SWR # 63003
CAS # 9200
PROJ. MGR Arthur
Interim Final

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REMEDIATION DIVISION
Corrective Action Section

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERM.

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

Current Human Exposures Under Control

Facility Name: United States Army Air Defense Center & Fort Bliss
Facility Address: Fort Bliss, Texas 79916
Facility EPA ID #: TX4213720101

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.

Rmp 3978

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).

p1-5 are revised, updated versions of pages originally completed in May 2000. Changes are based on documentation submitted in 2002.

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			Hydrocarbons
Air (indoors)[2]		X		
Surface Soil (e.g., <2 ft	X			Barium, cadmium, chromium, lead, explosives
Surface Water		X		
Sediment		X		
Subsurf. Soil (e.g., >2 ft)	X			Barium, cadmium, chromium, lead, explosives & hydrocarbons
Air (outdoors)		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.

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): **The results from a late November testing event at FTBL-072, OB/OD Pit B-1 on the closed Castner Firing Range, have recently been sent to Ft. Bliss in Draft form. However preliminary indications are that the following hazardous constituents are present above appropriate levels.**

Barium: 36.3 mg/kg to 893 mg/kg above GWP-Ind. MCLs but below SAI-Ind MSCs
Cadmium: <0.25 mg/kg to 8.56 mg/kg above GWP-Ind. MCLs but below SAI-Ind MSCs
Chromium: 4.42 mg/kg to 10.5 mg/kg above GWP-Ind. MCLs but below SAI-Ind MSCs
Lead: 11.2 mg/kg to 12,100 mg/kg above both GWP-Ind. MCLs and SAI-Ind MSCs
Explosives above RRS2 MSCs
The hydrocarbons in the groundwater is in perched non-usable aquifers and comes from LUSTs
The hydrocarbons in the subsurface soils are from the same sources, LUSTs

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	___	___	___	___			___
Air (indoors)	___	___	___				
Soil (surface, e.g., <2 ft)	X	___	___	___	X	___	___
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).

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): Although the Castner Range area is partially fenced, trespassing still occurs by dirt bikers, hikers and children from a near by civilian housing area (w/i 1 mile of site). Two "possible" complete human pathways could exist:

1. High winds occur in this area and fine particles "could" blow into the housing area from this site.
2. Another possible scenario is children trespassing on the range could play around this site because the pit is formed of concrete and could draw children to it.

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

7/12/02 Remedial Action has been completed at OB/OD Pit B/1 (see RACR dated November 2001) so exposure from wind blown dust is no longer a pathway. See attached document

(2) Ft. Bliss has submitted documentation ~~which~~ concerning additional Ft. Bliss action to prevent trespassing. Allan Posnick 7/12/02 see attached Ft. Bliss letter & document log.

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."

_X_ 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): **The pathway of concern is ingestion of lead contaminated soil. This is possible ,either from wind borne dust or from personnel playing around the site or digging for shell fragments to keep as a souvenir. Contamination of groundwater (GWP-Ind MSCs) is not perceived to be a problem by the metals or explosives This is supported by two facts: #1 is the test results indicate that subsurface contamination levels are less than the surface levels , indicating that there has not been a driving force (such as excessive rain) in the past thirty six years to push these metals more that a few feet below ground level. . The second fact is that the depth of groundwater in this area is generally +/- 350 to 400 feet below the surface level**

See comment for No. 3.

[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?

changed to yes on 7/12/02 See comment for No. 3 Allen Research

X — 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

See comment on previous page

Rationale and Reference(s): **Lead levels in the 12,100 mg/kg range and TCLP levels above 5.0 mg/L are indicative of hazardous waste. Therefore money must found to provide interim corrective action at this site. This would probably consist of 6 foot chain-link fencing and a temporary cover (plastic sheeting covered with a aggregate cover layer. Later a full corrective action to remove the contaminated soil to background and the removed soil disposed of properly.**

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 Fort Bliss facility, EPA ID # TX4213720101, located at 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) Allen E Posnick Date 7/12/02
(print) Allen E. Posnick
(title) DSMOA Program Manager

Supervisor (signature) [signature] Date 8/30/2002
(print) ARTHUR RAHTMAN
(title) Manager
(EPA Region or State) CA Section

Locations where References may be found:

Attach a copy of this facility's database printout. Highlight the reports which support the "YE" determination. See attached

Contact telephone and e-mail numbers

(name) David Dodge
(phone #) 915-568-7979
(e-mail) dodged@emh10.bliss.army.mil

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.