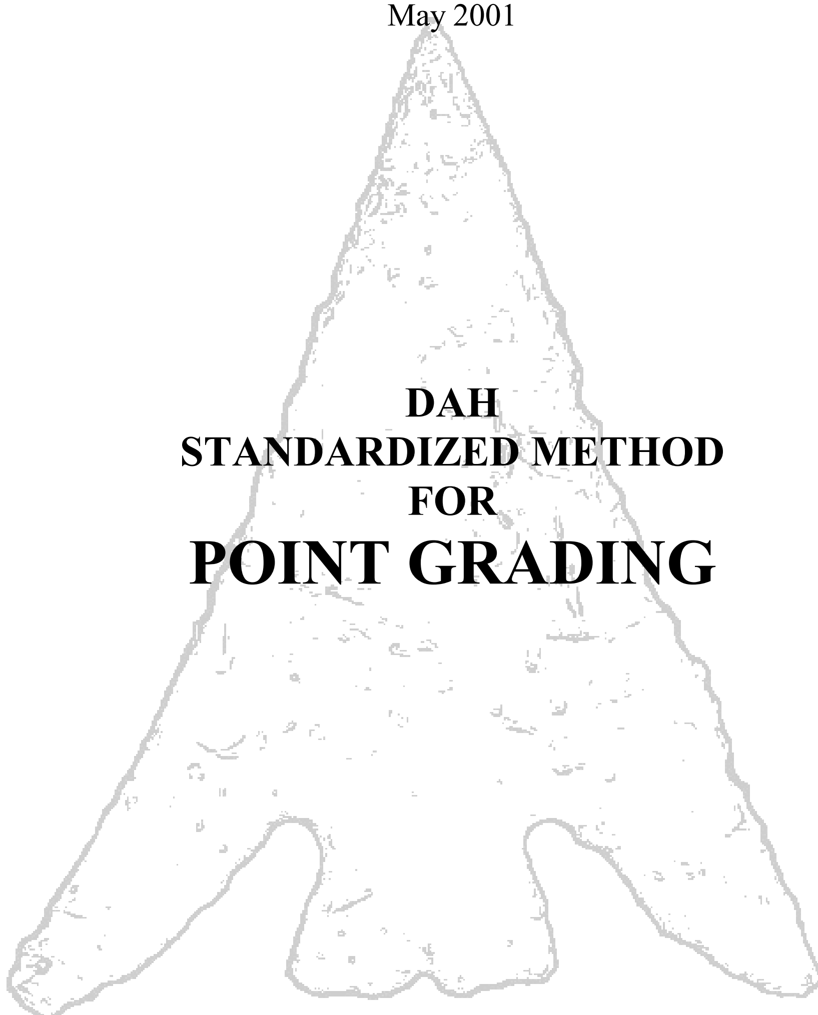
May 2001



DAH
STANDARDIZED METHOD
FOR
POINT GRADING

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1.0 SCOPE

This standard is used to define a systematic method for point grading indented to be implemented by the Artifact Collecting Community. When employed, recognition of a specified grade is understood as define within the body of this document.

This standard specifies requirements intended to ensure a consistent method of point grading for collectors and layman who may find, purchase, or so acquire by legal means ancient Native American artifacts.

This standard is applicable to stone artifacts of the class commonly referred to as Projectile Points, Knifes and Lanceolates.

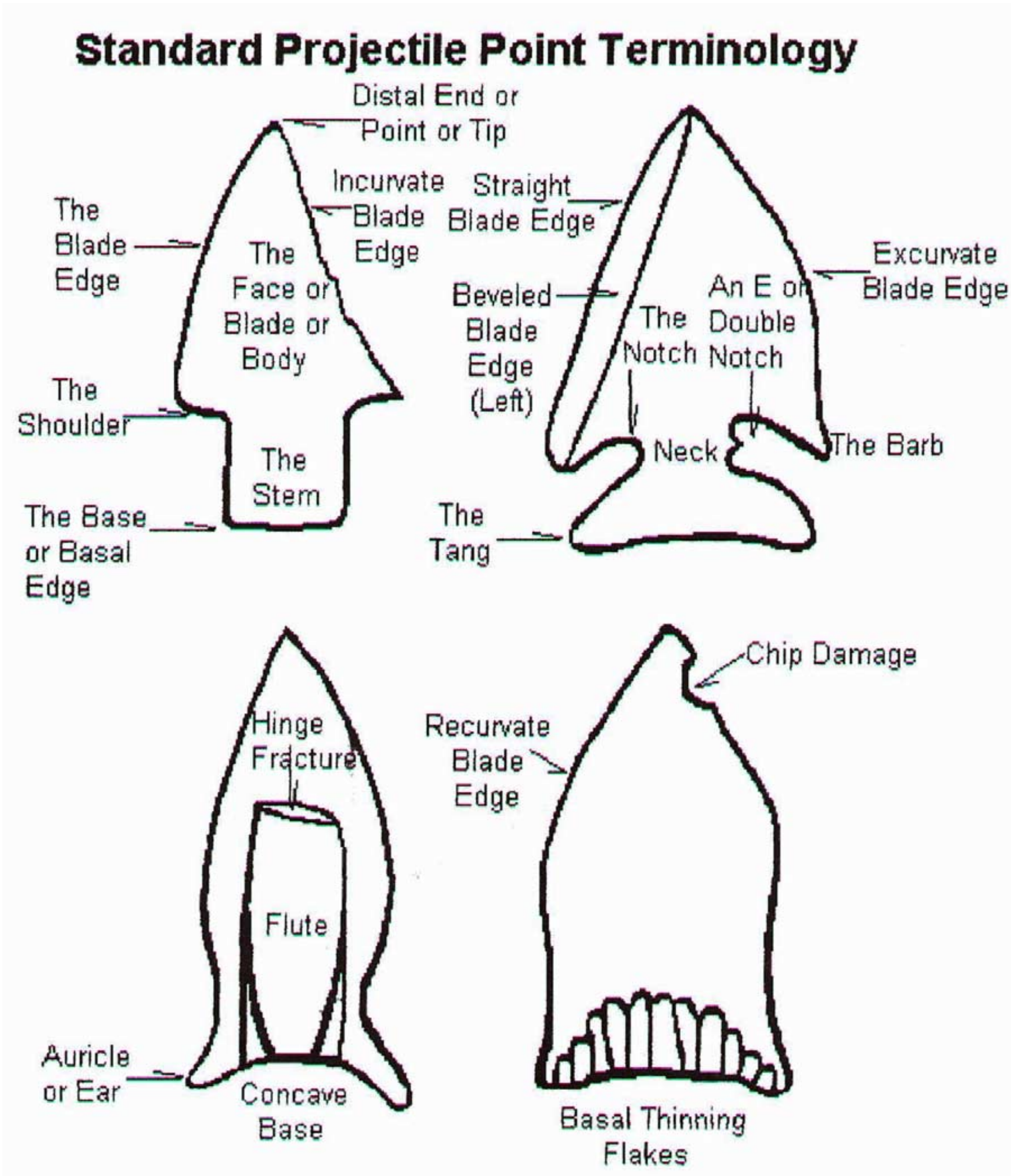
A specimen is judged and graded on the basis of accepted; distinguishing characteristics for the type classification of said specimen.

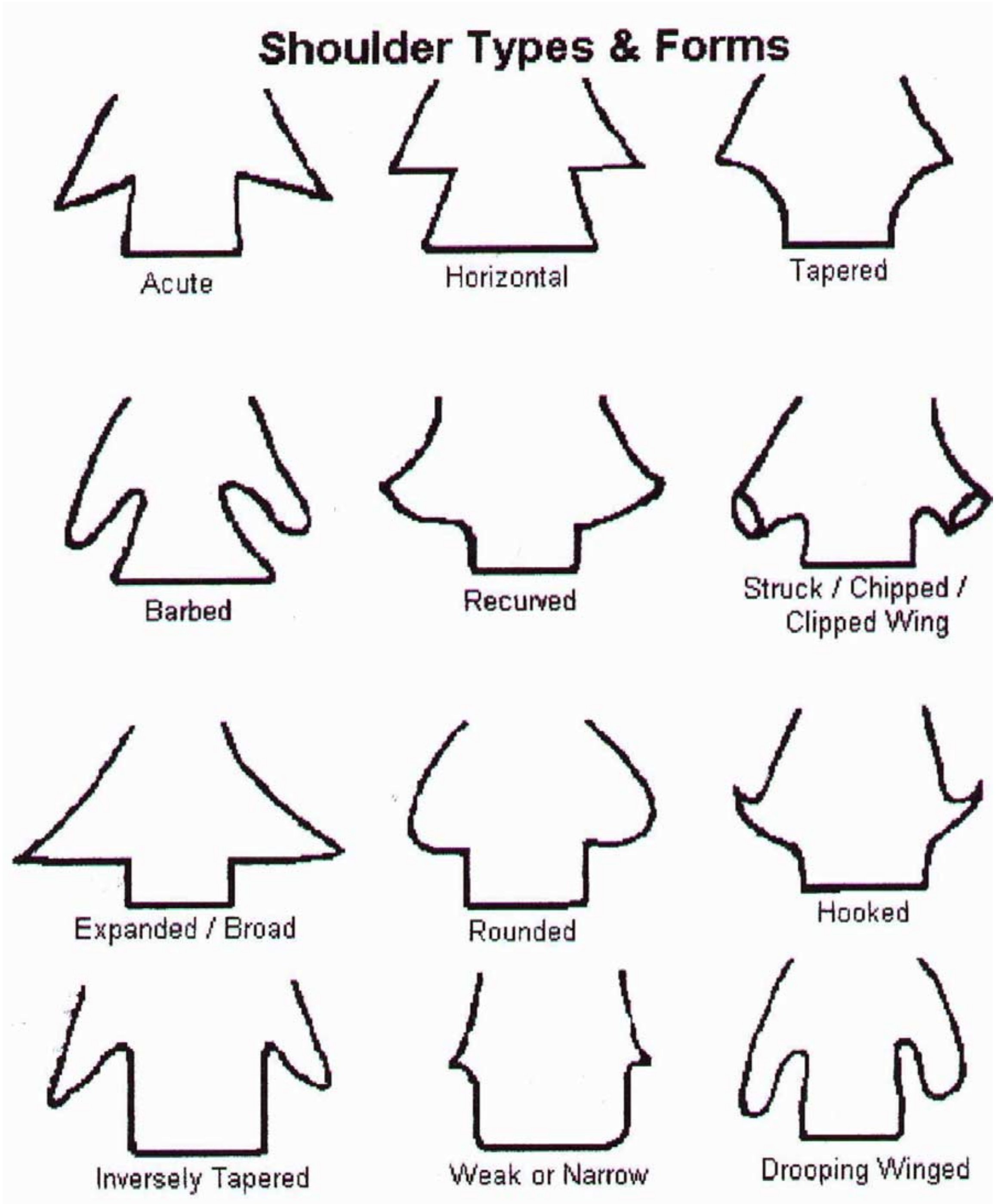
Specimen, which complies with the text of this Standard, will not necessarily be judged to comply with the Standard if, when examined, it is found to have other features, which indicate modern re-chipping.

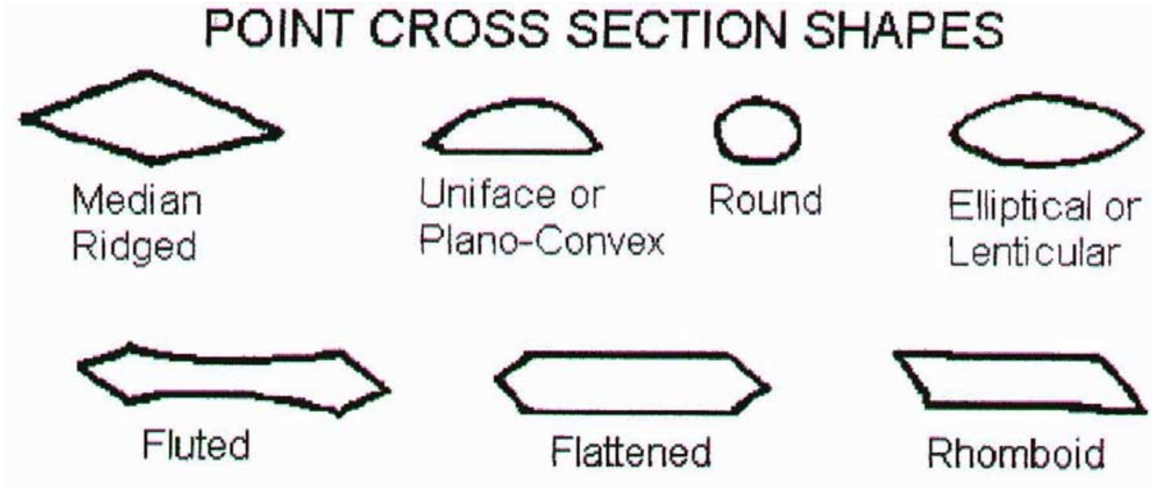
A specimen having a form of construction differing from that detailed for the type may be examined according to the requirements of this Standard.

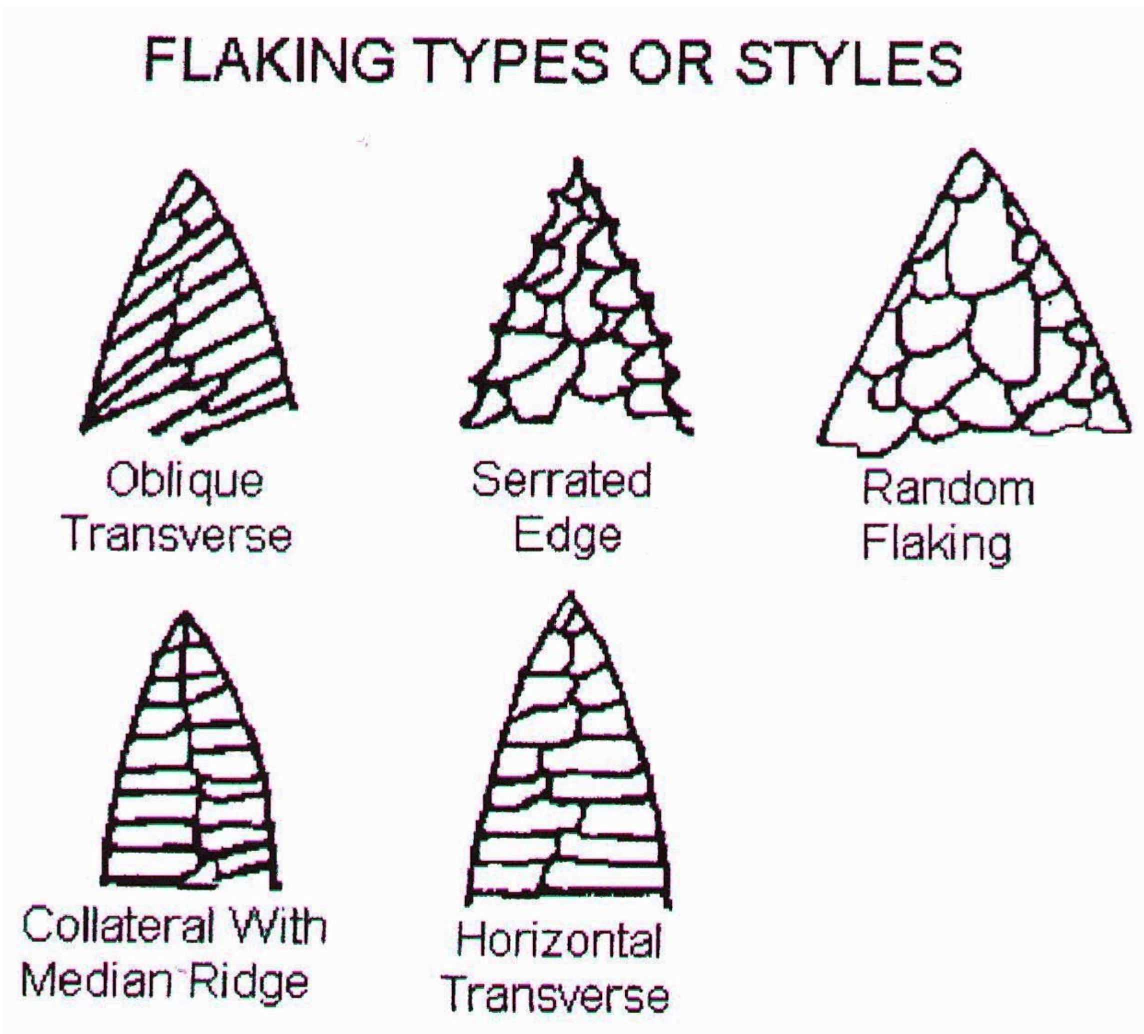
Requirements are based upon research, records, and an appreciation of the qualities common to collectors, sellers, and use derived from consultation with and information obtained from collectors, sellers, and authorities having specialized experience. They are subject to revision as further experience and investigation may show is necessary or desirable.

2.0 BASIC POINT DETALS




Shoulder Types & Forms
Acute
Horizontal
Tapered
Barbed
Recurved
Struck / Chipped / Clipped Wing
Expanded / Broad
Rounded
Hooked
Inversely Tapered
Weak or Narrow
Drooping Winged


POINT CROSS SECTION SHAPES
Median Ridged
Uniface or Plano-Convex
Round
Elliptical or Lenticular
Fluted
Flattened
Rhomboid


FLAKING TYPES OR STYLES
Oblique Transverse
Serrated Edge
Random Flaking
Collateral With Median Ridge
Horizontal Transverse

3.0 PROLUGE

3.1 PRINCIPLES OF GRADING

It is essential to understand the underlying principles of this Standard and its requirements. These principles are not an alternative to the detailed requirements of this standard, but are intended to provide graders with an appreciation of the basis of these requirements. Graders shall take into account not only normal conditions of the specimen but also likely fault conditions, such as Damage, Width and Thickness deviations and Symmetry or lack of.

3.2 VALUE PRINCIPLE

Value is not only what the collector is or would be willing to pay for the artifact. It also reflects the return on an investment. It is a measure of demand for that particular specimen. It also should contain an element of what economists call Net Present Value. This is the value for us today, of net benefits that are predicted to accrue in the future. Thinking about the long-term benefits does something to eliminate the temporary fluctuations in value due to demand. It also reminds us that there is current value in preserving some objects for extended periods.

3.3 DAMAGE PRINCIPLES

Whether accidental or deliberate, damage to an artifact is an important part of its history. Collectors and sellers all have different ways of looking at artifacts and may therefore have different definitions of what constitutes damage

If you ask a simple question such as "what is damage?" it is easy to demonstrate that there cannot be one simple answer. Diversity of opinion is intellectually stimulating. Yet, it is this diversity that has caused considerable confusion about various grade assignments. Even if we know we will never find one simple answer, we may be able to order our thinking and group our various opinions closer together. This Standard attempts to arrive at a consistent understanding of damage. Refer to sub-clause 4.0 for more detail.

3.4 RESTORATIONS

Discussions about the nature of restorations will be about the inherent risk of the treatment. The probability of damage through loss of material or loss of information should always be a concern. With limited resources, restoration should be encouraged. Therefore, restoration is taken into account for the basis of grading, provided the restoration does not lead to loss of information or introduction of misleading information. Refer to sub-clause 4. for more detail.

3.5 SYMMETRY PRINCIPLES

The symmetry of an artifact is as key to quality as damage. Classification of symmetry in this standard is based on a balance or correspondence between any adjacent point about an imaginary line of bisection passing along the center of the specimen. Refer to sub-clause 5.0 for more detail.

3.6 WIDTH AND THICKNESS PRINCIPLES

Relative thinness of artifacts is a quality that collectors and sellers assess when evaluating an artifact. However, to evaluate only the relative thinness of an artifact without considering its width would be an injustice. As a general rule, as the specimen increases in width, so too does the thickness. As a result, this Standard takes the width and thickness of the specimen into account. Refer to sub-clause 6.0 for more detail.

The width-to-thickness ratio for high quality artifacts is typically on the order of 8:1 or higher. One exceptional specimen, commonly referred to as “The Sweetwater Biface,” has a width-to-thickness ratio of 18:1. It is important to note; this is an extreme ratio, and far exceeds what this Standard defines as high quality.

3.7 GRADING

The purpose of a grading is to establish a system by which the quality of an artifact is understood. We must establish meanings that are less open to personal perspective or preference. Current quality determination is based on the following:

Grade 10: Perfect in every way, includes thinness, flaking, symmetry and form. The best example you would ever expect to see of any given type. This grade is rarely seen and is extremely rare. This grade applies to medium to large size points that normally occurs in a given type. A point does not necessarily have to be the largest known to qualify for this grade.

Grade 8 or 9: Near perfect but lacking just a little in size or material or thinness. It may have a small defect to keep it out of a 10 category. Still very rare and most high grade points would fall in this category.

Grade 6 or 7: Better than the average grade but not quite nice enough to get a high ranking. Flaking, size and symmetry are just a little above average. Points in this grade are still very hard to find in most states.

Grade 4 or 5: The average quality that is found. The size is medium, the flaking, thickness and symmetry is average. Two or three very minute nicks may be seen, but none that would be considered serious.

Grade 1-3: Field grade points that have below average overall quality. Better points with more serious faults or dings would fall in this grade. The most common grade found and correspondingly, the least valuable.

This Standard employs the grading system noted above, but provides a means to qualify the various grades by employing systematic analysis of Damage, Symmetry, Width-to-Thickness Ratio, Material and the use of Modifiers.

4.0 DAMAGE

Classification of damage is based on, but not limited to, nicks, chips, impact fractures, missing parts, fire pops, wire mounting or improper storage chips…

4.1 CLASSIFICATION - defined as follows:

Exemptions: Features worked into a specimen in ancient times shall not be judged as damage. Examples would include: Burin Tips, Chisel Tips, and Spoke Shaves… Patination, patina or hydration shall not be judged as damage.

Exclusions: Modern re-chipping shall exclude a specimen from obtaining a point grade as defined within this document.

Damage classification shall be evaluated into four (4) distinct Classes, Class A, Class B, Class C and Class D. Class A being the least area of damage and Class D being the greatest area of damage.

To determine the Damage Classification, measure the length (mm) and width (mm) of the damaged area (see Figure 1). Multiply the length and width measurements to determine the approximate area (mm^2) of damage. Refer to Table 1 to determine the Damage Classification.

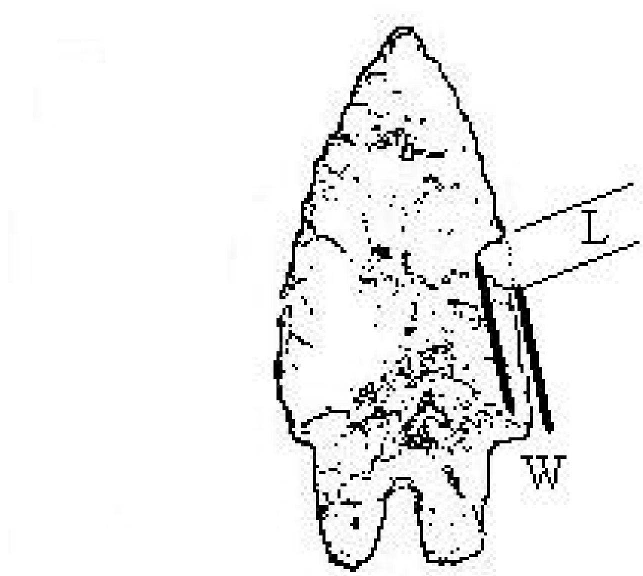


Figure 1. *Measuring length and width of damaged area*

DAMAGE					
Specimen Length (in.)	**Specimen Length (mm)**	**CLASS A Area (mm^2)**	**CLASS B Area (mm^2)**	**CLASS C Area (mm^2)**	**CLASS D Area (mm^2)**
1/2	12	0	Area < 0.5	1	Area > 2
3/4	19	0	Area < 0.5	3	Area > 4
1	24	0	Area < 1	5	Area > 7
1 1/4	32	0	Area < 2	5	Area > 7
1 1/2	38	0	Area < 2	6	Area > 9
1 3/4	44	0	Area < 3	6	Area > 9
2	48	0	Area < 3	7	Area > 12
2 1/4	57	0	Area < 5	7	Area > 12
2 1/2	64	0	Area < 5	8	Area > 12
2 3/4	70	0	Area < 6	9	Area > 14
3	76	0	Area < 6	9	Area > 14
3 1/4	83	0	Area < 7	9	Area > 14
3 1/2	89	0	Area < 7	9	Area > 16
3 3/4	95	0	Area < 8	10	Area > 16
4	102	0	Area < 9	10	Area > 18
4 1/4	108	0	Area < 9	12	Area > 18
4 1/2	114	0	Area < 9	12	Area > 20
4 3/4	121	0	Area < 9	12	Area > 20
5	127	0	Area < 10	14	Area > 22
5 1/4	133	0	Area < 11	14	Area > 22
5 1/2	140	0	Area < 12	16	Area > 24
5 3/4	146	0	Area < 14	16	Area > 24
6	152	0	Area < 16	18	Area > 26
6 1/4	159	0	Area < 18	18	Area > 28
6 1/2	165	0	Area < 20	22	Area > 30

Table 1. *Selecting Class based on area (mm^2) of damage*

Note: Linear interpolation is allowed for specimens that are on the "bubble" between one Class and another.

Example: *Two specimens, identical in every way but damage, the specimen with less damage is graded higher than the specimen with more damage.*

4.2 MULTIPLE DAMAGE

The areas of damage are calculated and totaled. The sum of the Areas is applied as defined in sub-clause 4.1.

4.3 RESTORATION

Restorations made to a specimen are acceptable provided it meets all of the following conditions:

- The restoration is reversible and

- Does not cause damage and

- Does not include more than 10% of the base and

- Constitutes 25% or less of the total point.

In such cases, the specimen is evaluated to its non-restored condition, as defined in sub-clause 4.1. A restored specimen meeting the requirements as define in sub-clause 4.3, can not exceed Class B as defined in sub-clause 4.1. If a point grade is assigned to a restored specimen, it shall be followed by an "R" suffix (example: G8R, denotes a Grade 8, Restored).

Exemptions: The mating of two halve, in such cases, the specimen is evaluated to its undamaged condition as defined in sub-clause 4.1, then decreased by one Class. All other requirements as defined in sub-clause 4.3 shall be followed.

5.0 SYMMETRY

Classification of symmetry in this standard is based on a balance or correspondence between any adjacent point about an imaginary line of bisection passing along the center of the specimen.

For the purposes of Type classification, a grid consisting of an "X" and "Y" component defining four (4) distinct regions will be used (Refer to Figure 2).

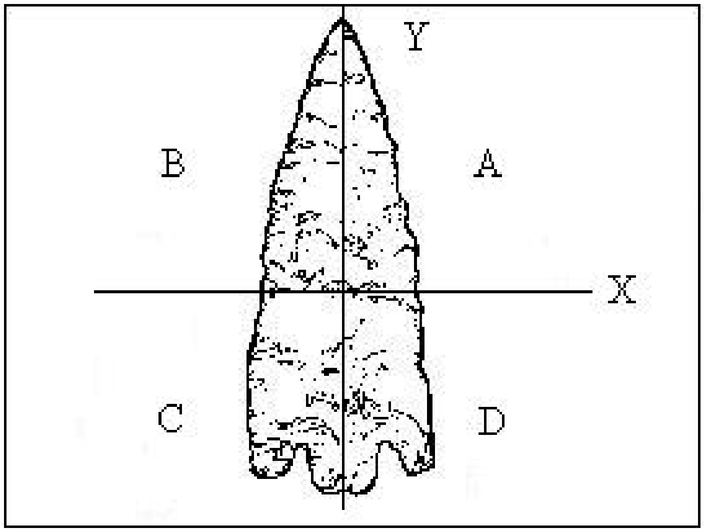


Figure 2. *A grid consisting of an "X" and "Y" component defining four (4) distinct regions (A, B, C and D)*

5.1 TAKING MEASUREMENTS

To quantify the measure of symmetry, comparisons shall be made only across the "Y" component, between regions A and B, regions C and D. No comparisons across the "X" component shall be made.

All measurement units shall be in millimeters (mm).

Only the form of the specimen's outline shall be considered. Areas of damage shall not be judged on the bases of symmetry, refer to sub-clause 4.0 DAMAGE.

Exemption: Repeated, ancient sharpening of the edge shall be considered for the purposes of symmetry.

Exemption: Restored specimens shall be evaluated as if undamaged, taking into consideration the restoration.

Exemption: A Symmetry Index will not be determined for specimens who's distinguishing characteristics for type classification is to be Asymmetric by trait; Example: Base Tang knife commonly found in regions of Texas.

Example: *Two specimens, identical in every way but symmetry, the specimen with greatest symmetry will be graded higher.*

5.2 REGION A AND B

STEP 1 Four (4) points of equal distance are placed along the specimen's edge in region A. A straight-line projection is made to the adjacent edge of the specimen in region B. A total of eight (8) points; four (4) points in both region A and B have been defined.

STEP 2 Pick a point in region A and its corresponding point in region B, make a straight-line projection to the "X" component. These two new projections, where they lay on to the "X" component, become points "XA" and "XB" (See Figure 3).

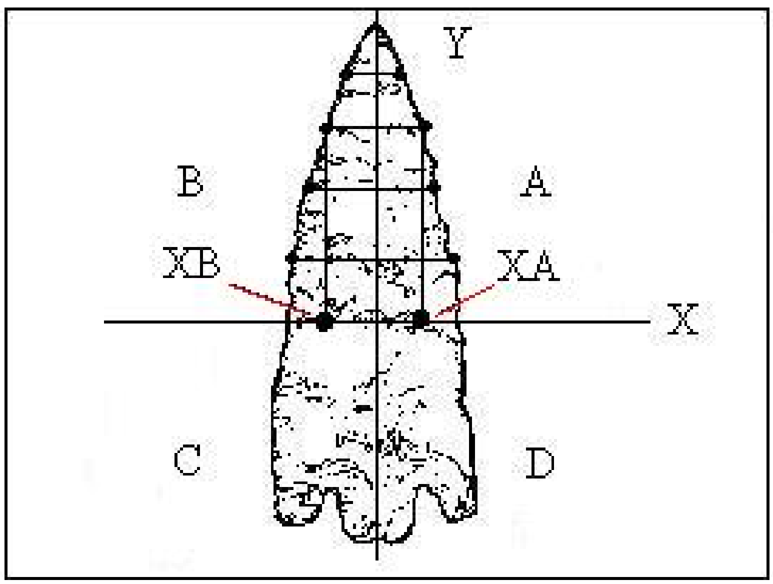


Figure 3. *"XA" and "XB" straight-line projections to the "X" component*

STEP 3 Measure the distance from point "XA" to the cross-section of components "X" and "Y", repeat for point "XB." Subtract the measurements of "XA" and "XB" to obtain the difference in symmetry of the specimen's edge at two corresponding points in regions A and B (mm).

STEP 4 Repeat STEP 2 and STEP 3 for each of the remaining points.

STEP 5 A total of four (4) measurements have been obtained. Add the total of the four measurements together and divide this total by four (4). This value represents the average difference in symmetry between regions A and B (mm).

5.3 REGION C AND D

Repeat STEP 1 through STEP 5 as defined in sub-clause 5.2. Consideration to the stem and/or notching areas should be considered. This may result in additional point-projections.

5.4 SYMMETRY CLASSIFICATIONS - defined as follows

The average difference in symmetry between regions A and B (mm) as defined in sub-clause 5.2 is added to the average difference in symmetry between regions C and D (mm) as defined in sub-clause 5.3. This total is then divided by two (2). The resulting value is the "Symmetry Index" (mm) of the specimen.

CLASS A - If the Symmetry Index is between 0 mm and 1 mm.

CLASS B - If the Symmetry Index is between 1 mm and 3 mm.

CLASS C - If the Symmetry Index is between 3 mm and 5 mm.

CLASS D - If the Symmetry Index is greater than 5 mm.

6.0 WIDTH-TO-THICKNESS RATIO - defined as follows

6.1 WIDTH

A measurement of the width shall be made across widest location on the specimen (See Figure 4).

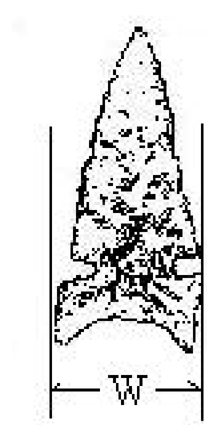


Figure 4. *Width Measurement*

6.2 THICKNESS

A measurement of the thickness shall be made at the thickest place on the specimen. Median ridge and Stacks are typical thick locations to consider.

6.3 RATIO CLASSIFICATION - defined as follows

Refer to Tables 2A through 2H to determine the Width-to-Thickness ratio of the specimen. Apply ratio to classifications noted below.

Note: Table read as follows:

- Width is read across

- Thickness is read down

Alternate method is to determine as follows:

The width measurement defined in sub-clause 6.1 is divided by the thickness defined in sub-clause 6.3.

$$\frac{Width}{Thickness} = Width - to - Thickness\ Ratio$$

CLASS A - Width-to-Thickness Ratio is **8.1:1** or greater

CLASS B- Width-to-Thickness Ratio is **5.1:1** or greater and less than **8.1:1**

CLASS C - Width-to-Thickness Ratio is **2.1:1** or greater and less than **5.1:1**

CLASS D - Width-to-Thickness Ratio is **2:1** or less

Table 2A
1/2" to 1" Width (Across) | 1/16" to 1/2" Thick (Down)

	13mm	14 mm	15 mm	16 mm	17 mm	18 mm	19 mm	20 mm	21 mm	22 mm	23 mm	24 mm	25 mm
2 mm	6.5:1	7:1	7.5:1	8:1	8.5:1	9:1	9.5:1	10:1	10.5:1	11:1	11.5:1	12:1	12.5:1
4 mm	3.3:1	3.5:1	3.8:1	4:1	4.3:1	4.5:1	4.8:1	5:1	5.3:1	5.5:1	5.8:1	6:1	6.3:1
6 mm	2.2:1	2.3:1	2.5:1	2.7:1	2.8:1	3:1	3.2:1	3.3:1	3.5:1	3.7:1	3.8:1	4:1	4.2:1
8 mm	1.6:1	1.8:1	1.9:1	2:1	2.1:1	2.3:1	2.4:1	2.5:1	2.6:1	2.8:1	2.9:1	3:1	3.1:1
10 mm	1.3:1	1.4:1	1.5:1	1.6:1	1.7:1	1.8:1	1.9:1	2:1	2.1:1	2.2:1	2.3:1	2.4:1	2.5:1
12 mm	1.1:1	1.2:1	1.3:1	1.3:1	1.4:1	1.5:1	1.6:1	1.7:1	1.8:1	1.8:1	1.9:1	2:1	2.1:1
14 mm	-	1:1	1.1:1	1.1:1	1.2:1	1.3:1	1.4:1	1.4:1	1.5:1	1.6:1	1.6:1	1.7:1	1.8:1
16 mm	-	-	-	1:1	1.1:1	1.1:1	1.2:1	1.3:1	1.3:1	1.4:1	1.4:1	1.5:1	1.6:1
18 mm	-	-	-	-	-	1:1	1.1:1	1.1:1	1.2:1	1.2:1	1.3:1	1.3:1	1.4:1
20 mm	-	-	-	-	-	-	1:1	1:1	1.1:1	1.1:1	1.2:1	1.2:1	1.3:1
22 mm	-	-	-	--	-	-	-	-	1:1	1:1	1:1	1.1:1	1.1:1
24 mm	-	-	-	-	-	-	-	-	-	-	1:1	1:1	1:1

Table 2B
1" to 1 1/2" Width (Across) | 1/16" to 1 1/16" Thick (Down)

	26 mm	27 mm	28 mm	29 mm	30 mm	31 mm	32 mm	33 mm	34 mm	35 mm	36 mm	37 mm	38 mm
4 mm	6.5:1	6.8:1	7:1	7.3:1	7.5:1	7.7:1	8:1	8.2:1	8.5:1	8.7:1	9:1	9.2:1	9.5:1
6 mm	4.3:1	4.5:1	4.7:1	4.8:1	5:1	5.2:1	5.3:1	5.5:1	5.7:1	5.8:1	6:1	6.2:1	6.3:1
8 mm	3.3:1	3.4:1	3.5:1	3.6:1	3.8:1	3.9:1	4:1	4.1:1	4.2:1	4.4:1	4.5:1	4.6:1	4.7:1
10 mm	2.6:1	2.7:1	2.8:1	2.9:1	3:1	3.1:1	3.2:1	3.3:1	3.4:1	3.5:1	3.6:1	3.7:1	3.8:1
12 mm	2.2:1	2.3:1	2.3:1	2.4:1	2.5:1	2.6:1	2.7:1	2.7:1	2.8:1	2.9:1	3:1	3.1:1	3.2:1
14 mm	1.9:1	1.9:1	2:1	2.1:1	2.1:1	2.2:1	2.3:1	2.4:1	2.4:1	2.5:1	2.6:1	2.6:1	2.7:1
16 mm	1.6:1	1.7:1	1.8:1	1.8:1	1.9:1	1.9:1	2:1	2.1:1	2.1:1	2.2:1	2.2:1	2.3:1	2.4:1
18 mm	1.4:1	1.5:1	1.6:1	1.6:1	1.7:1	1.7:1	1.8:1	1.8:1	1.9:1	1.9:1	2:1	2.1:1	2.1:1
20 mm	1.3:1	1.4:1	1.4:1	1.5:1	1.5:1	1.6:1	1.6:1	1.7:1	1.7:1	1.7:1	1.8:1	1.8:1	1.9:1
22 mm	1.2:1	1.2:1	1.3:1	1.3:1	1.4:1	1.4:1	1.5:1	1.5:1	1.5:1	1.6:1	1.6:1	1.7:1	1.7:1
24 mm	1.1:1	1.1:1	1.2:1	1.2:1	1.3:1	1.3:1	1.3:1	1.4:1	1.4:1	1.5:1	1.5:1	1.5:1	1.6:1
26 mm	1:1	1:1	1.1:1	1.1:1	1.2:1	1.2:1	1.2:1	1.3:1	1.3:1	1.3:1	1.4:1	1.4:1	1.5:1

Table 2C
1 1/2” to 2” Width (Across) | 1/16” to 1 1/16” Thick (Down)

	38 mm	39 mm	40 mm	41 mm	42 mm	43 mm	44 mm	45 mm	46 mm	47 mm	48 mm	49 mm	50 mm
4 mm	9.5:1	9.8:1	10:1	10.3:1	10.5:1	10.8:1	11:1	11.3:1	11.5:1	11.8:1	12:1	12.3:1	12.5:1
6 mm	6.3:1	6.5:1	6.7:1	6.8:1	7:1	7.2:1	7.3:1	7.5:1	7.7:1	7.8:1	8:1	8.2:1	8.3:1
8 mm	4.8:1	4.9:1	5:1	5.1:1	5.3:1	5.4:1	5.5:1	5.6:1	5.7:1	5.9:1	6:1	6.1:1	6.2:1
10 mm	3.8:1	3.9:1	4:1	4.1:1	4.2:1	4.3:1	4.4:1	4.5:1	4.6:1	4.7:1	4.8:1	4.9:1	5:1
12 mm	3.2:1	3.3:1	3.3:1	3.4:1	3.5:1	3.6:1	3.7:1	3.7:1	3.8:1	3.9:1	4:1	4.1:1	4.2:1
14 mm	2.7:1	2.8:1	2.9:1	2.9:1	3:1	3.1:1	3.1:1	3.2:1	3.3:1	3.4:1	3.4:1	3.5:1	3.6:1
16 mm	2.4:1	2.4:1	2.5:1	2.6:1	2.6:1	2.7:1	2.8:1	2.8:1	2.9:1	2.9:1	3:1	3.1:1	3.1:1
18 mm	2.1:1	2.2:1	2.2:1	2.3:1	2.3:1	2.4:1	2.4:1	2.5:1	2.6:1	2.6:1	2.7:1	2.7:1	2.8:1
20 mm	1.9:1	2:1	2:1	2.1:1	2.1:1	2.2:1	2.2:1	2.3:1	2.3:1	2.3:1	2.4:1	2.4:1	2.5:1
22 mm	1.7:1	1.8:1	1.8:1	1.9:1	1.9:1	2:1	2:1	2:1	2.1:1	2.1:1	2.2:1	2.2:1	2.3:1
24 mm	1.6:1	1.6:1	1.7:1	1.7:1	1.8:1	1.8:1	1.8:1	1.9:1	1.9:1	2:1	2:1	2:1	2.1:1
26 mm	1.5:1	1.5:1	1.5:1	1.6:1	1.6:1	1.7:1	1.7:1	1.7:1	1.8:1	1.8:1	1.8:1	1.9:1	1.9:1

Table 2D
2” to 2 1/2” Width (Across) | 1/16” to 1 1/16” Thick (Down)

	50 mm	51 mm	52 mm	53 mm	54 mm	55 mm	56 mm	57 mm	58 mm	59 mm	60 mm	61 mm	62 mm
5 mm	10:1	10.2:1	10.4:1	10.6:1	10.8:1	11.0:1	11.2:1	11.4:1	11.6:1	11.8:1	12.0:1	12.2:1	12.4:1
7 mm	7.1:1	7.3:1	7.4:1	7.6:1	7.7:1	7.9:1	8:1	8.1:1	8.3:1	8.4:1	8.6:1	8.7:1	8.9:1
9 mm	5.6:1	5.7:1	5.8:1	5.9:1	6:1	6.1:1	6.2:1	6.3:1	6.4:1	6.6:1	6.7:1	6.8:1	6.9:1
11 mm	4.5:1	4.6:1	4.7:1	4.8:1	4.9:1	5:1	5.1:1	5.2:1	5.3:1	5.4:1	5.5:1	5.5:1	5.6:1
13 mm	3.8:1	3.9:1	4:1	4.1:1	4.2:1	4.2:1	4.3:1	4.4:1	4.5:1	4.5:1	4.6:1	4.7:1	4.8:1
15 mm	3.3:1	3.4:1	3.5:1	3.5:1	3.6:1	3.7:1	3.7:1	3.8:1	3.9:1	3.9:1	4.0:1	4.1:1	4.1:1
17 mm	2.9:1	3:1	3.1:1	3.1:1	3.2:1	3.2:1	3.3:1	3.4:1	3.4:1	3.5:1	3.5:1	3.6:1	3.6:1
19 mm	2.6:1	2.7:1	2.7:1	2.8:1	2.8:1	2.9:1	2.9:1	3:1	3.1:1	3.1:1	3.2:1	3.2:1	3.3:1
21 mm	2.4:1	2.4:1	2.5:1	2.5:1	2.6:1	2.6:1	2.7:1	2.7:1	2.8:1	2.8:1	2.9:1	2.9:1	3.0:1
23 mm	2.2:1	2.2:1	2.3:1	2.3:1	2.3:1	2.4:1	2.4:1	2.5:1	2.5:1	2.6:1	2.6:1	2.7:1	2.7:1
25 mm	2:1	2:1	2.1:1	2.1:1	2.2:1	2.2:1	2.2:1	2.3:1	2.3:1	2.4:1	2.4:1	2.4:1	2.5:1
27 mm	1.9:1	1.9:1	1.9:1	2:1	2:1	2:1	2.1:1	2.1:1	2.1:1	2.2:1	2.2:1	2.3:1	2.3:1

Table 2E
2 1/2” to 3” Width (Across) | 1/16” to 1 1/16” Thick (Down)

	63 mm	64 mm	65 mm	66 mm	67 mm	68 mm	69 mm	70 mm	71 mm	72 mm	73 mm	74 mm	75 mm
5 mm	12.6:1	12.8:1	13.0:1	13.2:1	13.4:1	13.6:1	13.8:1	14.0:1	14.2:1	14.4:1	14.6:1	14.8:1	15.0:1
7 mm	9.0:1	9.1:1	9.3:1	9.4:1	9.6:1	9.7:1	9.9:1	10.0:1	10.1:1	10.3:1	10.4:1	10.6:1	10.7:1
9 mm	7.0:1	7.1:1	7.2:1	7.3:1	7.4:1	7.6:1	7.7:1	7.8:1	7.9:1	8.0:1	8.1:1	8.2:1	8.3:1
11 mm	5.7:1	5.8:1	5.9:1	6.0:1	6.1:1	6.2:1	6.3:1	6.4:1	6.5:1	6.5:1	6.6:1	6.7:1	6.8:1
13 mm	4.8:1	4.9:1	5.0:1	5.1:1	5.2:1	5.2:1	5.3:1	5.4:1	5.5:1	5.5:1	5.6:1	5.7:1	5.8:1
15 mm	4.2:1	4.3:1	4.3:1	4.4:1	4.5:1	4.5:1	4.6:1	4.7:1	4.7:1	4.8:1	4.9:1	4.9:1	5.0:1
17 mm	3.7:1	3.8:1	3.8:1	3.9:1	3.9:1	4.0:1	4.1:1	4.1:1	4.2:1	4.2:1	4.3:1	4.4:1	4.4:1
19 mm	3.3:1	3.4:1	3.4:1	3.5:1	3.5:1	3.6:1	3.6:1	3.7:1	3.7:1	3.8:1	3.8:1	3.9:1	3.9:1
21 mm	3.0:1	3.0:1	3.1:1	3.1:1	3.2:1	3.2:1	3.3:1	3.3:1	3.4:1	3.4:1	3.5:1	3.5:1	3.6:1
23 mm	2.7:1	2.8:1	2.8:1	2.9:1	2.9:1	3.0:1	3.0:1	3.0:1	3.1:1	3.1:1	3.2:1	3.2:1	3.3:1
25 mm	2.5:1	2.6:1	2.6:1	2.6:1	2.7:1	2.7:1	2.8:1	2.8:1	2.8:1	2.9:1	2.9:1	3.0:1	3.0:1
27 mm	2.3:1	2.4:1	2.4:1	2.4:1	2.5:1	2.5:1	2.6:1	2.6:1	2.6:1	2.7:1	2.7:1	2.7:1	2.8:1

Table 2F
3” to 3 1/2” Width (Across) | 1/4” to 1 1/8” Thick (Down)

	76 mm	77 mm	78 mm	79 mm	80 mm	81 mm	82 mm	83 mm	84 mm	85 mm	86 mm	87 mm	88 mm
5 mm	15.2:1	15.4:1	15.6:1	15.8:1	16.0:1	16.2:1	16.4:1	16.6:1	16.8:1	17.0:1	17.2:1	17.4:1	17.6:1
7 mm	10.9:1	11.0:1	11.1:1	11.3:1	11.4:1	11.6:1	11.7:1	11.9:1	12.0:1	12.1:1	12.3:1	12.4:1	12.6:1
9 mm	8.4:1	8.6:1	8.7:1	8.8:1	8.9:1	9.0:1	9.1:1	9.2:1	9.3:1	9.4:1	9.6:1	9.7:1	9.8:1
11 mm	6.9:1	7.0:1	7.1:1	7.2:1	7.3:1	7.4:1	7.5:1	7.5:1	7.6:1	7.7:1	7.8:1	7.9:1	8.0:1
13 mm	5.8:1	5.9:1	6.0:1	6.1:1	6.2:1	6.2:1	6.3:1	6.4:1	6.5:1	6.5:1	6.6:1	6.7:1	6.8:1
15 mm	5.1:1	5.1:1	5.2:1	5.3:1	5.3:1	5.4:1	5.5:1	5.5:1	5.6:1	5.7:1	5.7:1	5.8:1	5.9:1
17 mm	4.5:1	4.5:1	4.6:1	4.6:1	4.7:1	4.8:1	4.8:1	4.9:1	4.9:1	5.0:1	5.1:1	5.1:1	5.2:1
19 mm	4.0:1	4.1:1	4.1:1	4.2:1	4.2:1	4.3:1	4.3:1	4.4:1	4.4:1	4.5:1	4.5:1	4.6:1	4.6:1
21 mm	3.6:1	3.7:1	3.7:1	3.8:1	3.8:1	3.9:1	3.9:1	4.0:1	4.0:1	4.0:1	4.1:1	4.1:1	4.2:1
23 mm	3.3:1	3.3:1	3.4:1	3.4:1	3.5:1	3.5:1	3.6:1	3.6:1	3.7:1	3.7:1	3.7:1	3.8:1	3.8:1
25 mm	3.0:1	3.1:1	3.1:1	3.2:1	3.2:1	3.2:1	3.3:1	3.3:1	3.4:1	3.4:1	3.4:1	3.5:1	3.5:1
27 mm	2.8:1	2.9:1	2.9:1	2.9:1	3.0:1	3.0:1	3.0:1	3.1:1	3.1:1	3.1:1	3.2:1	3.2:1	3.3:1

Table 2G
3 1/2" to 4" Width (Across) | 1/4" to 1 1/8" Thick (Down)

	88 mm	89 mm	90 mm	91 mm	92 mm	93 mm	94 mm	95 mm	96 mm	97 mm	98 mm	99 mm	100 mm
5 mm	17.6:1	17.8:1	18.0:1	18.2:1	18.4:1	18.6:1	18.8:1	19.0:1	19.2:1	19.4:1	19.6:1	19.8:1	20.0:1
7 mm	12.6:1	12.7:1	12.9:1	13.0:1	13.1:1	13.3:1	13.4:1	13.6:1	13.7:1	13.9:1	14.0:1	14.1:1	14.3:1
9 mm	9.8:1	9.9:1	10.0:1	10.1:1	10.2:1	10.3:1	10.4:1	10.6:1	10.7:1	10.8:1	10.9:1	11.0:1	11.1:1
11 mm	8.0:1	8.1:1	8.2:1	8.3:1	8.4:1	8.5:1	8.5:1	8.6:1	8.7:1	8.8:1	8.9:1	9.0:1	9.1:1
13 mm	6.8:1	6.8:1	6.9:1	7.0:1	7.1:1	7.2:1	7.2:1	7.3:1	7.4:1	7.5:1	7.5:1	7.6:1	7.7:1
15 mm	5.9:1	5.9:1	6.0:1	6.1:1	6.1:1	6.2:1	6.3:1	6.3:1	6.4:1	6.5:1	6.5:1	6.6:1	6.7:1
17 mm	5.2:1	5.2:1	5.3:1	5.4:1	5.4:1	5.5:1	5.5:1	5.6:1	5.6:1	5.7:1	5.8:1	5.8:1	5.9:1
19 mm	4.6:1	4.7:1	4.7:1	4.8:1	4.8:1	4.9:1	4.9:1	5.0:1	5.1:1	5.1:1	5.2:1	5.2:1	5.3:1
21 mm	4.2:1	4.2:1	4.3:1	4.3:1	4.4:1	4.4:1	4.5:1	4.5:1	4.6:1	4.6:1	4.7:1	4.7:1	4.8:1
23 mm	3.8:1	3.9:1	3.9:1	4.0:1	4.0:1	4.0:1	4.1:1	4.1:1	4.2:1	4.2:1	4.3:1	4.3:1	4.3:1
25 mm	3.5:1	3.6:1	3.6:1	3.6:1	3.7:1	3.7:1	3.8:1	3.8:1	3.8:1	3.9:1	3.9:1	4.0:1	4.0:1
27 mm	3.3:1	3.3:1	3.3:1	3.4:1	3.4:1	3.4:1	3.5:1	3.5:1	3.6:1	3.6:1	3.6:1	3.7:1	3.7:1

Table 2H
4" to 4 1/2" Width (Across) | 1/4" to 1 1/8" Thick (Down)

	101 mm	102 mm	103 mm	104 mm	105 mm	106 mm	107 mm	108 mm	109 mm	110 mm	111 mm	112 mm	113 mm
5 mm	20.2:1	20.4:1	20.6:1	20.8:1	21.0:1	21.2:1	21.4:1	21.6:1	21.8:1	22.0:1	22.2:1	22.4:1	22.6:1
7 mm	14.4:1	14.6:1	14.7:1	14.9:1	15.0:1	15.1:1	15.3:1	15.4:1	15.6:1	15.7:1	15.9:1	16.0:1	16.1:1
9 mm	11.2:1	11.3:1	11.4:1	11.6:1	11.7:1	11.8:1	11.9:1	12.0:1	12.1:1	12.2:1	12.3:1	12.4:1	12.6:1
11 mm	9.2:1	9.3:1	9.4:1	9.5:1	9.5:1	9.6:1	9.7:1	9.8:1	9.9:1	10.0:1	10.1:1	10.2:1	10.3:1
13 mm	7.8:1	7.8:1	7.9:1	8.0:1	8.1:1	8.2:1	8.2:1	8.3:1	8.4:1	8.5:1	8.5:1	8.6:1	8.7:1
15 mm	6.7:1	6.8:1	6.9:1	6.9:1	7.0:1	7.1:1	7.1:1	7.2:1	7.3:1	7.3:1	7.4:1	7.5:1	7.5:1
17 mm	5.9:1	6.0:1	6.1:1	6.1:1	6.2:1	6.2:1	6.3:1	6.4:1	6.4:1	6.5:1	6.5:1	6.6:1	6.6:1
19 mm	5.3:1	5.4:1	5.4:1	5.5:1	5.5:1	5.6:1	5.6:1	5.7:1	5.7:1	5.8:1	5.8:1	5.9:1	5.9:1
21 mm	4.8:1	4.9:1	4.9:1	5.0:1	5.0:1	5.0:1	5.1:1	5.1:1	5.2:1	5.2:1	5.3:1	5.3:1	5.4:1
23 mm	4.4:1	4.4:1	4.5:1	4.5:1	4.6:1	4.6:1	4.7:1	4.7:1	4.7:1	4.8:1	4.8:1	4.9:1	4.9:1
25 mm	4.0:1	4.1:1	4.1:1	4.2:1	4.2:1	4.2:1	4.3:1	4.3:1	4.4:1	4.4:1	4.4:1	4.5:1	4.5:1
27 mm	3.7:1	3.8:1	3.8:1	3.9:1	3.9:1	3.9:1	4.0:1	4.0:1	4.0:1	4.1:1	4.1:1	4.1:1	4.2:1

7.0 MATERIALS -

7.1 COLOR AND MATERIAL -

Color is dependent on the material of the specimen. Other factors that influence color include the application of "Heat Treating", Patination, Mottling and Patterns. Additionally, materials are often regional, where some specimen types may span many regions.

CLASS A -

Multiple Colors - More than three (3) variations, examples might include, but not limited to Horse Creek Chert, Heat Treated Burlington, Alabates, agate, chalcedony, petrified wood or

Color Transitions - Any two (2) colors that have an abrupt, clearly distinct transition (Opposite of blended transition), or

Transparency - Shining through; luminous, or

Patterns - Features such as Bulls Eye, Lighting Streaks and Worm Tracks, Wood Grain or

Luster - The appearance of a mineral surface judged by its brilliance and ability to reflect light. Other terms include, Slick, Greasy, Waxy or Shiny in appearance.

CLASS B -

Material of Average quality or

Average Color, examples such as brown, black, grey, white, tan and

Lacking CLASS A qualities

CLASS C -

Any material of poor quality; examples may include, but not limited to extremely grainy, coarse or

A material that limits the definition of flaking patterns to such an extent that flaking is barely distinguishable

8.0 MODIFIERS - Receive a "+" suffix.

Distinct factors that are difficult to quantify as defined within this sub-clause shall receive a modifier, represented by the suffix "+", if the specimen meets any two (2) or combination of the following:

Example: A G8 that also meets any two (2) modifiers noted below, shall be represented as a G8+.

SIZE -

The physical dimensions, proportions, magnitude, or extent varies between type specimens. As a result, it would be inaccurate to try and qualify in general terms a defined standard for size. However, specimens that are of an exceptional size for the type shall receive preference in grading.

RARITY -

Referring to minimal occurrence, sparse density or infrequent for any of following:

Material - The specimen is made from material that is not common for the region it was found, or

Distribution - Type specimen is not common for the region it was found, or

Type - In general, the specimen is an extremely rare type.

FLAKING -

The specimen exhibits exceptional flaking patterns, opposite of random or large broad flaking. Examples might include but not limited to diagonal, parallel, transverse and oblique.

9.0 GRADE ASSIGNMENTS - Defined as follows:

Refer to Tables 3A through 3H to determine the Grade Assignment of the specimen.

Table 3A - Grade 10 Assignments

Grade 10	Damage	Symmetry	W:T	Material
	Class A	Class A	Class A	Class A

Table 3B - Grade 9 Assignments

Grade 9	Damage	Symmetry	W:T	Material
	Class A	Class A	Class A	Class B

Table 3C - Grade 8 Assignments

Grade 8	Damage	Symmetry	W:T	Material
	Class A	Class A	Class A	Class C
	Class A	Class A	Class B	Class A
	Class A	Class B	Class A	Class A
	Class B	Class A	Class A	Class A

Table 3D - Grade 7 Assignments

Grade 7	Damage	Symmetry	W:T	Material
	Class A	Class A	Class B	Class B
	Class A	Class A	Class C	Class A
	Class A	Class B	Class A	Class B
	Class A	Class B	Class B	Class A
	Class A	Class C	Class A	Class A
	Class B	Class A	Class A	Class B
	Class B	Class A	Class B	Class A
	Class B	Class B	Class A	Class A
	Class C	Class A	Class A	Class A

Table 3E - Grade 6 Assignments

Grade 6	Damage	Symmetry	W:T	Material
	Class A	Class A	Class B	Class C
	Class A	Class A	Class C	Class B
	Class A	Class B	Class A	Class C
	Class A	Class B	Class B	Class B
	Class A	Class B	Class C	Class A
	Class A	Class C	Class A	Class B
	Class A	Class C	Class B	Class A
	Class B	Class A	Class A	Class C
	Class B	Class A	Class B	Class B
	Class B	Class A	Class C	Class A
	Class B	Class B	Class A	Class A
	Class B	Class B	Class A	Class B
	Class B	Class B	Class B	Class A
	Class B	Class B	Class B	Class B
	Class B	Class B	Class C	Class C
	Class B	Class C	Class B	Class C
	Class B	Class C	Class C	Class B
	Class C	Class A	Class A	Class B
	Class C	Class A	Class B	Class A
	Class C	Class B	Class A	Class A
	Class C	Class B	Class B	Class C
	Class C	Class B	Class C	Class B
	Class C	Class C	Class B	Class B

Table 3F - Grade 5 Assignments

Grade 5	Damage	Symmetry	W:T	Material
	Class A	Class A	Class C	Class C
	Class A	Class A	Class D	Class A
	Class A	Class B	Class B	Class C
	Class A	Class B	Class C	Class B
	Class A	Class B	Class D	Class C
	Class A	Class C	Class A	Class C
	Class A	Class C	Class B	Class B
	Class A	Class C	Class C	Class A
	Class A	Class C	Class D	Class B
	Class A	Class D	Class A	Class A
	Class A	Class D	Class B	Class C
	Class A	Class D	Class C	Class B
	Class B	Class A	Class B	Class C
	Class B	Class A	Class C	Class B
	Class B	Class A	Class D	Class C
	Class B	Class B	Class A	Class C
	Class B	Class B	Class C	Class A
	Class B	Class C	Class A	Class B
	Class B	Class C	Class B	Class A
	Class B	Class C	Class D	Class A
	Class B	Class D	Class A	Class C
	Class B	Class D	Class C	Class A
	Class C	Class A	Class A	Class C
	Class C	Class A	Class B	Class B
	Class C	Class A	Class C	Class A
	Class C	Class A	Class D	Class B
	Class C	Class B	Class A	Class B
	Class C	Class B	Class B	Class A
	Class C	Class C	Class A	Class A
	Class C	Class C	Class D	Class A
	Class C	Class D	Class A	Class B
	Class C	Class D	Class B	Class A
	Class D	Class A	Class A	Class A
	Class D	Class A	Class B	Class C
	Class D	Class A	Class C	Class B
	Class D	Class B	Class A	Class C
	Class D	Class B	Class C	Class A
	Class D	Class C	Class A	Class B
	Class D	Class C	Class B	Class A

Table 3G - Grade 4 Assignments

Grade 4	Damage	Symmetry	W:T	Material
	Class A	Class A	Class D	Class C
	Class A	Class B	Class C	Class C
	Class A	Class B	Class D	Class B
	Class A	Class C	Class B	Class C
	Class A	Class C	Class C	Class B
	Class A	Class C	Class C	Class C
	Class A	Class C	Class D	Class A
	Class A	Class D	Class A	Class C
	Class A	Class D	Class B	Class B
	Class A	Class D	Class C	Class A
	Class A	Class D	Class D	Class A
	Class B	Class A	Class C	Class C
	Class B	Class A	Class D	Class B
	Class B	Class B	Class B	Class C
	Class B	Class B	Class C	Class B
	Class B	Class B	Class D	Class A
	Class B	Class C	Class A	Class C
	Class B	Class C	Class B	Class B
	Class B	Class C	Class C	Class A
	Class B	Class C	Class C	Class C
	Class B	Class C	Class D	Class B
	Class B	Class D	Class A	Class B
	Class B	Class D	Class B	Class A
	Class B	Class D	Class C	Class B
	Class C	Class A	Class B	Class C
	Class C	Class A	Class C	Class B
	Class C	Class A	Class C	Class C
	Class C	Class A	Class D	Class A
	Class C	Class B	Class A	Class C
	Class C	Class B	Class B	Class B
	Class C	Class B	Class C	Class A
	Class C	Class B	Class C	Class C
	Class C	Class C	Class A	Class B
	Class C	Class C	Class A	Class C
	Class C	Class C	Class B	Class A
	Class C	Class C	Class B	Class C
	Class C	Class C	Class C	Class A
	Class C	Class C	Class C	Class B
	Class C	Class C	Class C	Class C
	Class C	Class D	Class A	Class A
	Class D	Class A	Class A	Class C
	Class D	Class A	Class B	Class B
	Class D	Class A	Class C	Class A

Table 3G - Grade 4 Assignments Continued

Grade 4	Damage	Symmetry	W:T	Material
	Class D	Class A	Class D	Class A
	Class D	Class B	Class A	Class B
	Class D	Class B	Class B	Class A
	Class D	Class B	Class C	Class B
	Class D	Class C	Class A	Class A
	Class D	Class D	Class A	Class A

Table 3H - Grade 3 Assignments

Grade 3	Damage	Symmetry	W:T	Material
	Class A	Class C	Class D	Class C
	Class A	Class D	Class C	Class C
	Class A	Class D	Class D	Class B
	Class A	Class D	Class D	Class C
	Class B	Class D	Class D	Class A
	Class C	Class A	Class D	Class C
	Class C	Class C	Class D	Class A
	Class C	Class C	Class D	Class B
	Class C	Class C	Class D	Class C
	Class C	Class D	Class A	Class C
	Class C	Class D	Class C	Class A
	Class C	Class D	Class C	Class C
	Class C	Class D	Class D	Class A
	Class D	Class A	Class C	Class C
	Class D	Class A	Class D	Class B
	Class D	Class A	Class D	Class C
	Class D	Class B	Class D	Class A
	Class D	Class C	Class C	Class A
	Class D	Class C	Class C	Class B
	Class D	Class C	Class C	Class C
	Class D	Class C	Class D	Class A
	Class D	Class D	Class A	Class B
	Class D	Class D	Class A	Class C
	Class D	Class D	Class B	Class A
	Class D	Class D	Class C	Class A

Table 3I - Grade 2 Assignments

Grade 2	Damage	Symmetry	W:T	Material
	Class C	Class D	Class D	Class C
	Class D	Class C	Class D	Class C
	Class D	Class D	Class C	Class C
	Class D	Class D	Class D	Class A

Table 3J - Grade 1 Assignments

Grade 1	Damage	Symmetry	W:T	Material
	Class D	Class D	Class D	Class C

9.1 GRADE ASSIGNMENT EXAMPLE

Type: Elko Corner Notch
Material: Brown Basalt
Location: Columbia River, WA

Length: 2 7/8" or 73 mm

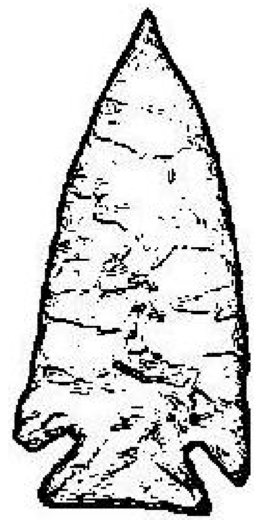


Figure 4 - Elko Corner Notch

DAMAGE:

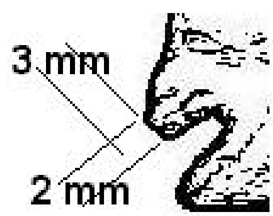


Figure 5 - Area of Damage

Damage has been measured as defined in sub-clause 4.0. For this example, the damage located at the ear measures an area of 6 mm^2. Referring to table 1 on page 11 for a sample 2 7/8" (using 3" or 76 mm in table 1) this is defined as CLASS B.

Damage: CLASS B

SYMMETRY

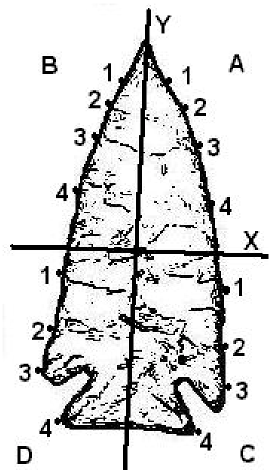


Figure 6 - Measuring Symmetry

Referring to sub-clause 5.0 and sub-clauses 5.2 - 5.3, the following average difference was calculated:

Region A and B: 3 mm
Region C and D: 1 mm

Referring to sub-clause 5.4, the symmetry classification is 2 mm. This is defined as:

CLASS B

WIDTH-TO-THICKNESS
Measured: Width: 35 mm and Thickness is 5 mm

Referring to sub-clause 6.3: This is a 7:1 Width-to-Thickness Ratio and is defined as:

CLASS B

MATERIAL:
This specimen is made from brown basalt. Referring to sub-clause 7.1, this would be defined as:

CLASS B

MODIFIERS
This specimen is large for the type, however it is not rare and the flaking is considered random. Therefore, no modifier is assigned.

GRADE ASSIGNMENT:
Damage: CLASS B, Symmetry CLASS B, Width to Thickness: CLASS B, Material: CLASS B. Referring to table 3E, this specimen grades:

GRADE 6

Notice that if the specimen was not damaged or a little more symmetrical around the tip or was made from a CLASS A material, this specimen would have graded GRADE 7 or GRADE 8.

9.2 DOCUMENTING GRADE ASSIGNMENTS -

When documenting the Grade Assignment, graders should record Damage, Symmetry, Width-to-Thickness and Material CLASS assignments.

This will allow collectors to know the reasons a specimen was graded up or down.

GLOSSARY

The following terms and definitions are commonly used when discussing, referring to, writing, or so addressing Native American Artifacts.

Acuminate (Tip): Tapering to a slender point.

Acute (Tip): Ending in a sharp point at an angle of less than 90 degrees

Apiculate (Tip): An abrupt change of blade-edge angle near the tip that creates a broad, sharp tip on a narrower blade.

Arch-Blade: A point, knife or blade which, when held with one edge to the viewer, forms a curve—like cupping your palm and fingers. This is the result of how the blade came from the core it was struck from and/or a result of flaking to create a nominally straight edge from a curved flake.

Arrowhead: A small projectile point, usually less than 1 ½ inches in length, which was used to tip an arrow-shaft.

Artifact: An old object used or manufactured by ancient man.

Asymmetrical: Left and right blade-edges are dissimilarly shaped. In some forms, particularly knives, this is a result of one edge having been used more than the other; in other forms, the point was made so to begin with--this either be a chance occurrence or a trait for a given typology.

Auriculate (Base): Round or pointed ears, which project from the base or stem.

Barb: The corners of the shoulders of some points extend outwards, downwards, even upwards—when this occurs, these portions of the shoulder are called barbs.

Barbed (Shoulders): A sharp projection extending backward from the tip, and preventing easy extraction.

Basal Edge: The bottom-most portion of the stem.

Base: The Distal End of the point—the portion which ‘seats’ into the shaft or handle.

Basal Grinding: Certain point-types exhibit ground basal surfaces—usually down the sides of and across the bottom of the base. In some instances, the interior surfaces of notches can be ground, too.

Basal Notch: Some points exhibit a notching of the basal edge—in some instances, the basal notching creates the hafting area, in others; the notch is centered on the basal edge. Eva, Calf Creek, Citrus, and others exhibit two basal notches; Toyah, Harrell, Garza, and others exhibit a single basal notch centered on the basal edge.

Beavertail (Base): The hafting area of certain Adena-Culture points is shaped like a beaver's tail—hence the name.

Beveling: A process by which the angle of the blades' cutting edge is greatly steeper than the adjoining surface of the blade—this is done by removal of short, deep flakes from one or both faces of each edge.

Bi-Convex (Section): Curving outward on both sides/faces.

Bifurcate: A splitting of the stem by addition of a deep basal notch; the lobes formed thereof may be parallel or may diverge outward, and the basal concavity may be small or large. Examples of each are the Lecroy point (small) and the Pedernales point (large).

Bird points: This is a slang term or misnomer. These are true arrowheads, in that they were attached to arrows and shot with a bow. They were used to kill a large range of game to include deer and other large animals.

Blade: The portion of a point or knife, which lies above the hafting area, and is responsible for performing cutting tasks.

Blank: A preform, or first-stage reduction of a core-blade into a point or knife.

Blunt: A point whose distal end, either of deliberate manufacture or as a result of reworking a broken tip, is blunt and rounded/flat. Theory held that such 'points' were used for stunning game; more recent investigations reveal the most probable use for so-called blunts was to scrape hides, or to work bone, wood or antler into desired shapes.

Broad (Tip): A wide, outward rounded blade tip that comes to a point

Bulbous (Base): A short, very rounded stem-form.

Burin: Burins are chisel-pointed tools used for grooving or engraving. They are thought to have been used for working bone, antler, wood or ivory. The removal of small to minute slivers from the edge of a flake or blade, in such manner as to produce a facet that terminates in a chisel point. Such slivers and flakes have been removed from the basal edge/s, shoulder/s or even the tips of various point-types. Burin faceting has been found on Clovis, Cumberland, St. Charles, Lake Erie Bifurcate, Heavy Duty, Pine Tree, and Kirk points—all Paleo to Early Archaic typologies. The trait seems to die off during the Middle and Late Archaic Periods, and yet resumes again in the Early Woodland Period on some Buck Creek points.

Caliche: Calcite deposits found on artifacts.

Classic/Classic Example: A specimen that represents the highest form of the typology, often exhibiting excellent workmanship, attractive material, and symmetry of form.

Clipped Wing (Shoulders): Refers to the deliberate fracturing of the shoulders; In early Archaic typologies, it is represented in both St. Charles and Decatur forms, and possibly others.

Coarse (Serration): Medium-sized, regularly spaced serrations.

Collateral (Flaking): Two forms of collateral flaking are known: narrow flake scars of uniform size that terminate along the centerline of the blade's face characterize the most common form. These flakes are removed either by carefully controlled indirect percussion or pressure flaking. An alternative form, of rare occurrence, is characterized by paired flake scars which are opposed across the face of the blade, and meet along the center-line of the blade to create a median ridge. These flakes appear in three to seven or eight rows or tiers up the face of the blade. Agate Basin points and parallel-flaked Ohio Lanceolates are known to exhibit this style of flaking.

Concave (Base): A wide incurvature, either shallow or deep, forming the basal edge of a point.

Conchoidal Fracture: The characteristic cone-shaped fracture resulting from pressure or a blow to the surface of the stone. Silicates such as Flint, Quartz Crystal, Chalcedony, Jasper and other materials, when struck, are known for this trait.

Contracting (Stem): Narrowing or constricting towards the base

Convex (Base): A slight to exaggerated rounding of the basal edge of a point.

Core-Blade: A blade struck from a prepared or casually used core, to be made into a point or knife.

Corner Notch: Some points exhibit a notching at each corner of the basal region, to create a hafting area for the point.

Corner Tang (Base): Refers to points and knives whose 'base' or hafting area is offset to one corner of the blade.

Cortex: The natural, weathered exterior of the rock.

Cross-section: A mid-section shape representing the form and thickness of a point or tool.

Desert varnish: A thin layer of dark brown or blue-black material believed to be the residue of dead bacteria which have been impregnated with iron and manganese salts leached from the host rock over untold years.

Distal End: The tip or 'business-end' of a projectile point.

Ears/Eared (Base): Referring to the extending lobes or auricles of the base.

E-Notch: A slight projection from the inner portion of a notch that creates an E-shaped form; also Key-Notch.

Excurvate (Blade): Both edges of the blade are rounded outwards.

Excurvate/Incurvate (Blade): One edge rounding outwards from shoulder to distal end, the opposite rounding inwards from shoulder to distal end.

Expanded (Shoulders): Refers to the horizontal projection of either rounded or pointed shoulders from the line of the blade's edges

Expanding (Stem): Widening towards the base

Face: The area of a blade, knife or point that is between the two edges.

Fine (Serrations): Small-sized, regularly spaced serrations

Fishtail (Base): Refers to some forms whose auricles resemble a fishes tail.

Flaking: The process by which extraneous material is removed to create a point or blade.

Flute: A long, thinning, channel-flake that is removed from the base of a blade.

Fluted (Section): In section, a fluted point reveals an inward curving surface with the remnant of the outward curving portion of the face at either end.

Four-side Bevel: Each face of each blade edge is beveled.

Four-way Bevel (Bevel): A knife-form that is elongated/diamond shaped, and which exhibits beveling on opposite faces of all four edges.

Fractured Base (Base): The bases of some points are deliberately broken or fractured off. In some instances, the fracturing process may involve the removal of more than one or two flakes. Some typologies, notably Decatur and Fractured-Base Dovetails, exhibit the removal of flakes from each corner of and across the width of the base, as well as the removal of flakes from each side of the base.

Grinding: A method of smoothing an edge or surface by rubbing it with a hammerstone or other abrader prior to use (referred to as Basal Grinding)

Hafting Area: The place where a handle was mated to the stone, such as in an axe or a dart or arrow point.

Heat Treating: The use of fire to heat and thermally alter a stone preform characteristics and flaking qualities prior to knapping and flaking.

Hinge Fracture: The termination of a flake scar that leaves a 'step' or hinge.

Hooked (Shoulders): Refers to an upward slanting of the shoulder-barbs.
Horizontal: Refers to the approximately level projection of the underside of the shoulders
Inversely Tapered: A slight downward cast to the shoulders, but much less than that of true barbed shoulders.

Horizontal Transverse (Flaking): This style is characterized by parallel rows of narrow, long flakes that often extend nearly all the way across the face of the blade. Some examples are known to exhibit flakes removed from the opposite blade edge to complete the flake scar across the entire face of the blade.

Impact Fracture: A flake is removed from the tip or edge of a point at the point of impact with something too hard to penetrate.

Incurvate (Blade): Edges round inwards from shoulder to distal end.

Irregular (Flaking): Randomly serrated, either fine or coarse; serrations are haphazardly applied, or they may be so worn down as to appear to be randomly applied.

Knobbed: A stem form having a rounded lump or protruding, knobbed appearance, i.e. as in Hardin Knobbed Base Points.

Lanceolate (Blade): Shaped like a lance-head, i.e. tapering to a point at the distal end, and sometimes towards the base as well. Usually denoting a narrow, parallel-sided blade or point.

Left-hand Bevel (Beveling): Beveling which, when the blade is held 'point up', is found on the left-hand edge of each face.

Lobbed (Base): Refers to basal 'ears' that are rounded and are formed by the meeting of two circles to create a lobbed effect.

Luster: Present on artifacts that were long subjected to water flow commonly called "River Patina."

Median Ridged (Section): A high ridge at the mid-axis of a blade-face that was formed by angled parallel flaking.

Mucronate (Tip): An abrupt, sharp point occurring on a broader blade.

Notched (Serrations): Medium to large, widely spaced serrations, resembling notches.

Obtuse (Tip): Ending in a rounded tip, with no distinct or sharp point evident.

Oblique Transverse (Flaking): Not unlike the horizontal transverse style of flaking, the difference here is that in oblique transverse flaking, the flakes are removed in an oblique direction across one or both faces of the blade. In Early Archaic forms, the flaking starts from a point high on the left edge of the face to a point low on the right side of the edge of the blade. On some Middle Archaic points, the diagonal flaking runs in the opposite direction.

Ovate/ovoid (Blade): A broadly rounded blade-form, somewhat resembling an egg.

Parallel (Blade): Each blade-edge parallels the other

Parallel Sided/Straight (Stem): Refers to stem-sides that are parallel with the vertical axis of the blade.

Patina: The accumulation of ages-old staining and organic matter-adhesion, as well as the removal of soluble silicates, via long-term weathering of a stone's surface.

Plano-Convex (Section): In section, one face is flat, or nearly so; the opposite outward curving

Plano-Plano: In section, both faces are flat, or nearly so.

Pressure Flaking: A narrow, sharp to blunt instrument is placed upon the edge, and a flake is pressed from the underside of the blade by applying pressure with the instrument—in most cases a deer antler tine.

Projectile Point: A generic term applied to all arrowheads and points; in specific, the term refers to lance-points, dart-, and arrow- heads.

Provenience: Information pertaining to the origin or source of an artifact, typically the geographic location from which the artifact was found, but also including the history of who owned it and/or where it was bought or sold.

Proximal End: Refers to the basal region of a point.

Random (Flaking): The flakes removed in this process are so done in a random manner that leaves no particular pattern; both percussion and pressure flaking can be applied to this process.

Recurved (Blade): A broad to shallow rounding in both inward and outward form along one or both blade-edges.

Resharpened (Blade): Stone blades and points are periodically resharpened due to wear from use. A point may go through several stages of use and re-sharpening, until the point is no longer usable due to its small size.

Rhomboidal (Section): The result of beveling, in section, the form appears as a thin rectangle leaning to one side. Combinations may occur: Plano/Median ridged, Fluted/Convex, etc.

Right-hand Bevel (Beveling): Beveling which, when the blade is held 'point up', is found on the right-hand edge of each face.

River Patina: Present on artifacts that were long subjected to water flow.

Rounded (Shoulders): Refers to shoulders that bear a rounded form.

Saw-tooth (Serrations): Large, deeply formed serrations, which may be close or widely spaced.

Serrated Edge: Refers to the intentional creation of a saw-tooth-like edge.

Shoulder: Refers to the area just above the hafting-region of a point or knife, and below the blade.

Side Notch: Some points exhibit a notching of the lower sides of the blade, just above the base, to create a hafting area for the point.

Snapped Base: The basal region is formed by the rind left where the base was 'snapped off' just below the shoulders of a point. Also called Fractured Base.

Stem: Refers to the region below the shoulders and/or blade of a point.

Symmetrical (Blade): Left and right blade-edges are similarly shaped. This is most often the case with projectile points and lance-blades, and is a common trait of unused/un-resharpened blades and knives.

Tang (Base): The corner-portions of a base that extend outwards, inwards, or downwards from the main body of the base or stem.

Tapered (Shoulders): Refers to shoulders that contract towards the stem from the blade, and have a somewhat pointed appearance

Torque Blade (Blade/Section): A noticeable twist, to the right or left, as seen with the point towards the eye of the viewer. This can be the result of chance (core-struck blade is 'twisted') or design. In the first stage/s of beveling, a blade may appear to be 'twisted'.

Triangular (Blade): A blade of broad to narrow width at the shoulders or base, and whose edges exhibit a (generally) straight, even taper towards the distal end. Specimens may exhibit right triangular blades as well.

Turkeytail (Base): Refers to a constriction, then an expansion, and a second constriction of the stem; this form's classic representation is seen in Hopewell Period blades known as Turkeytails.

Typology: A system of classification based upon attributes such as shape and manufacturing techniques. The representative members of the system are known as a *type-series*. Once artifacts are classified by type, their time/space distribution can be analyzed and it can be determined which types are related, either closely or distantly. If two types are closely related, one may have developed from the other, and may provide the key for *seriation,* or the real order of sequential placement of artifacts within a defined but unspecific chronology.

Umbrella Tangs (Base): Shoulder-portion of a point that droops downwards and outwards, to or below the base of a point, as in certain classic Eva forms.

Un-fluted: Refers to certain forms that were, for whatever reasons, not fluted, but retain all the other typological traits found in Paleo-Indian points; Though rare, un-fluted Clovis, Cumberland and other Paleo-Indian point types are known to exist.

Uniface: Refers to predominantly Paleo-Indian tool-forms, which are flaked only on one face; often, the bulb of percussion is found to remain on the un-flaked face of such tools.

Use-Wear/Polish: Indications of use as a functioning tool are to be found on most artifacts. Arrow/dart points exhibit some rounding of sharp edges/tips, Knives exhibit wear upon the cutting-surfaces.

Wing (Shoulders): Refers to the barbs, or shoulders, of a point that are accentuated by size, notching, or projection from the body of the blade.