

UST PERIODIC SITE STATUS REPORT GENERAL GUIDANCE, CONSIDERATIONS, AND RECOMMENDATIONS

This technical support document is meant to serve as a companion to the UST Periodic Site Status Report (PSSR) and describes the reporting requirements under A.A.C. R18-12-263(G). For each section of the PSSR, find the corresponding section in the document below for references to regulatory requirements, recommendations, and pertinent considerations that can assist you in ensuring that the PSSR contains accurate and complete information. It is organized to provide the user with information on the types of information that ADEQ will consider during review. It is structured to separate each regulatory requirement and reporting form section and provide:

Considerations: Common things ADEQ will be considering when reviewing each element for completeness and compliance

Recommendations: Things recommended by ADEQ but not necessarily required to be strictly adhered to that will facilitate the review of reported data and information during regulatory review

INTRODUCTION

In accordance with Arizona Revised Statute (A.R.S.) § 49-1005, owners and operators are required to conduct corrective actions in response to a release from an UST system. Pursuant to Arizona Administrative Code (A.A.C.) R18-12-263(G), after approval of the site characterization report (SCR) and as requested by the Department or as described in the approved corrective action plan (CAP), periodic submission of site status reports is required.

The purpose of a PSSR report is to document the status of site conditions by providing a summary of corrective actions conducted, the results of those actions, and the professional interpretation of the impact and effectiveness of the work towards reaching remedial goals by the estimated time frame. The evaluation included in this report requires the application of professional interpretation to evaluate site specific data and methodologies necessary to achieve corrective action goals protective of human health and the environment.

STATUS REPORT SUBMISSION

Whether prepared as required after the approval of a site characterization report (SCR) or under an approved corrective action plan (CAP), the report submitted by an owner or operator must meet the requirements discussed in this section.

The schedule for periodic site status report submissions is established by ADEQ and the frequency may be modified based on site specific considerations.

CONSIDERATIONS & RECOMMENDATIONS FOR COMPLETION OF THE STATUS REPORT

REPORT REQUIREMENTS

FACILITY ID: 0-0XXXXX

Recommendations: Ensure that the facility identification number used is appropriate for the site

APPLICABLE LUST RELEASE NUMBER(S)

Recommendations: Identify the LUST release numbers that are associated with the corrective action work being conducted.

NAME OF PERSON RESPONSIBLE FOR SUBMISSION

Select as applicable: ☐ Owner ☐ Operator ☐ Corrective Action Lead under A.R.S. § 49-1016(C)

Recommendations: Identify the person acting as the corrective action lead who is responsible for the submission of this report and their role or roles; select all that apply.

WORK PERIOD COVERED IN THIS REPORT

Considerations:

- Does the work period identified correspond to the information and data that is available?

Recommendations: Ensure that the dates provided are accurate and represent the information provided in the report.

DATE OF SITE CHARACTERIZATION REPORT APPROVAL

Recommendations: Ensure that the date provided is appropriate for the release(s) included in this submission. If the PSSR documents corrective actions for multiple releases with different SCR approval dates, please enter the date of the most recent SCR approval for the identified releases.

DATE OF THE APPROVED CORRECTIVE ACTION PLAN ASSOCIATED WITH THIS REPORT

Recommendations: Ensure that the date provided is appropriate for the release(s) included in this submission and the reporting frequency is consistent with the approved CAP.

If there is a record of a prior CAP for releases that are no longer open, or a CAP has been terminated, or there has not been an approved CAP associated with the report, select "Not Applicable".

CORRECTIVE ACTIONS INCLUDED IN THIS REPORT (select as appropriate):

☐ Monitoring & Sampling ☐ Soil Boring ☐ Well Installation ☐ Free Product Removal ☐ Remedial Installation ☐ Pilot Testing ☐ Feasibility Testing ☐ Active Remediation ☐ Monitored Natural Attenuation ☐ Well Abandonment ☐ Remedial System Shut Down & Decommissioning ☐ No corrective actions were conducted during this work period

Considerations:

- Were multiple corrective actions taken during this reporting period?
- Does the information provided in the attachments adequately document the work identified?

Recommendations: Select the category or work that best describes the corrective actions conducted, and explain that work in the attachments. If the work conducted does not directly match a category, provide additional detail in the attachments.

☐ Monitoring & Sampling - Recommendations: Include tabulated data documenting details of the monitoring conducted, documenting laboratory sampling results and copies of the laboratory reports, including quality assurance/quality control information, duplicates, trip, field, and equipment blanks as applicable. See discussion below under **MONITORING AND SAMPLING RESULTS**.

☐ Soil Boring

Considerations:

- Are the logs complete?
- Are descriptions consistent between logs?
- If there were advancement issues, was the correct drill rig utilized?

Recommendations: Provide the lithologic logs developed for each borehole, monitor well, and sample collection location installed during the work reporting period. Logs should include the following information:

- The identification number assigned to the subsurface penetration
- Date and method of the subsurface penetration
- Depth of penetration
- Depth and description of lithologies encountered
- Depth of each sample collected including sample identification number
- Field screening results of each sample collected
- Other information describing subsurface lithology

☐ Well Installation

Considerations:

- Are the construction diagrams complete?
- Are they consistent with ADWR records?
- Are the well designations consistent with those on the site plan(s)?

Recommendations: Ensure that the as-built construction diagram of each well installed during the reporting period contains the following:

- The unique identification number assigned to the well
- Date of installation
- Total depth and diameter of hole
- Casing material, diameter, and screened interval
- Intervals for the annular fill materials described as sand, grout, or another specified material
- Surface completion information
- Identification of the surveyed fixed reference point used to determine the elevation in relation to sea level, or other established benchmark, of the well head and the determined elevation of the well head for groundwater monitor wells

Note: It is recommended to include copies of original elevation survey information

☐ Free Product Removal - Recommendations: Include Free Product Report as an attachment with tabled data and supporting documentation. Make sure that the form used is the most current available at:

<https://azdeq.gov/forms> (under Waste Forms, Underground Storage Tanks Corrective Action).

☐ Remedial Installation - Recommendations: Include system design information, dates of installation, copies of permits as applicable (if not already submitted), etc.

Considerations:

- Are the construction diagrams complete?
- Are they consistent with ADWR records?
- Are the well designations consistent with those on the site plan(s)?

Recommendations: Ensure that the as built construction diagram of each well installed to investigate the full extent of contamination contains the following:

- The unique identification number assigned to the well

- Date of installation
- Total depth and diameter of hole
- Casing material, diameter, and screened interval
- Intervals for the annular fill materials described as sand, grout, or another specified material
- Surface completion information
- Identification of the surveyed fixed reference point used to determine the elevation in relation to sea level, or other established benchmark, of the well head and the determined elevation of the well head for groundwater monitor wells

Note: It is recommended to include copies of original elevation survey information

☐ Pilot Testing - Recommendations: Include summary of the pilot testing protocol, wells used, technology selected, evaluation of results and interpretation of the potential effectiveness of the method based on site specific conditions

☐ Feasibility Testing - Recommendations: Include summary of the testing protocol, wells used, technology selected, evaluation of results and interpretation of the potential effectiveness of the method based on site specific conditions

☐ Active Remediation - Recommendations: Ensure that the information provided adequately captures the operational data and maintenance information, including an evaluation of operational effectiveness, run time, equipment shut-downs, issues, repairs, etc. See discussion below under **REMEDIAL TECHNOLOGY OPERATIONAL INFORMATION** & the section - **COMPLETE THE TABLE BELOW IDENTIFYING EACH TYPE OF REMEDIAL CORRECTIVE ACTION TECHNOLOGY BEING EMPLOYED**

☐ Monitored Natural Attenuation - Recommendations: Include details on the methodology being used to demonstrate the effectiveness of this method, including an evaluation of the monitoring and sampling schedule, selection of parameters being used to evaluate progress, potential influence or issues from site specific conditions such as changing groundwater levels and/or gradient. See discussion below under **REMEDIAL TECHNOLOGY OPERATIONAL INFORMATION** & the section - **COMPLETE THE TABLE BELOW IDENTIFYING EACH TYPE OF REMEDIAL CORRECTIVE ACTION TECHNOLOGY BEING EMPLOYED**

☐ Well Abandonment - Recommendations: Include associated documentation including permitting, well abandonment details, and identification of abandoned wells on a site plan.

☐ Remedial System Shut Down & Decommissioning - Recommendations: Include associated documentation including the basis for ending the remedial approach, permitting, time frame, and identification of the work location on a site plan.

☐ No corrective actions were conducted during this work period - select this option if the report is being submitted; however, no documented corrective actions were conducted. Also - select "Not Applicable - No Remedial Technology was employed" under section **COMPLETE THE TABLE BELOW IDENTIFYING EACH TYPE OF REMEDIAL CORRECTIVE ACTION TECHNOLOGY BEING EMPLOYED**

COMPLETE THE TABLE BELOW IDENTIFYING EACH TYPE OF REMEDIAL CORRECTIVE ACTION TECHNOLOGY BEING EMPLOYED: *If necessary, provide additional listings as an attachment.*

REMEDIAL TECHNOLOGY (IDENTIFY EACH TYPE SEPARATELY)	DATE IT BECAME OPERATIONAL	MEDIA BEING ADDRESSED	CURRENTLY IN USE?	IF NOT CURRENTLY IN USE, PROVIDE THE DATE LAST USED
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☐ Not Applicable - No Remedial Technology was employed

Considerations:

- Was there a remedial corrective action technology being used during the work reporting period?

- Were there multiple technologies in use?
- Does the information provided in the attachments adequately document the identified remedial technologies?

Recommendations: Depending on the work period for this report and site specific conditions, there may be multiple remedial technologies in use. Make sure to complete the table information for dates, media being addressed, and whether that technology is currently in use or was suspended, or discontinued (as indicated by the date last used).

If additional technologies were used, provide the listing as an attachment.

If no remedial technology was in use during the work reporting period, select “Not Applicable - No Remedial Technology was employed”

ESTIMATED TIME FRAME TO REACH CORRECTIVE ACTION STANDARDS: Identify the time frame that most accurately estimates when the response activities, including remediation and verification monitoring, will demonstrate that the concentration of each chemical of concern is projected to be at or below the applicable corrective action standard:

☐ < 1 year ☐ 1 - 2 years ☐ 2 - 5 years ☐ 5 - 10 years ☐ greater than 10 years

Considerations:

- How was the estimated timeframe evaluated?
- What is the confidence level in identifying the estimated time frame?
- Is the timeframe consistent with prior reporting?
- Does the information provided in the attachments adequately document the effectiveness of the corrective actions to meet the estimated time frame identified?
- Based on site specific conditions and current professional evaluation, are the remedial goals for corrective action standards consistent with the requirements of A.R.S. § 49-1005?
- Are the corrective action standards for this site documented through a tier evaluation under A.A.C. R18-12-263.01?

Recommendations: Base this selection on site specific conditions and the available data as evaluated by the Arizona registered environmental professional. Ensure that information provided in the Site Status Corrective Action Summary includes identification of the risk-based corrective action standards being used to set remedial goals.

Consider meeting with ADEQ to discuss remedial selection options if the estimated time frame to reach remedial goals is greater than 5 years and there is not a current CAP in place for this facility.

REQUIRED ATTACHMENTS:

1. **DOCUMENT SUBMITTAL FORM** - “Standard First Page”. See A.A.C. R18-12-264

Recommendations: Make sure that the form used is the most current available at: <https://azdeq.gov/forms> (under Waste Forms, Underground Storage Tanks Corrective Action).

2. **CORRECTIVE ACTION SUMMARY** - Describe all work performed for the reporting time frame including: estimated volume of petroleum hydrocarbons recovered, volume of media treated, remediation system uptime and downtime, including a description of any problems encountered, interpretive analysis of current and historical data collected for the remedial technologies employed, and proposed future work

Considerations:

- Is the contamination currently delineated? If not, do the recommendations for proposed future work include additional characterization?
- Does the contamination appear to be migrating?

- If there are receptors in the area, is there any indication that the contamination is migrating towards those locations potentially causing an increased risk?
- Are the performance goals for the remedial technology being met?
 - Do the analytical results indicate that remedial responses have been effective?
 - Is there an increasing or decreasing concentration trend?
 - Have site conditions been consistent since initiating remediation, or are results potentially influenced by other factors such as changing groundwater levels, changing groundwater direction or gradient, etc.
 - Should an alternative remedial technology be considered?
- Has the groundwater level changed such that well screen intervals are submerged or wells have gone dry?
 - Do recommendations for future work include installation of replacement wells?
- Are any equipment related operational or maintenance issues documented?
 - Do issues suggest consideration of alternative equipment, faulty installation or maintenance issues, changing site conditions, or necessity to consider a different remedial technology?

Recommendations: The purpose of this section is to document the status of site conditions by providing a summary of corrective actions conducted, the results of those actions, and the professional interpretation of the impact and effectiveness of the work towards reaching the remedial goals by the estimated time frame.

Consider adding figures or tables as applicable to assist with documentation.

For the remedial technology being employed - identify the performance goals being used to assess the actual performance of a remedial system and the efficiency of the implemented remedial technology. Performance should be based on the results of monitoring, sampling, and operational information for the selected technology.

Ensure that the summary includes recommended future work consistent with an evaluation of the data and interpretation provided. Include identification of the risk-based corrective action standards being used to set remedial goals. If there are issues with site conditions and/or remedial technology selection, contact ADEQ to discuss corrective action options - especially if work is being conducted under an approved CAP for that technology and approach.

3. **MONITORING AND SAMPLING RESULTS** - Provide the tabulated results of monitoring and laboratory analysis of collected samples for each contaminated medium received since the last report was submitted to the Department, and attach copies of laboratory reports.

Considerations:

- Was monitoring data adequately captured?
- Does monitoring data appear consistent with previous data?
 - Are groundwater well screens now submerged or are wells dry?
- Was the sampling protocol appropriate for collecting compliance samples?
 - Were there any issues with sample collection?
 - Is the chain of custody consistent with the analyses in the report?
 - Were samples delivered to the laboratory at the appropriate temperature?
- Is the laboratory certified by ADHS for the analyses?
- Are analytical reports complete?

- Were there data quality issues identified by the laboratory?
 - Were holding times met?
 - If data was flagged, is it still usable?
 - Does it have quantitative or qualitative value? If so, is this noted?
 - Were samples diluted for analysis?
 - Were reporting limits above tier 1 standards?
- Were the appropriate laboratory analyses conducted? – see https://static.azdeq.gov/ust/analytical_data.pdf
- Does the report include the final or a draft laboratory report?

Recommendations: Ensure that monitoring and analytical data and data issues are adequately documented and where applicable, identified on tabulated data. If certain data does not appear usable, or its use appears limited, this should be included in the summary.

Ensure that information/data included in table format is legible, and that footnotes are clear and understandable.

Provide a tabulation of laboratory analytical results acquired during the investigation that includes the following:

- Sample identification number
- Sample location
- Sample media
- Sample collection depth
- Date each sample was collected
- Analytical results identifying the analytical method, units of measure
 - *Note: any data issues should be identified*

Provide a tabulation of monitoring information, including water level data that includes the following:

- Groundwater monitor well site identification number and ADWR registration number
- Date of measurement
- Elevation above mean sea level, or other established benchmark, of top of casing, water level, and, if present, free product level
- Depth to water and, if present, free product and thickness of free product
 - *Note: any issues encountered should be identified*

Include complete copies of final laboratory reports and chain-of-custody forms and supporting laboratory documents that report analytical quality assurance and quality evaluations and identification of anomalies. Provide documentation demonstrating compliance with A.A.C. R18-12-280, including all sample collection, handling, and analysis procedures, and specific documentation of any deviations.

NOTE: Ensure that the laboratory report has been fully reviewed by the laboratory (and consultant) for any data issues, and that any issues identified are clearly communicated.

4. REMEDIAL TECHNOLOGY OPERATIONAL INFORMATION - For each of the remedial corrective action technologies identified above, tabulate and attach monitoring and laboratory results collected since the last report.

Considerations:

- Was monitoring data adequately captured?
- Does monitoring data appear consistent with previous data?
- Were there any issues with sample collection?
- Were there data quality issues identified by the laboratory?

- If data was flagged, is it still usable?
- Does data demonstrate that the remedial technology is operating as designed?
- Does information clearly document when remedial technology was operational and when it was down?
- If operational less than 75%, was troubleshooting used to identify issues?
 - What were the results of troubleshooting?
 - Was equipment repaired, replaced, or modified?
- Has rebound testing been conducted?
- As applicable, do influent concentrations from the system indicate asymptotic conditions?

Recommendations: Ensure that monitoring and analytical data and data issues are adequately documented and where applicable, identified on tabulated data. If certain data does not appear usable, or its use appears limited, this should be included in the summary.

If the data does not demonstrate that the remedial technology is operating as designed, provide information on actions taken, and the evaluation made regarding continued operation, changes to the system or approach, or discontinuation of the system operation.

5. **SITE PLAN(S)** - For the remedial corrective action technologies identified above, attach a site plan showing their locations and any monitoring and sample collection locations. As applicable, include contaminant distribution information.

Considerations:

- Are figures legible?
- Is the scale included and accurate?
- Is there a North arrow?
- Are there identified surface features, or topographic conditions that may impact corrective actions at the site?
- Are multiple site plans needed to clearly identify significant information including extent of soil contamination and groundwater contamination, remedial system layout, sampling locations, etc.?

Recommendations: When preparing these figures, ensure that they convey the appropriate information. It may be necessary to have multiple figures to ensure clarity in communication.

The number of site plans included in the report should be determined based on what is necessary to maintain clarity of messaging. These figures should include:

- Property boundaries of the facility and other properties
- Named and unnamed streets, roads, alleys and other thoroughfares
- Any buildings, structures, or above ground storage tanks on the facility
- Type and extent of on-site ground-surface cover, indicated as asphalt, concrete, soil, or another specific type of cover
- The location of the UST system (if still onsite)
- Known above or below ground utility corridors, sewer systems, irrigation canals, and drainage channels within and adjacent to the area investigated
- Sample locations
- Land use of properties that are impacted by the release(s)
- Structures surrounding the facility

- Full lateral extent of soil contamination, boreholes and other sample collection locations
- Wells discovered or installed during the investigation. Each well should be identified by any assigned ADWR number, and for wells without an assigned ADWR number, the number assigned by the owner or operator
- If groundwater has been impacted, threatened, or investigated
 - Groundwater monitor wells, documented and projected lateral extent of groundwater contamination, and seasonal and historic directions of groundwater flow and hydraulic gradients,
 - Isoconcentration contours for target chemicals of concern (e.g. benzene, MtBE, 1,2-DCA, etc.), minimally including the respective delineation standard (e.g. AWQS)
 - Groundwater elevation contours and seasonal and historic directions of groundwater flow and hydraulic gradients
- If surface water has been impacted - identify surface water bodies with sample collection locations, documented full lateral extent of surface water contamination and the flow direction
- Site plan(s) showing remedial design, including basic components of the system, with overlaid contaminant plumes, and documented zone of influence for each system component addressing a portion the contaminant plume

6. **CURRENT LUST SITE CLASSIFICATION FORM** - *See A.A.C. R18-12-261.01*

Considerations:

- [Has the classification changed based on current data and evaluation of site specific conditions?](#)

Recommendations: In accordance with A.A.C. R18-12-261.01, the LUST Site Classification form is a required component of reporting under A.A.C. R18-12-260 through R18-12-264.01, and when site conditions indicate that the classification has changed, or if contamination has migrated, or is anticipated to migrate to a property where the owner or operator does not have access. Make sure that the form used is the most current available at: <https://azdeq.gov/forms> (under Waste Forms, Underground Storage Tanks Corrective Action).

Essential to determining appropriate corrective actions and to completion of this form is development of the conceptual site mode (CSM). The CSM should be kept updated to reflect the current site conditions and should be based on an evaluation of the information available at the time of report submission. Consider including a copy of the updated CSM as an attachment.