ENCLOSURE A

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

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

Current Human Exposures Under Control

Facility Name: HTSI
Facility Address: 4460 Singleton Boulevard, Dallas, Texas 75212
Facility EPA ID #: TXD980624035
TCEQ Solid Waste Registration ID #: 50029

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   X If yes - check here and continue with #2 below.

   _____ If no - re-evaluate existing data, or

   _____ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

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

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

	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			RFI ongoing; COCs above TRRP PCLs detected on-site and off-site; TRRP APAR submitted to TCEQ in Sep 2005; COCs include certain VOCs/Chlorinated Solvents, SVOCs, Metals, TPH
Air (indoors)[2]		X		Site surface RCRA clean-closed; site no longer in TSD use; all waste handling equipment dismantled, cleaned and disposed of or re-used per TCEQ-approved closure plan; site has concrete and asphalt paving
Surface Soil (e.g., <2 ft)	X			RFI ongoing; COCs above TRRP PCLs detected on-site, however, site paved with asphalt and concrete; TRRP APAR submitted to TCEQ in Sep 2005; COCs include certain VOCs/Chlorinated Solvents, SVOCs, Metals, TPH
Surface Water		X		COCs in affected soil and groundwater are not migrating to surface water; see Sep 2005 TRRP APAR
Sediment		X		COCs in affected soil and groundwater are not migrating to sediments; see Sep 2005 TRRP APAR
Subsurf. Soil (e.g., >2 ft)	X			RFI ongoing; COCs above TRRP PCLs detected on-site, however, site paved with concrete; TRRP APAR submitted to TCEQ in Sep 2005; COCs include certain VOCs/Chlorinated Solvents, SVOCs, Metals, TPH
Air (outdoors)		X		Site surface RCRA clean- closed; Site no longer in TSD use; all waste handling equipment dismantled, cleaned and disposed of or re-used per TCEQ-approved closure plan; site has asphalt and concrete paving

_____ 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): Site is a former RCRA TSD facility (RCRA permit issued in 1984) that has not been in such use since December 2004. RCRA clean-closure of surface units was conducted in 2005 per TCEQ-approved closure plan. As part of clean-closure of the surface, waste equipment and structures were decontaminated, and waste equipment was disposed of or re-used at other facility. Rinsate samples of equipment and structures were collected and results were within closure plan requirements. RCRA clean closure of the site's surface was approved by TCEQ- Industrial Hazardous Waste (IHW) Permits Section in May 2006. Site has concrete pavement. An RFI has been ongoing at the site under TCEQ-Corrective

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Action Section (CAS) oversight and approval. A TRRP Affected Property Assessment Report (APAR) was submitted to TCEQ-CAS in Sep 2005. TCEQ-CAS is reviewing the APAR and HTSI's response to comments (TCEQ comments received January 2006 and HTSI response submitted November 2006). **Relevant documents :** September 2005 APAR; November 2005 RCRA Closure Report; TCEQ-IHW Permits Section's January 2006 NOD letter and March 2006 response letter; TCEQ-IHW Permits Section's May 2006 RCRA closure approval letter; TCEQ-CAS' January 2006 APAR comment letter; HTSI's November 2006 Response Letter. **TCEQ Contacts**: Rebecca Hilton, TCEQ-CAS; Vaishali Tendolkar, TCEQ-IHW Permits Section.

Footnotes:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

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

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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)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	NO	NO	NO	NO	NO	NO	NO
~~Air (indoors)~~	___	___	___	___	___	___	___
Soil (surface, e.g., <2 ft)	NO	NO	NO	NO	NO	NO	NO
~~Surface Water~~	___	___	___	___	___	___	___
~~Sediment~~	___	___	___	___	___	___	___
Soil (subsurface e.g., >2 ft)	NO	NO	NO	NO	NO	NO	NO
~~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.

__X__ 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): Site is a permitted, former RCRA TSD facility that has not been in such use since December 2004. RCRA clean closure of surface units was conducted in 2005 per the facility permit and a TCEQ-approved closure plan. As part of clean-closure of the surface, waste equipment and structures were decontaminated, and waste equipment was disposed of or re-used at other facility. Rinsate samples of equipment and structures were collected and results were within closure plan requirements. RCRA clean closure of the site's surface was approved by TCEQ- Industrial Hazardous Waste (IHW) Permits Section in May 2006. Site has concrete and asphalt pavement. Soil COCs exceeding applicable TRRP PCLs are restricted to on-site areas and are under concrete paving. COCs exceeding TRRP PCLs were detected in on-site and off-site groundwater. Affected groundwater is present within a narrow (~200-ft wide) sandy/gravelly channel within a confined-alluvial saturated zone present in the 24 to 58-foot depth range, overlain by a 24 to 45-ft thick silty/clayey unsaturated zone (Quaternary Alluvium), and underlain by a 300 to 400-ft thick shale and clay unit of low-permeability (Eagle Ford Shale). On-site contaminated groundwater is present under pavement and clayey soil. There is no known domestic, agricultural, or

industrial use of the contaminated groundwater zone within the affected property (on-site or off-site) and off-site contaminated groundwater is isolated within the 24 to 58-foot depth interval with clayey soil unaffected by HTSI operations overlying it (see Sep 2005 APAR for further details). Off-site property owners were notified of RFI/TRRP activities and findings in 2005, as required by TRRP. HTSI is awaiting TCEQ-CAS approval of the APAR before submitting a Response Action Plan (RAP) to address contaminated media.

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

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

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

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

Rationale and Reference(s): Exposure pathways are incomplete; see response to Item 3 above.

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[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.

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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): Not applicable; no complete exposure pathways; see response to Item 3 above

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

_x_ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the HSTI facility, EPA ID #TXD980624035, located at 4460 Singleton Boulevard, Dallas, TX 75212 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) [signature] Date 2/9/2009
(print)Lesley Williamson
(title)TCEQ Project Manager

Supervisor (signature) [signature] for M. [illegible] Date 2/9/09
(print)
(title) CA Prog. Manager
Texas Commission on Environmental Quality

Locations where References may be found:

TCEQ Central Records, Austin, TX

Contact telephone and e-mail numbers:

Project Manager listed above
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Final Note: The purpose of the Human Exposures EI is to qualitatively screen exposures based on current land and groundwater use. A "YE" determination does not constitute a screening tool that ends the corrective action process. The "YE" determination may be changed at any time as new information becomes available.