

## CHAPTER 18

# The Yukon Projectile Point Database

P. Gregory Hare<sup>†</sup>, Thomas J. Hammer<sup>‡</sup>, and Ruth M. Gotthardt<sup>†</sup>

<sup>†</sup> *Archaeology Programme, Department of Tourism and Culture, Government of Yukon*

<sup>‡</sup> *Archaeological Services Branch, National Historic Sites Directorate, Parks Canada*

### Introduction

The Yukon Projectile Point Database Project was initiated in 2000 in an effort to make available for study information on all projectile points from the Yukon that are held in public repositories in Canada. The goal is to compile digital photographs of Yukon projectile points with information on point location, context, dates and associations into a database that would be available on the web. Nearly 500 points have been entered in the database, representing, the authors believe, the majority of Yukon projectile points collected to date.

The development of the Projectile Point database has brought about renewed reflection on questions of projectile point typology and chronology for the Yukon. In many Yukon contexts, efforts at chronological ordering of points are hampered by poor organic preservation, uncertain associations, and a lack of good stratigraphic context for excavated points. Progress in refining point typologies and chronologies has been exceedingly modest and Workman's point classification (1978) for Yukon remains the standard reference for central and southern Yukon.

However, in recent years a sample of projectile points still associated with their wooden spear shafts or foreshafts has been recovered from melting alpine ice patches in southwestern Yukon. The exceptional preservation of ancient weaponry permits the direct dating of a variety of point forms, and has provided some new insights into point types and chronology in the region.

The purpose of this paper is two-fold—to present a brief overview of the Yukon Projectile Point Database and to provide an update on point typologies in

the Yukon. The data suggest that in many instances, the variation in projectile point types may relate to factors other than presumed cultural affiliation, time period or constraints of weapon design. Individual stylistic choice or skill and point breakage and reworking likely play a substantial role in the variation we see in point forms in the prehistoric record.

### Construction of the Database

The Yukon Projectile Point Database arose from the desire to have a comprehensive digital image collection of projectile points from the Yukon available via the World Wide Web. This objective was judged readily achievable because the Yukon has seen a limited amount of archaeological research and the majority of archaeological collections are held in two principal repositories: the Canadian Museum of Civilization (Archaeological Survey of Canada) and the Yukon Government, Heritage Resources Unit. A small collection of archaeological materials from work by Parks Canada in the National Parks (Kluane, Vuntut and Ivvavik) is held by Cultural Resource Services, Parks Canada, Winnipeg.

At the time of writing, there are approximately 500 projectile point images in the Yukon Projectile Point Database, which is believed to represent the majority of points collected in the territory (although several large, private collections are known to exist). The records comprise both complete and fragmentary projectiles and where there is ambiguity as to the function of a biface, it is included in the dataset.

Thirteen fields were used to describe morphology, raw material, available dates, provenience, and published and unpublished references for each projectile (Figure 1).

The structure and content of the data fields is still evolving. The inclusion of separate fields for base morphology and blade morphology, for example, is being considered, similar to Workman's (1978) approach for some of his point types. It is anticipated that site location information will be a password protected field on the web version of the database.

In the course of populating the Yukon Projectile Points Database, the opportunity presented itself to review and potentially update Yukon point types and their chronologies. To this end, a subset of the database was created focusing on complete or near complete points. To narrow the focus further, arrow points, which occur only in the Late Prehistoric period in the Yukon archaeological record, were excluded from the present review (see Hare et al. 2004). In total the sample of Yukon dart or spear points forming the basis for the current typological exercise number about 216. Because the cultural historical sequence and projectile point typologies for the southwestern Yukon have been the subject of the greatest amount of study and investigation, this region will be the principal focus of the update of point typology, commencing with a review of the previous efforts of MacNeish (1964) and Workman (1978).

## Southwest Yukon Projectile Point Typology—Historical Overview

Our grasp of the culture history of the Yukon is still fairly tentative. Dateable, stratified sites are rare and most sites contain few temporally diagnostic artifacts, requiring researchers to rely heavily on comparative typology of projectile points for the temporal placement of their sites (Greer 1993:26). The regional culture history developed for southwestern Yukon by Workman (1978) nearly 30 years ago, which built on the work of MacNeish (1964) a decade and a half before, remains the principal framework for interpreting much of the prehistoric record of southern and central Yukon.

### *MacNeish's Point Typology*

MacNeish's (1964) pioneering efforts established the first projectile point typologies within a culture-historical sequence for southwestern Yukon spanning the Holocene.

MacNeish's projectile classification attracted some unfavourable comments due to the number of point types that he identified and their presumed, far-reaching and largely unsubstantiated cultural connections (Irving 1963). MacNeish developed his typology from points recovered from 50 sites located in southwestern and central Yukon and one from northern British Columbia. From 305 whole or fragmented points, MacNeish classified 196

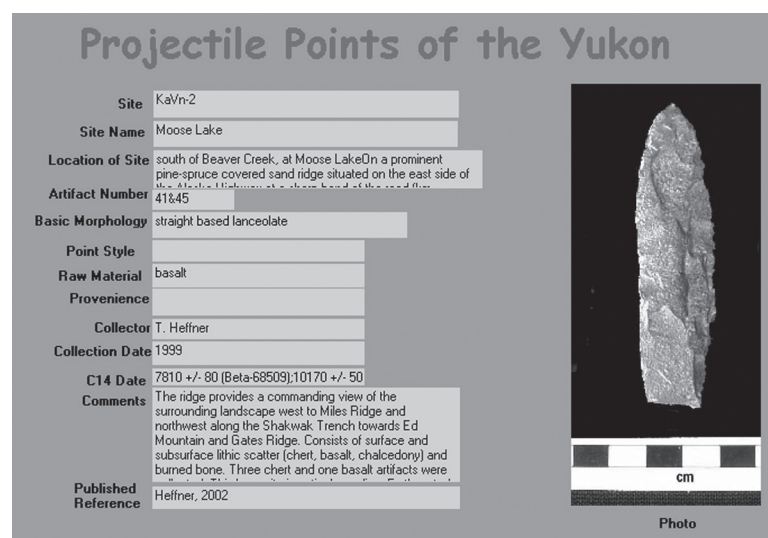


Figure 1. Representative entry from Yukon Projectile Point database.

points into a total of 19 chipped-stone projectile point types (MacNeish 1964:391). One hundred and twenty-eight points were from excavated context, comprising 28 components. Table 1 summarizes the 19 projectile point types, their descriptions and counts (excluding copper, bone and antler projectiles). MacNeish assigned names reflecting presumed southern connections for 11 of the 19 types developed on the basis of “similar attribute clusters and similar temporal significance”. He admitted that this was somewhat reckless and suggested that the term “like” be used as a suffix for his northern Lerma, Agate Basin, Milnesand, Plainview, Morhiss, Refugio, Anderson, Besant, Catan, Prairie and Fresno points.

Within MacNeish’s 19 point types, the Agate Basin-like point is the most abundant class with 51 specimens, followed by the Milnesand-like point with 19. The overall breakdown is shown in Table 1. This table reinforces the perception that there was a great variety of Yukon point types, with few types being very abundant. In fact some point “types” are represented only by a single specimen.

Table 1 shows that MacNeish’s Agate Basin-like and Milnesand type (morphologically quite similar), are present through 6000 years of the Holocene. An even longer duration is evident for other concave based, lanceolate points, such as his Plainview point, which occurs from 8500 BP into the historic era. Notched point types date from the mid-Holocene and occur together with a variety of lanceolate forms and some stemmed points. After 1250 BP, arrow points, both tanged and notched, appear alongside larger notched and unnotched lanceolate points. Based on the observed chronology of the point styles, MacNeish (1964:391) concluded that in the prehistoric record in southwest Yukon, large unnotched points precede large notched and stemmed points, followed by small arrow points.

#### *Workman’s Point Typologies*

Using many of MacNeish’s collections along with his own excavated assemblages, Workman (1978) developed a point typology for the archaeological record of southwest Yukon based primarily on the

**Table 1. Point types and frequency according to MacNeish’s (1964) cultural phases.**

Point Type	Phase									Total
	10,000	8500	7500	6000	4000	1250	0 BP			
	Kluane	Champagne	Little Arm	Gladstone	Taye Lake	Aishihik	Bennett	Others		
Lerma	2		1							3
Pelly		6								6
Agate Basin		24	13	4	5			5		51
Milnesand		6	7	2	2			2		19
Minto			1							1
Plainview		1	3		1		1			6
Morhiss				9	5					14
Refugio				2	11					13
Anderson				2	6	3				11
Besant				7	3	1				11
Destruction				1	1					2
Lockhart				3	4					7
Taye				1	1					2
Whitehorse					8	1				9
Aishihik						2				2
Stott							7			7
Catan						1	5			6
Prairie							4	1		5
Fresno							1			1
<b>Total</b>	<b>2</b>	<b>37</b>	<b>25</b>	<b>31</b>	<b>47</b>	<b>8</b>	<b>18</b>	<b>8</b>		<b>176</b>

type of haft element (stemmed, unstemmed [stemless] or notched) and secondarily overall shape and/or size, and/or features of the haft element, such as base morphology or the presence of multiple notches. Workman's total sample of complete and fragmentary projectile points numbered 97, derived from 35 distinct contexts or provenience units (1978:197). From the sample, Workman defined a total of 13 descriptive types, for which the distribution and chronology are summarized in Table 2.

In Workman's chronology, the P1 (and the cruder P2) convex-based lanceolates are associated with the earliest Little Arm occupations, possibly with Northern Plano or Cordilleran influences (1978:427). The thick biconvex, parallel-sided, straight-based P6 type occurs in pre-ash context but is of unknown antiquity (1978:210). Excluding the small arrows (P5, PN5, PS1, PS2) the remaining six types of stone projectiles date between 4500 BP and 1200 BP, associated with the Taye Lake phase of southwestern Yukon. Narrower temporal ranges are proposed for the PN3 type, which seems to be associated with the early Taye Lake phase, dating between 3000 and 4000 BP (1978:215) and PN4, which is dated to about 3000 BP at Chimi. P3, the Whitehorse point, P4, and possibly PN1, are all late Taye Lake phase, ca. 2000–1200 BP (1978:209).

Workman expressed the hope that his reconstruction of the prehistory of southwest Yukon would be improved with additional fieldwork, better chronologies and a greatly refined typology (1978:430). The following reviews some of the recent Yukon research, and particularly the research in the southwest Yukon ice patches, in the context of developing the Yukon Projectiles Point database and from this basis presents our tentative efforts to organize and interpret point types in the prehistoric record.

### Yukon Projectile Point Database—A Cautionary Tale for Yukon Projectile Point Typologies

The sample of complete and/or diagnostic dart points in the Yukon Projectile Points database numbers 216. Many of the points studied by MacNeish and Workman to construct their typologies are included in the present database. Within the database is also a subset of stone spear points which derive from recent research in alpine ice patches. It is this sample which is felt to hold promise for providing valuable insights into the meaning of variability in projectile point styles.

Since 1997, approximately 185 fragmentary and occasionally complete hunting implements

**Table 2. Point types and frequency according Workman's (1978) cultural phases.**

Years BP	7500+	4500	1200		
Point Type	Little Arm	Taye Lake	Aishihik/ Bennett	Other/ Unknown	Total
P1: Thin convex-based points	2			2	4
P2: Crude, ground convex-based points	2?			1	3
P3: Whitehorse points—broad lanceolate points with subconvex base		5			5
P4: Straight-based lanceolate points		2			2
P5: Teardrop points		1?	5		6
P-6: Thick, biconvex, straight-edged points		2?			2
PN1: Large multi-notched points		2	1		3
PN2: Small, convex-bladed multi-notched points		2			2
PN3: Shallow-notched, weakly shouldered points		4			4
PN4: Notched barbed points		3			3
PN5: Diminutive side-notched points			3		3
PS1: Elongate-stem shouldered points			2		2
PS2: Kavik points			2		2
<b>Total</b>	<b>4</b>	<b>21</b>	<b>13</b>	<b>3</b>	<b>41</b>



have been recovered from 23 alpine ice patch sites in southwestern Yukon. The collection comprises principally whole or broken spear and arrow shafts, foreshafts, sinew and feathers, and projectile points, occasionally still hafted to the shafts. Current interpretations are that hunters were attracted to these alpine sites by the presence of caribou, which tend in summer to congregate on snow covered slopes at high elevations seeking relief from insects and high temperatures. Darts and arrows lost in the soft snow in the course of the hunt are today melting out of these alpine nivation basins (Hare et al. 2004).

Figure 2 shows the sample (N = 21) of stone projectile points recovered from alpine ice patches in southwest Yukon. Based on dates obtained on associated wooden dart shafts, the points probably range in age from about 3000 to 5500 years ago—

within the early Teye Lake phase of the Northern Archaic tradition. All were recovered within a relatively delimited geographic area in southwest Yukon, broadly similar in size to the historic distribution of Southern Tutchone people. All of the dart points are presumed to have been used for hunting caribou. All dart points were used to arm throwing spears (spears propelled by a throwing board or atlatl). And finally, all dart points, regardless of base configuration (notched, stemmed or unstemmed), appear to have been hafted into “U” shaped slots on the spear shaft/foreshaft and secured with sinew and very likely some form of adhesive such as pitch. Figure 3 shows a selection of such “U” shaped slots. To date, 14 distal dart shafts/foreshafts have been recovered from Yukon ice patches, ranging in age from 1250 BP to 5000 BP (Hare et al. 2004). All of

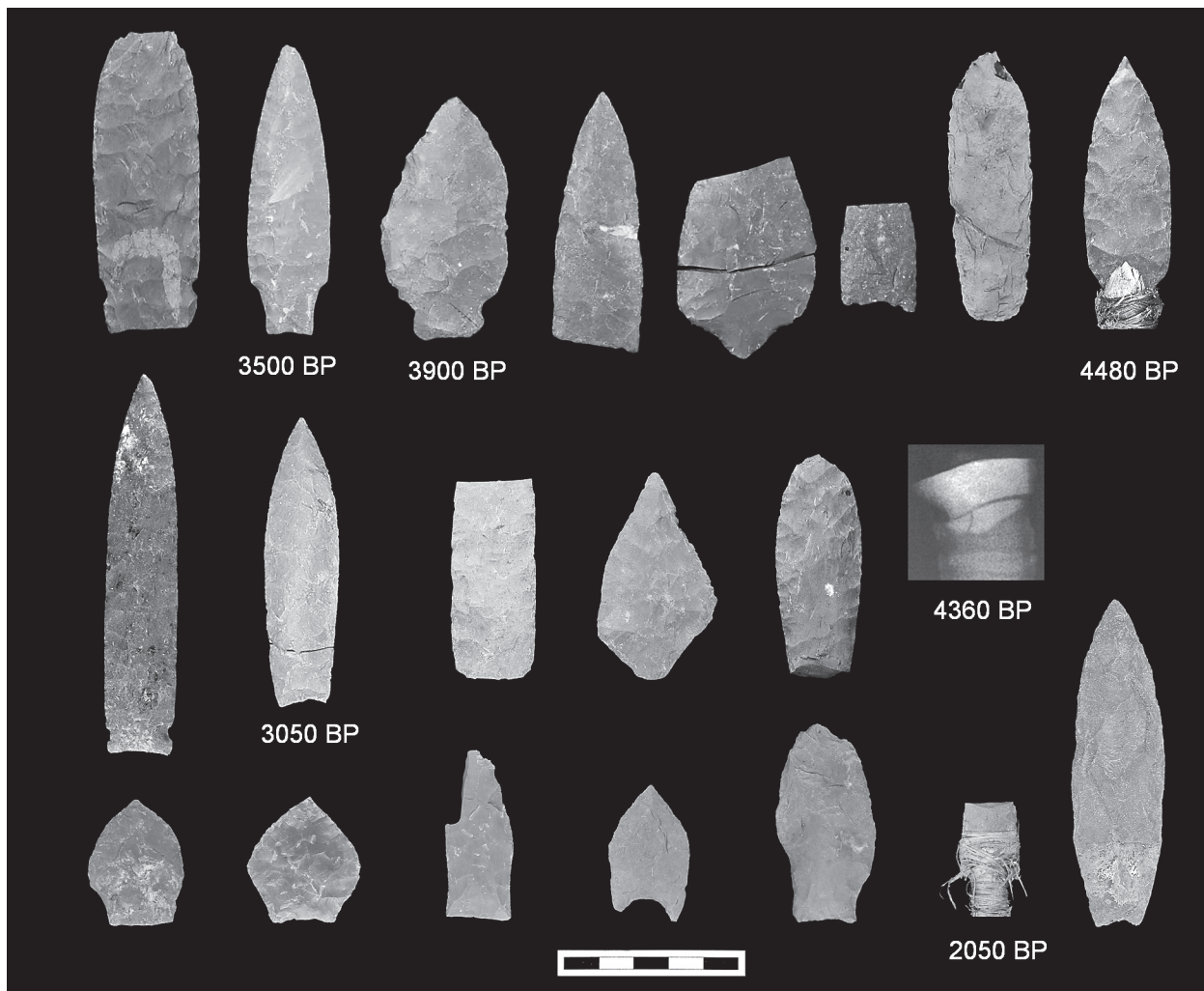


Figure 2. Sample of stone dart points recovered in southwest Yukon alpine ice patches. Dates are for points directly dated from associated shafts.



**Figure 3. Haft elements of representative dart shafts and foreshafts from southwest Yukon ice patch sites dated from associated shafts.**

these but the most recent were constructed with a “U” shaped slot.

Yet despite the common activity, common hafting technology and membership in the same cultural/technological tradition, at least eight morphological types can be identified in the sample of 20 projectile points from the southwest Yukon ice patches. A total of four point types can be classed with Workman’s (1978) unstemmed and notched point types P3, P4; PN3 and PN4. Also represented in the sample are four seemingly distinct new type: a slightly stemmed pentagonal or cordiform type (N=2); small tang points (N=3); stemmed points (N=2); and a reworked, highly convex-based lanceolate point which could be classed with the Annie Lake point type (Greer 1993). This subset of stone spear points from the Ice Patch collections indicates that a remarkable variety of point styles was being used by ancient hunters operating within similar spatial, chronological and technological spheres.

Furthermore, it should be noted that the variability seen in the stone spear point sample is mirrored in the sample of unilaterally barbed antler arrow points from Yukon ice patches (Figure 4). As with

the stone spears, these all are part of a single culture-historic tradition, in this case Workman’s Aishihik phase, all arrows result from the same harvest activity, the hafting technology is the same for all, and all antler arrow points were recovered in the same geographic area. While broadly similar, each antler arrow point is, in fact, stylistically unique: variation is the rule rather than the exception.

In terms of further refining trait lists for Taye Lake Phase technology, the stone spear point sample from the southwest Yukon alpine ice patches suggests we should be recognizing at least four additional point types as diagnostics of Taye Lake (slightly stemmed pentagonal points; stemmed points, small tang points and Annie Lake points), bringing the total number of types within the phase to 13. With even better chronological control it may be possible to see a succession in point styles similar to that described by Anderson (1968) for Northern Archaic at Onion Portage, but with the evidence at hand, it is equally likely that the variation is due to factors such as individual stylistic preference, skill, or the life history of a point in terms of breakage, reworking and reuse.

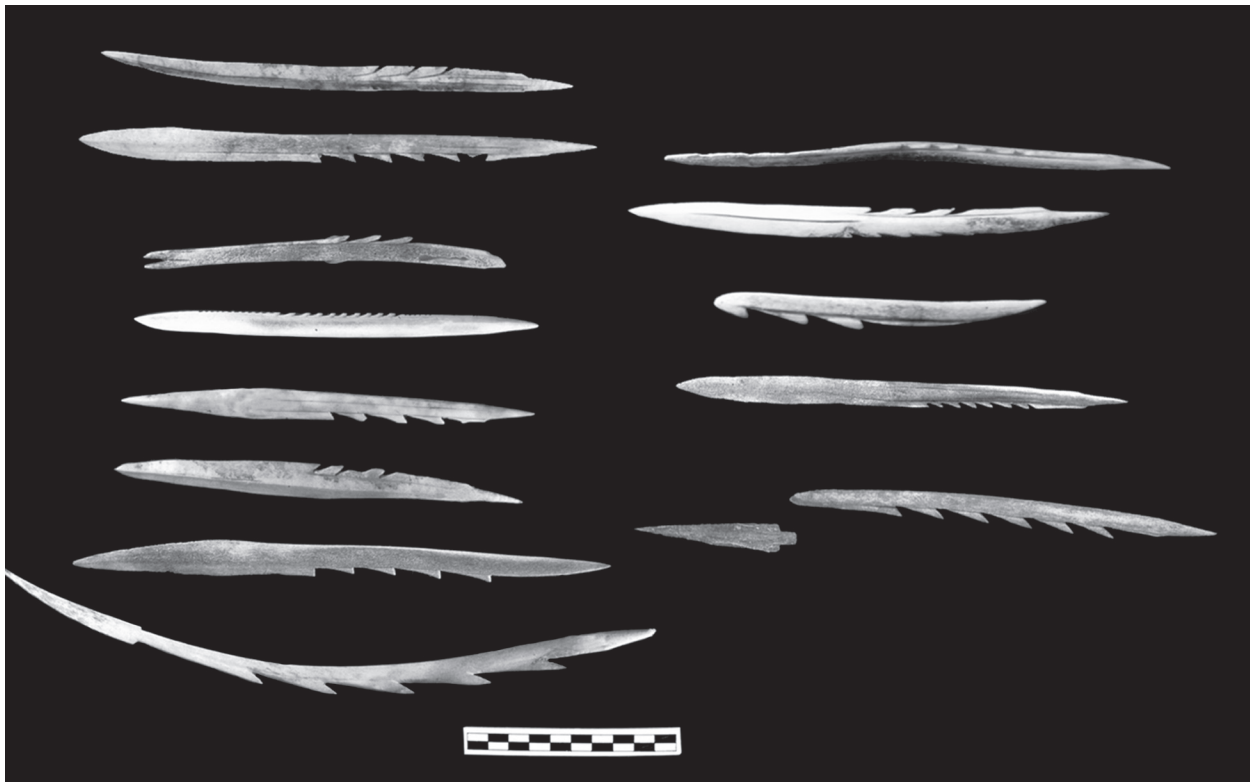


Figure 4. Sample of antler points from southwest Yukon alpine ice patches.

All this being said, in the course of establishing the Yukon Projectile Points database, a number of point types have been identified which may be proposed to have broader regional (cultural/ethnic) significance, or may be temporally sensitive. The following constitutes the very tentative update of Yukon projectile points typology, with all the aforementioned qualifications and conditions.

#### *Some Provisional New “Types” for Yukon Culture History*

Within the sample of points in the Yukon Projectile Points database, point “types” or classes were identified, based principally on hafting element or basal morphology, and shape of the blade element (point of maximum width: oblanceolate, lanceolate, leaf-shaped, parallel), as much as possible building from the typology developed by Workman (1978) (see Figure 5). During the process of identifying morphological variability within the Yukon database, it was evident that variability indeed is one of the primary characteristics of the collection. From the sample of 216 individual points it was possible

to identify 29 morphological “types” by reference to base configuration and blade morphology alone. This number includes the nine stone spear point types defined by Workman (1978:Fig. 40). The average number of examples for each type numbers six. Some “types” were represented by a single artifact, but the most common “type” had nearly 20 examples (Table 3). Excluding Workman’s nine types, out of the remaining 20 morphological types, we are proposing 10 types that merit further consideration. These are all provisional types for the Yukon, but may have potential to be reliable time/culture markers. The 10 new and/or provisional types are described in thumbnail fashion below.

*Small Bipoint.* This very provisional type is based on two specimens in the KaVn-2—Northern Cordilleran/Nenana Complex dated ca. 10,000 BP (Heffner 2002:86). The bipoint pictured here (Figure 6) appears to be heavily reworked from a larger point.

*Annie Lake Point.* These distinctive points appear to be a good time marker for the period 3000 to

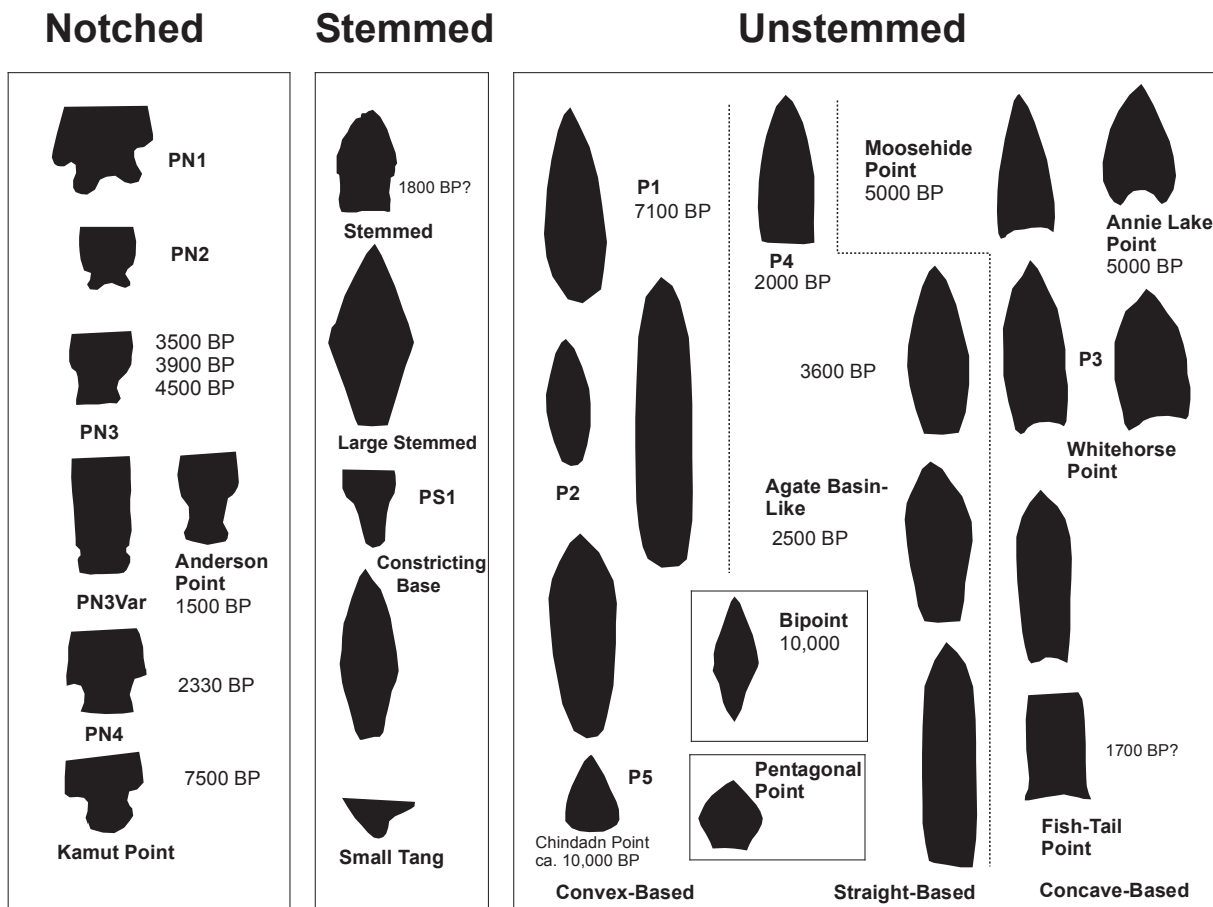


Figure 5. Morphological types in the Yukon Projectile Points database. Type names and Workman's type designations shown with available but not necessarily defining dates.

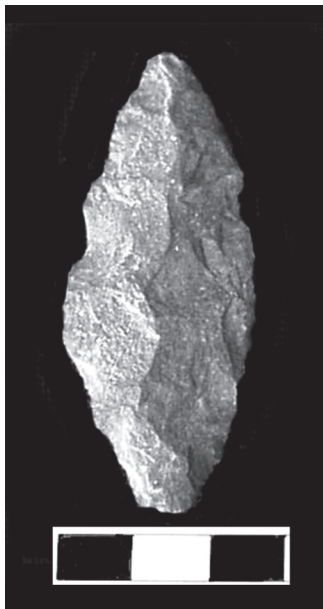


Figure 6. Small bipoint.



Figure 7. Annie Lake points.



5000 BP (Greer 1993; Hare 1995). Geographically, Annie Lake points tend to occur in southwest Yukon, although one apparent stray has been found in Seela Pass, north of Dawson City. Nineteen Annie Lake Points are identified in the Yukon collection (Figure 7).

*Small Tang Point.* This is a provisional type made up at present of three specimens, all from southwest Yukon ice patches (Figure 8a). One point has been dated to 2050 BP.

*Anderson Point.* Workman described the Anderson point as a variant of his P3 class. In resurrecting this as a distinct type, we use the name assigned by MacNeish to avoid a proliferation of type names in the literature, although no southern cultural connections are assumed for the Yukon type. Several examples of the Yukon Anderson Point have been recovered in dated context at the Annie Lake site and dated to about 1500 BP. We propose that this may be a distinct type within the T'ayé Lake Phase. Eight Anderson points are identified in the Yukon collection (Figure 8b).

*Moosehide Point.* This is a provisional type based on a sample of five specimens—two from the levels at the Moosehide site dated to about 5000–5600 BP (Hunston 1978). The points are finely flaked lanceolates with subconcave to straight bases. The point on the far left is thought to be a slightly reworked Moosehide point, although it may also be compared to Fishtail points (Figure 9a).

*Fish Tail Points.* This distinctive morphology is represented by two specimens in the Yukon collections (Figure 9b). The point recovered at KaVn-2 (Figure 9b, right) likely dates to about 1700 BP (Heffner 2002:78). The point on the right is from the Alligator Lake ice patch and is undated. The burinated tip may be a result of impact damage, but the tip appears utilized. This is a provisional type.

*Stemmed Pentagonal Point.* Slightly stemmed pentagonal points are identified in the southwest Yukon ice patch collections and likely date 2000–4500 BP (Figure 10a).

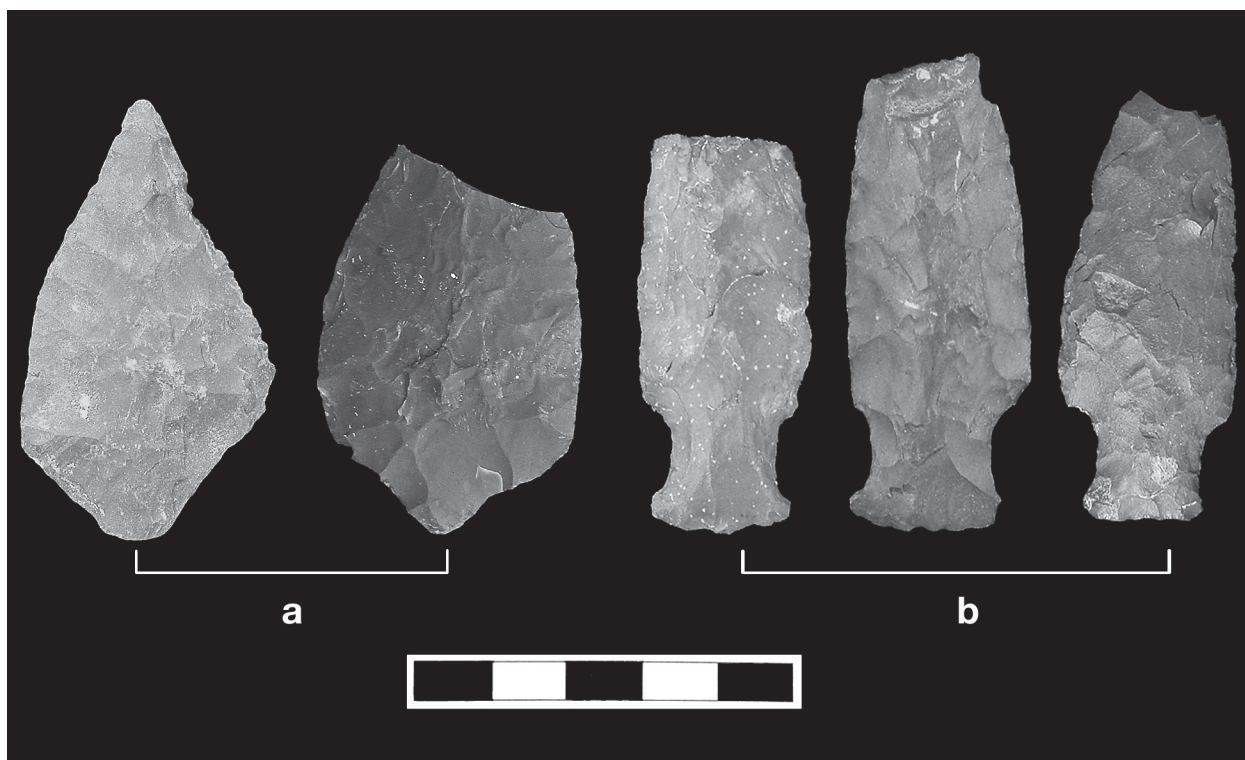


Figure 8. Small Tang points (a) and Anderson points (b).

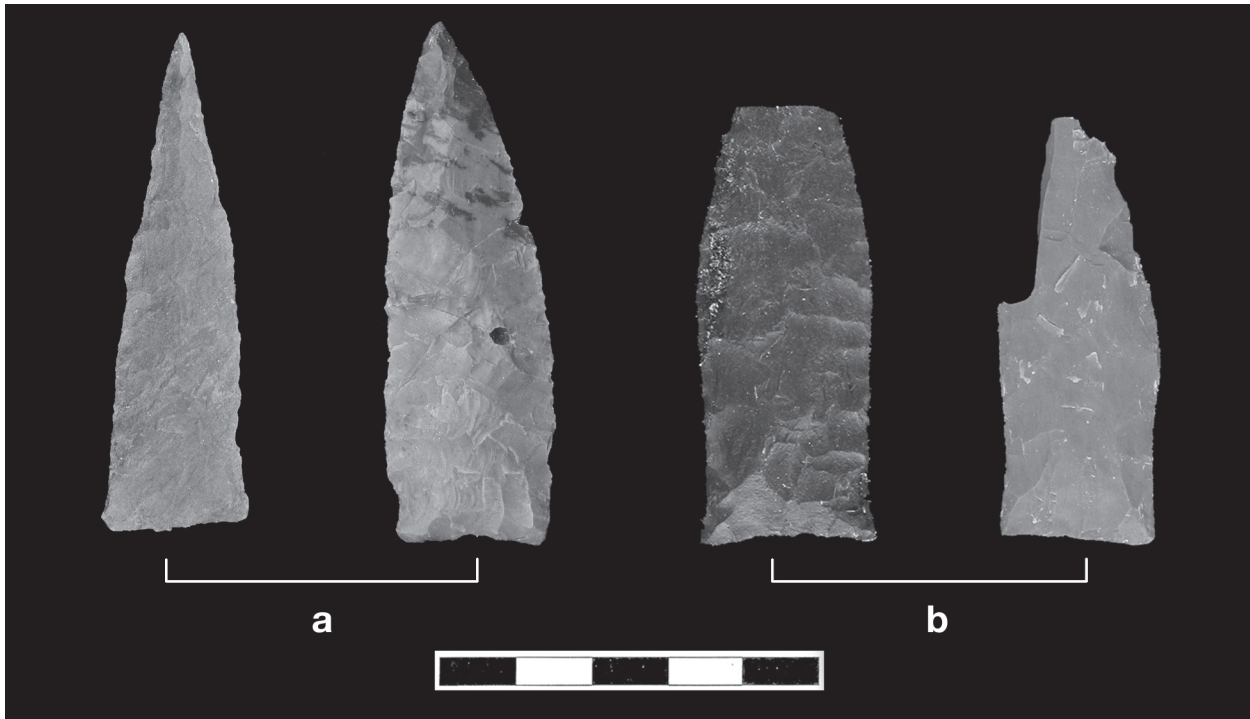


Figure 9. Moosehide points (a) and Fish Tail points (b).

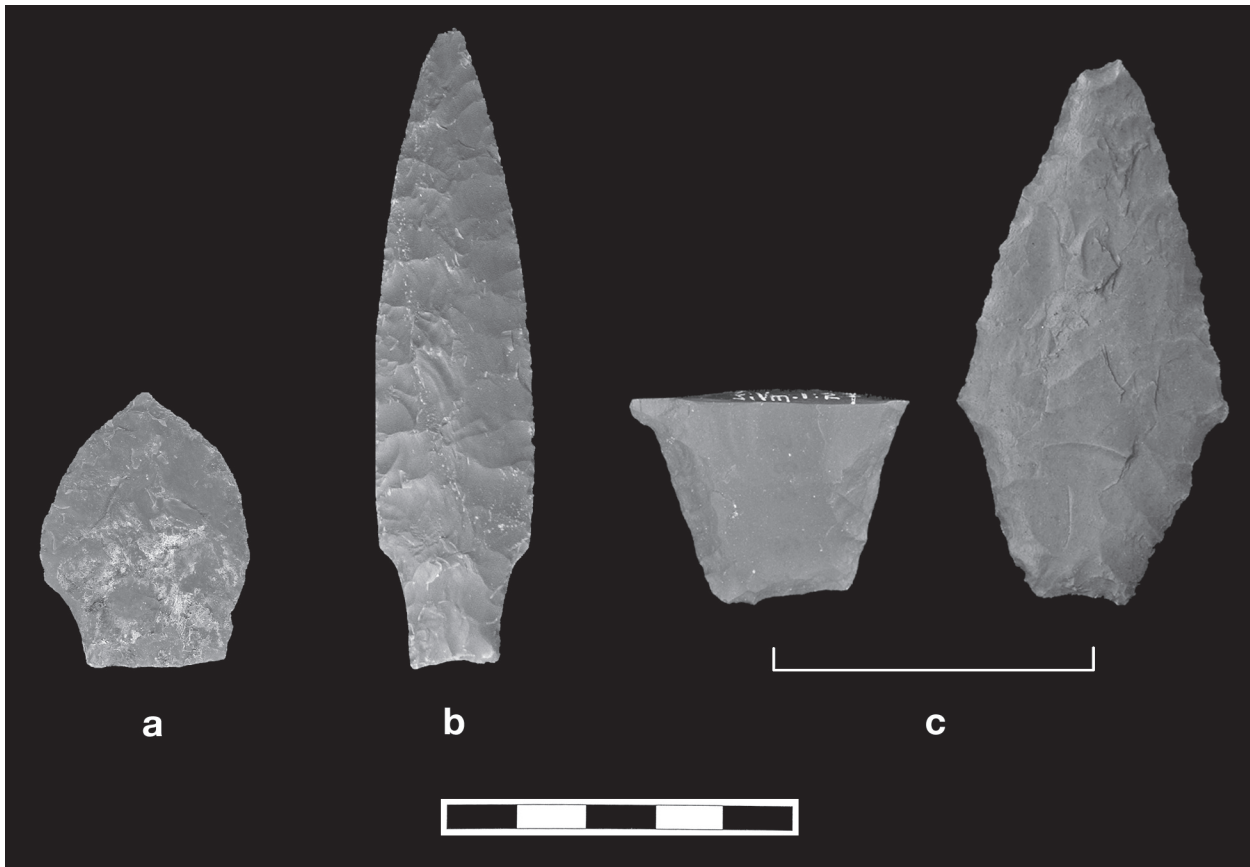


Figure 10. Stemmed Pentagonal point (a), Stemmed point (b), and Large Stemmed points (c).

*Stemmed Point.* This is a provisional type based on three (and possibly five) specimens in the Yukon collections (Figure 10b). One point of this type in the southwest Yukon ice patch collections dates to about 3500 BP.

*Large Stemmed Points.* A provisional and highly distinctive type based on two specimens in the Yukon collections—one from Gladstone Lake and one from Whitehorse. Workmanship on the points is so similar as to suggest they may have been produced by a single individual (Figure 10c).

*Constricting Base Points.* This provisional type numbers about five in the Yukon collections (Figure 11).

### Summary and Conclusion

As a work-in-progress, the Yukon Projectile Points database currently contains basic information on provenience, available dates, description and images for just under 500 projectile points and point fragments recovered in archaeological context in the Yukon. In the future, the objective is to make this database accessible on the internet through the Yukon Government Heritage Resources web site.

Future work on the database will include improved information on context and associations of the points and on other technological features such as flaking patterns. Further additions to the database will focus on acquiring information on the remainder of the northern Yukon points housed at the Canadian Museum of Civilization, and points in the Parks Canada collections.

The creation of the Yukon Projectile Points database prompted a review of point typologies that have been defined for the Yukon archaeological record. Workman's (1978) classification of point types for southwest Yukon has been a standard archaeological reference since its publication. Archaeological investigations in the intervening 30 years have generated new dates and new point types to be integrated into the reconstructions of the prehistoric record. In particular, new discoveries of hunting weaponry from alpine ice patches in southwest Yukon enabled the direct dating a variety of point forms, and has provided some new insights into the chronology of point types and the technology of spear manufacture.

Most significantly, it was enlightening to observe the considerable variation in point types in the ice patch collections, despite commonalities in temporal range, presumed cultural connections, technological constraints and activity. These observations suggest



Figure 15. Constricting Base points.

that when constructing point typologies factors such as individual style or skill or point reworking or recycling may be more important factors than generally assumed.

A second important observation arising from the ice patch collections concerns projectile points base configuration. Contrary to conventional wisdom, the shape of the point base apparently has no bearing on hafting techniques. All of the observed points forms, whether tanged, stemmed, unstemmed or notched were hafted in a similar “U” shaped slot (Hare et al. 2004).

Finally, based on recent Yukon discoveries from both ice patch and non-ice patch sites, a total of 10 provisional new projectile point types has been proposed for the southwest Yukon archaeological record. The unconfirmed nature of the majority of proposed types should be born in mind in reading this paper. Given the wide variety of projectile points that seem to be in use at the same time, in the same place, and by the same people, the heuristic value of these new projectile point types (as well as the existing types) still remains to be determined.

It is hoped, however, that the increased accessibility of information on Yukon projectile points, when the database becomes web accessible, will facilitate other researchers making comparisons for newly discovered projectile points and enable further contributions to interpreting and refining our understanding of Yukon’s archaeological past.

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