

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: Schlumberger Technology Corporation
Facility Address: 1129 FM, 1776, Fort Stockton, TX 50327
Facility EPA ID #: TXD987988318

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).

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
Page 2

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)?

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

- 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

Schlumberger Technology Corporation is the owner and operator of Schlumberger Well Service Perforating Testing, which is located at 1129 FM 1776, Fort Stockton, Texas. Based on limited file information the facility appears to be a small, active Treatment, Storage and Disposal Facility (TSDf), that stores and processes RDX class explosives used in the oilfields. The hazardous waste permit number is 50327. The facility thermally treats shaped charges by acidizing and or fracturing. Shaped charges are received by the facility and temporarily stored in storage areas on-site (Reference 3).

Processing begins with sorting of material, useable charges are returned to the customer while un-useable wastes are

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.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
Page 3

placed in the two permitted container units. Batches of charges are assembled to be burned in 12 separate thermal treatment units. After placement in the units, diesel soaked cardboard is used to initiate the burning process which is controlled electronically from a remote bunker. The burn process lasts for approximately fifteen minutes. Once completed, metal shells are stored in a roll-off box and sent to a metal recycler (Reference 3).

There are four container storage areas (CSA), referred to as Storage Magazine A, B, C and D used to store hazardous wastes and one non-hazardous wastes storage area (Reference 2). In addition, based on a permit modification dated December 30, 2004, which re-classified the 12 thermal treatment units into one Miscellaneous Thermal Treatment Unit (Subpart X), there is one subpart X unit. This modification was approved in a letter dated February 7, 2005. There is very limited information on the hazardous waste CSAs, other than to indicate that the units are BATF approved explosive magazine designs. All permitted units are located on the east side of the office building. CSA A, C, and D have a design capacity of 48,000 pounds each, and CSA B as a design capacity of 9,700 lbs.

The miscellaneous unit consist of 12 identical carbon steel containers, each 36.25 inches high and 36 inches in diameter, and 42-inches high, with a concrete containment area that is 72 inches in diameter all on a 56 long, 50 feet wide and 4 inch high concrete pad. This means the units have double containment (Reference 1).

According to the RCRA Comprehensive Corrective Action Report, run on December 28, 2005 the RFA was completed on September 30, 1993, and there was a determination that there was no need for an RFI (Reference 4).

The most recent compliance inspection at this site is dated November 17, 2005 (Reference 3), and resulted in no violations identified. In a telephone conversation, Mr. Ralph Johnson, TEQ Inspector, confirmed that there is no history of release at the facility and no on going corrective action. The site is small, well-contained and well managed. There is good security, with perimeter fencing and gates equipped with cameras. The site is posted in accordance with permit requirements. The facility is in the process of replacing concrete that has begun to weather. There are negligible emissions from the operations (Reference 6).

RATIONALE

There is no history of release to any environmental media found in the available file materials. The container storage areas are of a secure design and meet ATF requirements for storage of explosives. Therefore the design should not allow releases to the environment under normal operating conditions. In addition, the miscellaneous unit has a double secondary containment system design, which is designed in a manner to prevent discharge into the groundwater and surface waters. Emissions from the Subpart X unit are reported to be negligible.

REFERENCES:

1. Letter to Mr. Vadim Akhmadikin, Schlumberger Tech. Corp.: from Texas Commission on Environment Quality; Regarding Transmittal of Class 1 Permit Modification; dated February 7, 2005.
2. Letter to Mr. Vadim Akhmadikin, Schlumberger Tech. Corp.: from Texas Commission on Environment Quality; Regarding Transmittal of Class 1 Permit Modification Addendum; dated May 11, 2005
3. Texas Commission on Environment Quality Investigation Report; # 437693, conducted November 17, 2005.
4. RCRAInfo Comprehensive Corrective Action Report; Run on December 28, 2005.
5. RCRAInfo Comprehensive Permitting Report; Run on January 3, 2006.
6. Communication Log; Telephone Conversation; Mr. Ralph Johnson, TCEQ Inspector; with Ms. Ann Anderson, TechLaw, Inc.; Regarding Schlumberger Facility; dated June 16, 2006.
7. Partial facility map

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
Page 4

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							
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):

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

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
Page 5

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):

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.

Current Human Exposures Under Control
Environmental Indicator (EI) RCRAInfo code (CA725)
Page 6

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):

