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EPA Descriptions of 17 Sites Proposed for the National Priorities List in June 1993

Office of Emergency and Remedial Response
Hazardous Site Evaluation Division (5204G)

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This document consists of descriptions of the 17 sites proposed for the National Priorities List (NPL) in June 1993 The size of the site is generally indicated, based on information available at the time the site was scored using the Hazard Ranking System. The size may change as additional information is gathered on the sources and extent of contamination. Sites are arranged alphabetically by State (two-letter abbreviations) and by site name.

CLEANING UP UNDER SUPERFUND

The Superfund program is managed by the U.S. Environmental Protection Agency (EPA). It is authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), enacted on December 11, 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA), enacted on October 17, 1986. In October 1990, SARA was extended to September 30, 1994. The Hazardous Substance Response Trust Fund set up by CERCLA as amended pays the costs not assumed by responsible parties for cleaning up hazardous waste sites or emergencies that threaten public health, welfare, or the environment; Superfund also pays for overseeing responsible parties conducting cleanup.

Two types of responses may be taken when a hazardous substance is released (or threatens to be released) into the environment:

- **Removal actions – emergency-type responses to imminent threats.** SARA limits these actions to 1 year and/or $2 million, with a waiver possible if the actions are consistent with remedial responses. Removal actions can be undertaken by the private parties responsible for the releases or by the Federal government using the Superfund

- **Remedial responses – actions intended to provide permanent solutions at uncontrolled hazardous waste sites.** Remedial responses are generally longer-term and more expensive than removals A Superfund-financed remedial response can be taken only if a site is on the NPL EPA published the first NPL in September 1983 The list must be updated at least annually

EPA's goals for the Superfund program are to

- Ensure that polluters pay to clean up the problems they created, and

- Work first on the worst problems at the worst sites, by making sites safe, making sites clean, and bringing new technology to bear on the problem

REMEDIAL RESPONSES

The money for conducting a remedial response at a hazardous waste site (and a removal action, as well) can come from several sources:

- The individuals or companies responsible for the problems can clean up voluntarily with EPA or State supervision, or they can be forced to clean up by Federal or State legal action
- A State or local government can choose to assume the responsibility to clean up without Federal dollars
- Superfund can pay for the cleanup, then seek to recover the costs from the responsible party or parties

A remedial response, as defined by the National Contingency Plan (the Federal regulation by which Superfund is implemented), is an orderly process that generally involves the following steps:

- Take any measures needed to stabilize conditions, which might involve, for example, fencing the site or removing above-ground drums or bulk tanks
- Undertake initial planning activities to scope out a strategy for collecting information and analyzing alternative cleanup approaches.
- Conduct a remedial investigation to characterize the type and extent of contamination at the site and to assess the risks posed by that contamination
- Conduct a feasibility study to analyze various cleanup alternatives. The feasibility study is often conducted concurrently with the remedial investigation as one project. Typically, the two together take from 18 to 24 months to complete and cost approximately $1.3 million.
- Select the cleanup alternative that:
  - Protects human health and the environment,
  - Complies with Federal and State requirements that are applicable or relevant and appropriate,
  - Uses permanent solutions and alternative treatment technologies or resource recovery technology to the maximum extent *practicable;*
  - Considers views of the State and public; and
  - Is "cost effective" – that is, affords results proportional to the costs of the remedy.
- Design the remedy. Typically, the design phase takes 6 to 12 months to complete and costs approximately $1.5 million.
- Implement the remedy, which might involve, for example, constructing facilities to treat ground water or removing contaminants to a safe disposal area away from the site.

EPA expects the implementation (remedial action) phase to average out at about $25 million (plus any costs to operate and maintain the action) per site, and some remedial actions may take several years to complete

The State government can participate in a remedial response under Superfund in one of two ways:

- The State can take the lead role under a cooperative agreement, which is much like a grant in that Federal dollars are transferred to the State The State then develops a workplan, schedule, and budget, contracts for any services it needs, and is responsible for making sure that all the conditions in the cooperative agreement are met In contrast to a grant, EPA continues to be substantially involved and monitors the State's progress throughout the project.
- EPA can take the lead under a Superfund State Contract, with the State's role outlined EPA, generally using contractor support, manages work early in the planning process. In the later design and implementation phases, contractors do the work under the supervision of the U S Army Corps of Engineers. Under both arrangements, the State must share in the cost of the implementation phase of cleanup

CERCLA requires that EPA select the remedy

ALCOA (POINT COMFORT)/LAVACA BAY
Point Comfort, Texas

The ALCOA/Lavaca Bay site is located in Calhoun County in southeast Texas along the Gulf of Mexico. The site consists of portions of the Aluminum Company of America (ALCOA) Point Comfort plant, a section of Lavaca Bay surrounding the ALCOA plant, and an associated man-made dredge spoil island located approximately 1,200 feet west of the ALCOA plant. The dredge spoil island is composed of a 91-acre gypsum lagoon and a dredge spoil area (covering approximately 50 acres) that includes five lagoons. The ALCOA plant is located in an industrial area approximately 1.5 miles south of Point Comfort and 4 miles northeast of the City of Port Lavaca.

In 1965, ALCOA opened a chlor-alkali production plant that produced chlorine gas and sodium hydroxide through an electrolytic process that utilized mercury cathodes. The two primary sources of hazardous substances at the site are the gypsum lagoon and the dredge spoil areas. During the plant's operation, waste water containing mercury was discharged into Lavaca Bay through outfalls located on the off-shore gypsum disposal lagoon Dredge spoils contaminated with mercury were disposed of in several areas on the site. EPA sampled sediments in Lavaca Bay in September 1992, and found mercury at levels significantly above concentrations in background samples.

In 1970, the Texas Water Quality Board (predecessor to the Texas Water Commission), in response to information received from the U.S. Food and Drug Administration (FDA) and the Texas Department of Health (TDH), issued an Emergency Order against ALCOA finding them responsible for the mercury discharged to the off-shore gypsum lagoon. The order also stated that these discharges contaminated Lavaca Bay, creating harmful and possibly toxic conditions for humans, animals, and aquatic life. In the same year, ALCOA terminated the discharge of mercury-contaminated waste water into Lavaca Bay. In April 1988, the TDH issued a public warning prohibiting the harvesting of fish and crabs from portions of Lavaca Bay near the site.

Lavaca Bay is an estuary of the Matagorda Bay system and is used for both commercial and recreational fishing. According to the U.S. Fish and Wildlife Service, Lavaca Bay also serves as a habitat for a number of endangered aquatic and bird species

[The description of the site (release) is based on information available at the time the site was scored The description may change as additional information is gathered on the sources and extent of contamination See 56 FR 5600, February 11, 1991, or subsequent FR notices]

ALLEGANY BALLISTICS LABORATORY (USNAVY)
Mineral County, West Virginia

Allegany Ballistics Laboratory (ABL) is located in Mineral County, West Virginia, approximately 2 miles south of Cresaptown, Maryland. ABL occupies 1,628 acres and is situated on the flood plain of the North Branch of the Potomac River, along the West Virginia-Maryland state border. Surrounding land use is primarily agricultural with some forestry. The facility has been in operation since 1942, primarily for the research, development, and testing of solid propellants and motors for rockets, ammunition, and armaments for the Navy. ABL houses two operating plants. Plant 1 is owned by the Navy and occupies 1,572 acres of the ABL facility. The remaining 56 acres are owned and operated by Hercules, Inc. The area referred to as Plant 2, or the Hercopel Plant was not included by EPA under CERCLA because no releases of hazardous materials are known to be associated with this facility.

Operations at ABL have generated a variety of explosive and solvent wastes. Until 1978, the majority of these wastes were disposed of in onsite disposal areas From 1970 to 1981, some of the waste was stored in a drum storage area. Waste disposal and handling practices at the facility have resulted in several source areas of concern. Seven of these areas were aggregated into one source known as the Northern Riverside Waste Disposal Area (NRWDA). Other contamination sources include two previous burning ground areas; an inert non-ordnance landfill; a spent photographic developing solutions disposal areas; a sensitivity test area/surface water impoundment; and a beryllium landfill. Other sources of potential contamination exist at the site including a waste burning operation for the disposal of contaminated material.

NRWDA is located at the northern boundary of the ABL property along the south bank of the North Branch of the Potomac River. The seven sites that make up NRWDA are an ordnance burning ground; an inert burning ground; a former solvent waste disposal pit; three acid disposal pits; a hazardous waste drum storage area; and an incinerator landfill. These sources were aggregated due to their proximity and the similarity of the hazardous substances deposited in the sites In addition, the bedrock under the site is folded and fractured.

Contaminants associated with these sources and detected in ground water and soil samples include explosives, volatile organic compounds (VOCs), acids, bases, laboratory and industrial wastes, bottom sludge from solvent recovery, metal plating pretreatment sludge, paints, and thinners Some contaminants have moved offsite and were detected in the North Branch of the Potomac River, adjacent to the site.

Two ABL water supply wells were temporarily taken out of service in 1981 because they were found to contain VOCs. The wells were then used only as backups during drought conditions. The wells are not currently hooked-up to the supply system. Recent testing of these wells, as well as numerous monitoring wells in the developed area, shows consistent contamination of the ground water with VOCs.

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CHEMFAX, INC.
Gulfport, Mississippi

Chemfax, Inc. is an 11-acre site bordered by Three Rivers Road and Creosote Road in an industrial section of Harrison County near Gulfport, Mississippi. Chemfax produces petroleum hydrocarbon resins. The primary operation is a paraffin wax blending process. Condensed cooling water used in this process is stored in an onsite cooling pond with an overflow drain that leads to a drainage ditch. Chemfax began operations at the site in 1955.

An additional holding pond that was owned by the Alpine Masonite Co. is located adjacent to Chemfax. Alpine Masonite used the pond to store excess cooling water discharged from its phenolic resin operation. Reportedly, the pond was not used by Chemfax to store wastes but was covered by a layer of paraffin wax that had melted during a fire and flowed into the pond This wax, along with wax that periodically appeared in the drainage ditch, can be attributed to several fires that occurred at Chemfax in the past

Air sampling conducted by EPA in May 1990, found high levels of benzene, toluene, xylenes, ethyl benzene, and styrene. The concentrations of benzene detected in the air were over 180 times EPA's health based benchmarks. Other contaminants were also found in air samples significantly above upwind sample concentrations.

Chemfax employs 57 people and Alpine Masonite employs 2 individuals, all of whom are exposed to air contaminants from Chemfax. In addition, there are approximately 45,000 people living within 4 miles of the site.

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FREMONT NATIONAL FOREST/WHITE KING AND LUCKY LASS URANIUM MINES (USDA)
Lake County, Oregon

The Fremont National Forest/White King and Lucky Lass Uranium Mines site is located approximately 18 miles northwest of Lakeview, Oregon. The White King Mine is located on U.S. Forest Service and private land and the Lucky Lass Mine is located entirely on Forest Service land.

The mines were operated from 1958 through 1961 and intermittently through 1964. The Atomic Energy Commission oversaw ore production from the mines. A total of 140 acres were disturbed by mining: 120 acres at White King Mine and 20 acres at Lucky Lass Mine. Contaminant areas include stockpiled ore, overburden mixed with ore, and acid drainage waste water that has filled the pits created by the mining activities.

The primary hazards posed by the mine waste include gamma radiation exposure from radioactive constituents, emanation of radon gas, and environmental contamination by heavy metals and the radioactive constituents in surface and ground water. Surface water and sediments in Auger Creek and nearby wetlands have been contaminated by mining activities. The creek and surface water bodies downstream of the site are used as a source of recreational fishing.

EPA, the Forest Service, and the State of Oregon are negotiating a CERCLA Section 120 Interagency Agreement to address the remediation of the site.

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FORT RICHARDSON (USARMY)
Anchorage, Alaska

Fort Richardson occupies a 25,000 acre area located within the municipality of Anchorage in south-central Alaska. The installation is bounded by the city of Anchorage and Elmendorf Air Force Base to the west and by Eagle Bay and the Knik Arm of Cook Inlet to the north. Fort Richardson's southern and eastern boundaries consist of undeveloped lands and Chugach State Park.

Three sources of contamination were identified by the Army but do not represent all known or suspected sources of contamination at the Fort Richardson installation. These sources are the Eagle River Flats (ERF) ordnance impact area, the Poleline Road Disposal Area (PRDA), and the Roosevelt Road Transmitter Site (RRTS).

ERF is located in wetlands associated with the Eagle River delta in the northwestern corner of the installation. ERF has served as the primary ordnance impact area for Fort Richardson since World War II The ordnance testing area encompasses 2,500 acres of wetlands, which serves as an important habitat for waterfowl such as ducks, geese, and swans during spring and fall migrations. Sediment and surface water samples collected from ERF in August and October 1989 and in 1991 revealed elevated levels of heavy metals, explosive compounds, and white phosphorous. Copper, cadmium, nickel, zinc, and mercury concentrations in surface water wetland samples exceeded the Ambient Water Quality Criteria.

PRDA is located approximately 1.1 miles southwest of the Eagle River. PRDA was identified by a former soldier who stated that hazardous substances were buried there in the 1950s; a 1954 Army Corps of Engineers map confirmed the existence of this disposal area. In 1990, an expanded site investigation conducted by the Army confirmed the presence of volatile organic compounds (VOCs) in soil and shallow ground water at PRDA

RRTS consists of a bomb-proof underground bunker and the remnants of support facilities constructed in the 1940s. In May and June 1990, the Army conducted sampling operations as part of a site investigation follow-up. Analytical results from this investigation indicated contamination by PCBs, VOCs, semi-volatile organic compounds, dioxins, asbestos, and inorganic elements throughout RRTS.

The Eagle River is used for recreational fishing and supports a wide variety of game fish including king, silver, red, pink, and chum salmon; dolly varden; arctic char, rainbow trout, grayling, and whitefish. The river maintains spawning runs of chinook, coho, and pink salmon. Stickleback inhabit salt marshes along the Knik Arm and are common within the shallow ponds and some impact craters within ERF The American peregrine falcon, a federally-designated endangered species, and the federally-designated threatened arctic peregrine falcon, migrate through the area.

EPA, the Army, and the Alaska Department of Conservation will negotiate an interagency agreement to address the clean-up of this site.

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JACKSON PARK HOUSING COMPLEX (USNAVY)
Kitsap County, Washington

The Jackson Park Housing Complex (JPHC) is located east of Highway 3, approximately 2 miles northwest of Bremerton, Washington. The area west of Highway 3 includes a golf course, an urban area, and an undeveloped wooded area. A wooded park and urban area are located south of Highway 3. JPHC occupies approximately 300 acres of land that includes housing for approximately 3,000 military personnel, recreational areas, undeveloped areas, a hospital, and community services buildings.

The facility was operated as a Naval ammunition depot from 1904 to 1959. From 1910 to 1959, unused ordnance was disposed of by open burning along the shoreline. From 1918 to 1959, during low tides, various marker dyes and smoke candles were placed on the beach and ignited, where they continued to burn until the tide rose and extinguished the fires. Residual ordnance powders from loading operations were disposed of by open burning along the waterfront or at a fill area at the south end of the site. During ordnance handling and loading operations, potentially hazardous dust and powder were deposited on the floor and washed into floor drains emptying into Ostrich Bay Waste acid and caustics from case cleaning operations were also flushed down floor drains. Waste water that contained elevated levels of explosives from demilitarization operations went down the nearest drain. Since many types of casings and projectiles cleaned and repaired were made of brass and bronze alloys, heavy metals such as copper, zinc, tin, and other metals were dissolved into acid and base solutions and drained into the bay. In 1959, ordnance and industrial operations were relocated to SUBASE Bangor. Between 1973 and 1975, nearly all ammunition buildings were demolished and the current facility was constructed. Industrial activities at JPHC included ordnance storage, loading, testing, burning, and disposal; case and projectile cleaning; tank and powder can repair; bag dyeing; fuse operations; demilitarization; and pier operations. In addition, the site contained incinerators; paint, locomotive, battery, industrial, and machine shops; and a boiler plant.

According to several people, Ostrich Bay occasionally became a yellow color due to discharges emanating from the ordnance facility The yellow color was a result of waste water containing ammonium picrate (an explosive) or dyes During decontamination and demolition operations in 1974 and 1975, ammonium picrate was found in storm drains leaving abandoned buildings that had formerly housed ordnance operations

From 1918 to 1959, untreated sewage and waste water from ordnance and other activities was discharged directly into Ostrich Bay outfalls located along the waterfront The Navy sampled the outfalls in 1991 and confirmed the presence of arsenic, cadmium; chromium, copper, lead, nickel, zinc; 2,4,6-trinitrotoluene, 2,6-dinitrotoluene; 1,3,5-trinitrobenzene; and 1,3-dinitrobenzene

In 1991 and 1992, soil, sediment, and fish samples were collected as part of two environmental investigations conducted by the Navy. Analytical results from these investigations show that there is extensive surface soil contamination at the site Hazardous substances were also detected in sediment and fish samples collected from the bay and can be attributed to the waste water outfalls. The Navy has closed the beaches at the site to shell fishing

Ostrich Bay has been identified by EPA as a special area requiring protection under the National Estuary Program. The bay is used for both recreational and commercial fishing, and extensive wetland habitats exist adjacent to the site EPA, the Navy, and the Washington Department of Ecology are negotiating an interagency agreement to address the contamination at the site

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MATERIALS TECHNOLOGY LABORATORY (USARMY)
Watertown, Massachusetts

The U.S. Army Materials Technology Laboratory (MTL), commonly known as the Watertown Arsenal, occupies 47.5 acres on Arsenal Street in Watertown, Massachusetts. MTL is located on the north bank of the Charles River and encompasses 36.5 acres approximately 5 miles west of Boston. Eleven acres of inactive MTL land situated between North Beacon Street and the Charles River was leased to the Commonwealth of Massachusetts in 1920 and currently contains the North Beacon Street Park and the Watertown Yacht Club.

The facility was originally established as the Watertown Arsenal in 1816. The facility continued to expand and occupied 131 acres and employed 10,000 people at the end of World War II. The site was used for small arms maintenance and ordnance supplies; ammunition and pyrotechnics production; paint, lubricant, and cartridge testing and experimentation, manufacture of guns and cartridges; and development of advanced metallurgical processes used in the casting, welding, and machining of artillery pieces. A research nuclear reactor was used for molecular and atomic structure research activities from 1960 to 1970. Although the reactor was deactivated in 1970, it is currently being decommissioned under the jurisdiction of the Nuclear Regulatory Commission. In 1968, approximately 55 acres were sold to the Town of Watertown. Of the 47.5 acres retained by the Army, 36.5 acres became the Army Materials and Mechanical Research Center (AMMRC). In 1985, AMMRC became MTL. The current mission of MTL includes testing material; developing weapons, ammunition, and lightweight armor; and manufacturing testing technology.

In October 1988, Congress recommended the closure of the facility. The U.S. Army Toxic and Hazardous Materials Agency (THAMA) had already initiated the first stage of the closure plan, the preliminary assessment/site inspection, which was conducted in 1987. The Army also conducted a soil, sediment, and ground water sampling program in 1988, from which a remedial investigation (RI) report was produced The data obtained from this sampling could not be verified or validated by the Army Subsequently, the Army completed a Draft Phase 1 Remedial Investigation Report in April 1991 and a Phase 2 report in October 1992.

Sampling during these investigations indicated contamination of ground water, soil, surface water, and sediments at MTL. Contaminants detected above background concentrations at the site include volatile and semi-volatile organic compounds, PCBs, pesticides, inorganic elements, and radioactive substances. PCBs were detected on the property on the surface of electrical transformers and in the surrounding soil Samples collected from onsite storm drains indicate the presence of several organic compounds and inorganic contaminants related to site activities However, there are other potential sources of contamination from nearby industrial activity

The only known drinking water well within 4 miles of the site not separated by the Northern Boundary Fault, is a private well 2.5 miles northwest of the property. Municipal drinking water within 4 miles of the site is supplied by surface water sources located to the west of MTL, and are unaffected by the site. The Charles River is used for recreational boating, swimming, and fishing.

The active portion of MTL is completely fenced and public access is restricted 24-hours by a guarded gate Eight people occupy housing located on the property Approximately 600 people are currently employed at MTL.

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MCCORMICK & BAXTER CREOSOTING CO. (PORTLAND PLANT)
Portland, Oregon

The McCormick & Baxter Creosoting Company site covers approximately 58 acres and is located at 6900 Edgewater Street, approximately 7 miles south of the city of Portland, Oregon. McCormick & Baxter is situated on the west bank of the Willamette River in an area zoned for heavy industrial use. The site is bordered by railroad tracks on the northeast and northwest, a barge maintenance and dredging facility on the southeast, and an empty lot where a shipyard and cooperage was once located on the northwest. A residential area is located on the northwest side of the site on top of a bluff approximately 120 feet high

McCormick & Baxter was founded in 1944 to produce treated wood products during World War II. Wood treating products used at the site include creosote/diesel oil mixtures, pentachlorophenol/diesel oil mixtures, and a variety of water- and ammonia-based solutions containing arsenic, chromium, copper, and zinc Between 1945 and 1969, waste water and non-contact cooling water were directed into onsite catch basins that discharged directly into the Willamette River via storm water outfalls Prior to 1971, boiler water, storm water, and oily wastes were disposed of in the former waste disposal area located in the southern portion of the site. McCormick & Baxter operated an aboveground tank farm at the facility consisting of six tanks ranging in size from 70,000 gallons to 173,000 gallons These tanks held mixtures consisting of creosote, pentachlorophenol, oil, and oily-waste water. In addition to the tank farm, McCormick & Baxter used a 750,000-gallon creosote tank. McCormick & Baxter filed for Chapter 11 bankruptcy in 1988. In 1989, with certain remedial measures only partially completed, responsibility for the site was transferred to the Oregon Department of Environmental Quality (ORDEQ). McCormick & Baxter's lending institution took control of their accounts in 1991 and the facility ceased operations.

During an investigation conducted by ORDEQ in 1990, heavy metals, polycyclic aromatic hydrocarbons, and pentachlorophenol were detected at elevated levels in soils, sediments, and water at the facility. Soils beneath the site are contaminated from the ground surface to as deep as 80 feet in some areas. The soil contamination has migrated to sediments in the Willamette River Sediments near the site are contaminated to depths of up to 35 feet below the sediment surface.

The Willamette River is used for recreational activities downstream of the McCormick & Baxter site ORDEQ and the Oregon Department of Fish and Wildlife have posted warning signs to alert people of the potential hazards associated with the site The site is also fenced and 24-hour security restricts public access EPA and ORDEQ will investigate various cleanup alternatives appropriate for the site

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NAVAL WEAPONS INDUSTRIAL RESERVE PLANT
Bedford, Massachusetts

The Naval Weapons Industrial Reserve Plant (NWIRP) is located on Hartwell Road in Bedford, Middlesex County, Massachusetts. The 46-acre facility is part of a larger industrial complex located immediately north of Hanscom Air Force Base. NWIRP and Raytheon Missile Systems Division (RMSD), which is also located within the industrial complex, are operated by Raytheon Co.

NWIRP was created in 1952 and operations continue at the facility today. NWIRP is used for advanced technology research in weapons systems development; primarily the design, fabrication, and testing of prototype equipment such as missile guidance and control systems. The Components Laboratory, located on Hartwell's Hill on the north side of Hartwell Road, and the Flight Test Facility, on the lower, south side of Hartwell Road, are the primary operating areas at NWIRP Approximately 21 other buildings house various support activities related to the work at these two centers.

The Navy has conducted several investigations of the NWIRP facility An Initial Assessment Study (IAS) was completed by the Department of Defense in April 1986. The IAS identified potential sources and areas of concern at the NWIRP facility. In 1990, the Navy completed the first phase of a remedial investigation (RI) that further evaluated the potential sources of contamination at NWIRP.

NWIRP has generated or stored wastes at numerous locations throughout its operational history. Hazardous waste disposal was accomplished either through direct discharge to the septic system or through barrel storage and offsite disposal. The septic system consisted of onsite leaching fields until 1980, when municipal sewer lines were constructed. Wastes generated at the NWIRP include trichlorethylene, 1,1,1-trichloroethane, methyl ethyl ketone, acetone, toluene, xylene, photographic fixer, waste oil and coolants, lacquer thinner, unspecified solvents and thinners, Stoddard solvent, waste paint, and chromic, sulfuric, nitric, hydrochloric and phosphoric acids.

The Hartwell Road Well Field, part of the municipal water supply for the Town of Bedford, is located less than 0.5 miles northwest of NWIRP The three wells in this field were closed in 1984 after volatile organic compound contamination was traced to two of the wells. A 1991 RI report prepared by the Town of Bedford concluded that NWIRP was a likely source of the well field contamination. Hanscom AFB is also a potential contributor to the ground water contamination in this area.

Approximately 11,000 people rely on drinking water wells within 4 miles of NWIRP In addition, approximately 12,800 people receive water from an intake on the Shawsheen River, 7 miles downstream of NWIRP. There are extensive wetlands and several species of rare plants and wildlife along Elm Brook and the Shawsheen River downstream of the NWIRP.

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NORTH SANITARY LANDFILL
Dayton, Ohio

The North Sanitary Landfill, Inc. (NSL) site is located at 200 Valleycrest Drive in Dayton, Montgomery County, Ohio. The site occupies 101.9 acres, approximately 45.7 of which were used as a landfill. Several industrial facilities, including bulk oil storage terminals, an industrial laundry facility, car crushing facility, a former industrial plating facility, and a demolition debris landfill are located adjacent to the NSL property.

The NSL site, also known as the Valleycrest Landfill, was owned by the Keystone Company, Inc , which operated a sand and gravel mining operation from the 1940s until the 1970s Between 1966 and 1975, landfill operations at the site were conducted by B.G. Davis Co., Inc., under the name of NSL, Inc Waste Management, Inc. of North America purchased the B.G. Davis Co. in 1983.

Industrial and municipal wastes from the Dayton area were used at NSL to fill unlined gravel pits that were created by former mining operations. These pits contained water that may have entered the sand and gravel aquifer that the pits intersect. The following wastes were deposited at the NSL site electrical transformers, burned foundry sand, demolition debris, slag, baghouse dusts, plaster, rubber tires, lampblack, grindings from brake shoes (possibly containing asbestos), waste from a local sewer cleaning company, and drums of chemicals. Lead, mercury, cyanide, and PCBs were detected in wastes disposed of at the site. While operating the landfill, NSL was cited for repeated violations such as inadequately covering wastes, accepting hazardous wastes for which it was not permitted, and accepting burnable wastes (numerous onsite fires have occurred). These citations were issued by State and local health departments.

According to the Miami Conservancy Regional Planning Commission District and the Ohio Environmental Protection Agency, thousands of drums were buried onsite. Drums filled with used oil and liquid chemicals were emptied directly onto the ground or into the unlined gravel pits. Many of the drums contained waste paint or other volatile organic wastes In March 1985, leachate was observed flowing down hillsides and forming ponds in low areas onsite

A series of EPA inspections began at the NSL site in February 1986 These inspections included a geophysical survey of the eastern portion of the site and the installation of 21 monitoring wells in the sand and gravel aquifer beneath the landfill This aquifer provides drinking water to 487,000 people Chemical analysis of ground water samples and subsurface soil samples collected by EPA in June 1991, revealed elevated levels of volatile organic compounds, heavy metals, and PCBs Several residential drinking water wells in the area are contaminated with various organic compounds Affected residents have been connected to the Dayton municipal water supply

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PORT HADLOCK DETACHMENT (USNAVY)
Indian Island, Washington

Port Hadlock Detachment of the U.S.Navy, is located on Indian Island in Jefferson County southeast of the city of Port Townsend, Washington. The 2,700-acre island is approximately 4.5 miles long and 0.5 miles wide.

The island was purchased by the Navy in 1948 to store explosives. Currently, the island receives, stores, maintains, and issues Naval ordnance; assembles anti-submarine rocket airframes, and provides mine maintenance

Sources of hazardous waste activity at the site include municipal and industrial landfills, drum and container storage areas, above and below ground storage tanks, burn pits, spills, and possible areas of illegal dumping. Potentially hazardous wastes associated with the sources at the site include heavy metals, pesticides, PCBs, solvents, explosives, paints and pigments, and acids and bases.

Site investigations conducted by the Navy in 1989 documented marine sediments contaminated with heavy metals, PCBs, and other organic compounds. Shellfish have also been found contaminated with heavy metals and pesticides

Commercial and recreational harvesting of shellfish occurs on the beaches at the north and south ends of the island, at Bishop's Point on the east side of the island, as well as in coastal waters surrounding the island. The beach at the north end has been posted as closed for the collection of shellfish. Although most of the island is restricted, civilians occasionally enter along beaches by boat to collect clams. Native Americans also are permitted access for collecting shellfish. Fort Flagler State Park is located a few hundred feet from the north end of the island.

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PORTSMOUTH NAVAL SHIPYARD
Kittery, Maine

Portsmouth Naval Shipyard (PNS) is located on Seavey Island in the Piscataqua River in Kittery, York County, Maine. The 278-acre Seavey Island is composed of three smaller islands (formerly Seavey, Jamaica, and Dennett's Islands) connected by 90 acres of fill. Filling of the tidal flats between the original islands took place gradually as space needs for PNS increased. The PNS property also includes the undeveloped Clark's Island, which is connected by a bridge to Seavey Island.

PNS, established in 1690, became a Navy shipyard in 1800. During its operational history, the shipyard was used for construction of ships and submarines and is currently used to overhaul nuclear propulsion fleet ballistic missile submarines and attack submarines. PNS consists of three dry docks, 6,500 linear feet of berthing, and 376 buildings and other structures. Hazardous wastes have been stored, disposed of, spilled, and/or treated at more than 30 areas on the site

From 1945 to 1975, untreated acidic and alkaline wastes, waste battery acid and lead sludge, waste water and spent baths from an electroplating operation, and other wastes from various industrial shops were discharged into the Piscataqua River via industrial waste outfalls. From 1945 until approximately 1978, 25 acres of tidal flats between Jamaica and Seavey Islands were filled with wastes including chromium-, lead-, and cadmium-plating sludge; asbestos insulation; trichloroethylene; methylene chloride; toluene; methyl ethyl ketone; drums of waste paint and solvents; mercury-contaminated materials; sandblasting grit containing various metal wastes; and dredged sediments from the Piscataqua River

Dredged sediment samples collected in the late 1970s near the industrial outfalls were found to contain elevated concentrations of metals, PCBs, and other contaminants Although Portsmouth Harbor and the lower Piscataqua River are heavily industrialized, the Navy has indicated that the probable source of the sediment contamination is the industrial outfalls at PNS In addition, hazardous substances attributable to PNS are present at elevated levels in wetlands bordering Seavey Island

Ground water supplies drinking water to over 10,000 people within 4 miles of the site. Salmon Falls, the Cocheco and Piscataqua Rivers, the Great Bay estuary, and coastal tidal waters within 15 miles downstream of PNS are used for commercial and recreational fishing In addition, extensive wetlands communities exist along surface water bodies downstream of the PNS site

[The description of the site (release) is based on information available at the time the site was scored The description may change as additional information is gathered on the sources and extent of contamination. See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

REDSTONE ARSENAL (USARMY/NASA)
Huntsville, Alabama

Redstone Arsenal (RSA) is located in Huntsville, Madison County, Alabama. RSA encompasses 38,300 acres, 36,459 of which the Department of the Army controls. The George C. Marshall Space Flight Center (MSFC) leases the remaining 1,841 acres. Approximately 15,500 acres are woodlands, 9,200 are leased for agricultural use, and 4,100 are designated as the Wheeler National Wildlife Refuge. Morton-Thiokol Chemical Corp., a government contractor-operator, uses a portion of RSA property for the development of solid rocket propellants and the General Aniline and Film Corp. leases approximately 10 acres for the production of iron carbonyl. Olin-Mathieson Chemical Co. (DDT manufacturing), Raytheon Co. (rocket motor assembly), Rohm and Haas Allied Chemical and Dye (chlorine manufacturing), and Stauffer Chemical Co. (chlorine manufacturing) have conducted operations at RSA in the past

Three separate military facilities (Redstone Ordnance Plant, Huntsville Arsenal, and Gulf Chemical Warfare Depot) were established at RSA in 1941 and worked together from 1942 to 1945, producing conventional and chemical munitions used during World War II. After the war, Gulf Chemical Depot stored captured German chemical agents and surplus chemical munitions and agents. The munitions were buried in various locations throughout RSA. As activities increased, the Army incorporated all lands that the three facilities previously used into the present day RSA.

Six mustard gas manufacturing plants operated at RSA from 1942 until 1943. These plants produced substantial quantities of sulfur monochloride, ethylene, brine, caustic soda, liquid caustic, chlorine, and thionly chloride. Lewisite, a chemical warfare agent containing arsenic, was manufactured in four of the plants. Wastes generated from lewisite manufacturing were disposed in shallow surface impoundments.

Following World War II, the chemical manufacturing facilities were leased to private firms for production of commercial chemicals and pesticides The manufacture of DDT and other pesticides resulted in significant amounts of hazardous wastes Large quantities of wastewater containing DDT residues were discharged to Huntsville Spring Branch. An 11-mile stream segment, including Huntsville Spring Branch, Indian Creek and a portion of the Tennessee River in the Triana area, was placed on the National Priorities List in 1983 due to past DDT disposal practices In 1983, Olin-Mathieson, the principal DDT manufacturer, began cleanup actions under a U.S. Justice Department consent decree.

In October 1983, RSA submitted a RCRA closure/post-closure plan for DDT Landfill Q1 RSA also submitted a Part B permit application in May 1984. Based on information provided in the closure/post-closure plan, EPA authorized RSA to remove DDT Landfill Q1 from its Part B permit application. Following revisions to the Part B permit application, RSA was issued a permit for nine Hazardous Waste Storage Igloos in April 1986. RSA submitted a revised Part B permit application on October 21, 1988. The Storage Igloos, Open Burning Pans and four new Storage Igloos continued to operate under interim status. MSFC filed three Part A applications for several areas on its leased portion of the site; however, MSFC submitted a closure plan in lieu of a Part B application.

Two aquifers beneath RSA are considered interconnected and are referred to as the Tuscumbia-Fort Payne aquifer. Three municipal systems have wells located within a 4-mile radius of RSA An estimated 39,900 people utilize the wells as their source of drinking water.

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RIPON CITY LANDFILL
Fond Du Lac County, Wisconsin

The Ripon City Landfill (RCL) site is located on approximately 7.3 acres of land in Fond Du Lac County, Wisconsin. The site is approximately 0.75 miles northwest of the City of Ripon, on County Road NN, south of the intersection with County Road FF. The site is located in a rural area with woods to the north, an active gravel pit operation to the west, and a private residence and an agricultural field to the south. East of the site, a portion of the old (original) gravel pit not used by RCL, is being filled with miscellaneous debris by passersby

RCL is owned by Arlene Sauer, who leased the land to the City of Ripon in 1967 for the purposes of landfilling. In March 1968, the Wisconsin Department of Natural Resources (WDNR) issued a permit to the City for the operation of the landfill. WDNR conducted a routine site inspection of RCL in early 1968 and discovered that the landfill was being used to dispose of liquid wastes and containers from Speed Queen, an electric appliance manufacturer in Ripon Speed Queen apparently had disposed of its waste at the site since 1966 In 1973, after reviewing the wastes Speed Queen dumped at the landfill, WDNR determined that the waste was considered hazardous and should not be disposed of at the City landfill. Speed Queen continued to dump at the facility until 1979. In 1981, WDNR requested that the City put together a closure plan for the landfill and install new monitoring wells since older monitoring wells were destroyed by site operations. At that time WDNR requested that the City conduct quarterly ground water sampling at the facility, as required by State law for all closed landfills. The facility was closed in February 1983.

During the fall of 1984, WDNR collected ground water samples from private wells surrounding the RCL. A residential well located 500 feet south and hydraulically downgradient of the landfill contained total-1,2-dichloroethylene, trichloroethylene, and vinyl chloride. Due to the detection of these contaminants, WDNR sampled a hydraulically downgradient monitoring well at the site; trans-1,2,-dichloroethylene and vinyl chloride were detected. This sampling confirmed that the landfill was the source of contamination in the residential well

In June 1984 and July 1985, EPA performed a site inspection at RCL. During the inspection, EPA sampled the monitoring wells and confirmed the presence of vinyl chloride, trans-1,2-dichloroethylene, benzene, and xylene in ground water beneath the site. The City of Ripon is currently submitting quarterly ground water sampling results from the monitoring wells onsite. The sampling results have found elevated concentrations of vinyl chloride in groundwater beneath and hydraulically downgradient of the site

Ground water is the primary route through which people may be exposed to contaminants associated with the RCL site. Within 4 miles of the site, residents obtain drinking water solely from ground water. The City of Ripon has a population of 11,286 people and is entirely within 4 miles of the site. The City of Green Lake (southwest of the landfill) utilizes one municipal well that serves approximately 500 people within 4 miles of the site In addition, approximately 2,077 people, including residents, students, and workers, not served by the municipal drinking water sources receive drinking water from private wells. There is no drinking water source other than ground water available for people living within 4 miles of RCL

[The description of the site (release is based on information available at the time the site was scored The description may change as additional information is gathered on the sources and extent of contamination See 56 FR 5600, February 11, 1991, or subsequent FR notices.]

SOUTH WEYMOUTH NAVAL AIR STATION
Weymouth, Massachusetts

South Weymouth Naval Air Station (SWNAS) is located east of Pond Street (Route 18) at the southern end of Weymouth, Norfolk County, Massachusetts, and extends into the Towns of Abington and Rockland, Plymouth County, Massachusetts. SWNAS is approximately 1,500 acres in size. The surrounding area is suburban, with a mixture of residential, industrial, and commercial land use.

The U.S. Navy acquired the property in 1941 and used it as a support facility for aircraft during World War II. The facility is comprised of two active runways and approximately 200 buildings used for the support of flight operations. Activities performed at the facility include aircraft maintenance, refueling, personnel training and housing, and administrative support services.

Reportedly, station-generated wastes, some of which can be classified as hazardous, were disposed of in three onsite landfills. The West Gate landfill operated from 1969 to 1972. The Rubble Disposal area and the Small Landfill operated from 1972 until the mid-1980s. Flammable liquid wastes were reportedly burned in the onsite fire fighting training area. Small amounts of waste battery acid, possibly containing lead, may have been disposed of in a tile leachfield. The U.S. Coast Guard operates a buoy maintenance depot on the property through an agreement with the Navy. The buoy depot reportedly sandblasted lead-based paint from buoys from 1972 until 1986. Other potential source areas onsite include 12 PCB transformers and a sewage treatment plant.

The Navy completed a preliminary assessment of SWNAS in April 1988, and prepared a Draft Environmental Impact Statement in August 1990. A site investigation of SWNAS was completed by the Navy in February 1992, and included the installation of 21 ground water monitoring wells around six of nine identified source areas on the property. Soil samples were collected during the installation of these wells, and ground water, surface water, sediment, and soil samples were collected from the vicinity of source areas on the property Soil samples were found contaminated with volatile organic compounds and heavy metals. Ground water samples collected down from the West Gate Landfill, the Rubble Disposal area, fire fighting training area, and the tile leachfield were contaminated primarily with heavy metals

Eighteen municipal drinking water wells are located within 4 miles of source areas at SWNAS These wells provide drinking water to approximately 74,000 people In addition, approximately 85 private drinking water wells located within 4 miles of SWNAS draw from the same aquifer

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UGI COLUMBIA GAS PLANT
Columbia, Pennsylvania

UGI Columbia Gas Plant is a 1.6-acre site located on Front Street in Columbia, Lancaster County, Pennsylvania. From approximately 1853 to 1935, Columbia Gas used the site for gas manufacturing. Ownership of the property was transferred to Pennsylvania Power and Light (PP&L) in 1935, and the Lancaster County Gas Company in 1949. Lancaster County Gas merged with UGI Corporation and occupied the site until 1976, when the land was privately purchased The property is currently used as a boat dealership. The land surrounding the site is predominantly residential. The Susquehanna River is located approximately 400 feet southwest of the site.

The primary sources of contamination at the site include the gas holder, the relief holder pit, and a 4,200 square-foot area of contaminated soil. The main waste streams consist of tar and purifier wastes. Hazardous substances associated with the contaminant sources and waste streams include volatile organic compounds (VOCs), semi-volatile organic compounds (semi-VOCs), polycyclic aromatic hydrocarbons (PAHs), heavy metals, and cyanide During operation of the site, overflows from an onsite tar separator were directed to an open ditch that led to the Susquehanna River. Records show that local fishermen complained to the plant that their boats were being covered with tar.

The Pennsylvania Department of Environmental Resources (PADER) conducted a preliminary assessment of the UGI Columbia Gas Plant site in August 1984. In 1985, PP&L and UGI Corp. conducted a field investigation to determine the nature and extent of contamination at the site. Tar was encountered in test pits dug in the gas and relief holders and in several other test pit and boring areas onsite. Soil, sediment, sludge, tar, and ground water samples collected during this investigation revealed VOCs, semi-VOCs, heavy metals, and cyanide contamination An area of Susquehanna River sediments directly downstream of the site was found to contain tar-related contaminants such as PAHs and cyanide.

In 1987, PP&L and UGI recovered approximately 100 cubic yards of tar-contaminated material which had been pushed into a railroad pedestrian tunnel bordering the site They disposed of the tar sludge in a facility permitted under EPA's Resource Conservation and Recovery Act (RCRA) Also during 1987, it was determined that approximately 80 cubic yards of sediment southwest and directly downstream of the site were contaminated with tar from the tar separator and open ditch

In January 1991 EPA conducted an expanded site inspection of the UGI Columbia Gas Plant The ground water, soil, and surface water samples from the Susquehanna River confirmed previously reported contamination of VOCs, semi-VOCs, PAHs, and cyanide. Within 15 miles downstream of the site, approximately 90 people use the Susquehanna River as a source of drinking water. Approximately 1,000 people use ground water wells within 4 miles of the site for water.

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VANCOUVER WATER STATION #1 CONTAMINATION

Vancouver, Washington

Vancouver Water Station #1 is located at East Reserve and Northeast Fourth Plain Boulevard in Vancouver, Clark County, Washington. Vancouver Water Station #1 is one of several stations that consists of ground water wells that supply drinking water through a blended system to approximately 134,000 people. In October 1992, EPA listed a nearby water station, Vancouver Water Station #4, on the National Priorities List.

In response to the Safe Drinking Water Act (SDWA), ground water from the wells at Vancouver Water Station #1 was sampled in 1988. Since 1988, increasing levels of tetrachloroethene (PCE) have been detected in each of the wells comprising Vancouver Water Station #1 While levels of PCE have exceeded the EPA maximum contaminant level established under SDWA, the City of Vancouver has used blended water from the Vancouver Water Station #1 wells by selectively pumping lower concentration wells

An extensive soil gas and ground water study conducted by the City of Vancouver was unsuccessful in identifying the source of contamination in Vancouver Water Station #1 wells. In addition, a subsequent soil gas and ground water study conducted by EPA was also unsuccessful in identifying the source of ground water contamination. Although a definitive source has not been identified, several drycleaning facilities, gas stations, and other facilities in the area are suspected contributors of ground water contamination.

EPA is currently considering various alternatives for further evaluation of potential sources and performing remediation of the existing ground water contamination

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