**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: **Watson-Standard Company**
Facility Address: **616 Hite Road Harwick, Pennsylvania 15049**
Facility EPA ID #: **PAD 004397030**

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).

**Current Human Exposures Under Control**
**Environmental Indicator (EI) RCRIS code (CA725)**


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** | | No record of contamination. |
| Air (indoors) [2] | | **X** | | No record of contamination. |
| Surface Soil (e.g., <2 ft) | | **X** | | No record of contamination. |
| Surface Water | | **X** | | No record of contamination. |
| Sediment | | **X** | | No record of contamination. |
| Subsurf. Soil (e.g., >2 ft) | | **X** | | Releases were addressed and remediated. |
| Air (outdoors) | | **X** | | No record of contamination. |

**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):**

During the UST farm closure activities, PADEP inspected the facility and sampled subsurface water from the tank excavation trench. Analytical results indicated the presence of organic contaminants in the water samples. A subsequent subsurface investigation was conducted to determine the extent of any residual contamination in the vicinity of the former UST farm. Several synthetic organic chemicals were detected during the subsurface investigation.

[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.

Sample results of the water in the trenches revealed organic contaminants, including: xylenes, trimethylbenzene, isomers, naphthalene, trimethylcyclohexanone, and trimethylpentanediol. The source of the trimethylcyclohexanone and trimethylpentanediol was never determined. According to the REMCOR report, Watson-Standard representative indicated that trimethylcyclohexanone, and trimethylpentanediol were not stored in the tanks.

The objective of the subsurface investigation, conducted by REMCOR, was to define the extent of contamination associated with this SWMU. Most of the field investigation activities were conducted on May 8, 1986. Eight shallow test borings were drilled within and adjacent to the former UST area. These borings were terminated above the saturated zone. Six soil samples and one groundwater sample were analyzed for purgeable aromatics (i.e., benzene, toluene, and xylenes).

The analyses revealed that some solvent contamination was present in the area of the excavated tanks but not in the soil samples beneath or adjacent to the excavation. Analysis of fill from the excavated tank area showed xylene present at 3.9 parts per million (ppm) in soil and 4.5 ppm in subsurface water. Other contaminants present were benzene at 162 parts per billion (ppb) and tetrachloroethylene at 675 ppb in subsurface water. No contamination was detected in five soil samples from beneath and adjacent to the excavated tank areas.
It should be noted that the former outdoor drum storage area was located on top of the underground tank storage area that was remediated. Therefore, it is presumed that the tank remediation work took care of both solid waste management units.

No groundwater samples were obtained from the underlying confined groundwater aquifer during this investigation. The groundwater sample referenced above was collected from a boring within the excavated tank area. The REMCOR report indicated that perched water does not appear to be interconnected to regional groundwater in the underlying confined aquifer. The report also noted a lack of groundwater discharge points in the direction of the surface slope (south of the former USTs towards the railroad tracks). The REMCOR report concluded that additional remedial action was not required. A letter from PADEP on July 21, 1986 indicated that no additional removal was warranted because 1) xylene contamination levels are less than 5 ppm, 2) the contamination is localized, and 3) the contamination does not appear to have affected the groundwater in the area. A 65 by 200 foot concrete pad currently covers the former UST area.

According to the 1991 SI report, the facility had no reportable spills outside the warehouse, but several small leaks or spills have occurred inside the warehouse. These spills were reportedly cleaned with oil-dry or rags and disposed of as solid hazardous wastes D001 or F003. During the October 29, 2007 site visit, Watson-Standard representatives stated that there have been no reportable releases since 1991.

Currently, hazardous waste drums are stored indoors in proper containment. There are current plans to improve the integrity of a berm of the concrete pad near the outside storage pad. The facility is enclosed by a locked fence and under supervision of facility personnel. The building is protected by a security system. Visitors are required to sign in and are escorted by facility personnel at all times. According to available records and following site visit discussions and an evaluation of facility operations, there have been no reportable releases, no current instances or evidence of soil or groundwater contamination or site remediation. There has not been any recent or planned soil sampling or groundwater monitoring efforts.

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.

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):**

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):

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.

**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 **Watson-Standard Company** facility, EPA ID # **PAD 004397030**, located at **616 Hite Road Harwick, Pennsylvania 15049** 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) /s/ Date 12/15/2008

(print) Griff Miller

(title) Remedial Project Manager

Supervisor (signature) /s/ Date 12/15/2008

(print) Paul Gotthold

(title) Associate Director, Office of Pennsylvania Remediation

(EPA Region or State) EPA Region III

Locations where References may be found:

USEPA Region III
Land and Chemicals Division
1650 Arch Street
Philadelphia, PA 19103

PADEP
Southwest Regional Office
400 Waterfront Drive
Pittsburgh, PA 15222

Contact telephone and e-mail numbers
(name) Griff Miller
(phone) 215-814-3407
(email) miller.griff@epa.gov

**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.**