

ADEM



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August 2, 1999

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MEMORANDUM

TO: Wm. Gerald Hardy, Chief *WGH 8/3/99*
Land Division

THRU: Stephen A. Cobb, Chief *AK*
Industrial Facilities Section
Hazardous Waste Branch
Land Division

FROM: Chip Crockett *CC 8/2/99*
Industrial Facilities Section
Hazardous Waste Branch
Land Division

RE: Evaluation of the status Hunt Refining Company under the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750)
EPA I.D. Number: ALD 004 009 320

PURPOSE

This memo is written to formalize an evaluation of the status of Hunt Refining Company (Hunt) in relation to the following corrective action event codes defined in the Resource Conservation and Recovery Information System (RCRIS):

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

Concurrence by the Land Division Chief is required prior to entering these event codes into RCRIS. Your concurrence with the interpretations provided in the following paragraphs and the subsequent recommendations is satisfied by dating and signing at the appropriate location within



Attachments 1 and 2.

HISTORY OF ENVIRONMENTAL INDICATOR EVALUATIONS AT THE FACILITY

This particular evaluation is the second evaluation for Hunt. The initial evaluation, dated May 23, 1997, for this site was conducted by EPA Region 4 personnel. The initial evaluation concluded that insufficient information was available regarding the extent of environmental impacts at Hunt, and thus the appropriate status codes for CA725 and CA750 were determined to be NO. Additional investigations have been completed since the initial evaluation which are the basis for this second evaluation.

REFERENCES

References utilized in developing this second evaluation include:

- RCRA Facility Investigation (RFI) Report, July 1998
- Corrective Measures Study Plan, May 1999

FACILITY SUMMARY

The Hunt refinery is located in Tuscaloosa, Alabama, approximately 3.5 miles northwest of Interstate 20. The approximately 250 acre tract is comprised of multiple production facilities, storage tanks, a waste-water treatment plant, open and wooded areas, and office facilities. The refinery has been in operation since 1946 and currently produces asphalt, fuel oils, gasoline, jet fuel, and non-halogenated solvents. An AHWMMMA Permit was issued May 21, 1996 for the post-closure management of a hazardous waste surface impoundment and to address various solid waste management units (SWMUs) and areas of concern (AOCs). A site-wide RFI was completed, the finding of which are documented in the July 1998 RCRA Facility Investigation (RFI) Report. The RFI data indicated the need to conduct a Corrective Measures Study (CMS), for which a plan is under active review.

CONCLUSION FOR CA725

After a thorough evaluation of all applicable documentation, it has been determined that all current human exposures at the Hunt Refining Company are under control. Therefore, YE appears to be the appropriate status code for the Current Human Exposures Under Control Environmental Indicator (CA725). The basis for this determination is presented more thoroughly in Attachment 1.

CONCLUSION FOR CA750

After a thorough evaluation of all applicable documentation, it has been determined that the migration of contaminated groundwaters at the Hunt Refining Company are under control. Therefore, YE appears to be the appropriate status code for the Migration of Contaminated Groundwater Under Control Environmental Indicator (CA725). The basis for this determination is presented more thoroughly in Attachment 2.

SUMMARY OF FOLLOW-UP ACTIONS

As stated previously, a plan for a Corrective Measures Study (CMS) is under review. Under the current plan, the CMS will involve a site-specific risk assessment to more thoroughly evaluate the risks associated with current (industrial) land uses and available and appropriate remedies. Based on the data collected during the RFI, it appears unlikely that an active or invasive remedy (e.g. soil excavation or pump-and-treat) will be necessary. At this time, more passive remedies (e.g. institutional controls along with monitoring) appear to be adequate given the specific contaminants and low concentration observed thus far.

WGH/vhc

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

cc: Ted Johnson, Hunt
Wes Hardegree, EPA Region 4
File

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

Facility Name: Hunt Refining Company, Inc.
Facility Address: 1855 Fairlawn Road, Tuscaloosa, Alabama: 35401
Facility EPA ID #: ALD 004 009 320

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?

- 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)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			BTEX
Air (indoors) ²		X		
Surface Soil (<2 ft)	X			BTEX
Surface Water		X		
Sediment		X		
Subsurface Soil (>2 ft)	X			BTEX
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): RFI data indicates the Region 3 Residential RBCs were exceeded for BTEX constituents in soil. MCLs for Benzene exceeded in groundwater. Exceedances limited to onsite soils and groundwater.

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?

<u>Summary Exposure Pathway Evaluation Table</u> Potential Human Receptors (Under Current Conditions)							
Contaminated Media	Residents	Workers	Day Care	Construction	Trespassers	Recreation	Food ³
Groundwater	No	No	No	No	No	No	No
Air (indoors)	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Surface Soil (<2 ft)	No	Yes	No	Yes	Yes	No	No
Surface Water	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Sediment	N/C	N/C	N/C	N/C	N/C	N/C	N/C
Subsurface Soil (>2 ft)	No	Yes	No	Yes	No	No	No
Air (outdoors)	N/C	N/C	N/C	N/C	N/C	N/C	N/C

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.

³

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

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):

- 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 **Hunt Refining Company** facility, EPA ID # **ALD 004 009 320**, located at **1855 Fairlawn Road; Tuscaloosa, 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) Vernon H. Crockett
(print) Vernon H. Crockett
(title) Environmental Engineer II

Date: 8/2/99

Supervisor: (signature) Wm. Gerald Hardy
(print) Wm. Gerald Hardy
(title) Chief - Land Division
(EPA Region or State) Alabama

Date: 8/3/99

Locations where References may be found:

ADEM Hazardous Waste File - Hunt Refining Co.;
EPA ID No. ALD 004 009 320.

Contact telephone and e-mail numbers

(name) Chip Crockett
(phone #) 334 271 7747
(e-mail) vhc@adem.state.al.us

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

Facility Name: HUNT REFINING COMPANY
Facility Address: 1855 FAIRLAWN ROAD; TUSCALOOSA, AL
Facility EPA ID #: ALD 004 009 320

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?

- 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?

- 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): Benzene detected in groundwater in concentrations exceeding MCLs. Plume is fully defined and is confined to onsite property.

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).

3. Has the **migration** of contaminated groundwater **stabilized** such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"⁶ 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): Even though migration of groundwater contaminants is 'possible', groundwater contaminants consist of BTEX constituents which are expected to naturally attenuate as migration occurs. In addition, contaminant sources have been removed, therefore no increase in contaminant concentrations is reasonably expected.

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): Groundwater flow direction is toward the Black Warrior River along the northern facility boundary. However, the plume is defined and is does not discharge to surface water bodies.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be "**insignificant**" (i.e., the maximum concentration⁷ 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 concentration⁷ 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 concentration⁷ 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 concentrations³ 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): _____

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 implemented⁴)?

_____ 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): A corrective measures study is currently ongoing, but groundwater monitoring will likely be a function of the final remedy. Note: a groundwater monitoring system is currently in place as part of the AHWMMMA Permit requirements for regulated hazardous waste management units at the facility.

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 **Hunt Refining Company** facility, EPA ID # **ALD 004 009 320**, located at 1855 Fairlawn Road; Tuscaloosa, 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) Vernon H. Crockett
(print) Vernon H. Crockett
(title) Environmental Engineer II

Date: 8/2/99

Supervisor: (signature) Wm. Gerald Hardy
(print) Wm. Gerald Hardy
(title) Chief - Land Division
(EPA Region or State) Alabama

Date: 8/3/99

Locations where References may be found:

ADEM Hazardous Waste File - Hunt Refining Co.:
EPA ID No. ALD 004 009 320.

Contact telephone and e-mail numbers

(name) Chip Crockett
(phone #) 334 271 7747
(e-mail) vhc@adem.state.al.us



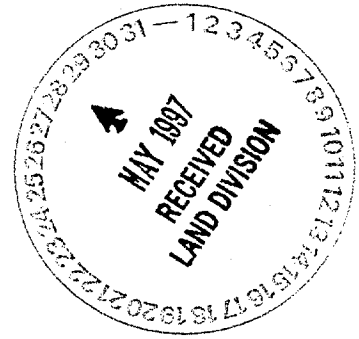
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4
ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

Docket # 13

4WD-RCRA

MAY 23 1997



Stephen J. Cobb, Chief
Industrial Facilities Section
Hazardous Waste Branch
Land Division
Alabama Department of Environmental
Management (ADEM)
Post Office Box 301463
Montgomery, Alabama 36130-1463

SUBJECT: Environmental Indicator Memo
Hunt Refining Company, Tuscaloosa, Alabama
EPA ID No. ALD 004 009 230

Dear Mr. Cobb:

The enclosed memorandum is submitted to you as the U. S. Environmental Protection Agency's (EPA) evaluation of Hunt Refining Company's status under the RCRIS Corrective Action Environmental Indicator Codes (CA725 and CA750). This review, and the preparation of the memorandum by EPA was done according to the work share agreement between the EPA and the ADEM, and is provided in support of ADEM's authorized HSWA corrective action program.

If you find, upon your review, that you do not agree with the findings, please revise the memorandum and re-enter the appropriate information into the Corrective Action Module of RCRIS. As conditions at the site change (possibly in response to effective remediation) you will need to reevaluate the findings, changing status codes as appropriate.

Should you have any questions regarding the memorandum, please contact Ms. Lael Butler at (404) 562-8453.

Sincerely,

Kent Williams
Kent Williams, Chief
South Programs Section
RCRA Programs Branch

Enclosure

File: FSD / Hunt / Tusc. Co.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4

ATLANTA FEDERAL CENTER
100 ALABAMA STREET, S.W.
ATLANTA, GEORGIA 30303-3104

MAY 23 1997

4WD-RCRA

DATE:

SUBJECT: EPA's Draft Evaluation of Hunt Refining Company's status under the RCRIS Corrective Action Environmental Indicator Event Codes (CA725 and CA750)

EPA I.D. Number: ALD 004 009 230

FROM: Lael H. Butler *LHB*
Env. Scientist/Hydrogeologist
South Programs Section
RCRA Programs Branch

THROUGH: Kent Williams, Chief
South Programs Section *K Williams*
RCRA Programs Branch

TO: Stephen Cobb, Chief *SC*
Industrial Facilities Section
Hazardous Waste Branch
Alabama Dept. of Environmental Management

I. PURPOSE OF MEMO

This memo is written to propose an evaluation of the Hunt Refining Company (Hunt), Tuscaloosa, Alabama, facility status in relation to the following RCRIS corrective action codes:

- 1) Human Exposures Controlled Determination (CA725),

2) Groundwater Releases Controlled Determination (CA750).

The applicability of these event codes adheres to the definitions and guidance provided by the Office of Solid Waste (OSW) in the July 29, 1994, memorandum to the Regional Waste Management Division Directors.

Your input into this evaluation memorandum and the subsequent RCRIS recommendations has been received and accordingly, this first evaluation is final. However, as new data and other investigatory information becomes available, it is suggested that the State of Alabama update the memorandum and, subsequently, the RCRIS recommendations.

II. HUMAN EXPOSURES CONTROLLED DETERMINATION (CA725)

There are three (3) national status codes under CA725. These status codes are:

- 1) YE Yes, applicable as of this date.
- 2) NA Previous determination no longer applicable as of this data.
- 3) NC No control measures necessary.

Region 4 added a regional status code to CA725 which tracks initial evaluations in which a determination is made that plausible human exposures to current contamination risks are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable during the first CA725 evaluation. Evaluations subsequent to the first evaluation will use the national status codes (i.e., YE, NA and NC) to explain the current status of exposure controls.

Note that the three national status codes for CA725 are based on the entire facility (i.e., the codes are not SWMU specific). Therefore, every area at the facility must meet the definition before a YE, NA or NC status code can be entered for CA725.

Similarly, the regional status code, NO, is applicable if plausible human exposures are not controlled in any areas of the facility.

This particular CA725 evaluation is the **first evaluation** performed by EPA for the Hunt facility. Because assumptions have to be made as to whether or not human exposures to current media contamination are plausible and, if plausible, whether or not controls are in place to address these plausible exposures, this memo first examines each environmental media (i.e., soil, groundwater, surface water, air) at the entire facility including any offsite contamination emanating from the facility rather than from individual areas or releases. After this independent media by media examination is presented, a final recommendation is offered as to the proper CA725 status code for Hunt.

The following discussions, interpretations and conclusions on contamination and exposures at the facility are based on the following reference documents:

- RFA Report; February, 1991;
- Permit Modification Request; June, 1996; and
- Revised Confirmatory Sampling Work Plan, January 1997.

III. MEDIA BY MEDIA DISCUSSION OF CONTAMINATION AND THE STATUS OF PLAUSIBLE HUMAN EXPOSURES

BACKGROUND

Hunt operates an approximately 36,000 barrel per day refinery near Tuscaloosa, Alabama. The facility started operating in 1946 with a crude petroleum refining area in the eastern portion of the site. Significant plant expansion occurred in 1975 - 1976 with construction of the new hydrotreating/hydrobon crude processing units (located in the western portion of the facility). The delayed coker was built in 1981 which caused the expansion of the wastewater treatment plant. Products generated include No.1 fuel oil, motor gasoline, solvents/mineral spirits, jet fuel, kerosene, diesel, asphalt, coke, and elemental sulfur. Both the crude processing area and the Coker/Hydrobon Areas are currently active.

The processing of crude petroleum involves deslating of crude (the removal of salts/minerals) and distillation/fractionation (separation of weight fractions). These processes results in the production of a number of wastes including process wastewater, dissolved air flotation sludge (K048), biological sludge, waste thickener sludge (K050), leaded tank bottoms (K052), unleaded tank bottoms, nonhalogenated solvents, oily wastes, occasional sulfur wastes, waste asphalt, spent catalysts (many are recycled), laboratory wastes, and sanitary wastes.

The EPA conducted a RCRA Facility Assessment (RFA) in 1987 which identified 38 solid waste management units (SWMUs) and 7 areas of concern (AOCs). A RCRA Facility Investigation (RFI) Work Plan was prepared and submitted in February 1990. A second RFA was performed in 1991. All SWMUs identified in the 1987 RFA were re-examined, and a number of additional SWMUs were identified (see enclosure, Table I-1).

The State of Alabama issued the full RCRA Permit May 21, 1996; Appendix A of which contains a list of SWMUs, AOCs and regulated units which require environmental investigation or not (see enclosure). Ten (10) SWMUs and one (1) AOC are identified as requiring an RFI; seven (7) SWMUs and one (1) AOC are identified for confirmatory sampling; forty-five (45) SWMUs and six (6) AOCs which require no further action; and, five (5) SWMUS which are interim status closure. One regulated unit, SI-1, is designated as a corrective action management unit (CAMU) in order to treat the remediation generated wastes from SI-2, Landfarm No. 1 (SWMU 1) and the Pentachlorophenol Area (PCP). These wastes are to be solidified into SI-1 as a landfill with post-closure care.

GROUNDWATER

In 1987, floating product was detected on top of the groundwater at Tank No. 8 (SWMU 13). Approximately 30,000 gallons of product have been removed through groundwater extraction wells.

A groundwater monitoring system is in place in the vicinity of Landfarm 2 (LF-2), LF-3, and SI-1. LF-2 was used for the treatment of leaded tank bottoms (K052). Quarterly groundwater monitoring sampling and analysis began in June 1992, for the

V. GROUNDWATER RELEASES CONTROLLED DETERMINATION (CA750)

There are three (3) status codes listed under CA750:

- 1) YE Yes, applicable as of this date.
- 2) NA Previous determination no longer applicable as of this date.
- 3) NR No releases to groundwater.

Region 4 also added an additional status code which tracks the initial evaluations in which a determination is made that groundwater releases are not controlled. This regional status code is listed as "NO, not applicable as of this date." Use of the regional status code is only applicable in the first CA750 evaluation. Subsequent evaluations will use the national status codes (i.e., YE, NA and NR) to explain the current status of groundwater control.

Note that the three national status codes for CA750 are designed to measure the adequacy of actively or passively controlling the physical movement of groundwater contaminated with hazardous constituents above relevant action levels. The point where the success or failure of controlling the migration of hazardous constituents is measured is termed the designated boundary (e.g., the facility boundary, a line upgradient of receptors, the leading edge of the plume as defined by levels above action levels or cleanup standards, etc.). Therefore, every contaminated area at the facility must meet the definition before these event/status codes can be entered. Similarly, the regional status code is applicable if contaminated groundwater is not controlled in any area(s) of the facility.

This evaluation for CA750 is the first formal evaluation performed for the Hunt facility. Please note that CA750 is based on the adequate control of all contaminated groundwater at the facility.

VI. STATUS CODE RECOMMENDATION FOR CA750:

Based on the lack of site-wide groundwater monitoring data, it is still uncertain the magnitude of any release(s) from solid waste management units and/or areas of concern which have contaminated groundwater at concentrations above relevant action levels. Because of the lack of data and the fact that there is not an existing and ongoing groundwater recovery and treatment system and that this is the first evaluation of the Hunt facility, it is recommended that **CA750 NO** be entered into RCRIS.

Attachments

cc: Chip Crockett, ADEM w/o enclosures