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Chaco Canyon

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ARCHITECTURE AND STRATIGRAPHY

Thomas C. Windes

With a Contribution by H. Wolcott Toll

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National Park Service U.S. Department of the Interior Santa Fe New Mexico 1987 As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our mineral resources and works to assure that their development is in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under United States administration.





Front cover: Pueblo Alto and New Alto on the mesa overlooking Chaco Canyon to the southeast (Courtesy of David Brill ©1980).

Contents

CONTENTS.	•••	•	٠	•	••	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	• V
FIGURES .	• • •	•	•	•	••	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	vi	. i i
PLATES	•••	•	•	•	••	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	• X	iv
TABLES.	• • •	•	•	•	••	•	•	•	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	xx
Chapter ()ne.	Ir	ıtr	od	uct	io	n.	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	1
Chapter 1	[wo.	Ce	ent	ra	1 R	looi	nb:	loc	ck	ar	nd	As	sso	oci	.at	ed	A	re	eas	s c	f	P]	laz	a	1	•	•	•	15
Ove Exc F F F F F F F Sup	erall cavat cooms coom coom coom coom coom coom coo	P] ed 50 138 142 142 142 142 142 145 146 147	Lan an 3. 3. 3. 3. 2. 3. 2. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.			ted		Uni · · · · · ·		· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • •	• • • • •	· · · · · · · · · · · · · · · · · · ·		• • • • •	• • • • • • • • • • • • • • • • • • •	• • • • •	• • • •		•••••••••••••••••••••••••••••••••••••••	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • • • • •	• • • • • •	· · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	15 15 25 33 62 87 16 23 36 47 53 64
Chapter 1	Three	•	We	st	Wi	ng	aı	nd	As	sso	oci	at	ed	I A	re	as	; 0	f	P1	az	a	1	•	•	•	•	•	•1	73
Ove Exc F F F	erall cavat loom loom loom	Pl ed 103 109	Lan an 3. 9.	d '	• • Tes • •	teo		Jni • •	its • •	•	•	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • •	• • •	• • • •	• • • •	• • • •	• • • •	• • • •	• • • •	•1 •1 •1 •2 •2	73 76 76 22 26

Room 119	• • 293
Room 229	• • 299
Room 233	• • 315
Kiva 15	320
Associated Western Plaza Area	• • 337
Kiva 16	• • 352
Kiva 17	• • 354
Storage Bin 1	357
Summary	359
Chapter Four. East Wing and Associated Areas of Plaza l	• • 363
Querell Plan	262
Uverall Fiddle	• • 505
Excavated Areas and lested Units	• • 304
Associated Lastern Plaza Area	• •
	• • 3/4
	• • 3/8
$Plaza Feature 3 \dots $	• • 380
Plaza Feature 4	• • 381
Miscellaneous Features	• • 385
Unnamed Wall Complex	• • 385
Other Kivas and Walls	• • 385
Roasting Pits	• • 387
Summary	• • 387
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	• • 389
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	• • 389
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	••389 ••389
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .389
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402 .403
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402 .403 .404 .404
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .410
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .410 .412
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .405 .405 .410 .412 .437 .445
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .405 .405 .410 .412 .437 .445 .448
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .405 .405 .405 .410 .412 .437 .445 .448 .448
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .405 .405 .405 .410 .412 .445 .448 .448 .453
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402 .403 .404 .405 .405 .405 .410 .412 .437 .445 .448 .448 .453 .454
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .389 .392 .398 .398 .402 .403 .404 .405 .404 .405 .405 .405 .410 .412 .437 .445 .448 .448 .453 .454 .458
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .405 .405 .410 .412 .437 .445 .448 .448 .453 .454 .458 .458 .458
Chapter Five. Miscellaneous Features and Tests Associated With the Main Houseblock	 .389 .389 .392 .398 .398 .402 .403 .404 .404 .405 .405 .405 .405 .410 .412 .437 .445 .448 .453 .454 .458

Chapte	er S	ix.	Ext	ram	ura	11	Pla	ıza	s	an	d	As	sc)ci	at	ed	1 5	Sti	cuc	tı	ıre	es	•	•	•	٠	٠	•461
	Pla P O T Pla	za 2 laza ther he In za 3	Fea Str ter	tur uct pre	e 2 ure tat	5 101	n c	• • • •	• • •	• • az	• • a	• • 2	(F	!.	Wo		cot	• • •	• To	• • •		• • • •		• • • •	• • •	• • •	• • •	•461 •485 •485 •511 •527
Chapte	er S	even.	E	xtr	amu	ira	1 5	Str	uc	tu	re	s	As	ssc	ci	lat	:ec	Ιv	vit	h	Ro	ac	ls	•	•	•	•	•529
	Eas Par Oth Maj Ter	t Rui king er St or Wa races	n (Lot ruc 11s	Roo Ru tur	m 6 in. e 1 	K:	iva • •	i) • •	• • • •	• • •	• • •	• • •	• • •	• • • •	• • • •	• • •	• • • •	• • • •	• • • •	• • •	• • • •	• • • •	• • • •	• • • •	• • •	• • • •	• • •	•529 •542 •546 •547 •555
Chapte	er E	ight.	T O	he the	Pue r G	blo rea	o A ath	lt	o .se	Tr M	as lid	h lde	Mc ns	our	nd •	ат •	nd •	Сс •	•	•	is •	•	15 •	wi •	.tł	•	•	•561
	The Com Con	Pueb paris clusi	lo i ons ons	Alt wi	o I th • •	ra: 0tl •	sh her	Mo G	un re	d at	• ho	• us	• •	• Mi	.dd	ler	• 1S •	• •	• •	•	• •	•	•	•	•	•	• •	•561 •616 •664
REFERE	ENCE	s	•••	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•669
APPENI	DICE	s	•••	•	••	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•681
	A.	Summ Chap	ary	of s	St	at	ist	ic	S	an	d	Sy	mt	01	s	Us	sed	li	n	Va	iri	.00	ıs					
	B.	by H Symb	. We	olc Us	ott ed	To in	511 Fi	• .gu	re	• s	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•681
	C.	by G List	igi of	Ba Mi	yli cro	ss fi	che	• T	• ab	• le	•	• fo	·	• Vc	• lu	me	•	I	• an	• Id	• 11	•	•	•	•	•	•	•685 •687
INDEX	•••	••	••	•	•••	٠	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•689

Figures

1.1.	Pueblo Alto wall plan after wall clearing	•	•	2
1.2	The Pueblo Alto community	•	•	3
1.3.	Important greathouse and small-house sites in Chaco Canyon	•	•	4
1.4.	Important topographic features and greathouse sites in			
	Chaco Canyon and its environs	•	•	5
1.5.	Profile of stratigraphic deposits through the Central			
	Roomblock and associated Plaza 1 areas	•	•	6
1.6.	Profile of stratigraphic deposits through the West Wing.	•	•	7
1.7.	Profile of stratigraphic deposits through the West Wing.			
	associated Plaza 1 areas and Plaza Feature 1.			8
1.8.	Various temporal classificatory schemes for the Chacoan	•	•	Ŭ
1.0.	Anasazi culture and Pueblo Alto's place within them.	_	_	10
1 0	Crid schemes for horizontal control on floors and in	•	•	10
1070	floor fill for everyated rooms and kives			11
	11001 1111 101 excavated 100ms and kivas	•	•	TT
2 1	Initial plan of the Control Deemblook			16
2 • 1 •	Control Doorblock and consisted Diero Lalor of encentral	•	•	10
2•2	Central Roomblock and associated Plaza I plan of excavated			17
0 0		•	•	1/
2.3.	Central Roomblock and associated Plaza I plan of excavated			10
	areas. Location of profiles	•	•	18
2.4.	Rooms 50 and 51 and associated plaza features, plan views.	•	•	19
2.5.	Room 138, north-south profile	•	•	26
2.6.	Room 138, Floors 1 and 2, plan view	•	•	27
2.7.	Room 138, north and south wall elevations	•	•	28
2.8.	Room 139, east-west profile	•	•	34
2.9.	Room 139, north-south profile	•	•	35
2.10.	Rooms 139/145, profiles	•	•	36
2.11.	Rooms 139 (Floors 1 and 2) and 145 (Floor 1), plan views .	•	•	37
2.12.	Rooms 139 and 145, north and south wall elevations	•	•	38
2.13.	Rooms 139 and 145, east and west wall elevations	•	•	39
2.14.	Room 139. plan and profiles of selected floor features		•	44
2.15.	Rooms 139 and 145, postholes associated with Floor 1	•		46
2.16.	Room 139. Floor 2, postholes believed to have held			. 2
	supports for masons' scaffolding	•	•	50
	Supporte for mabour bourfording	~	-	

2.17.	Room 142 and underlying Rooms 50 and 51, east-west profiles	63
2.18.	Room 142 and underlying Rooms 50 and 51, north-south	
	profiles	63
2.19.	Rooms 142 (Floors 1 and 2) and 146 (Floors 1 and 2),	
	plan views	64
2.20.	Rooms 142 (Floors 3 and 4) and 146 (Floor 3), and underlying	
	Rooms 50 (Floor 1) and 51 (Floors 1 and 2), plan views	65
2.21.	Rooms 142 (Floors 6-8) and 146 (Floors 4 and 6), and	
2.210	underlying Rooms 50 (no floor) and 51 (Floor 3), plan views.	66
2.22.	Rooms 142 (Floor 9) and 146 (Floors 8 and 9), plan views • •	67
2.22.	Room 1/2 north and south wall elevations.	. 68
2 • 2 5 •	Rooms 1/3 and 236 east and west profiles	. 88
2.024.0	Room $1/2/226$ porth-routh profiles	. 89
2+23+	Room 143/250, north-south profiles	,
2.20.	Rooms 145 and 250, 11001 plans and the distribution of	90
0.07		• 00 00
2.2/.	Room 143/236, wall elevations. $\cdots \cdots \cdots$	03
2.28.	Room 143, Grid 13, Door Step 1, plan and profiles.	• 95
2.29.	Room 143, juncture of old and new south walls.	• 94
2.30.	Room 143, painted designs on the north wall next to	05
	Niche 1	. 95
2.31.	Room 143, painted designs on the north wall between	11/
	Niche 1 and Vent 13	• 114
2.32.	Room 146, (A) east-west and (B) north-south profiles	•124
2.33.	Rooms 146 and 147, wall elevations	•126
2.34.	Rooms 146 and 147, selected floor features	•131
2.35.	Room 147, profiles	•137
2.36.	Room 147, Floor 1 and associated Room 143, Grid 13	
	(Floors 1-2), plan views	. 138
2.37.	Room 147, painted designs on the east and west walls	•146
2.38.	Kiva 10, test trench profile	•148
2.39.	Plaza 1, Grid 8, north-south profile	. 150
2.40.	Plaza 1, Grid 8, Floors 2-9, plan views	. 154
2.41.	Central Roomblock, schematic of construction sequence	•166
3.1.	West Wing and associated Plaza 1 plan of excavated areas	. 174
3.2.	The location of profiles through major excavation units	
	in the West Wing and Plaza Feature 1	.175
3.3.	Room 103, profiles of the fill above Floor 1 • • • • • • •	.177
3.4.	Room 103, profiles of major stratigraphic deposits of	
5.1.	fill above Floor 1	.178
35	Room 103 profiles of deposite below Floor 1	.179
3.6	Room 103, profiles of deposits below floor i to to to to to	180
27	Room 103, Selected features, plans and profiles.	.181
2.0	Room 103, Floor 1, plan view and the distribution of	• • • •
J+0+	floor artifacto	. 182
2 0	Page 102 Floor 2 plan with and the distribution of	•102
3.7.	floor ortifoota	. 183
2 10	LIOUT ATLIIACIS	18/
3.10.	Noom 103, plans and profiles of the meaning bin complexes.	•104
3.11.	Koom 103, Floor 3, plan view and the distribution of	105
	ILOOF ATTIFACTS	• 100

3.12.	Room 103, Floor 4, plan view and the distribution of
	floor artifacts
3.13.	Room 103, east and west wall elevations.
3.14.	Room 103, north and south wall elevations.
3.15.	Room 103, partition wall elevations.
3.16.	Room 103, initial door and ventilator locations along
	with later additions (Doors 3-4)
3.17.	Room 109 and Kiva 15, profiles
3.18.	Room 109. Door 3 plan and profiles 22
3.19.	Room 110 profiles
3.20.	Room 110 Floor 1 fill Distribution of artifacts
3.21.	Room 110, Floor 1 top surface (nexts of Surfaces 1.4)
J•21•	Plan view and the distribution of antifacts of Surfaces 1-4).
2 22	Poor 110 Floor 1 (Ourfree 2)
J•44•	$\begin{array}{c} Room 110, Floor 1 (Surface 2), plan view$
3.23.	Room 110, Floor 1 (Surface 3), plan view $\dots \dots \dots$
3.24.	Room 110, Floor 1 (Surface 4), plan view $\dots \dots \dots$
3.25.	Room 110, Floor 1 (Surface 5), plan view $\dots \dots \dots$
3.26.	Room 110, Floor 1 (Surface 6), plan view
3.2/.	Room 110, Floor 1 (Surface 7-9), plan view
3.28.	Room 110, Floor 1 (Surface 7), plan view
3.29.	Room 110, Floor 1 (Surface 8), plan view
3.30.	Room 110, Floor 1 (Surface 9), plan view
3.31.	Room 110, selected floor features, plans and profiles 236
3.32.	Room 110, Mealing Bins 1-6 (Floor 1), plans
3.33.	Room 110, Mealing Bins 1-6 (Floor 1), profiles
3.34.	Room 110, Floor 2, plan view
3.35.	Room 110, Floor 3, plan view
3.36.	Room 110, east wall elevation
3.37.	Room 110, west wall elevation
3.38.	Room 110, north wall elevation, and Room 109/110.
	south wall elevation
3.39.	Room 110. Wall Niche 4. plan and profiles.
3.40.	Room 110, Wall Niches 9 and 10, plans and profiles
3.41.	Room 110, Wall Niches 5 and 8, plans and profiles.
3.42.	Room 110, Morr 1 and Kiva 15 Wall Niche 1 elevations
	and profiles
3.43.	Room 110. Door 5 and Wall Niche 4 plan and north-south
	profile
3.44.	Room 110. Door 5 and Wall Nicke / east-west profile
	The stratigraphy of the associated plaza and Room 119
	deposite are also shown 272
3 4 5	Room 110 Door 6 plan and profiles
3.46	Room 112 profiles $2/3$
3 40.	Room 112, profiles
3 /Q	$\begin{array}{c} \text{Nour 112, floor 2, plan view } \bullet $
3 40 ·	$\begin{array}{c} Room 112, FLOOL 2, Plan View • • • • • • • • • • • • • • • • • • •$
J•47• 2 50	Room 112, wall elevations.
3+3U+ 2 E1	$\begin{array}{c} \text{Koom 119, plan view.} \\ \text{Prem 220} \\ \text{multiplication} \end{array}$
3.51.	$\begin{array}{c} \text{Koom } 229, \text{ profiles } \bullet $
3.52.	$\begin{array}{c} \text{Koom } 229, \text{ Floor I, plan view} \bullet \bullet$
3.53.	Koom 229, Floor 2, plan view and distribution of artifacts 301
3.54.	Koom 229, east and west wall elevations

3.55. 3.56. Kiva 15, Floor 1, plan view and the distribution of 3.57. 3.58. Kiva 15, Floor 1, Firepits 1 and 2, plans and profiles 322 3.59. Kiva 15, figures incised on an interior, ventilator 3.60. Plaza 1, Grids 116-117 and 307, test trench profile. 338 3.61. 3.62. 3.63. 4.1. Plaza 1, features along the east side, plans and profiles. . . 365 4.2. Plaza 1, Surface 1 areas outside Rooms 189 and 192, 4.3. Plaza 1, Grid 35, Test Trench 3 profile (as excavated) 373 4.4. 4.5. Plaza 1, Plaza Feature 4 (kiva) ventilating system, 5.1. North Trench (outside and north of Room 132), profile. . . . 390 5.2. 5.3. West Trench (outside and west of Room 229), profile. 399 5.4. East Trench in Plaza 2, Grid 121 (outside and east of 5.5. 5.6. 5.7. Plaza Feature 1 and associated tests, overall plan 407 5.8. Plaza Feature 1, grid plans and profile lines for 5.9. 5.10. Plaza Feature 1, Room 3 (Floors 1 and 2), plan view. 414 5.11. Plaza Feature 1, Room 3, Firepits 1 and 2, plans Plaza Feature 1, Room 3, Firepits 1 and 2, north-south 5.12. 5.13. Plaza Feature 1, Room 3, Firepit 3, plan and profiles. . . . 420 5.14. Plaza Feature 1, Room 3, Bin 1, in the northeastern 5.15. Plaza Feature 1, Room 3, modifications of the southeastern 5.16. Plaza Feature 1. (A) Room 3, Door Ramp 1, plan and profile. (B) Room 4, Door Step 1 and Other Pit 2, 5.17. 5.18. Plaza 1, Plaza Feature 5, a possible shrine in the center 5.19. 5.20. Plaza 1, Grids 28-29, firepits associated with Surface 1 (?), Plaza 1, Grid 30, test trench and Other Pit 1, profiles. . . . 450 5.21.

5.22. 5.23.	Plaza 1, Grid 30, Other Pit 1, plan and profile Southern arc walls and rooms, southeastern area, initial	•	451
5.24.	Southern arc, architectural complex in the southeastern corner, plan and profiles.	•	457
6 1			462
6 0		•	402
0.2.	Plaza 2, Grids 181 and 201, plan view	•	403
6.3.	Other Pit 2 (a large firepit) (Profile No. 2)	•	464
6.4.	Plaza 2, east-west profile of Grids 181 and 201 (Profile No. 3)	•	465
6.5.	Plaza 2, north-south profile through Grids 181 and 201 (Profile No. 4)	•	466
6.6.	Plaza 2. Other Pit 2 (firenit), plan and profile		473
6.7.	Plaza 2 Other Pite 3-4 (firenite) plan and profile		474
6.8	Other Structure 5 plan wiew	•	486
0.0.	Other Structure 5, prair view • • • • • • • • • • • • • • • • • • •	•	400
0.9.	Grid 221	•	487
6.10.	Plaza 2, Grid 221, Test 2, showing the profiles of fill and the masonry veneer of Major Wall 2 and Other Structure 5	•	488
6.11.	Other Structure 5, north-south profile, primarily of south steps and overlaying fill	•	489
6.12.	Other Structure 5, interior masonry veneer of southwest		
	and midwalls in Test Trench 3		49 0
6.13.	Other Structure 5, east-west profile of fill and Grid 241.		491
6.14.	Other Structure 5, sequence of construction and remodelling.	•	492
7.1.	East Ruin, located to the east of Pueblo Alton	•	530
7.2.	Fast Ruin, Room 6 kiva (i e "Room" 1/1) profiles		531
7 2	East Ruin, Room 6 Rive (i.e., Room 14), plottices • • • • •	•	JJ1
/•3•	Last Ruin, Room 6 Riva (1.e., Room 14), Floors 1 and 2,		5 2 2
- ,		•	532
/•4•	East Ruin, Room 6 kiva (i.e., "Room" 14), wall elevation	٠	533
7.5.	Parking Lot Ruin, located a few meters west of Pueblo Alto .	٠	543
7.6.	The prehistoric road system in the vicinity of Pueblo Alto, Chetro Ketl, and Pueblo Bonito and a state of the		548
<u>.</u>		-	5 (0
8.1.	Trash Mound plan	٠	562
8.2.	Trash Mound, Test Trench 1, southwestern face before		
	excavation of stratigraphic columns	•	563
8.3.	Trash Mound, Test Trench 1, southwestern face	•	564
8.4.	Trash Mound, relative densities of cultural material		
	though time	•	565
8.5.	Pueblo Bonito. Location of Roberts' nine test pits,		
	Judd's and Nelson's midden trenches, and the 1981 midden	•	621
8.6	Pueblo del Arroyo. Location of the possible former midden	2	
0.0.	noted by Inclusion and Indd, and the location of two control		
	noted by Jackson and Judd, and the location of two early		(1)
	A.D. 1100s ("Chaco-McElmo") dumps	•	636
8.7.	Chetro Ketl and the associated midden with the location of		
	the many tests noted	•	639

Tsin Kletzin and the associated trash and spall mound 643 Peñasco Blanco and the East Refuse Mound with the locations of F. H. H. Roberts, Jr.'s test sections and the 1981
surface transects
Pueblo Pintado and the associated mounds of trash and construction debris with the locations of the 1981
ceramic transects
Kin Bineola and the associated mounds of trash and construction debris with the locations of the 1981
ceramic transects
Kin Ya'a and the associated mounds of trash and
construction debris
Multidimensional scaling plots showing the temporal
associations of the greathouse ceramic samples
Multidimensional scaling plot showing the temporal
associations of the greathouse ceramic samples

Plates

2.1.	Room 50 (foreground) and Room 51 (Floors 2 and 3),	
	respectively, under greathouse Room 142	:0
2.2.	Rooms 50 and 51, Floor 2, under Room 142	20
2.3.	Part of Room 50, Floor 1, under Room 143/236	21
2.4.	Room 51, Floor 3, showing Other Pit 8 under room wall.	
	with Other Pit 1 below $30-cm$ north arrow	21
2.5.	Room 138 Floor 2.	1
2.6.	Room 139, Floor 1	1
2.7.	Room 139, Floor 1 east end.	2
20/0	Poom 139, Floor 1, east end. Floor plaster removed	2
2.0.	A wadge-shaped black of maconry (a "Holky Feature")	. 2
2.7.	A wedge-shaped block of masonry (a worky reactive)	
	Common under the corner floor plaster in fooms of the	. ว
0 10))))
2.10.	Koom 139, cross-section of upper floor and underlying fill • • •4	3
2.11.	The Red Mesa ceramic assemblage recovered from the fill	
	between the upper and lower floors (Floor 1 and 2,	_
	respectively) in Room 139	•7
2.12.	Room 139, Floor 2, under Room 145	8
2.13.	Room 139/145, southwest corner under Floor 1 of Room 145	
	showing construction debris	8
2.14.	The Red Mesa ceramic assemblage recovered from Floor 2	
	and its associated pits in Room 139	52
2.15.	Room 139, Floor 2, unused wall foundation attached to	
	the north wall	;4
2.16.	Room 142, Door 5 opening into Room 139	54
2.17.	Pueblo Bonito, Room 83, post steps in the southwest corner 5	6
2.18.	Pueblo Bonito, the east end of Room 99 showing access	
	to a door. \ldots	i6
2.19.	Door 1 between Rooms 139 and 145	57
2.20	Room 139 Vent 6 high in the south wall at the west end	8
2 • 20 •	"Wont" 4 in the cross wall congrating Pooms 139 and 145.	39
2•21•	Percent 4 In the cross wall separating rooms 159 and 145	1
2•22• 2 22	Note that the upper floor (floor f) femoved $\cdot \cdot \cdot$	' 1
2.23.	rostoccupational fill in Koom 142, lest french 1,	10
	west face, south half	U

2.24.	Pieces of turquoise, red shale, jet (lignite), and shell inlay from the roof fall (Layers 5 and 6) in Room 142
0.05	and beads recovered from Layer 15, in Flaza 1, Grid 0
2.23.	$\begin{array}{c} \text{Room 142, uppermost floor (Floor 1)} \\ \text{Io } I$
2.20.	Room 142, Wall Trench 2, just under Floor 2
2.27.	Room 142, Floors 2 and 3 and the construction debris
	filling Wall Trench 1. The wall foundations for Rooms
	50 and 51 are also visible
2.28.	Room 142, Floor 3, with tops of razed walls from Rooms
	50 and 51, Wall Trench 2 foundation, and construction
	spalls filling Wall Trench 1 along north wall exposed 77
2.29.	Room 142, Floor 5 and Layers 7-11 in profile against
	and under the south wall foundation
2.30.	Room 142, Floor 9. Other Pit 1 sunk into sterile deposits 83
2.31.	Room 142, "viga holes" that are probably late modifications
	to the walls for supporting a room-wide platform
2.32.	Room 143/236 Floor 1 to right and darkened Room 142
20320	to left
2 22	Poom $1/3/236$ uppermost floors (Floor 1)
2 34	Noom 143/250, uppermost ritors (Filter 1) $\cdot \cdot \cdot$
2•J4•	initial Viva 10 amagad
0.05	$\frac{1}{1000} \frac{1}{2} \frac$
2.33.	Room 143, Floor b, Grids 8-10 with odd indentations
0.00	
2.36.	Room 236, Floor 4, Grids $1-7$, looking west $\cdots \cdots \cdots$
2.3/.	Room 143, Floor 1, Grid 13. Looking east at the elevated
	walkway between Room 147 and Kiva 10
2.38.	Room 143, Floor 1, Grid 13. Looking west at the elevated
	walkway between Room 147 and Kiva 10
2.39.	Room 143, south wall above Grid 4
2.40.	Room 143, west wall
2.41.	Room 143, interior face of the south wall where the old
	and new sections are joined
2.42.	Room 143, exterior face of the south wall showing
	Door 15 where the old and new sections are joined
2.43.	Restorable vessels recovered from the roof deposits
	above the upper floors in the Central Roomblock
2.44.	Room 146. Floor 3
2.45.	Room 146. Floor 8. features in the southeast corner
2.46.	Room 146. Floor 3 construction debris in Wall Trench 1 130
2.47.	Room 146, Floor 8, features in the southeast corner
	and wall foundations
2.48.	Room 147, uppermost floor (Floor 1).
2.49.	Room 147. Floor 1. Firepit 1 and plaster-lined
	Heating Pit 2
2.50.	Room 147, east wall doors and nictograph
2.51.	Room 147. Door 12 and Floor 1.
2.52.	Room 147 Wall Niche 1 in the north wall 145
2.52	Room 1/7 looking through Door 12 at the south wall
20,550	and Wall Nicho 1
2 5%	and wall Niche I
20J40 255	Noun 250, floor $4-5$, west end $\cdot \cdot \cdot$
20330	Koom 145, Floor /, Showing what congestion must have
	been like for normal nabitation of the room

3.1. 3.2.	Room 103 during excavation of postoccupational fill 190 Room 103. Firepit 2 in postoccupational wall rubble
	(Laver 1),
3.3.	Room 103, uppermost floor (Floor 1), \ldots 193
3.4.	Room 103, Floor 1, looking south \cdot
3.5.	Restorable vessels recovered from the upper floor and in
3.3.	the fill above (Laver 2) in Room 103
3.6	Ceramics recovered from the floors and associated floor
3.0.	fills of Poom 102 203
27	Deem 102 Floor 2 Hearth 1 and Other Dit 2 underlying
3.1.	koom 105, Floor 5, Hearth I and Other Pit 2 underlying
2 0	
3.8.	Room 103, Floor 3, remains of Mealing Bins $1-3 \cdot \cdot$
3.9.	Room 103, Floor 4, south of Floor 1 wall partition • • • • • 212
3.10.	Room 103, Floor 4, northeast quarter of room
3.11.	Room 103, Floor 4, Other Pit 1
3.12.	Room 103, Floor 5, Grid 23. Mortar from wall foundation
	extending out from under the south wall, over the floor 214
3.13.	Room 110, Floor 1 (Top Surface, including parts of
	Surface 1-4)
3.14.	Room 110, Floor 1, Surfaces 8-9, looking north
3.15.	Room 110, Floor 1, Surfaces 8-9, looking south
3.16.	Restorable vessels recovered from Room 110, Floor 1 248
3.17.	Room 110. The remains of Mealing Bins 1-6
3.18.	Room 110. Mealing Bin 3 catch basin.
3,19,	Room 110, Floor 1, Surface 5, Postholes (PH 7-18) mark
3.12.	small note or jacal enclosure in northwest corner of room 251
3.20.	Male and female unfired adobe figurines embraced together
J•20•	when found in Other Dit 6 (Poom 110 Floor 1 Surface 3) 251
2 21	Poor 110 Floor 2 locking porth 258
2 22	Room 110, Floor 2, looking north
J•22•	Room 110, Floor 2, Tooking South
3.23.	Room 110, Floor 2, Firepit 1 and the adobe-lined pollest
a a/	basins built in or next to adobe firepit rim • • • • • • • • • • 200
3.24.	Room 110, Floor 2, Firepit 2 \ldots \ldots \ldots \ldots \ldots \ldots \ldots 200
3.25.	Room 110, west wall and Door $2 \cdot $
3.26.	Room 110, Wall Niche 5 (filled with adobe fragments) and
	Wall Niche 4 (excavated) in the east wall, north end 263
3.27.	Room 110, Floor 1, Wall Niche 9 in the east wall,
	south end
3.28.	Room 110, west wall niches (N 2-3 and 5)
3.29.	Room 110, the original door entry (Door 5) to the plaza
	that had been enclosed to fend off rising plaza sands 274
3.30.	Room 110, north wall. Door 6 plugged with masonry 274
3.31.	Room 112, post-occupational deposits in the southeast
	corner (TT 8 unexcavated)
3.32.	Room 112, north side of steps, showing detailed units
	of Laver 5
3.33.	Room 112. Masonry step in southeast corner to provide
	access to and from the room through Door 4 after habitation
	suite was abandoned.
3.34.	Room 112, Floor 2, looking north
3.35.	Room 112, west wall foundation
J-JJ-	

3.36.	A view of deposits in Room 119 through Room 110's
	Wall Niche 4 and Door 5
3.37.	Room 229, southeastern corner, Grid 16, Laver 5,
3.38.	Escavada Black-on-white bowl recovered from Floor 1
	Room 229
3.39.	Room 229, west wall Grid 18. Wall veneer underlain by
	the wall foundation of clay and stone
3.40.	Room 229 Looking open through Deen 9 at Deen 2 in
5.400	Room 112
3.41	Room 220 gouthwastern correct mercelies interested 1
3.41.	improcessions extending corner, revealing intramural beam
	mpressions extending across face of south wall into west
3 4 2	
J.4Z.	A restorable Reserve Black-on-white bowl and a Puerco
2 / 2	Black-on-red bowl recovered during wall clearing
3.43.	Kiva 15 (built within Room 110), uppermost floor (Floor
2 1 1	1), and floor artifacts
3.44.	Kiva 15, Floor 1, looking south
3.45.	Restorable vessels recovered from the floor, bench top,
• • •	and Layer 7, and an axe from the floor of Kiva 15
3.46.	Intramural beams tying together the south wall of Kiva
	15 and the north wall of Room 109. $\dots \dots \dots$
3.47.	Pot rest (PR 3) on the southern bench in the southeastern
	corner of Kiva 15
3.48.	The Kiva 15 ventilator
3.49.	Western plaza area (Plaza 1, Grid 302, east of Room 104).
	Pits in Surface 5
3.50.	Western plaza area stratigraphy (Plaza 1, Grids 301 and
	303). From top: Layers 4C, 5, 6, 7, and 8
3.51.	Western plaza area (Plaza 1, Grid 116). The construction
	debris comprises Layer 8
3.52.	Western plaza area (Plaza 1, Grid 303). Slab and stone-
	lined ditch at bottom of test trench. A possible
	foundation wall
3.53.	Western plaza area stratigraphy (Plaza 1, Grid 302)
3.54.	Western plaza area (Plaza 1, Grid 302). West end trench
	just in front and below door into Room 104
3.55.	Western plaza area (Plaza 1, Grids 116 and 307). With
	south arc of Kiva 16 and the top of Surface 7 exposed 353
3.56.	Western plaza area (Plaza 1, Grid 116) showing pair of
	trenches, probably ventilator tunnels for Kiva 16, that
	cut earlier plaza stratigraphic units.
3.57.	Western plaza area (Plaza 1, Grid 302). Storage Bin 1
	(a kiva ventilator shaft?) blocking door entry into
	Room 104
4.1.	Eastern plaza area (Plaza 1, Grids 175-176, 195-196)
	opposite Room 192
4.2.	Eastern plaza area (Plaza 1, Grid 35). Test Trench 3
4.3.	Eastern plaza area (Plaza 1, Grids 25, 272). Test
	Trench 3 stratigraphy
4.4.	Plaza 1, Test Trench 3, Storage Pit 1 built against
	Room 177

4.5. Eastern plaza area, Kiva 12 niche above southern recess. . . . 375 4.6. Eastern plaza area (Plaza 1, Grids 75, 95, 274, 275) with Kiva 14 outlined. \ldots \ldots \ldots \ldots \ldots \ldots \ldots 3794.7. Eastern plaza area (Plaza 1, Grids 92-93). Unnamed Wall Complex 1, marking a number of possible kivas 379 4.8. 4.9. 5.1. West Trench (exploratory backhoe trench to the exterior 5.2. Plaza Feature 1, Room 3, with uppermost floor cleared 5.3. showing the three huge firepits or ovens 415 Plaza Feature 1, Room 3, Floor 1, Firepits 1-2 421 5.4. 5.5. Plaza Feature 1, Room 3, Firepit 3, revealing stones 5.6. Unfired miniature mudware bowls in Room 3, Plaza Feature 1, at the bottom of Firepit 1 and Firepit 2. 423 5.7. Seven ovens found in the postoccupational fill of the Northeast Foundation Complex at Pueblo Bonito. 426 5.8. Plaza Feature 1, Room 3, northeastern corner 428 5.9. Plaza Feature 1, Room 3, northeastern corner excavated . . . 428 5.10. Plaza Feature 1, Room 3, Grid 18. Subfloor test in southeastern corner of room revealing western plaza 5.11. Plaza Feature 1, Room 4. View of Surfaces 3 and 4 433 Plaza Feature 5, a shrinelike structure in the middle 5.12. 5.13. Exterior wall veneer of Room 194 (A) and the northeastern corner of adjoining Room 195 (B)--part of a double-paired room-suite in the southern enclosing arc at Pueblo Alto. . . 447 6.1. Plaza 2. Profile face of the southern half of Grid 181. . . . 470 6.2. Other Structure 5 built against the southeastern corner of Pueblo Alto in Plaza 2. Grids 181 and 201, north of Plaza 2, Grids 181 and 201 cleared to Surfaces 7 and 8A. . . . 471 6.3. 6.4. Plaza 2, Grids 181 and 201 cleared to Surface 4 showing a huge firepit (OP 2) built against Room 185 475 6.5. Plaza 2, Other Pit 2 firepit built in Surface 1. 475 6.6. Plaza 2. A collapsed isolated wall in Grid 182 near Plaza 2, test trench along northern side of Grid 201 477 6.7. Other Structure 5 built against the southeastern corner 6.8. 6.9. 6.10. 6.11. Other Structure 5 interior. Test Trench 3 cleared to 6.12. 6.13.

6.14.	Pueblo Bonito, "shrine" room at the outer southeastern
7.1.	East Ruin, Room 6 kiva (i.e., "Room" 14), Floor 1 536
7.2.	East Ruin, Room 6 kiva, Floor 1an overhead view
7.3.	East Ruin, Room 6 kiva (i.e., "Room" 14), Floor 2,
	Other Pit 2
7.4.	Parking Lot Ruin. Looking west towards New Alto and
7 5	Depleter Let D. L.
7.5.	Parking Lot Ruin. Looking northwest towards Cly's Canyon 544
/•0•	Major Wall 3, bordering Road Segment 40, leading south
7.7	Major Wall 6 running cost post New Alte terrards Duckle
/•/•	Alto
7.8	$\begin{array}{c} \text{Terrace value (DS 21)} \\ \end{array}$
7.9.	Terrace (RS 31) built across an old gully that out through
/•//•	the bench.
7.10.	Stairway up to terrace (RS 28) level
8.1.	Trash Mound, Strat Column 2, Layer 3. Construction debris
	from the initial greathouse construction at Pueblo Alto 570
8.2.	Trash Mound, Test Trench 1 shoring and working conditions 571
8.3.	Trash Mound, Test Trench 1 shoring and working conditions 571
8.4.	Trash Mound, Strat Column 3, looking southwest
8.5.	Trash Mound, Strat Column 4, looking southwest
8.6.	Trash Mound, Strat Column 5, looking west
8.7.	Restorable and partially restorable vessels intentionally
	smashed and placed in the Trash Mound
8.8.	Restorable or partial vessels from the Trash Mound 604
8.9.	Unusual ornaments from the Trash Mound
8.10.	Pueblo Bonito. One of the many cuts through the West
	Mound deposits conducted by George Pepper in the 1890s 619
8.11.	Pueblo Bonito. Stratigraphy of the deposits in the
	East Mound

Tables

2.1.	Room 142, Room 143/236, and Room 145, floor artifacts 103
3.1. 3.2. 3.3. 3.4. 3.5. 3.6. 3.7. 3.8. 3.9. 3.10.	Room 103, Floor 1 fill artifacts
	Plaza l test trenches so that units correlate among various grids
5.1. 5.2.	Large-lined firepits in Chaco exceeding 250 liters capacity 425 Plaza l tests to sterile in search of the great kiva 455
6.1. 6.2.	Other Structure 5 step dimensions
6.3.	and level over an area of 5 quarter grids in Plaza 2 516 Artifacts, volume, density, and ranking of layer-levels
	from the areas in Plaza 2 excavated in 1978
8.1.	Ceramics recovered from the Trash Mound, Test Trench 2 (Grids 77, 99, and 127)
0•2•	backhoe tests in Test Trench 1
0.3.	the Pueblo Alto Trash Mound, Test Trench 1 and Strat
8.4.	Material densities for selected layers in the Pueblo Alto Trash Mound. Test Trench 1 and Strat Columns 1-6
8.5.	Ceramic frequencies from Roberts' Section 1 in the Pueblo Alto Trash Mound sorted using the Chaco Center typology 586

8.6.	Ceramic frequencies from Roberts' Section 2 in the Pueblo Alto Trash Mound resorted using the Chaco Center typology 587
8.7.	Ceramics recovered from the Trash Mound, Strat Column 1
8.8.	Ceramics recovered from the Trash Mound, Strat Column 2
8.9.	(in the northwestern quarter of Grid 126)
0.10	(in the northeastern quarter of Grid 154)
8.10.	(in the northwestern quarter of Grid 210)
8.11.	Ceramics recovered from the Trash Mound, Strat Column 5
8.12.	Ceramics recovered from the Trash Mound, Strat Column 6
	(in the northeastern quarter of Grid 294)
8.13.	Totals of materials recorded from the Trash Mound 600
8.14.	Summary of Bonito Phase greathouse trash mound data 601
8.15.	Ceramics recovered from the Trash Mound, Test Trench 1, in Grids 155, 183, 211, 239, 267, 295, and 323
8.16.	Ceramics tabulated from surface transects across the
0 17	trash middens at Pueblo Alto and Tsin Kletzin
0•1/•	trench in Pueblo Bonito's East Mound
8.18.	Ceramics recovered by N. C. Nelson in 1916 from the
8.19.	Ceramics recovered by F. H. H. Roberts, Jr., from
	Tests 3 and 4 between Room 136 and the South Refuse
	Mound(s) at Pueblo Bonito
8.20.	Ceramics recovered by F. H. H. Roberts, Jr., from
	Test / (Stations 244-252) in the West Mound at Pueblo Bonito in 1921
8.21.	Ceramics recovered by F. H. H. Roberts, Jr., from
	Test 1 (Stations 232-235) in the West Court at
0 00	Pueblo Bonito in 1925 and resorted
8.22.	Ceramics recovered by F. H. H. Roberts, Jr., Irom
	Test 2 (Stations 244-252) in the west court at
0 7 2	Pueblo Bonito In 1925 and resorted
0.23.	Teat 4 between Ream 126 and the South Refuse Mound
	(Stations 175-180) at Pueblo Bonito and recorted
8 24	Commiss recovered by F. H. H. Poherte, Ir. from
0.24.	Toot 5 in the East Court coutbaset of Kiva 2c at
	Pueblo Bonito in 1926 and resorted
8 25	Coramics recovered by F. H. H. Poherts. Ir. from
0.23.	Test 6 below the Type 4 masonry under Room 156 in
	Pueblo Bonito and resorted
8.26.	Ceramics recovered by F. H. H. Roberts, Jr., from
	Test 7 (Stations 122-125) in the West Mound at
	Pueblo Bonito in 1921 and resorted
8.27.	Ceramics recovered by F. H. H. Roberts, Jr., from
	Test 8 (Stations 80-83) in the East Mound at
	Pueblo Bonito in 1924 and resorted 633

8.28.	Ceramics tabulated from surface transects across the
	East and West Mounds at Pueblo Bonito 635
8.29.	Ceramics recovered from construction of a drainage trench
	across the Pueblo del Arroyo parking lot in 1980 638
8.30.	Ceramics tabulated from surface transects across the
	remaining hummocks of the Chetro Ketl east trash mound
9 31	Comming tabulated from the curface transacts across the
0.01.	Defamics Laburated from the surface transects across the
	Penasco Blanco East Keruse Mound and the refuse scaller
	to the north \ldots
8.32.	Ceramics recovered by F. H. H. Roberts, Jr., from the
	East Refuse Mound (Section 1) at Peñasco Blanco
8.33.	Ceramics recovered by F. H. H. Roberts, Jr., from the
	East Refuse Mound (Section 2) at Peñasco Blanco
8.34.	Ceramics recovered by F. H. H. Roberts, Jr., from the
	East Refuse Mound (Section 3) at Peñasco Blanco
8 35	Ceramics recovered by F. H. H. Poberts Ir. from Section 1
0.11.	in the Deressen Plance Fact Defuse Nound that were reported 653
0.04	In the Penasco Blanco East Refuse Mound that were resolved • • 055
8.30.	Ceramics recovered by F. H. H. Roberts, Jr., from Section 2
	in the Penasco Blanco East Refuse Mound that were resorted 654
8.37.	Ceramics recovered by F. H. H. Roberts, Jr., from Section 3
	in the Peñasco Blanco East Refuse Mound that were resorted 655
8.38.	Ceramics tabulated from surface transects across the trash
	and spall middens at Pueblo Pintado
8.39.	Ceramics tabulated from surface transects across the trash
	and spall middens at Kin Bineola
8 40	Commiss tabulated from surface transacts across the trach
0.40.	willing at Via Vala (60)

Chapter One

Introduction

This volume is devoted primarily to the description of the field work conducted at Pueblo Alto (Figure 1.1). Over 4,700 pages of field notes and 5,500 photographs cover the excavation of 13 rooms and 2 kivas at Pueblo Alto along with the description of all tests. These investigations have been reorganized and distilled here. To the interested reader, some idea of the magnitude of the notes for Pueblo Alto is suggested by comparison with Judd's work at Pueblo Bonito that netted two shoe boxes full of 5 by 8 in. cards (approximately 1,100 cards) that cover the nearly 220 rooms and 25 kivas cleared by the National Geographic Society Project in the 1920s as well as some rooms and kivas cleared by George Pepper and Richard Wetherill in the 1890s. This does not belittle Judd's fine effort, which was based on goals different from our own, but emphasizes the increased number and detail of observations made by archeologists today.

Our work has been organized to reflect, first, the areas in the roomblocks where we concentrated our energies and then the remaining areas Sites mentioned in comparison with Pueblo around the site (Figure 1.2). Alto may be located on the Chaco vicinity and regional maps (Figures 1.3-1.4). Major architectural structures are discussed numerically within the areas in which they occur, and the reader may wish to consult the Table of Contents for proveniences of specific interest. For the most part, descriptions of fill and floors follow temporal ordering from the latest to the earliest, much in the order in which they were found and identified. Profiles through the contiguous excavated rooms and associated outside areas at the Central Roomblock (Figure 1.5) and the West Wing (Figures 1.6-1.7) illustrate the overall stratigraphy of the deposits encountered during most of our work in the houseblock. These profiles and those for many of the excavated areas may have been reversed from the field drawings to maintain a consistent direction for illustration.

Numbering floors and natural deposits starting with the latest deposits allows the reader at least a temporal framework, common to almost all investigated proveniences, that could not be so easily duplicated by starting in reverse (i.e., earliest) order. We hope this knowledge will



Figure 1.1. Pueblo Alto wall plan after wall clearing.



Figure 1.2. The Pueblo Alto community.



Figure 1.3. Important greathouse and small-house sites in Chaco Canyon.



Figure 1.4. Important topographic features and greathouse sites in Chaco Canyon and its environs.



Figure 1.5. Profile of stratigraphic deposits through the Central Roomblock and associated Plaza 1 areas.



Figure 1.6. Profile of stratigraphic deposits through the West Wing (the West Trench, Rooms 229-112-110/Kiva 15, and Plaza 1, Grids 302-303).



Figure 1.7. Profile of stratigraphic deposits through the West Wing (Rooms 106-105-103-233), associated Plaza 1 areas, and Plaza Feature 1.

Introduction 9

assist the reader through the maze of dull, descriptive detail that covers the excavational record of our work at Pueblo Alto. Generally, the latest cultural deposits, aside from historic traces, were generated in the early A.D. 1100s, whereas the earliest derive from the early A.D. 1000s. Tn some cases architectural units such as Rooms 50, 51, and 110 had been overlain by later buildings. Temporal control for all units is provided with the ceramic tabulations in Appendix MF-E (Volume II), the list of features in Appendix MF-P (Volume I), and in the discussion on chronology in Volume I, Chapter 8. Ceramic time, phases, and absolute dates are correlated in Figure 1.8 to ease reading understanding. Most readers, however, may wish to consult the summary and conclusions that follow each excavation unit rather than the detailed record presented here. The latter. however, will provide the only means to understand the stratigraphic history and context for the Pueblo Alto artifactual, faunal, and ethnobotanical analyses found in previous reports or in those to follow in Volume III.

The rationale and strategies for the proveniences excavated or tested at Pueblo Alto are covered in Volume I. Except for wall fall deposits, the majority of the excavated fill was screened through 1/4 in. mesh. Under certain circumstances, for example, the fill of some pits, a finemesh screen was used. Exceptions to the screening policy are noted in the text. Pollen and flotation samples were systematically collected from every cultural surface and every floor feature identified except for wall ventilators. Usually, 50 percent of each room and kiva floor was sampled from a series of grids (see Cully 1985; M. Toll 1985, Volume III), although only a minority of these samples could be analyzed. Control for cultural material recovered from the floor fill and floors was also maintained by the same series of grids used for collecting pollen and flotation samples (Figure 1.9) if the artifacts were not piece-plotted. Reference to types and numbers of some cultural material discussed in the text is primarily to the analyst's manuscript rather than to the edited copies being readied for Volume III. Those affected include Akins' (1985a) report on the unworked bone, Cameron's (1985) work on the chipped stone, Ingbar's (1979) analysis of the roofing impressions, Mathien's (1985) ornament report, H. Toll's and McKenna's (1983) paper on ceramics, and M. Toll's (1985) work on the macrobotanical material.

The description of the architecture and stratigraphy at Pueblo Alto was originally part of Volume I but was put in a separate volume because of its length. Thus, much of the interpretation derived from the field work and the comparative information with other sites can be found in Volume I. Lekson's (1984) excellent discourse on greathouse architecture covers many aspects of construction and function covered briefly in this The interested reader should consult Lekson's work for a fuller report. account of terms, functions, styles, plans, and other aspects of Chacoan A difference in kiva terminology between greathouse architecture. Lekson's report and this volume, however, requires a definition of the The term great kiva as described by Lekson (1984) and terms used here. Vivian and Reiter (1960) is used here. Kivas smaller than great kivas, however, have fallen under a variety of terms. Two types, based primarily



^aAfter Gladwin 1945; Hayes 1981:Figure 10; Judge 1983:Figure 3; Judge et al. 1981:Figure 1; McKenna 1986:Figure 1.2; Toll et al. 1980.

Figure 1.8. Various temporal classificatory schemes for the Chacoan Anasazi culture and Pueblo Alto's place within them.



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Figure 1.9A. Grid schemes for horizontal control on floors and in floor fill for excavated rooms and kivas in the Central Roomblock.

12 Pueblo Alto



Figure 1.9B. Grid schemes for horizontal control on floors and in floor fill for excavated rooms and kivas in the West Wing.

on size, are distinct at Pueblo Alto. Large kivas, generally between 7 and 9 m in diameter were the only type associated with the initial greathouse occupation at Pueblo Alto. These, sometimes referred to as court kivas because of their initial location, were built into former rooms later in the occupation. Small kivas, always less than 5 m in diameter, were found only after about A.D. 1090 or 1100 at Pueblo Alto. These small kivas are sometimes referred to as "clan" kivas in this report in contrast to the larger "court" kivas. Others (e.g., Lekson 1984:60-61) have described both types under the term of "clan" kivas.

An interpretation of the construction sequence at Pueblo Alto (Windes 1984b) has been slightly revised and presented in Volume I, Chapter 6. All the original field notes and photographs from the Pueblo Alto excavations are curated at the Maxwell Museum of the University of New Mexico.

Definitions

Some terminology needs clarification to assist the reader in understanding its contextual use. For most readers, terms and abbreviations applied to different types of features, such as firepits, mealing bins, and postholes, will be familiar. If not, then Chapters 3 and 9 in Volume I explain the various terms. The most ubiquitous feature at Pueblo Alto was an unlined floor pit termed an "Other Pit" (or OP) that was probably used for storage. The term, however, also encompasses a wide range of pit types that did not fit readily into other categories. Also prolific at Pueblo Alto and, perhaps, unfamiliar to many readers were the shallow, unlined, burned bowl-shaped pits termed "heating pits" (or HPs). While these are similar to firepits in some attributes, they lack the formal construction and large volume attributed to the latter.

An important distinction was made at Pueblo Alto between units of fill and their method of retrieval. Natural units of deposition were designated as LAYERS and generally were excavated as such, whereas units removed in arbitrary depths were termed LEVELS. This distinction does not preclude the excavation of arbitrary units (levels) to subdivide large natural units. Thus, a reader may be confronted with a unit such as Layer X, Level 3, which may mean that Layer X was subdivided into at least three subunits. On the other hand, arbitrary units removed from tests may have been merged later with the natural units from which they were taken. Tn this case, for example, a unit might be designated Layer X, Level 8, to indicate that the eighth level from the test was primarily or totally part of the layer that was later defined from the testing. Of course, it is not possible to be sure which option in the latter two examples was exercised without recourse to the notes, but the intent is to provide the fullest provenience for the materials collected and continuity with the field work.

Finally, note should be made between the distinctions for different types of cultural surfaces. Theoretically, unprepared compacted surfaces

14 Pueblo Alto

that probably formed from foot traffic were termed SURFACES. Excavations in small Chacoan houses revealed that these were common in storage rooms and outdoor areas. Often such surfaces were ephemeral and fragmentary, difficult to trace, and/or natural. On the other hand, prepared horizontal surfaces consisting of an application of mud or clay were termed In small-house sites, floors were generally found in indoor FLOORS. living quarters and kivas. Because of the computer format, the distinction between the two surface types at Pueblo Alto was often ignored to avoid numerically intermingling floors and surfaces in the same provenience. Generally, indoor surfaces for this report were designated floors and outdoor ones as surfaces, but all were computer coded under the Typically, the uppermost surfaces in rooms were prepared same category. floors, whereas the lower ones were unprepared outdoor surfaces unrelated Furthermore, contrary to expectations, many outdoor to the room above. surfaces were found to be formal, prepared floors that exceeded in quality those observed in the rooms and kivas. Finally, fragments of surfaces that could not be linked to other surfaces or to the architecture were designated "floating floors." Luckily, few of these were discovered.

Chapter Two

Central Roomblock and Associated Areas of Plaza 1

Overall Plan

The earliest greathouse construction at Pueblo Alto was formed by two rows of very large rooms $(33-45 \text{ m}^2)$ with each pair of large rooms backed by a pair of smaller, narrower rooms $(6-15 \text{ m}^2)$ (Figure 2.1). These rooms were built between A.D. 1020 and 1040. The construction plan is reminiscent of small Anasazi houses of the same and earlier periods, which typically are dichotomized into habitation use of the larger rooms and storage for the smaller rooms. Door access and ventilators high in the corners of the walls run north-south from the front to the back rooms, reinforcing the concept of spatially distinct units that mirror in function small house units except in magnitude. There was little east-west access among the various units or suites until additional doors were added in the late A.D. 1000s or early A.D. 1100s.

Separating the surmised room suites from the plaza were narrow corridor rooms that may have linked pairs of suites. Finally, large court kivas built against the corridor rooms apparently confirmed that the standard architectural plan, and thus the social organization, of small sites occupation had been faithfully preserved in the Pueblo Alto rendition. Our excavations in the Central Roomblock (or North Roomblock) cleared one of the five original suites (Figures 2.2-2.3) with the excavation of Rooms 138, 139, 142, 143, 145, 146, and 147. Three more suites, slightly different in layout, had been added to the eastern end of the Central Roomblock but were not investigated. Two of the three had been partly destroyed by remodeling for two kivas added within the roomblock.

Excavated and Tested Units

Rooms 50 and 51 (Figure 2.4)

The foundation walls and floors of two, contiguous, razed rooms were found under Rooms 142, 143, and 146 (Plates 2.1-2.3) with a short extension wall leading from the razed rooms into Plaza Grid 8. The two rooms often have been referred to as of pre-Alto construction and, indeed, they were not physically part of the initial greathouse construction by which




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Figure 2.1. Initial plan of the Central Roomblock.

CONSTRUCTION

MODIFIED

12 m

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Figure 2.2. Central Roomblock and associated Plaza 1 plan of excavated areas.



Figure 2.3. Central Roomblock and associated Plaza 1 plan of excavated areas. Location of profiles.



Figure 2.4. Rooms 50 and 51 and associated plaza features, plan views. A) Floor 1. B) Room 51, Floor 2. C) Room 51, Floor 3. Room 50 contained just a single floor (1).



Plate 2.1. Room 50 (foreground) and Room 51 (Floors 2 and 3), respectively, under greathouse Room 142. Note wall trench to left of rooms. 50-cm north arrow. Looking east. (NPS#16531)



Plate 2.2. Rooms 50 and 51, Floor 2, under Room 142. Note Wall Trench 1 between subfloor rooms and masonry wall, and the Wall Trench 2 foundation near the bottom of photograph. 50-cm north arrow. Looking east. (NPS#16438)



Plate 2.3. Part of Room 50, Floor 1, under Room 143/236. Note slab and masonry step below Door 14 of Room 143/236 that leads into the plaza. 15-cm north arrow. Looking east. (NPS#17928)



Plate 2.4. Room 51, Floor 3, showing Other Pit 8 under room wall, with Other Pit 1 below 30-cm north arrow. (NPS#16517)

we know Pueblo Alto. Nevertheless, they are important to our understanding of events preceding the greathouse construction, because the two houses are closely linked temporally and stratigraphically. Temporally, the greathouse construction appears to immediately follow the two-room occupation, and the absence of houses contemporary with the two-room house in the general area suggests that its locale is anything but coincidental with Alto's. Refuse under the West Wing construction also suggests that an early occupation may have been more widespread than just this small house.

The usual commentary on strategy and postoccupational fill are left for those descriptions of the rooms that overlie Rooms 50 and 51, except for the fill within the two rooms.

Fill

The fill overlying the uppermost floor in both rooms was part of a widespread deposit that extended beyond the room walls. This deposition was designated Layer 7 in Room 142, Layer 13 in Room 143, and Layer 5 in Room 146. When the Room 50-51 walls were discovered, the fill between the walls was arbitrarily designated Layer 1 although still part of the deposit directly above. Sandstone spalls, adobe lumps, and other evidence of construction debris along with a little trash, all in a relatively clean, sand matrix, comprise the deposit. The dominance of Red Mesa Black-onwhite and indented corrugated sherds indicates that deposition took place in the early A.D. 1000s.

Room 50 (Size: 180 by 370 cm, 6.1 m²)

<u>Floor 1</u> (Figure 2.4A). A hard, gray, sandy clay surface, 5-9 mm thick, formed the uppermost floor of the room under Room 143. It was slightly undulating and cracked, but coped to the foundation walls. Definition of the floor under Room 142 was less certain with one, or possibly two, compacted alluvial-like surfaces defined on the basis of a whitish stain. In the northern half of the room the two surfaces merged as one. Both the clay and alluvial surfaces were presumed to be the same floor, on the basis of depth, but in different stages of preservation.

<u>Floor 1 Features</u>. A small shallow depression (OP 1) filled with Layer 1 material, mostly spalls, was the only feature associated with Floor 1.

<u>Floor 1 Artifacts</u>. Cultural remains consisted of a single, plain, gray sherd stuck in the floor plaster under Room 143.

Room 51 (Size: 292 by 370 cm, 10.8 m²)

<u>Floor 1</u> (Figure 2.4A). The uppermost floor was smooth and intermittently patched with 1-2 cm of gray sandy clay that easily separated from the sand underneath or clung tenaciously to it. The floor curved up and bonded to the wall foundations. It had an elevation difference of 15 cm from east to west. A number of construction spalls were embedded in the floor surface.

<u>Floor 1 Features</u>. A small, centrally located heating pit was the only feature on the floor. A curvilinear trench (OP 1) extending into the room from the northwest corner was probably a rodent burrow.

Floor 1 Artifacts. None.

Layer 2. An intentional deposit of clean sand, construction debris of adobe and spalls, a maximum of 8 cm thick, filled the space between Floors 2 and 1. Of the few bones recovered from this fill, one was a wolf metacarpel.

<u>Floor 2</u> (Figure 2.4B). The 15-mm-thick application of gray clay that coped up to the foundation walls was marked by a whitish powder of calcium carbonate. This surface was best preserved next to the foundations but was merely compacted sand in the middle and northeastern part of the room.

<u>Floor 2 Features</u>. A small pit (OP 1), possibly a posthole, and a slab-lined firepit, anchored in the south foundation clay of Room 142, suggest that some domestic activities took place in the room.

floor. $\frac{Floor\ 2\ Artifacts}{}$ Only a plain, whiteware sherd lay on the

Layer 3. An intentional deposit of clean sand separated Floors 2 and 3.

<u>Floor 3</u> (Figure 2.4C). A clayey, plastered surface articulated with the surrounding foundation walls but decreased in quality and depth in the room center. There was some controversy among the excavators as to whether this surface was part of Room 51 or part of the underlying plaza surface (i.e., of Floor 6 of Room 142 and Floor 4 of Room 146). Apparently it was both (see Layer 4 below), having been part of the earlier plaza surface and then modified and reused during room use.

<u>Floor 3 Features</u>. Several features exposed at the Floor 3 level were probably associated with the earlier plaza surface. Large basinshaped pits were common on lower plaza surfaces, and the three found at the Floor 3 level were cut by smaller pits (HP i and HP 2) or by the room foundations (OP 8; Plate 1.4), attesting to their early age. In addition, these large pits and two others were filled with a light brown sand that differed from the white sand in the remaining pits. For these reasons, HP 1, HP 2, OP 6, OP 8, and OP 9 were assumed to predate Room 51. By default, this left six small unlined and unburned pits clustered in the northwestern corner to be associated with Floor 3. The southern part of Room 51 (under Room 143) was not excavated to Floor 3, but even so, it was odd that the cluster of pits assumed to belong to the earlier plaza surface were only found under Room 51 whereas none were found under Room 50. Except for OP 8, caution must therefore be exercised over the assignment of pits to the underlying plaza surface.

Of all the pits at the Floor 3 level, OP 8 contained the most cultural material, including five sherds, six pieces of chipped stone, and five bones. Two of the latter came from a horned lark and a bobcat (a phalanx element).

Floor 3 Artifacts. None.

Layer 4. Around the edges of Room 51 was a clean, wedge-shaped ribbon of sand, 5-13 cm high, that allowed the Floor 3 replastering of the earlier plaza surface to cope up to the foundations. Close to the foundations, Layer 4 rested on the earlier plaza surface that did not cope up to the foundations but appeared cut by them instead. Layer 4 sand overlies the OP 8 fill, proving that it postdated Room 51 foundation construction.

Plaza Surfaces Associated With Rooms 50 and 51

Floor 3 in Rooms 142 and 146, Floor 8 in Room 143, and Floor 9 in Plaza Grid 8 were associated with the occupation of Floor 1 in Rooms 50 and 51. A number of small pits against the eastern and western exterior room walls may mark a pair of pole-supported structures built against the room sides when Floor 1 of the two rooms was used. Floor 4 in Room 142 was contemporaneous with Floor 2 in Room 51. Finally, Floor 3 in Room 51 appears to have been used in conjunction with Floor 4 in Room 142 and Floors 3 and 4 in Room 146. Additional excavation is needed in Room 143 and in the plaza to find the outdoor surfaces associated with the lower floors in Room 51.

Walls

<u>Wall Foundations</u>. The upper walls of Rooms 50 and 51 were dismantled, leaving only the 35-45-cm-wide foundations. When Wall Trench 1 (WT 1) was formed during the construction of Room 142's walls, it removed the northern edge of the foundations for Rooms 50 and 51 (Plates 2.1-2.2). The tops of the Room 50-51 foundations were between 305 and 315 cm below the site datum and occasionally revealed the imprint of the wall masonry stone.

Foundations were composed of a light tan, clayey sand mud poured into a round-bottomed trench that, when filled, spilled slightly out on to the earlier plaza surface. Along the west exterior of Room 50, two separate bands of adobe, tied together with tiny spalls, may mark excess plaster derived from the first courses of upper-wall masonry construction. This adobe was bonded to the foundation and rested on Floor 4 of Room 142.

Large, irregularly shaped, sandstone blocks were packed horizontally into the foundation mud, leaving large air pockets. Although the foundations probably were a single, planned event, abutments and changes in depth indicate some lapse of time for their complete emplacement. In the northern half of Room 51, foundation bottoms reached a maximum depth of 330-333 cm below the site datum (and were 17 cm high), whereas those in the southern half dropped to about 340 cm (and were 28-36 cm high). The change between the two halves was an abrupt one, occurring about midway along the east and west walls.

A short foundation spur led south off the southwestern corner of Room 50 into Plaza Grid 8, but its full extent was not traced. The function of this secondary piece could not be discerned although it did not appear to have been for another room. It was slightly narrower (32-34 cm wide) than the other foundations, over 125 cm long, and built of different material: reddish adobe or clay inset with some horizontal stone and mixed with a little trash. In places it was lined with thin upright slabs. The foundation for it was 6 cm lower than the Room 50 foundation to which it butted.

<u>Wall Plaster</u>. In Room 51 the uppermost floor either articulated with the foundations or, along the northern and southern sides, was left jutting upwards before reaching the foundations. This oddity suggests that the floor plaster continued up as wall plaster until the walls were dismantled, breaking the plaster bonds between the floor and walls. There were no clues of plastered walls for Room 50.

Summary and Conclusions

Despite the paucity of structural remains for the two rooms, floors remained intact and revealed a two-room occupancy patterned after contemporary small-house residential units in Chaco. A number of floor pits, including a slab-lined firepit, identify the easternmost room (51) as one for living activities. The lack of features in Room 50, contiguous to Room 51, suggests a space set aside for storage. Additional features outside the structure, particularly the large firepits directly to the east, mirror similar use of exterior space in other excavated small sites. Because of our excavation strategy, we were unable to glimpse a wider picture for this occupation, although a trash-filled pit in the Pueblo Alto plaza to the south may signify the presence of a contemporary pitstruc-The paired unit was built and occupied in the early A.D. 1000s ture. immediately before the greathouse construction of the Central Roomblock.

Room 138 (Figures 2.5-2.7)

This room is one of a pair of small, exterior rooms comprising part of one of the earliest suites at Pueblo Alto (Figure 2.1). It was the smallest room in the early suite (585 by 196 cm; 11.5 m^2) and analogous in relative size and position to "storage" rooms in small, Anasazi house sites. Room 138 was paired with Room 144, and both were initially entered from Room 139. The entire row of exterior rooms in the Central Roomblock nearly duplicates Room 138 in size and position, and the rooms probably share analogous functions.



Figure 2.5. Room 138, north-south profile.



Figure 2.6. Room 138, Floors 1 and 2, plan views.







Figure 2.7. Room 138, north and south wall elevations.

In addition a small spot on the floor had been oxidized by fire. Two small pits (OP 1 and 2) were filled and sealed with adobe and spalls. OP 4 also was covered with floor plaster and might have been intended as a posthole, although it never served as such. A triangular feature of mortar and horizontally laid stone that is designated a Wolky Feature after its discoverer (see Volume I, Chapter 3) was found covered with floor plaster in the northeastern corner, while two others were situated in the northwestern and southwestern corners. Their function is unknown.

Two postholes were recorded for Floor 1, but only PH 2 served its designated function. It was located directly below Door 4, like its counterpart in Room 139, and marks the location for a post step. The broken floor plaster along the northern edge and the absence of a post cast and wood suggest salvage of the post after room abandonment. A large, shaped and ground stone slab fragment found in PH 2 probably was a piece of the missing Door 4 sill.

Bordering the south and west walls was a narrow, shallow trench (WT 1) filled with spalls and adobe, suggestive of constructional debris. It was unique in the suite for being on the uppermost floor instead of on the lower floors where construction activities were manifest. Some remodeling not now apparent must have taken place after Floor 1 was constructed. The debris was directly below a sealed vent, perhaps left over from the sealing activity. The vent in the southeastern corner, however, was also sealed but there was no stone debris below it.

Floor 1 Artifacts. A single sherd (narrow neckbanded) was recovered from in the floor plaster. There were no artifacts on the floor.

Layer 3. Directly under Floor 1 were 55-60 cm of fine-grained sand, some small, tan adobe lumps, and some pebbles. Included in the matrix was a high frequency of residual gravels and concretions. Laminations were not discernible, and the deposition of the entire unit is thought to be intentional. The fill is marked by a Red Mesa ceramic assemblage, indicating deposition before A.D. 1040 or 1050. This unit corresponds to Layer 9 in Room 139.

Layer 4. A 5-10-cm-thick concentration of sand, spalls, and adobe lumps, interspersed with ceramics of a Red Mesa assemblage, overlaid Layer 5 and parts of Floor 2. In the southwestern corner was a 5-cm-thick deposit (50 by 80 cm) of gray clay with numerous footprints. This clay and the other debris were evidently from activities associated with the room construction. The unit is identical to Layer 10 in Room 139.

Layer 5. Most of Floor 2 was covered by 3-5 cm of aeolian sand with sparse inclusions of adobe lumps and spalls. The density of charcoal flecks, 10-25/100 cm², in the fill was the highest for the room and was especially dense on the eastern side.

Strategy

The beginning excavation of the room proceeded from an extension of Test Trench 2 across Rooms 139 and 142. This was designated Test Trench 1 of Room 138 and was removed in arbitrary 20-cm levels, starting with Level 4 and terminating with the fill of Level 16 overlying the lower floor (Floor 2). Afterwards, these were condensed into five natural units. Test Trench 1 bisected Room 138, and the remaining fill to the west and east was designated Test Trench 2 and 3, respectively. The latter two "trenches" (balks) were removed in natural units.

All levels from Test Trench 1 were screened. Unfortunately, artifacts from Levels 1-11 (Layer 1) were lost in the field. Layer 1 from subsequent work was not screened. Layer 2 was subdivided into four levels and screened, whereas Layer 3 was removed in a continuation of Levels 14-16, but only the north half of TT 2 and the south half of TT 3 were screened.

Fill (Figure 2.5).

The room fill was similar to that removed from other rooms excavated in the suite. There was a paucity of cultural material in the fill, and, therefore, screening was limited to selected units.

Layer 1. This uppermost deposit consisted of about 130-cm-thick mortar and wall stone (40 percent of the volume) from collapsed upper walls. There were no recognizable episodes of wall fall evident in the alignment of the material. A total of 6.8 m³ of rock was recovered from Layer 1. A small wedge-shaped layer of postoccupational sand, 40-60 cm thick, that had drifted through Door 4 from Room 139 was included with Layer 1. Four elements of domestic sheep recovered from this deposit were the only examples of this kind recovered in the Central Roomblock and attest to historic use of the area, probably during Richard Wetherill's time.

Layer 2. Under Layer 1 and extending down 60-90 cm to Floor 1 was the usual deposit of roofing remains found in other suite rooms. Finegrained sand, tan and gray adobe lumps and impressions, spalls, building stone, and abundant vegetal material of juniper bark and splints characterize the layer. There was no evidence of roof supports. A possible door collar and jamb found in the fill directly below the door were probably from Door 4.

Floor 1 (Figure 2.6).

The uppermost floor was of prepared adobe, 2-3 cm thick, that feathered at the edges into the wall plaster. There were several dips and irregularities in the uneven plaster; otherwise it was in excellent, unmarred condition.

Floor 1 Features. A number of pits were recorded in the floor, although three of the eight were probably anomalies not purposely formed.



- Plate 2.5. Room 138, Floor 2. Note wall trenches along base of walls. Wall plaster extends to former Floor 1 position. 50-cm north arrow and a larger scale in 50-cm increments. Looking west. (NPS#17216)
- Plate 2.6. Room 139, Floor 1. Note roof support holes along median line and post-step holes against the walls under the unexcavated doors. Break in top of wall is a ventilator. 50-cm north arrow. (NPS#15780)

Floor 2 (Figure 2.6, Plate 2.5)

This was an unprepared surface underlain by hard sterile deposits. It was the same surface as Floor 2 in Room 139.

Floor 2 Features. The features on Floor 2 were similar to others at the same level in Room 139. There were two shallow, unlined heating pits (HP) on the floor. HP 1 was filled with burned sand but was otherwise unoxidized. HP 2 contained ash and was burned around the sides; consequently, it was sampled for archeomagnetic dating.

Two other pits (OP) were so designated, but only OP 2 was an intentionally made feature. There were three, shallow, narrow, wall trenches (WT) along all except the east wall, each filled with clay, adobe, and spalls from construction debris.

Floor 2 Artifacts. Only three sherds from a Red Mesa assemblage were left on the floor. A piece of turquoise came from the fill in the north wall trench (WT 2).

Walls (Figure 2.7)

Foundations. These were set into a trench, narrower than the overlying walls, cut into the sterile deposits below Floor 2. The foundation mortar, which differs from that in the walls, appears to be reworked, local, native soil made plastic and poured into the trenches around large, unshaped, sandstone blocks. The foundations are approximately 20-30 cm high and appear to have been poured at one time.

The masonry in the east, north, and west walls consists of randomly set, large blocks surrounded by masses of lenticular chinking. The large blocks are unshaped with the split side exposed. These increase in number toward the top. The south wall, however, consists of fewer chinks and greater masses of large stones with an attempt at horizontal banding. The stones reflect greater care in shaping. All wall faces are uneven with many of the blocks slightly inset. The masonry style is similar to Judd's Type 2. Five Red Mesa assemblage sherds used as wall chinks were found below Floor 1.

<u>Wall Features</u>. Four vents, a door, and a door step comprise the total remaining wall features. Two pairs of vents (V) are set in the ends of the north and south walls, enabling a steady draft of air to flow unimpeded through the entire suite. All vents were built as part of the primary construction. The southern pair were later sealed with large stones on both sides, similar to the surrounding masonry. The vents were not excavated. The northern pair were left open at abandonment and consequently filled with Layer 1 material. These were altered by stabilization when the wall tops were repaired.

Door 4, centrally located in the south wall 83 cm above Floor 1, provided the only wall entry into Room 138 (from Room 139). It was in extremely poor condition as much of its original form had deteriorated.

Although roof entry cannot be ruled out, probably Door 4 provided the sole access. A post step set into the upper floor on both sides aided passage through the door. In addition, there was a small niche step below the door (in Room 138) 46 cm above Floor 1. This probably aided the additional 15-cm climb to the door that was not needed on the Room 139 side.

There were no additional wall niches (N) and no viga holes evident in the room walls.

<u>Wall Plaster</u>. A single layer of tan, unsmoked mud, about 5-10 mm thick, covered all the walls above Floor 1 except where it had eroded off. This in turn was covered by a 2-3-mm-thick, finished coat of tan, unsmoked mud. There was no plaster applied to the walls below Floor 1.

Roof

Construction of the roof was probably similar to others in the suite and to Chacoan greathouse roofs in general. Although a number of roofing impressions were collected, these have not been analyzed.

Summary and Conclusions

Room 138 was part of the initial greathouse construction in the early A.D. 1000s. The lowest of the two floors evidently was used during room construction and then abandoned. Intentional filling of the room elevated the functional floor to a preconceived height usable with the door placed in the south wall for access from Room 139. It is suspected that the well-preserved, plastered flooring was a late addition to an otherwise unprepared sand floor used during most of the room's life (see the Central Roomblock conclusions). The paucity of wall and floor furniture attests to the room's role as one primarily suited for storage. Abandonment of the room took place in the early A.D. 1100s.

Room 139 (Figures 2.8-2.13)

Room 139 is the northern room of a pair of very large rooms in the Central Roomblock suite under investigation. Its twin to the south is Room 142. Initially constructed as a room 1,160 cm long and 360 cm wide (41.8 m²), it, like Room 142, was later subdivided. This left Room 139 as a very large room (815 by 360 cm, 29.3 m²), but a fourth of the space had become Room 145. Access between the two rooms was provided by Door 1. The initial planning and construction of Room 139 incorporated with it two smaller rooms to the north (Rooms 138 and 144) and joined to the parent room by centrally located doorways. Access was maintained to these two rooms from Room 139 throughout the occupation despite the addition of Room 145 that blocked the original doorway into Room 144. Access was maintained by punching a new door through the wall between Rooms 139 and 144. This suite, along with four similar suites in the same row, comprised the earliest greathouse units at Pueblo Alto.



Figure 2.8. Room 139, east-west profile (see also Figure 2.10).



Figure 2.9. Room 139, north-south profiles.



Figure 2.10. Rooms 139/145, (A) north-south and (B) east-west profiles (see also Figure 2.8).



Figure 2.11. Rooms 139 (Floors 1 and 2) and 145 (Floor 1), plan views (see Table 2.1 for artifact list).





Figure 2.12. Rooms 139 and 145, north and south wall elevations.





Figure 2.13. Rooms 139 and 145, east and west wall elevations.

For discussion purposes, Room 139 includes both Room 139 and that below Floor 1 in Room 145. Room 145 was excavated in 1976 and the lower floor (Floor 2) described as part of it. When Room 139 was excavated the following year, its lower floor (Floor 2) and features were coded as part of Room 145. Both lower floors are, in fact, part of the same room, and it is immaterial which room designation is used. Unfortunately, two numerical series of Floor 2 features were maintained (one in 1976 and one in 1977) despite their sharing a common room designation. To avoid reader confusion, the few features on the lower floor of Room 145 were renumbered and added sequentially to those from Room 139 (Floor 2). Henceforth, all of Floor 2 in this area will be designated as belonging to Room 139.

Strategy

Two north-south test trenches (TT 1 and 2), each 1 m wide, were started across the room 2 m from inside the east and west walls. These were removed in 20-cm arbitrary levels until the 10 cm of the upper floor fill was reached. This required thirteen levels (all were screened) to accomplish, and the trench sides were then profiled. From these, seven major units of deposition were recognized above Floor 1 and removed as such. These were also screened except when classified as predominantly wall rubble (i.e., Layers 1, 3, and 5).

After work on Floor 1 was concluded, TT 1 and TT 2 were continued down in 20-cm levels until the lower floor fill was reached. This required an additional four levels to complete, but all belonged to a single depositional unit: Layer 9. All layers below Floor 1 (Room 139) were correlated with those below Room 145 and given identical layer designations.

Fill (Figures 2.8-2.10)

The postoccupational fill is similar to that in other suite rooms.

Layer 1. As in the other suite rooms, this unit was the uppermost stratum of collapsed wall material. It was absent in the northwestern corner of the room. Orientation of the stone, primarily tilted north, suggested its origin was primarily from collapse of the south wall.

Layer 2. Aeolian sand comprised this deposit. It occurred primarily in the southern half of the room. This sand was particularly noticeable below the south wall door and vent openings and around the northern door connecting to Room 138.

Layer 3. Wall stone and reddish and grayish chunks of mortar in a sand matrix characterized the layer. It was thickest along the northern half of the room and in the northeastern corner and dipped toward the south and west. Although the exact origins of this unit were unknown, it appeared that the north wall contributed a major share of the material.

Layer 4. This unit was formed of chunks of adobe, often with juniper bark (?) impressions, pieces of rotting juniper bark, and occasional

ashlars in a sand matrix. In the western half of the room, the deposit continued to the floor, but in the eastern half it overlaid Layers 5 and 6. The pieces of adobe roofing were larger and occurred in greater density as one approached the bottom. Above Floor 1, the artifact density was higher in this deposit than any other and probably represents refuse left on the roof at abandonment. The ceramics, though not of great number (88), indicate only A.D. 1000s deposition.

Layer 5. The lowest deposit of wall rubble occurred in a mound over Layer 6 against the east wall. Probably it resulted from fall of an upper segment of the east wall. Parts of the fill, however, are difficult to separate from Layer 4, and Layer 5 merges with Layer 4 near the room's center.

Layer 6. The lowest layer of roofing material was banked against the east wall and seems to have been from the first part of the roof to have fallen. This fall was followed by deterioration of the east wall (Layer 5) followed by collapse of the remaining roof (Layer 4). Layer 6 was similar to the lower material in Layer 4, even to the presence of a few large stones with roofing mud clinging to one or more faces. Some roofing adobe exhibited flat, plastered surfaces and probably represented the exterior roofing surface.

Layer 7. A minor deposit, 1-5 cm thick, of burned brush and maize kernels in a sandy matrix covered the floor in the southeastern corner. It extended about 2 m out from the east wall. The layer was extremely black and stained the floor beneath it.

Floor 1 (Figure 2.11, Plate 2.6)

A smooth, tan, puddled adobe layer, 5-40 mm thick, formed the upper floor. It merged with the wall plaster, although the latter extends 1-2 cm below it. For the most part, the floor was in excellent condition and showed very little wear.

Floor 1 Features. A total of ten features was located in Floor 1. Most were flaws in the floor plaster rather than formed from a specific cultural activity. There were no burned pits although the floor had been scorched by a very hot fire in the northwestern corner (Burn 1). The excavators felt that this burn occurred at or after abandonment. Probably their reasoning was based upon the discovery of other burns in the fill just above the floor and the postoccupational burning of the post in PH 4 that left a charred mold extending up into Layer 4.

Ten other pits were designated during the clearing of Floor 1, but several (OP 4, OP 7-9) turned out to be either floor irregularities or rodent disturbance. Just under the floor plaster, the east wall foundation extended nearly 45 cm out into the room and was designated OP 1 before its real nature was discerned (Plates 2.7-2.8). Under the floor plaster in the southwestern corner was a triangular block of mortar and stone (OP 10) that was designated a Wolky Feature (Figure 2.14A, Plate 2.9). Its function is unknown, although several others were found in room



Plate 2.7. Room 139, Floor 1, east end. Note tie holes at sides of Door 1 for closing off Room 145, extension of foundation (Other Pit 1) from under wall, and roof support Posthole 1 in front of door. 30-cm north arrow. (NPS#14628)



Plate 2.8. Room 139, Floor 1, east end. Floor plaster removed to reveal top of wall foundation extending west from east wall. Roof support Posthole 1 to left. Posthole (Other Pit 2) at top marks a post step for the new door entry into Room 144. 30-cm north arrow. (NPS#14629)



Plate 2.9. A wedge-shaped block of masonry (a "Wolky Feature") common under the corner floor plaster in rooms of the Central Roomblock. This one is Other Pit 10, under the uppermost floor plaster in Room 139. 30-cm north arrow. (NPS#14647)



Plate 2.10. Room 139. Note the thick, smooth plaster of Floor 1, the uppermost surface, followed by the sandy intentional fill (Layers 9 and 10) and Floor 2, the surface used during construction. Posthole 3 is in upper corner. 30-cm north arrow. (NPS#14640)



Figure 2.14. Room 139, plan and profiles of selected floor features. A) Floor 1, Other Pit 10 ("Wolky Feature"). B) Floor 2, Wall Foundation 1, part of the initial foundation complex but never used.

corners throughout the suite. Breternitz suggested they were used as floor supports in areas where subfloor deposits were soft. Directly overlying OP 10 was a shallow, circular pit (OP 6) of a questionable nature.

Three pits (OP 2, 3, and 5) were centered just in front and below the north-south doorways. Their location and shape indicate their use as postholes for supporting post door steps, although OP 2 and 5 were shallower than their counterparts elsewhere in the suite (Figure 2.15).

The room is linearly bisected by four cylindrical pits (PH 1-4). A flat stone had been set in the bottom of each before placement of an upright post (Figure 2.15). The posts had been stabilized with an adobe and stone packing before application of the floor plaster. Only traces of the posts in the form of molds and bits of wood and bark remained. Preservation of other vegetal material in the fill is fair to good, and it would be expected that more of the posts should have remained. The broken floor plaster around PH 1 (Plate 2.8) suggests removal of the post and others after abandonment.

It should be noted that PH 1 in Room 145 (Floor 1) is aligned like those in Room 139. Its spacing from the nearest posthole in Room 139 is identical to the spacing of the others in Room 139. PH 1, in Room 145, had a basal stone, and its post mold was preserved high in the room fill, unlike its neighbor, PH 2, which was a post door step (Figure 2.15). Although these alignments may be fortuitous, it seemed likely that PH 1 represents part of a series of roof supports interrupted by construction of the later cross wall that subdivided the upper part of Room 139 from Room 145.

<u>Floor 1 Artifacts</u>. Just three bird bones (turkey and two loggerhead shrikes) and a worked slab were left on the floor. All were probably postoccupational and not related to the function of the room. Remarkably, even the features revealed few artifacts: four sherds, a piece of chipped stone, and a few ground stone. Burned economic plants scattered in the eastern and central areas of the floor (M. Toll 1985:100) were probably from impromptu fires that resulted in the floor and floor fill burns. Pollen from economic wild plants was absent, but corn pollen was present in low frequencies in the center and eastern part of the room (Cully 1985: 191).

Layer 8. Layer 8 was not recorded in the Room 139 part of the room.

Layer 9. A 40-cm-thick deposit of relatively clean sand appeared intentionally placed over Floor 2 and served as the base for Floor 1 (Plate 2.10). It directly underlies Floor 1 in both Rooms 139 and 145. The fill was primarily sand, a scattering of residual gravels, a few small stones, and a few adobe fragments. A few spots in the layer were tentatively identified as individual (basket?) dumps. A Red Mesa ceramic assemblage was present without any trace of Gallup Black-on-white or late sherds (Plate 2.11).

Layer 10. Between 1 and 10 cm of sand and cultural materials rested directly on Floor 2. A moderate amount of charcoal flecks, lumps of gray



Figure 2.15. Rooms 139 and 145, postholes associated with Floor 1. Other Pits 2, 3, and 5 held post steps. Remainder were used for major roof supports except for Posthole 2 in Room 145, which held a post step.



Plate 2.11. The Red Mesa ceramic assemblage recovered from the fill between the upper and lower floors (Floor 1 and 2, respectively) in Room 139. This assemblage dates to the early A.D. 1000s. A) Painted and whiteware sherds. (NPS#15923) B) Culinary sherds. (NPS#15925)

and reddish adobe, numerous sandstone chips, spalls, and hammerstone abraders from construction debris were present. A small heating pit filled with charred brush also occurred in this fill. Again, an unmixed Red Mesa ceramic assemblage was present.

Floating Floor

The year after the room was excavated I returned to sample a burned spot that was below the east wall foundation in the southeastern corner. Upon investigation I found that much of the burn was under a 10-mm-thick, plastered floor segment that graded into Floor 2 about 100 cm from the south wall. This floor was 4 cm above Floor 2 but was not seen during the excavation of either Room 139 or Room 145. Clearly such a beautiful floor could not have been missed by the excavators, therefore, it must have been mostly removed during the deposition of Layer 9. Under this floor was sand and above it was construction debris. Its presence is a mystery.

Floor 2 (Figure 2.11)

The lower floor consisted of an unprepared surface of hard-packed, sterile, native earth. It was stained a gray color from ash.

<u>Floor 2 Features</u> (Plate 2.12). Forty pits and trenches marred the surface. Many were filled with the same construction debris that covered the floor. Thirteen unlined basins, oxidized or filled with sand and charred brush, were designated as heating pits (Volume I, Plate 9.9). Most were small except for HP 6, which underlies the east wall foundation. It was a huge, unburned basin stuffed with charred brush. Possibly the pit served as a receptacle for the discarded contents of the others; its volume easily surpassed the total of all the others. A formal firepit did not exist.

Fourteen additional pits were designated as "other pits." Most were shallow, scruffy affairs except for OP 8, which was a large, plaster-lined basin cut by the south wall. It probably predates the room and is associated with others of similar form built into sterile deposits under Rooms 142 and 146. Two others were probably postholes (see below), but the function of the remainder is unknown.

Five major post supports are aligned east-west across the room about 1 m from the south wall. Possibly a sixth remains under the balk below the wall foundation separating Rooms 139 and 145. The shape and position in line with PH 2 suggested that OP 1 was an incomplete posthole. The stone at the bottom and the form of OP 13 also suggest it was a posthole. Two other postholes (PH 7 and 8) extend northeast from the eastern end of the primary series. These two are almost paralleled by two others extending from the western end (PH 2 and OP 13). This odd arrangement suggested the supports were for scaffolding rather than for roofing, although the labor investment indicates that the posts were set for long-term emplacement.



Plate 2.12. Room 139, Floor 2, under Room 145. 50-cm north arrow. (NPS#13824)



Plate 2.13. Room 139/145. Wall plaster stops at former juncture with uppermost floor (Floor 1 of Room 145). Mound of spalls under 30-cm scale lie in Wall Trench 6 (Floor 2 of Room 139) and were generated from wall construction. Note elevation above Floor 2 of wall foundation on left for wall that subdivided Room 145 from Room 139. (NPS#13576)





Figure 2.16. Room 139, Floor 2, postholes believed to have held supports for masons' scaffolding.

Like the post supports in Floor 1, these generally exhibited several stages of construction (Figure 2.16). First, a large pit was excavated with digging sticks until the hard, calcium carbonate deposits directly above bedrock were reached. A flat stone was then placed in the bottom. Next, an upright post, 10-17 cm in diameter, was inserted and stabilized with a packing of lignite chips, adobe, and stone. A final capping of adobe and clay that bulged above the floor was added around each post like those illustrated for similar, early, large rooms at Pueblo Bonito (Judd The post caps around PH 3 and PH 4 were broken 1954:Plates 93 and 94). when the posts were removed. The post casts in the others remained perfect, although the posts were gone (Volume I, Plate 9.4). These must have been removed after the posts were rotted, otherwise how could posts have been pulled out without breaking the caps and why bother to preserve the caps in the first place? The three easternmost pits (under Room 145) The unburned caps of PH 1 and PH 4 were were also sealed with adobe. sampled for archeomagnetic dates because of their high clay content. Magnetic directions from these were too scattered and weak to provide dates.

Narrow, shallow trenches bordered the east, north, and south wall foundations. These were filled with Layer 10 material, sandstone spalls, and adobe lumps that evidently were derived from the work of masons (Plate 2.13). Trenches are absent along the unused wall foundations, which suggests that the trenches were built during wall construction, perhaps as traps for debris.

None. The floor fill was littered with refuse Floor 2 Artifacts. that contained chipped stone, faunal remains, as well as beads, hammerstone/abraders, etc., and a Red Mesa sherd assemblage (Plate 2.14) that dates construction in the early A.D. 1000s. This material continued into many of the features, but none could be said to be directly associated with the Floor 2 surface. A layer of sand covering a floor during its use is not unusual, and most of the artifacts undoubtedly relate to construction activities during use of the floor. Economic plant remains were abundant and varied on Floor 2 (M. Toll 1985:94, 99), including pinyon shells, corn, prickly pear, and hedgehog cactus seeds, beeweed, parched grass seeds, and the only tobacco identified at the site. Parched grass seeds were abundant in HP 1 with lesser quantities in HP 3, 4, and 12. Other types of pits were not examined, nor was any pollen examined from Floor 2.

Subfloor Tests

In the northwestern corner of the room a 1 m by 0.5 m pit was sunk 40 cm below Floor 2. The fill from this was screened but no cultural material was recovered. This pit gave us our best look at the wall foundations in the room. The pit was made smaller (20 cm by 20 cm) and extended to bedrock 90 cm below Floor 2. In the southwestern corner of the space cleared under Room 145 (i.e., in Room 139), a 104 by 128 cm test revealed bedrock 105 cm below Floor 2. The intervening sterile deposits consisted of 70 cm of very hard, clayey sand with abundant calcium carbonate, followed by 15 cm of similar material with greater clay and calcium carbonate content. The lowest 20 cm was composed of soft, decomposed, pale brown


Plate 2.14. The Red Mesa ceramic assemblage recovered from Floor 2 and its associated pits in Room 139. This assemblage dates to the early A.D. 1000s. (NPS#15924)

bedrock with abundant calcium carbonate. Other tests in the northeastern space under Room 145, and below PH 6 and PH 8, confirm that the sterile deposits are at a uniform depth below the Room 145 area.

Walls (Figures 2.12-2.13)

Wall Foundations. These appeared similar to those in the other suite rooms, although they were not examined in their entirety. In the northwestern corner the northern foundation was 20-25 cm deep and U-shaped. Ιt was mostly comprised of a tan, sandy adobe with little stones comprising less than 20 percent of the volume. Air pockets created by pouring very wet mud were not observed. On the other hand, the western foundation exhibited numerous air pockets and consisted of a grayish, clayey sand similar to the wall mortar. Its depth, shape, and stone density were similar to the northern foundation. The foundations do not articulate because the western one terminates 8 cm away from the other.

Under Room 145, the northern foundation was 30-40 cm deep and filled with stone and a tan adobe similar to the wall plaster above. The southern foundation was little different; however, the east wall had no foundation. The wall masonry rested directly upon the top of sterile deposits. Possibly the wall was considerably offset from a foundation that extended well into Room 148, not an unusual occurrence.

The wall separating Room 139 from 145 rested on grayish, clay mortar poured into a U-shaped trench along with several layers of large stone. This rested about 25 cm above Floor 2 and was between 20 and 25 cm deep. The foundation was about 1 m wide, but the overlying wall was much narrower (about 65 cm wide). An archeomagnetic sample taken from the foundation mortar revealed that the magnetic direction was not random, but the variation was too great for reliable dating.

An unused, north-south wall foundation (WF 1) that crosses Floor 2 illustrates the discontinuity in the wall-foundation layout (Figure 2.14B, Plate 2.15). It is tied to the eastern part of the northern and southern foundations, although it is also broken into two separate segments that do not quite align. It is 30-40 cm wide and about 33 cm thick, with large stones set in a reddish, sandy adobe. The western part of the south wall foundation (in the south wall) is grayish in color where it butts to WF 1 and the eastern part of the south wall foundation. The south wall appears to represent a single constructional episode and crosses over the WF 1 abutment. The north wall reveals a marked difference in masonry between the two floors above the foundation junction but not above Floor 1, although the north wall foundation and WF 1 appear to have been poured in one episode. Possibly the lower 50 cm of the wall was built in two sections that joined at the juncture of WT 1, with the remaining wall finished at a later time.

<u>Wall Masoury</u>. This was examined by stripping off the wall plaster in several areas. In general, walls are similar in appearance to those described for Room 138. The size of ashlars in all walls tends to increase from the base to the top of the wall, although no patterning or ornamenta-



Plate 2.15. Room 139, Floor 2. Unused wall foundation (WF 1) at the base of the 15-cm scale. Note the discontinuity of the north wall foundation where WF 1 ties to it. (NPS#14884)



Plate 2.16. Room 142, Door 5 opening into Room 139. Note small toehold to assist door access and secondary jambs for sealing off Room 139. (NPS#14980)

tion was evident. In addition, there are a few wall concavities filled with plaster inset with numerous small spalls. These may have served to provide a firmer footing for additional wall plaster.

<u>Wall Features</u>. A number of doors and vents were located in the walls but, with two exceptions, wall niches or viga holes were not observed. Some wall features were associated with the use of both Floors 1 and 2 whereas others were related only to Floor 2.

Four doors provided access into and out of the room. Door 5 was centrally located in the south wall and connected to Room 142. An inset adobe jamb (Plate 2.16) allowed Room 139 to be closed off from Room 142 (see Judd 1964:Plates 13 and 21 for similar jambs at Pueblo Bonito). Directly below the doors in both floors of Room 139 were features that presumably aided access to the door (nearly a meter above Floor 1 and 150 cm above Floor 2). On Floor 1 a posthole (OP 3) marks a former post step. On Floor 2, however, there is just a block of adobe rising above the floor. Its function as a step is more tenuous because of the remaining height needed to reach the door. Perhaps the small, wall toehold 30 cm below the door (Figure 2.12) served to overcome this obstacle. Toeholds and post steps were also common means of access to early doors at Pueblo Bonito (Plates 2.17-2.18).

In the north wall centrally located doors provided access into the back rooms. When Room 145 was formed, the dividing wall blocked the door into Room 144. Continued access was gained from Room 139 into Room 144, however, when a new door was added (Door 3). Below it in Floor 1, a post step must have been held in OP 2. Likewise, below Door 4 in Floor 1, a post step in OP 5 probably aided entry into Room 138.

Finally, when Room 145 was created, access was maintained to it from Room 139 through a door built in the cross wall. An inset adobe jamb allowed Room 145 to be closed off from Room 139. In addition, a pair of small holes in the wall on both sides of the horizontal midpoint for Door 1 probably once held fiber or wooden loops that could have firmly secured a pole to hold a stone door cover in place (Plate 2.19). No other doors in the suite contained this feature.

When Room 139 was built, north-south vents were placed high in the four corners of the room but later sealed with blocks of sandstone and mortar (Plate 2.20). Two others pierced the north wall on both sides of the wall dividing the two back rooms (Rooms 138 and 144).

Two "vents" (V 3 and V 4) in the wall separating Rooms 139 and 145 were puzzling. Both were sealed from both sides with soft blocks of sandstone (Plate 2.21A) and plastered over when the two rooms were plastered. When excavated, each was found to contain a pair of beam impressions (Plate 2.21B). There were no corresponding holes in the opposite walls, which limits their utility to shelf or rack supports located above Door 1. Their function was terminated when the upper floors and walls were plastered.



Plate 2.17. Pueblo Bonito, Room 83. Note the post steps leading to the door. Looking west. (Courtesy of the American Museum of Natural History, AMNH#275)



Plate 2.18. Pueblo Bonito, the east end of Room 99. Note the toehold niche and the board step to aid access to the door. (Courtesy of the American Museum of Natural History, AMNH#59)



Plate 2.19. Door 1 between Rooms 139 and 145. Note tie holes and slanted jamb to allow Room 145 to be sealed from Room 139. Door 2, in the next room (Room 145) is unexcavated but the sides have collapsed. 15-cm scale. (NPS#14459, 14461)



Plate 2.20. Room 139, Vent 6, high in the south wall at the west end. Note the contrast between the Type II masonry surrounding the vent and the plug used to seal the vent. 15-cm scale. (NPS#14984)



Plate 2.21. "Vent" 4 in the cross wall separating Rooms 139 and 145. 15-cm scale. A) Before excavation. (NPS#15088) B) Plug removed to reveal the impressions of the former beams used to support a wall shelf or rack. (NPS#15093) Wall Plaster. The tan, wall plaster characteristic of a finished room was articulated with the Floor 1 plaster and did not extend below that (Plates 2.13 and 2.22). Instead, there were simply areas of smeared, gray mortar covering the masonry below Floor 1. Above Floor 1, tan, unsmoked plaster of an unspecified thickness and number of coats covers the walls except where it has washed off. There is no reason to suspect that it is unlike others in the suite, which are 10-20 mm thick and consist of a thick, scratch coat covered with a final adobe wash. Almost all of the wall plaster was left intact and not disturbed by excavation or probing.

Roof

No viga or latilla holes remained in the walls; nevertheless it is assumed that roof construction was typical of the time. Roofing impressions were systematically collected during excavation. A 100 percent sample was retrieved from some test trenches, along with smaller samples from others. Ingbar (1979) examined 209 of these impressions, the highest for any room at Pueblo Alto. The vast majority (82 percent) were imprinted by juniper splints, but a few revealed latilla impressions 6-7 cm in diameter. From his study Ingbar reconstructed the room roof as follows: primary supports of vigas, followed by secondaries (latillas) and a layer of splints, covered by 3-5 cm of adobe, followed by another layer of splints and, finally, an outer covering of adobe 2-5 cm thick. The total thickness of the mud-and-splint unit is estimated to be between 15 and 20 Although samples were not identical, Ingbar believed that the Room cm. 139 and 142 roofs were essentially the same with some minor variations. An analysis of grain size for a couple of roofing pieces from both rooms also revealed only minor differences (Volume I, Appendix MF-H).

Summary and Conclusions

The initial use of Room 139 in the early A.D. 1000s was marked by profuse and diverse floor pits and ethnobotanical remains that might suggest habitation. Formal firepits were absent, although some of their functions must have been supplanted by the numerous, small, unlined, heating pits present. A litter of construction spalls and globs of mortar throughout the rooms and over and into many of the floor pits, however, associates the lower floor use with room construction and related activities rather than residence.

A series of post supports across the lower floor are surmised to also relate to the room construction, but for scaffolding rather than for supporting a roof. This interpretation may surprise the reader when it is noted that the lower supports are nearly identical in arrangement to the upper floor supports that unquestionably held up a roof. This reasoning is based on the premise that the construction floor was abandoned after the walls were complete so as to elevate the floor level. The latter work was necessary so that residents were not forced to climb their way out of the room. Nevertheless, a surprising amount of care went into the post emplacements on the lower floor, as if they were to last for a substantial period. Perhaps the extra effort to affix the posts was ameliorated by the need to maintain the scaffolding for several seasons (there is some



Plate 2.22. Room 139 with the upper floor (Floor 1) removed. The bottom of the trench reaches to Floor 2. Note the thick plaster coat that comprised Floor 1 and its overlap with the wall plaster. The masonry exposed is Type II. 30-cm scale. (NPS#14635)

evidence that room walls were built over a long period of time; see Volume I, Chapter 6) as well as to hold massive loads of masonry stone and mortar for the masons.

The upper flooring (Floor 1) clearly relates to the last functional use of the room, but its pristine condition makes one exceedingly cautious in suggesting a century of continual wear. Actually, it is inconceivable that the plastered flooring could have retained its original condition unless it suffered from minimal use. Other bits of evidence (see the Central Roomblock conclusions) suggest that the plaster was a late application (in the early A.D. 1100s) and that the first serviceable floor was nothing more than the soft sand used to partially fill the room after construction. No features were noted in the sand, and pits continued to be absent after the floor was plastered except for the post supports, the fortuitous pits in the floor plaster, and a fire built on the floor near abandonment. Thus, the primary use of the room throughout its life was for storage.

Cultural and ethnobotanical materials were not useful in determining the specific use for which the room was built and used. An abundance of cultural material that fell into the room when the roof was dismantled revealed that a number of diversified activities (e.g., lithic reduction, food preparation, trash discard) took place on the roof or nearby, while the room interior revealed little evidence of use. Cross-dated archeomagnetic dates and ceramics place the floor burn and the influx of material into the room from the roof at about A.D. 1140.

> Room 142 (Figures 2.17-2.23)

Room 142 is a large, rectangular room (820 by 360 cm, 29.5 m²) that, in form and size, is typical of others in the Central Roomblock. In the suite excavated it is the largest room closest to the plaza and is backed to the north by its twin, Room 139. Originally it was 1,130 by 360 cm in size (40.6 m²) but was subdivided to create Room 146. Excavation began in 1977 with the removal of 62 m³ of postoccupational fill, and it was completed in 1978.

Strategy

Initial investigation began with the removal of two north-south test trenches, 1 m wide, and 2 m from the eastern and western ends of the room. These aligned with the preliminary tests in Room 139 to the north and Room 143 to the south. Fill was removed in 20-cm levels and screened until we reached the floor fill of the uppermost floor. Level numbering was matched to levels in Room 139, so that the first unit of fill in Room 142 was Level 5. Nine 20-cm levels (5-13) were removed before we encountered floor fill. Examination of the two trench profiles revealed six major depositional units, which were removed as separate layers.







Figure 2.17. Room 142 and underlying Rooms 50 and 51, east-west profiles. Floors 3-9 were outside surfaces in use prior to the room construction.

Figure 2.18. Room 142 and underlying Rooms 50 and 51, north-south profiles. Floors 3-9 were outside surfaces in use prior to the room construction.



Figure 2.19. Rooms 142 (Floors 1 and 2) and 146 (Floors 1 and 2), plan views.



Figure 2.20. Rooms 142 (Floors 3 and 4) and 146 (Floor 3), and underlying Rooms 50 (Floor 1) and 51 (Floors 1 and 2), plan views. Floors shown for Rooms 142 and 146 predate room construction.



Figure 2.21. Rooms 142 (Floors 6-8) and 146 (Floors 4 and 6), and underlying Rooms 50 (no floor) and 51 (Floor 3), plan views. Floors shown for Rooms 142 and 146 predate room construction.



Figure 2.22. Rooms 142 (Floor 9) and 146 (Floors 8 and 9), plan views. All floors were outside surfaces in use prior to room construction.





Figure 2.23. Room 142, north and south wall elevations.

Е

Only layers consisting of collapsed walls (Layers 1, 3, and 5) were not screened. In TT 1 (Levels 10-12, Layer 5) and TT 3 (Levels 3-4, Layer 6), however, a large number of calcite, argillite, shell, and turquoise inlay pieces (Mathien 1985) prompted intensive 1/16-in. screening of the fill. All roofing adobe from TT 1 and TT 2 was collected for future research in addition to grab samples from other units.

Fill (Figures 2.17-2.18)

The postoccupational fill in Room 142 consisted of three layers of wall fall and three of roof fall, alternately bedded and mounded in the eastern and western ends of the room. At first, the room filled with more than 0.5 m of roof fall and aeolian/alluvial sands (Layer 6). In the eastern half of the room, this was overlain by mounded rubble and roof fall (Layer 5) and roof fall (Layer 4). In the western half of the room, the lower roof fall (Layer 6) was overlain by a second mound of rubble (Layer 3) and yet more roof fall (Layer 2). A final layer of rubble, aeolian sands, and decomposed adobe leveled off the surface of the room with a thick, even deposit. The only developed soil in the room fill was the upper surface of this layer (Layer 1). Altogether, 29.7 m³ of stone were removed from the room above Floor 1.

Layer 1. This was the uppermost layer of collapsed wall mortar and masonry (Plate 2.23). It was thickest along the southern part of the room. In the southwestern corner it represented several short sections of intact wall. Much, if not most, of the rubble apparently originated in the south wall. Smaller deposits of aeolian sand were scattered throughout the layer. Laminated sand deposits separated Layer 1 from those underneath but were removed as Layer 1. This sand was identical to Layer 2 in Room 139.

Layer 2. Next was a deposit of sand and roofing material composed of adobe fragments and small amounts of vegetal material. This formed a mound along the western half of the room and pinched out to the south.

Layer 3. In the western half of the room was an extensive layer of wall stone and reddish mortar similar to that found in Layer 3 in Room 139. It pinched out to the east over Layer 4.

Layer 4. A unit similar to Layer 2 was mounded in the eastern twothirds of the room. Moderate amounts of adobe fragments with strip and shake impressions, probably from shredded juniper bark, and numerous pieces of organic roofing material (rotted juniper?) comprised the mound.

Layer 5. Along the east wall was a small amount of masonry stone and adobe impressions. There was almost no fill between the stone and impressions, which resulted in the greatest density of stone in the room. The characteristics of the mound do not appear natural, and, therefore, deposition by human means is postulated. The layer extended almost to the middle of the room and overlay Layer 6 before disappearing. This deposit and that directly below it yielded about 151 pieces of jewelry inlay (Plate 2.24A) that may have been cached in the roof above the central southern door (Door 7).



Plate 2.23. Postoccupational fill in Room 142, Test Trench 1, west face, south half. Fill is mostly wall and roof fall. 30-cm north arrow. (NPS#14630-14631)

cm

В

A

Plate 2.24. Ornaments from Pueblo Alto. A) Pieces of turquoise, red shale, jet (lignite), and shell (<u>Chamaechinata</u>) inlay from the roof fall (Layers 5 and 6) in Room 142. (NPS#24536) B) Shale, calcite, and shell (<u>Chamaechinata</u>) beads recovered from Layer 15 in Plaza 1, Grid 8, outside of Room 143. (NPS#24530) 3-cm scales.

cm

Layer 6. This layer, 50-60 cm thick, covered Floor 1. It consisted primarily of sand and large chunks of adobe roofing, although there was no scarcity of stone. A few pieces of stone had adobe roofing attached, and some of these rested on the floor. A few chunks of adobe were burned and one exhibited a white (plastered?) surface. Sand in the south center of the room was oxidized, and light to moderate trash was scattered throughout the layer. The density of artifacts was greater in this layer than in any other above Floor 1 and probably represents debris left scattered over the roof at abandonment. Turkey parts were particularly common in the collection, comprising 30 percent of the total bones (Akins 1985a). Ceramics mark deposition during the early A.D. 1100s period.

Floor 1 (Figure 2.19)

The uppermost floor consisted of a thin (5-35 mm), well-plastered, mud veneer that rested upon Floor 2 (Plate 2.25). It was in beautiful condition: a tan, clayey sand smoothed to a gray color. Around the edges of the room it lapped onto the wall plaster. Its nearly pristine condition indicates very little use of the room.

Floor 1 Features. Eight formal features were recorded for Floor 1. None can be presumed to have functioned in association with specific room activities--almost all were components of the room architecture. Six were postholes for roof supports. Four of these were deep cylindrical pits with a stone in the bottom and sometimes shims along the sides. These were arranged linearly across the long axis of the room and all contained the stubs of rotted posts. One, in PH 3, tree-ring dated at A.D. 1016 vv. These posts were originally placed on Floor 2 and continued in use when the floor was replastered (i.e., as Floor 1). Two others, without the basal stone, were located beneath the northern and southern doors and must have held a short post step. The posts had been removed probably at or after abandonment, perhaps for fuel. In addition, OP 1 was thought to have held a small post to support a shelf socketed into the walls. OP 2 was an irregular floor depression that marked a worn spot in the floor, exposing the deposits on Floor 2.

Four areas of the floor were intensively burned (Burns 1-4). Three were overlain by small deposits of charred brush in the floor fill and on the floor. The fourth had been caused by a burning 2-3-cm-diameter timber fragment. The material was not from roofing and could not have been from redeposition. The heat was such that it turned the plaster almost white in the burn center and penetrated well below the floor. Undoubtedly, the event(s) took place at or after abandonment. Archeomagnetic dates from the four suggest a coeval event.

Finally, an extensive smear of caked hematite was spread over the floor near the south wall, west of center. A similar deposit was associated with Floor 4 in Room 146 next door.

Floor 1 Artifacts. Two small hematite fragments associated with the hematite smear were the only articles on the floor. Economic pollen and seeds were likewise scanty (Cully 1985:196; M. Toll 1985:105). Economic



Plate 2.25. Room 142, uppermost floor (Floor 1). Note roof support and door step postholes and floor burns. 50-cm north arrow. (NPS#15806)

pollen from wild plants was absent, but there were low frequencies of corn pollen. The relatively high frequencies of fir pollen on the floor, however, were unusual. Seeds were mostly unburned and came from weedy species, although there were a few fragments of corn and seeds of burned ricegrass.

Floor 2 (Figure 2.19)

Immediately under Floor 1 was a badly deteriorated floor without intervening fill except for a thin ashy deposit in the eastern half of the room. Floor 2 was similar in appearance to Floor 1 in the western part of the room where it was best preserved. The plaster was 10-30 mm thick and lapped onto the wall plaster. This seems to be the initial floor plastering with Floor 1 being a replastering of Floor 2.

Floor 2 Features. The six postholes (PH 1-6) associated with Floor 1 were also associated with Floor 2. All were in place after the deposition of Layer 7 but before Floor 2 was plastered. Four poorly constructed pits were found in Floor 2: a "heating pit" burned only around its outer northern margin and without ash or charcoal in the fill, two 30-40-cm-diameter depressions filled with sterile sand, and a cylindrical pit without a definable bottom. In addition, there were three floor burns similar to those observed on Floor 1. The cause of burning is unknown, although there was some charred brush near Burns 1 and 2. Archeomagnetic dates of these were identical to those garnered from Floor 1, indicating that the burns and probably the abandonment of both floors occurred in a short period of time in which there was little or no shift of the magnetic poles (i.e., less than 20 years; Robert DuBois, personal communication 1979). The actual dates are incorrect, and abandonment probably took place in the early A.D. 1100s.

<u>Floor 2 Artifacts</u>. Few artifacts were found on the floor. There were no ceramics and only one piece of chipped stone and three bones from a jack rabbit, pocket gopher, and loggerhead shrike.

Layer 7

Immediately under Floor 2 was a layer of intentional fill consisting of constructional spalls, clay lumps, manuport gravels, and Red Mesa assemblage cultural material in a tan, sand matrix. It varies considerably in thickness, ranging from 17 cm in the eastern part of the room (over Rooms 50 and 51) to 3 or 4 cm in the western end. Charcoal was rare. This layer is the same as Layer 9 in Room 139 and Layer 3 in Room 138.

In Layer 7, across the western third of the room, is an unused northsouth adobe and stone foundation (WT 2; Plate 2.26) that contained 18 black shale beads incorporated in the adobe. Likewise, the large offset part of the wall foundation separating Room 142 from 146 was flush with the top of Layer 7. Near the bottom of the layer were the first traces of the foundations from underlying Rooms 50 and 51. Finally, a deep trench (WT 1) filled with constructional debris bordered the entire north wall and extended into Room 146 (Plate 2.27). This trench fill contained 38



Plate 2.26. Room 142, Wall Trench 2 just under Floor 2. Trench was an unused wall foundation. 30-cm north arrow. (NPS#16258)



Plate 2.27. Room 142, Floors 2 and 3, northeastern corner. Note litter of construction spalls filling Wall Trench 1 and the tops of Rooms 50 and 51 walls. Wall plaster stopped where it joined Floor 1. 30-cm north arrow. (NPS#16163) bones (only two were burned), including those from the usual species of rabbits and prairie dogs as well as a golden eagle's ulna. Chipped stone debris was also relatively common (23 pieces) along with ceramics from a Red Mesa Black-on-white assemblage dating to the early A.D. 1000s. The trench had been filled and covered with Layer 7 material and apparently immediately preceded the intentional filling and leveling of Room 142 for permanent use.

Layer 8

A thin deposit of trash under Layer 7 in the western half of the room covered Floor 3.

Floor 3 (Figure 2.20, Plate 2.28)

An unprepared, outdoor surface that predates construction of Room 142 was designated Floor 3. Despite its marginal nature, several pits were found in association, which confirm its identification. The level of this surface was the same elevation as Floor 1 in Rooms 50 and 51 and probably marks contemporary use.

Two, burned, basin-shaped heating pits containing Floor 3 Features. carbonized shrub remains were cut by the wall trenches. HP 1 is particularly noteworthy because of its large size (60 cm in diameter, 15 cm deep). Both heating pits and OP 1 contained abundant economic botanical remains, including corn, prickly pear, yucca, and squash (M. Toll 1985: Table 42). Most of the taxa in the two heating pits were burned, whereas none were burned from OP 1. Large, burned pits increased in frequency as excavation progressed deeper. Two pits of a less obvious nature were also exposed: OP 1 was similar in size to HP 1 but was not burned whereas OP 3 was just a shallow, circular pit. Excavation revealed that OP 2 was not a feature. An evenly spaced row of three, small, cylindrical pits (PH 1-3) along the west wall of Room 50 suggested the former presence of upright posts. Two others (PH 4 and 6) at right angles to the main group may mark a small post structure built against Room 50. PH 5 was not a true feature. Contemporary with these features are the two hearths on Floor 3 just outside Room 51 under Room 146.

<u>Floor 3 Artifacts</u>. None were found. OP 1 contained the most material from pit fill, mostly sherds and unburned bone from birds and mammals. Of the 40 bones recovered, one was a golden eagle humerus and one a coyote jaw.

Layer 9

A 5-cm-thick layer of cultural debris, including charcoal flecks and constructional debris of spalls, and adobe and clay lumps, underlay Floor 3 and partly rested upon Floor 4.

Layer 10

The remainder of Floor 4 was covered by a thin 1-2-cm strip of sand and trash.



Plate 2.28. Room 142, Floor 3, with tops of razed walls from Rooms 50 and 51, Wall Trench 2 foundation, and construction spalls filling Wall Trench 1 along north wall exposed. 50-cm north arrow and 2-m board. (NPS#17969)

Floor 4 (Figure 2.20)

This was another poorly defined, pre-Room 142, unprepared, outdoor surface. Again, a number of pits were found in association with the surface, which probably relate to activities concurrent in Rooms 50 and 51. This surface is level with Floor 2 in Room 51.

<u>Floor 4 Features</u>. Four, large, heating pits were evident and a fifth one was designated OP 3 in the field. These were typical of others at the site, except for HP 2, which was a huge (63 cm by 55 cm by 26 cm) adobelined basin (Volume I, Plate 9.11). Two smaller pits (OP 1 and 2) were of unknown function.

Floor 4 Artifacts. No cultural material was found on Floor 4 aside from a number of yucca seeds. Most of the cultural material from pits came from HP 1, which contained 110 bones and a few chipped stones. Most of the bone was unburned and from cottontail rabbits, although there were also five pieces of coyote and one each from a loggerhead shrike and a magpie. A human molar also came from HP 1.

Layer 11

In the southwestern corner between Floors 4 and 5 was a wedge-shaped 3-4-cm-thick slice of trash. It was composed of dense charcoal flecks and numerous artifacts, mostly sherds and faunal remains.

Floor 5 (Figure 2.18)

A triangular, surface remnant in the southwest corner was designated as Floor 5 (Plate 2.29). This feature feathered into Floor 4 and might represent repair of an earlier settling of that surface. Layer 11 material then can be seen as fill to level the slump, with the top becoming the new Floor 4 in common with the older, unslumped section.

Floor 5 Features. None.

Floor 5 Artifacts. None.

Layer 12

Light trash and a little charcoal (5 per 100 cm^2), mixed with constructional debris of spalls and lumps of clay and adobe formed a layer 7-9 cm thick under Floors 4 and 5. This material appeared identical to Layer 1 in Rooms 50 and 51. Stone in the layer is estimated to make up 20 percent of the fill, second only to the quantity in Layer 15 for deposits below Floor 1. Breternitz feels that this is material deposited to level the ground before traffic use (Floors 4 and 5).

Layer 13

A higher concentration of charcoal flecks (50 plus per 100 cm^2) and fewer spalls (5 percent of the total volume) distinguish this trashy fill



Plate 2.29. Room 142, Floor 5 and Layers 7-11 in profile against and under the south wall foundation. (NPS#16519)

from Layer 12 above it. The layer slopes down toward the south like most other deposits below Floor 3 in the western third of the room. Layer 13 covers Floor 6. The top of this layer varied greatly in quality, perhaps from exposure to the elements, and might have served as an outdoor use surface.

Floor 6 (Figure 2.21)

An elusive, 5-mm-thick or less, lamina marked this outdoor surface. Its slope down to the south was considerable, 10 cm lower for just 200 cm of surface. This surface continued through Rooms 50 and 51, although cut by their wall foundations. In Room 51 it experienced additional use from room activities and was designated Floor 3 of Room 51. In Room 50, however, it showed no additional use (e.g., there were no features) and thus was left as Floor 6. Obviously the surface originally served a larger, undefined space before being subdivided by Rooms 50 and 51 and then reused.

Floor 6 Features. Only three small features were recorded for the floor west of Room 50: a single heating pit and two other pits of unknown function. OP 8 of Floor 3 (Room 51), a large clay-lined basin, was cut by a wall foundation and must be associated with Floor 6 and not with Room 51.

Floor 6 Artifacts. None. Two bones and a siliceous chip came from the fill of OP 2.

Layer 14

Directly under Floor 6 were 20-25 cm of relatively clean, light yellowish brown sand with a few spalls and scattered charcoal flecks and fragments (10-25 per 100 cm²). In places where Floors 7 and 8 were discontinuous, this fill continued down to Layer 15. Thus, Layer 14 was subdivided to reflect its relative horizontal position: Layer 14A was above Floor 7, Layer 14B was below Floor 7 and above Floor 8, and Layer 14C was below Floor 8.

Floor 7 (Figure 2.21)

Only small patches remained of this unprepared surface that ran under Rooms 50 and 51 and the south wall foundations of Room 142.

<u>Floor 7 Features</u>. Four features at the same level confirm the existence of Floor 7. Three large pits, two of them oxidized, were situated next to, and partially destroyed by, later wall trenches. A smaller, cylindrical fourth pit, was interpreted as a posthole.

Floor 7 Artifacts. Seven sherds from a Red Mesa assemblage were scattered in Grids 15, 19, 29, and 30. Squash seeds were found in the floor fill and on the floor of Grids 29-31 and 35 while a few bones and one ground stone came from Grids 29-30. Grids 29 and 30 are under Room

51. The nature and spatial arrangement of the material suggest that it was light trash associated with Layer 14A.

Floating Floors 2-3

Just above Floor 8 were small areas of tenuous-use surfaces designated as "floating floors." Just one, Floating Floor 3, under the north wall of Room 51 contained a feature, a partially intact heating pit filled with burned corn cobs.

Floor 8 (Figure 2.21)

About 2-4 cm below Floor 7 was another poorly defined, unprepared surface. Fill from Layer 14B (Layer 14, Level 2 in the field notes) separated the two floors. Like Floor 7, it exhibited patches and strips of slightly darkened, compacted fill of Layer 14. Again, however, several features affirm its reality.

Three areas of the surface contained all nine Floor 8 Features. features. Two heating pits were located in the southwestern corner, three more and a possible posthole with two possible shims (OP 1) clustered in the center of the room, and three heating pits were superimposed in the southeastern corner. The eight heating pits ranged in diameter from 16 to 70 cm and contained sand and burned woody shrubs. All were poorly oxidized, generally just around the edges. Flotation results from HP 1 yielded a few pinyon nutshells, corn, and ricegrass among the economic botanical remains (M. Toll 1985: Table 42). HP 8 was unusual, for it was one of the few at Pueblo Alto using corn cobs as the primary fuel. The equivalent surface in Room 146 (Floor 6) also exhibited numerous heating pits. This surface under Rooms 142 and 146 yielded 12 heating pits (of 13 features) and indicates a special, nondomestic use.

<u>Floor 8 Artifacts</u>. Just two Red Mesa assemblage sherds are listed for Floor 8, although these may belong to Floating Floor 3. If so, there are no artifacts from Floor 8. Numerous corn cobs, a single pinyon shell, and a trace of bones and chipped stones came from just four of the heating pits.

Layer 15

An ll-15-cm-thick deposit of spalls and lumps of yellowish adobe, gray clay, and whitish calcium carbonate in a sand matrix extended well beyond the confines of Room 142. The density of charcoal and artifacts was negligible. However, stone comprised about 50 percent of the layer. Unlike many of the other deposits, this one dipped toward the north. It was overlain by Layer 14C.

Layer 16

Up to a 25-cm thickness of clean sand underlay Layer 15. There were no observable laminae within the layer and, therefore, it is thought to have accumulated very rapidly. Except for a few sherds, there was little cultural debris within the deposit.

Floor 9 (Figure 2.22)

This was another elusive outdoor surface with a few associated pits. The surface subdivides Layer 16 into two identical deposits. Layer 16B and part of Floor 9 rest directly upon sterile fill.

Floor 9 Features. Five large, basin-shaped pits were scattered over the surface. Two were burned or contained burned brush (HP 1 and OP 1). HP 1 had been plastered and burned twice around the edge and yielded the A.D. 980 + 48. The pit earliest archeomagnetic date at Pueblo Alto: extended under the west wall foundation of Room 142. HP $\overline{1}$ differed from most other burned pits in the floors above by the preference for juniper fuel [the preference in others is saltbush or greasewood (Welsh 1979)] and the paucity of burned and unburned seeds. The other pits were all more than 60 cm in diameter and between 15 and 27 cm deep. These exhibited dried clumps of adobe, sometimes with finger marks, on the sides and bottom, (Plate 2.30) or contained lumps of adobe and spalls. Similar large pits were associated with the same surface(s) in Room 146 (Floors 8 and 9) and may represent adobe mixing pits for making construction mortar. Our limited excavations did not reveal a structure for which the mixed adobe might have been used.

Floor 9 Artifacts. None.

Layer 17

Underlying all cultural deposits in this section of excavated rooms was a sterile, dense, highly compacted layer of light yellowish, clayey sand with many white calcium carbonate inclusions throughout. The upper 5-10 cm of the layer were friable, and the large, flat chunks were easily dislodged. Below the top deposit the fill became extremely hard and nearly impossible to break loose with a trowel. This sterile deposit probably extended less than a meter to bedrock.

Walls (Figure 2.23)

<u>Wall Foundations</u>. All foundations, including the unused one (WT 2), appear to have been formed by pouring very wet mortar into a prepared trench along with large and small stone blocks. The northern one is sunk into sterile deposits, while the southern one rests upon it. Both the eastern and western foundations sit well above the southern foundation and sterile fill, 12 and 27 cm, respectively. All cross wall foundations butt the north wall, but only WT 2 is bonded and part of the initial placement of the southern foundation. This indicates that the initial planning was altered after the southern foundation and WT 2 were poured, although the conceived room plan was no smaller than the present one. Bonded foundations indicate that the first executed plan was for a room as wide as Room 142 but stretching from WT 2, on the western side, to the east wall of



Plate 2.30. Room 142, Floor 9, Other Pit 1 sunk into sterile deposits. Note cracked mud in bottom attributed to remains of mixed mortar. 30-cm north arrow. (NPS#16763)

Room 146, on the eastern side, or, roughly, a room similar in size to Room 142 but offset more toward the east. Then the room was made larger with movement of the west wall to its present position, and later a new east wall was added that created Room 146 from part of Room 142.

The discontinuity between pouring the foundations and laying the walls is again obvious. For instance, the west wall overhangs its 30-cm-deep foundation by 6 cm. Conversely, the east wall exhibits a 40-cm-deep foundation that extends out 38 cm and is flush with Floor 2. The meter-wide wall above is flush with only the eastern end of the foundation.

The upper walls reveal a slightly different bonding picture. The east wall, like its foundations, is butted at both ends. A few stones loosely tie it to the north wall on the opposite (e.g. Room 146) side. The west wall foundations are butted at both ends; however, the masonry wall is loosely tied at the southern end and well-bonded to the north wall.

<u>Wall Masonry</u>. All four walls reveal a similar style of masonry that may be considered a variation of Judd's and Hawley's Type 2 style (Plate 2.31). Large, uncoursed ashlars surrounded by masses of small, lenticular spalls characterize the walls. The ashlars are set with their longitudinal, split side flush with the wall facing but are not set in systematic bands, although some attempt at banding is evident. Spalls typically isolate the ashlars from each other. Generally, the wall faces are relatively flush but with many irregularities.

Below Floors 1 and 2 the walls are not plastered but, instead, were covered with gray mortar 2-4 cm thick. In the north wall this mortar is inset with numerous small chinks. At the western end of the north wall this veneer has as many as three layers, which grade into the wall plaster at the Floor 2 level but expand out onto the sterile deposits at the bottom. The nineteen sherd chinks came mostly from three broken pottery vessels: a neckbanded jar, a Red Mesa Black-on-white bowl, and a Newcomb or Burnham Black-on-white jar.

<u>Wall Features</u>. Initially, four vents were set in the high corners of the room to allow for the north-south passage of air. Later, the eastern two became part of Room 146 when that room was formed. Two doors were initially centered in the north and south walls, but, with the addition of Room 146, they now appear offset in the present Room 142. Access to both doors was aided by a post step set just in front and below each opening. The higher, northern door (Door 5) also had a small toehold in the wall just below it to further aid the climb (Plate 2.16). Door 5 was outlined with white gypsum--the only such marking found at Pueblo Alto (Figure 2.23).

Authentic wall niches were not discovered in Room 142. A possible one existed high at the north end of the east wall opposite a possible Room 146 vent. Nine other holes in the north and south walls were attributed to remodeling and were designated viga holes. Two sets of three holes each faced opposite one another across the eastern end of the room (Plate 2.31). Another set of three in the same position mark the north wall at the western end, but do not now have counterparts in the south



Plate 2.31. Room 142, "viga holes" that are probably late modifications to the walls for supporting a room-wide platform. Note Type II masonry veneer. 30-cm scales. A) "Viga Holes" 1-3. (NPS#16684) B) "Viga Holes" 7-9. (NPS#16687)

wall. The south wall at the western end is much lower than the north, and the opposing holes may have been destroyed. Breternitz, however, noted a hole in the south wall opposite Viga Hole 4 but was unsure of its authenticity. Nevertheless, the arrangement of the holes suggests that room-wide platforms were set about 160-200 cm above Floor 1 at both ends of the room, perhaps when Floor 1 was laid. Room-wide platforms were also found in several other greathouses (Lekson 1984:38, 46-48).

<u>Wall Plaster</u>. Tan, unsmoked, mud plaster covered most of the walls above Floor 2. This articulated with the plaster of Floor 2. It was not recorded whether there were multiple plaster coats, although probably a thicker scratch coat joined Floor 2 and a thin, finished coat coped with Floor 1 as in Room 146. Below Floor 2 the walls were not plastered.

Roof

As in the other excavated rooms, there was no direct evidence to show how the roof was constructed and attached to the room. A number of pieces of roofing adobe (n = 185) revealed (Ingbar 1979) some aspects of the materials laid across the presumed beam supports. The conclusions are summarized with the roofing discussion from Room 139 but, in essence, this roof and Room 142's appear similar in construction.

Summary and Conclusions

Unlike its northern neighbor, Room 139, this room revealed a complicated stratigraphic history. The many lower surfaces, in fact, were unrelated to the room occupation. Instead, all were outdoor surfaces associated with earlier use of the area, possibly as early as the late A.D. 900s but certainly, for the most part, in the early A.D. 1000s. Final use of the lower outdoor surfaces terminated with the abandonment of Rooms 50 and 51 that immediately preceded construction of the Central Roomblock and Room 142. With abandonment and razing of Rooms 50 and 51, probably no later than about A.D. 1030 or 1040, a swath of earth was removed directly north of the old rooms to accommodate construction of the new roomblock.

For all of its excavational complexity, Room 142 was actually represented by a mere two floors. Layer 7, just underneath the two floors and the first deposit to be associated with the room, was composed of material generated by the room construction. The sole tree-ring date in situ from the room, from one of the original roof supports, merely places roof construction after A.D. 1016. Originally the room incorporated space now enclosed by Room 146, but sometime around A.D. 1060 or 1070, perhaps, the latter space was lost to another suite.

Except for a smattering of intensely burned spots over both floors and the roof-support holes, there was nothing to recommend use of the room other than for storage. Although the floor burns were evidence of expedient fires, they suggest behavioral oddities associated with floor abandonment rather than the intended long-term use of the space. Evidence from other rooms (see the Central Roomblock conclusions) makes it possible that the floor first used with the room was nothing more than the top of Layer 7. The six archeomagnetic dates taken from the floor burns on the two floors varied by only 15 years and demonstrate not only the precision of the dating (not the accuracy; see Volume I, Chapter 8 and Wolfman 1984) but the seemingly short use of the two floors. At least, the last floor (Floor 1), a replastering of the original plastered floor (Floor 2), was used for only a short period (i.e., a decade or less) whereas Floor 2 may have seen longer service if the burns occurred near the end of its tenure. Despite the problematic duration of floor use, both displayed considerable wear-and-tear.

Trash broadcast over the roofs, presumably generated from roof activities, fell into the room when the roof was dismantled after abandonment. Cross-dated archeomagnetic dates and ceramics place final use of the room floors and roof in the early A.D. 1100s.

Room 143/236 (Figures 2.24-2.30 and 2.36)

Between the plaza and Kiva 10, and the large rooms of the suite, is a long, narrow, corridor room (1,280 by 130 cm, 16.6 m²) designated Room 143 (Plate 2.32). During the last part of its use, the room was divided in half by a jacal wall. After we found this partition, the western half of the room was designated Room 236 (660 by 130 cm, 8.9 m^2) and the eastern half Room 143 (590 by 130 cm, 7.7 m^2). Each section revealed a slightly different but parallel history even though passage within the overall room, although restricted, was never totally blocked off. For this reason the room may be viewed as a single entity throughout its use rather than as two distinct rooms. Excavations were conducted in 1978, but lack of time prevented these from reaching sterile deposits. Floors associated with the room walls and several underlying plaza surfaces were cleared, although correlation of these with the two partitions and the adjoining rooms and the plaza was not always possible. A raised entryway at the eastern end of the room covering all of Grid 13 is considered a separate feature and will be discussed apart from Room 143.

Strategy

The same 1-m-wide north-south test trenches employed for Rooms 139 and 142 were extended across Room 143/236 and excavated in 20-cm levels until a place 10 cm above the uppermost floor was reached. A third test trench across the eastern end of the room began as part of the Room 147 testing until the wall dividing the rooms was discovered. Then the trench continued as a Room 143 trench in the same fashion as the others. Level numbers and depth were matched to those in Rooms 142 and 147 so that the first level removed in Room 143 was Level 5. All trenches stopped just above the Floor 1, reaching Level 11 in TT 1 and 2 and Level 9 in TT 3.

All three test trenches were 1/4-in. screened, as well as the fill for Level 2 of Layer 1 (TT 6) and for all of Layer 2 (roof fall). The remaining fill above Floor 1 (primarily wall rubble) was not screened. Spatial control for cultural material and samples was kept through a


Figure 2.24. Room 143/236, east and west profiles.



Figure 2.25. Room 143/236, north-south profiles.



Figure 2.26. A) Room 143/236, floor plans and the distribution of artifacts (see Table 2.1 for artifact list). Floor 3 in Room 143 and Floor 5 in Room 236 are not associated. Floors 7-8 in Room 143 were outside surfaces in use prior to the room construction.



Figure 2.26. B) Room 143, Floors 4-8, plan view.







Figure 2.27. Room 143/236, wall elevations.

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Figure 2.28. Room 143, Grid 13, Door Step 1, plan and profiles.

PLAN VIEW

North North DDDD Bottom of wall hole Plaster DDDDD Bottom of wall hole DDDD Top of wall PLAZA GRID 8



Figure 2.29. Room 143, juncture of old and new south walls. Break in wall is a probable door. Note the difference in the frequency of ground stones (G) used in the two walls. Thin, tabular stone was used in the old south wall.



Figure 2.30. Room 143. Painted designs on the north wall next to Niche 1.



Plate 2.32. Room 143/236, Floor 1, to right and darkened Room 142 to left. Looking east. (NPS#16858)



Plate 2.33. Room 143/236, uppermost floors (Floor 1). Trench and postholes across room mark former jacal walls. Elevated floor in background is Grid 13. Looking east. (NPS#16857) series of thirteen 1-m-long grids starting at the western end of the room with Grid 1 and terminating with Grid 13 at the eastern end. Because of the narrow width of the room (130 cm), a longitudinal profile of the postoccupational fill was not made. Some problems were encountered in identifying layers and floors because of very wet conditions in the room caused by a roof over Room 142 that directed water into Room 143/236 during the winter of 1977-1978.

Room 143/236

<u>Postoccupational Fill</u> (Figures 2.24-2.25). The fill above Floor 1 in each room was remarkable for its similarity to that above the uppermost floors in all of the excavated Central Roomblock. Wall and roof debris characterized the postoccupational fill (Layers 1 and 2) in the room with practically no trash deposition.

Layer 1. A thick deposit of jumbled wall rubble and mortar with little cultural debris comprised this unit. At the probable contact with the next underlying layer (Layer 2) in the western end of the room were a number of irregular, burned patches that represent expedient secondary reuse of the room for cooking or heating after the roof was gone.

Layer 2. Underneath Layer 1 was a layer of sand interspersed with occasional pieces of roofing adobe and strips of juniper bark. In the western half of the room the layer was a mere 10-15 cm thick but rose sharply in TT 1 to almost a meter thickness. The extreme wetness of the fill prevented detection of more roofing material, if it was in fact present. Trash was relatively abundant in the eastern end of the room in the upper part of Layer 2 and the lower half of Layer 1. This represents a minor episode of refuse deposition probably related to the filling of adjacent Kiva 10 with trash.

Here the notes diverge from the usual format to describe floor and lower fill characteristics for each room.

Room 143

<u>Floor 1</u> (Figure 2.26, Plate 2.33). East of the jacal wall remnant (WT 1) the silver-gray floor consists of 10-15 mm of sandy plaster that laps onto the wall plaster and butts the jacal wall foundation. The edges of the floor thicken to about 40 mm. Numerous patches and worn spots attest to the extensive use of the floor. The main body represents a replastering of Floor 2 and appears to have been rubbed smooth when first laid down. This surface continues as Floor 1 in Room 236.

<u>Floor 1 Features</u>. There were a number of floor features in Room 143 including the raised walkway in Grid 13 at the eastern end, which is described separately below. The jacal wall dividing Room 143 from Room 236 was marked by a 15-27-cm-wide, 7-cm-deep, 130-cm-long trench filled with wall clay, abundant fragments of reeds (3-4 mm in diameter) and twigs, and reed- and twig-impressed adobe. The trench extended down through Floor 3 in Room 143 and Floor 5 in Room 236. In the southeastern

corner against the raised platform was a well-burned, heating pit (HP 3) that had partly oxidized the adjoining wall and floor. Its construction of adobe showed more care than is normal for Pueblo Alto heating pits. Another of similar construction and location in the corner was found west of the jacal wall, in Room 236. In Grid 9 were two well-oxidized floor burns (Burns 3 and 4).

In Grid 10 were a series of small postholes (PH 1-5) aligned northsouth that were once part of a small jacal wall enclosing the eastern end of the room. Lekson felt that this wall complemented the western jacal wall to form a raised platform spanning the room anchored with poles socketed into Wall Niches 2, 3, 5, and 6. Room-wide platforms, possibly for sleeping or storage, are common to many Chaco greathouses (see Lekson 1984:38, 46-48). Just inside the break between the junction of the old and new sections of the south room wall was a large posthole (PH 6). Although a finished door could not be identified as the cause of the break, almost certainly the posthole position marks a former post step for access through the break in the south wall. Directly across from PH 6 in the plaza, against the opposite side of the wall, was another pit (OP 1 of Plaza Grid 8) that undoubtedly held another post step.

<u>Floor 1 Artifacts.</u> None. Flotation remains yielded a variety of charred economic remains, particularly in Grid 7, the location of Floor Burn 3. Most of these remains probably can be attributed to the impromptu use of the fire that caused the floor burn. Although there was an overall diversity of wild and cultivated plant remains present in the room, they were not abundant and were often absent in some grids and features (M. Toll 1985). Corn pollen and fragments of cobs were present in Grid 12, and particularly interesting was the abundance of fir (<u>Abies</u> sp.) pollen in the grid (Cully 1985:196).

Layer 3. Separating the two upper floors was 1-2 cm of clean sand, probably used to level irregularities in Floor 2 before replastering.

<u>Floor 2</u> (Figure 2.26). Another 15-20-mm-thick layer of tan plaster covered the room. This layer articulated with the raised platform in Grid 13 and overlapped the final wall plaster application. On the basis of depth and pit frequency, we concluded that this surface was used concurrently with Floor 4 in Room 236.

Floor 2 Features. There are a number of features associated with the floor, primarily problematical pits and heating pits. Five of the latter cluster in the east central part of the floor. Because they are tightly clustered and in some cases superimposed, they may represent a series of noncontemporaneous uses. The Floor 1 jacal wall (WT 1) and Heating Pit 3 originated on this floor and continued in use after Floor 2 was resurfaced. It is possible, but uncertain, that the jacal wall actually originated with Floor 3. Flotation results revealed that several pits (HP 1, HP 2 and OP 1) contained pinyon nut shells and a variety of unburned seeds (M. Toll 1985). OP 1 contained the widest variety of economic taxa, including beeweed, ricegrass, pigweed, goosefoot, mustard, purslane, and ground cherry.

Floor 2 Artifacts. None.

Layer 4. This was another 1-2 cm of clean sand separating Floors 2 and 3. Because Floor 3 was flat, the deposit was not necessary to level the room before replastering. Instead, it may represent a short occupational hiatus or be related to use of the floor.

<u>Floors 3 and 4</u> (Figure 2.26). These were poorly defined use surfaces in the sand fill between Floors 2 and 6. A slight, silver-gray/white discoloration, caused by water and rootlets, denote areas of use. In the eastern end of the room the two floors merge as one but are separated by Layer 5 in the west. Floor 3 was continuous with Floor 5 in Room 236, and hereafter the lower floors, continuous throughout Room 143/236, are described under Room 143.

Floor 3 and 4 Features. Only three features were found on Floor 3 and none on Floor 4. Two small pits and a large heating pit containing some trash were positioned in the same area as the overlying cluster of heating pits on Floor 2. This suggests a spatial continuity of similar floor activities for Floors 2 and 3.

Floor 3 and 4 Artifacts. None.

Layer 5. Because of the sloping nature of Floor 4, this fill of relatively clean sand probably was needed to level the surface just before construction of Floor 3.

Layers 6-8. Under Floors 3/4 at the eastern end of the room was the familiar deposit of clean sand (Layer 6), followed by sandy fill speckled with charcoal flecks (20-35 per 100 cm²) and light trash (Layer 7), and underlain by an accumulation of spalls and small lumps of clay from building debris (Layer 8). Altogether, the three layers were about 3 cm deep.

Layer 9. In the western half of the room a layer of clean sand (Layer 9) separated Floors 4 and 5. Layer 9 was similar in composition to Layers 6 and 10 and may be interdigitated with them.

<u>Floor 5</u> (Figure 2.26). Under Layer 9 was a strip of tan plaster, 3-5 cm thick, that extended a short distance west from the raised Grid 13 platform and then disappeared. No use surface was evident beyond the end of the plaster, although one might be expected between Layers 7 and 8.

<u>Floor 5 Features</u>. A small pit and two floor burns were the only features associated with Floor 5. The paucity of features and discontinuous nature of the floor suggest one of little use. A number of rodent burrows occurred in the same areas of Floors 4 and 5 directly under the position of the upper floor platform. If the area below the platform was enclosed (i.e., by jacal walls), it would have provided a perfect haven for mice even during the room occupation.

Floor 5 Artifacts. None.

Layer 10. About a 10-cm-thick blanket of clean sand underlay Floor 5, but this merged with the construction debris of Layer 8 in the eastern half of the room. Both Layers 8 and 10 rested upon Floor 6.

<u>Floor 6</u> (Figure 2.26, Plate 2.34). The first functional floor for Room 143 (underlying Room 236 as well) was a 20-30-mm-thick coating of tan plaster. Where it merged with the wall plaster on the north and south walls it was up to 70 mm thick. In Grids 8 and 9 were numerous long, shallow (5-mm-deep) grooves scratched at random in the floor plaster. Possibly these were made by a digging stick or some other sharp-pointed tool. In addition to the scratches, Grids 8 through 10 were dimpled with small depressions of unknown function (Plate 2.35). These bore a close resemblance to those exposed in Surface 5 of Plaza 1, Grid 302. A 20-mmthick deposit of gray clay covered the plaster in part of Grid 10.

Floor 6 Features. Just three small pits of unknown function occurred on the floor, otherwise the floor apparently saw limited use.

Floor 6 Artifacts. None.

Layer 11. A deposit of relatively clean sand, about 1-4 cm thick, separating Floors 6 and 7.

Layer 12. A layer identical to Layer 11, but separating Floors 7 and 8, extended under the room walls. Its average thickness was about 10 cm.

Floors 7 and 8 (Figure 2.26). These were two layers of gray clay, 1-5 mm thick, applied(?) in a very plastic condition over clean sand. The rigidity and thinness of the floors and the numerous pristine clay ridges argue against use of the floors. They were unable to withstand any human traffic as we quickly discovered during excavation. Both floors appear to bond with the north wall and the older section of the south wall but do not lap onto the masonry. The west room wall rests upon Floor 7. Lekson feels that the initial construction of Kiva 10 coincided with or came shortly after placement of Floors 7 and 8.

<u>Floors 7 and 8 Features</u>. A small pit, possibly a posthole, was uncovered in the southeastern corner of Floor 7. Directly under Floor 8 the initial upper walls of Kiva 10 and the razed walls of Rooms 50 and 51 first appeared (Plate 2.3). Also, an east wall foundation of the early construction of Room 143 was uncovered. This bonds with the northern foundation and the older section of the south wall foundation. Apparently, an east wall enclosing the early section of the room was never built, which permitted direct access into Kiva 10 from Room 143.

<u>Floors 7 and 8 Artifacts</u>. In Grids 8 and 9, on Floor 7, were several well-preserved impressions of a bundle of reeds or similar material. They extended up to 130 cm in length and 1 cm in diameter. Otherwise, cultural material was limited to just five sherds from Floor 8.

Layer 13. Separating Floors 8 and 9 was a deposit of clean sand up to 18 cm thick and identical to Layers 11 and 12. As with most of these



- Plate 2.34. Room 143, Floor 6, southeastern corner. Note Wall Trench 1 against south wall and the two falt stones, above the 30-cm north arrow, marking the initial Kiva 10 wall. (NPS#17645)
- Plate 2.35. Room 143, Floor 6, Grids 8-10. Odd indentations in the floor. Compare with those found in Plaza 1, Grid 302 (Plate 3.49). 30-cm north arrow. (NPS#17633)

sandy layers, it was unknown if this represents redeposition by human or natural elements, although the latter is a strong possibility. This was the same deposit designated Layer 12 in Plaza Grid 8.

Layer 14. A layer of sand and trash without an ashy hue comprises this fill overlying Floor 9. Its relative depth (1 cm) and the density of trash suggest a correspondence with Layer 14 in Plaza Grid 8.

<u>Floor 9.</u> This was a 12-cm-thick layer of dark gray clay formed before construction of the walls, and was probably part of Floor 9 in Plaza Grid 8 and Floor 6 in Rooms 142 and 146. It most likely was associated with the occupation of Rooms 50 and 51. Only the fill in Grids 1 and 2 was cleared from this floor in Room 143.

<u>Floor 10</u>. A small (40 by 95 cm) test in the northwestern corner of Grid $\overline{1}$ exposed another gray clay, plaza surface of unknown thickness. This was not followed beyond the limits of the test pit, and, undoubtedly, other outdoor surfaces exist below it.

Room 236

Unlike previous room strategies, fill between floors and surfaces was designated "floor fill" of the floors directly underneath without accompanying layer-identification numbers.

The jacal wall that separated Room 143 from Room 236 originated with Floor 2 of Room 143. The trench for this wall, however, went deeper than Floor 2 separating floors and units of deposition common to both rooms.

<u>Floor 1</u> (Figure 2.26). This represents the last use of Room 236, like its counterpart in Room 143. The floor was formed by a layer of tan plaster, 5-50-mm thick, thickest where it lapped onto the enclosing masonry walls.

<u>Floor 1 Features</u>. As in Room 143, there was a well-prepared, adobe-lined, heating pit (HP 2) in the southeastern corner (Volume I, Plate 9.7). It was highly oxidized and may have functioned as a firepit. Just to the west was a masonry step under Door 14 in the south wall. OP 1 was located in the southwestern corner, and there were two extensive burns in the center of the room from fires built on the floor. Associated with Floor Burn 1 was a small, irregularly-shaped pit that was unburned. Despite its designation as a heating pit (HP 1), it probably was not a formal feature. The surrounding burn had been produced by a very hot fire that penetrated 20 mm into the floor and reached Floor 3. No cause was evident for the burn.

Floor 1 Artifacts (Table 2.1). Just three artifacts (a turquoise fragment, a metate fragment, and a mano) were in contact with the floor, but all appear to be postoccupational material associated with a pile of stones that extended into the fill. All came from Grids 4 and 5 (the area of the extensive floor burn). A composite pollen sample from Grids 1, 3, and 5 revealed the presence of corn, sagebrush, and a high frequency of fir (Abies sp.) in the room (Cully 1985:196).

Table 2.1. Room 142, Room 143/236, and Room 145, floor artifacts.

Room 142, Floor 1:

Artifact No.	Artifact Type	Lithic Material Type	FS No.
1	Mano	2000 (sandstone)	2812
2	Shaped slab	2000 (sandstone)	2811
3	Mano fragment	2000 (sandstone)	1813

Room 143/236, Floor 1:^a

Artifact No.	Artifact Type	Lithic Material Type	FS No.
1	Turquoise (modified)	5300 (turquoise)	6797
2	Metate fragment	2000 (sandstone)	6881
3	Mano	2000 (sandstone)	6882

Room 236, Floor 3:

Artifact No.	Artifact Type	Lithic Material Type	FS No.
1	Active abrader	2000 (sandstone)	6825

Room 145, Floor 1:b

Artifact No.	Artifact Type	Lithic Material Type	FS No.
1	Anvil	2000 (sandstone)	2205
2	Hammerstone/abrader	2000 (sandstone)	2206

^aSee distributions in Figure 2.26. ^bSee distributions in Figure 2.11.

<u>Floor 2</u>. An even, light gray surface directly underlying Floor 1 was present only in the eastern half of the room. McKenna feels that this floor was nonoccupational and merely a step in the construction of Floor 1.

Floor 2 Features. None.

Floor 2 Artifacts. A single unclassified sherd was found on the floor.

<u>Floor 3</u> (Figure 2.26). There was almost no fill other than a 5-10-mm layer of clean sand separating Floors 2 and 3 near the two doors and in the southeastern corner. Like Floor 2, this floor might be considered a constructional phase of Floor 1. No equivalent floor existed in this room's counterpart, Room 143.

<u>Floor 3 Features</u>. HP 2, first observed on Floor 1, may have originated with the use of Floor 3. Step 2, which was constructed on the Floor 4 level to provide access through Door 14, continued in use with Floor 3. Three other pits of unknown function were found in the western half of the room. Under the 5-10-mm-thick sandy floor in the southwestern corner, one of these (OP 3) was filled with clay and stone of unknown use (Volume I, Plate 9.13) and designated a Wolky Feature.

<u>Floor 3 Artifacts</u>. A single piece of chipped stone and an abrader came off the floor.

Floor 4 Floor Fill. A layer of clean sand up to 10 cm thick separated Floors 3 and 4.

<u>Floor 4</u> (Figure 2.26, Plate 2.36). This is thought to be the initial, prepared floor for Room 236. It exhibited a number (3-5) of poorly defined patching episodes and the surface was marked by gray ash. The plastering was between 5 and 10 mm thick. Intensive use of the floor is indicated by the frequency of features and floor-patching episodes. There was a corresponding intense use of Room 143 (Floor 2) at probably this same time when the two sections of the room were first divided by the jacal wall.

<u>Floor 4 Features</u>. Step 2 was constructed on this floor, although it is not known if an earlier (post?) step might have preceded it (i.e, Step 2 was not dismantled). The initial use of the southeastern corner is defined by an adobe and slab firepit (FP 1), which was later modified into HP 2 (Floor 1). A number of heating and other pits cluster in the center of the room as well as two ceiling-support postholes along the room's center line. Two floor grooves at the western end of the room (Feature 1) mark a possible slab storage bin or pen location. At the eastern end, a series of small postholes (PH 3-5) next to WT 1 show that the original dividing wall between Room 143 and 236 was buttressed on one side by a series of posts.



Plate 2.36. Room 236, Floor 4, Grids 1-7, looking west. Postholes in foreground mark former jacal wall. Note Step 2 access to Door 14 and plaza. Nancy Akins in background. 30-cm north arrow in front of roof support posthole. (NPS#17730)

<u>Floor 4 Artifacts</u>. With the suspected intensified use of the room on the basis of feature frequency, there was also an increase in material culture. Several small bones, chipped stone, and a Gallup sherd assemblage had been left scattered at the eastern end of the floor. The western end was dominated by bits of eggshell around Feature 1 (a turkey pen?), and numerous, unburned, squash seeds were found next to FP 1 and HP 1. Near the room's center was a metate fragment and a hematite paintstone, and at the western end was a black stone bead. Both turkey domestication and seed parching might be suspected from the evidence. McKenna found a mass of deep scratches in the floor around PH 1, as if something had been dangled from the post (McKenna whimsically suggests the marks came from a hanging deer with its antlers dragging on the floor).

Ethnobotanical remains were also common on the floor and in features (M. Toll 1985). Among the economic taxa were pinyon nut shells and juniper and charred saltbush fruits. HP 1 and FP 1 yielded a substantial number of charred, economic seeds that were also recovered from the floor. Together the two burned pits yielded a far greater number of burned taxa than was recorded for the two heating pits on the same floor (Floor 2) in Room 143.

<u>Floor 5 Floor Fill</u>. A thin, intermittent layer of clean sand separated parts of Floor 4 from Floor 5. This material may be naturally deposited and may mark a period of inactivity for the room.

<u>Floor 5</u> (Figure 2.26). McKenna believed that this was either an unprepared surface with spots of pink floor plaster or a badly worn initial floor for Room 236. If the latter is correct, then Floor 4 becomes one of numerous replasterings of Floor 5. Either way, the absence of features on Floor 5 indicates a lack of continuity in room use. The lack of features and poor preparation of the floor suggest an informal, compacted, use surface of little importance that was followed by more formal and intensely used floors. Floor 5 was a continuation of Floor 3 in Room 143 and not a separate surface of use.

Floor 5 Features. None.

Floor 5 Artifacts. A small, ashy concentration, possibly a hearth dump, was found north of where Step 2 was later built, but it contained the only Floor 5 artifacts (four sherds).

Below Floor 5, floors and units of deposition revert to descriptions under Room 143.

Room 143, Grid 13

At the eastern end of Room 143 the floor was raised 15-20 cm above the main Floor 1 (Plates 2.37-2.38). The elevated area (140 by 134 cm) is located within the major walls enclosing Room 143/236 and conveniently matched our arbitrary floor grid system. Thus, its designation as Grid 13. The primary function of the room appears to have been as a vestibule between Rooms 143 and 147 and Kiva 10. The fill above Floor 1 of Grid 13



Plate 2.37. Room 143, Floor 1, Grid 13, looking east. Elevated walkway between Room 147 and the roof of Kiva 10 to right. Wall plaster removed on left to examine murals. 30-cm north arrow. (NPS#17642)



Plate 2.38. Room 143, Floor 1, Grid 13, looking west. Elevated walkway between Room 147 and the roof of Kiva 10. Door 12 (right) connected with Room 147, and Door 13 (left) led to the roof of Kiva 10. 30-cm north arrow. (NPS#17641)

is that described for Room 143/236 (see above). Due to a severe restraint on time, excavation below Floor 2 was not done except for two subfloor tests. Features were designated in sequence with others found in the main room.

<u>Floor 1</u> (Figure 2.36). Identical to the uppermost floor in Room 143/ 236, this one was well-plastered with gray, sandy mud, 2-4 cm thick. It smoothly integrates into the wall plaster, covers the Door 13 steps and the Door 12 sill, and goes down the western face of the elevated walkway into the main chamber where it ties to the floor plaster in Grid 12. The central area of the floor is thinner as Toll believes should be expected in a high-traffic area.

<u>Floor 1 Features</u>. Adjacent to Door 13 (behind Kiva 10) were two low steps (Step 1) constructed of discarded stone tools and burned and unburned sandstone (Figure 2.28). The height of the steps corresponds to the raised, secondary sill in Door 13.

<u>Floor 1 Artifacts</u>. A fleck of turquoise and four sherds came off the floor.

Layer 3. This layer of sand under Floor 1 was identical to that in Room 143.

Floor 2 (Figure 2.36). Another well-plastered floor, 1-2 cm thick, covered the area. It may be contemporaneous with Floor 2 in Room 143. Floor 3 in the main chamber extends under the platform, which indicates the platform was built after Floor 3 was set.

<u>Floor 2 Features</u>. Under Step 1 and contiguous with Floor 2 was a post step, 27 cm in diameter, that tree-ring dated at A.D. 911vv. Even if we allow for great ring loss, which its appearance denied, the ponderosa pine post was probably reused. The top of the post, nearly at the level of the elevated door sill, made it impractical as a step (Figure 2.28). Its position dictates a step function that could only be practical if one were stepping to a position higher than the door sill. The direct access to Kiva 10 from this position may point to ascent to an elevated kiva roof higher than Door 13's sill or to the Central Roomblock roofs.

There was also a small pit and an associated floor burn in the southeastern corner that went with an undiscernible surface under Floor 1 but above Floor 2. Perhaps this surface was a minor replastering of the corner. Two other pits in the northeastern corner were finally determined to be from initial clearing of the room by laborers.

Floor 2 Artifacts. A number of perishable items were scattered on the floor under Door 12: a probable squash rind, a pinyon nut shell, and a number of small sticks. The remaining area yielded a turquoise fleck and three sherds.

Subfloor Tests. Tests in the northeast (25 by 25 cm) and southwestern (30 by 20 cm) corners went down 50 and 53 cm, respectively. These revealed a number of additional layers and surfaces as well as possible constructional debris and Red Mesa sherds at the bottom. These deposits and surfaces undoubtedly match those defined under Room 143.

<u>Walls</u> (Figure 2.27). Walls in Room 143 revealed a complex history of planning, construction, refurbishing, and plastering.

<u>Wall Foundations</u>. The earliest foundations lay under the north wall and the old section of the south wall that were joined by a cross wall at the eastern end. The latter wall aligned with the cross wall dividing Rooms 142 and 146. The cross-wall foundation in Room 143, although poured simultaneously with the northern and southern sections, was never built on. Like many others, these three foundations were formed by pouring gray, shale-clay mortar interspersed with irregularly shaped, hard chunks of sandstone into round-bottomed trenches. This work coincided with the use of Floors 7 and 8 (Floors 6 and 7 in Plaza 1, Grid 8) or just before.

The eastern cross-wall foundation was 35 cm wide but narrowed to 30 cm width at 25 cm depth. Excavation ceased before the bottom of the foundation could be exposed. A small pit, 10 cm in diameter and filled with sand, had been centrally placed in the top of the foundation 8 cm from the north wall foundation and had been covered by plaster from Floors 7 and 8.

After Floor 6 was created, the west-wall foundation was poured. The western foundation extended down to Floor 7 but spilled slightly over Floor 6 to pinpoint its period of construction. Floor 4 in Room 236, however, was the first floor to articulate with the western foundation. Thus, for a time, the room was not enclosed to the east and extended further west than at present, yet there was no indication that the space was formally used until later walls were built. Room space was shifted east when the original functional floor of the room (Floor 6) was built.

The new, south-wall foundation butted against the older part and crossed over the original Kiva 10 walls on Floor 6. It is not certain when the new section was added to extend the closure of the room east, but it must have been late, to judge from the masonry. The new, eastern foundation appeared to also extend down to Floors 7 and 8, although present thinking places its construction coeval with Floor 6 or later.

The wall foundation bordering the northern side of Grid 13 probably was built at the same time as the new east wall, although little is known of it because deep excavation was not done on either side of the wall.

<u>Wall Masonry</u>. The two earliest walls exhibit the finest craftsmanship. The north wall is almost entirely composed of very hard, thin (1-2-cm) spalls (6-12 cm long) with chipped or rounded edges and occasionally interspersed with larger stones (Volume I, Plate 6.4) that are much longer (up to 75 cm) but proportionally still thin (2-5 cm). Relatively little mortar shows between the stones. There is a sense of banding of

the larger stones that terminates into spall work after a meter or so. Grinding of the exposed stone was rare.

A segment of north wall jutted east past Room 146 that was incorporated as the western side of later Door 12 for Room 147. The opposite side of the room (the old south wall) revealed similar construction but with greater variability in craftsmanship. Courses were uneven, and there was a greater use of larger, thicker blocks set in poorly banded patterns (Plate 2.39). Overall, the south facing was poorly aligned and not nearly as flush as the northern construction. Spalls were still abundant in the south wall, and few stones exhibited grinding. The eastern end of the old south wall, however, was beautifully finished with spalls where the newer section butted against it (Figure 2.29).

The appearance of the north and south wall constructions suggests that a similar design pattern was being followed but carried out with differing degrees of skill. We assume that the walls were built simultaneously because the foundations were poured as one, but it is conceivable that the south wall was built slightly later. The narrowness of the room would require only one wall to be built at a time (i.e., the northern wall to be built first before the southern one could be started).

The construction style for the west wall was very similar to the old south wall (Plate 2.40), which may indicate a similar period of construction. We know that functional use of the room did not take place until the west wall was built, and it is not inconceivable that, despite the different ages of the southern and western foundations, the walls went up at approximately the same time. Placement of the west wall slightly blocked the ventilator in the north wall but did not inhibit the latter's function.

The remaining room walls were clearly later additions as indicated by foundation depths, masonry styles, and abutments. The newer, south wall butts the older and was offset from it along the plaza side by 14-16 cm. Inside the room the two south-wall sections are flush, as might be expected if the concern was for the interior rather than exterior facing. The new south wall is 46-48 cm thick whereas its older namesake was only 32-36 cm thick. Construction of the new wall required the predominant use of large, soft tan blocks of sandstone (5-10 cm thick) with little uniformity in size, although typically larger than their counterparts in the old walls (Plates 2.41-2.42). An attempt at banded courses is evident but poorly executed. Grinding the exposed faces of the large blocks was typical. There was still a profuse use of spalls, but these were larger and squarer than in the older walls. The new south wall continues east to front other room suites.

Room 147 was built late by enclosing the former plaza space with a wall of soft, uncoursed, stone blocks that formed the north wall of Room 143 in Grid 13 (see the Room 147 notes) east of Door 12. The style is indicative of early A.D. 1100s construction. After or at the same time this wall was built, the east wall beside Grid 13 was built. It, too, was of soft, poorly coursed, ground blocks and spalls, similar to the south wall.



Plate 2.39. Room 123, south wall, above Grid 4. 15-cm scale. (NPS#17837)



Plate 2.40. Room 143, west wall. 15-cm scale. (NPS#17901)



Plate 2.41. Room 143, interior face of the south wall. Note the change in the masonry veneer between the old (right) and new (left) sections. (NPS#17856)



Plate 2.42. Room 143, exterior face of the south wall. Note the change in the masonry veneer between the old (left) and new (right) sections. The large gap between the two sections was probably an entry (Door 15). 15-cm scale. (NPS#17902)

The east-wall core tied to the Room 147 wall core, but the veneer butted against the north wall and extended 15 cm deeper. The east wall butted against the south wall.

Another cross wall was placed at the western end of Grid 13 as part of the process to elevate the entry walkway between Kiva 10 and Room 147. It was footed on Floor 2 in the main chamber (Room 143) and also consisted of masonry similar to the east wall (i.e., soft blocks in abundant mortar). The wall creates a step-up of 20 cm from the main chamber to Grid 13, although the southern end of the wall rises another 20 cm.

<u>Wall Plaster</u>. A complicated history of wall plastering and patching was evident for the room. Up to seven coats of plaster were applied in some areas, apparently starting as early as first room use, in contrast to the probably late, initial plastering of the storage rooms behind Room 143/236. Some of the multiple coats may have been patching episodes rather than an overall room refurbishing. Floor 6 coped up to the initial, thick, scratch coat that covered the early north and south walls. There is a discrepancy in the field notes, however, that also state that the wall plaster terminates at the Floor 4 (Room 236) level.

The south wall held multiple coats that began with a base of pink (5YR8/4) plaster, followed by a layer or two of whitewash and by three outer coats of pink plaster that had been smoke-blackened by cooking fires along the wall (e.g., HP 2 on Floor 1; FP 1 on Floor 4 of Room 236). Overall thickness in places was up to 3 cm. The two coats under the outermost layer revealed traces of whitewash above the Door 14 opening to the plaza that may have aided egress at night. A better-preserved, whitewashed, door outline was present around Door 5 in Room 142, along the same axis as Door 14. Toward the eastern end of the old south wall the plaster diminished to a single, tan coat, 5-16 mm thick. Three thin coats, a total of 12-15 mm thick, of plaster covered the newer, south wall interior. A grayish pink (2 mm thick) was the initial application, followed by a whitewashed pink (5 mm) and a sooted pink outer coat (6 mm). The latter was burned over an area 17 by 10 cm near its base above Grid 11. Plaster on the newer south wall remained only above the uppermost flooring so it could not be tied to a specific occupational surface.

Plaster covering the north wall revealed the greatest variability in color and number. West of Door 7, only patches of a single, tan coat, with traces of whitewash, existed. Although there is some evidence for the plaster to have been applied with Floor 4, most of the heavy applications merged with Floors 1 and 2. East of Door 7 were a number of plaster coats and several painted, yellow figures (Figures 2.30-2.31; Appendix MF-A). At least four coats (a total of 13-15 mm thick) were found adjacent to the door with the initial coat, pink in color and whitewashed, followed by another pink, a white, and a final pink coat. At least two other coats in addition to the four just described were found badly eroded farther east between Niche 1 and Vent 13.

The easternmost cross wall bordering Grid 13 revealed up to three thick coats of plaster (28, 6, and 6 mm) that tied to the upper two floors



Figure 2.31. Room 143. Painted designs on the north wall between Niche 1 and Vent 13.

and were thickly applied to round out the wall corners. The adjacent north wall revealed a continuation of the multiple plasterings extending east from Door 7 to Door 12, but (between Door 12 and the east wall) had mostly two thick coats. The short wall elevating the Grid 13 walkway also was plastered with an unknown number of tan coats. The west wall had only a single coat of pink plaster, 1-3 mm thick.

<u>Wall Features</u>. Ten wall niches were found and more might be found if the plaster were removed. Irregular sides and walls of the cavities, apparently created by removing wall stones, suggest all niches were post-wall construction. Two pairs (N 2-3, N 5-6) across from one another and located between two jacal walls probably held small poles for a raised platform built during use of Floor 1. The remainder may have served to store small articles, except for N 10. Some (N 4, 8, and 9) may simply have been gaps in the wall veneer and did not see cultural use. N 8 and N 9, for instance, were filled with wall plaster, perhaps as wall repair. Few of the niches could be specifically tied to a particular floor.

Niche 10, with a capacity of 35 liters, was the largest cavity and would have been the most suitable for storage. It had been filled with structural material (burned and unburned stone, beam-impressed adobe stuck on stones) apparently from a razed or deteriorating building. The bottom of the niche and the sides were plastered to form a smooth lip, but the interior was left unmodified. Stone plugged the niche, and then it had been plastered over with 2-5 cm of plaster.

Two wall ventilators were found in the north wall along the axis with others extending north-south through the suite. The westernmost was partly blocked by the west wall and had been partly filled with masonry during stabilization work. The other vent (V 13) had been modified with an adobe collar to allow closure from inside Room 146. Two more may have pierced the wall separating Grid 13 from Room 147 but had disappeared during the construction of Door 12 and Niche 4 for Room 147 and from wall collapse. No ventilators existed in the south wall, but if they had been consistently placed high, as it seemed, then the deterioration of the south wall would have left no trace of them.

Four doors provided access through the room. Two (Doors 7 and 14) were centrally located along the axis of those continuing through Rooms 142 and 139 behind Room 143/236. A younger set (Doors 12 and 13) enabled passage between Kiva 10 and Room 147 through Room 143/236 (Plate 2.38). A fifth door allowed movement between the plaza and the eastern half of Room 143/236 at the juncture of the two south walls (Plate 2.42) after earlier outdoor access had been curtailed by the addition of the new room walls.

Summary and Conclusions

Room 143/236 revealed a complicated history of use. The area incorporated within the room shifted through time but always remained a narrowly confined corridor exhibiting a variety of features, cultural debris, and economic ethnobotanical remains that suggest domestic activities. Despite attributes marking habitation use of the room, the clumps of fir

pollen, paucity of economic ethnobotanical remains and storage features, and the restricted elbow space in the room mark an area of specialized activities rather than of normal habitation. Outdoor surfaces and rooms predating Room 143/236 were found below Floor 6.

For much of its life the room was dichotomized into two areas that contained similar features suggesting separate but equal functions. Tn addition, the eastern end had been elevated to provide direct access between Kiva 10 and Room 147. The remainder of Room 143 was subdivided by a jacal wall after the initial room construction. Door access linked the western half of the room with the plaza and several storage rooms, while the eastern half connected to the plaza, Kiva 10, Room 147 (a probable ceremonial room), and Room 146 (a storage room). For part of the life of Room 143, however, the eastern half was not enclosed at the eastern end but opened behind Kiva 10 before Kiva 10 was rebuilt and the elevated walkway added. Space common to both halves was shared in the adjacent plaza and probably in Kiva 10. The common Room 143/236 space was only partly severed in the early A.D. 1100s when a room-wide platform was added that still allowed communication and nimble access to both halves. This access suggests use of both suites by the same room inhabitants. Clearly the arrangement was not typical of habitation suites but, instead, reflects space allocated primarily to storage and ceremonial purposes. Overall use of the room probably spanned the period between A.D. 1020/1040and 1140.

Room 145 (Figures 2.10-2.13)

Room 145 was one of only two rooms selected for excavation during the first field season at Pueblo Alto because of its position and elevation within the primary houseblock (see Volume I, Chapter 3). It was formed when Room 139 was subdivided. Room 145 was 357 by 247 cm in size (8.8 m^2).

Strategy

To describe and map the stratigraphy of the room fill, the room was divided into four quadrants of approximately equal size by center lines bisecting each of the four walls. To facilitate removal of the fill to the north outside the ruin, the southwestern quadrant was chosen as the initial test and served in this capacity until the uppermost floor was The test-pit quadrant was removed in 13 levels of 20 cm each. reached. The fill from the remaining quadrants was removed in the eight major depositional units defined in the initial test profiles. All fill was screened, although the rubble fill (Layers 1, 2, 4, and 6) was passed through 1-in. mesh. Stone from the fill was set in cairns to the north of the room to aid in calculating the original wall heights. The nail datum at the top of the southwestern corner of the room became the main site datum, and all depths throughout the site were calculated from this point.

When the initial test continued below Floor 1, an additional three levels were removed before reaching Floor 2. After profiling, these were redefined as Layers 9 through 11. A subfloor test under Floor 2 resulted in the removal of four more 20-cm levels (Levels 17-20) that were all sterile (Layer 12). The following year, all work below Floor 1 was considered part of Room 139.

Fill (Figure 2.10)

The postoccupational fill was relatively uncomplicated and consisted primarily of the natural deposition of windblown sand and the deterioration of roof and walls. Trash was sparse and was noted primarily, along with an increase in charcoal density, in layers of roofing, particularly in that just above the floor.

Layer 1. The uppermost, loosely compacted topsoil was designated Layer 1 although it essentially was part of Layer 2.

Layer 2. The uppermost fill in the room (including Layer 1) consisted of a 40-80-cm-thick deposit of wall rubble interspersed with small lenses of clean sand.

Layer 3. Three major areas of clean, aeolian sand, 1-40 cm thick, filled the low areas in the top of Layer 4. This represents a hiatus in the architectural deterioration of the room.

Layer 4. This was another episode of wall fall that concentrated mostly in the southern half of the room except for a small area in the southwestern corner. The matrix was similar to Layer 2 but contained more aeolian/alluvial sand, signifying a slower rate of accumulation. It reached a maximum depth of 70 cm and probably derived from the south and west walls.

Layer 5. The entire northern half of the room was covered by sand, woody vegetal strips (presumably juniper bark), and adobe roofing fragments that reached a maximum depth of 60 cm. The origins of the sand were unclear but it might have been part of the structural roof. This deposit suggests that the northern half of the roof was the last to collapse after considerable room in-filling.

Layer 6. In the northwestern corner there were horizontal aeolian and alluvial lenses of sterile sand capping Layer 6. These were treated together with the underlying wall rubble that covered the northern half of the room and reached depths of 60 cm in the northwestern corner and 140 cm in the northeastern corner. Most of the rubble probably came from partial collapse of the north and west walls. In this instance, it appears that the walls fell before or at the same time as the roof collapse in Layer 5.

Layer 7. The initial filling of the room, more than a third of the volume, was identical in composition to Layer 5. It was mounded against the southwestern corner, reaching a depth of 210 cm, and sloped toward the

north and east walls where it was much shallower (50-80 cm). Clay lenses near the bottom of the fill suggest that at least the lower 30 cm of fill were deposited horizontally across the floor before mounding began. The greatest size and density of adobe chunks and other cultural debris came from just above the floor. For much of the period, it appears that the the roof was deteriorating and falling through a framework left largely intact until mounding began.

A pile of stone was found 30 cm above the floor in front of the western door (Door 1). Adobe was found in association and covered some of the stone, which suggests that a masonry plug fell from the nearby door, although the door was not sealed when cleared on the Room 139 side. Thus, the origins of the stone pile remain ambiguous. Almost all of the postoccupational cultural debris recovered came from Layer 7. This debris, apparently left on the roof at abandonment, is dated to the early A.D. 1100s by ceramics. Among the remains were pieces from a miniature Red Mesa Black-on-white bird-form jar (Plate 2.43A) and a squat Chuskan cooking jar as well as numerous turkey bones. Turkey elements were profuse in almost all the postoccupational roof deposits in the excavated Central Roomblock rooms.

Layer 8. A 3-5-mm-thick strip of sand covered the floor in the southern half of the room. It was sterile except for a dense concentration (84 by 92 cm) of charred brush found directly in front of the eastern door (Door 2). Apparently, the contents of a cold hearth were thrown into Room 145 through the door from Room 148. The layer of sand may represent an intentional covering not related to postoccupational processes.

Floor 1 (Figure 2.11). A 5-15-mm-thick layer of even, smooth, wellpolished, tan, clayey plaster comprised Floor 1. It was well preserved and showed little use or deterioration. It lapped onto the walls under the wall plaster.

Floor 1 Features. The floor was unmarked by features except for two The post molds for both were discovered in the postholes (Figure 2.15). Both were located postoccupational fill long before Floor 1 was reached. on an east-west line between the two doors but served different functions. PH 1 was 70 cm east of Door 1 and contained a mold and a rotted post that rose 170 cm above the floor. The shallow seating suggests that it could not have withstood the wall and roof collapse if it had been freestanding. Lekson believes that the termination of the mold between Layers 2 and 3 might indicate a sufficient hiatus between the deposition of the two layers for the post to have rotted away. Most likely this was a roof support, although its usefulness as an auxiliary support must be questioned because of its position so close to the wall. Instead, its alignment and spacing with others in Room 139 suggest that it served as one of several primary roof supports before Room 145 was formed from Room 139.

About 20 cm from Door 2 was a deeper, larger posthole (PH 2) with a post cavity extending 45 cm above the floor. The former post had a flat top and could have withstood stress tangent to the vertical more easily than could PH 1. It clearly served as a post step.

Plate 2.43. Restorable vessels recovered from the roof deposits above the upper floors in the Central Roomblock. A) Chuskan cooking jar and a Red Mesa Black-on-white effigy from Layer 7 in Room 145. (NPS#15915) B) Nava/Crumbled House Blackon-white olla from Rooms 142, 143, and 147, Kiva 10, and Plaza 1, Grid 8. (NPS#23144) C) Mancos Black-on-white bowl from the floor fill of Room 147. (NPS#23145) D) Chaco-McElmo Black-on-white canteen from Rooms 142 and 146. (NPS#15862)









Two burned spots found directly under the floor indicate some activity took place on top of the sand before there was floor plaster. If the sand underneath (Layer 9) was leveled in preparation for the floor construction, then the burns should immediately precede that event. Unfortunately, given the problems with the archeomagnetic dating at the site, we cannot be sure if the date of A.D. 1165 \pm 10 derived from one of the burns is accurate.

<u>Floor 1 Artifacts (Table 2.1)</u>. The floor was clean except for a large sandstone anvil and a hammerstone in the northwestern corner. These appear to have been left at abandonment and probably do not represent postoccupational debris. There were no marks under the anvil to suggest that it had been tossed or had fallen into the room. Stuck to the bottom of the anvil where it rested upon the floor was a cucurbit seed (not collected). Along with the paucity of features and artifacts on the floor was a corresponding lack of economic pollen (Cully 1985:191) and seeds (M. Toll 1985).

<u>Walls</u> (Figures 2.12-2.13). Foundations and masonry styles are discussed under Room 139. Despite the unequivocal lateness of the west wall, it did not differ perceptively from the other walls in terms of masonry style. Basically, all would fit into Judd's Type 2 style. All walls tilt to some degree. The north wall is shorter and tilts outward, suggesting that the upper part fell to the north. The volume of stone recovered from the room fill is enough to rebuild the walls at least 3.5 m above Floor 1 and 4 m above Floor 2 (Room 139).

Two ventilators high in the north and south walls, Wall Features. two east-west doors, and two "vents" (V 3 and 4) above and next to Door 1 Only those connected to Room 139 constituted the total wall features. were excavated, and all except Door 2 are discussed with Room 139. The two north and south vents were sealed with a style of masonry similar to that forming the walls. The chinking, however, was larger and the stone was inset and not kept even. The same style of masonry filled the initial Room 144 doorway except that it was built flush with the existing wall. Part of this door and its wooden, 6-cm-diameter lintel were evident in the The two "vents" in the west wall north wall and behind the west wall. were also plugged with masonry similar to that used in the walls, although The mortar in the remaining a reddish mortar, instead of gray, was used. vent plugs (in the north and south walls) resembled the wall plaster and each plug was inset 3-10 cm. This suggests that the latter might have been plugged just before application of the wall plaster and were inset to better bond that coat.

Door 2 in the east wall had partly collapsed, but Lekson believes it might have been T-shaped. This interpretation is complicated by masonry patches along both sides of the door, which suggest strongly that the door was not original equipment. The door was not excavated because of its importance to the structural integrity of the wall (and the excavators' lives). If the door were a later addition, then it seems plausible that it corresponds with the formation of Room 145. It was not sealed. No wall features indicative of a roof-support function were present.

<u>Wall Plaster</u>. Only a single 2-3-mm layer of tan, unsmoked plaster of sandy clay was applied to the walls above Floor 1. Where the walls were slightly concave, a thicker coat up to 12 mm was applied. The main application was continuous across Vents 3 and 4, although much thicker (5-14 cm) where needed to fill the inset cavities. Plaster over Vent 2 appeared to be a separate patch but it was difficult to be certain. No plaster remained in the area of Vent 1.

On the lower left quarter of the west wall, a number of scorings suggested to Lekson that a bundled-fiber tool had been used on the plaster. Generally, the plaster was well smoothed as if with a soft, flexible tool. On the east and west walls a thin mud wash (less than 1 mm thick) identical to the main plaster was the last application. Its extent could not be determined, although it covered a burned and smoked spot (100 by 75 cm) below Door 2 and about 15 cm above Floor 1. The source for this fire could not be determined.

The wall plaster formed a continuous bond at all corners, which indicated that the tilt of the walls, presumably caused by settling, happened before the plastering. Otherwise, we would expect the plaster to be cracked. Futhermore, there is a problematical masonry patch in the northwestern corner that fills the gap created by the outward-slumping north wall. Part of the patch was covered by the wall plaster. The wall plaster application, then, indicates that the room had existed for some unspecified, probably lengthy time, before the walls were plastered. In short, the walls were not plastered when Room 145 was first created.

Roof

Except for numerous chunks of roofing adobe and fragments of juniper splints, there was little left of the roof. An analysis of a small number of roofing impressions (n = 24) revealed close similarity of construction with Room 146's roof, which employed matting and bundles of grass to separate the layers of mud (Ingbar 1979). Neither of the larger parent rooms from which Rooms 145 and 146 were formed contained the grass and mattingimpressed types (in the analysis sample) found in the two smaller rooms. Along with other evidence, this suggests that the roofs for the newer two rooms were built at the same time.

Summary and Conclusions

For reasons unfathomed, Room 145 was split from Room 139 some time after the latter was planned and built much as Room 146 was separated from Room 142. This division created no additional space in the suite but did force modifications for access to two rooms after the original door into Room 144 was blocked by the new partition wall. Access to Room 144, a probable storage room, was still needed, so a new door was built that provided entry from Room 139. Perhaps the suite was enlarged (because of loss of space when Room 146 was built?) when additional access was provided by a door through the east wall of Room 145 into Room 148. Door ties enabling Room 145 to be sealed from Room 139 suggest control of the storage space within the suite, including Rooms 145 and 148, was through access to Room 143, an unusual living room next to the plaza.

A single, scarcely worn, beautifully plastered floor was the sole floor recognized for the room. It was tied to the wall plaster, but several architectural oddities in the room suggest first appearances can be deceiving. In short, the wall and floor plaster were probably added, possibly in the early A.D. 1100s, after considerable use of the room had taken place. The masonry of the new partition wall is very similar to the wall it abuts, although the newer wall foundation clearly indicates placement after Room 139 was completed. I should think that some time had elapsed since completion of Room 139, otherwise it would have been a grave miscalculation to have built Room 144 and then block off its only door right after completion. More likely, Room 145 was created around A.D. 1060 or 1070, if not a little earlier.

The absence of features other than for ventilation, access, and roof support suggests yet another area set aside for storage. Cultural material and ethnobotanical material off the floor were singularly uninformative as to specific room use. On the roof, however, a myriad of activities apparently took place that left refuse scattered over the entire suite. When the roof beams were looted, this material fell into the abandoned rooms. Ceramics among this material earmark the final room use (at least of the roof) in the early A.D. 1100s.

Room 146 (Figures 2.19-2.22 and 2.32-2.33)

Room 146 was formed by subdividing a larger, initial room that included Room 142; an analogous subdivision was effected for Rooms 139 and 145. Unlike the latter situation, however, the Room 146 area ceased to belong to the main suite and, instead, was joined to Room 147 via a door. The room was excavated to Floor 1 in 1977 and completed in 1978. In size the room was 370 by 225 cm (8.3 m²). Only the uppermost two floors were part of Room 146. The remaining seven floors were outside surfaces that predated the room and connected to surfaces under Room 142.

Strategy

Deposits above Floor 1 were divided into four quadrants and removed as Test Trenches 1 through 4. Eleven levels of 20 cm each were removed first from TT 1, the southeastern quadrant, before Floor 1 was reached. All were screened. The remaining fill above and below Floor 1 was removed in natural units, although in some cases these layers were subdivided into arbitrary units because of their thickness. Above Floor 1, 3 layers reflecting major depositional events were defined for the 11 levels. Layer 1 was not screened except in TT 1, and all of Layer 2 was screened except


Figure 2.32. A) Room 146, east-west profile. Floors 3-9 were outside surfaces prior to room construction.



Figure 2.32. B) Room 146, north-south profile. Floors 3-9 were outside surfaces prior to room construction.



Figure 2.33. Rooms 146 and 147, wall elevations.

in TT 3. Below that, an additional 10 layers were identified, mostly as discrete units between floors. All of the latter were screened.

Fill (Figure 2.32)

Layer 1. Collapsed walls and aeolian sand were the primary constituents of the uppermost layer. The greatest thickness (105 cm) was encountered along the north wall, which suggests most of the material was derived from the walls in the northern half of the room. Singular episodes of wall fall could not be identified in the deposit.

Layer 2. This was a poorly consolidated deposit up to 1 m thick of wall debris and roofing clay along the west wall. Although it shared characteristics of both Layers 1 and 3, it lacked sand between the stone and adobe. The bulk of the layer occurred in TT 3 and was not screened.

Layer 3. The remaining fill above Floor 1 consisted of a large, poorly laminated mound up to 170 cm high of roofing and aeolian sand. Adobe impressions, strips of juniper bark, and splints were common but no structural roofing material was recovered. The size and density of architectural material and artifacts increased with depth of fill. Much of the latter material probably was left on the roof and later fell into the room, including parts of two restorable late vessels (Plates 2.43B and 2.43D). Level 8 of this layer was arbitrarily treated as the floor fill.

Floor 1 (Figure 2.19)

A 5-20-mm-thick, undulating layer of brown plaster formed the uppermost floor. This coped onto the wall plaster. In some places the floor was in poor condition from water and traffic damage, but in others it exhibited a sheen as if polished.

<u>Floor 1 Features</u>. There were no pits in Floor 1. However, a large, flat slab had been set horizontally in the floor below Door 6 and affixed with floor plaster. It was smooth from use, probably from serving as a landing for door ingress and egress. Directly west was a large scorched area, designated Floor Burn 1, overlain by the thin, carbonized, grass remains of ricegrass, dropseed, and unidentified stems (M. Toll 1985) that caused it. The hot fire oxidized the floor to a depth of several centimeters.

<u>Floor 1 Artifacts</u>. None. Aside from the slab mentioned above, only a single artifact was found embedded in the floor plaster: a plain gray sherd. Except for burned grass, botanical remains were primarily unburned and not of economic importance (M. Toll 1985).

Layer 4

Nearly 20 cm of nearly sterile sand were intentionally placed over Floor 2 before construction of Floor 1.

Floor 2 (Figure 2.19)

A 4-cm-thick, clayey sand comprised the lowest floor of Room 146. This was joined to the initial coat of wall plastering. The floor was irregular and coarse, suggesting limited preparation. Lekson believes its term of use was short before it was succeeded by Floor 1.

Floor 2 Features. Only two features were evident. North of the room center was a basin-shaped depression, 12 cm in diameter and 2 cm deep and slightly oxidized around the periphery. It did not appear intentionally placed and, thus, was not assigned a feature number. To the west of center was a large oval pit (OP 1) that cut into the foundations of Room 51 below. Its position aligns with a series of roof-support holes in Room 142 at the same depth; thus, an analogous function is suspected. Its spatial arrangement with those in Room 142 must show that a single set of roof supports once existed before the rooms were subdivided. An identical arrangement exists for Rooms 139 and 145 next door.

Floor 2 Artifacts. None. Two Red Mesa Black-on-white sherds and a heart-shaped, shell bead came from the fill of OP 1.

Layer 5

This was possibly another leveling deposit of sand added just before construction of Floor 2. It covered Wall Trench 1, which was filled with debris from construction of the north wall, although it predates construction of the remaining walls.

Floor 3 (Figure 2.20, Plate 2.44)

This was an undulating, unplastered surface with a slight slope up toward the north. It was the use surface of the top of Layer 6 and continued into Room 142 where it retained the same floor number. Floor 3 predated construction of Room 146 (and Room 142) and was an outdoor surface associated with Rooms 50 and 51. The floor articulated with the razed foundations of Room 51.

Floor 3 Features. Two large oxidized pits, one slab-lined (Plates 2.45 and 2.47) and the other unlined (FP 1 and HP 1; Figure 2.34A), were situated just east of Room 51 and appeared to be outdoor plaza pits related to Room 51. Both carbon-14 and archeomagnetic samples were analyzed from these pits and indicate A.D. 1000s use.

Two small postholes, about 100 cm apart, had been placed along the east wall of Room 51. They are analogous to a row of pits bordering the outside of the west wall of Room 50. Between the two former pits was an extensive smear of caked hematite that extended 25 cm east onto Floor 4. The east wall of Room 51 had cut this smear as it continued west onto Floor 3 of Room 51. A similar smear was found on Floor 1 in Room 142.

A trench (WT 1) excavated along the north wall was a continuation of the same designated feature in Room 142. The trench was cut seemingly to



Plate 2.44. Room 146, Floor 3. Note remains of the Room 51 wall with a posthole through its center. Construction spalls fill Wall Trench 1 and a large firepit. 50-cm north arrow rests on 2 by 1 m board. (NPS#17964)



Plate 2.45. Room 146, Floor 8 (an outdoor surface), the southeastern corner showing Heating Pits 1 (behind arrow) and 2 (under east wall), Other Pits 1 (under south wall) and 2, Floor 3's slab-lined Firepit 1, and Floor 6's Heating Pit 1 (under east wall, cutting Heating Pit 2). Odd slant-walled Other Pit 2 is just below 30-cm north arrow. Looking east. (NPS#16757)



Plate 2.46. Room 146, Floor 3. Close-up of construction debris filling Wall Trench 1. 30-cm arrow rests on debris. (NPS#16224)



Plate 2.47. Room 146, Floor 8, Heating Pits 1 and 2, Other Pits 1 and 2, and slab-lined Firepit 1 (Floor 3). Note elevation of room wall foundations (starting below the string), above this outside surface (Floor 8). 30-cm north arrow. (NPS#16758)





Figure 2.34. Rooms 146 and 147, selected floor features. A) Room 146, Floor 3, Firepit 1 and Heating Pit 1. B) Room 147, Floor 1, Firepit 1 and Heating Pit 2.

avoid the two burned pits, perhaps indicating that the latter were still in use. Constructional debris overflows the trench (Plate 2.46), which makes it unlikely that the feature served as an extension of Floor 3 but, instead, postdates it. Lekson believes that the trench excavation, the north wall construction, and subsequent filling of the trench were immediately followed by the addition of Layer 5 and Floor 2.

Floor 3 Artifacts. None. All features, however, contained some Red Mesa ceramic assemblage refuse in the fill, dating deposition to the early A.D. 1000s.

Layer 6

An aeolian deposit of sand with some refuse was embedded between Floors 3 and 4.

Floor 4 (Figure 2.21)

This was a poorly defined, use-surface on Layer 7 that merged with Floor 5 at the northern end of Room 146. At the southern end of the room, it nearly merged with Floor 3. White water marks spotted the gray surface. A deposit of small clay and sterile chunks in the southeastern corner was interpreted as floor-leveling material. Floor 4 corresponds to Floor 6 in Room 142.

Floor 4 Features. None.

Floor 4 Artifacts. None.

Layer 7

This was the same as Layer 6.

Floor 5

The gray-stained surface of Layer 9 was water-marked and nearly identical in appearance to Floors 3 and 4. There were relatively large amounts of charred brush embedded in its surface, however. In the southeastern corner, the surface overlay a small trash lens (Layer 8). In the north-central part of the room were five horizontal stones projecting through the surface. Floor 5 closely approximated in time Floor 7 in Room 142.

Floor 5 Features and Artifacts. None.

Layer 8

This unit was composed of a small, ash lens that apparently leveled parts of Layer 9 in the southeastern part of the room to provide the flat surface used as Floor 5.

Layer 9

An aeolian deposit of sand containing little trash.

Layer 10

A thin (2-cm-thick) layer of dark-stained sand covered Floor 6 in the southern half of the room. There were no artifacts and little charred material in the deposit, although Lekson thought that the deposit might have been generated by use of the floor.

Floor 6 (Figure 2.21)

An even, grayish, unplastered surface was designated Floor 6. It lacked water staining and was equivalent to Floor 8 in Room 142.

Floor 6 Features. Four, slightly oxidized, heating pits containing sand and charred brush were associated with the floor. Only HP 2 was completely excavated. The others were under wall foundations (Plates 2.45 and 2.47) or were cut by later features. Other features were lacking. A similar group of heating pits occurred on Floor 8 in Room 142.

<u>Floor 6 Artifacts</u>. None. A single piece of miscellaneous ground stone was recovered from the fill of HP 2.

Layer 11

Apparent constructional debris of mud lumps, spalls, and fragments of native soil, along with lenses of trash, comprised this unit. It was similar to Layers 12 and 13. The three layers were interrupted solely by use surfaces, Floors 7 and 8.

Floor 7

A small area of use was discovered in Layer 11 in the southwestern corner about midway between Floors 6 and 8. It could not be traced beyond the area of its discovery and is not shown on the room profiles.

Floor 7 Features and Artifacts. None.

Layer 12

This consisted of numerous mud lumps and spalls and trash that formed a lens between Layers 11 and 13.

Floor 8 (Figure 2.22)

A deteriorated, unprepared, gray surface on top of Layer 13 formed Floor 8. In the southern end of the room the surface rested upon sterile fill. Its poor condition left most features undefined. Floor 8 Features (Plates 2.45 and 2.47). HP 1 and 2, two large basin-shaped pits filled with sand and some charred brush occurred on Floor 8. HP 2 extended under the east wall and was not fully excavated. Also, six unburned pits were scattered over the floor. OP 1 was a large, basin-shaped pit, similar in size to the two heating pits, that extended under the south wall. It was filled with sand.

Three of the remaining five pits were clustered in the center of the room and apparently formed a functional set. These (OP 2-4) were D-shaped, shallow, and extended into the surface at an acute angle from the perpendicular. Their function is a mystery. The remaining two pits, OP 5 and 6, were tiny and also served no obvious purpose.

Floor 8 Artifacts. None. Charred corn cobs were recovered from HP 1 where they had been used for fuel.

Layer 13

This was another layer of mud lumps, spalls, and chunks of native soil that served to level the sloping ground in preparation for Floor 8. It, too, appears to have been generated from wall or foundation construction and was identical to Layer 11.

Floor 9 (Figure 2.22)

The top of the sterile deposits (Layer 14) was designated a "floor" although no clearly defined surface could be discerned. Nevertheless, the presence of several pits indicated some limited use of the space. This was the same surface designated Floor 9 in Room 142.

<u>Floor 9 Features</u>. A large, clay-lined, basin-shaped pit (OP 1) that may have been used for mixing mortar dominates the assemblage and is similar to others at the same level in Room 142. Its equivalent on Floor 8 may be contemporary with Floor 9. It was excavated into the highest sterile area of the room shared in common by Floors 8 and 9. A feature in this area could, of course, be related to either floor, so OP 2 might be a Floor 8 feature. The remaining pits (OP 3 and 4) are irregular and unfinished-looking, exhibiting numerous digging-stick marks from excavation. Presumably, they never fulfilled their intended function.

Floor 9 Artifacts. None.

Walls (Figure 2.33)

<u>Wall Foundations (Plate 2.47)</u>. These had been formed by pouring fluid gray clay into prepared trenches along the eastern, western, and southern sides. The clay showed considerable cracking and many air pockets. Large, crudely shaped blocks of sandstone were set horizontally along the trenches during the pouring process. The procedure had been the same for the northern side except that the primary constituent was a fine, tan, sterile sand, perhaps derived from WT 1. The southern and eastern foundations were bonded and butted against the deeper northern foundation. Because it is younger, the western foundation was elevated above all others and butted those to the north and south. The walls above followed essentially this same pattern. The poor alignments between the foundation and wall suggested a lack of continuity between the two constructions. The north and south wall veneers were nearly flush with their respective foundations but the other veneers overhang the foundations by 5-6 cm.

<u>Wall Masonry</u>. Sections of wall plaster, 50 by 50 cm, were arduously removed and the walls photographed for possible veneer analysis. Most plaster was left intact, and, thus, descriptions of the masonry veneer are derived from these few glimpses. Large, uncoursed ashlars, unmodified by grinding and spalling, surrounded by large areas of small, closely spaced chinking, characterize the west and north walls. On the other hand, the east and south wall veneers exhibit very thin, long ashlars, chipped and slightly ground along the exposed edges. These are bordered by wide bands of small, closely spaced chinks in a variation of Judd's Type 2 style. Chinking in the west and north walls generally extended beyond the ashlars whereas those in the east and south walls were left flush. Eleven sherds from a Red Mesa assemblage were recovered from chinking in the north wall.

Wall Features. Four possible vents may have opened into Room 146. Slight bulges, high in both corners of the west wall, were left unexcavated and might have been plugged vents or holes for shelf poles (see Room 139 and 145 wall descriptions). There was a possible plugged niche opposite the northern bulge in the backside of the wall that might mark the opening of these vents into Room 142. Two other openings were nearly opposite one another, high in the eastern corners of the north and south walls, and form the eastern half of the original air vents for Room 142. The northern one (V 1) opened into Room 139/145 before being sealed, and the southern one (V 13) opened into Room 143. The latter revealed an unusual adobe collar (similar to those seen in doors), which allowed temporary closure from inside Room 146.

A single door (Door 3) allowed access into Room 147. Like V 13, it contained an adobe collar permitting its closure from Room 147. There were no wall niches noted, although the plaster would have to be entirely stripped away before the absence of niches could be confirmed. This was not done.

<u>Wall Plaster</u>. Two coats of a tan, unsmoked plaster covered the walls above Floor 1. A thin, well-finished, outer coat joined with Floor 1 and evidently was applied during construction of that floor. A thicker, lesseven coat with smoothing marks served to smooth over the rough masonry veneer. This coat joined with Floor 2. Below Floor 2 the walls were unplastered.

Roof

The few roofing impressions studied from the room fill indicate that construction varied little from Chacoan roofs in general (Ingbar 1979). There was some indication, however, that the first layer of roofing mud was sandwiched by matting on one side and grasslike filaments on the other (5 of 24 samples). An identical proportion of similar impressions was also observed from the adjacent fill in Room 145.

Summary and Conclusions

Preroom events under Room 146 were part of the same events discussed for Room 142 and 143/236. Like Room 145, directly north, Room 146 was a modification of the original architectural plan that created two, huge, $40-m^2$ rooms side by side (Rooms 139 and 142). The style of masonry veneer in the cross wall splitting Room 146 from Room 142 (and Room 139 from Room 145) was typical of work dating to the last half of the A.D. 1000s (Volume I, Plate 6.5B). Hawley would classify it as Type 2 (Hawley 1934) or Type 5 (Hawley 1937), dating between A.D. 1030 and 1070. The room division probably took place between about A.D. 1030 and 1050, within a decade or two after Stage I construction. In the two adjacent rooms (145 and 146), the similarity of the two, late, cross walls and the similarity among the roofing impressions that differ slightly from the parent room suggest construction and reroofing of Room 145 and 146 as coeval events.

The uppermost floor (Floor 1) must be the first functional floor for Room 146, unless Floor 2 continued in use after its severance from Room Either way, the absence of floor features relegates the room space 142. to nonhabitation. Other than a prodigiously large, stone-slab landing, exhibiting some wear from foot traffic, that was set below the door, there was nothing in the room to suggest specific functions that may have taken place. The massive floor burn is thought to represent an impromptu cooking fire at or near abandonment, although archeomagnetic dating of the burn suggested it dated slightly earlier than others in adjacent rooms. In subdividing Room 142, a third of the space (Room 146) was eliminated from the original suite and added to a suite aligned by a door with the presumed ceremonial activities linked to Kiva 10 and Room 147. The lack of trash and the open door indicate that the room remained in use into the early A.D. 1100s, when the site was abandoned.

Room 147 (Figures 2.35-2.36)

When wall tops of the Central Roomblock were cleared, there appeared to be an expansion of the Room 143 corridor north into the next row of rooms. Some significance was at first attached to that unusual arrangement because of its location at the center of the Central Roomblock on line with a shrinelike structure in the center of Plaza 1 and an entry through the center of the southern enclosing arc. This suggested the possibility that Pueblo Alto was composed of two equal units, perhaps indicative of separate social or religious groups, as has been suggested for Pueblo Bonito (Vivian 1970b:273).



Figure 2.35. Room 147, profiles.



Figure 2.36. Room 147, Floor 1, and associated Room 143, Grid 13 (Floors 1-2), plan views.

Testing revealed that the space offset from Room 143 was segregated by walls; thus, this space was designated Room 147. Nevertheless, it became evident that the room (367 by 340 cm, 12.5 m²) was unlike the others excavated in the suite and at one time had not been enclosed on all sides. Because of a shortage of time and manpower, Room 147 was not excavated below the uppermost floor, which leaves its history unresolved.

Strategy

Because of the small size of the space, it was decided that control and exploration would extend from quadrants subdividing the postoccupational fill. The initial fill removal started in the southeastern quadrant of the space (Test Trench 1), which included parts of Room 147 and Room 143. With the discovery of the south wall of Room 147, TT 1 was limited to just Room 147. Only Layer 1 (wall fall) of Room 143 was inadvertently removed during this testing. TT 1 was excavated in 10 20-cm levels (Level 10 was 30 cm deep) before the 10 cm of Floor 1 floor fill were reached. All TT 1 levels were screened. Three major natural units of deposition were defined above Floor 1 from the TT 1 profiles. All were screened upon removal except for the uppermost one, Layer 1.

Fill (Figure 2.35)

Essentially there was little difference in the composition of the postoccupational fill compared with other rooms in the suite. Again, artifact density was heaviest in the roofing deposits.

Layer 1. About 6.5 m^3 of ashlars, chinking, and gray mortar from collapsed walls, mixed with aeolian sand, comprised the last major deposition within the room--an event that probably took many years. Sections of wall fall were not evident, although the concentration of material indicates that little came from the south wall. Small pockets of laminated sand intruded into the layer through the several doorways.

Layer 2. Underlying Layer 1 were deposits of aeolian/alluvial sand mixed with small amounts of adobe roofing fragments, shredded bark, and reeds, all of which increased in size and number as work progressed deeper. Artifacts were numerous in this fill, particularly in the west half of the room. Total volume of the deposit was about 13.5 m³.

Layer 3. A thin (10-cm-or-less) deposit of ash and trash covered the floor in the eastern and east-central parts of the room. The southern extent of the deposit overlay 1-3 cm of clean sand and numerous roofing-adobe fragments from Layer 2 which, in turn, rested upon the floor. Lekson believes the ashy deposit was generated from firepit contents outside the room and thrown through Door 11 shortly after Room 147 was abandoned but after partial collapse of the roof. The volume of this material was about $0.2-0.4 \text{ m}^3$.

Floor 1 (Figure 2.36, Plate 2.48)

A well preserved, smooth adobe floor covered the room and merged with the outermost layer of tan wall plaster. This covering was a mere 5 mm



Plate 2.48. Room 147, uppermost floor (Floor 1). 2-m board points to the northeastern corner. (NPS#17977)



Plate 2.49. Room 147, Floor 1. Firepit 1 (center) and plaster-lined Heating Pit 2. Note extent of floor burns around features and reed-impressed roofing adobe built into firepit lining. 30-cm north arrow. (NPS#16656)

thick but earlier replasterings increased the overall thickness to over 20 mm. At least three replasterings, and possibly as many as six, were evident and may have articulated with the numerous coats of wall plaster.

<u>Floor 1 Features</u>. A number of pits littered the floor, primarily in the center of the room. Most appeared to be associated with FP 1 and HP 1 (Figure 2.34B). These were used until room abandonment. A single, slablined firepit (FP 1) was the only one of its kind for the entire suite (Plate 2.49). It had clearly been built after the last floor replastering. Pieces of reed-impressed adobe fragments were found in its fill as well as in the construction. This suggests that either the roof of Room 147 or perhaps roofs nearby were deteriorating. A partial roof in Room 147 might explain the discrepancy of a well-used and intensely oxidized firepit existing in a room with a notable lack of smoked wall plasters. None of the many plaster coats in the room were smoke blackened.

Four heating pits were recorded for the floor although HP 4 was just a floor burn. Unlike most pits, HP 2 was a well-plastered, circular feature exhibiting intensive use. Like FP 1, it was filled with an abundance of burned seeds from a variety of plants (M. Toll 1985:Table 42). This pit had been superimposed and replastered over at least four, earlier, plastered heating pits. Each might coincide with a replastering of the floors and walls.

Four other pits were also recorded for Floor 1. Excavation of one, OP 1, revealed it to be just a broken floor and not a formal feature. OP 2, in the southwestern corner, resembled a poorly made posthole but probably resulted from rodent activity. The other two are interesting and unique at the site. Both are small, shallow basins exhibiting several scratches across the bottom. Both were part of the floor plaster and had been sealed with tan plaster. Their shape and proximity to HP 2 suggest use as pot rests in conjunction with use of the heating pit.

<u>Floor 1 Artifacts</u>. Just three artifacts were resting upon Floor 1: a projectile point, and fragments of a Nava/Crumbled House Black-on-white olla (Plate 2.43B) and a Mancos Black-on-white bowl (Plate 2.43C). Sherds from the same vessels as well as three similar projectile points were also recovered from the floor fill (Layers 2 and 3). From this we can deduce that all of the floor artifacts probably came from postoccupational deposition. Despite the number of features suggestive of cooking and food processing, economic pollen (including corn) from the floor was surprisingly sparse (Cully 1985:196). Flotation samples were not examined.

Floors 2 and 3

At least two other floors were observed in pit profiles 15 cm (Floor 2) and 24 cm (Floor 3) below Floor 1. Floor 2 appeared to have been replastered. The same could not be determined for Floor 3, although this floor merged with the first (earliest) coat of wall plaster. The bottom of FP 1 rested upon Floor 3. No earlier features were observed in association with these floors.

Walls (Figure 2.33)

Wall Foundations. None were observed.

Wall Masonry. Little masonry was observed because of the extensive preservation of the wall plaster. The plaster was left undisturbed because of wall paintings and the complexity of the replasterings, which were beyond our capabilities to adequately examine. What masonry could be seen in the east and west walls consisted of very thin but long ashlars surrounded by masses of fine chinking. There were few large blocks. The north wall veneer consisted of large, uncoursed ashlars, exhibiting little spalling or grinding and surrounded by large areas of closely spaced, small chinks, similar to the north wall in Rooms 142 and 146. In contrast, the south wall appeared of less careful construction. It is composed of irregularly shaped, soft blocks of sandstone, uncoursed and surrounded by numerous large chinks and abundant mortar lighter in color than that in the other walls. The style and type of stone used in the south wall was typical of early A.D. 1100s construction.

The east and west walls butt against the north wall but turn east and west, respectively, at their southern ends to form the north wall of the nearby corridor rooms. The later south wall butts against the southern ends of the east and west walls. The latter addition probably corresponds to the eastern extension of the corridor (Room 143) and the subsequent reduction in size of Kiva 10.

<u>Wall Features</u>. Doors opened through all four walls of the room. These had all been left open at the time of abandonment except for Door 10 in the east wall. This door was directly opposite Door 6 in the center of the west wall (that led into Room 146) but had been sealed with masonry, perhaps because of renovation in adjacent Room 152 or the enclosing of Room 147. The southern edge of the Door 10 seal served as the northern jamb for a new door (Door 11). The latter's offset location and the ragged wall patch along its southern jamb indicate placement, unlike the others, after construction of the north, east, and west walls (Plate 2.50). Door 11 was used until abandonment.

The door in the north wall was badly collapsed and was not excavated. Only Door 6 in the west wall was excavated and then promptly had to be propped to prevent collapse. It revealed slanting adobe jambs that allowed Room 146 to be closed off from Room 147 with a slab cover. The door in the late south wall (Plates 1.38 and 1.51) was placed at the western end to allow straight access and egress to Kiva 10 through Room 143. It seems likely that, before the space was enclosed to form Room 147, it opened out onto the roof of old Kiva 10.

At least three north-south wall ventilators are thought to have existed for Room 147. A sealed vent was evident in the high western corner of the north wall and was part of the initial wall construction. This might have been matched opposite a vent in the south wall next to the door. It had two sides missing and might have been modified to provide a T-shaped door entry. The south wall is much reduced in size (Lekson



Plate 2.50. Room 147, east wall doors. Original Door 10 filled with masonry and exhibits squiggle-line pictograph in white paint. Door 11 filled with rubble. (NPS#17495)



Plate 2.51. Room 147, Door 12 and Floor 1. Note the thick coat of plaster, truncation of walls above door, and Other Pit 2 in the corner. 30-cm north arrow. (NPS#17521)

believes it was removed prehistorically), which hinders accurate reconstruction. Another vent, later modified into Niche 4, is hypothesized by Lekson for the eastern side of the south wall.

Four niches were exposed during excavation, and a possible fifth one was left undisturbed in the north wall east of Door 9. Two, high at the northern end of the west wall, were crude and uninspiring although N 3 might once have held a small pole. Just above the floor at the western end of the north wall is a well-made, plastered, bell-shaped niche (N 2). It was by far the most carefully made niche in the suite (Plates 2.52-2.53) and was matched only by a similar one in the East Ruin kiva. Both were devoid of artifacts. Finally, in the eastern end of the south wall was a large ovoid hole remodeled at least once. It contained some trash, including several bones of an adult human female.

<u>Wall Plaster</u>. Up to 11 coats of nonsmoked plaster covered the room walls--the most for any excavated Pueblo Alto room or kiva. Both the west and the north walls exhibited identical plastering histories. That on the east and south was similar but exhibited just six coats.

The outer coat on all walls was a nonsmoked, dark tan plaster. Directly under this on only the western and northern sides was another tan coat. Where the last coat had exfoliated from the north wall there were patches of yellow ochre (Appendix MF-A). Under the ochre on the west and north walls and under the last coat on the east and south walls was yet another layer of tan plaster but with the upper part whitewashed. At least two, small, painted designs decorated this coat (Figure 2.37): а squiggly design in red hematite (Appendix MF-A) on the west wall and a similar one in white on the sealed Door 10 in the east wall (Plate 2.50). Under the same decorated coat, on the south wall, was a patch of yellow ochre, which might be another design. At least two earlier tan coats with the upper part whitewashed were discerned on the west and north walls. The remaining coats are apparently all tan.

All plaster coats with whitewash and painting are associated with use of Floor 1 and its many replasterings. The initial coat of room-wall plaster (up to 20 mm thick) is the only one smoke-stained, and it is associated with Floor 3. Although this suggests that some sort of hearth was present on Floor 3, it is baffling that later coats were not sooted despite the presence of well-oxidized hearths on Floor 1. The sides of OP 2 in the southwestern corner reveal that the wall plaster does not cover the masonry below Floor 3.

Roof

An examination of a small sample (n = 24) of the roofing impressions collected from Room 147 revealed roofing materials quite different from those encountered in the other adjacent rooms (Ingbar 1979). The casts were dominated by closely set, reed (<u>Phragmites communis</u>) mats that covered the latillas and that, in turn, were covered by a layer of mud from which the casts were recovered. Over this mud was added a layer of bark and a final coating of adobe. It is not unexpected that the roof would



Plate 2.52. Room 147, Wall Niche 1 in the north wall. 15-cm scale. (NPS#16646)



Plate 2.53. Room 147, looking through Door 12 at the north wall and Wall Niche 1. Note block ventilator in upper left corner of the north wall. Temporary roof shielded room from the elements. (NPS#17866)



Figure 2.37. Room 147. Painted designs on the (A) east and (B) west walls.

differ from the others because of its late construction, but one wonders whether the use of reeds was a pragmatic decision, given the probable local scarcity of the material, or one based on the special use designed for the room.

Summary and Conclusions

Lack of total room excavation prevented a better understanding of the space use. For much of the Pueblo Alto occupation, however, the space that later became Room 147 was apparently left unroofed or partially open to the outside but blocked from the plaza by the walls of Kiva 10. Early access must have been across the Kiva 10 roof to gain entry into the space and the rooms leading off it. Such an arrangement was probably not haphazard but planned, perhaps, to exercise control over access to certain storage rooms (e.g., Room 146, among others). In the late A.D. 1000s, Kiva 10 was reduced in size, which allowed Room 143 to be extended over the former kiva walls and Room 147 to be formed. Despite this later remodeling, the initial linkage between kiva and the space behind it was continued until the kiva was abandoned at about A.D. 1100.

The constellation of features, primarily firepits and heating pits, the proximity to Kiva 10 with nearly direct door access to the kiva roof, the unusual niche that is matched only by one in an excavated nearby kiva, and the painted figures on the walls mark Room 147 as one of special use, possibly for members of Kiva 10. Ethnobotanical results were inconclusive and failed to reveal the great diversity and frequency of plant remains identified for living rooms in general. The room clearly shares some attributes with living rooms, but it bears only the faintest resemblance to those identified in the West Wing. Final use of the room apparently continued until site abandonment around A.D. 1140.

> Kiva 10 (Figure 2.2)

The large, 9-m-diameter kiva that fronts the Central Roomblock suite under investigation was considered an integral part of the suite. Its position is analogous to Kivas 2 and 3, which appear to be centered between pairs of other suites. Kiva 3 and Kiva 10, however, appear to be associated with the initial greathouse construction at Pueblo Alto. Kivas 2, 3, and 10 were overlain by a series of corridor rooms that separate the kivas and the interior Pueblo Alto plaza from the large suite rooms. Wall clearing further revealed that each kiva had door access to the corridor directly behind it, which strengthens the inference that the kivas are associated with the suites behind them.

Strategy

Initial testing began as an extension of Test Trench 1 south from Room 147 (crossing Room 143). Originally, the test was to have bisected the kiva, north to south, but to avoid damage to the anticipated floor





Figure 2.38. Kiva 10, test trench profile.

features, the northern half was dug first. Information from the testing was to provide us with alternatives for further sampling. The entire excavation of Kiva 10 was considered unrealistic in terms of labor and time, as well as redundant. We did not expect Kiva 10 to depart architecturally from other kivas found in the canyon greathouses, although we were interested in establishing the functional and temporal relationship of the kiva to the suite behind it. The failure to reach our goals for the kiva seriously impaired interpretation of the overall suite.

Unfortunately, the kiva was much deeper than anticipated (over 4 m next to Room 143) and filled with denser trash than we encountered in the Trash Mound. Once the fallen wall debris from Room 143 was removed, it required 14 20-cm levels to reach the fill just above the kiva floor. All material from these levels, approximately 14 m³, was screened, equalling approximately 10.1 percent of the total fill (138.8 m³).

As we were removing Level 28 from the test, the park Chief Ranger discovered our deep hole and promptly suspended work for safety violations. The walls of the trench, composed of unconsolidated trash capped by tons of fallen masonry and mortar, constituted a hazard for workers. Officials were adamant about shoring and reinforcing the trench before further excavation was allowed. After our sad experience in the Trash Mound, it was decided that the effort, cost, and frustration of working in another mine shaft was not desirable. Worse, no recording of the stratigraphy or features had taken place and samples had not been collected. None of the floor had been cleared. Hastily, a series of random and column flotation and pollen samples were collected from the fill, a test to floor conducted, and a rough map of the stratigraphy made. The features and stratigraphy were not adequately recorded before miscommunication on my part resulted in the trench being backfilled over the weekend with the screened dirt taken from the test trench. Later the upper 1 m or so of the trench was filled with white sand from the Escavada Wash and then capped with more backdirt.

Such is the sad story of Kiva 10 and one to be repeated when safety standards become more widely applied. Although the concern for safety is warranted, and some foul day it will be brought home to archeologists in sharp realization, the present standards were not developed with the archeologist in mind. We found it nearly impossible to do accurate work among expansion jacks and shoring while trying to do controlled excavations and profiles.

Fill (Figure 2.38)

Fill in the kiva was composed of two major units: wall fall and trash. The uppermost 140 cm (Levels 9-15) consisted of a wedge of rubble, mounded against the plaza-facing wall of Room 143, that extended for 3 m out over the kiva. Most of this rubble (0.9 m³ of stone) can be inferred to have fallen from the walls of Room 143. However, about 2 m south of Room 143, in the western face of the trench, was a section of masonry 60-70 cm long that apparently fell to the north at the approximate level of Surface 1. This probably represents a plaza structure built upon the kiva fill coincident with the use of Surface 1.



Figure 2.39. Plaza 1, Grid 8, north-south profile.

Three major episodes of deposition divide the trash fill. The upper unit (Unit A) includes Levels 16-21 and possibly part of Levels 14 and 15 and is sealed by Surface 1. The next (Unit B), Levels 22-26, is separated from A by a prepared plaza surface (Surface 2), which was continuous for the entire length of the trench. A noticeable break in the mounding characteristics suggests a separation of the lowest unit (Unit C, Levels 27-28) from that above it.

In all three units, the trash is mounded with the peak of the mounding appearing to the north and west of the kiva center. Lekson estimates the center of the mound to be about 250-280 cm south of Room 143. This is between Doors 13 and 14 in the corridor room (143) through which much of The distance of the mound from the the trash might have been tossed. rooms suggests that debris might have been tossed from the roofs. The greatest density of trash in the suite behind Kiva 10 consistently occurs There were only two ceramic matches between the in the fallen roofing. rooms and Kiva 10, and both of those occurred in layers of roofing in Rooms 142 and 147. More matches might not be expected because the kiva trash represents a period of occupation when work areas were being kept clean, and the roof trash represents that left at abandonment. Possibly, then, a major part of the Kiva 10 trash might have come from rooftop acti-Ceramics and obsidian hydration analyses (Volume I, Chapter 8) vities. indicate that the bulk of the deposits were discarded in the early A.D. 1100s, but the lowest material appears to be slightly earlier (i.e., the late A.D. 1000s).

All three trash units appeared similar although the lowest was cleaner and lighter in color. Lenses of charcoal-stained sand and abundant, charred, vegetal matter (primarily burned brush and corn cobs) alternated with dark brown layers of ash and humus and some adobe impressions. Lekson interprets these as alternating episodes of firepit and more conventional deposits of trash. Firepit deposits in the profile constitute a higher percentage of the trash accumulation than was observed in the Trash Mound. Cultural debris, in general, occurred in higher densities in Kiva 10 than in the Trash Mound.

The depressions surrounding the trash mounding filled with alluvial sands that accumulated rapidly and leveled off the major units. Dave Love (personal communication to Lekson 1978) believed that the sand deposited above Unit C was water-washed and might have included some wall plaster. Sands in the upper part of Unit A and above were predominantly aeolian. The initial filling of Kiva 10 was of aeolian/alluvial sand, which mounded in the center or southern area, perhaps resulting from infilling through the roof entry. If this is true, then the shift in mounding toward the north and the washing above Unit C noted by Love suggest that the kiva roof had been dismantled after the accumulation of Unit C.

Surface 1

Although no definable use surface was encountered, at least temporary use at this level is indicated by the presence of a poorly prepared, heating pit (HP 1) in Level 14, 25 cm south of Room 143. It was also at this level that a probable fallen, plaza wall was found.

Surface 2

A prepared surface of less than 10 mm of a grayish, fine sand marked some undetermined use of the kiva depression. It separates trash Units B and C, although it contained no features.

Floor 1

A small test placed directly below the bench face revealed a wellprepared, plastered floor for the kiva. In all, at least seven plasterings were noted, each up to 10 mm thick, well smoothed and very light gray in color. No features were found in this test.

Wall and Floor Features. A bench was encountered against the north wall. It is 75 cm wide and rises 70 cm above Floor 1. At least five coats, 3-5 mm thick, of alternating white and smoked plaster covered the bench. A narrow groove, about 10 cm wide and over 10 cm deep, separated the bench top from the kiva wall. In this groove and extending at least 40 cm up the wall are the decayed remains of five or six poles (3-4 cm in diameter) set horizontal and parallel to the bench and wall. These were encased in badly decayed, organic material similar to the wainscoting construction noted in other greathouse kivas, except that the poles were not vertical (see Lekson 1984:54, 58-60, for a summary). These poles extended from or butted the narrow pilaster that was partially exposed in the test trench. Martin (1936:42, Plates 48, 58-59) found pole shelves between pilasters in the kivas at the Lowry Ruin, but those in Kiva 10 were against the wall and not practical for use as shelves.

Extending 130 cm above the bench top was a 20 by 20 cm pilaster built against the kiva's north wall. It is in excellent condition and probably is at or near its original height. At least five coats of plaster, identical to those on the bench, covered the pilaster. It is difficult to construe the feature as a functional pilaster because of its small size. It simply is not substantial enough to have supported the massive beams necessary for a cribbed roof 8 m in diameter. Instead, the pilaster might have functioned as a support for the wainscoting construction. Traditional Chacoan, low, log and masonry pilasters are expected in Kiva 10 for support of the cribbed roof (see Lekson 1984).

Directly behind and at the top of the pilaster is a 5-7-cm-diameter pole set horizontal and parallel to the wall. Possibly this pole marks the top of a former wall niche (opposite the ventilator), now blocked by the pilaster.

Floor 1 Artifacts. None observed in the small test pit to the floor.

Walls

Initially, Kiva 10 was approximately 8.6-9 m in diameter. When its north wall was rebuilt slightly to the south to accommodate the corridor room, the chamber was reduced to 8 m in diameter. None of the kiva walls were photographed, but Lekson believes that they were faced with Judd's Type 2 masonry, similar to the walls in Rooms 142 and 146, with little or no ground stone visible. The top of the kiva wall ran slightly under the south wall of Room 143, 320 cm below the site datum. An earlier Kiva 10 wall was uncovered within Grid 12 in Room 143 at a depth of 295 cm. The projected arc of the latter wall would carry it directly around the front of Room 147, under the elevated area that provided direct access between Room 147 and the kiva.

Additional evidence of kiva remodeling was discovered in the plaza when a pair of wall arcs were found along the northwestern edge of Kiva 10. They were separated by about 25 cm of fill at the northwestern side of Kiva 10 but drew together until they were contiguous farther south. The outer masonry wall was about 25 cm wide and plastered on the interior face. The inner wall was 50 cm wide. The projected outer wall matched the arc of the wall under Room 143, and the inner wall closed the shorter arc to the wall in the kiva test trench below the exterior of Room 143 and Door 13.

Summary and Conclusions

Little can be determined of the use of Kiva 10 from the floor features and the cultural material left on the floor that we were unable to glimpse. Its shape, size, and the wall features encountered do not suggest Kiva 10 was atypical for greathouse court kivas of the A.D. 1000s, but its central location next to the Central Roomblock and a size that reaches the lower limits of great kiva size are unusual. Kiva 10 was built in the early A.D. 1000s as part of the initial Central Roomblock suite that was excavated (Suite D). When the corridor room (143) was later expanded to the east, the kiva was reduced in size but retained its physical connection with the rooms behind it. Drifts of aeolian sands on the floor and associated ceramics in the sands suggest a period of kiva and, perhaps, site abandonment in the late A.D. 1000s. After some possible lapse in time, Kiva 10 was used as a refuse pit in the early A.D. 1100s by dwellers using the adjacent rooms.

The Associated Northern Plaza Area (Plaza 1, Grid 8) (Figures 2.39-2.40)

Part of the strategy for examining socioeconomic units at Pueblo Alto included examining the plaza areas associated with room excavations. For the Central Roomblock, this meant testing the area in front of Room 143 in Plaza Grid 8 and parts of Grids 7 and 9. To simplify reporting, this area is always referred to as Plaza Grid 8.



Figure 2.40. Plaza 1, Grid 8, Floors 2-9, plan views.

Strategy

Anticipating major work in the area resulted in two test trenches being cut through the postoccupational fill in front of Room 143. One, TT 1, extended south from the central door in Room 143, and the other ran along the front wall of the room. These went through the postoccupational debris to the uppermost plaza surface, which permitted determination of the overburden depth and the density of cultural debris. The wall fall was relatively sterile so it was all removed by backhoe in front of Room The sandy deposit covering the uppermost use surface was removed by 143. None of the postoccupational fill was screened, except in TT 1, hand. although all units below Layer 2 were screened through 1/4 in. mesh. Surfaces and floors are interchangeable terms when we describe work in the plaza. All the outdoor surfaces in Plaza Grid 8, however, were designated as floors because many were prepared rather than formed by use.

In 1978, an 80-85-cm-wide trench was extended 4.7 m into the plaza area from Door 14, Room 143, to reach an east-west exploratory trench opened in 1976. The goal for TT 1 was to learn the stratigraphic history of the plaza area and to correlate it with the room occupations. After profiling and describing the various depositional units, we wanted to expand our exploratory trench along the horizontal surfaces between Kivas 3 and 10 to obtain information on plaza activities in proximity to the excavated room suite. For the most part, stripping was confined to the area east of TT 1. Natural units identified during the trench profiling were tagged to aid in correlating units uncovered during later surface Nevertheless, some insoluble problems occurred in matching stripping. units between the two areas of work. The units described here are listed in chronological order, latest to earliest, and not as they were numbered. Features were numbered sequentially as they were found for the entire vertical and horizontal area rather than for each floor as was the usual procedure.

Horizontal control was kept by subdividing the main plaza grids (i.e., Grids 7 through 9) into 60 smaller units or subgrids 1 m square and numbered sequentially for the entire area across plaza grids (Figure 2.40). These subgrids were slightly smaller along the row closest to Room 143 where the plaza grid layout did not quite align with the room wall. This left the first-row subgrids only 50 cm wide, north to south. The impacted area in front of Room 143 covered approximately 12 m (east-west) by 4.5 m, although only about 11.5 m² (14 subgrids) were eventually cleared down a few surfaces.

Fill (Figure 2.39)

Layer 1. The uppermost deposits were composed of a compacted mass of gray clay, mortar and wall stone, interspersed with aeolian sand, up to 1 m thick. This material sloped 4 m from Room 143 into the plaza and, for the most part, was about 13 cm thick. There is little doubt that most of this material derived from the disintegration of the wall fabric of Room 143. The bulk of the layer contained very little cultural material and almost none was collected. The majority of the postoccupational fill was removed with the backhoe and not screened.

Floor 1

Only a tiny remnant of the uppermost surface of clayey-sand plaster, 1-2 mm thick, remained east of Subgrid 5 next to TT 1. Debris under this surface (in Layer 2) suggested that Floor 1 was formed after abandonment of the Central Roomblock, perhaps from alluviated wall plaster.

Floor 1 Features and Artifacts. None.

Layer 2

Although similar to Layer 1, this deposit revealed a great diversity of construction debris that suggested the initial decomposition of the nearby room walls and roofs, perhaps even from dismantled roofs. Frequent inclusions of wall plaster, some with whitewashed surfaces, adobe and clay chunks, bits of juniper, and pockets of aeolian sand were scattered throughout the deposit dominated by wall rubble. Trash was sparse. The upper 1-10 cm (Layer 2A) exhibited considerable weathering in the form of water laminations and melted adobe, alternating with lenses of nonweathered deposits. The lower 1-8 cm (Layer 2B) revealed little weathering and must have accumulated more rapidly than the layer above it. Layer 2A also contained several burned spots similiar to those observed in the postoccupational fill of the adjacent rooms and indicative of some temporary, hasty use of the abandoned site. A third subunit (Layer 2C), underlying Layer 2B, was primarily aeolian sand mixed with wall plaster. This deposit was thickest (8 cm) closest to the Room 143 wall and extended south 127 cm before pinching out. The overall Layer 2 thickness was 18 cm.

Floor 2 (Figure 2.40)

A number of replasterings comprise Floor 2 (including Layers 3 and 4; see below), a surface of much use and repair. Reddish, sandy clay up to 15 mm thick was the plaster of choice. Different surfaces were often identified by a scattering of calcium carbonate on top.

<u>Floor 2 Features</u>. Two pits were found during clearing of part of the surface, both in front of the juncture between the old and new sections of the Room 143 south wall. OP 1, a large pit filled with hard sand and a few pieces of ground stone, just opposite PH 6 in Room 143, was probably the remains of a post step. A ragged hole between the juncture of the old and new south walls (Figure 2.29, Plate 2.42), and the postholes adjacent to the break, provide evidence of a former door. PH 2, next to OP 1, still contained shims, lignite packing, and a post mold that attests to its true function. PH 2 was 90 cm from the Room 143 wall, a distance similar to that of several other postholes found in this plaza area and suggestive of a ramada or portico roof support.

<u>Floor 2 Artifacts</u>. Ceramics lying on the surface confirm its period of use to the early A.D. 1100s.

Layer 3

Layer 3 was a replastering of Floor 2, 2-3 cm thick, of clayey sand.

Layer 4

Another replastering close to the wall, 2-4 cm thick, of Floor 2 was designated Layer 4. A moderate amount of cultural material came from this unit, including ceramics deposited in the early A.D. 1100s.

Layer 5

A deposit of residual soil and adobe fragments, spalls, and a few burned stones in a sand matrix that extended south from Room 143 233 cm before being truncated by erosion was mapped in TT 1. When it was cleared to the east, the deposit was primarily clayey sand with intrusions of reddish, residual soil. Cultural material, including charcoal, was rare.

Floor 3 (Figure 2.40)

The top of Layer 7 was an unprepared, compacted, use surface strewn with small pockets of aeolian sand (of Layer 5) where gouges had been made into Layer 7. The surface extended 222 cm out from the room, dropping 10 cm in elevation, before disappearing. Small patches of adobe plaster (Floor 3A or Layer 6), 1-3 cm thick, along the southern margins appear to have been attempts to level the uneven surface.

Floor 3 Features and Artifacts. None.

Layer 7

In TT 1, this deposit extended south between 210 and 250 cm from the room wall, averaging 3-7 cm thick. It was composed of chunks of residual soil, small stones, caliche, and hard chunks of clay, sometimes surrounded by sand. Plaza stripping to the east revealed the deposit was formed from clumped, whitish-tan, residual clays scattered in a small amount of reddish sand matrix. Rodent activity was evident in Subgrids 7 and 18. In profile, the unit appeared to be a structural component of Floor 3, but surface stripping suggested it was spoil derived from excavations into residual soils nearby. Both interpretations could be correct.

Layer 8

Possibly this was an attempt to replaster Floor 4. It was limited in extent (i.e., to TT 1), 25-30 mm thick, formed from a brown, clayey sand, and void of cultural material.

Layer 9

Reddish, clayey sand, 1 to 3 cm thick, represented the first replastering of Floor 4. Near Kiva 10 was a low, widespread mound of gravelly material, lumps of reddish clay, and pieces of selenite and coal lignite that reached a maximum height of 18 cm in the center. Composition of the pile indicates origins from natural strata just above the bedrock that was removed during subsurface excavations.

Floor 4 (Figure 2.40)

Similar to Floor 3 above it, this appeared to be another worn, wellcompacted surface. Areas of it were cracked and a staining (6 by 6 cm) of charcoal trampled into the surface marked one spot. Typically, several areas of clayey sand plaster appear to mark efforts at repairing or leveling the surface if not the worn remains of the former prepared flooring. At least three episodes of replastering were evident. A 1-cm-thick blanket of aeolian sand covered much of the surface after its last use (this was not numbered or shown in the plaza profile). Wall plaster from the Room 143 wall lapped over one replastering and out on to the plaza for 8 cm. Underneath, sections of plastered Floor 4 continued up the room wall for a distance of 22 cm (at Layer 2) where the remainder had been eroded off the wall.

Floor 4 Features. Two postholes and two other pits were associated with the area cleared. Conceivably, all four pits were postholes to support a ramada or balcony that shaded the areas closest to Room 143. Other features were not found.

<u>Floor 4 Artifacts</u>. Little cultural material was evident, a situation typical of the outdoor surfaces. The few ceramics, most from OP 2, suggest the period of use to be coeval with the initial construction and occupation of the suite rooms, a sharp departure from the early A.D. 1100 ceramics found in and on the units not far above (i.e., Layer 4). Caution must be exercised because of the great depth of OP 2 (78 cm) that may have penetrated earlier deposits and, therefore, may have biased the ceramic sample. OP 2 was unlined and its lower limits difficult to define except for the guidance provided from digging-stick marks along the pit sides. It is suspected, then, that the temporal leap suggested by the ceramics between Floor 4 and Layer 4, stratigraphically close to one another, was a real one.

Layer 10

A deposit of puddled, reddish, clayey sand mixed with quarried, residual soil of caliche-impregnated sands formed the base preparation for Floor 4. Thickness of the deposit ranged between 15 and 70 mm, but generally averaged 40-50 mm and extended out for about 192 cm (in TT 1).

Floor 5 (Figure 2.40)

No formal preparation was evident for the trampled top of Layer 11. Despite its uneven nature, the surface revealed that foot traffic was responsible for the numerous chunks of clay, adobe, and stone pressed into its surface. In places, it was stained by calcium carbonate, and along the room wall a 20-cm-wide strip of gray, clayey sand on top of it apparently derived from melting wall plaster. <u>Floor 5 Features</u>. A single, large pit was profiled in the west side of TT 1. No excavation of the feature was attempted nor was it numbered.

Floor 5 Artifacts. None.

Layer 11

Like many depositional units, this was composed of reddish, clayey sand with sparse inclusions of fragmented residual soils and very little charcoal and cultural material. In the TT l profile, it extended out 247 cm from the room wall and averaged between 3 and 4 cm thick. A few laminations of gray clay occurred in the layer, probably from melted wall mortar. The layer may have been intentionally placed for use as a walking surface.

Floor 6 (Figure 2.40)

Here, for the first time, the depositional units reversed the trend of sloping downward from Room 143. Floor 6 rose slightly near the southern end of its 155-cm extent. A small patch of gray clay plaster exposed in the western edge of the clearing (in Subgrids 5 and 20) was the only indication of preparation of the otherwise compacted, walking surface on top of Layers 12 and 13. Melted, gray clay and sandstone spalls littered the surface from wall construction discard. Just below Floor 6, the Room 143 south wall veneer terminated and, therefore, the debris on Floor 6 probably attests to the wall's initial stage of construction. The wall foundation was offset under the veneer and was not thoroughly investigated. This surface (along with Floor 7) corresponds with Floors 7 and 8 in Room 143.

<u>Floor 6 Features</u>. Probably all five pits uncovered during the surface clearing were postholes, although only four were so designated. There can be little doubt of the function of PH 1, 3, and 7, which were still lined with plaster and shims and contained postmolds, 10 to 18 cm in diameter. All three had been placed 40 to 50 cm south of the room wall and between 75 and 100 cm apart. PH 5 extended the row 90 cm from PH 7 but was set farther out from the wall (130 cm) than the others. Depths of all four postholes were similar (mean depth = 35 cm, range 31-40 cm, sd = 3.9), additional evidence for a single episode of placement. OP 4 may be part of the group but was deeper (60 cm) and placed beyond the row, perhaps as an auxiliary post for the superstructure or for nonsupport. OP 5 was of questionable manufacture. A scatter of animal bones, chipped stone debris, and ceramics from a Red Mesa assemblage was found in the various pits.

Although the function of the posts for support of a superstructure seemed certain, the posts were removed after abandonment of the floor (i.e., after the wall was completed). The conclusion drawn from the apparent short-lived use of the posts is that they were part of construction activities (e.g., for scaffolding) rather than for a sun shelter.
Floor 6 Artifacts. The only cultural material recovered from the floor was a prairie dog bone.

Layer 13

This deposit was similiar in content to Layer 11 and appeared to have been intentionally placed to raise the plaza surface. Foot traffic across Floor 6 had mashed spalls and chunks of adobe into the top part of the layer and, from below, off Floor 7. The southern end of the deposit was directly overlain by Layer 2 because the intervening deposits had eroded away. Overall, the deposit averaged about 5 cm thick. The few ceramics reveal deposition in the early A.D. 1000s.

Floor 7 (Figure 2.40)

Like Floor 6, with which it eventually merges 80 cm south of the room wall, this undulating, unprepared surface was covered with a thin scatter of melted gray clay, clay chunks, and sandstone spalls. South of the merger with Floor 6, the deposit dipped under Layer 13 and ran for another 360 cm, covering Layers 12 and 19 along the way, before disappearing. The material on both Floors 6 and 7 probably came from the construction of the room wall, although, sometime during the work, an effort was made to raise Floor 6 with Layer 13 material. The lack of post supports in Floor 7 is not inconsistent with their presence in Floor 6 if the wall had not progressed high enough to require scaffolding.

<u>Floor 7 Features</u>. A single, but unexcavated, pit was recorded in Subgrid 17.

Floor 7 Artifacts. No cultural material was found.

Layer 12

Overlying Floor 9 in Room 143 was a deposit up to 14 cm thick (average, 7 cm thick) of clean sand (Layer 13) that continued under the south wall of the room and into the plaza for 190 cm (as Layer 12) before its truncation by Floor 7. At the base of the room wall it was 14 cm thick but gradually thinned out toward the south. Construction debris intruded the lower and upper parts of the sand along with fragments of residual soil that may have derived from placing wall foundations for the Central Roomblock.

Floor 8 (Figure 2.40)

A hard, prepared coating of clayey sand mud (up to 5 mm thick), spotted with calcium carbonate, ran the length of TT 1 and under Room 143 (as Floor 9). This surface apparently was weathered away about 140 cm from the room wall where it became a compacted surface of aeolian sand in Layer 18. To the east of TT 1, Floor 8 merged with Floor 9 to form a single unit. In places, trash (Layer 14) intruded through the flooring.

Floor 8 Features. Two postholes were uncovered outside TT 1 in Subgrids 5 and 20. PH 8 was left unexcavated but shares a similar location to postholes described for Floor 6, and perhaps it was missed on Floor 6. It overlay the foundation extension jutting south from Room 50. PH 8, nearby, however, also suggested that the two postholes could have been associated with the same structure associated with Floor 8. A third shallow pit was found below the Room 143 wall but it may not be a real feature.

<u>Floor 8 Artifacts</u>. Cultural material littered the intact areas of the floor. Spalls, chunks of clay, sherds, and small bones (mostly rabbit) were profuse. Fill in contact with this flooring was screened through 1/16 in. mesh. The construction material does not come from the south wall of Room 143 and must have come from walls further north.

Layer 14

A thin (2-3 cm), trashy deposit of sherds, chipped stone, bone, charcoal, spalls, gravel, etc., comprised this unit. Clayey sand forms the primary matrix. The composition of this unit and its depth at 314 cm below site datum matched Layer 14 under Room 143.

Layer 18

Extending south of Layer 14, against which it butted, a layer of aeolian, clayey sand dipped rapidly into a pit of unknown depth at the southern end of TT 1. Occasionally, spalls, charcoal flecks, small stones, and moderate amounts of sherds, chipped stone, and bone were found in the sand. Except in the pit, the sand was unstratified from water deposition. For the most part, the unit was 5-7 cm thick. It was under Layer 19 and rested on a dense trash deposit, Layer 15.

Layer 16

Just under Layer 14 was a 3-cm-thick accumulation of trash in a brown, clayey sand matrix. Separation of this deposit from that above it (Layer 14) and that below it (Layer 17) was made on the basis of minor episodes of water-deposited laminae. At times the deposit was difficult to separate from Layers 14 and 17, and all three, as well as Layer 15, probably were part of a continual episode of trash deposition that may have come from occupation of Rooms 50 and 51 or earlier. The layer began 103 cm from the room wall and pinched out at 183 cm where Floors 8 and 9 joined. Layer 16 was screened through 1/16 in. mesh.

Layer 15

The largest volume of early trash found at Pueblo Alto came from a deep pit cut into the soft, underlying bedrock. Levels 2 through 9 of the deposit comprised 1 m³ of fill. Although we were unable to discover the true nature of the pit, a pitstructure was suspected. The dipping stratigraphy suggested that more than a modest size pit had been filled. We reached a depth of 160 cm for the layer (483 cm BSD) before striking a flat plane of bedrock. The pit appeared to go deeper just to the south of our test. No masonry or plastering of the pit walls was observed, however.

The trash of Layer 15 was characterized by a high density of charcoal $(10-15 \text{ flecks per } 100 \text{ cm}^2)$, adobe chunks, stones, sherds, chipped stone, and bone in a discolored, clayey sand matrix. The upper part (Layer 15A) was mostly (95 percent) chunks of adobe from razed structures, interspersed with a few stones and pockets of aeolian sand. Layer 15A was mostly about 18 cm deep. In addition to normal screening, part was fine (1/16 in.) screened.

Layer 15B (Levels 3-6), 60 cm deep, revealed 25 to 30 charcoal flecks per 100 cm², numerous calcium carbonate nodules, and a high density of cultural debris. Several individual-container dumps were visible in profile. Two major lenses of laminae near the bottom mark two periods of rainfall. All fill from 15B was fine screened.

A drop in trash density was evident for Layer 15C (Levels 7-9), with a corresponding increase in sand, adobe, stone, and native clay. Charcoal density had dropped to only 5 flecks per 100 cm². Additional periods of rainfall created two or three laminae. Screening for 15C reverted to 1/4in. mesh.

Aside from the usual household refuse, Layer 15 yielded numerous black stone beads and chips of turquoise from bead and ornament making (Mathien 1985). Bead-making refuse from a contemporary, small site in Chaco (29SJ 629) was associated with chipped stone of splintery, petrified wood (material type 1140), which was also a common material found in Layer Identified faunal remains were predominantly rabbit 15 (Cameron 1985). [86 percent of 369 elements and 10 of 26 minimal number of individuals (MNI)], although a few elements of red-tailed hawk, golden eagle, horned lark, common raven, pinyon jay, and bobcat were also present (Akins Turkey bones were absent and artiodactyl rare (7 elements and 2 1985a). The very low incidence of checking (2 percent of 1,156) indicates MNI). minimal exposure to the elements and rapid deposition. Akins (1985a:122) suggested that deposition occurred in the fall. The ceramic assemblage represented by Layer 15 was typologically the earliest for the site, dating in the late A.D. 900s or very early A.D. 1000s.

Floor 9

Just north of the suspected pitstructure was a smooth, reddish, clayey surface that reached a maximum of 7 cm thickness and most likely is the same as its namesake under Room 143. In places, the surface was ephemeral and difficult to follow, particularly where it overlay Layer 17 trash. Elsewhere, a plastered coat was evident and was designated Layer 20. Floor 9 merged with Floor 8 east of TT 1 and possibly also to the north.

Layer 17 (also Layer 21)

Two sections of trash and charcoal were designated as separate units but probably were a single deposit. This unit first appeared 103 cm south of the room wall and then reappeared in the side of the suspected pitstructure. It ranged in depth from 1-3 cm.

Floor 10

A water-washed surface on Layer 22 was designated Floor 10. This and the following units were exposed in the side of the suspected pitstructure but have not been excavated.

Layer 22

This was a thin deposit of crushed, residual soil placed, apparently, to raise the plaza level.

Floor 11

This surface was part of Floor 10 but overlay Layer 23.

Layer 23

Slightly higher densities of adobe chunks and large stones were the only differences in this deposit compared to Layer 22.

Floor 12

This unit was created by water and revealed no cultural use.

Layer 24

Spoil from subsurface excavations into bedrock and clay created the 19-cm-thick deposit that revealed some early construction at the site.

Floor 13

Like Floor 12, this was another surface washed by water and probably not a behavioral surface.

Layer 25

Trash formed this deposit. Charcoal density was high, ranging between 25 and 30 flecks per 100 cm^2 .

Floor 14

The earliest surface exposed in the Plaza Grid 8 area testing was on sterile deposits. It was flat and smooth, possibly prepared, although its general appearance was similar to Floors 10 through 13 above it. Probably these were all natural and not modified by intensive foot traffic.

Walls

The bottom of the Room 143/236 south-wall veneer extended slightly into Layer 12 (see Room 143/236 notes) from Floor 6. Most of the wall plaster had been washed away, but the remainder revealed that the initial coats were applied during use of the plaza Floor 4. Numerous fragments of multicoat plaster scattered in the postoccupational fill (Layer 2) attest to the presence of at least three applications. A tan coat had been first applied, followed by a white coat, and then a final orange coat.

Summary and Conclusions

A succession of plaza use and filling was revealed by the testing and clearing with some correspondence to units in the plaza and in Room 143. Additional evidence of pre-greathouse construction and occupation was manifest among several surfaces and deposits below the greathouse walls that revealed early trash and construction debris and a possible pitstructure. Some of these units were associated with use of Rooms 50 and 51 whereas others were earlier. After construction of Room 143, the discard of trash diminished and was replaced by increased plaza use and surface preparation similar to the plaza stratigraphy exposed in the western area. Although plaza areas adjacent to contemporary, small-house rooms were the focus of intense outdoor activity revealed by features and cultural debris (Truell 1986), such was not the pattern from our excavations in front of Room 143. Continuity between Pueblo Alto and small-site plazas was primarily in one aspect, the presence of a ramada or portico to provide shade adjacent to the rooms. Even in this case, however, we cannot be sure that the row of post supports extending parallel to Room 143/236 was not for another type of structure, perhaps a balcony. Although we were unable to expose large tracts of every surface, the general lack of firepits, heating pits, burns, storage pits, mealing bins, etc., seemed contrary to small-site use of similar areas.

Summary and Conclusions

The oldest cultural features at Pueblo Alto were uncovered under the Central Roomblock in the form of a number of large, basin-shaped pits dug into the native, sterile deposits under Room 142 and 146. An archeomagnetic sample taken from one yielded the earliest date at Pueblo Alto, A.D. 980 + 48, which is not unreasonable given the stratigraphic and ceramic contexts and other absolute dates from the site. Globs of clay in some of the pits suggest that the primary activity associated with the surface on which they were located was building construction. Most of the pits were unburned (16 of 20) and large. Unfortunately, no structures were found with the work surface. After this, another work surface that was also littered with pits appeared just above the first. Again, no structure was found associated with the pits; most (12 of 13) were heating pits and represented expedient food-processing activities. Yet a third work surface (Floors 6 and 7 in Room 142 and Floor 4 in Room 146), with five large heating pits and four other kinds of pits, including one for mixing adobe, revealed activity at the site before the first signs of greathouse residence appeared.

Finally, a two-room house and associated plaza areas appeared on the fourth use surface above sterile. Unlike those of many small houses, the foundations were as large as those used later for the construction of Pueblo Alto. Nevertheless, the use of space was similar to other small Pueblo II house sites. The western, or back, room (Room 50) was nearly devoid of features and had a single floor. The eastern, or front, room (Room 51) contained the conventional equipment attributed to a habitation room: a number of diverse pits, including storage pits, heating pits, and a formal, slab-lined firepit were scattered over three floors. A large cavity in the bedrock to the south of the small house was filled with early trash that may have derived from the two-room or earlier occupation. The cavity may be a pitstructure associated with the small house. A thin broadcast of early trash also underlay the West Wing, which may have marked the presence of other small houses under Pueblo Alto in the early A.D. 1000s. The relationship of the two-room house to the later greathouse construction is unclear, although some continuity in purpose is presumed to have existed.

The small-house occupation was followed by the construction of the greathouse of Pueblo Alto between A.D. 1020 and 1040. Rooms 50 and 51 were dismantled, and Rooms 142, 143, and 146 built in stages over them after the remaining rooms in the new suite (Suite D), Rooms 138, 139, and 144, were constructed. The latter three rooms were built at a lower level than Rooms 50 and 51, which may indicate that considerable native soil immediately north of the paired rooms was removed by the builders to anchor the backroom wall foundations (see Figure 2.41 for a schematic of the suite construction). Any vestiges of earlier structures in the latter area would also have been removed. The rooms built over and north of Rooms 50 and 51, as part of the Central Roomblock, were part of one of the earliest greathouse suites at Pueblo Alto. Kiva 10 was also likely to have been constructed at the same time as the rooms.

A multitude and variety of features, ethnobotanical remains, and artifacts reveal that a number of activities were concurrent with the suite construction. The presence of construction debris in many of the features (e.g., in Room 139) reveals that many of the feature functions were terminated before completion of the rooms.

The discovery of the early Kiva 10 wall under Room 143 and its central location to the block of early suites indicate that it probably was built as part of the initial greathouse construction. It is clear that direct access was provided between Kiva 10 and the suite excavated, and it is possible that access was also provided initially between Kiva 10 and the suite just to the east.

The period between construction in the early A.D. 1000s and the final occupation in the early A.D. 1100s is the most difficult to comprehend in this suite. Although the picture presented from excavation is, for the most part, stratigraphically simple, the predicted longevity of room use indicates a more complex situation than meets the eye. Except in the corridor passage (Room 143/236) and in Room 147, presumably of late construction, floors in the suite appear to have been used either during construction or for the terminal occupation, with nothing to show for the intervening period between about A.D. 1050 and 1100. This phenomenon is peculiar when it is evident that the period is represented by a massive



Figure 2.41. Central Roomblock, schematic of construction sequence: A) Pre-greathouse construction of Rooms 50 and 51 over earlier deposits. B) Rooms razed and the deposits north of the two rooms stripped to sterile soil. C) Construction of wall foundation trenches for Rooms 138, 139, and 144. D) Walls partly built from a modified plan that does not mirror the foundation layout. E) Construction of wall foundation trenches for Rooms 142 and 143 built over former Rooms 50 and 51, and F) Rooms 138, 139, and 144 filled with sand to elevate the floors. G) Walls completed for Rooms 138, 139, 142, 143, and 144. H) Cross walls added to subdivide Rooms 139 and 142. volume of refuse in the Trash Mound and by habitation rooms in the West Wing. The suite is essentially without features that suggest habitation activities except in Rooms 143/236 and 147. Perhaps the primary function of the room suite for storage, then, is responsible for the lack of physical remains that might mark the period in question. Exploring the storage issue provides a number of alternatives to the possible hiatus in suite use.

If the upper flooring found in the back rooms of the suite was the initial flooring for the intended first use of the rooms, the pristine The floors could not have remained in floor condition must be explained. excellent condition for decades unless there was no use of the rooms--an improbable occurrence. Storage of goods or articles could only be done in two ways. Either the material was stored in containers, left loose to be piled or stacked on the floors, or hung from the ceiling. If the material was loose, some of it would have pressed into the flooring or left marks of some sort. Stored foodstuffs should have left evidence of pollen, chaff, fragments of stalk, leaves, tassels, or seeds on the floor. Ethnobotanical remains off the upper floors, however, were generally uninforma-Remains that seemed promising tive regarding use of economic species. were undoubtedly associated with impromptu cooking(?) fires set on the floors during the terminal occupation. Goods and articles stored in containers or hung from above would have required periodic removal, causing the floor to be scratched or damaged. At a minimum, foot traffic over extended periods of time would have resulted in floor wear (Appendix MF-B), which is quite evident in the front rooms of the suite and in the West Wing habitation rooms.

Use of the upper room floors, then, was minimal. Items may have been stored for long periods of time with little rearrangement or for short periods of time with long periods of no use. Whatever items might have been stored, they do not seem to have been foodstuffs. The rooms closest to the plaza (Room 143/236 and Room 142) did contain lower floors that revealed extensive wear and replastering, but the uppermost floors in each room were also in excellent condition.

There is a suspicion that the nicely plastered, upper floor in all suite rooms was applied long after construction and initial use of the rooms. The best evidence for this came from the cross wall dividing Rooms Because this wall blocked the original door into Room 144 139 from 145. and its foundation was footed high in the fill above the others, it clearly was a later addition to the suite. Above the door in the cross wall were two holes that were built in the wall at construction. Both once contained large horizontal logs that probably supported a shelf above the door on both sides. These logs were removed after an unknown span of time and the holes sealed with soft, sandstone blocks that contrasted with the surrounding masonry. In addition, after the cross wall was built, the north wall against which it butted slumped outward, creating a space that was eventually patched. The rooms on both sides of the cross wall were plastered for the first time after the log holes above the door were plugged, and the repairs had been completed when the wall slumped.

A similar situation might exist for the cross wall between Rooms 142 and 146, but it was not explored. Air ventilators built in the walls were sometimes plugged, and the first coat of wall plaster, if it had not washed off, covered these. Wall plaster in all suite rooms essentially did not extend below the upper plastered floor, although around the room edges the latter lapped onto the wall plaster. The modification of ventilators and evidence from the Room 139/145 cross wall, then, reveal that wall and floor plaster were additions made after some, perhaps considerable, lapse of time.

Floor burns occurred throughout the upper suite floors, occasionally in association with combustible material (i.e., grass and brush) but rarely earlier. These burns also occurred in the fill after room abandonment, so the widespread practice of placing fires on the floors and in the fill appeared to be part of the terminal occupation behavior. Archeomagnetic dates (see Volume I, Chapter 8) from burns on the plastered floors were all very late--in fact too late when compared to other dating results that cross-dating places in the early A.D. 1100s. Nevertheless, the archeomagnetic dates cluster, indicating that the events were approximately coeval in time, and the dates seemingly confirm that the pattern was widespread, coeval, and late.

In conclusion, then, there appears to be strong evidence that the plastered floors, sometimes the only floor evident that postdates construction, were post-room construction, and they may date as late as the early A.D. 1100s. It is safe to conclude that for some period of time between construction and terminal occupation there were no prepared floors and plastered walls in the suite rooms. A thick layer of sand may have been the only "floor" preparation in the majority of suite rooms. At the Salmon Ruins, Chacoan storage rooms were filled partially with sand that sufficed as the surface of use (Adams 1980), whereas at Pueblo Bonito and Pueblo del Arroyo, Judd (1959:21; 1964:79) inferred that unplastered rooms were used for storage. Although it is difficult to believe that at least some later material did not get trampled into the soft sand before the floors were plastered, we did not recover a shred of it. Perhaps the upper part of the sand was removed along with any late debris before the plaster was spread. Nevertheless, a late plastering of the room floors and walls seems probable and would explain the vexing problem of a stratigraphic hiatus.

Room 143/236 is the best candidate for habitation in the suite (ignoring Room 147; see below). At least one plastered floor littered with pits and dating in the late A.D. 1000s attests to habitation activities. Facilities for storage and cooking, multiple worn floors, multiple wall plasterings, and direct access to the plaza mirror attributes for the habitation rooms excavated in the West Wing. When the amount of storage space accessible to the Room 143/236 inhabitants was compared with the living space, however, a huge imbalance was evident (90.6 m² versus 16.6 m²). Typically the suite ratio in small houses (Truell 1986:310-315), and some large pueblos (Hill 1970:76), and the West Wing was about equal for storage and living space, a pattern continued historically (e.g., Hill 1982:74; Mindeleff 1891:65). Several aspects of Room 143/236, however, set it apart from other habitation rooms. The walls reveal painted figures. Space is distributed in a long narrow corridor that would restrict the movement of a group of people (Plates 2.54-2.55). When the habitation floor was constructed it was divided by a jacal wall that probably restricted traffic but not verbal communication. This effectively reoriented activities in the room to different areas of the suite. The Room 236 section had door access to the plaza and to most of the suite storage rooms except Room 146. The eastern section, Room 143, was not enclosed at the eastern end and opened out onto the plaza, the Kiva 10 roof, and an open area directly north of Kiva 10 that provided access to Room 146. The latter area apparently could only be reached by crossing the Kiva 10 roof. Both areas suggest special activities, one related to storage and one to ceremonies.

At the same time, the plaza in front of the rooms revealed multiple, prepared, use surfaces. Pits were few in number, and most were postholes. No firepits were found, and little cultural debris was recovered from the associated plaza. A number of postholes on Floor 6 of the plaza may mark an area shaded by a ramada, or for scaffolding.

The latest resurfacing of Room 143/236 produced the uppermost floor (Floor 1), resulting in a reduction of pits. Somewhat earlier, Kiva 10 had been reduced in size to allow the expansion of Room 143 to the east and the construction of Room 147, probably in the early A.D. 1100s. Α well-made heating pit in each room half, which probably functioned for long-term cooking, was about the only pit that remained. The jacal wall dividing the room was modified into a platform or rack, and a new door opened onto the plaza from the east room half (Room 143). Thus, both halves of the room appear as autonomous units in form and function. Unusually high percentages of fir (Abies sp.) pollen, some of it clumped, in both rooms and the paucity of diverse, abundant, economic botanical remains suggest a reliance on ceremonial rather than domestic activities. Historically, fir, for the Hopi at least, is important in kachina ritual and rainmaking as well as being symbolic for the southwestern direction (Whiting 1939:45).

When Room 147 was created, by enclosing the inset plaza space between two major room suites, it provided an alternative area for cooking and heating that led directly into Kiva 10. Painted walls, multiple plastering coats, two firepits, and the direct access into Kiva 10 attest to the special nature of Room 147.

The last use of the suite and Room 143/236 is difficult to pinpoint. Almost no ceramics were found on the floor. Floor burns in the corridor room typical of the suite suggest last use was cursory, probably in the early A.D. 1100s. The storage room floors show little, if any, use. Trash from this period was widespread in the roofing debris and in Kiva 10, but nary an artifact was left on the storage room floors. Upper surfaces of thinly plastered clay or of trampled sand mark the final plaza use. Kiva 10 apparently was abandoned just before the early A.D. 1100s, judging from the sequence of ceramic deposition in it.



Plate 2.54. Room 236, Floor 4-5, west end. Note limited amount of space for habitation demonstrated by Peter McKenna. (NPS#17558)



Plate 2.55. Room 143, Floor 7, showing what congestion must have been like for normal habitation of the room. Looking east at Steve Lekson, Paul Tso, and Wolky Toll. (NPS#17767)

In short, the use of the north-central suite differs considerably from the use documented for the West Wing. Space in the north-central suite was devoted primarily to storage, perhaps of nonfood articles, and to ceremonial activities. Although Room 143/236 can be considered a habitation room, space reserved for such use was very limited and would have been cramped for more than one or two people to use simultaneously. We can only guess at Kiva 10's relationship with the suite, although its spatial context indicates that it is an important one. Habitation in the kiva rather than the surface rooms is an alternative possibility (Lekson 1984) but this would mark a major departure from the occupation observed in the West Wing rooms that is more typical of small-house occupation.

Chapter Three

West Wing and Associated Areas of Plaza 1

Overall Plan

If one subsitutes or removes a wall here or there, then the West Wing (or West Roomblock) could appear a highly symmetrical plan of paired big rooms (25-29 m^2) backed by a row of smaller rooms with cross walls that do not align with the cross walls of those closest to the plaza. Nevertheless, a study of and search for wall abutments, together with excavation, revealed that the perceived symmetry was not quite achieved by the builders. Initially, there may have been five pairs of double rooms, aligned north-south and opening onto Plaza 1. The absence of a wall dividing Room 105 and the lack of doors leading into it from the rooms between it and the plaza (Rooms 103 and 104), however, destroys the envisioned pairing. Kiva 1, built in the northwestern corner of the roomblock, overlies two other pairs of rooms. Our excavations (Figures 3.1-3.2) cleared the remaining paired unit (Rooms 110 and 112) and a solitary unit (Room 103). The wing is particularly intriguing because it revealed a series of habitation suites bordering the plaza.

The row of exterior small rooms $(16-19 \text{ m}^2)$ was connected northsouth but not (initially) to the adjacent plaza-facing rooms. The outer wall of the small rooms was badly deteriorated so that any doors leading to the exterior of the roomblock could not be found, unlike their counterparts in the East Wing. The similarity of the exterior rooms in the two wings, however, suggests that both rows of rooms were associated with roads and exterior activities. A pair of very long, large rooms (36-37 m²) at the southern end of the West Wing and perpendicular to the orientation of the remaining rooms were matched by an analogous room in the East Wing, which again suggests related functions for both wings. Because of their proximity, the two, large, court kivas (Kivas 8 and 13) may have been associated with the West Wing rooms but were not snuggled against the roomblock as were the court kivas along the Central Roomblock.

A number of late room modifications and room and kiva additions in the late A.D. 1000s and early A.D. 1100s have altered the clean symmetry noted for the original construction of the West Wing but these, for the most part, were not investigated.



Figure 3.1. West Wing and associated Plaza 1 plan of excavated areas.



Figure 3.2. The location of profiles through major excavation units in the West Wing and Plaza Feature 1.

Excavated and Tested Units Room 103 (Figures 3.2-3.16)

Initially, there was a contiguous series of five, large, rectangular rooms in the West Wing that opened onto the interior Pueblo Alto plaza. Kiva 1 was later built over the northern two rooms in the late A.D. 1000s. The two excavated by the Chaco Center, Rooms 103 and 110, revealed intensive domestic use, suggesting that all served a like function. The first excavation at Pueblo Alto took place in Room 103, and as such, the excavation was in part exploratory. The room dimensions along the median lines are 775 by 355 cm (27.5 m^2) .

Strategy

Horizontal control of fill material was maintained by eight test pits. They were excavated in a sequence to facilitate recording of the stratigraphy and to remove fill beyond the West Wing. Two initial test pits (TP 1 and 2), 150 by 150 cm, were dug in the western corners at opposite ends of the room and the fill removed in arbitrary 20-cm levels. Following excavation to the uppermost floor fill, the profile faces were profiled and natural stratigraphic units defined. Next, the two grids to the east were removed in the natural units defined from the profiles. The resultant soil faces were then mapped to yield two continuous east-west profiles of the room, 150 cm from the northern and southern ends (Plate 3.1).

The next step removed the eastern half of the remaining central balk, and then the western face was mapped to yield a continuous north-south room profile. An encounter with an east-west partition wall, however, necessitated subdividing the balk into units separated by the wall. Next, the remaining western half of the balk, separated by the wall, was removed. The final steps involved removal of the floor fill (the lowest 10 cm of fill above the upper floor), recording floor fill and floor-contact artifacts, and excavation and description of all Floor 1 features. Pollen and flotation samples were taken from alternate grids according to the small-site system used the previous year (see Cully 1985:187). Each grid was approximately 155 cm by 90 cm, with 12 grids north of the partition wall and 4 south of it. Floor 1 was also selected for pollen and flotation contamination studies of selected grids left exposed over a period of time.

Thus ended the 1976 season. We built a roof to cover the room during the winter and then finished excavating the room in 1977. Subsequent excavation revealed four remaining floors separated by thin, sandy deposits. A new system of $1-m^2$ grids (n = 24) was employed in 1977, and these served as excavational units and for control of fill artifacts and pollen and flotation samples (see M. Toll, Volume III).

All fill from TP 1 and TP 2 was 1/4 in. screened, but this was modified for the remaining balk fill. The upper layer of wall fall was removed with pick and shovel with limited screening (about 50 percent).



Figure 3.3. Room 103, profiles of the fill above Floor 1.



Figure 3.4. Room 103, profiles of major stratigraphic deposits of fill above Floor 1.



Figure 3.5. Room 103, profiles of deposits below Floor 1.



Figure 3.6. Room 103, selected features, plan and profiles. A) Firepit 2 found in the postoccupational wall fall (Layer 1). B) Pit complex in the northwestern corner of Floor 1.



Figure 3.7. Room 103, Floor 1 floor fill. Distribution of artifacts (see Table 3.1 for artifact list). Floor 1 features indicated by dashed lines (except Partition 1).



Figure 3.8. Room 103, Floor 1, plan view and the distribution of floor artifacts (see Table 3.2 for artifact list).



Figure 3.9. Room 103, Floor 2, plan view and the distribution of floor artifacts (see Table 3.3 for artifact list).



Figure 3.10. Room 103, plans and profiles on the mealing bin complexes. A) A set of three bins on Floor 2. B) A set of three bins on Floor 3.



Figure 3.11. Room 103, Floor 3, plan view and the distribution of floor artifacts (see Table 3.4 for artifact list).



Figure 3.12. Room 103, Floor 4, plan view and the distribution of floor artifacts (see Table 3.5 for artifact list).





Figure 3.13. Room 103, east and west wall elevation.



X



Figure 3.14. Room 103, north and south wall elevations. Figure 3.15. Room 103, partition wall elevations.



Figure 3.16. Room 103, initial door and ventilator locations along with later additions (Doors 3-4). The late cross wall with Door 5 is not shown.



Plate 3.1. Room 103 during excavtion of postoccupational fill. Note slab-lined Firepit 2 in deposit of wall fall (Layer 1). 50-cm north arrow. (NPS#13786)



Plate 3.2. Room 103, Firepit 2 in postoccupational wall rubble (Layer 1). 15-cm north arrow. (NPS#13508)

Because of considerably higher artifact density, the lower unit above Floor 1 was excavated with greater care and more intensive screening. Floor fill and features were excavated with nothing larger than trowels and with total screening. Fill from features was put through 1/8 in. mesh in 1976 and 1/4 in. in 1977.

Exact locations for artifacts were recorded from datum points set in the wall tops or on the floor. All depths were recorded as below Datum #1, 120.5 cm below the site datum and set on the highest wall section in the southwestern corner. Photographic recording included multiframe mosaics of all profiles above Floor 1, overlapping photos of all interior walls above Floor 1, 30-ft bipod photos of the fill and floors at various stages of excavation, pre- and postexcavation shots of all features, and other miscellaneous shots. Some experimentation with mapping profiles from photos was tried but, in general, traditional methods employing line levels, string, and tapes, supplemented by photos, were used.

Fill (Figures 3.2 and 3.5)

Postoccupational fill in the room above Floor 1 was composed of two major units: wall fall and a sand and decomposed-roofing-adobe deposit. Both, however, displayed noticeable internal heterogeneity which was recorded as sublayers. Most trash was restricted to the lowest levels of fill above Floor 1. Basically, the sequence of infilling involved the following steps: (1) a slight amount of alluvium washing across the floor soon after abandonment; (2) accumulation of moderately dense, cultural debris, probably through collapse of the roof and the materials on it and from limited trash dumping; (3) accumulation of a massive deposit of fine aeolian sand with small amounts of roofing clay, indicating continued deterioration of the roof; (4) gradual toppling of the upper sections of wall, represented by large amounts of building stone (intact fallen wall sections are rather uncommon and largely restricted to the northern end); and (5) slight deposition of surficial, aeolian sand. The lower 25 cm of fill yielded considerable quantities of roofing adobe, often brush- and reed-impressed, but with few beam impressions. These were all latillasized, and less than 7 cm in diameter (Ingbar 1979).

Layer 1. Basically it was a heterogeneous unit of wall rubble that yielded approximately 18 m³ of sandstone blocks (stone comprises about 36.9 percent of the total fill above Floor 1). It averaged about 1 m in thickness and included the following subunits.

- la: Unconsolidated, surficial, sandy silt
- 1b: Dark, clayey silt present in depressions about 30 cm below the surface
- lc-lg: Wall fall of various matrix colors, rubble density, and sorting
- 1h: Fallen sections of the north wall
- li: Fallen sections of the east wall

Layer 2. Mixed, reddish yellow sand/silt and roofing material comprised the bulk of this unit. It was generally 1-1.5 m thick. Major subunits were the following.

- 2a-b: Loosely packed chunks of adobe, small pieces of chinking, and occasionally numerous, small sherds all found immediately adjacent to the walls
- 2c: The bulk of Layer 2--a fine, reddish, sandy silt with occasional chunks of adobe and locally abundant artifacts
- 2d: Largely roof fall and moderately trashy, in a fine, reddish, sand matrix
- 2e: Roof fall and sand mixed with abundant trash
- 2f-j: Alluvial/aeolian sand with inclusions of clay/adobe nodules less than 1 cm in diameter and occasional roofing fragments
- 2k-1: Fine, alluvial material washed across the floor
- 2m: Thin layer of ash in scattered pockets on the floor and apparently derived from heating pit contents tossed or blown about the room.

Postoccupational Features

Temporary reuse of Room 103 is indicated by two firepits in the fill. The lower of the two, Firepit 1, was crudely built against the north wall 70 cm above Floor 1 and near the top of Layer 2. Firepit 2 (Figure 3.6A), however, was a large, oval, slab-lined pit sunk into the wall rubble of Layer 1 (Plates 3.1-3.2). It is similar to others found in the postoccupational fill at Pueblo Bonito and Kin Kletso (Vivian and Mathews 1965:61, 64). An archeomagnetic sample from it suggested burning occurred in the mid-A.D. 1300s, a date consistent with another dated firepit in the fill of Kiva 14 and not unreasonable, considering its height above the floor. At about the same level as Firepit 2, a copper bell was recovered.

Floor 1 (Figure 3.8, Plates 3.3-3.4)

A 5-10-cm layer of gray clay formed the floor. It was irregular with frequent cracks and buckles, presumably from settling. The last floor constructed was restricted to north of the partition wall, although that south of the wall (structural Floor 2) was used concurrently. This floor had no equivalent in Room 110.

Floor 1 Features. A host of simple, unlined features pockmarked the floor. Despite appearances of intense domestic utilization of the room at this time, there was a surprising absence of formal firepits. Otherwise, the feature assemblage is much like that found in Room 110. Seven typical heating pits were found on the floor, all less than 8 liters in capacity, and considerably smaller than contemporary firepits (Windes 1984a). Three yielded archeomagnetic and carbon-14 dates. A few sampled for fuel species identification revealed the use of saltbush or greasewood, juniper, and pinyon as the preferred fuels (Welsh 1979).

Seven other pits were found, with three of the largest (OP 4-6) superimposed in the northwestern corner along with two heating pits (Figure 3.6B). Fill in these pits consisted primarily of postoccupational debris. Stone-filled OP 1, however, probably served as a door step or landing and not as a container. The others (except for posthole-like OP





Plate 3.3. Room 103, uppermost floor (Floor 1). 50-cm north arrow and 2-m board. (NPS#13584)



Plate 3.4. Room 103, Floor 1, looking south. Note secondary partition wall. Holes in walls are storage niches. 50-cm north arrow. (NPS#13916)

2) were likely used for storage or temporary receptacles. No other feature types were identified. Postholes were conspicuously absent.

Floor 1 Partition Wall. During excavation of the postoccupational fill, a 20-30-cm-thick, poorly made wall was unexpectedly found subdividing the southern one-third of the room. The wall stood at 135 cm but formerly extended to a greater height (although probably not clear to the ceiling). It is butted to the main walls at both ends and was built on top of Floor 3 but used with Floor 2. Masonry is crude and involved copious amounts of mortar. Wall features included numerous niches and a doorway (Door 5) with the sill 55 cm above Floor 1. The wall is duplicated in Room 18 at Chetro Ketl (Lekson 1983b:Plate 16), although no floor features were reported.

Floor 1 and Floor 1 Fill Artifacts (Figures 3.7-3.8, Tables 3.1-3.2). Floor artifacts were moderately abundant with a surprisingly high frequency of ornaments and miscellaneous items. Included were five calcite beads (probably from the same strand) near the north wall, part of a jet ring, a piece of turquoise inlay, two pieces of azurite, two projectile points, a large anvil near the center of the room, an abrader, a metate fragment, three other ground stones, a hammerstone, two clusters of turkey elements, and a few flakes and sherds. In addition, floor-fill artifacts included more turquoise, a two-ply string dyed red, a paint mortar and paint grinder, three projectile points, a shell pendant, numerous abraders, and many mano and metate fragments. Quantities of ceramics, including several restorable vessels (Plate 3.5), were recovered from the floor fill and Layer 2 of early A.D. 1100s deposition, but only a single sherd was actually in contact with the floor. Like the ceramics, debris from stone tool making was abundant in the floor fill and above but only seven pieces came off the floor. The chipped-stone debris was characterized by high frequencies of Washington Pass chert, quartzite, and cherty and splintery, silicified wood.

Faunal remains were also concentrated above the floor. The vast majority of the turkey remains from the room (220 of 222 elements) came from above Floor 1 and in postoccupational fill in some of the Floor 1 pits (Akins 1985a). None of the turkey parts revealed butchering, and the several articulations and muscle splints found suggest that the turkeys Prairie dog remains also occurred in high frequencies were not eaten. above Floor 1 and, along with the high frequencies of turkey, are indicative of early A.D. 1100s deposition; immature and young-adult elements suggested that this deposition occurred in the spring (Akins 1985a). Except for two errant turkey bones in Layer 3, all bird remains came from above Floor 1, including a few elements of quail, hawk, bluebird, lark, kestrel, and swallow. The most prevalent species found throughout all deposits in the room were rabbit, prairie dog, mice, and a sprinkling of mule deer bones.

The similarity of materials off the floor and in the floor fill suggests a common origin--either floor- or roof-derived. Ceramic, metate, and rabbit bone matches demonstrate that Layer 2 (and the floor fill) is a depositional unit related to in situ Floor 1 artifacts. For example,

Artifact	Artifact	Material or T	est Pit	FS
Number	Class	Ceramic Type L	ocation	No •
1	Abrader #1	2000 (sandstone)	TP 5	1138
2	Abrader #2	2000 (sandstone)	TP 6	1137
3	Abrader #3	2000 (sandstone)	TP 6	1137
4	Passive abrader #4	2000 (sandstone)	TP 6	1137
5	Metate fragment #1	2000 (sandstone)	TP 6	1137
6	Abrader #5	2000 (sandstone)	TP 6	1137
7	Abrader #6	2000 (sandstone)	TP 6	1137
8	Abrader #7	2000 (sandstone)	TP 6	1137
9	Abrader #8	2000 (sandstone)	TP 6	1137
10	Abrader #9	2000 (sandstone)	TP 5	1138
11	Abrader #10	2000 (sandstone)	TP 6	1137
12	Turquoise tesserae	5300 (turquoise)	TP 6	_
13	Abrader #11	2000 (sandstone)	TP 5	1138
14	Abrader #12	2000 (sandstone)	TP 1	1140
15	none			
16	Abrader #13	2000 (sandstone)	ТР 5	1138
17	Abrader #14	2000 (sandstone)	TP 5	1138
18	Metate fragment #2	2000 (sandstone)	TP 1	1140
10	Mano fragment #1	2000 (sandstone)	TP 1	1140
20	Abradar #15	2000 (sandstone)	TP 1	1140
20	Metate fragment #3	2000 (sandstone)	TP 5	1138
21	Sido-potobod point #1	1052 (clear chacedony)	тр 1	1140
22	Turkey wing (ulne	1052 (creat chacedony)	тр 5	1138
23	radius carpometacerpus		11 5	1150
24	Mano fragmont #2	2000 (candatona)	Τ ΈΡ 5	1138
2+	Abradar #16	2000 (sandstone)	11 J TD 5	1138
20	Adrader #10	2000 (sandstone)	TD 5	1138
20		=	TTD 5	1139
27	Paint mortar #1	2000 (sandstone)	TP 5	1120
25	Other ground stone #1	2000 (sandstone)		1120
29	Mano/paint grinder	2000 (sandstone)		1120
30	Metate fragment #4	2000 (sandstone)		1120
31	Other ground stone #2	2000 (sandstone)		1150
32	Side-notched point #2	1014 (chalcedonic chert)		1140
33		-	IP 1	1140
34	Mano fragment #3	2000 (sandstone)	TP 4	1139
35	none "o		7 77 (
36	Misc. blade frag #3	1054 (high surface chert)	TP 3	1141
37	Abrader #17	2000 (sandstone)	TP 4	1139
38	none		7 77 0	
39	Metate fragment #5	2000 (sandstone)	TP 3	1141
40	Mano fragment #4	2000 (sandstone)	TP 3	1141
41	Hematite stain	-	TP I	1140
42	String (2 ply, S twist, stained red)	-	TP 8	1143
43	Metate fragment #6	2000 (sandstone)	TP 7	1142
44	Mano fragment #5	2000 (sandstone)	TP 7	1142
45	Worked shell	- (<u>Haliotus cr.</u>)	TP 7	1142
45	Metate fragment #7	2000 (sandstone)	TP 1	1140

Table 3.1. Room 103, Floor 1 fill artifacts.^a

^aSee distribution in Figure 3.7.
Table	3.2.	Room	103,	Floor	1	artifacts.	a
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Artifact	Artifact	Material or	Test Pit	FS
Number	Туре	Ceramic Type	Location	No •
1	Turkey bones (28)	-		1144
2	White bead	- (calcite)	TP 2	1144
3	Corner-notched point	1140 (silicified wood) TP 5	1144
4	Turkey wing		TP 6	1144
5	Ring #1	- (black shale)	TP 4	1144
6	Abrader	2201 (quartzitic sand	stone) TP 4	1144
7	White bead	- (calcite)	TP 2	1144
8	White bead	- (calcite)	TP 2	1144
9	White bead	- (calcite)	TP 2	1144
10	White bead	- (calcite)	TP 2	1144 4
11	Jewelry inlay	5300 (turquoise)	TP 5	1144
12	Other ground stone	2000 (sandstone)	TP 5	1144
13	Flake #1 ^b	-	TP 6	114
14	Other ground stone	2000 (sandstone)	TP 5	1144
15	Other ground stone	2000 (sandstone)	TP 5	1144 4
16	Anvil #2	2000 (sandstone)	TP 5	1144 4
17	Unmodified mineral	5310 (azurite)	TP 1	1144
18	Flake #2 ^b	-	TP 1	114
19	Flake #3 ^b	-	TP 1	114
20	Side-notched point	1112 (dark silicified	wood) TP 1	1144
21	Metate fragment	2000 (sandstone)	TP 7	1144 4
22	Unmodified mineral	5310 (azurite)	TP 1	1144
23	Jar sherds (7)	 indented corruga 	ted TP 7	1144 4
24	Sherd #2 ^b	-	TP 1	1141
25	Chuska jar sherd	- Chuska whiteware	TP 3	1144
26	Sherd #4 ^b	-	TP 1	114
27	Sherd #5 ^b	-	TP 1	114
28	Hammerstone	<pre>1110 (splintery silic wood)</pre>	ified TP 1	1144

aSee distribution in Figure 3.8.

^bRepresented by an utilized flake (1040: Brushy Basin chert), a whole flake (1112: dark silicified wood), and an unutilized flake (1161: red silicified wood). Sherds #2 and 4-5 are represented by a Gallup B/w, a Cibola whiteware, and a Chaco B/w.





B





Plate 3.5. Restorable vessels recovered from the upper floor and in the fill above (Layer 2) in Room 103. A) Tusayan Black-on-red jar. (NPS#15908) B) Chaco-McElmo Black-on-white canteen. (NPS#15906) C)Hunter Corrugated jar. (NPS#15910) D) Coolidge/Chaco Corrugated jar. (NPS#15912)

West Wing 199

pieces of a Tusayan Black-on-red jar (Plate 3.5A) were found as high in the fill as Layer 1 but extended down into a floor pit (OP 4). Many of the metate fragments recovered belonged to a single, restorable, trough metate intentionally broken by a blow to the center. One of those pieces was burned and probably associated with hearth remains found south of the partition just above the floor and HP 5. Evidently, the metate was broken on the roof and then pieces utilized for an informal fireplace. Thus, much of the cultural material must have been roof refuse left at abandonment, which fell into the room.

Other material may have been tossed into the room. A large pile of ground stones, found directly in front (inside) of the central eastern door, was probably thrown in from Room 233. Others that match those in the pile were found south of the partition wall. A large number of sherd matches also reflect contemporary deposition in both ends of the room despite the wall. Little material, therefore, may actually relate to interior room occupation.

Flotation results revealed primarily the presence of unburned, common, weedy species (M. Toll 1985:79), a far cry from results obtained for lower floors. Pollen was more informative, providing evidence for the use of corn and prickly pear (Cully 1985:188, 196). Fir pollen was also present. Unfortunately, lower floors were not analyzed for pollen.

Taken as a whole, the artifacts were not characteristic of the lower habitation floors nor those in Room 110. Nevertheless, most if not all of the material from the floor probably was associated with rooftop activities rather than specific loci within the room. Ethnobotanical evidence also suggests that the room was essentially bare before roof collapse and the discard of material (e.g., ground stone) from Room 233 into the room.

Layer 3

Between Floor 1 and Floor 2 (but absent south of the partition wall) was a mixture of yellowish tan sand, spalls, and lumps of impressed, gray clay or adobe with considerable variation in the composition of the Clay or adobe impressions revealed the use of various constituents. reeds, grass, twigs, and beams between 5 and 10 cm in diameter (Ingbar Occasionally, small rod holes (<1 cm diameter) penetrated the 1979). Also, pieces of "flooring" were intermixed, probably chunks of adobe. from an interior plastered surface, and included lenses of native material common to the locality (selenite, concretions, siliceous gravels, clay, and fragments of hard, caliche-rich, sterile sand). Compaction is high near the top of the layer and moderate below. Cultural material was noticeably concentrated in Grids 12-14 north of the partition, probably from an episode of trash discard.

Field impression of Layer 3 was that of a dismantled roof, suggesting that the roof <u>north</u> of the partition wall had been replaced shortly before, if not in conjunction with, placement of Floor 1. Fill gathered exterior to the room areas was also intentional as indicated by the gravelly and sterile material intermixed with the "roofing." A reexamination

of the "roofing" fragments, however, suggests instead that much of the material was derived from a dismantled, jacal, partition wall located on Floor 2 near the northern end of the room (see Floor 2 partition below).

Floor 2 (Figure 3.9)

This unit is complicated by its absence from the northern 150 cm of the room (where an exposed Floor 3 was used concurrently with Floor 2) and its subsequent later use south of Partition 1 congruent with Floor 1. Despite variations in thickness (0-13 cm), the flooring appeared to be an adobe replastering of Floor 3. Overall, it exhibited a mean thickness of 2 cm in the northern half and 6 cm in the southern half of the room. It was slightly gray from ash staining. The variety and frequency of features on this floor and Floor 3 suggest a similar and coeval use with Floor 1 in Room 110.

Floor 2 Features. The 23 floor pits indicate intensive room use. Those south of Partition 1 could not be separated between Floor 1 and Floor 2 use. All might have originated with Floor 2 and continued in use through occupation of Floor 1. Those found unsealed presumably relate to last use with Floor 1. Again, large formal firepits were absent.

There were nine heating pits. All were unlined, less than 8 liters in volume, and barely scooped into the floor surface. Seven of the nine were placed near the room center and their juxtaposition indicates sequential use. HP 1 was the last used with Floor 2, but the earlier ones (HP 2-7) may have originated with Floor 3. HP numbers reflect their inferred reverse order of use and increased probable association with Floor 3. Although brush and juniper were the preferred fuels, four of the nine also contained carbonized corncobs. Welsh (1979) found that saltbush/greasewood, juniper, pinyon, ponderosa(?) pine, cliffrose, and squawbush were used as heating-pit fuel.

Other pits were few and inconsequential, being primarily mere floor indentations. Only OP 2, with 28 liters of volume, could have served for storage, although Gillespie felt that it resulted from floor repair. It was filled with trash when excavated. Another possible storage facility, of 17 liters volume, was a slab-lined box (Storage Cist 1) built against the north wall. In all, a maximum floor-pit volume of 46 liters existed for storage--similar to contemporary upper surfaces in Room 110. Nevertheless, large-volume, wall-storage facilities probably escaped our attention, based on our experiences in Room 110.

There were six postholes, all north of Partition 1. PH 1-2 and 4 were roughly aligned along the north-south center line in the northern half of the room with the rest against the walls. Some might have held auxiliary roof supports less than 15 cm in diameter, which were removed before Floor 1 was applied. In retrospect, those against the walls were unlikely candidates for roof support. Numerous "roofing" fragments north of Partition 1 and the major post supports suggested to the excavators the possible dismantling and reconstruction of the roof after cessation of Floor 2 occupation. The adobe fragments may have come from a roof as well as a dismantled partition wall (see Partition 2 below).

Mealing bins (Figure 3.10A) were built adjacent to the west wall and 50 cm north of Partition 1. All three bins had been thoroughly dismantled and filled with gravel and adobe in preparation for Floor 1. Their relative room position was identical to an earlier set on Floor 3 and those in Room 110. Apparently, the partition wall was part of a spatial reordering of room activities that saw heating and grinding facilities relocated north of Partition 1 within a reduced living area.

Partition 2. Mention has been made of the complete absence of Floor 2 in the northern 150 cm of the room, which left Floor 3 exposed. This break is marked by a 30-cm-wide, gravel-filled, shallow groove that extends 170 cm from the east wall to at least PH 4. It may have originally extended farther west, but later features destroyed much of this area. The abrupt cessation of Floor 2 and the presence of the gravel strip repeat the story of Partition 1, which rested upon a 30-cm, gravelly foundation. Thus, probably another east-west partition wall, here termed Partition 2, once went with Floor 2 and perhaps with Floor 3 on which it rested.

A re-examination of the "roofing" remains collected (grab-sampled) in Grids 5, 9, 10-11, and 14-15 revealed just 1 (of 43 specimens) of hard, gray clay. It had dual, parallel impressions for beams 5-6 cm in diameter and resembled roofing remains above the upper floor in other excavated rooms. The other pieces were of softer, sandy, tan adobe with impressions of small rods or reeds (<20 mm diameter), stalks, and grass or brush. Some pieces revealed that rods had been completely encased by adobe. Piece thickness (<3 cm) is undeniably much thinner than those recovered above the upper floor in most rooms and thus suggests nonroofing material. Gillespie noted that most of the "beam" fragments were concentrated in the northeastern grids. I suggest, then, that this material came primarily from a dismantled jacal wall that rested on the gravel strip. PH 4 is right in line with the hypothesized partition, and a post in it could have supported the wall.

Floor 2 Artifacts (Table 3.3). Few artifacts were left on or just above the floor, and these probably were associated with Layer 3. Some may represent de facto trash of which the ornaments are the most note-Five of the 18 floor artifacts were ornaments. A black stone worthy. bead came from Grid 10. In Grid 3 was a large, Wingate Black-on-Red bowl sherd, reused as a scoop, that contained a blue turquoise bead and perhaps two other beads and a turquoise pendant. Gillespie feels that rodents, whose little, bony bodies lay nearby, were responsible for displacing the latter ornaments from the sherd. The sherd dates activity here in the early A.D. 1100s either for the floor abandonment or for when the upper floor (Floor 1) was added. Only nine other sherds came from Floor 2 and these were all indented corrugated types. A slightly larger sample recovered from the floor pits was mostly indented corrugated types and Gallup Black-on-white (Plate 3.6A). The samples are very small, but there is a suggestion that perhaps Floor 2 was abandoned for some time before

Table 3.3. Room 103, Floor 2 artifacts.^a

Artifact Number	Artifact Type	Lithic or Ceramic Type	Location	FS No.	
1	Unutilized flake	4000 (red quartzite)	Grid 14	1231	
2	Bone awl	-	Grid 11	1232	
3	Bead, black	- (shale)	Grid 10	1233	
4	Bowl sherd	- Wingate B/r	Grid 3	1234	
5	Bead (in artifact #4)	5300 (turquoise)	Grid 3	1235	
6	Cibola jar sherds (2) (sooted)	- indented corrugated	Grid 8	1213	
7	Chuska jar sherd (sooted)	- indented corrugated	Grid 9	1216	
8	Cibola jar sherds (2) (sooted)	 indented corrugated 	Grid 10	1218	
9	Cibola jar sherd	- indented corrugated	Grid 11	1220	
10	Cibola jar sherd	- Tohatchi neckbanded	Grid 15	1227	
	Cibola jar sherds (2)	 indented corrugated 			
11	Unutilized flake	1080 (Washington Pass chert)	Grid 15	1227	
12	Hammerstone	<pre>1110 (splintery silicified wood)</pre>	Storage Cist l	1244	
13	Bone (1)	-	Grid 7	1211	

^aSee distribution in Figure 3.9.



Plate 3.6. Ceramics recovered from the floors and associated floor fills of Room 103. A) Floor 2 and Layer 3. (NPS#15860-15861)



Plate 3.6. Ceramics recovered from the floor and associated floor fills of Room 103. B) Floor 3 and Layer 4. (NPS#15859)



Plate 3.6. Ceramics recovered from the floor and associated floor fills of Room 103. C) Floor 4 and Layer 5. (NPS#15857-15858)



Plate 3.6. Ceramics recovered from the floor and associated floor fills of Room 103. D) Layer 6 under Floor 4. (NPS#15855) E) Layer 7 under Floor 5. Deposit rested on sterile. (NPS#15856)

Floor 1 was applied. Only 2 pieces of chipped stone came from the floor and 19 from the pits. Floor faunal remains were absent, although those from the pits were mostly rabbit, prairie dog, mice, and artiodactyl. No flotation or pollen samples were processed for Floor 2.

Layer 4

For much of the room Layer 4 was primarily the construction plaster of Floor 2, reaching a thickness of 5-6 cm. Where Floor 2 does not articulate with Floor 3, a 2-cm lens of dirty or clean sand separates the two and was included with Layer 4. South of Partition 1, the layer reaches maximum thickness, 12 cm, with a higher density of spalls, charcoal, clay chunks, and artifacts, although still "light" trash. The greater depth may have been an effort by builders to level the sloping floor and to also cover the dismantled mealing bins that were relocated north of Partition 1. Layer 4, ceramic-dated to the late A.D. 1000s, was deposited after construction of Partition 1.

Floor 3 (Figure 3.11)

A thin, gray film, 3-6 mm thick, overlying a distinctive layer of soft orange sand and occasional pockets of ashy refuse, marked Floor 3. Surprisingly, the original plastering was so thin and fragile that it was easily destroyed by our own foot traffic because of the soft underlying deposits. Its usefulness as a floor must have been short-lived. The numerous adobe patches attest to the inhabitants' problems with it as well. Therefore, the Floor 3 replastering and eventually Floor 2 may have resulted from difficulty with the uselessness of initial Floor 3.

A mass of spalls, blocks, and hammerstones below the south wall door and extending into the southeastern corner indicates that the door was punched into the wall during use of Floor 3 or that it was sealed. Support for the former interpretation is evidenced by a 2-cm-thick "patch" of adobe (145 cm E-W by 50-70 cm) centered below and in front of the door, the probable landing area for traffic through an <u>open</u> door. This material and the remaining area south of Partition 1 were then plastered over with 1-3 cm of hard mud. Parts in Grids 4, 9, and 15 were also replastered. All pits in the southern area were thus covered, except HP 6 and Hearth 1.

<u>Floor 3 Features</u>. Twenty-nine pits were recorded, although others found in Floor 2 south of Partition 1 may have been constructed with Floor 3. Many were left open at the time Floor 3 was replastered.

Hearth 1. This was the closest example of a formal firepit found in the room (Plate 3.7). It was partly overlain by Partition 1 and was built during or after the Floor 3 replastering. Nevertheless, its small, 8-liter capacity, adobe lining, and slight, partial oxidation suggest a function similar to heating pits rather than typical slab-lined living room firepits. Thus, its primary role for extended cooking, heating, or lighting is questionable.



Plate 3.7. Room 103, Floor 3, Hearth 1 and Other Pit 2 underlying partition wall. 30-cm north arrow. (NPS#14492)



Plate 3.8. Room 103, Floor 3, remains of Mealing Bins 1-3. Metates and bin partitions have been removed leaving catch basins. Looking west. (NPS#14436)

Heating pits. These clustered (5 of 7) in the east central part of the room, and were probably used sequentially and then sealed after use, like those in Floor 2. The earlier Floor 2 heating pits (HP 4-7) may have marked a second locus on Floor 3. Fuel for these was mainly saltbush or greasewood with a high secondary preference for coniferous species (juniper, pinyon, and ponderosa pine). All were substantially smaller than firepits (<3 liters) and inadequate for normal heating, cooking, or lighting needs. Six of the heating pits were covered by the floor replastering. If the trend was for sequential use of these pits, as it seems, then rarely was more than a single pit in use at one time. This suggests that heating and cooking needs were not pressing enough to demand larger, more permanent facilities. Communal or seasonal use may have affected the expected pattern of more permanent facilities.

Postholes. The patterns are complicated by the possibility that all those on Floor 2 (except PH 1) may have originated with Floor 3. Despite a range of pit sizes, molds in some suggest that all supported posts less than 15 cm in diameter. Several alignments are evident when those from both floors are combined. A number were found longitudinally along the median line of the room. Aid for a sagging roof is suspected for these. Another alignment crosses east-west beneath the location of Partition 1 (see Partition 3 below).

A less promising arrangement is suggested by the eight in the southern third of the room. All were built or used after the Floor 3 replastering. Those in the corners are impractical for roof supports (corners have low structural beam failure). Schelberg suggests they may have held a wide platform. Unless it was very high, this is unlikely because it would cover the newly built mealing bins and other pits presumably in coeval use with the postholes. Access to the southern door would also be difficult. Perhaps wall shelves or horizontal pole racks were supported by at least the corner posts (PH 1-2) in Floor 3, although in historic times these are often illustrated socketed into the walls (Mindeleff 1891: 110, Plate 86, 209) or suspended from the ceiling.

Other Pits. Eight functionally indistinct pits clustered in the south central floor area, but three of these were reclassified as postholes in the cluster analysis (see Volume I, Chapter 9). Unlike those in Room 110, none was suitable for large bulk storage. Only OP 2, next to Hearth 1, exceeded a 15-liter capacity, and it is a very shallow pit unlikely to be used for storage. It was later filled with discarded ground stone tools and Layer 4 material to support Partition 1. Volumes of other pits were less than 10 liters. The overall storage capacity was not radically altered by the addition of the Floor 2 pits (see notes above).

Mealing Bins. A set of three, contiguous, mealing bins was built in the southwestern corner of the room after Floor 3 was replastered (Figure 3.10B). They were about 45 cm north of the south wall. These were later demolished and the equipment removed when Floor 2 was laid (Plate 3.8). Presumably, the equipment was relocated to the new bins built with Floor 2. Flotation remains in MB 3 yielded unburned, annual weed seeds of the same species found elsewhere off the floor (M. Toll 1985:79). Partition 3. This is suspected to have existed during use of Floor 3 as suggested by the posthole pattern mentioned above. This might have incorporated PH 5-6 from Floor 2 and PH 3-4 and 7 from Floor 3 and closely paralleled the later Partition 1. Unfortunately, the adobe fragments from this area could not be relocated for examination, so the partition's existence must remain conjecture. Again, these postholes might have alternatively been used for platforms or racks (except there seem too many of them for such a function). Another possibility for them is for loom supports, although tie-down anchors were not evident. An area devoid of features and artifacts in the northern part of the room suggests that Partition 2 may also have been used with Floor 3.

<u>Floor 3 Artifacts</u> (Table 3.4). Few artifacts were recovered directly off the floor. A mere two pieces of chipped stone (6 others in pits) attest to the absence of identifiable stone-tool-making activities. Floor bones were also absent but the few from the pits contained the same dominant species found in the Floor 2 pits. Ceramics, dominated by indented corrugated and Gallup Black-on-white sherds (Plate 3.6B), reflect late A.D. 1000s deposition.

Flotation analyses were particularly relevant to the floor occupation. A wide variety of wild, economic plant species (i.e., pigweed, goosefoot, mustard, and purslane) were found unburned off the floor but burned in the heating pits that link all to cultural use (M. Toll 1985: 74). The heating pits also yielded pinyon nut shells and yucca seeds while hedgehog cactus and beeweed seeds came from the floor.

Layer 5

Beneath the complexity of Floor 3 was a deposit of clean, aeolian, tan sand brought in to level the area for Floor 3 (though they blotched the plastering). Inclusions of calcium carbonate (CaCO₃) were common throughout the sand. Rarely, lenses of ash and burned brush occurred at the top of the layer just under Floor 3. The latter appear to have derived from cleared heating pits. Like other room deposits, this one was thinnest at the northern end (3 cm) and thickened to 15 cm at the southern end. The composition and function of this deposit make it analogous to Layer 10 in Room 110. Ceramics place the period of deposition in the last half of the A.D. 1000s (Plate 3.6C). Faunal remains were mostly rabbit and mice (several articulations), plus one badger bone.

The lower centimeter or two in the eastern half of the room were littered with spalls that must be construed as debris of wall construction. An area 44 by 35 cm and 7 cm deep in the middle of Layer 5 (Grid 22) seems to reflect an episode of water ponding, perhaps through a leaky roof.

Floor 4 (Figure 3.12, Plates 3.9-3.10)

This has been partially laid with plaster up to 4 cm thick. It was a hard, uneven clay that resembled the room wall foundation clay. Sand sufficed for flooring in many spots, however. To the excavators, the floor

Artifact	Artifact	Lith	ic or		FS
Number	Class	Cera	mic Type	Location	No.
1	Flake saws (2)	3520	(obsidian)	Grid 5	1262
1	Metate fragment	2000	(sandstone)	Grid 24	1277
2	Paint palette	?		Grid 24	1291
3	Bowl sherd	-	San Juan redware	Grid 24	1291
	Chuska jar sherds (2)	-	indented corrug.		
4	Bead	5300	(turquoise)	Grid 24	1291
5	Sherds (13)	-	unidentified	Grid 20	1281
	Cibola jar sherd	-	Cibola whiteware		
6	Chuskan jar sherd	-	indented corrug.	Grid 19	1279
_	Cibola jar sherd	-	indented corrug.		
7	Flaked disc	2000	(sandstone)	MB 1	1293
8	Mano fragment	2000	(sandstone)	MB 1	1293
9	Metate fragment	2000	(sandstone)	MB I	1293
10	Mano	2000	(sandstone)	MB 1	1296
11	Metate fragment	2000	(sandstone)	MB I	1294
12	Metate fragment	2000	(sandstone)	MD 1 MD 1	1293
16	Mano fragmonto (2)b	2000	(sandstone)	MD 1 MD 2	1293
15	Mano/abrader frag.	2000	(sandstone)	MB 2	1297
16	Metate fragment	2000	(sandstone)	MR 2	1299
17	Mano fragment	2000	(sandstone)	MB 2	1298
18	Metate fragment	2000	(sandstone)	MB 2	1297
19b	Metate fragments	2000	(sandstone)	MB 1	1296
20	Metate fragment	2000	(sandstone)	MB 3	1300
21	Metate fragment	2000	(sandstone)	MB 2	1297
22	Hammerstone	2202	(Nacimiento sand.)	Grid 22	1285
23	Hammerstone	1110	(splintery	Grid 21	1283
			silicified wood)		
24	Cibola jar? sherd	-	Gallup B/w	Grid 22	1283
25	Hammerstone	1110	(splintery	Hearth 1/OP2	1303
			silicified wood)		
26	Hammerstone/chopper	1110	(splintery	Hearth 1/OP2	1303
_			silicified wood)		
27	Hammerstone/chopper	1110	(splintery	Hearth 1/OP2	1303
			silicified wood)		1000
28	Mano	2000	(sandstone)	Hearth 1/0P2	1303
29	Mano	2000	(sandstone)	Hearth 1/0P2	1303
30	Mano	2000	(sandstone)	Hearth 1/0P2	1206
21	Worked Meal Bin slab	2000	(sandstone)	MB 1	1290
32	worked meal bin slab	2000	(sandstone)	MD I	1290
34	Worked Meal Bin slab	2000	(eandstone)	MR 2	1299
35	none	2000	(salidatolle)	110 2	1277
36	Mano	2000	(sandstone)	MB 2	1299
37	Abrader	2000	(sandstone)	MB 2	1299
38	Abrader	2000	(sandstone)	MB 2	1299
49	Metate fragment	2000	(sandstone)	MB 3	1302
40	Metate fragment	2000	(sandstone)	MB 3	1302
41	Mano	2000	(sandstone)	MB 3	1302
42	Worked Meal Bin slab	2000	(sandstone)	MB 3	1302
43	Abrader	2000	(sandstone)	MB 3	1302
44	none				-
45	Hammerstone	?	?	Grid 21	?
46	Mano	2000	(sandstone)	Hearth 1/OP2	?
47	Cibola jar sherd	-	Gallup B/w	Grid 4	1260
48	Unutilized flake	1112	(dark silicified wood)	Grid 4	1260
49	Cibola jar sherd	-	Gallup B/w	Grid 9	1266
50 ⁰	Cibola jar sherd	-	indented corrug.	Grid 13	1269
51	Cibola jar sherd	-	Gallup B/w	Grid 17	1275
52	Cibola jar sherd	-	Cibola whiteware	Grid 21	1283
53	Cibola bowl sherd	-	Gallup B/w	Grid 23	1288
	Cipola jar sherd	-	indented corrug.		
54b	Snerds (3) Roppe (4)6	-	unidentified	Crid 24	1 20 1
J4-	Dones (4)*			GLIU 24	1291

Table 3.4. Room 103, Floor 3 artifacts.^a

^aSee distributions in Figure 3.11. ^bPrecise location unknown. ^CJack rabbit tibia, cottontail rabbit phalanx, prairie dog humerus, and an artiodactyl vertabra.



Plate 3.9. Room 103, Floor 4, south of Floor 1 wall partition. Note scatter of construction debris. 30-cm north arrow. (NPS#14738)



Plate 3.10. Room 103, Floor 4, northeastern corner of room. Note scatter of construction debris. 30-cm north arrow. (NPS#14627)

was easily delineated by a film of $CaCO_3$. The distinctiveness of the floor was primarily marked by a mass of building spalls up to 7 cm² in size covering the surface in a layer 2-3 cm thick. Many of these had been pressed into the floor surface as if walked on. The building debris and features equate this floor function with Floor 2 in Room 139.

Fifty-two pits riddled the floor and made walking Floor 4 Features. hazardous during excavation. Two aspects of these are notable: burned pits were practically absent, and there was no evidence of mealing bins. In contrast to upper floors, the single, heating pit here indicates little interior cooking or heating. Second, most of the pits (32) contained spalls, clay lumps, often vegetally impressed, hand-wadded, gray and pinkish clay, and occasional hammerstones or hammerstone/abraders (presumably masons' tools). Thus, these pits all date to wall construction or earli-Two (OP 11, OP 19) contained jacal- or beam-impressed adobe. Several er. others had a clean sand (aeolian?) in the bottom that was covered with spalls. These may be the earliest identifiable room pits (OP 1, OP 21, PH 4, PH 12, and PH 27). Probably most were associated with building activities.

The single heating pit was found in front of the lower, east-wall door. It was filled with brush charcoal but no construction material, indicating its last probable use came after room completion or that the fuel prevented other debris from filling it.

Other pits (24) were all unlined, amorphous in shape, and scattered everywhere. A range of sizes and volumes is evident, and 12 of the 14 largest (>3 liters) had spalls in them (Plate 3.11). Unlike those in Room 110, only one of these was filled with trash (OP 1). Digging-stick marks on the sides of pits were common. There was no overwhelming correlation of this trait with pit fill or size, although the majority of those with stick marks exceeded a 10-liter capacity and contained spalls, unlike the remainder. Probably most of these were used in conjunction with wall construction, although not for mixing mortar. Pits 4-5, 10, 13-16, and 23 were filled with Layer 5 matrix, which suggests they were placed after the room was completed. OP 7 and OP 12 contained sand unlike Layer 5 and, therefore, their period of use is uncertain. Samples from OP 1 and OP 11 were gleaned for seeds that might have shed light on their function but practically nothing was found (M. Toll 1985).

Twenty-seven postholes were found in the floor. A row of six (PH 3, 6, 12, 19, 21-22) 63-82 cm from, and paralleling, the west wall suggests a roof-support arrangement identical to those exposed in the Central Roomblock. Only PH 12, 19, 21, and 22 contained spalls, were of similar depth (28-34 cm), and were nearly equidistant from one another (190-230 cm), suggesting use as primary supports. Three (PH 24, 26-27), in the southeastern corner, contained sterile sand overlain with spalls, indicating construction and abandonment before the walls went up. All other spall-laden postholes were within 82 cm of the walls and fell into disuse during or after the walls were built. Their function for roofing supports is questionable, considering the impracticality of a roof before the walls



Plate 3.11. Room 103, Floor 4, Other Pit 1. An unlined storage pit with digging stick marks on the sides and construction spalls in fill. 30-cm north arrow. (NPS#14514)



Plate 3.12. Room 103, Floor 5, Grid 23. Mortar from wall foundation extending out from under the south wall, over the floor. Pit is from Floor 4. 30-cm north arrow. (NPS#14751)

are finished. Instead, scaffolding supports are more likely furniture for the work of masons. Other postholes (devoid of spalls) may have held racks, supported a roof after the walls were finished, or simply filled without spalls.

<u>Floor 4 Artifacts</u> (Table 3.5). Other than spalls, mortar, and masons' tools, bulk cultural material (sherds, bones, and chipped stones) was absent on the floor, although several beads were found. Pits, however, yielded a few chipped stones (10), sherds (21), and much unburned bone from rabbits, prairie dogs, and mice.

Layer 6

Separating Floor 4 from Floor 5 was a relatively clean deposit of tan sand incorporating horizontal lenses of powdery CaCO3 and gray clay. The abundant CaCO3 often formed distinct white surfaces on the intrusive pit walls and natural soil cracks. Although it was unsure if the CaCO3 was derived from damp conditions and percolation from above or from ponded water, a few lenses of alluvial sand and fine gravel are suggestive of natural deposition. Overall, the impression is that Layer 6 was aeolian in origin, perhaps from in situ accumulation, although intentional transport into the room cannot be ruled out. The former interpretation, of course, presumes a period of room abandonment before completion of the walls and roof. The few sherds recovered from the layer may be marking the period of transition between Red Mesa and Gallup Black-on-white pottery, at about A.D. 1040 or 1050 or slightly before (Plate 3.6D). Given the stratigraphic context of the unit, this estimate seems reasonable.

The deposit, like others here, was thinnest in the northern end (5 cm) and thickened to 25 cm at the southern end. Artifacts were sparse except for some spalls and wads of gray and pink clay on the floor. None of the latter were vegetally impressed, and, presumably, the latter were unneeded globs of wall mortar. At least five mounds of gray clay, up to 6 cm high, and a clay strip along the south wall rested directly on the floor where they had been dumped in a plastic state. This clay's similarity to the wall-foundation mortar also suggests casual piling of leftover material. The final leveling before the application of Floor 4 was indicated by a pile of stone and adobe that rested upon the clean sand in the northwestern corner.

Floor 5

The earliest surface of use in Room 103 was a well-prepared flooring of hard, light-orange plaster, 1-4 cm thick. Although even, it sloped downward 23 cm toward the south, approximating the natural dip of the original ground surface. Its association with construction activities may have prompted a lack of commitment to horizontal flooring, or the gradiant may have been induced to provide drainage from rain during open-air construction. Along the walls, parts of the foundation had spread out onto Floor 5, which confirmed the exact relationship between the two construction events (Plate 3.12). In the northwestern corner, foundation clay

Table 3.5. Room 103, artifacts on and in Floors 4 and 5.ª

Artifact Artifact Number Class		Lithic Material Type	Location	FS No.	
On Floor 4:					
1A	White bead	5050 (calcite)	Grid 3	1329	
1 B	Hammerstone	1112 (dark silicified wood)	Grid 19	1346	
2A	Hammerstone	1120 (red silicified wood)	Grid 21	1349	
2B	Matting impressions	-	Grid 12	1337	
3	Hammerstone/abrader	2000 (sandstone)	Grid l	1326	
4	Dark beads (4)	2650 (shale)	Grid 14	1340	
5	Hammerstone/abrader	2000 (sandstone)	Grid 23	1436	
6	Dark bead	2650 (shale)	Grid 16-24	1403	
In Floor 4:					
-	Hammerstone	4005 (quartzite)	Grid 7	1406	
-	Hammerstone/abrader	2000 (sandstone)	Grid 9	1407	
-	Hammerstone/abrader	2000 (sandstone)	Grid 17	140 9	

On Floor 5:

1 Hammerstone/abrader	2000 (sandstone)	Grid 3	1413
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^aSee distributions in Figure 3.12.

extended outward 30 cm before becoming part of Floor 5. Evidently, the floor was abandoned upon completion of the foundations, because the mounds of gray clay on the floor, mentioned above, overlapped the foundation in places.

Floor 5 Features. None were found. The lack of features was indicative that the primary room function at that time was construction activities. The lack of postholes for scaffolding supports, in particular (compared to Floor 4), is reasonable if only the foundations and perhaps the lowest courses of wall were built.

Floor 5 Artifacts (Table 3.5). A hammerstone/abrader in Grid 3, often associated with wall construction at Alto, was the only artifact recovered. Flotation samples yielded small numbers of common, unburned, weed species, along with small amounts of corn and one bulrush seed (M. Toll 1985:Table 28). Most of the seeds, then, can be attributed to natural deposition rather than from food processing.

Layer 7

Between bedrock and Floor 5 was a layer of nearly sterile, fine, soft sand, 10 to 12 cm thick. It also contained some CaCO₃ and fragments of decayed sandstone separated from the parent bedrock. South of Partition 1 a thin deposit of trash (2-4 cm thick) lay just under the floor while to the north Layer 7 and trash were mixed. Overall, Layer 7 appeared relatively undisturbed, although it was darker and not identical to bedrock deposits outside the site. Only about 15.6 percent of Layer 7 was removed to bedrock. Tests were limited to a 30-cm-wide strip extended north-south down the center of the room, 40-cm² areas against the walls along the east-west profile lines, and removal of the entire grid square in the northwestern corner. The few sherds recovered from the trash were from a Red Mesa ceramic assemblage dating before about A.D. 1040 (Plate 3.6E).

Walls (Figures 3.13-3.15)

<u>Wall Foundations</u>. Trenches were cut vertically into Layer 7 and then filled with hard sandstone and semi-plastic, gray clay to serve as wall footings. Stones, 1-4 cm apart, were set in a single row in the trench up to several courses high. Occasionally, fragments of bedrock were left in situ and became part of the foundation matrix. Stone-to-mortar volume was approximately 50/50. Foundation height varied between 24-30 cm under the north wall and 7-14 cm under the south. Foundations often rested on bedrock, although the southern one rested on the soft sand of Layer 7. Walls were then added to the foundation tops and, surprisingly, were not offset as is common in other Pueblo Alto rooms.

<u>Wall Masonry</u>. Examination of walls was restricted to interior faces, primarily for the upper wall courses. Access to lower courses was restricted by wall plaster, and we did not attempt its large-scale removal. Cores were not probed. Variation in masonry style, even within the same wall, was surprisingly great and prohibited easy classification in the

traditional systems. Generally, Room 103 masonry seemed closest to Judd's (1954, 1964) Type 2 and Hawley's (1934) Type II masonry styles. Flat slabs, 20-35 cm long and 3-6 cm thick, were set in irregular bands with as many as three to four rows of moderate-sized chinks (4-8 cm long and 0.5-1 cm thick) in between. As in most of the excavated rooms, sherds were not used for chinking. Exposed stone edges had been modified by pecking or grinding in over a quarter of the specimens. In 1978, a more detailed record of the room masonry was made by Terry Fife using techniques established during excavation of the Salmon Ruin, near Bloomfield, New Mexico. A record of this work is on file but has not been analyzed.

<u>Wall Plaster</u>. A plurality of mud-plaster coats remained on the walls below the contact with Layer 1. A number of small tests were made to discern plaster variability, although the examination was not all-inclusive and correlations between walls were limited. Plaster on the east and west walls (north of Partition 1) was similar in types and numbers of applications (seven) and, presumably, applied at the same time. The plaster south of Partition 1 revealed a sequence and amount of polishing lacking to the north. Greatest contrast was revealed on the east wall where a golden coat of crushed, powdered limonite had been applied that terminated behind the Partition 1 abutment. This discontinuity was thought to be coincidental because Partition 1 was built after the <u>last</u> plastering of the east and west walls. The break, however, may add further support for the presence of an earlier partition wall (Partition 3).

All walls were first covered by an irregular "scratch" coat of gray brown plaster less than 2 cm thick. This was applied during or after construction of Floor 3. The continuity of wall plaster and the construction plaster of the Floor 3 mealing bins suggest that another coat, perhaps for the whole room, was applied when the secondary (re)plastering of Floor 3 took place. Most wall coatings are a reddish-brown plaster with one or two on each wall whitewashed. Except for the scratch coat, all applications were unsmoked. Painted designs were not observed, although a tiny footprint was found etched into the last coat 20 cm below Niche 1.

<u>Wall Heights</u>. The highest standing masonry was in the southwestern corner of the room. This is approximately 336 cm above Floor 5, excluding foundation height. All stone from the excavation was stacked and measured and yielded 18 m³. Presumably all came from collapsed Room 103 walls, although we cannot be sure that all the missing masonry fell into the room. Thus, estimates of wall heights must be considered minimal. On the average, Room 103 walls were 50 cm thick and averaged 895 cm (N-S) and 355 cm (E-W) long, including corner overlap. From this Schelberg calculated initial wall height as 370 cm above Floor 1. Above Floor 5, walls were once about 395 to 425 cm high.

<u>Wall Features</u>. Twenty-two small niches were recorded in the room walls. All those in primary walls were irregular and must be secondary modifications created by removing stone from the wall masonry. If so, all postdate Floor 4, at least. Few have a storage capacity beyond a small item or two. Large wall vaults, similar to those in Room 110, were not found, probably because of limited investigation of the walls and the problems of plaster removal. In retrospect, at least two, possible, large-capacity vaults were thought to have existed in the west wall and are so marked (Figure 3.13).

Some niches may have served for other than storage. Niches 9-10 may have been footholds in Partition 1. Others (Niches 6, 13, 22) may have held beams or poles whereas some may have been simply unutilized wall irregularities. Five of the 22 were questionable or not considered real. Thus, 7 of the 17 real niches were located in Partition 1 and might suggest wall storage as a late phenomenon. Six of the 7 exhibited plastering and probably were placed during construction of Partition 1, despite the irregular niche forms.

Four doors provided access into the room (Figure 3.16). Three were sealed during occupation, leaving the central east door to open into Room 233 and the plaza. A fifth doorway (Door 5), also unblocked, provided access through Partition 1. Partly in fear of wall collapse and stabilization problems, we did not fully investigate the doors. None were dug out. Those in the east wall are similar in horizontal and vertical position to those in Room 110 and similar histories may, therefore, be deduced. Both were probably placed during initial wall construction and opened directly onto the plaza. Access through the lower northern one (Door 2) must have been hampered by raising plaza surfaces and eventually sealed off. The other (Door 1) must have served throughout for primary room access even after Room 233 was added in front.

In addition, there are doors located in the north and south walls. The southern one (Door 4) is small and offset from center unlike its northern counterpart (Door 3). There is a clear break in masonry style around Door 4 that indicates the jambs, and therefore the door, are of secondary construction. We are sure that construction associated with it took place soon after Floor 3 was abandoned, but whether construction was for its creation or for plugging is uncertain. Plaster over the blocked door is unlike the initial scratch coat, and yet, we know that wall plaster was not applied after Floor 2 was abandoned. Thus, Door 4 can be suspected of having been formed during use of the replastered surface of Floor 3 and abandoned (plugged) during or before use of Floor 2.

The history of the north-wall door is less certain. Its jambs also appear secondary, and thus, the door probably was added during use of Floor 3 or later. No plaster was left on the door, so its time of abandonment is pure conjecture. No doors were found that connected directly to Room 105 to the west.

A system of east-west ventilation was planned and built in the room during initial construction (Figure 3.16). Four ventilators were located high in the walls at the ends of the east and west walls while a fifth one was placed in the center of the west wall where a door might have been expected leading into Room 105.

Roof

Impressed fragments of adobe and clay were found on or above every floor except the earliest (Floor 5), leading to much speculation about reroofing and roof repairs. The great mass found above Floor 1 must be associated with collapse of the last Room 103 roof or those nearby. Ingbar (1979) studied a small sample of 77 impressions recovered between Floors 1 and 2 and found impressions resulted primarily from contact with brushy materials and reed mats but few (10) exhibited beam impressions. The latter ranged between 5 and 10 cm in estimated diameter. The 13 samples examined from Floor 4 revealed that most (8) were marked with small rods. Despite the inherent weakness of sample size in both cases, the findings do not clash with projections that these impressions derived from razed partitions rather than roofs.

Samples above Floor 1 have not been examined, nor was there evidence of beam sockets in the upper walls that would have disclosed some aspects of the last roofing.

Summary and Conclusions

Room 103 exhibits many of the characteristics of a habitation room, like its neighbor Room 110. The lowest two floors (Floors 4 and 5), however, revealed debris from construction of the room, an event that took place perhaps in two episodes or more of building. Floor 5, with scant cultural debris and no floor features, may have been the original outside walking surface that was also used when the foundations and the lower sections of room wall were built. A different flooring, one plastered over aeolian sands, marked commencement of upper wall construction. A number of pits associated with this floor must relate to construction or to particular workers' needs, but only the postholes suggest viable construction functions, i.e., for scaffolding. Grinding, cooking, and heating facilites were not evident. Littering the floor with fragments of masonry stonework depicts little concern over keeping the area tidy.

Leaving the room construction for a time and then returning to finish it later may seem bizarre behavior, but the pattern is not restricted to the author's imagination (see Volume I, Chapter 6). Some Chacoan greathouses in the canyon were built in this manner but never finished. The most celebrated of these was the huge enlargement of Pueblo Bonito, named the Northeast Foundation Complex by Judd (1964). This is largely a misnomer because the author exposed part of the complex, which consists of finished, veneered masonry walls standing nearly 2 m high (presumably "real" foundations exist underneath) that were evenly terminated without completion and capped with adobe. Less known, but also illustrative of this type of Chacoan construction is the large uncompleted site (29SJ 2384; see Volume I, Plate 6.1) in the flats below Shabik'eshchee Village (Judd 1927:Figure 169; Roberts n.d.). Possibly the larger of the two Headquarters sites (Vivian and Mathews 1965:30, 81) in the residence area near the Visitor's Center was also left uncompleted, although Gordon Vivian (in the Vivian Archives #799) believed that it had been occupied for a short time before flooding forced its abandonment.

With the advent of Floor 3, the true function of the room, habitation, was realized. Strangely, the plastered floor was poorly planned when it was set over soft, underlying deposits that apparently forced continual floor maintenance. Nevertheless, numerous heating pits, postholes, storage pits, a set of mealing bins, and a small adobe-lined firepit attest to a multiplicity of functions. A variety of economic plant seeds found on the floor further attests to the role of food processing and possible consumption. Two aspects of the occupation differ from the expected: the lack of large, formal firepits throughout the room occupation and the initial lack of direct access to large, storage facilities.

Postulated partitions on Floors 2 and 3 may have been an attempt to create storage space within the room. When doors were broken through rooms to the north and south during the occupation of later floors, the problem of storage space could have been alleviated. For the latter to have happened, however, the function of the northern part, presumably also for habitation without direct access to storage-room space, must have been altered, or the inhabitants of the two rooms must have cooperated in sharing mutual storage space in Room 102.

Use of occupation floors in Room 103 resulted in continual reliance upon small, temporary, cooking and heating features that were constantly replaced by others near or over the former ones. The lack of investment in more permanent, indoor, heating or cooking facilities (large slab- and adobe-lined firepits) was an atypical pattern for Chacoan living rooms that may suggest the room was not used on a permanent, year-round basis.

The presence of mealing bins on Floors 2 and 3 in number, placement, construction style, and association with other evidence of domestic use of the room, is consistent with numerous, historic documentations that identify singular Puebloan family units (e.g., Bartlett 1933; Lange 1959; Mindeleff 1891; Parsons 1936; Stevenson 1970). Because of the extreme conservatism of the architectural arrangement of mealing-bin sets over the 1000-year period, a similar social correspondence between bin sets and family size is also seen (Volume I, Chapter 11).

Grinding facilities were lost to the room with the abandonment of Floor 2 in the late A.D. 1000s(?), although habitation use apparently continued unabated. The room still underwent partitioning but whether for increased storage space or to define space for other specific activities is unknown. Floor pits south of the partition may have continued in use from Floor 2 or have been placed in Floor 2 during the last (Floor 1) occupation. There is an increased use of wall storage during the last occupation, if not before. Flotation and palynological evidence for Floor 1 reveals a decrease in economic plant use that suggests either greater care in keeping the room clean or, more likely, a reduction in plant processing and consumption in the room. During the use of Floor 1 in the early A.D. 1100s, some domestic activities may have shifted to a new living room built in front of Room 103 that was not excavated (Room 233). A number of pieces of discarded, ground stone apparently were tossed south of the partition in Room 103 from Room 233. During the same period, debris from a multitude of roof activities was left to fall into Room 103 during

collapse or dismantling of the roof. These remains differ from the domestic assemblages observed on the lower floors and suggest deposits of trash and ceremonial debris as well as rooftop cooking.

A firepit built high in the room fill indicates new inhabitants visited the site perhaps a century or two after the abandonment of Room 103 at about A.D. 1140.

Room 109 (Figures 3.17 and 3.57)

When the primary occupation of Room 110 was concluded, the space was converted into Kiva 15, leaving a narrow corridor 143 cm wide and 350 cm long (5.0 m^2) in the southern end of old Room 110. This corridor was designated Room 109 and included only the postoccupational fill and surfaces above Floor 1 of Room 110. Many of its characteristics, of course, are shared in common by Kiva 15 and Room 110, and notes on the latter should be consulted, particularly regarding wall construction. During the post-A.D. 1100 occupation at Pueblo Alto, Room 109 provided one of only two horizontal routes of plaza access into the third-tier rooms (the other was from Room 102) in the West Wing.

Strategy

The small size of the room justified separating the fill into just two, equal, east-west balks. The division conformed to the split in Kiva 15 and allowed a continuous north-south profile of both rooms. The eastern block (TP 1) in Room 109 was removed first and the remainder profiled. The narrow width of the room prevented an east-west profile of the fill. TP 1 was removed in 8 levels, 20 cm deep, with Datum 20 in the northeastern corner serving for vertical control. TP 2 was then removed in the natural units defined from profiling the exposed TP 1 stratigraphy. A burned area near the south center of the room was saved for sampling, and, consequently, the fill under this was removed later as TP 3. Eventually, the arbitrary units (levels) from TP 1 were reassigned to natural units (layers) on the basis of depth and fill characteristics. All fill was 1/4 in. screened.

Postoccupational Fill (Figure 3.17)

The room fill was similiar to that encountered in the other rooms. Unfortunately, the room was small enough that, during wall clearing, much of the upper 40 cm of fill was piled in the center of Room 110/Kiva 15 and later removed. This material contained the densest wall rubble. Loss of knowledge, however, is presumed minimum.

Layer 1. A 90-cm-thick deposit of soft, aeolian sand, reworked and laminated by water action, was encountered first (Layer la). Stone fallen from the north wall comprised about 10 to 15 percent of the layer. Trash was sparse and charcoal and adobe fragments absent. A 30-cm-thick pocket



Figure 3.17. Room 109 and Kiva 15, profiles.

in the room center (Layer 1b) was similar to the rest but with a higher volume of stone (about 25 percent) and clay.

Layer 2. The lower half of the room was filled with mostly soft, fine, yellowish tan sand, moderate amounts of charcoal (10-15 pieces per 100 cm²), trash, and stone (15 percent of the volume). Adobe fragments and bits of unburned, rotted wood were also present. Layer 2a contained more adobe (5 percent of volume) than 2b, whereas the latter exhibited proportionally more burned debris, trash, and stone. Layer 2b was banked 60 cm high against the south wall in association with burned areas and "floating" floors. It predates Layer 2a.

Layer 3. Banked along the north wall about 35 cm high was a yellowish tan, sand matrix with numerous chunks of roofing adobe or clay (up to 50 percent of the volume). Trash was moderate but charcoal sparse (2-4 pieces per 100 cm²). The distinction between Layer 2a and Layer 3 was often subtle and not always discernible during excavation. With the exception of a few at the layer top, stones were practically absent. In the western half of the room, Layer 3 rested directly on Floor 1.

Floating Floors

Two compacted surfaces of limited extent were exposed, extending horizontally out from the center of the south wall within Layer 3. Floating Floor 1 was 14 cm above Floor 1 and exhibited a slight, burned depression filled with carbonized brush that extended well beyond the depression perimeter. Although designated HP 1, it is not to be confused with more formal, burned pits of the same name. It, and the one directly below (HP 2), were little more than fires built on postoccupational deposits. Just underneath was Floating Floor 2, 7 cm above Floor 1, and scorched by another charcoal-filled basin designated HP 2. Floating Floor 1 is particularly noteworthy for producing the only sherd of Mesa Verde Black-onwhite recovered from Pueblo Alto. It suggests that the room was still open in the A.D. 1200s, long after general site abandonment.

Layer 4

A thin, 5-10 cm deposit of small, unshaped stones blanketed the eastern part of Floor 1. The sandstone lay horizontally on the floor in a single layer and averaged 10 by 6 by 5 cm. Although some trash was evident, the primary material in association was rotted strips of wood. Although the deposit appeared intentional, its function is unknown.

Floor l

The remains of a soft, smooth, prepared, clayey plaster floor that coped up to meet the walls were found in the eastern half of the room. This floor became steadily poorer in quality toward the west, so that in the western half of the room it was very ephemeral and little more than the compacted roofing and sand layer that rested on Room 110's Floor 1. The sand and roofing layer extended back under the better-defined Room 109 floor in the eastern end. Floor 1 Features. None were found.

<u>Floor 1 Artifacts</u>. Three artifacts rested on the floor: a mano, a hammerstone, and an artiodactyl femur. Six ground stone tools found in the floor fill and the two on the floor are typical of mealing activities. The dismantled, mealing bins of Room 110 were found just under the ephemeral floor in the western end of the room and, thus, the presence of the numerous tools nearby, but on a later floor, is suspicious. The proximity of the bins and tools might be fortuitous or the tools might mark a secondary use of artifacts formerly associated with the bins. Wall Niche 9 in the east wall was thought to have been used formerly with the mealing complex in Room 110, because its floor was tied directly to the Floor 1 construction containing the mealing bins. In addition, the niche yielded unburned corncobs and ground stone tools, which supports the architectural ties between the bins and niche, although the niche was still open to use when Room 109 was utilized.

Walls (Figure 2.38)

<u>Wall Foundations</u>. The east, south, and west walls were originally part of Room 110, and the interested reader should refer to those notes. The north wall was a secondary addition built when Kiva 15 was emplaced. The wall was poorly footed on the soft-sand and roofing-debris deposit on the upper floor of Room 110. The masonry wall extends to the bottom of the footing without separate construction of a foundation.

<u>Wall Masonry</u>. Construction of the north wall clearly differed from the older, primary walls. The north wall involved construction of two, massive faces with a wide, sandy core between for the kiva ventilator shaft. Logs set through the core tied the two faces together. The southfacing, masonry veneer consisted of medium-sized, sandstone blocks and small slabs set in an uneven face with few chinks. The style is reminiscent of Judd's (1964) Type 3 and Hawley's (1934) Inferior Type III.

<u>Wall Plaster</u>. The earlier primary walls were plastered during the Room 110 occupation and were not resurfaced during use of Room 109. The north wall, however, was never plastered.

<u>Smoked Walls</u>. Except for localized oxidation and sooting from the floating-floor heating pits built against the south wall, the walls remained essentially unmarked. The west wall was smoked but this continued behind the north wall and clearly related to Room 110 use. A vertical scorched strip just below Door 4 and about 40 cm to the north and above Floor 1, however, must also relate to late activities possibly coeval with the heating pits.

<u>Wall Features</u>. There was no evidence of secondary construction of wall ventilators and niches during use of the room. The Room 110 niches present (N 17 and N 18) were both plugged during the 110 occupancy. The former was still plastered over and burned by Room 109, Heating Pit 1. Only Vent 3 in the southwestern corner had not been removed during new

door construction and it, too, had been plugged. A thin layer (1.5-2 cm) of refuse and organic debris covered the wall ventilator floor before it had been sealed. This suggests a period of abandonment or disuse before the ventilator was blocked, probably just before creation of Room 109.

When Room 109 was created, new doors (Doors 3 and 4) were Doors. added in the southeastern and southwestern corners to provide access into and through the room. These are not true corner doors as can be seen in Pueblo Bonito (Judd 1964:Plate 15) but holes created by punching through existing walls and then adding new jambs. The sills of both were 55 cm above Floor 1 but affected by unusual constraints. The western one, Door 4, had a rotted wall-tie beam protruding along the center of the sill. Just below on the opposite side are masonry steps leading into Room 112. Door 3, in the southeastern corner, is angled to avoid the outer wall of Circular Structure 1, which butts near the northern edge of the opening (Figure 3.18). This undoubtedly entailed removal of two wall ventilators in the southeastern corner, and one in the southwestern corner, if the original ventilator pattern was a consistent one. A small, masonry step in Door 3 provides a raised threshold to overcome a rising plaza surface (see also Niche 4/Door 5) just below the exterior sill level.

${\tt Roof}$

Roofing material was little different from that recovered for other nearby rooms. No sockets for post or beam supports were observed, and we must assume that construction techniques were typical. Probably when Kiva 15 was built, the former Room 110 roof was removed or gone, and new ones were built to cover Kiva 15 and Room 109.

Summary and Conclusions

The creation of Room 109 apparently served principally to make a throughway in the late A.D. 1000s or early A.D. 1100s. Aside from the addition of new doors and a partially plastered floor, there was little modification of the space. The pavement of small stones at the eastern end of the floor and the cluster of ground stone mealing tools there suggest activity loci of an unexplained nature. The tools, however, may simply represent the pilfered contents of Niche 9, which was associated with the Room 110 mealing bins just below the floor in the western end of Room 109. After the passageway ceased to be used, it fell into disrepair and began filling with trash and sand. A brief reuse of the room is marked by fires built on the fill for heating and cooking. Their stratigraphic position and expedient nature suggest coeval activities with floor fires built in Rooms 112 and 229 through which the passageway leads.

Room 110 (Figures 3.17 and 3.19-3.38)

Room 110 is in the middle of a row of $28-m^2$ rectangular plazafacing rooms in the West Wing, measuring 795 by 350 cm (27.8 m²). It



Figure 3.18. Room 109, Door 3, plan and profiles. The door was built in the southeastern corner to allow passage between Room 109 and Plaza 1.



Figure 3.19. Room 110, profiles.



Figure 3.20. Room 110, Floor 1 fill, distribution of artifacts (see Table 3.6 for artifact list). The Floor 1 firepit and mealing bins are dashed.





Figure 3.22. Room 110, Floor 1 (Surface 2), plan view.



Figure 3.23. Room 110, Floor 1 (Surface 3), plan view.



Figure 3.24. Room 110, Floor 1 (Surface 4), plan view.



Figure 3.25. Room 110, Floor 1 (Surface 5), plan view.


Figure 3.26. Room 110, Floor 1 (Surface 6), plan view.



Figure 3.27. Room 110, Floor 1 (Surface 7-9), plan view.



Figure 3.28. Room 110, Floor 1 (Surface 7), plan view.



Figure 3.29. Room 110, Floor 1 (Surface 8), plan view.

West Wing 235



Figure 3.30. Room 110, Floor 1 (Surface 9), plan view.



Figure 3.31. Room 110, selected floor features. A) Firepit 1 (Floor 1). B) Firepit 1 and Pot Rests 1-5 (Floor 2).



Figure 3.32. Room 110, Mealing Bins 1-6 (Floor 1), plans. The numbered artifacts are listed in Table 3.7.



Figure 3.33. Room 110, Mealing Bins 1-6 (Floor 1), profiles. /



Figure 3.34. Room 110, Floor 2, plan view.



Figure 3.35. Room 110, Floor 3, plan view.



Figure 3.36. Room 110, east wall elevation.

WEST WALL





Figure 3.37. Room 110, west wall elevation.





Figure 3.38. Room 110, north wall elevation, and Room 109/110, south wall elevation.

242 Pueblo Alto

and nearby Room 103 in the same row exhibit use as living rooms. Room 110 was the most complex room uncovered at Pueblo Alto. After cessation of domestic use, the northern two-thirds of the room were converted into Kiva 15, leaving a narrow space in the remainder designated as Room 109. During use of the kiva, Room 109 provided access from the plaza to Room 112 behind old Room 110 via new doorways punched through the wall corners. Thus, description of the architecture of Room 110 will at times include features associated with the later use of Room 109 and Kiva 15. The reader should refer to the latter sections for a more complete view of the space enclosing Room 110.

Room 110 contained 5 floors and 219 features. The uppermost floor, Floor 1, contained most of these features, but this floor could be separated into three occupational floors. Although Room 110 may prove to be the most intensively dated room in the Southwest, conflicting results leave its term of occupation speculative. Numerous archeomagnetic and radiocarbon dates were obtained from the room but only a single tree-ring date (see Volume I, Chapter 8).

Room 110 was excavated because of the uncertainty of the suite status of Room 103 and to complement our work in Room 103. Wall clearing and the search for doors revealed that a block of rooms fronted by Room 110 was connected front to back by centrally placed doorways. This suite arrangement would enable testing of a section of the West Wing from front to back in similar fashion as in the Central Roomblock. Furthermore, blackened wall plaster was exposed during the 1976 wall clearing of the room, which erronously suggested that the room had burned. Numerous vigas and wall core beams sampled during wall clearing in the immediate area suggested the possibility of additional wood for dating and perhaps the finding of an intact roof and in situ artifacts. Thus, the clearly defined suite of rooms and the possibility of finding cultural material in situ along with datable material determined the excavation of Room 110.

Excavations by William Gillespie commenced in 1977, during the final stages of work in Room 103, and were completed in 1978. Most of the description and interpretation of this room are derived from his excellent field notes covering 577 pages.

Strategy

After removal of Kiva 15, there was little postoccupational material left in Room 110. Thus, the trenching strategy employed for other rubble-filled rooms was not needed here. Screening and recording methods, however, were left unaltered.

Fill (Figures 3.17 and 3.19)

The first layer of fill recorded for the room was that directly underlying Kiva 15 and resting upon the uppermost floor. Otherwise, fill was restricted to deposits between floors. Layer 1. This was a heterogeneous deposit of roofing lumps, impressed chunks of gray clay, some trash, and aeolian sand. The composition is similar to postoccupational deposits found in floor fill in other excavated rooms (see Table 3.6). Although this material is usually interpreted as postoccupational, Gillespie feels that, instead, the material was for leveling for the kiva construction. Similar material and artifacts filled the north and south kiva wall cores. The questionable origins of the material obscure the continuity of the transition from room to kiva use, although any hiatus is thought to be brief.

Layer 2. This was the lowermost level of Layer 1 and was initially thought to represent a different deposit. For analysis it was combined with Layer 1.

Floor 1 (Figures 3.21-3.30)

Nine plastered surfaces comprised Floor 1. These were essentially replasterings of varying extent, thickness, quality, and discreteness. Only a few covered the entire room and many were not temporally discrete. The surface first encountered (top surface or TS) was the last occupational floor and included replastered Surfaces 1-4 in various degrees of completion (Plate 3.13). Upon closer examination, Gillespie was confident that Surfaces 1-4, 5-6, and 7-9 formed relatively discrete occupational floors that indicated periodic, changing, room functions. These groupings allow certainty in assigning the period of feature construction, although their duration of use may overlap more than one period.

Of the upper surfaces, Surface 4 was the most widespread and may have represented a major flooring episode followed by later repairs (Surfaces 1-3). In the western part of the room, Surface 4 was a good, hard, yellow tan plaster, but elsewhere it was virtually nonexistent or marked by a thin, white line of hard sand. Surface 3 was a better surface but was limited to the western center, the southern end, and southeastern corner. Surface 2 was fragile and thin everywhere, and Surface 1 in the west center was a hard, yellow tan plaster but thin and fragile elsewhere. Generally, the upper three surfaces were little more than ephemeral spot plasterings. Although other spot and extensive ephemeral plasterings existed between Surfaces 5 and 8, excavation had become so complicated by then that it was unrealistic to deal with all of them.

Another major flooring was represented by Surface 6, overlain by a resurfacing (Surface 5). The latter was a good, hard, yellow tan, blackened plaster covering only two-thirds of the room. Underneath, Surface 6 covered the entire room but was soft and friable because of the underlying ashy trash that served as a useful "horizon marker" for correlating surfaces throughout the room.

The lowest surfaces (7-9) marked yet a third, and the original, use of Floor 1 (Plates 3.14-3.15). Surface 7 capped the others but existed just in the northern half of the room. It was an even, yellow tan plaster. Underneath was a softer, more irregular, and variable gray surface designated Surface 8. A number of features below Surface 8 did not

Floor		Material, Ceramic or				
Artifact No.	Artifact Type	Fauna	al Type	Locat	tion	FS No.
1	Mano fragment	2000	(sandstone)	Grid	1	5473
2	Mano fragment	2000	(sandstone)	Grid	6	5478
3A	Cibola olla sherd	-	Puerco B/w	Grid	3	5475
3B	Jar sherds (9)		indented corrugated	Grid	3	5507
4 ^b	Bird bills (2)	-	Black-billed Magpie	Grid	3	5475
5	Mano fragment	2000	(sandstone)	Grid	4	5476
6	Antler fragment	-	mule deer	Grid	4	?
7	Mouse bones	-	Peromyscus	Grid	9	5481
8	Jar sherds	-	indented corrugated	Grid	9	5481
9	Jar sherds	-	indented corrugated	Grid	9	5481
10	Mouse bones (8)	-	Peromyscus	Grid	9	5481
11	Wood fragment	-		Grid	10	5482
12	Hammerstone	1110	(splintery silicified wood)	Grid	10	5482
_c	Hammerstone/abrader	2000	(sandstone)	Grid	10	5482
13	Hammerstone	1110	(splintery silicified wood)	Grid	15	5487
_c	Hammerstone	1145	(silicified wood)	Grid	15	5487
_c	Mano fragment	2000	(sandstone)	Grid	15	5487
_c	Mano fragment	2000	(sandstone)	Grid	15	5487
14	Rabbit leg	-		Grid	16	5488
_c	Hammerstone/abrader	2000	(sandstone)	Grid	14	5486
15	Projectile point	2205	(Morrison sandstone)	Grid	16	5488
16	Metate fragment	2000	(sandstone)	Grid	21	5405
17	Metate fragment	2000	(sandstone)	Grid	22	5408
18	Abrader	2000	(sandstone)	Grid	22	5404
19	Abrader	2000	(sandstone)	Grid	23	5403
20	Shaped slab cover	2000	(sandstone)	Grid	23	5402
21	Deer phalanx	-	mule deer	Grid	21	5493
22	Deer tibia			Grid	21	5493?
23	Mano fragment	2000	(sandstone)	Grid	20	5492
24	Hammerstone	1111	(Nacimiento silicified wood)	Grid	17	5489
25	Hammerstone	1150	(yellow silicified wood)	Grid	24	5407
26	Hammerstone/chopper	50501	? (calcite?)	Grid	24	5406

Table 3.6. Room 110, Floor 1 fill artifacts (incomplete list).^a

^aSee distributions in Figure 3.20. ^bPossibly from Kiva 15 construction. ^cPrecise location unknown.



Plate 3.13. Room 110, Floor 1 (Top Surface, including parts of Surfaces 1-4). Large central circular pit intrusive from Kiva 15. 50-cm north arrow and 2-m board. (NPS#17966a)



Plate 3.14. Room 110, Floor 1, Surfaces 8-9. Several features intrusive from upper surfaces, including circular firepit from Kiva 15. Looking north. (NPS#16901)



Plate 3.15. Room 110, Floor 1, Surfaces 8-9, looking south. Some pits intrusive from upper surfaces, including slab-lined firepit at bottom. Note row of six mealing-bin basins. 50-cm north arrow. (NPS#16902)

articulate with any surfaces above and, thus, were put with a "Surface" 9. The only real flooring represented by Surface 9 was a small patch of flooring in the northwestern corner.

Floor 1 Features. A myriad of features pockmarked the Floor 1 surfaces, causing great frustration among the excavators. They recorded 48 postholes, 40 heating pits, 2 slab-lined firepits, 4 floor burns, 74 ubiquitous other pits, and a set of 6 mealing bins for a total of 174 floor features.

Just two firepits were so designated. The centrally located Firepit 1 (Figure 3.31A) came into use with Surface 7 and was used throughout the remaining life of the room. It was a slab-lined, rectangular box with a large volume (149 liters) compared to local, contemporaneous, small-site firepits that average 45 liters in volume (see Windes 1984). It showed remodeling and extensive oxidation. Most of a smashed Blue Shale Corrugated jar came from the firepit fill (Plate 3.16A). Firepit 2, a smaller, rectangular box of 16 liters, was built and used only during the life of Surfaces 5 and 4. It probably was dismantled after Surface 4 was abandoned. Its similarity to other pits in the room suggests that it might have originally served for storage before being used as a firepit. It did not, however, contain burned fill.

Almost all of the heating pits recorded for Floor 1 (39 of 40) were restricted to Surfaces 7-9 (Figures 3.27-3.30). Most of these were rather scruffy affairs with slightly irregular and unprepared walls and bottoms but with distinct burns and burned, brushy, charcoal fill. Saltbush or greasewood were the preferred fuels in these heating pits with a lesser reliance on juniper (Welsh 1979), whereas the opposite was true of the room firepits. For the most part, the heating pits concentrated in the northern and the southern ends of the room as if separate, distinct areas were designated for their use (Figures 3.28-3.29). Five, though, are well-made, plaster-lined basins (Volume I, Plate 9.10), occasionally with small slabs built into the walls, and four more are larger (over 35 cm in diameter), deeper, oversized, heating pits. Most (26) were on Surface 8 but were replaced by ten smaller, more irregular ones and Firepit 1 on With subsequent surfaces the firepit continued in use, but Surface 7. heating pits disappeared with the last use of one on Surface 6.

A set of six grinding bins (Figures 3.32-3.33, Plate 3.17) was placed at the southern end of the room. The metates had been stripped from the features so that the principal remaining constructions were the six catchment basins. These consisted principally of four upright slabs and a slab bottom with the corners heavily plastered. Two of the bins (MB 3 and 5) were later modified by plastering into place the collars of two, wornout, coiled baskets (Plate 3.18). Metate rests, bordered by thin upright slabs when first built, angled down to the basins at the north. A low ridge for kneeling ran behind the metate rests on the southern side. The closeness of the south room wall to the equipment (50 cm) probably forced the grinders to kneel with their feet against the wall and facing the room interior, a common historic practice. The extreme conservatism of this arrangement is reflected by the nearly identical settings found at Hopi



В

Plate 3.16. Restorable vessels recovered from Room 110, Floor 1.
 A) Blue Shale Corrugated jar from Firepit 1. (NPS#23143)
 B) Miniature Gallup Black-on-white pitcher and a Red Mesa
 Black-on-white bowl from Posthole 45, Surface 9, and a
 Toadlena Black-on-white ladle from Other Pit 37, Surface 8.
 (NPS#23142)



Plate 3.17. Room 110. The remains of Mealing Bins 1-6. Note manos and hammerstones in vicinity. Metates were removed at abandonment. Looking west. (NPS#15154)



Plate 3.18. Room 110, Mealing Bin 3 basin. Note impression of coiled basket fragments for collecting meal. Basin yielded corn and squash pollen. (NPS#15051)

and Zuni in historic times 800 years later (Mindeleff 1891:108-109; Stevenson 1970:292; see Volume I, Chapter 11).

Not all six bins were constructed at once. The three earliest (MB 1-3) were built with Surface 7 and the fourth (MB 4) added shortly after. A set of three metates seems to mark a common unit at Pueblo Alto and other sites in Chaco. Larger numbers of contiguous metates are often divisible by three, and it may be that a set of three metates reflects the type or size of the social unit using the metates. Again, the pattern lasts into historic times (Mindeleff 1891:110), and Bartlett (1933:15) suggests that the three metates differed in coarseness to effect differing degrees of food reduction. The last two bins were appended when Surface 6 was applied. At the same time, remodeling of the first bins may have Manos and hammerstones, the latter primarily of splintery, occurred. petrified wood (14 of 18), that lay scattered around the bins attest to the final use of the equipment and the abandonment of the room.

Palynological remains in the MB 1-5 basins yielded the highest percentages of corn for Floor 1 (Clary 1987; Cully 1985:Figure 4.23), ranging between 20 and 63 percent. Much of the corn pollen was clumped together. In addition, cucurbit pollen was recovered from the basins of MB 2 and 3, while beeweed and purslane pollen also came from MB 2. Prickly pear and cholla pollen was recovered from the MB 4-5 basins, along with other economic plant pollen. Little pollen was recovered from the MB 6 sample, although corn pollen was present. The presence of the various species was not surprising, as all were also recovered from the floor, but the abundant corn pollen in the basins accords with the expected function of the mealing bins (for processing corn). Flotation analysis of MB 3 yielded only varieties of unburned, common, weed plants (M. Toll 1985).

Forty-eight cylindrical pits were designated postholes. Most are small holes less than 15 cm in diameter that probably held auxiliary roof supports or small posts. There were no major roof-support postholes like those in the Central Roomblock. Fifteen of the 16 lined with a thin coat of sandy plaster were found on Surface 8. Only one arrangement of postholes was evident, a rectangular enclosure of about 3.6 m^2 in the northwestern corner of the room on Surface 5 (Plate 3.19). This involved at least 12 small posts of a jacal partition wall, which was completely razed before Surface 4 construction. Posthole 45 on Surface 9 contained the only two, whole vessels recovered from the room: a small pitcher and a bowl (Plate 3.16B).

The remaining 74 floor pits, designated "other pits", were undoubtedly the loci for a number of different activities. These can be divided into a number of morphological types (see Volume I, Table 9.5). Those on the lower surfaces were characterized by large, deep, unlined (Type 1) pits filled with trash. Thirty of 32 were found on Surface 7 or below and were large, bell-shaped excavations. Over half of all bone, ceramics, and lithics found in pits came from these. Vegetal remains were also common (M. Toll 1985) and a number of human coprolites were recovered from the pits (Clary 1984). Although these pits were suitable for storage, some may have been used exclusively for garbage disposal. In Room 103, similar

West Wing 251



- Plate 3.19. Room 110, Floor 1, Surface 5. Postholes (PH 7-18) mark small pole or jacal enclosure in northwestern corner of room. Large pit (Firepit 2) within enclosure built after poles were removed. Ladder rests in the remains of the Kiva 15 firepit. 30-cm north arrow. (NPS#16325)
- Plate 3.20. Male and female, unfired adobe figurines, embraced together when found in Other Pit 6 (Room 110, Floor 1, Surface 3). Note charcoal fragments for eyes and black sooted hair. Figurines are 11 mm and 9.5 cm tall. (NPS#16241)

pits were common to the lower floors but were generally filled with construction debris.

The most noteworthy of the large, bell-shaped pits was OP 60 in the northern end of the room. It contained the debris from a single episode of toolmaking. Over 100 minute flakes of purplish chert (material type 1160; mean weight 0.14 grams each), probably from the Zuni area or the Chinle Formation (Cameron 1985), and an antler flaker were recovered. This was the largest concentration of 1160 chert at the site. Rotted seeds, twigs, and branches and much of a squat, sooted, Chuskan, indented corrugated jar were also present. Another pit, OP 64, contained the greatest amount of bone recovered from a floor pit, 57 elements. Almost all (more than 89 percent) were cottontail but revealed no burning or butchering marks.

On higher surfaces, the deep pits gave way to 16 large-mouthed, shallow, unlined (Type 2) pits. Eleven of these occur on Surface 4 or above, and three others were found on Surface 6. Those below Surface 4 occur in the southeastern quarter of the room, whereas those above occur mostly between the large firepit and the west wall. Several appear to have been coated with a layer of wet ash, and two (OP 8 and 10) exhibited corncob impressions in the bottom. From this, Gillespie suggests a possible cornprocessing function for the pits and notes the analogy to the Puebloan practice of soaking corn kernels in ash for making hominy (Cushing 1974: 336, 342; Stevenson 1970:367; Whiting 1939:15, 67). Vessels would be more practical for the actual soaking, but the ash might represent discard from such a process. Faunal remains, mostly from rabbits and rodents, are common in these pits, whereas other material is rare.

Three Type 3 pits were subfloor, stone, and slab-lined boxes. Two (OP 39 and 52) represent the first formally constructed features on the floor and occurred with the mass of heating pits and large, trash-filled, bell-shaped pits. They predate the large firepit and mealing bin construction. Both are similar in construction to the mealing bin basins and might have served for portable metates, although there was no collaborative evidence. Firepit 2 may also belong to this group, although it was oxidized and contained charcoal. If so, it and the third, OP 5, would form a pair of narrow, rectangular boxes suitable for storage on Surface 4. A similar one was found in Room 103.

The four Type 4 pits resemble postholes in form and might once have so functioned. A pair against the east wall revealed contents that might have been ritual. OP 6 contained two sexually embracing male and female figurines of adobe (Plate 3.20). The other, OP 1, was covered by a sherd set in the top. Underneath were found six, small, rod impressions, 5-10 mm in diameter, extending at angles down into the pit sides. Similar impressions have been found in OP 24 and OP 29, each with six, vertical, rod impressions in the fill. One of these pits was found with each major floor use of Floor 1 in roughly the same position against the east wall just south of the central door. Another, again with six rod impressions, was found in the floor of a late kiva (Room 6 kiva) in the East Ruin. Pepper (1920:Figure 111) illustrated a Bonitian pottery "brick" with six

angled holes through it, which also could have been made to hold slender rods or pahos (prayer plumes). It was found in Room 80 along with a painted stone mortar.

The number six has historic significance among the Pueblos, particularly in reference to direction (Stevenson 1970:350; Parsons 1936; Whiting 1939). That, coupled with the similarity of impressions, suggests paho (prayer plume) or a like ritual-item placement in the pits. Once or twice a year during ceremonies, the Hopi place a number of pahos in the ceiling over the door entry of households to impart blessings upon the inhabitants and the house (E. Charles Adams, personal communication 1985). These pahos protrude from the ceiling and are visible to the inhabitants just as they would have been in Room 110 if the pits in question had held pahos.

The remaining pits exhibited a range of sizes and shapes. Six Type 5 pits were moderately deep basins of better construction than most and were found in the central part of the room. A batch (11) of irregularly shaped pits of poor construction were included under Types 6 (moderate, deep ones) and 7 (small pockets). It is possible that the latter were not real features. Five of the six deep pits were on Surfaces 7 and 8. Cultural material in them was sparse, although notable were several large usable flakes from a single core of Washington Pass chert (of Chuskan origin) and a few of Brushy Basin chert from OP 19. Others from the same core may have come from PH 2. Finally, two slots suitable for holding upright slabs or planks comprised the final category, Type 8. One, OP 50, was plastered and contained three possible stone shims in the fill that might have wedged a plank in position. This pit was about midway between two well-made, oval postholes (PH 39 and 42), and it is possible that all were functionally related, perhaps for support of some intra-room structure.

<u>Floor 1 Artifacts</u> (Figures 3.20-3.21, Table 3.7). Despite the architectural complexity of the room, artifacts were surprisingly sparse. Trash did exist but came almost exclusively from the many floor pits and not from floor contact. Because use throughout Floor 1 was apparently uninterrupted and because successive surfaces were essentially replasterings with a minimum of fill accumulation on preceding surfaces, the only recognized floor artifacts were on the last-use, upper-surface group.

Compared to the upper floors (1 and 2) in Room 103, Room 110 had few ornaments. A small, turquoise inlay was found on the floor (top surface) in the middle of the room and a calcite bead from Surface 8 in the northern end of the room. No other turquoise was found. Five more beads (two <u>Olivella</u>, two calcite, and one black shale) came from five pits on different surfaces.

Ceramics were common in floor pits but few came from directly off the floor. Most of the ceramics came from other pits (1,225 sherds in 42 pits, 29 per pit). Notable concentrations were recovered from OP 39 (164 sherds) and OP 67 (305 sherds) and were mostly indented corrugated. In addition, several concentrations of sherds were present on the floor or just above, which probably represent secondary refuse. As an assemblage,

Floor Artifact					
Number	Artifact Type	Mater	ial, Ceramic, or Lithic Type	Location ^b	FS No.
1	Abrader	2000	(sandstone)	G• 22	5411
2	Abrader	2000	(sandstone)	G. 22	5412
3	Abrader	2000	(sandstone)	G• 21	5413
4	Mano fragment ^c	2000	(sandstone)	G• 22	5414
5	Mano fragment ^C	2000	(sandstone)	G. 22	5415
6	Mano	2000	(sandstone)	G• 22	5416
7	Other ground stone (kneeling stone)	2000	(sandstone)	G• 22	5417
8	Mano	2000	(sandstone)	G. 22	5418
9	Hammerstone	4000	(quartzite)	G. 22	5419
10	Mano	2000	(sandstone)	G. 22	5420
11	Hammerstone	?		G• 22	5421
12	Mano	2000	(sandstone)	G. 22/23	5422
13	Hammerstone	1113	(light silicified wood)	G. 23	5423
14	Mano fragment	2000	(sandstone)	G. 23	5424
15	Mano	2000	(sandstone)	G. 23	5425
16	Abrader	2000	(sandstone)	G. 23	5426
17	Mano fragment	2000	(sandstone)	G. 23	5427
18	Hammerstone	1113	(light silicified wood)	G. 23	5428
19	Abrader ^C	2000	(sandstone)	G. 24	5429
20	Abrader ^C	2000	(sandstone)	G• 24	5430
21	Mano	2000	(sandstone)	G. 24	5431
22	Other ground stone	2000	(sandstone)	G. 24	5494
23	Jewelry inlay	5300	(turquoise)	G• 4	5495
24	Hammerstone	2700	(limestone)	G. 21	5496
25	Abrader	2000	(sandstone)	G. 16/21	5497
26	Hammerstone	1113	(light silicified wood)	G. 21	5498
27	Hammerstone	1112	(dark silicified wood)	G• 21	5499
28	Hammerstone	1113	(light silicified wood)	G. 21	5500
29	Hammerstone	1111	(Nacimiento silicified wood)	G• 21	5501
30	Hammerstone	1111	(Nacimiento silicified wood)	G. 21	5502
31	Hammerstone	4005	(quartzite)	G• 21	5503
32	Hammerstone	1150	(yellow silicified wood)	G. 21	5504
33	Hammerstone	2700	(limestone)	G• 21	5505
34	Bowl sherd	-	Forestdale Smudged	G• 21	?
35	Wood strip	-	juniper?	G• 21	?
36	Eggshell (2)	-	turkey?	G. 16	5517
37	Indent. corr. jar (21) ^c	-	Chuskan?	G. 16	5517
38	Jar sherd	-	Gallup B/w	G• 16	5517
39	Jar sherd	-	Gallup B/w	G. 16	5517
40	Jar sherd	-	Gallup B/w	G. 16	5517

Table 3.7. Room 110, Floor 1 (top surface) artifacts.^a

^aSee distributions in Figures 3.21 and 3.32. ^bG. = Grid

cFit together.

Table 3.7 (concluded)^a

Floor Artifact

ALLIACL				
Number	Artifact Type	Material or Ceramic Type	<u>Location^b</u>	FS No.
41	Eggshell (2)	- turkey?	G• 16	5517
42	Raw material	- (selenite)	G. 16	5517
43	Unutilized flake	1110 (splintery silicified wood)	G. 21	5521
44	Bowl sherd	 unclassified whiteware 	G. 17	5518
45	Jar sherd	- unclass, indented corrugated	G. 17	5518
46	Jar sherd	- unclass. indented corrugated	G. 17	5518
47	Jar sherd	- Gallup B/w	G. 17	5518
48	Jar sherds (16) ^C	- Gallup B/w	G. 18	5519
49	Jar sherd	- unclassified whiteware	G. 18	5519
50 ^d	Jar sherds (7) ^C	- Chuskan? PII indented corr.	G. 19	5520
51	Bowl sherd	- Gallup B/w	G. 12	5514
52	Bowl sherd	- Toadlena? B/w	G. 1	5506
53	Bowl sherd	- Gallup B/w	G. 5	5509
54	Bowl sherd	 unclassified whiteware 	G. 5	5509
55	Jar sherds (2)	- unclass, indented corrugated	G. 5	5509
56	Jar sherd	- Mancos? B/w	G. 5	5509
57	Jar sherd	- unclass, indented corrugated	G. 4	5508
58	Jar sherds (9) ^C	- sooted unclass. indent. corr.	G. 3	5507
59	Jar sherd	 unclassified whiteware 	G. 3	5557
60	Unutilized flakes	1052 (High Surface Chert)(2)	G. 4	5476
		1080 (Washington Pass Chert)(2)	G. 4	5476
61	Jar sherd	- unclass. indented corrugated	G. 1	5506
62	Mano #2	2000 (sandstone)	MB 2 floor	5435
63	Mano #4	2000 (sandstone)	MB 2 floor	5435
64	Mano #5	2000 (sandstone)	MB 2 floor	5435
65	Mano #1	2000 (sandstone)	MB 3 floor	5437
66	Mano #2	2000 (sandstone)	MB 3 floor	5437
67	Mano #5	2000 (sandstone)	MB 3 floor	5437
68	Mano #1	2000 (sandstone)	MB 4 floor	5439
69	Hammerstone	1113 (light silicified wood)	MB 4 floor	5439
70	Mano #1	2000 (sandstone)	MB 5 floor	5441
71	Mano #2	2000 (sandstone)	MB 5 floor	5441
72	Mano #1	2000 (sandstone)	MB 6 floor	5444
73	Mano #2	2000 (sandstone)	MB 6 floor	5444
74	Hammerstone	?	MB 6 floor	5444
75	Mano #1	2000 (sandstone)	N 9 floor	5446
76	Mano #2	2000 (sandstone)	N 9 floor	5446
-	Manos (2)	2000 (sandstone)	MB l fill	5680/5684
	Manos (2)	2000 (sandstone)	MB 2 fill	5434
-	Hammerstone	2202 (Nacimiento sandstone)	MB 2 fill	5434
-	Hammerstone	4005 (quartzite)	MB 2 fill	5434
-	Manos (2)	2000 (sandstone)	MB 3 fill	5436
-	Hammerstone	1110 (splintery silicified wood)	MB 3 fill	5436
-	Hammerstone	<pre>1113 (light silicified wood)</pre>	MB 3 fill	5436
-	Hammerstone	<pre>1100 (silicified wood)</pre>	MB 3 fill	5436
-	Mano	2000 (sandstone)	MB 6 fill	1531

^aSee distributions in Figures 3.21 and 3.32 and Volume III, Table 5.12. ^{b}G . = Grid, MB = mealing bin, N = wall niche. ^CFit together. $^{\rm d}$ More of the same vessel recovered in Mealing Bins 1-2 and in the floor fill.

the ceramics mark use and discard in the last half of the A.D. 1000s. Not a single type postdating A.D. 1100 was recovered.

Although chipped stones were also infrequent on the floor, numerous pieces came from the features (Cameron 1985). Most were associated with Surfaces 7-9 (365 pieces) with decreasing numbers for pits in Surfaces 5-6 Thirty-five other pits con-(53 pieces) and Surfaces 1-4 (38 pieces). tained such debris, with a total of 312 pieces (11 per pit average). Tn contrast, 19 pieces came from only 11 heating pits and 14 pieces were There was clear evidence for primary recovered from seven postholes. lithic reduction in the room when some debris was matched to specific Pits generated large amounts of Washington Pass chert (material cores. type 1080), Zuni chert (1160), and splintery, silicified wood (1109-1110). Washington Pass chert from the Chuska Mountains was the most ubiquitous It was particularly concentrated in OP 19 (14 of 16 material in pits. pieces). Seven cores (five Washington Pass chert and two silicified wood) came from the various floor surfaces but there were no formal tools.

Most artifacts occurred in the southern end of the room and apparently related to mealing activities. Gillespie noted 25 whole and fragmen-Another 20 hammertary manos, 7 abraders, and 2 other ground stones. stones, presumably for sharpening grinding tools, complete the inventory Four of these were quartzitic, two were limein and around the bins. stone(?), and the rest petrified wood (material types 1150, 1110-1113). Five came from mealing-bin fill: three(?) of petrified wood (1110, 1113) in MB 3 and two quartzitic ones in MB 2. Despite the profuse number of hammerstones in the vicinity of the mealing bins, lithic debris was rare. Percussion flakes from sharpening the manos and metates must have been collected and placed elsewhere. OP 39, a slab-lined box built against the east wall and Wall Niche 4 in the northern end of the room, contained 58 large flakes (mean weight 4.2 gm) of the same material as the hammerstones and, thus, the pit may have served specifically for the debris. Although OP 39 was associated with a surface immediately preceding the mealing bin construction, uncertainty regarding the temporal relationships of Surfaces 7-9, on which both occur, makes it feasible that both were coevally and functionally related.

Faunal remains littered the room and were most freqently represented, in decreasing order, by elements of cottontails, mice (Peromyscus), prairie dogs, jackrabbits, and artiodactyl, usually mule deer (Akins The latter were relatively abundant in pits associated with Sur-1985a). faces 7-9 but decreased proportionally with the upper surfaces. Sparse A couple of remains of turkey and magpie occurred, all above Floor 1. golden eagle and hawk elements came from Surfaces 7-9. Immature and young-adult elements suggested to Akins (1985a) winter (including late fall) habitation for both Floors 1 and 2. As might be expected in a roofed room, elements exhibited a low incidence of checking. Few elements were burned and these generally came from firepits (not heating pits). Butchering marks were rare.

A preponderence of bone (260 pieces) came from the postoccupational fill in Door 6 that was almost all cottontail (96) and jackrabbit (70)

West Wing 257

elements. Niche 15, in the north wall, contained a large number of <u>Peromyscus</u> (51) and plateau lizard (18) bones of the 116 elements. For Floor 1, the largest amount of faunal material came from OP 64, which contained almost entirely cottontail rabbit parts (51 of 57). Specific animal-processing loci were not identified in the room. Many of the pits may have served as handy receptacles for discarding food scraps and other debris. Large and small mammal elements, however, reveal that mule deer and rabbits were favorite game animals, whose meat might have been cached in the larger floor pits.

Palynological analysis of the last use surface revealed that a wide diversity of economic plants was used in the room, including cucurbit, beeweed, purslane, cattail, prickly pear, and corn (Cully 1985:188). Corn pollen was recovered from eight of the nine grids sampled, but the highest densities came from the mealing bins. Flotation results mirror findings from Room 103 with a diversity of unburned economic species occurring on the floor (last use surface in Room 110) and the same species found burned in firepits and heating pits (M. Toll 1985:Table 33). Species identified include goosefoot, pigweed, pinyon, mustard, purslane, ground cherry, beeweed, hedgehog cactus, and abundant, charred corncobs, kernels, and cupules. A number of unburned corncobs, rare at Alto, came from Niches 4 and 9.

Layers 3-9

The small amount of material, primarily sand with some trash, found between various floor surfaces was designated Layers 3 through 9. These varied in thickness from almost nothing to about 10 cm.

Layer 10

Separating Floors 1 and 2 was a 16-27-cm-thick deposit of sand with small flecks of calcium carbonate throughout and no internal stratification. Almost all of the cultural material was evenly distributed in the upper few centimeters of the deposit and probably was associated with Surfaces 8-9 of Floor 1. Most of the layer apparently was redeposited aeolian sand brought into the room as preparation for Floor 1.

In addition to the above-mentioned refuse, two concentrations of trash were noted in the top of the layer that continued down to the Floor 2 surface. One, in Grid 7, covered an area 20 cm in diameter, and the other, in Grid 12, was nearly 23 cm in diameter. In neither case were walls defined, although both were probably Floor 1 pits.

The lowermost 2-3 cm of fill (i.e., resting on Floor 2) were of medium-grained, grayish sand similar to that found on Floor 5 of Room 103. It was thickest (5 cm) in the southwestern part of the room but was devoid of cultural material throughout.



Plate 3.21. Room 110, Floor 2, looking north. Most features intrusive from upper floor. (NPS#17127)

Plate 3.22. Room 110, Floor 2, looking south. Most features intrusive from upper floor. (NPS#17129)

Floor 2 (Figure 3.34, Plates 3.21-3.22)

A hard, well-plastered surface of light gray, sandy clay about 1 cm thick comprised Floor 2. It had a whitish tinge from numerous tiny spots of calcium carbonate. Overall, the floor is smooth and level and generally with no more than 4 cm difference in elevation. There was far less use of Floor 2 than Floor 1 in terms of features, wear-and-tear of the floor, and cultural and ethnobotanical remains. Some 35 Floor 1 features, however, had penetrated Floor 2 and may have removed a few earlier features.

Only 12 features were associated with the floor. Floor 2 Features. Located near the center of the room was the largest and best prepared feature, Firepit 1 (Figure 3.31B, Plate 3.23). It was placed between the east-west room doorways, but about 10 cm closer to the plaza side. Its upper walls were plastered, and, during the last use, an adobe collar encircled its 85-cm diameter. Included in the collar addition were five, raised, adobe rings designated pot rests. Three had been damaged and perhaps one or two others totally removed by Floor 1 pits. Interestingly, the Kiva 15 firepit, just above, also had similar pot rests, although the continuity was broken by their absence on Floor 1. Others have been recorded with firepits at Una Vida (Room 60), Pueblo Bonito, Room 34 (Volume I, Plate 10.1), and Pueblo del Arroyo (Room 8B)(Judd 1959:195). These features are suitable for holding round-bottomed vessels, and their nearness to the firepit points to the desirability of keeping vessel contents Oxidation of parts of the pot rests reveals that temperatures heated. must have been substantial close to the firepit.

Firepit 2 of similar size but of poorer construction than Firepit 1, was located in the southeastern quarter of the room. Nearby were two more potential pot rests (floor depressions and not raised rings) that were not close enough to the firepit to be greatly affected by its heat. They were similar to Type 2 pits of Floor 1. A layer of stones, perhaps to be heated, rested directly on the uppermost layer of charcoal in the firepit and was covered by clean sand (Plate 3.24). One fragmented stone, in particular, revealed a greasy black coating on its upper surface, suggesting to Gillespie a possible griddle (see Cushing 1974:302, 326-333; Stevenson 1970:361-363).

Two small, bell-shaped pits (other pits) had been placed at equal distances from the east wall at the northern and southern ends of the room. Only the northern one was lined with plaster, but both showed repairs around the mouth undoubtedly due to the fragility of the constructed orifice. Unlike those on the floors above, neither pit was trash-filled. Both were suitable for storage, although greater quantities of goods could have been cached in the wall niches (see below).

A single, deep, cylindrical pit in the south center of the room was the sole candidate for a post support. Its small diameter of 9 cm suggests support of a pole for room activities rather than an auxiliary roof support.



Plate 3.23. Room 110, Floor 2, Firepit 1. Note adobe-lined potrest basins built in or next to adobe firepit rim. Three of the five potrests destroyed by later pits. 30-cm scale. (NPS#17120)



Plate 3.24. Room 110, Floor 2, Firepit 2. Note bottom slab and burned stones. 30-cm scale. (NPS#17118)

<u>Floor 2 Artifacts</u>. None were found on the floor. A solitary skeleton of a <u>Peromyscus</u> mouse was found in the northwestern corner where it had expired. A small number of bones came from the two firepits (23) and about half were burned.

There was a notable contrast in the flotation results between the upper floor and Floor 2. The latter yielded low frequencies of unburned seeds from common, weedy plants (M. Toll 1985:Table 32). The only corn remains (i.e., charred kernels) were recovered from Firepit 1. This difference may be attributed to a short, limited occupation of Floor 2 that saw few of the many diverse activities characterizing the habitation of the upper floors. The pollen was not analyzed.

Layer 11

A clean, nearly sterile, yellow tan sand separated Floors 2 and 3. It varied in thickness from a couple of centimeters in the northwestern corner to 12 to 15 cm in the far southern end of the room. The compaction also varied somewhat, but overall was relatively low. Like Layer 10, the fill is thought to have been transported to the room for preparation of a new floor (Floor 2). A high frequency of selenite, hematite, concretions, and siliceous manuports that pervade the deposit suggest that the deposit originated from older deposits in the vicinity rather than from natural deposition. These minerals were not collected. Calcium carbonate nodules were also numerous. The few cultural items were concentrated in the south half of the room in the bottom of the deposit. Ceramics belong to a Red Mesa assemblage. Rodent disturbance was prevalent only in the southeastern corner.

Floor 3 (Figure 3.35)

Only the eastern half of the room generally exhibited a good, but uneven, gray plaster, 1-2 cm thick, with a number of spalls poking through. Most of the remainder was plastered but with poorer quality plaster, and the rest is marked by grayish sand and occasional spalls. The plastering merged with the tops of the wall foundations, as it did in Room 103, Floor 5. Floor relief varied as much as 15 cm, and a few areas were disturbed by later floor features. A thin (1-2 mm) film of fine, homogeneous gray sand covered the floor like that on Floor 2 and in Room 103, Floor 5.

<u>Floor 3 Features</u>. No formal features existed unless they were obliterated by later ones, an unlikely event. Near the center of the room, however, was a well-oxidized spot, 40 by 20 cm, which warranted archeomagnetic sampling but produced erroneous results.

<u>Floor 3 Artifacts</u>. Cultural debris mainly consisted of a large number of spalls, presumably from wall construction, that littered the floor. Otherwise, materials were scarce and represented by five sherds from a Red Mesa assemblage but no faunal remains and no lithics. Although no pollen was analyzed from the floor, flotation yielded a bland assortment of common, unburned, weedy plant seeds, similar to the results from Floor 2.

Layer 12

Underneath Floor 3 and extending down to a hard, sterile, caliche deposit was a trashy, sand layer. This, like the layers and floors above it, followed the gentle, southward sloping of the underlying sterile fill. It was a scant 7 cm thick in the northeastern corner but thickened to 26 cm in the southwestern corner. About 20 percent of Layer 12 was excavated in grids along the east and west walls. The yellow tan matrix was stained with charcoal and contained small amounts of sherds and small, mammal bones that were interpreted as predating the room construction. Spalls were restricted to near the top of the layer and probably marked the first masonry work in the room. This trashy deposit was widespread and found under all the rooms excavated in the West Wing.

Walls (Figures 3.36-3.38)

Wall Foundations. As in the Central Roomblock, trenches were cut into the sand and the hard caliche and filled with wet, gray clay mortar and large, unshaped blocks of sandstone. Generally, all four footings exhibited a course or two of large blocks in the lower part overlain by a course or two of thinner, more uniform, tabular slabs near the top of the The resultant foundations averaged about 25 cm deep. foundation. Parts of the western footing overlay Layer 12 deposits. Corner testing revealed that the eastern foundation was set first and the narrower northern and southern ones butted against it. The western one tied the latter two, which suggests that after the eastern foundation was poured the others were cast as one. The walls imprecisely overlay the foundations, with the oversized eastern foundation extending out into Floor 3 by 15 to 20 cm (Figure 3.35). A small piece of clay imprinted by a coiled basket (from the eastern foundation) suggests that the wet clay was being mixed elsewhere and brought to the room in baskets.

<u>Wall Masonry</u>. The masonry wall veneer was similar to other rooms excavated in the West Wing. Medium-sized, tabular stones and thinner ones predominated with little attempted patterning (Plate 2.25). Spalls or chinks were used abundantly between the larger stones, often in several courses similar to Type 2 masonry (Hawley 1934; Judd 1954:Plate 5). Variability was great, however, with some areas exhibiting noticeable differences in style. Larger stones concentrated in the upper half of the walls. The southern half of the east wall and upper half of the north wall contained the highest frequency of large, blocky stones. On the other hand, thinner and smaller stone was most common around Door 2 in the west wall.

<u>Wall Features</u>. The room walls became the focus for a number of uses during room occupation. Some of these uses were planned during the initial construction (i.e., all ventilators and some doors), whereas others were made following modification of the original wall fabric.

<u>Wall Niches</u>. Walls as well as floors provided the inhabitants with opportunities for storage. None of the numerous wall cavities located during excavation, however, was original room furniture. Most were



Plate 3.25. Room 110, west wall and Door 2. Note tie holes in jamb above string and contrast between wall masonry and masonry used to fill door when room was replaced by Kiva 15. (NPS#17625)



Plate 3.26. Room 110, Wall Niche 5 (filled with adobe fragments) and Wall Niche 4 (excavated) in the east wall, north end. 30cm north arrow. (NPS#16746)

later wall modifications that suggest an increased occupational intensity in the room. Twenty wall cavities were recorded, revealing a range of sizes and shapes. Except for Niche 4 which was created by remodeling Door 5, all exhibited uneven walls and openings that indicated post-wall con-The five largest were partly obstructed by Layer 10, which struction. indicates use before the Floor 1 occupation. These were probably built while Floor 2 was in use. The largest, Niche 4 (Figure 3.39, Plate 3.26), had as many as five floors and continued in use until the addition of Kiva 15. The niche had a volume of about 530 liters. Fill in the lower part of Niche 4 was occupational material that included copious amounts of rotted unshelled corncobs, perhaps as many as several hundred, as well as many pieces of wood including two probable weaving tools, and a probable fiber pot rest. A screen or mat made of small rods, 4-7 mm in diameter (see Judd 1954:Plate 10B), apparently was used to seal the storage chamber.

Adjacent to the mealing bins was another large (107 liters) cavity, Niche 9 (Figure 3.40, Plate 3.27). It contained two manos, two large pieces of wood, and unburned corncobs that suggest a storage function for the niche in conjunction with mealing activities. In addition, economic plant pollen recovered from it (e.g., prickly pear, cholla, and clumps of corn pollen) was similar to that in the mealing bin basins nearby (Clary 1987). Two other large niches (N 6 and 10; 91 and 162 liters, respectively) opened into Room 112 although probably intended solely as Room 110 facilities. Accidental collapse of the niche back wall into Room 112 was thought by the excavators to be responsible for through-wall openings. Both were plugged only from the Room 110 side during occupation of Floor 1, which suggests the lesser importance and use of Room 112 at that time.

Two niches were small conduits that also opened into Room 112. One, N 2, was formed when N 10 was sealed (Plate 3.28) but it, too, was poorly finished on the Room 112 side and may not have been intended to serve as It was nearly at floor level and opposite the plaza door an opening. opening, however, that would have facilitated an air draft through both Several niches were unplastered and had irregular, sloping botrooms. toms. Four of these were the highest in the room, nearly 2 m above Surface 8. Those opposite one another, N 11 and 12, could have held a single beam. The others, N 19 and 20, were larger and set in the east wall about equal distance from the cross walls. There was no hole to complement N 19 in the opposite wall, and the wall opposite N 20 had fallen. Thus, the niches could not have held vigas but only short stubs into the room. A11 four of the latter were far enough below the present wall tops to negate their association with roofing. The function of another two, N l and N 15, is uncertain. Finally, five very small cavities (N 3, 13-14, and 17-18) were lined with plaster and may represent important space for smallitem storage.

The bases of five wall cavities were between Floors 1 and 2 and, thus, were placed with the Floor 2 occupation. These were the largest room niches (N 4, 6, and 8-10) and continued, with modifications, to be used during the initial occupation of Floor 1. In two cases (N 4 and 9) large, vertical slabs were placed across the lower parts of the openings



Figure 3.39. Room 110, Wall Niche 4, plan and profiles.









Figure 3.40. Room 110, Wall Niches 9 and 10, plans and profiles.



Plate 3.27. Room 110, Floor 1, Wall Niche 9 in the east wall, south end. Proximity and contents (unburned corncobs and two manos) suggested functional use with nearby mealing bins. 15-cm north arrow. (NPS#16987)



Plate 3.28. Room 110, west wall. The largest niche (Niche 10) is masonry-filled but exhibits two smaller niches: Niche 3 in the upper right corner and Niche 2 below the 15-cm scale and opening into Room 112. (NPS#17419)

268 Pueblo Alto

to keep out the Layer 10 dirt thrown in to form Floor 1. Wall Niche 8 (255 liters in volume) kept its original Floor 2 association (as did the first two) but was tied into the lowest Floor 1 surface by an unusual, curving extension of the niche floor that coped up onto the higher Floor 1 (Figure 3.41). Wall Niche 10 (Figure 3.40) was sealed when the floor was raised, but the plug was converted into two smaller niches (N 2-3). Finally, Niche 6 was apparently brought to a Floor 1 level by reflooring the cavity. Because of its large size, N 16 may also belong to the Floor 2 occupation, but it is impossible to be sure because it is elevated above all the floors. No niches were associated with the use of Floor 3. The volumes of the room niches range between about 70 and 260 liters and they probably served for storage.

<u>Wall Pegs</u>. Fourteen dowel holes were found during examination of the walls, primarily after plaster stripping (Figures 3.36-3.38). Most holes were 1-2 cm in diameter and extended 9 to 19 cm deep into the wall at right angles. Decayed wood found in some of them suggests the use of small pegs extending out into the room for hanging objects (see Mindeleff 1891:111; Stevenson 1970:Plate 95). Undoubtedly, more exist under the remaining plaster. None could be tied directly to a specific floor occupation but all were from use of Room 110.

Doors. Although six doors were examined during excavation, only three provided initial access to the room. Those centered in the east and west walls (Doors 1 and 2) were built during wall construction and functioned until the demise of Room 110, when they were sealed by the builders of Kiva 15. A pair of ties in the walls next to Door 2 (Plate 3.25) indicate that the contents of Room 112 could be sealed off from Room 110 by blocking the door with a slab. This signifies that direct access, and thus control, of the Room 112 storage space was by the inhabitants of Room Door 1 (Figure 3.42) exhibited much remodeling as the occupants 110. attempted to cope with the rising plaza surfaces just outside. This is reflected in the higher sill and lintel additions to the door, as well as the steps added within the door. Door 5 (Figures 3.43-3.44, Plate 2.29), just north of Door 1, was also built during room wall construction, elevated and modified by construction of an entry well to cope with rising plaza deposits, and used until remodeled into N 4 during the occupation of Floor 2.

A smaller opening, Door 6 (Figure 3.45), was apparently punched through after the north wall construction, used with Floors 1 and 2, and then plugged during the last use of Room 110 (Plate 3.30). Because Door 6 was unstable, it was not thoroughly explored, although Gillespie recovered 259 unworked bones in the door plug and wall core with little other cultural debris. Almost all of these were unburned cottontail, jackrabbit, and a few prairie dog elements. Gillespie suggests that the angle of Posthole 1 (Floor 1) directly below the door could have allowed a pole to prop a sagging door lintel. Otherwise, a post step is possible although all post steps excavated at Alto were set vertically in the floors.


Figure 3.41. Room 110, Wall Niches 5 and 8, plans and profiles.



Figure 3.42. Room 110, Door 1, and Kiva 15, Wall Niche 1, elevations and profiles.

West Wing 271



Figure 3.43. Room 110, Door 5 and Wall Niche 4, plan and north-south profile. Note the stratigraphy of the associated plaza and Room 119 deposits.



Figure 3.44. Room 110, Door 5 and Wall Niche 4, east-west profile.



Figure 3.45. Room 110, Door 6, plan and profile.



Plate 3.29. Room 110, the original door entry (Door 5) to the plaza that had been enclosed to fend off rising plaza sands. Door later remodeled to create Wall Niche 4. 30-cm arrow rests on the wall foundation. (NPS#17615) Compare with Plate 3.36. (NPS#17648)



Plate 3.30. Room 110, north wall. Door 6 plugged with masonry. Left side of door formed from masonry filling Niche 16. Small hole in wall to right side of door is Niche 14. 15-cm scale. (NPS#17499) Finally, two doors (3 and 4) were added after the abandonment of Room 110. These are discussed under Room 109.

Wall Ventilators. Eight air ducts or ventilators were symmetrically arranged within the walls during initial construction. Only five of these survived late door additions, but their presence is inferred from Vents horizontally penetrated the ends of patterns seen in other rooms. each wall about 180-200 cm above the original floor level and would have allowed an east-west draft to flow through the suite (providing Room 229 had vents), as well as a north-south draft through the row of living rooms in the West Wing. The sides and floors of each vent were lined with masonry and the roofs covered by multiple, closely set, wooden pole lintels 3-5 cm in diameter. Three vents were presumably removed when the Room 109 doors were added. All vents were probably functional during Floor 1 use, although those in the north wall (V 4 and 5) were plugged and covered with plaster during this period. This event may have coincided with the plugging of Door 6 and the abandonment of the next room, Room 111, when Kiva 1 was built in the northern end of the roomblock.

Similarly, Vent 1 at the northern end of the east wall may have ceased to function as a ventilator when Room 119 was added against its outside wall. It was plugged only from the outside (the Room 119 side) conveniently leaving a niche (N 15) to be used from Room 110. This could have happened as early as Floor 2 times, when Room 119 may have been built, or some time afterward.

<u>Wall Plaster</u>. Two or three layers of reddish tan plaster, reaching a maximum of 12 mm in thickness, but often thinner, had been applied to the walls. Only on the lower north wall near the western corner were three coats apparent. The best plaster preservation was behind the Kiva 15 walls; the rest largely deteriorated after the abandonment of the later structure. The initial wall plaster was applied during the early occupation of Floor 1 and subsequent additions made with later surfaces, especially Surfaces 5-7. There was no plaster below the level of Floor 1. Considering the intense utilization of the room, it is surprising that the walls were not replastered very often.

Painted areas were noted primarily on the north and west walls although others may have existed. Only a few traces of white paint without discernible pattern were apparent on the north wall. On the west wall, at the northern end and just south of Door 2, were large areas of white and yellow (limonite) paint. That next to the door was a rectangle (150 cm long and 70 cm high) of yellow surrounded by a later band of white just above Floor 1. A 50-cm square at the northern end of the yellow rectangle was painted over with white. Two blocks of white smears at the northern end of the wall are interpreted by Gillespie as possible planning marks for positioning the Kiva 15 north wall and bench. Although similar smears were not found marking the other Kiva 15 wall junctures, the marks closely correspond to the actual construction at this point.

South of the yellow and white blocks on the west wall was a white handprint in rather poor condition. This was an apparently adult, left hand that was later covered by the last Room 110 coat of plaster.

The final item of note was a ragged horizontal ridge of plaster on the north wall that aligned with the tops of Vents 1 and 2. The ridge was about 2 cm high and protruded outward 1 cm. The mark may have been a narrow floor-coping remnant for a beam-supported shelf. Immediately below the ridge, wall plaster was absent and this spot corresponded to the conjectured position of the beam, which would have been seated in the partially blocked vents.

Smoked Walls. Much of the upper portion of the preserved Room 110 wall plaster exhibited smoke staining on the last coat applied. Before excavation, this led us to speculate that the room had burned. Most staining occurred in the upper half of the room's northern end, although there was some near the southern end of the east wall. The single largest, smoked area, just above the north door, appeared to have derived from a fire in adjoining Room 111. The lintel area and exposed wall beams in Door 6 were heavily smoked, and the outer 2-5 mm of wall plaster for 40 cm above the lintels was well oxidized. This fire occurred after the shelf, mentioned above, had been displaced but before construction of Kiva 15. Considering the extent of the fire into Room 110, it is likely that Room 111 was burned out and the corner then remodeled for construction of Kiva l.

Summary and Conclusions

Room 110, like Room 103, produced a complicated history of occupation. The lowermost floor (Floor 3) revealed little use and is assumed to have been used primarily during room construction, which would account for the accumulation of spalls scattered over its surface. A trash deposit under Floor 3 that rested on sterile earth predates the room occupation.

The first use of the room was begun with Floor 2 in conjunction with Room 112. Some duration of use is evident for the floor despite the sparse number of features. Nevertheless, the intensity of occupation does not approach later use of the room.

Notwithstanding the simplicity of room furniture associated with Floor 2, the dichotomous spatial arrangement of features suggests possible floor use by two distinct family or social units. A firepit and bellshaped storage pit can be assigned to each half of a north-south division of the room although the feature sets were not symmetrically positioned. The two feature types share similar morphologies and volumes. In addition, five pot rests encircled FP 1 whereas its counterpart (FP 2) was devoid of such attachments. But, the remaining two pot rests in the room could only be spatially related to FP 2 and its neighboring storage pit rather than those in the northern half of the room.

Most of the in-room storage was in wall cavities rather than floor pits and denotes a surprising lack of planning and building foresight for anticipating eventual storage needs by the room inhabitants of Floor 2. The largest wall cavities in the room were first created by tearing out the original wall fabric during the Floor 2 occupation. If two groups were using the room, they did not have equal capacities for wall storage. About a 500-liter capacity was available in wall niches in the northern half of the room whereas only 200 was present in the southern half. Unfortunately, the almost complete absence of cultural material associated with the floor does not permit the thesis of group dichotomy to be tested by other means.

The presence of two firepits adds some credence for a degree of occupational permanence. Yet, the two aspects of behavior that suggested lengthy use of Floor 2 (rising accumulations of sand in the plaza and alternation of the wall fabric for storage needs) are negated somewhat by the lack of prolific feature remodeling and construction, as well as the lack of extensive floor wear and repair that mark later room occupations. At least two possibilities might explain such a dilemma: there were fewer inhabitants than in succeeding occupations or there were occupational hiatuses.

The abandonment of Floor 2 in favor of Floor 1 indicates a vast change in room occupational intensity. The lowest surfaces of Floor 1 (S 8-9) were pitted with features but without the firepits and mealing bins that were to come later. A mass of small, haphazardly built, heating pits (n = 29) must have at least partly replaced the functions of firepits. Many of these were superimposed, signifying fairly rapid replacement. They were consistently placed in the same locations, forming about six clusters of two to five heating pits each. The introduction of a number of bell-shaped storage pits attests to an increased storage capacity <u>if</u> contemporaneity is assumed. Most of this type of pits associated with Room 110 were placed during Surface 8 and 9 occupancy. Niches built during the use of Floor 2 continued to be used during the early occupation of Floor 1.

Resurfacing of the floor (Surface 7) brought a sharp reduction in floor pits, although we must remember that it is impossible to accurately depict the duration of use and floor association for every feature throughout its life. A string of seven heating pits crossed the southern half of the room and three others were found in the north. A centrally placed, large-volume, firepit was added to the room along with the first set of three mealing bins, and then later a fourth bin was added. Henceforth, heating pits practically disappear, their function seemingly replaced by the more permanent firepit. In addition, storage pits suffer a marked reduction in numbers and total volume.

Later resurfacings of Floor 1 (S 1-6) revealed far less variation in pit types and frequencies. The firepit continued in use throughout, with perhaps a second, smaller model making its appearance for a short time. The mealing bin complex was enlarged to a final six bins. For part of the time, a post enclosure or pen was used in the northwestern room corner. A definitive function could not be determined from the paucity of remains for this pen, although its construction type suggests housing for some type of animal.

What does the shift in pit frequency imply? The association of impermanent, heating and cooking facilities on the initial surfaces of Floor

1 suggests a lack of concern for establishing a permanent firepit, the keystone of habitation rooms the world over. This situation pervades the entire occupation of Room 103, a similar habitation room nearby. The lack of a large-volume firepit left the occupants without means to heat the room for extended periods--a critical deficiency during the cold months and one easily resolved (providing, of course, that fuel was plentiful). Although the heating pits could have partly substituted for the absent firepit, they often revealed use solely for quick fires allowing not even the miniscule amounts of brush to burn to ash. Therefore, the use of heating pits in lieu of firepits and the former's rapid replacement may express intermittent, perhaps seasonal, room occupation. It is true that the inhabitants may simply have relocated within the site during the colder months but, then, a more gargantuan task awaits future investigators to explain the social fluctuations that would allow a continual pattern of absence and renewal of firepits within the room over succeeding years.

The disappearance of bell-shaped storage pits could also be a phenomenon related to intermittent occupation. Food and other articles may have been cached in the pits in anticipation of a return occupation, a pattern common among mobile archaic groups (e.g., Ingbar 1985). The fact that these pits were commonly used for trash and defecation attests to their lack of long-term use if we assume that the occupants would not have long tolerated their being left open. Also common during the initial occupation(s) of Floor 1, only to disappear later, were clusters of small postholes that must have supported racks or other kinds of above-floor furniture.

A clear-cut dichotomy of room features, like that suggested for Floor 2, is difficult to ascertain among the maze of pits scattered across the lower surfaces of Floor 1. The clusters of heating pits in both ends of the room are suggestive, along with nearly equal numbers of bell-shaped pits (7 in the north, 6 in the south). Storage capacity of the latter groups, however, is less equal (291 versus 181 liters, respectively). The fact that there are nearly two equal groups of pits and capacities may indicate use by two social groups.

As in Room 103, in the southern end of the room a set of three mealing bins, along with associated palynological evidence, mark a place for seed reduction that is similar to historic puebloan household sets (e.g., Barlett 1933; Lange 1959; Mindeleff 1891; Parsons 1936; Stevenson 1970). A set of three mealing bins may represent the minimal number required for food processing, particularly if the food was reduced in stages. What factors, then, were responsible for the increase to four and then six mealing bins in Room 110? Increasing specialization may account for the increase, although this is not clear from the pollen remains (see Windes in Volume III, Chapter 4) nor were any metates left in place. Doubling the grinding capacity, however, may also suggest an increase in the number of grinders and, by extension, an enlarged household.

The succession of possible paho retainers next to the entry suggests a continuance of shared ritual activities applicable to the household despite adjustments to the living arrangements in the room through time. The adobe figurines lend additional support to the symbolized importance of ritual reflected in sex, creation, and life. That the possible paho pits in Room 110 may be indicative of a more widespread, community-shared belief may be based on the presence of a similar pit in the East Ruin (Room 6 kiva). Unfortunately, more convincing evidence of a shared sitewide ritual was left unsupported by the lack of paho pits in Room 103.

Although the room revealed intensive occupation, it was lived in for a relatively short time. We know from the log taken out of the north wall that room construction dated at A.D. 1021 or later. We did not recover other supportive tree-ring evidence for construction this early, whereas ceramic cross-dating and other absolute dates suggest construction may have taken place a decade or two later. After Floor 2 was abandoned, we have our first trace of Gallup Black-on-white pottery, a period I would date to between about A.D. 1040 and 1050. The remaining occupation of Room 110, limited to the many surfaces of Floor 1 and dominated by Gallup Black-on-white and indented corrugated pottery, probably extends to about A.D. 1080. The latter occupation is supported by radiocarbon, thermoluminescent dates and ceramics. The amount of replastering of the uppermost three floors (i.e., Floor 1) also suggests a period of use of about 30 years (see Appendix MF-B). Some occupational surfaces were probably in use for a decade or less, whereas the floor used during construction may have seen use, at most, for no more than the number of years it took to complete Room 110.

Room 112 (Figures 3.46-3.49)

Immediately west of Room 110 is Room 112, of equal size, that shares a common door with Room 110. The contents of this room, when compared to its neighbor, were sparse. Room 112, one of several in the second tier back from the plaza in the West Wing, measures along the median lines 775 by 370 cm (28.7 m²). Those to the north are of equal size, whereas to the south a huge room (Room 105) takes the space reserved for two rooms at the southern end of the row.

Strategy

Horizontal control of fill material was maintained by eight excavational units. Two test trenches were first placed across the room width to subdivide the room into thirds. After profiling, these allowed definition of the major depositional events that took place in the room after All fill from the two trenches was removed in 20-cm-deep abandonment. units and screened through 1/4 in. mesh. Excavation was halted after the uppermost floor and floor fill were identified. The remaining balks left on both sides of the test trenches were subdivided into six test pits of equal size and then removed and 1/4 in. screened. Only about 40-50 percent of the wall fall (Layer 2), was screened, however. A north-south profile of the room was then assembled from the face profiles of these test pits. The fill from subsequent excavation was 1/4 in. screened but Backdirt was that from floor features was put through 1/16 in. mesh.





Figure 3.46. Room 112, profiles.

West Wing 281



Figure 3.47. Room 112, Floor 1, plan view.



Figure 3.48. Room 112, Floor 2, plan view.







Figure 3.49. Room 112, wall elevations.

CHCU_310_D58_VOL 2_00303

removed by wheelbarrows, across Room 229 to the west, and dumped in the swale of the prehistoric road. Later it was returned by backhoe to the nearby excavated rooms.

Light tools were used entirely for the excavation. No mechanized equipment was used. Exact locations for artifacts were recorded from datum points set in the wall tops or on the floor. All depths were recorded as below Datum 26, set on the highest wall section in the northwestern corner. Photographic recording included multiframe mosaics of all profiles above Floor 1, overlapping photos of all interior walls above Floor 1, overhead bipod photos of the fill and floors at various stages of excavation, pre- and post-excavation shots of all features, and other miscellaneous shots. Some experimentation with mapping profiles from photos was tried, but generally traditional methods employing line levels, string, and tapes, supplemented by photos, were used.

For this room, designations of floors and surfaces were used for two distinct types of cultural use. Surfaces were formed from compaction, whereas floors revealed some formal preparation (i.e., plastering).

Fill (Figure 3.46)

Postoccupational deposits filling the room were similar to those in other excavated rooms (Plate 3.31). The primary material was roof and wall fall in a matrix of aeolian sand. Trash was light and apparently derived from material left on the roof at abandonment in the early A.D. 1100s. Despite clear secondary (postoccupational) use of the room, the primary room use apparently ceased at about A.D. 1100.

Layer 1. The uppermost deposit in the room was a relatively thin mantle of clean, aeolian sand, 20-60 cm deep. Rootlet activity was common throughout this zone.

Layer 2. Under Layer 1 was a 100-150-cm-thick unit of wall fall. Most of its bulk of stone and clay mortar had evidently accumulated rapidly with little time for additions of aeolian sand. Against the east wall was a mass of wall fall (Layer 2b) and reddish brown adobe, however, that probably derived from major collapse of the east wall. Charcoal was absent and other refuse sparse throughout the layer.

Layer 3. A large mass of sand and clayey roof material lay under the wall fall. In the northern third of the room, there was a prominant mound, 150 cm high, which tapered off toward the south wall. The main constituent of this mass was aeolian sand speckled with occasional charcoal flecks and tiny pieces of burned adobe. Distinct lenses of coarse, pink and gray, clay particles from roofing and wall plaster separated the deposit into three parts (A-C), although all parts were essentially the same. The lowest (C) contained substantial roof fall with gray chunks densest along the eastern side. Overall trash was light, although it became densest near the bottom of the layer where it contacted deposits just above Surface 1.



- Plate 3.31. Room 112, postoccupational deposits in the southeastern corner (TT 8 unexcavated). Upper half of fill is wall rubble, lower half primarily of aeolian sands and roofing adobe. 30-cm scale. (NPS#16543)
- Plate 3.32. Room 112, north side of steps, showing detailed units of Layer 5. 15-cm scale lies 4 cm below Floor 1 plaster. (NPS#17149)

Layer 4. This deposit consisted of fine adobe melt mixed with pebbly-textured, whitish, reddish brown, and gray clay particles and calcium carbonate (CaCO₃). Stone was sparse and charcoal nearly absent. Refuse was rare.

Layer 5 (Plate 3.32). A series of three thin strips of predominantly sand, wood splints, and shredded juniper bark extended outward from along the east and west walls. All were thickest next to the walls and tapered off toward the room center, leaving an exposed strip of Surface 1 down the median line of the room. A profuse number of spalls within and under the layer suggest wall-building activities were in process (probably for Kiva 15 next door). Spall frequency in Layer 5 ran 65 per grid but only two hammerstone/abraders were recovered. The strips of fine sand and their association with walls suggest alluviation of roofing plaster (there was no wall plaster) during the Kiva 15 construction (Volume I, Appendix MF-J).

The latest strip (A) consisted of fine sand, wood, and occasional ashlars and clay lumps. It overlay a dense unit of hard, gray, roofing clay, numerous spalls, and decaying wood fragments (B). Shredded bark was often found stuck to the gray clay, which always lay under ashlars. Finally, a laminated deposit (C) of gray sand dotted with numerous black spots (decomposed charcoal or ash) lay directly on Surface 1. The upper 2 cm of this deposit were scattered with spalls and a few ashlars.

Surface 1

The floor fill of Floor 1 (the uppermost prepared floor) had been compacted through use after the primary use of the room had been terminated. Surface 1 was not prepared. In places, gray chunks and spalls from Layer 5 had been pressed into the surface, presumably by foot traffic. Clearly, activities continued during accumulation of Layer 1 over Surface 1. Small spots of a thin gray clay appear to have been naturally deposited, although these may indicate areas of substantial traffic. Most of these occur in the northern half of the room but the best surface was associated with the step (see below). A thin film (1-3 mm) of ash and charcoal or CaCO₃ covered the surface throughout the room.

<u>Surface 1 Features</u>. A set of masonry steps (Plate 3.33) had been built in the southeastern corner leading to a doorway 42 cm above the upper step. This door was secondary and had been punched through the east wall to provide access between Room 109 (the remainder of Room 110 after Kiva 15 had been built) and Room 112. Ultimate access may have been sought from the plaza to the exterior tier of rooms in the wing.

The steps rested upon Layer 5B; Layer 5A butted against the pinkish adobe foundation of the step and, thus, accumulated after the steps had been built. The two steps, roughly 100 cm wide, were placed parallel to the east wall. The overall structure was approximately 52 cm high and 66-75 cm wide and of a variety of unshaped, sandstone block sizes. The best preserved area of Surface 1 was immediately below the southwestern corner of the steps (in Grid 27) and was hard and smooth. Probably the area in



Plate 3.33. Room 112. Masonry step in southeastern corner to provide access to and from the room through Door 4 after habitation suite was abandoned. 15-cm scale rests upon Layer 5 deposits. 30-cm scale on top step. (NPS#16639)



Plate 3.34. Room 112, Floor 2, looking north. Other Pit 3 in foreground. 50-cm north arrow. (NPS#16879)

Grid 27 represents the landing for step users. This area narrowed to a strip that extended 150 cm north toward the room center in Grids 22/23 and 19. The association of the steps and hard surface is probably not fortuitious, for the compacted area follows the logical route from the steps into the room.

Only two other, well-compacted areas were observed for the room (in Grids 11 and 14). The step was not dismantled during excavation so that it is possible that another earlier step exists underneath that saw use with the initial traffic on Surface 1.

<u>Surface 1 Artifacts</u>. Ten artifacts rested on the surface. Except for a piece of azurite, all were ground stone tools. Most were broken manos and metates. Considering the mass of spalls in association, the tools might have been associated with construction activities either as battering tools or for raw material.

Floor 1 Fill (no layer designation)

A scant 4 cm of fill separated Surface 1 from Floor 1. In it were two types of material. For the most part a dense layer of charcoal, refuse, and other vegetal material, 1-4 cm thick, was spread about from numerous small fires built on Floor 1. The remainder was an accumulation of sand, clay, spalls, and occasional ashlars. Spalls averaged 107 per grid and again indicate debris from wall construction, probably of Kiva 15 next door.

Floor 1 (Figure 3.47)

A thin, 4-mm deposit of soft, whitish plaster, easily destroyed by foot traffic, covered much of the floor. The plaster was bumpy but relatively level. Changes in elevation were no more than 3 cm except in the corners where it reached 6 cm. We were unsure if Floor 1 was still in use after the original door was sealed (by Kiva 15) and new doors and the steps provided alternative access through the room. Eventually, however, debris on the floor was compacted by later use to form Surface 1.

<u>Floor 1 Features</u>. Floor pits were few, although much activity is denoted by the large number of brush fires built on the floor. Floor burns (10) from these were common without modification (except oxidation) to the floor surface. These concentrated along the route between Doors 4 and 8, which led to Room 229. Eight were small ($\langle 490 \ cm^2 \rangle$) while the other two were substantially larger (1,430 and 4,080 cm²). The expedient nature of the fires and the lack of effort to remove the carbonized fuel (of shrubs and juniper) suggest short-term use and subsequent disuse of the room, perhaps for the second time. Presumably, the fires were not associated with the primary room function but occurred after the Room 110/112 suite ceased to function.

Three other pits in the floor may relate to primary room use. All were of small capacity (<5 liters) and filled with postoccupational fill. OP 1 was filled with charcoal from a floor fire. The other two were lined

with plaster, which suggests a permanent (long-term) use, although their function is unknown.

<u>Floor 1 Artifacts</u>. Aside from several sherds and bones and a single piece of chipped stone, little cultural material was found on the floor. Two pieces of turquoise also came from the floor or just under it. All this material was probably secondary refuse. The sherds were not definitive of the period of last floor use but there was an absence of types dating after A.D. 1100. Nevertheless, the floor burns are indicative of slightly later use and abandonment of the room.

Seeds from Floor 1 were sparse and largely unburned (M. Toll 1985: 89). Most of the burned seeds and a high frequency of corn pollen were associated with floor burns in the middle of the room. Corn pollen was present in all three composite samples covering the floor, and there was an unusually high frequency of cattail pollen in the southern sample (Cully 1985:188). The latter may have been derived from matting or food stored in the room (Cully 1985:188) or materials for ceremonial purposes. Prickly pear pollen also occurred but infrequently.

Layer 6

A nearly sterile, yellowish tan sand, 3-9 cm thick, separated Floor 1 from Floor 2. Numerous nodules of CaCO₃ were scattered throughout the fill along with some spalls, charcoal pieces, and roofing impressions. Spall frequency was only 21 per grid, which indicates some low-level masonry activity. Because the primary construction debris is deeper yet, this debris may relate to finishing touches of the wall tops. Sandstone shatter from shaping the masonry was common. Other cultural material was infrequent. The type of sand, the CaCO₃ nodules, and the homogeneity of Layer 6 suggests that it was brought into the room from the surrounding area while spalls were being produced.

Floor 2 (Figure 3.48, Plate 3.34)

A 2-4-mm-thick lens of gray (stained?), cracked plaster formed the lowest prepared floor. In places, the clay lapped onto the upper stones of the foundation (above the protruding offsets). A large area devoid of plaster directly in front of Door 2 probably resulted from door traffic wear. Elsewhere the floor plaster was spotty. The surface was irregular and varied as much as 11 cm in elevation, but generally was half that. Impressions from twigs, branches, and grasses, and small pits (<1 cm) often marked the floor in no recognized pattern. Spalls occasionally protruded through the floor from Layer 7. Lenses of CaCO₃ and dendritic rootlet patterns were also present. Areas of cracked and curled mud on the floor indicate the former presence of ponded water that may mark a period of pre-roof construction.

<u>Floor 2 Features</u>. Three other pits had been dug into the floor along the eastern side of the room. All were of large capacity (10-43 liters) without clear evidence of their intended function. Their size suggested use for storage. All were filled with Layer 6, including spalls, and percussion and grinding tools (hammerstone/abraders) in OP 1 and OP 3. Rodent activity had riddled OP 2, and it was littered with 337 bones from rabbits, prairie dogs, and mice except for a pronghorn premolar. Just two postholes were so designated. PH 1 exhibited the deep, cylindrical pit (with a post impression) characteristic of post supports. PH 2 was much shallower but also designated on the basis of shape. The positions of both suggest secondary or temporary use either for roofing or, more likely, scaffolding, but not as primary roof supports.

Floor 2 Artifacts. A few bones (22) of the same species found in OP 2, a sherd, and three pieces of chipped stone, all probably postoccupational, from Grid 8 were the only materials on the floor. These added nothing to our understanding of the room function.

Layer 7

Under Floor 2 was a fine, sandy matrix with CaCO3, gravels, and sandstone nodules throughout. Fragments of decomposed bedrock were also common and probably derive from excavation of the room-foundation Frequent pieces of native, gray clay denote scrap left from trenches. foundation construction. Besides sand, the most common material was sandstone spalls produced by wall construction. These were concentrated in the upper part of the layer and often hampered trowel excavation. Spal1 density was 117 per grid, the highest for the room. Associated with the spalls were 10 sandstone hammerstone/abraders (Volume III, Plate 4.5), presumed to be masons' tools. All were concentrated along the eastern half of the room as if discarded during construction of the east wall. Overall, the layer varied in thickness from 0 to 10 cm. Rodent activity was frequently noted in the deposit, but ceramics clearly mark the period of deposition as being in the early A.D. 1000s.

Surface 2

Like Surface 1, this one was unprepared and simply marks a period of compaction of Layer 8. Where it was measurable, it seldom exceeded 1 mm in thickness. This compaction evidently resulted from intensified activity as workers began to lay out and excavate for the room foundations. Evidence of this compaction was absent for much of the room, and the change in color and texture between Layers 7 and 8 often served to mark the separation of the two deposits.

Layer 8

Light trash (sherds, lithics, charcoal, bone, and burned sandstone) in a reddish brown, sand matrix, 10-25 cm deep, was deposited before construction of Room 112. Construction debris was missing. Six broken, <u>Glycymeris</u> shell bracelets were recovered from the trash (single fragments also came from Layers 4 and 7). This trash, common under all rooms in the West Wing, must derive from activities to the north that predate construction of the West Wing in the early A.D. 1000s. It was the same as Layer 12 in Room 110 and Layer 8 in Room 229. The trash rested directly upon native, decomposed bedrock and sterile deposits. Surprisingly, rodent activity was less evident here than for the deposit directly above, despite the abundant trash. Three rodent burrows in the deposit contained numerous cottontail and jackrabbit remains but little else.

Walls (Figure 3.49)

Wall Foundations. Vertically cut trenches through Layer 8 and into sterile fill provided the footing for the gray clay and hard, indurated, sandstone foundations that followed. North-south foundations extended beyond the confines of Room 112 and were set first. Cross-wall foundations were then constructed, which butted against the north-south ones. Foundation height varied between 15 and 25 cm. Clay generally exceeded stone volume (>50 percent), with the southern foundation nearly devoid of stone. Tabular stone, usually 5 cm thick or less, was set in plastic clay in an irregular sequence. Gray clay always served as the foundation base. Under the southern foundation was a thin layer of redeposited, broken bedrock mixed with Layer 8 material, apparently from the trench excavation.

The masonry walls were irregularly offset from the foundations and indicated a break in continuity between foundation and wall construction (Plate 3.35). The southern foundation was inset under its wall by 6-13 cm (on the Room 112 side). Conversely, the west wall was set back from its foundations 4-12 cm. The east wall varied from overhanging its foundation by 2-3 cm to being recessed 3-4 cm. Only the north wall was situated directly above its footing.

<u>Wall Masonry</u>. In general, the masonry style was similar to adjoining excavated rooms. Large, lenticular stones (ashlars) were set in irregular horizontal bands separated by 2-5 rows of stone chinking. It approximated Judd's (1954:Plate 5) Type 2 and Hawley's (1934) Type II masonry styles. Ashlars were typically more frequent toward the center, and, in the higher courses, with the lowest 90 cm of all four walls dominated by chinking. This prompted Schelberg to suggest two stages of wall construction. The first resulted in the lower 90 cm of wall being built with perhaps high standing corners. After a hiatus, the remaining walls were built up. This sequence was also suggested for Room 103. Butted corner veneers, however, would seem unlikely if high corners were fashioned during a single work episode.

The north wall veneer butted against the east and west walls. The south wall also butted against the east and the lower half of the west wall veneers. Above the halfway point, the west and south wall veneers were tied. Despite butted veneers, the cores of all four walls were tied as one.

Wall Plaster. There was no evidence to suggest that the walls had ever been plastered.

Sooted Walls. Smoked or sooted walls were not evident.

<u>Wall Features</u>. Features were scarce and consisted of ventilators, doors, and a few niches. No beam sockets remained. Doors (4) were lo-



Plate 3.35. Room 112, west wall foundation. 15-cm north arrow. (NPS#17177)



Plate 3.36. A view of deposits in Room 119 through Room 110's Wall Niche 4 and Door 5. (NPS#17648) Compare with Figure 3.43 and Plate 3.29. (NPS#17615)

cated in 3 of the 4 walls but only Door 2, centered in the east wall, was original. It connected to Room 110 and probably served as the sole entry while Room 110 was a habitation room. When Room 110 was remodeled for Kiva 15, Door 2 was sealed with rough blocks of sandstone that contrasted with the surrounding masonry. Doors 4 and 8 were undisputedly later additions that provided alternate access through Room 112 after the original function of the Room 110/112 suite fell into disuse and Door 2 was sealed. Door 4 was used concurrently with the step associated with Surface 1.

Door 7 in the north wall was not dug out, and its period of placement is speculative. Its sill is gone and the eastern side is lined with small stones that are discontinuous with the adjacent masonry. Primary masonry forms the western side of the door although as an irregular vertical frame that was thickly plastered. The top had collapsed. The poor quality of construction, its contrast with the primary masonry, and the fact it was left open at abandonment, like Doors 4 and 8, suggest secondary construction and use of Door 7, probably concurrent with Doors 4 and 8. Thus, initial access into Room 112 was limited to the door from Room 110.

Just four wall niches opened into the room, all from the east wall. All opened into Room 110 as well, although N 6 and 10 probably were used strictly with the latter room. Accidental collapse of the Room 112 veneer probably accounts for the openings of the latter two niches into Room 112. N 2, at floor level, may have served as an air duct with Room 110 although it was poorly constructed on the Room 112 side and, thus, its association with Room 112 is questionable. N 7 is also shared by Room 110 but it had been plugged with a large stone and gray mortar and then plastered over, leaving open a 26-cm passageway into Room 112. N 7 is the best possibility for use from Room 112, although its 11-liter volume would have been halved by the plug and of little use for bulk storage. N 6 and N 10 were also plugged from the Room 110 side, which suggests the lesser importance and perhaps nonuse of the niches from Room 112. The irregular forms of the niches and lack of careful construction suggest all were secondary. No sockets for roof beams remained.

Six ventilators placed high in the wall corners penetrated the four walls. Another two ventilators were probably lost to wall deterioration and the addition of Door 4 between Room 110 and 112. Thus, each wall probably initially was built with a ventilator high in each corner, in an arrangement identical to Room 110's, that allowed drafts to sweep through the West Wing west to east (the direction of the prevailing winds) as well as north and south through the adjoining suites. This arrangement, however, was not found in the Central Roomblock nor in Room 103 where lateral ventilation was absent. The present six Room 112 ventilators were all left open despite changes in the room function. Those in the south wall were built slightly higher, by 15 to 25 cm, than the others.

Summary and Conclusions

The contrast of Room 112 with Room 110 next door is marked. Room 112 contained few floor and wall features and had poorly prepared floors and unplastered walls. Its sole access from Room 110 indicates that Room 112

West Wing 293

probably served as a storage facility for the inhabitants of Room 110. Ceramics and absolute dates mark the period of construction and use with Room 110 at about A.D. 1040 until the late A.D. 1000s when it lay abandoned for a period of time. When Room 110 was converted into Kiva 15 in the late A.D. 1000s or early A.D. 1100s, the function of Room 112 altered. Deposition in the room suggests that the roof had been removed at this At first, the room appears to have served as a temporary or intertime. mittent shelter where expedient cooking or heating fires were built on the floor and the remains simply left scattered about. This was followed by an accumulation of construction debris that may herald the placement of Kiva 15 into adjacent Room 110. Clearly, at this time there was little regard for keeping the room clean, and it no longer must have served its original purpose. New doors and a set of steps built over postoccupational deposits reveal the need to tranverse the room between the plaza and the exterior row of small storage rooms extending the length of the West Wing. But other than use as a passageway and a temporary shelter, Room 112 completed its final days as a space of little consequence to the site inhabitants.

Room 119 (Figures 3.43 and 3.50)

Room 119 was a relatively small room, 560 by 224 cm (12.5 m^2), added to the plaza side of Rooms 110 and 111 (Figure 3.50). Except for the wall clearing of Room 119, there was no subsurface testing from the The investigation of Niche 4 and Door 5 in Room 110, however, top. enabled a peek at the lower Room 119 stratigraphy as well as the plaza beneath it (Plate 3.36). As noted in the Room 110 summary, Door 5 was originally built as part of the construction of Room 110's east wall. Because of plaza accumulations of aeolian sand and construction debris just beyond it, the door was elevated and modified by construction of an entry well that allowed continued egress and access between Room 110 and the plaza. Finally, the room occupants gave up the struggle with rising plaza levels and converted Door 5 into a large walk-in pantry or closet (Niche 4). At the same time, a massive, east-west, masonry wall was built on the former Door 5 entry well and the associated plaza surface to serve as the south wall for a new room (Room 119). It was this complex of walls and stratigraphy in the southwestern corner of Room 119 that was examined through the door and wall niche in the east wall of Room 110. The small amount of excavated fill from Room 119 was screened through 1/4 in. mesh, but there was a paucity of cultural material recovered. No floor or wall features were observed, and dirt samples were not collected.

Postoccupational Fill (Figure 3.43)

Little was learned of the bulk postoccupational deposits filling the room. Wall clearing to a depth of 30-50 cm revealed the standard wall fall and mortar. Gillespie noted the typical accumulation of adobe and clay roofing fragments in an aeolian matrix above the latest floor. Cultural material appeared sparse. Thus, we may presume that room filling



Figure 3.50. Room 119, plan view.

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differed little from the pattern of roof fall followed by wall fall observed for other rooms excavated in the West Wing.

Floor l

The uppermost floor was of sandy, light yellowish tan adobe, poorly burnished and about 2 mm thick, that coped up onto the thick wall plaster. The last coat of wall plaster had been added when the floor was plastered. Just before plastering, the upper back part of Niche 4 was enclosed with masonry and then covered with a thick layer of gray clay and a few stones. Medium-sized, shaped, tabular stones set in a yellow mortar with a few lumps of gray clay comprised the masonry. Reuse of ground stone in the masonry was common. The clay layer spread over the sand deposit that served as the floor footing, so Floor 1 rested directly on the clay in the southwestern corner of the room. Because the clay was later than the sand layer, however, it is possible that another unobserved floor went with the sand before Niche 4 was remodeled. Nevertheless, temporal gaps were certainly minimal. Gillespie suggests that Floor 1 was approximately coeval with Surfaces 5-6 of Floor 1 in Room 110.

Layer 1

Under Floor 1 was a 23-cm-thick deposit of yellowish tan sand with abundant inclusions of construction debris (irregular, angular stones up to 1.5 cm long). Calcium carbonate nodules were also present but no charcoal or cultural material was evident. It apparently was brought into the room to provide footing for the floor.

Floor 2

Under the sand was another prepared flooring. It was well burnished, less than 5 mm thick, and of reddish brown plaster. It apparently correlates in time with Surfaces 7-9 of Floor 1 in Room 110.

Layer 2

This deposit of fine sand, 12-14 cm deep, was similar to Layer 1 in compaction (moderate), color (but with a slight reddish tinge), and homogeneity. Small flecks of bone and charcoal were present. The upper 8-9 cm were coarse-grained and contained more tiny (<2 mm) stones than the lower 4-5 cm. The difference between the top and bottom may result from two major leveling episodes when sand was brought in from two different sources.

Floor 3

The earliest prepared surface consisted of a 3-4-mm-thick, hard, polished, reddish brown, sandy plaster that dipped slightly to the north. This coped onto the 1-cm-thick, reddish brown, wall plaster. Its creation is thought to be coeval with use of Floor 2 in Room 110.

Layer 3

The footing for Floor 3 was a 10-cm-thick deposit of sterile, fine, yellowish tan sand derived from subsurface excavation outside the room. The calcium carbonate content was high as well as the frequency of tiny clay and silt nodules. It clearly belonged to the construction of the room and was not an earlier plaza deposit.

Walls

Just the western end of the south wall of Room 119 was encountered during exploration of Niche 4 and Door 5. This wall, of thin, slab veneer (like that in Room 143) with a narrow, mortar core, was built simultaneously with construction of Niche 4. It was 50 cm wide and ran east 8 m, almost reaching Kiva 2. The wall was built on top of the Door 5 entry well with foundation material placed within the well to support the overlying wall. Given the quality of the wall construction, a foundation cut into the plaza deposits beyond the door well seems likely. The west wall for the room was the older east wall of Room 110 and the north wall was built after Room 110 to buttress construction of Kiva 1 but before Room 119 was created.

<u>Wall Veneer Style</u>. The room walls were similar to Room 110's except the major stone slabs were thinner than those in earlier walls. These were set in irregular, horizontal bands surrounded by two to three courses of medium-sized chinks. The style is similar to Judd's (1954) Type 3 and Hawley's (1934) Inferior Type III.

Wall Plaster. The walls observed (the south and west) were plastered with tan adobe each time a floor was constructed. The wall plaster was added first and then the floor plaster lapped onto it at the edges. Until Room 119 was built, the exterior of Room 110 was apparently unplastered (for contrast see Room 233 that was built against Room 103 in a similar position).

Wall Sooting. Smoked or sooted walls were not observed.

Summary and Conclusions

Despite the limited look at the room, some important information was obtained. The history of the rising plaza surfaces (see below) aids interpretation of the abandonment and remodeling of Door 5. It is also clear that Room 119 was added to Room 110 during Room 110's primary occupation, probably in the mid-to-late A.D. 1000s, and that it may have been of special use. Room 119 was plastered before Room 110 even though the latter was built first. In addition, Room 119's location on the plaza, small size, proximity to Kivas 1 and 2, and well-plastered floors and walls suggest a room similar to Room 147 in the Central Roomblock. Room 147 had had direct access to Kiva 10 and may have served as a ceremonial Room 119 apparently did not have direct access to Room 110. room. The only door found during wall clearing opened east into Room 217, which shared a wall (and access?) in common with court Kiva 2. It is also posrible that Room 119 was later associated with Circular Structure 1, which butted against the 119 south wall, although no door was found between them, and their walls differed considerably in height, depth, and style.

Plaza Deposition Beneath Room 119 (Figure 3.43)

Underneath Room 119 were a number of plaza surfaces and depositional units totaling 77 cm in depth. Four surfaces and seven layers were observed, although more extensive excavations might reveal additional units. No features were observed in the very limited test and no collections or samples were made.

Surface 1

The uppermost surface postdates construction of the Door 5 entry well that cut all other units. This surface slopes down about 2 cm to bond with the well-top entry. It is not a prepared floor but is compacted solely from use of the top of Layer 1 underneath. Surface 1 is covered by the intentional fill (Layer 1) brought in to prepare Floor 3 for Room 119. This surface appears to be the same as Surface 4b in the western plaza area.

Layer l

This is a 2-cm-thick deposit (not to be confused with Layer 1 in Room 119) of probably aeolian sand. It is nearly sterile, well-sorted, and reddish brown.

Layer 2

A layer of yellowish tan sand tinged with red (the same as Layer 6) of moderate compaction and rare charcoal lay under Layer 1. The upper 4-5 cm (Layer 2a) were dominated by clay and calcium carbonate nodules (average <1 cm) whereas the lower 7 cm (Layer 2b) contained few inclusions. This deposit was the same as Layer 5 in the western plaza area.

Surface 2

A prepared surface, 1 cm thick, of hard, gray clay, which is the same unit as Surface 5 in the western plaza area.

Layer 3

Just under Surface 2 was yellowish tan sand (17 cm thick) with two horizontal bands (5-15 mm thick) of calcium carbonate. Caliche nodules, up to 1 cm in diameter, and clay or silt spheres were also present, although charcoal was rare.

Layer 4

Inclusions of shale and lumps of pink and gray clay (roofing?) fragments up to 4 cm long (most were 5-20 mm) speckled the next 6 cm of nonaeolian, unsorted, yellowish tan sand.

Layer 5

This was a tightly compacted deposit of construction debris consisting of gray clay, stones up to 18 cm long, fragments of shale and selenite, and native clay with virtually no sand matrix. The lower 2-4 cm (Layer 5a) of the 14-cm-thick layer were a continuous strip of hard, gray clay too irregular to have been a prepared floor. Perhaps it was a dump of wet construction mortar.

Layer 6

Like Layer 2a, this was a homogeneous, well-sorted, clean, reddish brown, aeolian sand with little charcoal. It was 6 cm thick.

Surface 3

A flat, smooth plastering of gray clay, 2-3 mm thick, marked this unit.

Layer 7

Another layer of yellowish tan, poorly compacted sand, 21 cm thick, underlay the surface. Inclusions of charcoal, clay, and CaCO₃ were rare, although charcoal density was the highest of all the plaza units here.

Surface 4

Even with the top of Room 110's east foundation wall was the earliest plaza surface. Its depth suggests that it was used contemporaneously with Floor 3 in Room 110. Whether it was a compacted or a prepared surface could not be determined.

Layer 8

Underneath Surface 4 were 13-14 cm of moderately early trash that was a continuation of the trashy accumulation underlying the West Wing rooms. It was the same deposit as Layer 12 in Room 110, Layer 8 in Rooms 112 and 229, and Layer 9 in the west plaza trenches, and rested on sterile sand and caliche.

Summary and Conclusions

This is one of several examinations of the plaza deposition along the western side of Plaza 1. The units are similar to those observed in front of Rooms 103 and 104 and reveal a fairly uniform depositional history that is not matched in the central and eastern areas of Plaza 1. Corresponding units between the plaza and Room 110 indicate that the 77 cm of accumulation were relatively rapid and took about 10-30 years (from construction of the West Wing in the A.D. 1040-1050 period until early in the Room 110 occupation between about A.D. 1050-1070).

Room 229 (Figures 3.51-3.55)

This room was the only third-tier room excavated in the West Wing. By chance, a backhoe trench exposed the exterior deposits and architecture of the room in 1976, 50 cm south of the northwestern corner (see West Backhoe Trench). The room was originally joined north and south to similar, exterior, third-tier rooms before door access was gained to rooms in the front (Room 112 and 109). The room is similar in size and shape to others in the third tier, and all are interconnected through a series of north-south, centrally placed doors. Room 229 is 570 cm long and 290 cm wide (16.5 m²). A total of 41.5 man-days was spent in its excavation in 1978.

Strategy

Horizontal control of fill was maintained by five test pits of unequal size. A meter-wide test pit (TP 1) was first placed off-center across the room so that the profile would extend the northern east-west profiles from Rooms 110 and 112. Eight arbitrary levels, generally 20 cm deep, were removed before the 10 cm of fill above the upper floor were reached. Following definition of layers and profiling, the subsequent fill was removed in two equal-sized blocks each north and south of TP 1.

Horizontal control of artifacts and samples was maintained by test pit location in fill above the upper floor. Below that, artifacts were provenienced by one of 18 floor and floor fill grids (mostly 1 m²) or by feature. Floor-contact artifacts were located by points run perpendicularly from a two-dimensional coordinate system expanding out from the base point (0,0) in the northwestern corner. Vertical control was kept by depth below Datum 28, a nail set in mortar in the northwestern corner of the room, or by natural depositional or structural unit. This strategy was similar to that used in Rooms 103 and 110.

All material from TP 1 was 1/4 in. screened, but afterwards only 20-25 percent from the layers of wall fall was screened. Only part of Layer 4, Level 1 was screened (about 75 percent) but there was no appreciable difference in artifact density (primarily sherds) whether or not it was screened. Units of fill below Layer 4, Level 1 were 100 percent screened. Photo coverage was obtained for both profiles as well as for all walls, features before and after excavation, and room overviews (including overhead photos).

Postoccupational Fill (Figure 3.51)

Just below the surface in the southeastern corner were the remains of a presumably historic fire that burned the wall and Layer 1 fill. Otherwise, fill above the upper floor was a repetition of that observed in other excavated rooms. Units of wall fall (35 percent of the volume was stone) overlay soft aeolian sands mixed with fragments of roofing plaster. Generally, trash was light and was primarily associated with the sand and



Figure 3.51. Room 229, profiles.





Figure 3.53. Room 229, Floor 2, plan view and distribution of artifacts (see Table 3.8 for artifact list).







Figure 3.54. Room 229, east and west wall elevations.





Figure 3.55. Room 229, north and south wall elevations.

roofing remains. Only faunal frequencies did not increase in the sand layer. These frequencies were erratic when controlled by layer and test pit and suggested primarily postoccupational, small-mammal activity and death. The remaining cultural material probably derived from refuse left on the roof, although there was a surprising absence of ceramics from the early A.D. 1100s. The ceramic assemblage appeared to represent late A.D. 1000s deposition.

Layer 1. The uppermost deposit, averaging 50-60 cm thickness, was masonry debris in a gray, sandy matrix. Cultural material was rare. The stone derived mostly from rapid collapse of the east wall. Two intact sections of the east wall were found almost vertical in the layer, the largest one tying directly into the slumped top of the central east wall. This must have collapsed last for the room deterioration reached equilibrium with in-filling shortly afterwards.

Layer 2. A period of slow wall deterioration with intermittent deposits of aeolian sand characterized this unit. It averaged 20 cm thick and contained no recognizable, intact, wall sections. Stone was sorted and typically lay horizontally or nearly so and was indicative of gradual collopse. There was little refuse, charcoal, or wood. Stone comprised 30-50 percent of the total volume.

Layer 3. A thin, irregular mantle, 5-20 cm thick, underlay the wall fall and was composed of gray clay lumps (up to 60 percent of the volume) in a fine, tan sand matrix. In the northwestern corner, the layer reached its maximum depth of 50-60 cm. The clay lumps directly overlay a concentration of wood splints at the top of Layer 4 that suggests the last remnants of roof collapse. The deposit was distinct in profile but difficult to separate from Layer 2 during excavation. Subsequently, Layer 3, which yielded a very low density of artifacts, was added to Layer 2.

Layer 4. The lowest postoccupational deposit was primarily yellowish tan, aeolian sand sprinkled with a high calcium carbonate $(CaCO_3)$ content in two bands: the upper 15 cm of the layer (Layer 4a) and along the bottom (Layer 4c). Rotted strips of wood were also common at the top of the deposit (Layer 4a) and in the lower 10 cm (Layer 4c). Pinkish tan, adobe chunks rounded from weathering comprised an estimated 5 percent or less of the layer volume. The wood and adobe indicate some deterioration of the roof at this time. Stone and charcoal were sparse. Trash was moderate and concentrated in an area 120 by 120 cm, up to 20-30 cm thick, in front of the east door (Door 8). It was probably tossed in from Room 112. A conspicuous number of sooted, indented corrugated sherds came from a single jar.

Layer 5 (Plate 3.37). A thin layer of gray, laminated sand, clay, and wood concentrated in the southeastern corner where it derived from water sweeping down the walls. The deposit was a maximum of 12 cm deep in the corner, although a slight depression directly in the corner may mark where the water poured onto the floor. The laminated lens of sand and clay, averaging 6 cm thick, covered a soft lens of sand, up to 7 cm thick, mixed with much organic matter (mainly rotted wood). From the southwest-


Plate 3.37. Room 229, southeastern corner, Grid 16. 15-cm north arrow points to alluviated wall plaster (Layer 5). (NPS#17122)



Plate 3.38. Escavada Black-on-white bowl recovered from in Floor 1, Room 229. (NPS#23147-23148)

ern corner and against the west wall was a strip of cracked, gray clay that had evidently puddled and then dried. Some stone, adobe chunks, and trash cross-cut the laminations and suggested prior deposition. In summary, the deposit appears to have derived from water pouring down the walls in the southeastern corner and creating a miniature alluvial fan of about 5 m² that spread northwestly. Water pooled along the edge of the fan against the west wall.

Layer 6. This deposit rested directly on Floor 1 and was composed of filaments of rotted wood and carbonized brush. Rodent activity was evident from abundant fecal matter. The dark brownish gray matrix contained little sediment. Trash was moderate, and overall the deposit resembled fill of Floor 1 in Room 112 next door. The layer averaged 3-8 cm thick. The unburned wood was not associated with clay as is usually the case for roofing remains. It occurred distinct from the widespread charcoal and may have been decomposed, unused fuel for the numerous floor fires. The charcoal was undoubtedly derived from the floor fires.

Floor 1 (Figure 3.52)

Floor 1 was a poorly prepared, uneven, and irregular surface that essentially was the smoothed and compacted top of the underlying construction debris (Layer 7). A distinct plastering of the floor was not done. Water had ponded on the surface, which resulted in a film of gray clay and drying cracks. There was evidence of at least two other wet episodes: (1) a strip of laminated, yellowish tan sand along the east wall, and (2) a small, alluvial fan, up to 2-5 cm thick, extending from the former deposit into the center of the room. Both of these overlay the compacted surface.

There were no pit features associated with the Floor 1 Features. floor. Nevertheless, a conspicuous use of the floor was evident from 13 floor burns that were concentrated in the eastern half of the room. The four largest (980-1,910 cm²) occurred in close proximity to Door 8. The remainder ($\langle 505 \text{ cm}^2 \rangle$) were more widespread with half of these occurring on top of the alluvial sands covering Floor 1. Clearly, they originated while the room was in disrepair. No preparation for the fires was evident--they had simply been built directly on Floor 1. All appeared to be singular events without overlapping distinctions in oxidation coloration. The charcoal was more or less distributed evenly throughout the room and not concentrated in piles as might be expected. The reason for this is difficult to ascertain. All door sills leading into the room were also spottily oxidized (see Wall Features below).

<u>Floor 1 Artifacts</u>. The only artifact left on (in) the floor was an Escavada Black-on-white bowl placed upright in the northwestern corner (Plate 3.38). It sat in a slight depression about 2 cm deep below Floor 1. A small amount of dirty sand sat in the bowl bottom, while the remainder was filled with charcoal from Layer 6. This charcoal also surrounded the vessel but terminated just flush with the rim. Evidently the bowl was left before use of the floor fires and, inexplicably, was not disturbed by the subsequent accumulation of charcoal or by the occupants.

Flotation analysis revealed sparse, nonburned economic remains (M. Toll 1985:92), which is in keeping with the general paucity of features and materials associated with the floor. Pollen examination revealed corn in the northern and southern halves of the room (from composite samples) and cucurbit pollen in the northern half (Cully 1985:188). The high per-centage (31 percent) of greasewood pollen in the southern half undoubtedly derived from the fuel used for fires built on the floor. Charcoal associated with one of the floor burns in Grid 16 was identified as greasewood (Welsh 1979), so the presence of the shrub pollen was not unexpected.

Layer 7

Wall-construction debris, averaging 3-6 cm thick, in a fine, brownish, sand matrix characterized the fill between Floors 1 and 2. Moderately hard chunks of gray clay, generally 3-7 cm long, comprised the bulk of the inclusions. Spalls, sandstone flakes, and fragmented building stone were present in small numbers although unshaped stone was slightly more abundant. The primary tools in association were sandstone (16) and quartzite (2) hammerstones and hammerstone/abraders (Volume III, Plate 4.6), presumably discarded masons' tools. All of these sandstone tools were concentrated approximately in the eastern half of the room although In Room 112, next door, many of these tool types were none were broken. broken. Sherds and faunal parts, usually in the great majority, were outnumbered by the sandstone tools. Sherds were too few (12) to reliably estimate the period of deposition. The three pieces of chipped stone recovered came from one of the quartzite hammerstones. A fragment of plaited matting, 16 by 14 cm, was recovered just under Floor 1 near the northeastern corner and may represent another artifact associated with the room construction.

Floor 2 (Figure 3.53)

Like Floor 1, this was an unprepared, compacted trampling of the underlying deposit, in this case aeolian sand (Layer 8). It was horizontal with relief less than 6 cm. Although final surface definition was aided by numerous tiny spots of $CaCO^3$, it was not until features began to appear that the surface was recognized as having been used. For this reason, pollen and flotation samples were not taken.

<u>Floor 2 Features</u>. Six pits marked the floor. A single heating pit of 2.2 liters volume and filled with carbonized brush was located near the west center of the room. This had been sealed and abandoned before the advent of construction debris accumulation.

Postholes (5) were marked by cylindrical pits with post molds. All had held posts approximately 12 cm in diameter except for the 18-cm-diameter primary post set in PH 5. Four of the five were set within 50 cm of the walls and, thus, are unlikely candidates for initial, room roof supports. In addition, several also contained construction debris and/or sand from Layer 8, which eliminates them from consideration as supports for the later room roof.

The fill between each posthole and the mold was, in all cases, material initially dug from the holes. The lack of construction debris within the liner, therefore, indicates that the posts were set before wall Three were set along the median line of the room length construction. and, if the third tier was the last addition to the West Wing, might mark an outside ramada (see North Trench postholes and those in Plaza 2). More likely, the posts supported a scaffolding for the room construction, although the use of such deep pits seems unnecessary. The deepest pit, PH 1, still contained much rotted wood from the post. Its depth of 56 cm may have caused the post to have been cut off because of the difficulty of retrieving it when the others were removed. It is less likely the post would have been left to rot when the others were removed, but if so, it could have taken only 4-6 years for a pine one to rot out (Barger and Ffolliott 1972:26, Table 39). This would have occurred before the walls were built. In any case, none of the molds were disturbed, which makes it difficult to perceive how the posts were removed (see Room 139, Floor 2 postholes for the same problem) unless they were rotted enough to facilitate easy removal. Because no post molds were found in Layer 7 and none penetrated Floor 1, all of the posts must have been removed during or at the end of wall construction if not before.

<u>Floor 2 Artifacts</u> (Figure 3.53, Table 3.8). No artifacts were found resting directly upon Floor 2 although those in Layer 7, directly above, can be construed as "floor artifacts" discarded during accumulation of the construction debris. The debris can be considered in situ refuse generated primarily by a single activity: wall building. Thus, Floor 2 is only the initial phase for construction, and use of a surface must have continued on top of the construction debris as it accumulated.

Layer 8

A fine, yellowish tan layer, with a little trash concentrated at the top of the deposit (possibly relating to use of Floor 2) underlay Floor 2 and rested on sterile caliche. It averaged 15 cm deep but varied from 2-20 cm deep in conforming with the irregularity of the caliche underneath. Only 11 of the 18 grids were excavated because of the lateness of the season (our last) and the relative paucity of the cultural remains. The few ceramics suggest deposition in the early to mid A.D. 1000s, based on a The top 3-5 cm solitary Gallup and three Red Mesa Black-on-white sherds. of all grids were removed, however, to assure a complete feature inventory (3 of the 6 Floor 2 features were located in this fashion). Layer 8, like other layers resting on sterile deposits under other West Wing rooms, predated room construction. Under the room was a deposit that undulated between 30 and 45 cm thick, and was of hard, CaCO3-rich, sandy silt that, in turn, rested on soft, white, sandstone bedrock.

Walls (Figures 3.54-3.55)

<u>Wall Foundations</u>. As elsewhere, vertical trenches were cut through Layer 8 and into the sterile soil, then filled with poured gray clay and unshaped blocks of sandstone. Trench bottoms were gently rounded in cross

Floor Artifact Number	Artifact Class	Lithic or Ceramic Type	Location	FS No.
l (Floor l)	Cibola bowl	Escavada B/w ^b	Grid l	5850
Floor 2 fill				
1	Hammerstone/abrader	2000 (sandstone)	Grid 18	5887
2	Hammerstone/abrader	2000 (sandstone)	Grid 11	5882
3	Hammerstone/abrader	2000 (sandstone)	Grid 5	5877A
4	Hammerstone/abrader	2000 (sandstone)	Grid 5	5877B
5	Hammerstone/abrader	2000 (sandstone)	Grid 15	5885A
6	Chuskan jar sherd	 indented corrug. 	Grid 13	5883
7	Hammerstone/abrader	2000 (sandstone)	Grid 2	5874A
8	Hammerstone/abrader	2000 (sandstone)	Grid 2	5874B
9	Hammerstone/abrader	2000 (sandstone)	Grid 14	5884
10	Hammerstone/abrader	2000 (sandstone)	Grid 3	5875
11	Matting fragment	-	Grid 3	5875
12	Hammerstone/abrader	2000 (sandstone)	Grid 15	5885B
13	Hammerstone/abrader	2000 (sandstone)	Grid 4	5876
14	Hammerstone/abrader	2000 (sandstone)	Grid 10	5876
15	Hammerstone/abrader	2000 (sandstone)	Grid 10	5881A
16	Other ground stone	2000 (sandstone)	Grid 9	5881B
17	Hammerstone/abrader	2000 (sandstone)	Grid 9	5880
18	Hammerstone/abrader	2000 (sandstone)	Grid 9	5880C
19	Hammerstone	4000 (quartzite)	Grid 9	5880D
20	Hammerstone	4000 (quartzite)	Grid 9	5880A
21	Other ground stone	2000 (sandstone)	Grid 9	5880B
_c	Hammerstone/abrader	2000 (sandstone)	Grid 16	5886

Table 3.8. Room 229, Floor 1 and Floor 2 fill artifacts.^a

^aSee distributions in Figure 3.53. ^bDesignated a Puerco Black-on-white in the ceramic analysis. ^cPrecise location unknown.

section. There were variations in construction, however. The massive west wall foundation (Plate 3.39), the most impressive one examined in the West Wing, was 50-65 cm deep (high) and extended through the sterile caliche deposit into bedrock. Four to five courses of hard, sandstone blocks and slabs (probably set two wide) comprised about 75 percent of the volume. This foundation was over 4 m below the highest standing wall in nearby Room 110. In contrast, the shallow (14-24 cm) east wall foundation was only two to three courses high and wide but of much smaller, haphazardly laid stone that comprised less than 50 percent of the volume.

The northern and southern foundations varied in depth as they tied the eastern foundation and butted the top of the western one. Both resembled the eastern foundation in height, volume and size of stone, and stone coursing. The northern foundation revealed two separate pourings 10 and 14 cm high (at the western end) separated by a lens of redeposited, caliche-rich, sandy silt. The second pouring leveled out the top. This foundation varied in depth from 24 cm at the eastern end to 33 cm in the middle and 22 cm at the western end. The southern foundation resembled those it joined. It was 50 cm high and set with large stones set in little mortar where it joined the western foundation and 28 cm high with smaller stones at the eastern end. The tied northern, southern and eastern foundations indicate a single period of construction added after the massive western foundation was built.

Walls overlying the foundations were not poorly aligned. The north wall, however, ran askew of its foundation, creating a more rectangular room than would have been the case had it maintained the axis of the foundation. Thus, for much of the wall length, a wedge of foundation was exposed, reaching 17 cm in width at the eastern end, but recessed 6 cm below the wall at the opposite end. The remainder were only slightly vertically displaced. The south wall was set back slightly (2-5 cm) from its foundation. The east wall sat directly above its footing except at the southern end where it sat back 3 to 4 cm. The west wall was the best aligned, lacking appreciable displacement along either the interior or exterior face.

Wall Veneer. The walls approximated Judd's (1954:Plate 5; 1964:Plate 10) and Hawley's (1934) Type II styles, although with a higher incidence of flat slabs as opposed to thicker blocks. As in other West Wing rooms, the veneer was characterized by thin, flat-faced, poorly coursed slabs separated by numerous courses of small chinking. Courses of slabs were discontinuous and rarely exceeded three to five stones in length. The mortar was gray clay. Each wall exhibited noticeable variation from the others with the east wall having the greatest variation (Plate 3.40). Ιt had slabs of medium and large size separated by abundant chinking (mode: four rows of chinks between slabs). Only the east wall exhibited the The west wall was similar to hard, white, CaCO3 deposit on stone faces. the east but had fewer chinks and more blocks. The north and south were very similar to one another with more blocks but fewer and larger chinks than were common in the other walls.

Wall Patches. Two instances of repair were noted. An area 113 cm wide and 43 cm high at the western end of the north wall was covered with



Plate 3.39. Room 229, west wall, Grid 18. Wall veneer underlain by the wall foundation of clay and stone. Exterior coating of clay removed to expose stone. 30-cm north arrow. (NPS#17401)



Plate 3.40. Room 229. Looking east through Door 8 at Door 2 in Room 112. Note secondary construction of jambs for Door 8. 15-cm north arrow. (NPS#17400)

small- and medium-sized chinks pushed horizontally into a thick adobe plaster. A slight depression in the original wall face is suspected to have been filled.

A second patch at the southern end of the west wall extended vertically up the wall and roughly paralleled the adjacent, south wall abutment (Plate 3.41). Again, chinks had been pushed into an adobe plaster. Removal of the patch revealed the soft, sandy core of the wall behind. Tving horizontal wall beams in the south wall to the west and east walls is thought to have been the impetus for ripping out the old wall veneer. This, however, suggests a "quick and dirty" solution to a problem that offered less destructive alternatives. More surprising is the notion that the west wall had to be damaged right after it was built when the technique of tying abutments with logs was an established practice at the If the veneer had been torn out for logs, then we might have exsite. pected the corner veneer to have been tied when the south wall was built. Perhaps the seemingly wanton destruction of the west wall veneer was accidental and not related to wall construction. If the wall had started to slump outward prehistorically (as we found it during excavation), then the veneer might have been torn away where the logs tied and a repair patch would have been necessary.

Wall Junctures. The wall junctures differed from the foundation pat-The east- and west-wall stone veneers were butted to the northtern. south walls but tied by horizontal, intramural logs set nearly flush with the veneer. In the northwestern and southeastern corners the cores are also tied with stone. The north and south walls are nearly mirror images of one another in construction techniques, masonry style, and door construction and, along with the west wall, suggest additions to a standing The only Gallup Black-on-white sherd from any pre-room de-West Wing. posits in the West Wing came from Room 229 (Layer 8) and tentatively supports a theory of some delay in the construction of the third tier of Foundations, however, reveal that the third tier was planned rooms. during initial construction of the West Wing.

Intramural Beams. Logs set horizontally in walls at Pueblo Alto and other canyon greathouses are common, although their presence is usually noted by accidental discovery. Most are covered by wall veneer unless some mishap befalls the wall. It is unusual to find logs set within the veneer that were deliberately left visible, perhaps as ornamentation. All five wall beams sampled in Room 229 were ponderosa pine, although none could be tree-ring dated.

In the south and north walls were two or three pairs of horizontal logs spanning the entire wall and tied into the west and east walls (Plate 3.41). In the south wall a pair ran along the sill of Door 9. The northern log was 10-11 cm in diameter where it stuck 45 cm into the west wall (nearly going through it), whereas the opposite end of the log was 8 cm in diameter and extended 25 cm into the east wall. Another beam was evident in the veneer at the base of the north wall just above the foundation. This extended 35 cm into the west wall (and was 10 cm in diameter) but its eastern end was covered by the wall-veneer chinking and was not



Plate 3.41. Room 229, southwestern corner, revealing intramural beam impressions extending across face of south wall into west wall. 15-cm north arrow. (NPS#17470) investigated. A third pair might have formed the Door 9 lintels, but wall deterioration made it impossible to verify. A disturbed area without veneer in the east wall, just opposite where lintels would have been set, suggested their former presence. Stabilization, unfortunately, has pre-vented further investigation.

An identical arrangement of wall beams is projected for the north wall, although only the Door 10 sill pair are visible. The southern log was 11 cm in diameter where it entered the east wall but 8 cm in diameter at the opposite end. The log was exposed along its entire length in the wall veneer.

<u>Wall Plaster</u>. Apparently, wall plaster was not applied to the room walls (except where patched).

<u>Wall Sooting</u>. Localized fires built against the walls on Floor 1 and in the doorways had smoked and scorched the walls in places. Otherwise, widespread smoked walls were absent in all rooms excavated.

<u>Wall Features</u>. Three doors comprised the only intentional wall openings, although ventilators destroyed by wall collapse are hypothesized. All doors were open at abandonment but Door 8, in the east wall, was a secondary addition to allow access to and from Room 112. Ragged jambs of small-block masonry attested to its secondary construction (Plate 3.40). The north and south doors (9 and 10) were an identical pair forming a series of north-south doors extending throughout the primary third tier of rooms.

All the Room 229 doors were roughly equal in size (110 cm high and 70-80 cm wide) without jambs and tie loops for closure. All lintels had collapsed but were probably formed by tie-beams and masonry. The north-south door jambs reflect the masonry style of the wall in which they were built. Sills for all were irregular and broken and probably made of small stone masonry instead of the traditional, single, large slab. The north and south door sills, as mentioned above, were edged by tie beams. After sill deterioration, parts of all three sills (including tie beams) were partly burned, perhaps intentionally. These burns were similar to those on Floor 1 and probably marked coeval events.

Roof

No framework for a roof was recovered during excavations. Presumably, it was typical for the period with several beams set across the short axis of the room to support the bulk weight and covered by alternating layers of mortar and poles or brush. No wall sockets for beams remain because of wall collapse. Beams had been salvaged after abandonment of the room. No evidence for roof support posts was observed.

Summary and Conclusions

Wall foundations indicate that the third-tier rooms were conceived and planned as part of the overall construction of the West Wing. Wall construction, however, suggests that the third-tier was added after the first and second tiers were built, although perhaps not much later.

Floor features are relatively few for the room, but two classes (postholes and burns) have major effects on interpretations. The postholes in the lower of the two floors predate construction, because there is a lack of construction debris between the pit and the postmold. Their use for scaffolding is probable despite clear patterning. Three that were parallel to the long axis of the room, however, may have been ramada supports. All posts were removed by the end of wall construction. Tools and debris on Floor 2 point to a single activity: wall building.

Intended primary use of the room must lie with Floor 1, which had no pit features. Although the numerous floor burns mark a poorly defined heating and possibly cooking activity, they occurred near or after termination of the primary use of the room. The expedient nature of the fires, their possible singular use, the burns on deteriorated door sills, and the lack of cleaning up afterwards indicate use near terminal site occupation. This interpretation is strengthened by examination of the adjoining rooms, which reveal a trail of similar, late, floor burns from Room 229 through Room 112 and into Room 109. Thus, the numerous floor and door burns and widespread carbonized brush from the fires indicate a multiroom event after the rooms had fallen into disrepair.

If this is true, what was the primary room function? No features except north-south doors can be attributed to this period. No special preparation of the room (eg., wall and floor plastering) is evident aside from enclosing space and providing access. Traditionally, a storage function is assigned to barren rooms, and nothing suggests otherwise here. The lack of plastering, however, contrasts with plastered rooms of a similarly inferred function in the Central Roomblock. The difference between the two sets may lie in their association with frontal rooms. The third-tier rooms in the West Wing were not connected to any of the living rooms but, instead, were connected to each other by a set of north-south doors. The spacing of cross walls and series of north-south doors suggest that the third tier of unexcavated rooms in the West Wing duplicated Room 229 in function (storage). As discussed in the overall summary (Volume I) and Chapter 10 (Volume I), the third-tier rooms in both wings may have been intended for storing road-transported items.

Room 233 (Figure 3.56)

A room that butted against the eastern (plaza) side of Room 103 was trenched in conjunction with plaza testing. Room 233 was discovered only after 60 cm of fill had been removed from the test trench bridging Room 103 and Plaza Feature 1. The 1-m-wide trench crossed the room east to west, all within Plaza Grid 306. Trenching was carried down until just above the upper floor (Floor 1) and then terminated except for a small



Figure 3.56. Room 233, profile.

test to the floor. Further work was not conducted within the room except for wall clearing to define the room perimeter.

Strategy

After discovery of the room walls, we assigned materials and notes to Room 233 and discarded the Plaza 1, Grid 306 designation. This trench provided the only view of the room's postoccupational fill. Seven 20-cm, arbitrary levels were removed before we reached 10 cm above Floor 1. Cultural material from these was matched with the dominant, natural, depositional unit defined from profiling. All fill was 1/4 in. screened.

Fill (Figure 3.56)

The postoccupational fill was similar to that in other West Wing rooms. A thin mantle of wind-deposited sand overlay a thick deposit of wall fall intermixed with fragments of adobe roofing. Cultural material was sparse except along the walls.

Layer 1. The top 20 cm of fill were primarily aeolian sand. A few sandstone spalls and a little trash were the primary inclusions.

Layer 2. Underneath the sand was a deposit of wall fall up to 1 m thick. The matrix was darkened by gray clay mixed throughout with charcoal, although other cultural material was rare. Occasionally, pieces of adobe roofing impressions and rotted wood splints were found. The present angle of the west wall (Room 103's east wall) shows slumping to the east, and the wall's collapse may have created Layer 2.

Layer 3. Another major episode of wall fall accounts for Layer 3. It was over 1 m thick beside Room 103 but thinned toward the east. No intact sections of wall were observed in either unit. The density of gray clay lumps and ashlars was higher than in Layer 2. Rotted wood splints and impressed-adobe roofing fragments were also found. This deposit differed from Layer 2 primarily in the presence of numerous burned ashlars and lenses of charcoal. Generally, cultural material was sparse.

Floor 1

Only a small section of floor in the test trench was examined, and it revealed a soft, thin layer of clay similar to Floor 1 in Room 112. It probably was a compacted surface and not a prepared and plastered floor. No artifacts or features were encountered in the small, $100-cm^2$ area examined. Other floors may exist but are presently unknown.

Walls

<u>Wall Foundations</u>. Only a small segment of the exterior east-wall foundation was examined (in the Plaza Grid 307 test trench). The wall footing followed the usual practice of cutting a trench into sterile soil and filling it with gray clay mortar and sandstone. In this case, the construction was more haphazard with little care taken in the placement of

the stone. A jumble of hard and soft stones, several with multiple layers of smoked plaster adhering to one side, had been tossed into the foundation along with chunks of roofing mortar, pieces of plaster, and a whole metate. Clearly, a room or kiva had been dismantled and the debris used in the foundation construction. The foundation extended east 10 cm beyond the overlying masonry wall. It was about 20 cm high but its width is unknown.

<u>Wall Masonry</u>. Except for the west wall, which was of earlier construction, the walls were of poor quality and not unlike the cross wall (Partition 1) in adjoining Room 103. They were poorly faced, unbanded, and often incorporated soft sandstone (that quickly decomposes) and a number of discarded ground stones. Chinking was rare. Burned stone made up about 15 percent of the construction stone. Stone was set in a reddish, adobe mortar. The walls apparently do not incorporate true core-andveneer masonry. They are typical of room walls squeezed into the southeastern and southwestern corners of Pueblo Alto, which probably postdate A.D. 1100. Room 233 walls were badly deteriorated and escaped detection during earlier wall clearings at Pueblo Alto. For instance, the east wall was just 110 cm high where it was exposed in the test trench.

The north, east, and south walls were about 35 cm thick compared to the 55-cm thickness of the west wall (the east wall of Room 103). In few places, however, could both faces of a wall be defined. The south wall was particularly complex' and double walls may exist there. Trash was heavy along the south wall and may have come from the wall core(s) or from a trash-filled space between two walls. The association of trash along the walls and not in the central room fill suggests that the trash came from the wall construction. Outside and next to the southeastern corner, a restorable Reserve Black-on-white bowl (Plate 3.42A) was recovered during wall clearing.

<u>Wall Plaster</u>. The newer walls of the room were left unplastered (at least along the test-trench section on both sides of the east wall) although the massive west wall was plastered and sooted (smoked) near the southern end where the south wall butted. The plaster ran behind the south wall, but we could not determine if it continued on. Nevertheless, the sequence suggests that before the addition of Room 233, the plazafacing exterior of Room 103 was plastered and then smoke blackened by plaza firepits built against the walls. The inside of the Room 103 east door also revealed smoked wall plaster that may have derived from the same source. Interestingly, this spot is approximately opposite the giant firepits built against the exterior wall of the East Wing in Plaza 2 (see notes on Plaza 2 below).

Wall Features. None were noted during testing, although the east door of Room 103 provided access between the two rooms.

Summary and Conclusions

Room 233 is clearly a late addition to the West Wing and probably contemporaneous with numerous other rooms added to the southern arc and



Plate 3.42. A) Restorable Reserve Black-on-white bowl recovered during wall clearing from just outside the southeastern corner of Room 233. (NPS#15892) B) Restorable Puerco Black-on-red bowl recovered during wall clearing of Other Structure 7 along the southern wall arc. (NPS#23152)

the southern corners at Pueblo Alto. Walls butt against Room 103 and are of a different and poorer quality than the initial construction of the West Wing. The use of discarded material also suggests accumulation of supplies that were not available earlier when site occupancy was new. The removal of the metates from the Room 103 bins during the period when Room 233 was probably built offers the possibility that some of the material was obtained from renovation of the former room. Ceramics also suggest that construction postdates A.D. 1100, particularly if the material along the walls came from wall construction.

The specific function of Room 233, which is very large compared to contemporary rooms, cannot be determined from the information available, but its proximity to the plaza and location in front of the Room 103 living room suggest an auxiliary room or one for domestic use. The lack of plaster and sooting on the new walls indicates otherwise, although the absence of these traits is uncertain. The sherd of Wingate Black-on-red found on Floor 2 in Room 103 may suggest that the upper two floors in Room 103 were used in conjunction with the use of Room 233 if the sherd is not intrusive. In addition, the smoked, west-wall plaster offers intriguing possibilities for plaza activities before the construction of Room 233.

Kiva 15 (Figures 3.17 and 3.57-3.58)

Wall clearing of Room 110 revealed a curious partition wall near the southern end with a rectangular masonry box in the center. This was correctly thought to be evidence of a kiva ventilator and, thus, possibly a rectangular kiva situated in the northern part of the room. Parts of the upper wall plaster revealed during wall clearing were also heavily sooted, suggesting a burned room. Thus, when a suite could not be defined to include Room 103, Room 110 became the best choice in the West Wing for exam→ ining an entire suite on the basis of door connections. This selection was enhanced by the possibility of obtaining cultural remains, unwillingly abandoned to a possible fire, tree-ring dates, and an examination of a secondary kiva that might have sealed earlier remains. Only the last was fully realized. The partition observed on the surface subdivided Room 110 into Kiva 15 to the north and Room 109 to the south. The overall kiva dimensions were 425 (north-south) by 353 cm and covered an area of 16.3 m^2 (including the 3.2 m^2 area covered by the benches).

Strategy

Test trenches to define stratigraphy were impractical because of the kiva's small size. Instead, the postoccupational fill was removed in quadrants with the first (Test Pit 1) excavated in 11 arbitrary levels, each 20 cm deep, until floor fill was reached. The northwestern quadrant (TP 1) was removed first because it was the highest in the room and facilitated wheelbarrow removal of backdirt to the west. After defining and profiling the natural units in TP 1, we removed the remaining three quadrants. All fill from TP 1 was 1/4 in. screened, but only about



Figure 3.57. Kiva 15, Floor 1, plan view and the distribution of artifacts (see Table 3.9 for artifact list).



Figure 3.58. Kiva 15, Floor 1, Firepits 1 and 2, plans and profiles.

two-thirds in the remaining test pits were screened. Of the latter, Layers 1 through 4 were not screened because of high stone content and low artifact density. All other units were screened. Vertical control was maintained from the highest point, Datum 17, in the northwestern corner (61 cm below the main site datum, Datum 8). Horizontal control was kept by appropriate test pit, grid, feature, or point coordinates. Extensive recording of the kiva walls and veneer style was conducted before the walls were removed to enable excavation of Room 110. Wall-core fill of the dismantled walls was 1/4 in. screened.

Postoccupational Fill (Figure 3.17)

Wall fall and aeolian sand deposits characterized the kiva fill, a total of 27.9 m³. About 34 percent (9.5 m³) of this was wall stone. Trash occurred in low to moderate densities and was restricted to the lowest units. Only a handful of impressions were found, all in the lower layers (5-7), otherwise roofing material was noticeably absent.

Layer 1. A deposit of fine, aeolian sand, a maximum of 16 cm deep, covered the entire room. It was devoid of cultural material and represents the final accumulation after room in-filling reached equilibrium with the surrounding wall stubs.

Layer 2. An 80-cm-deep unit of gray brown, clayey silt mortar and stone rubble dipped slightly to the east and comprised a major, kiva depositional unit. Stones from both the Room 110 walls and the later Kiva 15 walls represented about 20-30 percent of the layer volume. A number of thick, aeolian sand lenses suggests that deterioration of the walls was gradual. Cultural material was sparse, the most interesting item being a very large, notched, soft sandstone block probably eventually used as a building stone. This deposit became lighter in color, sandier, less compacted and difficult to distinguish from Layer 3 near the north wall.

Layer 3. Directly under Layer 2 was another deposit of wall fall that derived primarily from an intact, 35-course, 210-cm section of the central east wall. This still had the spalls in place and would have extended the existing east wall to about 380-400 cm above Floor 1 of Room 110 (350-370 cm above the kiva's floor). Between the collapsed section and the south wall (a 210-cm-distance) was a 20-cm-thick, or less, strip of yellowish tan sand and a few stones that related stratigraphically but problematically to the wall fall. Artifacts and charcoal fragments were few.

Layer 4. The first deterioration of the room walls was found in a 38-cm-deep deposit of scattered, horizontal stones in a sandy matrix, indicative of very slow, wall disintegration. Most of the debris accumulated in the east-west depression formed between Layers 6 and 7 across the room center. It gradually thinned towards the north and south walls. Few artifacts were recovered.

Layer 5. This was the uppermost deposit of sand (averaging 40 cm thick) with a few pieces of roofing material and moderate trash (sparse

charcoal). It was limited primarily to the northern half of the room. Small nodules of calcium carbonate (CaCO₃) and adobe were present in small amounts with a tendency toward banding. The deposit is separated from Layer 6 primarily on the basis of a slightly orange tint and a lower artifact and sand/silt content.

Layer 6. Another thick unit of yellowish tan, aeolian sand (averaging 60 cm deep) with a few pieces of adobe and roofing clay was spread throughout the kiva. It was concentrated against the north and south walls and reached a depth of 90 cm in the latter area, with a shallow trough depression in between. It lacked the orange tint noted in Layer 5 but contained slightly more trash. Wall stone comprised about 5 percent or less of the volume. A few noncontinuous clay laminations (from rains?) were noted, although less than for Layer 7.

The initial filling of the kiva consisted of a mound of Layer 7. yellowish tan, aeolian sand and lenses of CaCO3 that spread diagonally across the floor from the southwest to the northeast just over the southeastern corner of the firepits. The mound was centered about 170 cm north of the vent opening. Extending out from the mound in all directions was laminated sand, which probably represented rain alluviation of the initial mound. Stone comprised about 2 percent of the volume, excluding a pile of large slabs (including a metate fragment) directly above and south of the firepits. A pile of stone is often found on the floor in this position in Chacoan kivas and probably represents either material thrown down from the roof entry or, more likely, the remains of a masonry-lined entry. A lens of gray, firepit ash, about 50 cm in diameter, was tossed into the pile shortly after kiva abandonment. Underlying the sand and covering the floor was a sheet (a few to 15 mm thick) of brown clay formed by standing water. Despite stratigraphic disparities in matrix content, suggestive of temporal ordering, the various units of Layer 7 grade into one another. In addition, numerous ceramic matches suggest, instead, synchronous deposition of the units effected by differing microenvironments within the kiva.

Trash concentrated in the southern half of the kiva and included several large carbon-painted sherds and restorable bowls (see Floor 1 below). Food or tool-making were represented by two, unworked, artiodactyl forelimbs recovered from the layer (Akins 1985a). Nine cottontail and four mouse bodies scattered in the sand, however, attest to rodents living in the room after abandonment. Charcoal density (5-10 pieces per 100 cm²) was moderate but the highest for any layer above the floor.

The floor fill was an arbitrary separation of Layer 7 into two units to control for artifacts within 10 cm of the floor. The floor fill unit of Layer 7 was thus field-designated Layer 7, Level 2. Within the laminated sands of this unit were a number of rotted wooden poles that were not associated with adobe or clay. All were 10 cm or less in diameter and up to 154 cm long. Most (17 of 20) occurred at the northern end of the kiva directly below a series of pole sockets in the north wall (see Wall Features below). Floor 1 (Figure 3.57, Plates 3.43-3.44)

A hard, well-preserved surface of yellowish adobe, 2 cm thick and stained black, served as the only kiva floor. It is possible that a localized resurfacing of hard, gravelly sand occurred in an arc 20 by 55 cm around the ventilator tunnel mouth. A strip of 1-3-cm-deep, fine sand that may have washed in from the ventilator separates the two surfaces. The gravelly sand may also be from natural deposition instead of plastering.

Floor 1 Features. In keeping with the architectural form identified as a kiva, floor features are few and typical (with exceptions). The most spectacular feature was the initial firepit (FP 2, 80 cm in diameter, 74 cm deep, and 324 liters in volume) built just south of the room center and down through all of the Room 110 floors (Figure 3.58). It was lined with small, tabular stone masonry and then plastered, although only the upper 10 cm were burned. The pit seems disproportionally large for the size of the kiva (a fire in it would have made the structure positively stifling) but showed little use. Its functional volume (153 liters), however, was considerably reduced from its architectural volume after the bottom was elevated by filling the lower two-thirds of the pit with relatively clean Consequently, it seems that Firepit 1 (Figure 2.58), built inside sand. the top of Firepit 2, was of more appropriate size (42 liters). The later pit was filled with charcoal and ash, and two, burned, upright slabs in the southwestern corner may have served as firedogs to support cooking The low adobe collar along the southern side was a common feature jars. to both firepits. Contents in Firepit 1 revealed charred pinyon nut shells, corn kernels, and corn cupules (M. Toll 1985:Table 36).

About 10 cm southwest of the firepits was located one of three, curious, adobe rings. Two others were positioned at each end of the southern bench. The rings were formed from the floor and bench plaster and they encircled shallow (2-3 cm deep) depressions nearly level with the floor and about 10 cm in diameter. They are suitable for holding round-bottomed pots upright and thus their designation as pot rests. Pot Rest 1's proximity to the firepits insured that whatever the features held would have been thoroughly heated. Similar pot rests next to firepits were found on Room 110's Floor 2 and in Room 60 in Una Vida, Room 34 in Pueblo Bonito (Volume I, Plate 10.1), and Room 8B in Pueblo del Arroyo (Judd 1959).

In addition, 3 other pits were located on Floor 1. One shallow, nondescript feature (OP 1), filled with nearly clean sand, was found between the firepits and the ventilator. Another (OP 3) in the southeastern corner was lined with plaster and filled with charcoal and white ash on top of sand. The contents may have been firepit-derived. In the traditional sipapu position between the firepit and north wall was OP 2. It was a slot 17 cm deep and filled with dirty sand. Only its unusual shape distracts from its inferred function as a sipapu.

<u>Floor 1 Artifacts</u> (Table 3.9). A small number of artifacts rested on or just above (<5 mm) the floor. The several unmodified stones and sherds are probably postoccupational and not of direct relevance to the kiva use.



Plate 3.43. Kiva 15 (built within Room 110), uppermost floor (Floor 1) and floor artifacts. 50-cm north arrow. (NPS#15808)



Plate 3.44. Kiva 15, Floor 1, looking south. Note floor artifacts, including axe next to odd floor slot (Other Pit 2), potrest basins at ends of the south bench, and sealed Room 110 door next to bench. 50-cm north arrow. (NPS#15220)

Table 3.9. Kiva 15 floor artifacts.^a

Floor Artifact

Number	Artifact Class	Lithic Material Type	Location	FS No.
1	Worked hematite	5220	Grid 14	5377
2	Mano fragment	2000 (sandstone)	Grid 5	5378
3	Diorite axe	3400	Grid 5	5379
4	Misc. ground stone	2000 (sandstone)	Grid 3	5380
5	Mano fragment	2000 (sandstone)	Grid 6	5381
6	Worked river cobble ^b	?	Grid 1	5382
7	Mano	2000 (sandstone)	Grid 12	5383
8	Bowl sherds (17)	- Black Mesa B/w	Grids 2, 12-13	-
9	Jar sherds (3)	- Chaco-McElmo B/w	Grids 9-10, and south bench top	-
10	Bowl sherd	- Forestdale Smudged	Grid 2	-
11	Jar sherds (3)	 Unclassified indented corrugated 	Grids 7, 13	-

^aSee distributions in Figure 2.57.

^bShows minor use as a polisher and an anvil.

As temporal markers, the scattered sherds of a Black Mesa, a San Juan McElmo, and a Chaco-McElmo Black-on-white bowls from the floor, the bench, and in Layer 7 were the most important (Plate 3.45A-C). These mark kiva abandonment in the early to mid-A.D. 1100s.

A handful of lithic debris (23 pieces) was recovered just above the floor along with a few others found in the south wall and ventilator tunnel construction. Despite the few numbers, the high frequency of obsidian (8) in the sample is consistent with early A.D. 1100s use and deposition (Cameron and Sappington 1984).

Only seven artifacts might qualify as being floor-related, although the five whole ones are most promising regarding relevance to kiva use: a polished, dark, igneous, grooved axe (Plate 3.45D) near the "sipapu;" an igneous, river cobble and an unimpressive ground stone next to the north bench; a small chunk of red hematite pigment in the southwestern corner; and a whole mano in the southeastern corner. The remainder were two mano fragments. Although axes are common in sites north of the San Juan River, they are rare in Chaco (Breternitz 1976; Windes, Volume III). Only 23 whole and partial axes were recovered from excavations at Pueblo Bonito and Pueblo del Arroyo (Judd 1954:239-240) probably because of the lack of local forests. Although the axe revealed much use, it may have been retained for ceremonial purposes. It had been resharpened, the tip broken, and the sides worn from abrasion after the initial polishing.

Unburned, economic plant species recovered from grids adjacent to the firepit matched burned species recovered from within the firepit (M. Toll 1985:89). These included mustard and purslane seeds and juniper twigs. Other species identified on the kiva floor were goosefoot, stickleaf, and corn cupules. The range of plant species present was similar to those recovered off floors in Rooms 103 and 110 but in far fewer numbers and species. Just two grids (Grids 5 and 9) were examined for pollen in the kiva, and these were barely worthy of comment. For the most part, pollen was from common, weedy plants although some cattail pollen did exist (A. Cully 1985:201). Unlike most other floor samples, there was no corn pollen noted.

Walls

The secondary nature of the kiva is evident from the addition of walls and benches at the northern and southern ends of Room 110. The north wall, 220 cm high, was started on fill piled behind the bench after the latter had been partially built to within 20 cm of the top. The wall was then partly built and plastered, the bench finished, and then the remaining wall built. About 20 cm of sand separated the north kiva and Room 110 walls, possibly a result of wall settling. A small trough ran behind the bench and separated the bench top 5 cm from the walls.

The freestanding south wall (190 cm high) and bench were more complex because of the inclusion of a ventilator. The wall was essentially two masonry walls and a core of sand, taken from the same source as Layer 1, covering the upper floor of Room 110 and ceramically dating in the late



Plate 3.45. Restorable vessels recovered from the floor, bench top, and Layer 7, and an axe from the floor of Kiva 15. A) Black Mesa Black-on-white bowl. (NPS#23150) B) San Juan McElmo Black-on-white bowl. (NPS#15891) C) Chaco-McElmo Blackon-white sherd. (NPS#23151) D) Axe made of diorite probably from the San Juan River district. (NPS#32105)

A.D. 1000s. The same material filled the bench core. The southern face (the northern wall of Room 109) and bench probably went up simultaneously, although the northern face started just 5 cm below the top of the bench. The northern face ranged between a single course and three courses of stone wide or 18 to 56 cm across. The southern face was generally a single stone wide, between 30 and 44 cm across.

Nine beams tied the two faces together. Five, closely spaced, horizontal logs (6-8 cm in diameter) of ponderosa pine and spruce or fir were set parallel and next to the west wall. The remaining four (9-17 cm in diameter; one ponderosa, others unknown) were set horizontally and at a 45° angle to the east-west walls in near V-shape with the V pointing toward Room 109 (Plate 3.46). All were about 70 cm above the bench top but none were dated (of five submitted).

The volume of the stacked stone from the razed kiva walls was 7.8 m³. These walls were probably close to the original height.

<u>Wall Foundations</u>. Unlike the initial Pueblo Alto walls, those built for Kiva 15 were not footed on separate trench-cut foundations filled with gray clay and stone. Instead, the builders apparently brought in trashy sand (Layer 1) to cover the Room 110 floor and then supported the benches and southern face of the south wall on this soft material. Masonry began directly on Layer 1. The southern bench and southern face of the south wall extend 15 cm below the kiva floor but the northern bench only a mere 1-4 cm.

<u>Wall Masonry</u>. The new kiva masonry was composed of small slabs and chinks surrounding the more dominant blocks. Soft sandstone was frequently used but not in the proportions seen in later additions. The blocks were frequently arranged in short bands separated by small slabs but rarely by chinking. The style resembled Judd's (1964) Type 3 and Hawley's (1934) Inferior Type III. Faces of veneer stone were relatively flush, with the fractured side exposed. There was little grinding or other modification (which may explain the general lack of hammerstone/abraders found in the possible kiva-construction debris in Room 112). Before the walls were razed, Bruce Burns and J. A. Terrel of the Salmon Ruins staff extensively recorded the veneer styles according to the Salmon Ruins technique (see Terrel and Durand 1979).

The best masonry work, however, was in construction of the benches and the ventilator tunnel. Small, tabular stones were common at the ends of the bench faces where they feathered into the Room 110 walls, around the vent tunnel mouth, and in the middle of the south wall where it fronts the ventilator shaft. This style is reminiscent of Judd's (1954, 1964) Type 4 and Hawley's (1934) Superior Type III. Inside the ventilator tunnel, small stones (averaging 10 by 8 by 2 cm) were used almost exclusively to create a smooth-faced lining.

Benches. Masonry benches lined the northern and southern ends of the kiva. These ranged between 68 and 85 cm wide and 56-63 cm high and were thickly plastered on the exposed sides. Each bench was built as a sepa-



Plate 3.46. Intramural beams tying together the south wall of Kiva 15 and the north wall of Room 109. 30-cm north arrow.(NPS#15523)



Plate 3.47. Potrest (PR 3) on the southern bench in the southeastern corner of Kiva 15. 30-cm north arrow. (NPS#15198)

rate wall, with the area behind filled with sand and the main chamber walls built on it. The top of the north bench covered 1.8 m^2 and the south bench 1.5 m^2 . Both benches feathered into the old east and west room walls. No artifacts were found on the benches, although a pot rest was located on top at each end of the southern bench (Plate 3.47).

<u>Ventilator</u>. The most elaborate and complex piece of building occurred in the ventilator, not an unusual finding for Chacoan pit structures. The Kiva 15 ventilator was of the above-floor variety. No subfloor ventilator existed.

Ventilator Tunnel (Plate 3.48A). The tunnel was 43 cm high, 44 cm wide, and 114 cm long. It was oriented 3°/183° from true north-south. The masonry, the finest for the kiva, was covered with 1-cm-thick, reddish brown plaster. It did not extend into the shaft. Seven lintel poles were evenly spaced across the tunnel roof (Plate 3.48B). They were 7-9 cm in diameter (species unknown) except for a 14-cm-diameter one of spruce or fir at the southern end (not datable). All were between 106 and 173 cm These had been forced down into a 2-cm-thick layer of wet, gray long. clay that squeezed up between them. The poles were then covered with 1-2 cm of shredded juniper bark (except the fir) and then by more gray mortar (1 cm) and the flat, stone slabs of the bench top. Small, sandstone chinks filled the gap between the outermost lintel and the bench face before the bench was entirely covered with plaster.

Four small chips of Jemez obsidian were placed during construction on the bark layer above the eastern ends of the third and fourth poles back from the ventilator mouth. Clearly, a ritual or symbolic act is indicated that may be analogous to pieces of turquoise placed in the postholes of a canyon Basketmaker great kiva (Windes 1975) and pieces of white chert hidden in Chama Valley kiva sipapus and firepits and attributed to the Tewa Flint Society (Florence Hawley Ellis, personal communication 1970). Could the black stones have historic correspondence with the color black that symbolizes the direction above (see Parsons 1936:1191)?

An elaborate mouth for the tunnel was constructed, simultaneously with the bench, possibly for seating a stone cover (not found). A wood framework was built to support an adobe collar just inside the mouth. First, a 10-cm-wide, 2-cm-thick, and 72-cm-long board was set horizontally 9 cm below the lintel poles (Plate 3.48B), with the intervening space filled with gray clay. The board fit tightly into slots in the tunnel walls. Two lateral-frame poles (3 cm in diameter) were then placed in the tunnel, 1 to 2 cm from the plastered walls, and tilted back (15 degrees south of vertical) with their tips resting against the board. A second, shorter pole rested next to the western one, almost parallel. None appeared to anchor to the floor but instead stopped just above it. These were then covered with 6 cm of mud that covers the board along the top and down the poles 17 and 23 cm on the eastern and western sides, respectively. The lower half of the poles remained unplastered.

Ventilator Shaft. A masonry shaft, 42-50 cm square, was built vertically between the faces of the south wall. Unlike the tunnel, it was



В

Plate 3.48. The Kiva 15 ventilator. A) The unexcavated tunnel opening. 30-cm north arrow. (NPS#15191) B) Decayed tunnel lintel poles. Note the slot for a board underneath the poles. 15-cm north arrow. (NPS#15274) unplastered. The corners were poorly tied, and large stones without chinks or spalls were used for masonry. Few stones were ground, and the quality is stylistically inferior to the remaining kiva construction. One of the blocks removed during razing, 35 cm above the bench in the east vent wall, revealed carvings. These were two stick figures incised into the soft sandstone with hands upraised and separated by an incised line, which, with a little imagination, can be seen to be a corn stalk. The figures faced west and were 105 and 59 mm high (Figure 3.59).



Figure 3.59. Kiva 15, figures incised on an interior, ventilator wall stone.

Ventilator Fill. The uppermost few centimeters of the tunnel fill were part of the Layer 6 sand from the main chamber followed by Layer 7. Beneath that was 16 cm of hard, aeolian sand, probably repeatedly soaked. Just in front of the tunnel adobe collar near the top of the postoccupational deposits was an articulated sternum and ribs of a turkey breast. Although intentional placement is not apparent, the position is suggestive in view of the number of turkeys placed behind deflector slabs at Bc 50 (Brand et al. 1937:74), in the canyon below, during the same period of abandonment.

<u>Wall Features.</u> Discounting the ventilator and benches, there were just two additional features. When Kiva 15 was built, the Room 110 doors, high wall vents, and niches were sealed with masonry or built over. A small aperture was left in the Room 110 east door (Door 1) to serve, supposedly, for storage or as a symbolic opening (wall "sipapus" were found at Sapawe, a Pueblo IV site in the Chama River Valley northeast of Chaco). The insides of Niche 1 were masonry-lined and plaster-covered. It was about 50 cm above the kiva floor and had a small, pole lintel in front and flat-slab roofing in the back. N 1 had been loosely plugged with a limonite-stained palette, a finely ground mano, a piece of roof clay, and a burned stone. These were not mortared in place and may, in fact, be de facto contents. Behind them were a few disintegrated squash seeds, unburned corncobs, and rodent droppings scattered in a fine, sand matrix.

A shelf is thought to have once run along the entire north wall. A series of rotted, horizontal poles, in three sets of three each, were located in the wall 170-175 cm above the kiva floor. Their spacing suggests that a fourth set may have been present at the western end where the kiva

wall is now lower. Poles averaged 5-6 cm in diameter and extended into the wall about 20 cm. Their axes were perpendicular to the curving north wall, and the lack of companion sockets in the south wall indicates a rack or shelf built above the north bench. It is probable that the many poles found directly below in the floor fill belonged to this shelf. Both short stubs from the projecting supports and longer poles to cross-connect each set might have been expected. The majority (13 of 20) were less than 62 cm long (not excessive for the width of the conjectured shelf) whereas the others range up to 154 cm long (long enough to span the projecting poles). The lack of adobe with these suggests the shelf was unplastered.

Roof

Aside from a scattering of secondary materials commonly used in roof construction, structural remains of the roof were absent. The lack of pilasters clearly dictates that the roofing was not of the cribbed variety. Instead, the superstructure must have been laid across the room and kiva wall tops and the roof finished in the manner of room roofs. The lack of horizontal doors into the kiva leaves a roof entryway as the only possible route of access.

Summary and Conclusions

Shortly after Room 110 was abandoned, Kiva 15 was built. We are unable to specify how much time elapsed between the two events but it appeared to have been a short one (within a decade or so). More important, however, is the unanswerable question of whether the period between room abandonment and kiva construction was simultaneous or not and whether the two events were linked (i.e., was Room 110 abandoned independently of the decision to built Kiva 15?). The upper use surfaces of Room 110's Floor 1 (S 1-S 6) do resemble Kiva 15 in the lack of debris and features, but they exhibit major differences in the diversity and frequency of economic pollen and seeds for their collective last use (i.e., on the top surface) and in the floor wear. The scant number of articles found on the kiva floor is consistent with findings from other Chacoan kivas and with the historic documentation that alludes to the function of these articles that may None of the articles on the kiva floor is bridge the passage of time. The differences in materials and uniquely related to kivas, however. macrobotanical remains found on the floors of the two structures could be interpretated as reflecting different abandonment patterns of discard, although differences in feature types and density provide a safer clue to the apparent disparity.

It may be true that kivas served as living rooms as Lekson (1984:50) suggests, but if the shift from Room 110 to Kiva 15 is a transitory habitation stage, many of the room activities must have been dispersed to other areas. Kiva 15, however, is more similar to Room 110's Floor 2, which had few features and scant ethnobotanical and material remains as well as several pot rests that mirrored those found in Kiva 15. The shift from rectangular to round-room forms for habitation, if Lekson is correct, warrants explanation, nevertheless. The kiva masonry-veneer style suggests late A.D. 1000s construction, which does not conflict with the ceramic assemblages built into the bench and wall fill. Furthermore, identical ceramic assemblages recovered from the upper surfaces of Room 110 link both room abandonment and kiva construction to the same period (late A.D. 1000s, perhaps around A.D. 1080), although the lower part of Layer 1 overlying the upper floor in Room 110 may have been deposited during a short hiatus in the occupations. The remains of several vessels scattered on the floor and in the fill of Kiva 15 surely mark abandonment of the kiva in the early A.D. 1100s. Because of the vertical spread of sherds, these vessels probably were broken elsewhere and were not part of the portable equipment used with the kiva. Total length of use for the kiva is estimated at 50 years or less.

> Associated Western Plaza Area (Figures 3.1 and 3.60-3.61)

In 1977 testing of Plaza 1 adjacent to the West Roomblock in Grids 116-117 and 301-303 (Figure 3.1) was inaugurated to examine the stratigraphy, to locate features and kivas, to correlate plaza events with those in the adjacent rooms, and to provide an area of comparison with tests elsewhere in the plaza. Earlier testing in Grids 96 and 116 in 1976 suggested the presence of at least one pitstructure (Kiva 16). Although broadside stripping would have been desirable, the large investment in time and manpower favored trenching as a more conservative approach. If conditions had improved, wider areas could have been opened up, based on our knowledge of the trench stratigraphy. An opportunity for further work never materialized, although we learned much from our deep probing.

Previous plaza work at Pueblo Alto and in several small sites suggested that the best information could be gained close to rooms and other architectural features where wall fall had sealed and preserved the fragile deposits. Areas close to rooms also yielded a higher density of features than those areas farther removed. In part, this knowledge conditioned our selection of areas to be tested. Thus, the western-plaza-area testing is particularly interesting in that it yielded stratigraphy completely contrary to our expectations. Considerable care and preparation had gone into the maintenance of the outdoor area, which resulted in numerous, hard, flat, prepared surfaces. Many were of excellent quality even at some distance beyond areas protected by wall fall. Considering that all were exposed to the elements, their preservation was surprising and surpassed in quality the nearby room floors. Generally, the stratigraphy varied little throughout the entire length of the test trenches. The longest profile exposed was 15 m (between Room 233 and Plaza Feature 1).

Stratigraphy in the western plaza area reflects nearly the entire temporal history known for Pueblo Alto and, thus, is an excellent tool for assessing change through time. Many of the deposits could be correlated with events elsewhere at Pueblo Alto and, in particular, with events in the adjacent excavated rooms despite the paucity of cultural material.



Figure 3.60. Plaza 1, Grids 116-117 and 307, test trench profile.



Figure 3.61. Plaza 1, Grids 301-303, test trench profile.

Strategy

Two east-west trenches to correlate room and plaza use extended east from the plaza doorways of Rooms 103 and 104 (Figures 3.60-3.61). Unfortunately, features in front of each room frustrated intentions, although the trenches proceeded as planned. A third trench (Figure 3.61) was extended south from Circular Structure 1 (CS 1), a biwall room tucked against Rooms 110 and 119, to intersect with the Room 104 trench. The Room 103 trench was extended east to butt Room 3 of Plaza Feature 1, providing our longest profile across the plaza (15 m). Horizontal control was maintained by a Plaza l grid number, and vertical control was kept from Datum 1 located on top of the southwestern corner of Room 103. For the western plaza area, a revised numbering system is used here that correlates all units from the three trenches into a single depositional history (Table 3.10). In addition, plaza surfaces underlying Plaza Feature 1 and Room 119 are cross-referenced. Features and cultural material from surfaces in this area were so rare that their absence is not automatically listed in the descriptions below. The two kivas encountered in these tests are described below.

Excavation was by natural units and, within very thick ones, by arbitrary 20-cm levels. All material was shifted through 1/4 in. screen. Dirt samples were collected from all surfaces and layers but few were analyzed for pollen and seed remains.

Fill (Figures 3.60-3.61)

Layer 1. Tan, aeolian sand comprised the uppermost depositional unit everywhere in the western plaza. Close to the room and kiva walls and mixed with sand was building debris from fallen walls. Layer 1 was deepest next to rooms where it reached nearly a meter in depth. In the center of the work area the layer had thinned considerably but was still 50 cm deep. The unit was comparatively dirty, containing 5-10 flecks of charcoal per 100 cm² and light to heavy densities of trash. Trash was associated primarily with the sand, but some occurred mixed with the building rubble. More artifacts were recovered from this deposit than from all others in the West Plaza. Ceramic types suggest deposition occurred between A.D. 1100 and 1140.

The sand interdigitated with several ephemeral surfaces (Surfaces 0-2) located close to the walls where they were protected from erosion. Away from walls, these surfaces had disappeared into the sands of Layer 1. Sometimes these surfaces were located after much of Layer 1 had been removed so the fill between the surfaces could not be examined separately. We feel little, if any, information was lost because of this problem.

Surface 0

Near the room walls a compacted area within Layer 1 was recognized after a lower surface had already been designated as the first. It was compacted sand with no preparation or modification, although spots of calcium carbonate (CaCO₃) and a thin, clay wash aided in its recognition.
Plaza 1, Grid 116-117		Plaza 1, Grid 301		Plaza 1, Grid 302		Plaza 1, Grid 303		Plaza 1, Grid 307	
field:	this report:	field:	this report:	field:	this report:	field:	this report:	field:	this report:
Layer 1	Layer 1	Layer 1	Layer 1 Surface 0	Layer l	Layer 1 Surface 0	Layer 1	Layer l	Layer l	Layer l
Surface 1	Surface 1	Surface 1	Surface 1	Surface 1	Surface 1				
Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2				
Surface 2	Surface 2	Surface 2	Surface 2	Surface 2	Surface 2				
Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3		
Surface 3	Surface 3	Surface 3	Surface 3A	Surface 3	Surface 3	-			
Layer 4	Layer 4B & 4C	Layer 4 Surface 4	Layer 4A Surface 3B					Layer 2	Layer 4C
	Surface 44	Layer 5 Surface 5	Layer 4B	Layer 4	Layer 4B		S		
Surface 4 Surface 4	Surface 4 (Grid 117) Surface 4B (Grid 116)	Layer 6	Layer 4C Surface 4B	Sullace 4	Surface 4	_ Layer 4 Surface 4	Layer 4B/4C Surface 4B	- Surface l	Surface 4A Surface 4B
Layer 5	Layer 5	Layer 7	Layer 5	Laver 5	Laver 5	Laver 5	Laver 5		
Surface 5	Surface 5	Surface 6	Surface 5	Surface 5	Surface 5	Surface 5	Surface 5	-	Surface 5
Layer 6 Surface 6	Layer 6 Surface 6	Layer 8 Surface 8	Layer 6 Surface 6	Layer 6 Surface 6	Layer 6 Surface 6	Layer 6 Surface 6	Layer 6 Surface 6	Layer 3 Surface 2	Layer 6 Surface 6
Layer 7	Layer 7A & 7B	Layer 8/9 Layer 9	Layer 7 Layer 7	Layer 7	Layer 7	Layer 7 -	Layer 7 Surface 6/7	Layer 4 Surface 3	Layer 7A
Surface 7	Surface 7	Surface 9	Surface 7	Surface 7	Surface 7	Surface 7	Surface 7	Layer 5 Surface 4	Layer /B Surface 7
Layer 8	Layer 8	Layer 10/11	Layer 8	Layer 8, Ll	Layer 8A	Layer 8.Ll	Layer 8A	Laver 6	Laver 8
-	Surface 8	Surface 10	Surface 8	Surface 8	Surface 8	Surface 10	Surface 8	Surface 5	Surface 8
Layer 9	Layer 9			Layer 8, L2 Surface 9	Layer 8B sterile	Layer 8,L2	Layer 8B	Layer 7	Layer 9

Table 3.10. Revised layer and surface field designations of the western Plaza 1 trenches so that units correlate among various grids.

No features or artifacts were associated. It extended out from Storage Bin 1 against Room 104 and from CS 1 about 160 cm before disappearing. The position of the surface high in the sand just under the wall fall may correlate with the very late use of secondary firepits found high in the fill of Room 103 and in Kiva 14.

Surface 1

A flat film of gray clay, 1-3 mm thick and 25-50 cm under Surface 0 in Layer 1 was traceable 4-5 m beyond the room walls. Patches and dendritic lines of CaCO₃ marked its discontinuous surface. It may have been formed naturally from pluvial action. No features were found in it although a few bones and spalls rested on top. It curved up to meet the exterior wall of Room 3 (Plaza Feature 1), which indicates it postdates the room construction. Its relationship to Room 104 and CS 1 is less certain, however.

Layer 2. Between Surfaces 1 and 2 was a deposit of reddish tan sand, 10 cm thick, with inclusions of gray clay (including roof impressions), a few sandstone flakes, and charcoal flecks. A lens of $CaCO_3$ marked the top, and occasionally burned stone and clay was recovered. Moderate quantities of late ceramics came from the northern tests (Grids 301-303) but were nearly absent to the south. In both areas Layer 2 merged with and was indistinguishable from Layer 1 beyond where Surface 1 had disappeared.

Surface 2

Another smooth surface consisting of 1-4 mm of gray clay was found 4-10 cm below Surface 1. Patches and dendritic spots of $CaCO_3$ occasionally marked the top. It was poorly preserved and terminated long before Surface 1 disappeared. Generally, it was traceable for 120-160 cm out from the walls. No features were noted for the surface, and only a solitary Gallup Black-on-white sherd rested on top.

Layer 3. Gray clay, nodules and dendritic lines of CaCO₃, and white clay in a predominantly reddish tan, aeolian sand matrix separated Surfaces 2 and 3. Like Layer 2, Layer 3 eventually blended into Layer 1 after Surface 2 terminated. It also lapped onto the exterior of Room 3 of Plaza Feature 1. No formal features were noted, although 175 cm east of Room 104 was a burned area (30 by 23 by 5 cm deep) that was reminiscent of other expedient fires built in postoccupational room fill at Pueblo Alto. Little cultural material came from the deposit.

Surface 3

The poorly compacted top of Layer 4 was identified as Surface 3. A 1-mm-thick film of gray clay and patches of CaCO₃ intermittently marked the top. In the southern trench it was cut by the Plaza Feature 1, Room 3 west wall, and it terminated in the area disturbed by Kiva 16 construction. In the northern trench two surfaces correspond in depth and position to the southern one. The surface extending east from Room 104 was a

hard, gray clay several millimeters thick that was easily followed. It, too, was stained with CaCO₃ and probably was natural or formed by compaction. As with Surfaces 1 and 2, the sand directly underneath for a 15 mm depth adhered to the gray clay. South of CS 1, the surface associated with an intrusive layer of construction debris (Layer 4A) was designated 3a. The latter terminates 270 cm south of CS 1. No features or artifacts were found with the surfaces.

Layer 4A. An intentional deposit of reddish tan sand and reddish clay, 4 to 6 cm thick, was presumably brought in to level the plaza. It was moderately compacted and contained occasional nodules of gray and white clay, decomposed bedrock, small sandstone flakes, and brush charcoal. Cultural material was rare. About 250 cm south of CS 1, a 2-cmthick layer of CaCO₃ covered the top of the layer for an additional 260 cm. Plaza Feature 1 may have been built soon after this layer formed.

Surface 3A

Separating Layers 4A and 4B was a soft, fragile, 1-2-mm-thick film of gray plaster that extended south of CS 1 for 540 cm before disappearing into Layer 1. Although similar to Surfaces 3 and 3a, it differed in the multitude of CaCO₃, white clay, decayed bedrock, and yellow clay constituents that mottled its appearance.

Layer 4B. This was an intentionally placed deposit of reddish tan sand and reddish clay, 2-6 cm thick. Inclusions were rare and were primarily bits of native clay and bedrock. Stone was absent and charcoal rare. No artifacts and features were noted.

Surface 4A

The top of Layer 4C indicated some trampling and, therefore, was designated a surface. Variegated clays of yellow and gray and lenses of sand mottled its appearance. Occasionally, spalls were found on the surface but little else. This surface might correlate to Floor 2 in Room 3 of Plaza Feature 1.

Layer 4C. This deposit of 8-12-cm-thick, gray clay served as a readily identifiable unit throughout the western plaza area. Variation within the unit is thought to represent loci of differing construction activities. Chunks of raw, angular, shale clay, spalls, and chinks in the vicinity of CS 1 and Room 104 may represent raw material stockpiling during construction. Conversely, wadded balls of gray clay and a few scattered, burned, roof impressions near Room 103 suggest construction discard. Most of the material near Room 103 was a homogeneous mass of dumped shale clay interspersed with reddish tan sand that became more common toward the east and Plaza Feature 1. The homogeneity of the clay may have resulted from long exposure to rain and snow. About 170 cm west of Plaza Feature 1 was a concentration of spalls from a construction project. The nature of the deposit and its stratigraphic position may mark construction of nearby Rooms 119, 217, and 224 that were built against Room 110. Kiva 1 may also have gone in at this time. The layer appears coeval with Layer 19 in Room 3.

Surface 4B

A flat, hard clay, 1 to 5 mm thick, separated Layer 4C from the sand of Layer 5. It may have formed from intentionally leveling Layer 5 and smoothing it with water. Like many other surfaces, it was so flat, smooth, and of uniform thickness that it could not be natural. The surface, 4 m west of Room 3, revealed the remains of an expedient fire. The area was burned and covered with a 14-cm-diameter, 1-cm-thick, deposit of charcoal. Within 50 cm of Room 3 was a 2-m-diameter pile of spalls that mark debris from construction. This was the last used plaza surface under Room 119 (Surface 1) before the latter room was built.

Surface 4B Feature. One of the few features found during the testing was uncovered about 1 m south of CS 1. It (OP 1) was a basin-shaped pit packed with construction debris (spalls, sandstone debitage, and chinks) in a sand matrix. The pit fill was unlike Layer 4C, which covered it. The debris did not spill out on to the surrounding surface but was restricted to the confines of the 7-liter pit.

Layer 5. This was a relatively sterile deposit of reddish tan sand (like Layer 6). In the southern trench there were moderate numbers of clay nodules, which were rare in the northern trench. Stone and cultural material was rare in both trenches. The only charcoal came from east of Room 104 in a small concentration of nine pieces except near CS 1 where spalls, charcoal, and pieces of gray clay were present. In the southern trench Layer 5 was a scant 2 cm thick but increased to an average of 8 cm in the northern trench. This deposit is the same as Layer 20 under Room 3 and Layer 2 under Room 119.

Surface 5

This was one of the best, hard, flat, plastered plaza surfaces encountered in the western plaza area. A 2-4-mm-thick, gray plaster marked the top. Near Room 104 there were numerous shallow depressions that appeared to be hacked into the surface. A sample of 34 of them next to Kiva 17 yielded a range of sizes from 3 by 3 cm to 9 by 10 cm in diameter and 2-4 cm deep (Plate 3.49). All were filled with Layer 5. Similar plaza markings were noted in Surface 6 under Room 143. Also near Room 104 were spalls on and in the surface. In the southern trench the surface abruptly stopped 1 m east of Room 233. Features and artifacts were absent (one indented corrugated sherd was noted in the field but escaped the final tally). Under Room 119, this surface corresponds to Surface 2.

Layer 6. This layer also was primarily of reddish tan sand. In contrast to Layer 5, it contained bits of bedrock, reddish and white fragments of clay, and lines of $CaCO_3$. In the southern trench the deposit averaged 6 cm thick, whereas in the north it thickened to an average of 15 cm before tapering off to the north and east. In profile it appeared to be split by Surface 6 near CS 1. That part extending under Surface 6 must represent a separate episode of intentional sand in-filling before the formation of Surface 6. Possibly Layer 6 corresponds to Layers 3 and 4 under Room 119.



Plate 3.49. Western plaza area (Plaza 1, Grid 302, east of Room 104). Pits in Surface 5. Looking west, 30-cm north arrow. (NPS#15468) Compare with Plate 2.35 (NPS#17633) of Room 143.



Plate 3.50. Western plaza area stratigraphy (Plaza 1, Grids 301 and 303). From top: Layers 4C, 5, 6, 7, and 8. Note crushed fragments of native clay and stone in Layers 4C (top) and 7 (lower center). (NPS#15667)

Surface 6

For most of its length, Surface 6 was a thin surfacing of gray plaster, 1-3 mm thick. Small stone chinks were scattered over a top marked with dendritic $CaCO_3$ lines. Typically, the 1-3 cm of sand underneath were cemented to the plaster so that both sand and plaster could be removed as one. In the northern trench the surface was eroded and had little structural integrity, but in the southern trench it was a hard, level surface mottled with white and yellow clays and $CaCO_3$. South of CS 1, Surface 6 sloped down to join with Surface 7 and then continued as one to CS 1. It may represent a replastered Surface 7. Piled on the surface (70-cm spread, 4-5 cm deep) near Room 104 were spalls and clay from an episode of construction.

Layer 7. A major unit of redeposited, native, reddish, yellow, and white clays and decomposed bedrock was found in both trenches (Plate 3.50). Near the West Wing rooms it reached 15-30 cm in thickness but thinned toward the east and south. In the southern trench the unit was separated equally by a 2-4-cm-thick patch of hard gray clay. Although it may have been a use surface, it was not so designated in the field. The lower part (Layer 7B) resembled Layer 7 in the northern trench. Layer 7A, on top, was sterile, aeolian, reddish tan sand. Overall, charcoal was rare (0-1 per 100 cm²). Layer 7 in the northern trenches was trashy and marked the last dominant use of a Red Mesa Black-on-white ceramic assemblage. Gallup Black-on-white (1 sherd) made its first appearance in Layer 7.

The amount of disturbed native soil and bedrock suggests that much subsurface alternation had taken place. Similar material found in an analogous stratigraphic position in the northern plaza (Plaza Grid 8) area revealed that the disturbances were widespread. The relative position of this material is later than the primary greathouse room construction at Pueblo Alto and, thus, kiva construction is suggested. Kivas 2 and 8 are closest to the western plaza area and may have been built at this time. The split of Layer 7 in the south suggested to Schelberg that nearby Kiva 8 might have been started, leaving detritus scattered east and south of Room 103. Later this material was leveled over with sand. Layer 7 was relatively sparse near Plaza Feature 1 (at least in our tests) and Kiva 13, and one might therefore argue that Kiva 13 was built at a different time. Layer 21 under Room 3 and Layers 5 and 6 under Room 119 might be coeval with this deposit.

Surface 7

A prepared surface of 1-4 mm of hard, gray plaster underlay Layer 7. Maintenance of the surface was revealed by patches of pinkish tan adobe up to 2-5 cm thick, which suggests intensity of use (i.e., frequency of repair) was higher than for later surfaces. A final coat of thin (1-3 mm), gray clay covered the original surface and the numerous patches. A web of cracks up to several millimeters wide marked the final plaster application. Virtually no artifacts, except for some construction debris, were found on the surface. No features were found. This surface is designated Surface 4 under Room 3 and Surface 3 under Room 119.

This deposit marks the singular, most intensive period of Layer 8. wall construction seen in the western plaza area. Presumably, the debris and raw materials mark construction of the West Wing. The primary material in the deposit was stone debris: chinks, spalls, sandstone debitage, and masonry-sized slabs nestled in a reddish tan, sand matrix (Plate It closely resembled Layer 3 in the Trash Mound, which also is 3.51). considered discard from the initial construction at Pueblo Alto. In Grid 116, two collapsed stacks of stone were noted that might have been material waiting for use. Overall, there were moderate inclusions of trash and discarded structural material such as burned stone and gray clay, with and without roofing impressions. Clearly, earlier architecture, perhaps from units like Rooms 50 and 51, had been razed. In the northern trench and under Room 119 (Layer 7) the debris was primarily "shatter" (stone smaller than fist-sized) with few large pieces evident. In association were redeposited, native clays and bedrock, evidently spoil from subsurface work, perhaps during the excavation for wall foundations. Charcoal occurred in very low densities. Ceramics derived from a Red Mesa Blackon-white assemblage without the presence of later types such as Gallup Black-on-white. Therefore, deposition occurred before about A.D. 1040 or 1050. This layer matched Layer 23 in Room 3.

Surface 8

The earliest utilization of the western plaza area was evident from an unprepared surface on top of early refuse. Surface 8 was an ashy gray and tan, soft, fragile, and irregular, with a number of small depressions in it. Patches of CaCO₃, spalls, and carbonized brush were scattered about on the surface. Trash was practically absent except for some near CS 1. It was distinguished from the fill above and below primarily by being harder, although it may have formed during a period of disuse and exposure to the elements rather than primarily from foot compaction. Nevertheless, two features exposed at this level attest to some use of the surface.

Surface 8 Features. Just south of CS 1 were two features. OP 1 was a large, unlined, basin-shaped pit of 43 liters volume, which exhibited slight oxidation and was filled with carbonized brush and corn cobs. The pit contents spilled out of the top and mixed with spalls and raw clays from Layer 8. The pit might have been a heating pit or, more likely, a pit of unknown function that ultimately served for containing discarded hot coals.

A trench cutting diagonally across the test trench 360 cm south of CS 1 was designated a "gutter" or ditch (Figure 3.62A, Plate 3.52), although its true function is unknown. The bottom was rounded in cross-section, 35 cm wide and 24 cm deep. A few, thin, upright slabs lined the northern side and others covered the bottom. Two 4-cm-diameter "postholes" were noted at one end. Schelberg feels that the ditch may have been the foundation trench for a wall leading off the southwestern corner



Plate 3.51. Western plaza area (Plaza 1, Grid 116). The construction debris comprises Layer 8. Note hammerstone just below the 30-cm north arrow. (NPS#15423)

Plate 3.52. Western plaza area (Plaza 1, Grid 303). Slab and stone-lined ditch at bottom of test trench. A possible foundation wall. 30-cm north arrow. (NPS#15674)



Figure 3.62. Plaza 1, selected features. Plans and profiles. A) Ditch 1 on Surface 8 in Grids 301 and 303. B) Storage Bin 1 built against the plaza door to Room 104. It is probably the ventilator shaft for Kiva 17.

of a small unit house, similar to the short wall attached to Room 50. If more such small houses existed, it would explain the Layer 9 trash in the area.

Layer 9. The initial West Plaza accumulation of cultural material was represented by Layer 9. It underlay all the excavated West Wing rooms. It was 25-55 cm thick and exhibited moderate to heavy amounts of charcoal and refuse. Stone was uncommon. The sandy matrix was unconsolidated and resembled the soft, tan, aeolian sand found in Layer 1. This deposit was designated Layer 8 under Room 119 and in Rooms 112 and 229, and Layer 12 in Room 110.

Summary and Conclusions

Although we could not directly correlate surfaces and events between the northern areas adjacent to the Central Roomblock and the western areas along the West Wing, there was considerable similarity in the two areas, particularly in contrast to the eastern area next to the East Wing. The early deposits found at the lowest surfaces of the plaza mark the initial use of the area, although we are unsure just what that means in terms of occupation at the site. These deposits could have been generated by a pre-greathouse occupation that was partly evident in Rooms 50 and 51 found under the Central Roomblock. Ceramic seriation links the lowest ceramic assemblages with the greathouse construction at about A.D. 1040 rather than with the earlier small-room occupation.

The stratigraphy of the western area of Plaza 1 was unusual and contrasted sharply with plazas and outdoor work areas observed in contemporary small-house sites. The regularity and effort of preparation of the many plaza surfaces in the western area (Plates 3.53-3.54) contrast markedly with the typical outdoor surfaces in small house sites, which are merely compacted earth without benefit of formal construction. Unfortunately, little is known of other greathouse plaza stratigraphy next to room occupation, where it is best preserved. Features, particularly firepits, seem generally lacking in the western area, although this would have to be confirmed by widespread surface stripping, which we were unable to do.

The latest use surfaces identified in the western area have reverted to compacted, unprepared surfaces that reveal a lack of the labor-inten-These upper surfaces were assosive efforts marking earlier surfaces. ciated with ceramics that date deposition and use of the surfaces in the Except for Room 119, rooms excavated in the adjacent early A.D. 1100s. West Wing did not yield thick, enduring floors such as were seen in the plaza testing. The plaza stratigraphy, then, marks an intensive concern with preparing and maintaining enduring outdoor surfaces, which must have called for cooperative effort and planning among various residential groups in the West Wing. Deterioration of planning and cooperation is suggested by the lack of preparation of the upper plaza surfaces dating in the early A.D. 1100s near the end of the final main occupation at Pueblo Alto.



Plate 3.53. Western plaza area stratigraphy (Plaza 1, Grid 302). Note change from even, level units to homogeneous, nonstratified, postoccupational fill above 30-cm scale. Nails in tags mark plaza surfaces. "S" marks Surface 0. (NPS#15656)



Plate 3.54. Western plaza area (Plaza 1, Grid 302). West end of trench just in front of and below door into Room 104. Note trench to right cutting earlier plaza stratigraphic units. Trench is probably a ventilator tunnel connecting Kiva 17 and Storage Bin 1 (a ventilator shaft?). 15-cm scale rests on Layer 5. 30-cm scale rests on sterile (Layer 8B is just above). (NPS#15513)

Kiva 16

In 1976 the western plaza area was trenched north-south along the western quarter of Grids 96 and 116 during a search for kivas. The trenching immediately revealed an ashy, charcoal-stained pit of trash that changed at both ends of the trench into cleaner deposits. Although no walls could be discerned at the time, it was clear that a trash-filled kiva had been encountered. When deeper probes of the western area were desired in 1977, test trench placement was conditioned in part by the location of the trash-filled pit, now designated Kiva 16. The 1977 eastwest trench thus intersected the southern 50 cm of the 4-m-diameter kiva (Plate 3.55), but otherwise the kiva was not excavated. Its floor was not reached but probably is about 2 m below the surface. The description of Kiva 16 is derived from observations made from the trenches that intersected it. Profiles, however, were made of the test trench face opposite the kiva, and, therefore, only the kiva ventilators were mapped.

Fill

Layer 1. Immediately below the surface in the north-south trench was a trash deposit, dish-shaped in cross section and about 65 cm deep in the center. Fill was removed in two arbitrary 20-cm levels followed by a third of 25 cm. All was 1/4 in. screened and yielded a prodigious amount of material. Approximately 2.6 m^3 were removed from the layer with a density of 1,032 sherds per m^3 . There were sparse amounts of White Mountain Redware (trace) while Tusayan Whiteware was higher than normal (2 percent) for the 2,810-sherd assemblage. Thus, ceramics mark deposition between about A.D. 1090 and 1120. Faunal remains (91 per m³) were dominated by rabbits (particularly jackrabbits) and prairie dogs (Akins 1985a). Turkey remains were sparse, unlike the higher frequencies found in later deposits. Burning and cooking brown elements were common and may have reflected domestic household discard (Akins 1985a). The high incidence of checking (21 percent of 237 bones) indicates lengthy exposure to the elements, possibly related to the position of the trash directly beneath the plaza surface. Lithic remains (192 per m^3) were mostly cherty or chalcedonic, silicified wood (56 percent of 500 pieces) with smaller quantities of Washington Pass chert (material type 1080). Other imports reveal slightly higher frequencies [yellow-brown spotted chert (1072)-2 percent, Zuni wood-2 percent, and obsidian-1 percent] than for earlier deposits at the site (Cameron 1985: Table 38).

Layer 2. In 1976 a small 45-by-45-cm pit, 58 cm deep, was placed in the northwestern end of the trench to examine deposits under Layer 1. In 1977 when the kiva wall was outlined, an additional 25 cm of fill inside the kiva below the wall top were removed from Layer 2. Overall, approximately 0.21 m³ of Layer 2 were removed and screened. This deposit was cleaner than the preceding one and contained less trash in its brown, aeolian sand matrix. At the northern and southern ends of the kiva, the unit apparently extended to the surface, or nearly so, but reached a depth over 110 cm in the excavated, southern segment of the kiva wall arc. At that depth adobe roofing fragments were beginning to be exposed. Artifact



Plate 3.55. Western plaza area (Plaza 1, Grids 116 and 307). With south arc of Kiva 16 and the top of Surface 7 exposed. Dark area within kiva caused by water. 30-cm north arrow. (NPS#15229)



Plate 3.56. Western plaza area (Plaza 1, Grid 116). Note pair of trenches, probably ventilator tunnels for Kiva 16, that cut earlier plaza stratigraphic units. Disturbed fill in upper right trench is a backfilled test trench. 30-cm scale. Looking south. (NPS#15382) density was far less than in Layer 1 (571 sherds and 5 bones per m^3). Ceramics are too few to confidently interpret the period of deposition, although the late A.D. 1000s is suggested.

Floors

The floor was not reached, and no floor features were exposed.

Walls

Kiva 16 was built in a pit and then lined with a single width of stones irregular in size and shape. Uniformity in stone selection appears to have been based solely on the stone thickness (about 4-5 cm) with little regard to other dimensions. A number of brown plaster coats still adhered to the inside arc of the kiva masonry. No wall features were noted.

Ventilator

Two trenches filled with the plaza Layer 1 material (sand and wall fall) were clearly evident in the test-trench face directly south of Kiva 16 (Figure 3.60, Plate 3.56). The deepest started at the present surface and cut through all plaza units and into sterile soil (at about 160 cm depth). Thus, it postdates all plaza units recorded except perhaps the latest ones close to the rooms (Surfaces 0-2). The vent trench is 90 cm or so wide but looks unlined (it was not excavated). An associated vent shaft was not searched for nor found. A second trench 42 cm east of the first was just 75 cm deep and 65 cm wide and also started from the present surface. It may have been an aborted vent tunnel construction.

Summary and Conclusions

Stratigraphy and architecture place the construction of Kiva 16 late in the site occupation. Postoccupational deposits suggest that the structure was slowly filled with trash and aeolian sands until a rapid in-filling of dense trash capped the structure. Ceramics and faunal remains suggest that filling took place during the early A.D. 1100s but before the terminal occupation in the A.D. 1130s or 1140s. Based on the small kiva size, its construction with the latest plaza surfaces, and the postoccupational ceramics and faunal remains, a short use of the structure is tentatively suggested--between about A.D. 1090 and 1120 or less. The kiva's position in front of the late rooms (i.e., Room 233) built against Room 103 suggests use in conjunction with these rooms with trash later coming from these same sources or the near vicinity.

Kiva 17 (Figure 3.63)

A second kiva was discovered in 1977 in the test trench extending east from Room 104. It is similar in size and construction to Kiva 16, a



Figure 3.63. Kiva 17, test trench profiles.

mere 4 m to the southeast. Again, we intercepted the southern 50 cm of the arc of the approximately 4-m-diameter kiva. A kiva floor was not reached, but it is suspected to be about 2 m below the surface. Only that small part of the kiva exposed in the test trench was excavated (about 1.2 m³ or less). Six levels were removed for a total depth of 65 cm. All was 1/4 in. screened.

Postoccupational Fill (Figure 3.63)

Layer 1. The upper 35-55 cm of fill consisted of wall rubble assumed to be from the east wall of Room 104. No cultural material was collected from this layer, and it postdates the filling of the kiva.

Layer 2. Below Layer 1 was a heterogeneous deposit of aeolian sand, roof fall, and ash and charcoal lenses at least 110 cm deep. Undoubtedly, finer divisions of the fill would have been necessary to account and control for the variability if larger-scale excavation had taken place. The upper 20 cm were horizontal and contained several lenses (dumps) of ash and charcoal (range: 14 by 2 cm deep to 68 by 4 cm deep). The next lower 20 cm revealed a lens of ash (100 by 4 cm deep) on the western side and a 20-cm-thick layer of relatively clean sand that extended 190 cm west from the east wall and nearly reached the ash lens. Underneath both was clean aeolian sand, mounded 70 cm high in the center, suggesting a period of low cultural activity (if any) around the kiva. Under the mounded sand, however, were major episodes of refuse discard, sloping high at the walls and down toward the kiva center. A variety of materials had been tossed in from the eastern and western sides of the kiva: burned roofing impressions, ash and charcoal, and a multitude of clays and decomposed sandstone (masonry?) of bright orange, green, brown, and red. Excavation extended only 160 cm below the surface and 87 cm below the southeast wall top; so, further examination of the fill must wait for additional work.

Despite the trashy appearance of the fill, little cultural material was recovered, possibly because of the small amount of fill actually removed. Only 15 faunal elements were recovered, and the ceramic density was low (about 92 sherds per m^3). The presence of Tusayan Whitewares and Chaco-McElmo Black-on-whites and the absence of Mesa Verde Whitewares and White Mountain Redwares suggest that fill deposition occurred around A.D. 1090-1100.

Floors

None were examined or exacavated.

Walls

Only a small arc of the southern wall was exposed 55 cm below the surface during trenching. As in the case for Kiva 16, a pit was dug and then tightly lined with small, tabular, stone masonry. The wall was 10-12 cm wide, at least 87 cm high, and a single course thick. The interior was covered with sooted brown plaster. No bench was observed. Only the southeastern part of the kiva wall was found standing, and as it reached

the southern midpoint of the exposed arc, another (lower) wall unexpectedly ran due north, appearing to bisect the kiva interior. It was also 10-12 cm thick, and both it and the southeast kiva wall were plastered with a continuous coat of plaster. The reverse side was not dug out. Testing on the southwestern side revealed that the kiva arc continued as expected. The wall in this area was intact 78 cm lower than the top of the wall on the southeastern side. Thus, the wall butting the arc interior must be a feature, perhaps a wingwall.

Ventilator

No evidence for a ventilator was found in the test trench south or southeast of Kiva 17. Thus, the best alternative for a ventilator is "Storage Bin 1" (see below). A prehistoric trench 60 cm deep and articulating with Surface 1 at the top is recorded in the west face (north side) of the test trench (Plate 3.54) where the "bin" is located. It was initially thought to be part of the pit excavation for Kiva 17 but its depth suggests, instead, that we exposed a vertical diagonal slice of the ventilator tunnel extending to the "bin."

Storage Bin 1 (Figures 3.62B and 3.63, Plate 3.57)

This feature was built against the abandoned east door of Room 104. Its presence inhibited investigation of the relationship of the plaza and doorway stratigraphy to the use of Room 104. The "bin" could not be related to any plaza surfaces. It was a large semicircle of masonry formed from large unshaped blocks and some chinking. The enclosed doorway, however, appeared only to be filled with a jumble of masonry and not intentionally blocked. The masonry was comparatively crude when compared with the masonry of Room 104. The masonry was flush and evenly set only on the interior face whereas the exterior was irregular with no attempt at facing. Clearly, the "bin" was built into a pit and did not sit above ground. A thin wash of clay was thought to represent the "bin" bottom 110 cm below the top of the masonry.

In retrospect, however, the feature is likely to be a ventilator shaft for Kiva 17 about 50 cm away. It seems excessively large (76 cm across the long axis) and improperly oriented (to the southwest of the kiva) for the kiva ventilator. However, no trace of a ventilating system was found in the test trench in the expected location and, by default and proximity, this leaves Storage Bin 1 as the most likely choice. This feature was left intact.

Summary and Conclusions

Kiva 17, like Kiva 16, was a small "clan" kiva unattached to surface dwellings. Associated surface residences and other activity areas would presumably be nearby, perhaps in the late rooms attached to the plaza side of the West Wing rooms or, less likely, in the larger West Wing rooms. Trash may also have come from these nearby rooms once the kiva was abandoned. As with Kiva 16, abandonment is tentatively placed between A.D. 1100 and 1120, on the basis of ceramics. Construction, therefore, is as-



Plate 3.57. Western plaza area (Plaza 1, Grid 302). Storage Bin 1 (a kiva ventilator shaft?) blocking door entry into Room 104. 30-cm north arrow. (NPS#15671)

sumed to be slightly earlier based on the kiva size and construction and the articulation of the prehistoric trench on the west side with Surface 1. Construction to filling, therefore, could have been between A.D. 1090 and 1120 or less.

Summary and Conclusions

The West Wing offers the best evidence for habitation suites in the A.D. 1000s of any excavated greathouse in Chaco Canyon. Our sample suggests habitation rooms are predictable enough in size and placement (i.e., plaza-facing) within the roomblock to permit reliable identification of the remaining habitation rooms in the West Wing, and, less reliably, in the rest of Pueblo Alto. Household suites varied in our sample but can still be identified with considerable confidence for the roomblock. Our excavational focus was upon sampling replicable units, so the rare and unusual rooms and suites remain highly speculative.

Excavations revealed that the West Wing contained the primary habitation suites at Pueblo Alto, of which two of the five in the West Wing were dug. Room 103 and Room 110 reflect similar, initial occupational histories, starting in about the A.D. 1030s or 1040s, with several floors in each devoted to a myriad of household activities. Floor and wall features, floor preparation and wear, ethnobotanical remains, and cultural material attest to the primary function of the rooms as one of intense habitation. If the relative density of features and cultural material is an indicator of occupational intensity, then Room 110 outstrips its neighbor, Room 103. The lack of permanent firepits and substitution of these by small, temporary, heating pits throughout the use of Room 103 and for part of the occupation of Room 110 foreshadows a population on the move or one that regarded firepits in a very different manner than did their contemporaries in the small houses (e.g., firepits were not necessary for year-round habitation).

The exterior row of West Wing rooms was never directly connected to the household units. The door connection between Room 112 and Room 229 was made after the abandonment of the habitation suite. The row of rooms parallels a nearly identical row in the East Wing that revealed door connections to the exterior plaza and adjacent roadways. The outer wall of the West Wing was too broken down to expose a similar set of doors without massive digging; nevertheless, these rooms are also thought to be roadassociated, storage facilities (see Volume I, Chapters 5 and 10). Only a storage area could be ascertained for the only outer-row room excavated (Room 229), but it had no exterior door. For the remaining huge rooms in the wing, it is best to plead total ignorance as to their possible function (Rooms 101-102, 105).

Although habitation rooms were easily identified in the West Wing, their associated suites presented more of a problem. Rooms 110 and 112 formed an obvious living room/storage room unit. Room 103 shared no obvious room for storage. This apparent handicap may have been resolved by

the use of a storage room not directly tied to Room 103, but this would have been an odd arrangement easily avoided initially by a simple rearrangement of the wing's architectural design. Room 103 also revealed far fewer storage pits, heating pits, firepits, and half the number of mealing bins than did Room 110 and had half the area of the latter suite. Unless Room 104 was designed to serve Room 103 for storage, which seems unlikely because the interconnecting door appeared to be a later introduction, the planners built two single-room (Rooms 103-104) and three double-room (Rooms 110/112, 111/113, and another under Kiva 1) habitation suites.

We must assume that the building planners were aware of the particular households for which the wing was being built and adjusted their planning accordingly, in contrast to the small houses where living units grew by simple accretion. Some households may not have needed the space because of their population size or because they had access to goods stored elsewhere. It is tempting to speculate that household size differed between the one- and two-room units, and this question is investigated more fully in Volume I, Chapter 10.

Coeval with the intense room occupation was an effort that kept the areas of the plaza contiguous to the West Wing in excellent physical repair. Preparation and repair of the plaza, so unusual for outdoor areas at small sites and even in many areas of the Pueblo Alto plaza, probably indicates coordinated duties among all the West Wing households. We did not decipher the meaning for this expenditure of upkeep, but it clearly denotes major importance of the outside area next to the West Wing.

Unlike the Central Roomblock, in the West Wing large, Chacoan, court kivas were not physically linked to the room suites. Two court kivas (Kivas 8 and 13) nearby may be the progenitors for association with the various West Wing households. Both may have been contemporaneously associated with the wing, or Kiva 8 may have replaced Kiva 13 when the latter was abandoned sometime in the mid-to-late-A.D. 1000s. Additional kivas built into the roomblock spell the demise of three of the five households in the late A.D. 1000s, so perhaps Kiva 13 was no longer needed. The construction of Kiva 1 wiped out the predicted two northern households while Kiva 15 replaced the Room 110 occupation. Kiva 17's ventilator blocked the entry into Room 104, so that we can also presume that Room 104 no longer served for habitation. Thus, the initial households planned and built in the West Wing barely lasted 50 years or less. Lekson (1984:50) might suggest that room households were relocated in kivas, but this seems an unsatisfactory explanation unless many of the household activities and functions also became dispersed at the same time. It is clear that habitation rooms and kivas were coeval, and in some cases physically tied units, during the initial occupation of Pueblo Alto, and, thus, they can be interpreted as part of the total household sphere rather than as seasonal or replacement habitation areas.

Much of the original planned use of the West Wing was, as stated above, modified by kiva construction in the late A.D. 1000s. Additional architectural units were also added against the plaza side of the wing shortly afterwards, while a number of small clan kivas were built in the adjacent plaza (at least two, Kivas 16 and 17, were discovered by trenching). Obvious ties between the small "clan" kivas and habitation rooms could not be discerned, although it is suspected that the kivas were associated with the newly added blocks of small rooms and remodeled areas within the older roomblocks. A room (Room 233) built directly in front of Room 103's access to the plaza must also have resulted in some shift in room use, although only the loss of grinding activities from Room 103 was evident for the same period. Coincident with these changes was the cessation of plaza care. Upper surfaces in the western plaza area were ephemeral, compacted surfaces exhibiting no preparation or repair. In short, by about A.D. 1100 until abandonment at about A.D. 1140 there appeared to be a major reorganization of space and use of the West Wing area that reflects the impact of major sociological changes at the site.

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