

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: Laird Technologies, Inc.
Facility Address: 1 Shielding Way, Delaware Water Gap, PA 18327
Facility EPA ID #: PAD002161685

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?

- If yes - check here and continue with #2 below.
- If no - re-evaluate existing data, or
- If data are not available, skip to #8 and enter "IN" (more information needed) status code.

BACKGROUND

The facility is located at 1 Shielding Way, Delaware Water Gap, Pennsylvania. The property lies in a commercial zoned area in the Delaware Water Gap Borough, Monroe County. The property is bound by Interstate 80 to the east, Route 611(Broad Street) to the west and the Interstate 80/Route 611 interchange to the north. Cherry Creek forms the southern boundary of the property. Land use surrounding the property includes commercial development to the north and west, and residential/retail to the west and south. The Delaware Water Gap Municipal Sewage Treatment Plant is located directly north of the facility. The Delaware River is approximately 0.9 miles to the southeast.

The facility is situated on approximately 25 acres of land that slopes gently to the southeast. Two buildings currently exist onsite: the front building and the main building. The front building was constructed in 1968 and was used by various tenants and later by the facility for forming and extruding beryllium/copper wire. The main building was constructed in 1957 and was used by the facility for manufacturing purposes. An additional wood frame building known as World Compliance Center was constructed in 1993 and was utilized by the facility as a conference center until it was washed from its foundation during the flood in 2005.

The facility is in the 100-year flood plain of the Delaware River. No drinking water intake are known to exist within 15 miles downstream. The Delaware River is used for fishing and recreational purposes within region.

Potable water is provided to the facility by the Delaware Water Gap Municipal Authority community water system.

Groundwater flows toward Cherry Creek. Cherry Creek discharges into Broadhead Creek approximately 0.3 mile east of the facility. Broadhead Creek converges with the Delaware River approximately 0.9 mile southeast of the site. No drinking water intake are known to exist within 15 miles downstream.

The property was used for:

Ronson Corporation (1957-1979) – Ronson Corporation conducted operations between 1957 and 1979. The Main Building was leased to Ronson Corporation to house its cigarette lighter manufacturing operations.
Delaware Metals (1979 to 1987) - The Front Building was leased to the facility between approximately 1979

and 1987 for its machine shop and chrome plating operations.

Transistor Devices dba Alumitek and Circuitek (1987 to 1997) – Transistor Devices leased the Front Building between 1987 and 1997. Alumitek manufactured aluminum parts and Circuitek manufactured (assembled) printed circuit boards.

Instrument Specialties/Laird Technologies (1979-2008) – Operations at the facility included die machining, die stamping, degreasing, heat treating, pickling/plating, tumbling, and assembly of electromagnetic interference and radio frequency interference shielding equipment.

Current use (2008 to present) - The property is owned by Laird Technologies. The property is currently vacant and has been vacant since 2008.

On April 19, 2016, Laird Technologies entered into a Buyer-Seller Agreement with P&R Real Estate, LLC.

Investigations and Remedial Actions:

Soil, soil vapor and groundwater investigations were conducted at the facility from 2009 to 2016. TCE was detected in soil at the Photo Etch area and in shallow overburden groundwater. A soil vapor extraction remediation system, to control soil vapor and reduce TCE concentrations in soil, was installed in 2011 and continues to operate. Notices of Intent to Remediate (NIRs) for soil and groundwater have been submitted to PADEP. The facility intends to remediate the contamination at the facility to an Act 2 Non-Residential Standard. A Non-Use Aquifer Determination Application was submitted to PADEP on 6/1/2017. In a May 2014 letter, USEPA and PADEP acknowledged Laird Technologies, Inc.'s interest in completing the environmental cleanup at the facility under the One Cleanup Program.

Surface water sampling and analyses were conducted in August 2019 and January 2020. Analytical results of the surface water samples showed that TCE was found ND.

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).

**Migration of Contaminated Groundwater Under Control
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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, the facility?

- 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):

TCE was detected in shallow aquifer groundwater at concentrations as high as 39.8 ug/l, above the MCL of 5 ug/l.

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 appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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1. 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):

Groundwater investigations have been conducted at the facility since 2009. Groundwater Analytical results indicated that TCE impacted groundwater is limited within the shallow overburden aquifer and concentrations of TCE in downgradient monitoring wells are declining. In 2019, TCE was detected in downgradient well groundwater at concentrations as high as 20 ug/l, down from 39 ug/l.

Surface water (Cherry Creek) was sampled and analyzed in 2019 and 2020. TCE was found ND.

The migration of contaminated groundwater has stabilized, and the contaminated groundwater is expected to remain within the existing area of groundwater contamination.

Reference: 2012 EPA Environmental Indicator Inspection Report; April 2016 Buyer-Seller Agreement; Groundwater and surface water sampling and analysis.

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.

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2. 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):

Surface water (Cherry Creek) sampling and analyses were conducted in August 2019 and January 2020. Analytical results of the surface water samples showed that TCE was found ND.

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5. Is the **discharge** of “contaminated” groundwater into surface water likely to be “**insignificant**” (i.e., the maximum concentration³ 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 concentration³ 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 judgment/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 concentration³ 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 concentration³ 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.

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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 implemented⁴)?
- 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-assessment⁵, 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):

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.

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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):

Laird’s proposed remedy for addressing residual VOC impacted groundwater is an administrative restriction combined with monitored natural attenuation and continued groundwater monitoring (NIR for Groundwater)

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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).

- 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 Laird Technologies, Inc. Facility, EPA ID # PAD002161685, located at 1 Shielding Way, Delaware Water Gap, PA 18327. 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 _____
(print) Tran Tran
(title) Project Manager

Supervisor (signature) ~~Paul~~ paul gotthold _____ Date 3/19/20
Paul Gotthold
(title) _____
(EPA Region or State) _____

Locations where References may be found:

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