



This following guidance assists those who want to have their surface water quality data used in the Clean Water Act Assessment. ADEQ publishes an assessment of Arizona's waters every two years that looks at surface water quality data over a five-year period. For example, the 2016 assessment will look at data collected between July 1, 2010, and June 30, 2015. The 2018 assessment will look at data collected between July 1, 2012, and June 30, 2017.

In general, ADEQ is looking for data that is:

- Recent (within the last 5 years) and hasn't been previously submitted
- Has an existing surface water quality standard or may be useful in interpreting a standard
- Is listed or is a tributary to a waterbody listed in Arizona's Surface Water Quality Standards (See Appendix B - http://apps.azsos.gov/public_services/Title_18/18-11.pdf). Many canals and urban lakes do not qualify.

ADEQ uses all existing and readily available data as required by 40 Code of Federal Regulations Section 130.7(b)(5), which typically includes water chemistry data (pH, arsenic, etc.). Macroinvertebrate, fish tissue and habitat data (such as bottom deposits) may also be submitted.

How to Submit Data

Submit data to swdata@azdeq.gov using Microsoft Excel, text files or an equivalent program. ADEQ does not accept hard copies, Adobe PDFs or data stored in proprietary software for use in the assessment. If you have data in a format other than Excel or text files, please contact us at swdata@azdeq.gov.

All data submissions must include:

1. **"The Credible Data Checklist" and any supporting information, such as a Sample Plan or Quality Assurance Plan.** [The Credible Data Checklist](http://apps.azsos.gov/public_services/Title_18/18-11.pdf) helps ensure that the data is of sufficient quality for the assessment (see Arizona Administrative Code R18-11-602 - Credible Data Rule http://apps.azsos.gov/public_services/Title_18/18-11.pdf for specific requirements).

2. **The data.** Data must be submitted electronically, preferably using our [Microsoft Excel Template](#).

How Will I Know If My Data Will Be Used?

ADEQ staff will review the Credible Data Checklist and data and notify the submitter by email if "approved for use in the assessment" within 7 days of submittal. This means the required elements were present in your data, but does not guarantee that the data will be used in the assessment.

For more information, contact:

Arizona Department of Environmental Quality
Water Quality Division Surface Water Section
Greg Maro, Business Data Analyst
602-771-4711
Toll-free number: 800-234-5677 Ext: 771-4711
swdata@azdeq.gov

THE CREDIBLE DATA CHECKLIST

1. Contact Information

Enter the name, phone number and email of the person submitting the data.

Enter the name of the organization that is reporting the data.

ADEQ CREDIBLE DATA CHECKLIST

* Denotes required fields

1. CONTACT INFORMATION:

Name*:

Organization*:

Phone Number*:

Email*:

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2. Sample & Analysis Plan and Quality Assurance Plan (SAP/QAP)

A sample and analysis plan and a quality assurance plan is required in order for ADEQ to use your data. Indicate if a SAP/QAP was previously submitted or if a previously submitted SAP/QAP was revised. Data submitted without a SAP and QAP will not be used in the assessment and will not be loaded into ADEQ's water quality database.

ADEQ has created the abbreviated SAP/QAP in Appendix A to help data submitters meet this requirement. However, using the abbreviated SAP/QAP is not required if one has already been developed.

2. QUALITY ASSURANCE PLAN AND SAMPLE AND ANALYSIS PLAN:

Has your organization previously submitted a Quality Assurance Plan (QAP or Sample and Analysis Plan (SAP) to ADEQ?*

Yes, see 2a

No, see 2b

2a. If "Yes" has it been revised?*

Yes, please submit revised QAP/SAP with data

No

2b. If "No", does a QAP/SAP exist for the data collected?*

Yes, please submit QAP/SAP with data

No, data submitted without a QAP/SAP may result in limited use by ADEQ

2c. Were data collected following the methods and procedures outlined in the QAP/SAP?*

Yes

No

Comments:

| |
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| |
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3. *Are Required Fields Submitted?*

Acknowledge whether the minimum required fields were included in the submittal. See the section on [‘Data’](#) for the list of minimum required fields.

3. REQUIRED FIELDS

Were the following required fields submitted (if applicable)?*

Yes

No

Comments:

4. *Laboratory Information*

Include all labs and their ADHS certification number(s) for all data submitted.

4. LABORATORY INFORMATION

Lab Name(s)*:

ADHS Certification number(s):

Comments:

THE DATA

The following fields are required for every record unless otherwise indicated. A template for loading data can be downloaded [here](#).

Table 1. Required Fields.

| Field | Required if | Comments |
|-----------------------|------------------------------------|---|
| Site ID | Always | Unique site identifier. All site IDs and locational information is required in the sample plan. |
| Reporting Agency | Always | The organization that is reporting the data. Generally the agency that paid for the data. |
| Collecting Agency | if different from reporting agency | The organization collecting the water quality sample. |
| Sample Type 1 (F/G) | Always | F = field/in-situ measurement or G = grab sample |
| Sample Type 2 (R/D) | Always | R = sample-routine, D = QC sample-duplicate |
| Date Sampled | Always | |
| Time Sampled | Always | May use default time of "0:00" |
| Depth (if lake) | Lake | In meters |
| Parameter Name | Always | Water media type is assumed for all parameters unless indicated otherwise. |
| Analysis Type (D/T/S) | Lab | Dissolved, Total, Suspended; also called CAS Qualifier |
| Lab Name (if lab) | Lab | |
| Lab ID (if lab) | Lab | Insert lab identifier |
| Method | Always | May use "Field" method for field measurements |
| Result | Always | Field required but can be blank if lab notation is not null |
| Result Unit | Always | Field required but can be blank if lab notation is not null |

| Field | Required if | Comments |
|----------------------|---|--|
| Lab Notation | Always | ND = non detect, GT = greater than, LT = less than |
| Reporting Limit | Not field measurement or Lab Notation is reported | |
| Reporting Limit Unit | Reporting Limit is reported | |
| Result Comment | Qualifier is reported | Result-specific comment or qualifier (500 character limit) |

Recommended Information

The following information is not required but is strongly recommended when submitting surface water data to ADEQ.

1. ROW VS. CROSTAB

ADEQ recommends submitting data in a row format. In this format, each row is a discrete record. For example, an arsenic concentration of 0.002 ug/L at Little Creek sampled 5/15/15. Some organizations use a crosstab format. Each column heading is typically a different parameter. Lab methods, units and other information is often lost and may not meet our minimum data requirements.

2. CORE PARAMETERS

Although core parameters are not required for data submission, ADEQ needs these parameters to make attainment decisions for the assessment. Core parameters are basically the minimum parameters needed to determine whether a particular designated use such as recreation, drinking water, aquatic life or agriculture is meeting standards.

| Designated Use | Core Parameter |
|-----------------------------------|--|
| Aquatic and Wildlife | Dissolved oxygen (not required if ephemeral) |
| Aquatic and Wildlife | Stream flow (if a stream) |
| Aquatic and Wildlife | Sample depth (if a lake) |
| Aquatic and Wildlife | pH |
| Aquatic and Wildlife | Total nitrogen (if nutrient standards established) |
| Aquatic and Wildlife | Total phosphorus (if nutrient standards established) |
| Aquatic and Wildlife | Dissolved cadmium, copper, and zinc and hardness |
| Fish Consumption | Mercury (tissue) |
| Full Body or Partial Body Contact | Escherichia coli (not required if ephemeral) |
| Full Body or Partial Body Contact | pH |
| Domestic Water Source | Nitrate/nitrite or nitrate |
| Domestic Water Source | pH |
| Domestic Water Source | Fluoride |
| Domestic Water Source | Total arsenic, chromium or chromium VI, and lead |
| Agricultural Irrigation | pH |
| Agricultural Irrigation | Total boron and manganese |

| Designated Use | Core Parameter |
|---------------------------------|-----------------------|
| Agricultural Livestock Watering | pH |
| Agricultural Livestock Watering | Total copper and lead |

3. SEASONAL DISTRIBUTION AND MINIMUM SAMPLES

ADEQ needs at least 3 samples at a minimum of 7 days apart. Data should also be distributed seasonally in order for to make attainment decisions for the Clean Water Act Assessment.

4. DATA QUALIFIERS

Lab qualifiers provide a wealth of information concerning the data collected in the field and analyzed in the lab. The following table lists some common qualifiers that the state of Arizona currently uses. It is not a comprehensive list. The full list of qualifiers is available in Chapter 10 of ADEQ’s Standard Operating Procedures for Sampling Surface Water, which is located at <https://www.azdeq.gov/envIRON/water/assessment/download/sampling.pdf>. A lab analysis should also be documented with the data.

| Qualifier | Short Description | Description |
|------------|---|---|
| A | ANALYTE - VALUE IS THE MEAN OF TWO OR MORE DETERMINATIONS | VALUE REPORTED IS THE MEAN OF TWO OR MORE DETERMINATIONS |
| B | BACTERIA - COLONY COUNTS OUTSIDE IDEAL RANGE (20-60 CFU) | COLONY COUNTS OUTSIDE ACCEPTABLE RANGE (20-60 CFU) |
| C | ANALYTE - VALUE IS CALCULATED | VALUE CALCULATED |
| D1 | DILUTION - REQUIRED DUE TO MATRIX INTERFERENCE. | DILUTION: SAMPLE REQUIRED DILUTION DUE TO MATRIX. |
| D2 | DILUTION - REQUIRED DUE TO HIGH CONCENTRATION OF ANALYTE. | DILUTION: SAMPLE REQUIRED DILUTION DUE TO HIGH CONCENTRATION OF TARGET ANALYTE. SEE CASE NARRATIVE. |
| DLR | ANALYTE - DETECTION LIMIT REPORTED | ANALYTE DETECTION LIMIT REPORTED IN LIEU OF METHOD REPORTING LIMIT |
| E | ESTIMATE - ESTIMATED VALUE. | REPORTED VALUE ESTIMATED DUE TO MATRIX INTERFERENCE |
| E3 | ESTIMATE - ANALYTE EXCEEDED CALIBRATION RANGE. NOT REANALYSED DUE TO HOLDING TIMES. | ESTIMATED CONCENTRATION: CONCENTRATION ESTIMATED. ANALYTE EXCEEDED CALIBRATION RANGE. REANALYSIS NOT PERFORMED DUE TO HOLDING TIME REQUIREMENTS. |
| E8 | ESTIMATE - ANALYTE WAS NOT DETECTED; REPORTED TO MDL PER PROJECT SPECIFICATION. | ANALYTE REPORTED TO MDL PER PROJECT SPECIFICATION. TARGET ANALYTE WAS NOT DETECTED IN THE SAMPLE. |
| H1 | HOLDING TIME - ANALYSIS PERFORMED PAST HOLDING TIME | HOLD TIME: SAMPLE ANALYSIS PERFORMED PAST HOLDING TIME. |
| H3 | HOLDING TIME - SAMPLE RECEIVED AND/ OR ANALYSIS REQUESTED PAST HOLDING TIME. | HOLD TIME: SAMPLE WAS RECEIVED AND/ OR ANALYSIS REQUESTED PAST HOLDING TIME. |
| H5 | HOLDING TIME - FIELD TEST: 15 MINUTES HT. SAMPLE RECEIVED & ANALYZED PAST HOLDING TIME. | HOLDING TIME: THIS TEST IS SPECIFIED TO BE PERFORMED IN THE FIELD WITHIN 15 MINUTES OF SAMPLING; SAMPLE WAS RECEIVED AND ANALYZED PAST THE REGULATORY HOLDING TIME. |
| J | ESTIMATE | VALUES ARE ESTIMATED, DATA IS VALID FOR LIMITED PURPOSES. |

| Qualifier | Short Description | Description |
|-----------|--|--|
| K | ESTIMATE - COMPOUND IS PRESENT, BUT BELOW LISTED VALUE (TYPICALLY, THE LAB DETECTION LIMIT). | COMPOUND IS PRESENT, BUT BELOW LISTED VALUE(TYPICALLY, THE LAB DETECTION LIMIT). |

5. COMMENTS ABOUT SAMPLE AND TEST RESULTS

Raw data only says so much. Comment fields are very helpful when determining if data should be used or not and can help save assessment staff time. Comments about flooding, groundwater upwelling, flow status, and recent rain events are all recommended. These comments can be submitted with the data using the 'comment' field (located in [Excel Template](#)).

Appendix A – Abbreviated Sample and Quality Assurance Plan

*** Required by Credible Data Rule – Data Will Not Be Accepted if Blank**

Instructions: Download and save this document on your computer *before* you fill out the following sample and analysis plan, designed to capture minimum credible data requirements for ambient surface waters (lakes and streams). Sample plans and quality assurance plans may be submitted in another format as long as the required fields are included. Sample plans should be used to decide when, where, what and how to sample *before* you sample. A little planning increases the likelihood that the monitoring information will meet your objectives. See [Data Submission Guidelines](#) for the minimum required fields.

Approvals*

| | | | |
|--------------------------------|--|-------|--|
| Project Manager* | | Date* | |
| Quality Assurance Coordinator* | | Date* | |
| Sample Plan Prepared by* | | Date* | |

Provide a Brief Description of the Project / Background*

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| |

List any Training Samplers Given* _____

Site Information

Site Table* (Complete the Table Below)

| Waterbody Name* | Site Name* | Site ID* | Latitude* | Longitude* | Lat/Long Method ¹ * | Lat/Long Accuracy ² | Frequency* | Parameters Sampled* |
|-----------------|------------|----------|-----------|------------|--------------------------------|--------------------------------|------------|---------------------|
| | | | | | | | | |

Note: ADEQ prefers latitude/longitude in decimal degrees and in the NAD83 datum. Specify coordinate system used if other than ADEQ preference.

1 Lat/Long Method Choices. 1. Handheld GPS; 2. Visually Interpolated from 7.5 USGS Topographic Map; 3. Post-processed GPS position; 4. Google Earth; 5. Other (describe)

2 Lat/Long Accuracy Choices. 2-5 meters (most GPS devices). Leave blank if unknown

Field Sampling Requirements*

Field notes and measurements will be recorded in a field notebook or equivalent, which will be maintained by the Sampling Team Leader. Notes that may impact the interpretation of the data should be included with the results. This may include storm flows, flooding, groundwater upwelling, algal blooms or any other event that the sampler believes to have impacted the data.

List Sampling Standard Operating Procedures (SOPs) to be followed. SOPs describe how samples were collected. Does the SOP include field instrumentation calibration procedures? Links are acceptable*

Describe or reference SOP for how field equipment is maintained and calibrated* _____

Field Equipment Table* (Complete the Table Below)

| Parameter Name* | Equipment | Range* | Accuracy* | Resolution* |
|-----------------|-----------|--------|-----------|-------------|
| | | | | |
| | | | | |

Lab Information:

Sampling Table* (Complete the Table Below)

| Parameter Name* | Analysis Type (Total / Dissolved)* | Sample Container | Lab Method* | Method Reporting Limit* | Preservation | Holding Time |
|-----------------|------------------------------------|------------------|-------------|-------------------------|--------------|--------------|
| | | | | | | |
| | | | | | | |

List the percent and type of Quality Control Samples (blanks, duplicates, splits) collected* _____

List Any Safety Issues:

Nearest Hospital Emergency Room: _____ Phone: _____

Data Quality Assurance and Control*

Quality assurance and control procedures are used to ensure data collected is of good quality. [Section 10.6.2 of ADEQ's SOP](#) may be used as a reference guide.

How much relative percent difference is acceptable between a split? _____

How much relative percent difference is acceptable for field duplicate samples? _____

How much contamination is allowed in a blank? _____

How are bottles labeled and field notes recorded? Field notes include calibration and maintenance of the instruments and notes taken during sampling. _____

How is the data documented so that it is defensible? In other words, is a process in place where your organization could provide chains of custody, field forms, lab data, and equipment log books if a specific data point were questioned? _____