

## Sample Water Quality Assurance Plan

This Water Quality Assurance Plan (WQAP) is prepared in conformance with the Project Initial Environmental Examination (IEE), which specifies that such a plan will be developed as a condition for the establishment of new water access points. The WQAP condition—one of four IEE conditions governing this type of activity—states:

The establishment of new water access points for essentially irrigation demonstration purposes shall regardless be assumed to serve at least occasionally as domestic and drinking water sources, and will therefore be subject to the following **conditions** for the **direct provision of small-scale water supply**:

- Water quality assurance plan: the Project will develop and implement a Water Quality Assurance Plan that will ensure that all new and rehabilitated USAID-funded water supplies provide safe drinking water, defined as meeting local and WHO water quality standards.
  - This Plan must be approved by the REA prior to initiation of these activities.
  - The plan must include and assign responsibility to the Project for initial water quality testing. When feasible, the program must also set in place capacities and responsibilities to provide reasonable assurance that ongoing water quality monitoring occurs.
  - The standards for initial and ongoing testing— including types of contaminants for which testing should be conducted, testing methods, testing frequency, and issues such as public access to results— should follow any applicable USAID guidance, as well as local laws, regulations and policies.
  - The plan must include a response protocol in the event that the water does not meet water quality standards.
  - The plan must include testing for Arsenic per Guidance Cable State 98 108651. Specifically, the USAID managing team must assure that the standards and testing procedures described in “Guidelines for Determining the Arsenic Content of Ground Water in USAID-Sponsored Well Programs in Sub-Saharan Africa,” available [here](#), are met. (Note that this guidance requires initial testing, and quarterly testing for four quarters. *If the program terminates in less than four quarters, remaining testing is the responsibility of the mission. Water violating the 10ppb Arsenic standard may not be supplied for public consumption.*)<sup>1</sup>

In order to implement the conditions prescribed here, the Project will undertake the following activities in conjunction with the establishment of all new water access points, or the rehabilitation of existing water access points:

1. **Initial Water Quality Testing.** At the time of the installation/establishment and/or rehabilitation of the water access point, the Project will complete the following water quality tests:

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<sup>1</sup> All contractors, grantees or cooperative agreement groups must test for arsenic to assure that the beneficiaries of USAID-sponsored well drilling programs are supplied with water that meets U.S. Environmental Protection Agency (USEPA) Arsenic Rule criteria. Additional information on the USEPA Arsenic Rule is available [here](#).

- a. **Arsenic.** In compliance with Guidance Cable State 98 108651, the Project will test groundwater-sourced water access points for inorganic arsenic at a level not to exceed 10 ppb (10 micrograms/liter [.01 mg/l]). Following completion of the well installation/construction phase, the new or rehabilitated well will be pumped and tested, with samples taken once water that is representative of the aquifer is found (i.e., once equilibrium conditions have been established rather than stagnant water around the well, or water that has been affected by installation or drilling). Initial arsenic testing will be completed using low-cost field test kit technology, which the Project will obtain from an overseas vendor.<sup>2</sup>
  - b. **Total Coliform.** The Project will test all new or rehabilitated water access points (groundwater- *and* surface water-sourced) for no detectable fecal coliform in any 100 ml sample. Initial coliform testing will be completed using either:
    - i. Low-cost field test kits, which the Project will obtain from an overseas vendor; or
    - ii. Laboratory analysis, pending confirmation of adequate and available facilities.
2. **Water Quality Monitoring.** The Project will monitor water quality at water access points established or rehabilitated by the project, testing for the following contaminants at stated intervals:
- a. **Arsenic.** In compliance with Guidance Cable State 98 108651, the Project will monitor groundwater-sourced water access points for inorganic arsenic at a level not to exceed 10 ppb (10 micrograms/liter [.01 mg/l]). Following the initial water quality test, the Project will sample groundwater for inorganic arsenic not less than once per quarter for a minimum of four (4) quarters. Arsenic monitoring will be completed using the same technology and sampling method as the initial water quality test.
  - b. **Total Coliform.** The project will monitor all new or rehabilitated water access points (groundwater- *and* surface water-sourced) for no detectable fecal coliform in any 100 ml sample using a comparable technology and sampling method as the initial water quality test. Total coliform monitoring will be completed at least once every six months as long as the water point remains accessible as a source of drinking water or for domestic purposes.
3. **Response Protocol.** If the initial water quality testing or at any time the water quality monitoring indicate that contaminant levels exceed the thresholds established in this WQAP, the Project will take the following actions:
- a. **If arsenic levels are exceeded.** If field test results indicate inorganic arsenic levels greater than 10 ppb (10 micrograms/liter [.01 mg/l]), and the Project wishes to continue use of the groundwater-sourced access point being sampled, the Project will submit a sample to a qualified laboratory for analysis. The laboratory selected must be one approved by either the Regional Environmental Advisor (REA) or Mission Environmental Officer (MEO). If the selected laboratory confirms the presence of inorganic arsenic in

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<sup>2</sup> At current prices, the Project can complete arsenic water quality field testing for approximately \$1 USD per sample. Field test kits from Hach (available [here](#)) are approved by USAID to meet arsenic water quality testing requirements. Other examples of low-cost arsenic field test kits include the QUANTOFIX® Arsenic 10 kit (available [here](#)). The Project will verify with USAID any non-Hach products/kits to meet arsenic testing/monitoring requirements prior to use.

