

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: Chevron Products Company El Paso Refinery
Facility Address: 6500 Trowbridge Drive, El Paso, Texas 79905
Facility EPA ID #: TXD007399637

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, 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)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>X</u>	—	—	<u>BTEX, and VOCs</u>
Air (indoors) ²	—	<u>X</u>	—	—
Surface Soil (e.g., <2 ft)	<u>X</u>	—	—	<u>BTEX, VOCs, PAHs and metals</u>
Surface Water	—	<u>X</u>	—	—
Sediment	—	<u>X</u>	—	—
Subsurf. Soil (e.g., >2 ft)	<u>X</u>	—	—	<u>BTEX, VOCs, PAHs and metals</u>
Air (outdoors)	—	<u>X</u>	—	—

_____ 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): **BTEX, VOCs, PAHs, and metals are above MCLs and/or PCLs in referenced media.**

References: 1) 2003 Annual Hydrocarbon Monitoring Report, dated 7 April 2004. 2) Final Closure Report for SWMUs H and U - Risk Reduction Standard No. 3, dated 19 September 2003. 3) Final Closure Report for SWMUs 1, I, J, K, L, UV, V and AOC 2 - Risk Reduction Standard No. 2, Volumes I and II, dated 12 September 2003. 4) Final Closure Report for SWMUs N, 10, W16, and AOC 1 - Risk Reduction Standard No. 2, dated 15 August 2003. 5) Final Closure Report for SWMU F, and AOC 8 - Risk Reduction Standard No. 2, dated 15 August 2003. 6) Final Closure Report for SWMU E - Risk Reduction Standard No. 2, dated 30 May 2003. 7) Final Closure Report for SWMU 3, P, Q and AOC 9 - Risk Reduction Standard No. 2, dated 15 August 2003. 8) Response Action Completion Report For SWMUs X and Y, dated 22 August 2003. 9) Response to Comments to 25 February 2003 Affected Property Assessment Report - SWMUs X and Y, dated 18 August 2003. 10) TCEQ Agreed Order, Dated 11 October 1988. 11) RFI Phase IIB Workplan, Dated 22 December 1997. 12) RFI Phase IIB Report, Dated 3 October 2000. 13) Corrective Measures Study Monitoring Program Report, Dated 26 September 2001. 14) Health Based Risk Assessment for Chevron USA Products Company, El Paso, Dated October 1993. 15) Risk Reduction Evaluation Report for SWMUs G and R, and AOC 05, Dated 9 July 2002 16) Risk Reduction Evaluation Report for SWMUs M, O, and 12, and AOCs 3,4,6, and 7, Dated 26 September 2002. 17) Interim Stabilization Measures Report for SWMU 3, Dated 18 March 2002. 18) Interim Stabilization Measures Report for SWMU 12, Dated 30 November 2001.

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	Yes	No	No			No
Air (indoors)							
Soil (surface, e.g., <2 ft)	No	Yes	No	Yes	No	No	No
Surface Water							
Sediment							
Soil (subsurface e.g., >2 ft)				Yes			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.

- _____ 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).
- 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): **References see response to Number 2 above.**

- **The potential exposure from surface and subsurface soils to company worker or construction workers is considered to be insignificant because of the controls in place at the facility that restrict access to the soil contamination.**
- **Current OSHA health and safety protocols are in place at the facility to manage potential exposures to soils during construction activities and exposure to groundwater during sampling activities and handling of contaminated groundwater.**
- **Manned guard gates control access to the facility. Therefore, potential trespassers and recreational exposure scenarios are highly unlikely.**

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)?

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): **References see response to Number 2 above.**

- **The potential exposure from surface and subsurface soils to company worker or construction workers is considered to be insignificant because of the controls in place at the facility that restrict access to the soil contamination.**
- **Current OSHA health and safety protocols are in place at the facility to manage potential exposures to soils during construction activities and exposure to groundwater during sampling activities and handling of contaminated groundwater.**
- **Manned guard gates control access to the facility. Therefore, potential trespassers and recreational exposure scenarios are highly unlikely.**

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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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):

- 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 **Chevron Products Company El Paso Refinery** facility, EPA ID # **TXD007399637**, located at **6500 Trowbridge Drive, El Paso, Texas** 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: 08-11-2004
(print) Maureen Hatfield
(title) Project Manager

Supervisor (signature) _____ Date: 08-11-2004
(print) Donald Boothby
(title) Supervisor Team Leader ,
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) 239-2343
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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.