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: **Safety-Kleen Corporation**
Facility Address: **5784 Lincoln Highway, Route 30, Stoystown, Pennsylvania 15563**
Facility EPA ID #: **PAD000738831**

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]), 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 nonhuman (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).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] 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, thefacility?

____ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

X 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):

Safety-Kleen Corporation (Safety-Kleen) operated a treatment, storage, and disposal (TSD) facility (USEPA ID No. PAD000738831) in Stoystown, Shade Township, Somerset County. Safety-Kleen Corporation (now Safety-Kleen Systems, Inc.) is a national solvent recycler. The former Safety-Kleen Service Center (service center or facility) in Stoystown (one leased acre) functioned as a transfer facility for product and spent/waste solvent between a customer (waste generator) and Safety-Kleen's off site recycle center. The facility consisted of four units: Underground Storage Tanks (USTs), drum storage area, wet dumpster unit, and flammables storage shed.

The facility operated under interim status, issued July 27, 1981, for the storage of characteristic and listed hazardous wastes (waste mineral spirits, used immersion cleaner and dry cleaning waste) and was considered closed by the Pennsylvania Department of Environmental Protection (PADEP or its predecessor) on June 29, 1990. The facility was primarily a local sales/service office and warehouse for Safety-Kleen products consisting of small parts cleaning equipment, solvent and Allied Products such as hand cleaner, floor cleaner, parts washing brushes, etc. Safety-Kleen collected spent/waste solvents from the customer for temporary storage at this facility. According to the facility's Part A hazardous waste permit application, the facility began operation on May 1, 1975.

On April 29, 1988, PADEP submitted to Safety-Kleen a Notice of Termination of Interim Status. It stated that on April 25, 1988, PADEP received a letter dated April 21, 1988 on behalf of Safety-Kleen requesting withdrawal of the RCRA Part A hazardous waste permit application and termination of interim status for operation for the facility. PADEP accepted this request and terminated interim status. Safety-Kleen was required to close the facility including the drum storage area, wet dumpster unit and USTs.

The drum storage area, wet dumpster unit, and flammables storage shed were all decontaminated on April 26, 1988 in accordance with the closure plan approved by PADEP on September 2, 1987. Closure of these units included removal and transportation of all remaining hazardous material to Safety-Kleen's recycling facility. Closure also required the decontamination of the units by pressure washing with a water/detergent solution with the collection of representative wash water samples. The areas were water-rinsed 5 times, squeegeed dry and vacuumed. The final rinse water was sampled and analyzed for designated laboratory analyses. The analytical results demonstrated that the attained decontamination levels were within the limits of the target decontamination levels. All wash water generated during the decontamination of the drum storage area, wet dumpster unit and the flammables storage shed was transported via vacuum truck to Safety-Kleen's recycling center.

No reportable releases were documented at the former facility. Reportedly, small spills were cleaned using rags and/or absorbent material. No spills left the concreted operations area.

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[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 appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

Three USTs were present during operations; they were removed/closed in 1989. All the USTs were paved over with concrete. The specifics of the three USTs were:

Tank No.	Size (gallons)	UST	Historic Contents	Date Installed	Date Removed
T1	2,000*	Single-walled, steel	sludge from the wet dumpster unit	1975	February 1989
T2	10,000	Single-walled, steel	spent mineral spirits	1975	February 1989
T3	10,000	Single-walled, steel	store mineral spirits	1975	February 1989

* Note: The sludge tank was identified as having a 5,000-gallon capacity in some documents.

The two waste USTs (T1 and T2) were closed in accordance with the approved waste UST closure plan. The mineral spirits UST was not a waste management unit; however, it was closed in accordance with the same plan. Closure required the excavation, decontamination and decommissioning of the sludge and waste mineral spirits USTs. Excavation of the USTs commenced on February 2, 1989.

Visually contaminated backfill material was apparent around the manways of the 2,000-gallon sludge UST and the 10,000-gallon spent mineral spirits UST. Contamination was also apparent around the fill pipes of all the USTs. The 10,000-gallon mineral spirits UST did not have a manway. Samples of the excavation were collected on February 8, 1989. Each of the samples was collected 6 inches above the excavation bottom and 4 to 6 inches into the walls. The samples were submitted for laboratory analyses of purgeable halocarbons (USEPA Method 8010), mineral spirits (USEPA Method 8015), lead (USEPA Method 3050/7421) and cadmium (USEPA Method 3050/7131).

The analytical results of the wall samples collected near the bottom of the excavation indicated no lateral migration of fugitive mineral spirits had occurred. VOCs were not detected in the samples.

The analytical results of the samples collected from the excavation bottom detected various concentrations of total petroleum hydrocarbons (TPH) as mineral spirits (ranging from nondetect [ND] to 5,100 mg/kg), as well as low levels of 1,2-dichlorobenzene, 1,4-dichlorobenzene, trans-1,2-dichloroethene, and 1,1,1-trichloroethane. Reportedly, the presence of the chlorinated organics was a result of trace concentrations of these compounds in the sludge and spent mineral spirits. The highest concentrations of mineral spirits were located in the areas of the manways and fill pipes, while the areas furthest from the fill pipes exhibited no detectable levels of contamination.

Following the excavation and removal of the USTs, the soil with the highest levels of contamination was placed in the roll-off containers and transported off-site; and the soil that exhibited relatively low levels of contamination was placed back in the excavation.

On June 2 and 5, 1989, all of the soils placed in the excavation after the initial closure of the USTs in February 1989 were re-excavated. Following re-excavation of the soils, four samples were collected from the interface of the excavation bottom and walls (SWN2, SWE2, SWS2, and SWW2). Shale bedrock represented the excavation bottom; therefore, no soil samples were collected. The soil samples were analyzed by Modified USEPA Method 8015 to detect TPH occurring as mineral spirits. The four samples revealed no detectable concentrations of TPH as mineral spirits with a method detection limit of 10 ppm. Subsequently, the excavation was backfilled with No. 2 limestone gravel and the area was covered with concrete pads.

There have been no known hydrogeological investigations conducted at the facility. On January 13, 1989, two soil borings were attempted to a maximum depth of 5.8 feet. No groundwater was encountered. The facility was not directly connected to a well or water system; the water line was tapped into Mr. Sigmund's building's water line and used during the spring, summer and fall.

A spring is located under Route 30 approximately 200 feet southwest of the facility. A resident who uses the spring had

complained of "bad" tasting water (GTI, 1989). Since the facility is located on the northwest flank of a northeast trending anticline, probable movement of the groundwater would be toward the northwest. Topographic features indicate that surface runoff would tend to move toward the west or west-southwest (GTI, 1989). Aquifer usage in the area surrounding the facility is primarily private water wells and springs; no municipal or township water authority serves the immediate area (GTI, 1989).

Three wells were identified in the Pennsylvania Groundwater Information System (PaGWIS) database within 0.5 miles of the facility (searched November 19, 2012). An industrial withdrawal well (228 feet deep) owned by Highland Tank is located approximately 800 feet southwest of the facility; a domestic well (100 feet deep) installed in 1984 is located 0.37 mile west-southwest of the facility; and a domestic well (37 feet deep) installed in 1966 is located 0.43 mile northwest of the facility. As the area is rural, and there are residences within 500 feet of the facility, it is possible that other wells may be present. It is likely that Mr. Sigmund's building was connected to a well (not identified in the PaGWIS database). Highland Tank currently is not connected to public water, and personnel use bottled water for drinking water.

The Highland Tank groundwater withdrawal well was also located in PADEP's web-based mapping application (eMapPA, assessed December 5, 2013).

As the operations area was covered with concrete, minimizing water infiltration to the ground, the migration of the release of solvents due to tank overfilling would be limited. Limited contamination observed in the backfill and adjacent soil/weathered bedrock was removed during closure activities. The poor water quality, as reported by GTI, and associated use of bottled water for drinking water by the facility and Highland Tank, may be related tothe historic surface mining activity in this area, not as a result of historic Safety-Kleen operations.

On August 3, 1989, Groundwater Technology, Inc. (GTI) submitted a facility closure report and supplemental excavation sampling information to PADEP. Activities detailed in the closure plan and amendments were completed. All soils were removed from the excavation and disposed of properly.

On June 29, 1990, PADEP determined that Safety-Kleen had satisfactorily completed the closure of the hazardous waste container and tank storage facility. The closure certifications from the professional engineer (dated March 27, 1990) and Safety-Kleen (dated March 12, 1990) were acceptable. PADEP confirmed facility closure at a September 22, 1989 inspection.

Considering the information presented within this EI and the reference document, groundwater is not known or reasonably suspected to be contaminated above appropriately protective levels.

Reference:

March 2014 Final Environmental Indicator Inspection Report

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] 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"[2]).

_____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - 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):

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):

[2] "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.

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] 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[3] 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[3] 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[3] 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):

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

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[4])?

_____ 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,[5] 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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[4] 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.

[5] 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.

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):

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 **Safety-Kleen Corporation** facility, EPA ID # **PAD000738831**, located at **5784 Lincoln Highway, Route 30, Stoystown, Pennsylvania 15563**. 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 4/18/14

(print) Kevin Bilash

(title) RPM

Supervisor (signature) _____ Date 4-18-14

(print) Paul Gotthold

(title) Associate Director, Office of PA Remediation

(EPA Region or State) EPA Region III

Locations where References may be found:

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

PADEP
South West Regional Office
400 Waterfront Drive
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