

### 3.14 Cultural Resources

BP contracted with the Lummi Nation Cultural Resources Department (Lummi Nation) to conduct a cultural resources investigation of the project site (including access roads), the construction laydown areas, ~~the wetland mitigation sites,~~ the transmission tower pads and the east and west access roads to the transmission line corridor for the proposed Cogeneration Project. The Lummi Nation retained BOAS, Inc. to assist in this investigation. At this point, the Lummi's have completed only the tower pads and transmission line maintenance access roads. This work was completed in two field efforts, the first is described in ~~The following information currently included in this section is summarized from the~~ Cultural Resources Investigation of the East and West Access Roads to the Proposed Xwechi 'exen, Cherry Point, BP Cogeneration Facility Project, Whatcom County, Washington, (BOAS 2002a) Inc. Report #200107) and the second is described in Cultural Resources Investigation of the Proposed Xwechi 'exen, Cherry Point, BP Cogeneration Project, Whatcom County, Washington (BOAS 2002b).

The proposed wetland mitigation sites will not require excavation of any soils or construction of above-ground facilities so they were not evaluated for cultural resources at this time. Ground disturbance in this area will be limited to shallow disking of reed canary grass. Based on the recommendation of BOAS, Inc and the Lummi Tribe, the presence or absence of archaeological material will be investigated in the proposed wetland mitigation sites after the disking.

The ~~refereneed~~ cultural investigations were was completed in partial fulfillment of the requirements of the National Historic Preservation Act of 1966, as amended, and Washington State laws (RCW 27.34, RCW 27.44, RCW 27.53, RCW 79.01, RCW 79.90 and PO 06-001). The investigations and reports also meets the requirements of Title 40, Cultural Resources Preservation Code of the Lummi Nation Code of Laws.

~~Summaries of cultural investigation findings for other components of the Project will be submitted to EFSEC when they are completed and submitted to BP by the Lummi Nation.~~

This section describes the results of cultural resources investigations of the proposed Cogeneration Project Area. The information provided in this section is based on the reports cited above.

#### 3.14.1 Existing Conditions

##### ~~3.14.1.1~~ -Vegetation

Cogeneration Project Site, Lay Down Areas and Access Roads

—————*(To be completed)*

There are several different types of plant communities found in the project area, and there is a wide variety of vegetation. These communities are described in more detail in Section 3.4

The study area is shown in Figure 3.14-1. It is located within the Western Hemlock Zone, as defined by Franklin and Dyrness (1988). Historically, western hemlock and western red cedar have been the co-climax species of the Puget Sound conifer forests. However, over a century of logging has created a mixed conifer forest dominated by Douglas fir (*Pseudotsuga memziesii*), as well as increasing quantities of red alder (*Alnus rubra*) and bigleaf maple (*Acer macrophyllum*). However, the entire project area and laydown areas were previously cleared and farmed for approximately 80 years. Active farming of the area ceased in the late 1960's, when the present site was purchased for the construction of an oil refinery. From 1987 through 1991, the northern portions of the project site and laydown areas were planted with hybrid poplar and Douglas fir for future harvesting for wood and pulp products.

Plant communities in the project and construction laydown areas are both upland and wetland. The upland areas can generally be described as mixed coniferous/deciduous forest; Himalayan blackberry (*Rubus discolor*) community; grasslands, and a planted hybrid poplar (*Populus balsamifera*) community. The wetland areas are generally identified as palustrine emergent, but the area planted with hybrid poplar trees could be classified as temporarily flooded palustrine forested.

#### Construction Laydown Sites

*(To be completed)*

#### Transmission Line Access Roads and tower pads

~~The study area is within the Western Hemlock Zone, as defined by Franklin and Dyrness (1988). Historically, western hemlock and western red cedar have been the co-climax species of the Puget Sound conifer forests. However, over a century of logging has created a mixed conifer forest dominated by Douglas fir, as well as increasing quantities of red alder and bigleaf maple. The cultural studies of t~~The transmission line West Access Road is classified as upland, with tall, dense grass and occasional blackberry thickets. However, the north portion of the access road is within identified wetlands covered by expanses of reed canary grass (*phalaris arundinace*).

The East Access Road is wooded with near climax-age red alder as the dominant species, followed by bigleaf maple, cottonwood, Douglas fir, and occasional red cedar and western hemlock. Understory vegetation includes:

- vine maple (*Acer circinatum*)
- ocean spray (*Holodiscus discolor*)
- sword fern (*Polystichum munitum*)
- bracken fern (*Pteridium aquilinum*)
- trailing blackberry (*Rubus ursinus*)
- nettle (*Urtica dioica*)
- salmonberry (*Rubus spectabilis*)
- red huckleberry (*Vaccinium parvifloium*)

The investigation also found several large fire-scarred western red cedar stumps throughout the wooded area. None of these stumps showed evidence of logging,

suggesting they may have been dead before the area was logged in the late 1800's or early 1900's.

#### Wetland Mitigation Areas

(To be completed) The proposed compensatory wetland mitigation areas (CMA) are north of Grandview Road and on the east (CMA1) and west (CMA2) sides of Blaine Road. The proposed mitigation includes discharging stormwater from the project site to CMA2 and allow the water to naturally follow the existing contours. Existing drainage ditches (CMA1) will be filled or blocked to allow stormwater to be retained longer. However, no significant earth moving is proposed so there will be minimal ground disturbance.

Wetland communities in CMA1 include temporarily flooded palustrine emergent (PEMA), seasonally flooded palustrine emergent (PEMC), and seasonally flooded palustrine forested (PFOC). The palustrine emergent communities are dominated by bent grass (*agrostis capillaris*), creeping bentgrass (*agrostis stolonifera*), soft rush (*Junucus effusus*), and reed canary grass (*Phalaris arundinacea*). A few small patches are dominated by slough sedge (*Carex obnupta*), a native sedge. The forested wetland (0.3-acre) in CMA1 is dominated by a dense stand of quaking aspen (*Populus tremuloides*).

The CMA2 wetland vegetation is predominately PEMA, with some smaller areas of PEMC, palustrine scrub-shrub (PSS), and temporarily flooded palustrine forested (PFOA). The PEMC wetland communities are typically dominated by reed canary grass, bentgrasses, and soft rush. The PSS community is dominated by hardhack (*Spirea douglasii*), with some other shrubs including Sitka willow (*Salix sitchensis*). The PFO wetlands have a wide variety of vegetation including, trees such as black cottonwood and red alder and shrubs such as oceanspray (*Holodiscus discolor*), red elder berry (*Sambucus racemosa*), salmon berry (*Rubus spectabilis*), Sitka willow, and black twinberry (*Lonicera involucrata*).

#### 3.14.1.2 -Native Plant Survey

Concurrently with the archaeological fieldwork on the proposed transmission line, a native plant survey was conducted by Lutie Hillaire, a Lummi Tribal Elder, and Ralph Tom, a Lummi Tribal member. The transmission line west access road had been mowed prior to the field survey, so the investigation focused on observing and identifying all traditionally used native plants at one-meter intervals on the edge of the mowed area. The inventory in the east access road used a similar process, except a path was cleared with hand tools through the understory vegetation measuring approximately 2-meters wide. Plants were inventoried with this cleared area.

A preliminary survey of native plants in the project and construction laydown areas was performed in October 2002 by Al Johnnie, Cultural Director, Lummi Nation. This preliminary survey identified a number of culturally useful plants. The cultural resources study team recommended conducting a further plant survey during spring 2003, to identify culturally useful plants visible during the spring.

3.14.2

### **3.14.23.14.1.3 Ethnography**

The Lummi people traditionally occupied the mainlands of the proposed project and the surrounding land of the proposed Cogeneration Project site and transmission line and access roads prior to European settlement. Lummi mainland territory ~~on land of the project area that extended~~ along the shores of Point Whitehorn, Cherry Point, and Chuckanut Bay, eastward to Lake Terrell and along to an area below Ferndale, to Lake Whatcom and westward to the mouth of the Nooksack River. Prehistorically, contact and post-contact times ~~Within this area~~ the Lummi people have continued to maintain usual and accustomed interest in cultural use of the resources. In the vicinity of the project the Lummi mined the Cherry Point shoreline for stone to use as anchors, sinkers, other weights, and for hammers and mauls, harvested, fished and trapped for salmon, herring, herring eggs, and gathered shellfish, trapped various wildlife and game. The upland areas were used for hunting large mammals, duck and the gathering of medicinal or edible plants.

### **-3.14.1.4 Archaeological Surveys**

Prior to conducting the fieldwork, research was conducted at the University of Washington Map Library, University of Washington Microfilm/Microfiche Collection for historic maps, aerial photographs, and surveys. Literature was obtained or reviewed from the University of Washington Special Collections Library, Whatcom County Auditors Office, Bellingham Public Library, Western Washington University Library the Whatcom Museum of History and Art and the BOAS Inc. office library. In addition, pertinent archaeological and historical site files were reviewed at the Washington State Office of Archaeology and Historic Preservation.

The study area (Figure 3.14-1) was first selectively mowed to provide better ground observation and then it was divided by 30-meter (100-foot) transect grids. Shovel probe locations were established based on the transect grids and all locations were determined before any excavation. An area of 0.5 to 1-meter was cleared of vegetation prior to excavating the sediment in 20-centimeter (cm) intervals. The excavated sediment was screened through a one quarter-inch mesh. The shovel probes ranged in depth from 30-70 cm.

#### Laydown Areas 1-3 (Oct. 2002)

Laydown areas 1-3 are east of the project site and separated from the project site by Blaine Road. 143 shovel probes in these laydown areas (Figure 3.14-2) were excavated to an average depth of 48 cm. In this area, a small concentration of lithic artifacts and a distinct burn layer was encountered. A more intensive investigation found that the lithic materials recovered from the site were extremely dispersed across the site area and all artifacts were recovered from the plow zone 10-30 cm below ground. Artifacts observed consisted of two possible lithic tools, 1 secondary flake and 1 possible secondary flake.

#### Laydown Area 4 (Oct. 2002)

This laydown area is in the northeast corner of the project site (Figure 3.14-3). In these areas 13 shovel probes were excavated, nine based on the grid system and four to define  
April 2003

a potential subsurface feature. The average depth of the probes was 40 cm. No lithic artifacts were discovered in Laydown Area 4.

#### Site Access Roads (Oct. 2002)

The project site access roads will enter the site from the west Blaine Road and from the south connecting the project site to the transmission corridor (Figure 3.14-3). Approximately 30 shovel probes were excavated in these areas. The average depth of the probes was 42 cm. No lithic artifacts were discovered in the access road routes.

#### Cogeneration Project Area (Oct. 2002)

In this area, 124 shovel probes were excavated, 3 of these probes were subjectively placed to determine the depth and extent of an observed burned layer and wood fragment deposit. The average depth of the probes was 48 cm. No significant archaeological resources were identified in the Cogeneration Project Area.

~~Survey techniques included taking shovel probes, approximately 50-60 cm deep, in a single line, separated by approximately 20 meters were made along the centerline of the route. Additional probes were made along the route periphery where the access road made wide turns to account for additional disturbances that may occur. Prior to taking a probe, an area of .5 to 1 meter of vegetation was cleared. Excavated soil from each probe was sifted using a hand-held shaker screen over a large tarp and the screen mesh examined for artifacts. In addition to the shovel probes, hand-held augers were used to extract soil. To examine for smaller cultural material, soil from every twelfth shovel probe was passed through a smaller mesh.~~

#### West Transmission Line Access Road (May 2002)

~~Survey techniques included excavating shovel probes, approximately 50-60 cm deep, in a single line, separated by approximately 20 meters along the centerline of the route. Additional probes were made along the route periphery where the access road made wide turns. The survey of the West Access Road~~ The survey consisted of three transects separated by approximately 1 to 1.5 meters. Ground visibility was obstructed throughout this portion of the route by dense grass and/or blackberry thickets. In total 29 probes were excavated ~~taken~~ that also included around ~~around~~ the perimeter of the transmission tower location. The probes uncovered no archaeological material.

#### East Transmission Line Access Road (May 2002)

Sixty-one shovel probes were excavated along the East Access Road following the same procedures as described above. The probes uncovered no archaeological material.

#### Transmission Pad Area (Oct 2002)

For Transmission Tower Pad #1, 6 probes were excavated to allow flexibility in siting of the specific location of the pad (Figure 3.14-4). The average depth of the probes was 53 cm. No archaeological material was found at this location.

### **~~13.4.3~~ 13.4.2 -Environmental Impacts of the Proposed Action**

#### 13.4.2.1 Cogeneration Project Site, Construction Laydown Areas and Access Roads

————(To be completed)

##### Construction Laydown Sites

(To be completed)

##### Transmission Line Access Roads and tower pads

The proposed project is not expected to adversely affect any cultural resources. No significant cultural resources were identified in ~~the either~~ Laydown Area 4, the Cogeneration Project site, the access roads to the site, the east or west transmission line access roads or the transmission tower locations.

The plant surveys conducted on the transmission line in May 2002 identified sensitive areas along the edges of the access corridors, which were marked to protect them during the vegetation removal for the access road construction. These sensitive areas included ocean spray plant clusters, large western red cedar tree stumps, cedar snags, and red cedar saplings and trees. Additional native plant surveys will be conducted in the Cogeneration Project and construction laydown areas in the spring of 2003

The archaeological investigation of Construction Laydown Areas 1-3 discovered a site of small, ephemeral lithic scatter located on a gently trending northwest slope. The site lacks integrity and context because of previous farming and plowing activities in the site area. In addition to the lithic material, there was a burned layer of charcoal and soil staining, but there was no definitive morphology to suggest a formal hearth feature. The pattern of burning was indicative of wild fires or slash burns noted in historic records. Based on the material found, the site did not meet the qualifying criterion for inclusion in the National Register of Historic Places. According to BOAS, Inc, the site is also unlikely to yield new and unique archaeological information.

#### 3.14.2.2 Wetland Mitigation Areas

(To be completed)The wetland mitigation areas north of Grandview Road will not be impacted by ground excavation or above ground construction and was therefore not included in the archaeological investigations.

### ~~3.14.43.14.3~~ **Environmental Impacts of the No Action Alternative**

#### 3.14.3.1 Cogeneration Project Site and Access Roads

~~———(To be completed) Under the no action alternative, the Cogeneration Project would not be constructed and the site would be left undisturbed.~~

#### 3.14.3.2 Construction Laydown Sites

~~(To be completed) The construction laydown sites (1–3) are adjacent to the refinery and under the no action alternative, some, if not all of the areas would likely be developed for other refinery uses, including construction laydown areas, administrative buildings, and parking. In this area, a site consisting of scattered lithic material was found, but it was determined that the site was not eligible for inclusion in the National Register of Historic Places. Under the no action alternative, the lithic scatter site would likely be disturbed eventually, as future refinery improvements require use of the area.~~

#### 3.14.3.3 Transmission Line Access Roads and tower pads

The transmission line maintenance access roads and tower pads were permitted and constructed under a previously approved transmission line project (COE permit number 1998-4-02349). ~~No cultural resources were identified. Under the no action alternative~~ These roads and tower pads would remain in place ~~to allow the refinery the future option of a direct connection to the BPA transmission lines. No cultural resources were identified in this area so there would not be significant archaeological impacts under the no action alternative.~~

#### 3.14.3.4 Wetland Mitigation Areas

~~(To be completed) Under the no action alternative, the wetland mitigation plan proposed north of Grandview Road would not be implemented. However, because of potential future Refinery use of laydown areas 1–3 it is likely that some of the area north of Grandview Road and west of Blaine Road would be utilized for wetland mitigation. Under the no action alternative, it is likely the existing livestock grazing that is occurring on the proposed wetland mitigation site north of Grandview Road and east of Blaine Road would continue further degrading the wetland values in this area.~~

### ~~3.14.53.14.4~~ **Mitigation Measures**

#### 3.14.4.1 Cogeneration Project Site, ~~and~~ Access Roads, and Construction Laydown Areas.

~~No significant archaeological resources were discovered during the field investigations for the Cogeneration Project site, the construction laydown areas, access roads, and transmission pad #1. However, given the proximity of this area to other known sites and~~

the discovery of the lithic scatter within the study area, the following mitigation is proposed.

- Construction monitoring of the area within 30-meters of the site boundaries.
- Any lithic material discovered during construction will be collected.
- In the event of inadvertent archaeological discovery during the construction or the unlikely event that buried human remains are discovered, all ground disturbing activities will cease in the vicinity of the discovery and the area surrounding the discovery will be secured. Proper notifications shall be made to the Lummi Cultural Department, BOAS, Inc, Washington State Police Department, Medical Examiners Office, and the State Historic and Preservation Office. An assessment team will be assembled to address the discovery and to develop a mutually agreeable plan forward. Lummi Indian Nation will participate in the inadvertent discovery process and help to coordinate a cultural management plan.
- A native plant study will be performed in spring 2003 to accurately profile the plants represented in the proposed Cogeneration Project area.  
*(To be completed)*

#### Construction Laydown Sites

*(To be completed)*

#### 3.14.4.2 Transmission Line Access Roads and tower pads

The transmission line maintenance access roads and tower pads were permitted and constructed under a previously approved transmission line project (COE permit number 1998-4-02349). Locations of sensitive plant species were identified and marked prior to construction of the access roads and clearing for the transmission towers. These areas were avoided during construction.

#### 3.14.4.3 Wetland Mitigation Area

Wetland mitigation will not require subsurface excavation, but it will be disked to reduce reed canary grass, thus disturbing the ground surface. In addition, there will be extensive planting of native wetland plants and plantings in upland areas to increase vegetation diversity. The proposed disking activities may uncover surface material and/or impact cultural important native plants. The following activities are proposed to further evaluate the wetland mitigation area.

- An archaeological pedestrian survey of the wetland mitigation areas will be conducted immediately following disking.
- A native plant study will be conducted in the spring of 2003 to accurately profile the plants.

~~3.14.6~~ **3.14.5 Cumulative Impacts**

~~Cogeneration Project Site and Access Roads~~

~~————(To be completed)~~

~~Construction Laydown Sites~~

~~(To be completed)~~

~~Transmission Line Access Roads and tower pads~~

~~Since no historical cultural sites were identified and the sensitive plant areas identified and marked prior to construction no cumulative impacts have or will occur as a result of the construction of the transmission line access roads.~~

~~Wetland Mitigation Areas~~

~~(To be completed)~~

~~Based on the literature search and field investigations of the project site, it is anticipated that there will be no potential adverse cumulative impacts to the archaeological or cultural resources of the region. However, because of the proximity of other known archaeological or cultural resource sites in the vicinity of the Cogeneration Project, BP is proposing to monitor construction of the project to prevent unanticipated direct or cumulative impacts.~~

~~3.14.7~~ **3.14.6 Unavoidable Significant Adverse Impacts**

~~Cogeneration Project Site and Access Roads~~

~~————(To be completed)~~

~~Construction Laydown Sites~~

~~(To be completed)~~

~~Transmission Line Access Roads and tower pads~~

~~There are no unavoidable significant adverse impacts associated with the construction of the transmission line access roads and tower locationsCogeneration Project, including the construction laydown areas, access roads, transmission line or the wetland mitigation area.~~

~~Wetland Mitigation Areas~~

~~(To be completed)~~