Tables

Table 1. Evaluation of Potential Public Health Hazards at Curtis Bay Coast Guard Yard

Site	*Site Description/Waste Disposal History*	*Investigation Results/Environmental Monitoring Results*	*Corrective Activities or Current Status*	*Evaluation of Public Health Hazard*
Area 1-Dry Dock Sediments	Area 1-Dry Dock Sediments comprises the bottom sediments around the Yard's active shipyard. Historically, waste was discharged directly to Curtis Creek in the vicinity of the two drydocks.	Surface Water: Metals and volatile organic compounds (VOCs) have been detected in surface water samples near the drydocks. None of these contaminants were found at levels above Agency for Toxic Substances and Disease Registry (ATSDR) comparison values (CVs). Sediment: Metals, semivolatile organic compounds (SVOCs), VOCs, pesticides and polychlorinated biphenyls (PCBs) have been detected in sediment samples near the drydocks. Several of the contaminants were found at levels above ATSDR CVs for children. Only one of these contaminants, however, was found at a level above the ATSDR CV for adults.	Based on available analytical data and file information, the extent of surface water and sediment contamination at Area 1 has not been determined. A multimedia sampling event will be required. This information will need to be obtained in order to fully characterize the site and evaluate possible remedial actions.	No public health hazards are associated with Area 1. Only one of the contaminants discovered exceeded ATSDR's CV for children. Children would not be near the dry dock, therefore an exposure pathway is not present for children. No contaminants were found that exceeded ATSDR CVs for adults. The public had limited access to the contaminated surface water/sediment in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.
Sites 4 & 7-The Salvage Lot and Former Burn Pit	Sites 4-the Salvage Lot, and 7-the Former Burn Pit are grouped together because of their close proximity, similar site histories, and waste characteristics. They are located in the northwestern section of the Yard along the facility's northern boundary. The area around Sites 4 and 7 was reportedly used as a disposal site for unspecified materials. Site 4 has been an active scrap metal storage	Surface Soil: Metals, SVOCs, VOCs, dioxin/furans, pesticides and PCBs have been detected in surface soil samples near the salvage lot and former burn pit. Two of the contaminants were found at levels above ATSDR CVs for children, two were found at levels above ATSDR CVs for adults, and four exceeded EPA's soil screening levels. Subsurface Soil: Metals, SVOCs, VOCs, dioxin/furans, pesticides and PCBs have been detected in subsurface soil samples near the salvage lot and former burn pit. Two of the contaminants were found at levels above ATSDR CVs for children, three were	The remedial work for Sites 4 and 7 will be performed concurrently, because of their close proximity to one another and similar waste histories. Based on available analytical data and file information, the extent of surface and subsurface soil contamination at Sites 4 & 7 has not been determined. This information will need to be obtained in order to fully characterize the site and evaluate possible remedial	No apparent public health hazards are associated with Sites 4 & 7. Two of the contaminants discovered exceeded ATSDR's CV for children. Children would not be found near the salvage lot and former burn pit, therefore an exposure pathway is not present for children. Three contaminants were found that exceeded ATSDR CVs for adults, but none of these exceeded health guidelines. The public had

Site	*Site Description/Waste Disposal History*	*Investigation Results/Environmental Monitoring Results*	*Corrective Activities or Current Status*	*Evaluation of Public Health Hazard*
	yard since its initial construction in the early 1940's. Site 7 was used as a burn pit from the late 1940's through 1963. The former burn pit was reportedly used for the disposal and intermittent incineration of liquids, solid waste, oil, batteries, scrap metal, and asbestos-containing metals.	found at levels above ATSDR CVs for adults, and four exceeded the US Environmental Protection Agency's (EPA) soil screening levels.	actions.	limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.
Sites 5, 6, & 11- Creosote Stained Soils, Cosmoline Discharge Area, and Spent Abrasive Blast Grit	Sites 5, 6, & 11 are located in the southern portion of the Yard along the industrialized waterfront in an area dedicated to Aids to Navigation (ATN) storage and the Paint Shop Complex. The ATN (buoy) storage yard and Paint Shop Complex was constructed in the early 1940's. During this time, timbers were reportedly treated with creosote and stored along the shoreline at Site 5. However, there is no information to indicate that a large-scale creosote application process occurred at the Yard. Throughout the active history of the ATN (buoy) storage area, the shells of the stored buoys have been treated with cosmoline at Site 6. Open air blasting with an abrasive grit material was conducted to	Surface Soil: Metals, SVOCs, VOCs, PCBs and pesticides have been detected in surface soil samples near Sites 5, 6, & 11. Two of the contaminants were found at levels above ATSDR CVs for adults. Subsurface Soil: Metals, SVOCs, and VOCs have been detected in subsurface soil samples near Sites 5, 6, & 11. Two of the contaminants were found at levels above ATSDR CVs for adults.	The remedial work for Sites 5, 6, & 11 will be performed concurrently, based on their close proximity to one another and similar waste histories. Based on available analytical data and file information, the extent of surface and subsurface soil contamination at Sites 5, 6, & 11 has not been determined. A multimedia sampling event will be required. This information will need to be obtained in order to fully characterize the site and evaluate possible remedial actions.	Based on a review of site data and potential exposure scenarios, no apparent public health hazards are expected. Two contaminants were found that exceeded ATSDR CVs for adults, but none of these exceeded health guidelines. The public had limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.

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	remove rust and paint from docked ships and ship parts at Site 11. Open air blast grit activities stopped in 1992.			
Site 8- Former Incinerator	The Former Incinerator was located in the northeastern corner of the Yard, directly south of the facility's northern property boundary. It was used to burn trash. According to a facility representative, the incinerator was constructed in the 1930's to 1940's and demolished in 1996.	Surface Soil: Metals, SVOCs, dioxin/furans, pesticides and PCBs have been detected in surface soil samples near the former incinerator. Five of these contaminants were found at levels above ATSDR CVs for adults. Subsurface Soil: Metals, SVOCs, pesticides and PCBs have been detected in subsurface soil samples near the former incinerator. Six of these contaminants were found at levels above ATSDR CVs for adults.	Based on available analytical data and file information, the extent of surface and subsurface soil contamination at Site 8 has not been determined. A multimedia sampling event will be required. This information will need to be obtained in order to fully characterize the site and evaluate possible remedial actions.	No apparent public health hazards are associated with Site 8. Several contaminants were found that exceeded ATSDR CVs for adults, but none of these exceeded health guidelines. The public had limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.
Site 9-Reported Bilge Slop Area	Site 9 is located in the northeastern portion of the Yard along Arundel Cove. From at least the 1940s through the 1950s, and possibly into the 1960s, Site 9 consisted of an all-purpose storage and work area used as a dump, scrap metal yard, and possible bilge dump area. Since the 1970s, the site has been used for vehicle parking.	Surface Soil: Metals, SVOCs, VOCs, pesticides and PCBs have been detected in surface soil samples near the reported bilge slop area. Several of the contaminants were found at levels above ATSDR CVs for children. Few of these contaminants, however, were found at levels above ATSDR CVs for adults. Subsurface Soil: Metals, SVOCs, VOCs, pesticides and PCBs have been detected in subsurface soil samples near the reported bilge slop area. Several of the contaminants were found at levels above ATSDR CVs for children. Few of these contaminants, however, were found at levels above ATSDR CVs for adults.	Based on available analytical data and file information, the extent of surface and subsurface soil contamination at Site 9 has not been determined. A multimedia sampling event will be required. This information will need to be obtained in order to fully characterize the site and evaluate possible remedial actions.	No apparent public health hazards are associated with Site 9. Several of the contaminants discovered exceeded ATSDR's CV for children. Children would not be near the bilge slop area, therefore an exposure pathway is not present for children. Few contaminants were found that exceeded ATSDR CVs for adults and none of these exceeded health guidelines. The public had limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential

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				future exposures.
Site 13-Alanite Acid Tanks	Site 13 encompasses two 800-gallon steel underground storage tanks (USTs) which were abandoned in-place in November 1992. These USTs were formerly used for the accumulation of waste rinse water generated from an alanite (or hydrofluoric acid) cleaning process. They are located south of Building 78, in a highly industrialized portion of the Yard.	Surface Soil: Metals, SVOCs, pesticides and PCBs have been detected in surface soil samples near the alanite acid tanks. Several of the contaminants were found at levels above ATSDR CVs for children. Only one of these contaminants, however, was found at a level above ATSDR's CV for adults. Subsurface Soil: Metals, SVOCs, and VOCs have been detected in subsurface soil samples near the alanite acid tanks. Several of the contaminants were found at levels above ATSDR CVs for children. Only one of these contaminants, however, was found at a level above ATSDR's CV for adults.	Site 13 is a candidate for preparing and submitting a Decision Document (DD) requesting that the site be removed from the Yard's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) inventory. If Site 13 is not removed from the CERCLA inventory, a Remedial Investigation/Feasibility Study (RI/FS) would need to be conducted. No apparent public health hazards are associated with Site 13. Several of the contaminants discovered exceeded ATSDR's CV for children. Children would not be near the alanite acid tanks, therefore an exposure pathway is not present for children. One contaminant was found that exceeded ATSDR CVs for adults and none exceeded health guidelines. The public had limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.	No apparent public health hazards are associated with Site 13. Several of the contaminants discovered exceeded ATSDR's CV for children. Children would not be near the alanite acid tanks; therefore an exposure pathway is not present for children. One contaminant was found that exceeded ATSDR CVs for adults and none exceeded health guidelines. The public had limited access to the contaminated surface/subsurface soil in the past. Access restrictions have also been implemented to prevent any current or potential future exposures.

Source: TetraTech, 2002.

Key:

ATN	Aids to Navigation
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CV	comparison value
DD	Decision Document
EPA	US Environmental Protection Agency
SVOC	Semivolatile Organic Compound
PCB	Polychlorinated Biphenyls
RI/FS	Remedial Investigation/Feasability Study
VOC	Volatile Organic Compound
UST	Underground Storage Tank

Table 2. Exposure Pathways Evaluation Table

Pathway Name	*Exposure Pathway Elements*					*Comments*
	Source of Contamination	***Environmental Medium***	***Point of Exposure***	***Route of Exposure***	***Potentially Exposed Population***	
Potential Exposure Pathways						
Surface Soil	Certain areas of the Yard where releases contaminated soil with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, pesticides and polychlorinated biphenyls (PCBs)	Surface soil	Yard source areas	Dermal contact and incidental ingestion	Yard personnel, recreational fishermen, and trespassers	Past, Current, and Future: Exposure to contaminated surface soil at the Yard is largely prevented because the majority of the land's surface is paved, covered with vegetation, fenced, and/or lies in restricted land use locations. Workers, recreational fishermen, and trespassers may have contacted low levels of contaminants in surface soil. Sporadic contact with and/or incidental ingestion of the contaminants detected in the surface soil is not expected to have resulted in harmful effects.
Surface Water/ Sediment	Yard source areas. Contaminants include VOCs, SVOCs, PCBs, and metals.	Surface water and sediment of Curtis Creek and Arundel Cove.	Curtis Creek and Arundel Cove	Dermal contact and incidental ingestion	Workers, recreational fishermen, and trespassers.	Past, Current, and Future: No apparent public health hazard is expected for this pathway. The creek is not used for drinking water, nor is it used for swimming or wading, and the waterways have restricted accessibility. Sporadic contact with contaminants at the levels detected in the surface water/sediment is not expected to result in adverse health effects.

	Exposure Pathway Elements					
Consumption of Local Fish/Crab	Yard-related contaminants that have been released to local waterways or to the ground surface.	Local fish and crab populations	Consumption of locally-caught fish and crab	Ingestion	Local anglers and their families	Past, Current, and Future: Fish and crab are not expected to accumulate harmful levels of site-related contaminants. People who eat these foods in a varied diet are therefore not likely to experience ill effects. Recreational fisherman are encouraged to follow Maryland Department of the Environment fish consumption advisories.

Figures

Figure 1. Area Map: Curtis Bay Coast Guard Yard

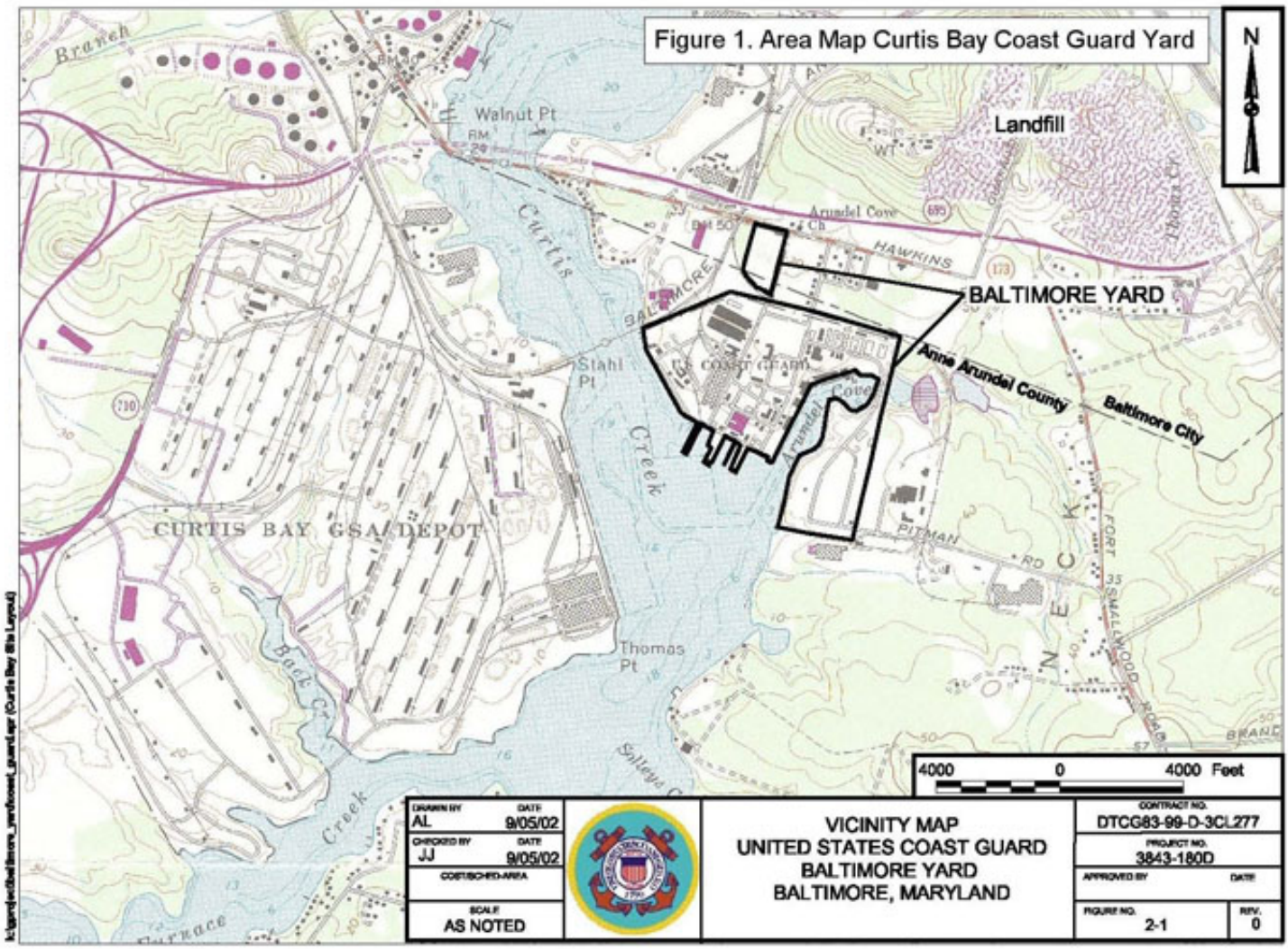

Figure 2. Site Map: Curtis Bay Coast Guard Yard

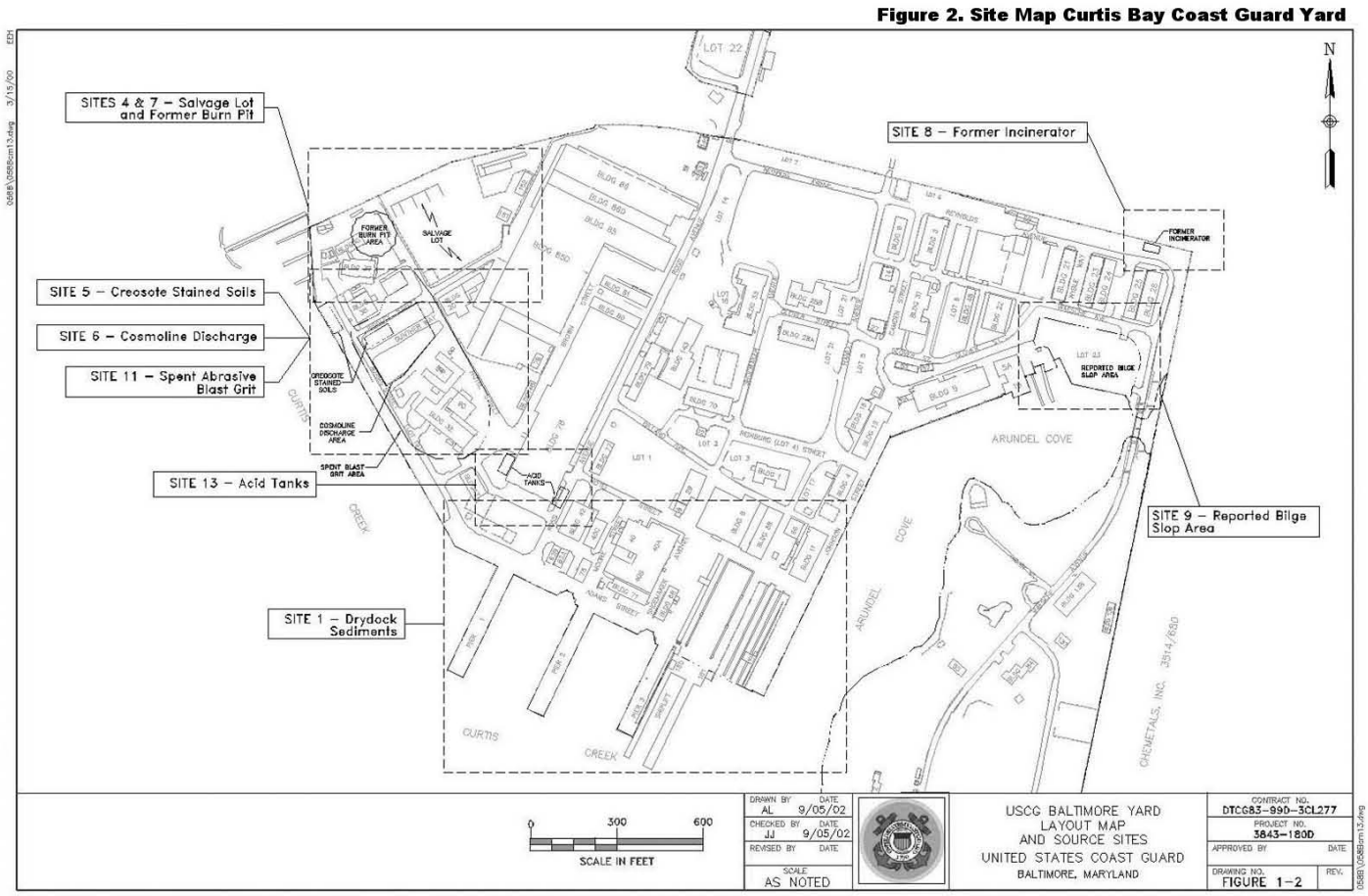

Figure 3. Demographics within 1-Mile Buffer around Curtis Bay Coast Guard Yard

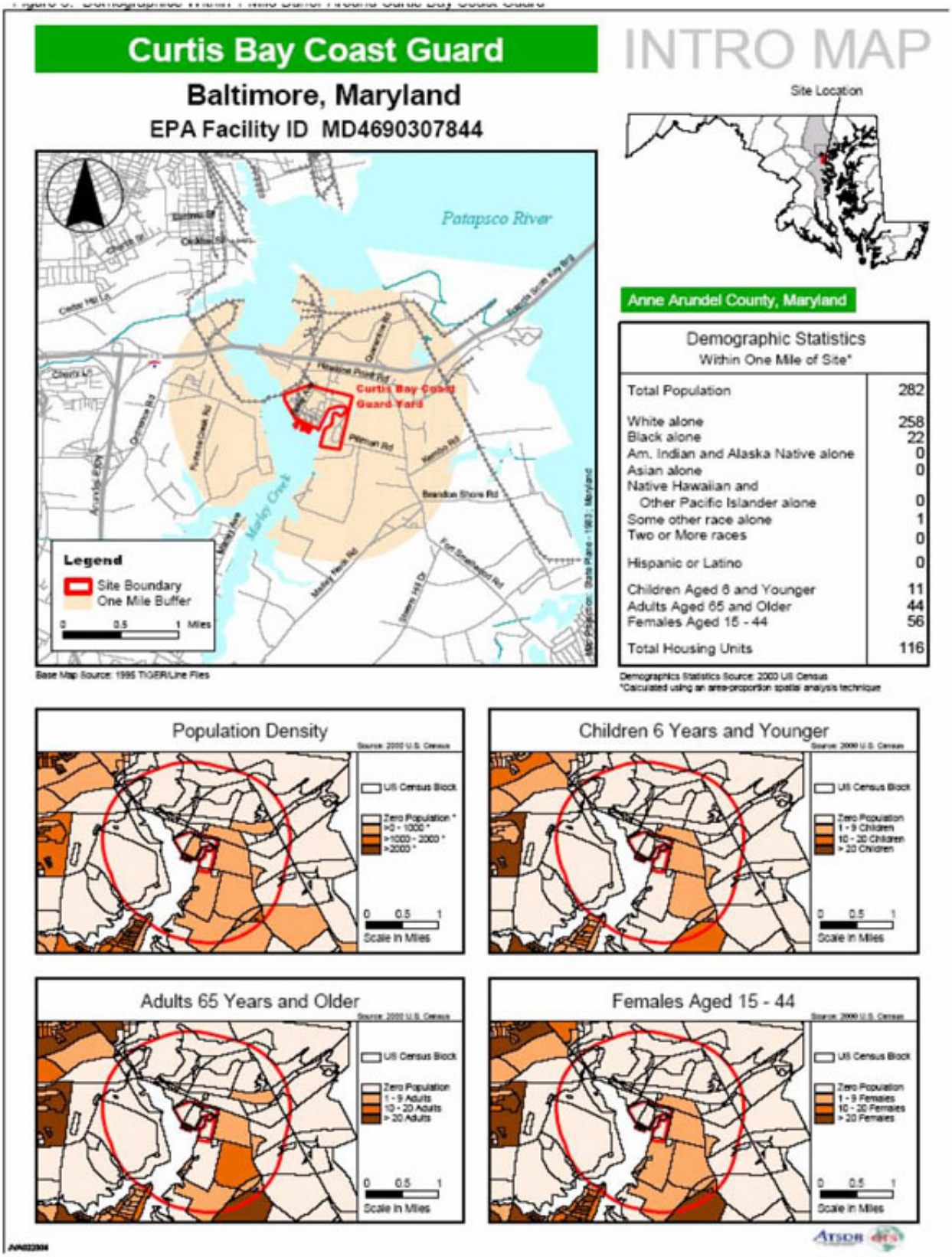

Figure 4. ATSDR's Exposure Evaluation Process