

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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

Current Human Exposures Under Control

Facility Name: South Texas Redi-Strip  
Facility Address: 6565 U.S. Highway 87 East; San Antonio, TX 78222  
Facility EPA ID #: TXD980879076

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, GPRRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

**Duration / Applicability of EI Determinations**

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

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2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”<sup>1</sup> 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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater		X		See rationale below
Air (indoors) <sup>2</sup>		X		See rationale below
Surface Soil (e.g., <2 ft)		X		See rationale below
Surface Water		X		See rationale below
Sediment		X		See rationale below
Subsurf. Soil (e.g., >2 ft)		X		See rationale below
Air (outdoors)		X		See rationale below

- X
- If no (for all media) - skip to #6, and enter “YE” status code after providing or citing appropriate “levels”, and referencing sufficient supporting documentation demonstrating that these “levels” are not exceeded.
- If yes (for any media) - continue after identifying key contaminants in each “contaminated” medium, citing appropriate “levels” (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.
- If unknown (for any media) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

**FACILITY DESCRIPTION**

The South Texas Redi-Strip facility was formerly used as a commercial paint and rust stripping operation. Metal parts were dipped in a series of chemical baths to remove grease, rust and paint (Reference 3). The facility was located east of San Antonio in Bexar County (Reference 2).

The waste handling facilities consisted of three 1,000-gallon underground septic tanks, a subsurface adsorption field, a filter, an irrigation area and a tailwater berm (Reference 2). The wastewater from the rinsing of parts flowed into the three septic tanks. Water from the septic tanks was then withdrawn from the tanks, filtered and then returned to

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<sup>1</sup> “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).

<sup>2</sup> 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.

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the rinsing area for reuse. Excess wastewater that was produced was disposed of through a subsurface adsorption field and the surface irrigation area. The wastewater was filtered prior to irrigation (Reference 2).

An untitled and undated document addresses groundwater in the vicinity of the facility. The document records the facility's efforts to research groundwater availability, quality and usage in the area. According to the report, there is no groundwater above the Edwards aquifer at this site. The Edwards aquifer is very deep, with one driller estimating a depth of 1400 to 1600 feet. The Edwards is reportedly infiltrated with saline and sulphur and the facility is located within what is reported to be a "Bad water" zone (Reference 1).

During a site investigation on January 3, 1986, wastewater was observed discharging from the underground tanks and flowing offsite into an adjacent drainage ditch. Two samples were collected from the discharged wastewater, which had pooled in the adjacent drainage ditch, and one sample was collected from the irrigation wastewater. Results indicated that the samples were characteristically hazardous due to the EP Toxicity concentrations of lead being greater than 20 mg/l (Reference 2).

As a result of the observation of release and the sample results, the South Texas Redi-Strip was referred to the U.S. EPA for enforcement action on February 5, 1986 (Reference 5). The First Amended Complaint, Compliance Order and Notice of Opportunity for Hearing (Docket RCRA VI-715-H) was issued December 9, 1987. On May 14, 1987, South Texas Redi-Strip submitted a closure plan that proposed the removal of all hazardous waste and waste residues from the runoff area associated with the spray irrigation system and wastewater disposal system (Reference 7). The closure plan was approved by the TWC via letter on June 16, 1988 (Reference 7). The approval letter indicates that the closure plan, subject to modifications and adequate implementation, should provide reasonable assurance of effective industrial solid waste management (Reference 7).

A letter from Ralph de la Moriniere (a new owner of South Texas Redi Strip), dated December 7, 1988 references a Consent Agreement and Final Order, Docket Number RCRA VI-714-H and VI-715-H. However, no copy of this final order was found in available file materials. In the letter, Mr. de la Moriniere indicates that operations ceased at the South Texas Redi-Strip on April 1, 1988, the business was closed and hazardous wastes were disposed. A copy of an August 4, 1988 hazardous waste manifest showing the removal of D008 (lead) hazardous waste from the site, although the quantity of wastes could not be determined due to poor copy quality. He also indicated that the facility had complied with the TWC approved closure plan and all compliance orders of the Final order to complete their responsibilities (Reference 8).

According to Attachment 4 to the letter, the in-ground tanks were emptied and thoroughly cleaned. Twelve bore holes were drilled, from which three samples were taken. The samples were "thoroughly mixed" and leachate tests performed. Results indicated that the samples did not meet the criteria of hazardous wastes by the TCLP procedure. The sample report also shows analyses indicated total lead at 43 mg/kg and total chromium at 14 mg/kg. Additionally, a permeability test was performed on one sample, finding an average permeability of  $3.0 \times 10^{-9}$ . The facility concluded that no potential for migration was demonstrated with the testing. The letter further indicates that closure was completed and witnessed by representatives of TWC and Raba-Kistner consultants (Reference 8). There is no correspondence from the TWC or U.S. EPA to indicate approval of the closure in the available file materials.

Further correspondence indicates that the facility amended its closure plan on April 4, 1989 to include a three month in-situ soil treatment at the absorption field, and construction of a berm to prevent run off (Reference 9). The TWC approved this amendment in a letter dated May 18, 1989 (Reference 10). In a letter dated July 20, 1989, the facility indicated that two samples were collected from the absorption field and analyzed for total cresylic acid and dichlorobenzene (Reference 11). Sample results indicated that these constituents were non-detect [dichlorobenzene at <0.3 mg/kg and cresylic acid at <0.4 mg/kg] (Reference 11). The facility concluded that they had met all obligations regarding clean-up of the absorption field and demonstrated no migration potential. Additional correspondence between Ralph de la Moriniere and the Texas Water Commission indicates that the facility was

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inspected by TWC on June 14, 1989 (Reference 12). The Texas Water Commission acknowledges the July 20, 1989 letter in a response, and indicates it will review the closure, but does not accept closure of the site at that time (Reference 13). No further correspondence was found in the available file materials.

From the information reviewed in the file material, it appears that the site has been closed in accordance with the approved closure plan. However, a closure approval letter was not identified in the file materials reviewed.

**RATIONALE**

Groundwater: File records do not indicate any history of groundwater contamination. Groundwater in the vicinity of the plant appears to be at depths greater than 1000 feet and soil permeability has been demonstrated to preclude migration.

Air (indoors): There is no indication of volatile organic contamination at this site. Soils are of low permeability.

Surface Soil (e.g., <2 ft): Soil contamination occurred from the discharge of contaminated waste water to the adsorption field and runoff to the drainage ditch. It appears contaminated soils were removed through implementation of an approved closure plan. Chemical analysis indicates total lead, total chromium, dichlorobenzene, and cresylic acid were below risk-based levels after implementation of closure.

Surface Water: Releases to surface water did occur in the past. However, it appears contaminated soils were removed and the plant has ceased operations, effectively removing release sources.

Sediment: A release to a drainage ditch was documented; however, it appears contaminated soils were removed through implementation of an approved closure plan. The plant has ceased operations, effectively removing release sources.

Subsurf. Soil (e.g., >2 ft): Soil contamination occurred from the discharge of contaminated waste water to the adsorption field and runoff to the drainage ditch. It appears contaminated soils were removed through implementation of an approved closure plan. Chemical analysis indicates total lead, total chromium, dichlorobenzene, and cresylic acid were below risk-based levels after implementation of closure.

Air (outdoors): There is no history of air releases or volatile contaminants. The facility closed operations in 1988.

**REFERENCES**

1. History of Site, date unknown.
2. Correspondence between Phil Bynum of Texas Water Commission to Bill Brown of Texas Water Commission, RE: South Texas Redi-Strip Solid Waste Inspection, dated February 5, 1986.
3. Correspondence between Billy H. Boggs of Texas Water Commission to Bill Brown of Texas Water Commission, RE: South Texas Redi-Strip Solid Waste Enforcement Report, dated February 5, 1986.
4. Enforcement Screening Committee Action, dated March 25, 1986.
5. Correspondence between Phil Bynum of Texas Water Commission to Sam Pole of Texas Water Commission, RE: South Texas Redi-Strip Enforcement Compliance Status, dated February 6, 1987.
6. United States Environmental Protection Agency Region VI, First Amended Complaint, Compliance Order and Notice of opportunity for Hearing, dated December 9, 1987.
7. Correspondence between Bryan Dixon of Texas Water Commission to Ralph de la Moriniere of South Texas Redi-Strip, RE: Full Facility Closure Plan, dated June 16, 1988.
8. Correspondence between Ralph de la Moriniere of South Texas Redi-Strip to Bruce Jones and Christina Scully of the EPA, RE: Consent Agreement and Final Order, dated December 7, 1988.
9. Correspondence between Ralph de la Moriniere of South Texas Redi-Strip to David E. Smith and Sonia L.

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10. Ralls of Texas Water Commission, RE: Consent Agreement and Final Order, dated April 4, 1989.
10. Correspondence between Russell S. Kimble of Texas Water Commission to Ralph de la Moriniere of South Texas Redi-Strip, RE: South Texas Redi-Strip Closure Plan Amendment, dated May 18, 1989.
11. Texas Water Commission, Notice for Solid Waste Registration Number 34770, dated June 23, 1989.
12. Letter from Ralph de la Moriniere of South Texas Redi-Strip RE: Closure of South Texas Redi-Strip, dated January 15, 1990.
13. Correspondence between Russell Kimble of Texas Water Commission to Ralph de la Moriniere of South Texas Redi-Strip, RE: Full Facility Closure, Closure Certification Received, dated January 17, 1990.

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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)

<b>“Contaminated” Media</b>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation Food <sup>3</sup>
Groundwater						
Air (indoors)						
Soil (surface, e.g., <2 ft)						
Surface Water						
Sediment						
Soil (subsurface e.g., >2 ft)						
Air (outdoors)						

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors spaces for Media which are not “contaminated” as identified in #2 above.
2. Enter “yes” or “no” for potential “completeness” under each “Contaminated” Media -- Human Receptor combination (Pathway).

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

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

\_\_\_ If yes (pathways are complete for any “Contaminated” Media - Human Receptor combination) - continue after providing supporting explanation.

\_\_\_ If unknown (for any “Contaminated” Media - Human Receptor combination) - skip to #6 and enter “IN” status code.

Rationale and Reference(s):

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

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

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

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

—— If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

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<sup>4</sup> 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.

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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):

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6. Check the appropriate RCRAInfo 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 South Texas Redi-Strip facility, EPA ID # TXD980879076, located at 6565 U.S. Highway 87 East; San Antonio, TX 78222 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) \_\_\_\_\_  
                  (title) \_\_\_\_\_

Researched by    (signature) Elisa Durum Date June 1, 2006  
                  (print)       Elisa Durum  
                  (title)       TechLaw, Inc. (U.S. EPA Contractor)

Supervisor       (signature) \_\_\_\_\_ Date \_\_\_\_\_  
                  (print) \_\_\_\_\_  
                  (title) \_\_\_\_\_  
                  (EPA Region or State) \_\_\_\_\_

Locations where References may be found:

Texas Commission on Environmental Quality  
File Room, Building E  
12118 N IH 35  
Austin, TX 78753

Filed under:

34770

Contact telephone and e-mail numbers

(name) \_\_\_\_\_  
(phone #) \_\_\_\_\_  
(e-mail) \_\_\_\_\_

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

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Recommended Action Items:

Based on the available file materials, it appears the facility achieved closure through implementation of an approved closure plan. Further research may be warranted to ensure that closure at the site was approved and no further corrective action obligations were identified.