ADEM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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July 9, 2002

CERTIFIED MAIL # 7001 2510 0008 7927 8962
RETURN RECEIPT REQUESTSED

Dr. Rodger Henson, Division President
Waste Management, Inc.
P.O. Box 55
Emelle, Alabama 35459-0055

RE: Environmental Indicator Evaluations
Chemical Waste Management, Inc.
U.S. EPA I. D. No. ALD 000 622 464

Dear Dr. Henson:

The Alabama Department of Environmental Management (ADEM) has recently completed a qualitative evaluation of the environmental conditions at Chemical Waste Management, Inc. (CWM), in Emelle, Alabama. ADEM is pleased to provide you with a copy of the evaluation for your information.

While implementing the permitting requirements of the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) and the Resource Conservation and Recovery Act (RCRA), as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA), at CWM, ADEM is always cognizant of its role in protecting human health and limiting further migration of groundwater contamination. As such, the enclosed evaluation covers two specific issues regarding environmental contamination applicable to the facility and local community:

1) Plausible human exposure to soil, groundwater, air and surface water contamination at or from the facility, and;

2) The continuing migration of contaminated groundwater, both on and off-site.

Please note that the purpose of the environmental indicator evaluation is solely to evaluate the status of the two environmental indicators discussed, and that it does not reduce or limit in any way the facility's obligation to perform any monitoring, maintenance, investigation, remediation, or other activity required pursuant to any applicable regulations, permits, or orders.

The enclosed environmental indicator evaluation should not be viewed as somehow separate and distinct from the corrective action activities taken at CWM. Rather, it is an evaluation of current environmental conditions and a focusing of efforts on potential concerns that ADEM, the facility and interested members of the public must work toward satisfying through implementation of the corrective action process at CWM. Therefore, every evaluation should conclude with a projection or outline of future actions to move the facility toward the point where human exposures and/or groundwater releases are controlled. It should be understood that the evaluations operate at the "facility level." In other words, **every area** at the facility must meet the control definition before human exposures or groundwater releases can be considered controlled.

Because many different corrective action documents frequently exist at a facility, ADEM has tried to select the most pertinent documents from which to make its evaluation. The utilized source documents (titles and dates) are explicitly referenced in the evaluation to provide clarity and reproducibility. ADEM recognizes that the potential exists for current conditions at the facility to be somewhat different to that represented in the evaluation. Such discrepancies can be administratively managed during implementation of the ongoing corrective action process and subsequent re-evaluations.

In summary, the evaluation represents a "snap-shot" of the facility's environmental conditions at a particular point in time, and it is a dynamic document subject to revision. Because of the evaluation's focus on current environmental conditions, ADEM views the evaluation as an excellent resource for members of the public as well as the facility. ADEM hopes you find the evaluation useful and informative.

If questions or comments arise regarding this evaluation, please contact Mr. Keith West of my staff at (334) 271-7748.

Sincerely,

Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

SAC/KNW/sep:L:2002 06-12 CWM EI Memo

Encl.: Environmental Indicator Memo

File: Chemical Waste Management/Sumter County/ALD000622464/Correspondence

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July 1, 2002

TO: Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

THROUGH: Vernon H. Crockett, Chief
Industrial Facilities Section
Hazardous Waste Branch
Land Division

FROM: Keith West
Industrial Facilities Section
Hazardous Waste Branch
Land Division

RE: Evaluation of status under the RCRAInfo Corrective Action Environmental Indicator Event Codes (CA725 and CA750) for the Chemical Waste Management facility in Emelle, Sumter County, Alabama
USEPA Identification Number ALD 000 622 464

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of the status of Chemical Waste Management, Inc. (CWM), in relation to the following corrective action event codes defined in the Resource Conservation and Recovery Act Information (RCRAInfo) database:

1) Current Human Exposures Under Control (CA725).
2) Migration of Contaminated Groundwater Under Control (CA750).

Concurrence by the Hazardous Waste Branch Chief is required prior to entering these event codes into RCRAInfo. Your concurrence with the interpretations provided in the following paragraphs and the subsequent recommendations is satisfied by dating and signing at the appropriate locations within Attachments 1 and 2.

II. HISTORY OF ENVIRONMENTAL INDICATOR EVALUATIONS AT THE FACILITY AND REFERENCE DOCUMENTS

This particular evaluation is the second evaluation performed by the Alabama Department of Environmental Management (ADEM) for the Chemical Waste Management Emelle facility. A previous evaluation was completed by ADEM, dated August 16, 2000. The evaluation, and associated interpretations and conclusions on contamination, exposures and contaminant migration at the facility are based on information obtained from the following documents:

- RCRA Facility Investigation Trenches T-1 through T-7, Lagoons L-3 through L-5, and the Drainage Ditches, July 28, 2000
- Closure Equivalency Demonstration Report, March 1999, Revised July 26, 2000

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Birmingham, Alabama 35209-4702
(205) 942-6168
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2204 Perimeter Road
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(251) 479-2593 [Fax]

Mobile – Coastal
4171 Commanders Drive
Mobile, Alabama 36615-1421
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(251) 432-6598 [Fax]

III. FACILITY SUMMARY

The CWM facility is located approximately five miles north of the town of Emelle in Sumter County, Alabama. CWM owns approximately 2700 acres of land in the area, with the active waste management portion of the facility encompassing approximately 150 acres. The facility is located in a sparsely populated area, and is mainly surrounded by farmland, pasture and woodlands. A portion of the CWM property is located in the 100-year floodplain of Bodka Creek. However, this portion of the facility is not currently used for waste management activities, and no such future use is intended.

CWM was issued a Hazardous Waste Operating Permit under the Resource Conservation and Recovery Act (RCRA) by the United States EPA (USEPA) on May 27, 1987. ADEM reissued the Hazardous Waste Operating Permit under the Alabama Hazardous Wastes Management and Minimization Act (AHWMMA) on September 26, 1997. On March 22, 2002 CWM submitted a renewal application for their Operating Permit.

CWM is currently permitted to accept off-site hazardous wastes. CWM is allowed to store hazardous wastes in containers, tanks, and containment buildings, dispose hazardous wastes in landfills, and treat wastes in containers, tanks, containment buildings and miscellaneous treatment units. Permitted treatment activities include chemical fixation, chemical oxidation, chemical precipitation, chemical reduction, chlorination, cyanide destruction, degradation, detoxification, neutralization, extraction/washing, macroencapsulation, microencapsulation, clarification, coagulation, decanting, filtration, flocculation, sedimentation, thickening, abrasive blasting, scarification, spalling, vibratory finishing, high pressure washing, shredding, sealing, screening, blending, leaching, and treatment with activated carbon.

The current permit also contains conditions for addressing closed surface impoundments, landfills and other waste processing units, as well as Hazardous and Solid Waste Amendments (HSWA) provisions for addressing Solid Waste Management Units (SWMUs) that managed wastes prior to the inception of RCRA. Under the current permit, CWM has been conducting groundwater monitoring of the post-closure units.

IV. CONCLUSION FOR CA725

The appropriate status code to be entered for RCRAInfo event code CA725 (Current Human Exposures Under Control) is "YES." The data from the RFI Report (July 28, 2000) indicates soils that exhibited hazardous constituents are not exposed at the ground surface, and the VOCs observed are not available for airborne or surface water transport. Additionally, large areas of the trenches are covered with either asphalt paving or buildings, which inhibits infiltration and transport through the vadose zone.

An evaluation, of the potential pathways for organisms to be exposed to contamination and the potential receptors within the biotic community, indicates that the pathways of groundwater, drinking water, direct ingestion, and air/inhalation are incomplete.

V. CONCLUSION FOR CA750

The appropriate status code to be entered for RCRAInfo event code CA750 (Migration of Groundwater Under Control) is "YES". Hazardous constituents have been released from the old trenches to groundwater (RFI Report, July 28, 2000) inside the cutoff wall. These constituents were released during waste handling operations while the trenches were active. The chalk cutoff wall buffers lateral migration of hazardous constituents and the interface of the weathered/unweathered chalk inhibits the vertical migration of hazardous constituents.

VI. SUMMARY OF FOLLOW-UP ACTIONS

For the former Lagoons CWM is proposing to install a final cover system over any residual contaminated material to mitigate infiltration of surface water runoff and future exposure by human or ecological receptors. In addition, CWM will be required to conduct regular monitoring and maintenance of the protective cover as well as monitoring of groundwater quality in the underlying aquifer to ensure the long-term effectiveness of the cover system.

On April 18, 2002 the Department approved CWM's Corrective Measures Work Plan for Trenches T1 through T-7 and Lagoons L-3 through L-5. CWM is currently evaluating a facility-specific corrective measure for each SWMU. The alternative that best addresses the technical, environmental, and human health needs of the facility in a timely, cost efficient manner will be recommended for implementation at the site.

Attachments:
1. CA725: Current Human Exposures Under Control
2. CA750: Migration of Contaminated Groundwater Under Control

KNW/2002 06-12 CWM EI Memo

File: Chemical Waste Management/Sumter County/ALD000622464/Correspondence

ATTACHMENT 1
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo Code (CA725)
Current Human Exposures Under Control

Facility Name: Chemical Waste Management, Inc.
Facility Address: Emelle, Sumter Co., Alabama
Facility EPA ID #: ALD 000 622 464

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 RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo 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)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			RFI Report dated July 28, 2000/VOC's
Air (indoors)[2]		X		
Surface Soil (e.g., <2 ft)		X		
Surface Water		X		
Sediment		X		
Subsurface Soil (e.g., >2 ft)	X			RFI Report dated July 28, 2000/VOC's
Air (outdoors)		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.

__X__ 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): The data from the RFI Report (July 28, 2000) indicates soils and groundwater within the area of the cutoff wall surrounding the old Trenches could pose a risk to construction workers. The hazardous constituents are not exposed at the ground surface, and the VOCs observed are not available for airborne or surface water transport.

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?

---

[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.

Summary Exposure Pathway Evaluation Table Potential **Human Receptors** (Under Current Conditions)							
"Contaminated" Media	**Residents**	**Workers**	**Day-Care**	**Construction**	**Trespassers**	**Recreation**	**Food**[3]
Groundwater				Yes			
Air (indoors)							
Soil (surface, e.g., <2 ft)							
Surface Water							
Sediment							
Soil (subsurface, e.g., >2 ft)				Yes			
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. For Media which are not "contaminated" as identified in #2, please strike-out specific Media, including Human Receptors' spaces, or enter "N/C" for not contaminated.

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 assigned spaces in the above table. 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).

__X__ 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): Soils in the subsurface do have hazardous constituents in and around the old Trenches which could expose construction workers to the VOC'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)?

__X__ If no (exposures cannot 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): It is unlikely any digging will occur in the subsurface in or around the old trenches since most are covered with either asphalt paving or buildings and the portions which are not covered are in the process of being capped and will be added to CWM's post-closure portion of their operating permit.

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):_____

_____

_____

[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.

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 Waste Management, Inc., facility, EPA ID # ALD 000 622 464, located in Emelle, Alabama 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) Keith West (date) 7/1/02.
Keith West
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Supervisor: (signature) Vernon H Crockett (date) 7/1/02
Vernon H. Crockett, Chief
Industrial Facilities Section
Hazardous Waste Branch
Land Division

Hazardous Waste: Branch Chief (signature) (date) 7/8/02
Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

Location where References may be found:

Alabama Department of Environmental Management Main Office
1400 Coliseum Boulevard
Montgomery, Alabama 36110-2059
(334) 271-7700

Contact telephone number and e-mail address:

Keith West
(334) 271-7748
knw@adem.state.al.us

ATTACHMENT 2
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRAInfo Event Code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: Chemical Waste Management, Inc.
Facility Address: Emelle, Sumter Co., Alabama
Facility EPA ID #: ALD 000 622 464

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 RCRAInfo national database ONLY as long as they remain true (i.e., RCRAInfo 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): The following constituents were above the Federal Maximum Contaminant Levels (MCLs) from the National Primary Drinking Water Regulations and EPA Region III Risk-Based Concentrations; (RBCs), 2-Butanone, Dichlorodifluoromethane, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,2-Dichloropropane, 4-Methyl-pentanone, Toluene, Vinyl Chloride, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 2-Methylphenol, 4-Methylphenol, Phenol, Benzoic Acid, Bis(2-ethylhexyl)phthalate, Isophorone. This information was taken from the RFI Report dated July 28, 2000. The cutoff wall effectively buffers lateral migration of hazardous constituents and the interface of the weathered/unweathered chalk significantly inhibits the vertical migration of hazardous constituents.

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"[6]).

____ 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): Hazardous constituents are present in the soil and groundwater outside the limits of Trenches T-1 through T-7. These constituents are present above the weathered/unweathered chalk interface. Hazardous constituents in groundwater outside the cutoff wall are present only at the SM-18 location and originate from soils outside the cutoff wall which were contaminated by constituents inadvertently released during waste handling operations while the trenches were actively used for disposal. The weathered/unweathered chalk interface significantly inhibits downward migration of hazardous constituents. The cutoff wall is a very significant barrier to the lateral migration of hazardous constituents in groundwater.

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

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

---

[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).

[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.

__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): No contaminated groundwater is discharged to any surface water at CWM. CWM RFI Report dated July 28, 2000.

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) providing 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," providing 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 identifying if there is evidence that the amount of discharging contaminants is increasing.

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

Rationale and Reference(s):_____

_____

_____

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

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

[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.

__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 Waste Management, Inc. facility, EPA ID # ALD 000 622 464, located at Emelle, Alabama. 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) Keith West (date) 7/1/02
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Industrial Facilities Section
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Land Division

Supervisor: (signature) Vernon H Crockett (date) 7/1/02
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Hazardous Waste: Branch Chief (signature) [signature] (date) 7/8/02
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