UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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Seattle, WA 98101-3140

OFFICE OF
ENVIRONMENTAL CLEANUP

May 2, 2013

SUBJECT: Action Memorandum for the Stubblefield Salvage and Recycling Site located in Walla Walla, Walla Walla County, Washington

FROM: Jeffrey Fowlow JF
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THRU: Wally Moon WM
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TO: Chris D. Field
Program Manager
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I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the selected non-time critical removal action described herein for the Stubblefield Salvage and Recycling Site in Walla Walla, Walla Walla County, Washington. The proposed removal action is expected to be a U.S. Environmental Protection Agency lead action in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. The EPA previously conducted a time-critical removal action at the Site beginning in 2009 and concluding in 2012.

II. SITE CONDITIONS AND BACKGROUND

The CERCLIS ID No. is WAN001002813 and the Site ID No. is 10HD.

A. Site Description

1. Removal site evaluation

The Site is the location of former salvage and recycling operations. Emory N. Stubblefield purchased the site in1945 as a residence and later operated a metal salvage and recycling business on the Site until his death in 2008. Stubblefield Salvage and Recycling, LLC (SS&R) continued metal salvage and recycling operations from 2008 until 2010 when the company was shut down by order of the Walla Walla Superior Court. The Site is currently owned by the Estate of Emory N. Stubblefield. The street address for the Site is 980 Myra Road, Walla Walla, Washington. The coordinates for the Site are latitude 46.065 North, longitude -118.369 West, and the Site is within Section 24, Township 7 North, Range 35 East (Figure 1).

There is substantial information indicating that human health and environmental impacts present at the Site are associated with the former metals salvage operations. Total petroleum hydrocarbons, diesel-range organics and gasoline-range organics, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and metals are present in subsurface soil and groundwater at the Site.

2. Physical location

The Site covers approximately 11 acres and is identified as "Parcel 350724440024" in the Walla Walla County Assessor's records (Figure 2). The former metal processing area is located in the north-central section of the parcel, and includes a two-story shop building that is approximately 3,600 square feet. The lot also includes a currently unoccupied residence of 2,034 square feet built in 1950 that is located to the southeast of the process area. The topography of the Site is generally flat with a gentle slope to the north toward Mill Creek, with the exception of a low-lying swale in the northwest corner of the property that appears to be filled with debris from historical Site operations.

Emory N. Stubblefield initially purchased the Site in the 1940s as part of a larger tract comprised of approximately 40 acres. In 1952, the City of Walla Walla purchased the western half of the property for construction of a waste water treatment plant. A second property sale occurred in the fall of 2008, in which the western half (approximately nine acres) of the remaining 20 acres was subdivided for the Myra Road extension and development. The scrap metal and other materials that were located on 9 acres sold in the Myra Road extension were consolidated onto the Site which consists of the remaining 11 acres. Currently, the Site is inactive and the majority of salvageable metal and heavy machinery has been sold or moved off-Site. There are two domestic groundwater wells on the property, and it is believed that one well was used to supply salvage yard process water and the other a domestic well for Site workers and residents.

The Site is bounded on the north by Mill Creek, the south by a single residence and agricultural land, the east by Offner Road and agricultural land, and the west by Myra Road and the City of Walla Walla waste water treatment plant. Historically, this area was the rural outskirts of Walla Walla. Myra Road is a four lane thoroughfare that was constructed in the fall of 2008. The Site is now located n an area of rapid commercial property development. Directly north of Mill Creek, approximately 200 feet from the northern boundary of the Site, is a newly constructed Holiday Inn Express. South of the Site on Myra Road are newly constructed Home Depot and Winco stores.

Three federal and/or state listed endangered or threatened species may be present in surface waters located in the vicinity of the Site:

- Federally listed threatened Middle Columbia River Steelhead Evolutionarily Significant Unit (*Oncorhynchus mykiss*);
- Federally listed threatened bull trout (*Salvelinus confluentus*); and
- Federally listed threatened Chinook salmon (*Oncorhynchus tshawytscha*).

Additionally, Mill Creek and the Walla Walla River are designated critical habitat for the federally listed threatened Middle Columbia River Steelhead Evolutionarily Significant Unit (*Oncorhynchus mykiss*). The removal action is not expected to affect any federally listed threatened species in surface waters because all work will be conducted on land and away from surface water bodies.

3. Site characteristics

The original 40-acre property was purchased in 1945 by Emory Stubblefield. Land use and property ownership prior to Mr. Stubblefield is unknown.

Mr. Stubblefield operated a fat-rendering plant on the property from 1945 until approximately 1950. Sometime after he ceased fat rendering operations, Emory Stubblefield transitioned business operations at the Site to metal salvage. When it was operating as a metal salvage yard, the Site received metal wastes such as vehicles, drums, appliances, transformers, structural metal, agricultural machines, batteries, spent ammunition casings, and household waste including metal cans. Once received, the waste products were processed in a variety of ways and were either disposed of or recycled (i.e., sold as scrap). Many of the metal materials were cut into smaller pieces using either hand-held acetylene torches or a large hydraulic shear. The resulting smaller pieces of metals were then compacted by a hydraulic baler and sold as scrap metal.

The former metal salvage processing area is located in the north-central section of the Site. The main salvaging features of the processing area are the two-story shop building, a small outdoor smelter, a large hydraulic shear used to cut scrap metal, and a baler used to compact the metal into bales. The abandoned two-story wooden shop building, which housed a hydraulic oil tank, was located adjacent to the shear and baler. Outside of the processing area, piles of scrap metal once covered most of the Site. The main salvaging features listed above, with the exception of the two-story shop building, were removed after SS&R ceased operations in September 2010.

4. Release or threatened release into the environment of a hazardous substance, pollutant, or contaminant

The contaminants of concern at the Site include SVOCs, PCBs, pesticides, and metals. These substances are hazardous substances as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9601(14). In some areas of the Site, these hazardous substances are mixed with oil.

Data regarding the nature and extent of contamination associated with metal salvage operations at the Site are summarized below and in Table 1. A more thorough discussion of Site investigations and data is found in the project Engineering Evaluation/Cost Analysis (EE/CA) document.

a. Washington State Department of Ecology Site Inspections

The Washington State Department of Ecology (Ecology) performed several Dangerous Waste Compliance Inspections at the Site. Inspections performed in 1999 and 2002 identified improper handling of used oil, spent batteries and transformers, incinerator ash, waste pesticides, and various waste fluids from automobiles and other sources. In 2000, Ecology responded to a number of complaints concerning the operation of the outdoor smelter. Ecology determined the smelter was an unpermitted and unregulated source of air pollution. A 2006 inspection documented automotive batteries scattered on the ground, a large spill on the ground of hydraulic fluid from the shear, at least twenty-five 55-gallon drums – some bulging – of used oil and other unidentified substances, and many areas with dark staining on the ground. Additionally, during a 2007 inspection of the Site, Ecology observed releases to the environment of used oil and other heavy oils, hydraulic fluids, lead and acid contamination from

damaged automotive batteries lying uncovered on the ground, and suspected PAH releases from spills of used oil and burning of various automobile components on the ground. No sampling was conducted.

b. EPA Removal Site Evaluation

The EPA performed a Removal Site Evaluation at the Site from May 2009 through April 2012. Seven field events were performed during this period to characterize the nature and extent of soil and groundwater contamination at the Site. The first three field events (May, September, and October 2009) focused on general site characterization and identifying potential source areas. The following two field events (March and October 2010) focused on delineating the major source area (i.e., the process area) and included the installation of monitoring wells to evaluate potential impacts to shallow groundwater. The final two field events (June 2011 and April 2012) focused on characterization of the horizontal extent of subsurface soil contamination and additional groundwater monitoring.

The analytical data from soil samples were compared to the EPA Regional Screening Levels (RSL) for residential and industrial properties, and data from groundwater samples were compared to the EPA RSLs for tap water and federal Maximum Contaminant Levels for drinking water. Because there are no RSLs for TPH, this data (both soil and groundwater) was compared to Ecology Model Toxic Control Act cleanup levels. TPH soil sampling data was compared to Ecology MTCA soil cleanup levels for unrestricted land use and industrial properties (Methods A and C), and TPH groundwater sample data was compared to Ecology MTCA cleanup levels for groundwater (Methods A and B).

May, September, and October 2009 Field Events

The May, September, and October 2009 field events showed SVOCs, PAHs, PCBs, metals, and TPH at concentrations that exceeded soil screening criteria and VOCs at concentrations that exceeded groundwater screening criteria. Analytical results from the soil samples also showed that contamination in subsurface soil in the process area extended to the water table. Product or waste samples collected from drums and tanks stored at the Site contained PCBs and VOCs. Some containers also contained heavy oils. Asbestos was detected in siding material found on the ground surface near the shop building and in fibrous insulation found near the smelter.

March 2010 Field Event

During the March 2010 field event, four groundwater monitoring wells were installed (one background well, two downgradient source area wells, and one cross-gradient source area well) and two boreholes were installed to determine depth and direction of groundwater flow, characterize potential groundwater contamination, and collect additional soil samples near the process area. Analytical results from two groundwater sampling events showed that VOCs, SVOCs, and PCBs were detected at concentrations exceeding their RSLs, while the analytical results for soil samples collected from the boreholes showed that SVOCs, PCB, and iron were detected at concentrations exceeding their RSLs.

October 2010 Field Event

In October 2010, the EPA returned to the Site to assess fluctuations of groundwater depth and direction and to determine whether there were seasonal variations in contaminant concentrations. The facility was not operating at the time, and the majority of salvageable material and hydraulic equipment had been removed from the site. Four groundwater samples were collected from the monitoring wells and the analytical results indicated that the SVOC bis(2-ethylhexyl)phthalate was detected above Site screening

criteria, this analyte is a common cross-contaminant; no other SVOCs, metals, PCBs, TPH, and VOCs were detected at concentrations above their screening levels.

June 2011 Field Event

In June 2011, additional sampling was conducted to further delineate the extent of soil and groundwater contamination around the process area and evaluate whether contamination extended beneath the shop building. An additional round of groundwater sampling from the monitoring wells installed in March 2010 was also conducted to assess seasonal variations in contaminant concentrations and determine fluctuations of groundwater direction and depth. Twenty five boreholes were installed at depths from 4 to 12 feet below ground surface (bgs) to collect additional subsurface soil samples. Groundwater samples were collected from eight of the investigative boreholes and four groundwater samples from the previously installed monitoring wells. A total of 45 soil samples and 12 groundwater samples were collected during this phase. Analytical results indicated the presence of TPH, PCBs, lead, and SVOCs at concentrations that exceeded their respective RSLs in both soil and groundwater.

April 2012 Field Event

In April 2012, the EPA returned to the Site and collected soil samples from a swale to further characterize the contamination outside the process area. The EPA collected one surface soil sample from the southern edge of the swale and another surface soil sample from the eastern edge. Analytical results indicated the presence of arsenic and SVOCs at concentrations that exceeded their respective RSLs. No other metal analytes were detected above screening criteria, and no PCBs were detected above screening criteria. Additionally, ten sediment samples were collected from the southern shoreline of Mill Creek. One SVOC (4-methylphenol) and one metal were detected at elevated concentrations with respect to background concentrations.

c. EPA 2011 Preliminary Assessment

In November 2011, a Preliminary Assessment was prepared for the Site. The Preliminary Assessment report discussed Site history; summarized previous work completed by the EPA and other entities, and identified sources of hazardous substances at the Site. The EPA Preliminary Assessment concluded that documentation was clear regarding contamination being present at the Site and recommended additional media sampling.

5. NPL status

The Site currently is not listed on the National Priority List nor has it been proposed for the NPL. The Assessment and Brownfields Unit performed a Site Inspection in 2012, and concluded that currently there is insufficient data or reason to warrant proposal of the Site to the NPL and, therefore, no further action is anticipated under the site assessment program.

6. Maps, pictures, and other graphic representations

Refer to attached Figure 1 (Site Vicinity Map), Figure 2 (Site Location Map), Figure 3 (Sample Locations In and Around the Processing Area), and Figure 4 (Proposed Excavation Areas).

B. Other Actions to Date

1. Previous actions

The EPA conducted a two-phase time-critical removal action as discussed below to address threats to human health and the environment present on the surface of the Site including hazardous substance containers, leaking and abandoned drums, friable asbestos material, and contaminated surface soils.

a. Time-Critical Removal Action (First Phase-2009)

The first phase of the Time-Critical Removal Action was performed in October 2009. The purpose of this action was to to mitigate the threat to human health and the environment posed by numerous containers of hazardous substances, including leaking drums of waste, piles of asbestos containing material and stained surface soil with elevated concentrations of metals, PCBs, SVOCs, PAHs, and other contaminants. Approximately 75 cubic yards (yd^3) of non-Resource Conservation and Recovery Act lead-contaminated surface soils, 150 yd^3 asbestos waste and asbestos-contaminated soil, seven 55-gallon drums of PCB oil and sludge, eleven 55-gallon drums of PCB oils and water, 40 yd^3 of non-Toxic Substances Control PCB debris, and three 55-gallon drums of paint-related waste were removed from the Site during this response. Additionally, approximately 650 gallons of non-PCB oil was also shipped off-Site for recycling. At the conclusion of the 2009 removal action, SS&R was still operating at the Site and continuing to use leaking equipment including the hydraulic shear and baler, which likely resulted in continuing releases of oil and other hazardous substances.

b. Time-Critical Removal Action (Second Phase-2012)

In April 2012, the EPA returned to the Site to remove and dispose of abandoned drums of waste material that had been generated when salvage yard operations were shut down in mid-2010. The EPA characterized and disposed of sixty-one 55-gallon drums of waste, which included some drums containing wastes that had been abandoned at the Site by other unknown persons. Stained soil near the shop building was also excavated for off-Site disposal. Approximately 20 yd^3 of non-RCRA solid waste, six 55-gallon drums of malathion (a pesticide), six 55-gallon drums of liquid flammable waste, eighteen 55-gallon drums of waste oil with lead, thirteen 55-gallon drums of waste oil, ten 55-gallon drums of liquid hazardous waste (not otherwise specified), and eight 55-gallon drums of solid hazardous waste (not otherwise specified) were transported off-Site for disposal.

2. Current actions

There are no government or private activities that are currently being performed at the Site.

C. State and Local Authorities Roles

1. State and local actions to date

After Mr. Stubblefield's death in 2008 his three surviving children, who are the owners of SS&R, requested the Site be included into Ecology's Voluntary Cleanup Program to address environmental issues at the Site. At the time, SS&R was still operating the Site as an active salvage yard. Ecology denied the request to address the Site under the Voluntary Cleanup Program and referred it to the EPA April 2009. Ecology's referral requested that "immediate intervention and action" be taken because

Ecology was not capable of providing the appropriate resources in the prompt manner needed to address the potential human health and ecological risks associated with the hazardous substances and hazardous substances mixed with oil described herein.

2. Potential for continued state and local response

Ecology is expected to remain involved in future Site cleanup activities. For example, it is anticipated that Ecology will participate in post removal site control activities and may be a party to any environmental covenant that might be necessary to establish institutional controls necessary to assure the protectiveness of the removal action. An environmental covenant would be recorded pursuant to Washington State Uniform Environmental Covenants Act (UECA), Revised Code of Washington 64.70.010.

3. Government-to-government consultation

EPA offered government-to-government consultation with the Confederated Tribes of the Umatilla Indian Reservation and the Nez Perce Tribe. On April 2, 2013, the EPA held a teleconference with members of the technical staff of each tribe to provide an overview of previous site activities, and answer questions and seek input concerning the proposed Removal Action. The technical staff from the Tribes indicated satisfaction with EPA's proposed Removal Action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The current conditions at this Site meet the following factors which indicate that the Site is a threat to the public health or welfare or the environment, and further removal action is appropriate under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2).

A. Threats to Public Health or Welfare

1. Exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants (40 C.F.R. § 300.415[b][2][I])

The COCs found at the Site include SVOCs, PCBs, pesticides, and metals. At some locations these contaminants are commingled in a non-segregable manner with oil. Refer to Table 2 for a discussion of the human health effects associated with the COCs present at the Site. As with all hazardous substances and hazardous substances mixed with oil, the nature and extent of the health effect will depend on many factors including composition, concentration, and duration of exposure. The elevated concentrations of the COCs found in Site soils and groundwater indicate that complete human exposure pathways exist for soil dermal contact, ingestion, and inhalation.

Site owners, visitors, trespassers, and future workers could be exposed to the Site contaminants found in soil and groundwater. The Site is located in a rapidly developing commercial area and although there are some limits to public access, the Site is currently owned by the Estate of Emory N. Stubblefield and is not being actively managed. In addition, there are no institutional controls such as well drilling prohibitions to minimize the potential for human exposure to Site contamination by limiting land or resource use.

2. Actual or potential contamination of drinking water supplies or sensitive ecosystems [300.415(b)(2)(ii)].

There are six wells on the Site: a "deep" well that has historically been used for drinking water, a "shallow" well that is used for fire-fighting water, and four monitoring wells that were installed by the EPA in 2010. The EPA collected samples from the deep and shallow Site water supply wells once (May 2009) and from the monitoring wells three times (March 2010, October 2010, and June 2011). Additionally, the EPA collected groundwater samples from eight investigative boreholes installed in the processing area in 2011. Analysis of groundwater samples collected from each of the 10 sample locations within or downgradient of the process area indicated elevated concentrations of one or more metals, PCBs, TPH, and/or SVOCs.

3. High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate (40 C.F.R. § 300.415[b][2]iv])

The contaminated surface soils are not vegetated and the soils are susceptible to migration within the Site and off-Site because of water- and wind-borne influences.

4. Availability of other appropriate federal or state response mechanisms to respond to the release (40 C.F.R. § 300.415[b][2][viii])

Ecology referred the Site to the EPA Region 10 on April 14, 2009 because it was not capable of providing the appropriate resources in the prompt manner needed to address the potential human health and ecological risks associated with the hazardous substances mixed with oil described herein. There are no known other appropriate federal or state response mechanisms capable of providing the appropriate resources. The identified potentially responsible parties also do not have the financial resources or expertise to conduct the necessary response.

B. Threats to the Environment

1. Exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants (40 C.F.R. § 300.415[b][2][i]

Ecological receptors can become exposed to Site contaminants through direct contact with the COCs in soil and groundwater, through ingestion of the COCs or water and sediments contaminated by the COCs, and through the food chain by consuming animals and plants that have accumulated Site-related contamination.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from the Site may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. CONSIDERED AND SELECTED ACTIONS AND ESTIMATED COSTS

The goals of this non-time-critical removal action are (1) to prevent direct contact, ingestion, and inhalation of contaminated soils exceeding actionable concentrations, and to reduce the potential for this

affected media to act as a contaminant source to surface water and groundwater, in a manner that is protective of human health and the environment, (2) to conduct a removal action which is consistent with future use of the site for residential development, and (3) to attain applicable or relevant and appropriate requirements to the extent practicable considering the exigencies of the situation.

The portion of the Site that is the subject of this removal action is known as the Process Area. This Area was sub-divided into two separate areas as a means for simplifying the development and analysis of removal action alternatives:

- Southern Process Area (SPA); and
- Northern Process Area (NPA).

For both areas, the removal action alternatives were developed and evaluated together because the primary difference between the two areas is the depth of contamination. The following removal action alternatives were developed and individually evaluated against the short- and long-term aspects of three broad criteria - effectiveness, implementability, and cost:

- Alternative 1 -No Action;
- Alternative 2 - Institutional and Access Controls;
- Alternative 3 - Containment;
- Alternative 4 - Treatment ; and
- Alternative 5 - Excavation and Off-Site Disposal in a Landfill.

Once the alternatives were individually assessed against the criteria, a comparative analysis was conducted to evaluate the relative performance of each alternative in relation to each of the criteria. This is in contrast to the preceding analysis in which each alternative was analyzed independently without consideration of other alternatives.

Based on the individual and comparative analysis of removal action alternatives with respect to the Process Area, the recommended removal action is Alternative 5 - Excavation and Off-Site Disposal.

The following is a brief summary of the recommended removal action. A detailed description and individual and comparative analysis of removal action alternatives are found in Sections 4, 5, and 6 of the project EE/CA.

A. Recommended Actions

1. Recommended action description

Engineering and Institutional Controls

The need for institutional controls will be evaluated during and following the implementation of the selected action and will be based on Site conditions encountered. If institutional controls are determined to be necessary, such controls will likely be implemented using an enforceable environmental covenant

pursuant to the Washington State UECA. An environmental covenant may, as appropriate, limit certain activities and uses at the Site.

Excavation - South Process Area and North Process Area

The hazardous substances and oil found in Site soils are a source of groundwater contamination, and removal of this source is the most effective way to prevent further contamination. Removal of the contaminated soil will also enable natural processes that can degrade contaminants in soil and groundwater.

The SPA measures approximately 70 feet by 175 feet (Figure 4). An estimated 3,700 yd^3 of contaminated soil will be excavated from this area and this material will be shipped off-Site for disposal at a facility operating in compliance with RCRA or other applicable Federal or state requirements. Based on existing data, the excavation will extend to the seasonal low groundwater level or approximately eight feet below ground surface (bgs). The final vertical and lateral extent of excavation will be determined in the field and will be based on best professional judgment that considers site-specific conditions and field screening such as the presence of oil-stained soil, field organic vapor monitoring, and field laboratory analyses. Prior to backfilling with clean material, soil samples will be collected from the bottom of the excavation area to provide a baseline for potential monitoring of natural attenuation. Soil samples will be collected and analyzed for PCBs, SVOCs, metals, and TPH. All areas disturbed during cleanup activities will be graded to control for surface water drainage and stabilized to facilitate reestablishment of vegetation appropriate for the area.

The NPA is contiguous to the SPA and measures approximately 150 feet by 175 feet (Figure 4). An estimated 4,000 yd^3 of contaminated soil will be excavated from this subarea and this material will also be shipped off-Site for disposal at a facility operating in compliance with RCRA or other applicable Federal or state requirements. Based on existing data, the excavation will likely extend to approximately four feet bgs; however, the excavation may extend to the seasonal low groundwater level of approximately eight feet below ground surface. The final depth of excavation is intended to achieve the removal of contamination to the maximum extent practicable and will be based on best professional judgment that considers site-specific conditions and field screening. If the depth of excavation extends to eight feet, the amount of excavated material will be approximately 7,200 yd^3. Prior to backfilling with clean material, soil samples will be collected from the bottom of the excavation area to provide a baseline for monitoring natural attenuation. All areas disturbed during cleanup activities will be graded to control for surface water drainage and stabilized to facilitate reestablishment of vegetation appropriate for the area.

Demolition of the Existing Shop Building

An approximate 3,600 square foot, 2-story shop building is located adjacent to the southeast corner of the Process Area. Based on existing analytical information, the soil beneath the concrete foundation of the building is not sufficiently contaminated to require removal; however, the soil surrounding the northwest corner of the building is heavily contaminated and does require removal. In April 2013, the building was assessed for the presence of asbestos, lead paint, the structural condition of the building, and the geotechnical characteristics of the surrounding soil. Asbestos and lead paint were not detected in any parts of the building. The assessment also concluded that the contaminated soil adjacent to the northwest corner of the building could be safely excavated following a prescribed excavation, backfill, and compaction plan. The structural integrity of the building will be monitored during excavation and

removal of contaminated soil. If the structural integrity appears to become compromised, the EPA will demolish the building and stockpile the demolition debris on site.

Best Management Practices

Best Management Practices (BMPs) will be implemented during removal activities to protect workers, the community, and the environment from short-term construction impacts such as erosion, sedimentation, fugitive dust, noise, and other similar potential impacts.

Non-hazardous wastes, such as inert construction debris, will be transported off site for disposal, recycled in accordance with appropriate solid waste disposal or recycling requirements, or set aside and left on site.

Greener Cleanup Best Management Practices

Appropriate and practicable greener cleanup BMPs will be implemented during cleanup activities, including, but not limited to, minimizing energy consumption (e.g., using new and well-maintained equipment), minimizing generation and transport of fugitive dust (e.g., implementation of construction BMPs), minimizing waste generation through reuse and recycling, minimizing impacts to water resources (e.g., implementation of construction stormwater and surface water BMPs), minimizing areas requiring activity or use limitations (e.g., source removal), minimizing unnecessary soil and habitat disturbance, and minimizing lighting and noise disturbance (e.g., implementation of construction BMPs).

Long-term Monitoring and Maintenance

Ecology has accepted responsibility for Post-Removal Site Control (PRSC) following completion of the Removal Action. The EPA and Ecology will assess appropriate PRSC activities during and following the removal action. PRSC activities would be expected to potentially include episodic inspections of the Process Area and periodic groundwater monitoring using the existing monitoring wells. The EPA and Ecology may file a Restrictive Covenant to notify and protect future Site occupants and users from any residual contamination that may remain following completion of the action.

2. Contribution to remedial performance

If future remedial actions are required, the proposed removal action is not expected to impede such actions based upon available information.

3. Engineering Evaluation/Cost Analysis (EE/CA)

The EE/CA Approval Memorandum was signed and issued by the EPA on August 30, 2012. An EE/CA document was prepared by the EPA in December 2012. A notice of availability and brief description of the EE/CA document was published in the Walla Walla Union-Bulletin, and a 30-day public comment period on the EE/CA document was held from March 5, 2013 to April 5, 2013. One comment was received from Ecology via telephone in support of EPA's removal plan. Two email messages were received from local citizens. One message inquired about who was paying for the removal action and the second email was in support of the removal of what the citizen considered to be "an eyesore" for his

community. A written summary and response by the EPA to public comments received about the EE/CA is attached.

4. Applicable or relevant and appropriate requirements

The NCP requires that removal actions attain ARARs under federal or state environmental or facility siting laws, to the extent practicable considering the exigencies of the situation (40 C.F.R. § 300.415[j]). In determining whether compliance with ARARs is practicable, the EPA may consider the scope of the removal action and the urgency of the situation (40 C.F.R. § 300.415[j]).

Refer to Table 2 (attached) for state and federal ARARs.

5. Project Schedule

The project is expected to require eight to ten weeks to complete and it is presently anticipated that this work will be performed by the EPA beginning in May 2013.

C. Estimated Costs

An analysis of relative costs of the proposed actions is found in Section 4 and Appendix F of the EE/CA. The cost for the proposed removal action is approximately $1,932,000.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

A delay in action or no action at the Site would increase the actual or potential threats to the public health and/or the environment associated with exposure to Site contaminants and would allow Site contaminants to continue to migrate from surface and subsurface soils to groundwater.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

Refer to attached Confidential Enforcement Addendum.

IX. DETERMINATION

This decision document sets forth the recommended removal action for the Stubblefield Salvage Site, located in the city of Walla Walla, Walla Walla County, Washington, that has been developed in accordance with CERCLA, and is consistent with the NCP. The recommended removal action is based on the administrative record for the Site.

Conditions at the Site meet the NCP 40 C.F.R. § 300.415(b) criteria for a removal action and I request your approval of the recommended removal action. The recommended removal action is expected to be conducted by the EPA.

X. APPROVAL/DISAPPROVAL

By the approval which appears below, the EPA selects the removal action for the Site as set forth in the recommendations contained in this Action Memorandum.

Approve: ✓

Chris Field
Program Manager
Emergency Management Program
Office of Environmental Cleanup

Disapprove: _____

Chris Field
Program Manager
Emergency Management Program
Office of Environmental Cleanup

Effective date of this Decision: _____

XI. ATTACHMENTS

- Figure 1 (Site Vicinity Map)
- Figure 2 (Site Layout Map)
- Figure 3 (Sample Locations)
- Figure 4 (Proposed Excavation Areas)
- Table 1 (Soil Contamination Summary)
- Table 2 (Contaminants of Concern and Human Health Effects)
- Table 3 (ARARs)
- EE/CA Responsiveness Summary

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Figure 1: Site Vicinity Map
Stubblefield Salvage Yard Site
Walla Walla, Washington

ecology and environment, inc.
Global Environmental Specialists

Figure 2: Site Location Map
Stubblefield Salvage Yard Site
Walla Walla, Washington

ecology and environment, inc.
Global Specialists in the Environment
Seattle, Washington

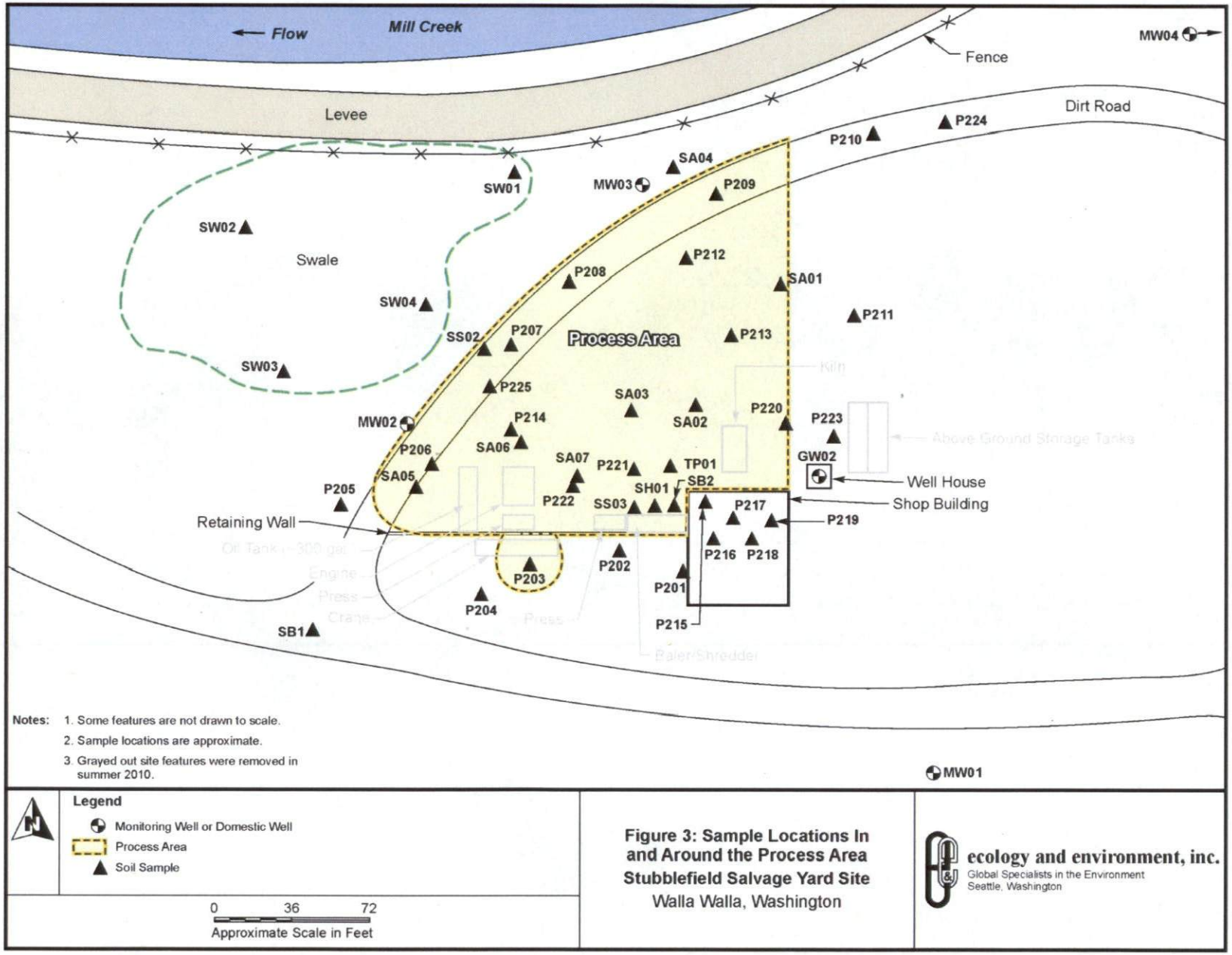

Figure 3: Sample Locations In and Around the Process Area
Stubblefield Salvage Yard Site
Walla Walla, Washington

ecology and environment, inc.
Global Specialists in the Environment
Seattle, Washington

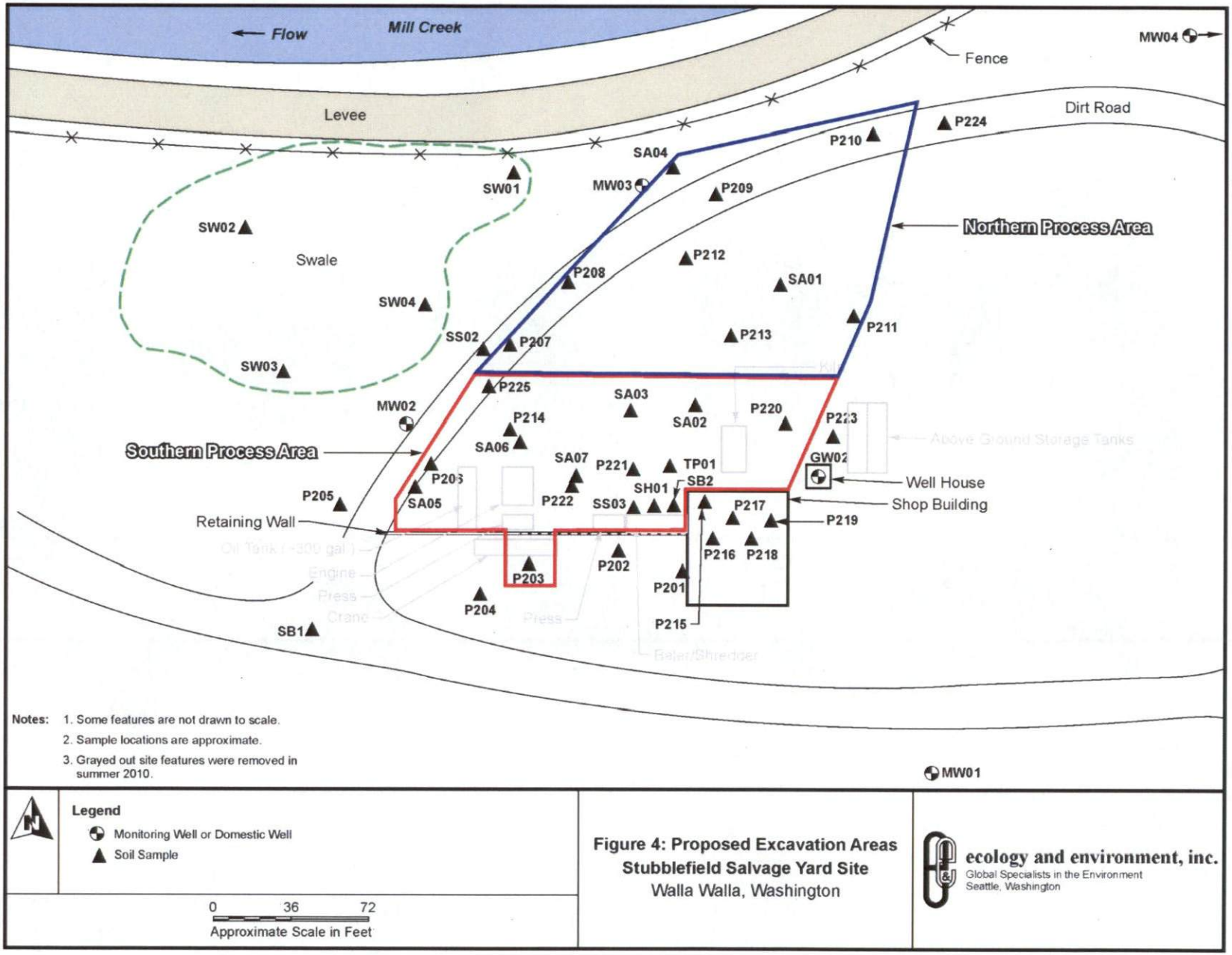

Figure 4: Proposed Excavation Areas
Stubblefield Salvage Yard Site
Walla Walla, Washington

ecology and environment, inc.
Global Specialists in the Environment
Seattle, Washington

Table 1 - Soil Contamination Summary

Contaminant of Potential Concern	Maximum Detected Concentration	EPA RSL - Residential Soil		EPA RSL - Industrial Soil	
		Value	Frequency of Exceedance [2]	Value	Frequency of Exceedance [2]
Metals (mg/kg)					
Antimony (Metallic)	54	31	1 / 71	410	0 / 71
Arsenic (Inorganic)	5.4	0.39	3 / 73	1.6	1 / 73
Cobalt	24	23	1 / 71	300	0 / 71
Iron	86,000	55,000	14 / 71	720,000	0 / 71
Lead & Compounds	4,400	400	8 / 73	800	6 / 73
PCBs (µg/kg)					
Aroclor-1242	38,000	220	14 / 82	740	7 / 82
Aroclor-1248	19,000	220	2 / 82	740	2 / 82
Aroclor-1254	41,000	220	10 / 82	740	8 / 82
Aroclor-1260	2,300	220	5 / 82	740	2 / 82
Pesticides (µg/kg)					
beta-BHC	280	270	1 / 23	960	0 / 23
Dieldrin	100	30	1 / 23	110	0 / 23
TPH (mg/kg)					
Diesel Range Organics	43,000	2,000 [1]	7 / 59	2,000 [1]	7 / 59
Oil Range Organics	110,000	2,000 [1]	12 / 59	2,000 [1]	12 / 59
SVOCs (mg/kg)					
Benzo(a)anthracene	130	0.15	23 / 81	2.1	10 / 81
Benzo(a)pyrene	84	0.015	39 / 81	0.21	20 / 81
Benzo(b)fluoranthene	90	0.15	23 / 81	2.1	11 / 81
Benzo(k)fluoranthene	66	1.5	8 / 81	21	0 / 81
Chrysene	130	15	3 / 81	210	0 / 81
Dibenzo(a,h)anthracene	18	0.015	28 / 81	0.21	8 / 81
Indeno(1,2,3-cd)pyrene	52	0.15	17 / 81	2.1	7 / 81

Note:

1. = Refers to Washington State MTCA cleanup levels for TPH in soil.
2. = Frequency of exceedance = # screening level exceedances/total # samples.

Key:

EPA = Environmental Protection Agency.
MTCA = Model Toxics Control Act.
mg/kg = Milligrams per kilogram (parts per million).
µg/kg = Micrograms per kilogram (parts per billion).
PCBs = Polychlorinated biphenyls.
RSL = Regional screening levels for chemical contaminants at Superfund sites.
SVOCs = Semivolatile organic hydrocarbons.
TPH = Total petroleum hydrocarbons.

TABLE 2 CONTAMINANTS OF CONCERN AND HUMAN HEALTH EFFECTS	
Contaminant of Concern	Human Health Effects
Polychlorinated Biphenyls	
Polychlorinated Biphenyls (Aroclors)	Chronic exposure to some PCB formulations by inhalation in humans results in respiratory tract symptoms, gastrointestinal effects, mild liver effects, and effects on the skin and eyes such as chloracne, skin rashes, and eye irritation. Epidemiological studies indicate an association between dietary PCB exposures and developmental effects. Human studies provide inconclusive, yet suggestive, evidence of an association between PCBs exposure and cancer. Animal studies have reported an increase in liver tumors in rats and mice exposed orally to all tested PCB formulations. The EPA has classified PCBs as a Group B2, probable human carcinogen.
Semivolatile Organic Compounds / Carcinogenic Polycyclic Aromatic Hydrocarbons	
Benzo(a)anthracene benzo(a)pyrene benzo(b)fluoranthene benzo(k)fluoranthene chrysene dibenzo(a,h)anthracene. ideno(1,2,3-cd)pyrene	Laboratory animal studies have shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. Other studies have shown reproductive effects, including fertility problems, birth defects, and lower birth weight. These effects have not been shown in humans. The carcinogenic PAHs have been associated with cancer after chronic exposure in both animals and humans. The types of cancer include lung, breast, gastrointestinal, pancreatic, bladder, skin, prostate, and cervical. The EPA classifies benzo(a)pyrene as a B2, or probable human carcinogen.
Pesticides	
Beta-BHC	Animal studies have shown that organochlorine pesticides like beta-BCH are neurotoxic, cause oxidative stress, and damage the brain's dopaminergic system, and animal studies have shown increased benign liver tumors in mice fed beta-HCH. EPA classifies beta-BHC as a C, possible human carcinogen.
Dieldrin	Exposure to dieldrin happens mostly from eating contaminated foods, including fish or seafood. Dieldrin can build up in the body after years of exposure and can affect the nervous system. People who have ingested large amounts of dieldrin have suffered convulsions, and some have died. Moderate levels of dieldrin exposure in air for a long time has caused headaches, dizziness, irritability, vomiting, and uncontrolled muscle movements in some workers. In animals, dieldrin exposure has affected nervous systems, livers, and decreased their ability to fight infections. The EPA classifies dieldrin as B2, probable human carcinogen.

TABLE 2 CONTAMINANTS OF CONCERN	
Contaminant of Concern	Human Health Effects
Total Petroleum Hydrocarbons	
Diesel Range Organics	Very little is known about the human health effects caused by fuel oils such as diesel. In humans, breathing diesel fuel vapors for a long time may damage kidneys, increase blood pressure, or lower the ability for blood to clot. Constant skin contact may also damage kidneys. Although there is some conflicting information, repeated contact with fuel oils can cause skin cancer in mice and may cause liver cancer in mice. It is not known if fuel oils can cause cancer in humans. The International Agency for Research on Cancer (IARC) has determined that marine diesel fuel is a possible human carcinogen, but they consider that there is not enough information available to determine distillate (light) diesel fuels cause cancer.
Gasoline Range Organics	Many of the harmful effects seen after exposure to gasoline are due to the individual chemicals in the gasoline mixture, such as benzene and lead. Inhaling high concentrations of gasoline can irritate the lungs, and swallowing gasoline can irritate the lining of the stomach. Inhaling or swallowing large amounts of gasoline can cause lung/stomach irritation, harmful effects on the nervous system, or death. Serious nervous system effects include coma and the inability to breathe, while less serious effects include dizziness and headaches. Some laboratory animals that breathed high concentrations of unleaded gasoline vapors continuously for two years developed liver and kidney tumors. However, there is no evidence that exposure to gasoline causes cancer in humans.
Metals	
Arsenic	Acute high-level inhalation to arsenic dust or fumes has resulted in gastrointestinal effects (nausea, diarrhea, abdominal pain). Chronic oral exposure has resulted in gastrointestinal effects, anemia, peripheral neuropathy, skin lesions, hyperpigmentation, and liver or kidney damage in humans. Inorganic arsenic exposure in humans, by the inhalation route, has been shown to be strongly associated with lung cancer, while ingestion of inorganic arsenic in humans has been linked to a form of skin cancer and also to bladder, liver, and lung cancer. The EPA has classified inorganic arsenic as a Group A, human carcinogen.
Lead and Compounds	Lead can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High level exposure in men can damage the organs responsible for sperm production.