and then click **OK**.
 - 3) In the **Save As Type** box, click **Text Files**.
 - 4) Click the arrow to the right of the **Save In** box and select the drive or folder to export to.
 - 5) In the **File Name** box, enter the file name, and then click **Export**. Microsoft Access starts the Export Text Wizard. If you saved a specification when exporting this table or query previously and want to load it, click **Advanced**, click **Specs**, and then double-click the specification.

Note: At any point before clicking Finish, you can click the **Advanced** button to specify the text format to save as (Windows (ANSI) or DOS OS/2 (PC-8)); date, time, and number formats; and which columns to export.

- 6) Choose to create a fixed-width file, and then click **Next**.
- 7) Follow the directions in the remaining dialog boxes.

Note: When the wizard is finished, it automatically saves a specification of the choices you made to the default name: *Filename_ExportSpec*. To specify the name yourself, click **Advanced**, click **Specs**, and then click **Save As**. You can load this specification the next time you export data from the same table or query so you don't have to make the same choices again.

the same choices again.

- Q:** What if I find incorrect information for a well that exists in the Database?
- A:** Please contact the SPS Submittal Coordinator with the ADEQ Well Number and the correct information. They will convey this to the appropriate person to have the corrections made in the Database.
- Q:** Is there any case sensitivity in the Database?
- A:** There is code in the Database that will set everything to upper case. You can submit it in either upper or lower case.
- Q:** Do I need to include the leading zeros on STORET CODE and ADEQ WELL NUMBER fields?
- A:** Yes, ADEQ needs the STORET CODE and ADEQ WELL NUMBER of submittals to match our database exactly. For example, a STORET code 00010 must be submitted as 00010, not A10".
- Q:** Do header rows need to be exported with the dataset?
- A:** No, they do not. By following the fixed width format, ADEQ knows what to expect in each column.

- Q:** Do I include data from trip blanks, field blanks, or equipment rinsate blanks?
A: No, if a sample is not directly associated with a well, we cannot accept it.
- Q:** Do I include field measured water quality parameters (i.e. pH, specific conductance, temperature etc.)?
A: Yes, please include this data. Please use the sample type code **AF@** and the appropriate STORET codes for the parameter.
- Q:** What media should I submit data in?
A: CD, floppy disk, or electronic (e-mail) transmittals are all acceptable.
- Q:** How often should I submit data?
A: Sampling data should be provided to the SPS Submittal Coordinator at the same frequency the data is collected.
- Q:** What if I discover an error after the data has been submitted and downloaded into the Database?
A: Contact the SPS Submittal Coordinator and inform him of the error.
- Q:** What if there is not a look-up code for something I need (e.g. my agency)?
A: Send an e-mail to the SPS Submittal Coordinator giving a detailed description of what needs to be added. The ADEQ will work internally to make the addition, and e-mail back to you the appropriate look-up code.
- Q:** What if my laboratory method of analysis does not appear in the **ACCEPTABLE LABORATORY METHODS@** table?
A: Send an e-mail to the SPS Submittal Coordinator giving the method, the laboratory, and a description of the method. ADEQ will research it, add the laboratory method if appropriate, and inform you of the outcome.
- Q:** If we do our own data validation, should our codes supersede those from the laboratory in the LAB NOTATION field?
A: In general, you should report the data to the SPS exactly as the laboratory reports it to you. However, there are exceptions to this. If you have any questions or concerns, contact the SPS Submittal Coordinator.
- Q:** What if the STORET CODE look-up table has an analyte that matches my analyte, but the units that do not match the units of my results?
A: If there is a STORET code where the analyte and the units both match, please use that STORET code. Units is one of the fields you will submit in the water quality data submittal. Therefore, if the analyte name matches but the units in the STORET code don't match, it is acceptable to use that STORET code.
- Q:** Is there any justification I should use?
A: ASCII fixed-width format automatically left justifies all fields.

Attachment A



<p>Ground Water DataBase Electronic Data Submittal Transmittal Form</p>
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Please submit this transmittal form with each electronic data submittal. Submit only one data type file with each transmittal form. Direct transmittal form and electronic data submittal(s) to Lowell Carty, Superfund Programs Section Submittal Coordinator, carty.lowell@ev.state.az.us (602.771.4413)

Submitting Agency			
Contact Name			
Phone number			
Email Address			
Superfund Site(s)			
Sampling Period			
Source Document			
SPS Project Manager			
SPS Hydrologist			
Data Type (select one)	Well	Water Quality	Water Level

Thank you for your data submittal.