

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: Gorell Enterprises, Inc. (formerly Season All Industries, Inc.)
Facility Address: 1380 Wayne Avenue, Indiana, PA 15701
Facility EPA ID #: PAD008964868

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, 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 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	X			VOC conc. above health-based screening levels
Air (indoors) ²		X		Air samples below industrial screening levels
Surface Soil (e.g., <2 ft)		X		Arsenic and PAHs - no RCRA releases
Surface Water		X		No contamination above screening levels
Sediment		X		Arsenic and PAHs - no RCRA releases
Subsurface. Soil (e.g., >2 ft)		X		Arsenic and PAHs - no RCRA releases
Air (outdoors)		X		Air sample below industrial and residential screening levels

_____ 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 Gorell Enterprises, Inc. facility is located on a 17-acre site at the northeast corner of Wayne Avenue and Indiana Springs Road in Indiana, Pennsylvania. Vinyl replacement windows are currently manufactured at the site. The site was formerly operated as an aluminum fabrication facility, starting in 1947. Several environmental investigations have been conducted at the site, including sampling by EPA/PADEP. A groundwater pump and treat system has been in operation since 1995. This remediation was initiated by the facility to address groundwater contamination beneath the site.

GROUNDWATER

VOC contamination - Groundwater is contaminated with several VOC chemicals above the EPA Drinking Water Maximum Contaminant Levels (MCLs). For chemicals without established MCLs, contaminants were screened against the Region 3 Risk-Based Concentrations (RBCs) for tap water. The concentrations exceeding the MCLs for the two most contaminated wells are given below (10/03 data).

<u>Well</u>	<u>Contaminant</u>	<u>Groundwater Concentration (ppb)</u>	<u>MCL (ppb)</u>
ESC-122	1,1,1-Trichloroethane	1,850	200
	1,1-Dichloroethene	655	7*
	Ethylbenzene	1,600	700
	Vinyl Chloride	4	2
IMW-7	1,1,1-Trichloroethane	450	200

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1,1-Dichloroethene	230	7*
1,2-Dichloroethane	16	5
cis-1,2-Dichloroethene	110	70
Trichloroethene	490	5
Vinyl Chloride	10	2

* Although the MCL for 1,1-Dichloroethene is set at 7ppb, the RBC for tap water has been increases to 350 ppb.

SVOC contamination - Bis(2-ethylhexyl)phthlate was detected at or above the MCL of 6 ppb in several on-site wells and one off-site well (commercial property). The contaminant was also detected in the field blanks and rinsate blanks. The results of the 2/04 sampling showed concentrations in duplicate samples to be below the MCL of 6 ppb.

<u>Sample</u>	<u>Bis(2-ethylhexyl)phthlate concentration</u>
On-site Well (IMW-16)	11ppb
Off-site Well	11ppb
Field Blank	3ppb
Rinsate blank	6ppb

AIR

Indoor - Soil and groundwater beneath the facility are contaminated with VOCs. Highest concentrations are located beneath and adjacent to the production building. Air samples were taken in the production area directly above the contaminated area, in the adjacent production area, and at an outdoor location (background). The contaminants beneath the building are no longer used in the production process, therefore, indoor air concentrations of contaminants are likely to originate from subsurface migration. Contaminant levels were screened against PADEP Act 2 Non-residential Medium Specific Concentrations (MSCs) for Indoor Air exposure. PADEP Act 2 screening levels are determined to be the most appropriate screening values since EPA non-residential screening values are not available and OSHA standards may not be protective for all industrial exposures. Reference: PADEP Land Recycling Program Technical Guidance Manual-Section IV.A.4 Vapor Intrusion into Buildings from Groundwater and Soil under the Act 2 Statewide Health Standard (Document Number: 253-0300-100/FINAL).

Indoor air samples were analyzed for VOC analytes, including all volatile chemicals detected beneath the building slab. No chemicals were detected above the PADEP Act 2 Non-residential MSCs. The Target Chemical concentrations and the Act 2 screening levels are presented below. The Target Chemicals are those volatile chemicals detected beneath the production building.

<u>Target Chemical</u>	<u>Indoor Air - Maximum detected level (ug/m3)</u>	<u>PADEP Act 2 Non-residential MSC (ug/m3)</u>
Vinyl Chloride	0.72	9.5
1,1-Dichloroethene	6.4	580
1,1,1-Trichloroethane	12	6,100
Trichloroethene	4.2	48
Tetrachloroethene	Not Detected	140
Ethyl Benzene	10	73
m,o,p-Xylene	49	300
Naphthalene	Not Detected	8.8

Indoor air concentrations exceeded 5 of the EPA Region 3 Risk-Based Concentration screening levels for residential exposure, including two Target Compounds (vinyl chloride and trichloroethene). The concentrations

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exceeded one of the PADEP Act 2 MSCs for residential exposure, with no Target Compounds exceeding those screening levels. Since the facility is currently an operating industrial plant, the non-residential screening levels are most appropriate for this site.

Outdoor - The outdoor air concentrations were below the screening values for non-residential exposure (PADEP Act 2) and residential exposure (EPA RBCs and PADEP Act 2).

SOIL

Soil samples were analyzed for VOC, SVOC, metals, PCBs and cyanide. Data from 30 locations, at depths ranging from the surface to 12 feet deep, were evaluated against EPA Region 3 Industrial Soil Risk-Based Concentration (RBC) screening levels and PADEP Act 2 non-residential screening levels. Arsenic and several PAH compounds were detected above EPA Industrial Soil RBC screening levels. No constituents exceeded the PADEP ACT 2 non-residential screening levels.

Arsenic - Arsenic was detected at low levels in most of the samples. Arsenic concentrations ranged from below detection (<0.2ppm) to 17 ppm. The average Arsenic concentration in the 11 surface soil samples (0 to 2 feet deep) was 6.1 ppm. The average concentration in the 19 subsurface soil (> 2 feet deep) was 7.0 ppm.

Ar surface soil average:	6.1 ppm
Ar subsurface soil average:	7.0ppm
EPA Industrial Soil RBC screening level:	1.9ppm
PADEP non-residential screening level:	53ppm

Arsenic is not associated with past or present operations at the facility. Given the low levels present and the homogeneous distribution across the site, the detected arsenic is likely to be naturally occurring.

PAH Compounds

One (of 11) surface soil sample contained 5 PAH compounds above the EPA Industrial Soil RBC screening levels. This sample, FDS-SS, was taken at the perimeter of the property, adjacent to a State Highway 119 and a abandoned railroad track. The location of the sample indicates that the contamination is not related to site activities. Average surface soil concentrations were below the screening levels.

SURFACE WATER AND SEDIMENT

Surface water and sediment samples show no impact from on-site activities. Samples were taken upstream, on-site, and downstream of the facility. For the purpose of a human health impact assessment, the results were screened against drinking water standards for surface water and residential soil screening levels for sediment. Although drinking water standards were used as a screening tool, the stream is not used as a drinking water supply.

Surface Water - No contaminants above screening levels were detected.

Sediments

PAH compounds were detected in sediment samples at all three locations. Concentrations in the upstream samples were 2 to 3 times higher than the other samples. The upstream sample location is adjacent to a railroad track and State Highway 119. Concentrations of PAH compounds ranged from non-detect to 3 mg/kg (fluoranthene). Upstream sample concentrations indicate that the contamination is not originating on-site.

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Arsenic concentrations exceeded the screening levels in all three samples. The upstream sample contained the highest concentration, 17 mg/kg of Arsenic. The on-site and down stream samples contained 14 mg/kg and 10 mg/kg, respectively. Upstream sample concentrations indicate that the contamination is not originating on-site.

References:

Gorell Enterprises Sampling Trip Report for February 2004 Groundwater, Residential Well, and Air Sampling Event, prepared by Tetra Tech FW, Inc., April 19, 2004

Gorell Enterprises Sampling Trip Report for September 2003 Groundwater, Residential Well, and Soil Sampling Event, prepared by Tetra Tech FW, Inc., December 1, 2003

Site Investigation Activities, Gorell Windows and Doors Facility, prepared by Earth Sciences Consultants, Inc., March 18, 2003

Evaluation of Environmental Conditions, Gorell Windows and Doors Facility, prepared by Earth Sciences Consultants, Inc., October 23, 2002

Environmental Indicator Inspection Report for Season-All Industries, prepared by US Army Corps of Engineers for EPA, November 2001.

Site Inspection Prioritization (SIP) Final Report, Season All Industries, Incorporated, prepared by Halliburton NUS for EPA Corporation, October 3, 1995

Phase II Investigation of the Season-All Industries Facility, prepared by Dames & Moore, March 22, 1994

Site Inspection of Season All Industries, prepared by NUS Corporation for EPA, July 12, 1989

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)

<u>“Contaminated” Media</u>	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	no	no	no	no	==	==	no
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.

 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):

GROUNDWATER

Groundwater is not used by Gorell Industries or the surrounding facilities. They use water from the public water supply. A well survey and follow-up phone calls identified the properties within a one-half mile radius that use groundwater as a potable water supply. Two down-gradient wells were identified, one commercial and one residential. The wells were sampled and analyzed for VOCs, SVOCs, metals, and cyanide. Detected contaminants were screened against the EPA Drinking Water Maximum Contaminant Levels (MCLs). For chemicals without established MCLs, contaminants were screened against the Region 3 Risk-Based Concentrations (RBCs) for tap

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water.

Off-Site Well Contamination

Residential Well - The residential well was sampled in September 2004 and February 2004. The water supply is equipped with an iron-removal treatment system. The September 2003 sample, taken prior to the treatment system, contained lead at 35 ppb, above the drinking water screening level of 15 ppb. Since lead was also detected in the field blanks and rinsate blanks, the level of lead in the well water is questionable. In February 2004, water samples were taken before and after the treatment system. The pre-treatment sample contained 5 ppb lead. No lead was detected in the post-treatment sample.

Commercial Well - Bis(2-ethylhexyl)phthalate was detected at or above the MCL of 6 ppb in the commercial well and several on-site wells. The contaminant was also detected in the field blanks and rinsate blanks. The results of the 2/04 sampling showed concentrations in duplicate samples to be below the MCL of 6 ppb. Therefore, the presence of this chemical in the groundwater at concentrations above drinking water standards is questionable. The contaminant was not detected in split samples taken by the facility's contractor. The concentrations detected in the most recent samples (2/04) are given below.

<u>Sample</u>	<u>Bis(2-ethylhexyl)phthalate concentration</u>
On-site Well (IMW-16)	11ppb
Off-site Well	11ppb
Field Blank	3ppb
Rinsate blank	6ppb

EPA has asked PADEP to resample the commercial well and provide the results to EPA and the property owner. EPA will reevaluate this determination when these results are available.

Reference(s):

Gorell Enterprises Sampling Trip Report for February 2004 Groundwater, Residential Well, and Air Sampling Event, prepared by Tetra Tech FW, Inc., April 19, 2004

Gorell Enterprises Sampling Trip Report for September 2003 Groundwater, Residential Well, and Soil Sampling Event, prepared by Tetra Tech FW, Inc., December 1, 2003

Site Investigation Activities, Gorell Windows and Doors Facility, prepared by Earth Sciences Consultants, Inc., March 18, 2003

Season All Groundwater Use Survey, prepared by Tetra Tech FW, Inc., e-mail dated 9/16/03

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)?

_____ 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?

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- _____ 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):

