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THE WASHINGTON ARCHAEOLOGIST

WASHINGTON ARCHAEOLOGICAL SOCIETY, WASHINGTON STATE MUSEUM, SEATTLE 5, WN.

NEXT MEETING: Seattle Chapter - January 10, 1962 - 8:00 P.M.

MEETING PLACE: Washington State Museum
4037 15th Avenue N. E.
Seattle 5, Washington

PROGRAM: TOM-MY SCB, the oldest living Samaish Indian, will discuss the customs and times of the Samish.

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ANNUAL REPORT, 1961

WASHINGTON ARCHAEOLOGICAL SOCIETY

Ted Weld

The most significant change made in 1961 was the incorporation of the Society as a non-profit corporation, and the adoption of a new constitution which was made necessary by the incorporation proceedings. The adoption of the new constitution, in turn, resulted in the formal dissolution of the Palus and the Columbia Basin Chapters, which had both become inactive, due principally to lack of that all-important element, professional guidance.

The Society took the initiative part in preparing and submitting proposed legislation on antiquities to the 1961 State Legislature. The bill died in committee at the end of the session, but the preliminary research was thorough, and consequently is not wasted. As a preliminary step, all of the other states had been queried as to antiquities

laws on their books, and response was surprisingly complete. After study of the replies, our proposed bill was drawn up and later altered to adjust for the views of representatives of the University of Washington, expressed in direct conference, and of Washington State University, contacted by mail. Cooperation on this subject is continuing, with plans being formulated to try again in 1963.

Excavating activities in 1961, for the Society, were confined to the Fishtown Site, 45 SK 33, and the challenging site on the Snoqualmie River, 45 SN 100. In addition to these, the Charles Nelson family continued their carefully-recorded excavation at 45 KT 3, and the Weld family spent a few days working with a small University of Washington archaeological party in the Fort Simcoe area. Another society member, Jack Thomson, through personal contact with individual Puget Sound Indians, has developed first-hand knowledge on the design and actual use of native-style halibut hooks. The highlights of our 1961 discoveries have been described in the Washington Archaeologist.

The Society participated in the Fourteenth Annual Northwest Anthropological Conference held at the University of British Columbia at Vancouver, B.C. Del Nordquist presented a paper on the Snoqualmie River Site. Charles Nelson reported on the Fish Town Site. Gifford Nickerson, representing Seattle Pacific College, discussed the information and data the Society had gathered in making a national survey of antiquities legislation. Other members of our group attended the two-day conference. The effort was very rewarding not only because of the information presented in the formal papers but because of the opportunity for informal discussions and other social contacts.

The loss to the Society, through their moving out of the state, of our treasurer and secretary, Mr. and Mrs. Gifford Nickerson, was keenly felt. Their participation in Society activities was enthusiastic and effective, and we would be very pleased if sometime they manage to return.

Our monthly meetings have been well attended throughout the year. We have been fortunate in having interesting and instructive speakers, including Dr. Krieger, Dr. Greengo, and several of Dr. Greengo's students.

As the years of the Society's existence begin to stretch out they present a record of the accomplishments of the Society that can be examined as well as the quality of those accomplishments. The Society is made up of individuals who earn their living in various lines of work, and who are able to devote only a part of their leisure time to Society activities. This limits the quantity of accomplishments, of which we still need not be ashamed. The quality of our work, on the other hand, begins to prove to be consistently good, and we can all take pride in our progress and give credit where credit is due. The lack of professional guidance has been a handicap which has been largely overcome by the technical advice of Del Nordquist. The scarcity of professional instruction has proven to be a challenge to many of our members who have developed their own techniques and knowledge sufficiently to enable the Society to make effective contributions to archaeology in this State.

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FOUNTAIN BAR, A SITE ON THE COLUMBIA RIVER IN SOUTH CENTRAL WASHINGTON

Willi and Ted Weld

ABSTRACT: Fountain Bar, Site 45 KL 18, located on the Columbia River in Klickitat County, Washington, T3N, R19E, south half of sections 32, 33 and the SW 1/4 of 34, has been known as a village site historically having been reported by both Lewis and Clark and David Thompson in their journals. The ethnographic record was stated by Dr. Verne Ray. These statements locate the village in the vicinity of Rock Creek which is at the westerly extremity of Fountain Bar. The report deals with an excavation made at the east end of the bar and demonstrates that the site extended beyond the immediate occupation reported at Rock Creek. Twelve pits ranging in size from 18" in diameter to 42" long by 30" wide and in depth from 6" to 24" were the features under investigation. The five deeper pits were used for storage, the two with the largest diameter were used for roasting fish and the remaining five were earth ovens used for roasting roots and other foods. Stone artifacts recovered include projectile points, knives, drills, scribes, scrapers, flake knives, choppers, cobble-flake scrapers and notched sinkers; bone artifacts consisting of one needle, two awls, two gambling pieces and one digging stick handle; shell beads; two pieces of baked clay; and a large variety of trade or Caucasian-made goods. The abundance of stone artifacts, storage pits and earth ovens indicates a permanent village site. Although a comparatively late site, it is reasonably certain that the time span of occupation starts in prehistoric time and ends in early historic time.

AREA DESCRIPTION

Fountain Bar is located on the north side of the Columbia River about 14 miles above the mouth of the John Day River. Rock Creek crosses the bar and empties into the Columbia near the west end, and two miles upstream from the east end, and across the river on the Oregon side, is the town of Blalock. The S.P.&S. Railway parallels the bar along its north length, and behind the railroad tracks are high basalt cliffs. At the upper end, where the bar narrows down to the cliffs, is a large spring which is visible only when the Columbia is low. This may be the "fountain" for which Fountain Bar is named. The bar is approximately 2½ miles long and about 3/8 mile wide for most of its length. Portions are completely blown out down to the river-worn bedrock, and other areas are covered with big sand dunes which are constantly blowing and moving. Thus, an area which is now covered with sand and sagebrush may, even in historic times, have been blown out and then re-covered by the shifting sands. The winds are very strong along this part of the Columbia. Nathanial Wyeth, who made a trip up the river in February, 1832, makes this comment about the area around the John Day River: "One thing I observed in this part of the river is that the savages are civil and as much as one in ten has lost an eye as I suppose from the effects of the fine sand of the river being blown about or the violent wind for which this part of the river is noted," (Sources of Oregon History, p 183).

There are graves, which have been blown out, toward the center of the bar, and about ten years ago a small area just north of the center of the bar blew out, revealing quantities of burnt bone, copper and brass bangles and beads, iron pieces, square nails, glass beads, stone artifacts including obsidian points, all badly burned. The glass beads had been exposed to so much heat that they were melted together in masses. This may have been a cremation pit. On high ground north of the railway but below the talus slopes, opposite the east end of the bar, one disturbed grave was noted. This burial had obviously been exposed by the operation of a tractor in recent mining excavations on this slope.

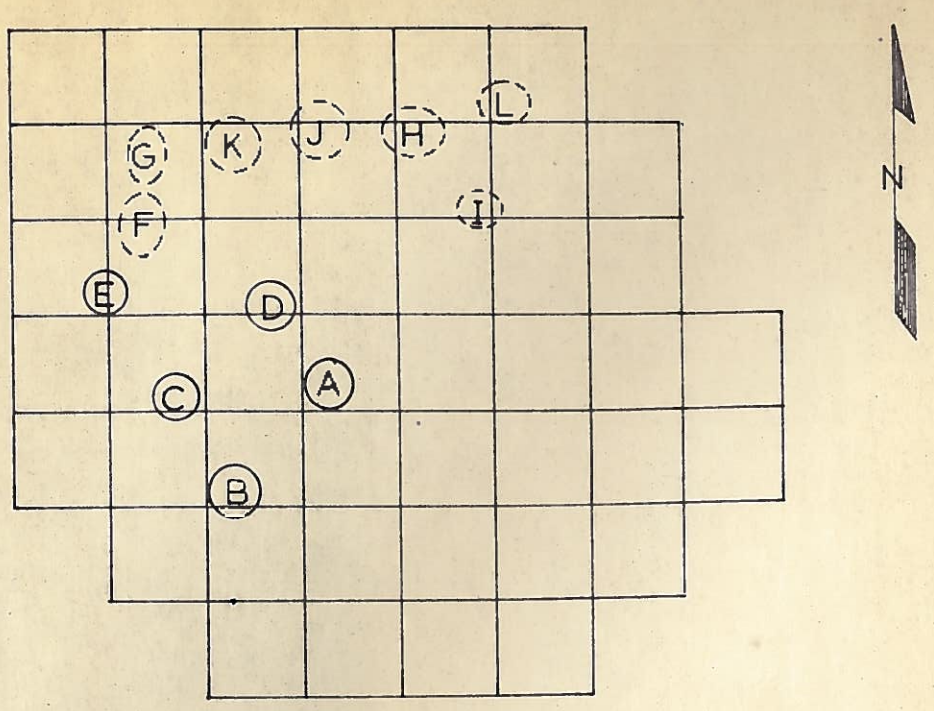
No house pits were noted, but such depressions, if once present, would presumably be covered by wind-blown sand.

There is ample evidence of occupation along the entire length of the bar at the present river bank, as well as along a water-worn channel, now dry, paralleling the river but some distance from it. This evidence consists of chipped and broken stone as well as artifacts such as choppers, sinkers, hammerstones, large and small scrapers, points and small tools, edge-ground cobbles, etc. In one particular small area along the dry old channel toward the east end of the bar we picked up ten edge-ground cobbles from the surface.

History: Lewis and Clark camped at Fountain Bar on April 23, 1806, on their way back up the Columbia. Their journal says: "..... we set out, and after marching for twelve miles over the sands of a narrow rocky bottom on the north side of the river, came to a village near the Rock rapid, at the mouth of a large creek, which we had not observed in descending. It consisted of twelve temporary huts of mat, inhabited by a tribe called Wahhowpum, who speak a language very similar to that of the Chopunnish, whom they resemble also in dress, both sexes being clad in robes and shirts as well as leggings and moccasins. These people seemed much pleased to see us, and readily gave us four dogs and some chapelell (roots) and wood in exchange for small articles, such as pewter buttons, strips of tin, iron, and brass, and some twisted wire, which we had previously prepared for our journey across the plains. These people, as well as some more living in five huts a little below them, were waiting the return of the salmon." (Thwaites, entry for April 23, 1806). As Emory Strong has already observed (Strong, 1959, pg. 71), this small fishing camp was probably just above Rock Creek, since a fish lead of stones can still be seen in the Columbia at that point.

In 1811 David Thompson camped at this spot on his way down river, and it was here that he first learned that the Americans were ahead of him and had already established a trading post, Astoria, at the mouth of the river.

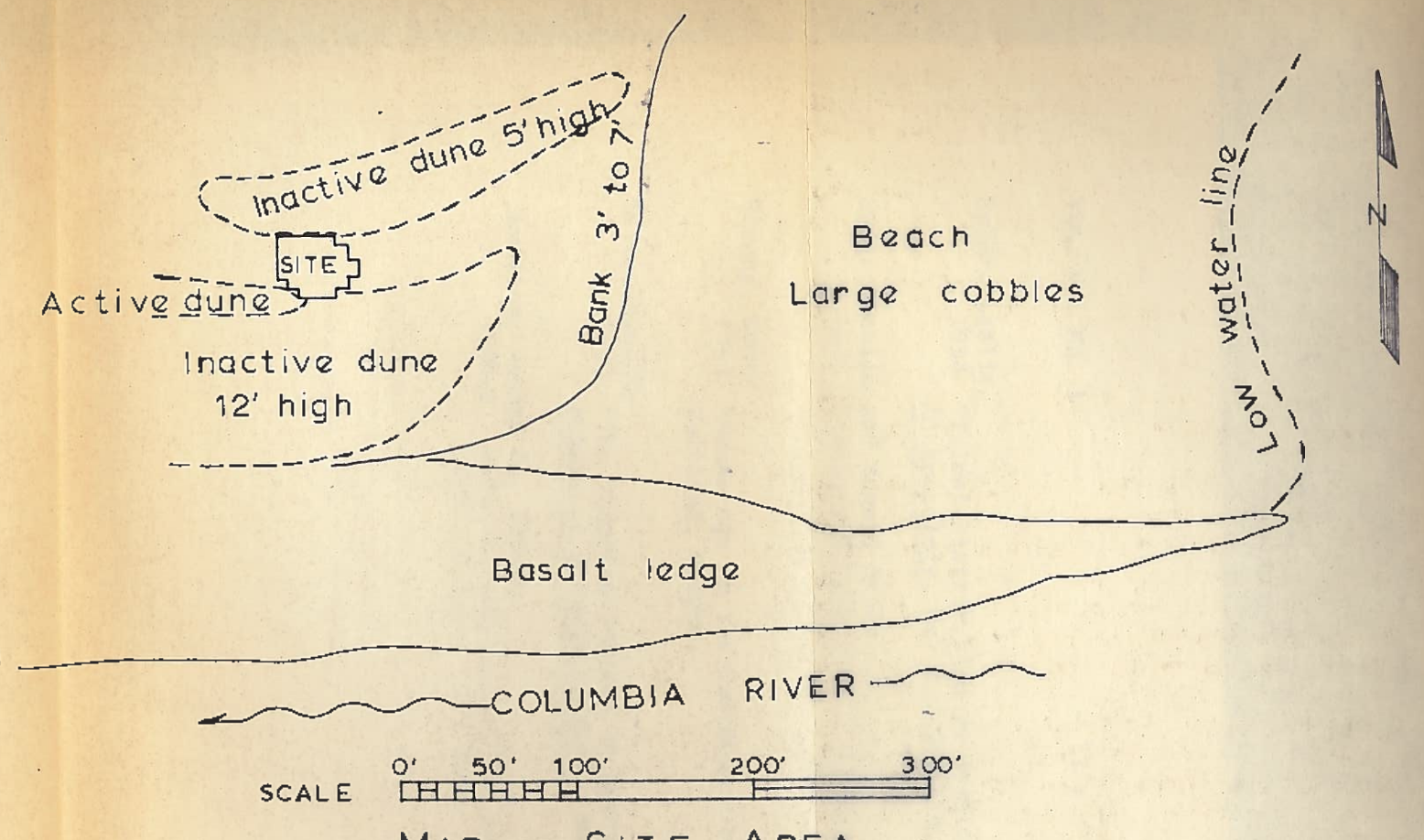
The Indians had vacated this bar at some time before the mid 1880's, and a white homesteader plowed part of the west end of it on or before 1893. N. G. Seaman says, "..in the middle nineties one of us working with an engineering party on the opposite side of the river, well remembers seeing immense clouds of sand and dust rising from here and extending upstream for more than a mile." (Seaman, 1946, p. 112). At present the only traces left of this early homesteader are the foundations of a house with a concrete cistern which was apparently located in the cellar of the house. It is located near the former railroad station which was at the north side at about the center of the bar.



Deep pits shown with solid line, shallow pits with dash line.

MAP OF EXCAVATIONS AND LOCATION OF PITS

SCALE 0' 5' 10' 15' 20'



SCALE 0' 50' 100' 200' 300'

MAP OF SITE AREA

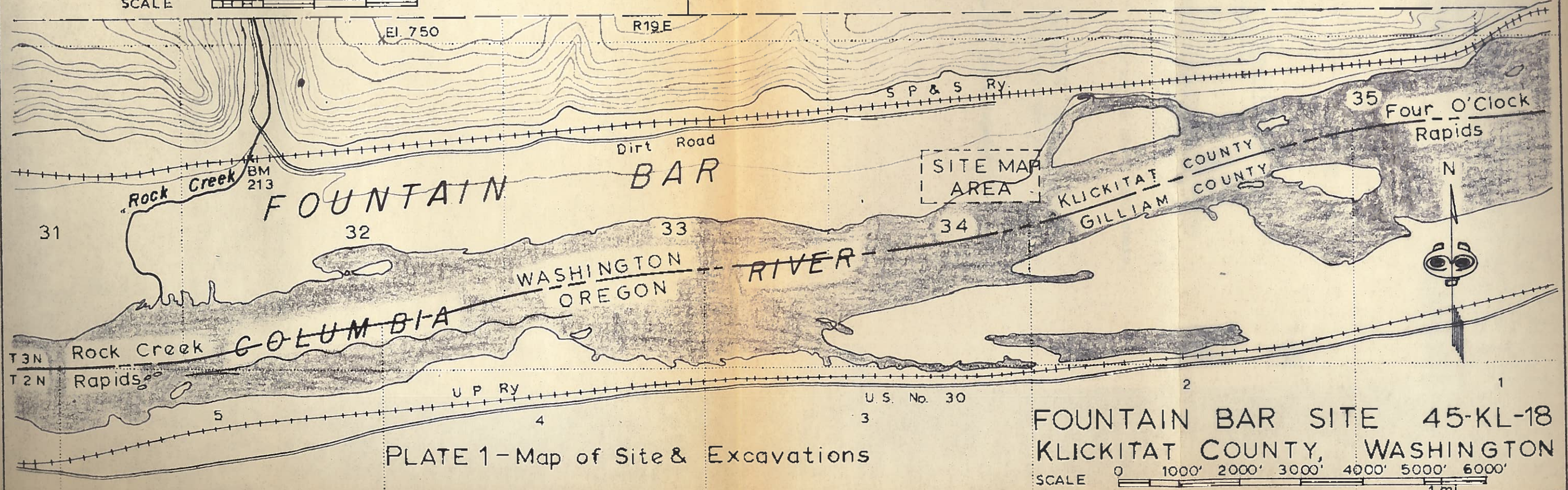


PLATE 1 - Map of Site & Excavations

FOUNTAIN BAR SITE 45-KL-18
KLICKITAT COUNTY, WASHINGTON

SCALE 0 1000' 2000' 3000' 4000' 5000' 6000' 1 mi.

The few trees growing on Fountain Bar today consist of a grove of black walnut which surrounds the old house foundations (a few also grow up Rock Creek), and some willows along the river bank, principaplly at the east end of the bar. The vegetation consists mostly of grass (including some bunchgrass), sagebrush, sunflowers, and tumbleweeds.

The Indians: According to Verne Ray (1936, p. 151), "This was a permanent village on the north side of the Columbia at the mouth of Rock Creek. It was popular because wood was plentiful. The population was a hundred persons or more.

"This village marked the downriver boundary of the Umatilla." He gives the Indian name for the village which, translated, means "opening through the canyon where light penetrates."

The Umatillas were a Sahaptin group, most of whose territoy lay in the central part of the Central Oregon Plateau, but which also included a band of 15 to 20 miles in width, north of the river. Douglas Osborne in his report on the excavations in the McNary Reservoir (Osborne, 1957, pp. 123-125) gives a brief ethnography of the Umatilla, and the following information, which seems pertinent to this report, about the food habits of those Indians is taken from that report.

A typical Columbia River salmon complex was present, with the Chinook salmon being the most important single fish. The fishing equipment included weirs, dams, funnel traps, nets of several types including dip nets. The use of hooks is not mentioned. Bone single-headed spears were extensively used and shooting with the bow was not uncommon.

The Umatilla hunted deer, elk, antelope, several species of bear, rabbits, and beaver. Some game was captured by group methods such as surrounds and drives; others were stalked or run down by hunters on snowshoes. Small animals were smoked out of their holes. Waterfowl, rabbits, etc., were captured in nets; blinds, disguises, decoys and snares were also employed. Shellfish were eaten also

The most important of the many root foods which the Umatilla used were the camas and kouse. Berries, wild cherries, pine nuts, acrons, inner bark, and sap were also eaten.

Cooking was done by stone boiling in baskets, by broiling over open fires, or by roasting in earth ovens. Both meats and roots were cooked in the ovens.

SITE DESCRIPTION

The excavation, done in September, 1961, at Site 45 KL 18 is located at the upstream (east) end of the bar and is near the southeast corner, from which a basalt ledge extends eastward, forming a point. It lies between two parallel sand dunes which are approximately 35 feet apart. One dune, 12 feet

high, lies between the site and the river front to the south (200 feet distant). This dune is inactive and is overgrown with sagebrush, although a new and very active dune is now working along its north side from the west and is encroaching on the site. Another sage-covered, inactive dune, 5 feet in height, runs along the north side of the site.

The distance east from the excavation to the river bank is 156 feet, unobstructed by dunes. The bank here is 5 feet in height, of sandy silt, and with a gently-sloping boulder beach 400 feet wide to low water. The riverbank to the south, 200 feet from the site, is a very steep basalt cliff, a westerly continuation of the ledge referred to above, rising 40 feet above low water, with deep water at its base.

The site is an estimated 6 feet above the highwater mark of the 1948 flood.

The site was laid out in five-foot squares and the excavation measured 40 feet in its greatest length and 35 feet in its greatest width; a total of 46 squares was excavated.

The stratigraphy, or rather the lack of it, here is probably due to the fact that the constant wind action at this location causes surface soil to be blown away, and then new sand to be deposited, thus causing a concentration of camp rock, chips, and artifacts in one layer on top of the undisturbed soil stratum. There seemed to be little or no difference in depth for the stone artifacts, the Caucasian-made trade goods, or the articles left from the homestead operation such as a few wire fence staples.

The top level was a loose sand, 6 to 12 inches deep, with no artifacts and practically no rock. Immediately below this top sand is the occupation layer of gray-brown soil from 6 to 12 inches deep. As already mentioned, all of the camp debris and artifacts were concentrated in this layer, most of the material being near the top. In addition to the artifacts, it contained a great deal of charcoal and burnt rock, chippings, and bone. Large animal bones, elk and deer, were plentiful, and so were fish bones. Bird bones and fresh water mussel shells were present but in fewer numbers.

Beneath the occupation level was a light-yellow, fine, sandy silt, very compact. Although we excavated to a depth of 2 feet into this soil no artifacts or stone were found in the bottom layer.

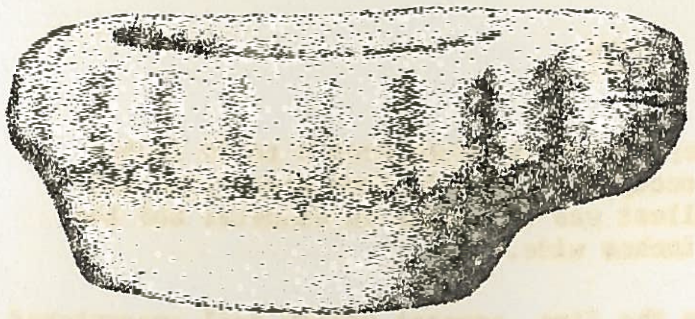


FIG. 1

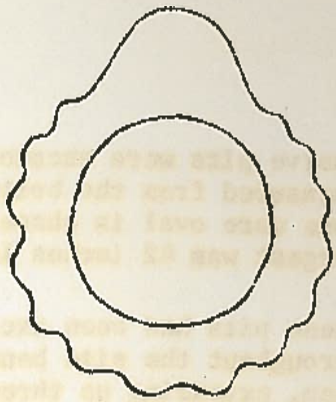


FIG. 1 Top outline

FIG. 2

FIG. 3

FIG. 4

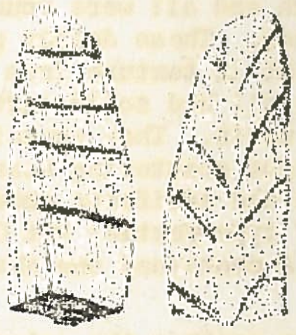


FIG. 5-A FIG. 5-B

FIG. 6

FIG. 7-A

FIG. 7-B

FIG. 8

FIG. 9

PLATE 2 - Ground Stone, Bone and Metal Artifacts from the Fountain Bar Site.

PITS

Twelve pits were encountered. They ranged in depth from 6 to 24 inches (measured from the bottom of the occupation level); some were round and some were oval in shape. The smallest was 18 inches in diameter and the largest was 42 inches long by 30 inches wide.

These pits had been excavated into the fine, compact yellow soil encountered throughout the site beneath the occupation level. All had rocks piled above them, extending up through the occupation level and occasionally into the sterile top sand. There were no artifacts in any of the pits, but some large pieces were found above them.

There were several points of difference between the five deeper pits and the seven shallower ones. The five deep pits (A, B, C, D, E) were grouped together in the west half of the excavation. They averaged 21 inches in depth and all were round in shape. They ranged in diameter from 24 to 30 inches. These deeper pits were filled with a very loose yellow soil, different in texture from the subsoil, the occupation layer, or the top sand. They all had solid earth bottoms and sides; two of them had some rock around the walls. They contained no bone and practically no charcoal (except for a light scattering near the top such as might have blown in). Three of these pits had artifacts among the rocks above them: Pit A had a large "rolling pin" type pestle; Pit C had a stone pestle; and Pit D had a large stone bowl. Pit A contained one charred Brodiaea (probably Brodiaea hyacinthia).

Since neither the color of the soil nor the presence of ash or charcoal indicates any use of these deep pits for cooking purposes, we feel that they were used as cache or storage pits. The lightness and texture of the soil inside them could have resulted from their having been abandoned (or buried by drifting sand dunes) while still filled with roots or other vegetal foods. The presence of large artifacts above three of them tends to assign them more importance as a permanent feature than is true of the other seven pits.

The shallower pits range in depth from 6 to 20 inches, the average depth being slightly over 10 inches. Four of them were round in outline; the other three being somewhat oval. Their average diameter was approximately 27 inches. The walls were less easily defined than were those of the deeper pits; they apparently had been enlarged or re-excavated from time to time. These pits all showed evidence of having been used for cooking purposes. The soil in them was dark brown in color; all contained charcoal and some contained ash.

The two largest pits (H and J), one 33 inches by 42 inches and the other 36 inches in diameter, contained great quantities of salmon bones and much charcoal. One pit had a compact earth bottom and the other had a floor of uniform-sized

FIGURE 10 FIGURE 11 FIG. 12

FIG. 13 FIG. 14 FIG. 15

FIG. 16 FIG. 17 FIG. 18 FIG. 19

PLATE 3 - Chipped Stone Artifacts from the Fountain Bar Site.

rocks. None of the other pits contained fish or animal bones; two charred bulbs of Brodiaea (probably Brodiaea hyacinthia) were found, one in Pit D (as already mentioned) and another in Pit G.

While we can only conjecture as to the use of these twelve pits, we think the evidence tends to indicate that the five deeper ones were used for storage; that the two with the largest diameter were used for roasting fish; and that the remaining five were earth ovens for roasting roots and other foods.

GROUND STONE ARTIFACTS

Mortar. A large flat, basalt grinding stone was found one foot north of Pit J, 12 inches below the ground surface. It varies in thickness from 5 cm to 12.5 cm; is 40 cm long and 30 cm wide. One surface is flat and worn smooth from use.

Stone bowls. One bowl was among the rocks above Pit D. It is a large quartzite river cobble, 11 cm thick and 21 cm across, with a smooth round hollow, 2.5 cm deep and 11 cm in diameter, ground into the top of it. The outside of the bowl is unshaped although large pieces have been chipped from it. This is probably an unfinished bowl. According to Spier and Sapir (1930, p 190), "The hollow was made first since the stone would withstand hard pecking while still a solid block. When the hollow was completed the exterior was dressed."

Another stone bowl (Fig. 1), which was picked up after the 1948 flood washed away the high ground at the east edge of this site, approximately 200 feet from our excavation, is being included in this report. This is a small bowl of fine granite, very nicely shaped both inside and out. It has a turtle-like head protruding from one edge of the rim, with fluting around the rest of the rim. The walls slope inward to a round flat base. There are traces of red ochre, both inside and out. The outside diameter, exclusive of the protruding head, is 8.5 cm; the hollow is 5.5 cm in diameter and 18 mm deep. The bowl is 3.5 cm high.

Pestles and Mauls. One pestle was among the rocks over Pit C. This is of fine, polished almost-black basalt. It had been broken and re-shaped by chipping around the break which is at the working end of the pestle. It is circular in cross-section, and tapers from a diameter of 1.5 cm at the finished (or handle) end, to 4 cm at the broken end. It is 9.5 cm long. This might be part of one of the very long, slender fish-packing pestles.

Another pestle, or maul, is of quartzite; it is circular in cross-section and is 19.5 cm long. The handle end is rounded and has a diameter of 4 cm; the lower 1/3 of the piece is bulbous and is 7 cm across. The pestle was shaped by pecking and smoothing but is not ground perfectly smooth.

Granite Roller. This piece was among the rocks over Pit A. It is 42.5 cm long and 12.5 cm in diameter. The ends are slightly rounded; it shows evidence of pecking along its length but was apparently unfinished.

Abrading Stones. One piece is what is commonly called an arrowshaft smoother. It is of sandstone, with a smooth rounded groove running lengthwise along the flat side; the reverse side is rounded. It is 7.5 cm long and 1.5 cm thick.

These are sometimes found in pairs and as such were used for smoothing and shaping arrow shafts; however we were told by Mr. James B. Garner (personal communication) that singly they were often used for shaping and smoothing bone pieces such as awls.

There were three fragments of abrading stones. One, of volcanic rock, appears to have been round in outline, thicker in the center (1 cm) and thinning down on both surfaces to a thin outer edge. Another fragment, of sandstone, is triangular in shape, .5 cm thick, and well smoothed on both surfaces and along two edges. The last piece, of volcanic rock, is too small to determine its former shape or size.

Incised Slate. Of thetwo pieces found, one is a fragment too small to indicate its original shape. The other (Fig. 2) is a thin tablet, nearly rectangular in shape but with the four corners rounded, and with a small notch in each side about at the center. It measures 2 mm in thickness, 33 mm in length, and 15 mm in width. One half is plain; the other half has an incised design consisting of six straight lines all radiating out from the center to the outside edges. There are traces of red ochre in the depressions. The two notches show no signs of wear such as might be expected had the piece been attached to something by a cord. This may be one of the guardian spirit effigies mentioned by Osborne from McNary Reservoir area (Osborne, 1957, pp. 65-66).

Stone Disk. One half of a thin disk (Fig. 3) of very fine grained, almost black basalt, is about the size of a silver dollar. It is only 2 mm in its thickest part and the diameter is 3.5 cm. The flat sides are smooth, and the edges are slightly rounded and are smooth. There is no decoration. This disk may have been one of a set of gambling pieces. Barnett (1955, p. 262) mentions a disk game which was a variant of the multiple-stick guessing game, in which ten dollar-sized disks of polished wood were used, the rim of one being black. He says that this disk game was quite localized, "being restricted to the groups south of the Sechelt and Comox". Drucker (1955, p 105) also mentions the use of marked and unmarked disks in gambling among the Northwest Coast Indians.

Nose Ornament. This piece (Fig. 4) is of steatite, 40 mm long and 5 mm in diameter, nearly round in cross-section, shaped to a blunt point at one end and broken at the other end where it had been perforated. There are two grooves around the piece, 11 mm from each end. This piece resembles a bone ornament illustrated by Teit for the Thompson Indians (Teit, 1900, pp. 222-223), even to the perforation at one end and to the grooves encircling it. Teit says, "Nose-ornaments were used by women only. These generally consisted of one or more dentalium shells or a piece of bone passed through the septum of the nose a sifficient distance to allow the ends to project beyond the nostrils on either side. Copper and slate were also used. Some were crescent-shaped, but the great majority of them were straight. Scalps of red-headed woodpeckers were inserted in one or both ends."

Beads & Pendants. One bead of steatite, subspherical in shape, measures 1 cm in diameter. It is worn flat around the perforations and the perforations also show much wear, so that it is difficult to tell what method was used in drilling.

Another piece may be part of a pendant. It is of mica schist, thin and flat, rounded at one end and broken in the perforation at the other end. It is 12 mm across and 2 mm thick.

CHIPPED STONE

Points, drills, and scrapers were numerous and were found uniformly distributed over the area except that they were noticeably absent in the immediate area of the cooking pits. Only two obvious knives appeared, along with four fragments of separate knives.

Points. The points are interesting in that a large percentage are of one type, with the remainder limited to only a few additional ones. Of the 43 diagnostic points and fragments, 20 are the small triangular, deeply side-notched, non-stemmed type referred to as "butterfly" points; (Fig. 10) 13 of these have a deep, distinct notch in the center of the base and the remaining 7 have concave bases. Five of this group are of obsidian, the remainder being of jasper and chalcedony. They vary in size from 10 mm long and 10 mm wide to 25 mm long and 15 mm wide.

There are 13 points in the second large group. (Fig. 11) These are triangular, corner-notched points with narrow stems. The notches are cut at an angle and the continuation of the straight side forms a prominent barb. Only one of this group is obsidian; the remainder is of jasper, chert, and chalcedony. They range in size from 15 mm long and 10 mm wide to 34 mm long and 17 mm wide.

Five examples of a third group (Fig. 12) are also triangular and corner-notched, but are slimmer in the relation of width to length, and the corner notches are nearly square, leaving a narrow stem with nearly square shoulders and very little barb. One has serrated edges. These are of jasper and chalcedony, and are all about the same size, 27 mm long and 10 mm wide.

There are two broken points which have small corner notches but wide stems and moderate barbs. The stems are straight-sided. A third complete point is unusual (Fig. 13). It has a fairly wide stem, is corner-notched with almost square shoulders, and is short and broad, being 26 mm long overall and 24 mm wide. The one remaining point is bi-pointed, with the greatest width to the rear of the midpoint; the base is slightly rounded. It is made of chert, and measures 33 mm long, 19 mm wide, and 6 mm thick. Its use as a knife is suspected.

All of these points show well-controlled pressure flaking. There is one rough thick point which has curving sides and rounded base, not notched or stemmed. It is of chert, 48 mm long, 18 mm wide, and 8 mm thick.

Knives. Two complete and two broken knives were found. One (Fig. 14) is bi-pointed, 73 mm long and 23 mm wide at a point 50 mm from the tip. It then tapers unsymmetrically to a slightly rounded base. The material is petrified wood. The second complete knife (Fig. 15) is made from a percussion flake with only three small chips taken off the naturally-convex side. It is triangular in outline but with rounded corners at the basal end, and is 35 mm long and 25 mm wide. It is also of petrified wood.

A fragment of a large knife of petrified wood is finished across the square butt end and along the parallel sides. The full width is 37 mm and the length from base to broken end is 58 mm. The remaining knife fragment is a chalcedony point with excurvate edges reaching a width of 35 mm at the point of the break, 35 mm from the point.

Drills and Scribes. Five drills (4 broken) of a common type were found. They have a broad, flat grip with a narrow chipped point. The complete drill (Fig 16) has a chipped drill portion 35 mm long, 8 mm wide, and 4 mm thick, with sharp point and edges. The materials are jasper and petrified wood. One object (Fig. 17), thought to be a drill that would be hafted for use, is of chalcedony, slim in outline and tapering from the midpoint to a sharp tip and apparently a sharp base, although a very small piece is broken off this end. It is 22 mm long, 5 mm at the widest point, and 3 mm thick.

One combination drill and scraper (Fig. 18) is made from a flake of jasper, with the circular grip chipped from one side only across the basal edge to form the usual beveled scraping edge. The drill portion extends from the grip in the opposite direction and is relatively short and broad, being 22 mm long and tapering from the point to a width of 11 mm at the grip.

Two apparent scribes or small drills are made from flakes of jasper, chipped to form points 7 and 8 mm long and 5 mm wide where they join the remains of the flake which forms a grip. Both points curve with respect to the plane of the grip, and both show some chipping on the concave side as well as on the convex.

Scrapers and Flake Knives. Twenty-nine of these were found; they were made by pressure flaking from percussion flakes of chalcedony, jasper, petrified wood, and similar materials; none is of obsidian or basalt. Nineteen of these are a type very common to the region, consisting of a flake of fairly uniform and moderate thickness, rounded in outline, with the working edge beveled by pressure flaking from one side only, found in outline and forming from 25 to 70% of the total perimeter of the flake. The finished scrapers show considerable variation in outline, due to irregularity of the individual flakes and the varying percent of finished circumference.

Four scrapers are grouped separately simply on the basis of being much thicker than the others. For instance, a representative specimen from the group of 19 examples is 36 mm in greatest dimension and 4 mm thick, as compared to 34 mm in greatest dimension and 11 mm thick for one of this group of four. Five retouched percussion flakes are classed as non-hafted knives because they are unusually thin and the worked edge has been chipped on both sides.

One specimen (Fig. 19) appears to be a scraper intended for hafting. It is made from a flake of chalcedony, with the working edge chipped from one side only and semi-circular in outline. The portion of the flake not within the arc of the working edge has been reduced by chipping to form a stem 12 mm wide and 10 mm long, symmetrical with the working edge. All chipping on the stem is on the same side as the working edge.

Choppers. Heavy choppers made by coarse percussion flaking of the edge of basalt slabs and from flat river cobbles were present. Eight were made from

cobbles and 12 from rough basalt slabs.

Cobble-flake Scrapers. Eighteen of these artifacts, which are common on Fountain Bar, were found on the site. These are simply a single large flake taken by percussion from the quartzite cobble. The broken surface is quite flat, the edges sharp and not often showing wear. They vary in size but mostly fall between 7 and 12 cm in diameter.

Notched Sinkers. Only 3 specimens were found. All were round in outline; two had two notches and one had four notches. The scarcity of this artifact at this site was surprising in view of their great frequency in the beach gravel directly east of the site. Their scarcity here contributes to our conclusion that this was a food preparation and storage area.

UNWORKED STONE

Several groups of small water-worn river rocks of basalt (5 to 8 rocks to each group) were encountered. Because of the fact that the individual rocks in each group were similar in both size and shape, it is possible that they had been carefully selected for use as cooking rocks.

Three crescent-shaped, smooth stones of a size that would fit easily in the palm of the hand, although not artificially shaped, are listed here because they bear a close resemblance to some found in graves in the McNary Reservoir in association with the ground slate effigies. Their use as "lucky stones" or charms is suggested by Osborne (1957, pp. 68-69; plate 20).

BONE AND ANTLER ARTIFACTS

Needle. The perforated end of a broken bone needle was found. It is highly polished and is fire-blackened. The piece is 43 mm long, 7 mm in diameter, and the perforation, which is slightly oval, measures 5 mm in diameter.

Awls. The pointed ends of two broken awls were found. One is smooth and well-polished; it measures 6 mm in diameter and 50 mm from the point to the break. The other awl has a blunter point, is slightly curved, and has been flattened and smoothed along one side and diagonally across the broken end, as if it had been put to some use after the original awl had been broken. Its diameter is 10 mm and its length is 43 mm.

Gambling Pieces. There were two gambling pieces. One (Fig. 5, a & b) is a flat bone, rounded to an oval shape at one end and broken at the other. One side (b) is incised with five lines radiating from the center to the edges forming three chevrons of diminishing size; the reverse side (a) has four straight incised lines running crosswise, from 6 to 9 mm apart. The piece shows traces of red ochre over the entire surface; it is 40 mm long, 17 mm wide, and 3 mm thick.

The other gambling piece (Fig. 6) is a rounded bone, thicker in the center and tapering down to a blunt point at both ends. Its diameter in the center is 8 mm and it is 50 mm long. It resembles the gambling bones illustrated by Spier and Sapir (1930, p 267) which they say were used by the women in the

hand game. There is no evidence of groove or decoration on this piece, but it is in poor condition and it is difficult to be certain.

Digging Stick Handle. This is a short broken end of an antler digging stick handle. The butt end is rounded and the piece is smooth and polished, although it is badly burned. It measures 30 mm in length, and 20 mm in diameter.

SHELL

Shell was not plentiful at this site, and of that found only one kind, the fresh water mussel, would have been used for food. The others were shells which had been traded in and which were used for ornaments or for the manufacture of ornaments.

Olivella: One shell, with the ends ground off for stringing.

Dentalium: One broken piece.

Salt Water Clam: Five finished disk beads.
Four unworked pieces.
One unfinished bead. This is roughly shaped, nearly square but with rounded corners. 12 mm in diameter.

Fresh Water Mussel: These shells occurred throughout the site but not in great numbers.

Plaited River Shell: Four of these shells were found; all but one had been perforated at one side of the opening, probably for the insertion of a cord for stringing. This is a northern form of this shell (Goniobasis plicifera Lea), and it lives in the streams of Oregon.

CLAY

Two small pieces of baked clay (Fig. 7 a & b) were sent to Dr. Warren Caldwell for identification. They both have punched decoration, and the larger piece (b) has several lines scratched on it, apparently after the piece was baked. Dr. Caldwell says this about them: "Jerry (Livingstone), who has been trained in ceramics, feels that the temper is fortuitous, probably mica or pyrite in the mudstone or water-soaked shale from which the objects are made. They are probably unfired, or, at best, fired at a relatively low heat, not greater than 600-700° F. at maximum.

"The larger fragment has been modeled or at least 'squeezed' out to what may have been a six-sided form with a hole pierced in the center. The large scratches on this one look awfully recent.

"The smaller piece was punctated while the clay was still very plastic. The tool marks have sharp edges and the clay is compacted at the bottom of each hole."

Dr. Douglas Osborne, who also examined the pieces, adds the following: "The 'clay' appears to have a lot of organic material in it. This has not been

burned out so the firing temperature was probably lower than Jerry thought. These are almost certainly not parts of a vessel but of other, probably non-utilitarian, objects. They are much worn."

The larger piece is flat, and measures 3 cm x 2.5 cm, and .5 cm in thickness. The smaller one is pointed at one end, is 1 cm across at the wider end, 12 mm long, and 5 mm thick (It is broken along its length on one side, so its original thickness cannot be determined.)

CAUCASIAN-MADE GOODS

Buttons: 8 white china buttons (all with 4 perforations)
2 white shell buttons " " " "
17 metal buttons:
1 copper. Plain, Tombac or "T" type shank
4 white metal "tombac": 1 plain Tombac or "T" shank
1 machine-engraved (4 perforations)
2 hand-made, with punched perforations (4)
10 iron buttons, all rusted. (4 perforations)
2 brass buttons with machine-engraved design. (4 perforations)
1 brass army button; the face has an eagle, with the letter "A". The back has "Scovills & Co. Extra". This button was manufactured between 1840 and 1850.
1 brass Phoenix button, small style 4. This type of button was traded on the Columbia very early...they were present prior to 1835, and were believed by Mr. N. G. Seaman to have been brought in by Nathanial Wyeth (Seaman, unpublished manuscript).

Rolled Metal Beads: 11 beads were found: 3 are of brass and 8 of copper.
3 largest are of brass; the smallest of these is 27 mm long and 4 mm in diameter. The largest is 70 mm long and 8 mm in diameter.
8 smaller beads are of copper. These vary from 12 mm to 27 mm in length and from 3 mm to 5 mm in diameter. They are rather small for rolled metal beads.

Bangles: 6 iron, cone-shaped bangles of sheet metal. The largest is 40 mm long and the smallest is 30 mm.

Tweezers: 2 tweezers, hand-made of thin brass. One (Fig. 9) is complete and one is broken. The unbroken tweezers are made from a brass strip approximately 80 mm long and 10 mm wide. This is doubled, pinched together near the bend, and shaped into a curve so that the two open ends meet when pinched together. The finished tweezers are 40 mm long. The second, broken tweezers, are smaller, being 5 mm wide, and broken near the bent end.

The Indians used tweezers to pull hair. They were formerly made of horn or wood, usually in two pieces.

Awl: 1 awl (Fig. 9) made from a piece of twisted copper wire. It is blunt at one end and very sharp at the other. 32 mm long and 2 mm in diameter at the butt end.

Lead Balls: 2 balls: 1 is round, 13 mm in diameter, and is apparently a ball for a muzzel-loading gun. The second, weighing approximately 25% more than the round one, has been flattened by impact when fired. It has a diameter of 20 mm and is 10 mm thick in the center.

Fish Hook: 1 iron sturgeon hook.

Arrow Points: 2 points made of iron.

Harmonica: 1 piece.

Rivets: 4 harness rivets, brass.

Nails: Several dozen square nails and pieces of nails.
1 horseshoe nail.

Pendants: 2 small brass pendants with punched holes.
4 pendants of iron, with punched holes.

Tacks: 15 brass tack heads.

Iron Pot: 1 handle and 1 piece of the rim.

Watch Parts: 1 brass key for a key-winding watch.
1 brass ring with stem, may be a handle to a pocket watch.

Eyelet: 1 brass eyelet, possibly from a shoe or boot.

Iron and Brass Pieces: 21 pieces of various sizes and shapes. None with perforations.

Bottle Glass: Quantities of glass were present: all of it was coated with a white incrustation and all of it was weathered. The clear glass had turned lavender from the sun. The colors were: very dark green, medium green, light green, brown, white (clear), and lavender.

China: 3 pieces of heavy white ironware.
1 piece, white with green decoration, appears to be a part of a small porcelain pipe.
5 pieces of blue and white, possibly old Willow Ware.

GLASS BEADS

Tubular, faceted translucent (so-called Russian) beads:

Dark blue: 8 beads, all small. The longest 6 mm; smallest 4 mm.
Crystal: 5 beads, from 7 mm to 5 mm in length. Some of these are slightly lavender, from the sun.
Amber: 1 bead, 5 mm long.

These beads are often called "Russian Beads" because they were traded by the Russians. According to Emory Strong (1959, p. 225) "They are found in the oldest sites (along the river) and are more plentiful near the coast than on the upper river, indicating trading vessels as their source. Sometimes this is the only type bead found in a site, but copper beads seem always to be with them."

Oval, ultramarine blue, translucent beads:
4 broken pieces. This bead is also more common along the coast than it is in the interior.

Round, opaque sky-blue beads. (Often referred to as "China" beads).
5 beads, all broken in half. The largest is 11 mm in diameter; the smallest 7 mm. This is the type of bead which is most common above the Cascades along the Columbia River.

Tubular, semi-translucent, paste glass. Medium blue:
2 beads, approximately 3 mm long.

Tubular, translucent glass, light blue:
1 bead, 5 mm long.

Round, translucent glass beads:
2 medium blue; 5 mm and 6 mm in diameter.
1 amber colored; 9 mm in diameter.

Round, Cornaline d'Aleppo bead. Red translucent outside; white opaque core:
1 broken bead. Compete, it would measure 11 mm in diameter. These beads were widespread in the latter part of the first half of the 19th century.

Near-round, faceted, garnet-red translucent glass bead.
1 bead with sloping facets around each end, leaving a slight ridge around the center of the bead where the facets meet. Diameter, 13 mm.

Barrel-shaped, polychrome bead of light blue opaque glass with zig-zag line of red and white encircling it.
1 bead, 8 mm long and 6 mm in diameter at the center.

CONCLUSIONS

The abundance of stone tools at this location, together with the cooking and storage pits and the great quantity of charcoal throughout, indicate that this was a permanent village site. The point types and the presence of European trade articles indicate a late site. Although trade goods are not always good dating material, nevertheless the rolled metal beads and the articles made of sheet metal and twisted wire were among the earlier of the trade items brought into this region and it is probable that the site was occupied at, or before, the time of the first explorers along this part of the river. How long it was occupied in pre-historic times is impossible to

determine, from this excavation, because of the lack of stratigraphy due to the concentration of artifacts through wind action. Artifact types and lack of European trade goods in other parts of Fountain Bar indicate earlier occupation for most of the area.

Although a test pit was excavated below the occupation level to a depth of two feet without encountering another occupation level, it is possible that still deeper excavation might locate one. Such further investigation might prove worthwhile, but would have to be accomplished before the flooding of the site by waters from the John Day Dam now under construction.

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