REPORT
PRELIMINARY SITE ASSESSMENT
103 ACRE SITE
BINGEN, WASHINGTON

Submitted to

TEUTSCH PARTNERS
Job No. 21172-001-005
September 7, 1990

DAMES & MOORE

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# REPORT

## PRELIMINARY SITE ASSESSMENT
## 103 Acre Site
## Bingen, Washington

**for**

**Teutsch Partners**

## 1.0 INTRODUCTION

This report presents the results of Dames & Moore's Preliminary Site Assessment of the 103 Acre Site. The property is located in Sections 29, 32, and 37, Township 3 North, Range 11 East, Bingen, Klickitat County, Washington (Figure 1). The site is bound by the Columbia River to the south and west, SDS Lumber Company to the east, and commercial properties/Burlington Northern Railroad to the north.

This Preliminary Site Assessment was conducted in accordance with Dames & Moore's proposal to Teutsch Partners, dated August 7, 1990, and accepted on August 16, 1990, which constitutes the contractual agreement between Dames & Moore and Teutsch Partners for the services provided. This assessment was conducted to review past and current site land use practices and operations to evaluate the potential presence of hazardous substances and soil and/or groundwater contamination at the site.

## 2.0 PURPOSE AND SCOPE

The purpose of this assessment was to evaluate, on the basis of readily available information, the potential presence of hazardous substances at the site due to past and/or current land use practices and site operations, and the potential occurrence of soil and/or groundwater contamination resulting from these practices. This assessment also included an evaluation of neighboring properties and facilities in the site vicinity (within a 1/4-mile radius of the site) which may have adversely impacted environmental conditions at the site due to the presence and/or release of hazardous substances to the environment.

Dames & Moore's scope of services included the following elements and are conducted in accordance with the methods presented in Appendix A:

- Review of pertinent, available documents and maps regarding local geologic and hydrogeologic conditions;

- Review and interpretation of historical aerial photographs of the site vicinity for the years 1930, 1967, 1969, 1973, 1978, 1984 and 1989;

- Review of available data for the site and the site vicinity for information regarding historical land use that could have involved the manufacture, generation, use, storage and/or disposal of hazardous substances. These data include archival topographic maps for the years 1957 and 1978; Metsker Land Ownership Maps for the year 1934; available Sanborn Fire Insurance Maps; and Polk's City Directories for the years 1911-12, 1913-14 and 1917-18;

- Review of the following county, state and U.S. Environmental Protection Agency (EPA) lists of known or potential hazardous waste sites, and sites currently under investigation for potential environmental violations: U.S. EPA FINDS List; U.S. EPA RCRA List; U.S. EPA CERCLIS List; U.S. EPA National Priorities List (NPL); Washington State Department of Ecology (Ecology) Hazardous Waste Investigations and Cleanup Program - Affected Media and Contaminants; U.S. EPA Inventory of Open Dumps;

- Performance of a reconnaissance survey of the site and the site vicinity to observe existing site conditions, improvements and/or operations, types of land use, and nature of businesses within the site vicinity;

- Conduct personal and/or telephone inquiries to the following municipal, county, and state offices and regulatory agencies for information regarding water and sewer services, environmental violations or incidents and/or status of enforcement actions at the site: Bingen Fire Department; Klickitat County Health Department; Klickitat County Planning Department; and Public Utilities Department of Klickitat County;

- Preparation of this summary report describing the research performed and presenting Dames & Moore's findings, professional opinions, and recommendations.

## 3.0 SITE DESCRIPTION

### 3.1 PHYSIOGRAPHY

The site is located on a peninsula on the Washington state shore of the Columbia River, and is predominantly in the southwest 1/4 of the southwest 1/4 of Section 29, Township 3 North, Range 11 East, Bingen, Klickitat County, Washington. Topographic coverage of the site vicinity is provided by the U.S. Geological Survey, White Salmon, Washington, 7.5 minute quadrangle, 1978. The elevation of the site is less than 40 feet above Mean Sea Level. No topographic gradient is indicated across the site. The nearest surface water is the Columbia River, which borders that site on the south and west.

## 3.2 GEOLOGIC SETTING

The site is in Klickitat County which is on a geographical transition zone between the Cascade Mountains to the west and the Columbia Plateau to the east. The most extensive geological unit in Klickitat County is the Columbia River Basalt Group (Brown, 1975).

A log of a well at the Underwood Fruit Company, located approximately 3/4 mile northwest of the site, indicates the subsurficial material in the general area of the site. An upper 7 foot layer of sandy soils with cobbles overlie an 18 foot thick interval of vesicular basalt. The basalt was underlain by 134 feet of fractured basalt and a 45 foot layer of water-bearing basalt at 195 feet below the ground surface. Fractured basalt was again encountered extending to a depth of 257 feet below the surface, the total depth of the well (Brown, 1975).

Engineering reports from Tenneson Engineering Corporation (1989) indicate that the basalt is near surface at the site and outcrops at the Mt. Adams Loggers Association. The basalt is overlain by predominately silty sands and sandy silts. Much of the original geology of the site has been altered by the construction of dikes, and subsequent dredge and fill activities performed by the U.S. Army Corp of Engineers.

## 3.3 HYDROGEOLOGIC SETTING

The Columbia River Basalt that underlies almost all of the county is the principle source of ground water for the area. Two wells were drilled in the site vicinity for the City of Bingen at elevations of 490 and 360 feet above Mean Sea Level, and the water levels were recorded at 297 and 70 feet respectively. The water in both wells was encountered in basalt. A third industrial well was drilled for the Underwood Fruit Company at an elevation of 120 feet above Mean Sea Level. Water was encountered in fractured basalt at 41 feet below the surface (Brown, 1975).

No ground-water flow data were available; however, based upon the geographic location of the site relative to the Columbia River, ground water is expected to be shallow, slightly higher than the elevation of the river, and to flow to the southwest, toward the river.

# 4.0 PRESENT SITE CONDITIONS

## 4.1 SITE RECONNAISSANCE

Mr. Bob Berquist of Dames & Moore completed a reconnaissance visit of the site and the site vicinity on August 17, 1990 to observe existing site conditions, types of land use, and nature of businesses within the site vicinity. Mr. Berquist was escorted by Mr. Brian Shortt of the Port of Klickitat.

Mr. Shortt stated that until 1988 most of the site was primarily used for horticulture by Dickey Farms. Other uses on site include a log yard business that has been operating since 1965, and a windsurfing recreational/parking area in the southeast section of the site.

## 4.2 HAZARDOUS MATERIALS

Various materials were observed on-site. These materials included small quantities of anti-freeze, herbicide, water seal, cleanser and latex paints in the restroom storage area; approximately ten 55-gallon drums filled with apparent waste oils and/or diesel fuel, and other miscellaneous solvents, oils, degreasants and motor fuels at the Mt. Adams Loggers Association. Two of the 55-gallon drums in the lumberyard area had leaked some of their contents onto the bare ground, and visible staining was noted.

## 4.3 STORAGE TANKS

A pump and associated underground storage tank (UST) are located at the Mt. Adams Loggers Association. A foreman at the association stated that the UST has a capacity of 5000 gallons and stores diesel fuel. The foreman stated that the tank was installed in approximately 1980.

Significant soil staining was noted under one above-ground tank located in the log yard area of the association. The foreman stated that the tank has a capacity of 546 gallons and contains diesel fuel. The diesel is pumped through a hose and valve apparatus from the tank to nearby tug boats.

## 4.4 TRANSFORMERS

Three pad-mounted and four pole-mounted transformers were found on site. These transformers are owned by the Public Utility District (PUD) #1 of Klickitat County. Al Sanders of PUD #1 stated that all of the transformers have been tested and were found to be non-PCB containing.

# 5.0 PAST LAND USE OF SITE

Information regarding past site land use was obtained by reviewing historical aerial photographs, archival topographic maps and relevant documents obtained from the United States Army Corps of Engineers, the University of Washington Suzzallo Library, the Seattle Public Library and the Dames & Moore library.

## 5.1 AERIAL PHOTOGRAPHS

Dames & Moore reviewed and interpreted selected historical aerial photographs of the site vicinity for the years 1930, 1967, 1969, 1973, 1978, 1984 and 1989 for indications of past site land use and/or site activities which may have involved the manufacture, generation, use, storage, and/or disposal of hazardous materials:

1930 - The site and site vicinity appear to be undeveloped.

**1967** - The site appears to consist predominately of agricultural fields with trees between some of the fields. One large lake surrounded by vegetation is in the center of the site. A logging operation adjacent to the river is apparent on the southern boundary of the site. Two additional logging operations are observed east and west of the site. The facility to the west also has a sawmill operation. Directly north of the site, two round tanks and an industrial or commercial-type building are present.

**1969** - A boat dock is in the marina and five picnic structures and an apparent restroom facility are to the north of the marina. No other significant changes are noted on the site.

**1973** - No significant changes are observed on the site or within the site vicinity.

**1978** - No significant changes are observed on the site or within the site vicinity.

**1984** - The ground at the logging operation on the site is bare. Log booms extend into the river from the site. Eight or nine industrial or commercial-type buildings, a few acres of bare ground, and an above-ground tank are apparent on the logging operation west of the site. Two above-ground tanks, two circular pits, an oval-shaped field, and a commercial-type building are on the adjacent property to the northwest. Five large tanks situated in a row are located on Highway 14 less than 1000 feet from the site. Four additional tanks (two smaller) are located at a facility west of these five tanks. Several residences and scattered commercial developments extend north into Bingen. Two large power line towers are situated within approximately 500 feet southwest of the site. The lines appear to extend across the river.

**1989** - The trees between the fields have been thinned on the southeast corner of the site, and a new dirt road crosses four of the fields. An area of excavation is apparent on adjacent property to the north and a mound of material is apparent west of the excavation. A pile of wood, a building, and two small tank-like structures are located between the excavation and the mound.

## 5.2 ARCHIVAL TOPOGRAPHIC MAPS

Archival topographic maps of the White Salmon Quadrangle for the years 1957 and 1978 were reviewed and interpreted for indications of topographic and land-use changes which may have had negative environmental impact on the site and its surroundings:

**1957** - Approximately 50 percent of the site is covered by water from an inlet of the Columbia River. River access appears to be available only from the western edge of the site. Two towers are indicated at the western edge of the site near the access point to the Columbia River. A gravel pit is located directly across Highway 14 north of the site. A sewage disposal facility is shown within 1000 feet northwest of the site.

**1978** - The site has changed significantly since 1957. The middle of the site, previously the lake, is shown as land. A small stream has replaced the former access route to the Columbia River. One building is indicated on the southern edge of the site. A marina is located on the

northeast corner of the site. A boat ramp and picnic area are shown in and to the north of the marina. Several roads are indicated across the site. West of the site, the river bank has the river bank has changed shape and now consists of a large peninsula in place of former small islands. No other significant changes are noted.

### 5.3 METSKER LAND OWNERSHIP MAPS

A review was conducted of available archival land use maps. A Metsker Land-Ownership Map for the year 1934 was reviewed for pertinent information regarding pre-existing structures and ownership at the site and the properties in the site vicinity.

The map shows that the site is owned by Betsy and John Wyers, E.E. Bartholomew, and J.A. Henderson. The map included no other pertinent information.

### 5.4 SANBORN FIRE INSURANCE MAPS

The site and site vicinity are not included on these maps.

### 5.5 POLK'S CITY DIRECTORIES

Polk's City Directories for the available years 1911-12, 1913-14 and 1917-18 were reviewed to obtain information concerning the tenants of the site and the properties in the site vicinity:

**1911-12** - A branch of the Mt. Adams Lumber Company is listed; however, no addresses are available.

**1913-14** - No significant change is noted.

**1917-18** - No significant change is noted.

## 6.0 AGENCY DOCUMENT REVIEW

Dames & Moore conducted a review of applicable regulatory agency documents and lists of known or potential hazardous waste sites or landfills, and properties or facilities currently under investigation for potential environmental violations. The following documents and lists were reviewed to identify properties or facilities located in the site vicinity that may have the potential to adversely impact environmental conditions at the site:

- **U.S. EPA FINDS List** (Run Date: 06/20/90)
  The Facility Index System (FINDS) is a compilation of any property or facility which the EPA has investigated, reviewed or been made aware of in connection with its various regulatory programs. Each record indicates the EPA Program Office that may have files on the property or facility.

The site is not included on the list. The following facilities are listed and are located in Bingen, Washington:

| Facility/Address | Relative Location | Program |
|---|---|---|
| Bingen Plywood<br>Highway 14 | Not Available | CDS |
| Gorge Energy Co<br>Walnut & Steuben | Not Available | CDS |
| Riley Brothers Concrete<br>Highway 14 | Not Available | CDS |
| SDS Lumber Company<br>Port Docks | Adjacent<br>to West | CDS |
| WDOT Bingen UST<br>Highway 14 | Not Available | PCS, STATE |

CDS - Compliance Data System; Office of Air and Radiation.
PCS - Permit Compliance System; Office of Water Enforcement and Permits.
STATE - State System, State Program Offices.

° **U.S. EPA RCRA List** (Run Date: 06/04/90)
The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities list is a compilation by EPA of reporting facilities that generate, store, transport, treat or dispose of hazardous waste.

The site is not included on the list. The following facility is listed and is located in Bingen, Washington:

| Facility/Address | Relative Location | Activity |
|---|---|---|
| WDOT Bingen UST<br>Highway 14 | Not Available | Gen-2, NR-7 |

Gen-2 - Generates between 100 and 1000 kilograms per month of hazardous waste.
NR-7 - Non-regulated, withdrawn.

° **U.S. EPA CERCLIS List** (Run Date: 06/28/90)
The CERCLIS List is a compilation by EPA of the properties or facilities which EPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and

Liability Act of 1980 (Superfund Act). Neither the site nor facilities or properties within the site vicinity are on the CERCLIS list.

- **U.S. EPA National Priorities List (NPL)** (02/21/90)
  Neither the site nor facilities or properties in the site vicinity are included on the NPL.

- **Washington Department of Ecology Hazardous Waste Investigation and Cleanup Program - Affected Media and Contaminants** (05/01/90)
  Neither the site nor facilities or properties in the site vicinity are included on this list.

- **U.S. EPA Inventory of Open Dumps** (05/83)
  Neither the site nor facilities or properties in the site vicinity are included on this list.

## 7.0 AGENCY CONTACTS

Dames & Moore conducted telephone and/or personal inquiries to applicable municipal, county, and state offices and regulatory agencies for information regarding environmental or building permits, underground storage tanks, environmental violations or incidents and/or the status of enforcement actions at the site. Presented below is a listing of the various public agencies contacted and a summary of relevant findings:

- **Bingen Fire Department**
  The fire protection program in Bingen, Washington is volunteer; therefore, no individual has complete knowledge of the occurrence of hazardous waste spills. Dan Spantz, a local newspaper editor for the Bingen area stated that, to the best of his knowledge, no hazardous material spills have occurred on the site.

- **Klickitat County Health Department**
  A telephone inquiry was made to the Klickitat County Health Department regarding water and sewer services to the site. This department had no information with respect to these services. Similar inquires were made to Bingen Public Works and Klickitat Public Utility District #1. Neither of these repositories had information regarding the water and sewer services.

- **Klickitat County Planning Department**
  A telephone inquiry to the Klickitat County Planning Department revealed that the site is zoned as Planned District, in which "all development must be environmentally desirable with preservation and conservation being constant factors."

- **Public Utilities Department of Klickitat County**
  Al Sanders of the Public Utility District #1 of Klickitat County was contacted regarding the three pad-mounted and four pole-mounted transformers observed on site. Mr Sanders stated that all of these transformers are non-PCB containing.

## 8.0 PREVIOUS REPORTS

Dames & Moore reviewed previous reports of the site and site vicinity for information on the geologic and hydrogeologic conditions, and site history. These reports include surficial and subsurficial investigations by $CH_2M$-Hill, an archaeological survey by David L. Cole, Ph.D., and a memo written by Donald J. Branton, Port Engineer from Tenneson Engineering Corporation. These reports are included in Appendix C.

The memo from Mr. Branton dated November 7, 1989 describes the recent historical activities on site. It states that the site was used as farmland until 1961 when it was acquired by the Port of Klickitat. Upon acquisition, dikes were built on or near site, and dredge and fill activities by the U.S. Corp. of Engineers altered the on site geologic conditions. Dickey Farms, Inc. was contracted to clear the lands enclosed within the perimeter of the dikes for farming.

The reports also generally confirm the geologic conditions on site as described in Section 3.2.

## 9.0 CONCLUSIONS AND RECOMMENDATIONS

Based on Dames & Moore's on site observations and data review, we believe that the following course of action be implemented.

### 9.1 STAINED SOIL

Significant areas of soil that are visually stained by petroleum products should be evaluated to assess the need for remediation. Visible releases of petroleum products to on site soils may require reporting to the Washington State Department of Ecology under the Model Toxics Control Act (MTCA) July 18, 1990. The MCTA also mandates cleanup of significant releases. We recommend that soil samples be collected and analyzed in order to adequately characterize the existing chemical quality of soil with respect to remedial alternatives. For soils (if any) that exceed state or federal action criteria, on site landfarming or off site disposal may be appropriate.

### 9.2 ON SITE PETROLEUM STORAGE TANKS

We understand that the underground diesel storage tank was installed in 1980. Under current federal underground storage tank (UST) regulations, nonpressurized tank systems installed after 1979 and before 1989 require leak detection systems by December 1993, and corrosion and spill/overflow protection by December 1998.

While no action is currently required for the USTs, we recommend that an accurate inventory control program be implemented, and that the UST be leak-tested on a regular basis. The costs to clean up a major long-term release from a leaking tank justify the relatively small cost to periodically test the tank.

Alternatively, in order to minimize long-term future risks, the existing tank system could be replaced with a new installation that meets current design criteria.

The existing above-ground diesel storage tank should be repaired or replaced to reduce the potential for future releases. Additionally, a containment structure, such as a beamed concrete pad, would assist in controlling spills or other releases from the tank.

### 9.3 OFF SITE TANKS AND OTHER POTENTIAL OFF SITE SOURCES

While no reported releases of hazardous substances from properties in the site vicinity were found in agency records, potential off site contaminant sources such as above-ground tanks and light industrial activity are adjacent to the site. The site owner should remain cognizant of off site releases and in the event of a release, should remain informed about potential impacts on the site.

## 10.0 LIMITATIONS

This Preliminary Site Assessment Report has been prepared for the exclusive use of Teutsch Partners. It is intended to provide Teutsch Partners with an understanding of the potential environmental impairments that the property evaluated in this report may possess due to chemical contamination. It describes what Dames & Moore believes are reasonable concerns about how the properties could potentially become involved in various environmental problems resulting from hazardous waste and hazardous materials.

This report is based upon data and information obtained during a single site visit by Dames & Moore personnel to the property identified herein and is based solely upon the condition of the property on the date of such visit, supplemented by information and data obtained by Dames & Moore and described herein. The evaluation and conclusions contained in this report have been prepared in light of the expertise and experience of Dames & Moore. However, in evaluating the property, Dames & Moore has relied in good faith upon representations and information furnished by individuals noted in the report with respect to operations and existing property conditions, and the historic uses of the property to the extent that they have not been contradicted by data obtained from other sources. Accordingly, Dames & Moore accepts no responsibility for any deficiency, misstatements, or inaccuracy contained in this report as a result of misstatements, omissions, misrepresentations, or fraudulent acts of person interviewed.

Dames & Moore has performed this work, made the findings, and proposed the recommendations described in this report in accordance with generally accepted environmental science practices for Preliminary Site Assessments in effect in the Seattle, Washington metropolitan area at the time the work was performed. This warranty stands in lieu of all other warranties, expressed or implied. While this report can be used as a guide by Teutsch Partners, it must be understood that it is neither a rejection nor an endorsement of the property. It must also be understood that changing circumstances in the environment and in the use of the property can alter the validity of conclusions and information contained in this report.

It should be recognized that this study was not intended to be a definitive assessment of contamination at the site. Given that the scope of services for this assessment was limited and that exploratory borings, soil or groundwater sampling or analytical testing were not undertaken, it is possible that currently unrecognized contamination may exist at the site and that the levels of this potential contamination may vary across the site.

Opinions and recommendations presented herein apply to site conditions existing at the time of our assessment and those conditions reasonably foreseeable. Opinions and recommendations presented cannot necessarily apply to site changes of which this office is not aware and has not had the opportunity to evaluate.

## 11.0 REFERENCES


Aerial Photographs, U.S. Army Corps of Engineers, 1930, 1967, 1969, 1973, 1978, 1984 and 1990 (flight and frame numbers not available).

Brown, Jeffery C., 1975, Geology and Water Resources of Klickitat County: Water Supply Bulletin #50..

$CH_2M$ Hill, not dated, Bonneville Dam-Modification for Peaking Physical Damage at Port of Klickitat and Dickey Farms Sites.

Cole, David L., 1989, Report of an Archaeological Survey of a Proposed Disposal Site for Excavation Spoils at Bingen, Klickitat County, Washington.

Metsker Land Ownership Maps, 1934 edition.

Polk's City Directories, 1911-12, 1913-14, and 1917-18 editions.

Shortt, Brian, 1989, Memo-Bingen East Point Property Subsurface Conditions.

U.S. Environmental Protection Agency, 1990, CERCLIS Lists.

U.S. Environmental Protection Agency, 1990, FINDS List.

U.S. Environmental Protection Agency, 1983, Inventory of Open Dumps.

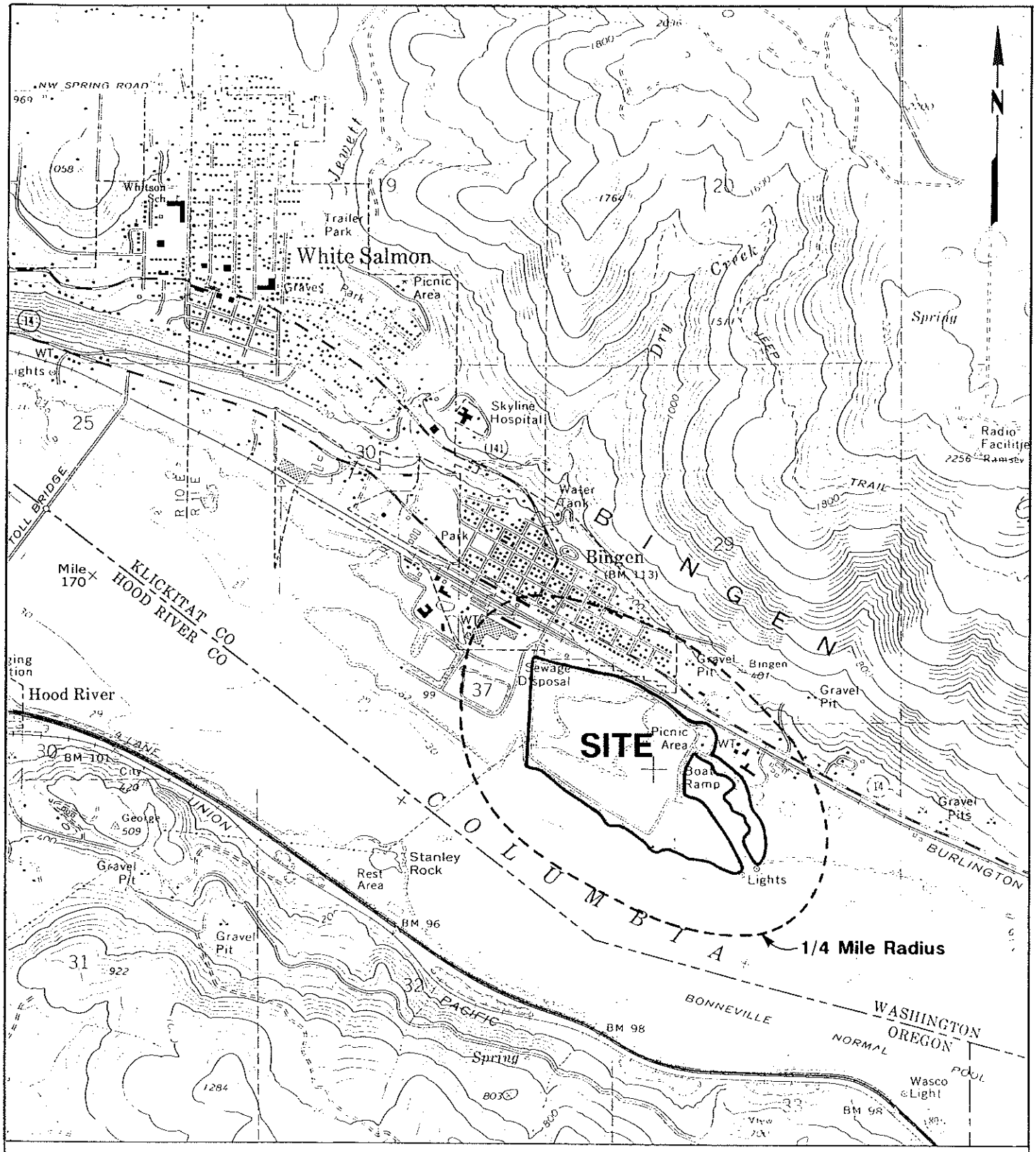
U.S. Environmental Protection Agency, 1990, National Priorities List.

U.S. Environmental Protection Agency, 1990, RCRA List.

U.S. Geological Survey, White Salmon topographic quadrangle, 1957 edition, 1:62,500.

U.S. Geological Survey, White Salmon topographic quadrangle, 1978 edition, 1:24,000.

Washington State Department of Ecology, 1989, Hazardous Waste Investigation and Cleanup Program - Affected Media and Contaminants.




0 2000 4000

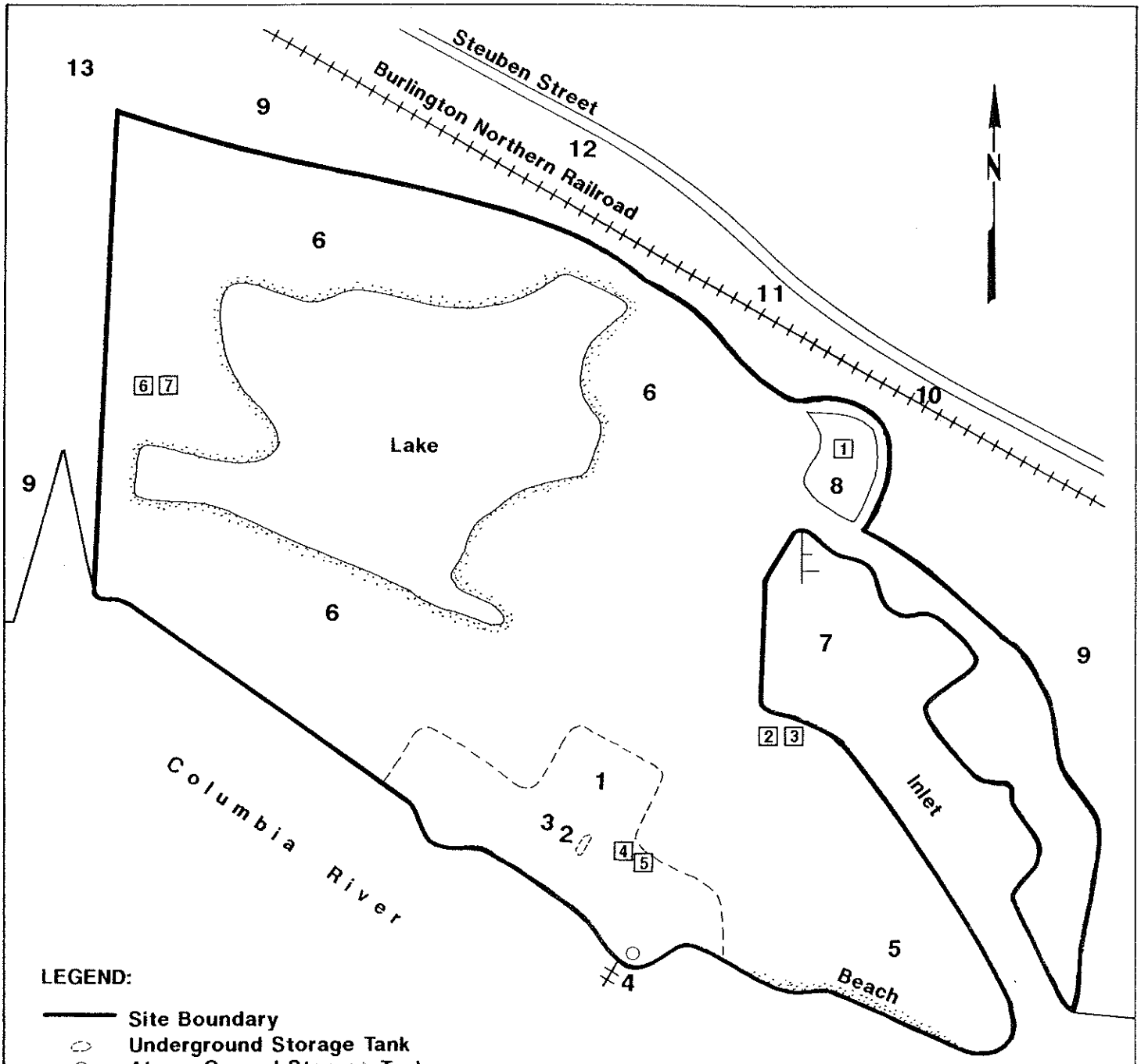
Scale in Feet

Source: USGS Topographic Map, White Salmon Quadrangle, Wash.-Oreg. Quad, Revised 1978.

**Figure 1**

**Site Vicinity**
**103 Acre Site**
**Bingen, Washington**
**Dames & Moore**

Jot .21 001




LEGEND:

- Site Boundary
- Underground Storage Tank
- Above-Ground Storage Tank
- [1] Transformer Number and Location
- 1 Log Yard
- 2 Mt. Adam's Logger's Association
- 3 55 Gallon Drums
- 4 Tug Boats
- 5 Windsurfing Parking Lot
- 6 Natural and Old Agricultural Property
- 7 Bingen Boat Marina
- 8 Restrooms
- 9 SDS Lumber Company
- 10 Auto Repair Shop
- 11 Residences
- 12 Union 76 Drum Transfer and Storage Station
- 13 Shell Gas Station

(Not to Scale)

*Source: Site observations.*

Figure 2
Site Plan
103 Acre Site
Bingen, Washington
Dames & Moore

Job 211 01-(

APPENDIX A

SUMMARY OF METHODS USED
IN PROPERTY TRANSFER ASSESSMENT

## RESEARCH METHODS

Two research activities are conducted to collect information on present and former land uses of the property, as well as on the potential presence of substantial quantities of hazardous materials on or in the vicinity of the property. These activities include a review of historical sources and agency records, and a site visit to the property to observe the nature of current activities and evidence of previous activities.

In conducting the research, Dames & Moore staff complete forms for recording the nature and source of information obtained for the property, as well as the results of our site screening. These include forms for historical maps, aerial photographs, ownership records, the building/parcel audits (including information from observations and interviews), agency consultations, underground storage tank information, and preliminary site hazards screenings.

### Historical Records Review

The review of records concerning historical land use of the property involves an examination of several sources which may be available for any specific site. Sanborn Fire Insurance maps are available at the University of Washington. These maps show locations of structures and provide information on the construction and activities associated with the structures at the time the map was published. Likewise, available aerial photographs on file at the University of Washington Map Room and appropriate county agencies are reviewed. Polk directories may also be researched to clarify site history, while property ownership is researched through the appropriate county's archives.

Sate and local agency records are reviewed as part of the screening process. We consult with the Washington Department of Ecology (Ecology) concerning the presence of underground storage tanks on the site.

### On-Site Visits

An on-site visit is conducted to confirm information on present land use at the property and to check for evidence of underground storage tanks, evidence of the storage of chemicals or other

hazardous materials, evidence of contamination and, if appropriate, evidence of damaged friable asbestos-containing materials. Our work includes interviewing available owners, employees, tenants, or other parties that have knowledge of the property. We observe the use of land immediately adjacent to the property.

On-foot examination of the land surrounding each building are conducted to observe evidence of utility vaults, underground tanks, and sources of potential contamination. When our clients request it, Dames & Moore staff enter buildings and observe each accessible room on every floor. Asbestos sampling may be conducted, if needed, at our client's request.

SCREENING METHODS

The property is screened for potential environmental hazards related to historical and current hazardous material or hazardous waste handling, storage, and/or disposal practices. The objective of the screening is to assess, based on site history, whether the property is a candidate for potential environmental hazards associated with waste, chemical, or asbestos fiber releases within the property boundary.

The screening is based on historical site uses as determined from aerial photographs of the study area, permit records for underground tanks, on-site observations by Dames & Moore field staff, and information on current property use. During screening, the property is assessed for the likelihood of environmental hazard sources listed on the Preliminary Site Hazard Screening Form. Based on historical use and known or suspected site conditions, the screening team checks each of the potential sources as "undetermined", "unlikely", "potential", "likely", or "identified."

# Dames & Moore
## Property Transfer Assessment
## Site Visit Questionnaire

SECTION 1 - To be filled out prior to site visit

Property Name/Number: Port of Bingen Recreational Site

Date of Site Visit: 8/17/90

Access Notification Made? yes

Property Contact: Brian Shortt

Property Contact Phone Number: (509) 493-1655

Individual Collecting Information: Bob Beggust

SECTION 2 - General Information

Facility/Tenant Name(s): Port of Bingen ; Mt. Adams Logger's Association

Nature of Current Business: Windsurfing ; Marina ; Logging Yard

Length of Current Operations: 25 years

Information on Prior Operations: Agriculture — Dickey Farms

Size of Property: 110 acres

Number and Size of Buildings: 1 restroom facility ; 2 logging structures

Date of Building Construction: 1965

Site/Building Map Available? yes

Type of Heat in Building(s): n/a

Information on Neighboring Properties:

North: SDS Lumber Company

South: Columbia River

East: SDS Lumber Company

West: SDS Lumber Company

# Dames & Moore
## Property Transfer Assessment
## Site Visit Questionnaire (continued)

SECTION 3 - Hazardous Materials

Any Environmental Permits? NO

List chemicals handled on site and approximate quantities water seal, anti-freeze (1 gal ea.); Docamine 360 D Herbicide (1 gal.); latex paints (24 gal); cleansers (6 gal)

How are chemicals disposed? recycled or taken to landfill

Any knowledge of spills or leaks? NO

Are transformers present on site? yes

Any waste streams other than to sanitary sewer or municipal solid waste system? NO

Any vendors used to transport, treat, store or dispose of waste? NO

Any landscaping or pool-type chemicals used? all organic landscaping 'chemicals'

Is equipment or vehicle maintenance conducted on site? yes

Is asbestos present on site? n/a

SECTION 4 - Storage Tanks

Are aboveground storage tanks present? yes

If YES,
- Size 546 gal
- Contents diesel
- Age ≈ 20 yrs.
- Spill Control none
- Currently in Use? yes

Are underground storage tanks present? yes

If YES,
- Size 5,000 gal
- Contents diesel
- Age ≈ 10 yrs.
- Leak Detection? unknown
- Tested? unknown
- Currently Used? yes
- Agency Notification? unknown

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: U.S. Army Corps of Engineers

Division: Cartography

Location: Portland, Oregon

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | X |
| Directory | ___ |
| Agency | ___ |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



Aerial photographs for the years 1930, 1967, 1969, 1973, and 1978 were reviewed. The following was noted:

| | |
|---|---|
| 1930<br>Columbia R. Book<br>Flight Line 94<br>Scale 1:1,320 | The site and site vicinity appear to be undeveloped. |
| August 8, 1967<br>Roll 605<br>Flight Line 1601<br>Scale 1:12,000 | The site appears to be primarily agricultural fields with a very large lake in the center. There also appears to be a log yard operation on the southern extreme boundary adjacent to the river. Directly north of the site shows two large round tanks (possibly holding/storage tanks) and a large building. To the east is a large log yard operation. South of the site, in the Columbia River, there appears to be two log barges not far from shore. There is also a large logging yard and sawmill operation west of the site. |
| October 4, 1969<br>Roll 620<br>Flight Line 625<br>Scale 1:24,000 | The site appears to be unchanged except for the dock in the marina and five small covered picnic structures and a small restroom facility above the marina. The site vicinity appears to remain unchanged since the previous photograph. |
| May 18, 1973<br>Roll 654<br>Flight Line 1263<br>Scale 1:5,000 | The site and site vicinity do not appear to show any significant changes since the previous photograph. |

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Baggaust

Date August 27, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: U.S. Army Corps of Engineers

Division: Cartography

Location: Portland, Oregon

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | X |
| Directory | ___ |
| Agency | ___ |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



Aerial photographs for the years 1930, 1967, 1969, 1973, and 1978 were reviewed. The following was noted:

| | |
|---|---|
| March 16, 1978<br>Roll 696<br>Flight Line 927<br>Scale 1:24,000 | The site and site vicinity do not appear to show any significant changes since the previous photograph. |

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggust

Date August 27, 1990

# Dames & Moore
## Property Transfer Assessment Reference Form

Project Name/Number TEUTCH/21172-001

Property Location BINGEN, WA

Repository Army Corps Engineers

Please check appropriate reference form

- Historical Map ☐
- Aerial Photograph ☒
- Periodical ☐
- Agency ☐
- Ownership ☐
- Other ☐

**Description of Source, Results**

yrs: 1984, 1989 BOB BERQUIST, PORTLAND OFFICE SHOULD HAVE EARLIER PHOTOS.

1984 - Development on site consists of the Mt Adams loggers Assoc. operation, the boat dock/marina, a landscaped area with a picnic area and restrooms, and at least 20 apparently well-kept fields. (Figure *, site plan) The ground at the logging operation is bare and extensively marked by tire tracks, and the log boom appears to be extends well out into the river. A large lake surrounded by apparently natural vegetation and unplowed land is located near the center of the site. This area encompasses approx. 20-30 acres.

To the west of the site, logs are stacked extensively on the SDS Lumber Co. property. Two round AST-like structures, two circular pits, and oval-shaped field and a commercial building are adjacent to the site on the NW at what is apparently a sewage disposal facility. At the SDS Lumber Co property adj to the site on the NE, 8 or 9 commercial/indust bldgs, large trucks, a few acres of bare, tire-marked ground and an apparent full AST are located. Two large towers for power lines are situated within approx. 500 ft. to the SW of the site, and the lines appear to stretch across the R to Oregon.

see p. 2 attached for addl info

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP

Date 8/24/90

# Dames & Moore
## Property Transfer Assessment Reference Form

Project Name/Number _____

Property Location _____

Repository _____

Please check appropriate reference form

| | |
|---|---|
| Historical Map | ☐ |
| Aerial Photograph | ☐ |
| Periodical | ☐ |
| Agency | ☐ |
| Ownership | ☐ |
| Other _____ | ☐ |

AERIAL PHOTOS
p. 2

**Description of Source, Results**

Less than 1000 ft to the NW of site, a facility on Hwy 14 has a row of 5 large round structures, apparently AST's. Adjacent to this on the west, another facility (Shell Gas Station?) has 2 similar structures as well as two smaller ones. Beyond the RR tracks and Hwy 14 to the N of the site, ~~the are~~ several residences and scattered commercial developments extend into Boyer.

1989 – Adj to site on N and just E of apparent sewage disposal facility, ~~a mound of loose fill material, some stacks of logs, and two relatively small round structures have been installed.~~ an area of excavation is apparent with a mound of loose material to the W of it. Between these two, stacks of logs and a building holding two relatively small, round structures have been installed. On the SE corner of site, the rows of trees between fields have been thinned, a new dirt road crosses 4 of the fields, and areas of the fields appear to be bare and evenly packed down. No other signif changes are observed.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP

Date 8/24/90

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number TEUTCH

Property Location BINGEN, WA

Repository ~~SEATTLE~~

Please check appropriate reference form

- Historical Map ☑
- Aerial Photograph ☐
- Periodical ☐
- Agency ☐
- Ownership ☐
- Other ☐

**Description of Source, Results**

TOPO Analysis

No development is shown on the site

1957 - The site is approximately 50% covered by water from an inlet of the Columbia R. (more so than at present). The SE corner of the site has not been dredged through - there is access to the River shown only at the western edge of the site. The land on site appears to be relatively flat. A gravel pit is located directly (N) across Hwy 14 from the site, on the E edge of Bingen. A sewage disposal ficility is shown within 1000 feet to the NW of the site. Two towers (power lines?) are designated at the W edge of the site near the access pt. to the Columbia R.

1978 - A picnic area and a boat ramp are shown on site. The landform of the site has changed signif. since 1957. Access to the Columbia is now at the SE corner of site, ~~and~~, the middle of the site has been filled to provide more land (as presently appears), and access to the R at the W edge of site has apparently been narrowed to a small stream. One bldg is represented at the S edge of the site along the R (near present Mt Adams Logging) The towers are no longer shown.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP

Date 8/23/90

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number _____

Property Location _____

Repository _____

Please check appropriate reference form

| | |
|---|---|
| Historical Map | ☐ |
| Aerial Photograph | ☐ |
| Periodical | ☐ |
| Agency | ☐ |
| Ownership | ☐ |
| Other _____ | ☐ |

**Description of Source, Results** TOPOS p. 2

1978 – A road is now shown which travels a loop around the site, and a few roads access the boat ramp at the site's NE corner. To the W of the site, the river bank has changed shape to show a large peninsula where there were formerly small islands and inlets. Lights designating the channel ~~what~~ at the access to the R on site are shown. No other signif. changes observed.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name _____

Date _____

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: Public Library

Division: Historic Maps and Information

Location: White Salmon, Washington

| | |
|---|---|
| Historical Map | X |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | ___ |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



Sanborns, Metskers, and City Directories were unavailable for the subject property. Other historic information regarding the subject property was also not available at this repository.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggren

Date August 17, 1990

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number: TEUTCH Partners

Property Location: BENGEN, WA

Repository: SUZZALLO

Please check appropriate reference form

- Historical Map ☐
- Aerial Photograph ☐
- Periodical ☐
- Agency ☐
- Ownership ☐
- Other _____ ☐

**Description of Source, Results**

Kroll Maps do not cover site vicinity (at SUZZALLO)

Only one MEEKER at Suzzallo for Klickitat Co. (see tracing) 1934

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name: VEP

Date: 8/14/90

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number Tenth Partners

Property Location Bingen, WA

Repository SEATTLE

Please check appropriate reference form

- Historical Map ☑
- Aerial Photograph ☐
- Periodical ☐
- Agency ☐
- Ownership ☐
- Other _____ ☐

**Description of Source, Results**

SANBORN MAPS

Reel 2 Bickleton - Chehalis
- looking for Bingen - not covered

Reel 20 Wallula - Zillah
- White Salmon 1910 - site vicinity not covered

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP

Date 8/14/90

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number Tenth / 21172-001
Property Location Bingen, WA
Repository Seattle Public Lib.

Please check appropriate reference form
- Historical Map ☐
- Aerial Photograph ☐
- Periodical ☐
- Agency ☐
- Ownership ☐
- Other City Dir. ☑

**Description of Source, Results**

Polk Directory for Benton, Franklin, and Klickitat Counties

1911-12: Mt Adams Lumber Co. listed, no adress (City pop. of Bingen 211)
(branch) ← based in White Salmon

1913-14: Mt Adams Lumber Co (branch) listed, no adresses

1917-18: Mt Adams Lumber Co, bldg material
listed in Bingen, no adresses

No other references found.
No Cabs avail

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP
Date 8/21/90

# Dames & Moore
## Property Transfer Assessment
## Reference Form

Project Name/Number Tenth Partners

Property Location Bingen, WA

Repository DEM

Please check appropriate reference form

- Historical Map ☐
- Aerial Photograph ☐
- Periodical ☐
- Agency ☑
- Ownership ☐
- Other _____ ☐

**Description of Source, Results**

The following agency listings showed no facilities in the site vicinity:

1) NPL
2) CERCLIS
3) WDOE HW Investigation - Cleanup proj., affected media - contaminants
4) VS EPA Inventory Open Dumps

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.

**Individual Collecting Information:**

Name VEP

Date 8/14/90

| EPA-ID | NAME | ADDRESS | | | HWDMS | PCS | CDS | FATES | CERCLIS | DOCKET | CICIS | STATE | PADS | RCRA-J | TRIS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAD988473468 | MEADOW GLADE CONSOLID | 18717 NE 109TH | BATTLE GROUND | WA 98604 | | | | X | | | | | | | |
| WAD071801625 | NORTHWEST PIPELINE CO | 8907 NE 219TH ST | BATTLE GROUND | WA 98604 | | | | | | | | X | | | |
| WAD088590161 | PARKWAY NORTH HEALTH | 404 N PARKWAY | BATTLE GROUND | WA 98604 | X | | | | | | | | | | |
| WAD076428341 | PAUL ZIMMERLY ROCK #6 | 27140 NE 61ST AVE | BATTLE GROUND | WA 98604 | | | X | | | | | | | | |
| WAT540012465 | USNCOM BATTLEGROUND C | BEACH ST BETW 1ST & MAIN | BATTLE GROUND | WA 98604 | X | | | | | | | X | | | |
| WAD981765704 | WILLIAM HINDERLONG DI | 3409 MAIN | BATTLE GROUND | WA 98604 | | | | X | | | | | | | |
| WAD009054610 | BINGEN PLYWOOD | HWY 14, 1 BLK S OF- | BINGEN | WA 98605 | | | X | | | | | | | | |
| WAD009054537 | BROUGHTON LUMBER CO- | CY CTR | COOK | WA 98605 | | | X | | | | | | | | |
| WAD021409099 | GORGE ENERGY CO | WALNUT & STEUBEN | BINGEN | WA 98605 | | | X | | | | | | | | |
| WAD980725584 | RILEY BROTHERS CONCRE | HWY 14, CTR OF CY | BINGEN | WA 98605 | | | X | | | | | | | | |
| WAD009054651 | S D S LUMBER CO | PORT DOCKS one to west | BINGEN | WA 98605 | | | X | | | | | | | | |
| WA8143609412 | USDOI-FWS LITTLE WHIT | HWY 14, 13 MI E OF STEVENS | COOK | WA 98605 | | X | | | | | | | | | |
| WA9143690015 | USDOI-FWS WILLARD NFH | T3N R9E S11,12 | COOK | WA 98605 | | X | | | | | | X | | | |
| WAD988467726 | WDOT- BINGEN UST | HWY 14 MP65.88 S SIDE | BINGEN | WA 98605 | X | | | | | | | X | | | |
| WAD980983746 | BECKER,DAVID R | 17732 NE 232ND AVE | BRUSH PRAIRIE | WA 98606 | X | | | | | | | X | | | |
| WAD100080597 | HOCKINSON SD #98 | 15916 NE 182ND AVE | BRUSH PRAIRIE | WA 98606 | | | | X | | | | | | | |
| WAD988470134 | NORTHWEST PIPELINE CO | 14450 NE 172ND AVE | BRUSH PRAIRIE | WA 98606 | X | | | | | | | X | | | |
| WAD980723506 | TOFTDAHL DRUM SITE | 22033 NE 198TH ST | BRUSH PRAIRIE | WA 98606 | | | | | X | | | | | | |
| WAD027567155 | TRIPLEX DISTRIBUTING | 151ST ST | BRUSH PRAIRIE | WA 98606 | X | | | | | | | | | | |
| WAD980976443 | WDOE-RAS TOFTDAHL SIT | 22033 NE 189TH ST | BRUSH PRAIRIE | WA 98606 | | | | | | | | X | | | |

HWDMS : OSW (SOLID WASTE) PCS : OWEP (WATER ENF & PERMITS) CDS : OAR (AIR & RADIATION) FATES : OPTS (PEST & TOXIC SUBS)
CERCLIS : SUPERFUND DOCKET : OECM (ENF & COMPL MONITOR) FRDS : ODW (DRINKING WATER) CICIS : OTS (TOXIC SUBS INVEN)
STATE : STATE PROGRAM OFFICES PADS : PCB-WASTE HANDLERS RCRA-J : MEDICAL WASTE HNDL TRIS : OTS (TOXIC RELEASE INVE)

TOTAL RCRA NOTIFIERS- ZIP - SITE HISTORY

| EPA ID NUMBER | HANDLER NAME | LOCATION STREET | LOCATION CITY | ZIP CODE | GEN | TRAN | TSDF | B/B | NON REG |
|---|---|---|---|---|---|---|---|---|---|
| WAD039737416 | WDOC-WASHINGTON CORRECTIONS CENTER | DAYTON-AIRPORT RD | SHELTON | 98584 | 2 | | | | |
| WAD982654147 | METROCENTER YMCA MASON CO LANDFILL -* | MASON CO L'FILL/DAYTON AIRPORT | SHELTON | 98584 | 2 | | | | |
| WAD980977854 | TRANSFORMER SERVICE CO | PORT OF SHELTON SANDERSON FLD | SHELTON | 98584 | 1 | | | | |
| WAD980383376 | SIMPSON TIMBER CO- SHELTON SAWMILL | RAILROAD & FRONT | SHELTON | 98584 | 1 | | | | |
| WAD009244856 | CERTIFIED MANUFACTURING CO INC | SANDERSON FIELD | SHELTON | 98584 | 2 | | | | |
| WAD981768880 | SHELTON, CY OF- POLICE DEPT | SECOND & FRANKLIN | SHELTON | 98584 | 3 | | | | 7 |
| WAD988470886 | SIMPSON TIMBER CO- GRISDALE | T22N R7W S31 | SHELTON | 98584 | 1 | | | | 1 |
| WAD103362448 | SUNRISE FIBERGLASS ENGINEERING INC | W 171 SANDERSON WAY | SHELTON | 98584 | 3 | X | | | |
| WAD982654063 | FARM CREDIT BANK OF SPOKANE | 1190 PHILLIPS RD | SHELTON | 98584 | 3 | | | | 7 |
| WAD050173665 | ITT RAYONIER INC OLYMPIC RESEARCH DIV | 409 E HARVARD AVE | SHELTON | 98584 | 1 | | | | |
| WAT540011400 | USWCOM SHELTON CO | 522 RAILROAD AVE | SHELTON | 98584 | 2 | | | | 7 |
| WAT540011103 | USWCOM KAMILCHE TD3 BLDG | 9 MILES S OF SHELTON | SHELTON | 98584 | 1 | | | | 7 |
| WAD981771728 | WDOE-SRO OCEAN SHORES DRUMS JAN. 1988 | COHO & POINT BROWN | OCEAN SHORES | 98586 | 2 | | | | 9 |
| WAD981773724 | WDOE-SRO OCEAN SHORES JAPAN DRUM | COHO & POINT BROWN | OCEAN SHORES | 98586 | 3 | | | | |
| WAT540012275 | USWCOM SOUTH BEND CO | ALDER & 1ST ST | SOUTH BEND | 98586 | 2 | | | | 7 |
| WAD981774631 | WDOE-SRO TENINO DRUMS/DNR | VANTINE RD, 0.9 MI NORTH ON | TENINO | 98589 | 1 | | | | |
| WAT540011475 | USWCOM TENINO TD2 RADIO | 1.5 MILE SE OF TENINO | TENINO | 98589 | 1 | | | | 7 |
| WAD988469185 | INTERNATIONAL PAPER CO- WESTERN REGI* | 17305 CRANE ST SE | TENINO | 98589 | 2 | | | | |
| WAD980987366 | WDOE-SRO TOLEDO-SALMON CR RD DRUM | 380 TOLEDO-SALMON CR RD | TOLEDO | 98591 | 1 | | | | |
| WAD988468468 | WDOE-SRO ALDERBROOK DRUG LAB | COUNTRY CLUB DR E UNIT 38 | UNION | 98592 | 1 | | | | 1 |
| WAT540012291 | USWCOM VADER CO | A ST & 6TH | VADER | 98593 | 2 | | | | 7 |
| WAT540012440 | USWCOM OLEQUA RPTR BLDG | NE1/4 SE1/4 S5 T10N R2W | VADER | 98593 | 1 | | | | 7 |
| WAT540011285 | USWCOM OCOSTA CO | 4MI E OF WESTPORT ON ST HWY 13 | OCOSTA | 98595 | 2 | | | | 7 |
| WA5690308932 | USDOT-CG GRAYS HARBOR STA | DRYFUS ST, FT OF | WESTPORT | 98595 | 1 | | | | |
| WAD000831792 | CHEVRON USA INC WESTPORT BULK PLANT | FRONT ST | WESTPORT | 98595 | 2 | | | | 9 |
| WAD981771942 | WDOE-SRO WESTPORT BEACH DRUM | S GRAYS HARBOR JET, SOUTH OF | WESTPORT | 98595 | 3 | | | | 1 |
| WAD982651531 | WDOE-SRO WESTPORT DRUM | S GRAYS HARBOR JET, SOUTH OF | WESTPORT | 98595 | 3 | | | | 1 |
| WAD981773088 | WDOE-SRO WESTPORT DRUM (MAY'88) | USCG STATION | WESTPORT | 98595 | 3 | | | | 1 |
| WAD982656530 | WDOE-SRO WESTPORT DRUG LAB | WESTPORT POLICE DEPT | WESTPORT | 98595 | 3 | | | | |
| WAD144245727 | WESTPORT MARINE TRUCK & IND | 115 N MONTESANO | WESTPORT | 98595 | 1 | | | | |
| WAD041337684 | WESTPORT SHIPYARD INC | 1807 NYHUS ST | WESTPORT | 98595 | 3 | | | | |
| WAD980639868 | UNION OIL CO OF CA- WINLOCK | CAMPBELL AVE & W 2ND | WINLOCK | 98596 | 1 | | | | 7 |
| WAT540012309 | USWCOM WINLOCK CO | 1ST ST & SHANNON | WINLOCK | 98596 | 2 | | | | 7 |
| WAD009257650 | SHAKERTOWN CORP | 1200 KERRON ST | WINLOCK | 98596 | 1 | | | | 1 |
| WAD130683725 | WOOD SPECIALTY PRODUCTS CO- WINLOCK | 801 KERRON | WINLOCK | 98596 | 2 | | | | 9 |
| WAD167367002 | GORDER'S AUTO REBUILD | 103 1ST ST N | YELM | 98597 | 2 | | | | |
| WAD100572205 | YELM SCHOOL DIST #2- HIGH SCHOOL | 14901 YELM HWY SE | YELM | 98597 | 3 | | | | |
| WAD167367069 | FRONTIER VILLAGE PROF DRYCLEANERS INC | 404 1ST ST SE & MOSMAN | YELM | 98597 | 3 | | | | |
| WAD980978803 | HYTEC INC- YELM | 801 NP RD | YELM | 98597 | 1 | | | | |
| WAD988468534 | WDOE-SRO VROOMAN DRUG BUST | T5N R3E S1 | AMBOY | 98601 | 3 | | | | 1 |
| WAD071801625 | NORTHWEST PIPELINE CORP- BATTLEGROUND | BATTLEGROUND DISTRICT | BATTLE GROUND | 98604 | 1 | | | | |
| WAT540012465 | USWCOM BATTLEGROUND CO | BEACH ST BETW 1ST & MAIN | BATTLE GROUND | 98604 | 2 | | | | |
| WAD982654097 | COLUMBIA AUTO REBUILD | 20205 NE 190TH AVE | BATTLE GROUND | 98604 | 3 | | | | |
| WAD982651820 | DOLLARS CORNER TRACTOR & EQUIPMENT | 22105 NE 72ND AVE | BATTLE GROUND | 98604 | 1 | | | | 9 |
| WAD981769433 | WDOE-SRO BATTLEGROUND DOLLARS CORNER* | 25212 NE 77TH AVE | BATTLE GROUND | 98604 | 1 | | | | |
| WAD017405002 | CROWN COLLISION CENTER | 8008 NE 219TH ST | BATTLE GROUND | 98604 | 3 | | | | |
| WAD982821035 | WDOE-SRO MILLER DRUG LAB | 8013 NE 239TH ST | BATTLE GROUND | 98604 | 2 | | | | 1 |
| WAD988467726 | WDOT-BINGEN UST | S SIDE SR 14 MP 65.88 | BINGEN | 98605 | 2 | | | | 1 |
| WAD981763840 | WDOE-SRO SKAMANIA CO DRUG LAB | 421 PARK ACCESS RD - NW LAKE | COOK | 98605 | 1 | | | | 7 |
| WA9143690015 | USDOI-FWS WILLARD NFH | T3N R9E SEC 11 & 12 | COOK (RR NAME * | 98605 | 3 | X | | | 7 |

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: Fire Marshal's Office

Division: Hazardous Spills

Location: Bingen, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



The fire protection program in Bingen, Washington is all volunteer. There was no fire marshal per say to consult as to the occurrence of hazardous spills on the subject property. Dan Spatz, a local newspaper editor for the Bingen area stated that to the best of his knowledge there have been no hazardous materials spills at the subject property.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggust

Date August 17, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: Klickitat County

Division: Planning Department

Location: Goldendale, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



A telephone conversation with the County Planning Department revealed that the zoning for the subject property is Planned District. A Planned District zone in Klickitat County is defined as all development must be environmentally desirable with preservation and conservation being constant factors.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggvist

Date August 21, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: Klickitat County

Division: Health Department

Location: Goldendale, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



A telephone inquiry was made to the County Health Department about water and sewer services to the subject property. This repository had no information in regards to the inquiry.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggren

Date August 21, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: City Hall

Repository: Public Works

Location: Bingen, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



No historic or current information was available at this repository for the subject property.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggvist

Date August 17, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: City Hall

Division: Public Works

Location: Bingen, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



A telephone inquiry was made about water and sewer services at the subject property. This repository had no information with regards to the inquiry.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Bergquist

Date August 21, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: Klickitat County

Division: Public Utility District #1

Location: Goldendale, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



A telephone inquiry was made to the Klickitat County Public Utility District #1 about water and sewer services to the subject property. This repository had no information in regards to the inquiry.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Berggren

Date August 21, 1990

Dames & Moore
Property Transfer Assessment
Reference Form

Project Name/Number: Port of Klickitat

Property Location: Bingen, Washington

Repository: PUD #1 of Klickitat County

Division: Transformers

Location: White Salmon, Washington

| | |
|---|---|
| Historical Map | ___ |
| Aerial Photograph | ___ |
| Directory | ___ |
| Agency | X |
| Ownership | ___ |
| Other: | ___ |

Description of Source, Results



Al Sanders of the Public Utility District #1 of Klickitat County was contacted regarding the three pad-mounted and four pole-mounted transformers found on site. Mr. Sanders stated that all of these transformers are non-PCB containing.

Attach copies if appropriate. Identify each copy with property name, name of record, date, and page or other reference number.
Individual Collecting Information:

Name Robert W Bergquist

Date August 17, 1990

ENGINEERING REPORTS BUILDING DESIGN LAND SURVEYS

CONSULTING
Engineers TENNESON ENGINEERING CORPORATION

PHONE (503) 296-9177
409 LINCOLN STREET
THE DALLES, ORE. 97058

# M E M O

DATE: November 7, 1989

TO: Brian Shortt, Port Manager
Klickitat County Port District

FROM: Donald J. Branton, Port Engineer

REFERENCE: Bingen East Point Property Subsurface Conditions

As directed, we have researched the available information on the Bingen East Point Development Property relative to available information on the soil types and subsurface conditions. The following resources were utilized.

1. U. S. Army Corps of Engineers Bonneville Land maps showing the property as it existed in 1933, prior to raising of the river by the closure of the Bonneville Dam.

2. Information in the files of Tenneson Engineering, starting in 1957 when the firm assumed the duties of the Port's Engineer, and during the entire acquisition and development of this property.

3. Subsurface soils and subsurface investigations for the Port of Klickitat report prepared by CH2M/Hill for the Corps of Engineers under the Easement Acquisition program for the Bonneville Dam Modification for Peaking Power.

The following information was gained:

Bonneville Lands Maps indicate the land above the river level was basically incorporated in an asparagus farm. Through the center of the property where Lake Bingen is currently located was an old slough which during periods of high water was subject to flow through of the Columbia River. Elevations indicate the water level of the slough is August 10, 1934, in the character of 64.4 feet. Most of the farm lands range between 75 and 80 feet elevation. The existing rock outcrop, where the Loggers Association currently has their crane mounted, extended up to approximate elevation 95.

The Port acquired this property by negotiation in the period between 1957 and 1961. Upon its acquisition, the Port took immediate steps for

improvement of the property. A perimeter dike plan was devised and built in stages, starting with Dike A along the westerly property line initially being built to elevation 72.0 feet initially, then to 85.0 feet and finally finsihed at an elevation of 91.0 feet. Simultaneously with the last two stages of Dike A construction, the Corps of Engineers entered into an agreement with the Port to provide a small boat marina by dredging out the prescribed area as now used for the boat marina. The dredge spoils were pumped onto the adjacent lands and contained by earthen dikes. After completion of the initial stage of the Corps of Engineers work, the Port entered into two additional dredging contracts, in 1962 and 1963, excavating the entire boat basin area to approximate elevation 62 and, here again, with all the dredge spoils being pumped onto the adjacent land. The initial pumping area consisted of primarily what is now developed for the windsurfing area as the Point Proper, with secondary spoil disposal located near the southerly end of Dike B where the road diverges to run on around the dike easterly and on the westerly branch runs down to the Loggers Association land. The dredge material consisted of fine silty sands and clays encountered in the bottom of the marina. Soil particles of this material were very fine and with the pumped flow from the dredge carried considerable distance out into the cultivated fields and around the perimeter of what is now referred to as Lake Bingen.

Additional contracts were negotiated with contractors and later with Dickey Farms, Inc. to clear off the lands enclosed with the perimeter dikes. The arrangement with Dickey Farms provided for clearing and grading the land and subsequent use as truck gardening area. In the process of this work, the dredge spoils were fairly uniformly distributed throughout the area with deeper deposits towards the easterly end of the property and lighter deposits out around the perimeter of the lake, especially on the southerly side.

With the completion of the dikes, it developed that the incoming rainfall water and later operations of Dickey's irrigation created a collection of water in the ponding area which was the old slough. To control this, a float operated pump has been mounted near the center of the west side of Dike A which controls the pool elevation in the lake at approximate elevation 74.0 feet. The drainage culvert that was originally provided through Dike A has been locked in the shut condition and sealed so the river does not drain back into the lake.

The net result of the dredging and subsequent farming operations provided anywhere from 1 to 5 feet of fill over the existing ground. The deeper depths are predominately out on the point property east of the Loggers Association lands and the lesser depths taper to the west part of the property as the settlement from the dredge hydraulic workings.

The lake was heavily silted in as the lowest point in the land mass. It is believed the present depth of the lake bottom is in the area of 72 feet elevation which, with the controlled water depth, means the majority of the lake is less than 2 feet deep.

Examination of the test boring logs taken by CH2M/Hill during their study on the potential flooding hazards to this site indicate varying soil conditions. On the west half of the site, bedrock was encountered just east of the dike and just north of the pumping station. From that point south and easterly around the dike on the outside of the dike towards the river, rock is visible at the corner but inside and landward of the dike the test borings were driven to approximate elevation 55 feet encountering gray silty soils, fairly soft. At the Loggers Association land, there is obvious rock at the surface. At 100 feet northerly from the riverbank, rock was encountered at elevation 75.0 feet. Bedrock shows elevations ranging from 58 to 61 feet in all the test borings from there on around the entire face of Dike B and back into the marina area. Based on these test holes, it appears that bedrock conditions would be encountered in the area of 60 to 70 foot elevation in the portion of the property lying east of the west line of the Loggers Association land. There is also evidence of rock at the northwest corners of the property and near the center on the west side, but the southwest appears to have sand and silty clay deposits of at least 15 foot depth over them.

In the areas on the east half of the property where the dredged fill has been placed, the material at the surface will support bearing loads estimated in the character of 1,500 pounds per square foot without problems. Greater loads would require excavation or support extended to the rock surfaces, which at the depth stated is well within the reasonable depths that would be expected for construction for structures of substantial size and mass. On the west side, especially near the southwest corner, additional test logs will be required prior to undertaking of any substantial development requiring greater foundation loads than can be expected on the existing surface material.

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CONSULTING
Engineers TENNESON ENGINEERING CORPORATION

PHONE (503) 296-9177
409 LINCOLN STREET
THE DALLES, ORE. 97058

July 10, 1989

U. S. Army Corps of Engineers
Portland District
P.O. Box 2946
Portland, Oregon 97208-2941

Attention: Judy Linton, Environmental Planning

Gentlemen:

Enclosed for your review and use in preparation of the Corps of Engineers permit on the Port's site approval for Nav/Lock spoils is the cultural resource study done for this site. The work was performed by Dr. Eric Cole of the University of Oregon. He performed a similar review on this same property as part of the Environmental Impact Study done by the Stanford Research Institute for the Corps of Engineers in connection with the proposed Bonneville Dam Peaking modifications in 1971.

A copy of this current report has been submitted directly to the Washington State Historical Preservation office.

If you have any questions on this submission or need any further data, do not hesitate to contact our office immediately.

Very truly yours,

TENNESON ENGINEERING CORPORATION

Donald J. Branton, President
Engineer for Klickitat County Port

DJB:lg
Enclosure

# REPORT OF AN ARCHAEOLOGICAL SURVEY OF A PROPOSED DISPOSAL SITE FOR EXCAVATION SPOILS AT BINGEN, KLICKITAT COUNTY, WASHINGTON

Prepared for

Klickitat County Port District

by

David L. Cole

Eugene, Oregon

June 23, 1989

## ABSTRACT

It is proposed that a portion of 103.3 acres along the Bingen, Washington riverfront be used as a disposal site for excavation spoils. During the twentieth century, the site has been altered by farming, dams (innundation) and riverfront development (dikes, boat marina, park and industry).

The area is within the Columbia River Gorge, which has been severely impacted by floods that have shaped the bedrock and periodically removed the sediments. The earliest Columbia valley deposits are either partly metamorphosed and capped by hardpan, upon the floodplain, or are stabilized dunes at higher elevations. Subsequent deposits, dating from 6,000 to 2,700 years ago, are quite rare and are not apt to be found in a setting such as the project area. Sediments from 2,700 to 500 years ago are aeolian, alluvial and colluvial, depending upon the location. After 500± years ago, deep deposits of silts, sand an loess have accumulated.

It is hypothesized that, at the end of the "ice age", the river at Bingen was several hundred feet lower, because of the lower sea level. By 2,700 years ago the river had risen to near the present sea level; too low to deposit silt during freshet, but high enough to scour the bedrock of deposits during excessive high waters.

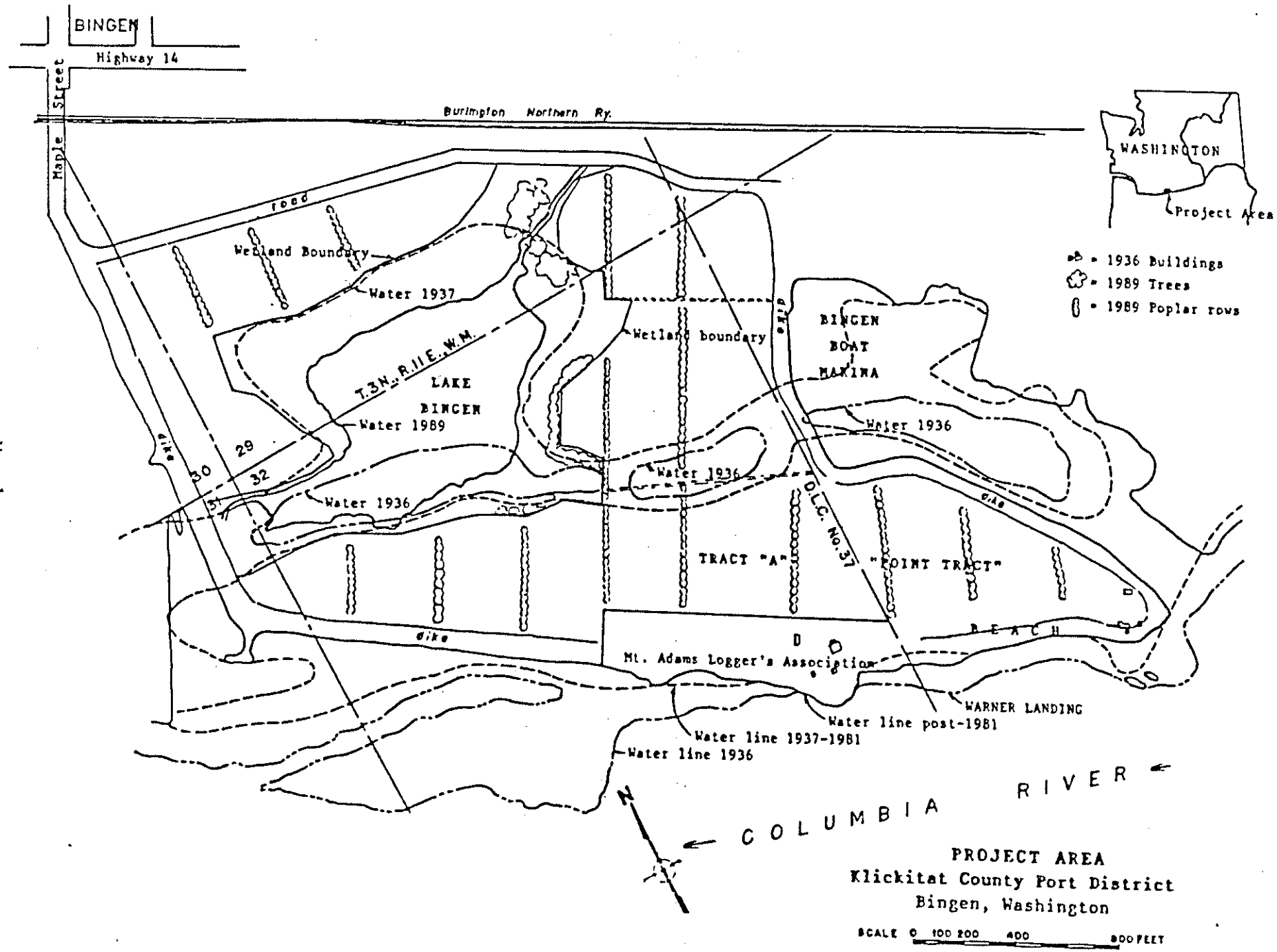
Several hundred years ago the Cascade landslide raised the water level to 55± feet above sea level. This permitted formation of the beach that existed in early historic times.

Lewis and Clark recorded a native village of 16 (1805) and 20 (1806) houses along a six mile section, where the project is located. The natives were said to be related linguistically to the Wishram, the easternmost Chinookan tribe.

Archaeological excavations have shown that Columbia River sites in favorable locations, were occupied for long periods, hence it might be assumed that evidence of occupation would be found in those areas where Lewis and Clark saw houses. Since no evidence of archaeological sites was found on this or on previous surveys in the area, it is likely that this is not where the houses were located.

No further work is recommended.

CONTENTS


BINGEN
Highway 14
Maple Street
Burlington Northern Ry.
road
Wetland Boundary
Water 1937
T.3N., R.11E.,W.M.
LAKE
BINGEN
Water 1989
dike
30
29
32
31
Water 1936
Wetland boundary
BINGEN
BOAT
MARINA
Water 1936
Water 1936
O.L.C. No. 31
dike
TRACT "A"
"POINT TRACT"
dike
BEACH
Mt. Adams Logger's Association
WARNER LANDING
Water line post-1981
Water line 1937-1981
Water line 1936
N
COLUMBIA RIVER
WASHINGTON
Project Area
= 1936 Buildings
= 1989 Trees
= 1989 Poplar rows
PROJECT AREA
Klickitat County Port District
Bingen, Washington
SCALE 0 100 200 400 800 FEET

Map 1

# REPORT OF AN ARCHAEOLOGICAL SURVEY OF A PROPOSED DISPOSAL SITE FOR EXCAVATION SPOILS AT BINGEN, KLICKITAT COUNTY, WASHINGTON

by
David L. Cole

## INTRODUCTION

On June 12, 1989, I conducted an archaeological survey of an area at Bingen, Washington, where the Klickitat County Port District proposes to fill the upland portion of 103.3 acres of riverfront property, in order to raise the ground level to an elevation above the projected 100 year flood level of the Columbia River. It is proposed that the land then would be used for future development. To accomplish this the Port District has proposed the area as a disposal site for the excavation spoils from the new navigation lock at Bonneville Dam and possibly excavation spoils from highway construction.

They plan to fill part of an area, about 3,500 feet long, by 1,800 feet wide within an existing dike, to an elevation of 90± feet above mean sea level (M.S.L.). Most of the land now protected by the dike is lower than the present Bonneville Dam Pool. Within the dike there is the remnant of a high water slough that will be preserved as wetlands (see Map 1).

Prior to the field study, Donald J. Branton, Port Engineer, Klickitat County Port District, discussed the project with me and provided project maps and soil logs, which will be cited in this report.

Archaeological, geological, and historical literature related to the project area was studied over the forty years preceeding the survey. Literature selected for citation is primarily summary narratives rather than technical reports. Much of the archaeological information is from personal research, both published and unpublished.

The primary objective of the survey was to discover sites of archaeological importance; those places that, through study, would provide data related to past human activity, both historical and prehistorical. Also, since the myriad of laws designed to protect archaeological and historical sites have become closely related with the protection or preservation of such things as endangered species and scientific data, it is incumbent upon the field worker to be alert to paleontological, geological and biological phenomena so that persons concerned with those disciplines might be informed.

## THE SETTING

The project site is along the riverfront of Bingen, Washington, located in the SW 1/4 sec. 29; SE 1/4 sec. 30; NE 1/4 sec. 31; and NW 1/4 sec. 32, T.3N., R.11E. Will. Mer., within the Columbia River Gorge, approximately thirteen miles downstream from the eastern end of the 40-plus mile long canyon.

In 1934 and 1935, this area was surveyed by the U.S. Engineers, 2nd Portland District, Oregon, as part of the Bonneville Dam Project. Their

maps, R. 0-16-2/1 W.K. and R. 0-16-3/1 W.K. approved Oct. 30, 1936, show the condition of the project area before the Bonneville Pool was formed. On Sept. 3, 1935, the river level was about 55 feet M.S.L. About 800 to 1,000 feet inland (north) from the shore line was a chain of oblong pools designated "Lake or Slough", that would be a continuous slough, connected to the river on the downstream end, whenever the river level reached an elevation of 68 to 70 feet (see Map 1). [Dikes had been constructed about 2,500 feet upstream to close the channel on the upstream end.] It should be noted that high waters on the Columbia River usually occur from mid-May to mid-July and low water usually occurs in October through December. Most of the land above 70 feet was under cultivation, planted into asparagus, "truck". (vegetables), alfalfa, and hay. Of historical importance, the maps show that all of the farm buildings were on high ground along the river front, in places now used by the Mt. Adams Loggers Association and as a waterfront park. None of the buildings remain and neither place is included within the proposed project. Warner Landing, an historic ferry and boat landing was in an area now innundated by the Bonneville Pool (see Map 1). Wood box flumes, wooden fences and shacks are indicated throughout the gardens. None are still in existence, nor is there physical evidence that they did exist.

After Bonneville Dam was completed in 1937, the river level was raised to 72 feet M.S.L. As a result, the shore line retreated from 50 to 600 feet to the north and the slough filled and became permanently connected to the Columbia River, creating a spit-like landform about 3/4 mile long by 600 feet wide connected to the mainland on the eastern end. (cf. U.S. D.O.I. Geological Survey, White Salmon Quadrangle, 15 minute series, 1957 and Map 1 this report).

Soil logs recorded by $CH_2M$ Hill between 1970 and 1974 on the periphery of the project area indicate that the sediments on the "spit" rest on a rock spur or island that is 50 to 90± feet in elevation M.S.L. Higher bedrock outcrops can be seen in the river or at the edge of the dike.

Between 1962 and 1967 the Port of Klickitat made several changes in and adjacent to the project area. A boat moorage was constructed by opening a channel through the eastern end of the "spit". Dikes around the moorage were constructed of silts and faced with rip rap. A similar dike was constructed along the river front and the western end (across the slough) of the project area to an elevation of 91 feet M.S.L. and pumps were installed for drainage. Dredging spoils from the channel to the boat moorage (a U.S. Corps of Engineers project) were deposited on the eastern end of the project area bringing a 15.5 acre section, called the "Point Tract", up to an elevation of 86 to 89 feet M.S.L. (see Map 1).

In 1981, with modification of the Bonneville Dam, the river level was raised to a normal maximum height of 83.90 feet M.S.L. Because of the dike and the pumps the land within the dikes was not innundated. The only place within the dikes that is higher than elevation 83.90 is the "Point Tract" mentioned above.

Some of the dredging spoils placed upon the "Point Tract", at the northern end, were excavated in 1987 and placed along the river front of that tract to make a beach for windsurfers. Subsequently, a contractor hauling rock for rip rap for the levee around the moorage, dumped boulders, that were too large to be used as rip rap, into the pit from which the beach sands were excavated, thus creating an anomaly for field workers to ponder (D.J. Branton, personal communication).

At the time of the survey, the project area was sectioned into eighteen plots separated by rows of Lombardy poplar and/or dirt roads.

They are not equal in size. Four of these sections were the "Point Tract", (see Map 1), much of which had been modified with lawns, parking areas, and roads to accommodate recreationalists.

Immediately to the west of the "Point Tract" is one section (Tract A, Map 1), being used as a staging area for logs by the Mt. Adams Logging Association. The staging area is within the project area and is a much abused piece of ground, resulting from moving machinery and logs over soft ground, filling with bar run gravel, redistributing accumulations of bark, rock and soil with machinery, etc.

Eleven plots were planted in peppers, eggplant, cucumbers, beans, and corn. Two plots were freshly tilled. The agricultural land appears to be a similar light brown sandy silt throughout. The land slopes gradually toward the lower ground where the slough once was. A mound that is about five feet high at the apex is situated on the north side of the slough location, at the east end of the project. Although this mound could have been a dune once, it has more the appearance of having been formed by water. This mound is seen on the 1936 maps.

The gardens are irrigated by use of a graded border system with distribution through pipes. The irrigation has caused minor erosion, particularly on the mound, where a few erosion ditches are as much as fifteen inches deep. The garden plots surround a wetland area of nondescript shape that is about 1,400 feet long and 1,000 feet wide (see Map 1). A shallow pond (Lake Bingen) is surrounded by a dense growth of tall grasses (that include tule, sedges and reeds), teasel, milkweed, bull thistle, Canada thistle, and willow, among others. At the eastern end of the pond there are closely spaced trees, 30 to 40 feet high, that included black walnut, bitter cherry, black cottonwood and willow. Since seeds of these trees often are distributed by water and they are along the beach line away from the prevailing winds, it is likely that these trees were not deliberately planted, as were the poplar rows.

Bird life is abundant around the pond. Noted, just in passing, were gulls, Western Tern, Wilson's Snipe, Redwing Blackbird, Brewer's Blackbird, Blue Grouse, California Quail, American Crow, Ring-necked Pheasant, Fox Sparrow, and Barn and other Swallows.

Although this particular habitat would have taken its present form after 1937, it is likely that it is not unlike the habitat and wildlife around the isolated ponds of aboriginal times, except for the black walnut and Ring-necked Pheasant.

## GEOLOGY AND PHYSIOGRAPHIC HISTORY

How the Bingen area, and more specifically the project area, came to be as it is today is discussed here:

During the Miocene epoch, through volcanic activity, much of Oregon and Washington was "converted into a vast lava plateau by floods of Columbia River basalt" (Williams, pp. 26-30). The weight of the basalts, which have a maximum thickness of 4,000 feet in the Columbia River Gorge, caused buckling that affected drainage and the erosion patterns. Subsequently, during the Pliocene epoch, there was the growth of a chain of large shield volcanos which formed the crest of the High Cascades (separate from the earlier Western Cascades), by spilling lava over already tilted basalts and increasing the height (ibid. pp. 34-36). At the end of the Miocene, the Cascades were not high enough to affect the weather, and Eastern Washington and Oregon had a wet coastal climate. As the elevation of the Cascades

increased, they prevented drainage to the sea. But as the mountains rose, water velocity increased, speeding the rate of erosion causing deeply dissected canyons (ibid. p. 34). It is likely that the Columbia River was in its formative stages at this time. By the end of the Pliocene the Cascades were high enough to cause a barrier to the maritime climate and Eastern Washington and Oregon became drier (ibid. pp. 40-41).

During the last two million years, many of the snow capped volcanic peaks that are now conspicuous in the Cascades, were formed. Also during this period, the "ice age", a succession of glacial advances and retreats affected the headwaters of the Columbia River near the United States-Canadian border. It has been suggested that during the ice age many catastrophic floods occured that severely eroded the Columbia River Valley, however, evidence for such flooding was eliminated by floods of major proportions, called the "Spokane flood" or "Missoula flood", 12,800 to 15,000 years ago, at the end of the last glacial advance (Allen, Burns, Sargent, p. 80).

According to Allen, Burns, and Sargent:

> It happened this way. The lobe of the Cordilleran ice sheet that occupied the Purcell Trench in British Columbia advanced southward down the trench to and beyond Pend Oreille Lake. Each time it advanced up the Clark Fork several miles it formed an ice dam as much as 2500 feet high across the valley, impounding the waters behind the dam to form a great lake up to 2000 feet deep, covering 3000 square miles, and extending for 200 miles to the east in the intermontane valleys within the Rocky Mountains.
>
> Each of this series of pre-historic lakes, now know collectively as Lake Missoula, contained over 500 cubic miles of water, one-half the volume of Lake Michigan. When the rising waters became deep enough to float the ice, they lifted up the dam and the ice was swept away. Within a few hours or days, up to 380 cubic miles of ice-choked water surged out at an estimated rate of 9.5 cubic miles an hour and swept southwesterly at speeds of from 30 to 50 miles an hour across the Columbia Plateau.
>
> Each time Lake Missoula emptied, the ice lobe, continuing its southerly progression, would build a new dam and form a new lake, resulting in a new flood. This happened on an average of every 55 years or so for 2000 years! (p. 104)

When the flood waters reached Ortley Gap, 13 miles east of Bingen, they were backed up to an elevation of 1,000 feet M.S.L. (ibid. p. 156). At Bingen, the flood level had dropped to about 925 feet and to 700 feet when it reached Crown Point. The flood moved through the gorge at an estimated speed of 35 miles per hour. "As the torrents rushed through the canyon they tore away the lower slopes changes the cross-sectional profile across the valley from a 'V-shape' to a U-shape'" (ibid. p. 159). This created the steep cliffs on the sides of the gorge, and left the bottom barren of soils and vegetation. Also, by clearing away talus and undermining cliffs it created the condition for many of the landslides that have occured throughout the gorge (ibid. pp. 159, 160).

What happened to change the appearance of the landscape during the 12,000 years since the last of the catastrophic floods is in evidence from

archaeological sites that have been excavated along the middle Columbia River upstream from Bonneville Dam:

Sands that were deposited on the river banks during high water and redeposited by the winds during low water are the earliest sediments, other than an occasional pocket of gravel. These sands represent the period from about 11,000 to 9,600 before present (B.P.). Dunes, perhaps as old as 12,000 to 14,000 B.P., occur at elevations 120 feet or more above the mean flow of the river.

From about 9,600 to 7,600 B.P. silts were deposited over the river-banks and redistributed as loess. Where such deposits occur on the flood plain there are usually indications of soil metamorphosis in varous forms.

From about 7,600 to after 6,000 B.P. the climate was dry and there is little indication of excessive seasonal flooding. Aeolian deposition was considerable along the flood plain. The sands of this duning period often contain a band of white volcanic ash deposited after the eruption of Mt. Mazama 7,000 years ago.

Sometime after 6,000 B.P. there was either a succession of major floods or one flood around 800-700 B.C. This flooding scoured most of the sediments out of the valley that were within 70 to 80 feet above the river. The exceptions were in places where hardpans had formed in pre-6,000 year B.P. deposits before the flooding occured. In such places deposits below the hardpans were preserved.

From 2,700 to 2,200 B.P. silts and loess began to accumulate upon bedrock or upon exposed hardpans. This deposition continued until around A.D. 1500 with an occasional infusion of colluvium, especially in those areas where side canyons open onto the Columbia River Valley. The more common cause of this slope wash deposition on the Columbia Plateau is prolonged winter freezing with heavy snows, followed by rapid thawing caused by warm "Chinook" winds.

A few hundred years ago a landslide in the vicinity of Cascade Locks, Oregon blocked the Columbia River, causing a pool to form, which after rising for several years, eventually reached an elevation of 277 feet M.S.L. before the rock and earth dam began to erode away. Finally, the landslide stabilized leaving the "Cascades" from which the mountains take their name. According to Allen et. al. this event occurred around 1260 A.D., referring to Lawrence, 1958 (p. 165). A radiocarbon date on trees killed in the landslide, places that event after A.D. 1500 (Crane and Griffin, 1959). The latter date seems to be more compatible with archaeological evidence, although a 250 year adjustment would not greatly alter the archaeological record. The most apparent evidence of this flood is occasional bands of thin lacustrine sediments usually in dune sands at higher elevations and near bedrock on the beaches.

Beginning shortly before the Cascade landslide and continuing to the present, there has been another period of intermittent aeolian and alluvial deposition along the riverbanks and duning at higher elevation. The sediments of this period are usually unconsolidated and often are quite deep.

It is reasonable to assume that the bedrock upon which the Bingen sediments rest was established as the result of the Spokane floods. The irregular character of the bedrock surface as seen from soil tests and basalt outcrops suggest that, stripped of sediments, it would have the appearance of some of the palisades that occur on the sides of the gorge. Just when the existing sediments began to accumulate would depend in large part upon how high the bedrock was above the river.

At the end of the last glacial advance, when the catastrophic floods occurred, sea level was around 300 feet lower than present. Below Fivemile

Rapids, at the site of The Dalles Dam, 20 river miles upstream, the bottom of the river channel for several miles is below sea level and in places it is more than 230 feet below sea level. Sargent has suggested that this "unique channel apparently originated as a series of plunge pools in the wake of a retreating waterfall" (p. 26). With such information an easy hypothesis would be that until the sea level rose, the present site of Bingen was as much as 300 feet above the river where overbank deposition would be unlikely.

Archaeological evidence suggests that salmon did not migrate above the Sargent "waterfall" until after 9,700 B.P. (Cressman, et. al. 1960, p. 69). It is likely that this evidence, which probably indicates the presence of salmon runs rather than the use of salmon for food, represents the period around 8,000 B.P., at which time sea level had nearly reached its present rate of increase.

Today the river level at the toe of Bonneville Dam is affected by ocean tides. Prior to the Cascade landslide, tidal waters probably extended to The Dalles. If this was so, then the bedrock under the sediments of the project area would have been 40 to 50 feet above the river and still within the zone that was scoured by a flood or floods between 6,000 and 2,700 years ago.

During the period between 2,700 years ago and the time of the Cascade landslide the only part of the project area that would have been subjected to overbank sedimentation would be those areas where the bedrock was less than 45 feet above the river, which is probably the area of the slough. Only floods of the magnitude of a 100 year flood would have reached the high elevations and it is more likely that they would have scoured this particular area rather than deposited.

After the Cascade landslide, the higher elevation of the river would have permitted overbank deposition during normal high water. It seems unlikely that any alluvial sediments above 50 feet M.S.L. would have accumulated before that time.

## ETHNOLOGICAL AND HISTORICAL ACCOUNTS

On October 29, 1805, Lewis and Clark were in the Bingen area. They mention that "14 huts of Indians" were scattered along the bank within the six miles upstream from the White Salmon River (Coues Vol. II p. 677). Also they mention canoes in the White Salmon River, causing them to name the river "Canoe Creek" (ibid. Vol. II p. 677).

On April 14, 1806, on their return trip, the following entry was made:

> "At one o'clock we halted for dinner at a large village situated in a narrow bottom, just above the entrance of Canoe Creek. The houses are detached from each other, so as to occupy an extent of several miles, though only 20 in number. Those which are inhabited are on the surface of the earth, and built in the same shape as those near the rapids; but there were others at present evacuated, which are completely underground. They are sunk about eight feet deep, covered with strong timbers and several feet of earth in a conical form. On descending by means of a ladder through a hole at the top, which answers the double purpose of a door and an chimney, we found that the house consisted of a single room, nearly circular and about 16 feet in diameter." (Coues Vol. III, p. 948).

The houses "near the rapids" were noted on April 12, 1806, by the Cascades. "These houses are uncommonly large; one of them measured 160 by 40 feet; the frames are constructed in the usual manner, except that it is double, so as to appear like one house within another. The floors are on a level with the ground; . . ." (ibid. p. 945). They also mention a smaller houses made of boards or bark that "have more the appearance of being temporary" (ibid. p. 946).

The Natives of this area have been called the "White Salmon people" who apparently spoke the Wishram dialect of the Chinookan language (Spier, pp. 20,21). Wishram territory extends eastward to the head of Fivemile Rapids, five miles upstream from the city of The Dalles, Oregon.

## PREVIOUS ARCHAEOLOGICAL WORK

The first archaeological work of any significance along the Columbia River was conducted by the University of California between 1924 and 1926 and included sites in Wishram territory (Strong, Schenck and Stewart, 1930). Since then, archaeological literature has reported over 100 sites that have been excavated along the Columbia River within 144 river miles upstream from Bonneville Dam. In addition to providing information of fairly continuous occupation over the past 10,000 to 11,000 years the excavations have shown patterns of land use and the circumstances under which archaeological sites can survive the onslaught of the river.

For the most part, any site that is favorably situated for occupation will have the earliest occupation in the sediments that are deposited immediately upon bedrock. In other words, occupation begins once enough sediment has accumulated to suit the requirements of the occupants. All sites excavated that have the earliest occupations [9,000 to 11,000 years B.P.] show fairly continuous occupations until the historic period, interrupted only by nonconformities in the stratigraphy created by flooding. From this it might be posited that a site that was occupied continuously after 700 B.C. also was occupied prior to that time, but floods eliminated the earlier deposits.

Another situation that has been devastating to Columbia River archaeological sites, because of the consistent land use patterns, is that those sites that were recorded by early explorers or had surface indications of occupation were destroyed by pothunters, who already were displaying their collections in the Condon Museum at The Dalles, Oregon as early as 1853. Sites on the Washington side of the Columbia River were most heavily impacted because that is where the natives were living, and therfore the sites were recorded, when the first white explorers and settlers came into the region.

If the above holds true for the Bingen area, then the Lewis and Clark description of an Indian village and houses would mean that sites as old as the deposits could be expected in the Bingen area, and they, more than likely, were pothunted.

Two previous archaeological studies have been conducted that include the Bingen area. In 1934, Herbert W. Krieger, Curator, Division of Ethnology, U.S. National Museum, spent nearly six months conducting surveys and test excavations between Prindle, Washington and The Dalles, Oregon. His activities included work on former Indian villages, campsites and burial grounds. "Each former Indian village site investigated was mapped, and its location when possible, was identified from notes contained in the journal of Lewis and Clark. Representative house ruins were either

trenched or excavated in toto, and in each case an attempt was made to identify its character and type of construction." (Krieger, p. 53).

A final report on this work was not completed before Kriegers death, and those assigned to complete the work have not done so.

Correspondence with Smithsonian Institution personnel in 1971 listed seven sites that Krieger had excavated "among others", but the village in the Bingen area was not listed. It was further mentioned that the abundance of material justifies a descriptive catalogue but that ". . . the wealth of data that might have occurred did not." (George Phebus, correspondence, March 2, 1971).

In 1971, Oregon State Museum of Anthropology, University of Oregon, personnel conducted an archaeological survey in the Bonneville Dam Pool area prior to raising the pool level after construction of a new powerhouse (Cole and Southard, 1971). In that report it mentions that "Many of the village site localities described by Lewis and Clark have been covered or destroyed by historic developments, such as towns, highways, railroads, etc., or are currently inundated." (ibid., p. 6). Although the survey of the village site above the White Salmon River is not mentioned specifically in the survey report, the preceding statement accurately summarizes the field notes for that place.

Although there is no literature citing archaeological excavations in "White Salmon people" territory, several have been excavated in Wishram territory, the most prominent of which was Wakemap mound excavated by the University of California in 1924-1925 (Strong, Schenck and Stewart, 1930), the National Park Service in 1950 (unpublished), the University of Washington in 1953-1956 (Caldwell, 1955 and various other reports), and the Oregon Archaeological Society in 1956 (1959, no author). Several sites were "studied" by observing pot hunter excavations and examining their collections or digging test holes, these include the Indian Well site, Maybe Site and Congdon Site (Butler 1959). Three sites, the Lyle Site, the Friendly Village Site and The Old Building Site were excavated by the University of Oregon in 1972 (Cole, 1974). Two of these sites, The Old Building Site and The Friendly Village site post date the Cascade landslide, whereas the others postdate the pre-700 B.C. floods, notwithstanding the claims for greater antiquity.

A simplistic hypothesis, based upon archaeological findings would be that between A.D. 200 and A.D. 1400 the area between The Dalles and Arlington, Oregon had villages of people who probably migrated down the Columbia River. They did not have exclusive territories. After A.D. 1400 The Chinookan peoples (Wishram) expanded their territory to the east at least as far as Wakemap Mound.

The few artifacts found in excavations at the Lyle site compare favorably with those from pre-A.D. 1400 Chinookan sites, so a site at Bingen would not be critical to interpreting tribal movements, but more information could be useful.

## THE SURVEY

Approximately five hours was spent walking throughout the project area. The gardens had not been irrigated recently, so most of the surface was dry. All crops but the cucumbers were planted in furrowed rows so it was possible to see the composition of at least the top six inches of soil. The sides of erosion ditches were checked to examine deeper deposits, up to 15 inches below the surface.

The soils were essentially the same throughout, a light brown fine-grained, sandy-silt. No soil discoloration was seen, and the only rock was encroaching onto the field from the dike, being spread by tilling. Cultural debris noticed was: shotgun shell casings, broken glass, a shirt button, a candy bar wrapper, and a smashed soda pop can. Nothing of archaeological importance was discovered.

Soil cross sections, by $CH_2M$ Hill, show the sediments to be over 30 feet deep, in places, and they are consistently "loose", "soft", or "very soft" fine soils that are brown or gray-brown (wet when sampled, because of the high water table). The composition varies between fine sands, silts, and clay, e.g. sandy-silt, silty-sands, clayey-silts, etc. No rock or course desposits were recorded, except for the gravelly deposits immediately upon bedrock. [This is probably decaying bedrock.]

In one test hole (A-28A) they recorded "gray-brown fine sand silt with fine sandy clayey layers" in a 20 foot thick statum upon the bedrock, which is about 30 feet below the surface. This description and the thickness of the stratum suggests that this is a dune deposit with layers of lacustrine sediments resulting from the Cascade landslide flooding, a phenomenon seen in other sites (Cressman, et. al. pp. 19-23).

## RECOMMENDATIONS

Since nothing of an archaeological nature was discovered during the survey and since the soil logs and physiographic circumstances suggest the probability that the sediments are fairly recent in the archaeological sequence, and the most represented, no further work is recommended.

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## MAPS


Klickitat County Port District No. 1, 1962-1975. Proposed Bingen Boat Marina and Park Area. Bingen Washington Industrial Development District - East Bingen Marginal Lands. Scale 1" = 200'.

Tenneson Engineering Corp., 1987. Survey of East Bingen Tract, Klickitat County Port Dist. No. 1. in sections 29, 30, 31 & 32. Twp. 3N. Range 11E. W.M. Klickitat County, Washington. The Dalles, Ore Scale 1"=100'.

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U.S. Engineers, 2nd. Portland District, Oregon. 1936. Bonneville project, Lands sec. 25 T.3N., R.10E. W.M. secs. 29,30,31 & 32 T.3N. R.10E. W.M. Klickitat Co. Washington. R. O-16-2/1 W.K. & R. O-16-3/1 W.K. Scale 1"=200'.

Aerial View of the Site and Site Vicility (7/12/89)


Mt. Adams Logging Operation (Looking North)

Inside Log Yard Shop

Leaking 55-gallon Drums in Lumber Yard Area

Pump above Underground Storage Tank in Log Yard

Above Ground Storage Tank in Log Yard Area


Pad-mounted Transformers (#2 and #3)