FLAKED STONE DATA FROM LAS CAPAS, AZ AA:12:111 (ASM)

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Table 1. Technological profiles for excavated strata by area from the 2009 Desert Archaeology, Inc., excavations at Las Capas, AZ AA:12:111 (ASM).

			Bifacial Thinning Flakes			Non-bifacial Thinning Flakes Complete Flakes				Cores[a]		Tools[b]								Time Calculations				
Stratum	Excavation Area	Total Recovered Flaked Stone	Total	Mean Size (mm)	Mean Mass Index	Total	Mean Size (mm)	Mean Mass Index	Potential Retouch Flakes Percent, All Complete Flakes	Total	Mean Size (mm)	Projectile Points	Scrapers/ Transversely Used Unmodified Flakes	Notches/ Denticulates/ Concave Scrapers	General Bifaces/Knives	Longitudinally Utilized Unmodified Flakes	Perforators	Humpback Bifaces	Total	Total Features with Flaked Stone	Total Time (hrs:min)	Time Density (time/feature)	Projected Time (hrs:min)	Projected Time Density (time/feature)
502	D	208	–	–	–	28	38.2	0.353	4	4	69.0	50%	–	–	50%	–	–	–	2	2	:09	:04	:09	:05
504	A	363	9	15.3	0.025	69	33.3	0.175	27	1	62.0	13%	50%	13%	–	13%	–	–	8	0	0:16	N/A	0:21	N/A
	B	313	5	16.1	0.023	100	28.0	0.114	35	3	68.7	–	38%	13%	13%	38%	–	–	8	11	0:08	< 0:01	0:10	< 0:01
	C	690	35	15.9	0.027	188	29.9	0.138	37	4	91.9	–	76%	–	–	13%	–	–	8	31	:24	:01	:29	:01
	D	5,497	119	15.7	0.024	836	29.0	0.136	38	33	66.8	18%	37%	11%	16%	7%	1%	–	98	75	6:01	0:03	8:42	0:05
	E	1,903	60	17.4	0.031	438	29.2	0.147	34	24	62.6	13%	48%	16%	10%	-	3%	–	31	24	1:03	0:03	1:13	0:03
	G	31	–	–	–	1	44.7	0.328	–	–	–	–	–	50%	-	50%	–	–	2	2	< 0:01	< 0:01	< 0:01	< 0:01
	Total 504	8,816	228	16.2	0.026	1,632	29.3	0.140	36	65	66.8	14%	41%	12%	16%	8%	1%	–	160	147	7:56	0:01	10:56	0:01
504	F	2,081	332	11.9	0.010	321	12.7	0.020	91	3	68.0	43%	14%	14%	21%	7%	–	–	14	3	4:31	1:30	7:38	2:33
505	B	3,283	382	16.9	0.029	443	25.8	0.099	66	9	58.7	24%	28%	3%	24%	3%	7%	–	29	114	5:12	:03	8:18	:04
	D	1,897	105	18.5	0.031	85	21.5	0.051	86	2	68.3	70%	10%	–	20%	-	–	–	10	5	3.8	:46	6.4	1:16
	F	1,241	88	12.3	0.016	71	26.7	0.100	73	5	48.9	25%	25%	17%	25%	8%	–	–	12	45	2:00	:03	3:14	:04
	G	624	29	17.0	0.025	32	31.8	0.137	66	2	92.5	33%	33%	13%	14%	7%	–	–	15	62	:51	:01	1:21	:01
	Total 505	7,045	604	16.5	0.028	631	25.6	0.095	70	18	60.8	34%	27%	8%	21%	5%	3%	–	66	226	11:38	0:04	18:49	0:06
506	A	4,632	187	15.7	0.025	629	25.3	0.105	62	22	66.2	31%	16%	11%	33%	3%	–	2%	64	160	7:04	:03	11:05	:04
	B	39,850	1,898	15.7	0.024	5,546	22.1	0.076	73	119	66.6	27%	9%	3%	51%	3%	–	4%	435	725	70:53	:07	125:57	:12
	F	104	–	–	–	1	20.2	0.043	–	2	76.9	50%	25%	–	25%	–	–	–	4	9	:12	:01	:20	:02
	G	82	–	–	–	–	–	–	–	1	60.8	33%	33%	–	33%	–	–	–	3	8	< 0:01	< 0:01	< 0:01	< 0:01
	Total 506	44,668	2,085	15.7	0.025	6,176	22.4	0.079	72	144	66.7	27%	10%	4%	48%	3%	–	3%	506	902	78:11	:06	137:24	:10
507	B	4,193	409	15.2	0.022	917	17.6	0.047	84	7	86.5	–	15%	–	69%	–	–	–	13	27	:24	:01	:25	:01

[a]Includes core hammers.
[b]Total include categories not listed here; see Table 2.

Table 2. Percentages (top) and counts (bottom) of tool edge designs and kinematics from the 2009 excavations at Las Capas, AZ AA:12:111 (ASM).

			Specialized Edge Configuration																	
			Single Kinematic						Single Kinematic											
			Multiple Kinematics		Transverse Use			Longitudinal Use	Dual Kinematic	Transverse Use			Rotary Use		Impact Use		Penetration			
Stratum	Locus	Untypable/Nondiagnostic/ Irregular Retouch	Stage 1-2 General Biface	Stage 3-4 General Biface	Utilized Flake, Transverse Wear	Marginal Scraper	Scraper	Utilized Flake, Longitudinal Wear	Perforator	Notch	Denticulate	Concave Scraper	Humpback Biface	Drill	Wedge/ Chisel	Chopper	Preform	Point	Total Tools
502	D	–	–	50%	–	–	–	–	–	–	–	–	–	–	–	–	–	50%	2
504	A	13%	–	–	–	–	50%	13%	–	–	13%	–	–	–	–	–	–	13%	8
	B	–	–	13%	13%	–	25%	38%	–	–	13%	–	–	–	–	–	–	–	8
	C	13%	–	–	13%	13%	50%	13%	–	–	–	–	–	–	–	–	–	–	8
	D	3%	14%	2%	8%	3%	28%	7%	1%	3%	7%	1%	–	1%	–	3%	4%	14%	98
	E	6%	10%	–	6%	3%	39%	–	3%	6%	10%	–	–	–	3%	–	–	13%	31
	G	–	–	–	–	–	–	50%	–	–	50%	–	–	–	–	–	–	–	2
	Total 504	4%	14%	3%	8%	3%	31%	8%	1%	3%	8%	1%	–	1%	1%	2%	3%	12%	155
504	F	–	21%	–	–	–	14%	7%	–	–	14%	–	–	–	–	–	14%	29%	14
505	B	10%	10%	14%	14%	7%	7%	3%	7%	–	3%	–	–	–	–	–	–	24%	29
	D	–	20%	–	–	–	10%	–	–	–	–	–	–	–	–	–	30%	40%	10
	F	–	17%	8%	8%	8%	8%	8%	–	–	17%	–	–	–	–	–	–	25%	12
	G	–	7%	7%	–	13%	20%	7%	–	–	13%	–	–	–	–	–	13%	20%	15
	Total	5%	12%	9%	8%	8%	11%	5%	3%	–	8%	–	–	–	–	–	8%	26%	66
506	A	2%	16%	17%	3%	5%	8%	3%	–	–	8%	3%	2%	2%	–	2%	3%	28%	64
	B	1%	39%	12%	3%	–	6%	3%	–	–	2%	1%	4%	–	–	1%	9%	18%	435
	F	–	25%	–	25%	–	–	–	–	–	–	–	–	–	–	–	–	50%	4
	G	–	–	33%	–	–	33%	–	–	–	–	–	–	–	–	–	–	33%	3
	Total 506	1%	35%	13%	3%	1%	6%	3%	–	–	3%	1%	3%	–	–	1%	8%	19%	506
507	B	15%	54%	15%	8%	–	8%	–	–	–	–	–	–	–	–	–	–	–	13

			Incipient or Generic Edge Configuration							Specialized Edge Configuration									
			Single Kinematic							Single Kinematic									
			Multiple Kinematics		Transverse Use			Longitudinal Use	Dual Kinematics	Transverse Use			Rotary Use		Impact Use		Penetration		
Stratum	Locus	Untypable/Nondiagnostic/ Irregular Retouch	Stage 1-2 General Biface	Stage 3-4 General Biface	Utilized Flake, Transverse Wear	Marginal Scraper	Scraper	Utilized Flake, Longitudinal Wear	Perforator	Notch	Denticulate	Concave Scraper	Humpback Biface	Drill	Wedge/Chisel	Chopper	Preform	Point	Total Tools
502	D	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	2
504	A	1	–	–	–	–	4	1	–	–	1	–	–	–	–	–	–	1	8
	B	–	–	1	1	–	2	3	–	–	1	–	–	–	–	–	–	–	8
	C	1	–	–	1	1	4	1	–	–	–	–	–	–	–	–	–	–	8
	D	3	14	2	8	3	27	7	1	3	7	1	–	1	–	3	4	14	98
	E	2	3	–	2	1	12	–	1	2	3	–	–	–	1	–	–	4	31
	G	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	1	–	2
	Total 504	7	22	4	12	5	49	13	2	5	12	1	–	1	1	3	4	19	160
504.04	F	–	3	–	–	–	2	1	–	–	2	–	–	–	–	–	2	4	14

Table 2. Continued.

			Specialized Edge Configuration																	
			Single Kinematic							Single Kinematic										
			Multiple Kinematics		Transverse Use			Longitudinal Use	Dual Kinematic	Transverse Use			Rotary Use		Impact Use		Penetration			
Stratum	Locus	Untypable/Nondiagnostic/ Irregular Retouch	Stage 1-2 General Biface	Stage 3-4 General Biface	Utilized Flake, Transverse Wear	Marginal Scraper	Scraper	Utilized Flake, Longitudinal Wear	Perforator	Notch	Denticulate	Concave Scraper	Humpback Biface	Drill	Wedge/ Chisel	Chopper	Preform	Point	Total Tools
505	B	3	3	4	4	2	2	1	2	–	1	–	–	–	–	–	–	7	29
	D	–	2	–	–	–	1	–	–	–	–	–	–	–	–	–	3	4	10
	F	–	2	1	1	1	1	1	–	–	2	–	–	–	–	–	-	3	12
	G	–	1	1	–	2	3	1	–	–	2	–	–	–	–	–	2	3	15
	Total	3	8	6	5	5	7	3	2	–	5	–	–	–	–	–	5	17	66
506	A	1	10	11	2	3	5	2	-	–	5	2	1	1	–	1	2	18	64
	B	6	168	54	13	2	25	11	2	–	10	3	16	–	2	6	40	77	435
	F	–	1	–	1	–	–	–	–	–	–	–	–	–	–	–	–	2	4
	G	–	–	1	–	–	1	–	–	–	–	–	–	–	–	–	–	1	3
	Total 506	7	179	66	16	5	31	13	2	–	15	5	17	1	2	7	42	98	506
507	B	2	7	2	1	–	1	–	–	–	–	–	–	–	–	–	–	–	13

Table 3. Percentages (top) and counts (bottom) of raw material distributions, by selected locus and stratum, from the 2009 excavations at Las Capas, AZ AA:12:111 (ASM).

Stratum	Locus	Gray Salt and Pepper Rhyolite	Other Rhyolite	Other Igneous	Fine-grained Quartzite	Fine-grained Green Quartzite	Metasediment/ Silicified Limestone	Basalt	Fine-grained Dacite	Chalcedony/ Jasper/Other Cryptocrystalline	Chert	Quartz	Obsidian	Other	Total
502	D	25%	25%	32%	6%	–	5%	1%	–	3%	–	–	1%	1%	95
504	A	42%	23%	18%	2%	–	4%	–	–	5%	3%	–	–	3%	151
	B	27%	21%	13%	5%	–	8%	2%	–	11%	6%	1%	1%	7%	172
	C	40%	22%	17%	4%	–	6%	2%	< 1%	1%	2%	< 1%	–	5%	425
	D	35%	24%	18%	5%	< 1%	8%	1%	–	1%	2%	1%	–	4%	1,836
	E	46%	27%	13%	5%	< 1%	3%	1%	< 1%	1%	1%	1%	–	2%	958
	Total	39%	24%	16%	5%	< 1%	6%	1%	< 1%	2%	2%	1%	<1%	4%	3,542
504	F	11%	1%	7%	7%	13%	43%	< 1%	12%	1%	< 1%	–	–	4%	1,091
505	B	51%	26%	13%	2%	–	1%	–	< 1%	1%	< 1%	–	< 1%	4%	2,077
	D	66%	2%	18%	9%	–	4%	1%	–	–	–	1%	–	–	386
	F	72%	13%	9%	2%	–	1%	< 1%	–	–	1%	< 1%	–	< 1%	453
	G	36%	18%	26%	4%	–	5%	1%	–	5%	1%	1%	–	4%	132
	Total	55%	21%	14%	3%	–	2%	< 1%	< 1%	1%	< 1%	< 1%	< 1%	3%	3,048
506	A	46%	19%	22%	3%	< 1%	3%	1%	< 1%	1%	1%	1%	–	3%	1,909
	B	52%	16%	19%	4%	< 1%	3%	1%	< 1%	1%	1%	< 1%	< 1%	2%	15,697
	Total	51%	16%	20%	4%	< 1%	3%	1%	< 1%	1%	1%	< 1%	< 1%	2%	17,606
507	B	60%	14%	14%	6%	< 1%	3%	<1%	< 1%	< 1%	< 1%	< 1%	–	1%	2,634

Stratum	Locus	Gray Salt and Pepper Rhyolite	Other Rhyolite	Other Igneous	Fine-grained Quartzite	Fine-grained Green Quartzite	Metasediment/ Silicified Limestone	Basalt	Fine-grained Dacite	Chalcedony/ Jasper/Other Cryptocrystalline	Chert	Quartz	Obsidian	Other	Total
502	D	24	24	30	6	–	5	1	–	3	–	–	1	1	95
504	A	63	34	27	3	–	6	–	–	8	5	–	-	5	151
	B	46	36	22	8	–	13	3	–	19	10	1	2	12	172
	C	171	92	74	18	–	26	8	1	4	9	1	-	21	425
	D	650	444	326	94	6	146	15	2	20	33	27	-	73	1,836
	E	437	256	129	52	1	33	12	–	6	8	6	-	18	958
	Total	1,367	862	578	175	7	224	38	3	57	65	35	2	129	3,542
504	F	122	14	74	73	144	471	5	128	13	3	–	–	44	1,091
505	B	1,058	550	279	41	–	31	3	1	30	4	–	1	79	2,077
	D	253	8	70	36	–	14	2	–	–	1	2	–	–	386
	F	328	57	42	10	–	6	2	–	–	4	2	–	2	453
	G	47	24	34	5	–	7	1	–	7	1	1	–	5	132
	Total	1,686	639	425	92	–	58	8	1	37	10	5	1	86	3,048
506	A	878	361	420	53	2	55	24	1	25	27	14	–	49	1,909
	B	8,312	2,585	3,069	625	48	456	217	13	121	113	36	5	332	15,932
	Total	9,190	2,946	3,489	678	50	511	241	14	146	140	50	5	381	17,841
507	B	1,580	379	376	152	5	86	6	2	12	6	2	–	28	2,634

Table 4. Time calculations and time densities (minutes per feature) for excavated strata within the LCA parcel of Las Capas, AZ AA:12:111 (ASM).

					Potential Retouch Flake[a]				Calculated Variables			Core Reduction Debitage[b]					Unifacial Potential Retouch Flakes					Bifacial Potential Retouch Flakes					Recovered		Projected		
Stratum	Total Features	Total Flaked Stone from Features	Total Nondebitage from Features	Total Debitage from Features	Calculated Percent	Total	Total Unifaces (U)	Total Bifaces (B)	4.3B	U+4.3B (C)	4.3B/C Bif %	Recovered	Recovered Minutes	Projected Microdebitage[c]	Microdebitage Minutes	Total Core Reduction Debitage Minutes	Recovered	Recovered Minutes	Projected Microdebitage[c]	Microdebitage Minutes	Total Core Reduction Debitage Minutes	Recovered	Recovered Minutes	Projected Microdebitage[c]	Microdebitage Minutes	Total Core Reduction Debitage Minutes	**Total Minutes**	Minute/Feature	Projected Total Debitage	**Projected Total Minutes**	Projected Minutes/Feature
502	40	208	5	203	14	28	0	2	9	9	1.00	175	6.7	4	0.1	6.8	0	0.0	0	0.0	0.0	28	3.9	20	2.7	6.6	**11**	0	226	**13**	0
504	488	8,702	186	8,516	36	3,060	67	43	185	252	0.73	5,456	209.2	111	4.3	213.4	814	24.4	301	11.5	36.0	2,246	306.9	1,561	213.3	520.2	**476**	1	10,292	**656**	1
504F	22	2,062	9	2,053	91	1,868	1	7	30	31	0.97	185	7.1	4	0.1	7.2	60	1.8	22	0.9	2.7	1,808	247.1	1,257	171.7	418.8	**256**	12	3,336	**429**	19
505	198	7,051	65	6,986	70	5,074	22	31	133	155	0.86	1,912	73.3	39	1.5	74.8	647	19.4	239	9.2	28.6	4,428	605.1	3,077	420.5	1,025.6	**698**	4	10,341	**1,129**	6
506	779	44,906	590	44,316	69	30,490	100	788	3,388	3,488	0.97	13,759	527.4	281	10.8	538.2	850	25.5	314	12.1	37.6	29,279	4,001.5	20,346	2,780.7	6,782.2	**4,567**	6	65,311	**7,378**	9
507	1	4,193	10	4,183	83	3,472	0	1	4	4	1.00	711	27.3	15	0.6	27.8	0	0.0	0	0.0	0.0	0	0.0	0	0.0	0.0	**27**	27	4,198	**28**	28

[a]Potential retouch flakes (PRF), calculated as total complete debitage with Mass Index (mass/maximum linear dimension) within one standard deviation of the mean for identified bifacial thinning flakes from the same stratum.
[b]Core reduction debitage, calculated as total debitage-PRF.
[c]Microdebitage = Flakes too small to be recovered in ¼-inch screens, based on experimental recovery rates.