QUICK REFERENCE FOR STATUS OF ENVIRONMENTAL INDICATORS							
Name and EPA I.D. Number	Location (City or Town)	1997 CA725 Decision	1997 CA750 Decision	2001 CA725 Decision	2001 CA750 Decision	If 2001 Decision is Negative, Projected Date for Positive EI	
						CA725	CA750
Gulf Coast Recycling FLD 004 092 839	Tampa, Florida	NO	NO	YES	YES	--	--

4WD-RPB

SUBJ: Evaluation of Gulf Coast Recycling status under the RCRA Info Corrective Action Environmental Indicator Event Codes (CA725 and CA750)
EPA I.D. Number: FLD 004 092 839

FROM: Wesley S. Hardegree
Corrective Action Specialist
South Programs Section

THRU: Doug McCurry, Chief
South Programs Section
RCRA Programs Branch

TO: Narindar M. Kumar, Chief
RCRA Programs Branch

I. PURPOSE OF MEMO

This memo is written to formalize an evaluation of Gulf Coast Recycling's status in relation to the following corrective action event codes defined in the Resource Conservation and Recovery Information System (RCRA Info):

1) Current Human Exposures Under Control (CA725),

2) Migration of Contaminated Groundwater Under Control (CA750).

Concurrence by the RCRA Programs Branch Chief is required prior to entering these event codes into RCRA Info. 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.

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

This particular evaluation is the second evaluation for the Gulf Coast Recycling facility. The first evaluation, performed in 1997, concluded that current human exposures were not under control because offsite soil contamination existed in residential areas. Migration of contaminated groundwater was considered to not be under control because there were areas of offsite groundwater contamination. A copy of the first evaluation can be found in the Facility's File maintained that the EPA Regional Office in Atlanta, Georgia.

III. FACILITY SUMMARY

Gulf Coast Recycling operates a secondary lead smelting facility. The area surrounding Gulf Coast Recycling includes the following land uses: heavy industry, commercial and residential. Operations at Gulf Coast Recycling begin in the battery saw area where batteries are unloaded from transport trucks and loaded onto battery cutting saws. The plastic battery tops are cut off and sent to a hammer mill where their size is reduced to approximately one inch in diameter. The lead grids, or groups, are removed from the open casing by a tumbler or by hand and the acid and mud are collected. The empty plastic casings are sent to the hammer mill for size reduction. Material from the hammer mill is sent to a machine which separates plastic, top lead, mud and rubber. The plastic is sold and trucked offsite to an extruder. The acid is sold and also trucked offsite. The groups, top lead, rubber and mud are sent to the group pile building for temporary storage.

The facility currently operates a Group Pile Building under the January 1996 Hazardous Waste Operating Permit. The Group Pile Building is a RCRA Containment Building used to temporarily store blast furnace raw material, top lead, battery muds and rubber. The facility is undergoing the process to re-issuance of the Hazardous Waste Operating Permit.

Material from the Group Pile Building are fed into the blast furnace. The blast furnace feeds molten blast lead into open crucible molds. The cooled lead blocks, when removed from the molds, are called buttons. Buttons are staged for continued processing at the refining area. The blast furnace also produces a molten waste product and air emissions. The molten waste is fed into open crucibles and allowed to cool. This cooled lead-bearing slag is classified as a RCRA D008 waste and is currently stored for less than 90 days in a RCRA storage area (tank) before being shipped to a hazardous waste disposal facility in Pinewood, South Carolina. Furnace emissions are directed to a baghouse system in which the dust portion (KO69) is collected and then sent to a flash agglomeration furnace to be liquified. The molten material is collected and cooled in open crucibles, crushed, and sent back to the blast furnace feed hoppers for lead recovery.

Cooled lead buttons are heated and mixed with additives in the refining area. The types, quantities, and temperatures at which reagents are added depend upon customer specifications

for the particular lead product order being filled. The molten lead product is poured into molds and cooled producing small solid bars called pigs. The bars are stacked and banded, covered, and stored in a fully enclosed warehouse adjacent to the refining area prior to customer pickup. Refining emission dusts are collected in baghouses at the refining area, drummed, and rerouted back to the furnace.

Particular processes and areas at the facility require periodic wetting to minimize airborne lead concentrations. All process waste waters are collected in ten process sumps located throughout the facility and pumped to the onsite wastewater treatment plant. Storm water runoff is collected in four storm water sumps and directed to the wastewater treatment plant.

Contamination of soils and groundwater at the facility is believed to be the result of past practices. Much of the onsite contamination appears to have come from battery cases that were piled in the mid 1970s on the northwest portion of the site after salvaging the lead plates and post. The battery casings were subsequently buried after they caught fire. Contamination also appears to have occurred due to dumping of untreated wastewater and runoff of contaminated storm water. For example, untreated wastewater from plant operations was routinely discharged to the ground in the battery case disposal area until sometime in 1979 when the wastewater pretreatment facility was constructed. Since 1985, storm water outside the production area has been stored and treated before discharging into the unnamed ditch at the northwest property corner.

Offsite soil contamination exists or existed at properties contiguous to Gulf Coast Recycling. Although the exact mechanism for this offsite soil contamination is not fully understood, it is believed that the past lack of controls on production wastewater and contaminated storm water played a main role in distribution of the lead offsite. Again, controls on both production and storm water have been installed since 1985.

IV. CONCLUSION FOR CA725
(Brief Outline of Issues Leading to an EI of YE, NO or IN)

Based on the analysis documented in Attachment 1 of this memo current human exposures to contamination at Gulf Coast Recycling are under control. Exposures to onsite and offsite soil and groundwater contamination is deemed to be under control for various reasons. For example, in some cases, there are no complete pathways from which exposures to contamination can occur; some exposures are controlled because the contamination is not present at levels of concern for the current land use; other exposures are controlled by facility administrative controls imposed on people who might come into contact with the contamination; still other exposures are deemed insignificant because the complete pathways are considered unlikely and/or infrequent.

If unacceptable exposures are found to be occurring prior to final remedy selection, then Gulf

Coast Recycling will be required to pursue options to eliminate the unacceptable exposure (i.e.,

eliminate the unacceptable pathway by limiting human activity or reducing the concentrations to acceptable levels).

V. CONCLUSION FOR CA750
(Brief Outline of Issues Leading to an EI of YE, NO or IN)

Based on the analysis documented in Attachment 1 of this memo migration of contaminated groundwater contamination at Gulf Coast Recycling is under control. Basically, historical groundwater monitoring data over approximately fifteen (15) years, with quarterly monitoring since 1997, indicates that the groundwater contamination has stabilized within a consistent geographic area. Further monitoring has been established to guarantee that future plume expansion will not go unnoticed. If migration occurs prior to final remedy selection, then Gulf Coast Recycling will be required to pursue options to control plume migration.

Attachments:
1. CA725 Evaluation
2. CA750 Evaluation
3. Referenced Figures and Tables. NOTE: Reports and Work Plans referenced in the Evaluation are not attached to this memo. Please see EPA files for copies of these documents.

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

Facility Name: **Gulf Coast Recycling**
Facility Address: **1901 N 66th Street, Tampa, Florida**
Facility EPA ID #: **FLD 004 092 839**

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 RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info 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			Lead is the main hazardous constitutent of concern detected in onsite and offsite groundwater assessment wells.
Air (indoors)[2]		X		Lead releases to air from SWMUs and/or AOCs is not expected. Releases to the air from permitted units are not considered under this evaluation.
Surface Soil (e.g., <2 ft)	X			Lead contamination is known to exist at the surface.
Surface Water		X		All surface water runoff is processed through a permitted outfall. Releases to the surface water from permitted unit are not considered covered under this evaluation.
Sediment	X			Characterization of the extent of offsite sediment contamination is not complete in the 14th Avenue Ditches. Based on past data in ditches nearby, some sediment contamination likely exists in the uncharacterized locations of 14th Avenue.
Subsurface Soil (e.g., >2 ft)	X			There are lead disposal areas at depth.

[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.

Media	Yes	No	?	Rationale/Key Contaminants
Air (outdoors)		X		Lead releases to air from SWMUs and/or AOCs is not expected. Releases to the air from permitted units are not considered under this evaluation.

____ 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):

Groundwater: The most recent groundwater results from the February 2001 Quarterly Groundwater Monitoring Event Report indicate that releases of hazardous constituents have occurred. Releases from solid waste management units (SWMUs) and/or areas of concern (AOCs) have contaminated groundwater at concentrations above relevant action levels. Specifically, lead has been detected above its groundwater action level (i.e., 15 ppb) in onsite and offsite monitoring wells installed in the Surficial Aquifer (see attached Plate 7 from the February 2001 Quarterly Groundwater Monitoring Event Report). The Surficial Aquifer consists of approximately 12 to 19 feet of unconsolidated sand.

Lead, at concentrations above 15 ppb, has also been detected sporadically in wells which monitor the Floridan Aquifer. The Floridan Aquifer exists below the Surficial Aquifer. The Hawthorn Group, a clayey segment at the bottom of the Surficial Aquifer and the top of the Tampa Formation, form a confining layer between the Floridan and Surficial Aquifers. No consistent lead concentrations above the action level have been detected in the Floridan Aquifer (see attached Figure 1 from the October 1996 letter of transmittal from GCR to Wesley Hardegree and Table 2 from the February 2001 Quarterly Groundwater Monitoring Event Report). Much of the earlier high lead content in Floridan monitoring wells (i.e., prior to around 1994) has been attributed to poor sampling protocols (i.e., aggressive purging/sampling techniques which increased sample turbidity).

In addition to releases of hazardous constituents which are regulated by the 1984 Hazardous and Solid Waste Amendments (HSWA), sulfate concentrations well above local background levels and pH levels well below local background also exist in both the Shallow Aquifer and the Floridan Aquifer.

Air (indoors): Releases to air from soil, groundwater and/or surface water contaminated by SWMUs and/or AOCs at the facility are not known to be occurring at concentrations above relevant action levels or not expected to be occurring above relevant action levels. Air-borne particulates from contaminated soil are not expected to be great or prolonged due to the large amount of area covered by clay caps, grass, buildings, concrete, etc.

Air releases from the battery reclamation process is permitted under the air program. Releases to the air

from these permitted units are not covered under the HSWA Permit.

Soil (<2 ft): The main contaminant of concern by far is lead (residential action level - 400 ppm; industrial worker action level - approximately 1,000 ppm)).

Soil at the facility is contaminated at concentrations above relevant action levels (e.g., cracked battery casings were disposed in an onsite landfill. Lead contaminated soil, above the residential action level, was also present in offsite residential areas (see attached Plate 5 from the April 2000 Soil Sampling and Removal Report; attached Plate 5 from the Soil Sampling and Analysis and Soil Removal Status Report dated October 2000). However, this residential contamination has been removed. Lead contamination also exists offsite in industrial areas (see attached Plate 22 from the Soil Sampling and Analysis and Soil Removal Status Report dated October 2000).

Surface Water: There are no natural surface water bodies onsite. An adjacent drainage ditch at the northwest corner of the facility does received NPDES permitted discharges of treated wastewater from Gulf Coast Recycling. There are also other ditches which in the past collected storm water run-off from the plant. Because all storm water at the facility is now collected and processed through the onsite treatment system, runoff of contaminated storm water is eliminated.

Sediment: The drainage ditch which receives the NPDES permitted discharge and other drainage ditches from the plant have been sampled. A graphical display of the results from this sampling can be found in attached Plate 2 of the April 20, 2000, Soil Sampling and Removal Report Storm Water Ditches & Swales an Astoria Mobile Home Park. Elevated lead levels were detected in the sediment in various ditches and subsequently removed. After review of the offsite ditch assessment and removal, EPA determined that some additional ditch sampling was in order for complete characterization to be obtained (see the July 2, 2001, Offsite Sediment/Soil Sampling Plan - 14th Avenue Stormwater Ditches). Until this sampling is performed and the results issued, sediment in these unassessed areas is presumed contaminated.

Air (outdoors): Releases to air from soil, groundwater and/or surface water contaminated by SWMUs and/or AOCs at the facility is not known to be occurring at concentrations above relevant action levels or not expected to be occurring above relevant action levels. Air-borne particulates from contaminated soil is not expected to be great or prolonged due to the large area covered by clay caps, grass, buildings, concrete, etc. Short term elevations may occur during disturbing activities which impact contaminated soil.

Air releases from the battery reclamation process is permitted under the air program. Releases to the air from these permitted units are not covered under the HSWA Permit.

Soil (> 2 ft): High levels of lead contamination is found at depth onsite. For example, there is a battery disposal area located on the west side of the plant.

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)							
"Contami-nated" Media	**Residents**	**Workers**	**Day-Care**	**Construction**	**Trespassers**	**Recreation**	**Food[3]**
Groundwater	No	No	No	No	N/L	N/L	No
~~Air (indoors)~~	~~Yes/No~~	~~Yes/No~~	~~Yes/No~~	~~N/L~~	~~N/L~~	~~N/L~~	~~N/L~~
Soil (surface, e.g., <2 ft)	No	Yes	No	Yes	No	No	No
~~Surface Water~~	~~Yes/No~~	~~Yes/No~~	~~N/L~~	~~N/L~~	~~Yes/No~~	~~Yes/No~~	~~Yes/No~~
Sediment	Yes	No	N/L	Yes	No	No	No
Soil (subsurface, e.g., >2 ft)	N/L	N/L	N/L	Yes	N/L	N/L	No
~~Air (outdoors)~~	~~Yes/No~~	~~Yes/No~~	~~Yes/No~~	~~Yes/No~~	~~Yes/No~~	~~N/L~~	~~N/L~~

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) are not assigned spaces in the above table (i.e, **N/L - not likely**). 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).

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

__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):

Groundwater:

(residents, workers, day care): There are no drinking water wells located on-site.

In 1995, it was reported that there were nine potable wells located to the north and northwest of the facility (see the 1995 Corrective Action Report). In 1995, it was also reported that there was a withdrawal well to the east of Gulf Coast Recycling, on Cook Lumber's property. Generally, groundwater flow in the Surficial and Floridan Aquifers are to the south, southwest and west. It was reported in the 1997 Corrective Action Report that all of these wells are no longer used as potable wells. In fact, five of the closest wells are now on property owned by Gulf Coast Recycling. The City of Tampa now provides drinking water.

In conclusion, there are no complete pathways for exposures to contaminated groundwater which can occur for residents, workers, daycare.

(Construction): Given the depth to groundwater at the site (approximately six (6) feet), exposure to contaminated groundwater by construction workers is deemed unlikely.

(Food): No crops are grown onsite; therefore, there are no complete pathways from which exposures to contaminated groundwater through a food pathway.

Soil (< 2 ft):

(resident): This pathway is not complete since the offsite soil in residential areas has been removed.

Note that one individual property owner would not allow access for removal of lead contaminated soil. This individual has been contacted by GCR several times with requests for access (most recently June 8, 2001). EPA also contacted the individual and explained why removal was preferable (see EPA letter dated December 18, 2000). Because cleanup was offered but access was denied, EPA is not carrying this contaminated piece of property as a complete exposure pathway for the EI Evaluation.

(workers - onsite): This pathway is considered incomplete for onsite workers because it is unlikely that workers during their normal operations would come in contact with contaminated soil. Most, if not all, of the contaminated soil is under clay caps, concrete/asphalt or buildings.

(workers - offsite): Removal of contaminated soil has not been initiated yet. Therefore, the pathway for ingestion by workers of surface soil contamination is complete at several offsite locations, most notably the Cook Lumber Company (an offsite location) and the CSX rail-yard (another offsite location).

(daycare): This pathway is not complete because there are no daycare facilities present at the facility.

(construction - onsite): The pathway for ingestion by onsite workers of surface soil contamination is

considered complete.

(construction - offsite): The pathway for ingestion by workers of surface soil contamination is complete. It is possible for construction workers working offsite on the Cook Lumber and CSX to come in contact with lead contaminated soil.

(trespasser - onsite): This pathway is considered incomplete because adequate security exists at the facility (e.g., security guard at entrance(s), fencing surrounding the facility).

(trespasser - offsite): This pathway is not considered likely because each of the offsite facilities contain fences. In addition, the trespasser scenario can be considered equivalent to the construction worker scenario.

(recreation): This pathway is not complete because there are no recreation areas at the facility.

(food): This pathway is not complete because there are no crops grown at the facility.

Sediment (applicable only to offsite areas):

(residents): Lead has been detected in the sediment of various ditches (see attached Plate 2 from the April 2000 Soil Sampling and Removal Report Stormwater Ditches and Swales in Astoria Mobile Home Park) and removed. EPA is requiring some additional ditch sampling in order for complete characterization to be obtained (see the draft Offsite Sediment/Soil Sampling Plan dated June 29, 2001). Until this additional characterization is complete, the uncharacterized ditches are presumed contaminated. It is possible for residents to come in contact with the presumed contaminated ditches. Therefore, this pathway is complete.

(workers): Lead has been detected in the sediment in various offsite ditches (see attached Plate 2 from the April 2000 Soil Sampling and Removal Report Stormwater Ditches and Swales in Astoria Mobile Home Park) and removed. EPA is requiring some additional ditch sampling in order for complete characterization to be obtained. Until this additional characterization is complete, the uncharacterized ditches are presumed contaminated. However, ditches are not locations where day in and day out work occurs. Therefore, the pathway is considered not complete. Note that it is possible for construction/utility workers to come in contact with the presumed contaminated ditches. This scenario will be addressed on the construction scenario.

(construction): Lead has been detected in the sediment in various offsite ditches (see attached Plate 2 from the April 2000 Soil Sampling and Removal Report Stormwater Ditches and Swales in Astoria Mobile Home Park)and removed. EPA is requiring some additional ditch sampling in order for complete characterization to be obtained. Until this additional characterization is complete, the uncharacterized ditches are presumed contaminated. It is possible for workers (e.g., construction/utility) to come in contact with the presumed contaminated ditches. Therefore, this pathway is complete.

(trespassers): EPA is not considering trespassers possible with offsite contamination. The trespasser scenario is covered by the residents and workers scenarios.

(recreation): EPA is not considering a ditch to be classified as a recreational area.

(food): There is no food production in drainage ditches.

Soil (> 2 ft):

(construction - onsite and offsite): This pathway is considered complete onsite because construction workers could come in contact with contamination at depth during construction activities. Note: The offsite soil contamination is, for the most part, present at depths less than 2 feet.

(food - onsite and offsite): This pathway is considered incomplete because the contamination is at depth and no food crops are grown on site.

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 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):

The only media containing a complete pathway are soil and sediment. Below is an analysis of the degree to which this exposure is considered acceptable/unacceptable.

Soil (< 2 feet):

(workers - offsite): Over the past two years, soil/ditch removal has occurred in the residential neighborhoods to the north and northwest of Gulf Coast Recycling. Offsite residential removal took priority over industrial property due to the greater concern over children's exposure to residential soil contaminated with lead. Although this offsite residential work is nearly complete, the redirection of resources to the lead at your facility is taking longer than expected. Because of this delay, EPA has performed a preliminary risk analysis for the adjacent offsite contaminated properties of Bodden, Cook Lumber and CSX. The analysis concludes that general industrial worker exposure to lead in soil (i.e., 0 to 12 inches below land surface (bls)) does not pose an unacceptable risk. Therefore, exposures to contamination are not expected to be significant, at least not in the near term.

(construction - onsite): There are levels of lead onsite (e.g., the lead disposal area) which give EPA pause when confronted with exposures due to construction. Fortunately, any risks to construction workers may be minimized or eliminated by following proper health and safety procedures, including the use of personal protective equipment. On August 20, 2001, Gulf Coast Recycling provided EPA with a copy of Administrative Controls (i.e., Gulf Coast Lead Recycling's Written Hazard Communication Program) used to ensure that contractor exposure is limited. Because Gulf Coast Recycling has administrative procedures

[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.

in place to ensure that proper health and safety procedures are followed, this pathway is carried as insignificant.

(construction - offsite): Based on EPA's preliminary risk analysis of construction worker exposures on the Bodden, Cook Lumber and CSX properties, EPA concludes that there may be unacceptable risks for workers at CSX who perform construction or utility-related activities that result in exposure to lead in the soil (i.e., 0 to 12 feet below land surface (bls)).

On August 6, 2001, EPA notified CSX of the lead contamination on their property and asked that CSX pursue health and safety procedures to ensure that human exposure is limited until a final remedy selected. On September 17, 2001, EPA received acknowledgment of the EPA letter. Because CSX has been notified of the soil contamination and asked to implement protective health and safety measures, EPA expects human exposure to be administratively controlled (i.e., insignificant).

Sediment (applicable to offsite areas only):

(residents): Lead was detected in the sediment in various offsite ditches (see attached Plate 2 from the April 2000 Soil Sampling and Removal Report and Surface Water Drainage and Swales) and removed. However, EPA is requiring some additional ditch sampling in order for complete characterization to be obtained (see the June 29, 2001, Offsite Sediment/Soil Sampling Plan - 14th Avenue). Until this sampling is performed and the results issued, sediment is presumed contaminated. Based on ditch sampling to date, the areas covered by the additional sampling are expected to contain some lead; however, the levels are not expected to be highly elevated. Even if the levels are found to be higher than expected, exposures to the ditches is carries a limited duration and tends to be infrequent; therefore, the risk is minimal and insignificant. If the additional ditch sampling shows elevated actionable lead levels, then removal will be initiated.

(Construction): Lead was detected in the sediment in various offsite ditches (see attached Plate 2 from the April 2000 Soil Sampling and Removal Report and Surface Water Drainage and Swales) and removed. However, EPA is requiring some additional ditch sampling in order for complete characterization to be obtained (see the June 29, 2001, Offsite Sediment/Soil Sampling Plan - 14th Avenue). Until this sampling is performed and the results issued, sediment is presumed contaminated. Based on ditch sampling to date, the areas covered by the additional sampling are expected to contain some lead; however, the levels are not expected to be highly elevated. Even if the levels are found to be higher than expected, exposures to the ditches is carries a limited duration and tends to be infrequent; therefore, the risk is minimal and insignificant. If the additional ditch sampling shows elevated actionable lead levels, then removal will be initiated.

Soil (> 2 feet):

(construction - onsite): There are levels of lead onsite (e.g., the lead disposal area) which give EPA pause when confronted with exposures due to construction. Fortunately, any risks to construction workers may be minimized or eliminated by following proper health and safety procedures, including the use of personal protective equipment. On August 20, 2001, Gulf Coast Recycling provided EPA with a copy of Administrative Controls (i.e., Gulf Coast Lead Recycling's Written Hazard Communication Program) used to ensure that contractor exposure is limited. Because Gulf Coast Recycling has administrative procedures in place to ensure that proper health and safety procedures are followed, this pathway is carried as insignificant.

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 RCRA Info 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 Gulf Coast Recycling facility, EPA ID # FLD 004 092 839, located at 1901 North 66th Street, Tampa, Florida, 33619 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)_____ Date _____
(print) Wesley S. Hardegree
(title) Corrective Action Specialist

Supervisor (signature)_____ Date_____
(print) Narindar M. Kumar
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ATTACHMENT 2
DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION
RCRA Corrective Action
Environmental Indicator (EI) RCRA Info Event Code (CA750)
Migration of Contaminated Groundwater Under Control

Facility Name: **Gulf Coast Recycling**
Facility Address: **1901 N 66th Street, Tampa, Florida**
Facility EPA ID #: **FLD 004 092 839**

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

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[5] 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):

Generally, groundwater flow in the Surficial and Floridan Aquifers are to the south, southwest and west. The most recent groundwater results from the February 2001 Quarterly Groundwater Monitoring Event Report indicate that releases of hazardous constituents have occurred. Releases from solid waste management units (SWMUs) and/or areas of concern (AOCs) have contaminated groundwater at concentrations above relevant action levels. Specifically, lead has been detected above its action level (15 ppb) in onsite and offsite monitoring wells installed in the Surficial Aquifer (see attached Plate 7 from the February 2001 Quarterly Groundwater Monitoring Event Report). The Surficial Aquifer consists of approximately 12 to 19 feet of unconsolidated sand.

Lead, at concentrations above its action level, has also been detected sporadically in wells which monitor the Floridan Aquifer. The Floridan Aquifer exists below the Surficial Aquifer. The Hawthorn Formation, a clayey segment at the bottom of the Surficial Aquifer and the top of the Tampa Formation, form a confining layer between the Floridan and Surficial Aquifers. No consistent lead concentrations above the action level have been detected in the Floridan Aquifer (see attached Figure 1 from the October 1996 letter of transmittal from GCR to Wesley Hardegree and Table 2 from the February 2001 Quarterly Groundwater Monitoring Event Report). Much of the earlier high lead content in Floridan monitoring wells (i.e., prior to around 1994) has been attributed to poor sampling protocols (i.e., aggressive purging/sampling techniques which increased sample turbidity).

In addition to releases of hazardous constituents which are regulated by the 1984 Hazardous and Solid Waste Amendments (HSWA), pH and sulfate concentrations well above local background levels also exist in both the Shallow Aquifer and the Floridan Aquifer.

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[5] "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"[7] 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"[7]).

____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[6]) - 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):

Surficial Aquifer (horizontal): Groundwater monitoring at Gulf Coast Recycling began back in the early 1980s. Comparison of monitoring lead results from November of 1992 to those results from February 2001 indicate that the lead plume has not increased in size over the past ten (10) years (see comparisons of attached Plate 4-6 from the 1997 Corrective Action Report with attached Plate 7 from the February 2001 Quarterly Ground Water Monitoring Event Report).

Comparison of sulfate data from 1992 and 1996 to sulfate data from 2001 show relative stability in areal extent (see attached Plates 4-3 and 4-4 from the 1997 Corrective Action Report and the comparisons between attached Plate 5 from the February 2001 Quarterly Groundwater Monitoring Event Report and attached Plate 5 from the November 2000 Quarterly Groundwater Monitoring Event Report).

Although the low pH location has shifted onsite over the years to the east, the general extent of the pH 6.0 line has remained stable over the years (see attached Plates 4-7 and 4-8 in the 1997 Corrective Action Report and the comparison between attached Plate 3 from the February 2001 Quarterly Groundwater Monitoring Event Report and attached Plate 3 from the November 2000 Quarterly Groundwater Monitoring Event Report).

During the last 1980s and early 1990s, a pump and treat system was operated around the onsite old battery disposal area. The system failed to meet expectations, partly due to problems with low recovery from the aquifer. Aquifer tests occurred and operational/effectiveness evaluations were performed. Based on this work, the system was subsequently shut down in the early 1990s.

The monitoring to date has basically determined the extent of contamination. This extent has been

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6 "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.

monitored over time. Based on this monitoring, EPA concludes that in the short term, lead (a hazardous constituent), pH and sulfate are not expanding horizontally.

Surficial Aquifer (vertically)/Floridan Aquifer: Vertically, pH and sulfate from the Surficial Aquifer is migrating through the confining layer and entering the underlying Florida Aquifer. However, when the pH and sulfate concentrations from 1997 through to 2001in Floridan wells are compared, there is little overall change in pH or sulfate concentrations in each well (i.e., the outer edge of the horizontal plume seems to have stabilized; see attached Table 2 from the February 2001 Quarterly Ground Water Monitoring Event Report and the comparison of attached Plates 4 and 6 from the February 2001 Quarterly Ground Water Monitoring Event Report and attached Plates 4 and 6 from the February 2000 Quarterly Ground Water Monitoring Event Report).

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): Impacted groundwater at Gulf Coast Recycling is not discharging into any surface water bodies (see 4/14/1997 Contamination Assessment Report).

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[8] 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[8] 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[8] 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[7] 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):_____

[7] 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[8])?

____ 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,[9] 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):_____
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[8] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refuge) 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.

[9] 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):

Gulf Coast Recycling has been undergoing Quarterly Groundwater Monitoring since November 24, 1997. Monitoring is set to continue indefinitely. As of the date of this EI Evaluation, the latest Quarterly Groundwater Monitoring Report available for review is dated February 2, 2001 (2nd Quarter, Year 4).

8. Check the appropriate RCRA Info 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 Gulf Coast Recycling facility , EPA ID # FLD004 092 839, located at 1901 North 66th Street, Tampa, Florida. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

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

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

Completed by(signature)_____ Date _____
(print) Wesley S. Hardegree
(title) Corrective Action Specialist

Supervisor (signature)_____ Date_____
(print) Narindar M. Kumar
(title) Chief, RCRA Programs Branch
(EPA Region or State) Region 4

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