

**DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION**  
Interim Final 2/5/99  
**RCRA Corrective Action**  
**Environmental Indicator (EI) RCRIS code (CA750)**

**Migration of Contaminated Groundwater Under Control**

Facility Name: Fisher Scientific Company  
Facility Address: 1410 Wayne Avenue Indiana, PA 15701  
Facility EPA ID #: PAD004321527

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1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units [SWMU], Regulated Units [RU], and Areas of Concern [AOC])

- 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 “Migration of Contaminated Groundwater Under Control” EI**

A positive “Migration of Contaminated Groundwater Under Control” EI determination (“YE” status code) indicates that the migration of “contaminated” groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original “area of contaminated groundwater” (for all groundwater “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 “Migration of Contaminated Groundwater Under Control” EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

**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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### **Facility Background**

The Fisher Scientific Company (Fisher or the Facility) operated its Laboratory Equipment Division at its White Township, Indiana County, PA location from 1958 through 2006. The 14-acre Facility includes a 160,000 sq. ft. building in which various laboratory instruments and apparatuses such as clamps, burners, centrifuges, stirrers, ovens, incubators, hot plates and water baths were engineered and manufactured. After Fisher Scientific vacated the site in 2006, the property was purchased by 3-Ring Realty, which currently leases portions of the building to active tenants and is pursuing future development options.

The Facility is located adjacent to the southwest corner of the intersection of Wayne Avenue and Indian Springs Road. Stoney Run Creek traverses the property to the west of the manufacturing building. The area surrounding the Facility contains a mix of commercial, residential and agricultural properties.

A RCRA Facility Assessment (RFA) completed in 1987 identified 28 SWMUs and one Area of Concern (AOC). Many of the SWMUs consisted of temporary storage areas that were used prior to sending wastes to the two on-site former interim status hazardous waste storage areas and no known releases have occurred at the vast majority of SWMUs. None of the SWMUs have been in use since Fisher vacated the property in 2006. The AOC identified in the RFA was an unpermitted outfall area in which processed wastewater from a neutralization tank was discharged to Stoney Run Creek. This outfall also has not been used since at least 2006.

Several remedial actions have been conducted at the Facility. The first occurred in the mid-1980s, when paint resins and solvent odors were encountered during the installation of a tank to replace a dry well. Soil samples from the area of the release contained methyl ethyl ketone (MEK) and xylenes. The dry well area was excavated and backfilled with clean-fill in December 1985. In October 1986, soils containing toluene, xylenes and MEK were discovered during the construction of a building addition near the former dry well location. Contaminated soils encountered during the excavation of an 11 foot-deep footer were disposed of off-site. Groundwater downgradient of the above areas was monitored for a period of ten years with no detections of any contaminants associated with either of these releases. PADEP agreed to allow the facility to cease its groundwater monitoring program in 1996. In December 1994, during the installation of a sewer line through the parking lot area of the Facility, miscellaneous debris and a fine gray material were unearthed. The gray material was found to contain lead concentrations in excess of PADEP's Cleanup Standards for Contaminated Soils (CSCS), as well as lower concentrations of barium and tetrachloroethene (PCE). The gray material was excavated and disposed of off-site in December 1995 and the area was backfilled with clean fill in January 1996. There were no groundwater impacts associated with this source. PADEP stated in a letter to Fisher dated March 11, 1996 that the site was approved in accordance with the provisions of the Land Recycling and Environmental Remediation Standards Act (Act 2) and no further action was required.

In the early to mid-1990s, volatile organic compound (VOC) groundwater contamination was discovered beneath Gorell Enterprises, Inc. (Gorell), another RCRA Corrective Action Facility, located directly north of the former Fisher Scientific facility across Indian Springs Road. The chlorinated and aromatic hydrocarbon solvent related contamination was the result of the historic chemical use for degreasing and painting of extruded aluminum products. As the groundwater investigations broadened and progressed, it became apparent that groundwater contamination had migrated south of the Gorell facility onto the northern portion of the former Fisher Scientific property. This contamination is further discussed in the sections below.

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2. Is groundwater known or reasonably suspected to be “contaminated”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

X If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

— If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

— If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

The only known groundwater contamination at the former Fisher Scientific facility is the contamination associated with chlorinated solvent and aromatic hydrocarbon releases that occurred at the neighboring former Gorell facility. The contamination was the result of the historic chemical use for degreasing and painting of extruded aluminum products. The VOC contamination at Gorell was discovered in groundwater studies conducted in the early to mid-1990s. As the groundwater investigations progressed, it became apparent that the contamination had migrated to the south beneath the former Fisher Scientific property.

Five interconnected distinct groundwater flow regimes have been identified beneath the Gorell and Fisher facilities including, in order of depth, the Overburden (approximately 10-20 ft. thick), Massive Sandstone (approximately 16-30 ft. thick), Upper Shale (approximately 10-16 ft. thick), Intermediate Shale (approximately 18-25 ft. thick) and Deep Shale (approximately 65 ft. below the ground surface (bgs)). The upper three groundwater flow regimes are localized and are representative of the shallowest portions of the hydrogeologic cell that contains the site vicinity. The Intermediate and Deep Shale flow regimes are more regional in character and exhibit characteristics of lower portions of the area hydrogeologic cell.

Available groundwater data from the mid to late 2000s timeframe indicate generally low levels of contaminants along the northern portion of the former Fisher property. Wells screened into the Overburden and Massive Sandstone water regimes were found to contain trace concentrations of chlorinated organic compounds below EPA’s maximum contaminant levels (MCLs). Groundwater samples from wells tapped into the deeper Upper Shale and Intermediate Shale water regimes contained trichloroethylene (TCE) (82 µg/l), 1,1-dichloroethene (1,1-DCE) (50 µg/l), and vinyl chloride (13 µg/l). EPA’s MCLs for these contaminants are 5 µg/l, 7 µg/l, and 2 µg/l, respectively. These wells are located between the northern face of the former Fisher Scientific Building and Indian Springs Road. Trace concentrations of TCE, 1,1-DCE, 1,1-dichloroethane (1,1-DCA), cis-1,2-DCE, and vinyl chloride either below or within EPA’s allowable risk range were detected in deep monitoring wells MW-33 and MW-34 located to the west of the former Fisher Scientific building near Stoney Run Creek.

A ground water recovery and treatment system to address the aromatic and chlorinated solvent groundwater contamination on the former Gorell Enterprises, Inc. facility was placed into operation in March 1996. The groundwater remediation system was modified in 2003 with the addition of several recovery wells and continued to operate until 2012 when Gorell filed for bankruptcy. One round of groundwater sampling (September 2014) has been conducted since the treatment system was shut down; however, none of the wells on the former Fisher Scientific property were sampled at that time. TCE concentrations in the most contaminated well on the Gorell property, MW-20d (screening the Upper Shale water regime) rebounded from

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<sup>1</sup> “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 appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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as low as 80 µg/l in 2007 to 1,170 µg/l in the September 2014 sample. Therefore, the actual impact of the termination of the groundwater treatment system on water quality on the Fisher property has not been fully assessed. It should be noted that in 2005, MW-20d exhibited a TCE concentration of 974 µg/l which corresponded to TCE concentrations of 82 µg/l in MW-32d and 67 µg/l in MW-30d, both of which are located on the former Fisher Scientific property.

Ref: Baseline Remedial Investigation Report, Former Gorell Facility, prepared by Johnstown Environmental Management Corp. (JEMCOR), June 2015; Remedial Progress at the Gorell Enterprises, Inc. Site, prepared by Horizon Environmental, May 22, 2007; Final Environmental Indicator Inspection Report for Fisher Scientific Company, prepared by Michael Baker Jr., Inc., March 2008.

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3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

- If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>).
- If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) - skip to #8 and enter “NO” status code, after providing an explanation.
- If unknown - skip to #8 and enter “IN” status code.

Rationale and Reference(s):

A contractor for the former Gorell facility ran PADEP’s Quick Domenico and EPA’s BioChlor Natural Attenuation groundwater models, which predicted that all of the modeled groundwater concentrations at the downgradient (southern) property boundary of the former Fisher Scientific facility would be at or below the associated PADEP Act 2 medium specific concentrations (MSCs) for used aquifers.

Troika Holdings, LLC, the current owner of the former Gorell facility, intends to prevent future exposures to any remaining groundwater contamination through activity use limitations (AULs) to be specified in an environmental covenant. 3-Ring Realty, the current owner of the former Fisher Scientific facility and owner of Troika Holdings as well, intends to place similar AULs in an environmental covenant for the Fisher property as well.

Both the Fisher and Gorell facilities, as well as the surrounding area, are supplied with water from the Indiana County Municipal Services Authority (ICMSA). Water for this portion of ICMSA’s supply system comes from an intake located on Crooked Creek approximately seven miles north of the facility. The system is interconnected with lines operated by the Pennsylvania-American Water Company, which utilizes surface intakes on Two Lick Creek located approximately two miles south of Indiana, PA. No historical facility activities are expected to have any impacts on these surface water intakes. There are two residential wells located approximately 600 feet upgradient and to the west on the opposite side of Stoney Run Creek. These wells have been previously sampled with no VOC contamination detected. The Pennsylvania Groundwater Information System (PaGWIS) indicated the presence of a domestic well approximately 250 ft. south (downgradient) of the site at the McNaughton Brothers Moving building, but the property owner has indicated the well is no longer in use. The next closest downgradient well per PaGWIS is a domestic well located

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<sup>2</sup> “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

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approximately 1,500 feet southwest of the Facility on the opposite side of Stoney Run Creek. Since no groundwater contamination exists in the southern portion of the Facility, this well would not be expected to be impacted from any releases to groundwater at the Facility.

Ref: Baseline Remedial Investigation Report, Former Gorell Facility, prepared by Johnstown Environmental Management Corp. (JEMCOR), June 2015; Remedial Progress at the Gorell Enterprises, Inc. Site, prepared by Horizon Environmental, May 22, 2007; Final Environmental Indicator Inspection Report for Fisher Scientific Company, prepared by Michael Baker Jr., Inc., March 2008.

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4. Does "contaminated" groundwater discharge into surface water bodies?

- \_\_\_\_\_ If yes - continue after identifying potentially affected surface water bodies.
- If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.
- \_\_\_\_\_ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

Because Stoney Run Creek is a losing stream at least in the northern portion of the Facility, the groundwater contamination would not be expected to impact that water body. Whether Stoney Run Creek continues to be a losing stream through to the southern portion of the Fisher property has never been studied. However, no contaminants were ever detected in any of the four monitoring wells installed in the southern portion of the facility during eleven years of groundwater monitoring (1985-1996) associated with the former dry well area. The dry well area received water and paint wastes during the early stages of plant operations in the late 1960s. Contaminated soils were removed from the area in 1985 and the groundwater monitoring program was established shortly thereafter to assess any impacts to the creek. Based on the above, there is no reasonable risk to the Stoney Run Creek.

Ref: Baseline Remedial Investigation Report, Former Gorell Facility, prepared by Johnstown Environmental Management Corp. (JEMCOR), June 2015; Remedial Progress at the Gorell Enterprises, Inc. Site, prepared by Horizon Environmental, May 22, 2007; Final Environmental Indicator Inspection Report for Fisher Scientific Company, prepared by Michael Baker Jr., Inc., March 2008.

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5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration<sup>3</sup> of each contaminant discharging into surface water is less than 10 times their appropriate groundwater “level,” and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

— If yes - skip to #7 (and enter “YE” status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of **key** contaminants discharged above their groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

— If no - (the discharge of “contaminated” groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration<sup>3</sup> of **each** contaminant discharged above its groundwater “level,” the value of the appropriate “level(s),” and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations<sup>3</sup> greater than 100 times their appropriate groundwater “levels,” the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

— If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

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<sup>3</sup> As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

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6. Can the **discharge** of “contaminated” groundwater into surface water be shown to be “**currently acceptable**” (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented<sup>4</sup>)?

- If yes - continue after either:
- 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site’s surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR
  - 2) providing or referencing an interim-assessment,<sup>5</sup> appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment “levels,” as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.
- If no - (the discharge of “contaminated” groundwater can not be shown to be “**currently acceptable**”) - skip to #8 and enter “NO” status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.
- If unknown - skip to 8 and enter “IN” status code.

Rationale and Reference(s):

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<sup>4</sup> Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

<sup>5</sup> The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

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7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the “existing area of contaminated groundwater?”

\_\_\_\_\_ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the “existing area of groundwater contamination.”

\_\_\_\_\_ If no - enter “NO” status code in #8.

\_\_\_\_\_ If unknown - enter “IN” status code in #8.

Rationale and Reference(s):

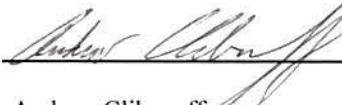
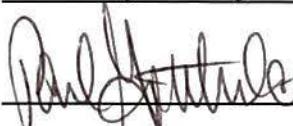
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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

X YE Yes, "Migration of Contaminated Groundwater Under Control" has been verified.  
Based on a review of the information contained in this EI determination, it has been  
Determined that the "Migration of Contaminated Groundwater" is "Under Control" at the  
Fisher Scientific Company facility,  
EPA ID # PAD004321527, located at 1410 Wayne Avenue, Indiana, PA 15701.  
Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

       NO - Unacceptable migration of contaminated groundwater is observed or expected.

       IN - More information is needed to make a determination.

Completed by	(signature)		Date	<u>9/30/16</u>
	(print)	<u>Andrew Clibanoff</u>		
	(title)	<u>RCRA Project Manager</u>		
Supervisor	(signature)		Date	<u>9-30-16</u>
	(print)	<u>Paul Gotthold</u>		
	(title)	<u>Associate Director, Office of PA Remediation</u>		
(EPA Region or State)	<u>EPA Region 3</u>			

Locations where References may be found:

USEPA Region III Waste and Chemical Mgmt. Division 1650 Arch Street Philadelphia, PA 19103	PADEP Southwestern Regional Office 400 Waterfront Drive Pittsburgh, PA 15222
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