Instructions:

Please make a copy of this document or download it prior to beginning your QAP.

Quality Assurance Plan (QAP) Template

for:

Work Conducted on Petroleum Storage Tank Releases Regulated by the Division of Oil and Public Safety (OPS)

Prepared by:
Company Name
Address

COLORADO
Department of
Labor and Employment

Prepared for:
Division of Oil and Public Safety -
Remediation
707 17th Street
Suite 2400
Denver, CO 80202

Quality Assurance Plan Commitment

This environmental cleanup Quality Assurance Plan (QAP) aims to ensure that data collected during the assessment and remediation of a release is accurate, reliable, and of sufficient quality to support informed decision-making. By implementing systematic procedures to minimize errors in sampling, analysis, and data reporting, the QAP will ultimately protect human health and the environment by guaranteeing the effectiveness of the remediation efforts.

By providing and signing a QAP prepared by a Company, the Company agrees that it shall create, maintain, and support the collection and submittal of quality work related to petroleum assessment, remediation, and reimbursement processes under the authority of the Colorado Division of Oil and Public Safety - Petroleum Remediation Program (OPS). Such work, as detailed in this QAP, shall be completed in accordance with OPS Regulations, Guidance, and Policies. The QAP will be revised annually in the first calendar quarter, and revisions will be submitted to the OPS on April 1 of that same calendar year, with revisions highlighted. Alternatively, the Company must notify OPS on April 1 of that same calendar year (via email: cdle_remediation@state.co.us) that the QAP has been reviewed and no revisions are necessary.

In return, OPS will allow full reimbursement of eligible labor costs in accordance with Reasonable Cost Guidelines (RCGs) established by the Petroleum Storage Tank Committee (PSTC) against the Petroleum Storage Tank Fund (PSTF).

Deviation from the QAP may result in the immediate removal of the Company, including all associated Colorado Recognized Environmental Professionals (CO-REPs), from its listing under the CO-REP Program and a reduction in reimbursable costs.

Company Representative (CO-REP Lead): _____

Signature:_____

Date:_____

Remediation Supervisor,
Colorado Division of Oil and Public Safety:_____

Signature:_____

Date:_____

Director, Colorado Division of Oil and Public Safety:_____

Signature:_____

Date:_____

Quality Assurance Plan Purpose Template

OPS has relied upon environmental consulting companies to provide professional oversight of locations that are the source of or affected by the release of a substance regulated by OPS under 7 Colorado Code of Regulations (C.C.R.) 1101-14. The QAP is intended to set a standard for environmental consulting firms to employ and maintain qualified personnel and suitable processes to ensure compliance with quality requirements set by OPS in both regulation and published guidance

The Company should ensure that:

- Qualified personnel and subcontracted parties will be utilized in completing work,
- The collection of necessary environmental and remedial operational data is planned to allow appropriate actions and determinations,
- data are reviewed for completeness, accuracy, appropriateness, etc., and
- Procedures are in place to rectify aspects of the Company's data collection and quality assurance program that were identified as deficient.
- Work is conducted following reasonable cost guidelines, and deviations are communicated.

Quality Assurance Plan Submittal Elements

Section A - Project Management

A.1 Organizational Background and Experience

- Resume(s) for CO-REPs. A company must have one CO-REP on staff to be listed.
- Identification of CO-REP lead for the Company
- Identification of who is responsible for updating the QAP
- Resumes of key staff, including project managers, staff scientists, and field staff
- Provide three letters of recommendation

A.2 Safety Training

The following shall be provided:

Worker Safety Training Documents

- All staff are required to have 40-hour HAZWOPER Training and 8-hour Refreshers

Provide a Site Health and Safety Plan (HASP) Template

A.3 Subcontracted Services

A list of subcontracted services and vendors performing routine assessment and remediation work.

Section B Data Generation & Acquisition

B.1 Standard Operating Procedures

The acquisition of environmental data is critical to characterizing and remediating a release. To ensure that work is conducted according to industry standards and OPS regulations, the Company will provide Standard Operating

Procedures (SOPs) typically used when investigating a release. A list of minimum SOPs required for the QAP is included in **Appendix A** for reference. The Company is responsible for updating SOPs and providing updated QAPs to OPS as needed.

For each sampling collection method for soil, groundwater, surface water, soil vapor, and indoor air, the SOP must provide, at minimum, the following:

- Describe the sampling procedures
- Identify sample collection procedures.
- Identify sampling methods and equipment
- Sampling methods by number, date, and regulatory citation, where appropriate
    - Implementation requirements
    - Sample preservation requirements
    - Decontamination procedures
    - Any support facilities needed
- Describe specific performance requirements for the method.
- Address what to do when a failure in the sampling or measurement system occurs
- Who is responsible for corrective action
- How the effectiveness of the corrective action will be determined and documented

For information on preparing SOPs, refer to the current version of EPA Guidance for Preparing Standard Operating Procedures.

B.2 Sampling Handling & Custody

Describe the requirements for sample handling and custody in the field, laboratory, and transport.
Examples of sample labels, custody forms, and sample custody logs should be included.

B.3 Analytical Methods and Quality Control

Identify QC activities needed for each sampling, analysis, or measurement technique. List the associated method or procedure, acceptance criteria, and corrective action for each required QC activity. State or reference the required control limits for each QC activity and corrective action required when control limits are exceeded and how the effectiveness of the corrective action shall be determined and documented. Include the following:

- Identify analytical methods to be followed (with all options) & required equipment.
- Specify any specific method performance criteria
- The state requested lab turnaround time
- Provide validation information for non-standard methods
- Identify procedures to follow when failures occur
- Identify individuals responsible for corrective action and appropriate documentation

B.4 Instument/Equipment Testing, Maintenance, Calibration

Describe how inspections and acceptance testing of instruments, equipment, and components affecting quality will be performed and documented to ensure their intended use as specified. Describe how deficiencies are to be resolved, when re-inspection will be performed, and how the effectiveness of the corrective action shall be determined and documented. Identify the equipment and/or systems requiring periodic maintenance and/or calibration.

Describe how periodic preventative maintenance will be performed, including frequency, to ensure the availability and satisfactory performance of the systems. Identify all tools, gauges, instruments, and other sampling, measuring, and test equipment used for data generation or collection activities affecting quality that must be controlled and calibrated.

Describe or reference how calibration will be conducted using certified equipment and/or standards with known valid relationships to nationally recognized performance standards. If no such nationally recognized standards exist, document the basis for the calibration. Indicate how calibration records will be maintained and traceable to the equipment.

Section C - Assessment & Oversight

C.1 OPS Report Template Preparation

The SOPs provided shall describe how the data collected is transcribed into data tables, figures, and reports using the OPS template. They will also describe report review procedures to ensure data is accurately presented following the OPS report template guidelines.

This is of the utmost importance since primary communication with OPS staff is in writing, mainly via reports or proposals, quality control in report writing refers to thoroughly reviewing a written document to ensure accuracy, consistency, clarity, and adherence to established style guidelines. This includes checking for errors in data, grammar, formatting, and overall presentation, typically done before finalizing and distributing the report to the intended audience. Essentially, it's a final check to guarantee the report's quality and credibility.

Additionally, identify the frequency and distribution of reports to inform management of project status:

Section D - Data Validation and Usability

D.1 Data Review, Verification, Validation

State criteria for accepting, rejecting, or qualifying data. Describe the process for data validation and verification. Identify issue resolution procedures and responsible individuals. Identify the method for conveying results to data users. Provide examples of any forms or checklists to be used. Describe how the project results will be reconciled with the requirements defined by the data user or decision maker. Outline the proposed methods to analyze the data and determine departures from assumptions established in the planning phase of data collection. Describe how reconciliation with user requirements will be documented, how issues will be resolved, and how limitations on the use of the data will be reported to decision-makers.

D.2 - Knowledge of OPS Petroleum Program Regulations

To demonstrate knowledge of OPS Regulations, each Company will submit the following:

- A narrative on an OPS site characterization in the last 5 years demonstrates regulatory knowledge.
- A narrative describing how to remediate the release is described in the characterization.

Appendix A: SOPs

(minimum list, additional SOPs, and information may be required to fulfill the requirements in the QAP)

Air Monitoring	Secondary Groundwater Parameters
Aquifer Testing	Soil Sampling-Surficial and Subsurface (include all methods of drilling)
Boring and Well Completion Logs	Soil Screening
Data QA/QC	Soil Vapor Sampling
Decontamination	Subslab Vapor Point Installation
Equipment Calibration	Subslab Vapor Sampling
Field Notes	Surface Water Sampling
Groundwater/LNAPL Elevation	Surveying
Health and Safety Plan (generic)	Utility Locate/Clearance
Indoor Air Sampling	Waste Handling and Disposal
Monitoring Well Design and Sampling (including well and drinking water well sampling)	Well Development
Report Review (QA/QC)	Well/Boring Abandonment