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Documentation of Environmental Indicator Determination
RCRA Corrective Action
Interim Final 2/5/99
Environmental Indicator (EI) RCRIS Code (CA 725)

Current Human Exposures Under Control

Facility Name: **Reserve Environmental Services, Inc.**
Facility Address **4633 Middle Road, Ashtabula, OH 44005**
Facility EPA ID# **#OHD 980 793 384**

1. Has **all** available relevant/significant information on known and reasonable suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC), been **considered** in this EI determination?

   X If yes – check here and continue with #2 below.

   __ If no – re-evaluate existing data, or

   __ If data are not available skip to #6 and enter "IN" (more information needed) status code.

Reserve Environmental Services (RES is a facility approximately 3 miles east of Ashtabula, Ohio. The facility is located along Middle Road, at the junction of Middle and LaBounty Roads in Ashtabula Township. The RES facility currently consists of approximately 156 acres in a rural, heavily wooded area.

The RES facility is currently divided into six major subareas:

- *Site A (New) Wastewater Treatment Facility*
- *Site A (Old) Inactive Waste Management Units (including Pond 1, Pond 7, Lagoons 2 through 6, and an injection well)*
- *Site B Non-hazardous Solid Waste Disposal Facility*
- *Site C Inactive Waste Management Unit (including Site C Landfill, a free liquid trench collection system, and the Free Liquid Treatment Facility [FLTF])*
- *Site D Closed Waste Management Units (including the Site D Landfill, a free liquid trench collection system, and the Site D Sludge Disposal Area)*
- *Site E Inactive Waste Management Unit*

The property is zoned for heavy manufacturing. The land within 2000 feet of the facility is heavily wooded and is owned by either RES or FEC. The overall area is sparsely populated. There is one residence within 0.5 miles of the site. The site buildings are located in the far western edge of the property. The site is completely fenced with a 6-foot high fence topped with 3 strands of barbed wire, and gate access is controlled by locks. Security is maintained 24 hours per day, 7 days per week.

Interim Actions

Interim actions implemented, at the request of the U.S. EPA, during the period of 1993 through 2005 included:

- *Stabilization of the side slopes of Site C Landfill*
- *Construction of a free liquid collection sump and pump station at the southern end of the Site C landfill*

- *Installation of an equalization tank at the FLTF for holding free liquid pumped from the Site C landfill*
- *Construction of a new erosion and sedimentation pond to control runoff from the Sites C, D, and E areas*
- *Regrading of the Site C landfill surface and construction of drainage channels to direct surface runoff to a new erosion and sedimentation pond*

All soil, sediment and surface water data collected during the RCRA Facility Investigation have been considered in this EI determination. In addition, groundwater, surface water and sediment samples collected in May 2005 to support the EI are considered in this determination. Selecedt groundwater wells within and adjacent to existing extent of contamination plumes were sampled to determine if the plume areas are stable or migrating.

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 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, or 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 ground water uses, and ecological receptors).

Duration/Applicability of EI Determinations

EI Determinations status codes should remain in the 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"** 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)?

	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			Metals, VOCs and SVOCs
Air (indoors) (2)	X			VOCs and SVOCs in ground water
Surface Soil (e.g., <2 ft)	X			Metals, VOCs , SVOCs and PCB
Surface Water	X			1,1,2,2 Tetrachloroethane
Sediment	X			VOCs and SVOCs
Subsurface Soil	X			Metals, VOCs , SVOCs and PCB
Air (outdoors)	X			Metals and VOCs

_____ If no (for all media), skip to #6, and enter "YE" status code after providing or citing appropriate levels, and referencing sufficient supporting documentation demonstrating that these levels are not exceeded.

__X__ If yes (for any media), continue after identifying key contaminants in each "contaminated" medium. Cite 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 an "IN" status code.

Rationale and Reference(s):

For determination of "contaminated" media, concentrations of chemicals in each medium were first compared to site-specific media cleanup standards specified in the Administrative Order on Consent. If MCS were not available, alternative criteria such as state and federal MCLs were used.

Groundwater

The applicable groundwater comparison criteria used (in order of preference) were media cleanup standards (MCS) developed for the Corrective Measures Study (CMS) and the State of Ohio and Federal maximum contaminant levels (MCLs). The MCSs for all constituents are equivalent to the state or federal MCLs. In cases where MCS were not available, the U.S. EPA Region 9 preliminary remediation goals (PRGs) (tap water standards) were used for comparison purposes.

Within the Site A unconsolidated shallow unit, cadmium, chromium, lead, nickel, selenium, and vanadium exceeded the MCS. In addition, silver exceeded its corresponding Region IX PRG. Within the Site A bedrock unit, barium, chromium, and nickel exceeded the MCS.

Within the Site C, D, & E shallow unconsolidated unit, groundwater constituent concentrations exceeding the MCS include 1,1-dichloroethane, 1,1-dichloroethene, 1,2-dichloroethane, 1,2-trans-dichloroethene, 1,1,2-trichloroethane, 1,1,2,2-tetrachloroethane, chloroform, methylene chloride, tetrachloroethene, trichloroethene, vinyl chloride, bis-2-ethylhexylphthalate, hexachlorobutadiene, barium, chromium, nickel and vanadium. In addition, constituents namely 1,2,3-trichloropropane, 1,2,4,5-tetrachlorobenzene, methacrylonitrile, and hexachloroethane exceeded the Region 9 PRGs.

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Within the Site C, D & E bedrock unit, trichloroethene, bis(2-ethylhexyl)phthalate, barium, beryllium, cadmium, chromium, lead, nickel, and vanadium exceeded the MCS. In addition, zinc exceeded the Region 9 PRGs.

Air (indoors)

Volatile organics detected in groundwater were compared to target groundwater concentrations corresponding to target indoor air concentrations from EPA (2002) Subsurface Vapor Intrusion Guidance. Constituents that exceeded the target indoor air concentrations include 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dichloroethane, 1,2-trans-dichloroethene, chloroform, methacrylonitrile, tetrachloroethene, trichloroethene, vinyl chloride, hexachlorobutadiene, and hexachloroethane. As such, indoor air quality may be impacted. Most of the constituents mentioned above exceeded the criteria in shallow wells MW-922S, MW-961S, and MW-962S, which are located adjacent and upgradient of the proposed and existing groundwater interceptor trenches and away from any structures or human dwellings.

Surface and Subsurface Soil

The applicable soil comparison criteria used included (in order of preference) are as follows: 1) MCS from the CMS; and 2) U.S. EPA Region 9 PRGs for industrial land use. This table also shows the comparison criteria as well as surface soil constituent concentrations exceeding the comparison criteria under consideration.

In the surface soil at Site A, hexachlorobenzene and arsenic were the only constituents that exceeded their corresponding Region 9 PRGs. At Sites C, D, and E, hexachlorobutadiene, hexachlorobenzene, and HxCDF concentrations exceeded their respective MCS. Tetrachloroethene, trichloroethene, 1,1,2,2-tetrachloroethene, hexachloroethane, benzo(a)pyrene, heptachlor, aroclor 1248, TCDF, PeCDD, HxCDD, chromium, and vanadium exceeded their corresponding Region 9 PRGs.

Chemicals in subsurface soils were not compared to criteria because it was presumed that all subsurface soil is contaminated and is located within the landfills present at the facility

Surface Water

The applicable surface water comparison criteria used were (in order of preference):1) MCS developed during the CMS; and 2) Lake Erie Basin Human Health Tier I Criteria, Tier II values and Screening values contained in and developed pursuant to Chapters 3745-1 and 3745-2 of the Ohio Administrative Code (OAC). Only 1,1,2,2-tetrachloroethane exceeded the Lake Erie Basin human health values for drinking water both during the RFI and the 2005 sampling event.

Sediment

Since the focus of this EI documentation is human health, the applicable sediment comparison criteria used were: 1) MCS developed for the CMS; and 2) U.S. EPA Region 9 PRGs for industrial soil. Recent sampling results showed that hexachlorobenzene and hexachlorobutadiene were the only constituents which exceeded the MCS. Constituents including tetrachloroethene; trichloroethene and benzo(a)pyrene exceeded the Region 9 PRGs for industrial soil. Silver and m,p-cresol detected at concentrations above the MCS during the RFI were not detected during the current sampling event

Air (outdoor)

The comparison criteria used to evaluate soil include an ambient air component. That is, the inhalation of particulates and vapors released from soil exposure routes are considered in developing these risk-based criteria. Since these criteria are also applicable to air (outdoor) and since the surface soil is considered contaminated, air (outdoors) is considered "contaminated" per CA 725.

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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 reasonable certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **HUMAN RECEPTORS** (under current conditions)

Contaminated Media	Residents	Workers	Day Care	Construction	Trespassers	Recreation	Food(3)
Groundwater	No	Yes	No	Yes	No	No	No
Air (indoors)	No	No	No	No	No	No	No
Surface Soil (e.g., <2 ft)	No	Yes	No	Yes	Yes	No	No
Surface Water	No	Yes	No	No	Yes	Yes	No
Sediment	No	Yes	No	No	Yes	No	Yes
Subsurface Soil (e.g., >2 ft)	No	No	No	Yes	No	Yes	No
Air (outdoors)	No	Yes	No	Yes	No	No	No

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for media which are not "contaminated" as identified in #2 above.

2. Enter "yes" or "no" for potential "completeness" under each "Contaminated" Media – Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media – Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

_____If no (pathways are 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).

___X_If yes (pathways are complete for any "Contaminated" Media-Human-Receptor combination)- continue after providing supporting explanation in the rationale and references box below.

_____If unknown for any ("Contaminated Media-Human Receptor combination"), skip to #6 and enter an "IN" status code.

Rationale and Reference(s):

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Several exposure pathways are not complete because no receptor is present. Residents, day care facilities, and recreational exposure are not exposed to contaminated media because these receptors are not present on the site. Exposure through food sources is not complete because gardens and livestock are not present on the property. The owners of the site or representatives of the owners control access to the site, and the site is fenced. The only receptors that are present at the site include workers and construction workers. Trespassers may be exposed to surface water and sediment in the off-site reaches of the unnamed tributary to Whitman Creek.

Groundwater

Groundwater on site is not used for any purpose, including drinking or industrial processes. RES and the surrounding industries and communities, including Ashtabula, Kingville-on-the-Lake, and Ashtabula Township obtain waster from Lake Erie, supplied by the Ohio-American Water Compan.

RES is in the process of establishing comprehensive groundwater use restrictions at the Facility. RES and the surrounding industries and communities use drinking water supplied from Lake Erie. In addition, the shallow groundwater is not expected to be used as a potable water supply for the following reasons: 1) the shallow unconsolidated unit thickens toward the middle of the facility, but pinches out to the north and northeast (downgradient) within 50 feet of the property line; 2) the yield to a well completed in the shallow unconsolidated unit is not sufficient for private use; and 3) residential wells in the surrounding area have been constructed in the bedrock shale unit. Based on the well records obtained from the Ohio Department of Natural Resources (ODNR) and the Tax Parcel database obtained from the Ashtabula County, the closest private well is recorded to be located on a property owned by Transenergie US LTD. This property is located approximately 0.5 miles directly north of the facility, adjacent to Lake Erie. Logs obtained from the ODNR indicate that the water yielded by this well is saline. This well is completed in the shale bedrock as an open hole to a depth of 200 feet. The well has low transmissivity, yielding 48 gallons of salty water during an 8-hour pumping test. Thus, residential and worker use of shallow and deep groundwater is not a complete exposure pathway because of use of potable water supplied from Lake Erie, groundwater use restrictions, the low yields of the aquifers and the distance from the facility of the closest well.

The shallow unconsolidated unit is present at a depth of 4 to 20 feet below ground surface. Construction workers may indirectly contact this groundwater during excavation activities. Also, workers may inadvertently be exposed to contaminated groundwater while performing routine operation and maintenance activities in the Free Liquid Treatment Facility (FLTF). Thus, this direct contact pathway is potentially complete for construction workers. RES requires workers to be attired in appropriate personal protective equipment when excavating on the property.

Air (Indoors)

A number of volatile constituents exceeded the target indoor air concentrations in shallow wells MW-922S, MW-961S, and MW-962S, which are located adjacent and upgradient of the proposed and existing groundwater interceptor trenches and over 100 feet away from any structures or human dwellings. Thus, the indoor inhalation of subsurface vapors is incomplete because contaminants cannot reach receptors.

Surface and Subsurface Soil

The property is currently an active facility, with restricted access. Buildings are located on the west side of the property, while the site landfills are on the east side of the property, across LaBounty Road. Workers are infrequently present on this portion of the property. In addition, RES requires workers to be attired in appropriate personal protective equipment when excavating on the property. Although no construction activities are currently on-going, construction workers may be exposed to on-site contaminated surface and subsurface soils. While contact with soil is limited, worker and construction worker exposure to soil is a potentially complete exposure pathway.

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Surface Water and Sediment

The unnamed tributary of the Whitman Creek and the Whitman Creek is shallow and not attractive for swimming or other recreational activities. The tributary flows through a heavily wooded, sparsely populated area. Fishing has not been observed in the tributary, though fishing has been observed in Whitman Creek from an abandoned railroad bridge at the mouth of the creek that is about 50 feet from Lake Erie. The habitat provided by this stretch of the creek is more typical of the larger water body (Lake Erie), and sport fish sought by anglers do not spend their lifetime in the upper reach of the creek. While there may be occasional recreational activity such as wading, the creek is too small to support regular recreational activities. There are no swimming beaches or canoe liveries nearby, and the creek is not a public water supply.

Workers may incidentally contact on-site surface water and sediment within the unnamed tributary to Whitman Creek during maintenance activities such as lawn mowing. While access to the site is controlled and the site is fenced, individuals may trespass in the off-site reaches of the unnamed tributary and Whitman Creek and may be exposed to off-site surface water and sediment and may occasionally consume fish from the creek. Thus, worker and trespasser exposure to surface water and sediment are potentially complete exposure pathways. Trespasser consumption of fish is also a potentially complete exposure pathway. It should be noted that RES is in the process of implementing deed restrictions that will prohibit sport fishing and consumption of the fish from the unnamed tributary and Whitman Creek.

Air (outside)

Most of the site is vegetated, which limits the potential for dust entrainment and vapor migration. However, since there are small patches of unvegetated areas scattered throughout these site, there is potential for dust formation under dry weather conditions. While surface soil concentrations of VOCs are relatively low, there is some potential for volatile emissions. Thus, worker and construction worker exposure to air (outside) is a potentially complete exposure pathway.

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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **significant** (4) (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency, and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks?

_____If no (exposures cannot be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant".

__X___If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" identified in #3) are not expected to be "significant".

_____If unknown (for any complete pathway), skip to #6 and enter "IN" status

Rationale and Reference(s):

<u>*Groundwater*</u>

The shallow unconsolidated unit is present at a depth of 4 to 20 feet below ground surface. Construction workers may indirectly contact this groundwater during excavation activities. Institutional controls in effect at the RES facility require workers to be attired in the appropriate personal protective equipment when excavating on the property. The RFI risk assessment evaluated potential future industrial use of groundwater (i.e., use as a potable water supply) and found that groundwater west of the potentiometric trough exceeded the risk management range (Risk = 2E-03; HQ = 4) and that groundwater on the east side of the trough also exceeded the risk management range (Risk = 2E-03; HQ =30). Therefore, exposure of groundwater is reasonably expected to be significant.

<u>*Surface Soil*</u>

In the RFI risk assessment, the risks associated with current site worker exposure to soils in Site A (Old) fell within the 10^{-4} to 10^{-6} risk management range and noncancer risk estimates did not exceed a hazard quotient of one (Risk = 1.4E-05; HQ = 0.02). For Sites C, D, and E soils, risk estimates exceeded the risk management range and exceeded a hazard quotient of one (Risk = 4.1E-04; HQ = 5.3). Therefore, exposure of workers and construction workers to surface soil may reasonably be expected to be significant.

<u>*Subsurface soil*</u>

Construction workers may indirectly contact subsurface soil during excavation activities. Because landfills are present on the facility, the presumption is made that exposure to subsurface soil is reasonably expected to be significant. Institutional controls in effect at the RES facility require workers to be attired in the appropriate personal protective equipment when excavating on the property.

<u>*Surface water and sediment*</u>

The RFI risk assessment demonstrated that cumulative risks associated with worker contact with on-site surface water and sediments do not exceed a 10^{-6} risk level a hazard quotient of one (risk = 1E-06; HQ = 0.009). The same risk assessment demonstrated that risks associated with child trespasser contact with off-site surface water do not exceed a 1E-06 risk level or a hazard quotient of one (risk = 2E-07; HQ = 0.002). Only 1,1,2,2-Tetrachloroethane

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was were detected in the EI surface water samples at concentrations above the comparison criteria. The average concentration of this compound was 15.1 ug/L. 1,1,2,2-Tetrachloroethane was also detected during the RFI at concentrations exceeding the comparison criteria under consideration .

Trespassers are not likely to engage in activities that could result in significant exposure, nor are trespassers likely to remain long on the site or trespass only in areas where concentrations of chemicals in sediment exceed criteria. Hexachlorobenzene and hexachlorobutadiene were the only constituents which exceeded the MCS. Constituents including tetrachloroethene; trichloroethene and benzo(a)pyrene exceeded the Region 9 PRGs fro industrial soil. Silver and m,p-cresol, detected at concentrations above the MCS during the RFI, were not detected during the current sampling event. However, in the RFI risk assessment risks associated with child trespasser contact with off-site sediment fall within the 1E-06 to 1E-04 risk management range and below a hazard quotient of one (risk = 9E-06; HQ = 0.3). The concentrations trichloroethene, hexachlorobenzene, and hexachlorobutadiene measured in the EI sediment sampling are similar to concentration measured in off-site sediment samples during the RI. Concentrations of tetrachloroethene were elevated in comparison to RI samples. However, the maximum concentration of tetrachloroethene (10.62 mg/kg) would not exceed the Region 9 PRG adjusted to a target risk level of 10^{-5}, which is equal to 13 mg/kg. Using a 10^{-5} risk level is consistent with the Statement of Basis, where MCS for sediment are based on a lifetime cancer risk of 10^{-5}. In contrast to the other chemicals measured in off-site sediment, hexachlorobenzene and hexachlorobutadiene show a potential to bioaccumulate in aquatic ecosystems. The risks associated with exposure to these sediment contaminants direct contact and fish consumption are 1.2E-05 and 2.0E-05[5] respectively. The cumulative cancer risk from these exposure routes was 3.2E-05, which falls within the 1E-04 to 1E-06 risk management range. The cumulative non-cancer risk did not exceed unity.

RES is in the process of implementing deed restrictions that will restrict use of sport fishing and consumption of the fish from the unnamed tributary and Whitman Creek.

<u>Air (outdoor)</u>

The RFI risk assessment demonstrated that the risks associated with the outdoor vapor inhalation and particulate inhalation exposure routes do not exceed a 10^{-5} target risk level or a hazard quotient of one (HQ = 0.002 and risk = 1E-07 for Site A; HQ = 0.5 and risk = 9E-06 for Sites C,D & E). Using a 10^{-5} risk level is consistent with the Statement of Basis, where MCS for soil are based on the less stringent lifetime cancer risk of 10^{-4}. The present landfill covers will be replaced by an engineered landfill caps per the current Consent Order with U.S. EPA.

The following exposures are reasonably expected to be significant with the current use of land and groundwater:

- *Worker exposure to contaminated groundwater during FLTF operations and maintenance activities.*
- *Construction worker exposure to contaminated groundwater during excavation activities.*
- *Construction workers exposure to on-site contaminated surface soil;*
- *Worker exposure to on-site contaminated surface soil;*
- *Construction worker exposure to contaminated subsurface soil during excavation activities;*

(4) If there is any question on whether the identified exposures are "significant" (i.e. potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training, and experience.

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5. Can the significant **exposures** (identified in #4) be shown to be within **acceptable** limits?

__X__If yes (all significant exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

____If no, (there are current exposures that can be reasonably expected to be unacceptable) continue and enter the "NO" status code after providing a description of each potentially "unacceptable" exposure.

_____If unknown (for any potentially "unacceptable" exposure), continue and enter "IN" status code.

Rationale and Reference(s):

Groundwater

While a worker may inadvertently contact groundwater during FLTF operation and maintenance, exposure of workers is not currently significant because such exposures are carefully controlled and limited by an existing health and safety program that all workers on site follow. While a construction worker may come in direct contact with shallow groundwater during excavation activities, exposure of construction workers is not currently significant because such exposures are carefully controlled and limited by an existing health and safety program that all construction workers on site follow.

Surface and Subsurface Soil

Exposure of workers and construction workers to on-site contaminated surface and subsurface soil is not currently significant because such exposures are carefully controlled and limited by an existing health and safety program that all workers on site follow. Most workers spend the work day in and close to the facility buildings, which are located on the west side of the site, across LaBounty Road from the site landfills. In addition, risks from exposure to soils within Site A, which is the area of soil contamination closest to site buildings, were found to be within the range of acceptable risk. Workers conducting any construction activities not related to site operations, such as utility maintenance, are also required to follow appropriate health and safety procedures. Excavation activities are not anticipated within the source areas (Sites C, D and E) because state law prohibits intrusive activities without the written approval of the Director the Ohio EPA. Regulations also restrict excavation activities in landfills.

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6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA 725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (reference appropriate supporting documentation as well as a map of the facility):

   ___X___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 Reserve Environmental Services facility, EPA ID #OHD-980-793-384 located at Ashtabula, Ohio, 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.

All exposures have been controlled as required by the human health risk-based definitions specified in CA 725.

Completed by _____ Date:_____
Christopher J. Black
RCRA Corrective Action Project Manager

Supervisor _____ Date_____
George Hamper
RCRA Corrective Action Section Chief
U.S. EPA Region 5 Chicago

Locations where References may be found:

US EPA 77 W. Jackson Chicago IL -7th Floor Records Center

Human Health Risk Assessment, Reserve Environmental Services. Prepared by Weston Solutions, Inc.(formerly Roy F. Weston, Inc.) June 1995.

Corrective Measures Study Human Health Risk Assessment, Reserve Environmental Services. Prepared by Weston Solutions, Inc.(formerly Roy F. Weston, Inc.) June 1995.

Quality Assurance Project Plan, Reserve Environmental Services, Prepared by Weston Solutions, Inc. April 2005.

Contact telephone and e-mail numbers:

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Final Note: The Human Exposure 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.

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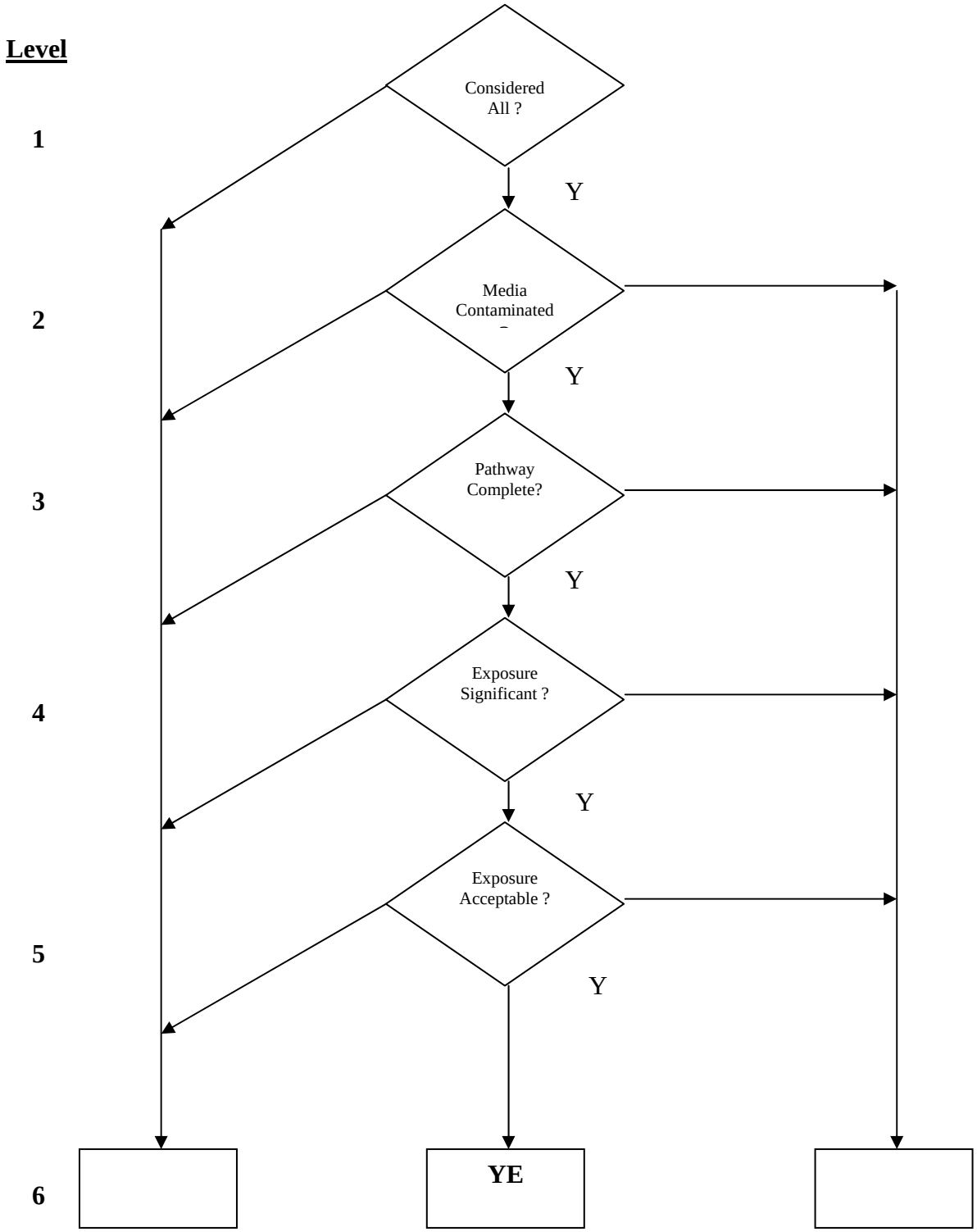
Facility Name RESERVE ENVIRONMENTAL SERVICES
EPA ID# OHD 980 793 384
City/State ~~Ashtabula, Ohio~~

CURRENT HUMAN EXPOSURES UNDER CONTROL (CA 725)



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