

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 7/30/04

RCRA Corrective Action

Environmental Indicator (EI) RCRA Info code (CA725)

Current Human Exposures Under Control

Facility Name: The Colonel's Factory Outlet of Arkansas, South Plant
Facility Address: 804 South Woods Street, West Memphis, Arkansas
Facility EPA ID #: ARD035663301

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

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 RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

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Facility Information

The Colonel's Factory Outlet of Arkansas, Inc. (TCFOA), located at 720 and 804 South Woods Street, West Memphis, Arkansas performed copper, nickel, and chrome plating of recycled automotive bumpers. The property was purchased by Donald Williamson in March 1993 from National Bumper Exchange (NBE), which began electroplating activities at the 804 South Woods Street location on October 12, 1958. Figure 1 of the Conceptual Site Model (CSM) shows the location of the property. TCFOA is listed under the Standard Industrial Classification Code 3471: Electroplating, Plating, Polishing, Anodizing, and Coloring (Booz Allen, 2004).

TCFOA owns two separate properties that each generated hazardous waste from separate bumper recycling operations. These two properties are physically separated by another business—formerly Delta Roofing Company. The North Plant (EPA ID ARD980621288) is located at 720 South Woods Street and the South Plant (EPA ID ARD035663301) is located at 804 South Woods Street. Collectively, these two properties are referred to as the West Memphis sites and occupy approximately three acres. The sites' geographical coordinates are approximately 35°08'10" north latitude and 90°11'04" west longitude (Booz Allen, 2004). This EI determination specifically focuses on the South Plant site.

The TCFOA North and South Plants were metal plating shops with known generated waste, which included RCRA listed metal plating treatment sludge, spent powdered activated carbon filters from the nickel plating operations, metal particulate wastes from the polishing shops, and paint/solvent wastes from the painting operations. TCFOA operations included containerized wastes stored throughout the operating and storage areas (Booz Allen, 2004).

The South Plant consists of four main buildings. These four main buildings include a small office building, a main process building and two warehouse storage buildings. Several SWMUs and AOCs were identified in the South Plant. Figure 2 of the CSM report provides a site layout for the South Plant. The SWMUs identified for the South Plant include the North Warehouse Building Northeast Warehouse Room (SWMU-1), the North Warehouse Building Southeast Hazardous Waste Storage Area (SWMU-2), the North Warehouse Building Maintenance Area (SWMU-3), North Warehouse Building Paint Shop Area (SWMU-4), Wastewater Treatment System Area (SWMU-5), the Electroplating Line Area (SWMU-6), the Chemical Storage Area (SWMU-7), the Main Building Southeast Warehouse Room 1 (SWMU-8), the Main Building Southeast Warehouse Room 2 (SWMU-9), and the North and South Plant Drainage Ditch (SWMU-10). Additionally, the South Plant has two AOCs identified: the Polishing Shop Discolored Soil Area (AOC-2) and the Northeast Area (AOC-3). A third AOC—the Crawfordsville Site (AOC 1)—was identified in the CSM; however, this AOC is located approximately 50 miles from the South Plant and was issued a separate EPA ID number. Therefore, it is not considered to be a part of the South Plant. A detailed summary of SMWUs, AOCs, and site conditions is presented in the CSM report (BDLI, 1997a; Booz Allen, 2004).

Three releases of hazardous waste have been confirmed at the South Plant. The first release area is a release of electroplating solutions from the sumps/pits associated with the electroplating line area (SWMU 6). Spills and overflows of electroplating solutions from electroplating activities were stored in the sumps/pits for extended amounts of time and eventually released to subsurface soils. The second potential release point is believed to have occurred through the numerous exhaust fans that pulled large volumes of metal particulates out of the grinding and polishing rooms and deposited them on the soils located east of the polishing shop room. This release area is referred to as the Polishing Shop Discolored Soil Area (AOC 2). The third release area is located in the northeast corner of the South Plant and is referred to as the Northeast Area (AOC 3). This area is believed to have been filled with spent sand blasting sand generated in bumper polishing activities (Booz Allen, 2004).

Releases are also suspected at the Wastewater Treatment System Area (SWMU 5) and the Chemical Storage Area (SWMU 7). However, these units have not been investigated. Regardless, exposure to potential releases from these units is highly unlikely for the same reasons cited below for the units for which releases have been confirmed (Belin, 2004).

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References

- BDLI, Inc. 1997a. *Final Site Investigation Report – The Colonel’s Factory Outlet of Arkansas, Inc.* June 11.
- Belin, John I. 2002. Personal communication with Derrick Warrick of the Arkansas Department of Environmental Quality regarding The Colonel’s Factory Outlet of Arkansas North and South Plants and the Crawfordsville Property. October 28.
- Belin, John I. 2004. Personal communication with William Smith of the H&H Equipment Company during a site reconnaissance visit to the Colonel’s North and South Plants. September 16.
- Booz Allen Hamilton. 2004. *Conceptual Site Model for the Colonel’s Factory Outlet of Arkansas, Inc., South Plant.* March 31.
- Ecology and Environment, Inc. 2004. *Investigation Report, Colonel’s Factory Outlet.* May 7.

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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 [e.g., Maximum Contaminant Levels (MCLs), the maximum permissible level of a contaminant in water delivered to any user of a public water system under the Safe Drinking Water Act] from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	<u>Yes</u>	<u>No</u>	<u>?</u>	<u>Rationale / Key Contaminants</u>
Groundwater	<u>x</u>	<u>—</u>	<u>—</u>	<u>Above MCLs or MSSLs / Metals</u>
Air (indoors) ²	<u>—</u>	<u>x</u>	<u>—</u>	<u>No impact to indoor air</u>
Surface Soil (e.g., <2 ft)	<u>x</u>	<u>—</u>	<u>—</u>	<u>Above MSSLs / Metals</u>
Surface Water	<u>—</u>	<u>x</u>	<u>—</u>	<u>No Impact to surface waters</u>
Sediment	<u>—</u>	<u>x</u>	<u>—</u>	<u>No Impact to sediment</u>
Subsurf. Soil (e.g., >2 ft)	<u>x</u>	<u>—</u>	<u>—</u>	<u>Above MSSLs / Metals</u>
Air (outdoors)	<u>—</u>	<u>x</u>	<u>—</u>	<u>No impact to outdoor air</u>

_____ 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, 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):

Groundwater: As part of site investigation activities conducted in May 2004, five soil borings (SB-4, SB-5, SB-6, SB-7, and SB-8) were advanced in the South Plant area using direct-push technology to assess groundwater impacts³. Figure 3 of the Investigation Report (Ecology and Environment, 2004) illustrates the location of the soil borings where the groundwater grab samples were collected. Groundwater grab samples were collected from three borings (SB-4, SB-5, and SB-7) advanced to a maximum depth of 17.5

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.

³ It should be noted that groundwater grab samples collected using direct push technology may be turbid, which may bias the results for total metals high. Because the field personnel did not indicate in the field notebook for the February 2004 Sampling Event that the groundwater samples contained high turbidity, the impact of turbidity on the results is expected to be minimal. However for purposes of CA725 EI, groundwater concentrations were assumed to be potentially biased high and represent a worse-case scenario; thus, to be conservative, metals in groundwater exceeding MCLs or MSSLs were carried forward to Question #3 in this CA725 EI determination form.

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feet. Groundwater grab samples could not be collected from SB-6 and SB-8 due to a lack of groundwater volume. Groundwater grab samples were analyzed for inorganic constituents (including mercury) on EPA's Target Analyte List (TAL). Table 1 indicates the maximum concentrations of contaminants detected in groundwater. Concentrations of several metals exceeded their respective screening criteria, (i.e., EPA Region 6 Human Health Medium-Specific Screening Levels [MSSL] for industrial scenarios and Federal Maximum Contaminant Levels [MCL]) (Booz Allen, 2004; Ecology and Environment, Inc. 2004).

Table 1: Groundwater Sampling Results for the South Plant

Contaminant	Maximum Detected Concentration	Region 6 MSSL for Tap Water	MCL
Total Metals (µg/l)			
Aluminum	182,000 J	37,000	n/a
Antimony	60 U	15	6
Arsenic	78.6	45	50
Barium	3,240	2,600	2,000
Beryllium	11.3	73	4
Cadmium	26.8	18	5
Chromium	193	55,000	1000
Cobalt	105	730	n/a
Copper	535	1,400	1,300
Iron	311,000	11,000	n/a
Lead	417	15	15
Manganese	13,200	1,700	n/a
Mercury	0.45 JL	11	2
Nickel	9,920	730	n/a
Selenium	35.0 U	180	50
Silver	10.0 U	180	n/a
Thallium	33.5	2.9	2
Vanadium	396	2.2	n/a
Zinc	1,430	11,000	n/a

Bolded concentrations exceeded their respective screening criterion
n/a - Not available

Arkansas Department of Environmental Quality (ADEQ) representatives have also expressed concern about potential volatile organic compound (VOC) contamination in groundwater at the South Plant as a result of leaching of VOCs from soils. It should be noted that VOCs were not a significant constituent of concern for operations at the South Plant except at the Paint Shop (SWMU 4). In this area, paint and solvents were used. While no VOC sampling was performed in the Paint Shop (SWMU 4), analysis of VOCs in soil samples from other areas of the South Plant failed to detect significant concentrations of VOCs. In addition, it should be noted that the paint shop formerly contained a paint booth that vented outside to a grassy area located on the property adjacent to the TCFOA property. The floor of this area consisted of a concrete slab with a 20 ml underlying liner, which would have significantly limited migration of spills to soils. Arkansas Department of Pollution Control and Environment (ADPC&E) inspections conducted in the mid to late 1990s did not identify any evidence of staining on or in the area that would indicate a release or spill. For two primary reasons, it is unlikely that sufficient concentrations

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of VOCs are currently present in soils to exceed screening levels. First, exhaust from the paint shop was emitted by an exhaust fan and would likely have dispersed over a wide area, which would limit the concentrations that would accumulate in surface soils. Second, it has been at least seven years since operations were conducted at the TCFOA site. In the unlikely event that VOCs accumulated in significant concentrations in the soils outside the paint shop, natural attenuation, volatilization, and degradation would most likely have significantly reduced any concentrations of VOCs in surface soils outside SWMU 4. For these reasons, it is highly unlikely that significant concentrations of VOCs are present in soils at the South Plant, which would make it even more unlikely that VOCs could have leached from soils to groundwater (Booz Allen, 2004; Belin, 2004).

Indoor Air: In some cases, VOCs in soil and groundwater can adversely impact indoor air quality. However, at the South Plant metals were the primary contaminants of concern. As previously indicated, ADEQ representatives have also expressed concern about potential volatile organic compound (VOC) contamination of indoor air at the South Plant. For the reasons provided under the discussion of groundwater, it is highly unlikely that significant concentrations of VOCs are present in soils or groundwater at the South Plant to sufficiently impact indoor air quality (Booz Allen, 2004; Belin, 2004).

Surface and Subsurface Soils: Surface (0 to 2 feet below ground surface [bgs]) and subsurface (greater than 2 feet bgs) soils at the South Plant are primarily contaminated with metals. To a substantially lesser extent, PCBs, pesticides, VOCs, and SVOCs have also been identified in soils associated with the Polishing Shop Discolored Soil Area (AOC 2); however, concentrations of these contaminants did not exceed screening criteria. Site investigations have identified soil contamination exceeding screening criteria in three main areas at the South Plant – the Electroplating Line Area (SWMU 6), the Polishing Shop Discolored Soil Area (AOC 2), and the Northeast Area (AOC 3) (Booz Allen, 2004; Ecology and Environment, Inc. 2004).

Sampling of surface soils at the South Plant was conducted during several Compliance Evaluation Inspections (CEI), during two phases of the site investigation, and during data gap sampling conducted in 2004. Substantial concentrations of nickel, chromium, and copper were detected in surface soils at the South Plant. Exceedences of risk-based screening levels for metals in surface soils were identified at SWMU 6, AOC 2, and AOC 3. However, all of the maximum concentrations of contaminants were detected in AOC 2 with the exception of arsenic. The maximum detected concentration of arsenic was detected in SS-7. It should be noted that arsenic concentrations across the TCFOA sites were consistent and are believed to be attributable to elevated background concentrations. Table 2 indicates the maximum detected concentrations of contaminants detected in surface soils at the South Plant (Booz Allen, 2004; Ecology and Environment, Inc. 2004).

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Table 2: Surface (≤2 feet bgs) Soil Sampling Results for the South Plant

Contaminant	Maximum Detected Concentration	Unit/ Sampling Location	MSSL for Industrial Soil
Organics (μg/kg)			
Di-n-butylphthalate	46	AOC 2	68,000,000
Fluorathene	36	AOC 2	24,000,000
Pyrene	66	AOC 2	32,000,000
Butylbenzylphthalate	98	AOC 2	240,000
bis(2-ethylhexyl)phthalate	240	AOC 2	140,000
Polychlorinated Biphenyls (μg/kg)			
Arochlor-1254	78	AOC 2	830
Arochlor-1260	99	AOC 2	830
Total Metals (mg/kg)			
Antimony	71.1	AOC 2	450
Arsenic	10.3	SS-7	3.9
Barium	80	AOC 2	79,000
Cadmium	127	AOC 2	560
Chromium	525	AOC 2	500
Cobalt	111	AOC 2	2,100
Copper	40,600	AOC 2	42,000
Iron	160,000	AOC 2	100,000
Lead	207	AOC 2	800
Manganese	717	AOC 2	35,000
Mercury	3	AOC 2	340
Molybdenum	14	AOC 2	5,700
Nickel	204,000	AOC 2	23,000
Vanadium	27	AOC 2	1,100
Zinc	2,590	AOC 2	100,000

Bolded concentrations exceeded their respective screening criteria

Sampling of subsurface soils at the South Plant was conducted during several inspections, during two phases of site investigation, and during data gap sampling performed in 2004. Substantial concentrations of nickel, chromium, and copper were detected in subsurface soils at the South Plant. Exceedences of risk-based screening levels for metals in subsurface soils were identified at SWMU 6, AOC 2, and AOC 3. Table 3 indicates the maximum detected concentrations of contaminants detected in subsurface soils at the South Plant (Booz Allen, 2004; Ecology and Environment, Inc. 2004).

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Table 3: Subsurface (>2 feet bgs) Soil Sampling Results for the South Plant

Contaminant	Maximum Detected Concentration	Unit	MSSL for Industrial Soil
Total Metals (mg/kg)			
Barium	325	SWMU 6	79,000
Chromium	550	AOC 3	500
Cobalt	12	SWMU 6	2,100
Copper	8,830	AOC 3	42,000
Iron	22,000	SWMU 6	100,000
Lead	15	SWMU 6	800
Manganese	163	SWMU 6	35,000
Mercury	1	SWMU 6	340
Nickel	25,100	AOC 3	5,700
Strontium	42	SWMU 6	23,000
Vanadium	69	SWMU 6	1,100
Zinc	67	SWMU 6	100,000

Bolded concentrations exceeded their respective screening criteria

As previously indicated, ADEQ representatives have also expressed concern about potential VOC contamination in soils at the South Plant. For the reasons provided under the discussion of groundwater contamination at the South Plant, it is highly unlikely that significant concentrations of VOCs are present in surface and subsurface soils (Booz Allen, 2004; Belin, 2004).

Surface Water and Sediment: The only surface water body in the vicinity of the South Plant is the North and South Plant Drainage Ditch (SWMU 10), which is located northeast of the property. ADEQ investigated and remediated this area after elevated concentrations of metals were detected in sediments. It should be noted that the areas of sediment contamination that were identified during investigation of SWMU 10 were located adjacent to the north plant. No areas of surface water or sediment contamination were detected in the vicinity of the South Plant (Booz Allen, 2004).

Outdoor Air: No VOCs have been detected in surface and subsurface soil at the South Plant, which could generate emissions that adversely impact outdoor air quality. In addition, for the reasons indicated above, it is highly unlikely that sufficient quantities of VOCs are present in South Plant soils to adversely impact outdoor air quality. Finally, exposure to contaminants entrained in wind blown dust from the South Plant is expected to be minimal because areas of contaminated soils are covered with gravel, vegetation, concrete, or scrap materials, which would prevent dispersion of contaminated soil particles. As a result, it is highly unlikely that outdoor air quality has been adversely impacted at the South Plant (Booz Allen, 2004; Belin, 2004).

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References:

- Belin, John I. 2004. Personal communication with William Smith of the H&H Equipment Company during a site reconnaissance visit to the Colonel's North and South Plants. September 16.
- Booz Allen Hamilton. 2004. *Conceptual Site Model for the Colonel's Factory Outlet of Arkansas, Inc.*, South Plant. March 31.
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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 ⁴
Groundwater	no	no	no	no	no	no	no
Air (indoors)							
Soil (surface, e.g., <2 ft)	no	no	no	no	no	no	no
Surface Water							
Sediment							
Soil (Subsurface, e.g., >2 ft)	no	no	no	no	no	no	no
Air (outdoors)							

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 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).
- X 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

⁴ Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.) pathway.

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Rationale and Reference(s):

For this evaluation, potential exposure to contaminated media was evaluated for both on- and off-site receptors. As discussed in Question 2, indoor air, outdoor air, surface water and sediment were not determined to contain concentrations of contaminants above appropriately protective risk-based screening levels. Groundwater, surface soil, and subsurface soil are impacted above relevant screening levels at the South Plant and will be evaluated.

However, prior to this evaluation, potential exposures for certain receptors can be excluded from consideration. Daycare and recreational receptors can be excluded from further consideration because soil contamination has not migrated off site and groundwater is not used at the South Plant or within a one-half mile radius of the property. In addition, no construction activities are currently occurring at the South Plant, and no crops are livestock are raised on the South Plant property or in the vicinity of the South Plant property (Booz Allen, 2004; Belin, 2004).

Groundwater: Groundwater is not used at the South Plant. As a result, pathways for exposure to contaminated groundwater by on-site workers are incomplete. In addition, groundwater exposure by trespasser receptors is highly unlikely because the depth to groundwater is greater than 15 feet bgs and groundwater is not used at the South Plant. Finally, during site investigation activities, TCFOA investigated the area within a one-half mile radius of the site for groundwater wells in an attempt to determine the uppermost groundwater elevation. No groundwater wells were identified within one-half mile of the TCFOA properties. Four municipal water supply wells are located within four miles of the site; however, these wells are located beneath a confining layer and are completed approximately 1,400 feet bgs. Also, according to officials at the Crittenden County Health Department, municipal water supplies are available for the resident within one-half mile of the South Plant. As a result, exposure pathways to contaminated groundwater for residents are incomplete (Booz Allen, 2004; Belin, 2004).

Surface/subsurface Soil: The South Plant is surrounded by an eight-foot chain link fence topped with three strands of barbed wire, which effectively renders exposure pathways to soil for trespasser receptors incomplete. In addition, off-site contaminated soils were not identified during investigation of the South Plant; therefore, exposure pathways to contaminated soils by residents are incomplete. Finally, based on discussions with representative of the H&H Equipment Company, which currently leases the main South Plant building for warehouse operations, on-site workers do not conduct any intrusive activities that would result in exposure to subsurface soils. On-site workers receive, unpack, store, maintain, pack, and ship items warehoused in the main South Plant building. No other activities are performed by on-site workers. Therefore, exposure by on-site workers to subsurface soil contamination is highly unlikely to occur. As a result, exposure pathways to contaminated surface soils by on-site workers are incomplete (Booz Allen, 2004; Belin, 2004).

References:

- Belin, John I. 2004. Personal communication with William Smith of the H&H Equipment Company during a site reconnaissance visit to the Colonel's North and South Plants. September 16.
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4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be “**significant**”⁵ (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)?

 X If no (exposures can not 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.”

_____ 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 code

Rationale and Reference(s):

Surface Soil: Exposure to contaminated surface soils by on-site workers was the only complete exposure pathway identified for the South Plant.

For several reasons, on-site worker exposure to contaminated surface soils is also not likely to be significant. First, access to two of the areas of surface soil contamination by on-site workers at the South Plant—the Electroplating Line Area (SWMU 6) and the Northeast Area (AOC 3)—is significantly limited. The electroplating line is located inside the main South Plant building and access to the area is prevented by a locked door. In addition, contaminated soils in this area are covered by the concrete floor of the electroplating line. In addition, the northeast area is currently used as an equipment storage area and the area of contaminated soil is covered with a substantial amount of scrap metal, piping, various equipment, and other general debris, which would significantly limit exposure by on-site workers. Surface soil contamination has also been identified at the South Plant by the Polishing Shop Discolored Soil Area (AOC 2). This area is located outside of the main South Plant building where warehousing activities occur. According to representatives of the H&H Equipment Co., this area is located in a portion of the South Plant that is not utilized and on-site workers have no reason to enter this area. In addition, a locked door prevents access to this area from the main South Plant building. Finally, it should be noted that according to representatives of H&H Equipment Co. who use the main South Plant building for warehouse operations, employees do not work full-time at the South Plant, and they spend all of their time inside the main South Plant building. The H&H representative indicated that employees work varied days and hours, which

⁵ 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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would limit any exposure to soils. For these reasons, it is highly unlikely that on-site workers would have significant exposure to contaminated soils at the South Plant (Booz Allen, 2004; Belin, 2004).

References:

- Belin, John I. 2004. Personal communication with William Smith of the H&H Equipment Company during a site reconnaissance visit to the Colonel's North and South Plants. September 16.
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5. Can the “significant” exposures (identified in #4) be shown to be within acceptable limits?

_____ 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 “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):

Not Applicable

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6. Check the appropriate RCRA Info 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):

- 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 Colonels' Factory Outlet of Arkansas, South Plant** facility, EPA ID # **ARD035663301**, located in **West Memphis, Arkansas** 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 _____ Date 7/30/2004
John Belin
Risk Assessor

ADEQ _____ Date _____
Representative

Locations where references may be found:

Arkansas Department of Environmental Quality - Hazardous Waste Division and Records Section
8001 National Drive
Little Rock, AR 72209

Contact telephone number and e-mail:

Daniel Clanton
501-682-0834
CLANTON@adeq.state.ar.us

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.

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NO - "Current Human Exposures" are NOT "Under Control."

IN - More information is needed to make a determination.

Completed by _____ Date 7/30/2004

John Belin
Risk Assessor

ADEQ _____ Date 9/8/2004

Representative Derick G. Warrick, PE
Engineering Supervisor

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