

ENVIRONMENTAL INDICATOR (EI) RCRIS CODE (CA725)

Current Human Exposures Under Control

Facility Name: **BARON BLAKESLEE**
Facility Address: **5920 NE. 87th Portland, OR 97220**
Facility EPA ID #: **ORD 061483384**

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?

- If yes** - check here and continue with #2 below.
- If no** - re-evaluate existing data, or
- If data 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).

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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)?

“Contaminated” Media	Yes	No	?	Rationale / Key Contaminants
Groundwater	✓			1,1,1 TCA, TCE, PCE, methylene chloride, cis-1,2-dichloroethane
Air (indoors)		✓		Data indicates no contamination
Soil (surface, e.g., <2 ft)	✓			PCE and TCE
Surface Water			✓	Data currently being collected.
Sediment			✓	Data not yet collected.
Soil (subsurface e.g., >2 ft)	✓			TCE, PCE, 1,1,1 TCA
Air (outdoors)		✓		Data indicates no contamination

- 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):

From 1972 to 1993, Baron Blakeslee operated a permitted storage and solvent recovery business. The facility ceased all operations at the site in 1992. The company then implemented an approved Closure Plan, removing all waste and decontaminating all areas used for management of hazardous waste. Results of soil and groundwater sampling conducted at the site under corrective action requirements of the facility’s Permit identified volatile and semi-volatile organic compounds. The primary constituents detected at the site include perchlorethylene (PCE), trichlorethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), and cis-1,2-dichloroethene (cis-1,2-DCE).

Maximum levels of contaminants in groundwater are PCE at 43 mg/l, TCE at 2 mg/l, 1,1,1-TCA at 10 mg/L; and methylene chloride at 2 mg/L. For soil, maximum contaminants levels are PCE at 510 mg/kg, and TCE 63 mg/kg. Groundwater is the primary pathway of concern at this site, which is located near the western edge of the City of Portland’s Columbia South Shore Wellfield.

Groundwater contamination extends off-site and could impact the western end of the City of Portland’s Columbia South Shore Wellfield. This wellfield contains backup drinking water wells that are intended to supplement Bull Run surface water supplies. Groundwater from the site may discharge to surface water at the Columbia Slough located north of the site.

A Consent Order dated May 8, 2000, imposes an RI/FS to investigate all media and the extent of contamination. (See Phase 2 RFI Data Report 3, dated June 30, 1999, and May 8, 2000, Order on Consent). Additional data will be collected for the RI/FS that will establish whether air (indoor/outdoor), surface water, or sediment are contaminated above protective levels.

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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- 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 Food³

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:

- Strike-out specific Media including Human Receptors’ spaces for Media which are not “contaminated” as identified in #2 above.
- 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):

Complete pathway and human exposures are not known. The May 8, 2000, Order on Consent is requiring a human health risk assessment, which is currently underway. (See May 8, 2000, Order on Consent). The Risk Assessment, in conjunction with data collected for the RI/FS will establish whether there are any complete exposure pathways.

Footnotes:

³ *Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)*

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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):
- 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 **BARON BLAKESLEE** facility, EPA ID #**ORD 061483384**, located at **5920 NE. 87th Portland, OR 97220** 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:

_____	8/04
(Signature)	(Date)
<u>Barb Puchy</u>	<u>Hazardous Waste Specialist</u>

Supervisor:

_____	_____
(Signature)	(Date)
<u>Andree Pollock</u>	<u>Manager, Hazardous Waste Compliance</u>
(Print Name)	(Title)

Oregon Department of Environmental Quality
(EPA Region or State)

Locations where References may be found:

DEQ - NW Region DEQ, 2020 SW. 4th Ave. Portland, OR 97201

Contact telephone and E-mail numbers:

<u>BILL ROBERTSON</u>	<u>503-229-6843</u>	<u>robertson.bill@deq.state.or.us</u>
(Name)	(Phone Number)	(E-Mail)

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.

ENVIRONMENTAL INDICATOR (EI) RCRIS CODE (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name: **BARON BLAKESLEE**
Facility Address: **5920 NE. 87th Portland, OR 97220**
Facility EPA ID #: **ORD 061483384**

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

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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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):

From 1972 to 1993, Baron Blakeslee operated a permitted storage and solvent recovery business. The facility ceased all operations at the site in 1992. The company then implemented an approved Closure Plan, removing all waste and decontaminating all facilities used for management of hazardous waste. Results of soil and groundwater sampling conducted at the site under corrective action requirements of the facility's Permit identified volatile and semi-volatile organic compounds. The primary constituents detected at the site include perchlorethylene (PCE), trichlorethene (TCE), 1,1,1-trichloroethane (1,1,1-TCA), and cis-1,2-dichloroethene (cis-1,2-DCE).

Maximum levels of contaminants in groundwater are PCE at 43 mg/l, TCE at 2 mg/l, 1,1,1-TCA at 10 mg/L; and methylene chloride at 2 mg/L. For soil, maximum contaminants levels are PCE at 510 mg/kg, and TCE 63 mg/kg. Groundwater is the primary pathway of concern at this site, which is located near the western edge of the City of Portland's Columbia South Shore Wellfield.

Groundwater contamination extends off-site and could impact the western end of the City of Portland's Columbia South Shore Wellfield. This wellfield contains backup drinking water wells that are intended to supplement Bull Run surface water supplies. Groundwater from the site may discharge to surface water at the Columbia Slough located north of the site.

A Consent Order dated May 8, 2000, imposes an RI/FS to investigate all media and the extent of contamination. (See Phase 2 RFI Data Report 3, dated June 30, 1999, and May 8, 2000, Order on Consent). Additional data will be collected for the RI/FS that will establish whether air (indoor/outdoor), groundwater, surface water, or sediment are contaminated above protective levels.

Because of the proximity to the Portland well field, drinking water maximum contaminant levels (MCLs) are currently referenced as the appropriate protective level. Additional data collected for the RI/FS will be used to establish the locality of the facility and beneficial uses to be evaluated under the Risk Assessment.

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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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):

Maximum levels of contaminants in groundwater are PCE at 43 mg/l, TCE at 2 mg/l, 1,1,1-TCA at 10 mg/L; and methylene chloride at 2 mg/L. For soil, maximum contaminants levels are PCE at 510 mg/L, and TCE 63 mg/L. Groundwater is the primary pathway of concern at this site, which is located near the western edge of the City of Portland’s Columbia South Shore Wellfield.

Groundwater contamination extends off-site, and may impact the western end of the City of Portland’s Columbia South Shore Wellfield. This wellfield contains backup drinking water wells that are intended to supplement Bull Run surface water supplies. Groundwater from the site also migrates toward the Columbia Slough and may discharge to surface water within the slough.

Interim remedial action measures (IRAMs) have been implemented at the site in order to stabilize the plume and remove source area contamination. These IRAMs include removal of contaminated soils during the early 1990s, soil vapor extraction (SVE) since October 1999, and installation and operation of in situ groundwater circulation wells (GCWs) starting in November 1999 that were designed to remove volatile organic compounds (VOCs) from groundwater in the source area. Through February 2003, 2,600 lbs of volatile organic compounds have been removed and concentrations of most of the onsite monitoring wells have dropped by orders of magnitude since the SVE and in situ groundwater systems began operating.

Additional data is being collected for the RI/FS that will be used to determine whether the contaminant plume has stabilized. New wells are being installed to establish the lateral and vertical extent of the plume and to delineate the locality of the facility. Current and future beneficial water uses will be determined within the locality of the facility and the results of the Risk Assessment will determine whether there are any unacceptable risks. On-going GW sampling at new locations indicates that the plume is likely stabilized. However, additional data is currently being collected (8/04) to verify that the GW situation is stable.

Footnotes:

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

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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 ecosystems 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 ecosystems), 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 ecosystems, 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 ecosystems.

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

Rationale and Reference(s):

Footnotes:

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 ecosystems.

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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 **BARON BLAKESLEE** facility, EPA ID # **ORD 061483384**, located at **5920 NE. 87th Portland, OR 97220**. 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)
Barb Puchy

8/04

(Date)
Hazardous Waste Specialist

Supervisor:

(Signature)
Andree Pollock
(Print Name)

(Date)
Manager, Hazardous Waste Compliance
(Title)

Oregon Department of Environmental Quality
(EPA Region or State)

Locations where References may be found:

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