**R311. Environmental Quality, Environmental Response and Remediation.**

**R311-205. Petroleum Storage Tanks: Site Assessment Protocol and Release Reporting.**

**R311-205-1. Definitions.**

Definitions are found in Rule R311-200.

**R311-205-2. Site Assessment Protocol.**

(1) General Requirements.

(a) a site assessment or site check is required:

(i) for USTs, pursuant to 40 CFR 280.72 or Subsection 19-6-428(2).

(ii) for APSTs, when the tank or connected piping are permanently closed or as pursuant to Subsections 19-6-420(2)(a) and 19-6-428(2).

(b) when a site assessment or site check is required, owners or operators shall perform the work or commission the work to be performed according to Rule R311-205 or equivalent, as approved by the director.

(c) additional environmental media samples must be collected when contamination is found, suspected, or as requested by the director.

(d) environmental media samples are to be collected according to the Utah Petroleum Storage Tank Environmental Media Sampling Handbook, dated June 1, 2021, which is incorporated by reference, or as determined by the director.

(e) owners and operators must document and report to the director the following:

(i) sample types;

(ii) sample locations and depths;

(iii) field and sampling measurement methods;

(iv) the nature of the stored substance;

(v) the type of backfill and native soil;

(vi) the depth to groundwater; and

(vii) other factors appropriate for identifying the source area and the degree and extent of subsurface soil and groundwater contamination.

(f) the owner or operator must report the discovery of any reportable release or suspected release to the director within 24 hours.

(i) owners or operators must begin release investigation and confirmation steps as outlined in 40 CFR 280, Subpart E and Section 19-6-420 upon suspecting a release.

(ii) owners or operators must begin release response and corrective action as outlined in 40 CFR 280, Subpart F and Section 19-6-420 upon confirming a release.

(g) environmental media samples must be collected by a certified sampler who meets the requirements of Rule R311-201.

(i) the certified sampler shall record the depth below grade and location of each sample collected to within one foot.

(h) environmental media samples must be analyzed within the time frame allowed, in accordance with the Utah Petroleum Storage Tank Environmental Media Sampling Handbook, by a certified environmental laboratory.

(i) soil samples must be corrected for moisture, if necessary, with percent moisture reported to accurately represent the level of contamination.

(i) environmental media samples for PST permanent closure or change in service must be collected according to the protocol outlined in Subsection R311-205-2(2), after the PST system is emptied and cleaned and after the closure plan has been approved.

(j) environmental media confirmation samples are required following over-excavation of soils.

(i) confirmation samples shall be taken at locations and depths sufficient to detect the presence, extent, and degree of a release from any portion of the PST as outlined in 40 CFR 280, Subparts E, F, and G.

(ii) additional confirmation samples may be required as determined by the director.

(k) upon confirming a release, a site assessment report, an updated site plat, analytical laboratory results, chain of custody forms, and other applicable documentation referenced in 40 CFR 280, Subparts E and F, following any abatement, investigation or assessment, monitoring, remediation or corrective action activities, shall be submitted to the director within the specified time frames.

(l) when conducting environmental media sampling as referenced in 40 CFR 280, subparts E and F, soil classification samples to determine native soil type shall be collected at locations and depths as requested by the director.

(i) techniques of the Unified Soil Classification such as a sieve analysis or laboratory classification, or a field description from a qualified individual as determined by the director, may be used to satisfy requirements of determining native soil type.

(m) other types of environmental media or quality assurance samples may be required as determined by the director.

(2) Site assessment protocol for PST closure.

(a) the appropriate number of environmental media samples, as described in Subsections R311-205-2(2) and R311-205-2(3) shall be collected in native soils, below the backfill material, and as close as technically feasible to the tank, piping, or dispenser island.

(i) any other samples required by Subsection R311-205-2(1) must also be collected.

(ii) soil samples shall be collected from a depth of zero to two feet below the backfill and native soil interface.

(A) if groundwater is contacted in the process of collecting the soil samples, the soil samples required by Subsections R311-205-2(2) and R311-205-2(3) shall be collected from the unsaturated zone immediately above the capillary fringe.

(iii) groundwater samples collected from an excavation shall be collected using proper surface water collection techniques according to the Utah Petroleum Storage Tank Environmental Media Sampling Handbook, or as determined by the director.

(b) environmental media samples must be analyzed using the appropriate analytical methods outlined in Subsections R311-205-2(2) and R311-205-2(5).

(c) one soil classification sample to determine native soil type shall be collected at the same depth as indicated for environmental media samples, at each tank and product piping area.

(i) for dispenser islands, only one representative sample to determine native soil type is required.

(ii) techniques of the Unified Soil Classification such as a sieve analysis or laboratory classification shall be used to satisfy requirements of determining native soil type when taking samples for PST closure.

(3) Environmental sampling protocol for PST closures:

(a) for a tank area containing one PST, one soil sample shall be collected at each end of the tank.

(i) if groundwater is contacted during the process of collecting soil samples, a minimum of one groundwater and one soil sample shall be collected from each end of the tank.

(b) for a tank area containing more than one PST, one soil sample shall be collected from each corner of the tank area.

(i) if groundwater is contacted during the process of collecting soil samples, a minimum of one groundwater and one soil sample shall be collected from each end of the tank area.

(c) product piping samples shall be collected from each product piping area, at locations where leaking is most likely to occur, such as joints, connections, and fittings.

(i) these samples must be collected at intervals which do not allow more than 50 linear feet of piping in a single piping area to go unsampled.

(ii) if groundwater is contacted during the process of collecting soil samples, a minimum of one groundwater and one soil sample shall be collected from each piping area where groundwater was encountered.

(d) for product dispensers, environmental media samples shall be collected from beneath each product dispenser.

(i) if groundwater is contacted during the process of collecting soil samples, a minimum of one groundwater and one soil sample shall be collected from each product dispenser where groundwater was encountered.

(e) for PSTs with remote fill, environmental media samples shall be collected from beneath each remote fill location and in intervals which do not allow more than 25 linear feet of the piping associated with the remote fill to go unsampled.

(i) if groundwater is contacted during the process of collecting soil samples, a minimum of one groundwater and one soil sample shall be collected from each sample location where groundwater was encountered.

(4) Site check requirements for re-applying to participate in the EAP.

(a) owners or operators wishing to re-apply for participation in the EAP following a period of lapse or non-participation may perform a site check pursuant to Subsection 19-6-428(2).

(b) the owner or operator shall develop or commission to have developed a site check plan outlining the intended sampling program.

(i) the director shall review and approve the site check plan before its implementation.

(c) the site check must meet the sampling requirements for PSTs, dispensers, and piping as defined in Subsection R311-205-2(2), or as determined by the director on a site-specific basis.

(d) additional sampling may be required by the director based on review of the proposed site check plan and site-specific conditions.

(5) Laboratory analyses of environmental media samples.

(a) environmental media samples which have been collected to determine levels of contamination from PSTs must be analyzed by a certified environmental laboratory.

(b) unless otherwise approved by the director, the required analytes and corresponding analytical methods shall be:

(i) for gasoline contamination:

(A) total petroleum hydrocarbons, purgeable TPH as gasoline range organics C6 - C10, by either EPA 8015 or EPA 8260; and

(B) benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), and methyl tertiary butyl ether (MTBE) by either EPA 8021 or EPA 8260.

(ii) for diesel fuel contamination:

(A) total petroleum hydrocarbons, extractable TPH as diesel range organics C10 - C28, by EPA 8015; and

(B) benzene, toluene, ethylbenzene, xylenes and naphthalene (BTEXN) by either EPA 8021 or EPA 8260.

(iii) for used oil contamination:

(A) oil and grease (O and G) or total recoverable petroleum hydrocarbons (TRPH) by EPA 1664; and

(B) benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), methyl tertiary butyl ether (MTBE), and halogenated volatile organic compounds (VOX) by EPA 8021 or EPA 8260.

(iv) for new oil contamination:

(A) oil and grease (O and G) or total recoverable petroleum hydrocarbons (TRPH) by EPA 1664.

(v) contamination from PSTs which contain substances other than or in addition to petroleum shall be analyzed for appropriate constituents as determined by the director.

(vi) for contamination of an unknown petroleum product type:

(A) total petroleum hydrocarbons, purgeable TPH as gasoline range organics C6 - C10, by either EPA 8015 or EPA 8260;

(B) total petroleum hydrocarbons, extractable TPH as diesel range organics C10 - C28, by EPA 8015;

(C) oil and grease (O and G) or total recoverable petroleum hydrocarbons (TRPH) by EPA 1664; and

(D) benzene, toluene, ethylbenzene, xylenes, naphthalene (BTEXN), methyl tertiary butyl ether (MTBE), and halogenated volatile organic compounds (VOX) by either EPA 8021 or EPA 8260.

(vii) potential vapor intrusion from petroleum product types shall be analyzed for appropriate constituents as determined by the director.

(c) original laboratory sample results must be returned to the certified sampler or certified PST consultant to verify chain of custody protocols, including holding times and analytical procedures, were properly followed.

(d) environmental media samples must be collected and transported under chain of custody according to EPA methods as approved by the director.

(e) reporting limits used by laboratories analyzing environmental media samples taken under this rule shall be below Initial Screening Levels for the contaminated media under study.

(i) environmental media samples shall be analyzed with the least possible dilution to ensure reporting limits are below Initial Screening Levels to the extent possible.

(ii) if more than one determinative analysis is performed on any given environmental media sample, the final dilution factor used and the reporting limit must be reported by the laboratory.

(A) as an alternative to diluting environmental media samples, the laboratory shall use appropriate analytical cleanup methods and describe which analytical cleanup methods were used to eliminate or minimize matrix interference.

(iii) any analytical cleanup method used must not eliminate the contaminant of concern or target analyte.

**KEY: petroleum, underground storage tanks**

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