April 24, 1996

Mr. David Bennett
United States Environmental Protection Agency
1200 Sixth Avenue, HW-114
Seattle, WA 98101

Re: Contract No. 68-W6-0008, Technical Direction Document No. 96-03-0001
Pettit Towing/Douglas Wrecking and Salvage Preliminary Assessment

Dear Mr. Bennett:

Enclosed please find the Preliminary Assessment (PA) report completed for the Pettit Towing/Douglas Wrecking and Salvage site located in Wapato, Washington. Results of the PA indicate the soil exposure pathway to be the pathway of greatest potential impact to receptors.

This Technical Direction Document will remain open to address comments to this report. If you have any questions regarding this PA, please call me at 206/624-9537.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Linda Foster,
Project Leader

cc: Gary Sink, EPA, Region 10 (letter only)
William Carberry, E & E, Seattle (letter only)

LEF/jw

PETTIT TOWING/ DOUGLAS WRECKING AND SALVAGE WAPATO, WASHINGTON

TDD: 96-03-0001

Contract No: 68-W6-0008

April 25, 1996

REGION X

START

SUPERFUND TECHNICAL ASSESSMENT & RESPONSE TEAM

Prepared for:

EPA

Office of Environmental Cleanup
Region X

DAVID BENNETT
TASK MONITOR

Prepared by:

ecology and environment, inc.
Seattle, Washington (206) 624-9537
International Specialists in the Environment

LINDA FOSTER
PROJECT MANAGER

DRAFT
PRELIMINARY ASSESSMENT
PETTIT TOWING/DOUGLAS WRECKING AND SALVAGE SITE
WAPATO, WASHINGTON

START REGION X

Contract No. 68-W6-0008
Technical Direction Document No. 96-03-0001

April 1996

Prepared By:

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1500 First Interstate Center
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Prepared For:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DRAFT
PRELIMINARY ASSESSMENT
PETTIT TOWING/DOUGLAS WRECKING AND SALVAGE SITE
WAPATO, WASHINGTON

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1.0 INTRODUCTION

Ecology and Environment, Inc., (E & E) has been tasked by the U.S. Environmental Protection Agency (EPA) to provide technical support for completion of a Preliminary Assessment (PA) at the Pettit Towing/Douglas Wrecking and Salvage (Pettit) site in Wapato, Washington. E & E completed PA activities under Technical Direction Document No. 96-03-0001, issued under EPA Region X Superfund Technical Assessment and Response Team (START) Contract Number 68-W6-0008. The specific goals for the Pettit PA identified by EPA are presented below:

- Determine the potential threat to public health or the environment posed by the site;
- Determine the potential for a release of hazardous constituents into the environment; and
- Determine the potential for placement of the site on the National Priorities List.

Completion of the PA included reviewing existing site information, collecting receptor information within the range of site influence, and determining regional characteristics. This document includes a discussion of background site information (Section 2); a discussion of migration/exposure pathways and potential receptors (targets) (Section 3); and a list of pertinent references (Section 4).

2.0 SITE BACKGROUND

2.1 SITE LOCATION

Site Name:	Pettit Towing/Douglas Wrecking and Salvage
CERCLIS ID No.:	WA0000592451
Location:	1940 Donald Road Wapato, Washington 98951
Latitude:	46E 27' 59.05" North
Longitude:	120E 23' 52.12" West
Legal Description:	Section 2, Township 11 North, Range 19 East
Site Owners:	Paul W. McDonald 4461 Yakama Valley Highway Wapato, Washington 98951 (509) 877-4700 Johnson Meninick Cultural Resources Program Yakama Indian Nation P.O. Box 151, Fort Road Toppenish, Washington 94948 (509) 865-5121, Ext. 737
Site Operators:	Quinton Douglas Douglas Wrecking and Scrapping 1940 Douglas Road Wapato, Washington 98951 (509) 877-4700 Mary Pettit Pettit Towing 1940 Douglas Road Wapato, Washington 98951 (509) 877-4700

Site Contacts:

Yakama Indian Nation
Representing Johnson Meninick
P.O. Box 151, Fort Road
Toppenish, Washington 98948
Contact: Deborah J. Borrero, Pro Bono/Associate Counsel
(509) 865-5121

Donald D. Bundy, Attorney
Wilson & Bundy
Representing Pettit Towing and Douglas Wrecking and Scrapping
303 East "D" Street, Suite 2
Yakima, Washington 98901
(509) 248-6423

2.2 SITE DESCRIPTION

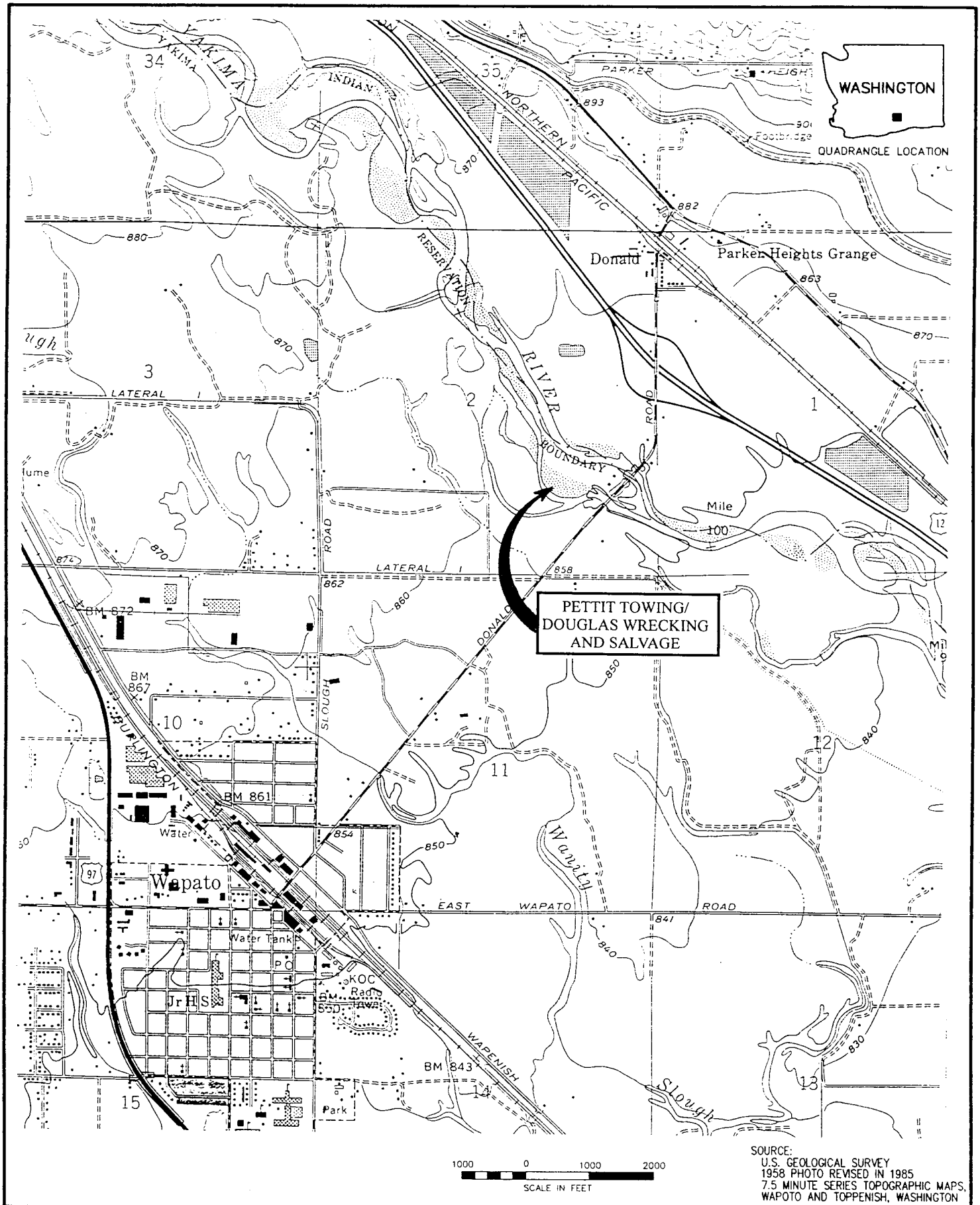
Pettit Towing and Douglas Wrecking and Scrapping (Pettit) is an automobile towing and salvage business operating on a sand and gravel bar in middle of the Yakima River (Figure 2-1). The site is located approximately 1.5 miles northeast of Wapato, Washington city limits on the west site of Donald Road which bridges the Yakima River and crosses the sand and gravel bar. The site consists of approximately 5 acres of level ground containing large areas used to store automobiles (Figure 2-2). An automobile disassembly area, salvage area, an oil/hazardous substance storage shed, a motor and equipment storage shed, an office trailer, and a trailer home are present on the east side of the site near Donald Road. The site is fenced with a gated entrance along Donald Road.

The site is operated by Quinton Douglas and Mary Pettit. Site ownership is in dispute with Paul McDonald; Johnson Meninick, represented by the Yakama Indian Nation; and Quinton Douglas each documented as owning or claiming ownership of site land. Ownership claims and boundary lines are further complicated by the shifting configuration of the sand and gravel bar as it is sculpted and reshaped by the Yakima River. In general, land west of the Yakima River in this area is owned by the Yakama Indian Nation and land east of the river is privately owned.

2.3 SITE OPERATIONS AND WASTE CHARACTERISTICS

The site has been in operation since 1940 (Bundy 1994). Site operations include automobile disassembly and salvage, automobile crushing, and automobile storage. Contaminants of concern at the site associated with these operations include lead, battery acid, alkalids, chromium, solvents, sulfuric acid, ethylene glycol, and polychlorinated biphenyls.

Site operators have dumped concrete and dirt along portions of the bar shores and wetlands to reduce erosion and prevent flooding of the site.



SOURCE:
U.S. GEOLOGICAL SURVEY
1958 PHOTO REVISED IN 1985
7.5 MINUTE SERIES TOPOGRAPHIC MAPS,
WAPOTO AND TOPPENISH, WASHINGTON

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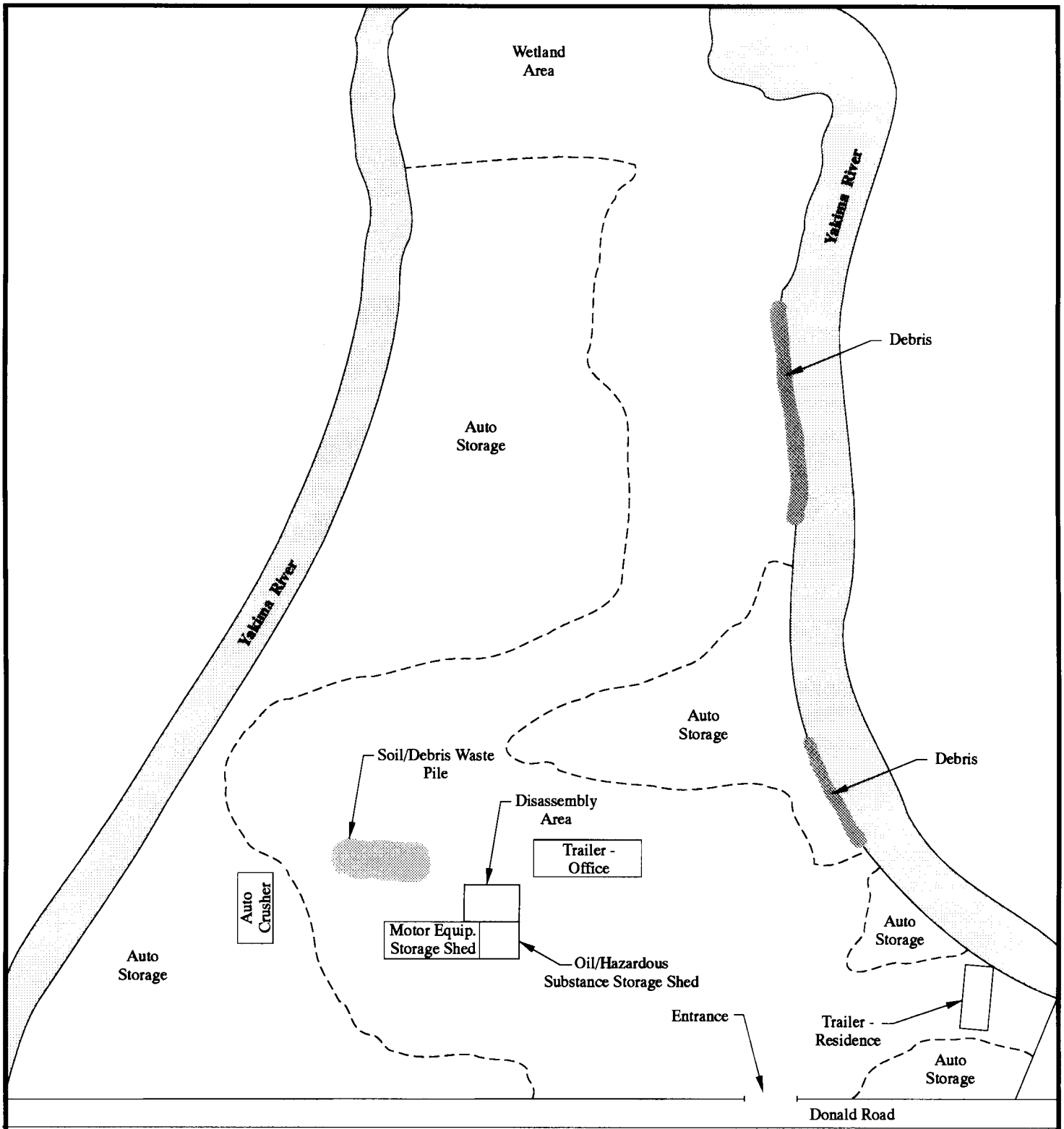
PETTIT TOWING/
DOUGLAS WRECKING
AND SALVAGE
Wapato, Washington

Figure 2-1
PETTIT TOWING/
DOUGLAS WRECKING AND SALVAGE
SITE LOCATION MAP

2-3	As Shown	Drawn By: EGM	Date 4-23-96	TDD/Job No. 96-03-0001 KJ0100/AC01-01SA-	Dwg. No. KJ02-1A



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PETTIT TOWING/
DOUGLAS WRECKING
AND SALVAGE
Wapato, Washington

2-4 Not to Scale

Figure 2-2
PETTIT TOWING/
DOUGLAS WRECKING
AND SALVAGE
SITE MAP

Drawn By:	Date	TDD/Job No.	Dwg. No.
EGM	4-23-96	96-03-0001 KJ0100/AC01-01SA-	21152SM

2.4 SITE INVESTIGATIONS

In January 1994, a county prosecutor with the Washington Department of Fish and Wildlife conducted a site visit of Pettit (Treser 1994). At this time the prosecutor observed concrete and dirt which had been pushed into the Yakima River along portions of the bar and in bar wetland areas (Treser 1994). As a result of this visit, a violation of hydraulic approval was issued to Quinton Douglas, the site operator (Treser 1994).

In November 1994, the U.S. EPA Technical Assistance Team (TAT), conducted an Integrated Site Assessment of the site. The TAT identified four areas of concern at the site: the motor/automobile disassembly area, the oil/hazardous substances storage shed containing drums and batteries, the motor/equipment storage shed, and a soil/debris waste pile generated as a result of site cleanup activities. In addition to these TAT identified areas of concern, there exists at the site several areas used to store automobiles. The disassembly area is estimated to be 20 feet by 20 feet (400 square feet). The soil/debris waste pile is estimated to be 30 feet by 20 feet by 8 feet high (119 cubic yards). The combined total area used to store automobiles is estimated to be 12,950 square feet.

The TAT collected a total of 18 samples from a variety of environmental media. Nine soil samples were collected including two duplicate samples. One duplicate sample set was collected from the disassembly area, one sample was collected adjacent to the oil/hazardous substances storage shed, two samples were collected adjacent to the motor/equipment storage shed, one duplicate composite sample set was collected from the soil/debris waste pile, one sample was collected from an automobile storage area, and one was collected in a background location. Two surface water and sediment samples each were collected: one each upstream of the site on the east bank of the bar and one each approximately 530 feet downstream of the site. Three samples from wetlands were collected: one upstream of the site from a wetland on the east bank of the bar and two approximately 530 feet downstream of the site. Further, one duplicate drinking water sample set was collected from the on-site well supplying the home trailer.

All samples were analyzed for Priority Pollutant metals (EPA 6010 and 7000 series methods), Total Petroleum Hydrocarbons (TPH) (EPA Method 481.1), and volatile organic compounds (EPA Method 8240) with the exception of surface water samples which were analyzed for TPH only. In addition, soil samples also were analyzed for ethylene glycol (EPA Method 8015 modified).

Significant concentrations of cadmium and copper were detected in samples from the disassembly area, the soil/debris waste pile, and the automobile storage area. Cadmium also was detected at a significant concentration in the sample collected adjacent to the motor/equipment storage shed. TPH was detected at significant concentrations in the soil/debris pile and the sample collected adjacent to the motor/equipment storage shed. No significant concentrations were detected in sediment samples or in samples collected from wetlands. A corresponding background sample was not collected for the duplicate drinking water sample set.

Cadmium, copper, and TPH were not detected above their respective sample quantitation limits in either of the duplicate samples collected from the drinking water well.

3.0 MIGRATION/EXPOSURE PATHWAYS AND TARGETS

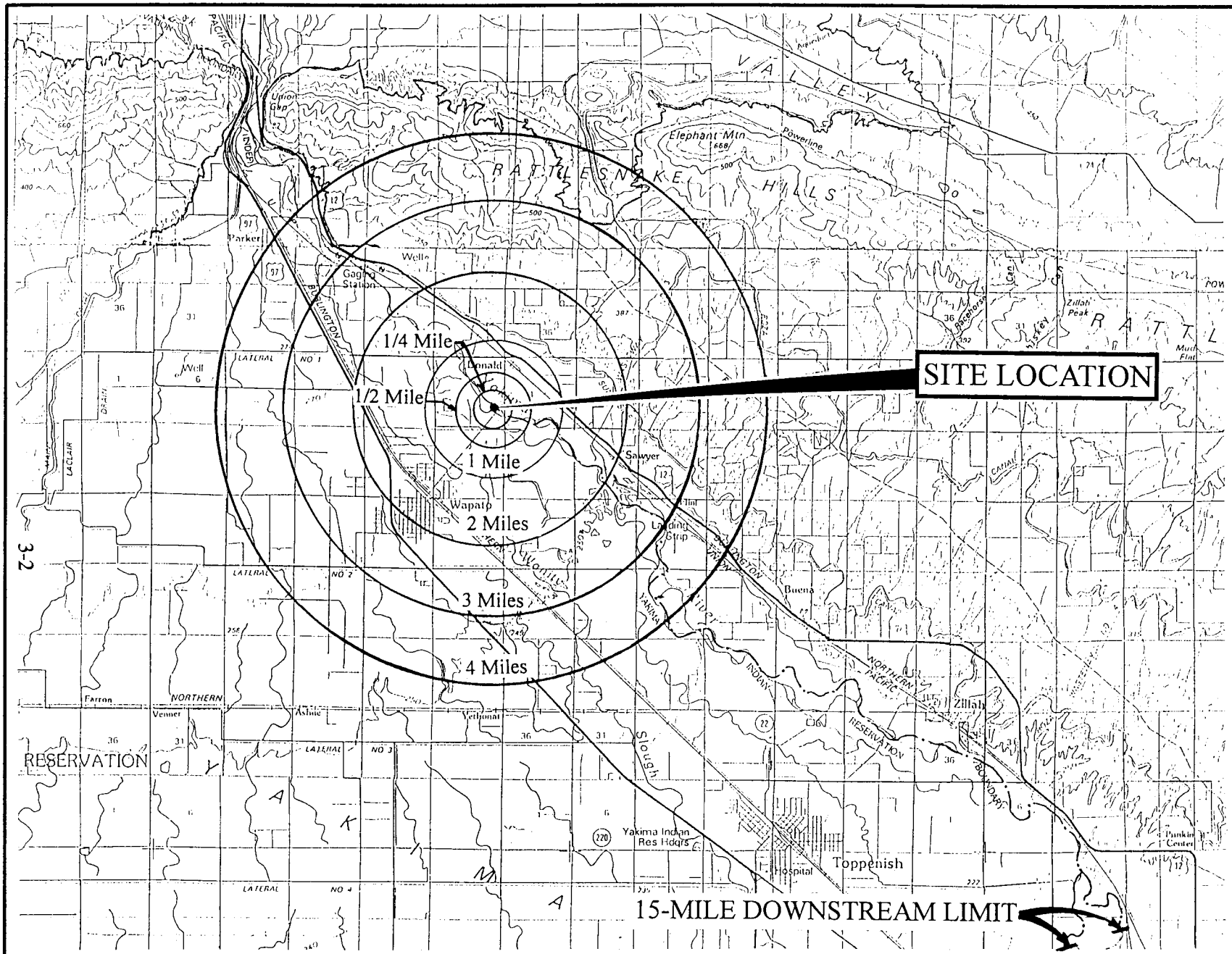
The following sections describe migration/exposure pathways and potential targets within the site's range of influence (Figure 3-1).

3.1 GROUNDWATER MIGRATION PATHWAY

The site is located in the Ahtanum Valley which contains four geologic units. The floor of the Ahtanum Valley consists of a relatively thin mantle of unconsolidated and semiconsolidated stream deposits (alluvium) comprised of unsorted to sorted gravel, sand, and silt. This material ranges from a few feet to approximately 30 feet thick and is underlain by an extensive body of cemented basalt gravel. The cemented basalt gravels are more than 400 feet thick at some places and are comprised of approximately 75 percent cemented basaltic gravel and approximately 25 percent sand, silt, and clay in lenses and discontinuous layers. The cemented basalt gravels are underlain by the Ellensburg formation, which consists of several hundred feet of semiconsolidated clay, silt, sand, and gravel. Finally, the Ellensburg Formation is underlain by the Yakima basalt which is comprised of a sequence of basaltic lava flows several thousand feet thick, interbedded with a few minor sedimentary strata (USGS 1962).

The Yakima basalt contains the most productive aquifers in the Ahtanum Valley (USGS 1962). Most of the basaltic groundwater is under artesian pressure (USGS 1962). Wells drilled in this unit often have productive capacities in excess of 1,000 gallons per minute (gpm) (USGS 1962). Wells in the Ellensburg formation typically range in productivity from 100 gpm to 560 gpm (USGS 1962).

Recharge to this formation is by infiltration from precipitation and irrigation, by influent seepage from streams, and by upward leakage from the Yakima basalt (USGS 1962). The cemented basalt gravels generally are not an important source of groundwater in the Ahtanum Valley, typically yielding insufficient quantities for domestic or irrigation use (USGS 1962). The unconsolidated alluvium is the second most productive aquifer in the Ahtanum Valley (USGS 1962). Most of the wells in the area draw from this unit (USGS 1962). Although many of these are small-yield domestic wells, the alluvium produces about a third of the groundwater used (USGS 1962). Often productive capacities of 100 gpm to 400 gpm are obtained (USGS 1962). The water table in the alluvium of the valley floor is generally less than 10 feet bgs (USGS 1962). The seasonal high water table ranges from 36 to 60 inches below ground



3-2

SOURCE:
BUREAU OF LAND MANAGEMENT, 1979, 1:100,000 SCALE TOPOGRAPHIC MAP OF TOPPENISH, WASHINGTON; AND U.S. GEOLOGICAL SURVEY, 1978, 1:100,000 SCALE TOPOGRAPHIC MAP OF YAKIMA, WASHINGTON.

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PETTIT TOWING/
DOUGLAS WRECKING
AND SALVAGE
Wapato, Washington

As Shown

Figure 3–1
SITE RANGE OF INFLUENCE
PETTIT TOWING/DOUGLAS WRECKING
AND SALVAGE

Drawn By:	Date	TDD/Job No.	Dwg. No.
EGM	4-23-96	96-03-0001 KJ0100/AC01-01SA-	KJ03-1A

surface from April to November (SCS 1985). The unconsolidated alluvium is recharged by infiltration from streams, irrigation canals, and irrigated fields; by precipitation; and by upward leakage from underlying artesian aquifers (USGS 1962). In general, aquifers of the Ahtanum Valley near the Yakima River flow downstream toward the river (USGS 1962).

One domestic drinking water is located on-site, approximately 150 feet from the nearest area of potential concern. This well serves 5 people living in the trailer home. Wapato Waterworks operates five public water supply wells between 1 and 2 miles southeast of the site (Hoyt 1996). Three of the wells are owned by the City of Wapato (wells #3, #4, and #5) (Hoyt 1996). The remaining two wells are owned by the Yakama Indian Nation (wells #1 and #2) (Hoyt 1996). Water from the five wells is blended and is distributed from two water towers (Hoyt 1996). The water system serves approximately 3,795 people (Hoyt 1996). Approximate well depths and pumping capacities for this water system are provided in Table 3-1.

Table 3-1

WELL INFORMATION

Identification	Depth (feet below groundsurface)	Pumping Capacity (gallons per minute)
Well #1	750	1,000
Well #2	750	1,000
Well #3	750	550
Well #4	750	650
Well #5	1,000	900

The Lombard Loop Water Association operates two wells within 4 miles of the site serving a combined total of 180 people (EPA 1996). Populations using groundwater for drinking water are summarized in Table 3-2.

Table 3-2

GROUNDWATER DRINKING WATER POPULATION WITHIN A 4-MILE RADIUS

Distance (Miles)	Well Identification	Well Population	Total Population per Distance Ring
0 - 1/4	Trailer Home	5	5
1/4 - 1/2		0	0
1/2 - 1		0	0
1 - 2	Wapato Waterworks #1 Wapato Waterworks #2 Wapato Waterworks #3 Wapato Waterworks #4 Wapato Waterworks #5	759 759 759 759 759	3,795
2 - 3	Lombard Loop Water Association	95	95
3 - 4	Lombard Loop Water Association	95	95
Total			3,980

Groundwater is used to irrigate commercial food crops. The site is not in a wellhead protection area (EPA 1996).

3.2 SURFACE WATER MIGRATION PATHWAY

The site is located on a sand and gravel bar in the middle of the Yakima River at approximately river mile 100.2. The Yakima River flows 100 miles to its confluence with the Columbia River which discharges to the Pacific Ocean. The Yakima River's average annual flow is approximately 3,955 cubic feet per second (measured at river mile 107.3) (USGS 1985b). A topographic map indicates surface water runoff from the site discharges to the Yakima River along the banks of the downstream end of the bar (USGS 1985a). The nearest probable point of entry for surface water runoff to the Yakima River is approximately 150 feet from potential areas of concern at the site. The bar reportedly floods seasonally in the Spring (Borrero 1994).

The 2-year, 24-hour rainfall event for the area of the site is 1 inch (NOAA 1973). The upgradient drainage area of the site is estimated from a topographic map to be 20 acres (USGS 1985a). Soils at the site are classified as Weirman sandy loam, channeled (SCS 1985). This soil is very deep, somewhat excessively drained (SCS 1985). The soil is formed in mixed alluvium (SCS 1985). Typically, soils of this classification consist of a surface layer that is grayish brown sandy loam about 8 inches thick (SCS 1985). The upper part of the underlying material is grayish brown and light brownish gray loamy fine sand about 13 inches thick,

and the lower part to a depth of 60 inches or more is grayish brown extremely gravelly sand (SCS 1985). Permeability of the Weirman soil is rapid (SCS 1985). Available water capacity is low (SCS 1985).

The Yakima River is used as a source of drinking water, commercial food crop irrigation, and for recreational boating (WDOE 1996). Two domestic surface water intakes are located within 15 miles downstream of the site serving a combined total of approximately 6 people (based on the average number of persons per household for Yakima County of 2.8) (WDOE 1996; BOC 1990). Commercial fishing is not conducted on the Yakima River. Approximately eight fish were caught for sport in 1994 from the Yakima River (WDF&W 1996). It is assumed that each fish weighed approximately six pounds.

Significant Fall Chinook salmon spawning beds and critical rearing habitat are located immediately adjacent to the site on the sand/gravel bar. In addition, the area is heavily utilized by rearing Spring Chinook salmon, steelhead, and resident trout (WDF&W 1994). No Federally- or State-listed species are known to occur within 15 miles downstream of the site (WDF&W 1996). It is estimated from National Wetland Inventory maps that 25 miles of wetlands exist within 15 miles downstream of the site (USF&WS 1981a; USF&WS 1981b).

3.3 SOIL EXPOSURE PATHWAY

One trailer home is present on-site and within 150 feet of an area of actual contamination. Five people reside in this trailer home and approximately 3 people work at the site including one person residing in the trailer home. The site is fenced along Donald Road with a gated entrance. No terrestrial sensitive environments are known to occur at the site. Table 3-3 provides population figures for people residing within 1 mile of the site.

Table 3-3

POPULATIONS WITHIN A 1-MILE RADIUS

Distance Ring	Population
0 - 1/4 mile	7
1/4 - 1/2 mile	17
1/2 - 1 mile	124
Total	148

Source: EPA 1996

3.4 AIR MIGRATION PATHWAY

Five people live on-site in a trailer home that is located approximately 150 feet from the nearest area of potential concern. Three people work at the site, including one person residing in the trailer home. A total of 8,975 people live within 4 miles of the site (EPA 1996). The site is located on a bar in the Yakima River which is used for recreational boating. Approximately 1,236.3 acres of wetlands are located within 4 miles of the site (EPA 1996). No other sensitive environments are known to occur within 4 miles of the site. Table 3-4 provides populations and wetland acreage by distance ring within 4 miles of the site.

Table 3-4

POPULATIONS AND WETLAND ACREAGE WITHIN A 4-MILE RADIUS

Distance (Miles)	Residents	Wetland Acreage
On a source	0	0
0 - 1/4	7	39.7
1/4 - 1/2	17	57.4
1/2 - 1	124	134.9
1 - 2	4,118	346.5
2 - 3	3,081	403.5
3 - 4	1,628	254.3
Total	8,975	1,236.3

Source: EPA 1996

4.0 REFERENCE LIST

Borrero, Deborah J., Pro Bono/Associate Counsel, Yakama Indian Nation, Office of Legal Counsel, July 27, 1994 letter to James Everts, Program Manager, Superfund Response and Investigation Section, U.S. Environmental Protection Agency, Region 10 regarding CERCLA violations allegedly committed by Pettit Towing/Douglas Wrecking and Salvage.

Bundy, Donald D., Wilson & Bundy, February 10, 1994, letter to Jack W. Fiander, Yakama Indian Nation, Office of Legal Counsel, Regarding Pettit Towing/Douglas Wrecking and Scrapping.

Hoyt, Lance, City of Wapato, Waterworks Department, Public Works Director, telephone conversation with Linda Foster, Ecology and Environment, Inc., April 16, 1996, regarding water system.

National Oceanic and Atmospheric Administration (NOAA), 1973, Precipitation-Frequency Atlas of the Western United States, Volume IX-Washington.

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U.S. Department of Agriculture, Soil Conservation Service (SCS), May 1985, Soil Survey of Yakima County Area, Washington.

U.S. Department of Commerce, Bureau of the Census (BOC), 1990, General Housing Characteristics, Washington.

U.S. Environmental Protection Agency (EPA), April 2, 1996, Site Information Query System, Pettit Towing/Douglas Wrecking, Washington.

U.S. Fish and Wildlife Service (USF&WS), 1981a, National Wetland Inventory map, Toppenish, Washington.

_____, 1981b, National Wetland Inventory map, Wapato, Washington.

U.S. Geological Survey (USGS), 1958 photorevised in 1985a, 7.5 minute series topographic maps, Toppenish and Wapato, Washington, quadrangles.

_____, 1985b, Water Resources Data, Washington.

_____, 1962, Geology and Ground Water Resources of the Ahtanum Valley, Yakima County, Washington.

Washington State, Department of Ecology (WDOE), April 1, 1993, Water Right Claims Register.

Washington State, Department of Fish and Wildlife, (WDF&W), Resource Assessment Division, April 23, 1996, letter to Ecology and Environment, Inc., regarding salmon and steelhead catch from the Yakima River.

_____, April 15, 1996, Important Wildlife Information Public Data Release Maps, Toppenish and Wapato, Washington, quadrangles.

_____, Habitat Program, July 29, 1994, memorandum to Deborah Borrero, Yakama Tribal Attorney.

ATTACHMENT A

REFERENCES
(Included in original report only)