Determining Which Releases are Subject to TRRP

Purpose and Applicability

This document describes a process to help clarify when a release is subject to the Texas Risk Reduction Program (TRRP) rule (30 TAC Chapter 350). This process applies to releases that occur under the jurisdiction of a TCEQ Remediation Division program. The intention of TRRP is to focus on releases that threaten or affect water resources (groundwater, surface water/sediment) and/or those releases that necessitate a decontamination or control remedy. This document sets forth the procedure to help persons make this determination.

If any other rule, permit, or enforcement order applies and is more stringent, then the requirements of the other rule, permit, or enforcement order must be met. Release determinations do not apply to situations where materials or products are used as intended, such as lawful application of chemical pesticides and agricultural chemicals, paved parking lots or roads, or treated utility poles and railroad ties. This document replaces the August 27, 2002 memo entitled *Remediation Division Report Requirements for a Release Investigation*.

Assumptions

Use of this determination process assumes:

- The person has notified the agency of the release in accordance with the Texas Water Code and applicable program rules.
- All source areas are adequately identified.
- Properly collected samples are analyzed for all target chemicals of concern (COCs) using method quantitation limits that are at or below the applicable action levels (unless the action level is lower than the lowest MQL for the most sensitive standard available analytical method).
- Groundwater sampling, when required, is sufficient to characterize COC concentrations in the uppermost saturated zone at all source areas (not intending to include tank hold water).

If any of these assumptions are invalid for a particular release, use of the process in this document is prohibited and the release will be subject to TRRP. This document does not cover current spills handled under 30 TAC Chapter 327.

Definitions

Release

The terms “release” and “discharge” are defined by statute (Texas Health and Safety Code §361.003 and the Texas Water Code §26.001 and §26.121) and in rule (30 TAC 334.7, 335.1, and 350.4).

Report releases within 24 hours of occurrence or discovery to the appropriate part of the agency as listed below:

Table 1. Release Reporting Contacts

Releases from:	Report Release to:	Phone number
Underground and above-ground storage tanks containing regulated petroleum substances and hazardous substances	Remediation Division	512-239-2200 (phone) 512-239-2216 (fax) pstrpr@tceq.state.tx.us (email)
Industrial solid waste and municipal hazardous waste facilities, spills, or other releases	Region Office	See Locations and phone numbers

Action Levels

For the purpose of determining which releases are subject to TRRP, action levels are defined as the lowest applicable Tier 1 residential protective concentration level (PCL) for a given COC, assuming a 0.5-acre source area and Class 1 groundwater. Table 2 identifies the applicable human health exposure pathways for determining action levels for surface soils, subsurface soils, and groundwater.

Table 2 – Exposure Pathways for Action Levels

Media	$^{Tot}Soil_{Comb}$ (0-15 ft)	$^{GW}Soil_{Ing}$	$^{Air}Soil_{Inh\text{-}V}$ (>15 ft)	$^{GW}GW_{Ing}$	$^{Air}GW_{Inh\text{-}V}$	Background/MQL
Surface Soil	X	X				X
Subsurface Soil		X	X			X
Groundwater				X	X	X

If background or the method quantitation limit (MQL) is a higher concentration than the action level, then the higher of background or MQL is the action level. Tier 1 PCL tables may be found on the TRRP PCL Web page and background concentrations for metals are shown in Table 3.

Table 3. Texas-Specific Background Concentration

Metal	Median Background Concentration (mg/kg)	Metal	Median Background Concentration (mg/kg)
Aluminum	30,000	Lead	15
Antimony	1	Manganese	300
Arsenic	5.9	Mercury	0.04
Barium	300	Nickel	10
Beryllium	1.5	Selenium	0.3
Boron	30	Strontium	100
Total Chromium	30	Tin	0.9
Cobalt	7	Titanium	2,000
Copper	15	Thorium	9.3
Fluoride	190	Vanadium	50
Iron	15,000	Zinc	30

Determining Applicability to TRRP

Conduct an investigation when there is evidence that there may have been a release, or when there is another voluntary or mandatory reason for investigation (such as commercial real estate transactions, closure of a solid waste management unit, or permanent removal from service of an underground storage tank). The results of the investigation may result in one of three scenarios:

1. COC concentrations are below background or the MQLs.
2. COC concentrations are above background or MQLs but below action levels, as defined previously in this document.
3. COC concentrations are above action levels.

The associated procedures to be followed for these three situations are discussed in the following sections. Figure 1 illustrates the general process for determining when a release is subject to TRRP. If any of the answers are still unknown following completion of the investigation, the release is subject to TRRP. Refer to the text for detailed information.

COC Concentrations Less Than MQL or at Background (Scenario 1)

TRRP is not applicable and a report to the agency is not required (unless required by rule) when:

- the COC concentrations are not detected above the higher of the MQL or background,
- there is no other evidence of a release, and
- response actions were not required to achieve MQLs or background.

A report to the agency may be required by a program area to meet other regulations such as for closure of a waste management unit or permanent removal from service of an underground storage tank system. Background can be either site specific (following the requirements that would be applicable under Chapter 350) or from Table 3 above.

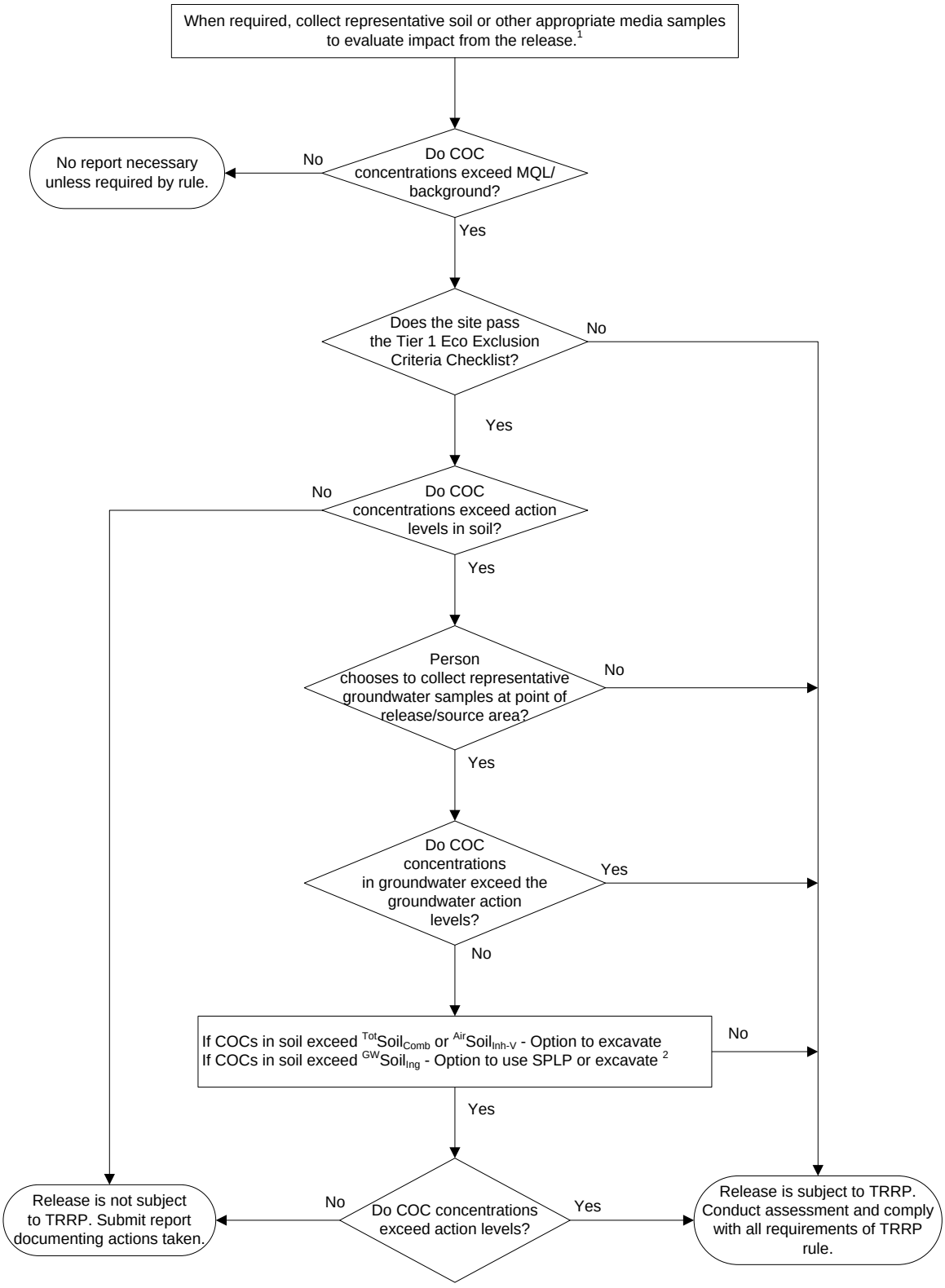
COC Concentrations Greater than MQL/Background (Scenarios 2 and 3)

When COC concentrations exceed MQL or background, both ecological and human health exposure pathways must be considered. Complete the Tier 1 Ecological Exclusion Criteria Checklist to determine if ecological exposure pathways may be of concern. If the site fails the checklist, or if water resources (groundwater, surface water/ sediment) are threatened or affected, the release is subject to TRRP. If the site passes the ecological checklist, evaluate the human health exposure pathways by comparing the analytical results to the action levels defined in Table 2. If the concentrations do not exceed the soil action levels and there is no evidence of other affected or threatened media, the release is not subject to TRRP (Figure 1). Submit a report that documents the investigation and provides justification for no further action. If the agency concurs with the conclusions, a no further action letter will be issued. Otherwise the release is subject to TRRP, unless the person can determine another basis in this document by which TRRP is not applicable.

If the concentrations exceed soil action levels, the release is subject to TRRP unless the person elects to evaluate the groundwater exposure pathway. Collect a representative groundwater sample from each source area to document whether groundwater is affected above action levels. Conduct the sampling in a manner that will prevent COCs from migrating to the groundwater during the drilling or sampling process. Compare the results to the groundwater action level. If COC concentrations exceed the groundwater action levels, the release is subject to TRRP.

Note: Groundwater sampling is always required in conjunction with exercising the excavation or SPLP option to attempt to resolve matters prior to triggering TRRP applicability.

If representative COC concentrations in groundwater do not exceed the action levels, the person can choose a course of action based on which soil action levels are exceeded. For any action level exceeded, excavation and proper disposal of affected soil can be conducted if the affected soil is located on site, entirely in the vadose zone, and can be removed within 60 days from the date the release was reported to the agency. Collect discrete samples to verify the COC concentrations after excavation. If only the $^{GW}Soil_{Ing}$ action level is exceeded, the person may choose to collect samples from the areas of highest concentrations for Synthetic Precipitation Leaching Procedure (SPLP) analysis to determine COC leachability. This process can be done before, after, or in lieu of excavation. When the SPLP analytical results are greater than the $^{GW}GW_{Ing}$ action level, the release is subject to TRRP unless further excavation is completed within the 60-day timeframe, followed by additional analysis. If the final soil and/or SPLP leachate analytical results do not exceed $^{GW}Soil_{Ing}$ or $^{GW}GW_{Ing}$, respectively, the release will not be subject to TRRP. Submit a report documenting the actions taken and justification for no further action. If the agency concurs with the conclusions, a no further action letter will be issued. Conversely, if the final soil and/or SPLP leachate analytical results do exceed $^{GW}Soil_{Ing}$ or $^{GW}GW_{Ing}$, respectively, the release will be subject to TRRP.



1. This flowchart cannot be used by itself. Refer to the text for detailed information on this process.
2. Use of SPLP test is not an option if to address exceedance of $^{Tot}Soil_{Comb}$ or $^{Air}Soil_{Inh\text{-}V}$ action levels.

Figure 1. Generalized Process to Determine if a Release is Subject to TRRP