DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name: WESTVACO CORPORATION
Facility Address: 400 CROSBY ROAD, DERIDDER, LA 70634
Facility EPA ID #: LAD010390599

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, 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 "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "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 "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

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).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	___	X	___	*
Air (indoors)[2]	___	X	___	N/A
Surface Soil (e.g., <2 ft	___	X	___	N/A
Surface Water	___	X	___	*
Sediment	___	X	___	*
Subsurf. Soil (e.g., >2 ft)	___	X	___	*
Air (outdoors)	___	X	___	N/A

__X__ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

_____ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

_____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s): * SEE ATTACHMENT I

SUMMARY OF THE RCRA SAMPLING AND ANALYSIS REPORT (SAR) FEBRUARY 1998

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 appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	___	___	___	___			___
Air (indoors)	___	___	___				
Soil (surface, e.g., <2 ft)	___	___	___	___	___	___	___
Surface Water	___	___			___	___	___
Sediment	___	___			___	___	___
Soil (subsurface e.g., >2 ft)				___			___
Air (outdoors)	___	___	___	___	___		

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

_____ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

_____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):_____

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

_____ If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

_____ If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):_____

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

_____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

_____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):_____

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

_X_ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Westvaco facility, EPA ID # LAD010390599, located at DeRidder, La under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

____ NO - "Current Human Exposures" are NOT "Under Control."

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

Completed by (signature) James Courcier Date 9/22/00
(print) James Courcier
(title) Geologist

Supervisor (signature) Lewis Donlon Date 9/27/00
(print) LEWIS DONLON
(title) Geol Supervisor
(EPA Region or State) 6

MP 6/9/04

Locations where References may be found:

LADEQ-HWD file room
Westvaco Facility
Acadiana Regional Office-Lafayette, La

Contact telephone and e-mail numbers

(name) Jim Courcier
(phone #) 337-262-5584
(e-mail) jim_c@deq.state.la.us

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

Attachment I

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human exposures Under Control

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated**" above appropriately protective risk-based "levels" from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCS)?

Media	SWMU	Reasoning
Groundwater	Background	Groundwater (GW) samples were taken and a comparison made according to the EPA's most recent methods of statistical comparison. The GW samples were collected from the first water bearing zone [(1)] using previously developed monitoring wells (MW-1, MW-2, and MW-4) [(2)]. GW sample data provide an indication of pre-existing background conditions at Westvaco's DeRidder, LA facility The constituents detected are a function of geologic and environmental conditions at Westvaco and the local vicinity. Constituents resulting from geologic conditions are those that occur naturally. Constituents resulting from local environmental conditions are considered to be non-Westvaco operation related. The results are considered representative of native soil and groundwater conditions [(3)].
Air (indoors)	Not Applicable	Not Applicable
Surface Soil (e.g., < 2 ft)	Not Applicable	Not Applicable
Surface Water	Waste Water Treatment System (WWTS) (SWMU#20)	The WWTS treats wastewater from all process areas except the acrylic area. Wastewater from the acrylic plant is sent to the local POTW. Stormwater inside the facility is also discharged to the WWTS. Pond 1 is primarily a settling basin for solids. Ponds 2 through 5 are used for biological treatment and further settling of solids prior to discharge. The wastewater and solids/sludge in Pond 1 is representative of constituents that may be found in the any unit of the WWTS [(4)] Several organic compounds were detected in elevated concentrations in water samples collected in Pond 1. Nickel and zinc were the only target metals detected at significant levels above background. A wastewater sample collected from Pond 5 demonstrated efficient removal of target parameters prior to water discharge [(5)].
Sediment	WWTS (SWMU#20)	Cross-sectional samples were collected from the sludge/water Interface to the sludge/pond bottom interface. [(6)]. Several organic compounds were detected in elevated concentrations in sludge samples collected in Pond 1. Nickel and zinc were the only target metals detected at significant levels above background. Sulfide was detected a high concentration in sludge samples. A wastewater sample collected from Pond 5 demonstrated efficient removal of target parameters prior to

		water discharge [7].
Subsurface Soil (e.g., > 2 ft)	Background	Background samples were taken and a comparison made according to The EPA's most recent methods of statistical comparison. The Background samples were collected from the first 6 to 10 feet of soil [8]. Soil sample data provide an indication of pre-existing background conditions at Westvaco's DeRidder, LA facility The constituents detected are a function of geologic and environmental conditions at Westvaco and the local vicinity. Constituents resulting from geologic conditions are those that occur naturally. Constituents resulting from local environmental conditions are considered to be non-Westvaco operation related. The results are considered representative of native soil and groundwater conditions [9].
Air (outdoors)	Not Applicable	Not Applicable

Rationale

Westvaco's Sampling and Analysis Plan (SAP), found in the Sampling and Analysis Report (SAR), Volumes 1, Exhibit B, dated February 5, 1998 analyzed for a list of hazardous constituents (Appendix B) in the surface water and sludge within the two impoundments and the surface soil at the waste oil accumulation area (SWMU #16).

The SAR contains a detailed evaluation of the area specific investigations for the three remaining SWMUs (SAR, Vol. 2, Section II: Area Specific Investigations, Subsections 2.1 through 2.4, Pages 9-10 of 70). These units include the Raw Materials Recovery Basin (SWMU #1), the Waste Oil Accumulation Area (SWMU #16), and the Wastewater Treatment System (SWMU #20). The closed SWMUs include the Boiler Blowdown Pond (SWMU #5), the Barometric Pond (SWMU #7), and the South Rosin Pit (SWMU #8 also referred to as Rosin Pit #2), and the North Rosin Pit (SWMU#9 also referred to as Rosin Pit #1), and the Raw Material recovery Basin (RMRB) have been properly closed under the authority and supervision of the LDEQ (SAR, Volume 1, Exhibit C, Page 4).

Regarding the four closed SWMUs and one AOC, these SWMU have been properly closed under the authority and supervision of the LDEQ and pose no potential for continuous releases of hazardous waste constituents to the environment. Therefore, no further investigations pertaining to these areas are recommended (SAR, Vol. 1, Exhibit C, and Page 4).

Since the submittal of the SAR, the RMRB has been closed under the guidance of LDEQ.

Attachment I

1. SAR, Vol. 2 of 2, February 5, 1998
   Section II: Area Specific Investigations Subsection 2.4, Page 10 of 70.

2. SAR, Vol. 2 of 2, February 5, 1998
   Section III: Sampling Methodology; Subsection 3.8.1, Page 21 of 70.

3. SAR, Vol. 2 of 2, February 5, 1998
   Section VI: Conclusions and Recommendations; Subsection 6.1.1, Page 66 of 70.

4. SAR, February 5, 1998
   Vol. 2 of 2, Section II: Area Specific Investigations; Subsection 2.1, Page 9 of 70.

5. SAR, February 5, 1998.
   Section VI: Conclusions and Recommendations; Subsection 6.1.2, Page 66 of 70.

6. SAR, February 5, 1998.
   Vol. 2 of 2, Section II: Area Specific Investigations; Subsection 3.5.1, Page 19 of 70.

7. SAR, February 5, 1998
   Vol. 2 of 2, Section VI: Conclusions and Recommendations; Subsection 6.1.2, Page 66 of 70

8. SAR, February 5, 1998.
   Vol. 2 of 2, Section II: Area Specific Investigations; Subsection 2.4, Page 10 of 70.

9. SAR, Vol. 2 of 2, February 5, 1998
   Section VI: Conclusions and Recommendations; Subsection 6.1.1, Page 66 of 70.

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

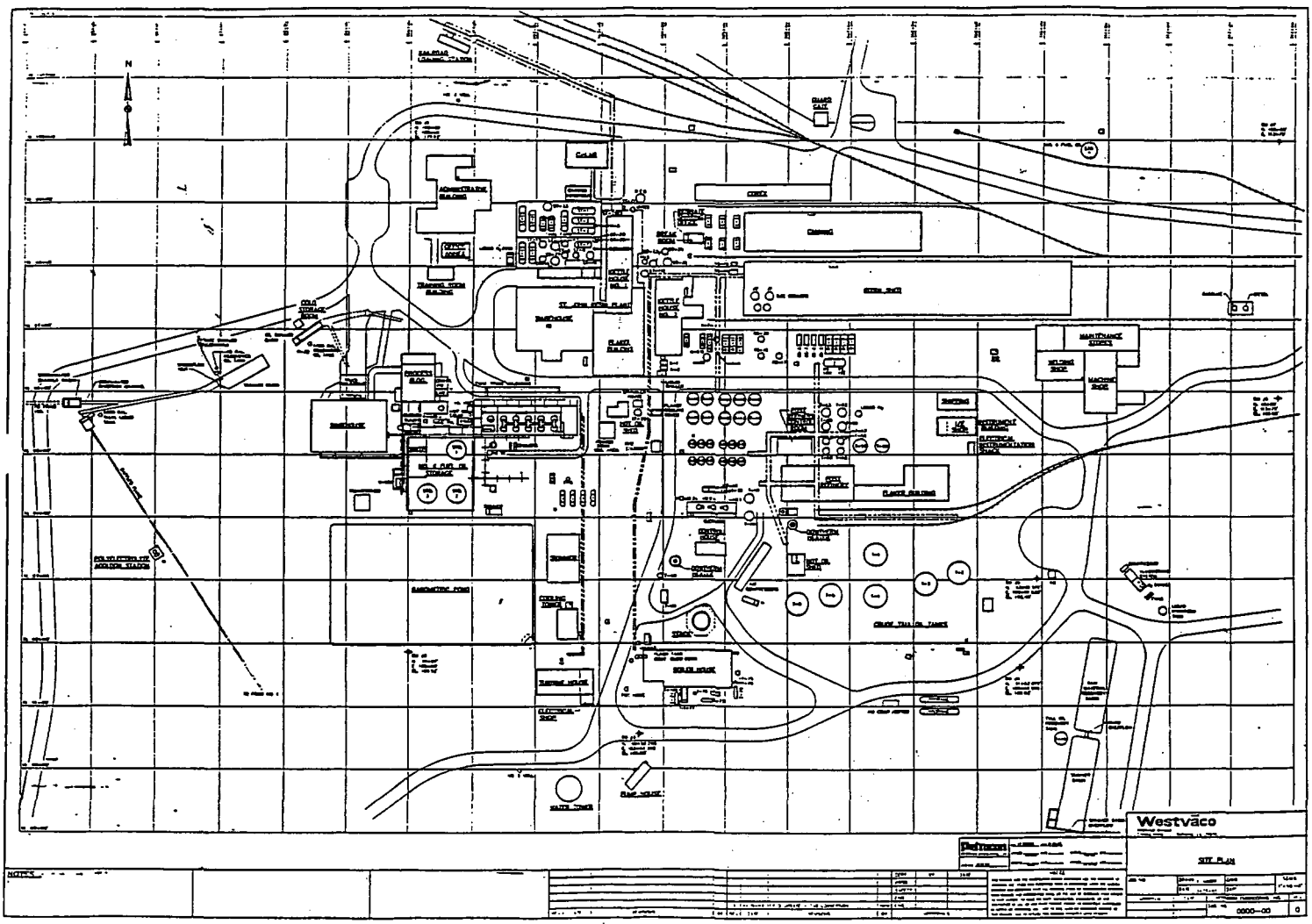
Current Human exposures Under Control

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be "**contaminated**" above appropriately protective risk-based "levels" from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCS) ?

Rationale Westvaco's SAR contains a detailed evaluation of three SWMUs (SWMU #1 – Raw Materials Recovery Basin, SWMU #16 – Waste Oil Accumulation Area, SWMU #20 – Wastewater Treatment System). The four other SWMUs have been closed under the direction of the LDEQ-SWD (refer to Exhibit C in the SAR)

The detailed evaluation in the SAR analyzed for a list of hazardous constituents in the surface water and sludge within the two impoundments and the surface soil at SWMU #16.

Concerning the seven SWMUs and one AOC, there are no "unacceptable" human exposures to "contamination" that can be reasonably expected under current land and groundwater use conditions.


Westvaco
SITE PLAN
0000-00
0

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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

Migration of Contaminated Groundwater Under Control

Facility Name: WESTVACO CORPORATION
Facility Address: 400 CROSBY ROAD, DERIDDER, LA 70634
Facility EPA ID #: LAD010390599

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 #8 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).

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): See attachment at back of this report (Migration of Contaminated Groundwater Under Control)

SUMMARY OF THE RCRA SAMPLING AND ANALYSIS REPORT-FEBRUARY 1998

CORRECTIVE ACTION AND MONITORING PROJECT REPORT; JULY 1999

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).

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): See attachment at back of this report (Migration of Contaminated Groundwater Under Control)

SUMMARY OF THE RCRA SAMPLING AND ANALYSIS REPORT-FEBRUARY 1998

CORRECTIVE ACTION AND MONITORING PROJECT REPORT; JULY 1999

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 judgement/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):_____

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

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):_____

[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.

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): See attachment at back of this report (Migration of Contaminated Groundwater Under Control)

SUMMARY OF THE RCRA SAMPLING AND ANALYSIS REPORT-FEBRUARY 1998

CORRECTIVE ACTION AND MONITORING PROJECT REPORT; JULY 1999

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).

_X_ 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 Westvaco facility, EPA ID # LAD010390599, located at DeRidder, La. 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) James Courcier Date 9/22/00
(print) James Courcier
(title) Geologist

Supervisor (signature) Lewis Donlon Date 9/27/00
(print) LEWIS DONLON
(title) Geol Supervisor
(EPA Region or State) 6

EPA 6/9/04

Locations where References may be found:

LDEQ-Hazardous Waste fileroom
Westvaco Facility
Acadiana Regional Office-Lafayette, La.

Contact telephone and e-mail numbers

(name) Jim Courcier
(phone #) 337-262-5584
(e-mail) jim_c@deq.state.la.us

Attachment II

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

Migration of Contaminated Groundwater Under Control

Q2. Is **groundwater** known or reasonably suspected to be "contaminated" above appropriately protective "levels" from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

Rationale
The groundwater is not suspected to be "contaminated" above appropriately protective "levels" from releases subject to RCRA Corrective Action, anywhere at, or from, the facility. Four of the seven SWMUs and one AOC (Table 1) have been properly closed under the authority and supervision of the LDEQ. The four SWMUs and one AOC pose no potential for continuous releases of hazardous constituents to the environment. Therefore, no further investigations pertaining to these areas are recommended [1].

The remaining SWMUs (3) are the WWTS (SWMU #20), RMRB (SWMU #1), and the Waste Oil Accumulation Area (SWMU #16). A discussion of each SWMU follows:

WWTS (SWMU #20)
A wastewater sample collected from Pond 5 demonstrated efficient removal of target parameters prior to wastewater discharge. A sample of groundwater collected (adjacent to and downgradient) from Pond 1 validated the absence of target analytes in adjacent groundwater aquifers. The wastewater sample (Pond 1) and the groundwater sample indicate that there are no continuing releases of hazardous substances to the environment from the WWTS. The data collected from the WWTS determines that no further investigations are recommended for this SWMU[2].

RMRB (SWMU #1)
There is no indication of continuing release of hazardous substances to the environment from the RMRB based on the closure of the RMRB, placing the stabilized sludge into the spill control basin, and the results of this investigation. Therefore, no further investigations are recommended for this SWMU [3].

Waste Oil Accumulation Area (SWMU #16)

At the Waste Oil Accumulation Area, a low level of formaldehyde was detected; however, the level does not warrant concern from an environmental or health standpoint. Total Petroleum Hydrocarbons (TPH) levels were below the level of detection (< 10 ppm) in the soil sample, which is a good indication, that no waste oil contamination is present. The metals detected were typical for soil in close proximity to industrial activity and may be originating from vehicular activity. Leaching of metals into stormwater is not expected as the visual cleanliness of the site indicates that the soil adjacent to the waste oil accumulation storage pad is not being continually contaminated from products contained within it. The detected metals were significantly below proposed RCRA corrective action levels (federal Register, July 27, 1990) in soils. Therefore, no further investigations are recommended for this SWMU[4]. A comparison of metals detected versus RECAP also show that the metals are below the RECAP Soil Screening Standard (Soil _SSi) for an industrial setting.

Q2 Footnotes:

1. SAR, February 5, 1998
   Exhibit C, Page 4.

2. SAR, February 5, 1998
   Section 6: Conclusions and Recommendations, Section 6.1.2, Page 66 of 70.

3. SAR, February 5, 1998
   Section 6: Conclusions and Recommendations, Section 6.1.2, Pages 66–67 of 70.

4. SAR, February 5, 1998
   Section 6: Conclusions and Recommendations, Section 6.1.2, Pages 67 of 70.

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" above appropriately protective "levels" from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

Rationale

Westvaco's Sampling and Analysis Report (SAR) contains analysis from one upgradient and two downgradient groundwater monitoring wells.

There is no known or reasonably suspected groundwater "contamination" from releases from any of the seven SWMUs or the one AOC. However, subsequent to the 1992 RFA, Westvaco discovered soil contamination in the first shallow groundwater zone within a particular area of the plant. The source of the contamination is believed to be from former turpentine and pine oil storage tanks. Assessment of this contamination has taken place under the direction of the LDEQ-Groundwater Division.

Analyses of the groundwater in the Acrylics area indicates the presence of acetone and BTEX (benzene, Toluene, Ethyl Benzene, Xylenes) constituents (Corrective Action and Monitoring Project Report; July 1999). None of the BTEX constituents were detected below six feet. A comparison of the MCLs, calculated RBSL, and the concentration of analytes in the groundwater indicate that only benzene exceeded the established levels. Benzene has been found in monitoring wells MW-7, MW-8, and MW-9 at concentrations higher than the 5.0 ug/l for benzene allowed for drinking water.

The Corrective Action and Monitoring Project Report (CAMPR) recommends continued monitoring downgradient and preventing use of the shallow groundwater in the contaminated area for drinking water by on-site workers. Westvaco continues to monitor ~~the~~ downgradient semi-annually and will insure that the groundwater from the contaminated area is not used as a drinking water source.

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

Rationale

In 1993 and 1994 an assessment was conducted under the direction of the LDEQ-Groundwater Division to determine the vertical and horizontal extent of the organic compounds and to define the chemical composition of the contamination in the Acrylics area (CAMPR, July 1999). The contamination was determined to be confined to the first shallow groundwater zone. The plume was determined to be approximately 200 X 500 feet, with the long axis in the direction of the groundwater movement.

The facility was originally a stump plant owned by Crosby Chemicals. The plant recovered terpene oil and rosins from pine tree stumps. The area of contamination roughly corresponds to the turpentine storage tanks previously located in this area. Westvaco Corporation purchased the facility in 1977. At the time of purchase, turpentine was no longer produced at this facility. Therefore, the contamination had to be present prior to the time of purchase in 1977.

In 1996, monitoring wells MW-7, MW-8, MW-9 were installed in the uppermost water-bearing zone. Monitoring wells were installed with the well screen above the top of the formation such that the presence of lighter than water hydrocarbons, if present, could be monitored. Test on MW-7, MW-8, and MW-9 indicated the direction of groundwater movement is toward the west-southwest with an average velocity of 9.3 ft/yr. In 1997, MW-10, was installed in the uppermost water-bearing zone. MW-10 is downgradient of the plume and serves as a Point of Compliance (POC) Well. Analytical results for MW-7, MW-8, MW-9, and MW-10 conducted at that time indicates the plume has not changed significantly from initial measurements.

The direction of the ground water flow has been confirmed during subsequent semi-annual groundwater monitoring (December 1997 through June 1999). MW-10, located downgradient of the plume and between the plume and Palmetto Creek, has been non-detect for all constituents in the five semi-annual monitoring events since its installation.

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

Rationale

Palmetto Creek and Morris Pond downstream have the greatest potential for possible points of contact. In 1996, monitoring wells MW-7, MW-8, MW-9 were installed in the uppermost water-bearing zone. Monitoring wells were installed with the well screen above the top of the formation such that the presence of lighter than water hydrocarbons, if present, could be monitored. Test on MW-7, MW-8, and MW-9 indicated the direction of groundwater movement is toward the west-southwest with an average velocity of 9.3 ft/yr. In 1997, MW-10, was installed in the uppermost water-bearing zone. MW-10 is downgradient of the plume and serves as a Point of Compliance (POC) Well. Analytical results for MW-7, MW-8, MW-9, and MW-10 conducted at that time indicates the plume has not changed significantly from initial measurements.

The direction of the ground water flow has been confirmed during subsequent semi-annual groundwater monitoring (December 1997 through June 1999). MW-10, located downgradient of the plume and between the plume and Palmetto Creek, has been non-detect for all constituents in the five semi-annual monitoring events since its installation.

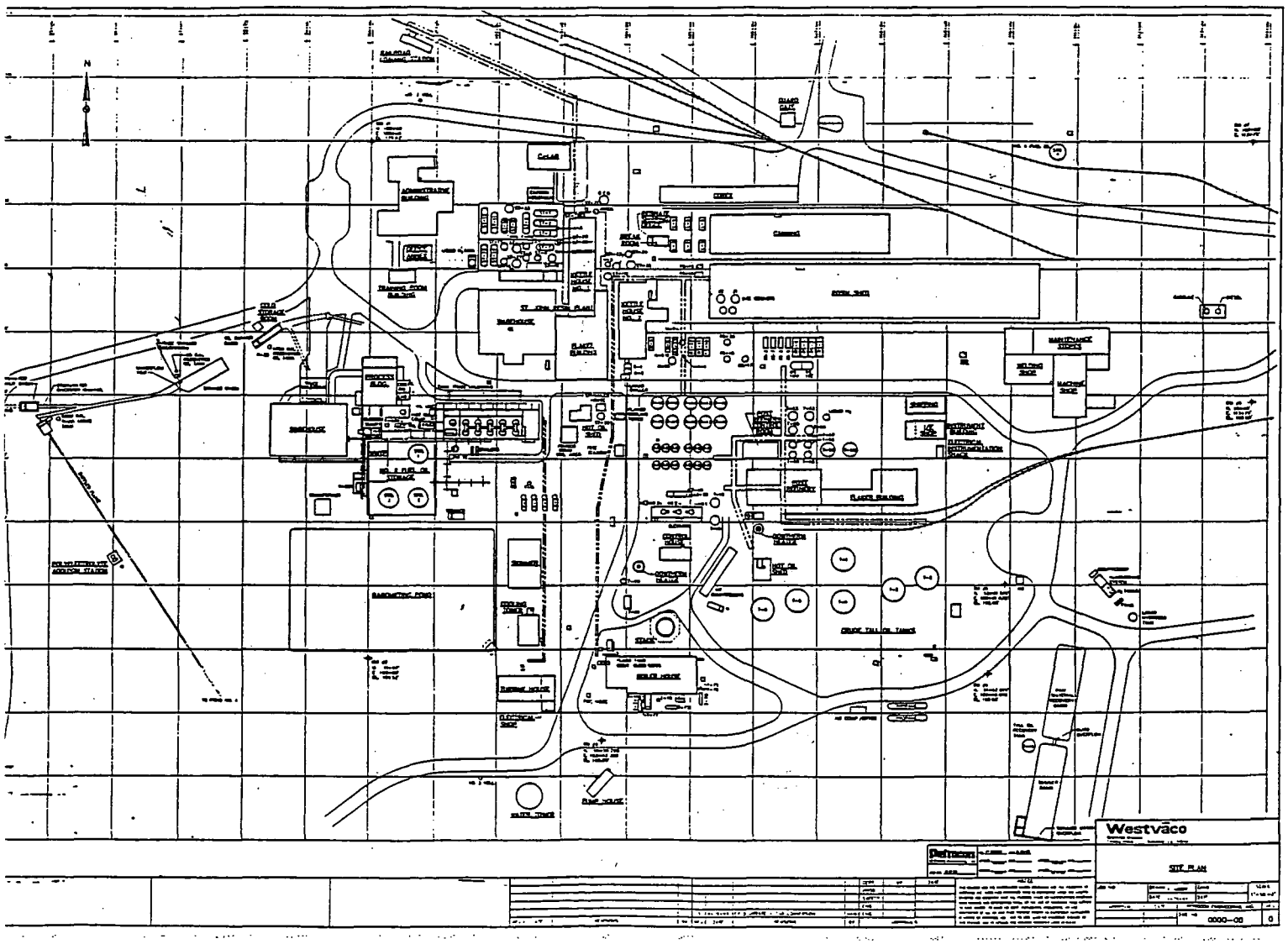
7. Will groundwater monitoring/measurement data (and surface water/sediment /ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

Rationale In July of 1997, MW-10 was installed as the downgradient Point of Compliance (POC) well for the plume. MW-10 has been non-detect for all constituents in five semi-annual monitoring events since its installation. As noted in the CAMPR, Westvaco proposes to continue monitoring groundwater to determine the potential for future horizontal migration.

Table 1

SWMUs	
Raw Material Recovery Basin (RMRB)	SWMU #1
Waste Oil Accumulation Area	SWMU#16
Waste Water Treatment System	SWMU#20
Area of Concern	
Bone Yard – minor mercury spill	AOC #2
CLOSED SWMUs	
Boiler Blowdown Pond	SWMU#5
Barometric Pond	SWMU#7
South Rosin Pit (Rosin Pit #2)	SWMU#8
North Rosin Pit (Rosin Pit #1)	SWMU#9

P:\ENVIRON\HAZWASTE\GPRA\CA750D.doc


Westvaco
SITE PLAN
0000-00
0