SWR# 31661

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: American Chrome & Chemicals L.P. (Former Elementis Chromium L.P.)
Facility Address: 3800 Buddy Lawrence Drive, Corpus Christi, Texas 78407
Facility EPA ID #: TXD 098818339

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).

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			See comments 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)				

____ 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):

Waste Residue Areas, 1,2,3,4, and 5 (west of Cantwell Lane): Closure approved by TCEQ on February 21, 1990 approved closure of facility wastes (solids & contaminated soils) in place. Groundwater to the west of Cantwell Ln. is undergoing a Class V pilot study to reduce the Hexavalent Chromium to less than Commercial PCLs for Class 3 Groundwater. Company to Self Implement Remedy Standard A to reduce Hex Chromim west of Cantwell Ln. to closure acceptable levels for groundwater. All contaminated groundwater is contained on site. No documented releases to the CC ship channel have been reported for the entire site since construction and modification to the Cofferdam located east of Cantwell Lane. EPA is currently evaluating remedy selection and construction for chromium contaminated areas east of Cantwell Lane in accordance with EPA Adm. 7003 Order of 2002 issued to Elementis. EPA will then evaluate attainment of GPRA Codes 400 and 550 Codes (Remedy Selection and Construction).

Groundwater is Class III due to high TDS. All groundwater, west and east of Cantwell Lane is sampled quarterly to confirm the stability and containment of the Hex. Chromium, NAPL, and dissolved Benzene. The latest GW Report submitted by Elementis, dated April 14, 2006 continues to indicate site wide control of hexavalent chromium with all plume perimeter wells reporting Hex Chrome well below the Tier 1 Aquatic Surface Water Risk-Based Exposure Limits (SW RBELs) considering no dilution. The latest GW Report submitted by El Paso Corporation, dated March 15, 2006 continues to indicate site wide control of the NAPL and dissolved benzene plumes adjacent to the Cofferdam. Specifically, monitor well OWU38, located adjacent and west of the Coffer Dam reported dissolved benzene less than method detection of <.005, well below the Residential/Commercial Groundwater Ingestion Tier 1 PCL. The Cofferdam GW Recovery system is designed to maintains hydraulic control of NAPL and Chromium plumes from entering the Corpus Christi Ship Channel. Daily visual inspection of surface water adjacent to the Cofferdam also indicates no release of NAPL to the Ship Channel. No drinking water wells area located withing 4 miles of the facility. The Corpus Christi Ship Channel is not predominately used for human recreation.

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.

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	N	N	N	N	N	N	N
~~Air (indoors)~~							
~~Soil (surface, e.g., <2 ft)~~							
~~Surface Water~~							
~~Sediment~~							
Soil (subsurface, e.g. >2ft.	N	N	N	N	N	N	N
~~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):

Waste Residue Areas, 1,2,3,4, and 5 (west of Cantwell Lane): Closure approved by TCEQ on February 21, 1990 approved closure of facility wastes (solids & chromium waste contaminated soils) in place with engineered cover. All chromium contaminated groundwater is contained on site. Groundwater is Class III due to high TDS. No drinking water wells area located withing 4 miles of the facility. The Corpus Christi Ship Channel is not predominately used for human recreation. No documented releases to the CC ship channel have been reported for the entire site since construction and modification to the Cofferdam located east of Cantwell Lane. The Cofferdam GW Recovery system is designed to maintains hydraulic control of NAPL and Chromium plumes from entering the Corpus Christi Ship Channel. Daily visual inspection of surface water adjacent to the Cofferdam also indicates no release of NAPL to the Ship Channel.

3." complete pathways" Continued...

All groundwater, west and east of Cantwell Lane is sampled quarterly to confirm the stability and containment of the Hex. Chromium, NAPL, and dissolved Benzene. The latest GW Report submitted by Elementis, dated April 14, 2006 continues to indicate site wide control of hexavalent chromium with all plume perimeter wells reporting Hex Chrome well below the Tier 1 Aquatic Surface Water Risk-Based Exposure Limits (SW RBELs) considering no dilution. The latest GW Report submitted by El Paso Corporation, dated March 15, 2006 continues to indicate site wide control of the NAPL and dissolved benzene plumes adjacent to the Cofferdam. Specifically, monitor well OWU38, located adjacent and west of the Coffer Dam reported no NAPL and dissolved benzene less than method detection of <.005, well below the Residential/Commercial Groundwater Ingestion Tier 1 PCL.

EPA is currently evaluating remedy selection and construction for chromium and NAPL contaminated areas east of Cantwell Lane in accordance with EPA Adm. 7003 Order(s) of 2002 issued to Elementis and El Paso Corporation. EPA will then evaluate attainment of GPRA Codes 400 and 550 Codes (Remedy Selection and Construction).

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

]

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.

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 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 American Chrome & Chemicals (formerly Elementis Chromium LP, TXD098818339, located in Corpus Christi, TX 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) Todd Counter Date 2/9/07
(print) C. Todd Counter
(title) **Project Manager**

Supervisor (signature) Jason Wang Date 2/9/07
(print) Jason Wang
(title) Supervisor
Texas Commission on Environmental Quality

Locations where References may be found:

TCEQ Central Records, Austin, Texas

Contact telephone and e-mail numbers:

Project Manager listed above
(512) 239-2591
corract@tceq.state.tx.us

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.