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LETTER FROM ILLINOIS ENVIRONMENTAL PROTECTION AGENCY REGARDING
VIOLATION NOTICE E-2001-00158 GREAT LAKES IL
2/8/2002
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276

RENEE CIPRIANO, DIRECTOR

(217) 785-0830
TDD (217) 782-9143

CERTIFIED MAIL
RETURN RECEIPT REQUESTED
7000 1670 0004 1554 5836

February 8, 2002

*Received
2/11/02*

Mr. Mark Schultz
Great Lakes Navy Training Center
102 South Decatur Avenue
Building A, A HW#1 or Code N4S
Great Lakes, IL 60088-5600

Re: VIOLATION NOTICE E-2001-00158
Release Incident: 20011380
Attributable to Great Lakes Navy Training Center
Date Release Occurred: August 16, 2001
Date Release Reported: August 16, 2001
Great Lakes, Lake County, Illinois

Dear Mr. Schultz:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon review of available information and investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of violations of environmental statutes, regulations or permits as set forth in the Attachment to this letter. The Attachment includes an explanation of the activities that Illinois EPA believes may resolve the specified violations, including an estimate of a reasonable time period for completion of the necessary activities. However, due to the nature and seriousness of the violations cited in the Attachment, please be advised that resolution of the violations may require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response to this Violation Notice, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. The response must address each violation specified in the Attachment and include for each an explanation of the activities that will be implemented and the time schedule for the completion of that activity. The written response will constitute a proposed

3/25/02

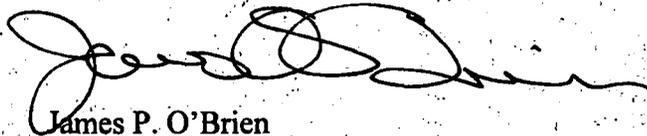
GEORGE H. RYAN, GOVERNOR

Compliance Commitment Agreement ("CCA") pursuant to Section 31 of the Act. The Illinois EPA will review the proposed CCA and will accept or reject it within 30 days of receipt. If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and to meet, and the Illinois EPA may proceed with a referral to a prosecutorial authority.

The Illinois EPA encourages the use of pollution prevention methods to help achieve compliance with environmental requirements. By switching to nonhazardous raw materials, improving housekeeping practices or changing production processes to generate less pollution or waste, you may be able to save money, increase efficiency and possibly reduce regulatory requirements.

All written communications should be directed to James P. O'Brien, Manager, Office of Emergency Response, at Mail Code #29, 1021 North Grand Avenue East, P.O. Box 19276, Springfield, Illinois 62794-9276. All written communications must include duplicate copies of any technical reports and/or data and give reference to Violation Notice Number identified above. **If you have any technical questions, contact Yeric Yarrington, Manager, Engineering and Assessment Unit, at 217/785-6345.**

Sincerely,



James P. O'Brien
Manager, Office of Emergency Response

1- ORIGINAL
2- COPIES

Attachment

Release Incident: 20011380
Attributable to Great Lakes Navy Training Center
Date Release Occurred: August 16, 2001
Date Release Reported: August 16, 2001
Great Lakes, Lake County, Illinois

ATTACHMENT

I. Description of Violations

Great Lakes Navy Training Center is in apparent violation of the Illinois Environmental Protection Act because it caused or allowed a release of contaminants to soil, subsurface strata, and potentially groundwater. The release occurred on or before August 16, 2001, and involved approximately 60 gallons of Hydraulic Oil from a vehicle lift's hydraulic cylinder to soil, subsurface strata and potentially groundwater at or around 201 Decatur Avenue, Building 106, Great Lakes, Lake County, Illinois.

The Illinois EPA has not been provided with information that could confirm that a complete investigation of all cause(s) of the release has been conducted, or that procedures, repairs and/or modifications have been made to prevent future similar releases.

Releases and threats of releases of contaminants to surface water, soil, and potentially groundwater constitute violations of Section 12 (a) and 12(d) of the Act, which prohibit causing or allowing water pollution or creating a water pollution hazard. Releases to soil and ground surface may also constitute violations of Section 21 (a) of the Act, which prohibits open dumping.

According to information from the Office of Illinois Secretary of State, Corporate Information Division, Great Lakes Navy Training Center does not have a Registered Agent and is not authorized to do business in the State of Illinois.

II. Text of Sections

Section 12 (a)

No person shall cause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources or so as to violate regulations or standards adopted by the Pollution Control Board under this act.

Section 12 (d)

No person shall deposit any contaminants upon the land in such place and manner so as to create a water pollution hazard.

Section 21 (a)

No person shall cause or allow the open dumping of any waste.

III. Narrative Description of Activities Recommended by Illinois EPA for Resolution of Violations

The Illinois EPA's Office of Emergency Response recommends that all the activities described below be submitted as part of a proposed Compliance Commitment Agreement relative to the release cited herein. An estimated schedule must be provided for completion of each activity. We expect that activities 1 and 2 (an investigation into cause of the release and a focused site investigation) can reasonably be completed and appropriate reports submitted to the Illinois EPA within forty-five (45) days of your receipt of this Violation Notice. The Illinois EPA recognizes that the schedule for activities 3 through 5 will be dependent on the results of activities 1 and 2, and that adjustments to the time schedule proposed for activities 3 through 5 may be appropriate at a later date.

1. Conduct a thorough investigation by knowledgeable personnel into the cause or causes of the release and how such releases can be prevented or precluded in the future. This investigation may be conducted in accordance with the enclosed "Compliance Documentation Guide I - Criteria for Investigation of Causal Factors and Development of Preventive Responses ("Guide I"), which is provided for your convenience.

Illinois EPA recommends that a comprehensive report of that investigation and recommended corrective actions be submitted to the Office of Emergency Response of the Illinois EPA within forty-five (45) days of your receipt of this Violation Notice.

2. Conduct a focused site investigation at the emergency incident site with respect to the material released and any other material or conditions that affect the mobility and enhance the toxicity of the material released. The site investigation may address the criteria cited in the enclosed "Compliance Documentation Guide B - Criteria for focused Site Investigation and Remedial Action Plan at Emergency Incident Sites ("Guide B"), which is provided for your convenience.

Illinois EPA recommends that an investigation report be prepared for the site in accordance with Guide B and be submitted to the Office of Emergency Response within forty-five (45) days of your receipt of this Violation Notice.

3. Determine remediation objectives in accordance with Guide B and the documents and regulations cited therein. A remediation objectives report should be prepared in accordance with Guide B and submitted to the Office of Emergency Response for review. A proposed date for submission of this report must be included.
4. Prepare a remedial action plan in accordance with Guide B to address contamination at locations where the contamination concentration exceeds the remediation objectives, which have been approved by the Office of Emergency Response for the incident location. The remedial action plan should be submitted to the Office of Emergency Response for review in advance of implementation. The remedial action plan should also contain an implementation schedule. The Office of Emergency Response may agree in writing to amendments to portions of the schedule if conditions during implementation justify this. [Note: If remedial action is expected to exceed three months, the plan should include a schedule for detailed quarterly reports of progress. The content of such reports should be proposed in the remedial action plan.]

5. Prepare a remedial action completion report at the completion of the accepted remedial action plan. The remedial action completion report should be submitted to the Office of Emergency Response by the date proposed in the accepted remedial action plan. The remedial action completion report may be prepared in accordance with "Compliance Documentation Guide C - Criteria for Remedial Action Report at Emergency Incident Sites ("Guide C"), which is provided for your convenience.

cc: John Waligore
Incident File
VN File

Criteria for Investigation of the Casual Factors of Emergency Releases

-3-27-01-

Incident Causation Investigation

A thorough investigation by knowledgeable personnel should be initiated by the responsible party. The scope of the investigation must be sufficient to determine the root cause(s) as well as the proximate cause of the release. At a minimum the investigation should specifically address each of the following potential causal factors: equipment, procedures, personnel error, extraordinary weather conditions, actions by a third party. The investigation should result in findings and recommendations for preventive and corrective actions. In developing recommendations the following topical areas should be specifically considered: material substitutions that reduce or eliminate hazards, equipment design and installation, maintenance type and frequency, adequacy of procedures, provision of adequate secondary containment, as well as personnel training and evaluation (both initial and periodic). A prevention implementation schedule should be developed and implemented promptly.

Description of the Incident

A chronology of the incident should be developed from information remembered by those present as well as pertinent written, electronic and mechanical records. The chronology should include events prior to the incident that reflect upon the use of relevant equipment and/or containers as well as their maintenance history. A spatial description of the incident should also be prepared showing the spatial relationship and distances involved between aspects of the physical setting in which the incident occurred. The exact nature of the opening through which the release occurred should be depicted by photos, drawings or diagrams.

Identification of Relevant Facts

Information should be provided regarding the materials involved in the release including the materials of construction of the containment, equipment or structure from which the release occurred.

1. An MSDS should be provided for the material(s) released as well as other pertinent physical and chemical data.
2. The chemical state of the material(s) both prior to and after release should be described including the temperatures, pressures, phases and chemical speciation (as applicable).
3. Information should be included about the design basis of the process or containment.
4. Relevant government and industry standards or codes should be identified such as ATM, ANSI, ASME, ASHRAE, API, etc.
5. For containment, the dimensions and specifications including materials of construction and thicknesses of containment walls should be provided.

6. For processes, a block flow diagram for the process should be included. Verification should be made that all piping and instrumentation diagrams are up to date and show the process as actually built.
7. The inspection and maintenance history should be summarized. Standard operating procedures, inspection checklists and relevant training curricula should be included.
8. The experience and training history of the personnel involved in the incident should be summarized.
9. Management policies and the assignment of responsibilities for the various aspects of release prevention should be stated.

Performance of Appropriate Analyses

An evaluation must be made of the evidence and relevant facts to determine the cause and effect relationships that led to the release. This must be sufficiently thorough to determine the root cause(s) in addition to the proximate and/or any intermediate causes. It is recommended that several analytical techniques be used whenever applicable. Analysis types include: cause tree analysis, barrier analysis, hazard, and operability studies, among others. Issues requiring analysis include equipment integrity, energy states of materials involved, maintenance, operating procedures, emergency procedures, training, management of change, and management culture. Appropriate laboratory analyses and tests should be conducted and their results evaluated.

Reduction of Findings to Conclusions

The findings of all analyses should be listed and logically organized to support specific conclusions regarding the cause of the incident. There should be a full discussion of any facts or findings that are inconsistent with the stated conclusions.

Development of Preventative Measures

A list of all potential preventive measures should be developed along with an estimate of the likely effectiveness and the cost of each. For those that can be readily implemented, a timetable and the person responsible for realization should be identified. For those deemed too costly to implement, a detailed justification should be made showing that an alternative measure is as effective and presents no greater risk.

Submission of Report

A report of the investigation should be prepared and submitted to the Office of Emergency Response of the Illinois EPA for review and acceptance. Confidential business information should be identified in accordance with 5 ILCS 140/1, et seq. The State incident number(s) should be used to identify the subject of the report. In order to allow for efficient review, the report should be configured starting with an executive summary, followed by chapters addressing issues identified in the italicized subheadings above. Each element or issue in the above paragraphs should be addressed or its lack of applicability discussed. All data should be summarized in tables. Appendices should include references and raw data such as lab reports and experts' analyses.

For further information, contact the Emergency Planning Unit at 217-782-3637

Criteria for Focused Site Investigations and Remedial Action Plans at Emergency Incident Sites

–3-27-01–

Incident Impact Investigation

The investigation of environmental contamination resulting from an emergency incident should confirm the presence, if any, of the threatened environmental conditions¹ or contaminants of concern resulting from the incident. It should also determine the nature, concentration, direction and rate of movement, and extent of the contaminants of concern at the site, as well as describe the significant physical features of the site and vicinity that may affect contaminant fate and transport and risk to human health, safety, and the environment. For the purposes of this document the term site should mean all areas known or reasonably suspected of being impacted by the spill being addressed. At a minimum, the site investigation should include:

- a) A visual inspection conducted at the site and properties immediately adjacent to the site. If access to adjacent property is denied, a visual inspection of that adjacent property should be conducted from the property where access is permitted and from public rights-of-way. The following observations should be made at the site and adjacent properties:
 - 1) Current and prior use(s) of the site, adjacent properties and surrounding areas;
 - 2) Physical setting including geologic, hydrogeologic, hydrologic, and topographic conditions; structures or other improvements on the property; utilities located on, through, or adjacent to the property; public thoroughfares adjoining the property, as well as any roads, streets, and parking facilities on the property; source of potable water supply; and sewage disposal system;
 - 3) The quantity and location of hazardous substances, pesticides, petroleum or other spilled contaminants of concern that were involved in the incident(s) being addressed, as well as the particulars of the incident(s) that resulted in the release being investigated;
 - 4) The presence of spill containment structures, their condition and potential for leakage;
 - 5) Any other environmental, geologic, geographic, hydrologic or physical conditions of concern at the site and adjacent properties.

¹ "Threatened environmental condition" means the presence or likely presence of any contaminants, degradation or reaction products of any contaminants, and physical or chemical conditions caused by those contaminants or products (e.g. pH, redox potential, etc.), under conditions that may be conducive to exposure of human or environmental receptors or under conditions indicative of potential or threatened migration, transport or release into structures, surface water, sediments, groundwater, soil, fill or geological materials.

- b) Review of reasonably obtainable records for the site and adjacent properties and facilities regarding environmental enforcement actions and the current status of those actions, any environmental response actions previously conducted by either local, state, federal or private parties, and a list of documents and studies prepared for the site;
- c) Characterization of sources and potential sources of threatened environmental conditions involved with or related to the incident(s) being addressed and the related contaminants of concern, identifying:
 - 1) The sources or potential sources of contaminants of concern;
 - 2) The sampling, analyses, and field screening measurements indicating the concentrations of the contaminants of concern and any degradation products;
 - 3) The statutory or regulatory classification of the contaminants of concern and contaminated materials (e.g. hazardous waste, hazardous substance, special waste);
- d) Characterization of the extent of the contaminants of concern resulting from or related to the incident(s) being addressed, identifying:
 - 1) The actual contaminated medium or media of concern (i.e., air, soil, groundwater, surface waters);
 - 2) The three-dimensional configuration of the contaminants of concern and degradation products with concentrations delineated; and
 - 3) The nature, direction, and rate of movement of the contaminants of concern and degradation products.
- e) Characterization of present and potential future exposure routes, identifying:
 - 1) The locations of any human and environmental receptors; and
 - 2) Present and projected uses of affected or potentially affected land, groundwater, surface water and sensitive habitats.
- f) Characterization of significant physical features of the site and vicinity that may affect contaminant transport and risk to human health, safety and the environment.

Site Investigation Report—Organization and Content

- a) Data and results from the site investigation should be combined into one Site Investigation Report. The Agency may request that certain data be submitted earlier for purposes of assuring that protection of public health and the environment is sufficient during the time it takes to prepare the Site Investigation Report. However, the report should be comprehensive and incorporate any data previously submitted to the Agency.
- b) A Site Investigation Report for the focused site investigation should include the following at a minimum:
 - 1) Executive Summary. This chapter should identify the objectives of the site investigation and the technical approach utilized to meet such objectives. It

should state the contaminants of concern being addressed from the spill(s) being investigated and the data limitations in the assessment;

- 2) Site description. This chapter should state the method used for the visual and physical inspection of the site and properties immediately adjacent to the site and document the observations obtained (e.g., grid patterns or other systematic approaches used for large areas). It should describe the regional location, pertinent boundary features, general facility physiography, hydrogeology, and current and projected uses of the site.
- 3) Enforcement or response actions. This chapter should include a summary of environmental enforcement actions for the site and adjacent properties and facilities and the current status of those actions, any response actions previously conducted by either local, state, federal, or private parties at those sites, and a list of documents and studies prepared for those sites;
- 4) Site-specific sampling plan. This chapter should include those applicable physical and chemical methods utilized for contaminant source investigations, soil and sediment investigations, hydrogeological investigations, surface water investigations, and potential receptor investigations;
- 5) Documentation of field activities. This chapter should include the results of the field activities to determine physical characteristics. At a minimum, this chapter should include the following elements:
 - A) Narrative description of the field activities conducted during the investigation;
 - B) The quality assurance project plan utilized to document all monitoring procedures (e.g., sampling, field measurements, chain-of-custody, decontamination of sampling implements, calibration of field instruments and sample analysis) performed during the investigation, so as to ensure that all information, data and resulting decisions are technically sound, statistically valid, and properly documented; and
 - C) Presentation of the raw data in an appropriate format (e.g., tabular and graphical displays) such that all information is organized and presented logically and that relationships between the different investigations for each medium are apparent;
- 6) Interpretation of Results. This chapter should evaluate the results of the field activities and characterize the extent of contamination (qualitative and quantitative) for contaminants of concern and compare the concentrations with cleanup objectives determined in accordance with the IEPA's Notice of Proposed Rules "Tiered Approach to Corrective Action Objectives" ("TACO"), 35 Ill. Admin Code 742, dated September 13, 1996. Preliminary objectives may be obtained from the Emergency Response Unit which will be based upon Tier I (Residential) and Class I groundwater. This chapter should:
 - A) Describe the nature, concentration and extent of contaminants of concern and degradation products within all environmental media at the site and assess the observed and potential contaminant fate and transport;

- B) Describe the significant physical features of the site and vicinity that may affect contaminant transport and risk to human health, safety and the environment;
 - C) Compare the concentrations of the contaminants of concern and degradation products with the applicable Tier I residential levels;
 - D) Describe the potential contaminant source and contaminants of concern, if there is evidence of a threatened environmental condition in the form of a threatened or on-going release.
- 7) Conclusion. This chapter should assess the sufficiency of the data in the report and recommend future steps.
- 8) Appendices. Supporting documentation, references and raw data sources including but not limited to field logs, well logs, and laboratory sheets, should be incorporated into the appendices.

Determination of Remediation Objectives

- a) If the site investigation reveals evidence of the existence of one or more threatened environmental conditions, cleanup objectives should be developed in accordance with TACO or other remediation objectives as appropriate.
- b) Compliance points.
 - 1) For groundwater cleanup objectives, the sampling points should be located at the boundary of the site, or portion of the site, that is the subject of spill investigation or remediation. Compliance with groundwater cleanup objectives at sampling points should be in accordance with 35 Ill. Admin Code 620.
 - 2) For soil cleanup objectives, sampling points should be located in areas known or suspected to have been impacted by the spill, based upon data collected in the spill investigation.
- c) Upon completing the determination of remediation objectives, that information should be compiled into a Remediation Objectives Report for submittal to the Agency for review.

Remediation Objectives Report

- a) If the party conducting remediation elects to use the Tier I cleanup objectives from TACO, the Remediation Objectives Report should state the applicable cleanup objectives for the contaminants of concern. The Emergency Response Unit may provide Tier I (Residential) values for chemicals not in the TACO data tables for those incidents properly reported in accordance with 29 Ill. Admin Code 430.
- b) If the threatened environmental condition requires remediation objectives other than, or in addition to, cleanup objectives, the Remediation Objectives Report should describe those objectives and demonstrate their appropriateness for remediating the threatened environmental condition.

- c) If the party conducting remediation elects to develop cleanup objectives appropriate for the site using Tier II or Tier III procedures from the IEPA's proposed TACO rule, that party should prepare a Remediation Objectives Report demonstrating compliance with those procedures.
- d) If the party conducting remediation elects to develop cleanup objectives appropriate for the site using the area background, an acceptable protocol must be approved by the Agency in advance and a demonstration made that the approved protocol was complied with. The Agency will reject objectives based on background levels, which pose an acute threat to human health or the environment at a site when considering post-remedial land use. In that case cleanup objectives must be developed based upon appropriate risk based procedures in accordance with the IEPA's proposed TACO rule.

Remedial Action Plan

If the levels at the site prior to any remedial action are greater than the approved remediation objectives for any substance of concern established under the IEPA's proposed TACO rule, that party should prepare a remedial action plan. The plan should describe the proposed remedy and evaluate its ability and effectiveness to achieve the remediation objectives approved for the spill site, including but not limited to:

- a) Executive summary. This chapter should identify the objectives of the Remedial Action Plan and the technical approach utilized to meet such objectives. At a minimum, this chapter should include the following elements:
 - 1) The major components (e.g., treatment, containment, removal actions) of the Remedial Action Plan;
 - 2) The scope of the problems to be addressed by the proposed remedial action(s) including the specific contaminants of concern and the physical area to be addressed by the Remedial Action Plan;
 - 3) Schedule of activities.
- b) Statement of remediation objectives or reference to Remediation Objectives Report.
- c) Remedial technologies selected. This chapter should describe how each major remedial technology identified in the Remedial Action Plan fits into the overall strategy for addressing the threatened environmental conditions at the site, including but not limited to:
 - 1) Feasibility of implementation;
 - 2) Whether the technologies will perform satisfactorily and reliably until the remediation objectives are achieved; and
 - 3) Whether remediation objectives will be achieved within a reasonable period of time;
 - 4) Whether any permits are required to construct and operate each remedial technology proposed and whether obtaining these permits will result in any delays or conditions on the implementation and operation of each remedial technology.

- d) Confirmation sampling plan. This chapter should describe how the effectiveness of the remedial action will be measured. At a minimum, a site-specific sampling plan and quality assurance project plan must be prepared.
- e) Current and projected future use of the property.
- f) Applicable engineered barriers and institutional controls. This chapter should describe any such controls selected or relied upon in calculating remediation objectives including long-term reliability, operating and maintenance plans, and monitoring procedures.
- g) Appendices. References and other informational sources should be incorporated here.

For further information, contact the Emergency Response Unit at 217-782-3637.

Criteria for Remedial Action Completion Reports at Emergency Incident Sites

-3-27-01-

If following an investigation of environmental contamination resulting from an emergency incident, the presence of a threatened environmental condition¹ or contamination above levels of concern for that site is confirmed; a remedial action plan should be developed and implemented. Guidance on the specifics of such an investigation, the determination of remedial objectives and the preparation of a remedial action plan are presented in Compliance Documentation Guide B. Following completion of the remedial action plan a Remedial Action Completion Report should be prepared by the party conducting remediation and submitted to the Agency for review. At a minimum that report should include the following:

- 1) **Executive Summary.** This chapter of the report should identify the overall objectives of the remedial action that was implemented and the technical approach utilized to meet those objectives, including:
 - A) A brief description of the site and surroundings affected by the emergency incident, including the facts and circumstances about the release of contaminants, which constituted the emergency incident. This description should include the contaminants of concern, their degradation products, the contaminated media and the extent of contamination;
 - B) A table of contents describing the major components of the Remedial Action Report;
 - C) The scope of the problems corrected or mitigated by the remedial action(s) which have been conducted to date, including summary of the remediation objectives for each problem; and
 - D) The anticipated post-remediation uses of the incident site(s) and areas immediately adjacent to the remediation site property.
- 2) **Field Activities.** This chapter should provide a narrative description of the:
 - A) Field activities conducted during the remediation;
 - B) Remedial actions implemented at the incident site and the performance of each remedial technology utilized; and
 - C) A brief description of any unanticipated events that impacted the nature or rate of remediation activity.

¹ "Threatened environmental condition" means the presence or likely presence of any contaminants, degradation or reaction products of any contaminants, and physical or chemical conditions caused by those contaminants or products (e.g. pH, redox potential, etc.), under conditions that may be conducive to exposure of human or environmental receptors or under conditions indicative of potential or threatened migration, transport or release into structures, surface water, sediments, groundwater, soil, fill or geological materials.

- 3) **Confirmation sampling.** This chapter should evaluate the effectiveness of the remedial action(s) by comparing the results of the confirmation sampling with the quantitative remediation objectives, which were contained in the Agency-approved Remedial Action Plan. The data should:
 - A) Be summarized and presented in table or graphical format;
 - B) Include summary tables which should include the quantitative remediation objectives as a column (or row as applicable);
 - C) Be referenced to a site map showing the locations of the confirming samples relative to the extent of contamination;
 - D) Include a discussion of any divergences from the approved confirmation sampling plan contained in the Remedial Action Plan;
 - E) Include a discussion of any quality assurance issues which affect the reliability or representativeness of the data;
 - F) Include a discussion of the relationships between different confirmation investigations for each medium.

- 4) **Special Conditions.** The chapter should provide a description of any:
 - A) Engineering barriers relied upon to achieve the approved remediation objectives and institutional controls (such as deed restrictions or ordinances) assuring the maintenance of such barriers;
 - B) Institutional controls relied upon which otherwise preclude exposure or effectuate commercial/industrial use restrictions of the site after completion of remediation where the prevention of post-remediation exposure is dependant upon the prohibition of certain activities at or near the site;
 - C) Post-remedial monitoring commitments, when proposed, including:
 - i) Conditions to be monitored;
 - ii) Purpose;
 - iii) Locations;
 - iv) Frequency;
 - v) Contingencies in the event of an exceedence, and
 - vi) Reporting schedule; or
 - D) Other conditions as appropriate.

- 5) **Conclusion.** This chapter should evaluate the degree of success of the remedial action in meeting the remediation objectives. The accuracy and completeness of the data in the report should be assessed and certified by the author. Future work, if applicable, should be described.

- 6) **Appendices.** References and data sources should be incorporated in the appendices. Field logs, boring logs, well completion reports, and reports of laboratory analyses should be organized and presented logically.

For further information, contact the Emergency Response Unit at 217-782-3637.