

June 11, 1999

Mr. David Bennett
United States Environmental Protection Agency
1200 Sixth Avenue, ECL-115
Seattle, WA 98101

Re: Contract No. 68-W6-0008, Technical Direction Document No. 98-06-0001
Medite Corporation Stud Mill Preliminary Assessment

Dear Mr. Bennett:

Enclosed please find the Preliminary Assessment (PA) report completed for the Medite Corporation Stud Mill site located in White City, Oregon.

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
START Project Leader

cc: Gary Sink, START Project Officer, EPA, Seattle, WA, ECL-116
David Byers, START Program Manager, E & E, Seattle, WA
Charles Gregory, START Project Manager, E & E, Seattle, WA

**Medite Corporation
Stud Mill Site
Preliminary Assessment**

TDD: 98-06-0001

Contract: 68-W6-0008
June 1999

Region 10

START

Superfund Technical Assessment and Response Team

Submitted To: David Bennett, Task Monitor
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101

PRELIMINARY ASSESSMENT
MEDITE CORPORATION STUD MILL SITE
WHITE CITY, OREGON

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LIST OF ACRONYMS

<u>Acronym</u>	<u>Definition</u>
1,1-DCA	1,1-dichloroethane
AST	aboveground storage tank
bgs	below ground surface
BOD	biochemical oxygen demand
cfs	cubic feet per second
COD	chemical oxygen demand
E&E	Ecology and Environment, Inc.
EPA	United States Environmental Protection Agency
FID	flame ionization detector
GC	gas chromatograph
GRID	Groundwater Resource Information Distribution
MCSM	Medit Corporation Stud Mill
mg/L	milligrams per liter
mg/L	milligrams-per-liter
mg/kg	milligrams per kilogram
ng/g	nanograms per gram
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWS	National Wild and Scenic
ODEQ	Oregon Department of Environmental Quality
ODF&W	Oregon Department of Fish and Wildlife
ONHP	Oregon Natural Heritage Program
PA	Preliminary Assessment
PAH	polynuclear aromatic hydrocarbon
PCB	polychlorinated biphenyl
PPE	probable point of entry
ppm	parts per million
RBC	risk-based concentration
SPCC	Spill Prevention Control and Countermeasure
START	Superfund Technical Assessment and Response Team

LIST OF ACRONYMS (CONTINUED)

<u>Acronym</u>	<u>Definition</u>
TDD	Technical Direction Document
TDL	target distance limit
TOC	total organic carbon
TPH	total petroleum hydrocarbon
TSS	total suspended solids
USDC	U.S. Department of Commerce
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic compound
WRCC	Western Regional Climate Center
$\mu\text{g/L}$	micrograms per liter

PRELIMINARY ASSESSMENT
MEDITE CORPORATION STUD MILL SITE
WHITE CITY, OREGON

1. INTRODUCTION

Ecology and Environment, Inc., (E & E) has been tasked by the United States Environmental Protection Agency (EPA) to provide technical support for completion of a Preliminary Assessment (PA) at the Medite Corporation Stud Mill (MCSM) site in White City, Oregon. E & E completed PA activities under Technical Direction Document (TDD) No. 98-06-0001, issued under EPA, Region 10, Superfund Technical Assessment and Response Team (START) Contract Number 68-W6-0008. The specific goals for the MCSM 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, determining regional characteristics, and conducting a site visit. This document includes a discussion of background site information (Section 2); a discussion of migration/exposure pathways and potential targets (Section 3); and a list of pertinent references (Section 4).

2. SITE BACKGROUND

2.1 SITE LOCATION

Site Name: Medite Corporation Stud Mill
CERCLIS ID No.: OR0041268749
Location: 7905 Agate Road
White City, Oregon 97503
Latitude: 42° 25' 57" North
Longitude: 122° 51' 22" West
Legal Description: Section 19, Township 36 South, Range 1 West
Site Owner/Operator: Medite Corporation
P.O. Box 4040
White City, Oregon 97501
(541) 773-2522
Site Contact: Tom Libby
Medite Corporation
P.O. Box 550
Medford, Oregon 97501
(541) 826-2671

2.2 SITE DESCRIPTION

The MCSM site is a former lumber mill located at 7905 Agate Road in White City, Oregon, approximately 1 mile southeast of the Rogue River (Figure 2-1). Medite Stud Mill operations included lumber milling, planing, sorting and grading, end-seal painting, storage, and loading. The site consists of approximately 25 acres of level to very gently sloping ground. During site operations, features at the site included: an office; planer mill; planer; sawmill; millwright shop; chip pile; sawdust bin; used equipment yard; three log yards; truck shop; debarker; and aboveground storage tanks (ASTs) (Figure 2-2; K/JC 1997a, 1997b). The majority of the site is not fenced; however, a fence with a locked gate surrounds the former sawmill area (E & E 1998). Site drainage generally is to the northwest. Drainage ditches run throughout the property; runoff from the site ultimately flows into the Rogue River (K/JC 1997b).

The MCSM facility is bounded on the north by Down River Forest Products (a plywood facility), on the east by Agate Road, and on the south and west by Stone Forest Industries (a plywood manufacturer). Royal Oak Enterprises, a manufacturer of charcoal briquettes, is located directly across

Agate Road to the east. Cascade Wood Products, located approximately 0.43 miles northeast of the site, reported a release of pentachlorophenol (PCP) in 1985 to the Oregon Department of Environmental Quality (ODEQ). PCP was detected in soils, sediments, and groundwater at this facility and in surface water from drainages and the Rogue River. This facility is upgradient of the MCSM site and shares common drainage ditches to the Rogue River (K/JC 1997b).

The property has been used as a mill for the production of studs since the 1950s. In 1967, the operation, originally called the Delah Mill, was sold by the Bewley family to a partnership consisting of the Medford Corporation, the Slaughter Brothers, and Roger Cornett. The Medford Corporation purchased the other partners' stock in March 1979, and since then, Medite Corporation (formerly the Medford Corporation) has operated the company as a wholly-owned subsidiary (K/JC 1997a).

2.3 SITE OPERATIONS AND WASTE CHARACTERISTICS

Prior to the purchase of the property in 1967, features at the site associated with the Delah Mill facility included a sawmill, log ponds, a planer mill, an office, and two teepee (or wigwam) burners (K/JC 1997b). Significant changes were made to the property following the change in ownership in 1967. The original sawmill was demolished and a new sawmill constructed during 1969 in the approximate location of the former northern log pond, which was dredged and filled prior to mill construction. The second sawmill also was later demolished. The planer mill was constructed in 1972. Another pond, formerly on the adjacent Stone property to the south, was dredged and filled. According to Medite, this portion of the Stone property was acquired in November 1987 (K/JC 1997a).

Two teepee burners were located on the mill site. These were removed in the late 1980s (ODEQ 1997). One burner was located west of the mill's office building, where the planer mill more recently existed (Figure 2-2). The second was operated by Stone and was located to the south of the second former sawmill (Figure 2-2). According to Medite personnel, the area encompassing the former teepee burner operated by Stone was excavated and backfilled in the late 1980s with imported materials to improve drainage at the mill (K/JC 1997a).

Based upon conversations with Medite personnel and a review of the Water Well Report, a 6-inch-diameter water supply well was installed in June 1967 and is believed to be located in the vicinity of the former planer. The approximate location was identified by Medite staff during the Phase II field activities but the exact well location was not confirmed because the area was covered with a concrete slab. According to Medite staff, the well was abandoned in 1970, but it is unknown whether it was abandoned and sealed in accordance with Oregon State requirements. Since the well was drilled to 315 feet below ground surface (bgs), it could be a conduit for contamination of the deep water-bearing zone (K/JC 1997a, 1997b).

The stud mill operated from the 1950s until the end of 1997 (E & E 1998). Portions of site operations have shut down at varying times. The planer mill was shut down in December 1996 and the truck shop was sold in April 1997. The sawmill operation ceased in November 1997; no wastes have been generated since that time.

In 1997, at the time of a Phase I PA conducted by consultants for the Medite Corporation, the mill was operating as a salvage mill, processing treetop logs and peeler core material (K/JC 1997b). At this time Medite operations included: lumber milling, planing, sorting and grading, end-seal painting, storage, and loading (K/JC 1997b). Reportedly, lumber has never been treated or dried at the mill (K/JC 1997b).

The facility has been classified as a conditionally exempt generator of hazardous waste as a result of their occasional shipment of degreaser solvents (primarily petroleum naphtha generated by two on-site Safety Kleen parts washers). These solvents used for parts cleaning were recycled by Safety Kleen. Used oil was applied to machinery sprockets and chains, but has not been analyzed for hazardous waste constituents. Oil filters were drained in the Truck Shop and disposed of at an off-site landfill (K/JC 1997b).

2.3.1 Stormwater Drainage

Stormwater runoff from several discharge points at the facility (discussed below) drains into developed channels and ditches of the White City Water Utility District of the Bear Creek Valley Sanitation Authority. The channels lead to a pond located west of a 3M facility and then into the Rogue River (K/JC 1997b).

The facility's initial National Pollutant Discharge Elimination System (NPDES) stormwater permit expired on September 30, 1996, but remained in effect until January 28, 1999, when a new permit was issued (K/JC 1997b, Ullrich 1999). According to a Stormwater Pollution Control Plan, there are four discharge points on the mill property. The locations are as follows:

1. **Northeast Corner of the Raw Material Storage Area.** This discharge point received the runoff from half of the former planer-sawmill site and from the former raw material and storage areas.
2. **South End of the Drainage Ditch Bordering the Sawdust Storage and Railroad Tracks.** This discharge point received stormwater runoff from the other half of the former planer-sawmill site and also some runoff from the former sawdust storage site. Water used to cool the former Ward and Shurman edgers (located in the sawmill) was collected in a sump below the edgers and directed to this drainage ditch.

3. **Discharge Point Along the Drainage Ditch Parallel to the Debarker.** This point is directly perpendicular to the former log-in feed of the former debarker. Runoff from the debarker was also directed toward this discharge point.
4. **West End of Northwest Log Yard.** A closed drainage channel flows east to west between the former locations of the Truck Shop and log yard. A truck wash rack historically straddled this ditch (K/JC 1997b).

Under the original permit, Medite was required to sample stormwater runoff during significant stormwater events. Water samples were tested for pH, biochemical oxygen demand (BOD), chemical oxygen demand (COD), total organic carbon (TOC), total suspended solids (TSS), and oil and grease. Floating debris; bark and other matter, and oil and grease were also checked visually. In 1995, stormwater samples were collected in January, March, May, June, November, and December. During a storm event in December 1995, oil and grease exceeded the 10-milligrams-per-liter (mg/L) permit limit at the Truck Shop monitoring point. An annual report was submitted to ODEQ on April 18, 1996.

2.3.2 Sawmill Operations

Sawmill operations and equipment included log debarking, loading and milling operations, the oil drum storage yard, the chipper, sawdust hoppers, and loading trucks with sawdust. Logs were moved from the log decks to the debarker, located in the log yard. Bark and sawdust were conveyed to a hog, then to an enclosed overhead hopper for truck loading. Debarked, cut, and sorted logs were moved to log decks located south of the saw and planer mills. A large chip pile was north of the sawmill (K/JC 1997b). Features associated with the sawmill operations include:

- **Transformers.** In 1997, three transformers owned by Pacific Power and Light were observed at the site. Two of the transformers were located south of the planer mill and at the “green end” of the debarker, and reportedly did not contain polychlorinated biphenyls (PCBs). The only facility-owned transformer on-site at this time was a newer out-of-service transformer that reportedly did not contain PCBs and was located in the bone yard (K/JC 1997b).
- **Debarker.** An 870-gallon hydraulic oil AST was located within a concrete containment at the debarker. Oil was dispensed throughout the debarker facility by use of a pneumatic pump and piping network. The pump was also located within a concrete containment. Surface drainage was to the northwest toward two catch basins north of the debarker. The catch basins drain to an open ditch flowing westward. Drums containing hydraulic oil were once observed on the loader. For the most part, the area surrounding the debarker was paved. Reportedly, large areas of stained soil were present below the debarker prior to paving the area (K/JC 1997b).
- **Oil Drum Storage Yard.** The sawmill oil storage yard was north of the planer mill and contained an oil shed that was a corrugated metal structure on a concrete slab. The area around the oil shed and yard was paved and bermed. Inside the oil shed, hydraulic oils

were dispensed from five or more horizontal 55-gallon drums. Drip pans were reported to have been present under the drum spigots (K/JC 1997b).

- **Main Sawmill Structure.** The main sawmill structure was two stories high and constructed with metal siding and interior wood supports on a concrete base. General housekeeping practices observed within the building were typical of an operating sawmill. During operations the basement floor of the sawmill was covered with shavings below the equipment. Standing water, which pooled in the northwest corner below the edger, was collected in a sump and pumped into a stormwater catch basin, which flowed to a drainage ditch located to the north of the railroad spur. This discharge was apparently not covered by the mill's stormwater NPDES permit. Potentially, hydraulic oil from a break in a hydraulic oil line associated with the edgers could discharge directly to the drainage ditch. According to Medite personnel, this never has occurred (K/JC 1997b).

A 4,000-gallon hydraulic oil AST was located on the north side of the sawmill building. Oil was dispensed throughout the mill by an electrically driven pump and piping system. There was a dispenser nozzle located at the northern end of the secondary containment. There was no drain through the containment wall. The hydraulic oil distribution system was located in the mill basement. The basement had no floor drains, with the exception of a sump used to collect water generated during the operation of the edger. The AST was filled from a vendor's truck. Surface drainage is away from the mill and towards the railroad spur into an irrigation ditch. The mill's chip bins were located just to the east of the tank containment; therefore, potentially there was an adequate source of absorbent material to contain spills that could occur during transfer activities. Because of the proximity to navigable waters, a Spill Prevention Control and Countermeasure (SPCC) plan was required for the oil AST under CFR 112.1. An SPCC plan for the site was observed to be present at the facility in 1996 (K/JC 1997b).

A chip pile and sawdust bin were located north of the sawmill. Eight open-air cyclones (for the collection of chips and shavings) and one closed system (for the collection of fines) were once in operation at the mill. The mill had an ODEQ permit (#15-0009) to operate the cyclones. No violations were noted by ODEQ during inspections of the mill conducted in 1980 through 1996 (K/JC 1997b).

- **Millwright Shop.** A parts washer was located in the millwright shop. The cabinet was maintained by Safety Kleen. Used solvents (primarily petroleum naphtha) were periodically transported under manifest by Safety Kleen to its facility for recycling. Prior to disposal of the solvents off site, used solvents were reportedly mixed with sawdust and transported to an off-site boiler by Medite (K/JC 1997b).
- **Planer Mill.** The planer building housed an end-seal painting area. The end-seal painting process area was located along the north wall of the planer building. The wall along this area once was observed to be stained with residual red paint. According to the Material Safety Data Sheet, the paint used for this process was water soluble and reportedly contained no hazardous materials (K/JC 1997b).

2.3.3 Support Facilities

The support facilities at the mill included the Truck Shop, bone yard, employee parking, finished product storage areas, and the main office. From a review of site files, it is not expected that

environmental concerns existed at the main office or in the employee parking area along Agate Road (K/JC 1997b).

- **Truck Shop.** The Truck Shop was located in the northwest corner of the property. The shop had metal siding and a concrete floor. The area around the Truck Shop was paved with asphalt. Activities at the Truck Shop included truck maintenance and hazardous waste and waste storage (K/JC 1997b).

Vehicles and equipment were reportedly washed on a truck wash rack at the northern side of the Truck Shop. Reportedly, this practice had ceased prior to 1996, although in 1996 an individual was observed hosing down a truck north of the Truck Shop. According to the Stormwater Pollution Control Plan, runoff from the wash rack entered a catch basin before flowing directly into a drainage ditch beneath the rack. This ditch was open as it exited the mill. Standing water was observed pooled in the ditch in 1996 (K/JC 1997b).

Waste drum storage was located along the Truck Shop's exterior west wall. The drums were stored in stacks prior to transfer for recycling. It has been reported that drums stored in this area were unlabeled and that facility personnel could not identify the drum contents. The drums may not have been stored in accordance with Oregon Hazard Materials regulations (K/JC 1997b).

The vehicle maintenance activities occurred in the eastern half of the Truck Shop; the western half was used primarily for storage. The maintenance area was reported to be clean and organized in 1996 with no staining on floor surfaces. Chemicals stored in this area of the shop were reportedly limited to small quantities of grease and oil, and solvent in the Safety Kleen parts-cleaning unit. Oil filters were drained, crushed, and disposed of off site. Antifreeze and batteries reportedly were transported off site for recycling (K/JC 1997b).

Directly south of the Truck Shop was an AST area, with secondary containment, that included a 20,000-gallon No. 2 diesel storage tank, a 2,000-gallon unleaded gasoline storage tank, a 2,000-gallon waste oil tank, and a 1,500-gallon motor oil tank. Fueling from these tanks took place over a paved area. Waste oil from maintenance activities was pumped through an underground pipeline into the 2,000-gallon waste oil AST from a drain pan located adjacent to the Truck Shop (K/JC 1997b). The AST area containment structure was constructed following the removal of seven underground storage tanks in 1990. In 1996, oil-soaked booms, oily sediment, and some water were observed in the secondary containment. MCSM personnel reported the waters in the containment were allowed to evaporate; however, petroleum-stained soils have been observed in the vicinity of the containment's drain. An island for dispensing diesel fuel was located to the north of the containment structure. A minor spill of diesel fuel reportedly was observed during the fueling of a forklift in 1996. The spill was contained and absorbed using absorbent material (K/JC 1997b).

As discussed above, seven underground storage tanks were removed from the facility in 1990 (Permit #W-1200). These included two 10,000-gallon diesel, two 500-gallon gasoline, two 1,000-gallon waste oil, and one 500-gallon motor oil underground storage tanks (USTs). The diesel and gasoline USTs and pump fuel island were east of the Truck Shop. One waste oil UST was located west of the Truck Shop. No documentation is available regarding where the motor oil UST and second waste oil UST were located (K/JC 1997b).

A release of petroleum hydrocarbons from the waste oil UST located west of the Truck Shop was reported to the ODEQ. With the exception of impacted soils located beneath the concrete slab floor of the Truck Shop, the impacted soils were excavated and bioremediated in two on-site treatment cells under the supervision of the ODEQ. Following on-site treatment, soils with concentrations of 1,000 parts per million (ppm) or less were returned to the excavation and covered with 1 to 2 feet of clean soils (K/JC 1997b).

- **Bone Yard.** The facility's bone yard was located east of the fuel storage area. Scrap metal and equipment, including a transformer, were stored in this area. The bone yard area was unpaved at the time of the START site visit (E & E 1998). Reportedly, the transformer did not contain PCBs. Site files indicate that leakage from the transformer has not been observed (K/JC 1997b).
- **Finished Product Storage Areas.** Logs were stored north and east of the Truck Shop. Debarked logs were stored south of the sawmill in an area formerly operated as a log pond by the neighboring Stone facility. The log storage yard was unpaved except for the log bays. Logs were transported to the log deck with heavy equipment (K/JC 1997b). These vehicles were fueled at the fuel island adjacent to the ASTs located directly south of the Truck Shop (K/JC 1997b). Stormwater runoff in the former log yard flowed through a system of ditches that exited the mill property west of the former Truck Shop (K/JC 1997b).

2.4 SITE INVESTIGATIONS

In September 1996, a Phase I PA was conducted in anticipation of a potential property transfer by a consultant for the Medite Corporation from readily available information. The purpose of the assessment was to determine whether potential soil and/or groundwater contamination existed at the site. No samples were collected as a part of the assessment. The Phase I report identified several potential areas of concern including site stormwater run-on and runoff; potentially unpermitted process wastewater discharge to stormwater drainages; unlabeled drums near the Truck Shop; groundwater contamination; and soil contamination in the truck wash rack area, former UST location, at the ASTs, along pipelines, and at the former teepee burner locations. Potential contaminants of concern included petroleum compounds, solvents, metals, polynuclear aromatic hydrocarbons (PAHs), and dioxins, in addition to the contents of the unlabeled drums, which might contain hazardous materials (K/JC 1997b).

As an outcome of the Phase I PA a Phase II Site Investigation was conducted in October 1996 by the Medite Corporation's consultant to investigate the identified potential areas of concern (Figure 2-2). Various soil, sediment, and groundwater samples were collected and analyzed for inorganics, dioxin, PCP, volatile organic compounds (VOCs), PAHs, and total petroleum hydrocarbons (TPHs), as summarized below (K/JC 1997a):

- **Northeastern Drainage Conveyance.** This area receives runoff from the mill as well as from upgradient, off-site areas. Four sediment samples were collected: two from areas

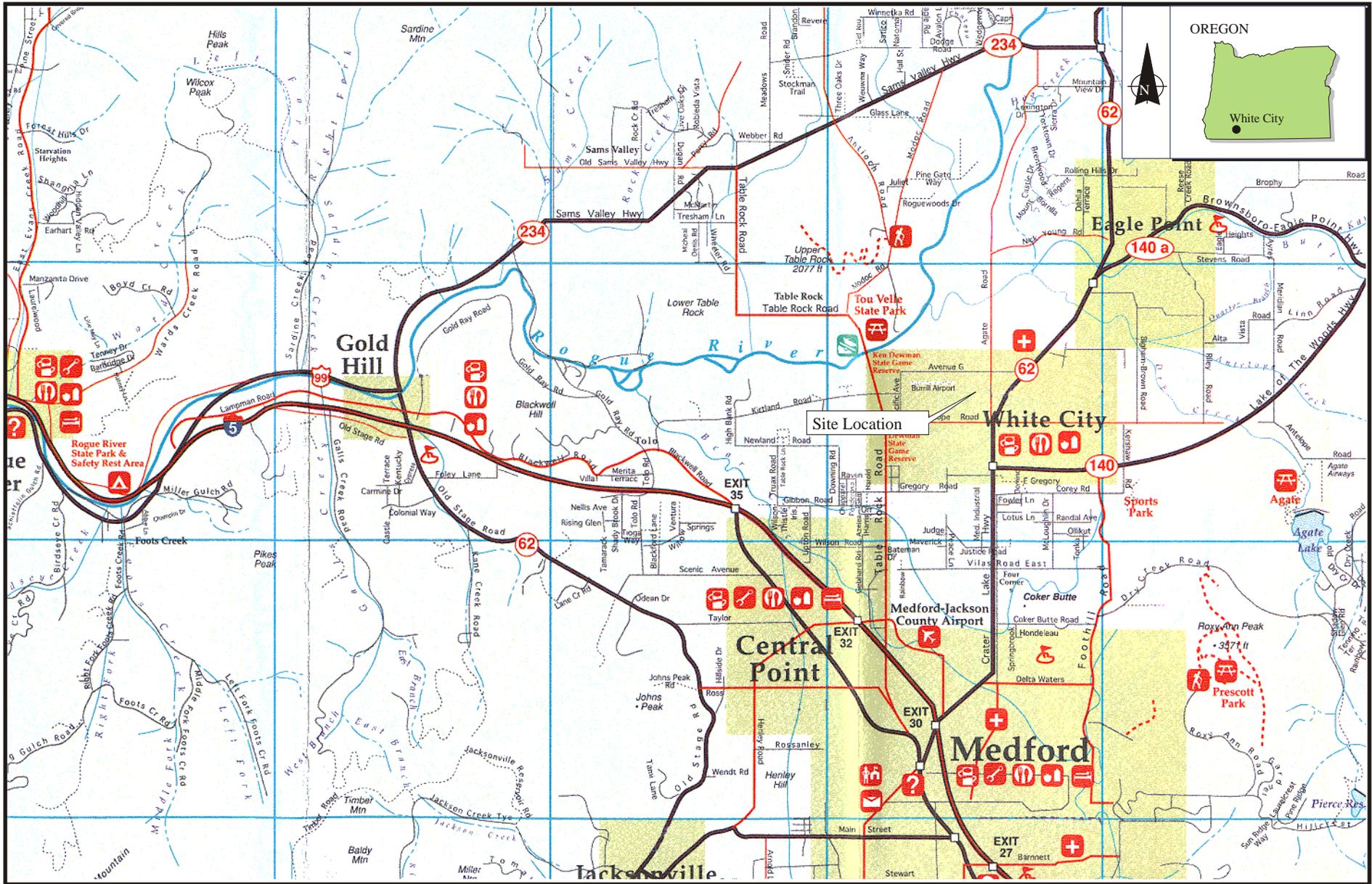
upgradient of most site features and two near the discharge point for the planer mill. Samples were analyzed for TPH, PAH, dioxins, and inorganics. TPH was detected up to 180 milligrams per kilogram (mg/kg) in the upgradient samples. No detected concentrations exceeded the Oregon Level 2 matrix soil cleanup level for UST sites. Phenanthrene was detected in one upgradient sample at a concentration of 200 micrograms per kilogram ($\mu\text{g}/\text{kg}$) and PCP was detected in the upgradient samples up to 34 $\mu\text{g}/\text{kg}$ (regulatory criteria were not reported for these analytes). Arsenic was detected up to 23 mg/kg and 1,2,3,4,6,7,8-heptachlorodibenzo-p-dioxin was detected at 5.6 nanograms per gram (ng/g); both were above the industrial screening levels of 3.0 mg/kg and 3.7 ng/g, respectively. Concentrations for both of these analytes were higher in the upgradient samples. Lead was detected up to 120 mg/kg, which is below residential cleanup standards (K/JC 1997a; ODEQ 1997). The concentrations of lead also were highest in the upgradient samples.

- **East-West Drainage Conveyance.** Two sediment samples were collected from the east-west drainage ditch and analyzed for TPH and inorganics. Diesel at 880 mg/kg and heavy oil at 1,500 mg/kg were detected in the sediment. Only arsenic was detected above the industrial level (3.0 mg/kg) at 3.1 and 4.1 mg/kg (ODEQ 1997).
- **Millwright Shop.** Historical operations at the shop included the use of solvents. One soil and two groundwater samples were collected from three soil borings downgradient of the millwright shop. Because of the thickness of the log deck it was not possible to place a boring in the immediate vicinity of the shop. Boring depths ranged from 8.5 to 18.6 feet bgs. The samples were analyzed for VOCs. Acetone and methylene chloride were detected in these samples; however, these results are likely the result of laboratory contamination (K/JC 1997a; ODEQ 1997).
- **Former Teepee Locations.** Four shallow borings were installed in the estimated location of the former southern teepee burner. Soil samples were collected from 1 to 3.5 feet bgs and analyzed for PAHs, inorganics, and dioxins. At the time of the Phase II Site Investigation, the former northern burner was under the location of the planer mill and samples were not collected. Sample results indicated that no detectable levels of PAHs were present. Inorganics and dioxins were detected, but were below screening levels (ODEQ 1997).
- **Debarker.** In the area of the debarker was an 870-gallon hydraulic oil AST. Two soil boreholes were advanced to approximately 15 feet bgs to collect soil and groundwater samples. Samples were analyzed for TPH, PAHs, and PCBs. A perched groundwater sample collected at 5 feet bgs contained low levels of diesel and heavy oils (less than 15 milligrams per liter [mg/L]). Low levels of PAHs were also detected in the groundwater but below the EPA risk-based concentrations (RBCs). No PCBs were detected. Oil-saturated wood chips were encountered at 3 feet bgs. A gas chromatograph (GC)-flame ionization detector (FID) was used to fingerprint the material as hydraulic oil (ODEQ 1997).
- **Former Log Ponds.** Soil and groundwater samples were collected from the two former log ponds and analyzed for TPH, PAHs, and inorganics. TPHs were not detected. Inorganics were detected below cleanup standards. One groundwater sample contained phenanthrene at 0.22 micrograms per liter ($\mu\text{g}/\text{L}$) (no RBC standard is available; ODEQ 1997).
- **Former Supply Well.** Investigators were unable to locate the former supply well beneath a paved area (ODEQ 1997).

- **Former Waste Oil UST.** A waste oil UST, west of the Truck Shop, was removed in 1990 by Pump Pipe and Tank Services of Talent, Oregon. In addition, approximately 300 to 400 cubic yards of soil was removed, treated on site, and returned to the excavation area. Samples collected from within the excavation area contained TPH from 15 mg/kg to 88 mg/kg. Soil samples collected from a soil boring inside the Truck Shop contained TPH at up to 1,254 mg/kg at 8.5 feet bgs. During the Phase II investigation, three soil borings were advanced to assess impacts from the former tank. One boring was terminated due to refusal at 16 feet bgs and no sample was retrieved. One boring was placed within the backfill of treated soil at the former waste oil tank location. A soil and groundwater sample were collected. The sample was analyzed for inorganics, VOCs, and PCBs. Arsenic was detected in the soil sample at 3.7 mg/kg. The groundwater sample contained 0.54 mg/L heavy oil and 1,1-dichloroethane (1,1-DCA) at 4.3 $\mu\text{g/L}$ (below the RBC of 810 $\mu\text{g/L}$; ODEQ 1997).
- **Former USTs (East of Truck Shop).** Two borings were advanced east of the Truck Shop to evaluate impacts from the six former USTs. The two 10,000-gallon diesel USTs, two 500-gallon gasoline USTs, one 500-gallon motor oil UST, and one 1,000-gallon waste oil UST were removed in 1990. No data were available regarding the sampling performed during the removal. Impacted soil was excavated and remediated on site. During the Phase II investigation, two borings were advanced to 11 and 13.5 feet bgs and soil and groundwater samples were collected. A small amount of free petroleum product was recovered from one boring. Gasoline and diesel were identified as the constituents in the product. Benzene was detected in the soil at 270 $\mu\text{g/kg}$, above the soil cleanup standard of 100 $\mu\text{g/kg}$ (ODEQ 1997).
- **AST Containment Area.** Aboveground fuel, waste oil, and oil storage tanks were located within a concrete containment area south of the Truck Shop. In addition, waste oil was collected in a waste oil sump adjacent to the Truck Shop maintenance bay. The oil was then pumped via an underground pipe to the AST. Shallow soil samples near the AST containment drain contained 2,700 mg/kg diesel and 3,000 mg/kg heavy oil. In addition, a release of diesel to the ground surface was observed during the Phase II Site Investigation at the dispensing area located between the AST containment and the Truck Shop (ODEQ 1997).

2.4.1 START Site Visit

On December 3, 1998, the START inspected the Medite Corporation Stud Mill facility. During the site reconnaissance, the START was accompanied by Mr. Tom Libby of Medite Corporation. The vast majority of buildings and associated features such as ASTs, wood chip piles, sawdust piles, and log piles had been demolished and/or removed in preparation for sale of the property. The remaining structures and other features included: the office building, which was fully intact; the AST secondary containment, which was also intact (however, the tanks and piping had been removed); a concrete foundation in the area where the debarker was located; the former sawmill foundation; a pile of debris that was removed from the sawmill; and the railroad spur. A fence with a locking gate completely surrounded the sawmill area (E & E 1998).



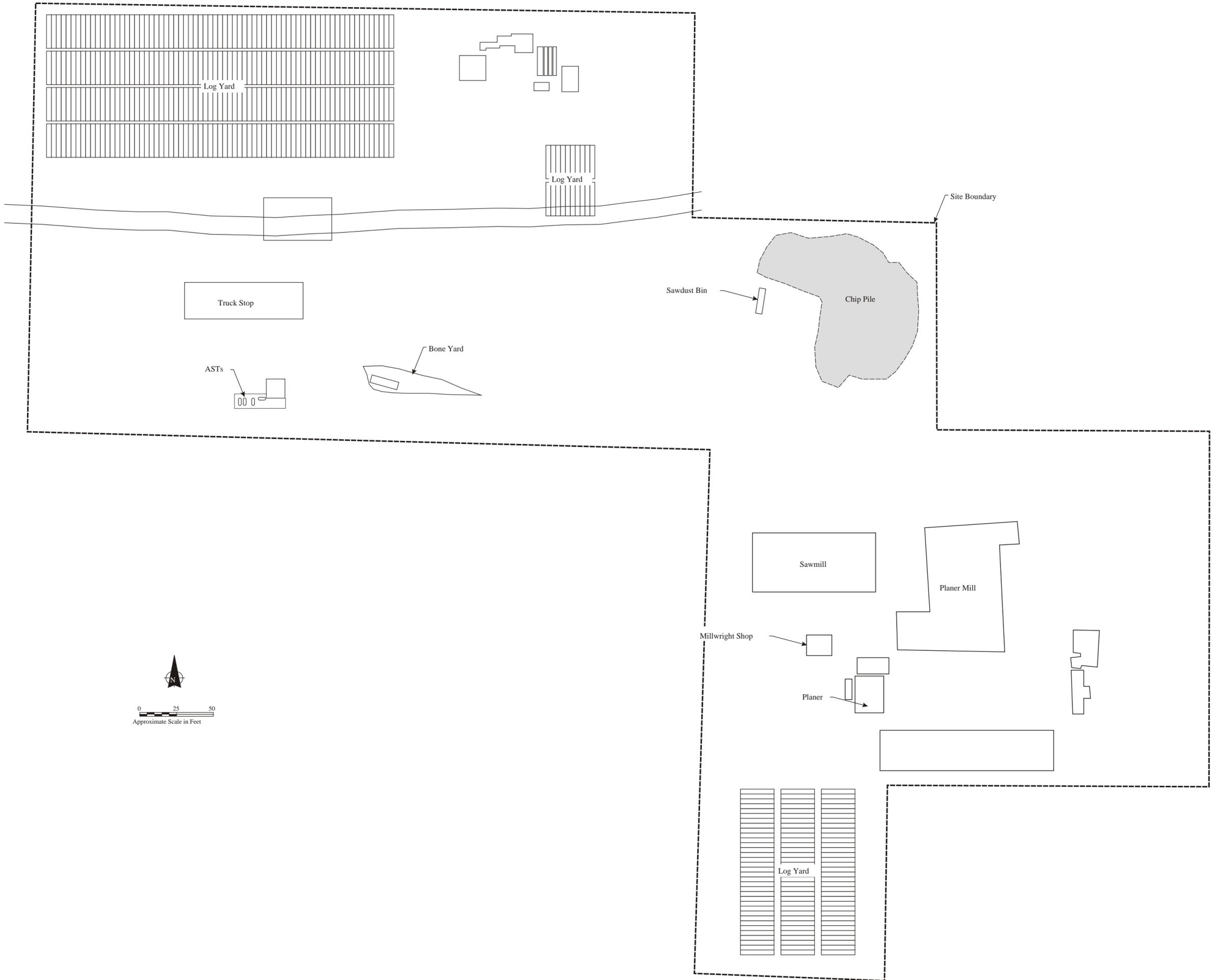
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MEDITE CORPORATION - STUD MILL
 White City, Oregon

Source: King of the Road Map
 Service, Inc., 1998

Figure 2-1
 SITE LOCATION MAP

Drawn: AES	Date 2/2/99	Job No. CF0101SAT0	Dwg.No. CF0101 2-1
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3. MIGRATION/EXPOSURE PATHWAYS AND TARGETS

The following sections describe migration/exposure pathways and potential targets within the site's range of influence (Figures 3-1 and 3-2).

3.1 GROUNDWATER MIGRATION PATHWAY

The site is located in southwestern Oregon, in the town of White City, 7 miles north of Medford. The facility is at an elevation of approximately 1,320 feet above sea level, and is situated at the boundary of the Klamath River and Western Cascades geological provinces (Orr 1992, K/JC 1997a).

The surficial sediments at the MCSM site consist of sand, gravel, silt, and clay that may be cemented naturally in some locations. These sediments are remnants of stream channels, floodplains and stream terraces, and are mapped as Holocene and Pleistocene in age. The surficial deposits are approximately 50 feet deep (Weily and Smith 1993). Monitoring well logs reviewed for the area confirm the presence of clay, sand, and gravels in surficial deposits. Based on water well logs from this area and geologic maps, the rocks beneath the shallow sediments consist of fluvial sandstones and claystone of the Eocene age (K/JC 1997a).

Based on the drilling and sampling conducted at the site by consultants to Medite, the naturally occurring shallow sediments encountered were primarily sandy gravels and clayey gravels with interbedded clays to a depth of approximately 19 feet bgs, which was the extent of the investigation (K/JC 1997a).

Based on observations and measurements made during the Phase II investigation, shallow groundwater occurs beneath the MCSM site at a depth of approximately 10 feet bgs. The shallow groundwater appears to be perched above deeper water-bearing zones that, based on the water supply well drilled at the MCSM facility in 1967, begin at approximately 60 feet bgs. It is not known to what extent, if any, the water supply interval is hydraulically separated from the shallow (perched) groundwater (K/JC 1997a).

An industrial well drilled at the Delah Mill (now the MCSM facility) in 1967 encountered groundwater at various depths between 62 and 308 feet within the fluvial sandstone and claystone rock units. The static water level in this well was reported as 26 feet bgs. Logs of monitoring wells in this area indicate that perched water table conditions exist within the surficial sediments, with a static water level of 5.5 feet to 15 feet bgs reported.

Cascade Village Mobile Estates operates two wells within 1 to 2 miles of the site (EPA 1998) serving approximately 100 households (Charlton 1999). Based on the average of 2.50 people per household in Jackson County, Oregon (USDC 1990), the Cascade Village Mobile Estates water system serves approximately 250 people. Approximate well depths and pumping capacities for this water system are provided in [Table 3-1](#).

Groundwater is used to irrigate commercial food crops (GRID 1998). Approximately 2,136 domestic wells are known to be present within approximately 4 miles of the site. The site is not in a wellhead protection area (EPA 1998). Populations using groundwater for drinking water are summarized in [Table 3-2](#).

3.2 SURFACE WATER MIGRATION PATHWAY

The 15-mile target distance limit (TDL) for the surface water pathway consists of: an intermittent drainage ditch that leads generally to the west of the site for 1.1 miles, and then north for 0.2 miles, where it empties into an unnamed tributary of the Rogue River. The tributary flows to the northwest for 0.6 miles, where it joins the Rogue River. The remaining 13.1 miles of the TDL is along the Rogue River to just downstream of the city of Gold Hill ([Figure 3-2](#); USGS 1983).

The average flow rate for the Rogue River at Dodge Bridge (7 miles upstream of the TDL) is approximately 2,405 cubic feet per second (cfs), at Raygold (at mile 7.5 of the TDL) is 2,895 cfs, and at Grants Pass (15.8 miles downstream of the TDL) is 3,259 cfs (USGS 1997a, 1997b, 1997c). The Raygold gaging station is 0.1 mile downstream from the Gold Ray Dam. The average flow rates for the drainage ditch and the unnamed tributary to the Rogue River are unknown, but both are expected to be less than 10 cfs.

The surficial soils at the MCSM site consist of sand, gravel, silt, and clay that may be cemented in some locations (K/JC 1997a). The 2-year, 24-hour rainfall event for the area of the site is 2.0 inches (NOAA 1973). The average annual precipitation in the area of the site as measured at the Medford Airport is 19.12 inches (WRCC 1999).

The site is surrounded by a series of drainage ditches that prevent stormwater run-on from topographically upgradient areas. Therefore, the upland drainage area is estimated to be 25 acres, the area of the site property.

Two public surface water intakes are located on the Rogue River within the TDL (EPA 1998, USGS 1983). The City of Gold Hill operates a surface water intake, located approximately 12.6 miles from the probable point of entry (PPE), that provides drinking water to approximately 1,250 people (Gasso 1999). The Medford Water Commission operates a surface water intake approximately 1.9 miles from the PPE. In 1997, this intake contributed approximately 1.134 billion gallons of water to the system

total of approximately 8.39 billion gallons for that year. The surface water intake accounts for approximately 13.5% (1.134/8.39) of the system total. The total population served by the Medford Water Commission in 1997 was 91,984 people. Since the surface water intake on the Rogue River contributed approximately 13.5% of the system total, the population apportioned to this intake is 13.5% of the total population, or 12,413 people. The remaining 7.256 billion gallons (86.5 % of the system total) were drawn from Big Butte Springs located approximately 30 miles from Medford (Hodnet 1999). Other surface water uses for the Rogue River within the TDL include: commercial livestock watering and commercial food crop irrigation (EPA 1999).

As discussed above, surface water bodies within the TDL include a portion of the Rogue River, a tributary to the Rogue River, and a drainage ditch that leads west from the site. Commercial and subsistence fisheries are not known to exist within the TDL (Mentee 1999). Sport catch data for the Rogue River are available for the 1995 fishing season (ODF&W 1999). Calculation of sport catch figures are provided in [Table 3-3](#). Sport catch figures are maintained for steelhead (*Oncorhynchus mykiss*), coho salmon (*O. kisutch*) and chinook salmon (*O. tshawytscha*). The data are available as totals for the entire Rogue River and for individual sections of the river. The TDL for this site is located partially within two of these river sections. The fish catch data in [Table 3-3](#) are organized by species and the relevant river section. The total catch of a species for a river segment has been calculated by multiplying the number of fish caught by the average expected weight per individual for that species. Fish catch within the TDL is based on the percentage of the river section that lies within the TDL.

The average steelhead weight is estimated to be 6 pounds. Total steelhead harvest in the river section below Gold Ray Dam (lower river section) was 15,480 pounds of fish (2,580 fish x 6 pounds), and steelhead harvest in the river section above Gold Ray Dam (upper river section) was 23,556 pounds of fish (3,926 fish x 6 pounds). It is estimated that 14% (2,167 pounds) of the steelhead harvested in the lower river section was taken from within the site's TDL, and that 18% (4,240 pounds) of the steelhead harvested in the upper river section was taken from within the site's TDL. Therefore, total steelhead harvest within the TDL is 6,407 pounds. The average coho salmon weight is estimated to be 7 pounds. Total coho harvest in each of the lower and the upper river sections was 462 pounds of fish (66 fish x 7 pounds). It is estimated that 14% (65 pounds) and 18% (83 pounds) of the coho harvested in the lower and upper river sections, respectively, were taken from within the site's TDL. Therefore, total coho salmon harvest within the TDL is 148 pounds. The average chinook salmon weight is estimated to be 13 pounds. Total chinook salmon harvest in the lower river section was 88,556 pounds of fish (6,812 fish x 13 pounds), and chinook harvest in the upper river section was 112,281 pounds of fish (8,637 fish x 13 pounds). It is estimated that 14% (12,398 pounds) of the chinook harvested in the lower river section was taken from within the site's TDL, and that 18% (20,211 pounds) of the chinook salmon

harvested in the upper river section was taken from within the site's TDL. Therefore, total chinook salmon harvest within the TDL is 32,609 pounds. This provides a combined total of 39,164 pounds for sport fish catch (Evinson 1999).

A Bald eagle (*Haliaeetus leucocephalus*) breeding site is located along the surface water migration pathway, approximately 5.6 miles downstream of the PPE. The Bald eagle is a state- and federal-listed threatened species (ONHP 1999). Coho salmon (*O. kisutch*), a federal-listed threatened species, is known to exist on the Rogue River. There is a dam at Gold Ray (which is within the TDL), but it is equipped with a fish ladder that allows fish to travel upstream past that point. Coho salmon are expected to be present in the entire section of the Rogue River that lies within the TDL, and possibly upstream into the unnamed tributary that leads from the site (ONHP 1999).

Two portions of the Rogue River are classified as National Wild and Scenic (NWS). However, these sections are not within the TDL. One NWS section is 40.3 miles long from Crater Lake National Park downstream to the Rogue River National Forest boundary at Prospect, all upstream of the TDL. The other NWS section is downstream of the TDL from the mouth of the Applegate River downstream to the Lobster Creek Bridge. Approximately 9 miles of wetland frontage exist within the TDL for this site (USFWS, 1974, 1982).

3.3 SOIL EXPOSURE PATHWAY

There are no schools, residences, or daycare facilities within 200 feet of the site. One person works at the site. The majority of the site is not fenced and is accessible by the public. However, the area of the former sawmill is surrounded by a fence with a locked gate. At the time of the site visit, December 3, 1998, the sawmill foundation and a debris pile were present within the fenced area (E & E 1998). No terrestrial sensitive environments are known to occur at the site. No commercial agriculture, livestock grazing, or livestock production are known to occur on an area of potential contamination.

Table 3-4 provides population figures for people residing within 1 mile of the site.

3.4 AIR MIGRATION PATHWAY

One person currently works at the site (E & E 1998). A total of 13,560 people live within 4 miles of the site (EPA 1998). The nearest residence is 0.35 miles from the site (USGS 1983). There are no commercial agriculture, commercial silviculture, or major or designated recreation areas known to be present within 0.5 miles of the site. Vernal Pool Ferry shrimp (*Branchinecta lynchi*), a federal-listed threatened plant species is known to be located between 2.0 and 3.2 miles from the site (ONHP 1999). Gentner's fritillaria (*Fritillaria gentneri*), a state- and federal-listed endangered plant species, is known to be located between 2.8 to 14.5 miles from the site (ONHP 1999). The Big-flowered Woolly meadowfoam

Limnanthes floccosa ssp grandiflora), a state-listed endangered plant species, is known to exist within 1 mile of the site (ONHP 1999). Dwarf Woolly meadowfoam (*Limnanthes floccosa ssp pumila*), a state-listed threatened plant species, is known to be located between 2.0 and 3.2 miles from the site (ONHP 1999).

The Ken Dewman State Game Reserve is located within 1 mile of the site (USGS 1983). No wetlands are present within 1 mile of the site (EPA 1998). It was determined from the EPA Geographic Information Query System that approximately 746.07 acres of wetlands are located within 1 and 4 miles of the site (EPA 1998). Since this system does not provide wetland acreage by individual distance rings, this entire wetland acreage is assumed to be within 1 to 2 miles of the site. **Table 3-5** provides populations and wetland acreage by distance ring within 4 miles of the site.

Table 3-1		
WELL INFORMATION MEDITE CORPORATION STUD MILL SITE WHITE CITY, OREGON		
Identification	Depth (feet below ground surface)	Pumping Capacity (gallons per minute)
Cascade Village Mobile Estates - Primary Well	90	80
Cascade Village Mobile Estates - Secondary Well	40	20

Source: Charlton 1999.

Table 3-2					
GROUNDWATER DRINKING WATER POPULATION WITHIN A 4-MILE RADIUS MEDITE CORPORATION STUD MILL SITE WHITE CITY, OREGON					
Distance (Miles)	Number of Private Wells	Average Number of Persons/ Household	Persons Served by Private Wells (a)	Persons Served by Public Wells (b)	Total Population per Distance Ring (a) + (b)
0 - 1/4	5	2.50	12.5	0	12.5
1/4 - 1/2	18	2.50	45	0	45
1/2 - 1	59	2.50	147.5	0	147.5
1 - 2	565	2.50	1,412.5	250	1,662.5
2 - 3	769	2.50	1,922.5	0	1,922.5
3 - 4	720	2.50	1,800	0	1,800
Total					5,590

Source: EPA 1998; Ground Water Resource Information Distribution (GRID) 1998; USDC 1990.

Table 3-3

**CALCULATION OF 1995 SPORT FISH HARVEST
MEDITE CORPORATION STUD MILL SITE
WHITE CITY, OREGON**

Species/Location	Number Of Fish Harvested	Average Weight Per Fish (pounds)	Total Harvest (pounds)	Percent Within TDL	Harvest Within TDL (pounds)
<u>Steelhead</u>					
Below Gold Ray Dam	2,580	6	15,480 ^a	14	2,167 ^a
Above Gold Ray Dam	3,926	6	23,556 ^a	18	4,240 ^a
Total Steelhead	6,506	6	39,036 ^a	NA	6,407 ^a
<u>Coho Salmon</u>					
Below Gold Ray Dam	66	7	462 ^b	14	65 ^b
Above Gold Ray Dam	66	7	462 ^b	18	83 ^b
Total Coho Salmon	132	7	924 ^b	NA	148 ^b
<u>Chinook Salmon</u>					
Below Gold Ray Dam	6,812	13	88,556 ^c	14	12,398 ^c
Above Gold Ray Dam	8,637	13	112,281 ^c	18	20,211 ^c
Total Chinook Salmon	15,449	13	200,837 ^c	NA	32,609 ^c
Total Harvest					39,164

Source: ODF&W 1999, Evinson 1999.

Notes:

^a Steelhead figures are based on the number of fish caught multiplied by the assumed weight of 6 pounds per fish.

^b Coho salmon figures are based on the number of fish caught multiplied by the assumed weight of 7 pounds per fish.

^c Chinook salmon figures are based on the number of fish caught multiplied by the assumed weight of 13 pounds per fish.

Key:

NA = Not applicable.

TDL = Target distance limit for the surface water pathway.

Table 3-4	
POPULATIONS WITHIN A 1-MILE RADIUS MEDITE CORPORATION STUD MILL SITE WHITE CITY, OREGON	
Distance Ring	Population
On Site	1 ^a
0 - ¼ mile	0
¼ - ½ mile	7
½ - 1 mile	1,802
Total	1,810

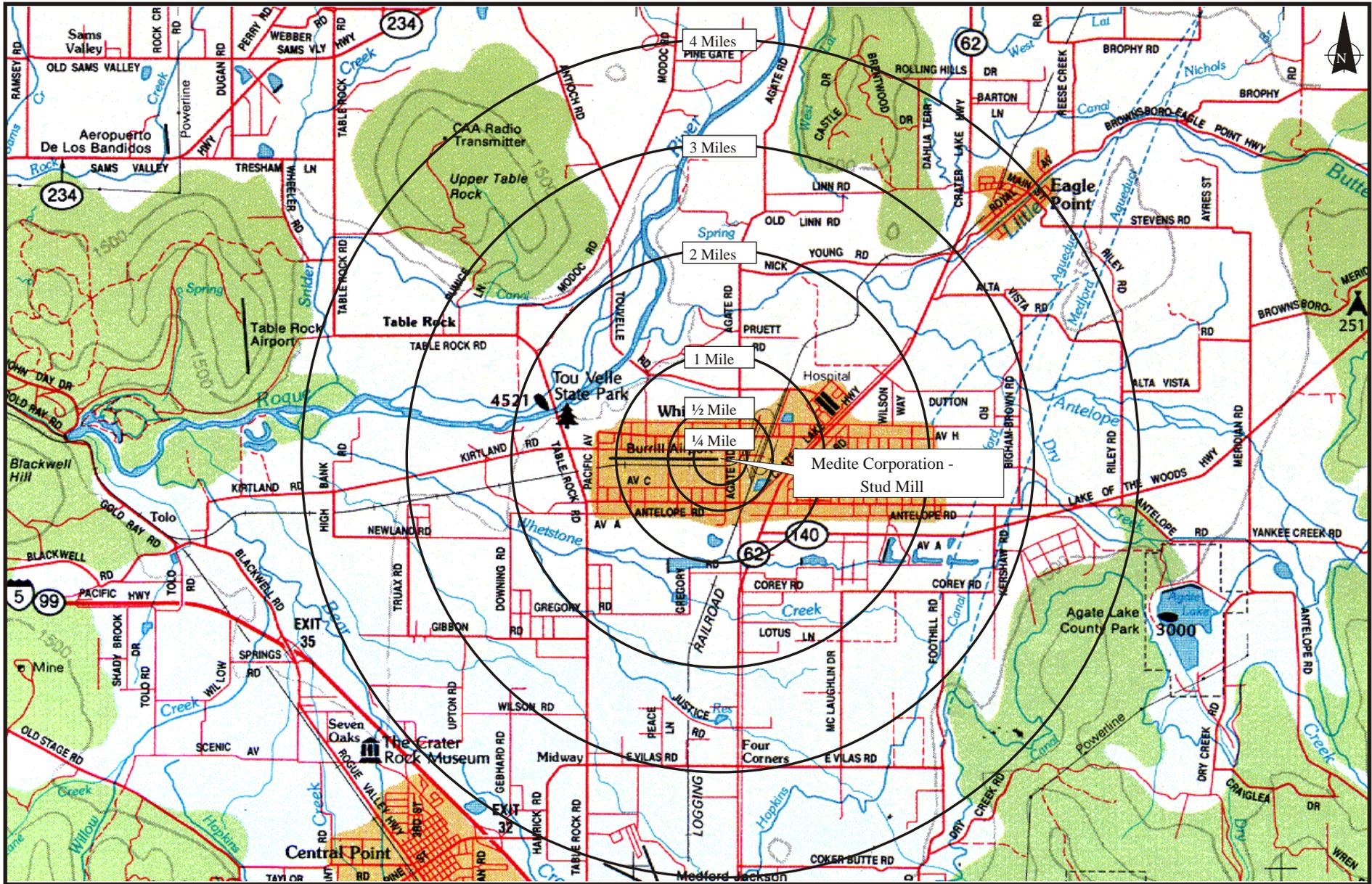
Source: EPA 1998.

^a Worker.

Table 3-5		
POPULATIONS AND WETLAND ACREAGE WITHIN A 4-MILE RADIUS MEDITE CORPORATION STUD MILL SITE WHITE CITY, OREGON		
Distance (Miles)	Residents	Wetland Acreage
On Site	1 ^a	0
0 - ¼	0	0
¼ - ½	7	0
½ - 1	1,802	0
1 - 2	5,150	746.07
2 - 3	2,779	0
3 - 4	3,822	0
Total	13,561	746.07

Source: EPA 1990.

^a Worker.



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

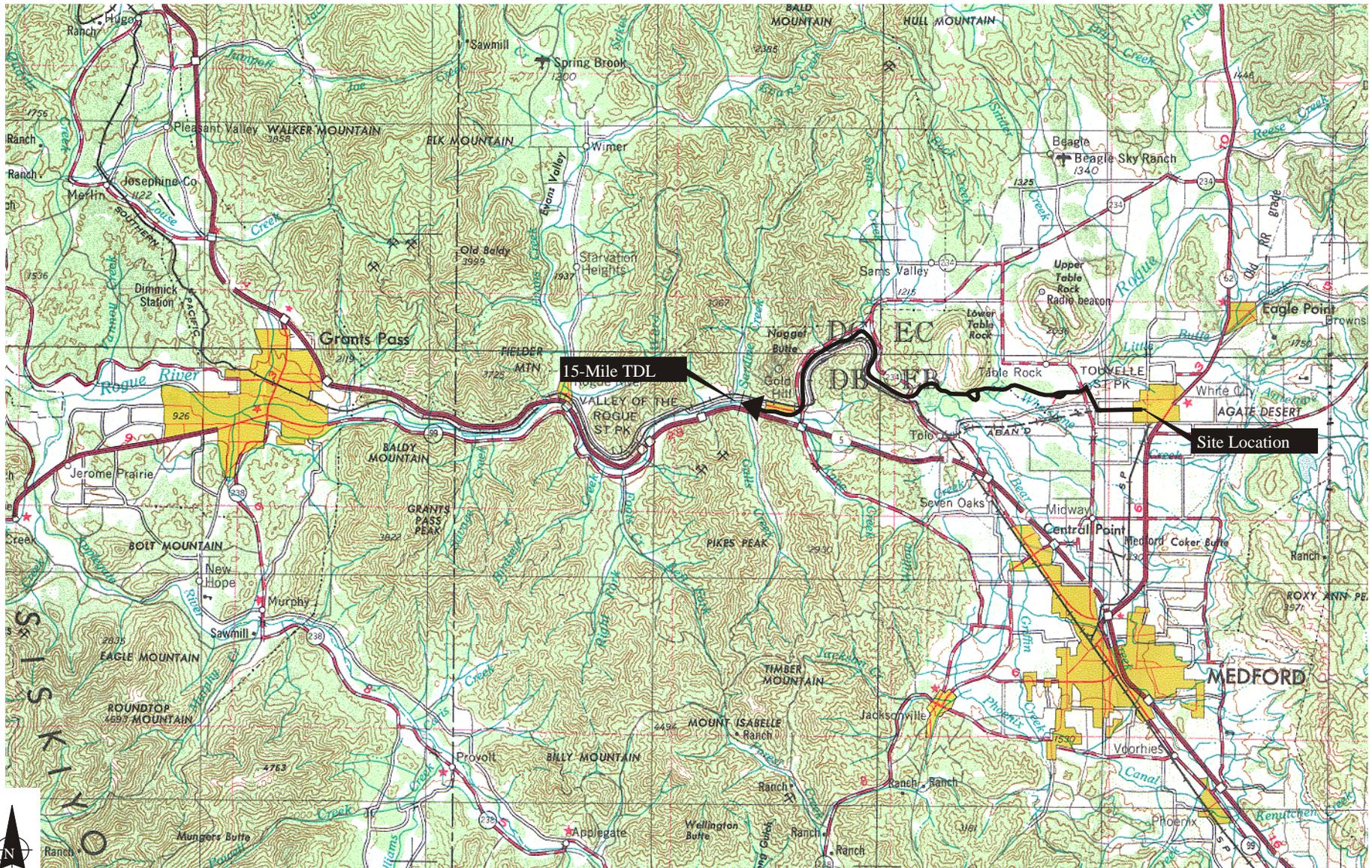
MEDITE CORPORATION - STUD MILL
 White City, Oregon

Source: DeLorme, 1991



Figure 3-1
 4-MILE MAP

Drawn: AES	Date 2/2/99	Job No. CF0101SAT0	Dwg.No. CF0101 3-1
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 International Specialists in the Environment
 Seattle, Washington

MEDITE CORPORATION - STUD MILL
 White City, Oregon

Source:USGS, Medford, Oregon,
 1976

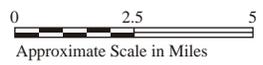


Figure 3-2
 15-MILE DOWN STREAM MAP

Drawn: AES	Date 2/2/99	Job No. CF0101SAT0	Dwg.No. CF0101 3-2
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ATTACHMENT A
PHOTOGRAPHIC DOCUMENTATION

PHOTOGRAPH IDENTIFICATION SHEET

Camera Serial #: 5701006

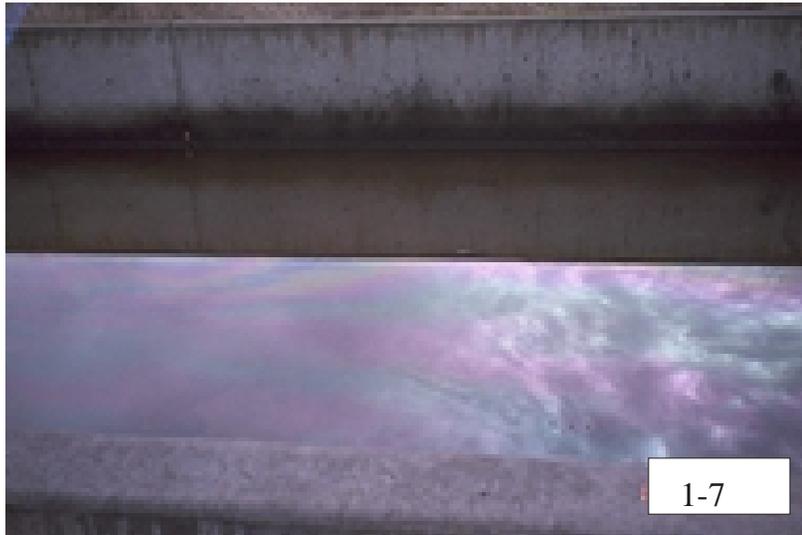
TDD #: 98-06-0001

Lens Type: 38 - 90 mm Zoom

Site Name: Medite Corporation - Stud Mill

Photo No.	Date	Time	Dir.	By	Description
1-1	12/3/98	1407	N	JK	Northeast drainage ditch. Drain comes from under Agate Road east of the facility.
1-2	12/3/98	1415	N	JK	Storm drain.
1-3	12/3/98	1424	W	JK	Hydraulic oil spill area at debarker location.
1-4	12/3/98	1428	W	JK	Former location of Truck Shop. Monitoring well on right side of the photograph.
1-5	12/3/98	1433	WSW	JK	Underground storage tank west of former Truck Shop area. Contaminated soil estimated at 45 cubic yards.
1-6	12/3/98	1435	S	JK	Former aboveground storage tank area south of former Truck Shop. Three tanks were used for diesel, lube oil, and used oil.
1-7	12/3/98	1437	Down	JK	Inside of containment area for aboveground storage tanks.
1-8	12/3/98	1440	W	JK	Former Bone Yard area.
1-9	12/3/98	1445	S	JK	Pile of debris that was removed from the basement of the former sawmill; awaiting disposal; some refuse may contain oil/petroleum products.
1-10	12/3/98	1446	NNW	JK	Central storm drain for mill site, located north of the sawmill.
1-11	12/3/98	1448	N	JK	Sump location in the sawmill.
1-12	12/3/98	1453	W	JK	Overview of western portion of the old sawmill filled with groundwater; groundwater sump located on right side of the photograph.
1-13	12/3/98	1459	S	JK	Location of the former Teepee Burner (where yellow pole is located).
1-14	12/3/98	1500	E	JK	Location of former Teepee Burner at the east side of the sawmill.
1-15	12/3/98	1501	NNW	JK	Location of storm drain in relation to the Teepee Burner at east end of the sawmill.
1-16	12/3/98	1505	W	JK	Overview of the former sawmill location.
1-17	12/3/98	1507	SE	JK	Photograph of northeast storm drain and Royal Oak Charcoal Company in the background.







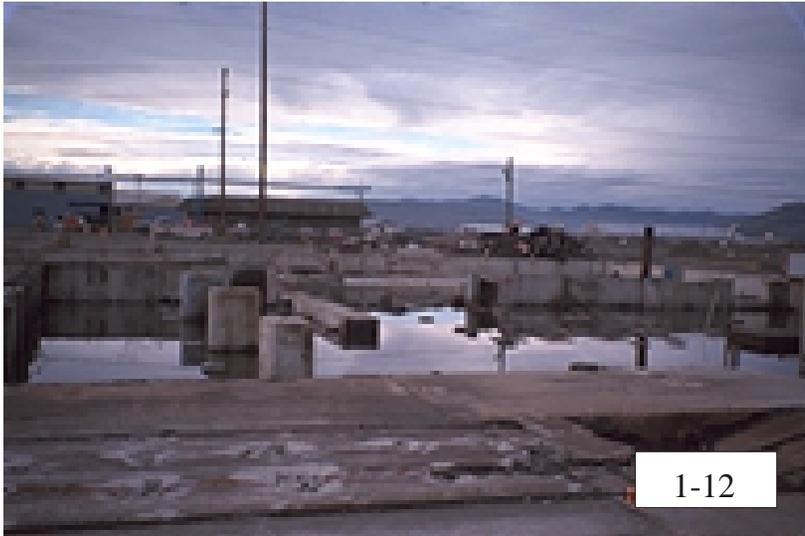
1-9



1-10



1-11



1-12



