DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: Colfax Treating Company
Facility Address: 74 Wadley Road, Pineville, Louisiana
Facility EPA ID #: LAD008184616, AI# 1399

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   __X__ If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

__X__ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

_____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): **Recent groundwater investigation and monitoring data, contained in the "2000 Annual Groundwater Report" and the "RFI Phase II Final Report", indicates that the extent of groundwater contamination, consisting of wood-treating constituents (Polynuclear Aromatic Hydrocarbons (PAHs), Semi-Volatile Organic Compounds (SVOCs), and pentachlorophenol (PCP)) above protective levels (LDEQ's "Risk Evaluation / Corrective Action Program (RECAP) Screening Standards) has been delineated and is controlled by Colfax' ongoing groundwater corrective action program. The groundwater contamination exists outside the closed regulated unit (impoundment), but within the designated Point of Compliance for RCRA groundwater monitoring; this contaminated groundwater is being recovered. No migration of contaminated groundwater is occurring.**

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

References:

"Post-Closure Permit for the Closed Impoundment – LAD008184616-PC1", January 22, 1991, 1990, LA Department of Environmental Quality and U.S. Environmental Protection Agency

"RFI Phase I Workplan", December 1991, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"Approval of RFI Phase I Workplan", March 13, 1992, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase I Report", March 12, 1993, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase I Report Revisions", November 28, 1994, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"Approval of RFI Phase I Report", September 30, 1994, U.S. Environmental Protection Agency.

"RFI Phase II Workplan", February 1995, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase II Workplan – NOD Response", August 1999, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase II Workplan Approval", September 15, 2000, LA Department of Environmental Quality.

"Proposal for SWMU 9 Biopile – Interim Corrective Measures", February 1995, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"Approval of SWMU 9 Biopile – Interim Corrective Measures", May 1999, LA Department of Environmental Quality.

"RFI Phase II Final Report" February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

"Approval of RFI Phase II Final Report", June 28, 2001, LA Department of Environmental Quality.

"2000 Annual Groundwater Report", February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

"2001 Semi-Annual Groundwater Report", July 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

Migration of Contaminated Groundwater Under Control

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

__X__ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): **Migration of contaminated groundwater has stabilized, based on a review of the most recent groundwater monitoring and corrective action data as presented in the "2000 Annual Groundwater Report", February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company. The ongoing groundwater corrective action program consists of pumping and treating contaminated groundwater to maintain hydraulic control over migration of the plume while removing contaminants form the subsurface.**

[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_____ If yes - continue after identifying potentially affected surface water bodies.

__X__ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

_____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s): **The "2000 Annual Groundwater Report and the "RFI Phase II Final Report" demonstrate that the extent of groundwater contamination has been delineated and that contaminated groundwater does not discharge to a surface water body. See the Potentiometric Map (Figure 4) and the Isopleth Map (Figure 5), depicting groundwater flow direction and extent of contamination in groundwater.**

References:

"RFI Phase I Report", March 12, 1993, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase I Report Revisions", November 28, 1994, prepared by Ball Engineering on behalf of Colfax Creosoting Company.

"RFI Phase II Final Report" February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

"2000 Annual Groundwater Report", February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

"2001 Semi-Annual Groundwater Report", July 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration 3 of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

_____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration 3 of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgment/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_____ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration 3 of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations 3 greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): **Not Applicable**

[3]As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be **"currently acceptable"** (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

_____ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,5 appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

_____ If no - (the discharge of "contaminated" groundwater can not be shown to be **"currently acceptable"**) - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

_____ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s): **Not Applicable**

[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

__X__ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

_____ If no - enter "NO" status code in #8.

_____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s): **Groundwater monitoring activities for the closed regulated unit will continue semi-annually for wood-treating constituents (Polynuclear Aromatic Hydrocarbons (PAHs), Semi-Volatile Organic Compounds (SVOCs), and pentachlorophenol (PCP)) and annually for the entire LAC 33:V.3325.Table 4 groundwater monitoring list in Point of Compliance wells, as required by the Post-Closure Permit for the regulated unit. The most recent available groundwater monitoring data, "2000 Annual Groundwater Report", indicates that the vertical and horizontal extent of groundwater contamination has been delineated; no groundwater contamination exists beyond the established Point of Compliance. Identification and location of the monitoring wells and point of compliance are indicated on the Potentiometric Map (Figure 4) and the Isopleth Map (Figure 5). Details of the monitoring and recovery system, along with analytical results for the first two quarters of 2001 are presented in Tables 1-4, Appendix B.**

References:

"Post-Closure Permit for the Closed Impoundment – LAD008184616-PC1", January 22, 1991, 1990, LA Department of Environmental Quality and U.S. Environmental Protection Agency

"2000 Annual Groundwater Report", February 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

"2001 Semi-Annual Groundwater Report", July 2001, prepared by Ball Engineering on behalf of Colfax Treating Company.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

__YE__ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Colfax Treating Company, Inc. facility, EPA ID # LAD 008184616, AI#1399, located at Pineville, Louisiana. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

_____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

_____ IN - More information is needed to make a determination.

Completed by (signature) _____ Date 6/29/2001
(print) Steve Archibald
(title) Geologist 2

Supervisor (signature) _____ Date 6/29/01
(print) Narendra M. Dave
(title) Geological Manager
(EPA Region or State)Louisiana DEQ

Locations where References may be found:

LDEQ Hazardous Waste Division Files
LDEQ Ground Water Protection Division Files
U. S. EPA – Region 6 Files
On-site facility records and correspondence files

Contact telephone and e-mail numbers

(name) Steve Archibald
(phone #) (318) 362-3048
(e-mail) stevena@DEQ.STATE.LA.US