APPENDIX II

CATALOGUE OF TOOLS AND DIAGNOSTIC ARTIFACTS

This Appendix provides a special listing of all tools and diagnostic artifacts recovered during excavations at the Hawthorn site. A series of metric attributes are recorded along with comments on reduction stage, use wear, and possible functions. The attributes chosen for recordation were based on attributes used in other local studies (eg. - Custer 1982) in order to ensure comparability of data.

Artifact Type: Stemmed Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/89/7	Quartzite	Late	-	28	-	9	3.11	Tip missing-transverse medial fracture.
83/30/205	Quartzite	Late	-	20	-	9	2.22	Contr. stem, tip missing-transverse fracture. Edge excessively thick-fracture probable resharpening mistake.
83/30/98/27	Jasper	Late	36	18	2.00	7	2.57	Much cortex-from pebble.
83/30/187/27	Quartz	Middle-Late	-	-	-	-	-	Many hinge fractures; considerable edge thickness on one side; distal end missing, probably lost in resharpening.
83/30/318/20	Quartz-ite	Middle	-	35	-	10	3.50	Distal end missing. Contracting stem.
83/30/73/3	Ironstone	Late	77	22	3.50	12	1.83	Contracting stem. Length is estimated: impact fracture removed very tip. Considerable step fractures on edges.
83/30/208	Quartzite	Middle-Late	-	31	-	-	-	Most of stem and distal end missing.
83/30/230	Ironstone	Late	54	22	2.45	11	2.00	Bare Island/Lackawaxen-like. Length is estimate, very tip is missing.
83/30/124	Argillite	Late	41	26	1.58	6	4.30	Well weathered; flake scars barely visible.

Artifact Type: Stemmed Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/187/26	Jasper	Middle	-	23	-	8	2.88	Distal end missing; step fractures in vicinity of thick edge near break suggest tip snapped off during resharpening.
83/30/112/1	Ironstone	Late	-	26	-	7	3.71	Bare Island/Lackawaxen-like. Distal end gone; transverse medial section.
83/30/37/26	Ironstone	Late	-	-	-	-	-	Tip to above
83/30/88/26	Argillite	Middle	33	19	1.74	7	2.71	Most flake scars weathered away; some hinges still visible; resharpened.
83/30/225	Argillite	Late	-	22	-	9	2.44	Some flake scars still visible-many hinge fractures along all edges. Transverse medial fracture - tip missing
83/30/76/4	Jasper	Late	36	22	1.64	8	2.75	High edge angles and hinge fractures indicate considerable resharpening.
83/30/281/3	Jasper	Late	40	17	2.35	8	2.13	Almost all flaking on one side. Steep medial ridge, medial hump, one shoulder removed by flaking indicate considerable resharpening.
83/30/217/27	Jasper	Middle-Late	74	22	3.36	11	2.00	Many hinge fractures, steep edge angles: much resharpening.

Artifact Type: Stemmed Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/166/26	Argillite	Late	22	21	1.05	5	4.20	Made on flake, flake scars weathered away, much re-sharpening.
83/30/50/28	Jasper	Middle-Late	44	22	2.00	11	2.00	Cortex on both sides caused problems in lateral thinning (hinges) at cortex.
83/30/24/26	Ironstone	Middle	-	25	-	12	2.08	Part of stem missing; large impact fracture at tip.
83/30/177/26	Ironstone	Early	-	-	-	-	-	Basal section with suggestion of one shoulder.
83/30/216/26 83/30/203/31	Ironstone	Early	126	50	2.52	27	1.85	Two sections of complete biface, probably broken during end thinning.
83/30/31/2	Ironstone	Middle-Late	63	29	2.17	12	2.42	Hinges along medial ridge indicate resharpening.
83/30/45	Jasper	Middle-Late	48	18	2.67	7	2.57	Bare Island-Lackawaxen Pebble jasper, lump of cortex surrounded by hinge fractures.
83/30/105/3	Japser	Middle	-	27	-	12	2.25	Distal end missing, transverse medial fracture. Before originally approx. 10 cm (4 in. long).
83/30/135	Jasper	Middle-Late	47	21	2.24	10	2.10	Probably local jasper. Resharpened.

Artifact Type: Stemmed Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/75/28	Quartzite	Late	-	28	-	13	2.15	Tip missing-transverse medial fracture: Thick edge & hinge fractures indicate resharpening error.
83/30/14/28 83/30/75/3	Ironstone	Middle	88	28	3.14	12	2.33	83/30/14/28 is basal/ medial section, other is tip. Transverse fracture possibly caused by end shock during lateral re-sharpening.
83/30/175 83/30/178/27	Quartzite	Middle-Late	91	26	3.50	12	2.17	83/30/175 is base, other is tip. Attempt to remove mass near fracture may have caused breakage.
83/30/2/2	Ironstone	Late	73	26	2.81	14	1.86	Many step & hinge fractures along all edges indicate much resharpening.
83/30/7/27	Ironstone	Middle-Late	-	28	-	13	2.15	Distal end missing. Shoulder appears only one side.
83/30/1 83/30/105/3	Ironstone	Middle	104	32	3.25	12	2.67	83/30/1 is base/medial section, other is tip. Deep hinged flake at break indicates point broken during resharpening two halves are diff. color, indicating diff. weathering or thermal alteration.
83/30/25/19	Quartz	Late	-	27	-	8	3.38	Transverse fracture. Very poorly made.

Artifact Type: Stemmed Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/24/27	Quartz	Late	-	25	-	8	3.13	Tip missing. Squared off stem.
83/30/123	Jasper	Late	-	22	-	10	2.20	Tip missing; deep hinge fractures at transverse fracture indicate resharpening error.
83/30/157	Argillite	Late	41	20	2.05	6	3.33	Weathered
83/30/123	Jasper	Late	32	20	1.60	8	2.50	-

Artifact Type: Squared-Base Point

83/30/242/6 83/30/242/14	Quartz	Middle-Late	63	28	2.25	11	2.55	Large lateral flake across material flaw caused fatal fracture. Art #6 (base) found in ss #6, tip in #14 of Level 3.
83/30/208 83/30/217/26	Jasper	Middle	59	30	1.97	12	2.50	83/30/208 is base, 83/30/217/26 tip. Transverse fracture. Material flaw?
83/30/238/7	Jasper	Late	44	27	1.63	15	1.80	Crudely made, covered with cortex. Probable late stage reject.
83/30/198/1	Jasper	Late	52	20	2.60	9	2.22	Very steep edge angles, heavily resharpened. Very tip lost to impact fracture (length is estimate).

Artifact Type: Squared-Base Point

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/242/18	Quartz	Middle	-	29	-	12	2.42	Distal/medial section missing. Many step fractures, transverse fracture.
83/30/15/27	Quartz	Middle	-	36	-	14	2.57	Transverse medial fracture

Artifact Type: Teardrop Points

83/30/30/25	Quartz	Late	30	17	1.76	6	2.83	Steep edge angles & step fractures indicate extensive resharpening.

Artifact Type: Broadspears

83/30/32/26	Jasper	Late	49	24	2.04	7	3.43	Susquehanna B.S. cortex, heavily resharpened.
83/30/280/4	Quartzite	Late	46	35	1.31	16	3.50	Savannah River/Long; Transverse fracture resharpened to scraper.
83/30/208/27	Jasper	Late	27	26	1.04	7	3.71	Small Koens-Crispin-like. Cortex on base. Heavily resharpened.
83/30/112/2	Ironstone	Late	125	27	4.52	14	1.93	Savannah River/Long; Point tip broken edge-rounding.

Artifact Type: Side-Notched Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/178/26	Argillite	Late	33	18	1.83	5	3.60	Badly weathered, flake scars undiscernible.
83/30/203/28	Chert	Late	31	22	1.41	6	3.67	Made on flake.
83/30/203/29	Jasper	Late	-	23	-	6	3.83	Made on flake. Distal end missing, probable impact fracture.
83/30/14/22	Quartz	Late	30	27	1.11	12	2.25	Heavily resharpened, blunt edges. Probable discard.
83/30/6/27	Quartz	Late	23	18	1.28	5	3.60	Heavily resharpened. Probable discard.
83/30/296/14	Argillite	Middle-Late	40	25	1.60	7	3.57	Several hinge fractures.
83/30/112/1	Jasper	Middle-Late	40	24	-	-	-	Basal section only. Has large impact fracture.
83/30/254/16	Quartz	Late	41	24	1.71	10	2.40	Considerable resharpening along both sides, one edge angled laterally.
83/30/281/17	Quartz	Late	41	26	1.58	11	2.36	-
83/30/243/28	Quartz	Middle-Late	50	26	1.92	11	2.36	Very tip missing. Length estimated. Much resharpening, impact fracture.
83/30/213/26	Quartz	Middle-Late	-	25	-	8	3.13	Distal end missing.

Artifact Type: Side-Notched Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/75/26	Quartz	?	-	-	-	-	-	Basal section only.
83/30/219/26	Quartz	Late	31	20	1.55	8	2.50	Heavily resharpened.
83/30/249/6	Quartz	?	-	-	-	-	-	Basal section only.
83/30/251/5	Argillite	Late	26	17	1.53	4	4.25	Heavily weathered.
83/30/78/25	Jasper	?	-	-	-	-	-	Basal section, broken just above notches.
83/30/15/83	Quartz	?	-	-	-	-	-	Basal section, broken just above notches.
83/30/111/26	Jasper	Late	-	22	-	11	2.00	Steep edge angles, many hinges indicate extensive resharpening. Tip missing, probably resharpening error.
83/30/205	Jasper	Middle-Late	45	21	2.14	10	2.10	1 Basal tang missing.
83/30/243/16	Argillite	?	-	23	-	8	2.88	Transverse fracture.

Artifact Type: Corner Notched Points

83/30/219/20	Quartz	Late	-	22	-	10	2.20	Tip gone - transverse fracture.
83/30/209 83/30/105/1	Quartz	Late	32	28	1.14	9	3.11	83/20/209 is base other in medial/tip section. Possible use break.

Artifact Type: Side-Notched Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/75/26	Quartz	?	-	-	-	-	-	Basal section only.
83/30/219/26	Quartz	Late	31	20	1.55	8	2.50	Heavily resharpened.
83/30/249/6	Quartz	?	-	-	-	-	-	Basal section only.
83/30/251/5	Argillite	Late	26	17	1.53	4	4.25	Heavily weathered.
83/30/78/25	Jasper	?	-	-	-	-	-	Basal section, broken just above notches.
83/30/15/83	Quartz	?	-	-	-	-	-	Basal section, broken just above notches.
83/30/111/26	Jasper	Late	-	22	-	11	2.00	Steep edge angles, many hinges indicate extensive resharpening. Tip missing, probably resharpening error.
83/30/205	Jasper	Middle-Late	45	21	2.14	10	2.10	1 Basal tang missing.
83/30/243/16	Argillite	?	-	23	-	8	2.88	Transverse fracture.

Artifact Type: Corner Notched Points

83/30/219/20	Quartz	Late	-	22	-	10	2.20	Tip gone - transverse fracture.
83/30/209 83/30/105/1	Quartz	Late	32	28	1.14	9	3.11	83/20/209 is base other in medial/tip section. Possible use break.

Artifact Type: Corner Notched Points

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/299/3	Quartz	Late	39	24	1.63	9	2.67	Hinge fractures around medial ridge on one side indicate resharpening.
83/30/105/1	Jasper	Late	43	23	1.87	11	2.09	Extensive step fractures on all edges & around tip indicating resharpening.
83/30/6/26	Quartz	Late	21	13	1.62	4	3.25	Impact fracture removed very tip. Length estimated
83/30/53/1	Quartz	Late	39	28	1.39	10	2.80	Heavily resharpened, one edge angled.

Artifact Type: Early Stage Biface Rejects

83/30/243/4	Chert	Early	62	37	1.68	11	3.36	Much cortex on one side, made on split pebble, possibly along fault line. Numerous step fractures & other flaking errors.
83/30/127/3	Quartz	Early	-	-	-	-	-	Transverse fracture, probable material flaw. Much cortex on one side - made on cobble.
83/30/31/3	Jasper	Early	-	-	-	-	-	Some cortex - probable material flaw. Crudely made. May have served as core later.
80/30/252/25	Ironstone	Early	70	48	1.46	11	4.36	Initial weathering complete. Some signs of hinge fractures.

Artifact Type: Late Stage Biface Rejects

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/54	Quartzite	Late	-	-	-	-	-	Medial section with considerable # of hinges.
83/30/198/20	Quartz	Late	-	37	-	-	-	Probable basal section with large hump in middle with hinge fractures around it.
83/30/178/28	Quartzite	Late	-	30	-	12	2.50	Step fractures abound. Tip gone-probable resharpening error.
83/30/75/27	Jasper	Late	62	32	1.94	15	2.13	Stemmed biface with large humps on both sides surrounded by step and hinge fractures.

Artifact Type: Late Stage Biface Discards

83/30/175	Quartz	Late	38	24	1.58	11	2.18	Heavily reworked biface.
83/30/281/17	Quartz	Late	40	27	1.48	14	1.93	Heavily reworked. Large hump on on side with approaching hinge fractures.
83/30/46/26 83/30/203/31	Ironstone	Late	126	50	2.52	27	1.85	Two sections of complete biface, probably broken during end thinning.

Artifact Type: Biface Fragments

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/256/19	Ironstone	Late	-	-	-	-	-	Tip, impact fracture
83/30/187/28	"	Middle	-	-	-	-	-	Tip
83/30/136/16	"	Middle	-	-	-	-	-	Tip, impact fracture
83/30/229	"	Middle	-	-	-	-	-	Tip
83/30/125/4	"	Late	-	-	-	-	-	Tip, is classic example of overshot termination flake which removed entire tip.
83/30/41	Jasper	Early	-	-	-	-	-	Tip
83/30/97/24	"	Late	-	-	-	-	-	Tip
83/30/201	"	Late	-	-	-	-	-	Medial Section
83/30/172/15	"	Late	-	-	-	-	-	Tip, impact fracture
83/30/74/1	"	Middle	-	-	-	-	-	Tip
83/30/282/24	"	Late	-	-	-	-	-	Tip
83/30/127/26	Argillite	Late	-	15	-	6	2.50	Medial section & tip, very long & narrow-fragment is 57 mm long.
83/30/203/30	"	Late	-	-	-	-	-	Tip
83/30/128/6	Quartzite	Middle	-	-	-	-	-	Maybe medial section & part of base, but too fragmentary to tell. Same banded quartzite material as flake tool 83/30/229.

Artifact Type: Biface Fragments

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/7/26	"	Late	-	-	-	-	-	Split lengthwise. Appears to have rounded or squared base.

Artifact Type: Biface fragments which have no mends

83/30/183	Quartzite	Middle	-	26	-	11	2.36	Medial section
83/30/228	"	Middle	-	-	-	-	-	Tip
83/30/97/4	Quartz	Late	-	-	-	-	-	Fragment
83/30/210/26	"	Middle	-	-	-	-	-	Probably lengthwise-split biface
83/30/238/3	"	Middle	-	-	-	-	-	Tip
83/30/65	"	Late	-	-	-	-	-	Possible discard
83/30/228	"	Late	-	-	-	-	-	Medial section
83/30/27/22	Argillite	Late	-	-	-	-	-	Tip, impact fracture
83/30/123	Jasper	Late	-	-	-	-	-	Tip, impact fracture

Artifact Type: Hafted Scrapers

Catalogue #	Raw Material	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/172/26	Quartz	18	20	0.90	7	2.86	Corner notched base. Cutting edge beveled at approx. 50°. Worn to nub-probably an exhausted tool. Made on flake-unifacially worked. Cutting edge 29 mm long.
83/30/175	Jasper	13	27	0.48	6	4.50	Basally-notched. Cutting edge beveled at approx. 80° from tool axis. Worn to nub-probable exhausted tool. Appears to be unifacially worked-made on flake. Cutting edge 36 mm long.
83/30/67/23	Jasper	10	21	0.48	6	3.50	Corner-notched. Cutting edge beveled at approx. 65° from tool axis. Worn to nub-exhausted tool. Bit exhibits many small step fractures. Cutting edge length 25 mm long.

Artifact Type: Flake Tools

83/30/200/11	Quartz	30	25	1.20	12	2.08	Beveled edge on 3 sides (60°-80° angles), used on all 4. Made on flake - actually a uniface.
83/30/208	Jasper	29	23	1.26	6	3.83	Edge angle 30-40°. Cutting edge rounded-edge about 32 mm long.
83/30/165/26	Quartzite	-	-	-	-	-	Fragmentary. Remaining edge beveled 70°-90°, is 24 mm long.

Artifact Type: Flake Tools

Catalogue #	Raw Material	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/214	Jasper	43	26	1.65	20	1.30	Flake from jasper nodule. Edge angle 55°-70°. Edge length 46 mm.
83/30/281/2	Quartz	36	25	1.44	12	2.08	Crystal quartz. Very little wear along one edge only. Edge angle 40°, edge length 21 mm.
83/30/62/26	Quartz	19	25	0.76	12	2.08	Edge angle 30°-110°. Numerous parallel resharpening flakes radiating back from edge. Probably exhausted tool. Semi-circular edge length - 42 mm.
83/30/299/5	Quartz	33	17	1.94	12	1.42	Crystal quartz. Different parts of edge show flake scars on opposite sides. Blade edge length - 21 mm.
83/30/203/26	Chert	46	25	1.84	9	2.78	Chert pebble tool. Probably picked up, quicky edged, used once & discarded. Edge angle approx. 40°, edge width 35 mm.
83/30/299/19	Quartz	24	23	1.04	9	2.56	Crystal quartz. Edge angle approx. 55°-60°. Edge angles from 50°-70°. Basically square in outline, 2 of 4 edges utilized. One is very worn, with dull edge & step fractures. Other edge (adjacent to it) still has a usable edge. Using one edge of tool, then turning 90° & using another edge?

Artifact Type: Flake Tools

Catalogue #	Raw Material	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/208	Quartz	29	25	1.16	11	2.27	Very little utilized edge, only about 10 mm on one side - probable discard.
83/30/113/6	Jasper	38	30	1.27	10	3.00	Pebble flake tool. Ovate in outline with 90% of edge used. Edge angles 45°-70°. Total edge utilized approx. 100 mm long.
83/30/5/27	Quartz	21	20	1.05	10	2.00	Fragment. Edge angle 65°-85°. Edge length about 10 mm.
83/30/160/26	Jasper	25	42	0.60	20	2.10	Utilized pebble fragment, may have also functioned as core. Edge angles from 45°-85°. Total length of used edge 40 mm. Probably used once & discarded, due to lack of edge wear.
83/30/246/15	Quartzite	80	59	1.36	15	3.93	Large quartzite cobble flake with 3 flakes removed to form edge on one side. Other edges show use wear also. Total length of used edge is approx. 85 mm, or about 35% of flake circumference. Edge angles range from 70°-80°.
83/30/67/26	Chert	25	32	0.78	8	4.00	Broken flake. Small part of edge used. Utilized edge 22 mm long. Edge angles 40°-80°.
83/30/254/17	Quartz	29	26	1.12	13	2.00	Rectangular in outline, utilized on 3 of 4 sides. Edge angles 50°-80°. Total used edge equals 83 mm in length. Unused edge only about 20 mm long. Tiny multiple step fractures on bevel faces.

Artifact Type: Flake Tools

Catalogue #	Raw Material	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/164/4	Jasper	22	19	1.16	8	2.38	Made on jasper pebble, all 4 sides utilized to some or full extent. Edge angles average 60°-85°. Total utilized edge is 68 mm. long.
83/30/181/26	Jasper	15	21	0.71	4	5.25	Utilized on 2 of 4 sides. Total edge length = 32 mm, or about half of flake. Edge angle ranges 65°-80°.
83/30/281/7	Rhyolite	43	43	1.00	16	2.69	Made on large flake. Rectangular, 2 of 4 sides used. Edge angles 55°-75°. Total edge length 83 mm long.
83/30/229	Quartzite	82	42	1.95	23	1.83	Large flake of pebble quartzite. Length of utilized edge - 90 mm. Same banded quartzite material as brf. fragment #83/30/128/6.
83/30/90/26	Quartz	90	38	2.37	20	1.90	Large flake with cortex. One utilized - about 55 mm in length.
83/30/213/27	Quartzite	85	46	1.85	22	2.09	Large flake with cortex. Total edge length 115 mm, contiguous.
83/30/89/19	Jasper	-	-	-	-	-	Irregular flake, used on one edge only. Edge 15 mm long total.
83/30/127/2	Quartzite	33	15	2.20	7	2.14	Pebble fragment, with cortex. Steep, step-fractured edges indicate heavy use - probable discard. Total used edge = 38 mm.

Artifact Type: **Flake tools**

Catalogue #	Raw Material	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/111/27	Jasper	41	23	1.78	7	3.29	Pebble material cortex. Bi-facially worked, utilized on nearly all edges - total 95 mm. made on bi-polar flake.

Artifact Type: **Ground stone tools - Grooved Axe**

Catalogue #	Raw Material	Stage	Length	Width	L/W Ratio	Thickness	W/Th Ratio	Comments
83/30/198/26	?	Late	93	66	1.41	28	2.36	3/4 grooved axe. Bit heavily worn. Unifacially marked; possibly made on split pebble. Interior surface shows extensive scratches as if used for grinding tool.