Release Closure Report Guide

June 15, 2026

Contents

1 Introduction

Upon completion of remediation, or characterization demonstrating that remediation isn't necessary, a report documenting the closure will need to be prepared. The closure may address a release, an entire parcel, or a larger site comprising multiple parcels. This guide includes descriptions of what is needed for any of the following:

- Release Remediation Closure Report (RRCR) for releases under the Release Based Cleanup Program (RBCP)
- Remedial Action Report under the Brownfield Remediation and Revitalization Program (BRRP)
- Verification Report for a site in one of the following programs:
  - Property Transfer Program (PTP)
  - Voluntary Remediation Program under CGS §22a-133x
  - Voluntary Parcel-Wide Program under CGS §22a-133y
  - Resource Conservation and Recovery Act (RCRA) Corrective Action Program

While reporting under each of these programs may address a different scale of remediation, the general principles associated with documenting release cleanup (closure) are the same:

- Convey the final conceptual site model (CSM) in a way that helps the reader quickly grasp the key facts
- Provide the rationale for key decision points throughout the investigation and remediation
- Document how compliance with applicable cleanup standards was achieved

A properly completed release remediation closure report, as described in this guide, will provide a standard form of documentation that will serve the needs of all stakeholders.

Emergent Reportable Release: Guide Notes

Where appropriate, guide notes specifically relating to Emergent Reportable Releases (ERRs) will be called out to emphasize differences in the process for ERRs.

The investigation and cleanup of ERRs are often condensed, frequently occurring within hours of the release. Increased certainty about the release likely means less investigation is required to understand what happened and to demonstrate that remedial actions succeeded in removing all impacted material.

An RRCR for an Emergent Reportable Release (ERR) may be brief; however, it is still critical to document what happened, cleanup procedures, compliance with cleanup goals, rationales, and assumptions.

The following sections provide general best practices for preparing a closure report and additional requirements and tips for preparing closure reports to address the requirements of specific cleanup programs.

2 Release Remediation Closure Report Basics

The *Release Characterization Guidance* includes some reporting basics related to documenting a conceptual site model at various stages of investigation. Release remediation closure reporting follows the same general principles and still has at its core the CSM narrative; however, at this point, all the work is complete, so there should be no significant data gaps. The closure report represents the environmental professional's final opinion that the cleanup standards have been met and provides supporting documentation. Below are examples of key structural elements to consider when building any type of closure report.

2.1 Report Introduction

Describe the purpose of the report and what the reader can expect to learn from the report. Include the basics:

- Location/property address where the release(s) occurred
- Land use of the parcel or site
- Identification of the following parties to the cleanup, as applicable:
    - Creator and/or maintainer of the release(s)
    - Certifying party to a Form III or IV property transfer filing or voluntary remediation program
    - Responsible party
    - Property owner
    - LEP or PEP
- Description of the regulatory program(s) under which the verification or certification is being rendered and any program-specific requirements, including project specific cleanup goals and compliance objectives based on groundwater quality classification (GA, GB) and land use (residential, industrial/commercial, etc.). Examples include:
    - Brownfields Remediation and Revitalization Program (BRRP)
    - Brownfields-Abandoned Brownfield Cleanup Program (ABC)
    - Enforcement Actions (Orders, Judgments)
    - Property Transfer Program (PTP)
    - Release-Based Cleanup Program (RBCP)
    - Resource Conservation and Recovery Act Hazardous Waste Cleanup (RCRA Corrective Action)
    - Voluntary Remediation Program (133x)
    - Voluntary Parcel-Wide Cleanup Program (133y)

2.2 Conceptual Site Model

The CSM is a carefully structured narrative of what happened built *around* the evidence gathered during release characterization and is the core of the closure report, providing the basis for evaluating regulatory compliance objectives and justifying any remedial measures implemented or reliance on alternative methods of demonstrating compliance with applicable cleanup criteria. Consequently, presentation of the CSM is as critical as the data collected to support it. The information needs to be organized in an easily understood manner that brings together all relevant lines of evidence to provide the reader with a clear understanding of what happened, how extensive the release(s) was, the fate and transport of released substances, and what risks the release presented to human health and the environment. To achieve that, it may be helpful to think of the narrative as consisting of three primary components:

- **Narrative** – A summary of what was learned about the release.
- **Visual Elements** – Photos, figures, tables, and graphs can be more effective than words in conveying complex relationships in the data.
- **Supporting Information** – This comprises all the additional details that back up the narrative but don't necessarily need to be in the narrative (lab data, boring logs, calculations, etc.).

2.2.1 Narrative Elements

Each release being addressed by the closure report should include a discussion of the narrative elements outlined below. A narrative explains what was learned from the data. It is not the data itself or simply a sequence of events. It incorporates choices about the order in which to present information and what to emphasize. For example, the order in which investigations were conducted is generally less important than how the data fits together to support a conclusion and answer the following questions:

- How was the release discovered?
- What caused the release?
- What is the extent of contamination?
- Who/what was impacted?
- How was the problem resolved?

ERR CSM Documentation

The closure report for an ERR may be brief; however, the CSM still needs to document what happened, cleanup procedures, compliance with cleanup goals, and rationales and assumptions.

The narrative should be supported by relevant facts described in sufficient detail to demonstrate that characterization was completed in accordance with prevailing standards and guidelines and that cleanup is complete. The methods used to obtain information should not overshadow what was learned. As a result, the structure of a narrative may vary depending on what the reader needs to understand.

Setting

The size of the study area will be important in deciding how to structure a report. A study area may comprise a single release area, several release areas, an entire parcel, or a site with its own unique configuration of land. Once the study area is larger than a single release, it has its own conceptual model that also informs each release area. Regardless of the size of the study area, the CSM should include a description of the setting:

- **Physical Setting** – Describe the study area and key features that contribute to understanding any releases within it. Use visual elements as appropriate to show current/former conditions.
- **Operational Setting (History)** – Summarize the operational history and processes relevant to the release or study area, including raw chemical and waste handling areas, and identify constituents of concern (COCs), particularly those relevant to release area(s).

ERR Setting Information

Because ERRs typically involve an active process, the amount of setting details needed to understand what happened will likely be minimal.

- **Environmental Setting (Including Migration Pathways)** – Describe the environmental setting and potential migration pathways. Include the geology, hydrogeology, topography, and any other factors that could influence contaminant migration.

In some cases, it may make sense to incorporate the setting details directly into a release-specific CSM. In others, the setting may warrant its own section of the report to provide context for more than one release-specific CSM.

Release Identification

Describe what was released, the source of the release, and how the release was identified. Show the release area and relevant sample locations on figures. Provide tabulated data that clearly and concisely indicates which classes of compounds were analyzed and what was detected. If helpful, include photos.

Nature of the Contaminants

Incorporate important properties of the contaminants into the CSM narrative, particularly as they relate to DQOs, characterization decisions, and risk evaluation, including solubility, volatility, degradability, and breakdown products.

Release Characterization

Document the known lateral and vertical extent of the release area and show the extent of the release area and relevant sample locations on figures. Provide tabulated data that clearly and concisely indicates which classes of compounds were analyzed and what was detected in each impacted medium. Where groundwater is impacted, demonstrate an understanding of the three-dimensional characteristics of the groundwater plume and how it behaves seasonally.

Characterization of the release area should lead to an understanding of whether the release was compliant with regulatory cleanup standards without remediation or if remediation was necessary to achieve compliance:

- If the release did not require remediation, document how it meets applicable cleanup criteria (see Section 2.4, Demonstration of Compliance).
- If remediation was necessary to achieve compliance, be clear about the specific conditions that did not meet cleanup criteria.

Risk Evaluation and Receptors

Describe any risks or potential risks to human health and the environment due to the release(s) including drinking water wells, indoor air (particularly the lowest level of a structure), surface water bodies, sensitive ecological habitats, and future uses of the parcel.

Remediation

Remediation has a separate section below, but sometimes the information gathered during remediation can inform the CSM narrative just as much as pre-remedial characterization. Where appropriate, summarize relevant information obtained during remedial activities. Describe the remedial activities implemented for each release area. The following information should be included:

ERRs, Cleanups, and CSMs

With ERRs, cleanup times are rapid, so much of the information relevant to the CSM may be obtained during remediation.

- Description of the rationale for using the type of remediation implemented
- Date remediation was initiated and completed for each release area
- Publication date and copy of the Public Notice of Remediation, including comments received from the public and responses (if applicable)
- Discussion demonstrating why remediation is considered complete, including a discussion of mass-removal calculations and justification for the shutdown of remedial systems (if applicable)
- Appropriate maps, figures, and tables to show the location of confirmatory samples, summarize the data, and support the findings and conclusions of the environmental professional

Rationale and Assumptions (DQOs)

It is critical to document how the data is representative of the release area and the rationales for various decisions along the way. Examples include why certain locations and depths were targeted for sampling and how the resultant data supports any conclusions. The context of why a sample was collected, where it was collected, and what it represents is just as important as the reported analytical value.

Data Quality Analysis and Data Usability Evaluation

Due to the nature of environmental media, limitations of analytical methods, and human error, all data contains some degree of uncertainty and could have significant biases. Consequently, a concise evaluation of the quality of the analytical data should be narrated with consideration for the investigation DQOs, how the data was used, and how any nonconformances affect the environmental professional's decisions. There are many ways to conduct and present such an analysis. Additional guidance and resources can be found on the Departments Quality Assurance and Quality Control webpage.

2.2.2 Visual Elements (Photos, Figures, Tables, Graphs)

Photos, figures, tables, and graphs are powerful tools to clearly show the extent, distribution, and magnitude of each release and present information important to the narrative that is otherwise difficult to convey with words. Wherever possible, show, don't tell. Use visual elements to *show* critical information.

ERR Visual Elements

Visual elements, particularly photos, may be even more useful for ERRs than historical releases.

Photos

Photos can convey much more information about a setting and the orientation of key reference points in much less space than explanatory text. Use photos to document observations about the release and remediation.

Figures

At a minimum, a closure report must include a topographic map depicting the site and surrounding area and a site map depicting the release area(s). In addition, keep the following in mind:

- A figure depicting the extent of pollution and the extent of RBCR exceedances is much more effective than a figure that just shows sampling points.
- For releases that have affected groundwater, figures are useful for depicting the extent of plumes. Where groundwater was contaminated, include a depiction of the groundwater flow direction and groundwater elevation contours.

Figure 1 Example: Unclear presentation of lateral extent of pollution

Figure 2 Example: Clear presentation of lateral extent of pollution

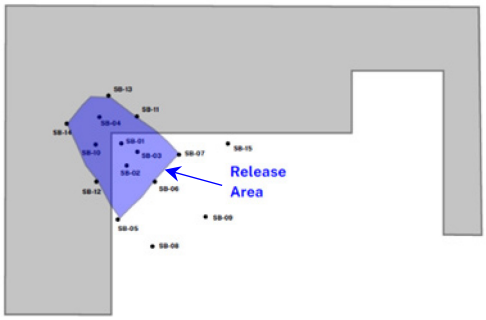
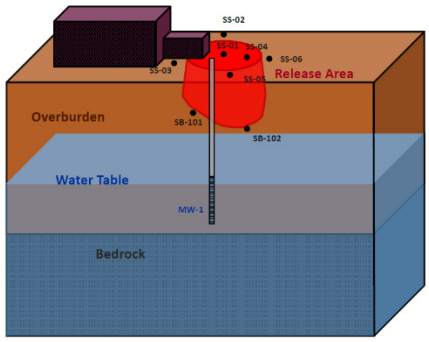


Figure 1 Example: Clear presentation of 3D extent of pollution



Tables and Graphs

A table of data is more digestible than a laboratory report or text listing detections. When constructing a table, consider what you are trying to convey. Consider organization, such as release area groupings, COC groupings, detected parameters, etc. Use tables to concisely display numerical data and other information and to highlight patterns in numerical data. The way the data is presented can highlight what is detected in specific samples or the distribution and magnitude of a specific parameter across multiple samples.

TABLE TIPS	
Do	**Don't**
Do – Provide a table summarizing pertinent results. Include relevant non-detects (e.g., a line showing that VOCs were analyzed but not detected). **Do** – Consider what you are trying to show in a table. A table can be more than just a data summary. The way the data is presented can focus the reader's attention on what is detected in specific samples or how a specific substance is distributed across multiple sample locations or depths. **Do** – Separate data by release area to support the release-specific CSMs when incorporating multiple release areas into a report.	**Don't** – List every analyte not detected within an analyte class. For example, it may be important to document every metal not detected, but it is not helpful to list every analyte on the VOC list when only two are detected. **Don't** – List every soil sample collected and every analyte detected in the body of the narrative with no interpretation.

As a complement to tables, graphs are an excellent visual aid for showing trends. Let tables and graphs help you make key points.

2.2.3 Supporting Information – Appendices

All the details and data from which the narrative, rationale, and compliance evaluation are derived, while important, do not always warrant an exhaustive description within the narrative itself. The report body is an interpretation of observations and measurements. The appendices can serve as a repository for the raw observations and measurements. Examples of supporting information that should be referenced in, and possibly appended to, the narrative include:

- Data quality assessment (DQA) and data usability evaluation (DUE) tables
- Calculations
- Field data, boring logs, and screening results
- Monitoring well construction logs
- Standard operating procedures and analytical method descriptions
- Laboratory reports
- Limitations of work product

2.3 Demonstration of Compliance

Describe the methods used to demonstrate compliance with the RBCRs for the release (or each release at the site or portion of a site), including remediation, exemptions, alternatives, variances, etc. Be clear about which cleanup standards apply and how compliance with each was achieved. Include the following details, as applicable:

- For confirmatory samples or any samples used to demonstrate compliance with the numeric criteria in the RBCRs:
    - Rationale for confirmation sampling, including density, frequency, locations, depths of samples, and why the sample locations are representative.
    - Demonstrate that the concentrations of all release constituents are less than applicable soil and groundwater criteria at each representative sampling location.
- For engineered controls (ECs):
    - A description of the EC and how it was used to achieve compliance.
    - Site map depicting the location of the engineered control.
    - Copies of the Department's Approval for the completed engineered control, if applicable.
    - Documentation that the financial surety mechanism is in place or explain why it's not applicable.
- For institutional controls (ICs) including Environmental Use Restrictions (EUR) and Affidavits of Facts, include the following:
    - Summary of the purpose of the EUR – specify the restrictions included and how they achieve compliance with the RBCRs
    - Site map depicting the location of the Subject Area(s)
    - A copy of the Certificate of Title (ELUR) or updated title search (NAUL) is required to document that the EUR was recorded on the land records
    - A copy of the EUR Fact Sheet required to be posted at the property
    - Upload a copy of the Affidavit of Facts to the REACT portal
- For alternatives to remediation and/or compliance with the default RBCR cleanup criteria:
    - Many alternatives, exemptions and other provisions in the RBCRs include conditions that must be met to use them. Be sure to clearly demonstrate how those conditions were met and how the provision was used to achieve compliance.
    - Include copies of any Commissioner approvals for additional polluting substances, alternative criteria, exemptions, variances, and alternative methods of demonstrating compliance.

2.4 Conclusions

Summarize the issues and resolutions for each release area, keeping in mind the report objectives as reflected in the introduction. This section is not the place to introduce new information or justifications. The conclusions should:

- Briefly describe the release(s) and conditions that needed to be addressed to comply with the RBCRs

- Highlight critical lines of evidence and relevant assumptions from the CSM
- Summarize how compliance was achieved/demonstrated

2.5 References

Provide a list of references of documents drawn from to construct the closure report. The reports should generally **not** be attached to the closure report. The references should not replace a discussion of information relevant to the conclusions. The reader should be able to understand the CSM and how compliance was demonstrated **without** referring to other reports.

3 Addressing Multiple Releases in a Single Report

When a situation calls for combining multiple release closures into a single report, the greatest challenge will be organizing the information so that each release area has a clear CSM that is distinct from, yet supports, the broader CSM for the study area, which may be an entire parcel or a portion of a parcel. Below is an example of how the structure outlined in Section 2 might be used to document closure of multiple releases:

- **Introduction** – A single introduction should suffice to provide the background necessary for understanding why the report is being prepared and why it is appropriate to include multiple releases.
- **CSM Narrative** – A single discussion of setting (physical, operational, and environmental), and receptors in the area can generally serve as a framework that provides some basic context for all the releases to be discussed. However, each release area needs its own CSM that focuses on the following:
    - *Release background* – Including identification, release mechanisms, and migration pathways
    - *Constituents of concern*
    - *Characterization* – It is common for investigation mobilizations to address multiple release areas; however, each release area should have its own CSM summarizing what was learned throughout the investigation process and what drove decisions regarding how to comply with the RBCRs. While it can be helpful to present a timeline of investigations, the information gathered about releases should be organized by release-specific CSM, not investigation phase.
    - *Remediation* – If a specific remedial approach was used to address multiple release areas, it may be appropriate to include one section that provides the details of the remediation. However, even if several releases are remediated using a single technology, the applicability to each release should still be discussed in the release-specific CSM.

  Other elements that may require a release-specific discussion depending on the findings include:
    - *Receptors at risk from certain releases*
    - *Data quality evaluations*

- **Visual Elements and Supporting Information** – The complexity of each release/study area will determine to what extent figures, tables, graphs, photos, and data quality evaluations can be combined.
    - When there are multiple release areas, tables can be used to summarize compliance methods, while figures can be used to show where remediation was necessary and what technology was used to achieve compliance.
    - For soil, it is generally easier to digest tabulated data on a release-specific basis except where releases overlap.
    - For groundwater, a broader presentation of the data (site-wide, parcel-wide, portion-wide, etc.) may be more appropriate.
- **Compliance** – Each release area will need a clear demonstration of how it complies with the RBCRs.
- **Conclusions** – This is the place to refresh the reader's memory as to how many releases there were, what they were, and how compliance was demonstrated for each one.

The following sections outline additional elements that should be included for different types of Remediation Closure Reports prepared under various programs.

4 Release-Based Cleanup Program

4.1 Release Remediation Closure Report

The RBCRs require that a Release Remediation Closure Report (RRCR) be prepared to document the closure of any release that has been remediated to the applicable cleanup standards per section 22a-134tt-12(1) of the RBCRs. For releases cleaned up under this program, the required information will be entered on an intake form in the REACT portal,[i] and the RRCR will be uploaded.

Additional information related to the characterization, remediation, and closure of a release should be presented in a report that generally follows the structure outlined in Section 2, above.

Applicability to ERRs

ERRs cleaned up to the RBCR criteria will require submittal of a release remediation closure report. As discussed above, some of the sections may be brief or combined, but the general nature of the relevant information remains the same.

Even when reporting the release to the Department of Energy and Environmental Protection (DEEP) **is not** required, an RRCR, certified by a Permitted Environmental Professional (PEP) or verified by a Licensed Environmental Professional (LEP), **is** required. The RRCR must be retained for at least 10 years by the person who created or maintained the release and must be submitted to DEEP upon request.

4.2 Voluntary Parcel-Wide Cleanup Program (CGS 22a-133y)

Not Applicable to ERRs

Section 4.2 is applicable only to parcel-wide cleanups and is not relevant to ERRs.

As of March 1, 2026, Section 22a-133y of the Connecticut General Statutes (CGS) provides an avenue for parcel-wide investigation and cleanup under the RBCRs. For sites in this program, there are two different approaches for documenting release closure:

- **Individual Release Closure** – Releases may be closed out individually in accordance with the RBCRs using the RRCR approach presented in Sections 2 through 4.1 above.
- **Parcel-Wide Closure** – The entire parcel may be closed in a manner similar to the final, site-wide verification described in Section 5. Under the 133y program, it is also possible to close some individual releases and later submit a parcel-wide remediation closure report that incorporates the previous RRCRs.

5 Site-Wide Verification Programs – General Considerations

Not Applicable to ERRs

Section 5 is applicable only to site-wide cleanups and is not relevant to ERRs.

The Release Closure Report principles outlined in the preceding sections can also be applied to verification reports prepared by LEPs for the following site-wide programs:

- Property Transfer Program
- Voluntary Remediation Program (CGS §22a-133x)
- Voluntary Parcel-Wide Cleanup Program (CGS §22a-133y)
- Brownfields Programs – BRRP and ABC
- RCRA Hazardous Waste Cleanup (Corrective Action) Program

General considerations related to documenting site-wide cleanup through verification reports under these programs include the following:

- The introduction should identify the type of verification being rendered (e.g., cleanup program, real estate, business, portion, interim, final) and the specific focus of the verification report
- Discussion of the continued applicability of the most recently completed Phase I relative to the time of verification.
- A CSM should be constructed for **all AOCs**, regardless of whether a release occurred. This includes areas where a potential for a release was identified and investigated even if it was concluded that no release occurred. Such AOC-specific CSMs include the following:
    - Description of each AOC with historical and operational context

- Identification, nature, and three-dimensional extent of COCs at each AOC
- Potential release mechanisms and likely contaminant migration pathways
- Relevant lines of evidence that support the LEP's conclusion that a release to the environment did not occur (e.g., conclusions based on inspections, results from the Phase II investigation of that AOC, sampling rationale, etc.)
- Site map depicting all AOCs. AOC-specific maps showing sampling locations may also be helpful.

Specific types of verifications and additional considerations for each type of verification are discussed in more detail in the following sections.

5.1 Final Verifications

Final Verifications close all releases that occurred up to the applicable date of the verification. The specific remediation program determines what is permissible for an applicable verification date.

5.2 Portion and Interim Verification Applicability

Portion and interim verifications may be rendered by an LEP for sites in the following programs.

- Property Transfer Program – Form III (Real Estate or Business)
- Voluntary Remediation Program (CGS § 22a-133x)
- Brownfields Programs – BRRP and ABC

Because these types of verification are not final verifications, they do not close out obligations under any of these programs. The certifying party or program applicant will remain obligated by law to comply with all applicable requirements pursuant to the relevant program until an LEP renders a final verification for the entire establishment/property/site.

5.3 Portion Verifications

A portion verification may be rendered when a portion of an establishment or site has been fully investigated and remediated to the applicable date of verification (as entered on the verification form). The verification report should focus on the characterization and remediation of the portion being verified; otherwise, the requirements for investigation and remediation of a portion of an establishment are no different than for a verification of an entire parcel. Full compliance with the RBCRs at the portion of the establishment is required.

In addition to previously discussed information to be included in a verification report, the following must be incorporated in a portion verification:

- A map clearly delineating the portion.[ii]
- A description of the physical and environmental parameters of the portion.
- The portion's land use and operational history.

What comprises a verifiable "portion" varies by program:

- Property Transfer Program (Form III only)
  - Geographic area constituting part of a parcel
  - A "release" – This allows a specific *release* to be verified as complying with the RBCRs
- 22a-133x
  - Geographic area constituting part of a parcel
  - A "release area" – This allows for a specific release area to be verified; however, the *entire area* being verified must comply with the RBCRs
- All other programs
  - Geographic area constituting part of a parcel

5.4 Interim Verifications

An interim verification may be rendered for an entire establishment/site or a portion of an establishment/site when compliance with the cleanup standards for soil can be documented, but the cleanup standards for groundwater have not yet been achieved, and groundwater remediation is ongoing. The LEP must demonstrate that compliance with RBCR criteria for all media have been achieved, with the exception that a selected remedy for groundwater pollution is in operation. The verification report should include a dedicated section that discusses the active groundwater remedy and documents the following specifics:

- Plans and specifications for the selected groundwater remedy
- Why the selected groundwater remedy is appropriate for the identified groundwater plume and the environmental setting
- Estimated duration of the remedy
- Ongoing operation and maintenance requirements of the remedy
- Confirmation that there are no current exposure pathways from contaminated groundwater to receptors that have not yet met the groundwater criteria, including:
  - Vapor migration into indoor air
  - Drinking water
  - Surface water
- Groundwater monitoring plan, including:
  - Analytical parameters to monitor the effectiveness of the remedial measure
  - Appropriate representation of monitoring points
  - Frequency of monitoring
  - Schedule for the submittal of progress reports

GROUNDWATER COMPLIANCE MONITORING

Groundwater compliance monitoring is not considered groundwater remediation and therefore, would not qualify for an Interim Verification.

5.4.1 Vapor Migration Exposure Pathway

The absence of vapor migration exposure pathways to indoor air can be demonstrated if:

- There are no occupiable structures overlying or within:
  - 10 feet of a volatile petroleum substance plume
  - 30 feet of a groundwater plume containing volatile organic substances other than volatile petroleum substances

  that exceeds applicable volatilization criteria for groundwater or soil vapor.
- If there are occupiable structures, vapors must be demonstrated to be currently mitigated now and in the future.
- If a significant environmental hazard is present, it must be in a mitigated (controlled) status with regular hazard reporting.

5.4.2 Drinking Water Exposure Pathway

The absence of exposure pathways to groundwater can be demonstrated if:

- There are no drinking water receptors within five hundred feet hydraulically downgradient of a groundwater plume that exceeds Groundwater Protection Criteria (GWPC).
- If there are drinking water receptors present within 500 feet yet outside of the delineated plume area, the absence of an exposure pathway must be demonstrated now and in the future through continued monitoring.
- If there are drinking water receptors present within 500 feet and within the delineated plume area, the absence of an exposure pathway must be demonstrated now and in the future through continued monitoring and treatment, if necessary.
- If a significant environmental hazard is present, it must be in a mitigated status with regular hazard reporting.

5.4.3 Surface Water Exposure Pathway

The absence of exposure pathways to surface water can be demonstrated if no groundwater plume with concentrations exceeding the surface water protection criteria (SWPC) or an alternative SWPC is discharging or will discharge to surface water.

5.4.4 Monitored Natural Attenuation (MNA)

MNA (not compliance monitoring) is considered a groundwater remedy for the purposes of filing an interim verification. If MNA is the selected ongoing groundwater remedy, the interim verification report should include a discussion and documentation of the following to demonstrate that MNA is an appropriate remedy to ultimately achieve compliance:

- Other than the natural attenuation of a groundwater plume, all remedial actions for polluting substances have been concluded, specifically the remediation of all source areas

- All substances in the plume and the plume geometry are in a diminishing state
- The attenuation process (e.g., destructive/non-destructive, geochemical footprints, etc.) and a demonstration that the conditions for attenuation are sustainable
- Groundwater monitoring points are representative of the release and define the degree and extent of the plume
- The seasonal and dimensional extent and geochemistry of the plume
- The fate and transport of all applicable substances in the plume
- Any sensitive receptors located within 500 feet of the plume, including buildings, drinking water and surface water, are not or will not be at risk

An MNA plan is to be provided in the report and is to include, at a minimum, the following information:

- Analytical parameters to monitor the attenuation and degradation of COCs.
- Appropriate representative monitoring points.
- Frequency of monitoring
- A schedule for the submittal of MNA progress reports (not to exceed every five (5) years from the date of initiation of MNA).

6 Property Transfer Program Verifications

6.1 Property or Business Verifications

The verification report should identify whether it is for real estate (property) or business operations, and the AOC CSMs should clearly identify whether they are tied to the property or business operations if such a distinction is relevant to the verification. An example of an AOC associated with the property but not the business is the historical placement of polluted fill prior to a business leasing the site. Because the fill placement had nothing to do with the business operations, it would not need to be verified by the business; however, it still affects the property.

Please note: As indicated on the verification form, a property verification **can** close out previous business transfers, but a business verification **cannot** close out previous property transfers.

6.2 Portion Verifications

The property transfer law allows for two types of portion verifications:

(A) **Geographic Area Constituting a Part of a Parcel** – Verification of a defined geographic area constituting part of a parcel must clearly define the portion on a class A-2 or similarly accurate survey.[ii] The entire designated area must comply with the RBCRs.

(B) **Release** – Verification of a release must include a figure that clearly depicts the boundaries of the release along with the latitude and longitude of the release area. The release, including any groundwater plume(s), must comply with the RBCRs.

A release remediation closure report can also be considered a portion verification.

6.3 Final Form III Verifications

Final Form III Verifications close all releases that occurred up to the applicable date of the verification. The applicable date of Form III Verifications may be:

- The date the Form III was filed or the date the Phase II Investigation was complete, **whichever is later**
- A date after the Form III filing and Phase II completion dates, up to and including the date the verification was signed by the LEP

Releases that occurred after the applicable verification date will **not** be closed with the verification.

6.4 Final Form IV Verifications

A Final Form IV Verification focuses on closing a Form IV filing for which a Form IV Supporting Verification had been filed at the time the property or business was transferred. At the time of the Form IV filing, an LEP will have verified that all actions to remediate any pollution from the establishment have been taken in accordance with the Remediation Standard Regulations (RSRs) except one or more of the following:

- Natural attenuation monitoring
- Groundwater compliance monitoring
- Recording an Environmental Use Restriction (EUR)

The Final Form IV Verification is applicable to the date of the Form IV **Supporting** Verification. The Final Form IV Verification report is an opinion rendered by an LEP that the applicable items above have been completed. The report should not recreate the level of documentation provided in the Supporting Form IV Verification previously submitted, but should include:

- An introduction that provides the information outlined in Section 2.1
- A brief summary of general site information, operational history, and the environmental setting
- An overview of the CSM(s) for relevant release(s)
- A detailed discussion of any changes to the findings or conclusions presented in the Form IV Supporting Verification Report
- A discussion of how the outstanding commitments from the Form IV filing were addressed

6.4.1 MNA and Compliance Monitoring Closure

If MNA or groundwater compliance monitoring were a commitment of the Form IV filing, include the following:

- Documentation that monitoring was completed and a summary of the data from the monitoring events that were used to demonstrate compliance
- A map depicting an appropriate representation of the plume(s) with the location of monitoring wells
- If any substance has been detected during any compliance monitoring event at a concentration greater than criteria, discuss the reason for the exceedance and how that was addressed
- If a particular monitoring well was dry or inaccessible during a specific compliance monitoring event, discuss how that was addressed
- Commissioner approvals for additional polluting substances, alternative criteria, or site-specific criteria, as applicable, obtained **after** submittal of the Supporting Form IV Verification Report

6.4.2 Environmental Use Restriction Closure

If the recordation of an EUR was a commitment of the Form IV filing, include the following:

- Purpose of the EUR and how the EUR achieved compliance with the RBCRs.
- Financial surety mechanism that has been established, if applicable.
- Site map illustrating the location of the Subject Area(s).
- Copy of the Certificate of Title (ELUR) recorded on the land records **or** updated title search (NAUL).
- Copy of the EUR Fact Sheet.

7 Voluntary X Remediation Program (CGS 22a-133x)

For sites in the 133x voluntary program (CGS 22a-133x), verifications that can be rendered include the following:

- Parcel verification
- Interim verification
- Portion verification (include a detailed discussion of the physical and environmental parameters of the portion/release area):
    - **Geographic Area Constituting a Part of a Parcel** – Verification of a defined geographic area constituting part of a parcel must clearly define the portion on a class A-2 or similarly accurate survey.[ii] The entire designated area must comply with the RBCRs.
    - **Release Area** – Release area verifications must include a figure that clearly depicts the boundaries of the release area along with the latitude and longitude of the release area. The entire bounded area must comply with the RBCRs.

A 133x verification must be applicable to the date the verification is signed or the date of an interim verification previously submitted under the 133x program.

8 Brownfield Program Verifications

Verifications for sites in the Brownfield Remediation & Revitalization Program (BRRP) and Abandoned Brownfield Cleanup (ABC) program both use the BRRP/ABC verification forms. The sections below discuss the reporting obligations for each program.

8.1 BRRP Verifications

Sites in the Brownfield Remediation & Revitalization Program (BRRP) must verify in accordance with CGS §32-769, which requires Applicants to investigate and remediate to the property boundaries. Other than being limited to the property boundaries, the BRRP Verification Report should include all the relevant information in a typical verification report (see Section 5). The report must also demonstrate that the migration of pollution off-site has been eliminated.

Verifications that can be rendered under CGS §32-769, include:

- Parcel verification
- Interim verification
- Portion verification – Verification of a defined geographic area constituting part of a parcel must clearly define the portion on a class A-2 or similarly accurate survey.[ii] The entire designated area must comply with the RBCRs.

A BRRP verification must be applicable to the date the verification is signed or the date of an interim verification previously submitted under the 133x program.

8.2 ABC Verifications

Sites in the Abandoned Brownfield Cleanup (ABC) program must enter the CGS 22a-133x Voluntary Remediation Program above. Under CGS §32-768, ABC Applicants are required to investigate and remediate to the property boundaries. Other than being limited to the property boundaries, the verification report should include all the relevant information in a typical verification report (see Section 5). The report must also demonstrate that the migration of pollution off-site has been eliminated.

9 RCRA Hazardous Waste Cleanup Program Verifications

Properties subject to RCRA hazardous waste cleanup (corrective action), unit closure, and post-closure care can prepare a final verification report as described in Section 5. In addition to the elements required for a typical verification, sites subject to RCRA corrective action must also incorporate the following into the cleanup:

- Ecological risk assessment completion
- Concentration of lead in soil is consistent with EPA and DEEP risk-based standards
- Site-specific quality assurance project plan (QAPP)
- Public participation
- The use of an enforceable mechanism if certain institutional controls or any engineered controls or long-term maintenance systems are necessary to ensure the effectiveness of the remedy. This includes the issuance of a RCRA Stewardship Certificate/Permit.

Verifications can address both RCRA and Property Transfer Program completion documentation concurrently. Note that termination of interim status for RCRA Corrective Action/Hazardous Waste Cleanup sites requires verification and addressing additional RCRA requirements and documentation that engineered controls and most institutional controls are not needed to achieve cleanup.

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[i] REACT Portal
https://deep-react.service.ct.gov/s/

[ii] Portion Mapping
https://portal.ct.gov/deep/remediation--site-clean-up/licensed-environmental-professional-program/verification-form-instructions#portion