

Paleo-Indian Artifacts from the Peace River District

K. R. FLADMARK

Archaeological research in the Peace River district of northeastern British Columbia over the last five years has been mainly directed towards site inventory and cultural resource management goals (Fladmark, 1975b; Fladmark, Finlay and Spurling, 1975; Spurling, Finlay and Fladmark, 1976; Spurling, 1978). However, largely as byproduct of extensive site-surveying and limited test excavation, an initial cultural-historical outline for the area is beginning to emerge. It is not the intention of this paper to describe the entire sequence, but merely to indicate the existing evidence for the earliest recognized occupations. This consists of surface finds of projectiles which typologically overlap Paleo-Indian point styles of other areas of North America. These constitute some of the few manifestations of "classic" Paleo-Indian complexes in British Columbia, extending their known range in a portion of the so-called "ice-free corridor" (cf. Bryan, 1969; Reeves, 1973; Fladmark, 1979).

ENVIRONMENTAL HISTORY

The Peace River rises in the Rocky Mountain Trench and flows east and north through the mountains and across the Alberta Plateau to Lake Athabaska, where it joins the Mackenzie drainage. In British Columbia the river flows through a deep canyon cutting the Rocky Mountain foothills and emerges at Hudson Hope into a large valley averaging 3-4 km wide, incised 200 m below the gently rolling surface of the Alberta Plateau (Figure 40). During the last main glaciation, ice-damming and other factors empounded a large meltwater lake (Lake Peace) over most of the present Peace River drainage and adjacent areas in British Columbia and Alberta. The lake occupied successively lower shorelines between about 860 m and 660-670 m (2,800-2,200') above sea level (Mathews, 1963, 1978). Although the beach levels are not yet firmly dated, Mathews (1978) argues that a high stage correlates with the Portage Mountain moraine, and that Lake Peace had fully drained and valley down-cutting

began by ca. 10000 B.P. A mammoth tusk recovered from the Portage Mountain moraine during the construction of the W.A.C. Bennett Dam has yielded two widely disparate radiocarbon dates on collagen: 11600 B.P. (I-2244A) (no estimate of counting error) (W. Mathews, 1978: 17): and 25800 ± 320 B.P. (G.S.C.-2859) (W. Mathews, pers. comm., 1980). In addition, the same tusk yielded an earlier carbonate date of 7670 ± 170 B.P. (I-2244), which has since been discounted as contaminated by groundwater (Mathews, 1978: 17). On the basis of these conflicting dating estimates one is left with at least two possible interpretations for the age of the highest stand of glacial Lake Peace: (1) that it correlates with the onset of the main Wisconsinan glaciation, or (2) that it correlates with a final episode of mountain glaciation at the end of the Wisconsinan. Whatever the age of the earliest and highest stage of glacial Lake Peace, Mathews (1978, pers. comm., 1980) feels that the final and lowest lake levels probably drained about 10000 B.P. Thus, before 10000 B.P. the buried river valleys lay beneath Lake Peace, and any human inhabitants must have been restricted to high land surfaces.

If this tentative chronology for Lake Peace is correct, the present Peace River valley began to form about 10,000 years ago by incision of the stream into the former lake basin. Initial down-cutting was probably relatively rapid and uninterrupted, as suggested by steep continuous escarpments lacking any significant terracing between the valley rim and about 60 m above present river level. Between about 60 and 45 m above river level, there is a discontinuous set of at least two alluvial terraces which represent episodes of erosional stability or aggradation. The higher terrace is undated, but a minimum age of 8000 B.P. seems likely, as suggested by a date of 7450 B.P. on an intermediate terrace of the Ospika River, tributary to the Peace, in the Rocky Mountains (Rutter, 1976). Archaeological components and paleosols in a cliff-head dune site (HaRk 1) on the lowest Peace River terrace have been radiocarbon dated, and indicate that the river had abandoned the terrace and 1.5 m of aeolian sedimentation had occurred by 5800 B.P. (Spurling, 1978; Valentine, Fladmark and Spurling, 1980). Therefore, before 5800 B.P. the river began to renew channel incision, ultimately attaining the present flood plain level 45 m below the lowest terrace, before 200 B.P., as shown by historic settlements and records.

Dating is still tentative, but the reconstructed geomorphic history of the Peace River District suggests restrictions on the location of past human occupation. Before 10000 B.P. it seems probable that no portion of the present valley system was available for occupation, and man must have

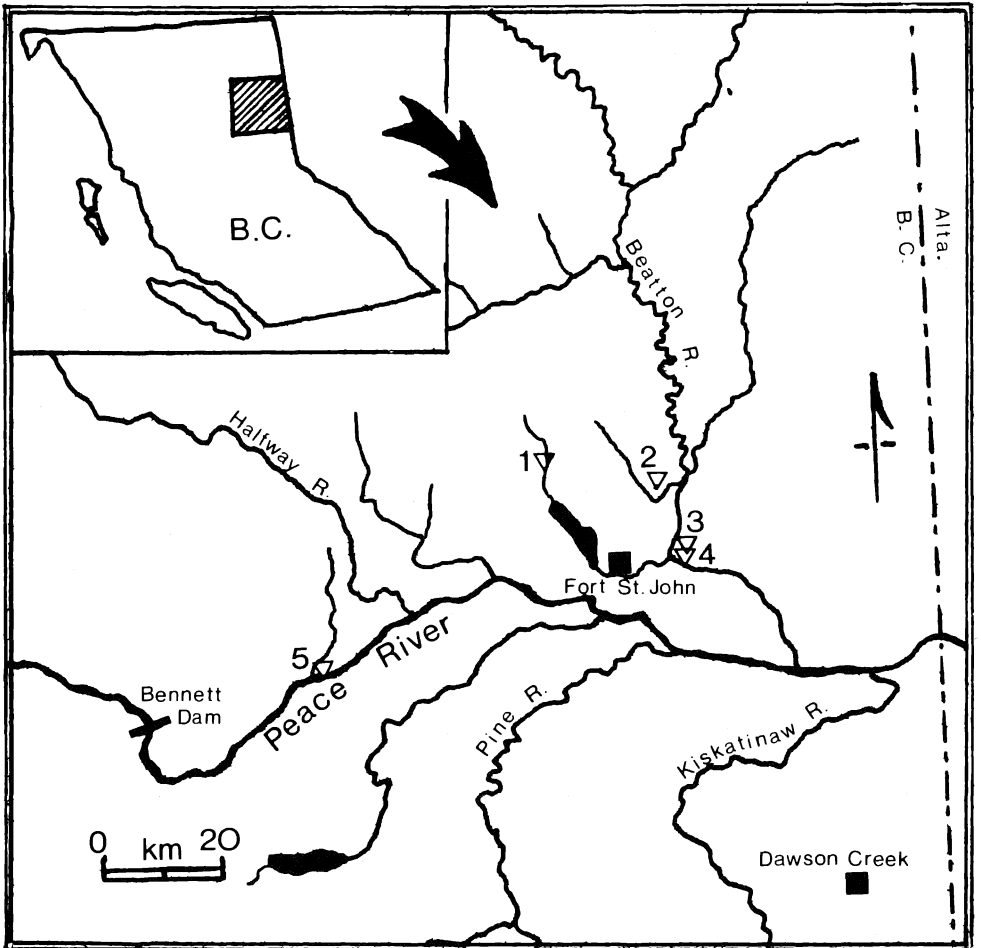


FIGURE 40. Map of the Peace River area of British Columbia with site locations shown: (1) Location of incomplete "Scottsbluff" point; (2) Gerret Site; (3) Location of "Alberta" point; (4) Bedier Site; (5) HaRk 1.

been confined to elevations at or above the successive strandlines of glacial Lake Peace. By about 8000 B.P. (?) the upper alluvial terrace(s) may have become available, with continued down-cutting exposing the lowest intermediate terrace around ca. 6000-6500 B.P. Therefore, while plateau sites could theoretically represent the entire temporal range of Peace River cultures, valley sites are necessarily restricted to later portions of the sequence, with maximum possible age of occupation diminishing with decreasing elevation.

PALEO-INDIAN COMPLEXES

Archaeological surveying in the Peace River district of British Columbia has been so far mainly confined to the valley systems, thereby presumably restricting the principal site and assemblage sample to the post-10000 B.P. era. In fact, since the highest intermediate terrace would be the first significant inhabitable surface in an otherwise steep valley trench, it is likely that most valley sites postdate ca. 8000 B.P. Not surprisingly, therefore, there is no convincing evidence of typologically distinctive early Paleo-Indian occupations within the valley, all known manifestations being restricted to higher plateau surfaces. This paper will report on surface occurrences of points representing Cody-Alberta and fluted point traditions in the Fort St. John area.

1. *Cody-Alberta Complex:*

Two projectile points found in the Fort St. John area by local landowners seem definitely related to the Cody and Alberta Complexes of the more southern Plains (cf. Wormington, 1957; Irwin and Wormington, 1970; Irwin-Williams et al., 1973). One is a large, complete Alberta point of dark gray chert, measuring 11.6 x 4.03 x 1.0 cm (Figure 41). Flaking is well controlled with wide flat sub-parallel flake scars and limited grinding of the basal edge below the pronounced shoulders. This specimen, which is remarkably similar to the Denver Museum type-cast of an Alberta point from Colorado, was found by a local landowner 7 km northeast of Fort St. John, on the east lip of the Beaton River valley, a major northern tributary of the Peace River. The site coincides in elevation with the lowest level of Lake Peace (670 m), although there is no obvious shoreline feature in this area. When visited in 1976, the site had recently been plowed and yielded a small and undistinctive surface collection of detritus and retouched flakes. The landowner's collection also

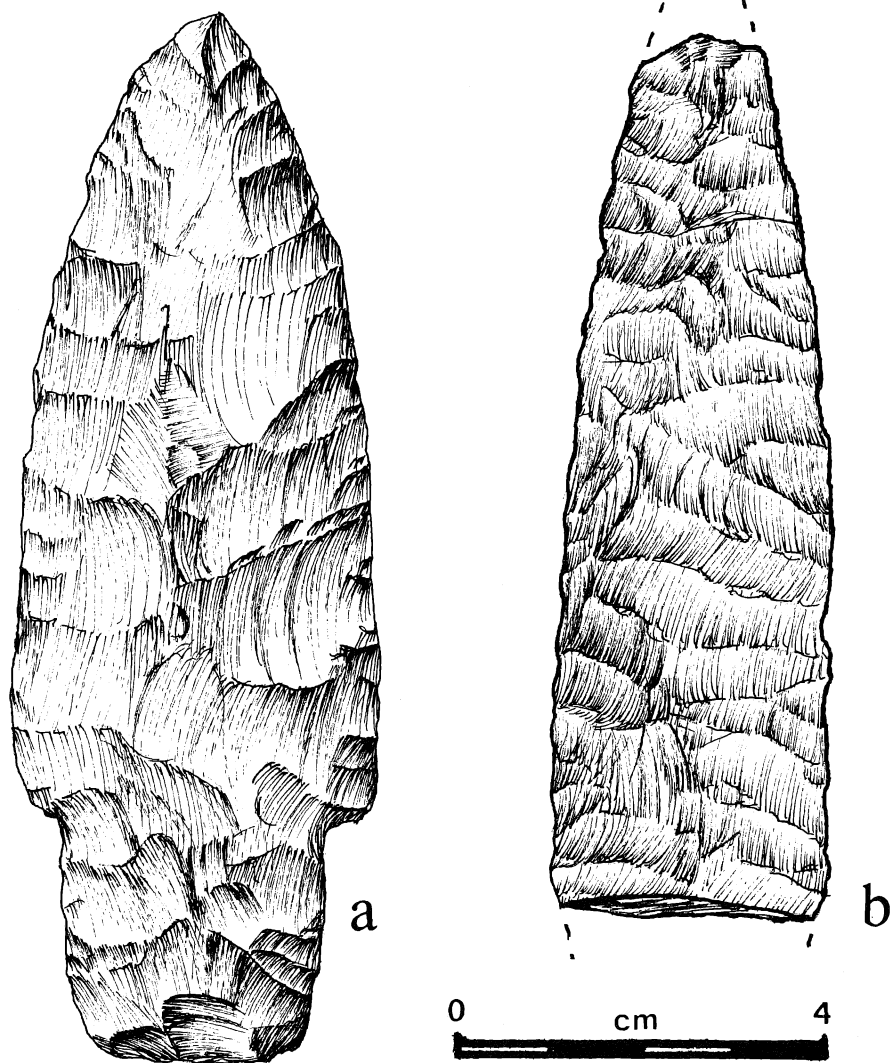


FIGURE 41. Alberta point and incomplete Scottsbluff (?) point from the Fort St. John area.

includes a wide range of other more recent projectile styles and it must be presumed that the area has been successively reoccupied through time.

The second example is the incomplete body segment of a large elongate parallel-flaked projectile point, which shows evidence at the basal fracture of having originally been stemmed. In this case the specimen probably originally resembled a large Scottsbluff point, measuring over 9.7 x 3.0 x .7 cm (Figure 41). The remaining segment exhibits good parallel-oblique flaking on both faces, without any evidence of edge-grinding. The raw material is a dark brown semi-translucent chalcedony containing minute white inclusions, which in all respects resembles Knife River Flint from South Dakota (cf. Clayton et al., 1970). Paleo-Indian points manufactured of Knife River Flint have been found throughout the Northwestern Plains (e.g., Wormington and Forbis, 1965; Irwin et al., 1973), although this is the first reported occurrence of the stone in British Columbia. The owner reports finding this point approximately 6 m below the surface during the construction of a road bridge over Stoddard Creek, 24 km northwest of Fort St. John. Unfortunately, the area was under a beaver pond in 1976 and not available for study.

2. *Fluted Points:*

The Gerret site is located 13 km northeast of Fort St. John, 2 km from the west lip of the Beatton River valley, at an elevation of approximately 660 m above sea level. The general terrain is cleared and low-lying, but slightly mounded, with poorly drained areas between the fossil periglacial mounds. The landowner reports two projectile points while excavating a water reservoir for cattle in boggy land between hummocks. These points were examined in 1976 and are described below:

1. (Figure 42a): An elongate lanceolate point with slightly concave base measuring 4.85 x 2.4 x 0.7 cm. Manufactured of a fine-grained, nearly vitreous glossy black chert, this specimen bears a single broad shallow "flute" or distally directed flake scar extending three-quarters of the length on one face. The "flute" scar is extensively modified by pressure retouching from the lateral edges, which has also produced slight lateral constrictions forming barely expanding basal "ears." The opposite face carries no basal thinning but bears relatively steep collateral flaking giving the point a pronounced plano-convex cross-section. There is no evidence of edge grinding.
2. (Figure 42b): A broad stubby lanceolate point with a slightly concave base, measuring 4.0 x 2.5 x 0.7 cm. Manufactured of the same glossy black chert as specimen 1, this point carries two basal thinning flakes extending slightly less than half the length on one face. The opposite face bears

short basal thinning retouch flakes, and the proximal halves of the lateral edges are extensively ground.

Surveying and exploratory test excavations of the Gerret site in 1976 produced no further evidence of cultural activity. Subsoil to a depth of at least 70 cm consists of silty lake sediments without evidence of paleosols or cultural levels.

The Bedier Site is located 7.5 km east of Fort St. John, near the east lip of the Beaton River valley, at an elevation of approximately 660 m, approximately 1 km from the site containing the Alberta point. The landowner possesses an extensive collection, including stemmed, corner-notched and lanceolate points collected somewhere on his property over many years, with exact provenience unknown. Two specimens in this collection were medium-sized lanceolate, concave-based points of Plainview type, and surveying of his property in 1974 resulted in the discovery of a third lanceolate specimen, this time fluted. It was found with a relatively extensive surface assemblage concentrated in approximately a 100 m diameter area on a single low fossil periglacial mound. While there is no way of knowing whether the two Plainview-like specimens were found in the same area as the fluted point, a number of features of the collection from that area suggests a relatively unmixed Paleo-Indian tool-kit. These artifacts and the Plainview-like points are described below:

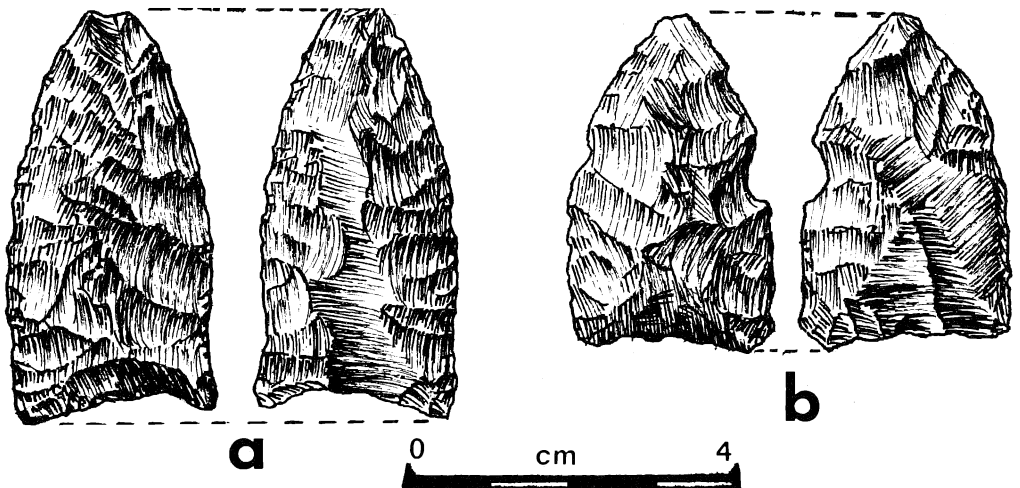


FIGURE 42. Projectile points from the Gerret Site, near Fort St. John. Dorsal and ventral views.

1. (Figure 43c) : A lanceolate, concave-based, Plainview-like point of gray chert, measuring 4.6 x 2.2 x 0.6 cm. Base and lateral edges for one-third of their length are extensively ground, the lateral edges are slightly excurate and basal ears are asymmetric. There is no significant basal thinning.
2. (Figure 43b) : A lanceolate, concave-based, Plainview-like point of gray-green chert measuring 3.8 x 2.2 x 0.63 cm. Base and lateral edges for almost half their length are heavily ground, and flake ridges are rounded and indistinct over the entire point. One basal ear is broken and two basal thinning flakes extend over one-third of the length of the point on one face.
3. (Figure 43a) : Lanceolate, nearly straight-based point, of gray-brown siliceous siltstone measuring 4.2 x 2.6 x 0.55 cm. Well defined columnar thinning flakes extend about half the length of the point on one face, and two shorter thinning flakes occur on the opposite face. Edge grinding is extensive around the lower half of the lateral edges and the base. One projecting ear is broken, giving the point an asymmetric appearance, and a slight projection of the basal edge near the mid-point suggests a prepared striking nipple for fluting. The distal (tip) half of the point appears to have been reworked or re-sharpened, as shown by a less weathered surface and better defined flake scars. The fact that the basal portion is not similarly reworked suggests that re-sharpening may have occurred while the point was hafted, or at least done by a cultural group with the same hafting requirements as the original. This point typologically falls within the published range of variation of Clovis and Clovis-like fluted points from the Plains and Eastern Woodlands.

The latter point was found with 142 other cultural items scattered over a low mound about 500 m from the edge of the Beatton River valley. This collection includes two other point fragments; three generalized bifaces; three end-scrapers; two side-scrapers; two *pièces esquillées* or small bipolar cores; two flake cores; two graters; one quartzite chopper; twenty-six retouched flakes, and ninety-nine unmodified flakes. The two point fragments (one thin collaterally flaked mid-fragment of brown chert and one heavily edge-ground straight-based basal fragment of quartzite) are too incomplete to be typologically identified, but possess no features which would automatically preclude them from a general Paleo-Indian affiliation (Figure 43d). The bifaces include one roughly flaked ovate specimen of gray quartzite (Figure 43f); one broad, edge-flaked asymmetric “knife” of quartzite (Figure 43g); and an amorphous bifacially retouched flake of glossy black chert bearing multiple burin scars on one face (Figure 43e). The end-scrapers are based on blades or elongated ridge flakes of metamorphic or siliceous siltstone. Lateral edges are retouched and the scrapers exhibit a pronounced curvature in longitudinal

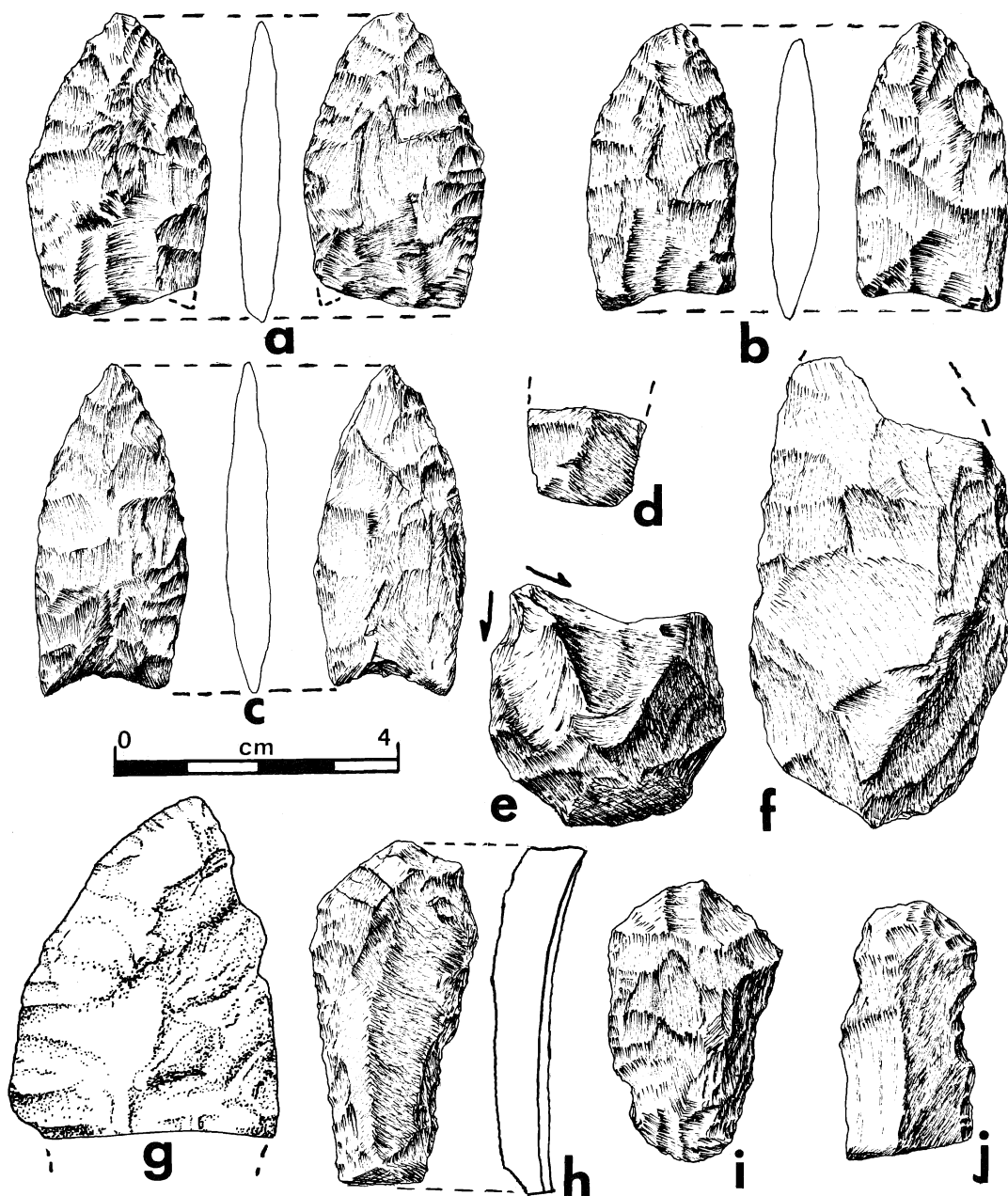


FIGURE 43. Artifacts from the Bedier Site, near Fort St. John. (a) Fluted projectile point; (b-c) Plainview-like points; (d) Projectile point base fragment; (e) Burin on a biface; (f, g) Bifaces; (h-j) End-of-blade scrapers. Estimated age greater than 8,000 years.

cross-section (Figure 43h). Scraping edges are set off from the lateral edges by pronounced "corners" or spurs, and in two cases there are secondary "spurs" or tips at the mid-point of the scraping edge (Figure 43h, i, j). Side-scrapers are based on the distal edge of side-struck flakes of quartzite and chert, and the *pièces esquillées* or bipolar cores are quartzite flakes exhibiting opposed crushing and columnar flake scars. The flake cores are small (4.9 x 3.95 x 2.9; 5.3 x 4.0 x 2.6 cm) and based on naturally rounded pebbles of gray and brown chert. One of these also exhibits bi-polar modification. The graters are small ridge flakes of gray chert and quartzite with a fine retouched tip at one end.

A number of distinctive attributes of this collection set it apart from all assemblages found within the river valleys, and suggest that it may be generally older than lower elevation collections. These are: (a) the occurrence of artifact types not found in valley assemblages, but which are typologically similar to early complexes of the Plains. These include the fluted point, the Plainview-like points, and the spurred "end-of-blade" end-scrapers, which are unlike any end-scrapers from valley sites and which appear similar to spurred end-scrapers from southern Paleo-Indian contexts (e.g., Irwin and Wormington, 1970). (b) a very high proportion of "exotic" raw materials. In valley sites 90 percent or more of all items are manufactured of a dull black chert which occurs as pebbles in local gravels (Fladmark, 1975b). The Bedier site is a unique opposite to this rule, possessing only 23 percent black chert modified artifacts and 28 percent black chert flakes. Bedier site lithics include a wide range of variously coloured cherts, siliceous siltstones and quartzites, with no single type predominating. While most of these rock types do occur rarely in valley sites, at least one lithic material seems unique to the Bedier assemblage. This is a translucent gray quartzite with a pronounced lustrous sparkle. It contains a scatter of small mafic inclusions and weathered surfaces bear a speckled creamy appearance. This stone is visually very distinctive and is used for five of the Bedier site artifacts, including the square based point fragment and asymmetric "knife." These distinctive rock types may indicate that, at the time of Bedier site occupation, river valley sources for the common black chert were restricted or unavailable, as would be the case prior to valley incision. Alternatively it may suggest a cultural preference for special lithic sources, often noted in more southern Paleo-Indian assemblages (e.g., Gardner, 1974).

Exploratory probing at the Bedier site in 1974 revealed dense cultural materials within the plow-zone, overlying apparently sterile lacustrine silts. The possibility exists that undisturbed cultural deposits survive at the

contact between plow-zone and sterile sub-soil, but their discovery must await further excavation. The low hummock carrying the cultural materials is one of a complex of ancient periglacial pingo-like mounds separated by poorly drained swales along the edge of the river valley, and is in an identical geomorphological context to the Gerret Site. Both sites are at, or slightly below, the lowest recorded shoreline of glacial Lake Peace (Mathews, 1963, 1978), suggesting a maximum possible age of about 10000 B.P. That these sites are probably not more recent than about 8000 B.P. is suggested by the lack of evidence for similar materials within the valleys. Their context might suggest preferential occupation of the raised periglacial hummocks along the margin of a shallow lake or wide shallow floodplain, just prior to the onset of valley incision.

Previous researchers have commented on Paleo-Indian points from the Alberta Peace River area (e.g., Wormington and Forbis, 1965), and many specimens have been surface collected in the Alberta plains, but the nearest excavated, dated localities containing fluted points or Plainview-like points are in the coterminous United States. Clovis and closely related fluted points range in age between ca. 11500 B.P. in the American southwest and about 10600 B.P. in the northeast (e.g., MacDonald, 1968; Haynes, 1970). While the one specimen from the Bedier site certainly overlaps the range of variation of all points which have been called "Clovis" at various times in the Plains and Woodlands areas, it is equally certainly not a "Classic" example of the genre. Small and relatively light, with multiple narrow channel flakes, this specimen may more closely resemble some fluted points of the eastern Woodlands or Alaskan area than the Plains or Southwest. Additionally, while the available evidence of the age of the Bedier specimen is still very tentative, geological considerations suggest that it is probably more recent than the usual age range of western Clovis, falling between about 8000-10000 B.P.

Indications of Cody-Alberta Complex occupations in the Peace River District of British Columbia are paralleled by a few similar finds in north-western Alberta (e.g., Wormington and Forbis, 1965), but in no case is precise dating possible. Bryan and Conaty (1975) have argued for a late persistence of Paleo-Indian-like points in the Alberta Peace River area, as local manifestations of the widespread Subarctic Thaltheilie Tradition (cf. Noble, 1971; Gordon, 1977). However, research to date in the British Columbia Peace River valley, while still tentative, has not produced convincing evidence of a Thaltheilie component in the last ca. 4,500-5,500 years (B. Spurling, pers. comm., 1979). Instead, local cultural stages seem to parallel those of the Northwestern Plains, with late components

characterized by small side-notched points, overlying Besant and Oxbow corner and side-notched forms, which in turn may postdate a microblade component (B. Spurling, pers. comm., 1979).

In summary, a number of surface finds from the vicinity of Fort St. John, British Columbia, suggest the presence of Paleo-Indian complexes in the area. These include representatives of the Cody-Alberta complex, Plainview, and a fluted point tradition. While precise dating of these finds is not possible, geological considerations, particularly the drainage of glacial Lake Peace and formation of the Peace River valley, as well as a tentative cultural sequence from the river valleys spanning the last 4,500-5,500 years, coupled with valley surface collections which should span the last ca. 8,000 years, suggest that these finds date between about 8000 and 10000 B.P. It is hoped that future investigation will recover similar materials in excavated context, to more precisely determine the age and adaptive orientations of Peace River Paleo-Indian complexes.

ACKNOWLEDGEMENTS

The principal funding agency for archaeology in the Peace River Valley has been B.C. Hydro and Power Authority, with additional support provided by Simon Fraser University and the British Columbia provincial government. In 1976 the Canada Council also supported a brief survey of raised strandlines of glacial Lake Peace in an effort to locate early man sites. I am indebted to these sources, and to the many local residents of the Peace River District who supported us in our work. I would like to offer special thanks to the many crew members of the Peace River project who have worked so hard over the years, and particularly to Brian Spurling who directed the Peace River research from 1977 to 1979. Barbara Hodgson did the drawings for this report, and Lynn Hill patiently typed and retyped the manuscript.