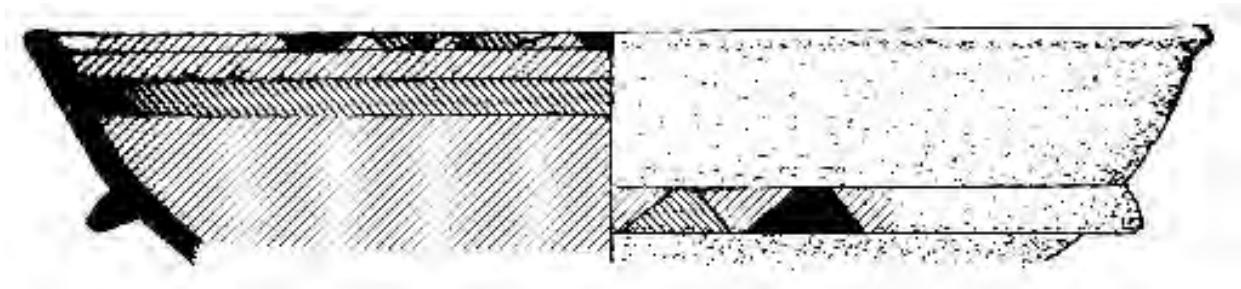


**Annual Report
of the
Cochuah Regional Archaeological Survey's
2012 Field Season**



edited by Justine M. Shaw

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Table of Contents

Acknowledgments	v
List of Tables and Figures	x
<u>Part 1: Introduction to the 2012 CRAS Field Season</u>	
Chapter 1: Foci of the 2012 CRAS Field Season.....	1
Chapter 2: CRAS Research Methods.....	6
<u>Part 2: The <i>Ejido</i> of Saban</u>	
Chapter 3: Abuelos, Operation 1	8
Chapter 4: Abuelos, Operation 2	11
Chapter 5: Chuunkatzin, Operation 1	14
Chapter 6: Chuunkatzin, Operation 2	19
Chapter 7: Histories that Converge through Objects: Fortín de Yo'okop, Operation 1 and 2	24
Chapter 8: Fortín de Yo'okop, Operation 3	60
Chapter 9: Fortín de Yo'okop, Operation 4	65
Chapter 10: Fortín de Yo'okop, Operation 5	68
Chapter 11: Fortín de Yo'okop, Operation 6	71
Chapter 12: Fortín de Yo'okop, Operation 7	86
Chapter 13: Yaxche, Operation 1	91
Chapter 14: Yaxche, Operation 2	94
Chapter 15: Yaxche, Operation 3	99
Chapter 16: Yo'okop, Operation 10	104
Chapter 17: Yo'okop, Operation 11	109

Chapter 18: Yo'okop, Operation 12	115
Chapter 19: Yo'okop, Operation 13	122
Chapter 20: Yo'okop, Operation 14	129
Chapter 21: Yo'okop, Operation 15	133
Chapter 22: Yopila, Operation 1	136
Chapter 23: Yopila, Operation 2	141

Part 3: The *Ejido* of Sacalaca

Chapter 24: Chakal Ja'as, Operation 3	143
Chapter 25: Chakal Ja'as, Operation 4	160
Chapter 26: Ramonal Oriente, Operation 1	162
Chapter 27: Ramonal Oriente, Operation 2	171
Chapter 28: Ramonal Oriente, Operation 3	177
Chapter 29: Ramonal Poniente, Operation 1	183
Chapter 30: Ramonal Poniente, Operation 2	190
Chapter 31: Rancho San Isidro, Operation 1	196
Chapter 32: Sacalaca, Operation 3	202
Chapter 33: Sacalaca, Operation 4	207
Chapter 34: Santa Cruz, Operation 1	210
Chapter 35: Santa Cruz, Operation 2 and Interpretation	215
Chapter 36: Xtojil, Introduction and Operation 1	218
Chapter 37: Xtojil, Operation 2 and Interpretation	222
Chapter 38: Yo'aktun, Operation 2	224

Chapter 39: Yo'aktun, Operation 3	227
Chapter 40: Yodzonot, Operation 1	231
Chapter 41: Yodzonot, Operation 2	236
Chapter 42: Yodzonot, Operation 3	239
 <u>Part 4: The <i>Ejido</i> of San Felipe</u>	
Chapter 43: San Felipe, Operation 6	244
Chapter 44: San Felipe, Operation 7	267
Chapter 45: San Felipe, Operation 8	270
Chapter 46: Mapping of San Felipe's South Group	276
 <u>Part 5: Summary and Analysis</u>	
Chapter 47: Ceramic Summary	281
Chapter 48: Non-ceramic Artifacts from the 2012 CRAS Field Season	355
Chapter 49: The Use of Caves as Water Sources	376
Chapter 50: Conclusions	385
References Cited	387

NOTE: Copies of this report, as well as previous reports of the CRAS Project and Yo'okop Project are available on our website:

<http://online.redwoods.edu/yookop/>
please note new address

This website also contains photographs and updates not included in this report from this season and previous seasons.

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Demetrio Tzul Moo
Santos Susano Chan Poot
Jesus May Canche
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Hermildo Canche Chimal
Marcial Uc Batun
Sebastian Balan Kumol
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Aquilino Moo Tuz
Eustaquio Pat Poot
Miguel Angel Canche Cupul
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List of Tables and Figures

Figure 1) Location of the CRAS Study Area.....	2
Figure 2) Sites within the CRAS Study Area.....	3
Figure 3) Abuelos, Excavation Locations.....	9
Figure 4) Abuelos, Operation 1 Plan.....	10
Figure 5) Abuelos, Operation 1 Profile.....	10
Figure 6) Abuelos, Operation 2, Surface.....	12
Figure 7) Abuelos, Operation 2, Level 1, Lot 1 (Bedrock).....	12
Figure 8) Abuelos, Operation 2, North and East Profiles.....	13
Figure 9) Abuelos, Operation 2, Backfilled.....	13
Figure 10) Chuunkatzin, Excavation Locations.....	15
Figure 11) Chuunkatzin, Operation 1, Surface.....	16
Figure 12) Chuunkatzin, Operation 1, Level 1, Lot 1 Plan.....	16
Figure 13) Chuunkatzin, Operation 1, Bedrock.....	17
Figure 14) Chuunkatzin, Operation 1, West and North Profiles.....	17
Figure 15) Chuunkatzin, Operation 1, Backfilled.....	18
Figure 16) Chuunkatzin, Operation 2, Surface.....	20
Figure 17) Chuunkatzin, Operation 2, Level 1, Lot 1.....	20
Figure 18) Chuunkatzin, Operation 2, Level 1, Lot 1 Plan.....	21
Figure 19) Chuunkatzin, Operation 2, Bedrock.....	21
Figure 20) Chuunkatzin, Operation 2, East and South Profiles.....	22
Figure 21) Chuunkatzin, Operation 2, Backfilled.....	23
Figure 22) Fortín de Yo'okop, Location of Operations 1, 2, 6 and 7.....	26
Figure 23) Fortín de Yo'okop, Operation 1, Level 1, Lot 1.....	28
Figure 24) Fortín de Yo'okop, Operation 1, Level 1, Lot 1, Plan.....	28
Figure 25) Fortín de Yo'okop, Operation 1, Level 1, Lot 2.....	29
Figure 26) Fortín de Yo'okop, Operation 1, Level 2, Lot 1.....	31
Figure 27) Fortín de Yo'okop, Operation 1, Level 2, Lot 2.....	31
Figure 28) Fortín de Yo'okop, Operation 1, Level 2, Lot 1 and Lot 2, Plan.....	32
Figure 29) Fortín de Yo'okop, Operation 1, Level 3, Lot 1.....	32
Figure 30) Fortín de Yo'okop, Operation 1, Level 3, Lot 1, Plan.....	33
Figure 31) Fortín de Yo'okop, Operation 1, Level 3, Lot 2.....	35
Figure 32) Fortín de Yo'okop, Operation 1, Level 3, Lot 2, Plan.....	35
Figure 33) Fortín de Yo'okop, Operation 1, Level 3, Lot 3.....	36
Figure 34) Fortín de Yo'okop, Operation 1, Level 3, Lot 4.....	36
Figure 35) Fortín de Yo'okop, Operation 1, Level 3, Lot 4 and Level 4, Lot 1, Plan.....	37
Figure 36) Fortín de Yo'okop, Operation 1, Level 4, Lot 1.....	37
Figure 37) Fortín de Yo'okop, Operation 1, Level 4, Lot 2.....	38
Figure 38) Fortín de Yo'okop, Operation 1, Level 4, Lot 3.....	38
Figure 39) Fortín de Yo'okop, Operation 1, End of the Excavation.....	39
Figure 40) Fortín de Yo'okop, Operation 1, Backfilled.....	41
Figure 41) Fortín de Yo'okop, Operation 1, North Profile.....	42
Figure 42) Fortín de Yo'okop, Operation 1, East Profile.....	43
Figure 43) Fortín de Yo'okop, Operation 1, North and South Profiles.....	44
Figure 44) Fortín de Yo'okop, Operation 2, Level 1, Lot 1.....	45

Figure 45) Fortín de Yo'okop, Operation 2, Level 1, Lot 2.....	45
Figure 46) Fortín de Yo'okop, Operation 2, Level 1, Lot 3.....	46
Figure 47) Fortín de Yo'okop, Operation 2, Level 1, Lot 4.....	46
Figure 48) Fortín de Yo'okop, Operation 2, Cultural Feature, Firebox.....	48
Figure 49) Fortín de Yo'okop, Operation 2, Level 1, Lot 3 and 4.....	48
Figure 50) Fortín de Yo'okop, Operation 2, Level 2, Lot 1.....	49
Figure 51) Fortín de Yo'okop, Operation 2, Level 3, Lot 1.....	49
Figure 52) Fortín de Yo'okop, Operation 2, Level 3, Lot 2 and 3.....	50
Figure 53) Fortín de Yo'okop, Operation 2, End of Excavation.....	50
Figure 54) Fortín de Yo'okop, Operation 2, Backfilling Process.....	51
Figure 55) Fortín de Yo'okop, Operation 2, Backfilled.....	51
Figure 56) Fortín de Yo'okop, Operation 2, West Profile.....	52
Figure 57) Fortín de Yo'okop, Operation 2, South and West Profiles.....	52
Figure 58) Fortín de Yo'okop, Operation 2, North Profile.....	53
Figure 59) Fortín de Yo'okop, Operation 2, South and West Profiles (illustration).....	54
Figure 60) Fortín de Yo'okop, Operation 2, North Profile (illustration).....	55
Figure 61) Fortín de Yo'okop, Location of Operations 3, 4, and 5.....	61
Figure 62) Fortín de Yo'okop, Operation 3, East Profile.....	62
Figure 63) Fortín de Yo'okop, Operation 3, Floor 1 Plan.....	62
Figure 64) Fortín de Yo'okop, Operation 3, Floor 1.....	63
Figure 65) Fortín de Yo'okop, Operation 3, Dry Core Fill with Masons' Wall.....	64
Figure 66) Fortín de Yo'okop, Operation 4, Plan.....	66
Figure 67) Fortín de Yo'okop, Operation 4, North Profile.....	67
Figure 68) Fortín de Yo'okop, Operation 4, Drainage Channel in Stone Pavement.....	67
Figure 69) Fortín de Yo'okop, Operation 5, West and North Profiles.....	69
Figure 70) Fortín de Yo'okop, Operation 5, Plan at Bedrock.....	69
Figure 71) Fortín de Yo'okop, Operation 6, Surface.....	72
Figure 72) Fortín de Yo'okop, Operation 6, Level 1, Lot 1.....	72
Figure 73) Fortín de Yo'okop, Operation 6, Level 2, Lot 1.....	74
Figure 74) Fortín de Yo'okop, Operation 6, Comal <i>in situ</i>	74
Figure 75) Fortín de Yo'okop, Operation 6, Level 2, Lot 2.....	75
Figure 76) Fortín de Yo'okop, Operation 6, Level 3, Lot 1.....	75
Figure 77) Fortín de Yo'okop, Operation 6, Level 3, Lot 2.....	77
Figure 78) Fortín de Yo'okop, Operation 6, Level 3, Lot 3.....	77
Figure 79) Fortín de Yo'okop, Operation 6, Level 3, Lot 4.....	78
Figure 80) Fortín de Yo'okop, Operation 6, Level 3, Lot 5.....	78
Figure 81) Fortín de Yo'okop, Operation 6, Level 3, Lot 6.....	79
Figure 82) Fortín de Yo'okop, Operation 6, Level 3, Lot 7.....	79
Figure 83) Fortín de Yo'okop, Operation 6, Level 3, Lot 8.....	80
Figure 84) Fortín de Yo'okop, Operation 6, Level 3, Lot 9.....	80
Figure 85) Fortín de Yo'okop, Operation 6, Backfilled.....	81
Figure 86) Fortín de Yo'okop, Operation 6, Wall Before Consolidation.....	83
Figure 87) Fortín de Yo'okop, Operation 6, Wall During Consolidation.....	85
Figure 88) Fortín de Yo'okop, Operation 6, Consolidated Wall.....	85
Figure 89) Fortín de Yo'okop, Operation 7, Surface.....	87

Figure 90) Fortín de Yo'okop, Operation 7, Level 1, Lot 1.....	87
Figure 91) Fortín de Yo'okop, Operation 7, Level 1, Lot 2.....	87
Figure 92) Fortín de Yo'okop, Operation 7, Level 2, Lot 1.....	87
Figure 93) Fortín de Yo'okop, Operation 7, Level 2, Lot 2.....	89
Figure 94) Fortín de Yo'okop, Operation 7, Level 3, Lot 1.....	89
Figure 95) Fortín de Yo'okop, Operation 7, Level 3, Lot 2.....	89
Figure 96) Fortín de Yo'okop, Operation 7, Level 3, Lot 3.....	89
Figure 97) Fortín de Yo'okop, Operation 7, End of 2012 Excavation.....	90
Figure 98) Fortín de Yo'okop, Operation 7, Backfilled.....	90
Figure 99) Yaxche, Location of Excavations.....	92
Figure 100) Yaxche, Operation 1, North and East Profiles.....	93
Figure 101) Yaxche, Operation 1, Plan at Bedrock.....	93
Figure 102) Yaxche, Operation 2, Surface.....	95
Figure 103) Yaxche, Operation 2, Level 2, Lot 1 Plan.....	96
Figure 104) Yaxche, Operation 2, Level 1, Lot 1	96
Figure 105) Yaxche, Operation 2, North and West Profiles.....	98
Figure 106) Yaxche, Operation 2, Level 2, Lot 1	98
Figure 107) Yaxche, Operation 3, Surface.....	100
Figure 108) Yaxche, Operation 3, Level 1, Lot 1	100
Figure 109) Yaxche, Operation 3, Level 2, Lot 1	101
Figure 110) Yaxche, Operation 3, Level 3, Lot 1	103
Figure 111) Yaxche, Operation 3, Bedrock.....	103
Figure 112) Yo'okop, Operation 10 and 11 Locations.....	106
Figure 113) Yo'okop, Operation 10, Surface	107
Figure 114) Yo'okop, Operation 10, Bedrock	107
Figure 115) Yo'okop, Operation 10, Northeast and Southeast Profiles	108
Figure 116) Yo'okop, Operation 10, Backfilled	108
Figure 117) Yo'okop, Operation 11, Surface	110
Figure 118) Yo'okop, Operation 11, Level 1, Lot 1	110
Figure 119) Yo'okop, Operation 11, Level 1, Lot 2	111
Figure 120) Yo'okop, Operation 11, Bedrock	113
Figure 121) Yo'okop, Operation 11, Northwest and Northeast Profiles	113
Figure 122) Yo'okop, Operation 11, Backfilled	114
Figure 123) Yo'okop, Operations 12 and 13 Locations	116
Figure 124) Yo'okop, Operation 12, Surface	117
Figure 125) Yo'okop, Operation 12, Level 1, Lot 1	117
Figure 126) Yo'okop, Operation 12, Level 1, Lot 1 Plan	118
Figure 127) Yo'okop, Operation 12, Level 2, Lot 1	119
Figure 128) Yo'okop, Operation 12, Bedrock	119
Figure 129) Yo'okop, Operation 12, Backfilled	120
Figure 130) Yo'okop, Operation 12, Southeast and Southwest Profiles	120
Figure 131) Yo'okop, Operation 13, Surface	123
Figure 132) Yo'okop, Operation 13, Level 1, Lot 1 Plan	124
Figure 133) Yo'okop, Operation 13, Level 1, Lot 1	125
Figure 134) Yo'okop, Operation 13, Lateral Wall	125
Figure 135) Yo'okop, Operation 13, Bedrock	126
Figure 136) Yo'okop, Operation 13, Northeast and Southeast Profiles	126

Figure 137) Yo'okop, Operation 13, Backfilled.....	127
Figure 138) Yo'okop, Operations 14 and 15 Locations.....	130
Figure 139) Yo'okop, Operation 14, Surface.....	131
Figure 140) Yo'okop, Operation 14, Bedrock.....	131
Figure 141) Yo'okop, Operation 14, Northeast and Southeast Profiles.....	132
Figure 142) Yo'okop, Operation 14, Backfilled.....	132
Figure 143) Yo'okop, Operation 15, Surface.....	134
Figure 144) Yo'okop, Operation 15, Bedrock.....	134
Figure 145) Yo'okop, Operation 15, South and West Profiles.....	135
Figure 146) Yo'okop, Operation 15, Backfilled.....	135
Figure 147) Yopila, Excavation Locations.....	137
Figure 148) Yopila, Operation 1, North Profile.....	138
Figure 149) Yopila, Operation 1, Plan at Bedrock.....	138
Figure 150) Yopila, Operation 2, Northeast Profile.....	141
Figure 151) Yopila, Operation 2, Plan at Bedrock.....	141
Figure 152) Chakal Ja'as, Location of 2012 Excavations.....	144
Figure 153) Chakal Ja'as, Operation 3, Surface.....	145
Figure 154) Chakal Ja'as, Operation 3, Level 1, Lot 1 (View A).....	147
Figure 155) Chakal Ja'as, Operation 3, Level 1, Lot 1 (View B).....	147
Figure 156) Chakal Ja'as, Operation 3, Plan.....	148
Figure 157) Chakal Ja'as, Operation 3, South and West Profiles.....	149
Figure 158) Chakal Ja'as, Operation 3, Level 1, Lot 2.....	151
Figure 159) Chakal Ja'as, Operation 3, Level 1, Lot 3.....	153
Figure 160) Chakal Ja'as, Operation 3, Level 2, Lot 1.....	154
Figure 161) Chakal Ja'as, Operation 3, Consolidation (View A).....	158
Figure 162) Chakal Ja'as, Operation 3, Consolidation (View B).....	158
Figure 163) Chakal Ja'as, Operation 3, Consolidation (View C).....	159
Figure 164) Chakal Ja'as, Operation 3, Consolidation (View D).....	159
Figure 165) Chakal Ja'as Operation 4 West and North Profiles.....	161
Figure 166) Chakal Ja'as Operation 4 Plan at Bedrock.....	161
Figure 167) Ramonal Oriente, Excavation Locations.....	163
Figure 168) Ramonal Oriente, Operation 1, Surface.....	163
Figure 169) Ramonal Oriente, Operation 1, Level 1, Lot 1.....	164
Figure 170) Ramonal Oriente, Operation 1, Level 2, Lot 1.....	164
Figure 171) Ramonal Oriente, Operation 1, Level 3, Lot 1.....	165
Figure 172) Ramonal Oriente, Operation 1, Level 3, Lot 1 Plan.....	166
Figure 173) Ramonal Oriente, Operation 1, Bedrock.....	167
Figure 174) Ramonal Oriente, Operation 1, East and South Profiles.....	167
Figure 175) Ramonal Oriente, Operation 1, Consolidation in Progress.....	168
Figure 176) Ramonal Oriente, Operation 1, Consolidated Element.....	168
Figure 177) Ramonal Oriente, Operation 1, Backfilled.....	170
Figure 178) Ramonal Oriente, Operation 2, Surface.....	172
Figure 179) Ramonal Oriente, Operation 2, Level 1, Lot 1.....	172
Figure 180) Ramonal Oriente, Operation 2, Level 2, Lot 1.....	173
Figure 181) Ramonal Oriente, Operation 2, Level 2, Lots 1 and 2.....	173
Figure 182) Ramonal Oriente, Operation 2, Level 3, Lot 1.....	174
Figure 183) Ramonal Oriente, Operation 2, Bedrock.....	174

Figure 184) Ramonal Oriente, Operation 2, West and North Profiles	175
Figure 185) Ramonal Oriente, Operation 2, Backfilled	175
Figure 186) Ramonal Oriente, Operation 3, Surface	178
Figure 187) Ramonal Oriente, Operation 3, Level 1, Lot 1	178
Figure 188) Ramonal Oriente, Operation 3, Level 2, Lots 1-3	179
Figure 189) Ramonal Oriente, Operation 3, Feature 1	179
Figure 190) Ramonal Oriente, Operation 3, Feature 2	180
Figure 191) Ramonal Oriente, Operation 3, Bedrock	180
Figure 192) Ramonal Oriente, Operation 3, Backfilled	181
Figure 193) Ramonal Oriente, Operation 3, East and South Profiles	181
Figure 194) Ramonal Poniente, Excavation Locations	184
Figure 195) Ramonal Poniente, Operation 1, Surface	185
Figure 196) Ramonal Poniente, Operation 1, Level 1, Lot 1	185
Figure 197) Ramonal Poniente, Operation 1, Level 2, Lots 1 and 2	186
Figure 198) Ramonal Poniente, Operation 1, Level 2, Lot 2	186
Figure 199) Ramonal Poniente, Operation 1, Level 3, Lot 1	187
Figure 200) Ramonal Poniente, Operation 1, Level 4, Lot 1	187
Figure 201) Ramonal Poniente, Operation 1, South and West Profiles	189
Figure 202) Ramonal Poniente, Operation 1, Backfilled	189
Figure 203) Ramonal Poniente, Operation 2, Surface	191
Figure 204) Ramonal Poniente, Operation 2, Level 1, Lot 1	191
Figure 205) Ramonal Poniente, Operation 2, Level 2, Lot 1 Plan	192
Figure 206) Ramonal Poniente, Operation 2, Level 2, Lot 1	192
Figure 207) Ramonal Poniente, Operation 2, Level 3, Lot 1	193
Figure 208) Ramonal Poniente, Operation 2, Level 3, Lot 2	193
Figure 209) Ramonal Poniente, Operation 2, Southwest and Northwest Profiles	194
Figure 210) Ramonal Poniente, Operation 2, Backfilled	194
Figure 211) Rancho San Isidro, Operation 1, Excavation Location	197
Figure 212) Rancho San Isidro, Operation 1, Surface	198
Figure 213) Rancho San Isidro, Operation 1, Level 1, Lot 1	200
Figure 214) Rancho San Isidro, Operation 1, Plan	201
Figure 215) Rancho San Isidro, Operation 1, South and West Profiles	201
Figure 216) Sacalaca, Operation 3 (Well) Location	203
Figure 217) Sacalaca, Operation 3 (Well) Profile	204
Figure 218) Sacalaca, Operation 3 (Well), Plan of Rocks at Level 2, Lot 1	205
Figure 219) Sacalaca, Operation 4, Excavation Location	208
Figure 220) Sacalaca, Operation 4, North and West Profiles	208
Figure 221) Santa Cruz, Excavation Locations	210
Figure 222) Santa Cruz, Operation 1, End of Level 1	211
Figure 223) Santa Cruz, Operation 1, End of Level 2	211
Figure 224) Santa Cruz, Operation 2, Surface	215
Figure 225) Santa Cruz, Operation 2, Bedrock	216
Figure 226) Santa Cruz, Operation 2, Backfilled	217
Figure 227) Xtojil, Excavation Locations	219
Figure 228) Xtojil, Operation 1, Surface	220
Figure 229) Xtojil, Operation 1, West and North Profiles	220

Figure 230) Xtojil, Operation 1, Bedrock	221
Figure 231) Xtojil, Operation 1, Backfilled	221
Figure 232) Xtojil, Operation 2, South and West Profiles	223
Figure 233) Yo'aktun, Excavation Locations	225
Figure 234) Yo'aktun, Operation 2 Plan	226
Figure 235) Yo'aktun, Operation 2, North Profile	226
Figure 236) Yo'aktun, Operation 3, Surface	228
Figure 237) Yo'aktun, Operation 3, Level 1, Lot 1	228
Figure 238) Yo'aktun, Operation 3, Level 1, Lot 2	229
Figure 239) Yo'aktun, Operation 3, Bedrock	229
Figure 240) Yo'aktun, Operation 3, East and South Profiles	230
Figure 241) Yo'aktun, Operation 3, Backfilled	230
Figure 242) Yodzonot, Excavation Locations	233
Figure 243) Yodzonot, Operation 1, Level 1, Lot 1	234
Figure 244) Yodzonot, Operation 1, Level 2, Lot 1	234
Figure 245) Yodzonot, Operation 2, Pits 1 and 2	237
Figure 246) Yodzonot, Operation 2, South and West Profiles	237
Figure 247) Yodzonot, Operation 3 East and South Profiles	241
Figure 248) Yodzonot, Operation 3, Plan at Bedrock	243
Figure 249) San Felipe, Excavation Locations	245
Figure 250) San Felipe, Operation 6, Surface	246
Figure 251) San Felipe, Operation 6, Level 1, Lot 1	246
Figure 252) San Felipe, Operation 6, Level 2, Lot 1	247
Figure 253) San Felipe, Operation 6, Level 3, Lot 1 Rocks	247
Figure 254) San Felipe, Operation 6, Level 3, Lot 1	248
Figure 255) San Felipe, Operation 6, Level 4, Lot 1	250
Figure 256) San Felipe, Operation 6, Level 5, Lot 1 (Floor 1)	250
Figure 257) San Felipe, Operation 6, Level 6, Lot 1	251
Figure 258) San Felipe, Operation 6, Level 7, Lot 1	251
Figure 259) San Felipe, Operation 6, Level 8, Lot 1	252
Figure 260) San Felipe, Operation 6, Level 9, Lot 1	252
Figure 261) San Felipe, Operation 6, Level 10, Lot 1	253
Figure 262) San Felipe, Operation 6, Level 11, Lot 1	255
Figure 263) San Felipe, Operation 6, Level 12, Lot 1	255
Figure 264) San Felipe, Operation 6, Level 13, Lot 1	256
Figure 265) San Felipe, Operation 6, Level 13, Lot 2	256
Figure 266) San Felipe, Operation 6, Level 14, Lot 1	257
Figure 267) San Felipe, Operation 6, Level 14, Lot 2	257
Figure 268) San Felipe, Operation 6, Level 14, Lot 3	258
Figure 269) San Felipe, Operation 6, Level 15, Lot 1	258
Figure 270) San Felipe, Operation 6, Level 16, Lot 1	260
Figure 271) San Felipe, Operation 6, Level 16, Lot 2	260
Figure 272) San Felipe, Operation 6, Level 17, Lot 1	261
Figure 273) San Felipe, Operation 6, Level 17, Lot 2	261
Figure 274) San Felipe, Operation 6, Level 18, Lot 1	262
Figure 275) San Felipe, Operation 6, Level 18, Lot 2	262
Figure 276) San Felipe, Operation 6, Bedrock	263

Figure 277) San Felipe, Operation 6, South and West Profiles	265
Figure 278) San Felipe, Operation 7, West and North Profiles	268
Figure 279) San Felipe, Operation 7, Plan at Bedrock	268
Figure 280) San Felipe, Operation 8, Surface	271
Figure 281) San Felipe, Operation 8, Level 1, Lot 1	271
Figure 282) San Felipe, Operation 8, Level 2, Lot 1	272
Figure 283) San Felipe, Operation 8, Level 2, Lot 2	272
Figure 284) San Felipe, Operation 8, Level 2, Lots 1 and 2	273
Figure 285) San Felipe, Operation 8, Bedrock	273
Figure 286) San Felipe, Operation 8, Profiles	274
Figure 287) San Felipe, Operation 8, Backfilled	274
Figure 288) The Site of San Felipe	277
Figure 289) San Felipe's South Group	278
Figure 290) San Felipe, Structure S1E4-1	279
Figure 291) Middle Formative Ceramics, a) Tumben Incised basin (Ramonal Oriente) and b) Tumben Incised basin (Aktun Huay Max)	282
Figure 292) Middle Formative Ceramics, a) Tumben Incised bowl (Ramonal Oriente) and b) Tumben Incised bowl (Ramonal Oriente)	283
Figure 293) Middle Formative Ceramics, a) Tumben Incised jar (Aktun Huay Max), b) Canaima Incised Dichrome bowl (San Felipe) and c) Majan Red/ Cream bowl (Ramonal Oriente)	284
Figure 294) Middle Formative Ceramics, a) Desvario Chamfered (Yo'dzonot) and b) Guitara Incised (Ramonal Oriente)	285
Figure 295) Late Formative ceramics, a) Sierra Red bowl (Fortín de Yo'okop) and b) Sierra Red bowl (Fortín de Yo'okop)	286
Figure 296) Late Formative Ceramics, a) Sierra Red basin (Santa Cruz) and b) Dzalpach Composite tecolate (Yaxche)	287
Figure 297) Early Classic Ceramics, a) Dos Arroyos Orange Polychrome bowl (San Felipe) and b) Tituc Orange Polychrome var. Camichin bowl (Yo'dzonot)	288
Figure 298) Early Classic Ceramics, Caucel Trickle-on-Red basin (Fortín de Yo'okop)	289
Figure 299) Early Classic Ceramics, Saban Unslipped jar (Yo'dzonot)	290
Figure 300) Late Classic Ceramics, Batres Red bowl (Yo'dzonot)	291
Figure 301) Terminal Classic Ceramics: a) Muna Slate bowl (Yo'dzonot), b) Muna Slate jar (Aktun Huay Max), and c) Sacalum Black-on-Slate bowl (Yo'pila)	292
Figure 302) Terminal Classic Ceramics, a) Ticul Thin Slate bowl (Chumkatzin) and b) Tabi Gouged-Incised vase (Yo'dzonot)	293

Figure 303) Terminal Classic ceramics, a) Oxcutzcab Applique incensario (Xtojil) and b) Chum Unslipped jar (Xtojil).....	294
Table 1) New Ceramic Complexes.....	298
Table 2) Ceramics from Chakal Ja'as.....	299
Table 3) Ceramics from Yo'dzonot.....	302
Table 4) Ceramics from Ramonal Oriente.....	305
Table 5) Ceramics from Sacalaca.....	309
Table 6) Ceramics from Yaxche.....	311
Table 7) Ceramics from San Felipe.....	315
Table 8) Ceramics from Yo'pila.....	321
Table 9) Ceramics from Yo'okop.....	324
Table 10) Ceramics from Santa Cruz.....	327
Table 11) Ceramics from Fortín de Yo'okop.....	329
Table 12) Ceramics from Xtojil.....	339
Table 13) Ceramics from Chumkatzin.....	341
Table 14) Ceramics from Ramonal Poniente.....	343
Table 15) Ceramics from San Isidro.....	347
Table 16) Ceramics from Aktun Huay Max.....	349
Table 17) Ceramics from Yo'aktun.....	351
Table 18) Ceramics from Abuelos.....	353
Table 19) Lithics from Yo'aktun.....	357
Table 20) Summary of Artifacts from Chakal Ja'as.....	358
Table 21) Lithics from Fortin de Yo'okop.....	362
Table 22) Lithics from Ramonal Oriente.....	363
Table 23) Lithics from Ramonal Poniente.....	364
Table 24) Lithics from Sacalaca.....	365
Table 25) Lithics from San Felipe.....	366
Table 26) Lithics from San Isidro.....	368
Table 27) Lithics from Santa Cruz.....	369
Table 28) Lithics from Xtojil.....	370
Table 29) Lithics from Yaxche.....	371
Table 30) Lithics from Yodzonot.....	372
Table 31) Lithics from Yo'okop.....	375
Figure 304) Aktun Santa Cruz, Dry-Laid Wall.....	378
Figure 305) Aktun Santa Cruz, Slateware Jar Fragments.....	378
Figure 306) Map of Huay Max Cave.....	380
Figure 307) Aktun Huay Max, Retaining Wall.....	381
Table 32) Caves Examined During the 2012 Field Season.....	390
Figure 308) Altar in Huay Max Cave.....	391

Part 1: Introduction to the 2012 CRAS Field Season

Chapter 1: Foci of the 2012 CRAS Field Season

Justine M. Shaw

The 2012 season of the Cochuah Regional Archaeological Survey was focused upon obtaining artifact samples from previously documented sites in order to date both occupations and hiatuses. Sites from which no prior samples had been obtained were targeted, as were sites and features that might provide more information about less-well-known time periods. An original focus upon water features was less emphasized when selected locales were not informative and/ or permission could not be obtained to explore certain features. However, as in the past, the CRAS project's overall goal remained gaining a better understanding of the nature of the approximately 500 sq km region's settlement patterns (Figures 1 and 2), the ways in which populations shifted through time, and, as possible, to seek correlates for the patterning.

Most of the excavations this 2012 season were 2x2-m test pits, placed in plazas, adjacent to architecture of varying scales. In the *ejido* of Saban, 22 test pits at 6 sites were excavated. 20 test pits were carried out at 10 sites in the Sacalaca *ejido*, while just 3 test pits at the site of San Felipe, *ejido* of San Felipe, were emplaced. One well was excavated in Sacalaca, yielding no ceramics, while the well at Sisal that contained a nest of eagle chicks in 2010 continued to be utilized for this purpose in 2012; if the latter is to be excavated, this would need to take place during a time when no young are present, such as during the winter. Additionally, surface collections and tape and compass mapping took place in caves in the *ejidos* of Saban and Sacalaca. In addition, a very limited amount of reconnaissance took place, with the documentation of the site of San Nicolas in the San Felipe *ejido*, including surrounding terrain containing several *chultunes* and depressions said to retain water during inundations from hurricanes.

One of the findings to result from the season was a definite conclusion that the round foundation braces occurring late in the sequence of some sites do not date to the Postclassic, as had originally been hypothesized. Based upon test pits from both 2010 and 2012, the features are definitely Terminal Classic. Their unusual form and perishable nature may indicate a specific purpose, association with a distinctive population, or change in the nature of indigenous architecture with an increase in mobility or other lifestyle transformation.

Although no wells were able to be dated, features such as foot/ handholds and grooves worn by ropes continue to be seen, possibly indicating Prehispanic use, with later European modification to include a more formal well housing to be used with ropes and pulleys. The fact that the well that was excavated (Sacalaca's Operation 3) had its construction terminated when the excavators reached a harder stone, which would not have been readily mined using non-metal tools, also provides mild support for a Prehispanic origin. Nonetheless, some means to definitively date these features, perhaps through coring wells that still retain water, must be devised for future seasons.

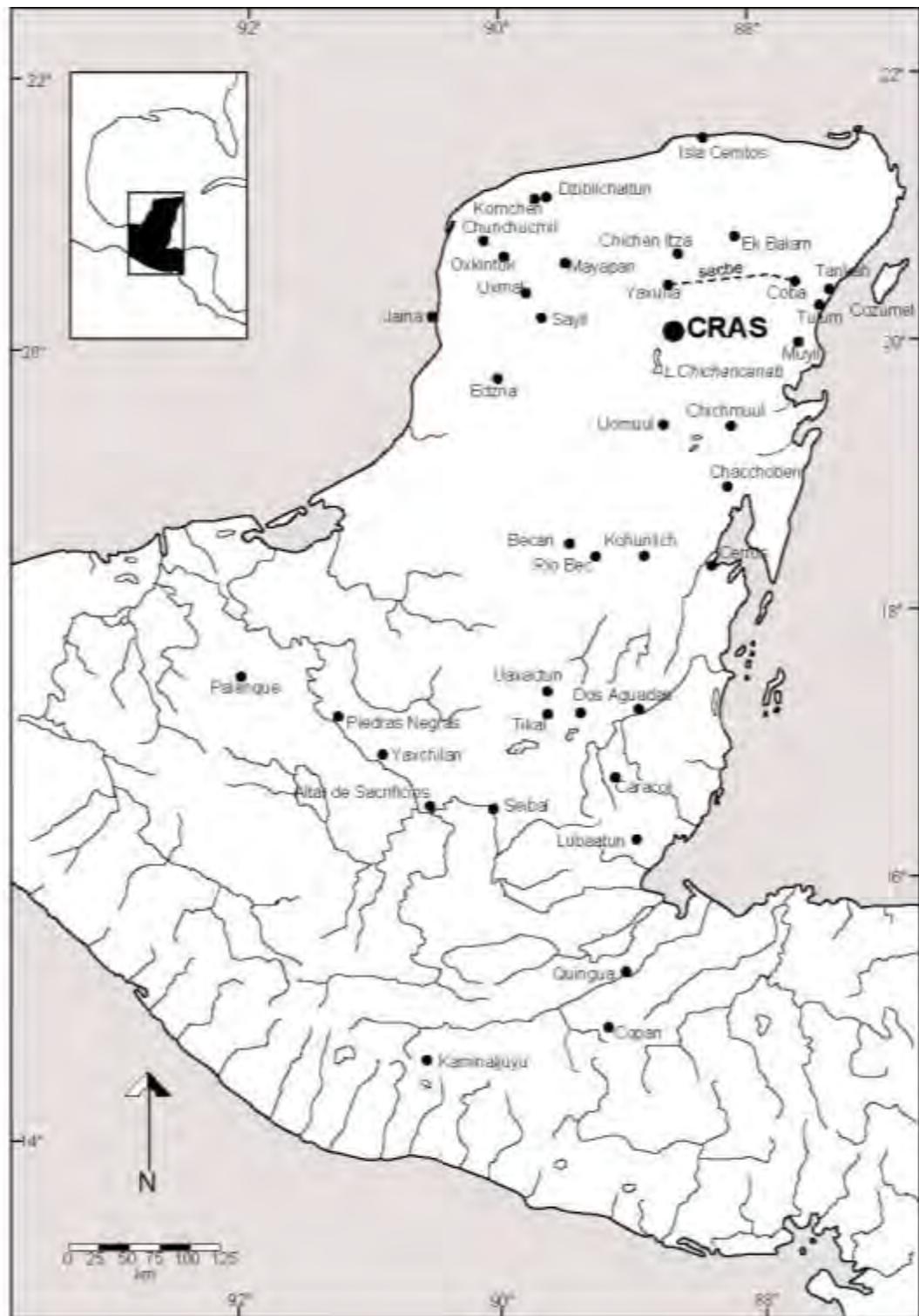


Figure 1. Location of the CRAS Study Area

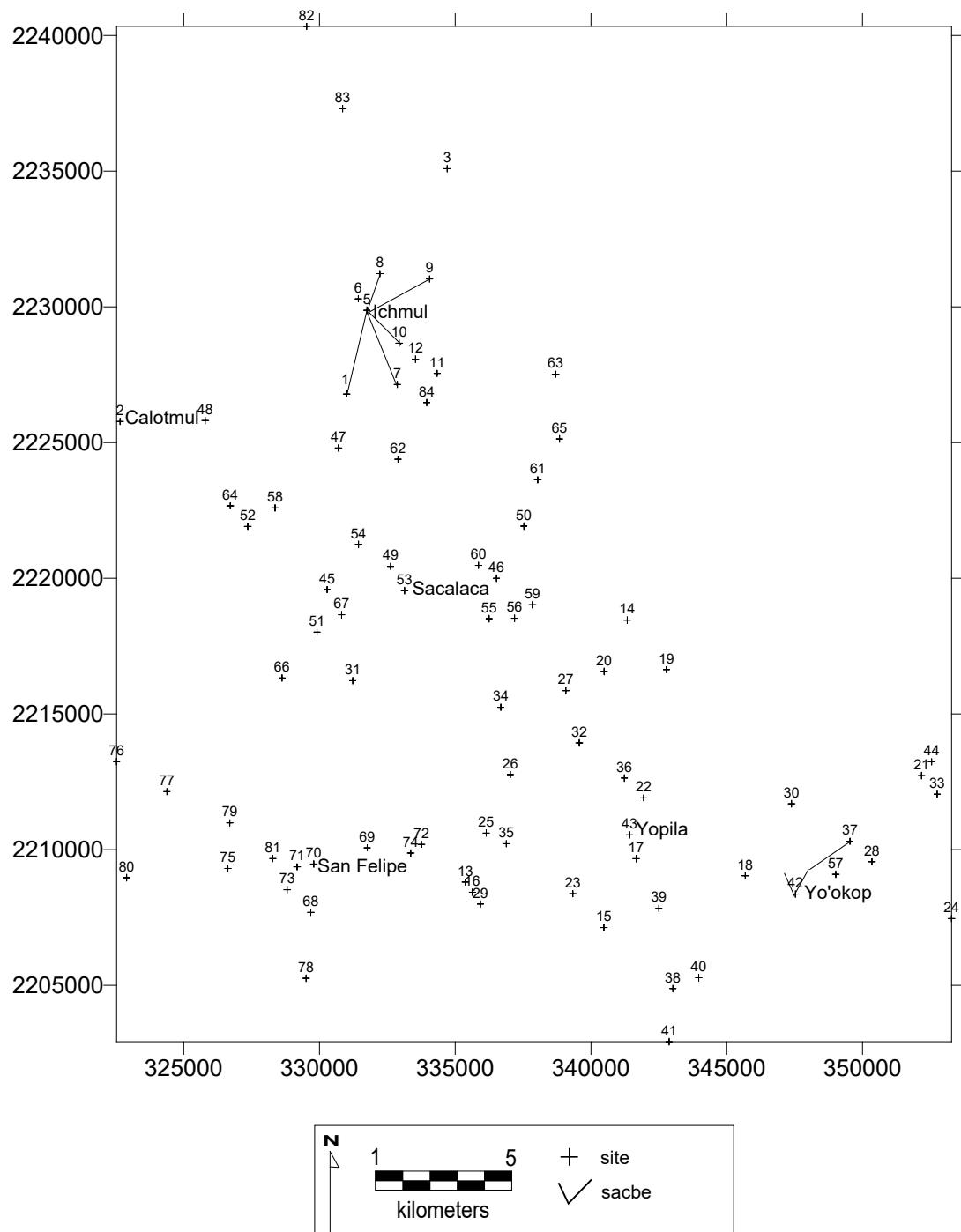


Figure 2. Sites within the CRAS Study Area
(Key on page 4)

Site	Name	Site	Name
1	Xquerol	43	Yo'pila
2	Calotmul	44	Ramonal
3	Chan Mahas	45	Aktun
4	Chikin Ichmul	46	Chakal Ja'as
5	Ichmul	47	Cortada
6	Poxil	48	La Esperanza
7	San Andres	49	Parcela Escolar
8	San Cristobal	50	Ramonal Oriente
9	San Juan	51	Ramonal Poniente
10	San Pedro Chan Ichmul	52	Rancho Guadalupe
11	X-ma-kabba	53	Sacalaca
12	Xbequil	54	San Andrés
13	Abuelos	55	Trincheras
14	Huay Max Aktun	56	San Diego
15	Balche	57	San Isidro
16	Chuun Katzin	58	San Juan
17	Chuun Pich	59	San Pablo
18	Fortín de Yo'okop	60	San Pedro
19	Gruta de Alux	61	Santa Cruz
20	Huay Max	62	Santa Elena
21	Kancep	63	Xbalcheil
22	La Trinchera	64	Xbaquil
23	Nenela	65	Xtojil
24	Palomar	66	Yo'aktun
25	Pancho Villa	67	Yo'dzonot
26	Rancho Rosales	68	Hopemul
27	Saban	69	Ramonal Quemado
28	Sahkabch'en	70	San Felipe
29	Sak Chikin	71	San Fernando
30	San Francisco	72	San Jose Sisal
31	San Isidro	73	San Lorenzo
32	San Manuel	74	Sisal
33	San Pedro	75	Candelaria
34	Santa Rita	76	Rancho Chankunai
35	Venadito	77	Rancho San Francisco
36	Xkanil	78	San Salvador
37	Xnicteil	79	Santa Elena
38	Yache 3 (x-Copó)	80	Tabasquito
39	Yaxche	81	Benito Juarez
40	Yaxche 2	82	Xlapak
41	Yaxche 4	83	Xnicteil
42	Yo'okop	84	Nohcacab

Figure 2. Sites within the CRAS Study Area (Key)

Surface collections in caves indicate that most of the sherds currently visible have washed in, being located near entrances. Sherds or other materials resulting from ritual or other activity further into the caves have been buried, collected, or were not present. The difficulty of reaching the water within the caves of Huay Max and Yo'aktun makes it unlikely that they were used as a source of potable water, although locals report that water from within the caves is gathered for occasional rituals.

While a few sites did provide small samples from the Early Classic and Late Classic, two of the most underrepresented time periods, these periods still appear to have been a time of population concentration to the centers of Ichmul and Yo'okop. Alternately, the Terminal Classic continues to be the most well represented time. The project must find means to explore the degree to which this represents actual population growth vs. an increase in mobility, as well as any demographic increase may include new arrivals into the region.

Although future seasons will include some more test pits and a limited amount of mapping to flesh out the general settlement dynamics of the region, more architecture-specific foci are envisioned for the near future. Better dating and exploring the function of the late Terminal Classic open-fronted architecture visible at numerous sites is one element critical to the project. Additionally, although it has been difficult to find methods to explore and date the use/ construction of water features, this must also remain an essential element of the next season.

Part 1: Introduction to the 2012 CRAS Field Season

Chapter 2: CRAS Research Methods

Justine M. Shaw

The 2012 Cochuah Regional Archaeological Survey (CRAS) involved archaeological research of the *ejidos* of Saban, Sacalaca, and San Felipe. The aim of the 2012 field season was to obtain samples from more sites in the survey area in order to provide ceramics and other materials that might be used to investigate regional settlement dynamics through time.

In prior seasons, a number of Global Positioning Systems (GPS - Garmin Colorado 300 and Garmin etrex) were used to locate the modern *pueblos* and archaeological sites within the region. More detailed mapping had been done using a Topcon GTS-213 total station with a TDS-48 data collector operated by the principal investigators and/or other archaeologists. Topographic relief, as well as any *in situ* archaeological elements, was recorded. The resulting maps are presented with a 50-cm contour interval (unless otherwise noted) in order to display some subtle terrain changes. Crews from each *ejido* were hired to clear all features to be mapped and to help locate features. Due to the structure location procedure, mapping generally began near a large mound and proceeded to the surrounding territory as time permitted. Data on each point (recorded as coordinates N, E, and Z relative to the site datum, as well as with a descriptive code and notes) were saved on the data collector and then downloaded onto a laptop computer each night. Using Surfer (version 8.0), maps were generated daily to allow ground-truthing. This strategy permitted maps of the documented regions to be prepared and given to INAH-QR and local authorities at the time the field season was completed.

Numerous 2x2 m test pits were undertaken in the plaza(s) of several of the sites investigated this 2012 season. In one instance, at Chakal Ja'as' Operation 3, a one-meter-wide trench was used to investigate a previously located feature. These plaza area excavations were aimed at providing ceramics from sealed contexts that could be used to date the sequence of constructions in a given area, as well as to determine the number and characteristics of such plaza flooring and occupation episodes. Test pits were excavated in cultural levels and concluded at bedrock unless otherwise indicated, with materials separated according to the operation/ level/ lot system. All fill was removed using small hand picks and trowels, transferred to buckets, and then screened using 1 cm mesh. Shaw or Johnstone monitored each excavation, which was under the immediate direction of one or more of the Project's experienced archaeologists. One to four local crew members assisted with the excavation and screening. All test pits were backfilled upon completion of the excavating and recording process.

Some surface collections were obtained from two caves (Huay Max and Santa Cruz) when the cave interiors were mapped using a tape and compass. All of the sherds and other artifacts within the sample areas, regardless of size or quality of preservation, were collected.

Artifacts from the excavations and surface collections were washed and marked with the site, operation, level, and lot. The Project utilized digital photography, plan and profile maps, and extensive note-taking to record remains visible on the surface and in excavations. Sherds were identified to the variety level whenever possible, using the type-variety system (Smith et al. 1960).

Spanish-language versions of the completed report will be delivered to INAH and the *ejidos* in the future. English and Spanish versions of the report will also be available on the project's web page (<http://online.redwoods.edu/yookop/>).

Part 2: The *Ejido* of Saban

Chapter 3: Abuelos, Operation 1

Justine M. Shaw

The site of Abuelos is located approximately 8 km to the southwest of the modern *pueblo* of Saban. It was mapped in 2010 (Normark et al. 2011a), but not subject to excavations until the 2012 field season (Figure 3). Operation 1 was positioned to the south of Structure N1W1-1, as a 2x2m unit sloping to the southeast by 25cm.

Operation 1, Level 1, Lot 1 removed all of the material in the unit to bedrock; in some cases, representing 1-44cm of material. The greater depths were reached only within the numerous holes in the bedrock (Figures 4 and 5). The unit was remarkable for the number of holes in said bedrock, as well as the paucity of sherds it produced. Of the two sherds discovered, the identifiable one was a Yokat Striated sherd, dating to the Terminal Classic. Sediment was reddish black (2.5YR 2.5/1), grading to black (7.5YR 2.5/1) in the deeper holes; the color transition likely resulted from the decay of roots within the deep holes. During the course of the excavation, many roots clustering in these moister areas had to be extracted.

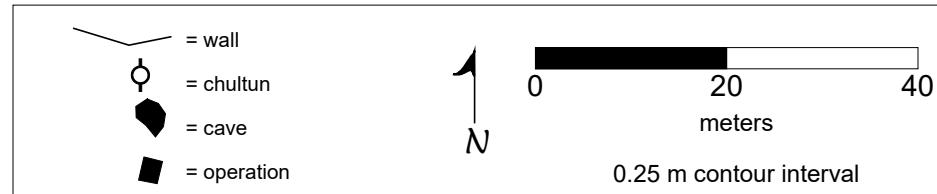
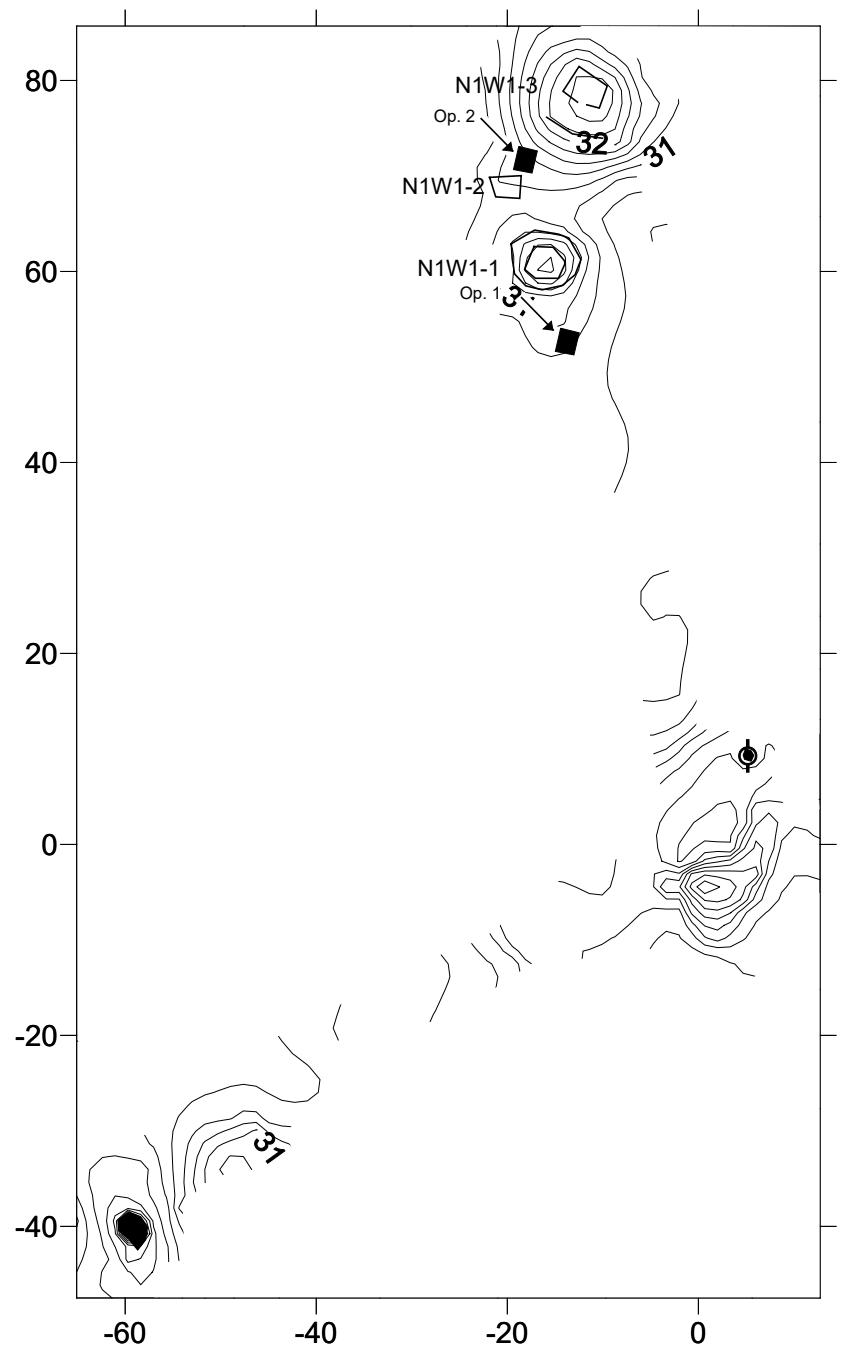


Figure 3. Abuelos, Excavation Locations

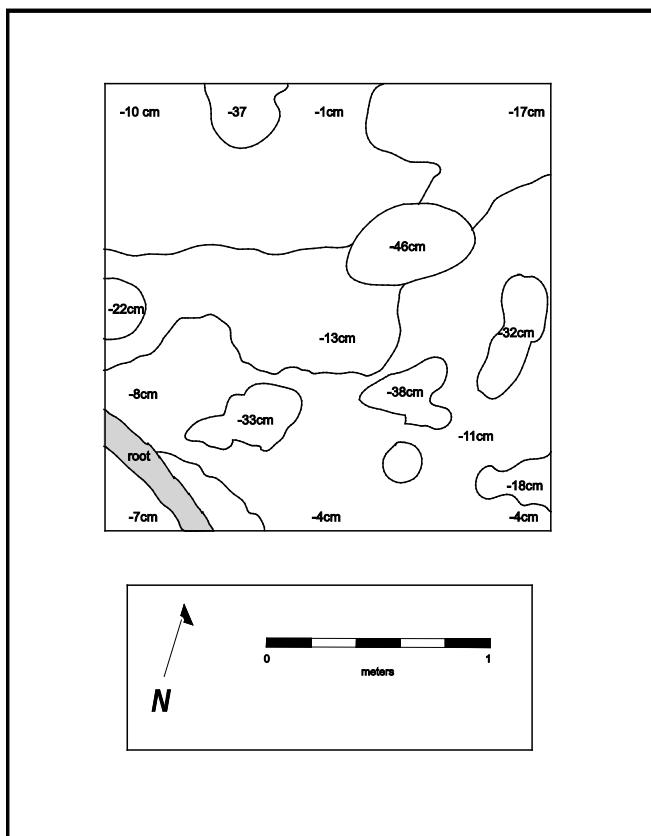


Figure 4. Abuelos, Operation 1 Plan

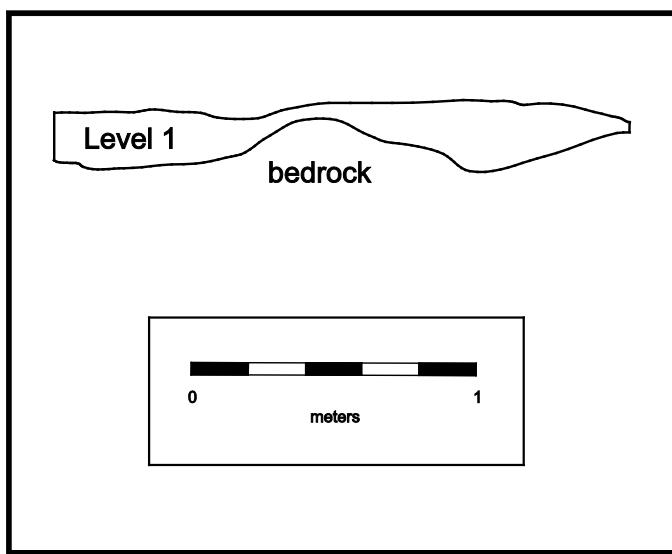


Figure 5. Abuelos, Operation 1 Profile

Part 2: The *Ejido* of Saban

Chapter 4: Abuelos, Operation 2

Alberto G. Flores Colin

This unit was located between the Structures N1W1-3 and N1W1-2; the first is a low platform of 1 m in height with a foundation brace, while the second is a rectangular foundation brace (Figure 3). The goal of this unit was to locate ceramic samples from sealed lots that could help us to establish a chronology for this settlement. Likewise, we assumed that there could be a surface between these two cultural constructions.

This unit was a 2x2-m test pit and was excavated following natural levels (Figure 6). In reality, this operation had only one level, Level 1, Lot 1, which was composed of a layer of blackish sediment (7.5YR 2.5/1) mixed with numerous pebbles or *chich*. No sealed ceramic samples were located at this level, although there were quite a few fragments of sherds of Yokat Striated and Muna Slate types from Terminal Classic. This level concluded with the discovery of the bedrock in the entire unit (Figure 7).

Once the bedrock was exposed, the proper registration of the unit was conducted, using photographs and drawings (Figure 8). Subsequently, the excavation was backfilled to the original level of the surface (Figure 9).

Interpretation

Although no cultural surface was located, the presence of pebbles in the unit seems to indicate that if there was a type of surface in this part of the site at some point. In addition, the absence of floors or cultural levels indicates that this settlement only had one construction episode, which must have occurred during Terminal Classic according to the ceramic samples observed in the surrounding area.

While at this moment only a small part of this settlement has been mapped, composed of several low platforms scattered in the area, this unit has provided a better understanding of the cultural affiliation and temporality of the small sites associated with caves, located in the southern part of our current study area. Future investigations will increase our knowledge of this kind of settlement.



Figure 6. Abuelos, Operation 2, Surface



Figure 7. Abuelos, Operation 2, Level 1, Lot 1 (Bedrock)

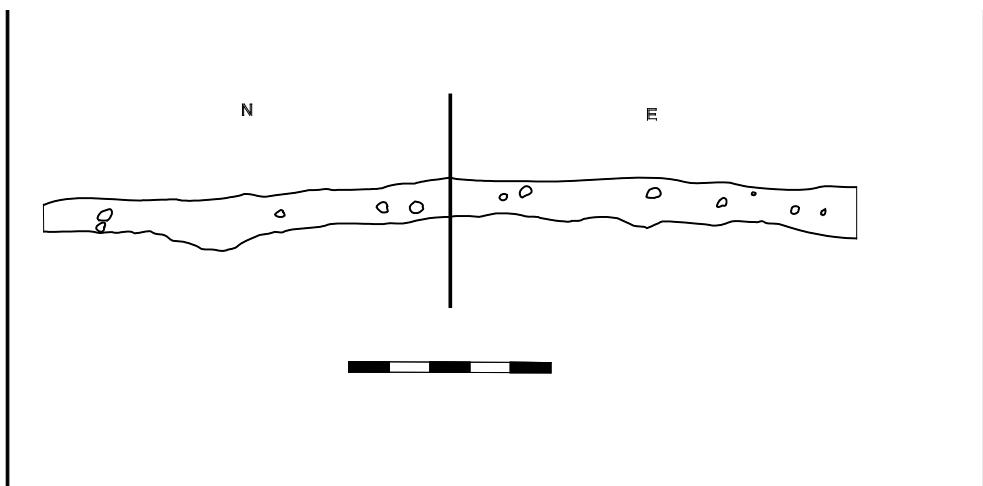


Figure 8. Abuelos, Operation 2, North and East Profiles



Figure 9. Abuelos, Operation 2, Backfilled

Part 2: The *Ejido* of Saban

Chapter 5: Chuunkatzin, Operation 1

Alberto G. Flores Colin

This first unit of this site is located next to the eastern side of Structure S1W1-1, a 1-m-tall platform that provides the base for three superstructures, Structures S1W1-2, S1E1-1, and S1E1-2, which are a series of foundation braces of various sizes (Figure 10). The goal of conducting this unit was to locate samples from sealed lots and/or detect building episodes that could help us establish a date for this settlement, one of the most southern sites located so far in our study area.

This operation was a 2x2-m test pit, and was excavated following natural levels (Figure 11); in fact, this unit was very shallow and only had one level, Level 1, Lot 1, formed by a layer of red soil, locally known as *chac luum*. This sediment was mixed with a few pebbles; ceramics of this level belonged Terminal Classic, evidenced by Yokat Striated var. Yokat and Muna Slate types (Figure 12). Although there was not a change in the kind of sediment, it was decided to change to Level 1, Lot 2, since there was an increase in pebbles that, although not evenly distributed, covered almost the entire unit at the same level. In this stratum, several large stones (about 40 x 50 cm) were located, which appear to be natural in origin since they were not at the same level and lacked a particular arrangement; furthermore their shapes were irregular. Ceramics recovered from this level mainly corresponds to the Terminal Classic, evidenced by Yokat Striated var. Yokat and Muna Slate examples. Level 1, Lot 2 concluded with the discovery of bedrock or *laja*, which featured a differentiated depth in various parts of the unit (Figure 13). Sediment of both lots of this Level 1 were dusky red in color (10R 3/4).

Following this process, the registration of the unit was carried out, through photographs and drawings (Figure 14). Subsequently, the unit was backfilled until the original level of the surface was reached (Figure 15).

Interpretation

Although the data provided by this unit is not much, it is still possible to provide some insights. It seems that there was no more than a single construction episode, which is represented by a series of pebbles that were found at Level 1, Lot 2, although it is not really clear if this has been part of a subfloor. Level 1, Lot 1 corresponds to the stratum formed since the place was abandoned to the present. Ceramics date this level to the Terminal Classic period. It is probable that Structure S1W1-1 and its superstructures had been built at the same episode. Although only this construction has been topographically registered within this site, in future seasons, besides carrying out more test pits, the survey and mapping process should be expanded to the surrounding area and nearby structures, in order to expanding our knowledge about this settlement.

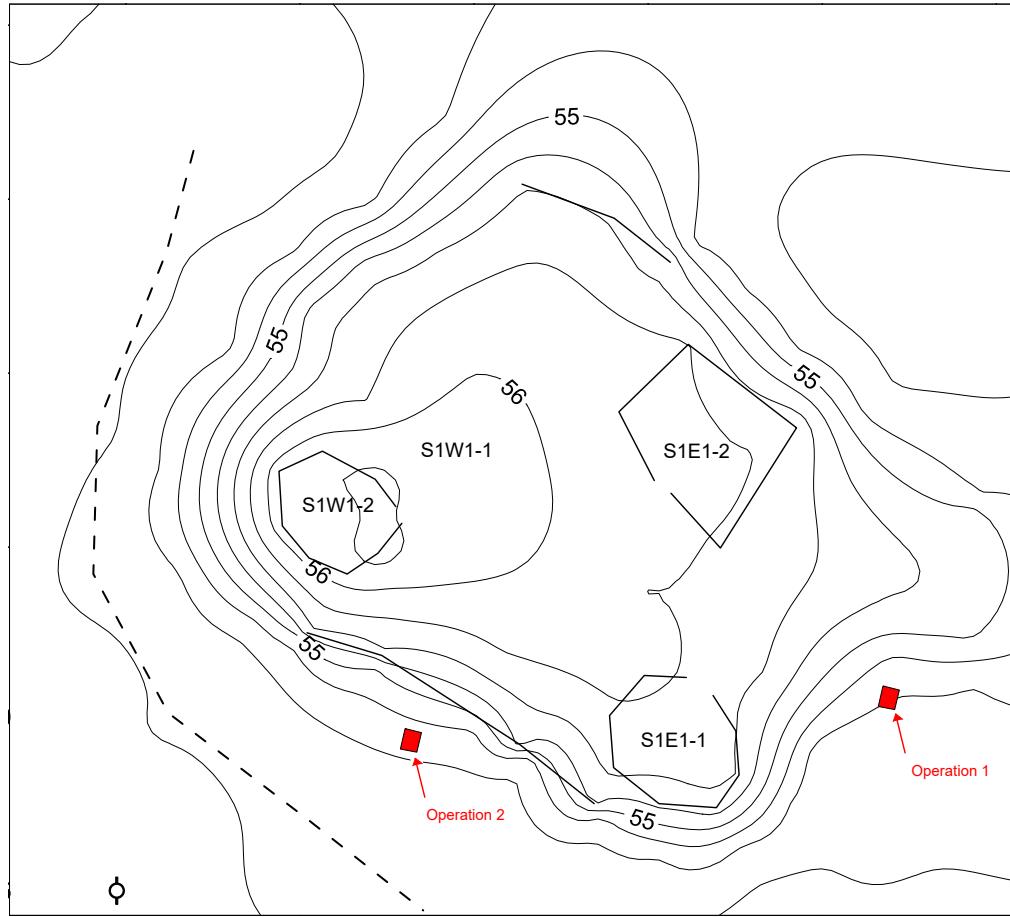


Figure 10. Chuunkatzin, Excavation Locations



Figure 11. Chuunkatzin, Operation 1, Surface

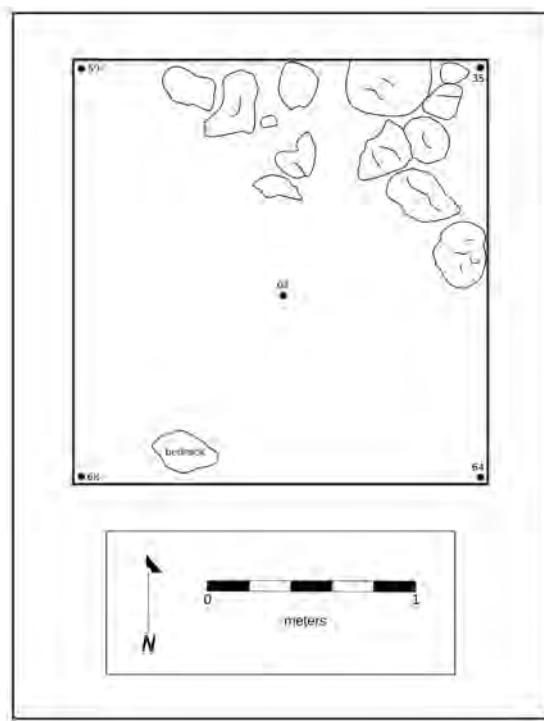


Figure 12. Chuunkatzin, Operation 1, Level 1, Lot 1 Plan



Figure 13. Chuunkatzin, Operation 1, Bedrock

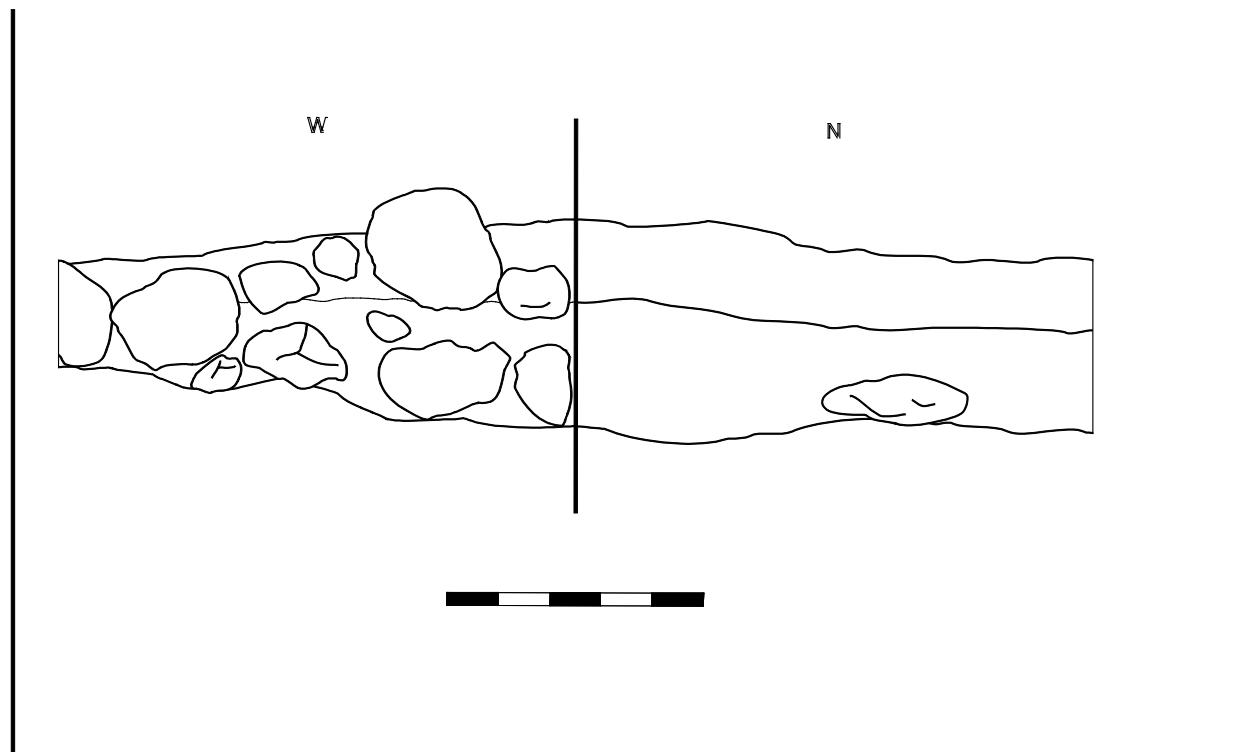


Figure 14. Chuunkatzin, Operation 1, West and North Profiles



Figure 15. Chuunkatzin, Operation 1, Backfilled

Part 2: The *Ejido* of Saban

Chapter 6: Chuunkatzin, Operation 2

Alberto G. Flores Colin

The second unit of this site is located to the south of the Structure S1W1-1, next to one of the well preserved walls of this construction (Figure 10). As with Operation 1, one of the goals to conduct this unit was to find samples from sealed lots or a construction episode with which we could establish a date for the settlement.

This operation was a 2x2-m test unit, and was excavated following natural levels (Figure 16). This unit was composed of a single level, divided in two lots, which was formed by a layer of reddish soil (10R 3/4) lacking any stone. In the northern part of the unit, bedrock or *laja* was found at few centimeters below the surface, although in the southern area a deep hollow from a root or animal revealed that in this part bedrock was located at a significant depth (Figures 17 and 18). Ceramics from the level mainly correspond to the type of Yokat Striated var Yokat from the Terminal Classic.

Due to above mentioned, it was decided to change to Level 1, Lot 2, which consisted of the same reddish sediment, but had a greater quantity of stones, ranging from gravel size (4 to 7 cm) to large blocks (50 to 70 cm). Level 1, Lot 2, concluded with the discovery of bedrock in the entire unit. Ceramics recovered from this stratum also belonged to the Terminal Classic, exemplified by samples of Yokat Striated var Yokat and Muna Slate (Figure 19).

After registry of the profiles and in general of the entire unit, using photographs and drawings (Figure 20), the backfilling of the unit was carried out to the original level of the surface (Figure 21).

Interpretation

Based on the stratigraphic evidence of this unit, one can assume that more than one occupation level did not exist. Level 1, Lot 2, seems to have been a natural level, since the large stones found within this stratum do not appear to have a particular arrangement or an apparent order; in addition to that, they do not lie in a homogeneous distribution nor at the same level. At some point into Level 1, Lot 1, there seems to have been an occupation surface of that was utilized by the builders of the settlement, although it was not very clear if there was a formal surface for a plaza. Although several Terminal Classic sherds were located within Level 1, Lot 2, their presence there could be explained by several factors, such as the removal of soil caused by the rodents that inhabit the area. An example of this action is the hole found in the interface between the lots. The sherds located within Level 1, Lot 1 may indicate a Terminal Classic date for the construction and occupation of this part of the site. The above evidence is consistent with the findings of the Operation 1 (see Chapter 5 this volume). Research in this settlement has barely begun, so there still remain many questions to be explored in future seasons.



Figure 16. Chuunkatzin, Operation 2, Surface



Figure 17. Chuunkatzin, Operation 2, Level 1, Lot 1

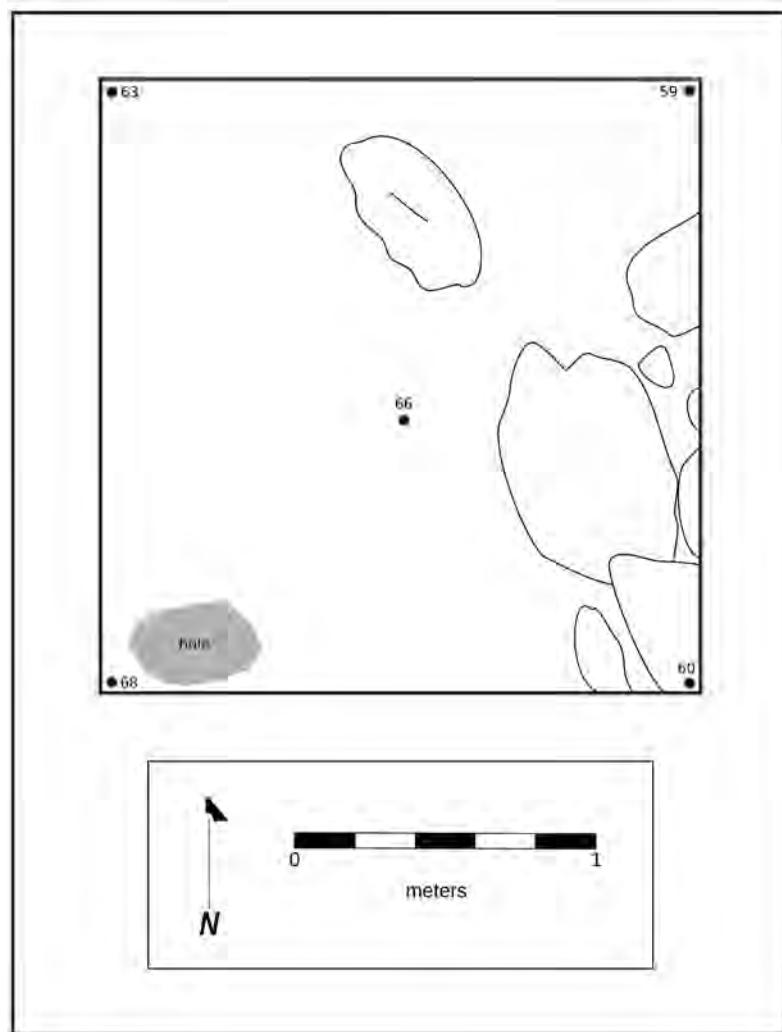


Figure 18. Chuunkatzin, Operation 2, Level 1, Lot 1 Plan



Figure 19. Chuunkatzin, Operation 2, Bedrock

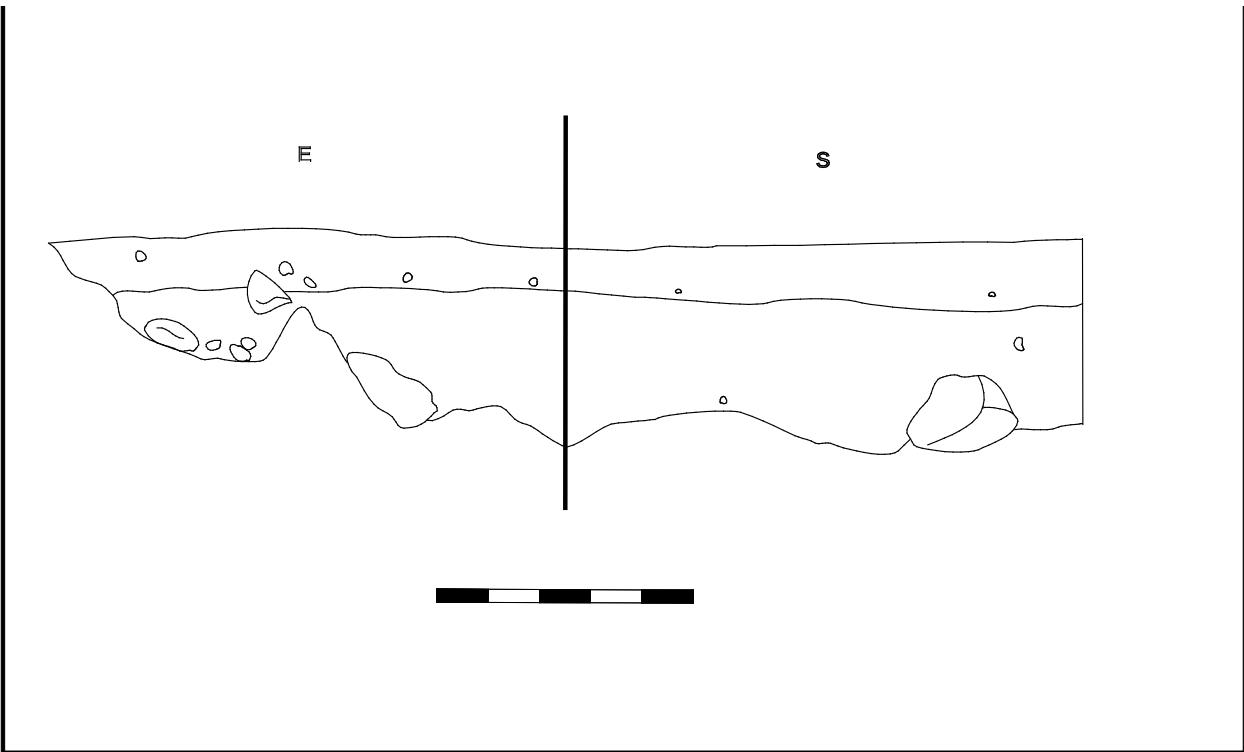


Figure 20. Chuunkatzin, Operation 2, East and South Profiles



Figure 21. Chuunkatzin, Operation 2, Backfilled

Part 2: The *Ejido* of Saban

Chapter 7: Histories that Converge through Objects: Fortín de Yo'okop, Operation 1 and 2^{*}

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The Fort of Yo'okop is located in the *ejido* of Saban, specifically in a region with peculiar topography, configured by *bajos* and elevations that were exploited, many centuries ago, by the ancient inhabitants of Yo'okop; and subsequently in military campaigns, during the government of Porfirio Díaz (1890-1910), in order to control the rebellions of the Cruzob, in the conflict denominated as the Caste War, toward the end of the Nineteenth Century and the beginning of the Twentieth.

Architecturally, the fort was a military construction of a semi-permanent nature, known as Fuerte No. 7, which is composed of a series of fortifications forming a complex system of military outposts established at the center of Quintana Roo. The fort has a regular polygonal plan, with a bastion at each corner (NW, SW, SE, and NE). Each of these bastions has a pentagonal plan flanked with curtains that join them. At the center of the west side, a rectangular area attached to the curtain that could have functioned as an observation point (battery or redoubt) that controlled the west access of the complex exists. Within the redoubt is located a series of bottles, some nailed upside down inside a foundation of stones with an east-west alignment, but others accumulated without any order. The east side of the fort contains a second access that permitted passage towards the south, directly to a slope that leads to the top of a hill, where another smaller military construction lies, as part of the same fortification complex, militarily known as the Fortín.

Inside the fort, next to what seems to be the northern face, a water well still exists adapted with pilasters and a beam to obtain water, protected in its east, west, and south faces by low walls; in its northern part there still survives a stone pavement (Martos 1998:4,4; Martos and Rodríguez, 1998:4). In the center of the fort, a series of stones alignments are located, some of which are directed towards the south side where, outside the fort itself, four rooms lie, two of which have semicircular constructions, which Martos suggests served as ovens for food or for melting war implements (Martos and Rodríguez 1998:10, 20-22). Finally, to the interior of the NE and NW bastions, two subterranean areas are present, which presumably served to store artillery or gunpowder (Martos and Rodríguez 1998:14).

This great military construction was protected by a foss or trench composed of an escarpment, bottom and counterescarpment. The fortalice, located atop of a hillock, is a construction that served as a defensive complement of the fort. It displays a polygonal plan of irregular shape, lengthened in its northwest-southeast axis, and finished with two bastions at the northwest and southeast extremes. These two bastions show an irregular plan, flanked by curtains that join them. In addition, in the northern part it contains a restricted access at an angle. The curtains or walls measure 1m wide and still preserve a height barely over 1 m. These walls seem to be simple dry walls or *albarradas*, since there's no trace of any mortar or agglutinating agent. The area where the fortalice is situated prevented a regular shape for this construction; the terrain is a hill that has been culturally modified. Prior to the fortalice, a

* See Badillo et al, "Un espacio, dos lugares: de mayas y militares, el paisaje construido en el noroeste de la región de Yo'okop " en Reporte Anual del Proyecto de Reconocimiento Arqueológico de la Región de Cochuah, Temporada 2010.

Prehispanic settlement of the ancient city of Yo'okop shaped the area, which towards the ends of the Nineteenth Century was adapted and partially dismantled to reuse the raw material for the later military constructions (the fort and fortalice).

Currently, this construction presents several alterations due to the weather; furthermore the land use that is dedicated to raising livestock and farmer activities. The access to this site is through a dirt road that goes from Saban to Dzoyola, 9 km from the first village and just south of the road.

Archaeological explorations in the place began at the end of 1990s with the works conducted by Luis Alberto Martos, which generated a planimetric map (with compass and tape measure) of the fort and the fortalice. In addition, several excavations were conducted in the west bastion, at the interior of the redoubt, in the west side of the fort, and in the section of the ovens in the southern part of this complex (Martos 1998; Martos and Rodríguez 1998).

In 2010, within the field season of this project, a topographic map (with a total station) was elaborated, in order to obtain a detailed record of the cultural and natural features that helped to define the settlement pattern, both Prehispanic (located atop the hill) and for the military complex composed of the fort and the fortalice. In addition, one of the goals was to obtain data that led us to understand the reuse of the space through time. The result of this process was two maps of each military construction that form this fortified complex, adding more information to the previous research of the 90s.

In general, the location of the military constructions corresponded to the type of terrain in which they are situated, as well as the types of raw material that were available for their construction and the type of social conflict or the amount of time that was available to organize the defense. Each one of these constructions was attended with areas that were functional and effective for those who inhabited the place. Considering that the main goal of CRAS Project is to define the presence of structures and Prehispanic activity at the site, and as a secondary objective to understand the reuse of space and the conjunction of the material evidence that converges in a same space from totally different social contexts from distinct historical times. For that reason, it was necessary to conduct various excavations to rebuild part of the history of the landscape, both Prehispanic and from the military occupation of the late Nineteenth and early Twentieth centuries.

For this reason, seven test units were carried out in the area of the fortifications: Operation 1 and 2 will be described here, while the other five operations will be described in the following chapters (Figure 22; see Chapters 8-12, this volume).

Outside the Fuerte de Yo'okop, Operation 1

Operation 1 was a 2 x 2 m test pit, positioned outside the fort and nearby the southwest corner of the redoubt, without affecting any architectural feature of this construction. This location was selected since there were no visible rocks or other architectural elements at the surface. The method used for this excavation was based on a combination of strategies; the first layers were excavated following metric levels by depth, but others by cultural levels due to the concentration of abundant materials, which belonged to different events. It should be noted that all sediment that was removed was screened and all the material recovered was properly registered.

The surface of this unit was composed by abundant organic material. Distributed in the vicinity were a few well cut stones from the collapse of the redoubt. As a noteworthy

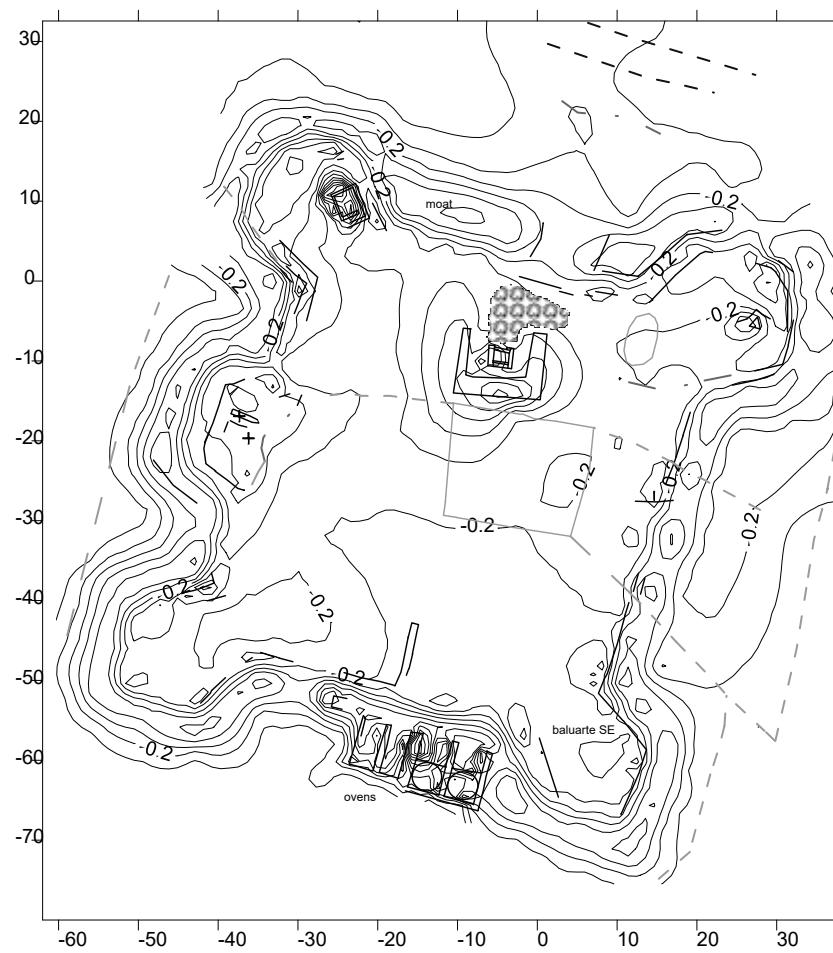


Figure 22. Fortín de Yo'okop, Location of Operations 1, 2, 6 and 7

feature, in the east end of the unit lay several rocks (of about 30 x 20 cm), which also could have come from the collapse of the bastion that delimitated the area of this excavation. Equally, within the moat, near the excavation unit were several glass bottles, scattered on the surface but without any obvious order.

The excavation began following arbitrary levels. The first level was a sediment with a sandy-clayey texture and a dark red color (7.5R 2.5 /2 very dusky red), with low compaction. This level was divided in two lots. Level 1, Lot 1 measured 30 cm at its deepest point; it was composed of the above mentioned sediment in addition to organic material and fine roots, with the exception of one large root (of 10 cm in diameter) from a *pich* tree (*Enterolobium cyclocarpum*), which crossed the pit from north to south at its west side. Furthermore, in this level several rocks (from 5 to 30 cm) were also located.

It should be mentioned that without any apparent feature, the depth of this lot was arbitrarily determined, since the sediment was the same in texture, composition, and color. The noteworthy items located at this level were more than 160 fragments of glass bottles, mainly bottle bodies, 15 bottle bottoms, and 9 parts of mouths, necks and shoulders. In addition, 3 pieces of wire (about 3 mm in diameter and 30 cm long) and a 1 mm thick piece of metal sheet (of 6 cm long) were also located (Figures 23 and 24).

Below Level 1, Lot 1 was Level 1, Lot 2, with an average depth of 16 cm. It was composed of the same kind of sediment as the previous lot, but in this lot the number of rocks decreased; two of these are large in size (about 40 to 25 cm long) with an irregular shape. Fine rootlets continued.

Outstanding materials obtained in this level are a bullet cartridge without the pod (about 6 cm long) with the inscription of "D. M. 18 97 K.", 2 screws, 1 "key" or can-opener, 5 fragments of wire and 3 fragments of cans. In addition to glassware, there were also 2 "electrical conductors" from a telegraph (of dark aqua color), with a very thick body and one with the marks of "TEL. EDF. MEX," while the other showed "BROOKE(...) NE(...)". Besides this, more than 700 pieces of glass, mostly small fragments of bodies, were located within this level. Furthermore, 22 bottle mouths, 12 bottle necks, 30 bottle bottoms, and a fragment of a tequila glass with the legend of "JOSE CUERVO GUADALAJARA" were located. In addition to those fragments, 11 complete bottles (2 colorless, 2 dark brown with the legend "PATENTED October 5, 1910 No. 4338" on part of the shoulder), and 1 slightly concave bottle bottom, and another plain fragment with a lightweight shoulder were also located.

Other interesting findings were 2 miniature green bottles and a square base (1 broken and another complete) with a circle on the bottom and marked on three of its panels with the legend of "A. HOUTMA Co. /Schiedam/schnapps," with rounded corners, and another three green bases with concave bottoms. There were also 19 fragments of cattle bones and several ceramic fragments. At the bottom of Level 1, Lot 2, it was decided to change the level, due to the color of the sediment slightly changing (Figure 25).

Level 2 was a stratum with a sandy-clayey sediment that was dark red in color (7.5R 3/3 dusky red), with several rootlets. This level was also divided in two lots. Level 2, Lot 1 had an average thickness of 13 cm, and was composed of the sediment described above, but mixed with 35 fragments of bottle bodies, 2 bottle necks, 1 mouthpiece of a square bottle and



Figure 23. Fortín de Yo'okop, Operation 1, Level 1, Lot 1

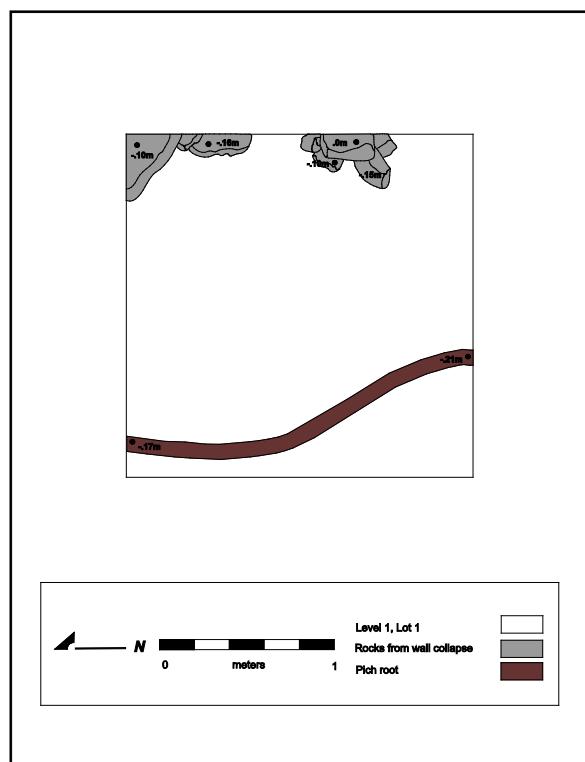


Figure 24. Fortín de Yo'okop, Operation 1, Level 1, Lot 1, Plan



Figure 25. Fortín de Yo'okop, Operation 1, Level 1, Lot 2

5 bottle bottoms. In addition to these glass materials, one cartridge without a bullet with the same mark than the one of the previous level, and 14 fragments of cattle bones with cut marks that were incised with a metal tool were found (Figure 26). Within the area of Level 2, Lot 2 was located in the northeast corner of the unit; it was only 10 to 12 cm thick. It was decided to separate this lot due to the find of a large concentration of glass material, which included more than 331 bottle bodies, one of those with straight angle, with different tonalities and sizes, 10 bottle necks (1 with bottle top), 2 bottle mouthpieces, 19 bottle bottoms, 6 broken bottles (1 without neck and 1 without base), 11 complete bottles (1 small, while the other was broken but complete), and 1 green bottle with a concave bottom.

In addition to this glass material in this same lot (Level 2, Lot 2), several metal pieces including 1 screw, 1 metal washer, 19 fragments of flat metal, and one complete but deformed cup of pewter with a white slip (of about 6 cm high with a 4.8 cm inside diameter and 9 cm outer diameter) were also located. Furthermore, one ceramic fragment was found in Level 2, Lot 2; it dates to the Terminal Classic, Yokat Striated type, Yokat variety. Once that all these materials were removed, it was decided to change to the following level due the lack of concentrated cultural material (Figures 27 and 28).

The following layer, Level 3, was defined due the reduction of the located material, compared to the previous level, and was a sandy-clay red sediment (2.5 YR 4/6 red). This Level 3 was divided into three lots described below.

Level 3, Lot 1 is formed by the sediment previous mentioned with an average thickness of 14 cm with several yellowish red clods of clay (7.5YR 6/8 reddish), as well as very fine rootlets. In this lot several metal materials were found; these consisted of one 12.5-cm-long key, 2 cylindrical cans (one that was 10 cm tall and 7.5 cm in diameter, while the other was 6 cm in diameter and 4.4 cm tall), 1 metal piece, possibly the cover of a can, that was a circle 4 cm in diameter, 1 bar that was 6 cm in diameter (1.5 cm wide and 6 mm thick), 7 screws with highlighted heads (5.5 cm long), one of those with a washer (2 cm in diameter), 1 metal sheet that was 1 mm thick that shows slight relief, 1 wire (2 to 3 mm in diameter and 10 cm long), several edges of cans (2 cm in width), and 1 metal fragment 2 to 3 mm thick (and 3.5 cm wide), recessed in a handle (possibly from a machete or a knife). In addition several glass materials that included about 400 fragments of bottle bodies, 3 broken bottles (one of these with a square base), 12 bases and 9 complete bottles were found. Furthermore, 1 piece of broken porcelain, as well as 33 fragments of skeletal remains and 1 tooth of diverse fauna were found. Other materials located in this lot were lithic pieces, some fragments of badly preserved stucco, and a few ceramic sherds (Figures 29 and 30).

Below the previous lot was Level 3, Lot 2, a 19-cm strata that was formed by the same sediment as Lot 1, but this time with a large quantity of irregular rocks (about 5 to 30 cm long), which were distributed intermittently across the unit without any particular arrangement. Among these rocks several fragments of stucco and occasionally small pieces of carbon were found. Materials found within the lot were 3 circular cans (one can of 7.5 cm in diameter, another of 11 cm, and the last was rectangular measuring 10.5 by 7.5 cm and 2 cm in thickness). Other metal objects included 2 wires (of 3 and 4 mm in diameter, with 50 and 31 cm in length respectively), 2 metal fragments possibly part of the cover of a can, 1 metal tape of 32 cm long (4 mm thick and 4.5 cm wide, but rolled), 15 fragments of bone remains (some



Figure 26. Fortín de Yo'okop, Operation 1, Level 2, Lot 1



Figure 27. Fortín de Yo'okop, Operation 1, Level 2, Lot 2

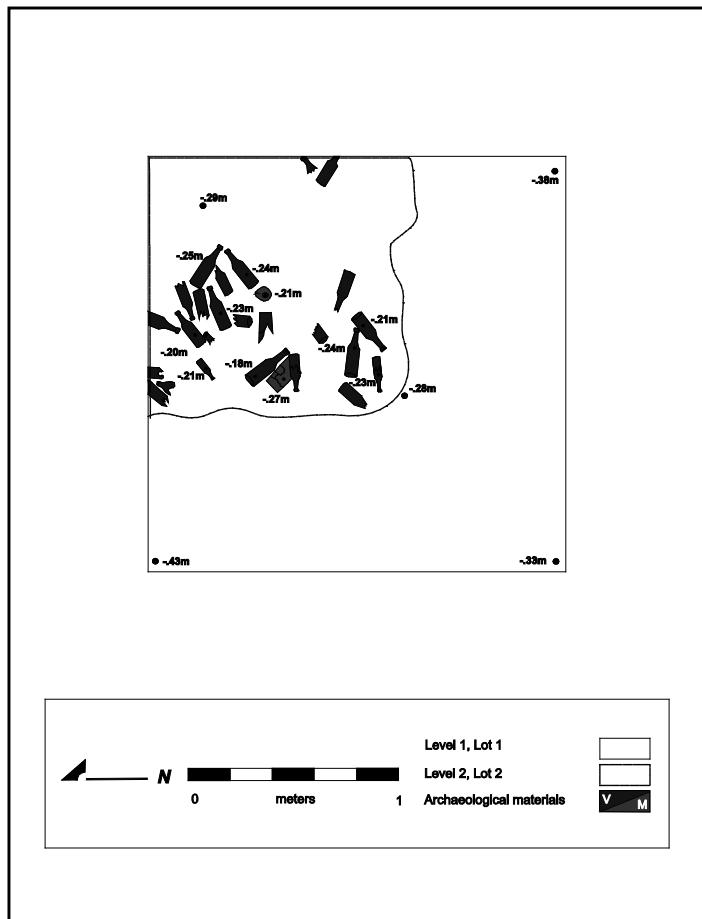


Figure 28. Fortín de Yo'okop, Operation 1, Level 2, Lot 1 and Lot 2, Plan



Figure 29. Fortín de Yo'okop, Operation 1, Level 3, Lot 1

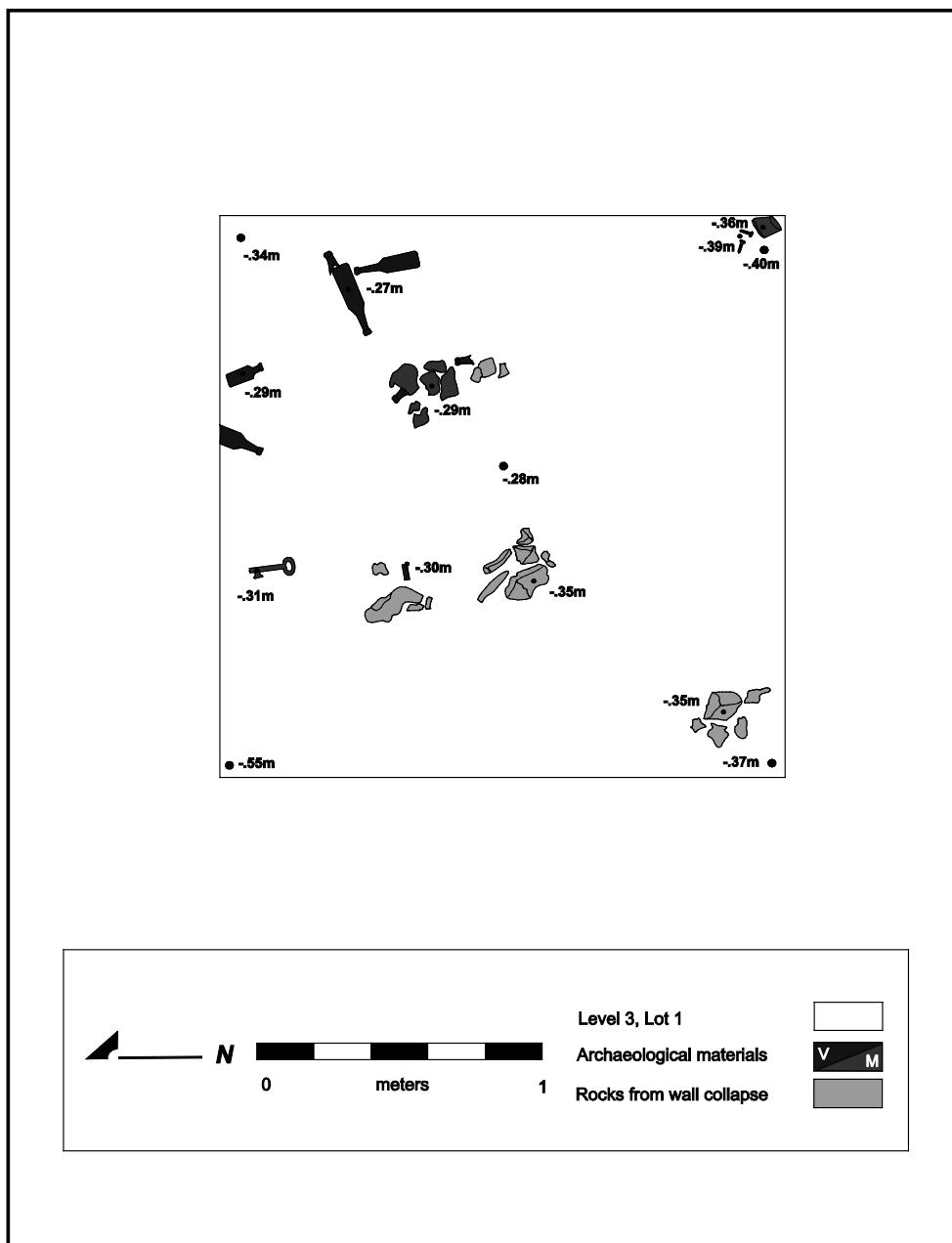


Figure 30. Fortín de Yo'okop, Operation 1, Level 3, Lot 1, Plan

of these are ribs), 3 complete bottles (2 with a flat bottom and another with a concave bottom), and 1 bottle base, perhaps from a wine bottle, as well as 30 fragments of glass bottles (Figures 31 and 32).

Level 3, Lot 3 was a thin layer (around 10 to 15 cm in thickness) of the same sediment, but with a significantly fewer rocks and abundant stucco fragments that were not well preserved. Most interesting finds are 3 fragments of bottle bodies of glass (2 green 1 colorless), one wire (of 7.5 cm by 3 mm wide), 1 razor of 11.5 cm in total length, a metal sheet measuring 2 cm in width by 6.5 cm long, 6 cattle bones, and a few ceramic sherds (Figure 33).

The quantity of stucco fragments increased; therefore, it was decided to change to Level 3, Lot 4. This layer was 13 cm thick, formed by the same sediment than the previous three lots, and a large concentration of stucco (of about 28 sq cm) located in the eastern portion of the pit, mixed with rocks roughly 5 to 25 cm in size. The majority of the stucco had an irregular form, but a few fragments were well preserved and were adhered to some flat rocks. Also, there were several glass bottles fragments, 1 piece of faunal bone, and 1 metal piece (Figures 34 and 35).

After the removal of the stucco (Level 3, Lot 4), Level 4 was detected as a different sediment, more clayey and red (2.5 YR 3/6 dark red), mixed with some small stones. This level was divided in three arbitrary lots because of the continuity of the same soil and the scarce presence of cultural elements. Level 4, Lot 1 was 30 cm thick, and was located in the west side of the unit. Possibly this was the surface upon which the fortress was originally built. With regards to the findings within this level, one metal appliance with two pieces that assemble into a long handle can be mentioned; furthermore, an incomplete scissors and 1 hoop of scissors, 2 cartridges without bullet (with the mark "D.M. 18 97 K", of 6 cm long), 4 unidentified metal fragments, and 1 half circle of metal were found. Also, 1 fragment of a green bottle, in addition to 73 bottle bodies, 2 bottle necks, 2 bottle bases and 4 bottle mouth were discovered. Bone remains were from cattle, including 1 phalange of a cow, 1 humerus fragment, 1 possible humerus, 3 possible ribs, 1 cow hip bone, and 9 unidentified bone fragments. The majority of these fragments show cuts made with a metallic instrument (Figure 36).

The following lot (Level 4, Lot 2) was 30 cm thick, and was composed of the same reddish sediment mixed with several lenticules of a clayey and dark soil (10R 3/1 dark reddish gray). Only a circular and incomplete lid of colorless glass, and several bony remains (as 1 cattle vertebra with cut traces made with a metallic object) were the findings within this lot (Figure 37). Level 4, Lot 3, was 15 cm thick and was part of the same red soil with dark lenticules and several rootlets, but with no artifacts or cultural material (Figure 38).

This operation was concluded when an average depth of 1.70 m was reached. It is necessary to point out that since the previous 40 cm there had not revealed any artifacts or cultural materials. Although bedrock was not reached with this excavation, it was decided to conclude this unit since this was a sterile stratum. Perhaps the bedrock or *laja* lies at more than 5 m deep, as can be confirmed in the walls of the water well, located in the interior of the fortress, next to the north wall (Figure 39).



Figure 31. Fortín de Yo'okop, Operation 1, Level 3, Lot 2

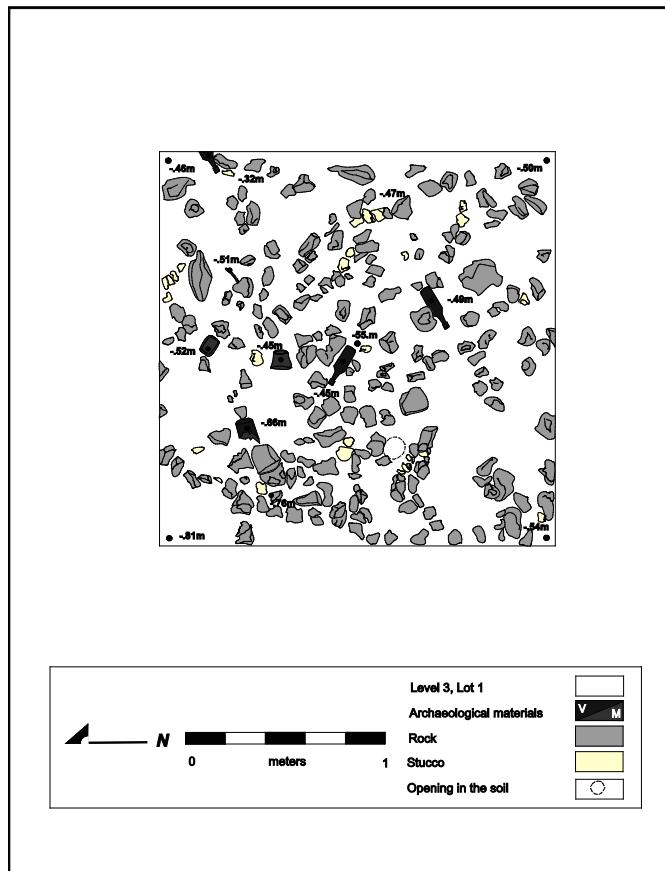


Figure 32. Fortín de Yo'okop, Operation 1, Level 3, Lot 2, Plan



Figure 33. Fortín de Yo'okop, Operation 1, Level 3, Lot 3



Figure 34. Fortín de Yo'okop, Operation 1, Level 3, Lot 4

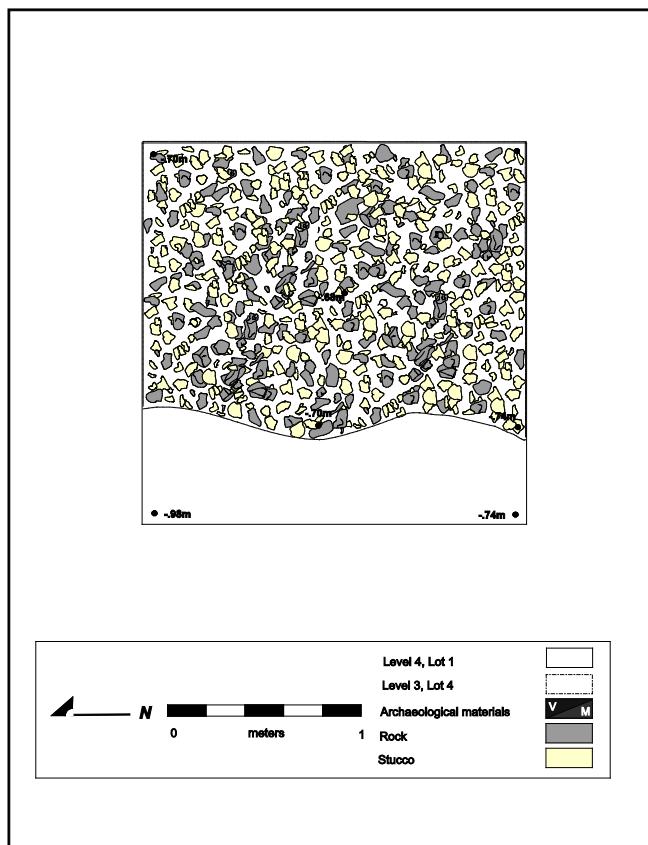


Figure 35. Fortín de Yo'okop, Operation 1, Level 3, Lot 4 and Level 4, Lot 1, Plan



Figure 36. Fortín de Yo'okop, Operation 1, Level 4, Lot 1



Figure 37. Fortín de Yo'okop, Operation 1, Level 4, Lot 2



Figure 38. Fortín de Yo'okop, Operation 1, Level 4, Lot 3



Figure 39. Fortín de Yo'okop, Operation 1, End of the Excavation

After the relevant registration (photographs and drawings), the excavation was backfilled to the original level before the intervention. The stucco debris and rocks were placed respectively in the level that were found. At the bottom of the excavation, modern material was placed to mark the maximum depth of this excavation for a future reference (Figures 40-43).

At the Interior of the Fortress of Yo'okop, Operation 2

Operation 2 was a 2 x 2 m test pit, located in the interior part of the Fortress of Yo'okop, at 2.09 m from the north wall, to the east of the SW Bastion. It was located in the mentioned area to avoid a zone with several trees, located in the SW Bastion.

This excavation was conducted through a combination of cultural and arbitrary levels. In the surface of the unit, a lot of organic material coming from the nearby trees was found over a dark color soil (5R 2.5/2 very dusky red). Level 1, was an arbitrary level of a reddish sediment, sandy-clayey in composition and dark in color (5R 2.5/2 very dusky red), mixed with several rootlets. This level was divided in four lots.

Level 1, Lot 1 was 25 cm thick and composed of the same sediment described above, in addition to abundant fine and medium roots, and 5 percent small stones from 10 to 5 cm in size. Among the collected materials were 3 pieces of wire, one of them twisted (4 to 5 mm in diameter), a handhold of wire about 36 cm long (from a pot or bucket), 1 fragment of rectangular tin (6.5 cm in width), 1 small spoon (14.5 cm long and 1.6 cm at the wider part of the handle, and 5 mm near to the basin it was 3 cm in width by 4.8 cm long). Another metal finding was a blue handle fragment (15.5 by 2 cm), possibly from a pot of pewter, as well as two pieces of foil (of 1 mm in thick), and more than 90 small metal fragments, several very thin with a smoothed and dark surface. Regarding ceramic material, although the majority of sherds belong to the Terminal Classic, a single Chen Mul Modeled sherd dates this lot to the Postclassic (Figure 44). Due to the continuity of the sediment, it was decided to arbitrarily divide out another lot (Level 1, Lot 2), with a 20 cm thick layer. In this level, a bolt with a rounded head, 4 fragments of unidentified foil, 3 of which are very thin with a smooth and dark surface, were the metal items located. In addition, a bone fragment, possibly from cooked pork, as well as several ceramics sherds, were also found (Figure 45).

The following layer, Level 1, Lot 3 (Figure 46), was 20 m thick and formed by the same soil described above. Within this lot, 2 small fragments of metal (less than 1 mm thick) were located; furthermore, 3 fragments of bottle bodies of glass were found. One of these was very thin opaque and obscure, in addition to several ceramic fragments. The fine roots continued but in smaller proportion, as well as 5 percent small stones. Within this lot, a cultural element registered as Level 1, Lot 4 was discovered (Figure 47).

Level 1, Lot 4 was located in the SW corner of the pit; it was a concentration of stones from 4 to 20 cm in size, mixed with a reddish soil (2.5YR 3/4, dark reddish brown). Level 1, Lot 4, was 20 cm in depth, but its total depth is unknown; probably it had a circular shape. It was not possible to define it, because it went toward the west and the south profiles. Some stones had gray tone colors (5YR 6/1, gray), evidence that they may have been exposed to fire. Another important feature of this element is that it was found in an area (of 18 x 22 cm) that contained small chunks of carbon mixed with soil, in addition to a piece metal (about 1 to 2 mm thick and approximately 40 cm long), which was noted in the eastern profile, lying horizontally over the carbon lenticule. It is not known what the dimensions of this piece of



Figure 40. Fortín de Yo'okop, Operation 1, Backfilled



Figure 41. Fortín de Yo'okop, Operation 1, North Profile



Figure 42. Fortín de Yo'okop, Operation 1, East Profile

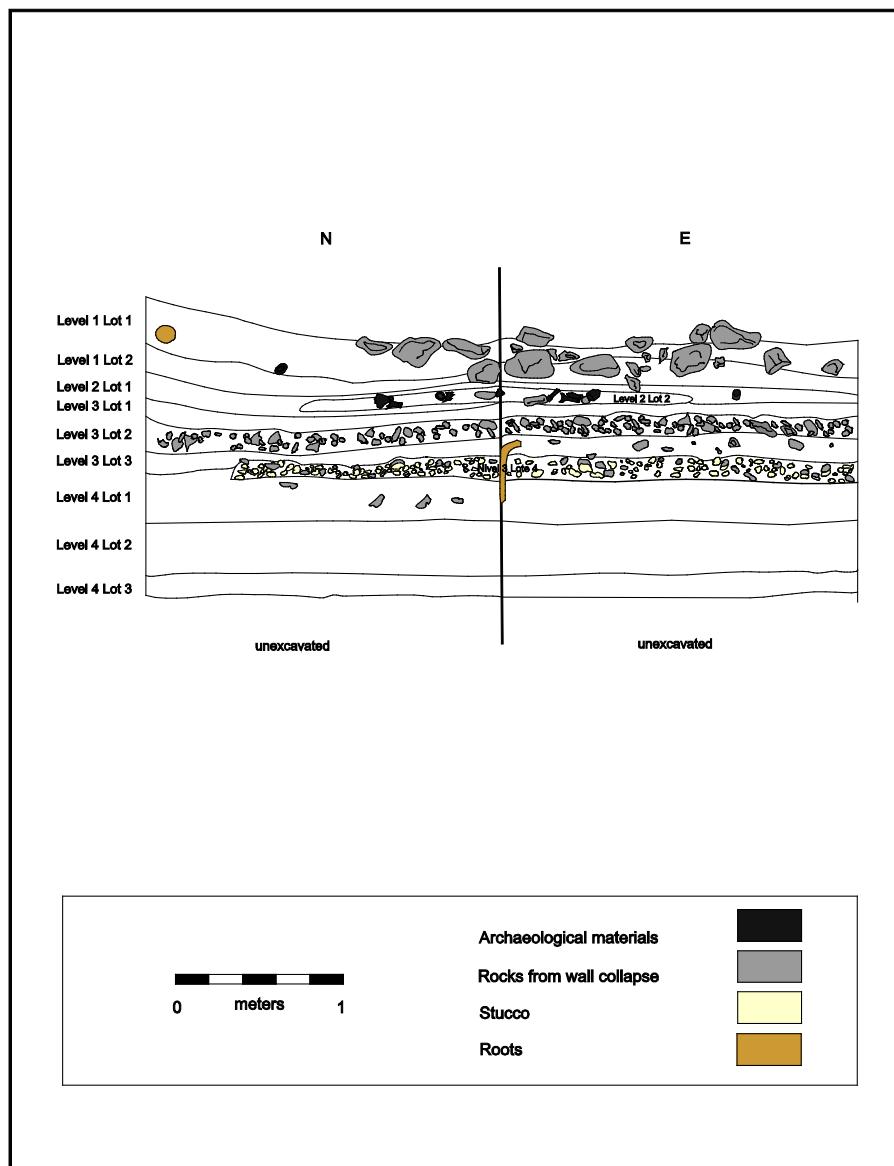


Figure 43. Fortín de Yo'okop, Operation 1, North and South Profiles



Figure 44. Fortín de Yo'okop, Operation 2, Level 1, Lot 1



Figure 45. Fortín de Yo'okop, Operation 2, Level 1, Lot 2



Figure 46. Fortín de Yo'okop, Operation 2, Level 1, Lot 3



Figure 47. Fortín de Yo'okop, Operation 2, Level 1, Lot 4

metal are, as it was in the southern profile, outside the excavation area. It should be noted that this cultural element, defined as a firebox. Since this was a cultural feature, it was consolidated (with a 1:1 mixture of lime with sascab, and local red soil as a colorant in the mixture), in order to ensure the stability and maintain it *in situ* as it had been found. Materials within this lot were a very thin fragment of brown-colored glass, and several pottery sherds (Figures 48 and 49).

Below Level 1, Lot 3 is Level 2, Lot 1, a layer of 10 m thick, with a silt-clayey red sediment (2.5 YR 3/6, dark red). Within this level, the majority of the sherds located came from the Terminal Classic, with Muna Slate being the most representative type; however, there were several sherds from the Preclassic (Figure 50).

Since the color of the sediment changed (2.5 YR 4/6 red), furthermore becoming more clayey in composition, it was decided to designate a new level (Level 3), that was divided into three arbitrary lots due to the continuity of the same sediment.

Level 3, Lot 1 was 30 cm thick and contained only a few sherds of pottery (Figure 51). Level 3, Lot 2 was 50 cm thick and has the same kind sediment, of a reddish color (2.5 YR 4/8 red), mixed with several fine rootlets. Only a short section of this stratum was excavated (about 1 x 2 m, the northern side). The archeological material decreased substantially, since just 7 ceramic sherds were found (Figure 52).

The next lot (Level 3, Lot 3) was excavated for 50 cm, but with the same sediment described above. At the beginning of this layer pottery sherds were found, although later no type of archaeological materials was recovered. Therefore, it is considered that this was a sterile deposit, at least for the Nineteenth Century and the beginning of the Twentieth.

After the above-mentioned process was concluded, Operation 2's excavation process finished at 2.20 m in depth. At the bottom of this unit, several modern plastic objects were placed, in order to mark the maximum depth of the excavation for future reference. After the proper registration, the unit was backfilled with the same sediment that was extracted previously (Figures 53-60).

Interpretation

This unit of excavation (Operation 1) located in the exterior part of the fortress to the southwest of the fortification, at the bottom of the ditch, shows evidence of two events. On one hand, it exhibits the surface of the ditch that possibly was contemporary with the fortress and, on the other hand, evidence of the destruction of the wall of the frontal fortification after local abandonment and subsequent taphonomic processes.

Near the end of the Nineteenth Century and the beginning of the Twentieth, the frontal fortification was an area of surveillance or stronghold, located between the Northwest Bastion and the Southwest Bastion of the fortress. This was the most protected area, which functioned as a surveillance point. From its exterior, if observed from the frontal area over its wall, dressed in white stucco was a sign with the official name of this place "Fuerte No. 7," as can be observed in a 1901 photograph (from the photo album of the campaign of General Bravo). At that time, the area of the fortress was an open space, roofed with poles and guano, delimited in its northern, western and southern sides by a wall (about 1 m wide), secured during the day and night by guards.



Figure 48. Fortín de Yo'okop, Operation 2, Cultural Feature, Firebox

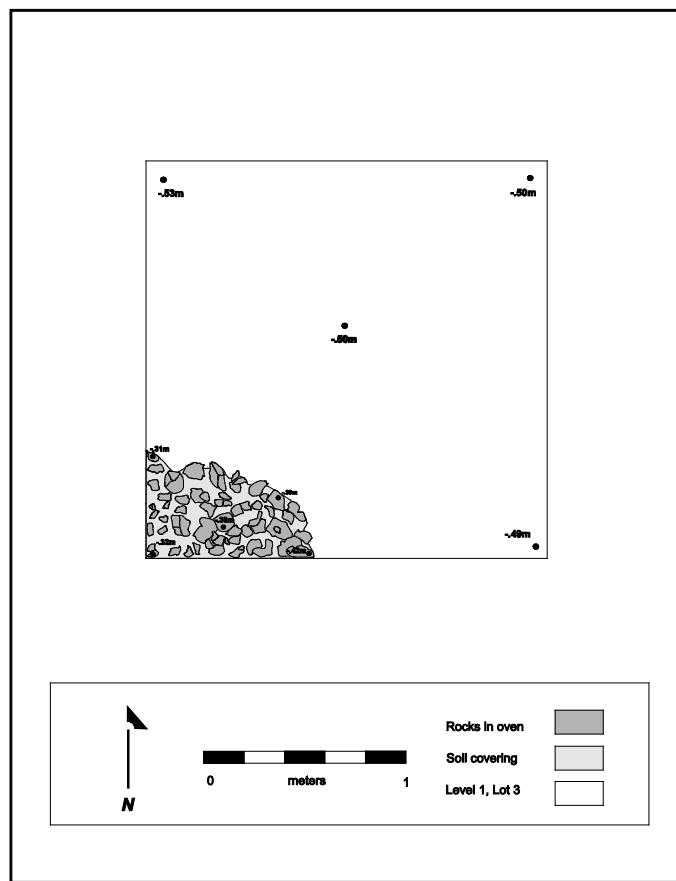


Figure 49. Fortín de Yo'okop, Operation 2, Level 1, Lot 3 and 4



Figure 50. Fortín de Yo'okop, Operation 2, Level 2, Lot 1



Figure 51. Fortín de Yo'okop, Operation 2, Level 3, Lot 1



Figure 52. Fortín de Yo'okop, Operation 2, Level 3, Lot 2 and 3



Figure 53. Fortín de Yo'okop, Operation 2, End of Excavation



Figure 54. Fortín de Yo'okop, Operation 2, Backfilling Process



Figure 55. Fortín de Yo'okop, Operation 2, Backfilled



Figure 56. Fortín de Yo'okop, Operation 2, West Profile



Figure 57. Fortín de Yo'okop, Operation 2, South and West Profiles



Figure 58. Fortín de Yo'okop, Operation 2, North Profile

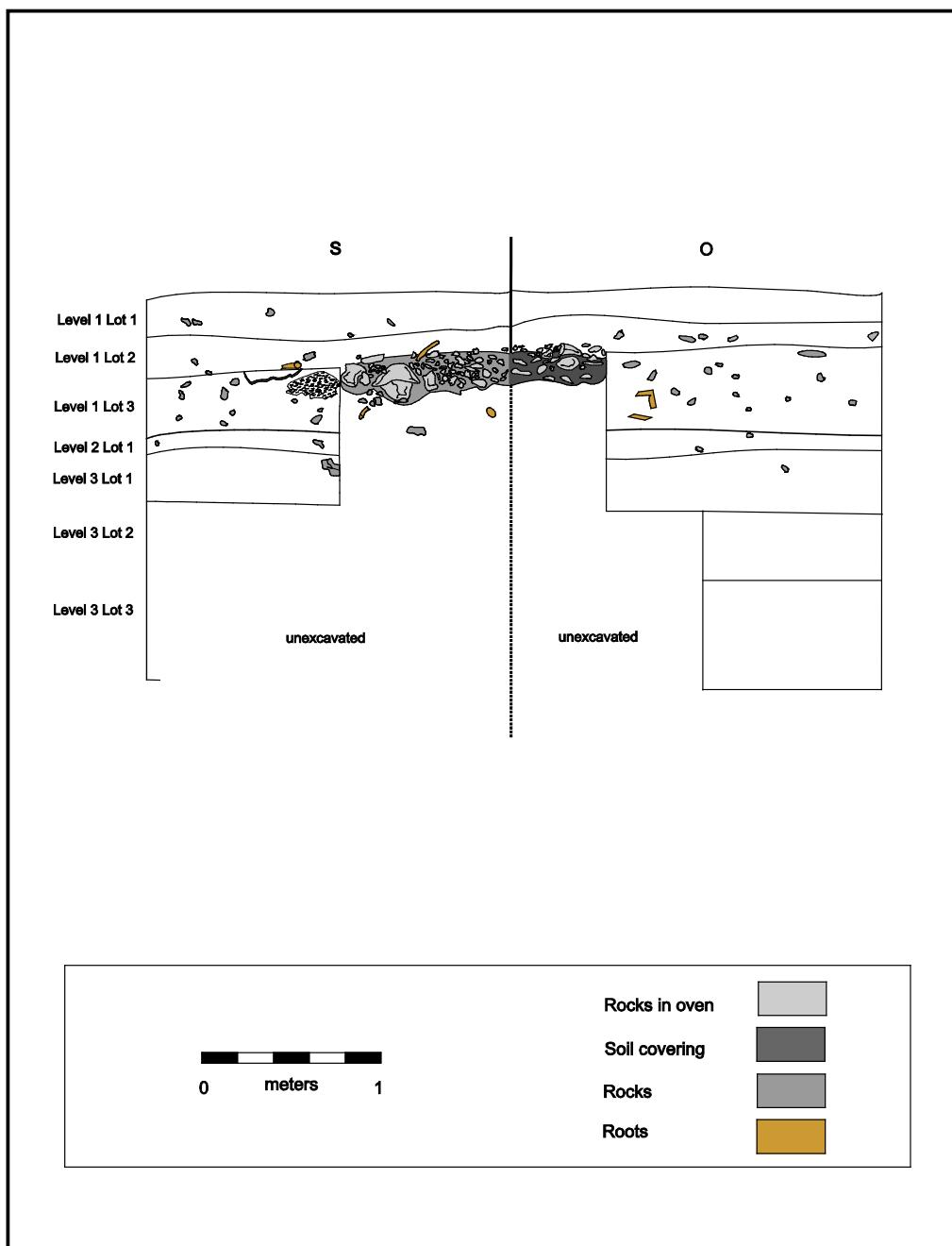


Figure 59. Fortín de Yo'okop, Operation 2, South and West Profiles (illustration)

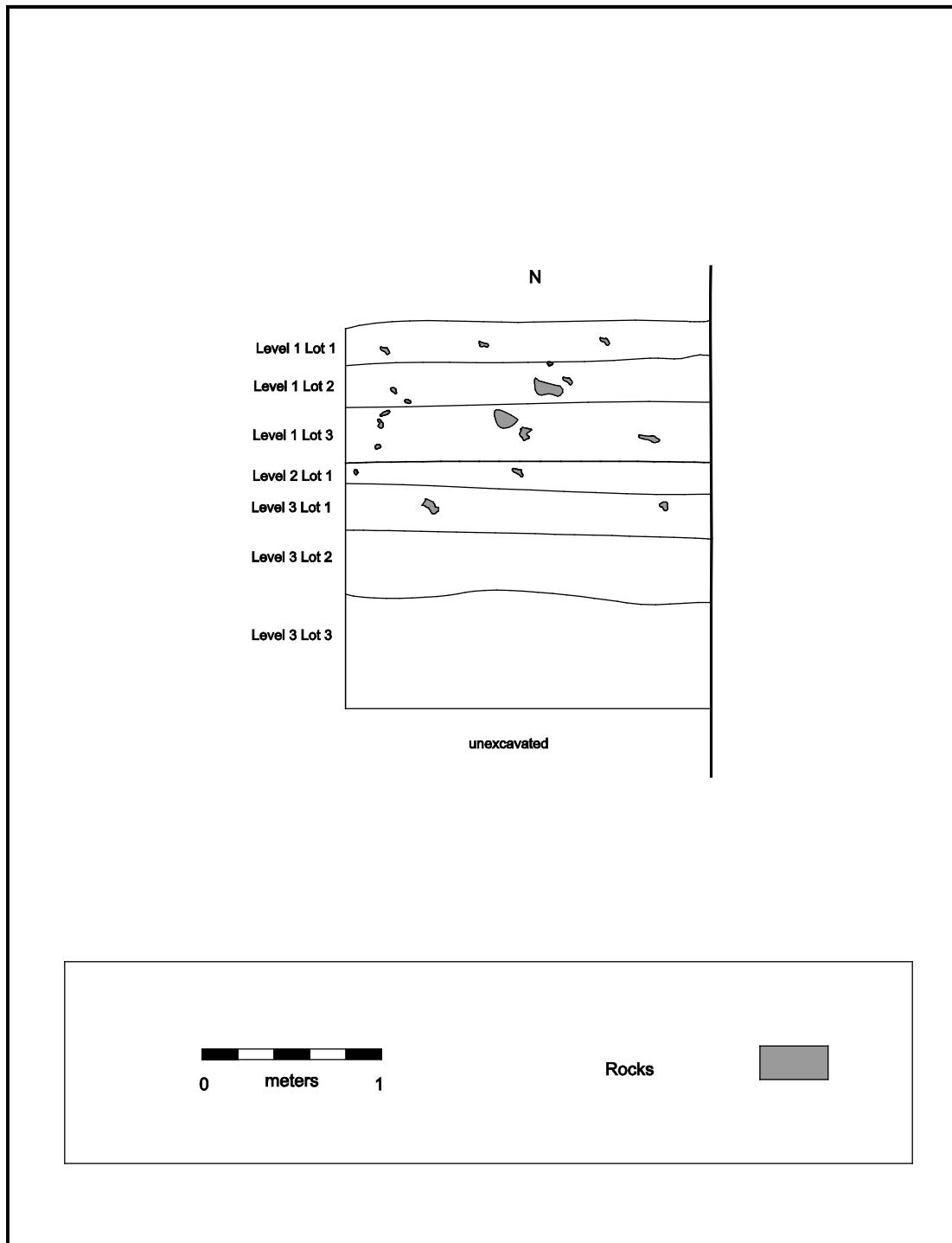


Figure 60. Fortín de Yo'okop, Operation 2, North Profile (illustration)

To the north of this access, there the western access for the fortification was located, fenced with a wooden door, one of two ways to access the fortress. After the abandonment of this place, after the Caste War was concluded, at the beginning of the Twentieth Century, the military activity in the area diminished. At present, in the interior of the stronghold, several glass bottles are located, some of these are colorless, others green in coloration, and a few more amber. The bottles have flat bottoms, sinuous and concave, with long and short necks, simple or compound mouthpieces; some are lying with the bottom exposed to the air, at the same level as the surface and many others accumulated over the level of the surface, mainly towards the eastern part of the stronghold.

The excavation of the unit helped to reveal the possible surface of the ditch, on which there were the remains of the smoothed stucco and the rocks that at some time shaped the west wall of the stronghold, named Level 4 Lot 1 (located 1 m under the current level of the unit). Between the above-mentioned findings, we can know what activities were carried out in this area, outside of the military order, but part of the daily life of the federal soldiers. These findings include barber's tools: a metal object that was a part of a razor machine of the ends of the Nineteenth Century, composed of two pieces assembled with nuts and a long handle, in addition to two incomplete scissors, and a razor for shaving with a handle of exposed metal. It is probable that this type of activity was carried out in the stronghold or for those military men who had to be in shift in the point of watchtower, or some persons external to the fortification may have offered this type of service to the military soldiers, perhaps as part of the commercial activities.

With the various found objects, we can observe the kind of ammunition the military had. Several of these were made in Germany, by Deutsche Metal by Patronen Fabrik in Karlsruhe. The caliber was a Mauser 7 x 57 mm that dates from the year of 1897 (it has the inscription of "D. M / 18 97 / K" on the bottom). In the excavation unit, three of these items were found at different depths, made of brass and without the bullet - that perhaps was made of brass, lead or copper-, which indicates that they were detonated, in addition to having a mark at the center of the base of the cartridge. This type of cartridge was used in weapons, such as the model called the "Mexican Mauser rifle," model M1895 manufactured by Deutsche Waffenund Munitions Fabrik (DWM), a model that distinguished itself because it has the national shield printed with a stamped roller. Additionally, toward the end of the Nineteenth Century, this ammunition was used in the "Mondragon rifle," a semi-automatic and automatic rifle designed by General Mondragon.

It should be noted that the Mauser rifles (7 mm) were the official weapon of the federal army, easy to buy in the United States because the company had an establishment in New York, and sold retail in any part of the country, unlike the Maya, who had rifles that were loaded by the mouth, as well as machetes (Reed, 2007:235).

Under the collapse of the wall, 73 shards of glass bottles were found, in addition to 2 bottle necks, 2 bottle bottoms and 4 bottle mouths, and a cover of colorless glass possibly from a jar. Furthermore, several skeletal remains of animals were located (that includes ribs, fragments of humerus, etc.), the majority of which presented marks that had been cut with metal objects. It is likely that the bones are the remains of the diet of the soldiers, often acquired while are safeguarding the stronghold.

In the site, there are also fragments of Prehispanic ceramics; furthermore, if we consider that to the south of the fort, on the hill where the fortalice is located, is a well-defined Prehispanic settlement consisting of three structures that served as a foundation for the federal fortification structures. In addition, in the water well located at the interior of the fort, it is possible to observe that its construction is made of a series of ashlar stones that, as they approach the water mirror these changes in shape and size, perhaps indicating the level of the Prehispanic occupation of the site.

With the above mentioned, it is interesting to find in these two excavations several fragments of ceramics dating from the Preclassic to the Postclassic (see Chapter 47), that indicate that those levels are contemporary with the Prehispanic site, although it cannot be ruled out that these ceramics can also have been used or reused to the end of the Nineteenth Century and the beginning of the Twentieth.

Level 3 and its four lots show that, once abandoned by the first decade of the Twentieth Century, the fort began to suffer the ravages of time, to be consumed by the forest. Those walls and bastions, impressive defensive work, were crumbling into ruins. The west wall of the stronghold collapsed toward the outside, falling into the bottom of the ditch. In the excavation, it was noted that the process of deterioration began when a large part of the flattening of stucco wall fell in fragments, and subsequently the rocks that formed the west wall were falling to deform this military construction.

The collapse of the wall of the redoubt or stronghold caused instability in its interior; in the absence of a retaining wall, materials that were within, over the passage of years, were falling to the outside.

It is within Level 2, Lots 1 and 2 that we find the greatest amount of materials that were collected from this excavation, materials that show the quantity and type of the liquids that were ingested by the military in campaign, which included domestic and imported products. More than 700 fragments of glass bottles, 22 bottle nozzles, 12 bottle necks, 30 bottle bottoms, and more than 10 complete bottles of different types were included in the finds of this lot. Among the bottles, the majority had round bases, some with concave and convex forms and of a green tone possibly containing wine; colorless bases and a flat bottom, perhaps packaging for beer, soda, tequila, or mineral water; and 3 of brown coloration that may have contained dark beer. This has the legend of "PATENTED October 5 1910 No. 4338" in one part of the shoulder. Other beverages consumed by the soldiers that were clearly evidenced were three bottles of square base (a full bottle, two bottles and one bottle body) with rounded corners and a legend over three of its panels of "A. HOUTMA * Co. / Schiedam / schnapps," an alcoholic drink from Netherlands from A. Houtma Co. In addition, and as an example of a national beverage, the base of a tequila glass, with the legend "JOSE CUERVO GUADALAJARA" was found within this lot.

In this arduous enterprise of federal defense, they were at a disadvantage by being in a distant location and exposed to the weather. Furthermore, they were exposed to the attacks of the Cruzob. During the government of Porfirio Diaz, the Caste War was in progress, the same movement that had started in 1847. However, it was not until the end of the Nineteenth Century that it was entrusted to General Ignacio Bravo's company for the defense of the southern part of the territory, when the Cruzob had been surrounded and isolated from the chain of arms procurement of the English (Reed 2007: 233).

Once the soldiers were installed in the Fort No. 7 -or the Fort of Yo'okop as is currently named- in 1899, they used the telegraph to communicate with the city of Merida, and with the capital of the Republic (Mexico City) to report on their progress, the needs of the troops, or perhaps on the actions of the Cruzob.

There was also an extensive telegraphic network of poles that followed the railroad tracks, or in its absence, the trace established by the line of military advance. In Operation 2, two telegraph insulators were located: glass artifacts (of a dark aqua color and with very thick walls) that were placed at the top of the poles, and served to withstand and isolate the electrical current. One of these artifacts is marked with the abbreviations "TEL. EDF. MEX" (Mexican Federal Telegraph), while the other with the letters "BROOKE (...) NE"(...), apparently both are a CD 133.5 model, manufactured by The Brookfield Glass Company. In the interior of the fort, there must have been the necessary inputs as well as a specialist technician or telegraphers to receive and send messages in order to communicate with the above-mentioned cities.

At this level of the excavation, some fragments of wire and screws that are probably been part of the network of telegraph poles were also found. Other metal objects were located; some of these were provisions that the military had, as different types of canned foods, evidenced by circular cans of various sizes, as well as by rectangular cans (of 2 cm high), possibly imported. Some cans were opened by small keys, while with others it was necessary to make cuts with a knife to form an "X", in order to extract the contents. It is noteworthy that an old key, which may have been used to lock a door or a lock, was found. Among the kitchenware, a pewter cup coated in white, and a small porcelain bowl were found.

In the interior of the fort of Yo'okop, two excavation units were conducted: Operation 2 and 6. Operation 2 was located east of South Bastion. Formerly, this was a covered area with an elongated structure (with its major axis aligned in a west-east direction), gable roofed, as well as all the quadrangle of the fort as can be seen in an old photograph (from 1901). Operation 2 was located in the South Hall or roofed area, while Operation 6 was located below the Central Hall. It has to be noted that, in the fort, semi-permanent camps were established, which accommodated, according to Reed, four federal battalions (the 1st, the 6th, the 22nd, and 28th). Furthermore, the Yucatecan national guard units, engineers, guards and 400 workers (Reed 2007:234), and perhaps also bakers, cooks, nurses, and others were present.

Inside the fort, there was order of planning of the spaces and activity areas. The southern part of the fort, adjacent to the furnace area, is located outside of the fort wall. Therefore, we speculate that this southern area may was dedicated to feeding activities. Within Operation 2, located in the South Hall area, a small stove was located, probably just over a meter in diameter, made of small stones joined only with sediment, associated with a sheet of metal, located to the west of the fire, and an area with small fragments of coal beneath it (registered as Level 1, Lot 4). Future excavations will help to test and to study this hypothesis in depth.

On the same level, but in different lots (Level 1, Lot 1) metal objects that can direct the interpretation of the function of the stove, mainly related with the food preparation (several wire fragments, a wire lug from a pot or pan, a rectangular tin fragment, a teaspoon, a wide handle, a handle with a blue surface of pewter, two fragments of a metal sheet, and more than 90 small metal fragments) were located.

Furthermore, in Operation 1, we have one piece of fine orange ceramic, which according with Johnstone has, probably, a Prehispanic origin (although these sherds could not be identified) (see Chapter 47 this volume). Also, in Level 1, Lot 2 a few rounded head screws, one bone fragment, possibly from a cooked pork, and several fragments of Prehispanic pottery (not identified) were found. In the next two levels, only fragments of Prehispanic ceramic were found.

The data obtained from this unit (Operation 2) points that this area was dedicated to serving, cooking, and/or heating food for the militia that occupied the area. This interpretation could be reaffirmed by its proximity to the area of the ovens. While the data about these activities related with the preparation of food from this unit are limited, it is valid to say that there should be other areas dedicated to these activities since the finds are not enough to fulfill the needs of the federal soldiers; therefore, there must have been a larger area specializing in food preparation.

Surveys and excavations in this region of the *ejido* of Saban will continue the following season. These excavation units give us the opportunity to generate more questions; furthermore, they give us insights into at least a small part of the occupational history of this settlement, as well as about the daily lives of the soldiers that occupied the fort, in addition to the processes that occurred in this unique place. However, further exploration is still needed to better understand the Prehispanic occupation that was the destroyed and reused to construct the architecture of the Nineteenth Century, serving as the foundation for this great military fortification.

Part 2: The *Ejido* of Saban

Chapter 8: Fortín de Yo'okop, Operation 3

Justine M. Shaw

Operation 3 at the Fortín de Yo'okop was a 2x2-m test pit located to the north of Structure N1E1-1, near a Puuc-style wall that had been revealed by looting (Figure 61). The operation was designed to explore the material banked against the wall without actually touching the wall itself, which might have destabilized it. It was hoped that sealed lots could be retrieved from the unit, providing a date for the Classic Maya occupation(s) that preceded the Caste War fortifications.

Operation 3, Level 1, Lot 1 consisted of organic sediment (5YR 3/2 dark reddish brown), as well as roots from nearby trees (Figure 62). A limited number of ceramics dating to the Terminal Classic were present, likely ejected during the looting episode, were present. A limited number of Late Formative and Late Classic sherds were also recovered, probably included as fill in the terrace itself. The level was concluded after 5-12 cm, when a color change was revealed.

Level 2 contained lighter brown (7.5YR 5/2) and gray (7.5YR 6/1) material that also came from the adjacent looting; it also contained chunks of plaster floor and small cobbles. These were mixed throughout the matrix, likely chunked out from a floor during the looting. Ceramics dated to the Early Classic.

At a depth of 25-40cm, the remainder of a partially intact plaster floor was found (Figures 63 and 64). Although it was breached in three locations, probably through the growth of trees in the past, it retained either good surface (7.5YR 6/2 pinkish gray) or intact plaster subsurface for most of the unit. The three locations without plaster were then excavated as Operation 3, Level 3, Lot 1 to a depth of approximately 50cm, when larger rocks were revealed; ceramics from this unsealed lot dated to the Early Classic, likely as a result of infill from later disruptions. Operation 3, Level 3, Lot 2 was a sealed unit containing material from under the intact floor to this same depth. Based upon the most recent sherd, this floor dates to the Terminal Classic, although the majority of the sample was Early Classic.

The remainder of the unit was excavated as a third lot that contained no ceramics. It was comprised of large boulders without sediment. The excavation was continued to a depth of approximately 2.5 m below the surface. At this point, even though some rocks had been stepped in to retain the sides of the unit, it became unsafe to remove more boulders and the excavation was concluded. Looking through gaps in the boulders at the base of the unit, the dry core fill appeared to continue to a greater depth not visible. It is hypothesized that another floor, associated with the base of the nearby Puuc wall, ought to be present below the boulders of the dry core fill. However, a significantly larger excavation and the continuous consolidation of the sides of the unit would be necessary to reach the greater depth required to investigate earlier phases. Only the eastern side of the unit was stable; although its boulders were not arranged in courses, the alignment of the rocks on this side is consistent with a mason's retaining wall (Figure 65).

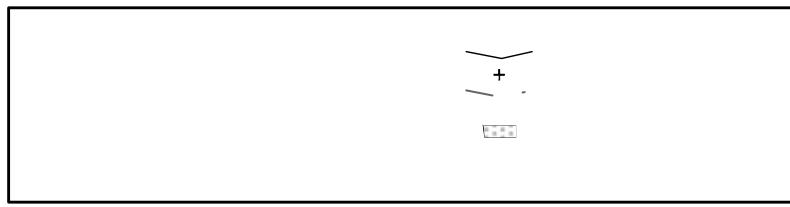


Figure 61. Fortín de Yo'okop, Location of Operations 3, 4, and 5

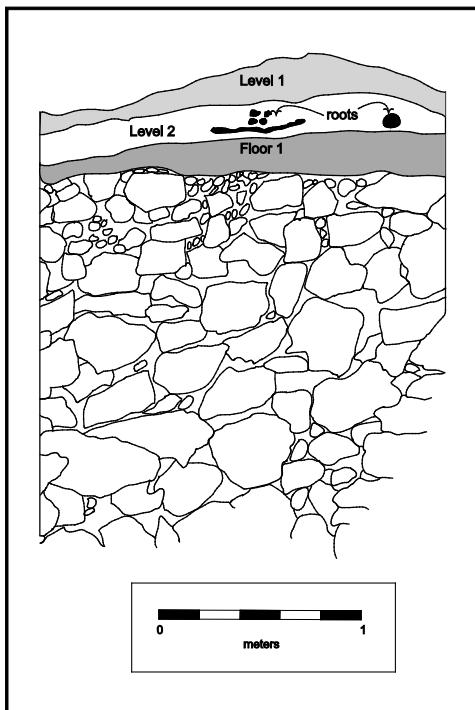


Figure 62. Fortín de Yo'okop, Operation 3, East Profile

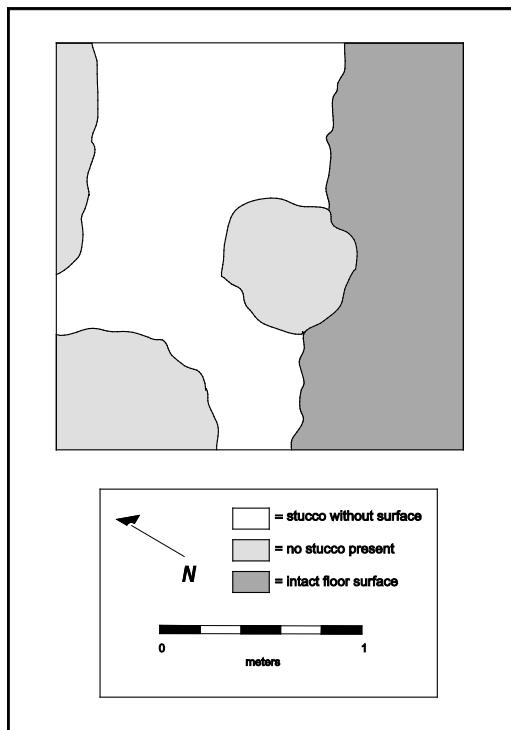


Figure 63. Fortín de Yo'okop, Operation 3, Floor 1 Plan



Figure 64. Fortín de Yo'okop, Operation 3, Floor 1



Figure 65. Fortín de Yo'okop, Operation 3, Dry Core Fill with Masons' Wall

Part 2: The *Ejido* of Saban

Chapter 9: Fortín de Yo'okop, Operation 4

Justine M. Shaw

Operation 4 at the Fortín de Yo'okop was a 2x2-m test pit located within the walls of the upper portion of the Fortín, to the northeast of Structure N1W1-1 (Figure 61). It was designed to explore activities within this portion of the fortifications, as well as to potentially date prior occupations in this location.

Following removal of leaves, twigs, and other organic debris, Operation 4, Level 1, Lot 1 began with a dry, dark reddish brown (5YR 3/2) sediment containing small rootlets. This continued for 9-13 cm before a stone pavement was discovered (Figure 66); this architecture was left intact, as prior permission had not been received from INAH to remove it. The fill of Operation 4, Level 1, Lot 1 contained ceramics dating to the Terminal Classic, as well as material from the Early Classic and Late Classic. The stone pavement was composed of rocks ranging from 3 to 25 cm in size. Its northeastern side contained a trough-like feature, composed of the same continuous stone pavement, which may have functioned as a drain (Figures 67 and 68). It was oriented, and sloped, towards the nearest entrance to the fortification, to the north.

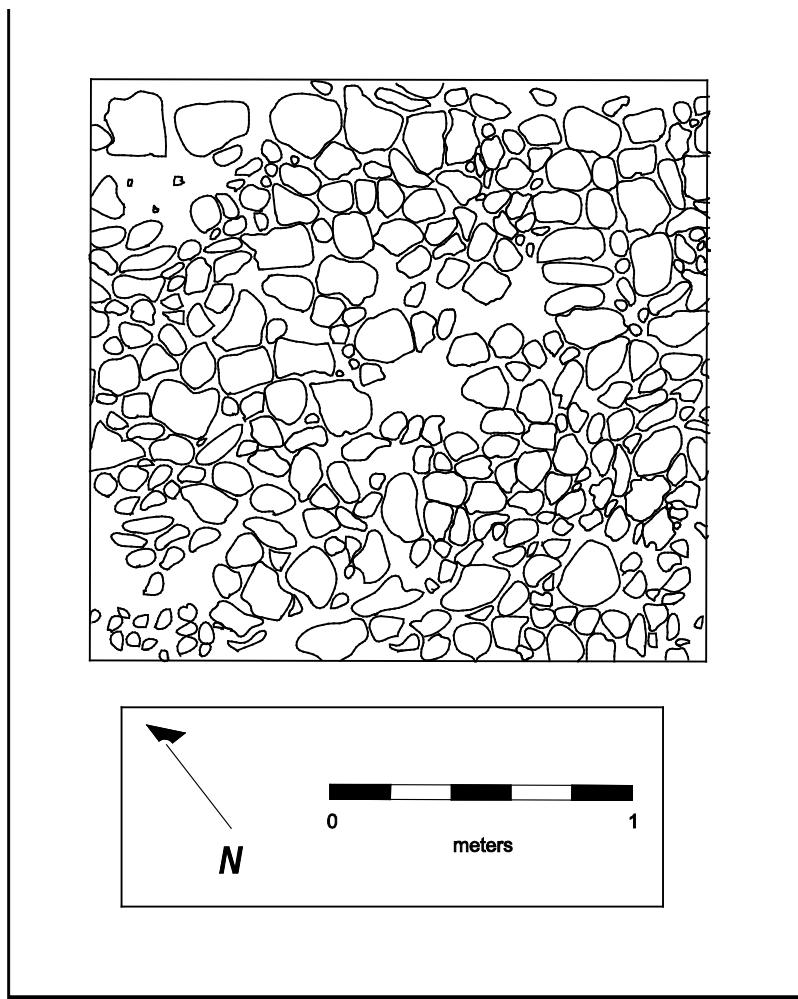


Figure 66. Fortín de Yo'okop, Operation 4, Plan

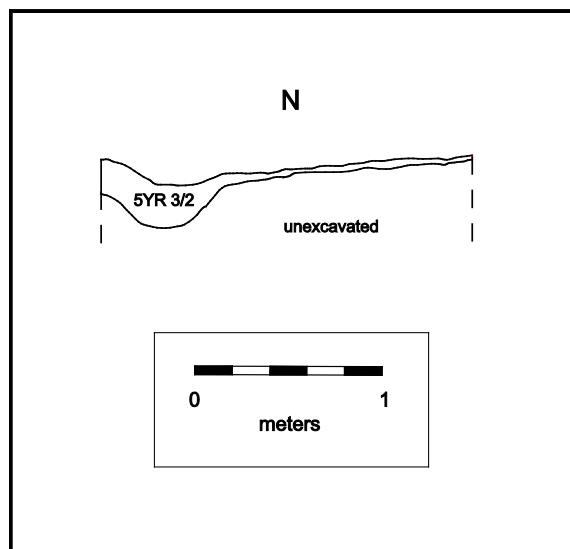


Figure 67. Fortín de Yo'okop, Operation 4, North Profile



Figure 68. Fortín de Yo'okop, Operation 4, Drainage Channel in Stone Pavement

Part 2: The *Ejido* of Saban

Chapter 10: Fortín de Yo'okop, Operation 5

Leslie Reyes

Operation 5 was located just beyond the southwestern outer wall of the Fortin de Yo'okop (Figure 61). The NW baluarte was roughly 10 m northwest from the Operation 5 test excavation unit and the SE baluarte was 20 m southeast. Operation 5 was placed 2 m from a collapsed portion of the fort wall in hopes that a significant accumulation of cultural materials would help researches gather data that would lead to a better understanding of activities and living occupations of pre-contact inhabitants. The excavation of unit levels proceeded in natural levels, changing when soil color changed.

Operation 5, Level 1, Lot 1 involved removing overburden, roots, and surface materials that had become exposed through time. A broken *metate* lies 1m from the southeast corner Operation 5 test excavation unit but it was not collected. Soils in the vicinity were (w) 10YR 2/2, very dark brown sandy loam. There were no soil mottles in this stratigraphy. Soil is structureless and single grained. Soil consistency when dry is loose, when moist is friable, and when wet it is non-sticky and plastic. Roots are common within the area due to heavy vegetation which includes large trees and shrubs. Roots ranged in size from fine to coarse (> 5mm in diameter). The soil horizon boundary was abrupt with irregular form which formed pockets of soils with depth rather than with width. A new soil color prompted a change in the unit level (Figure 69).

Soils in Operation 5, Level 2, Lot 1 were (w) 10 YR3/3, dark brown sandy loam. There were no mottles in this stratigraphy but Strat 1 inclusions were present throughout this level due to its irregular horizon boundary. The western half of Operation 2, Level 2, Lot 1 had a Strat 1-2 transition with irregular form. This made excavation of Level 2, Lot 1 very meticulous because excavators didn't want to miss a soil color change. Soils remained structureless and single grained just as they were in Level 1, Lot 1. Soil consistency was loose when dry, friable when soils were moist and slightly sticky, non-plastic when soils were wet. Many roots ranging in size between very fine and medium (2-5 mm) were present. Operation 5, Level 2, Lot 1 terminated at limestone (Figure 70).

Although modern trash was present in Operation 5, both prehistoric and historic artifacts still remained and were collected in Operation 5, Level 1, Lot 1. This is not surprising since the fort was used during the Caste War and in several prehistoric occupations. All of the artifacts were either secondarily deposited by individuals into a midden or deposited in a tertiary context via fort construction and/or collapsed walls nearby. There were no sealed deposits. All of the artifacts were broken including the glass fragments, ceramics, and sardines can. One Middle Formative and 2 Late Formative ceramic sherds were collected in Operation 5 but a majority of the sherds were from the Early Classic followed by what seems to be a hiatus until inhabitants returned to the area in the Terminal Classic. The largest ceramic

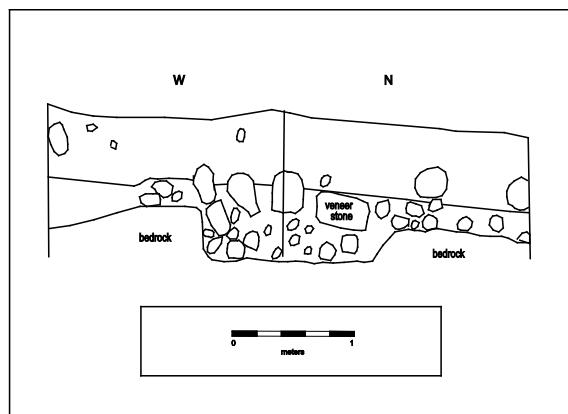


Figure 69. Fortín de Yo'okop, Operation 5, West and North Profiles

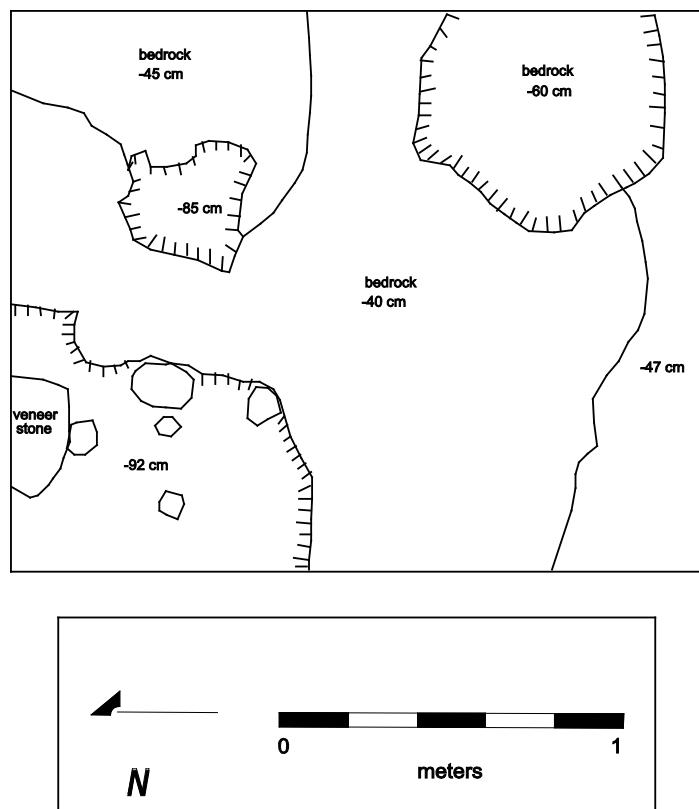


Figure 70. Fortín de Yo'okop, Plan at Bedrock

sample from Operation 5 comes from the Terminal Classic period. This is also the latest represented ceramic period in Operation 5 (Table 11).

Several different artifact classes were collected from the upper level of Operation 5, Level 1, Lot 1. These artifacts include various modern and historic glass varieties such as, brown glass, aqua blue bottle fragments, and one oil bottle neck finish which date between 1830 and 1920. One obsidian blade, a metal sardine can, one faunal bone, and hundreds of pieces of ceramics were also collected for analysis mostly from the Early and Terminal Classic periods.

Operation 5, Level 2, Lot 1 did not have such a wide variety of artifact classes as the previous level. One obsidian projectile point was recovered in the screen. The projectile point is 65 mm in length and is side notched. Although the projectile point was found in the screen, it most likely came from the northwest corner of the unit since bedrock was exposed in 80 percent of the unit and not in the northwest corner at that point in time. Green and brown glass fragments were also collected as well as 91 ceramic sherds. Two Late Formative ceramic and 1 Terminal Classic sherd were collected but the largest sample for this level came from Early Classic deposits.

Part 2: The *Ejido* of Saban

Chapter 11: Fortín de Yo'okop, Operation 6

Jorge P. Huerta Rodríguez

Operation 6 at Fortin of Yo'okop was a 2 x 2 m test pit, located 18 m southwest of the water well of this settlement (Figure 22). The natural terrain in this area showed a slight slope with respect to the northwest corner of the unit. In order to have better control of archaeological material from this pit, all of the extracted sediment was passed through a sieve and all vestiges was separated in a bag labeled with their provenance. Every level and lot was documented through digital photography and drawings.

The sherds obtained from this excavation were washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the Type-Variety system (Smith et al. 1960). Upon completion of the excavation and recording process, the unit was backfilled with the same material extracted until it reached its original level that had prior our intervention.

In addition, it should be mentioned that, in recent times, the area had been dedicated to raising cattle on a small scale, but today this activity is no longer carried out in the area.

This operation was excavated by a combination of natural levels divided into arbitrary levels (of 20 cm depth), since the sediment of one of the levels was continuous, and composed by a hard and plastic soil locally known as *chac luum*. The operation consisted of three natural levels, which will be described below.

The surface of this unit had abundance of leaf litter and small roots, into a tertiary-type vegetation. The coloration of the soil was dark brown (5YR 2.5/2 dark reddish brown) (Figure 71), mixed with a few stones of small gravel. As for the presence of archaeological materials, only a single poorly preserved sherd was recovered.

Level 1, Lot 1 was composed of a silt and clay reddish soil (5YR 3/4 dark reddish brown), furthermore of a few rootlets. Regarding cultural material, a long, thin metal fragment with a head and rope (in poor condition), as well as 25 sherds were recovered. Ceramic fragments belong to the types of Chunchinta Black v. Ucu (1 sherd), Sierra Red (1), Arena Red (1), and Muna Slate (5), among others. The average thickness of this level was 21 cm (Figure 72).

Level 2, Lot 1 consisted of a sediment-reddish brown (7.5YR 3/3, dark brown) fill that was slightly lighter in color than the previous level. This layer was composed of silt with clay, roots and a few small pebbles of gravel. The recovered material included a large amount of metal fragments and ceramics. Among the metallic materials, five tin fragments, one nail and one washer, several fragments of glass and a bottle neck were found. As for the ceramics, a total of 441 sherds were recovered; 248 of these in poor condition, therefore could not be identified. The sherds that were identified include examples of types from Middle Formative (16 pieces), Late Formative (36), Early Classic (31) and Terminal Classic (110) (see Chapter 47 this volume). The highest



Figure 71. Fortín de Yo'okop, Operation 6, Surface



Figure 72. Fortín de Yo'okop, Operation 6, Level 1, Lot 1

concentration of ceramic material was observed in the northwest quadrant, where also an edge of a pot was obtained.

At this level, a series of rocks that seemed to be forming an alignment that showed a northeast-southwest orientation were located. This feature, once it was discovered, was identified as a possible wall or foundation wall (about 50 cm thick), although it was in poor condition. It is noteworthy that this feature was placed without cement and ended about 60 cm south of the northeast corner of the unit (Figure 73).

In addition, about 40 cm southwest of the northeast corner of the unit, the presence of semi-circular ceramic rim began to appear, while inside these a well compacted sandy and very fine grayish sediment with probable carbon remains was visible. Although this element did not exhibit a well-defined circular shape on its east side, the approximate diameter of this feature was about 45 cm (Figure 73). About 8 cm southwest of the southwest corner of the above-mentioned feature, a hole of about 10 cm in diameter was found. The average thickness of Level 2, Lot 1 was 25 cm.

Level 2, Lot 2 had similar characteristics and color to the previous level. By continuing the excavation, it was identified that the series of ceramic edges corresponded to a pot, with the particularity that up to 7 layers of edges vertically overlapping could be observed, resulting in a thickness of about 20 cm. It was also observed that the eastern and southern sides did not have the same quantity of edges, so that this feature did not correspond to a circular shape (Figure 74). Because the excavation of this feature *in situ* was extremely difficult, due to the weather and the possible entry of cattle, it was decided to extract this element (along with its sediment) to conduct a micro-excavation at the laboratory, where we could control both conditions and stability.

With respect to the alignment of rocks that seemed to be a wall or foundation wall, its excavation was continued but the beginning of the feature could not be determined at this level. With regard to cultural materials that have been recovered within this level, a total of 220 sherds were recovered, 146 of them in poor condition; therefore these could not be analyzed. Among the sherds that were identified were included examples of types from the Middle Formative (2 pieces), Late Formative (44), Early Classic (5) and Terminal Classic (23) (see Chapter 47 this volume). The average thickness of this layer was 18 cm (Figure 75).

Level 3, Lot 1 presented a more reddish color of soil than the previous level (5YR 4/4, reddish brown), and was composed of silts and clays. In this layer, it was possible to locate the beginning of the wall, at about 73 cm in depth. The dimensions of the feature ranged from 44 cm (at its northern end) up to 17 cm (at its center) (Figure 76).

Cultural materials recovered included a metal nail in poor condition and about 40 sherds. The ceramic samples that were analyzed include examples from the Late Formative (3 pieces), Early Classic (1), Late Classic (1) and Terminal Classic (3) (see Chapter 47 this volume). Additionally, a boar's fang was also located. The average thickness of this Level 3, Lot 1 was 20 cm (Figure 77).

Level 3, Lot 2 had the same composition as the previous lot. Besides the recovery of cultural materials, more attention was paid to the search for any other



Figure 73. Fortín de Yo'okop, Operation 6, Level 2, Lot 1



Figure 74. Fortín de Yo'okop, Operation 6, Comal *in situ*



Figure 75. Fortín de Yo'okop, Operation 6, Level 2, Lot 2



Figure 76. Fortín de Yo'okop, Operation 6, Level 3, Lot 1

cultural feature associated with the exterior face of the wall (west side). Therefore, special care was dedicated in the excavation of the 10 cm closest to the wall. However, we found no other cultural feature related to the wall. In this layer, we obtained a total of 41 sherds, 29 of them in poor condition. The sherds analyzed included examples from the Late Formative (7 fragments), Early Classic (1) and Late Classic (5) (see Chapter 47 this volume). The average thickness of this lot was 22 cm (Figure 77).

Level 3, Lot 3 had the same composition and color as Level 3, Lot 1 and Level 3, Lot 2. In this level, it was discovered that there was no other feature associated with the wall on the west side, and it was determined to continue only with the excavation of the western half of the unit in order to ensure the protection of the wall and avoid the collapse of this feature. In total, 12 ceramic fragments were recovered; 8 of these could not be identified. The sherds that were analyzed included examples from the Late Formative (2 pieces) and Terminal Classic (2). The average thickness of this lot was 20 cm (Figure 78).

Level 3, Lot 4 showed the same characteristics as the previous lots. From this lot onward, there was a marked reduction in archaeological materials, as only six sherds were recovered; only half of these were identified. These sherds included examples from the Late Formative (2 sherds of Chancenote Unslipped and one of Sierra Red). The average thickness of this lot was 20 cm (Figure 79).

Level 3, Lot 5 had a depth of 20 cm and had the same characteristics as the other lots of this level. Only one sherd was recovered, which could not be identified (Figure 80).

Level 3, Lot 6 was an arbitrary level of 20 cm, since the characteristics of the sediment were the same as in the previous lot. The pottery recovered was only a fragment that could not be identified due to its poor state of preservation (Figure 81). Level 3, Lot 7 had the same composition as all the other lots of this level, but was culturally sterile. The average thickness was 20 cm (Figure 82).

Level 3, Lot 8 likewise had a depth of 20 cm, and had the same characteristics as all lots of this Level 3, but was sterile with respect to the presence of cultural material (Figure 83). Level 3, Lot 9 also shared the same composition as all lots of this level. However, in this stratum six sherds were located, 4 of them in poor condition, while the other belonged to the type Muna Slate from the Terminal Classic. The average thickness of this lot was about 25 cm (Figure 84).

Due to weather conditions and since the end of the 2012 season was imminent, it was decided to conclude with the excavation at this point, at 1.85 cm depth as the maximum point in this excavation.

Once relevant records were made by photographs and drawings, and the unit was backfilled up to the original level of the surface (Figure 85).

Interpretation

Level 1, Lot 1 was fairly modified by the occupation of the area in recent times. The nail with the rope that was recovered at this level is similar to that seen in some areas of livestock pens that are in the area. Although is not identical to several



Figure 77. Fortín de Yo'okop, Operation 6, Level 3, Lot 2



Figure 78. Fortín de Yo'okop, Operation 6, Level 3, Lot 3



Figure 79. Fortín de Yo'okop, Operation 6, Level 3, Lot 4



Figure 80. Fortín de Yo'okop, Operation 6, Level 3, Lot 5



Figure 81. Fortín de Yo'okop, Operation 6, Level 3, Lot 6



Figure 82. Fortín de Yo'okop, Operation 6, Level 3, Lot 7



Figure 83. Fortín de Yo'okop, Operation 6, Level 3, Lot 8



Figure 84. Fortín de Yo'okop, Operation 6, Level 3, Lot 9



Figure 85. Fortín de Yo'okop, Operation 6, Backfilled

examples that are placed on the fence, it is likely that this artifact was from the first fence that was built, since the Fortín was re-used in recent times.

Level 2, Lot 1 corresponds to a period after that this site was used as a military fortification. The association of Prehispanic cultural materials (sherds) with historical vestiges (glass and metal), suggests that these materials were deposited randomly in the area where the test pit was located. The top of the wall at this level was found poorly preserved, and may have been affected by post-abandonment activities of soldiers during the historical period.

Level 2, Lot 2 included the possible pot, revealing an overlapping of 7 pots, and displayed a spatial and temporal relationship with the wall, which makes us think that these 7 pots are in a secondary context. As to their form, since they are not complete, they seem to have been intentionally deposited near the northwest face of the wall, perhaps when their useful life ended. Overlapping pots raises another question about the function of the place, although perhaps this wall was part of a small warehouse or storage facility where these seven artifacts were kept, stacked one after another to save space.

The spatial relation of these artifacts is not associated with an area for food preparation; therefore, we assume that these pots were not used for their original purpose. It is likely that they were incomplete and were used to burn wood chips or other plants in order to ward off insects that plagued the soldiers stationed in this area. This finding is reinforced by the carbon fragments that were found in the upper pot.

Level 3, Lot 1 may also have been part of the historical occupation of this settlement, as evidenced by the discovery of a metal nail, which was located next to the beginning of the wall.

All of Level 3, from Lot 1 to Lot 9, belonged to the same stratum, since all had the same characteristics of the sediment (composition and color). Due to the scarcity of materials and their wide variation in timing, this level probably was the result of modifications and preparations carried out by the military in order to build the fort on this site. Because the excavation was not completed until bedrock, it is thought that the natural stratigraphy, or unmodified by the historical occupation, must be located at lower levels. In the forthcoming season, the excavation of this operation may be continued until bedrock is reached.

Consolidation

The consolidation of the wall located at Level 2 of this unit was conducted under two main premises; ensuring the conservation of the feature and its components, as well as providing stability during the process of excavation and backfilling the rest of the unit.

The first step in this process was done by the cleaning the rocks composing it, using a tool that does not cause any damage to this element (Figure 86). Because the wall did not have plaster joining the rocks, the space between the stones was filled with soil, which was partially removed in order to avoid a collapse and to insert new mortar.

The same areas where soil was removed from between the stones that composed the wall were covered with a mixture of lime and *sascab* to ensure their



Figure 86. Fortín de Yo'okop, Operation 6, Wall Before Consolidation

stability (Figure 87). The mixture was placed and the excess removed to make the surface of the stones visible (Figure 88). Once these consolidation work was performed and the documentation took place, the unit was backfilled up to the original level prior our intervention.



Figure 87. Fortín de Yo'okop, Operation 6, Wall During Consolidation



Figure 88. Fortín de Yo'okop, Operation 6, Consolidated Wall

Part 2: The *Ejido* of Saban

Chapter 12: Fortín Yo'okop, Operation 7

Jorge Pablo Huerta Rodríguez

Operation 7 at the Fortin of Yo'okop was a 2 x 2 m test pit, located 28 m to the southeast of the water well of the settlement, and 1 m from the ditch that surrounds this complex (Figure 22). In order to have better control of archaeological material from this pit, all sediment was sifted through a screen and each fragment was separated in a bag labeled with its provenance. In addition, each level and lot was documented by digital photography and drawings (both plans and profiles).

Sherds obtained from this excavation were washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the Type-Variety system (Smith et al. 1960).

Once the excavation and registration process were completed, the unit was backfilled with the same material that was previously extracted, until the original surface that had been there before our excavation.

This area where this settlement is located, in recent times, had been dedicated to cattle raising on a small scale; however, at present this activity no longer takes place in the area.

This operation was excavated following natural levels and arbitrary lots. The unit was placed in an area with plenty of red clayish sediment, locally known as *chac luum*, a plastic consistency soil that is extremely difficult to remove. This excavation consisted of three levels, Level 1 and Level 2 each with 2 lots, while Level 3 was divided into three lots. Each one of these strata will be described below.

The surface occupied by this unit was covered with leaves and several roots and tertiary vegetation. In the northeastern quadrant of the unit, a root was upright, approximately of 10 cm in diameter. The color of the sediment was dark red (10R 3/2: dusky red) (Figure 89), and was very compacted and slightly moist; it was composed primarily of clay and silt. Regarding the presence of archaeological materials, only 8 fragments of glass were collected.

Level 1, Lot 1 was composed mainly of a clay mixed with silty soil, which had a reddish color (2.5Y 4/3, reddish brown), along with a very compact consistency and was slightly moist, with a moderate presence of small roots. The average thickness of this layer was 20 cm (Figure 90). Cultural material recovered included a few glass fragments; among these a 6-cm-long bottleneck.

Level 1, Lot 2 had an identical composition to the previous lot, and this division between lots was made practically, in order to have better control on the recovered materials. In this lot, a few fragments of glass were also found. The average thickness of the lot was 20 cm (Figure 91).

Level 2, Lot 1 was composed mainly of clay mixed with silt, with a dark reddish color (2.5YR 3/4, dark reddish brown); it was very compact, slightly moist and difficult to excavate (Figure 92). The average thickness of the lot was 20 cm.



Figure 89. Fortín de Yo'okop, Operation 7, Surface (left)
Figure 90. Fortín de Yo'okop, Operation 7, Level 1, Lot 1 (right)



Figure 91. Fortín de Yo'okop, Operation 7, Level 1, Lot 2 (left)
Figure 92. Fortín de Yo'okop, Operation 7, Level 2, Lot 1 (right)

Cultural materials recovered were five fragments of pottery; among these were identified samples of Ciego Composite (1 piece) from Late Formative and Yokat Striated var. Yokat (1) and Muna Slate (3) from the Terminal Classic.

Level 2, Lot 2 consisted of the same sediment as the previous level (Level 2, Lot 1), although it only measured about 12 cm thick (Figure 93). A glass fragment was recovered from this stratum, a 6-cm-long bottleneck.

Level 3, Lot 1 was a layer of reddish brown soil (2.5YR 4/3, reddish brown), with a silty clay composition with high humidity. This layer had a thickness of about 20 cm (Figure 94) and only two ceramic sherds were recovered in poor condition, which made it impossible to identify.

Sediment from Level 3, Lot 2 had the same composition as the previous level, with an average thickness of 22 cm (Figure 95). In this stratum was recovered a fragment of flint; furthermore, of 21 ceramic sherds, 15 of these were in poor condition. Among those that had been analyzed are examples of Muna Slate (5 pieces) and Teabo Red (1 sherd) types.

Level 3, Lot 3 had an identical composition to the two previous lots of the same level, with an average thickness of 30 cm (Figure 96). Cultural material was limited to 8 fragments, all in poor condition; therefore, they could not be identified.

After the excavation of this lot (at -1.37 m depth), and due the imminent end of the field season, it was decided to suspend the excavation work at this point for this year. It is planned to continue with this unit in future seasons. For that reason, modern waste materials were placed at the deepest point in order to identify this level in future excavations (Figure 97). Once the registration process was completed, the unit was backfilled until it reached the original level that it had before our intervention (Figure 98).

Interpretation

Level 1, with its two lots, probably corresponds to an occupation contemporary with the Fortin that corresponds to the Caste War (1901-1909). With Operation 7, being outside of the core area of the Fortin and east of the dry moat that surrounds the complex, it is probable that this area did not have a use as intensive as in the interior. This is reflected in the small number of archaeological materials that were recovered from this unit, which were mainly glass fragments. The deposition of these remains probably resulted from being randomly thrown to the outside of the fort.

Level 2 and Level 3 probably correspond to the accumulation of removed material during excavation of the dry moat that surrounds the fort. Although with a different hue, it is likely that the soil of these two levels were created by the inverse stratigraphy of material extracted from the dry moat; therefore, these levels might belong to the same event.

While Prehispanic materials were recovered (Terminal Classic), glass fragments found in Level 2 lead us to speculate that this stratum dates from the Caste War period.

Most sherds recovered were in poor condition and only a few were identified. However, the examples analyzed suggest that it must have been a Prehispanic occupation in the Late Formative, although the most intense activities at the site occurred during the Terminal Classic.



Figure 93. Fortín de Yo'okop, Operation 7, Level 2, Lot 2 (left)

Figure 94. Fortín de Yo'okop, Operation 7, Level 3, Lot 1 (right)



Figure 95. Fortín de Yo'okop, Operation 7, Level 3, Lot 2 (left)

Figure 96. Fortín de Yo'okop, Operation 7, Level 3, Lot 3 (right)



Figure 97. Fortín de Yo'okop, Operation 7, End of 2012 Excavation (left)

Figure 98. Fortín de Yo'okop, Operation 7, Backfilled (right)



Part 2: The *Ejido* of Saban

Chapter 13: Yaxche, Operation 1

Leslie Reyes

Operation 1 was a 2x2 m test unit located on the southeast corner of Structure N1E1-3 of the Yaxche site (Figure 99), which is about 8 kilometers from the Saban *ejido* center. The test unit was placed in this location with hope that a large sample of cultural materials would provide a possible date and function of the Structure N1E1-3 located nearby and Excavation proceeded in natural levels which corresponded to soil changes.

Operation 1, Level 1, Lot 1 removed the vegetation, various associated roots, and collapsed boulders and cobbles that had tumbled down off the structure located several meters away. The soil within this level was (w) 10YR 3/3 dark brown sandy clay loam. There were mottles within the matrix due to burned roots. These mottles were distinct in color (10YR 3/6 dark yellowish brown sandy clay loam), coarse in size (> 15mm), and common in abundance. The mottles were so common that excavators first thought they were coming down onto soils usually seen right above bedrock. Soil was structureless with massive grained sediments. Soil consistency when dry was loose, when moist was friable, and when wet was non-sticky and plastic. Roots are common and range in size from very fine (0.075mm-1mm) to coarse (over 5mm in diameter). Carbonates found in the soil where due to frequent burning of the area by modern farmers and limestone outcrops surrounding the area. The limestone bedrock forms a wavy boundary with above soils (Figure 100). Gravel content consisted of 15 percent well sorted granules, pebbles, cobbles and small boulders. Gravels were angular to subangular in shape. Excavation of this test unit was low in difficulty except when removing large boulders and while working in and around the large root system that extended from the northeastern corner of the unit to the middle of the west wall. Operation 1, Level 1, Lot 1 test unit was terminated at limestone bedrock (Figure 101).

The ceramics recovered from Operation 1 were tertiary in context. It is easy to infer that the ceramics were used as construction fill or moved by modern inhabitants during milpa activities because the test excavation unit abuts a structure and is located on a milpa. Although Late Formative, Early Classic, and Late Classic sherds were recovered in small numbers, the ceramic data within the unit of Operation 1 at Yaxche dates the test excavation unit to the Terminal Classic since the Terminal Classic are the most recently represented sherds (n=141).

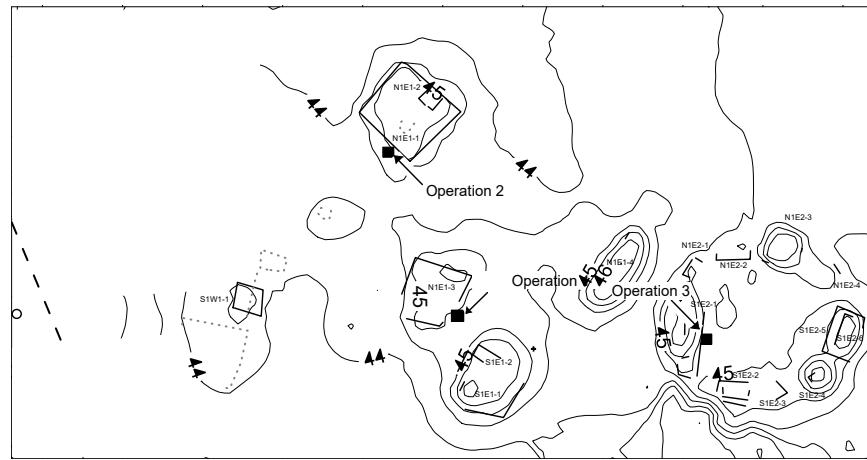


Figure 99. Yaxche, Location of Excavations

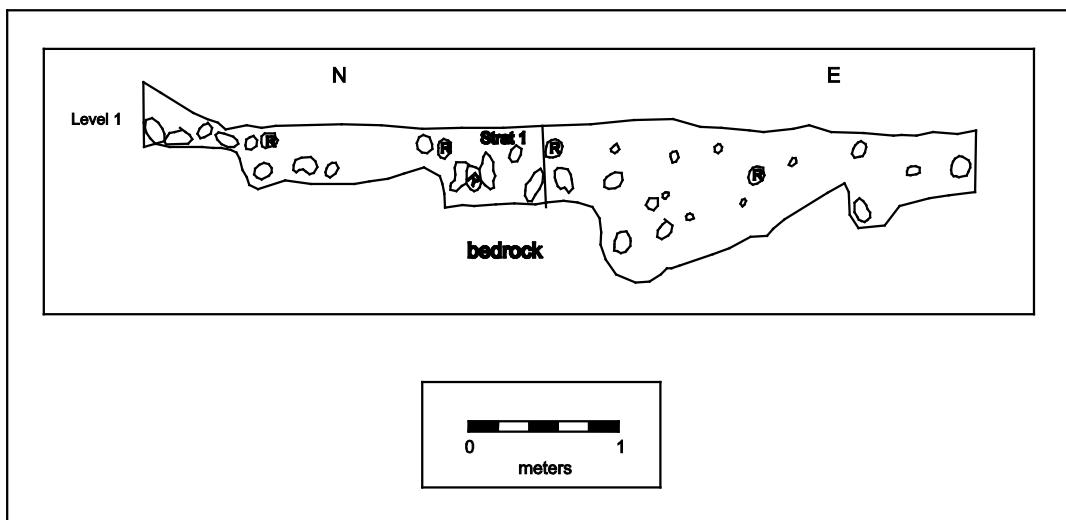


Figure 100. Yaxche, Operation 1, North and East Profiles

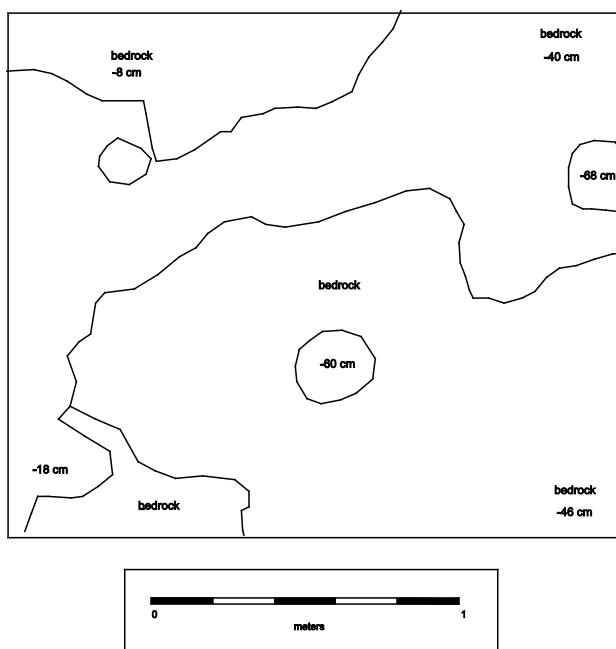


Figure 101. Yaxche, Operation 1, Plan at Bedrock

Part 2: The *Ejido* of Saban

Chapter 14: Yaxche, Operation 2

Jorge Pablo Rodríguez Huerta

Operation 2 at the site of Yaxche was a 2 x 2 m test pit, located 1 m south of the southern side of Structure N1E1-2 (Figure 99). In choosing the location of the test pit, it was considered that the excavation would not affect the above mentioned structure and, at the same time, would be located in the vicinity, in order to obtain archaeological and stratigraphic data that could help us to understand the occupation of the site. In order to have a physical reference, each level, lot and / or profile was referenced to an arbitrary datum. To have a better control of archaeological material from the unit, all the extracted soil was sifted through a mesh or screen. All recovered remains were separated according to their provenance (level and lot). Every level and/or lot was documented through digital photography and drawings, as well as the more representative profiles.

The sherds obtained from this excavation were washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (Chapter 47), following the Type-Variety system (Smith et al. 1960).

Once the excavation and recording of the pit was completed, the unit was backfilled with the same material that was removed during the excavation. This operation was excavated following natural levels and it consisted of three levels, each one with one lot, which are described below.

The surface (Figure 102) of the unit was covered with leaves and several roots, and was located in an area with secondary vegetation. The surface had a slight slope to the northwest corner of the unit. The coloration of the sediment in this area was black (7.5 YR 2.5/1). The soil of this surface was not compact and was moderately wet, formed by clays with silts, and, in minor quantity, by small irregular stones (about 6.5 x 4.5 x 1.5 cm). Regarding the presence of archaeological materials, just a few sherds were located but in poor condition; therefore, they could not be identified.

Level 1, Lot 1 was mainly composed of a silty clay soil, also by fine-to-medium gravel and irregularly shaped medium rocks (11 x 9 x 8 cm). The color of the layer was blackish (2.5Y 2.5/1, black) and had an average thickness of 22 cm.

Due to the presence of large rocks without apparent accommodation in the southeast corner, but mainly in the northeast corner, and because the discovery of sascab on the west side, in the northeast corner and along the north side, it was decided terminate this excavation level. At the end of the stratum, in the center, in a northwest-southeast direction, the *laja* or bedrock began to be located (Figures 103 and 104).

The material recovered from this stratum was quite abundant (totaling 299 sherds), although most were in poor condition. The predominant type was Yokat Striated var. Yokat (88 fragments), followed by Muna Slate (78 pieces) from the Terminal Classic, although there were also samples of the type Yokat Striated var. Applique and Muna Slate from the Late Classic (see Chapter 47 this volume).



Figure 102. Yaxche, Operation 2, Surface

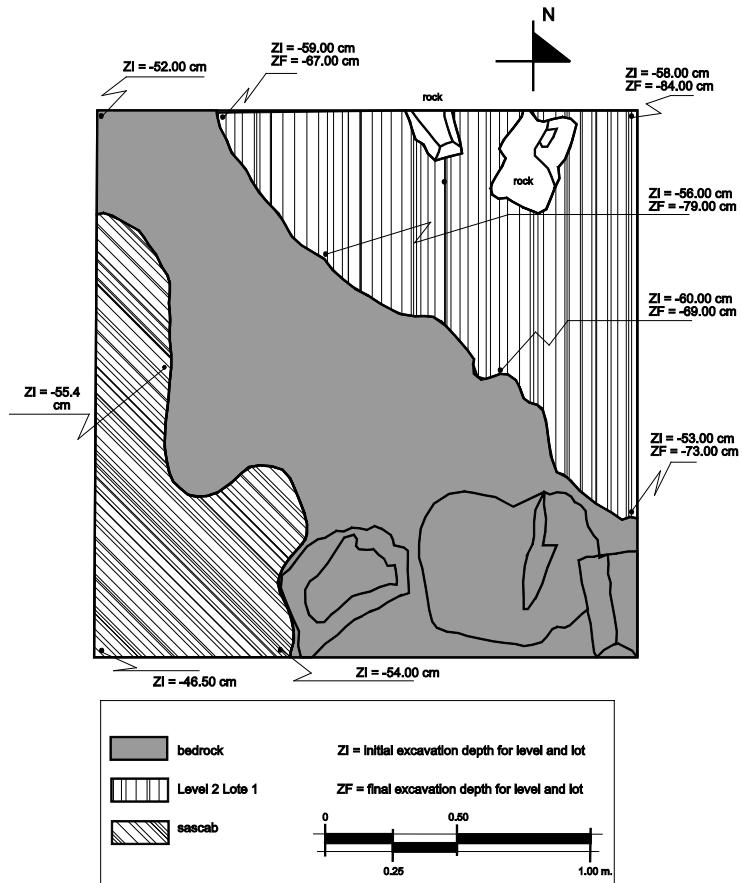


Figure 103. Yaxche, Operation 2, Level 2, Lot 1 Plan



Figure 104. Yaxche, Operation 2, Level 1, Lot 1

Level 2, Lot 1 was composed mainly of a silty clay soil, mixed with coarse-to-fine sand grains, as well as irregular white rocks of small dimensions and a moderate amount of roots. The layer contained a reddish brown soil (5YR 2.5/2 dark reddish brown). The average thickness of the level was 20 cm. Due to the presence of bedrock in the center of the unit, Level 2, Lot 1 was concentrated only in northeast area (Figure 103).

Within this stratum, a total of 45 sherds were recovered (see Chapter 47 this volume). Ten pieces of these were found in poor condition; therefore, it was not possible to identify them. Among those that were analyzed, Yokat Striated var Yokat and Muna Slate from Terminal Classic (12 examples of each) were the most prominent, as well as fragments of Yaxcaba Striated (2 pieces), Xanaba Red (2 sherds), Caucel Trickle on Red (2 pieces) and Saxche Orange Polychrome (3) from the Late Classic. After the removal of this level, bedrock was found in this northeastern part of the unit (Figures 105 and 106), at 68 cm deep.

As mentioned in Level 1 Lot 1, in the southwestern part of the unit, was where a *sascab* layer was located, which was extracted as Level 3, Lot 1. This layer had no hard consistency, and was whitish-yellow in color (10YR 4/4 dark yellowish brown); it covered an area of approximately 25 x 26 cm, with a maximum thickness of 2 cm and lay directly over the *laja* or bedrock. Therefore, once this layer was removed, bedrock was exposed in the whole unit. Within this stratum, only one fragment of pottery in poor condition was recovered.

Interpretation

Level 1, Lot 1 corresponded to the last occupation of this area of the site, which, according to the ceramic material analyzed, must have happened during the Terminal Classic. Regarding the rocks in the northeast corner of the unit, they seem to come from the collapse of Structure N1E1-2, while the rocks found in the southeast corner, seem to be caused by the disintegration of *sascab* present in this area. Overall, the deposition of this layer appears to be natural and occurred in the post-abandonment period.

Level 2, Lot 1 is probably the result of a leveling that corresponded to a cultural level of the bedrock (in the northwest) and the *sascab* (on the southwest side). Although sherds from the Early Classic were recovered, the presence of Terminal Classic fragments in this stratum dates this layer to this latter period, which seems to be when the site had its occupational peak.

The *sascab* perhaps is the remnant of a sub-floor or a rough floor, which was placed directly over the bedrock, while the Level 3, Lot 1 appears to be a lenticule formed by the disintegration of *sascab* with sediment that once was lying in this area of the unit.



Figure 105. Yaxche, Operation 2, Level 2, Lot 1

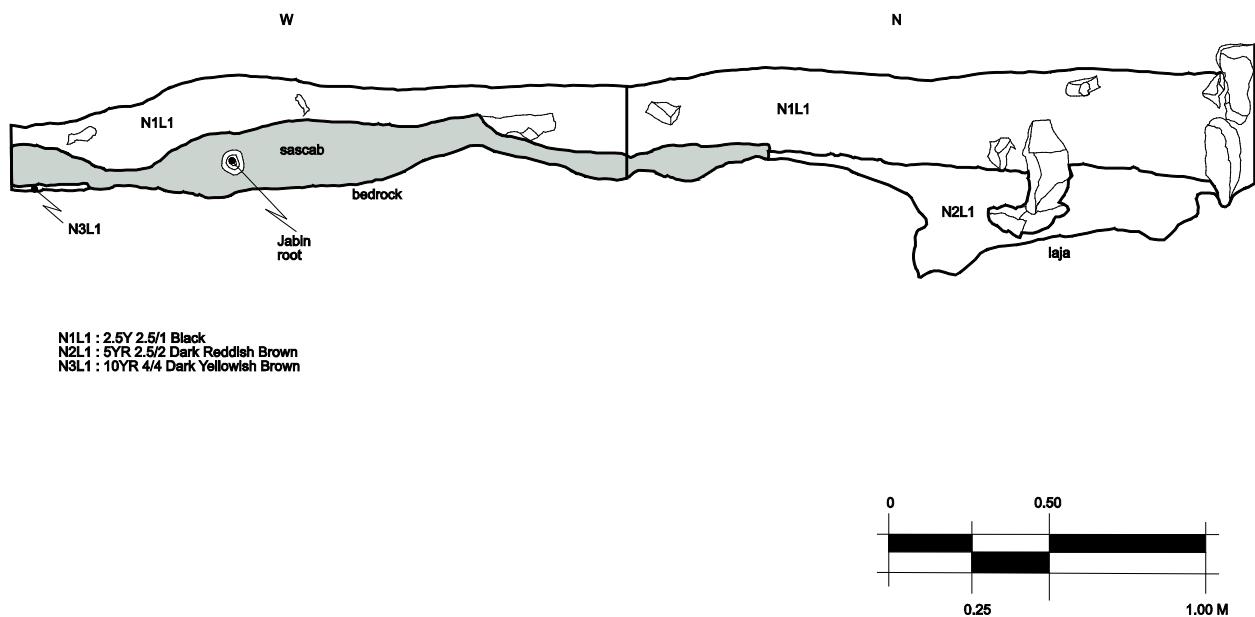


Figure 106. Yaxche, Operation 2, North and West Profiles

Part 2: The *Ejido* of Saban

Chapter 15: Yaxche, Operation 3

Jorge Pablo Rodríguez Huerta

This operation was a 2 x 2-m test pit, located 1 m east of the north end of the east side of Structure S1E2-1 (Figure 99). The goal of this operation was to obtain archaeological remains that could provide stratigraphic data that help us to understand the occupation of this site and adjacent structure, as well as to find out a possible construction sequence for the settlement. All soil extracted from this unit was passed through a sieve, and all vestiges were separated in a bag labeled with their provenance. Every level and lot was documented through digital photography and drawings, both plants and profiles.

The sherds from this excavation were washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the Type-Variety system (Smith et al. 1960). Upon completion of the excavation and registration, the unit was backfilled until the same level as prior to our intervention. This operation was excavated following natural levels; in total it had three levels, which will be described in detail below.

The surface of this unit (Figure 107) was covered by a tertiary-type vegetation; therefore, we proceeded to clean the area of the excavation. The coloration of the soil in this area was reddish-brown (10R 3/1, dark reddish gray), with light blackish spots of irregular shape. These spots appear to be the result of the constant burning activities carried out in the area as part of traditional agriculture. The surface cultural remains were recovered in poor condition and most were burned; therefore, it was impossible their classification and analysis.

Level 1, Lot 1 was a high plastic sediment and had a reddish-brown color (10R 3/3, dusky red). It was composed of clay and silt, combined with irregularly shaped small-to-medium rocks (of 6 x 4 x 2 cm on average). As noted on the surface, this level also had spots of black colored soil. Towards the end of this level, at 40 cm in depth, the presence of a gravel layer without any apparent leveling was noted; therefore, it was decided to switch to the next layer. The average thickness of this deposit was 25 cm (Figure 108).

In total, 103 ceramic sherds recovered from this level, which corresponds to the Middle Formative (22 fragments, highlighting the presence of type Dzudzuquil Cream to Buff), Late Formative (38 fragments, mostly Xanaba Red and Sierra Red), Terminal Classic (4 fragments of Yokat Striated var. Yokat), and from the Posclassic (2 sherds of Chen Mul Modeled). It is noteworthy that this level was the only one of this operation that had Postclassic material, although it had just a few examples.

Level 2, Lot 1 had a reddish-brown color (10R 3/3, dusky red), with a greater compaction and hardness. Additionally, several irregularly-shaped, middle-sized stones were found (about 13 x 8 x 7 cm); furthermore, a few larger rocks (about 40 x 25 cm), were located on the north side of the unit. The gravel continued at this level, but did not cover the entire area, being more concentrated in the east. The average thickness of this layer was 48 cm (Figure 109).



Figure 107. Yaxche, Operation 3, Surface



Figure 108. Yaxche, Operation 3, Level 1, Lot 1



Figure 109. Yaxche, Operation 3, Level 2, Lot 1

The recovered material decreased at this level, since only 10 ceramic fragments were found. These ceramics were from the Middle Formative (Tumben Incised, one sherd), Late Formative (Xanaba Red, Dzalpach-Composite and Sierra Red - one example of each), and Terminal Classic periods (Yokat Striated var Yokat - 4 fragments- and Muna Slate -2-fragments).

Level 3, Lot 1 had a reddish-brown color (10R 3/6, dark red), showing a high plasticity (silts with clay) and compaction. During removal, large rocks of an irregular shape (about 84 x 60 and 14 cm) were located. It is noteworthy that this level no longer showed the presence of gravel. The average thickness of this level was 40 cm (Figure 110).

In total, 59 ceramic fragments were recovered; only 32 of these sherds were identified. The types that were identified include examples of Middle Formative (Chunhinta Black v. Ucu and Dzudzuquil Cream to Buff), Late Formative (Chancenote Unslipped, Sierra Red and Laguna Verde Incised), and Terminal Classic (Chum Unslipped, Yokat Striated var Yokat and Muna Slate).

Level 3, Lot 2 had the same color as the previous level (10R 3/6, dark red), but showed greater plasticity and moisture in addition to the absence of the large rocks present in the previous layer; therefore, this sediment was regarded as a different lot. In addition, this level contained several medium size rocks (12 x 8 x 6 cm).

In total in this level, 30 sherds were recovered; 13 of these were found in poor condition, which prevented their classification and analysis. The fragments that were identified belong to two periods, the Middle Formative and Late Formative. Those in the Middle Formative were from the types of Chunhinta Black v. Ucues, Nacolal Incised, Dzudzuquil Cream to Buff, and Tumben Incised. Samples from Late Formative were Sierra Red and Laguna Verde Incised.

This level ended with the discovery of bedrock (Figure 111), but presented some cavities in the northwest corner, and in the northeast quadrant. This layer was not homogeneous and had a thickness of 20 to 41 cm.

Interpretation

Because the mixture of materials and due to the fact that no sealed lot could be located, one might think that this deposit was formed after the site was abandoned, from the Terminal Classic, until today. The gravel may have been part of a leveled plaza surface, part of a water drain feature, or a vestige of construction fill.

Level 2, Lot 1 must have corresponded to the period of greatest occupation in this area of the site, which may have comprised the Terminal Classic and perhaps this layer had a cultural origin, perhaps a sub-floor, evidenced by the presence of medium-size stones.

Level 3, Lot 1, corresponded to a cultural fill, where large rocks were used. As in the upper levels, material from Early Classic and Late Classic is conspicuously absent; therefore, this site may have been abandoned during these periods. The fill date from the Terminal Classic, because these are the latest materials located on this lot. Postclassic sherds found in this unit suggest that, although the site was abandoned, it received sporadic visits or had a very low occupation during this period.



Figure 110. Yaxche, Operation 3, Level 3, Lot 1



Figure 111. Yaxche, Operation 3, Bedrock

Part 2: The *Ejido* of Saban

Chapter 16: Yo'okop, Operation 10

Alberto G. Flores Colin

Operations within the site of Yo'okop had not been carried out since 2002, as the approach of the Project had become to document other sites in the Cochuah region. The goal of this operation, as well as the other four subsequent units carried out in this site, was to better document the chronology, as well as the building episodes, related to various sections of the Sacbe 5 and Sacbe 2.

This operation was a 2x2-m test pit, which was located in the southwestern part of Sacbe 5, next to the Structures N11E1-1 and N11E1-3 (Figure 112). The first one of these constructions is a platform that provides a base for the second, which is a 6-m-tall pyramidal structure. Both constructions are located at the point where Sacbe 2 and Sacbe 5 converge; therefore this complex was named the Xaaybeh or crossroads. This operation was located in this place since we thought that a plaster surface may have existed, which would allow us to obtain ceramics samples to establish a chronology for this part of Sacbe 5, as well as the above-mentioned structures (Figure 113).

Nevertheless, this operation only consisted of one level, Level 1, Lot 1, which was formed by a blackish soil (7.5YR 3/2), mixed with a large quantity of gravel stones (about 10 x 7 cm on average), with no apparent arrangement. Ceramics from this level were abundant, but the majority of sherds were not identified due to their poor condition. However, a few fragments were recognized as Yokat Striated var. Yokat, Muna Slate and Teabo Red from the Terminal Classic. The level was about 15 to 20 cm deep and below it the bedrock or *laja* was located (Figure 114).

Once that bedrock was exposed in the entire unit, and after the pertinent registration of the profiles of the unit was conducted (Figure 115), backfilling of the unit was carried out until the level of the surface was reached (Figure 116).

Interpretation

In spite of the fact that this operation had only one level, it still provided us with interesting data. Although we expected to find a plastered surface in the area in front of the platform and pyramid that form the complex called Xaaybeh (Structures N11E1-1, N11E1-3), the abundant presence of gravel makes us suppose that this was the base of an artificial leveling that was placed directly over bedrock, perhaps in order to creating a flat surface to conduct activities in front of this architectural assembly.

The blackish sediment of this level was accumulated since the time that this part of the site was abandoned until the present. The relative abundance of ceramic sherds in this unit confirms that this level is cultural fill.

Although the chronology of the ceramic samples are not conclusive (mostly from Terminal Classic), they still provide us evidence to establish an approximate date associated both the Xaaybeh as Sacbe 5. Although in order to establish a more accurate chronology for these buildings it would be necessary to carry out excavations in sealed contexts related to Sacbe 5, and Structures N11E1-1 and N11E1-3, this unit has begun to provide insights about the temporality and the building episodes that

occurred in this part of the complex settlement of Yo'okop.

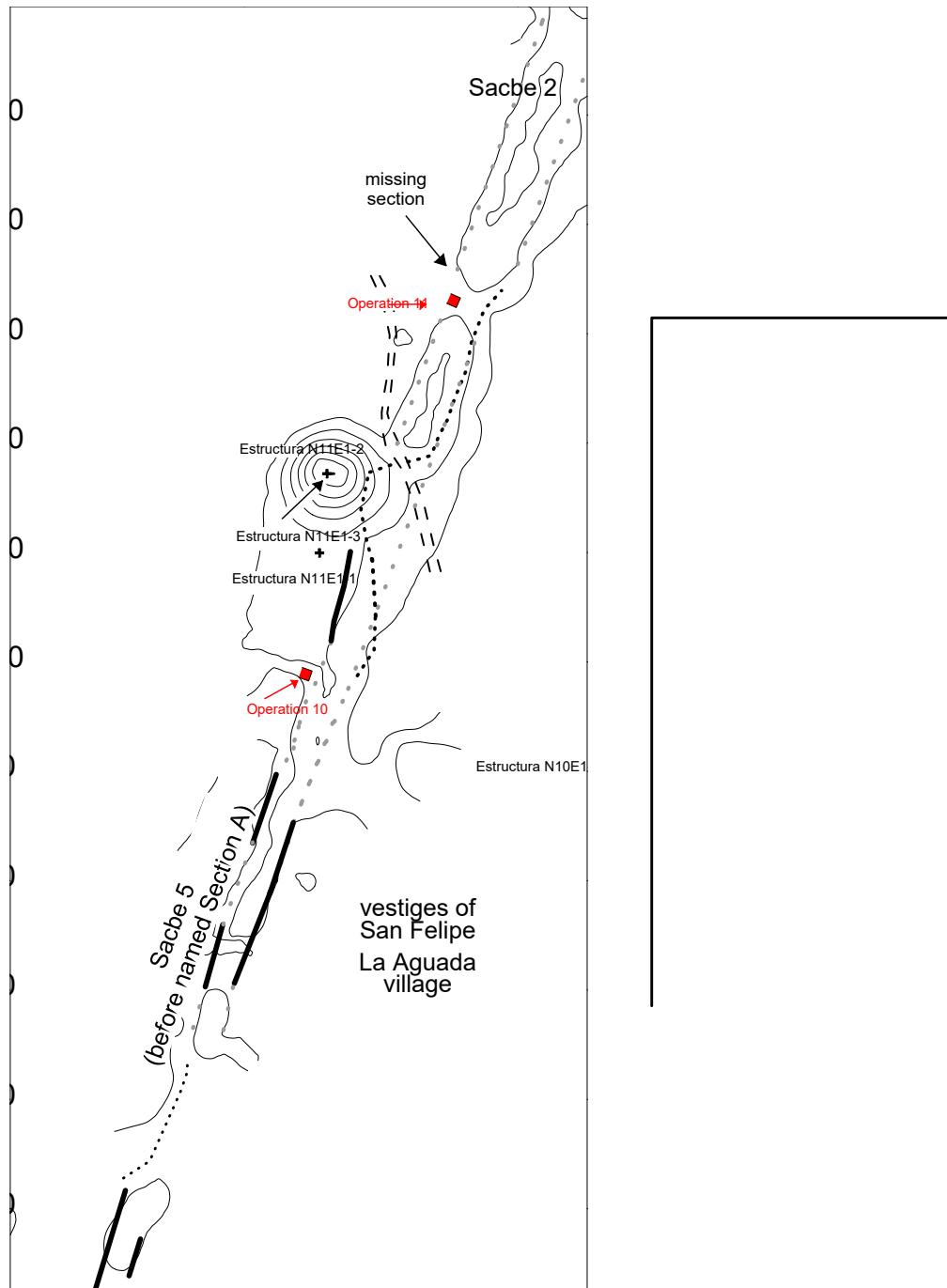


Figure 112. Yo'okop, Operation 10 and 11 Locations



Figure 113. Yo'okop, Operation 10, Surface



Figure 114. Yo'okop, Operation 10, Bedrock

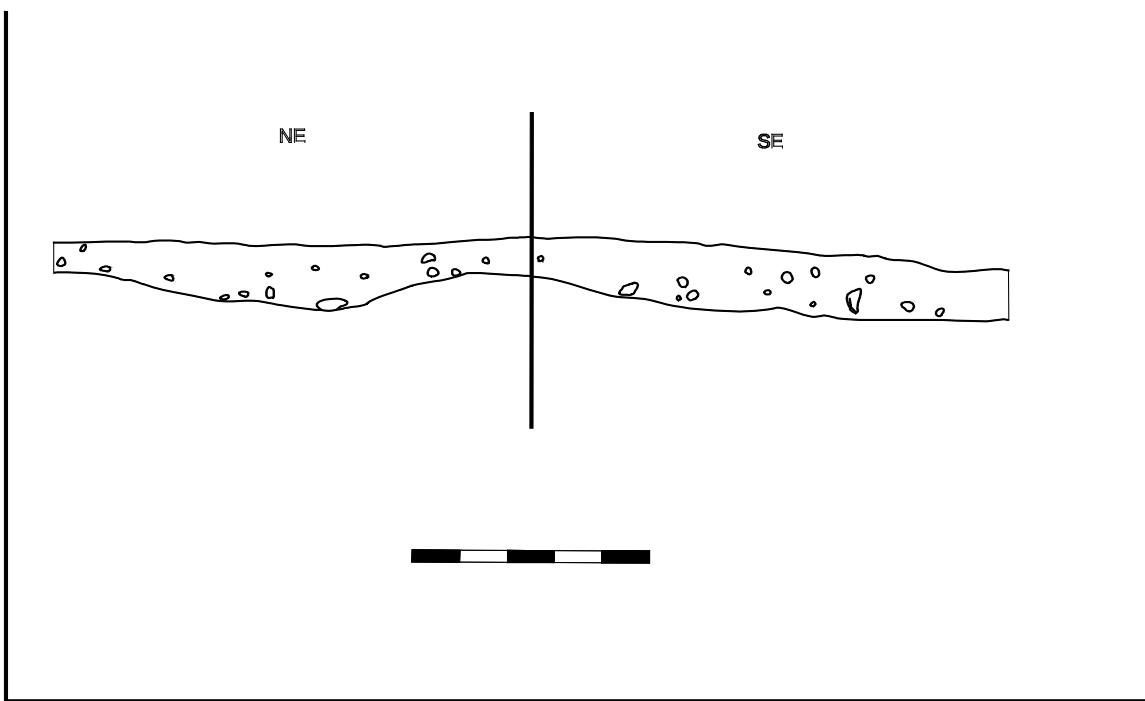


Figure 115. Yo'okop, Operation 10, Northeast and Southeast Profiles



Figure 116. Yo'okop, Operation 10, Backfilled

Part 2: The *Ejido* of Saban

Chapter 17: Yo'okop, Operation 11

Alberto G. Flores Colin

This unit of excavation was located in a missing section, approximately 3 m into the course of Sacbe 2¹, about 25 m north of Structure N11E1-3 at the complex named as Xaaybeh (Figure 112). As with Operation 10, it was expected that this unit could provide an approximate date for construction of this causeway, as well as reveal the reason why this section of the *sacbe* is missing. Previously, we had supposed in this segment of the causeway, a bridge could have existed, if this part has never been constructed, although another option that would explain the absence of this segment is that has been destroyed by later occupations that established in the area, as the population of San Felipe La Aguada (a small hamlet of farmers that was inhabited until early 1980s) reused numerous stones from this *sacbe* to construct *albarradas* and foundations braces that exist in this area.

This unit was a 2x2-m test pit that was located next to the northwest side of Sacbe 2 and partially inside the course of the causeway. On the surface where this unit was located, there were no remains of the retaining wall nor of the core of the *sacbe* observed; the only visible remains seemed to come from the collapse and/ or appear to be dragged from the two sections of this construction (Figure 117).

Level 1, Lot 1 consisted of a dark reddish brown layer (5YR 3/4), locally known as *chac luum*, that was distributed in whole unit. This level concluded with the discovery of a layer of stones placed without any apparent order, which were only located in the eastern part of the unit, in the area where the course of the *sacbe* must have existed. The west corner of the unit only had the reddish sediment above mentioned, although some stones originating from the collapse of the causeway were also found. Only one sherd was recovered from this level, which belongs to the Muna Slate from the Terminal Classic (Figure 118).

This layer of stones that was lying on the eastern part of the unit was interpreted as the bottom or the core of the *sacbe*, although its lateral or retaining walls were not located. For this reason, and due to this core of stones, which is part of an architectural element, the excavation in this part of the unit was concluded; it was only cleaned and left exposed to perform the registration at the end of the excavation.

In the eastern corner of the unit, the excavation continued in the part where there were no stones as Level 1, Lot 2, which was composed mainly of the same red soil, but mixed with large stones (about 40 x 50 cm on average). This formed a sort of artificial leveling that went from the bedrock to the base of the *sacbe*. The depth of Level 1, Lot 2 was about 50 cm on average. Ceramics from Level 1, Lot 2 were much more abundant, mostly belonging to the Yokat Striated var. Yokat and Muna Slate from the Terminal Classic, although a few Late and Middle Formative fragments were also collected (Figure 119).

1 This area was previously named as the change between Section A and Section B, although we have now realized that in reality these sections are two different *sacbeob*. Sacbe 2 corresponds to the previously named Section B, while Sacbe 5 refers to the before called Section A.



Figure 117. Yo'okop, Operation 11, Surface

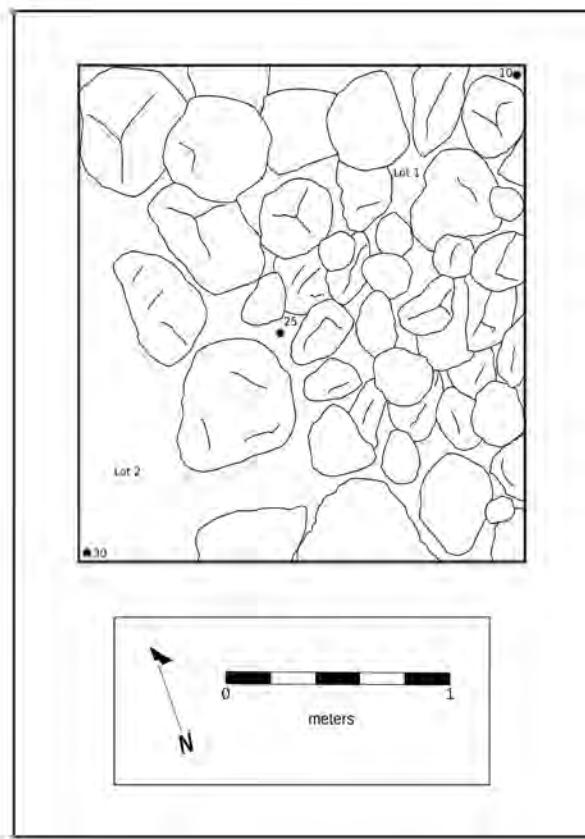


Figure 118. Yo'okop, Operation 11, Level 1, Lot 1



Figure 119. Yo'okop, Operation 11, Level 1, Lot 2

Below this fill of large stones, bedrock was revealed and totally exposed in the unit (Figure 120). Subsequently the proper registration, through photographs and drawings, was conducted and the excavation of the unit was concluded (Figure 121).

It should be noted that the stones that formed the core of the *sacbe* (located in the eastern part of this unit) were not consolidated, since no retaining or side wall that defined the northeastern side of this causeway, nor another clear architectural element that could be consolidated, was detected.

Subsequently, the backfill of the unit was carried out, which ended when the original level of the surface was reached, resulting in the finished of this operation (Figure 122).

Interpretation

While within this operation no sealed lot could be located, nor was more than a small section of the entire unit excavated; the recovered evidence provides us critical information about construction system of the Sacbe 2, in addition to offering some insights about its possible temporality.

Based on the stratigraphy located in this unit, we propose that directly over bedrock a large stone fill (Level 1, lot 2) was emplaced, in order to provide a solid base for the foundation of the *sacbe*. Ceramics from this level, from within the fill of large stones, suggest a possible date for this artificial leveling, and perhaps also to Sacbe 2; this would be during the Terminal Classic period.

On this base, Level 1, Lot 2 or the fill of large stones, the foundation and the core of Sacbe 2 was placed. Based upon this evidence, we discovered that this section of the causeway had really never been built. The absence of this section, according to one of our local informants, was caused by heavy machinery used for pulling large trunks of cedar that were extracted from the region during mid-1970s; this crossed over the *sacbe* and dragged the stones from its surface. This impact coincides with the pattern of the stones observed at the surface and in Level 1, Lot 1.

The red soil or *chac luum* that was mixed within both lots of Level 1 could have been the natural sediment that has been accumulated and filtered since this site was abandoned until the present.

While the dates provided by ceramic samples are not sufficient or definitive, evidence of the large stone fill that is the foundation of the *sacbe* have revealed that these kinds of constructions are more complex than they appear. However, it seems not possible that this foundation or leveling exists throughout the length of the causeway (in the sections with high bedrock or outcrops this fill would not have been necessary). It is likely that in the low areas or with abundant *chac luum* (very clayey ground during the rainy season), this kind of fill has been carried out in order to level, furthermore providing a better foundation for this large construction.

While ceramics suggests a Terminal Classic date for this construction, it is necessary to carry out excavations in sealed contexts for a more precise chronology of the construction of this causeway and the development of this part of the complex site of Yo'okop.



Figure 120. Yo'okop, Operation 11, Bedrock

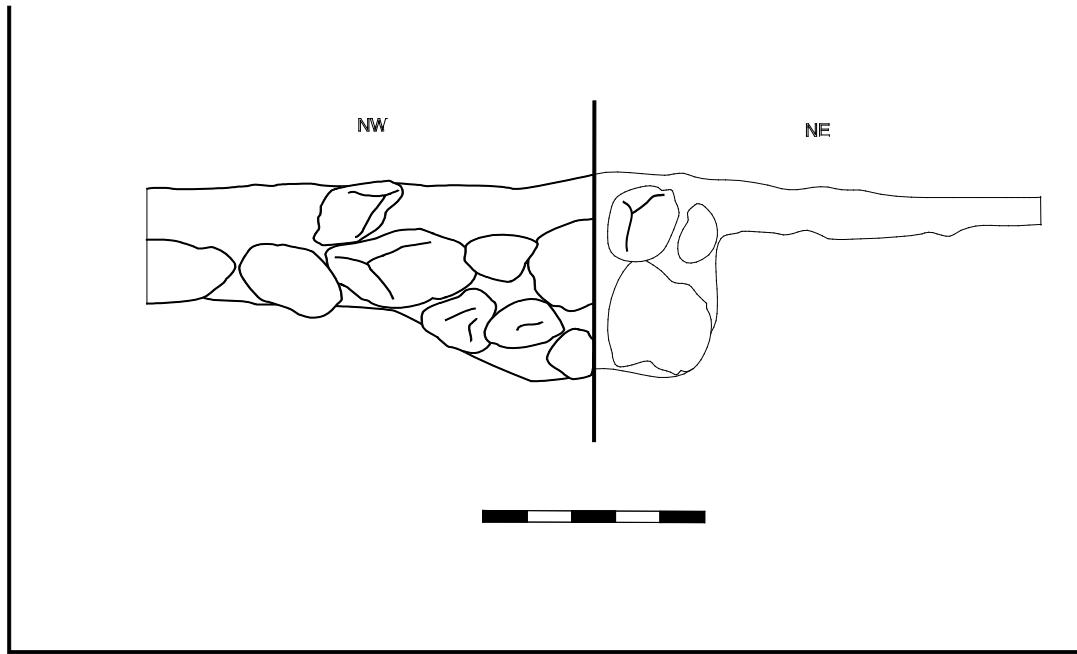


Figure 121. Yo'okop, Operation 11, Northwest and Northeast Profiles



Figure 122. Yo'okop, Operation 11, Backfilled

Part 2: The *Ejido* of Saban

Chapter 18: Yo'okop, Operation 12

Alberto G. Flores Colin

Yo'okop's Operation 12 was located to the side of Sacbe 2, about 420 m northeast of the Xaaybeh complex, and around 1140 m from Group C. This area was selected to conduct this test pit due the presence of a contiguous platform to the northeast side of the *sacbe*, which has on its top a series of foundation braces that seemed to form a domestic context (Figure 123). The unit was located in between the platform and the side of the causeway (Figure 124).

The Level 1, Lot 1 corresponded to a blackish layer (7.5YR 2.5/2) or organic stratum, mixed with a series of gravel stones or *chich*, as well as some small fragments of *sascab* (Figure 125). Ceramics extracted from this stratum belonged to the Yokat Striated var. Yokat and Muna Slate types from the Terminal Classic.

Level 1, Lot 1 ended when a dark brown sediment was discovered (7.5YR 4/6), which was named as Level 2, Lot 1. This following level, besides the above-mentioned sediment, was mixed with a numerous gravel stones, that composed about 70 % of this stratum, which indicates that this was part of an artificial leveling, a subfloor or a stone pavement (Figure 126).

Recovered sherds from this level were Yokat Striated var. Yokat and Muna Slate from the Terminal Classic. This stratum concluded with the discovery of a layer of stones (20 x 30 cm in average) that were spread across the whole unit, which confirms that this was a subfloor context (Figure 127).

Level 3, Lot 1, corresponded to the above mentioned stones, but mixed with a layer of yellowish brown soil (10YR 5/6). This stratum of stones was directly over bedrock, which was not at the same depth throughout the unit. Ceramics from this level was more or less abundant, but the majority was not identified due to their poor condition. However, a single sherd from the Terminal Classic (Yokat Striated var. Yokat) dates this layer to that period, although a few Early Classic fragments were also collected (Yaxcaba Striated and Balanza Black).

Once that bedrock or *laja* was completely exposed in the unit (Figure 128), this was backfilled until the original level of the surface was reached (Figure 129) after the proper recording of the unit (Figure 130) was concluded.

Interpretation

According to the stratigraphic sequence of this unit, everything seems to indicate that directly over the bedrock an artificial leveling was placed, which rose about 30 cm. This construction episode would have occurred, according to ceramic evidence, during the Terminal Classic. This corresponds to Level 3, Lot 1 and Level 2, Lot 1; the first was the subfloor of a given surface, while the second would be the part where the surface or stucco floor would have existed. Abundant remains of *sascab* found in Level 2, Lot 1 reinforce this assumption. Level 1, Lot 1 corresponds to the stratum formed from the time this part of the site was abandoned until the present.

Although the evidence recovered from this unit is not conclusive, this excavation

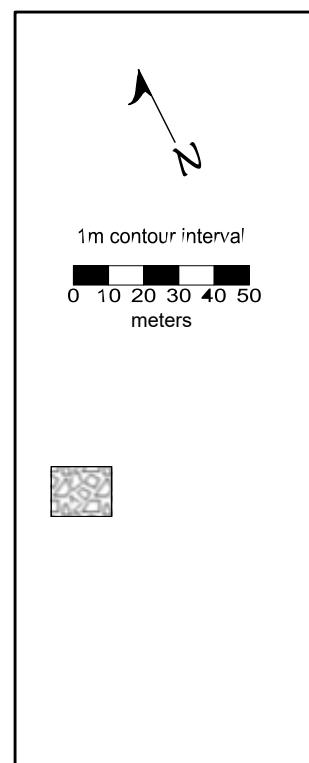


Figure 123. Yo'okop, Operations 12 and 13 Locations



Figure 124. Yo'okop, Operation 12, Surface



Figure 125. Yo'okop, Operation 12, Level 1, Lot 1

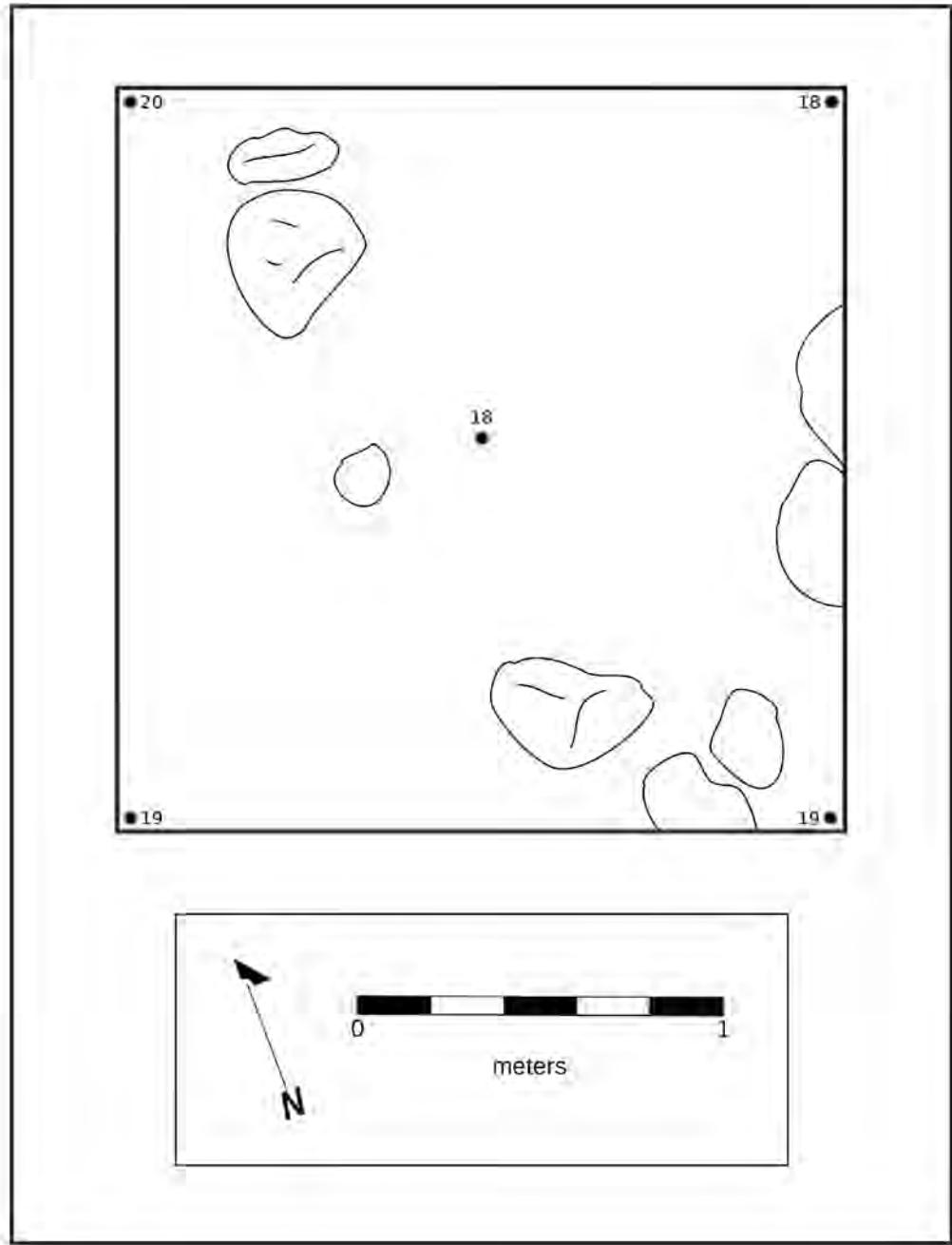


Figure 126. Yo'okop, Operation 12, Level 1, Lot 1 Plan



Figure 127. Yo'okop, Operation 12, Level 2, Lot 1



Figure 128. Yo'okop, Operation 12, Bedrock



Figure 129. Yo'okop, Operation 12, Backfilled

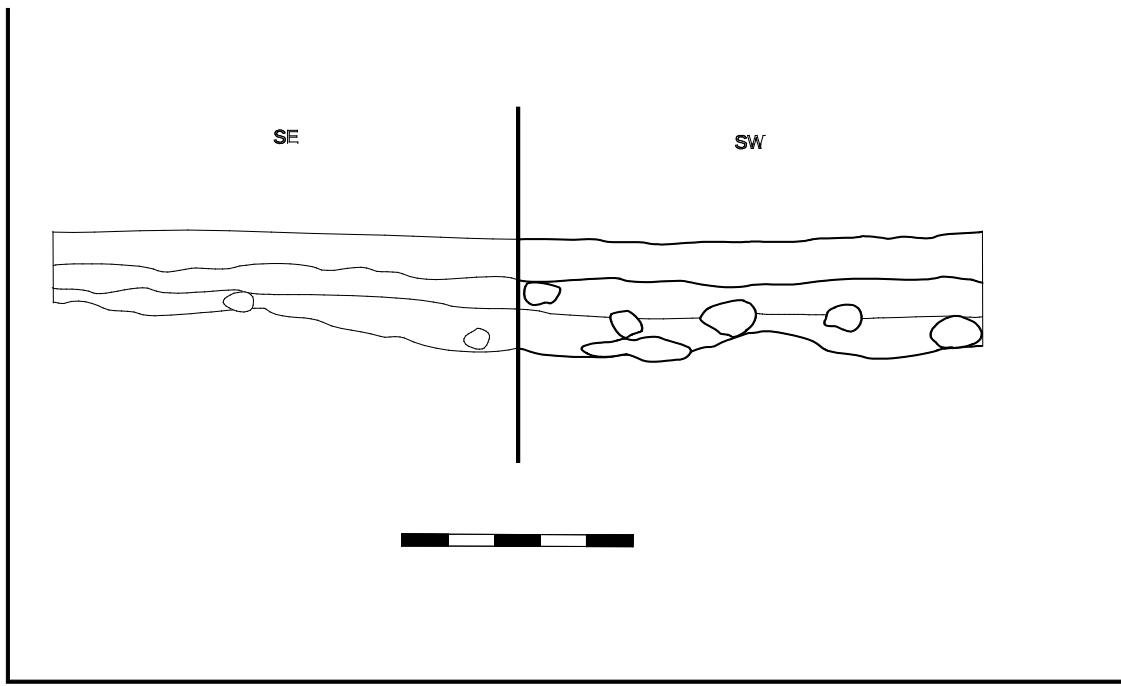


Figure 130. Yo'okop, Operation 12, Southeast and Southwest Profiles

has helped to confirm the assumption that the platform (Structure N15E1-2) and Sacbe 2 are contemporary. While there is no formal access from the platform to the causeway, ceramics located within this operation indicate to us that both buildings are part of a same construction project. The completion of further excavations in this area could provide us with the possible role that this platform took.

While no excavations were carried out in the superstructures that lie above the platform (Structure N15E1-2), a series of foundation braces that seem to be form a domestic context, as well as a small Postclassic shrine located on top of Sacbe 2 and in front of this operation, were located; we speculate that these constructions were built when Sacbe 2 and the platform (Structure N15E1-2) were abandoned or in disuse. In order to confirm this assumption, it would be necessary to carry out further excavations within the foundation braces, a task that might be accomplished in future seasons.

If these foundation braces are not contemporary with Sacbe 2 and Structure N15E1-2, the question of why the inhabitants of these perishable constructions settled in this area of Sacbe 2 remains. The Postclassic shrine that lies over the causeway, right in front of this domestic complex, seems to be an important indication for understanding the function of these buildings.

Although many questions are still not resolved, the results of this unit are the beginning to explain this context.

Part 2: The *Ejido* of Saban

Chapter 19: Yo'okop, Operation 13

Alberto G. Flores Colin

This operation was located at 540 m from the Xaaybe assembly, and about 1020 m from the Group C of Yo'okop, just in front of the vaulted passage that crosses Sacbe 2 from one side to other (Figure 123). Like the other units, this excavation was a 2x2-m test unit, and was excavated following natural stratigraphy (Figure 131). The goal of this unit was to investigate whether there was a paved surface in the northwest side of the Sacbe 2 that would help gain a better understanding about the existence of the vaulted passage. Likewise, the intention of this unit was to obtain ceramic samples from sealed lots, in order to establish a date for the construction of the sacbe apart from its architectural style.

Level 1, Lot 1 of this unit was formed by a layer of blackish soil (10YR 3/1), which was mixed with a series of gravel stones or *chich*. Additionally, several stones from the retaining walls of the *sacbe*, that have been collapsed in the southern part of the unit, were observed (Figure 132). The walls in this section of the *sacbe* should have surpassed 4.40 m tall. The frequency of ceramics from this level was low, with most belonging to the Terminal Classic (Yokat Striated var. Yokat and Muna Slate) (Figure 133).

Previous stratum concluded when another brown soil (7.5YR 5/3) was found; Level 2, Lot 1 was mixed with numerous pebbles and *sascab*. This layer was also more clayey than the previous level, in addition to containing a greater quantity of ceramics (although none of these were identified due to their poor condition). The collapsed stones from the walls of the *sacbe*, located in the southern part of the unit, were fully uncovered, revealing that these fell with their front sides on the ground surface (Figure 134). This second level ended when bedrock was discovered, which was at the same level within the entire unit (Figure 135).

Registering of the unit, through drawings and photographs (Figure 136), was carried out once the bedrock was totally exposed; after this process, the unit was backfilled (Figure 137).

Interpretation

Although all the expectations for this unit were not fulfilled, since it lies directly in front of the vaulted passage, the most remarkable feature of this causeway without a doubt, it still provide us several interesting data.

One of these data is the absence of a plastered surface in front of the passage, which defies one of our major assumptions. In addition, the collapsed stones from the retaining walls, located at Level 2, Lot 1, indicate that there was no cultural surface, but on both sides of the passage there was only natural ground, perhaps a thin layer of soil with several areas with limestone outcrops.

Although ceramic evidence is not conclusive about the chronology of this area, the low quantity of sherds found in both levels may indicate that this area was not much transited



Figure 131. Yo'okop, Operation 13, Surface

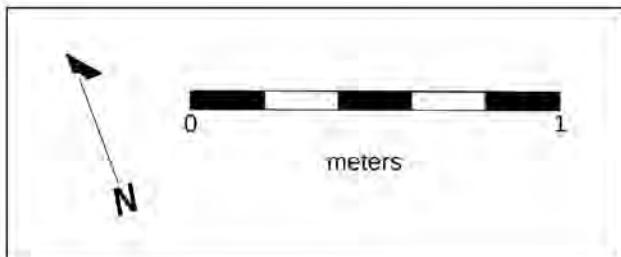
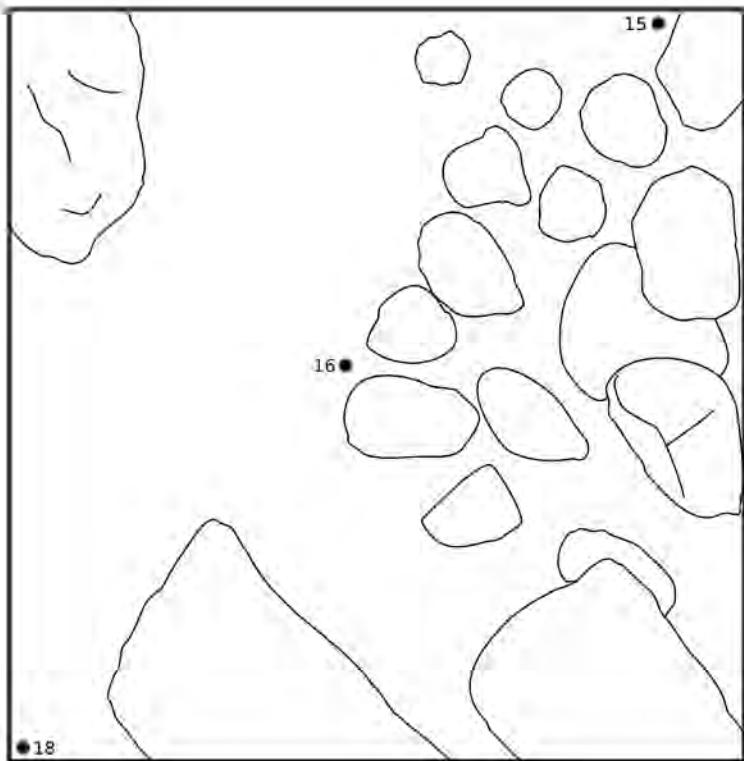


Figure 132. Yo'okop, Operation 13, Level 1, Lot 1 Plan



Figure 133. Yo'okop, Operation 13, Level 1, Lot 1



Figure 134. Yo'okop, Operation 13, Lateral Wall



Figure 135. Yo'okop, Operation 13, Bedrock

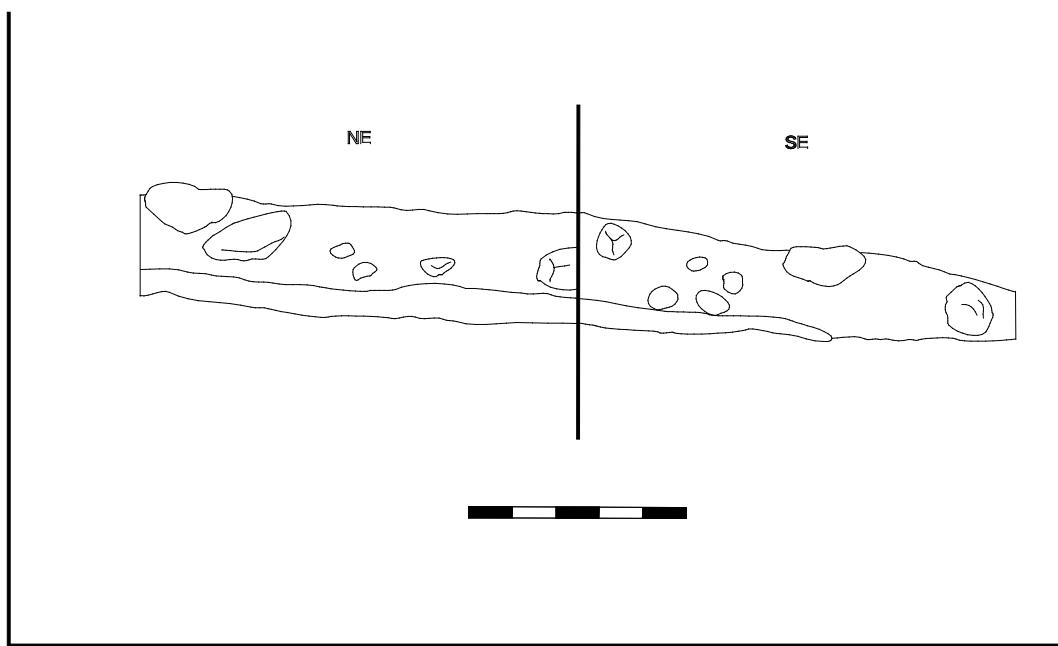


Figure 136. Yo'okop, Operation 13, Northeast and Southeast Profiles

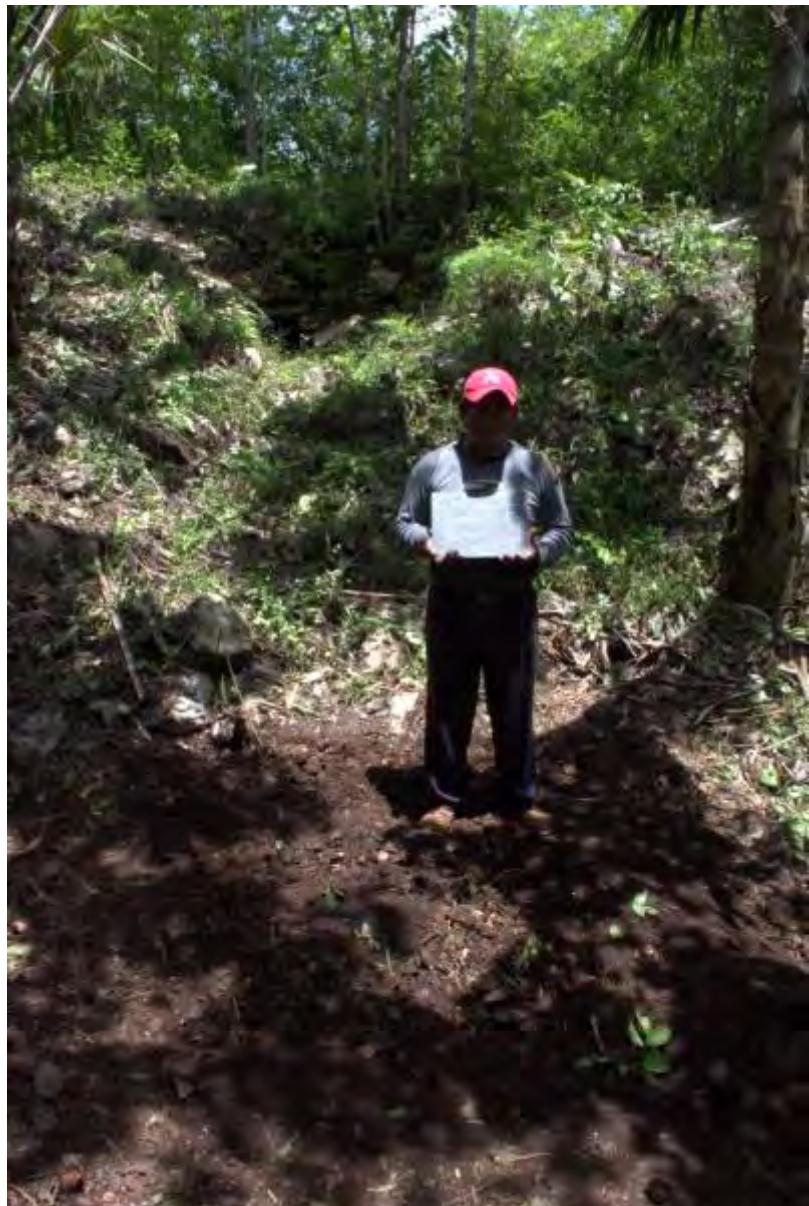


Figure 137. Yo'okop, Operation 13, Backfilled

or it had very little activity. As for the chronology, since no sealed lot was found, we are not yet able to establish a date to the vaulted passage of this *sacbe*. Ceramic sherds suggest that this construction might have been constructed during the Classic Terminal, although the style of the vaulted passage refers us to an older period (Early Classic).

While this latter question, perhaps the most important for the moment, could not be solved, the result of this operation has been to help to evaluate some of the ideas that we had about this area; future investigations will help to accept or refute previous hypotheses.

Part 2: The *Ejido* of Saban

Chapter 20: Yo'okop, Operation 14

Alberto G. Flores Colin

This unit was located about 40 m from the terminal structure of Group C (Structure N25E6-3), and 1520 m from the complex known as Xaaybeh, right in the intersection between Structure N25E6-2 and the causeway (Figure 138). Structure N25E6-2 is an artificial leveling or raised plaza that forms the base of Structure N25E6-3 and the last few meters of Sacbe 2. The intention of conducting this operation was to obtain ceramic samples from sealed deposits that could indicate an approximate date for Structure N25E6-2, as well as, indirectly, Sacbe 2. Likewise, it was questioned whether a paved surface may have existed in this area, as well as the construction sequence of platform.

This operation also was a 2x2-m unit that was excavated following natural stratigraphy (Figure 139). This unit has only one level (Level 1, Lot 1), which was formed by a reddish brown sediment (2.5YR 3/4), locally known as *chac luum*, mixed with an abundant series of gravel stones or *chich*. In addition, some large rocks were also located (about 30 x 40 cm), which must have been used to level the bedrock that had a variable height inside the unit (Figure 140). Although the majority of the sherds located in this single level were not identified, recognized samples were Ticul Thin Slate and Yokat Striated var. Yokat from the Terminal Classic.

Once bedrock was exposed in whole unit and after the proper recording was concluded, through photos and drawings (Figure 141). After that process the unit was backfilled until the level of the surface was reached (Figure 142).

Interpretation

According to the stratigraphy located within this unit, we can establish the following sequence of events. Directly over bedrock or *laja*, a fill of stones was placed, with the intention of having a flat surface in front of the Structure N25E6-2 and Sacbe 2. We can infer this because the abundant presence of pebbles or *chich*, which would have formed the surface of occupation during Prehispanic times, perhaps as part of the original project when the *sacbe* and the Group C were laid out. This type of surface, a surface of gravel, may be observed at the present time in the entrance to some of the traditional Maya houses, known as *bahpec*.

Although was unable to locate a sealed deposit that could help to establish a relative date for the causeway and Structure N25E6-2, this unit permits us to suppose the existence of a leveled area in this part of the settlement.

Future excavations, both in the platform (Structures N25E6-2 and N25E6-1) as well as in other areas, may help us to better understand the temporality, the arrangement, and the functions of this part of the settlement.

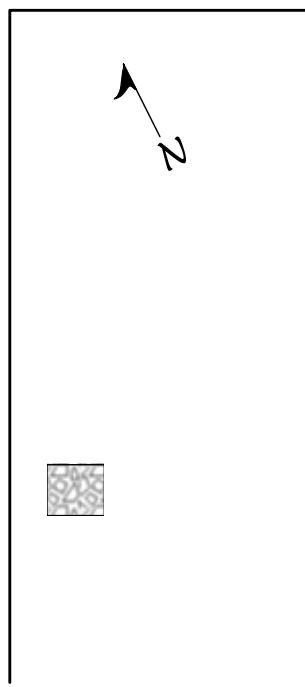


Figure 138. Yo'okop, Operations 14 and 15 Locations



Figure 139. Yo'okop, Operation 14, Surface



Figure 140. Yo'okop, Operation 14, Bedrock

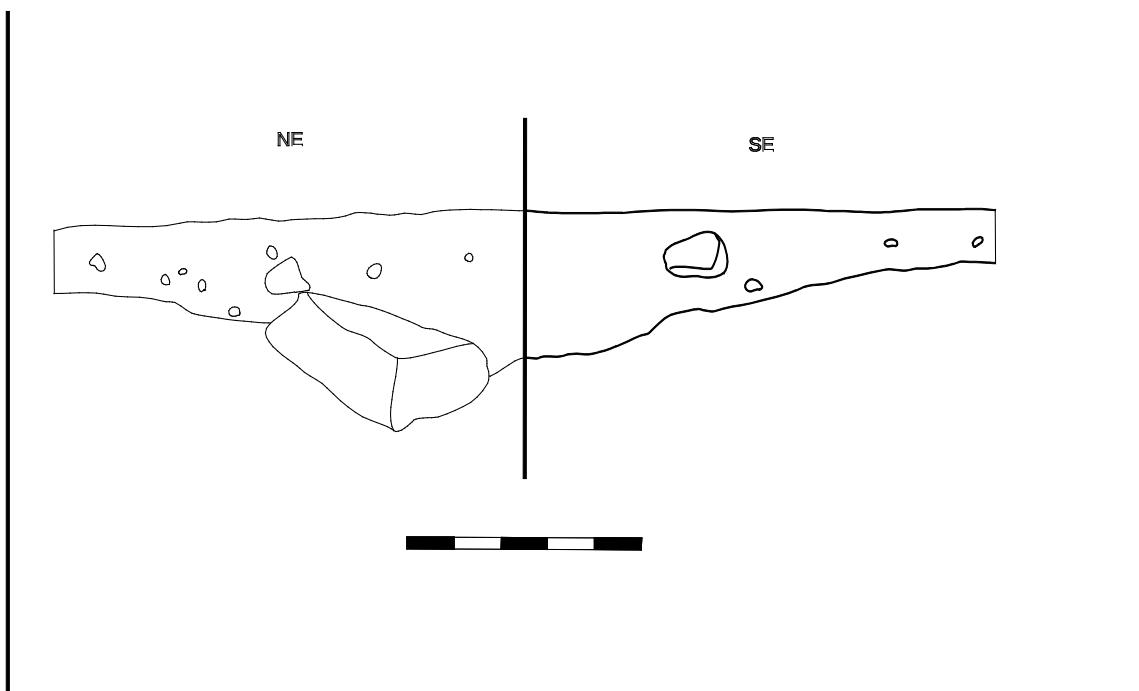


Figure 141. Yo'okop, Operation 14, Northeast and Southeast Profiles



Figure 142. Yo'okop, Operation 14, Backfilled

Part 2: The *Ejido* of Saban

Chapter 21: Yo'okop, Operation 15

Alberto G. Flores Colin

This test pit was the last operation conducted in this settlement during the 2012 field season. The goal of the unit was to test the hypothesis about the existence of a plaza or artificial leveling in the back of the Group C, in order to ascertain whether the terminal structure (Structure N25E6-3) is as isolated as it seems to be, or if other perishable constructions were present. This unit was located north of the Structure N25E6-3, right in the edge of its current base formed by collapsed stones (Figure 138). Likewise, it was intended to obtain ceramic samples, preferably from sealed contexts, which could help to establish a date for the construction.

As with all units at Yo'okop carried out in this season, Operation 15 was a 2x2-m test pit, which was excavated following natural levels (Figure 143). This excavation presented only one level, Level 1, Lot 1, which consisted of a reddish layer (2.5YR 4/6) mixed with a few pebbles. This stratum, in reality, was not very deep, since bedrock was found close to the actual surface (Figure 144). There was no cultural stratum in this unit; ceramic remains were very few, mostly Yokat Striated var. Yokat and Muna Slate types from the Terminal Classic, although also a pair of fragments from Late Formative (Sierra Red) and Early Classic (Yaxcaba Striated) was located.

Subsequently, and after registration was completed throughout photographs and drawings (Figure 145), the unit was backfilled to its original level and the excavation was concluded (Figure 146).

Interpretation

Although this excavation was very brief, despite the fact that no sealed lot was found, this unit has confirmed that there is no cultural leveling in the northern part (rear) of the terminal structure of the Group C (Structure N25E6-3), which confirms its isolation. Although this unit is a tertiary context, ceramics recovered in this unit indicate a Terminal Classic date for this part of the settlement.

Our knowledge about Group C, and in general of the whole of Yo'okop, is still poor and certainly not conclusive. However, this unit, as well as the four previous ones, is a small step to getting a little closer to the complex development that occurred in this important site in Prehispanic times.



Figure 143. Yo'okop, Operation 15, Surface



Figure 144. Yo'okop, Operation 15, Bedrock

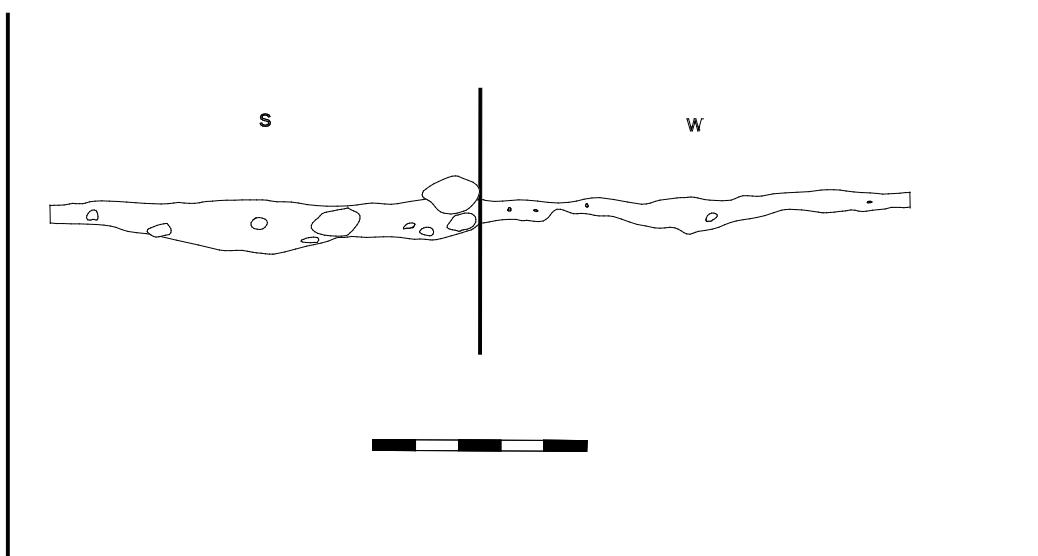


Figure 145. Yo'okop, Operation 15, South and West Profiles



Figure 146. Yo'okop, Operation 15, Backfilled

Part 2: The *Ejido* of Saban

Chapter 22: Yopila, Operation 1

Justine M. Shaw

Mapped in the 2010, the site of Yopila is located approximately five kilometers to the southeast of the modern *pueblo* of Saban. It is part of a fairly continuous settlement zone that includes Yaxche. In 2012, two 2x2-m test pits were excavated at Yopila. The first, Operation 1, was located approximately one meter to the east of Structure S2E1-1 (Figure 147), an elevated rectangular house platform that forms the western side of a plaza that includes a five-meter circular mound on its northern side. The aim of the operations was to date the occupation in this area, which was believed by Johnstone (personal observations) to include the Late Classic based upon his prior observation of surface ceramics. This period has not been well represented in the region to date.

Prior to excavation, the surface of the test pit sloped downward to the east, with a difference of 20cm between the western and eastern edges of the pit. After the removal of surface vegetation consisting of leaves and twigs that had fallen from the moderately tall surrounding vegetation, grown back from *milpa* approximately five years ago, a black (5YR 2.5/1) sediment containing many cobbles and much gravel was revealed. This deposit is likely what remains of the latest plaza flooring episode, based upon its composition and the inclusion of two small (less than 5 sq cm) floor fragments. The cobbles, gravel, and black sediment had been well mixed by numerous roots and rootlets. Under this was larger cobbles mixed with boulders, still interspersed with a limited amount of soil (Figure 148). Unlike the slanting modern surface, the start of the boulder deposit was quite level; this is also consistent with its identity as the subfloor of a plaza surface.

As the boulders were removed, the sediment between them became increasingly damp in spite of the fact that no rain was received since the prior week. The sediment also graded gradually to a moderately lighter color (7.5YR 3/2 dark brown) with fewer organics. Roots and rootlets continued to be quite common. Bedrock first appeared in the western side of the unit at approximately 70 cm in depth, with the sediment covering it taking on the consistency of mud in some places. The bedrock was relatively even, although it was peppered with numerous holes (Figure 149). Once these holes were cleaned out, some to nearly a meter in depth, several began to fill with water. Some were connected through passages in the limestone and others had small channels leading deeper or to areas outside the unit. Some holes included cobbles or portions of boulders that formed part of the subfloor. Since the entirety of the material removed appeared to have been placed there as part of a single plaza flooring episode, the entire excavation was grouped as Operation 1, Level 1, Lot 1. Ceramics, which continued from the surface to within the bedrock holes, date to the Terminal Classic, with Late Formative and Late Classic sherds also included.

Thus, just one cultural episode, the construction of a single plaza floor containing refuse that likely originated from the nearby area, was revealed. However, the presence of seeping ground water at just one meter below the surface may be the most

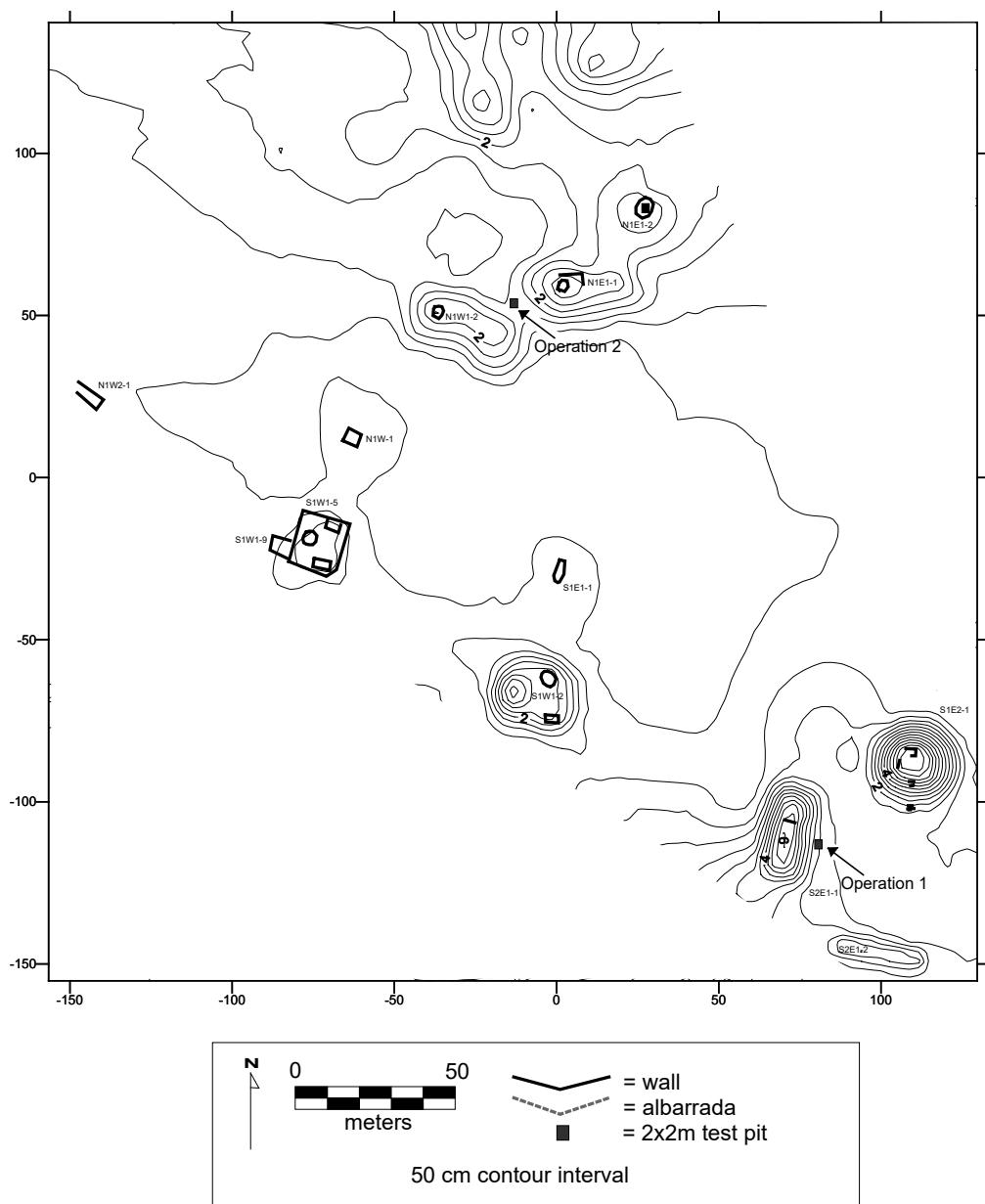


Figure 147. Yopila, Excavation Locations

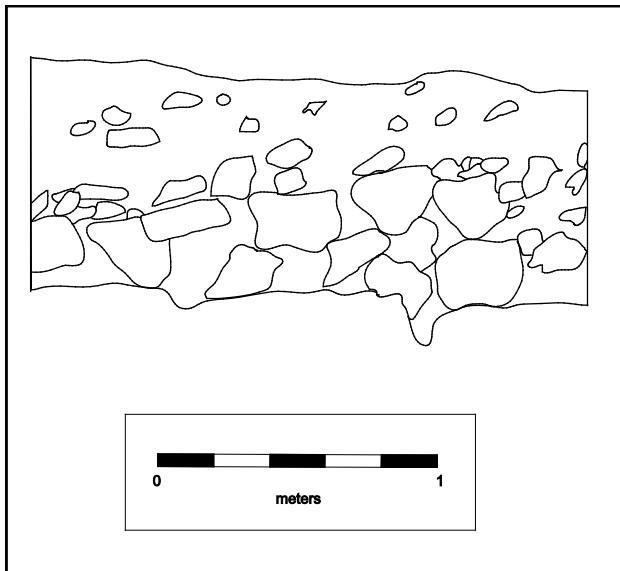


Figure 148. Yopila, Operation 1, North Profile

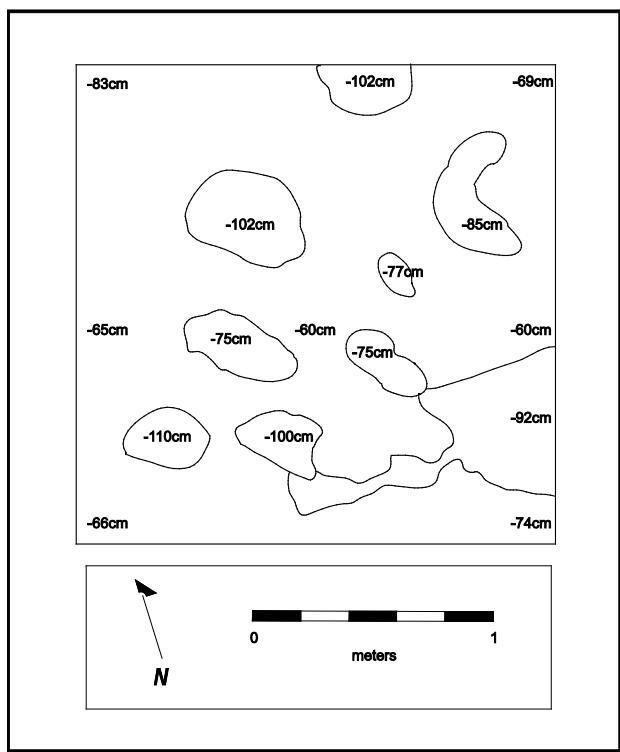


Figure 149. Yopila, Operation 1, Plan at Bedrock

interesting part of the excavation. In an area with a paucity of accessible ground water, such a seep – if present in the past – would have been a valuable resource. It may be responsible for the location of the largest structures in the vicinity, including the 3.5-m-tall rectangular platform and the adjacent temple-type structure. Covering its access seems counterintuitive, but this particular location may not have been the only place from which the water emerged. The center of this plaza has not been cleared; the eastern side of the plaza has not even been mapped. Further exploration in the future might reveal some kind of feature that did enable continued access to the water, if indeed it were present at the time of the occupation.

Part 2: The *Ejido* of Saban

Chapter 23: Yopila, Operation 2

Leslie Reyes

Yopila's Operation 2 test excavation unit was located at the confluence of two structures named Structure N1W1-2 and Structure N1E1-1 (Figure 147). The unit was placed in this location in an attempt to establish occupational dates of the two structures lying directly to the east and west. We had hoped that many ceramics along with other artifacts would have accumulated at the base of each structure due to slope wash but ended up with a disappointing sample size.

The first lot of the excavation, Operation 2, Level 1, Lot 1, contained (w) 2.5YR 3/2 dusky red, sandy loam clay. Sediments were extremely dense. No mottles were present in the matrix. Soil structure is weak with poorly formed indistinct peds. Peds are coarse and granular in shape and form. Soil consistency when dry is loose, when moist is friable, and when wet is slightly sticky and plastic. The dense nature of the soil, paired with many fine, medium, and coarse roots make excavation difficult and slow. One large stump in the northwest corner of the excavation unit and a large coarse root in the northeast profile of the unit have probably contributed to post-depositional mixing of artifacts. Although no carbonate test was performed in the field, there is an expectation of carbon effervescence as this excavation unit was located in a modern milpa. Modern root burn and previous milpa practices are present within the unit and on nearby surfaces. The soil horizon boundary is abrupt, stopping right at the limestone bedrock, but it is wavy in form due to undulating bedrock. Excavation of Operation 2, Level 1, Lot 1 switched to Operation 2, Level 2, Lot 1 when the soil color changed. Level 2, Lot 1 was comprised of chac luum (reddish dark brown sediments). Level 2, Lot 2 was difficult to excavate due to the dense loamy clay matrix and even fewer cultural materials were recovered in this level than the previous one. The Operation 2 excavation unit was terminated at limestone bedrock (Figures 150 and 151).

The number of cultural materials collected at Yo'pila Operation 2 was disappointing. In Level 1, Lot 1 there were 16 total ceramic sherds collected, of which, only 8 were identifiable. Level 2, Lot 1 had an even smaller sample, 7 ceramic sherds, of which, only 2 were identifiable. The sherds collected in Level 1, Lot 1 dated to both the Late Formative and Terminal Classic. The presence of Late Formative sherds in a level located above a level which had only Terminal Classic sherds can be explained by looking at the excavation unit location. Operation 2 test excavation unit was placed at the confluence of two structures which had significant slopes. The Late Formative sherds likely washed down the slopes of Structure N1W1-2 and Structure N1E1-1. Also, with the test excavation unit being located on an active *milpa*, it is also highly likely that the Late Formative sherds were post-depositionally mixed with Terminal Classic

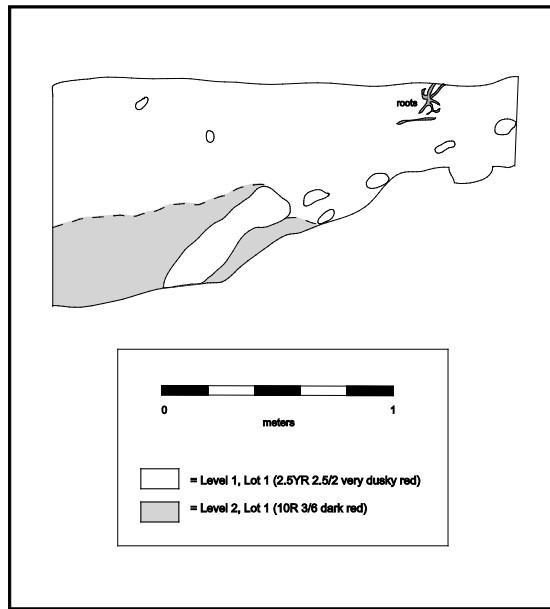


Figure 150. Yopila, Operation 2, Northeast Profile

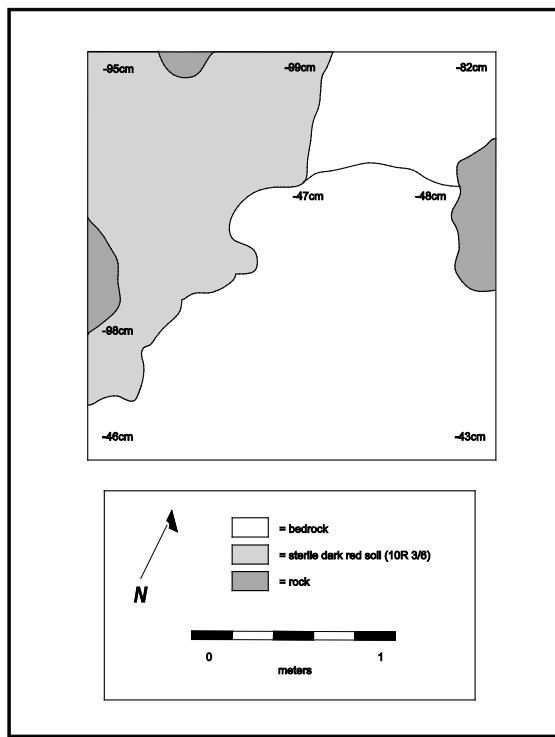


Figure 151. Yopila, Operation 2, Plan at Bedrock

sherds via modern *milpa* practices (i.e. plowing, digging, etc.). The presence of Terminal Classic sherds in both of Operation 2, Levels 1-2 date the test excavation unit to the Terminal Classic period. Further investigative research should be carried out at Yo'pila to gather a larger sample of dateable cultural materials so a dating sequence for the vicinity can be determined.

Part 3: The Ejido of Sacalaca

Chapter 24: Chakal Ja'as, Operation 3

Jorge P. Rodriguez Huerta

Operation 3 at Chakal Ja'as was carried out as a continuation of the previous work conducted by CRAS Project in 2005 within this settlement and the main cave or rejollada (Shaw 2005: 114-121). The discoveries made in that season included a "... stacked element of unknown height, that seems to have served as a retaining wall, to retaining the landslides and other collapses in the deepest part of the rejollada ..." "Despite that there is no evidence of a stucco coating on the wall, it has been suggested that the retaining wall was built to facilitate the capture and storage of water from the rejollada ..." (idem). Therefore, one of the goals of this Operation 3 was to further investigate this wall, its main characteristics, as well as its size, orientation and probable use. In order to know more about this architectural feature, it was proposed that Operation 3 was performed as a 2 x 4-m trench that was located in the west area of the main access to the cave (Figure 152).

The work in the unit began with the grid layout and the cleaning the area of the unit and was finished with the backfilling of the entire pit, once the excavation process and register has been concluded. In order to reference each level, lot and the profiles, it was determined to measure from an arbitrary level of 20 cm above natural surface. The natural terrain presented a slope to the east side of the unit, as the northwest corner was the deepest in the pit. To have better control of the archaeological material from the pit, all sediment removed was screened and all artifacts were separated in a bag, labeled with their provenance (level and lot). In addition, each level and lot was documented by digital photography and drawings (both plan and profiles).

The sherds obtained through the excavation of the pit were subsequently washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the Type-Variety system (Smith et al. 1960). This operation was excavated following natural levels and arbitrary lots (of 10 cm), and consisted of two natural levels, the first with three lots while the second just had one lot. The description of each one of these is described below.

The surface (Figure 153) displayed a dark brown but slight reddish soil (5YR 3/2 dark reddish brown) and was composed of wet silt with well compacted clay. On the surface, several rocks from the collapse lay with no order, but mainly located in the northwest corner of the unit, which is the area with the greatest slope, compared with the eastern side, which is at -23 cm lower and at a 6 degrees slope toward the east side of the unit, towards where there is access to the cave.

It is necessary to note that the roof of the *rejollada* is collapsed, and this roof collapse has covered the majority of the actual surface, except for the area near the access of the cave and part of the north wall of the *rejollada*. This collapse forms a slope in the interior level of the *rejollada*, which descends to the entrance of the cave, at this the lowest level. This slope has been formed naturally, and facilitates the settling of rocks, soil and other materials (both natural as cultural). Besides the fact that this slope helps position materials through the action of gravity, we can assume that rainfall also

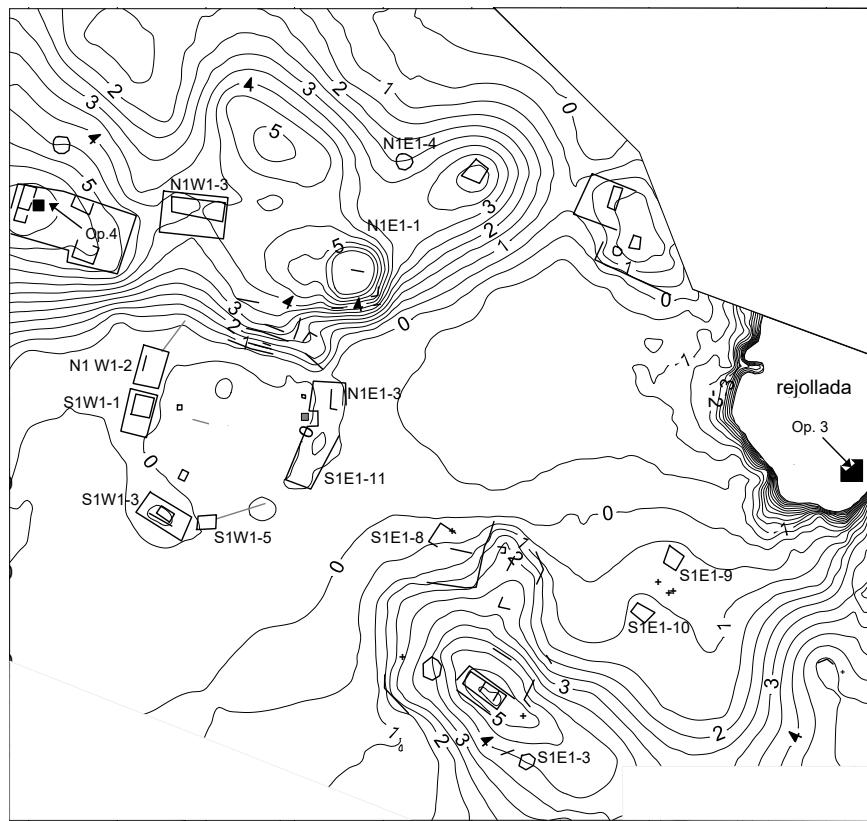


Figure 152. Chakal Ja'as, Location of 2012 Excavations



Figure 153. Chakal Ja'as, Operation 3, Surface

influenced the deposit, as well as the activity of animals (birds and small mammals), and the minor human activity that is carried out in the area. It should be noted that the zone proposed for the excavation had no rocks coming from the collapse; probably this is the only location where the sediment is just composed by soil without rocks.

With regards to organic material, a lot of vines, "jujub"-sic-, and "saxnik" seeds (a small, green, round fruit) were found. In addition, it had a high concentration of bat and bird feces, and a small amounts of bird bones were recovered (tibia and tarsus), possibly from a bird locally known as "to" (*Eumomota Supercilios*) (SEMARNAT, 2007: 150). With respect to cultural materials, only six sherds were obtained, but these were in poor condition.

Level 1, Lot 1 (Figures 154 and 155) was a very dark brown sediment (5YR 2.5/2 dark reddish brown). Besides the change of color in the soil, compared to that observed in surface, Level 1, Lot 1 had a combination of small and irregular shaped rocks (10 x 8 x 3 cm on average). Since the unit shows a slope to the east, the excavation proceeded to extract material located on the west side of the unit to reduce the thickness of the excavation at the eastern side, in order to obtain a level surface to continue with the excavation at the same level. In the west side of the unit, two large rocks coming from the collapse of the roof were found; but only one portion (of about 3 to 5 cm) of each rock projected into the unit; therefore, it was not necessary -or possible- remove these features.

At 94 cm east of the west side of the unit, and at -0.56 cm deep, the presence of rocks with an alignment in a north-south direction (at 15 degrees to the magnetic north) began to be observed. This feature transversely across the unit at this point and proceeded eastward, being 1.6 m thick on the north side and 1 m at its southern limit (Figure 156). Since the prior presence of a wall was reported the presence of a wall (Shaw 2005: 114-121) and, due to the discovery of this alignment, we began to infer that this was a continuation of the same wall located in 2005.

During the removal of this Level 1, Lot 1, it was found that this alignment actually corresponded to the wall of 2005, with the peculiarity that its boundaries and constitution were clearly differentiated in its east and west ends. On the eastern end, it had the aforementioned alignment of 15 degrees and its construction was carried out using well cut and aligned slabs. These slabs were located at -0.5 to -1 m from the surface, but from -1 to -1.2 m its shape was visible and its form was not clear, because apparently we only found the presence of collapsed material. At its western end, there was not the same alignment, since it had a concave shape; furthermore, it was constructed with rough stones and, additionally, it has another alignment (of about 30 degrees) (Figure 157).

A highlight was the presence of small gravel in the west end of the unit and, especially, in the eastern side of the alignment. The thickness of this gravel reached 58 cm. This material was not homogeneous in its deposition.

Cultural material in this Level 1, Lot 1 was pretty abundant. The total number of sherds recovered was 772; 180 were in poor condition. Of those that were identified, 23 fragments corresponding to Middle Formative, 41 to the Late Formative, 35 to the Early



Figures 154 and 155. Chakal Ja'as, Operation 3, Level 1, Lot 1 (View A and B)

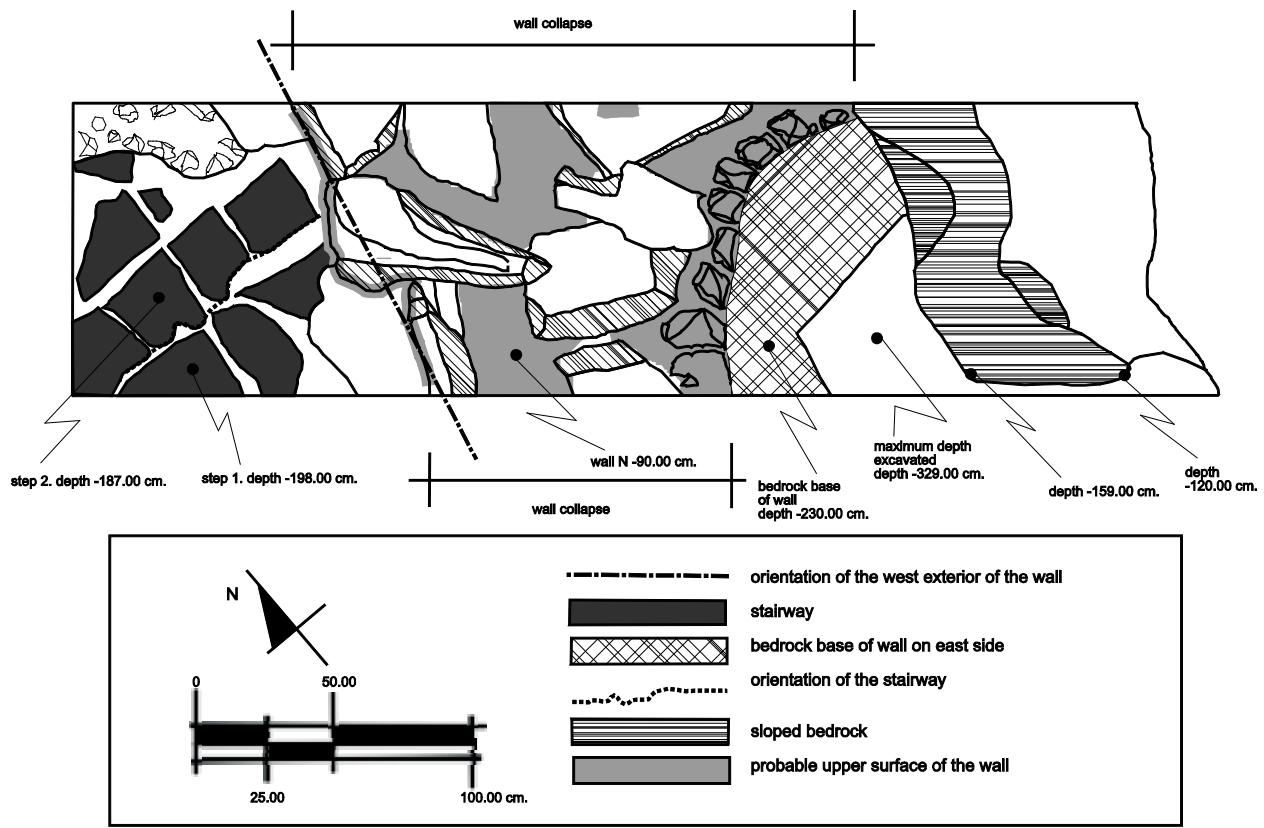


Figure 156. Chakal Ja'as, Operation 3, Plan

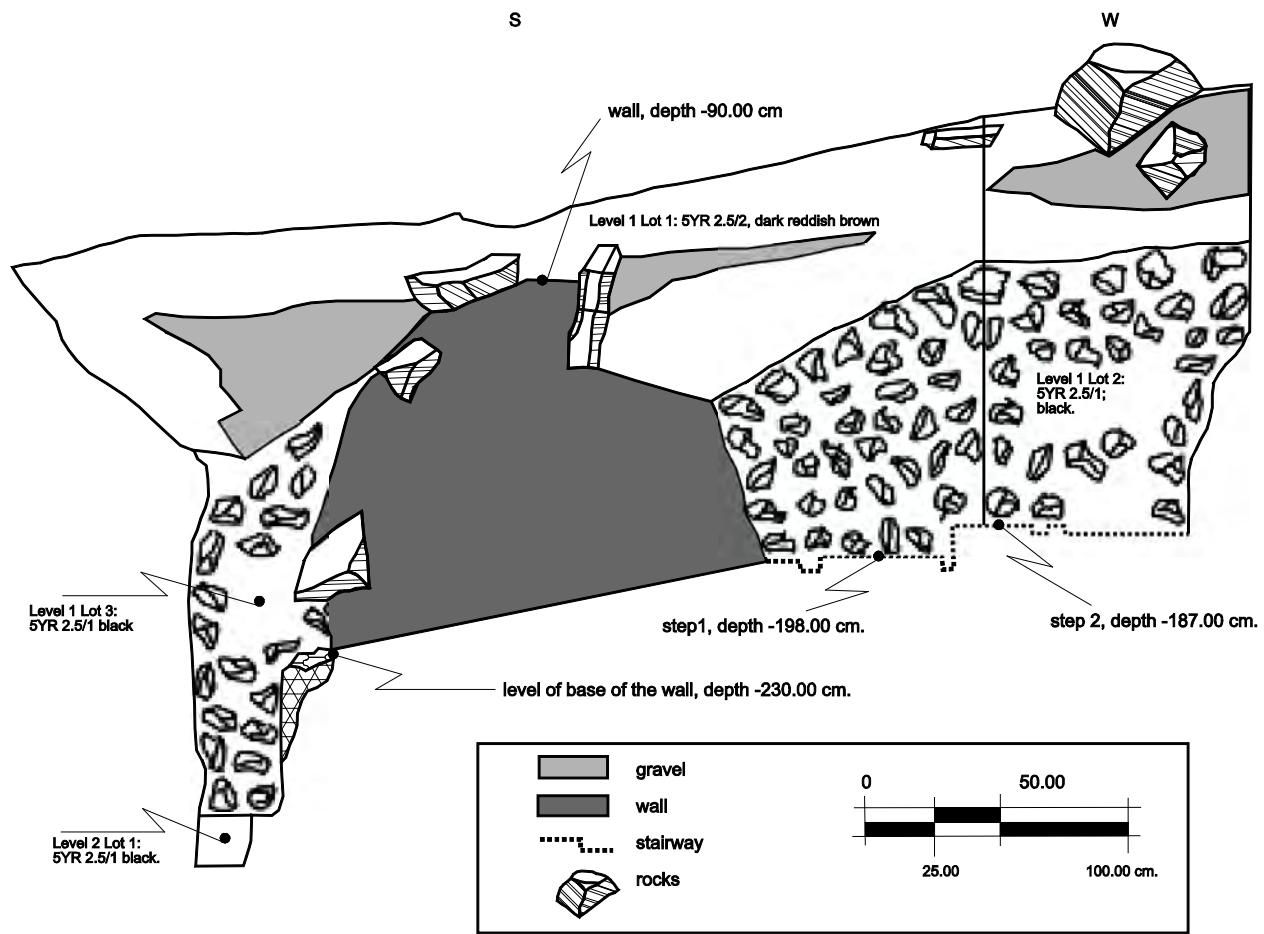


Figure 157. Chakal Ja'as, Operation 3, South and West Profiles

Classic, 11 to the Late Classic and 493 to the Terminal Classic (see Chapter 47 this volume).

In addition, during the excavation of this level, several skeletal remains were recovered. These remains were a small fragment of human skull and various remains of diverse fauna, mainly from birds (mainly of the locally called “*to*”) and from other animal species, such as a wild boar (fragments of the right jaw, right scapula, and probably a right tibia fragment), a deer (left pelvis fragment), and a fragment of cortical bone of an indeterminate specimen.

Level 1, Lot 2 was composed of a soil with the same coloration as the previous lot (5YR 2.5/2 dark reddish brown). Level 1, Lot 2 was formed by the western limit of the unit and the west side of the wall. These considerations led to the change to a different lot, was the presence of the wall in the central part of the unit, which suggested that the deposition of materials could be different on each side of this element.

Bones in this layer decreased dramatically; only some fragments of bird bones were recovered. Moreover, a decrease in ceramics was also noticed. Within this level, 216 sherds in total had been located, 86 of these in poor condition. Among the possible types that were analyzed, samples from the Middle Formative (15 pots), Late Formative (36 pots), Terminal Classic (1 pot), Late Classic (3), and Terminal Classic (78) were identified (see Chapter 47 this volume).

With respect to the continuation of the excavation process of the western face of the probable wall, from the beginning of Level 1, Lot 2 (at -1.20 m) until the maximum depth excavated (-1.78 m), it was not possible to observe the formation and constitution of that element, since in this area the wall is more like a “pile” of stones that was not excavated in order to not affect the stability of the wall.

At a depth of -1.67 m, on the western edge of the unit, a probable floor made of slabs was discovered. By continuing westward from the excavation, it was noted that this level of floor descended 12 cm to another level. This gap clearly marked the presence of a step with a first tread (west side) of about 70 cm (at its widest part) and a second tread of 46 cm (to the south). This tread probably continues to the south of the unit, but in this case, the limit of this tread was the wall of this feature and, as has been mentioned, between the two footprints a 12 cm step was observed. Another point to consider is that the orientation of these steps keeps the symmetry of the axis with the west face of the wall (Figures 156-158). Finally, it was decided not to remove any items that formed the steps; therefore, the excavation ended in this part of the unit (at -1.78 m deep).

Level 1, Lot 3 was a layer located on the eastern side of the unit, which was bounded by the north and south sides of the pit, as well as the eastern face of the wall and a bedrock outcrop located on the east side of the unit (the feature that continues to the access of the cave). The color of this layer was identical to the previous Level 1, Lot 1 and Lot 2 (5YR 2.5 / 2: dark reddish brown). The layer was mixed with rough rocks, pebbles, and cobbles (although fewer were present when compared to the previous lot), but without any particular arrangement.

In this lot, there was a decrease in bone material, as well as in the quantity of recovered sherds. In total, only 59 ceramic fragments were recovered; seven of these



Figure 158. Chakal Ja'as, Operation 3, Level 1, Lot 2

were not identified. Among the recovered ceramics, we had the presence of Middle Formative sherds (1 piece), as well as Late Formative (15) and Terminal Classic (29) examples (see Chapter 47 this volume).

Regarding to the continuation of the wall in these lower levels, it continued until 2.2 m in depth, and its construction included middle-sized, well-cut rocks. However, the inclination of the wall fell to 17 degrees; this angle continued more or less constantly up to -1.9 m. From this point, it was observed that the inclination of the feature changed to zero degrees and the face of the wall intruded about 12 cm, with regards to the trajectory that had been observed throughout the excavation process. This limit of the wall face was kept constant for the next 20 cm, until -2.2 m in depth; after that, the face of the wall resumed the orientation of the previous lot, but its tilt was maintained at zero degrees. Another peculiarity is that, from -2.1 m until the end of this lot (- 2.76 m), the wall was constructed with carved bedrock.

Another factor to consider during the excavation of this lot was the bedrock that marked the boundary of the east side of the unit. This feature also showed an inclination of zero degrees; therefore, combined with the probable facing wall it formed a delimited space. The bedrock in this point did not appear to be culturally modified, but it had a smooth surface, probably due to water erosion. The space between the two features hindered the extraction of the material from the lot (Figure 159).

Level 2, Lot 1 was a layer that started at -2.76 m. The sediment, although presenting the same color than the previous lot, had a lesser quantity of small-to-medium rocks, as well as greater moisture and lesser compaction.

In addition, it was noted that this facing wall was constructed of flat stones that continued, except for this wall projection, about 13 cm to the east, outside of this wall. From the projection of the facing wall, the area between the wall feature and the limestone bedrock limited the excavation; it was impossible to continue with the excavation of the sediment in this area. As a result of the above condition, we could only further this excavation by about 23 cm in depth, which was the deepest point of this unit, about -3.09 m below the surface (Figure 160). No cultural materials were recovered within Level 2, Lot 1.

Both the wall the steps were consolidated and properly recorded, as will be described below. Once this process had been done, the backfilling of the unit to its original level before our intervention proceeded.

Interpretation

Level 1, Lot 1 seems to correspond to the natural deposition of materials, coming from the collapse of the roof of the *rejollada*. The deposition of this debris hit the western top and the western face of the wall. It is likely that its current position on both parts of this feature is a product of the effect caused when it was hit by rocks from the collapse. This effect was more intense in the western side of the unit, specifically on the western side of the wall, as this feature functioned as a retaining wall for the collapsed



Figure 159. Chakal Ja'as, Operation 3, Level 1, Lot 3



Figure 160. Chakal Ja'as, Operation 3, Level 2, Lot 1

material, avoiding major damage to the entire “*bukte*” (reservoir) or wall, as these stones did not damage the eastern face of this feature with the same intensity.

Another factor to consider is the presence of small stones or gravel at this level, which were not level, nor did they cover the entire unit. This gravel seems to have been brought to this stratum by natural processes, so that its origin does not appear to be cultural.

The presence of remains of fauna, except those from birds, may correspond to two factors: the movement of the materials due the natural slope and because of the activity of mammals that inhabited this natural shelter.

The human skull fragment could also have been moved by the activity of a mammal, such as a rodent; no other human bone fragments were located in this season's excavation, and this fragment was not associated with any other cultural feature.

With regards to the ceramic materials recovered, these come from different times, but cannot provide a precise date for the occupation of this area, as none was recovered from a sealed context; however, it is clear that the majority of these samples correspond to Terminal Classic, a period when the population of the settlement reached its major apogee.

Level 1, Lot 2 is basically the same as the previous layer (Level 1, Lot 1), and could have been formed by the same factors. However, Level 1, Lot 2 belonged to a time when a lot of rocks from the collapse of the roof were shifted to the west side of the excavation unit. During the removal of the material from this stratum, composed of rough rocks and soil, it was noted that this layer had a high degree of compaction. This collapse covered the possible steps but, apparently, these were not significantly affected because the slabs that form the steps are seated directly on a flat and well-grounded surface (perhaps with a subfloor that lies below the slabs).

The deposition of cultural elements may be due to the same factors as the above level, but with the exception that there were fewer sherds recovered. Although the chronology of these cultural materials includes examples from the Middle Formative through the Terminal Classic, is this latter period which has a higher number of fragments.

Level 1, Lot 3 appears to have been formed by the same factors as the previous lots, with the exception that the deposition of the material that was differentiated by the presence of the wall (which contained part of the collapsed rocks). In addition, it is likely that the material from the collapse not only came from the west side of the *rejollada*, but also from the southeastern area next to the excavation unit. In that area, it can be seen that the sediment is thinner in comparison with those found in other areas of the *rejollada*. Being more specific, the southern part, adjacent to the excavation unit, is the only place that is not covered by rocks from the collapsed roof. In addition, the natural slope of this area descends towards the cave access, a location in which, subsequently, the eastern face of the probable *bukte* (reservoir) or wall was located. As in the previous lots, most of the sherds belong to the Terminal Classic, thus maintaining the idea that this period was the most populated for this settlement.

Level 2, Lot 1 had fairly uniform sediment, this may be due to the effect of stagnant water between the eastern face of the wall or *bukte* and the natural bedrock that is in front of it. Because the space between the two elements was very small, the

removal of the sediment from this area was practically impossible. No fragments of cultural material were recovered from this area, although it is likely that, under these stone slabs, one or more cultural deposits may be located.

The most interesting feature located in this excavation was the steps, perhaps part of a stairway whose function was to facilitate access to the bottom of the *rejollada*. This stairway was composed of polished slabs, leveled at their top and carved on their flanks. This shape was intended to facilitate the successive placement of each one of these slabs. Although we could only clean the width of one of the treads of these steps, whose extent was 70 cm, it may be assumed that the width of all the other treads of the other subsequent steps would have the same width. The rise between each of the trends was 11 cm, while the length of each one of these steps could not be determined because they exceeded the limits of the unit.

Equally, the evidence shows that this series of steps has a north-south alignment, with the north direction that ascends and probably continues to the north wall of the *rejollada*. The limit of this step, on its eastern side, is the same wall or *bukte* (reservoir), which has the same orientation as the stairway.

The question about the depth reached by the steps would be solved by continuing the excavation of the southern part of this operation in future seasons. In the upslope, it is almost impossible to remove a sufficient amount of debris; therefore, it seems impossible to continue the excavation in that direction.

The other feature found in this unit was the continuation of the wall discovered in 2005; it was discovered that this architectural feature seems to have been part of a reservoir, in addition to defining the steps that are aligned therewith. The maximum height that we observed in this wall was 1.02 m (from the lowest step to the top of the wall). The original orientation of the west face of the wall corresponded to 15 degrees, but in this part it deviated from its original position, probably due to the impacts of the rocks from the collapse of the roof of the *rejollada*. This flank was composed of large slabs, carved and was, apparently, without stucco.

This feature also may have functioned as a water storage device, which is evident with the east face that presented a concave shape (2.54 m inner diameter and a depth of 1.5 m). The interior walls were made of medium-size stones, unlike the western face that was manufactured with large slabs. An interesting detail of this construction was the detection of a possible base of this wall, which was located at a depth of -2.10 m, where the face of the wall changes its alignment to zero degrees and the construction material switched to the carved slabs. These slabs were kept in the same orientation until the maximum depth of -3.10 m, with the peculiarity that the face of the wall protrudes about 12 m to the east, forming a sort of step. This leads us to suggest that the slab was culturally modified for the purpose of serving as the base for a concave wall. In addition, there was not any type of drainage and it was not possible to establish whether the walls were stuccoed.

This concave wall was complemented with the natural bedrock that is in front of it, forming a sort of reservoir, cistern or water tank, called in Yucatec as "*bukte*". Another important factor is that this reservoir, along with other nearby features, perhaps suggests that this area had a symbolic character. These other elements are the access to the cave, east of the reservoir, as well as a few carvings. Inside the cave, on the

southern side, several stalactites and stalagmites in the process of being formed by a steady trickle of water were found.

Outside of the cave floor, there is a protrusion of limestone that bounds the east side of the reservoir. This part of the limestone or bedrock has traces of rain erosion along its horizontal direction, and shows a fracture at the adjacent edge to the access of the cave. This fracture has a longitudinal direction, so this may have modified the function of water catchment, since the water would seep through the fracture and would not drain to lower levels. Northeast of this probable deposit, at roughly 2 m, in the inner wall of the *rejollada*, lies a petroglyph with the possible representation of Tlaloc and a border. Both carvings have been reported by Normark (2003) and Shaw (2004).

Consolidation

Because both the wall and the steps were architectural elements, we proceeded to consolidate them, in order to ensure the conservation of these features and their components, in addition to providing strength and stability at the end of the excavation process.

First, we started with the consolidation of the wall or “*bukte*” (reservoir), where none of the stones were removed, neither from their original orientation nor level. The consolidation process included the cleaning of the rocks that form the wall. This labor was conducted with the help of water, brushes, and toothbrushes (Figure 161). Only the sediment in the junctures between rocks was removed, which was replaced by a mixture of lime and sascab in proportion of 3:1. The sascab was previously passed through a sieve of 5 mm, and then was mixed with lime and water to obtain a thin mixture. Once the consolidation process was concluded, the registration of this element was carried out (Figure 162).

The other element that had been consolidated was the series of steps or stairway; this was conducted following the same principles that were used with the preceding feature (Figure 163). During this consolidation process, the feature remained at its original position, and the consolidation was only carried out to ensure its stability and preservation for the future. After the consolidation tasks were concluded, the registration of this feature through photographs was concluded (Figure 164).



Figures 161 and 162. Chakal Ja'as, Operation 3, Consolidation (Views A and B)



Figure 163. Chakal Ja'as, Operation 3, Consolidation (View C)



Figure 164. Chakal Ja'as, Operation 3, Consolidation (View D)

Part 3: The Ejido of Sacalaca

Chapter 25: Chakal Ja'as, Operation 4

Leslie Reyes

Chakal Ja'as Operation 4 test excavation unit was located 30 m from Structure N1W1-3 and on an outer northeast corner of a large unnamed structure with multiple rock alignments located west from Structure N1W1-3. Operation 4 was excavated in order to obtain artifacts that might indicate the occupation period(s) during which the unnamed structure may have been used. Large roots, limestone bedrock, collapsed stones, and ceramics are within the Operation 4 vicinity ground surface (Figure 152). Excavation proceeded in natural levels in which a level changed when the soil color changed.

Operation 4, Level 1, Lot 1 included the removal of overburden, roots, vegetation, and surface artifacts. Soils were (10YR 3/3) dark brown sandy clay loam. There were no mottles in the matrix. Soil structure was structureless, and single grained where soil condition has no evidence of aggregation and particles tend to stick together in no definite pattern. Soil consistency when dry is slightly hard; when moist soil is friable; when wet soil is slightly sticky and plastic. Roots are common with 4 to 14 per six square centimeters. They range in size between fine and coarse (> 5 mm). Carbonates are present in the soil as we are situated on limestone outcrops and charcoal is present from repeated vegetation burning. The soil horizon boundary of Operation 4 is abrupt and wavy due to soils underlain by undulating bedrock. Chakal Ja'as Operation 4 was terminated at limestone bedrock (Figures 166 and 166).

The Operation 4 test excavation unit was interesting in that lithic artifacts were found in larger quantities than most sites within our project area. A total of 64 lithic debitage pieces were collected in the unit and screen. Over half of those pieces were pressure flakes or slightly larger tertiary flakes. It is possible that the occupants of this nearby structure had been retouching tools then swept the smaller debitage off the structural platform to keep the sharper chert flakes from injuring anyone. Further research will be carried out to investigate the sources for chert resources and possible trading routes within our project area and between other areas nearby.

A total of 624 ceramic sherds were collected from Operation 4. Of those sherds analyzed, 483 sherds were from the Terminal Classic. It is possible that these sherds were, like the lithic debitage, swept off the structural platform to keep that space clean. There were no sealed deposits within Operation 4. The other periods represented in the ceramic sherd sample, two Late Formative sherds and one Early Classic, were probably deposited in a tertiary context via bioturbation or older constructions fill located from the structure nearby (Table 2).

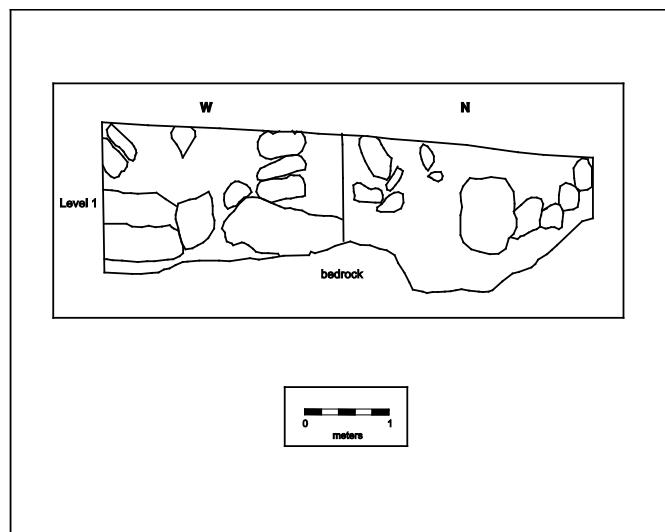


Figure 165. Chakal Ja'as Operation 4 West and North Profiles

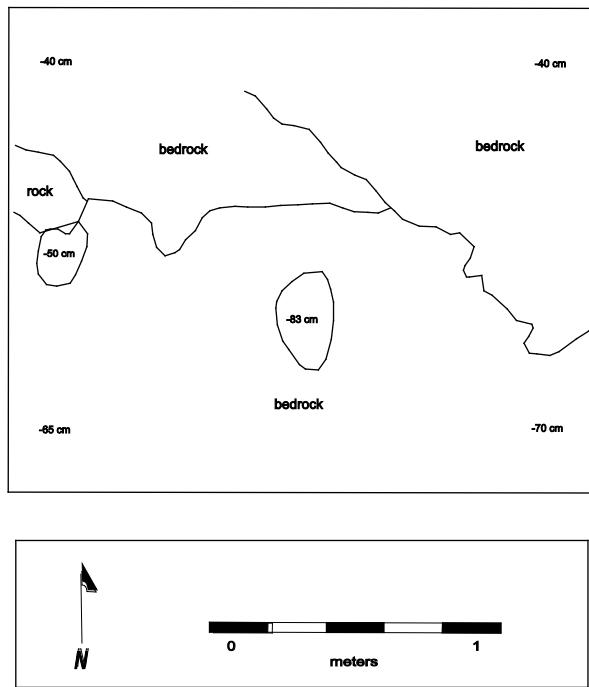


Figure 166. Chakal Ja'as Operation 4 Plan at Bedrock

Part 3: The *Ejido* of Sacalaca

Chapter 26: Ramonal Oriente, Operation 1

Alberto G. Flores Colin

This operation was situated in front of the Structure S1W1-1, a pyramidal mound that was modified by an attached section in order to convert it into a range structure; furthermore, this mound is the largest construction of this settlement, reaching about 4 m tall (Figure 167). The goal of this unit was to recovering a ceramic sample that could help to establish an approximate date for this area of the settlement, and, indirectly, for the surrounding buildings (Figure 168), as well as the construction sequence of this plaza.

Level 1, Lot 1 was a layer of blackish sediment (10R 3/1), which was formed by organic material and rubbish from the collapse of the nearby structure (Figure 169). Ceramics from this level mainly correspond to the Yokat Striated var Yokat and Muna Slate types from the Terminal Classic. The level was completed when abundant pebbles (1x1 cm) and a brownish color (7.5YR 4/3) strata were found. Removal of this Level 2, Lot 1 (Figure 170) resulted in the discovery of several stones (about 40 x 30 cm) that seem to be part of a corner of a sub-structure (Feature 1), possibly an altar. The corner delimited by this architectural element was not excavated, but was left *in situ* for its subsequent consolidation at the end of the excavation process. Ceramics within this level also were from the Terminal Classic, mainly the same types as the previous level.

Once this sediment was entirely removed, a layer of stones that covered the entire unit was discovered, which seems to be the subfloor of this plaza level; for this reason it was decided to change to a next level (Level 3, Lot 1) (Figures 171 and 172).

After its pertinent registration, this subfoor was totally removed, revealing a fill of stones (about 40 x 30 cm) mixed with a brownish sediment fill (7.5YR 5/6), placed directly upon the bedrock. Although the majority of the ceramic samples recovered from this level were from the Terminal Classic (Yokat Striated var Yokat and Muna Slate), a few Formative sherds were also discovered (of the types Sierra Red and Desvario Chamfered).

The bedrock was totally exposed (Figure 173), later the previous layer was removed (Level 4, Lot 1), register labors were conducted, through photographs and drawings (Figure 174). Most representative ceramics from this level was from the types Yokat Striated var Yokat and Muna Slate (from Terminal Classic), although Early Classic samples, of the Yaxcaba Striated and Xanaba Red types, were also collected.

Feature 1 that was left *in situ* since Level 3, Lot 1 was consolidated with a mixture of lime and sascbab. This consolidation process included the cleaning of the joints of the stones that form Feature 1, where the degraded material was replaced by the mixture described above (Figures 175 and 176). Subsequent to this, Feature 1 was covered with a thin layer of soil, in order to protect it and ensure its stability.

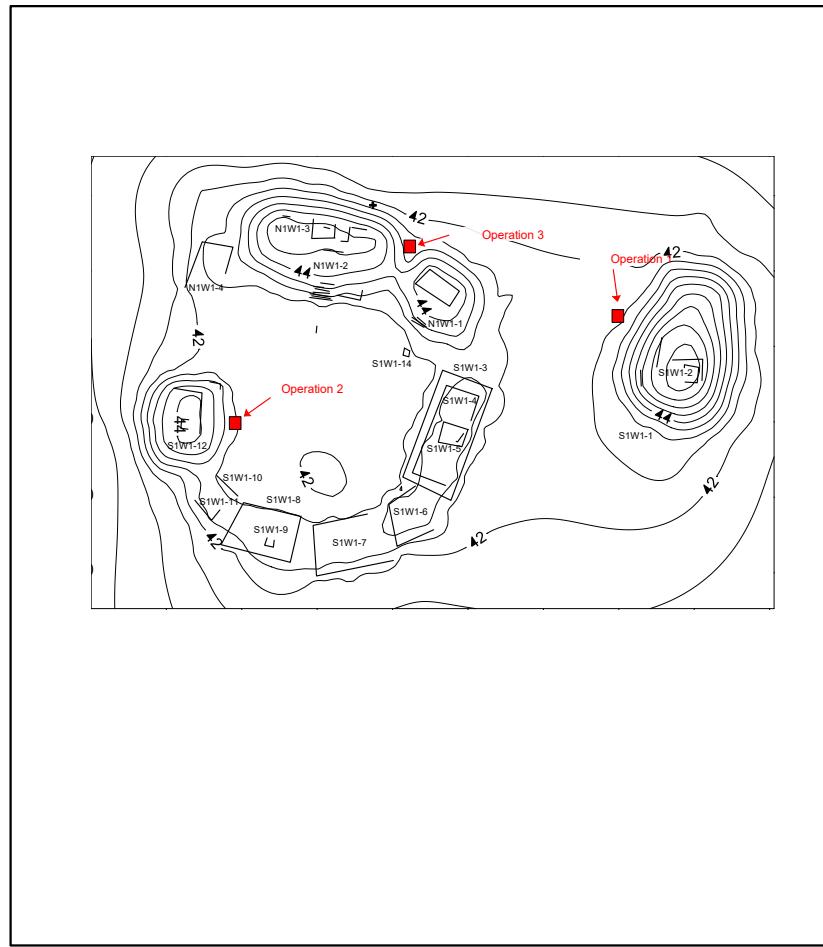


Figure 167. Ramonal Oriente, Excavation Locations



Figure 168. Ramonal Oriente, Operation 1, Surface



Figure 169. Ramonal Oriente, Operation 1, Level 1, Lot 1



Figure 170. Ramonal Oriente, Operation 1, Level 2, Lot 1



Figure 171. Ramonal Oriente, Operation 1, Level 3, Lot 1

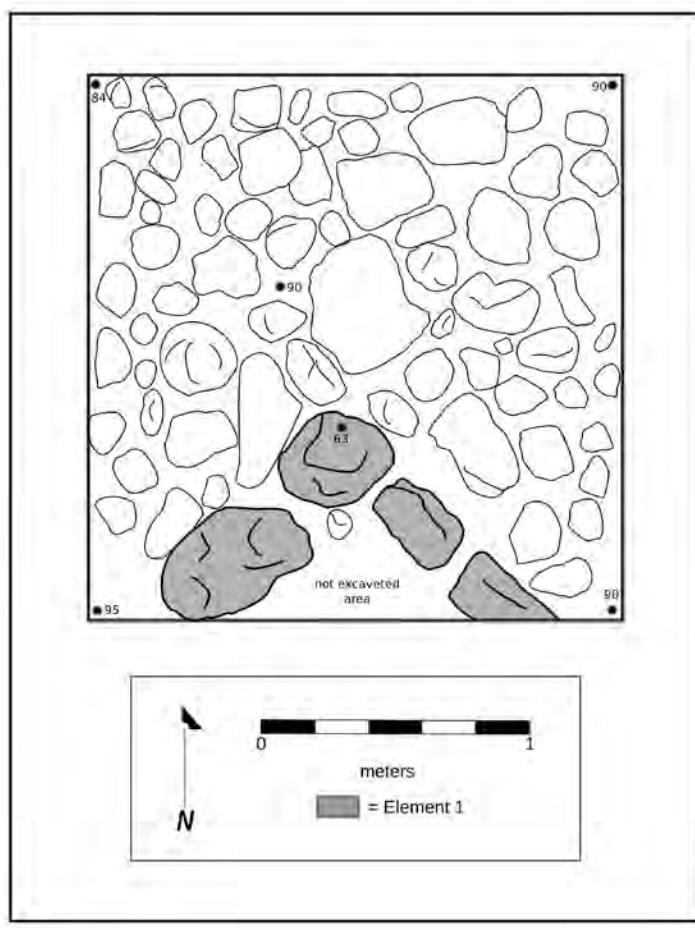


Figure 172. Ramonal Oriente, Operation 1, Level 3, Lot 1 Plan



Figure 173. Ramonal Oriente, Operation 1, Bedrock

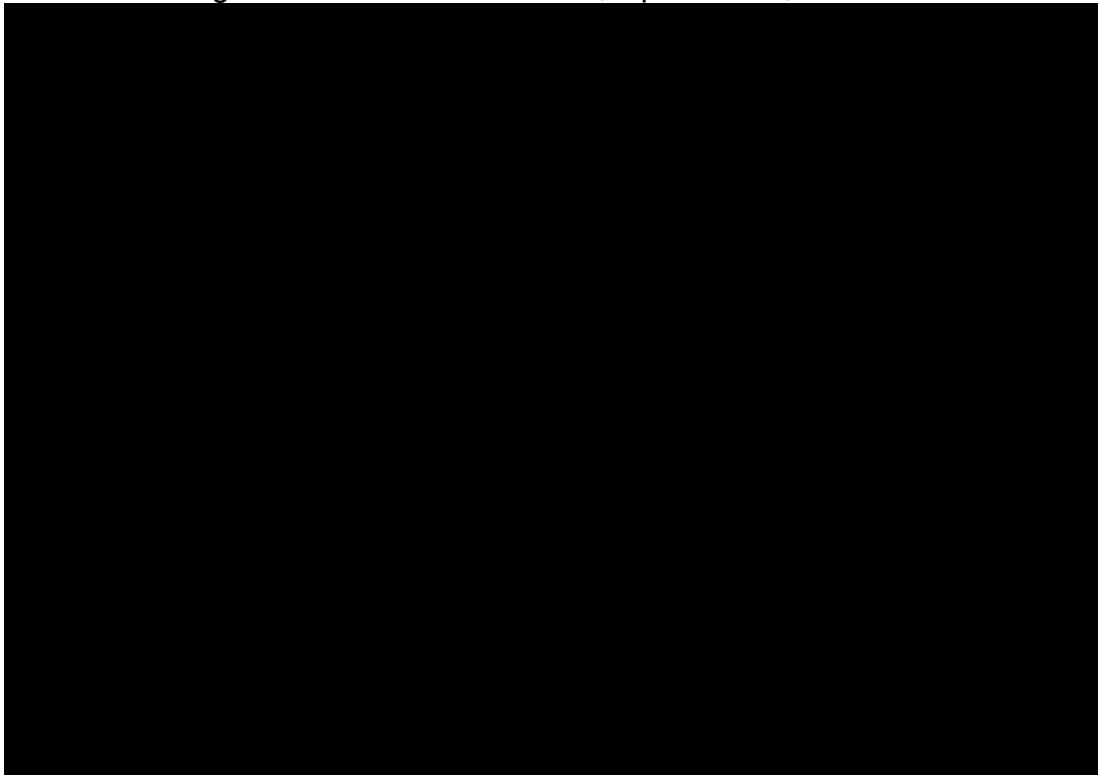


Figure 174. Ramonal Oriente, Operation 1, East and South Profiles



Figure 175. Ramonal Oriente, Operation 1, Consolidation in Progress



Figure 176. Ramonal Oriente, Operation 1, Consolidated Element

Following this process of consolidation, the unit was backfilled with the same material that was removed, until the level of the original surface that existed before our intervention was reached (Figure 177).

Interpretation

It seems that the bedrock at the bottom of this unit that was exposed was part of the original surface, possibly the natural surface where the first inhabitants of the settlement became established. Subsequently, during the Terminal Classic, an artificial leveling was built (Level 4, Lot 1). Culmination of this construction project was subfloor (Level 3, Lot 1), which was the base to a floor now degraded (Level 2, lot 1). This would have been the final surface of the plaza during the Terminal Classic. During a given time in this period, perhaps also as part of the same construction project, what seems to have been an altar was built, of which only the northeastern corner could be observed. However, it is also likely that Feature 1 and the surface of the plaza of the Level 3, Lot 1 were not part of the same construction project. It is even possible that Feature 1 is part of a post-abandonment structure, but the ceramic evidence produced by this unit is not adequate to detect this subtle difference. Level 1, Lot 1 was the stratum formed since the site was abandoned until today, composed of the collapsed material from the adjacent structure (Structure S1W1-1).



Figure 177. Ramonal Oriente, Operation 1, Backfilled

Part 3: The *Ejido* of Sacalaca

Chapter 27: Ramonal Oriente, Operation 2

Alberto G. Flores Colin

This unit of excavation was a test pit (2x2 m) located in front of the Structure S1W1-12, in the western part of the southeast complex of this site (Figure 167). This unit was excavated in order to get ceramic samples from which we could obtain a date for each construction period of this artificial leveling, in addition to knowing the construction sequence carried out in this part of the settlement (Figure 178).

Level 1, Lot 1, consisted of a layer of a blackish sediment (7.5YR 2.5/1), with pebbles of *sascab*, perhaps originating from the collapse of the nearby structure. In addition, this stratum had abundant organic material and roots (Figure 179). Ceramic sherds recovered from this level were few, but mostly were a mixture of samples from the Terminal Classic and Middle Formative. Due the discovery of a series of stones (about 20 x 30 cm) in the southern part of the unit, it was decided to change to Level 2, Lot 1 (Figure 180), which was composed of pebbles mixed with a dark brown sediment (7.5YR 4/4). Ceramics of this stratum were not abundant and corresponded to the types of Yokat Striated var Yokat and Muna Slate from the Terminal Classic. This level was finished when a uniform layer of stones (of 20 x 25 cm on average) was found, which were laying at the same level (Level 3, Lot 1 and 2) and seemed to have been part of a subfloor of the final surface of this plaza (Figure 181). Due the presence of a missing section of this layer of stones, this level was divided in two lots. Level 3, Lot 1 was the part with stones, while Level 3, Lot 2 corresponds to the part where the stones were absent. Once this layer of stones was removed, it was discovered that there was a fill composed of large stones (about 40 x 50 cm on average), that were placed partially dry in some parts, while others were mixed with a brownish sediment (7.5YR 6/6). No ceramic sherds were found within this Level 3, Lot 2, while Level 3, Lot 1 contained fragments of Terminal Classic sherds mixed with Late Formative examples (Figure 182).

Level 4, Lot 1 was a layer of reddish-brown soil (2.5YR 4/6), locally known as *chac luum*, but mixed with pebbles of *sascab*. The consistency of this level was sandy and well compacted; therefore, it is possible that this layer had been a very eroded stucco floor. The end of this level occurred when bedrock was discovered in whole unit (Figure 183). However, the presence of a hole in a section of the bedrock, which contained abundant ceramic sherds, caused that this Level 4 to be divided into two lots. Level 4, Lot 1 was the section of the reddish-brown soil, while Level 4, Lot 2 was the sediment of the hole with ceramic sherds. Ceramics within Level 4, Lot 1, corresponded to the types of Yokat Striated var Yokat and Muna Slate, while those of Level 4, Lot 2 were very abundant but mainly of the Chum Unslipped type, all from the Terminal Classic.

After both lots were completely removed, and once that the registration of the unit concluded, through drawings and photographs (Figure 184), the unit was backfilled with the same material previously removed until the original level of the surface was reached (Figure 185).



Figure 178. Ramonal Oriente, Operation 2, Surface



Figure 179. Ramonal Oriente, Operation 2, Level 1, Lot 1



Figure 180. Ramonal Oriente, Operation 2, Level 2, Lot 1

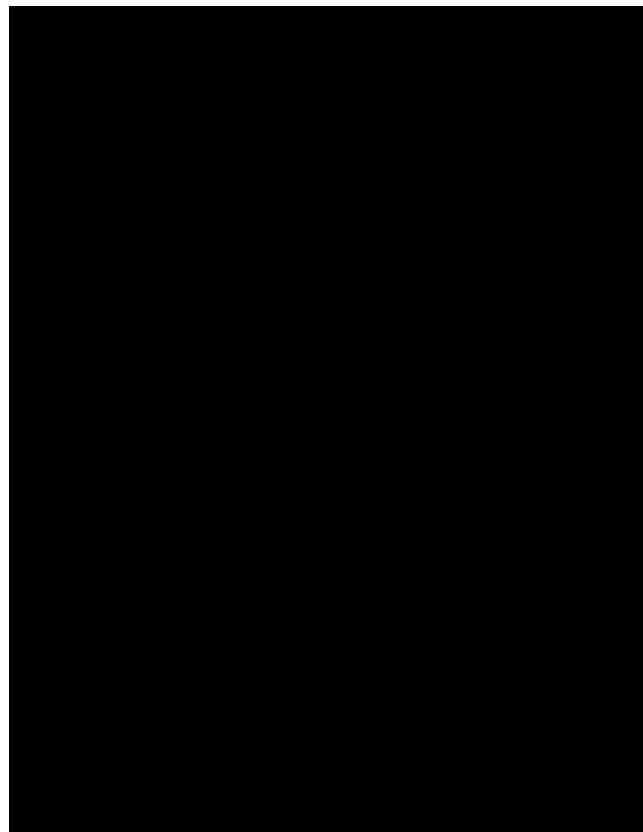


Figure 181. Ramonal Oriente, Operation 2, Level 2, Lots 1 and 2



Figure 182. Ramonal Oriente, Operation 2, Level 3, Lot 1



Figure 183. Ramonal Oriente, Operation 2, Bedrock

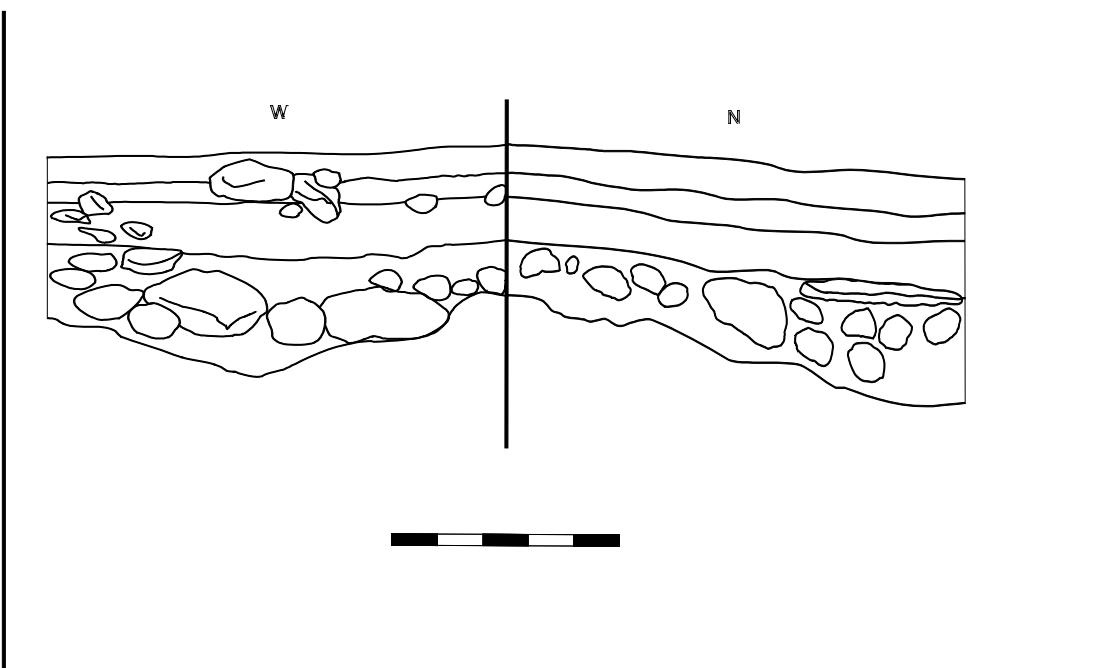


Figure 184. Ramonal Oriente, Operation 2, West and North Profiles



Figure 185. Ramonal Oriente, Operation 2, Backfilled

Interpretation

It is likely that the bedrock of this unit was part of the natural surface of the first occupation at this portion of the site. The Level 4, Lot 2, suggests that the ceramics contained in the natural orifices of the bedrock were intentionally placed, in order to obtain a leveled surface. Based on ceramic evidence, this occurred during the Terminal Classic. Based upon a hard compaction of the surface of Level 4, this seems to have been an occupational area, perhaps a floor of *sascab* now eroded.

Level 3, Lot 1 and 2, seems to have been the subfloor of the last flooring episode of the plaza, which was raised through a stone fill, dry in some sections but others mixed with sediment. This construction episode is when this plaza would have been completed, and perhaps also when the nearby structures acquired their final form. This entire episode would have also occurred during the Terminal Classic, according to the sherds that were recovered from this stratum.

Both Level 2, Lot 1, as well as Level 1, Lot 1, seem to have been formed after this part of the site was abandoned or was in disuse, since it is composed of material from the collapse of Structure S1W1-12 and the organic material of the secondary forest that currently thrives in this settlement. Postclassic sherds were not located in this unit to indicate a permanent occupation for this period, although there are several Postclassic altars on top of the surrounding structures, which indicates that some sort of activities were carried out during this latter time.

Part 3: The *Ejido* of Sacalaca

Chapter 28: Ramonal Oriente, Operation 3

Alberto G. Flores Colin

This operation was a 2x2-m test pit, located north of Structures N1W1-1 and N1W1-2 (Figure 167), over a raised area that could have been part of a plaza or may be formed by the collapsed material of both buildings. Operation 3 was located in this area with the intention of obtaining ceramic samples to possibly date to each construction period, even though we assumed that this context was a midden. Therefore, we expected to find a significant amount of ceramic sherds, but in a mixed context (Figure 186).

Level 1, Lot 1, consisted of a blackish layer (7.5YR 2.5/1), mixed with pebbles and rocks from the collapse of the nearby structure. Ceramics from this level was few, mostly of the types Yokat Striated var. Applique and var. Yokat (from the Terminal Classic), but mixed with several fragments from the Late Formative. This level was completed when a layer of stones, of about 30 x 40 cm in average, was located. However, these rocks lay without an apparent order; therefore, we cannot clearly state that this were part of a subfloor (Figure 187).

Level 2, Lot 1, corresponded to the layer of stones, while the Level 2, Lot 2 was the brown sediment (7.5YR 5/4) that lay mixed and under these elements. Within this level, an abundant quantity of ceramics was located. Both in the southern, as in the central part of the unit, two ceramic elements that appeared to be partially complete were located (Feature 1, and Feature 2). These were separated as Level 2, Lot 3 and Level 2, Lot 4 respectively (Figure 188). The first one of these features (Feature 1) had a grayish (5YR 7/1) and clayey sediment, while Feature 2 was burned on its surface (Figures 189 and 190). It is important to emphasize that Feature 1 lay directly over the bedrock, and contained another series of ceramic sherds in its interior (of the types Tumben Incised and Sierra Red). These elements were properly separated, recorded and subsequently analyzed in the laboratory. Feature 1 belongs to type Yokat Striated var. Yokat of the Terminal Classic, while the Feature 2 was of the Tumben Incised type from the Middle Formative. This level was completed when the bedrock was located in the entire unit (Figure 191).

After this process of excavation, the unit was filled until its original level (Figure 192), once the registration was completed through drawings and photographs (Figure 193).

Interpretation

Due to the lack of the characteristic *chac luum* or red soil that usually covers the bedrock, in addition to the presence of Feature 1 directly over this natural surface, we speculate that, at least this area where the unit of excavation was placed, bedrock existed as an outcropping during the first occupational surface of this part of the settlement.

After this, and perhaps as part of the same construction project in the plaza that is located to the south of the Structures N1W1-1 and N1W1-2, this part of the settlement



Figure 186. Ramonal Oriente, Operation 3, Surface



Figure 187. Ramonal Oriente, Operation 3, Level 1, Lot 1



Figure 188. Ramonal Oriente, Operation 3, Level 2, Lots 1-3



Figure 189. Ramonal Oriente, Operation 3, Feature 1



Figure 190. Ramonal Oriente, Operation 3, Feature 2



Figure 191. Ramonal Oriente, Operation 3, Bedrock



Figure 192. Ramonal Oriente, Operation 3, Backfilled

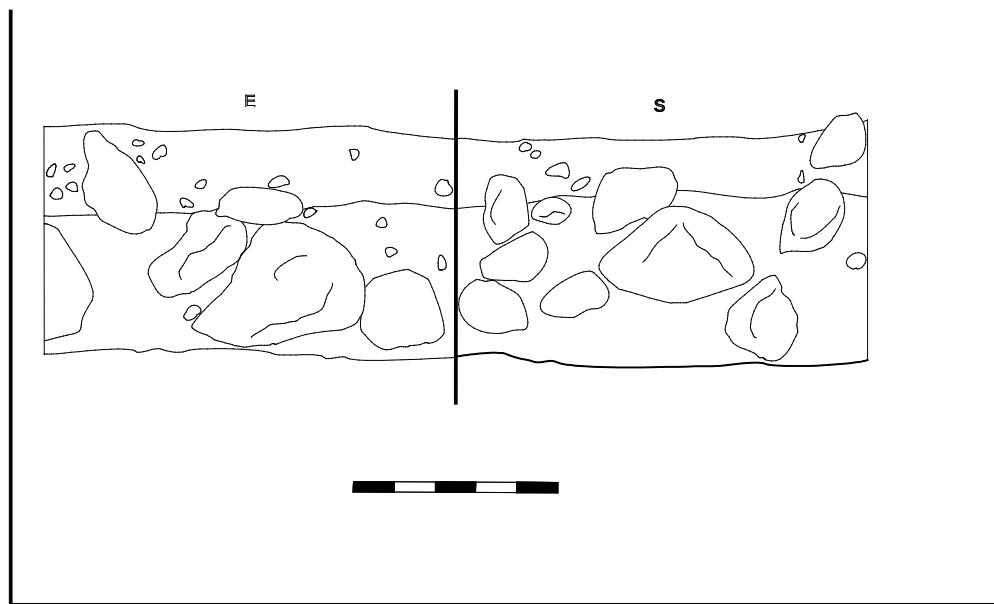


Figure 193. Ramonal Oriente, Operation 3, East and South Profiles

was also raised until it reached the height of Level 2, although we are not sure if this was part of a subfloor. However, it is clear that a large amount of different kinds of sediment and ceramic sherds were used in order to facilitate the leveling process.

Although the dates obtained from the ceramics are not clear, since we didn't find a sealed context, it is possible to raise the idea that this process could have occurred at some time during the Terminal Classic, as the abundant samples from the types Yokat Striated var. Yokat and Muna Slate suggests.

This operation, which we assumed was located over a midden, has left us more questions than answers about this type of context, which may have functioned first for that purpose, later becoming part of a process of expansion of the plaza, perhaps another plaza project that was not finished for various reasons.

Part 3: The *Ejido* of Sacalaca

Chapter 29: Ramonal Poniente, Operation 1

Alberto G. Flores Colin

This operation was a 2x2-m test pit, located to the west of the Structure N1W1-1, a historic well that predates to the Caste War of 1847 (Figure 194). The goal of this unit was to investigate whether, under the post-conquest occupation, there were Prehispanic vestiges in this part of the site and, in case that remains from this period do exist, to obtain ceramic samples, especially from a sealed lot with which it would be possible to establish an approximate date for this part of the settlement. Although there is a lack of Prehispanic constructions in this part of the site, in addition to the presence of the Postconquest well (Structure N1W1-1), a room, animal water troughs (Structure N1W1-2), and several *albaradas* are located in the surrounding area. Therefore, we assumed that the Prehispanic constructions had been destroyed to build the *rancho* facilities, which predate to the Caste War. If this was the case, then we should find evidence of these Prehispanic buildings in the area where this unit was located. Due to the characteristics of this context, where a clayey reddish soil appeared on the surface (locally known as *chac luum*), it was decided to excavate the unit with arbitrary levels of 20 cm until a cultural or natural stratum were discovered if indeed one exists (Figure 195).

Level 1, Lot 1, was a 20-cm layer of reddish soil (10R 4/3), although without the presence of stones of any size, with the exception of two that were lying in the southern part of this unit (Figure 196). Ceramics from this layer was few, belonging to the Terminal Classic period, as evidenced by samples of Teabo Red type. This stratum was completed at 20 cm deep, just when a few lenticels of sascab started to appear, mostly in the southern part of the unit (Figure 197).

This area with sascab was named as Level 2, Lot 2, while the rest of the unit was designated as Level 2, Lot 1, although this was an arbitrary distinction, since in reality the latter was composed of the same type of sediment that Level 1, Lot 1 (Figure 198). Each of these lots was excavated separately. While the ceramic material was sparse (mostly of the types Yokat Striated var Yokat and Muna Slate), within this stratum a bullet cartridge (of Winchester Deuche brand) was located. It shows the 1895 date inscribed, while the sherds recovered from the Level 2, Lot 2 (the area of the sascab) were from the Terminal Classic (Muna Slate and Teabo Red). This level and its two lots were completed at 20 cm deep with respect to the previous level, so that from that point, the unit was changed to the following level (Level 3, Lot 1).

This next level was formed by the same sediment as the previous one; however, it had a greater amount of gravel (4 to 7 cm on average), which were not uniformly distributed throughout the unit (Figure 199). It is important to emphasize that within this stratum ceramics were much more abundant than in the previous levels (about 60 sherds). Analysis conducted on these sherds recovered also determined a Terminal Classic date, mostly represented by the types Muna Slate and Yokat Striated var. Yokat.

After 20 cm of this level it was decided to change to Level 4, Lot 1, which was

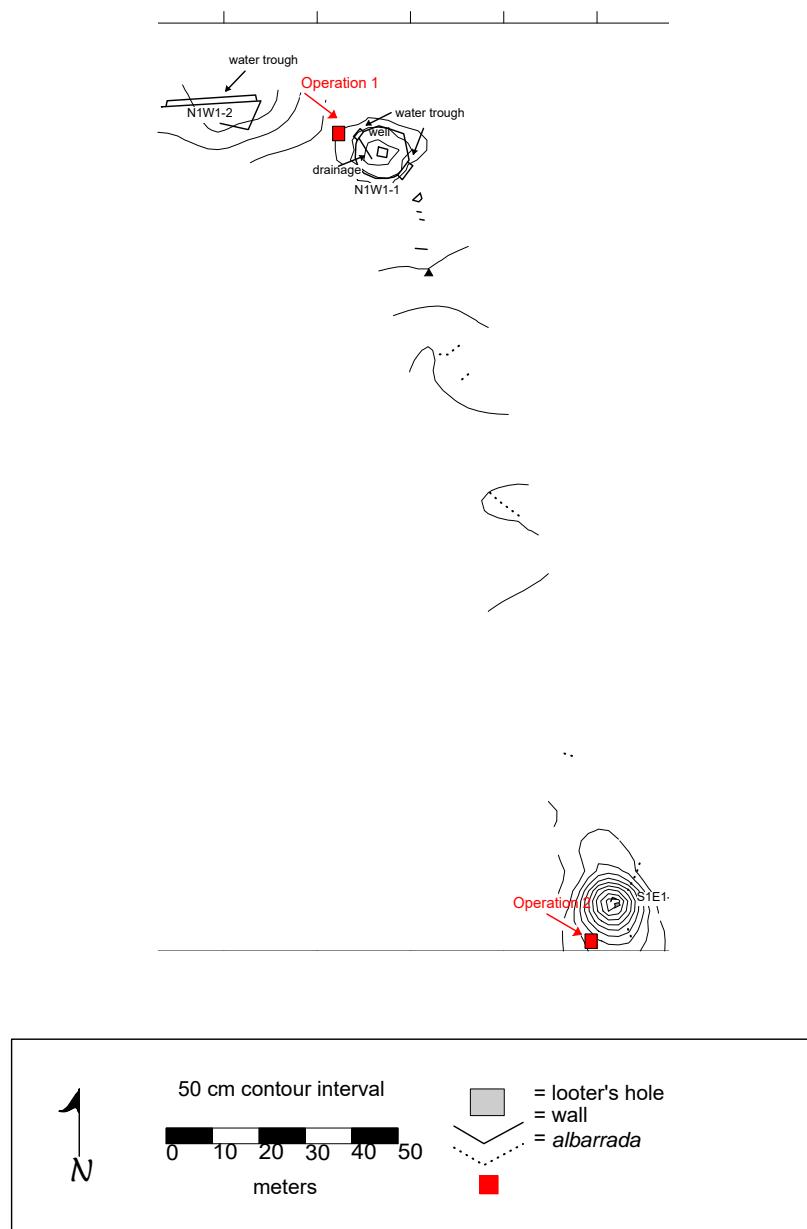


Figure 194. Ramonal Poniente, Excavation Locations



Figure 195. Ramonal Poniente, Operation 1, Surface



Figure 196. Ramonal Poniente, Operation 1, Level 1, Lot 1

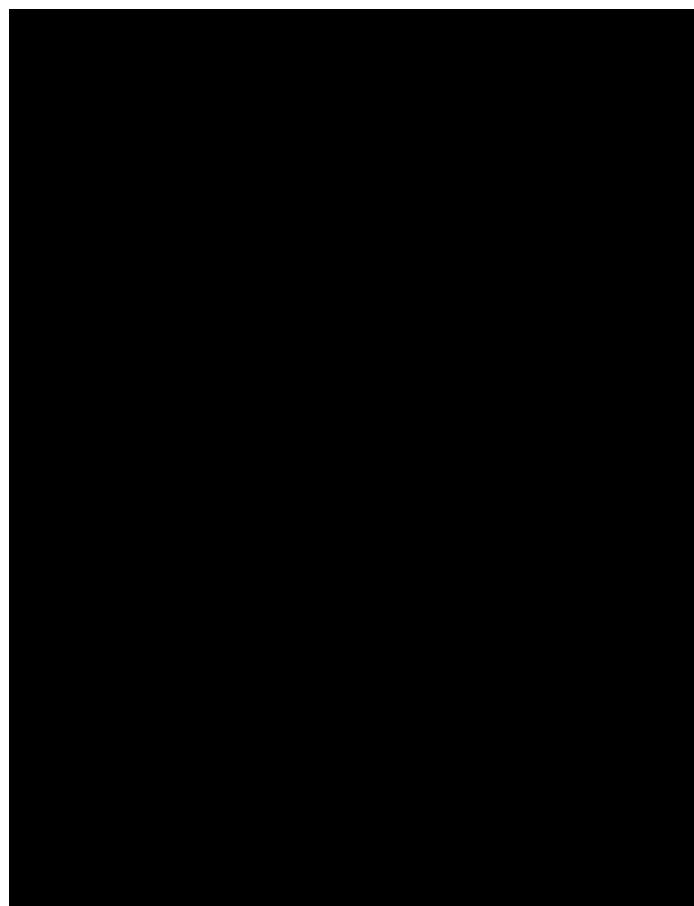


Figure 197. Ramonal Poniente, Operation 1, Level 2, Lots 1 and 2



Figure 198. Ramonal Poniente, Operation 1, Level 2, Lot 2



Figure 199. Ramonal Poniente, Operation 1, Level 3, Lot 1



Figure 200. Ramonal Poniente, Operation 1, Level 4, Lot 1

excavated for only about 5 cm, because the it was the end of our field season (Figure 195). Ceramics recovered from this level mainly corresponds to the types of Muna Slate and Yokat Striated var. Yokat from the Terminal Classic. At this point, and since the conclusion of our season was imminent, we proceeded to perform the registration of the profiles and plan of the unit (Figure 201), although we know that the excavation would be left unfinished by this year.

Subsequent to this, and in order to continue with the excavation in the following season, several plastic markers were placed with the aim of identifying the same depth that we achieved this season. After this process was concluded, the unit was backfilled until it reached the original level of the surface (Figure 202).

Interpretation

Although we cannot establish a complete stratigraphic sequence, since this unit has not been fully excavated until bedrock or *laja*, only a preliminary sequence and interpretation will be raised, based on data collected up to now. Level 4, Lot 1 and Level 3, Lot 1, must correspond to the Prehispanic part of this settlement. While these are not sealed lots, the contrast within the presence of abundant ceramic sherds with respect to the higher levels, makes us suppose that this layer could have formed part of a fill to create a leveled surface, or is part of an area with intense activity. The gravel localized in Level 3, Lot 1 seem to confirm this assumption.

Level 2, Lot 1 perhaps corresponds to the period of abandonment or disuse that occurred in this part of the settlement until it was reoccupied prior to the Caste War. The bullet cartridge and the lenticels of *sascab* (possibly part of an occupation surface) support this supposition. Ceramics from this level were a mixture of Terminal Classic sherds, although the bullet found within this layer dates this stratum to a later period; Prehispanic material must have been brought here as part of a construction fill carried out in this area when the *rancho* was used, preceding the Caste War.

Level 1, Lot 1, seems to be the same as the previous one, a layer of reddish sediment with little to no Prehispanic materials, although this level must belong to an historical period. It is expected to continue with the excavation of this unit in the following season, until the level of bedrock is reached. Hitherto, this is the interpretation that can be raised about this unit. The next season, with a more complete picture of this excavation, we will be able to establish better hypotheses that will help to get a better understanding of this settlement.

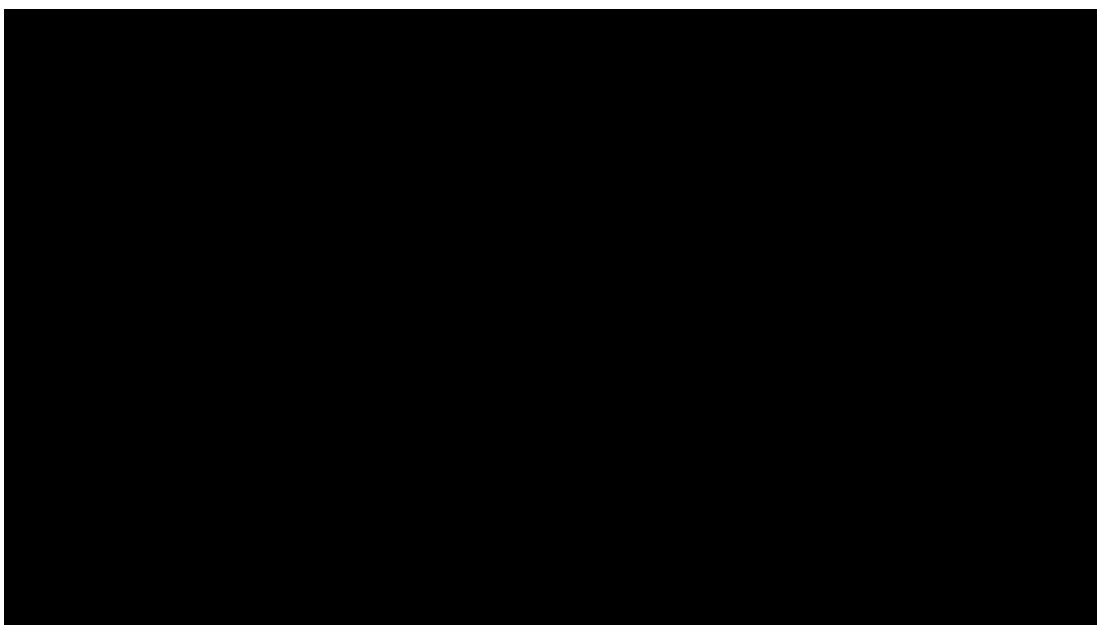


Figure 201. Ramonal Poniente, Operation 1, South and West Profiles



Figure 202. Ramonal Poniente, Operation 1, Backfilled

Part 3: The *Ejido* of Sacalaca

Chapter 30: Ramonal Poniente, Operation 2

Alberto G. Flores Colin

Operation 2 is located in the southern part of the Structure N1E1-1, a 5-m-tall pyramidal structure and the unique Prehispanic structure topographically recorded in this settlement. Although we know of the existence of two other small structures to the south, this construction is the highest of this settlement known until now (Figure 194). Therefore, the goal of this unit was to obtain ceramic samples from sealed lots, in addition to knowing the construction sequence for the plaza to the south of this construction. In addition, we wanted to determine what type of settlement the site was, since a large part of it was destroyed or reused to construct the historical buildings that predate the Caste War. This operation was a 2x2 m unit, which was excavated following natural levels (Figure 203).

Level 1, Lot 1 was a stratum with abundant organic material, blackish in color (7.5YR 3/1) and mixed with several pebbles and gravel stones, as well as some larger rocks from the collapse of the nearby structure (Figure 204). Ceramics located in this level are mainly of the types Yokat Striated var. Yokat and Muna Slate from Terminal Classic, although these are mixed with samples from the Late and Middle Formative (Chunhinta Black v. Ucu and Sierra Red). It was decided to change to the following stratum due to the appearance of a series of whitish pebbles, which would indicate the existence of a degraded floor.

Level 2, Lot 1, was composed of a light brown sediment (5YR 4/4), perhaps due to the presence of degraded stucco, represented by small fragments of *sascab*. This stratum ended with the discovery of a floor in the southwest part of the unit (Floor 1), while in the northeastern portion dry core fill was partially exposed (Figure 205). Due to this finding, in addition to the remains of *sascab* and some fragments of floor, we assume that there was another floor resting above the Floor 1, now totally eroded (Figure 206).

Level 3 was divided in two lots, Lot 1 for the part that did not have a sealed surface, while Lot 2 corresponded to the part of the stucco floor (Floor 1). The first lot of this Level 3, was a dry fill of boulders in some sections, mainly where the largest stones were placed. Once that excavation of Level 3, Lot 1 was concluded (Figure 207), the removal of Level 3, Lot 2 began, revealing that also was formed by medium-sized (about 30 x 20 cm) fill stones, also partially dry. Ceramics from this level, since they proceed from a sealed lot, can be considered as reliable sherds to establish an approximate date for this unit (Figure 208). However, although the ceramics from Lot 1 of this Level 3 date from the Terminal Classic (Yokat Striated var. Yokat and Muna Slate), the single sherd recovered from Lot 2, with that could establish a reliable date, was not identified due its poor condition.

The completion of both lots, Level 3, Lot 1 and Lot 2, resulted in the discovery of bedrock in whole unit; at this, the registration process of the unit was carried out. Once the profiles were recorded, through drawings and photographs (Figure 209), the unit was backfilled with the same sediment that was previously extracted (Figure 210).



Figure 203. Ramonal Poniente, Operation 2, Surface



Figure 204. Ramonal Poniente, Operation 2, Level 1, Lot 1

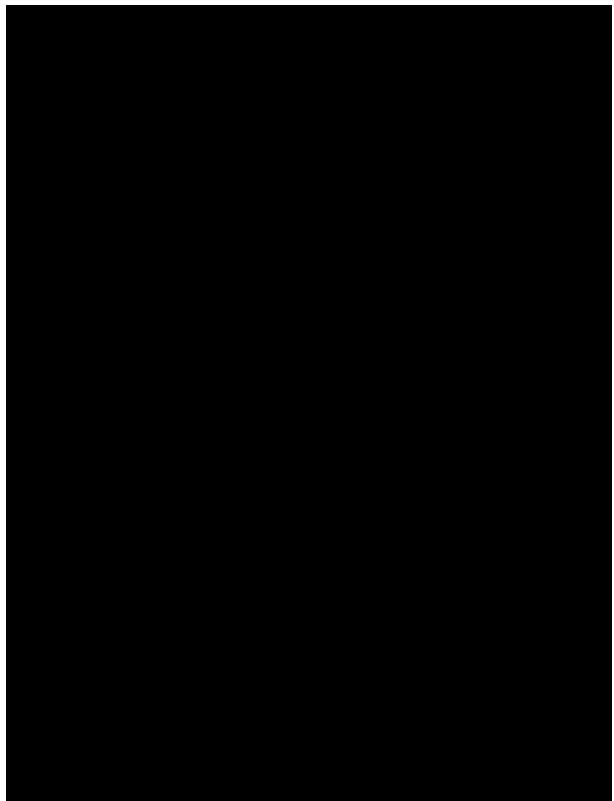


Figure 205. Ramonal Poniente, Operation 2, Level 2, Lot 1 Plan



Figure 206. Ramonal Poniente, Operation 2, Level 2, Lot 1



Figure 207. Ramonal Poniente, Operation 2, Level 3, Lot 1



Figure 208. Ramonal Poniente, Operation 2, Level 3, Lot 2

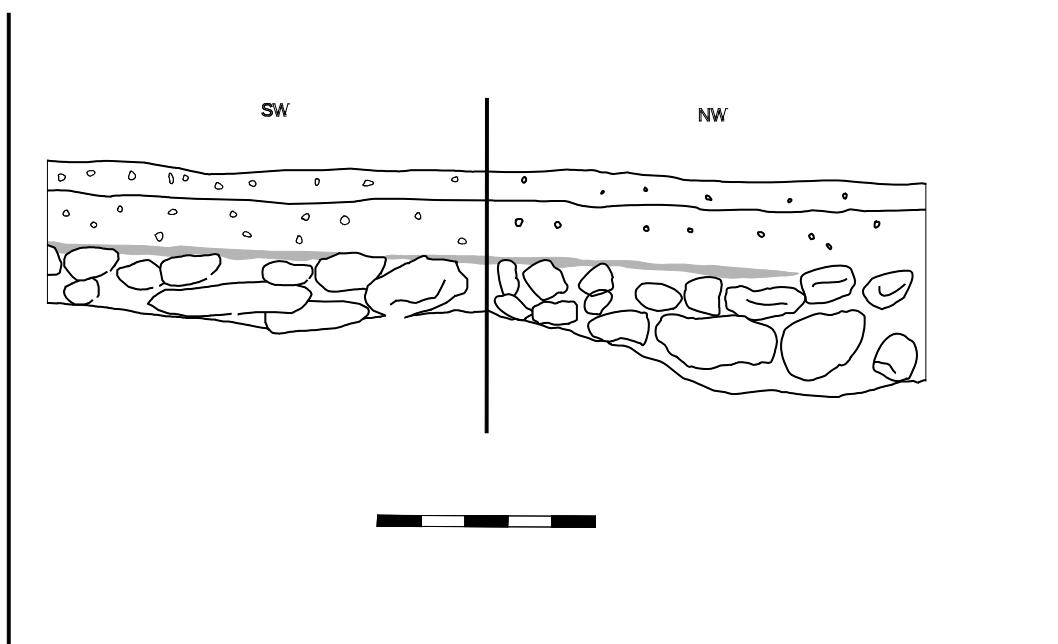


Figure 209. Ramonal Poniente, Operation 2, Southwest and Northwest Profiles



Figure 210. Ramonal Poniente, Operation 2, Backfilled

Interpretation

According to the stratigraphy located in this unit, we can propose the following sequence. Directly above bedrock, a stone fill was placed, which was partially dry (Level 3, Lot 1 and lot 2). This formed the base for a stucco floor (Floor 1) that could have been the occupation when the artificial leveling in front of Structure N1E1-1 was built, also perhaps when most of this settlement was constructed. All this could have occurred during the Terminal Classic according to ceramic evidence. Although is not certain, some floor fragments found within Level 2, Lot 1 may indicate the existence of another floor, perhaps the last that was built in this part of the Prehispanic settlement of Ramonal Poniente. Level 1, Lot 1 was the stratum formed from when the site was abandoned until today, composed of collapsed material from the nearby structure (Structure N1E1-1).

Although there remains much to do in this settlement, both in survey, mapping, and excavation, the results of this unit show indications about the possibilities of this site. While Prehispanic structures known in the site are few, the large amount of vestiges from the historical period prior to the Caste War makes us claim that this settlement would have been more extensive than it currently is. Future research in the area will help to evaluate these assumptions.

Part 3: The *Ejido* of Sacalaca

Chapter 31: Rancho San Isidro, Operation 1

Jorge Pablo Rodríguez Huerta

Operation 1 at Rancho San Isidro was a 2 x 2-m test pit, located 1 m west of the west side of Structure S1W1-1. Although originally the proposed location for the unit was at 1 m south of the southwest corner of the said structure (Figure 211), the presence of the bedrock outcrops visible at surface propitiated that this unit was relocated. Considerations for the new position of this test pit were that this would be located outside the limits of this construction but, at a same time, close enough to it to obtain archaeological and stratigraphic data that would help us to understand the occupation of the site.

In order to reference each level, lot and / or the profiles of the unit, as one of the first stages for excavation, an arbitrary datum was established. The natural terrain presented a slope to the southwest corner of -14 cm, measured from the northeast and southeast corners of the unit. Additionally, in order to have better control of archaeological material recovered from the pit, all sediment was sieved by a screen and was separated in a bag labeled with its provenance (level and lot). Each level and lot was documented by digital photographs and drawings, as well as the most representative profiles. Sherds obtained through the excavation of this unit were washed, labeled and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the Type-Variety system (Smith et al. 1960). Once the excavation of this unit was completed, and after its proper registration, the pit was backfilled with the same material that was previously extracted, until reaching the original level that had before our intervention.

This site had been the subject of previous work by members of the CRAS Project. This settlement had been visited and reported by Huerta (2008: 152), but was not topographically registered until 2010 by Huerta and Johnstone (2010: 94). During these studies, it was found that these areas are still devoted to farming and raising livestock; therefore the remains still had a minor alterations as a result of the work carried out in the ranch. However, this season we noted that agricultural work on this ranch is no longer conducted.

This operation was excavated following natural stratigraphy, which consisted of two levels; each one of these with one lot, as will be described below.

The area where this operation lies (Figure 212) had become covered by tertiary vegetation; therefore, one of the first steps was to clean the area of this unit. This revealed a large presence of roots, and rootlets. As has been described above, bedrock outcrops were present in several areas adjacent to the unit. The coloration of the land surface was black or “*boxluum*” in Yucatec (5YR 2.5/1 black). This land was silt-clay in consistency, and was mixed with small rough stones (8x6x3 cm on average). Ceramics located on the surface were few and in poor condition.

Level 1, Lot 1 was composed of the same soil consistency as the ground surface, but also was mixed with pebbles. However, the sediment showed a drastic change in

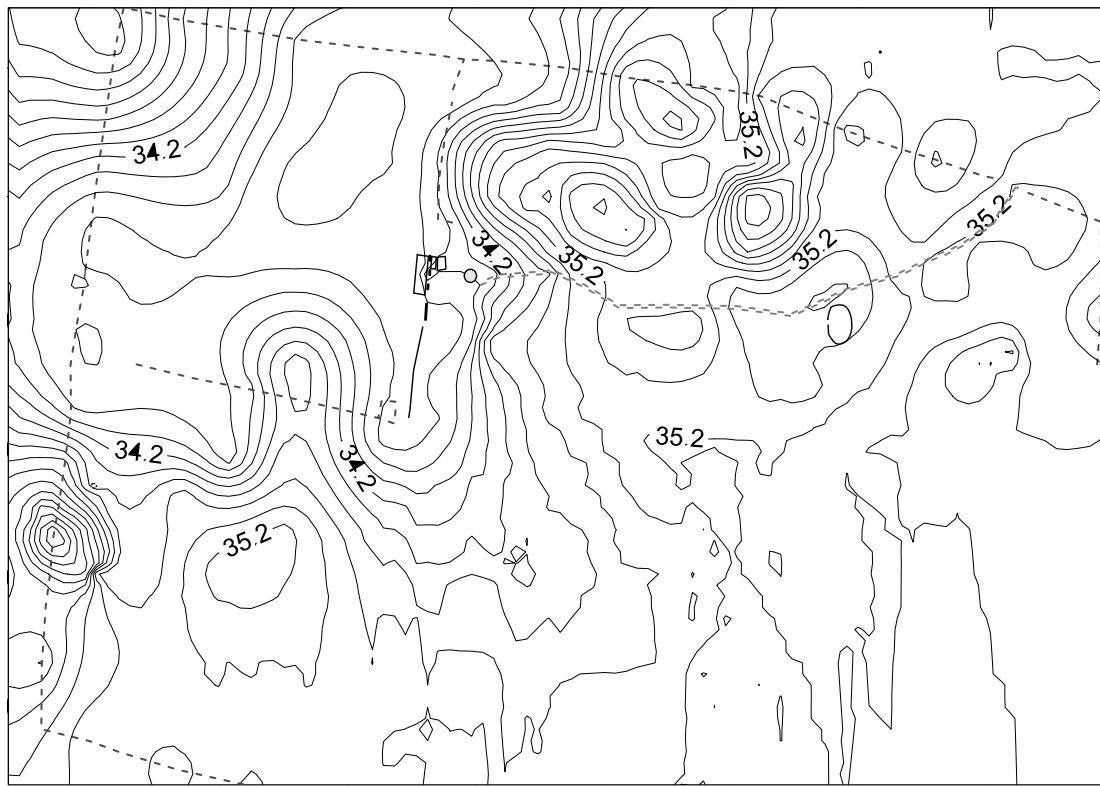


Figure 211. Rancho San Isidro, Operation 1, Excavation Location



Figure 212. Rancho San Isidro, Operation 1, Surface

color to a reddish-brown hue (5YR 3/4 dark reddish brown). Additionally this level presented a high concentration of roots (Figure 213).

Cultural material that was recovered from this lot was a total of 129 ceramic fragments, mostly (96) in poor condition. Among the fragments that could be identified, there are several examples from the Late Formative period (2 fragments Polveros Black), Late Classic (Encanto Striated v. Sacna, 4 sherds, and Arena Red, 2 fragments), and Terminal Classic (Yokat Striated var. Yokat, 3 fragments, and Muna Slate, 18 sherds).

During the excavation process of this level, the presence of bedrock in the central part of the unit, as well as in the southwest and northwest corner of the northeast quadrant was noticed (Figure 214). The average thickness of this layer was 10 cm.

Level 2, Lot 1 had a soil similar to Level 1, Lot 1 (5YR 3/4 dark reddish brown) that was mixed with small rocks but, unlike the higher level, it was noted that this layer had a large quantity of fine-to-thick grains of sandy sediment. As was been mentioned above, Level 2, Lot 1 did not cover the entire surface of the unit (Figure 215), since bedrock partially covered the center of the pit. The deepest excavation point of this level was obtained at the southwest quadrant (-70 cm).

Cultural material contained within this lot was a total of 104 sherds, mostly in poor condition. For this reason, only 33 of them could be analyzed, although it is noteworthy that the highest concentration of material was located in the southwest quadrant. Within these fragments, examples from the Late Formative (12 fragments), Early Classic (2 sherds), and Terminal Classic (19 fragments) were recognized.

Interpretation

Based on the evidence of this pit, it can be proposed that both Level 1, Lot 1 and Level 2, Lot 1 had been affected by the work carried out in the ranch. The division of the two levels, as has been mentioned, was the result of the presence of sandy sediment within this stratum, which appeared to be the result of the disintegration of the *laja* or bedrock, probably due to water filtration and human activities in the area.

Although the cultural material was mostly in poor condition and mixed in temporality, since we didn't find a sealed lot, it still can be concluded that the site may have been occupied from the Late Formative through the Terminal Classic, with this last period representing the site's apogee, and perhaps the period when the structures, adjacent to this excavation unit, were built.



Figure 213. Rancho San Isidro, Operation 1, Level 1, Lot 1

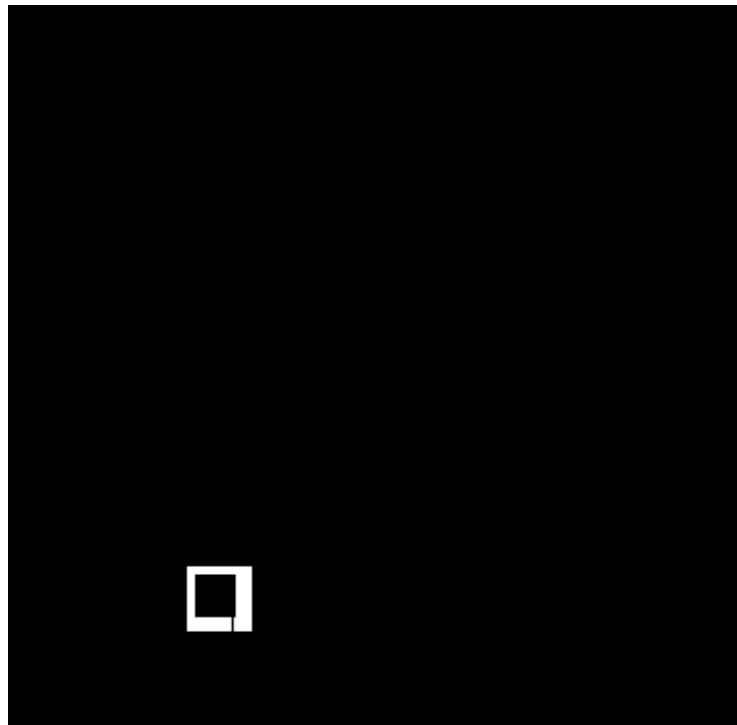


Figure 214. Rancho San Isidro, Operation 1, Plan

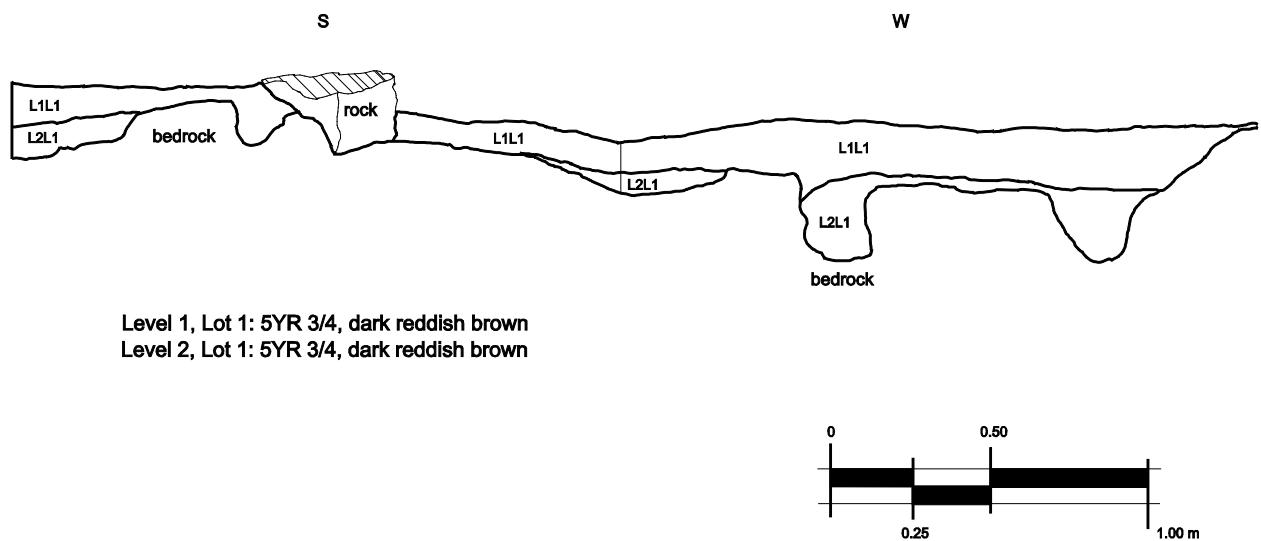


Figure 215. Rancho San Isidro, Operation 1, South and West Profiles

Part 3: The *Ejido* of Sacalaca

Chapter 32: Sacalaca, Operation 3

Justine M. Shaw

The well associated with Sacalaca's Grupo Norte is located approximately 280 m north of the center of Sacalaca and 5 m east of the road that leads to the *pueblo* of Xquerol (Figure 216). Its contents were excavated as Sacalaca Operation 3 in order to attempt to date the feature's use, with the hope that it would contain ceramics broken during the process of retrieving water. At its surface, the well measures approximately 90 cm in diameter and the east and west sides of its interior contain hand/ foot holds carved into it that measure about 12 x 10 x 4 cm.

Due to its proximity to modern occupation, it was anticipated that the well would contain some recent debris and it did not disappoint. After removing two logs that had been reportedly thrown into the well earlier this year, other sticks and some fern-like vegetation was removed. At this point, a datum was established; since a layer of sediment was visible, it was hoped that the rest of the operation would entail excavation through predominantly sediment (2.5YR 2.5/1 reddish black). However, after only 3-4 cm, a modern trash deposit was revealed, likely deposited over the past few years with only about a year of abandonment following this. The sediment deposition resulted from inflow from the surrounding *milpa* (Figure 217).

Operation 3, Level 1, Lot 1 was a 1.2-m-thick deposit that initially consisted of plastic bottles, disposable diapers, yogurt containers, shoes, plastic bags, glass bottles, tin cans, and other inorganics. This evolved into trash mixed with dog remains (approximately 14 larger adult dogs and numerous bagged and loose concentrations of cremated dog bones in sizes ranging from newborn puppies to adults, some of which still bore leashes and collars consisting of cloth or rope). According to local crew members, most of the dogs in Sacalaca were killed six years ago to stop the spread of a canine disease. This date was consistent with the condition of the dog remains, which were primarily bone that still retained some mold and filled the well with the scent of decay.

The next deposit (Operation 3, Level 2, Lot 1) marked the end of the concentration of plastic and concentrated canine remains, although intermittent dog carcasses peppered both Levels 2 and 3. This second level consisted of very dark red sediment (2.5YR 2.5/2) and was initiated with several large rocks; small to mid-sized boulders and cobbles continued throughout (Figure 218). While no more non-returnable plastic bottles were included, non-returnable Superior beer bottles and a set of dog bones within a woven plastic seed bag indicated that the level was quite modern. Level 2 was approximately 80 cm thick.

Operation 3, Level 3, Lot 1 was differentiated from the upper layers in that it was primarily sediment. The number and size of the rock inclusions substantially decreased, potentially indicating that they resulted from spalling from the sides, rather than intentional episodes of infilling. It appeared to represent a period during which the area around the well opening was not occupied, so sediment was deposited during periods of

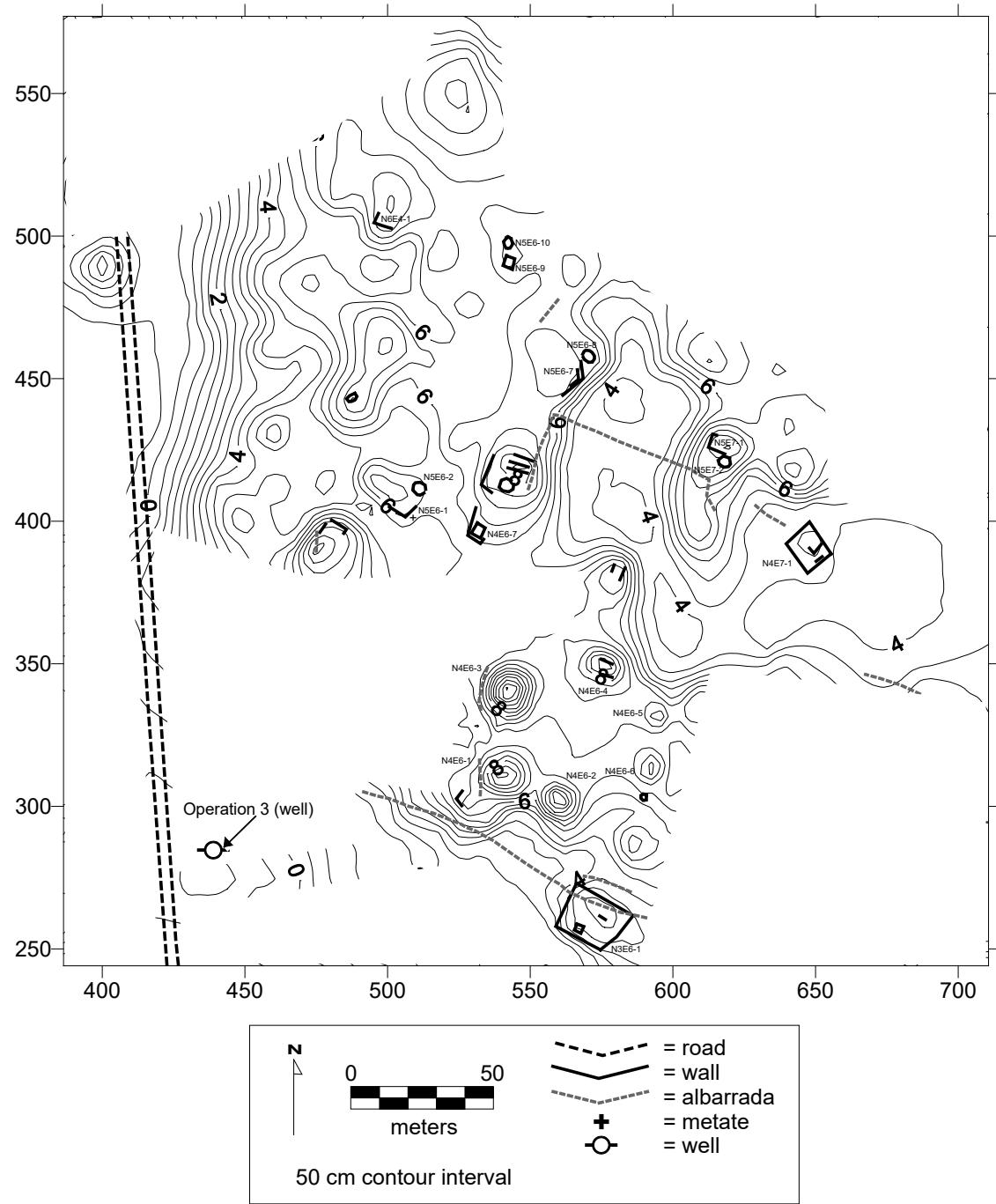


Figure 216. Sacalaca, Operation 3 (Well) Location

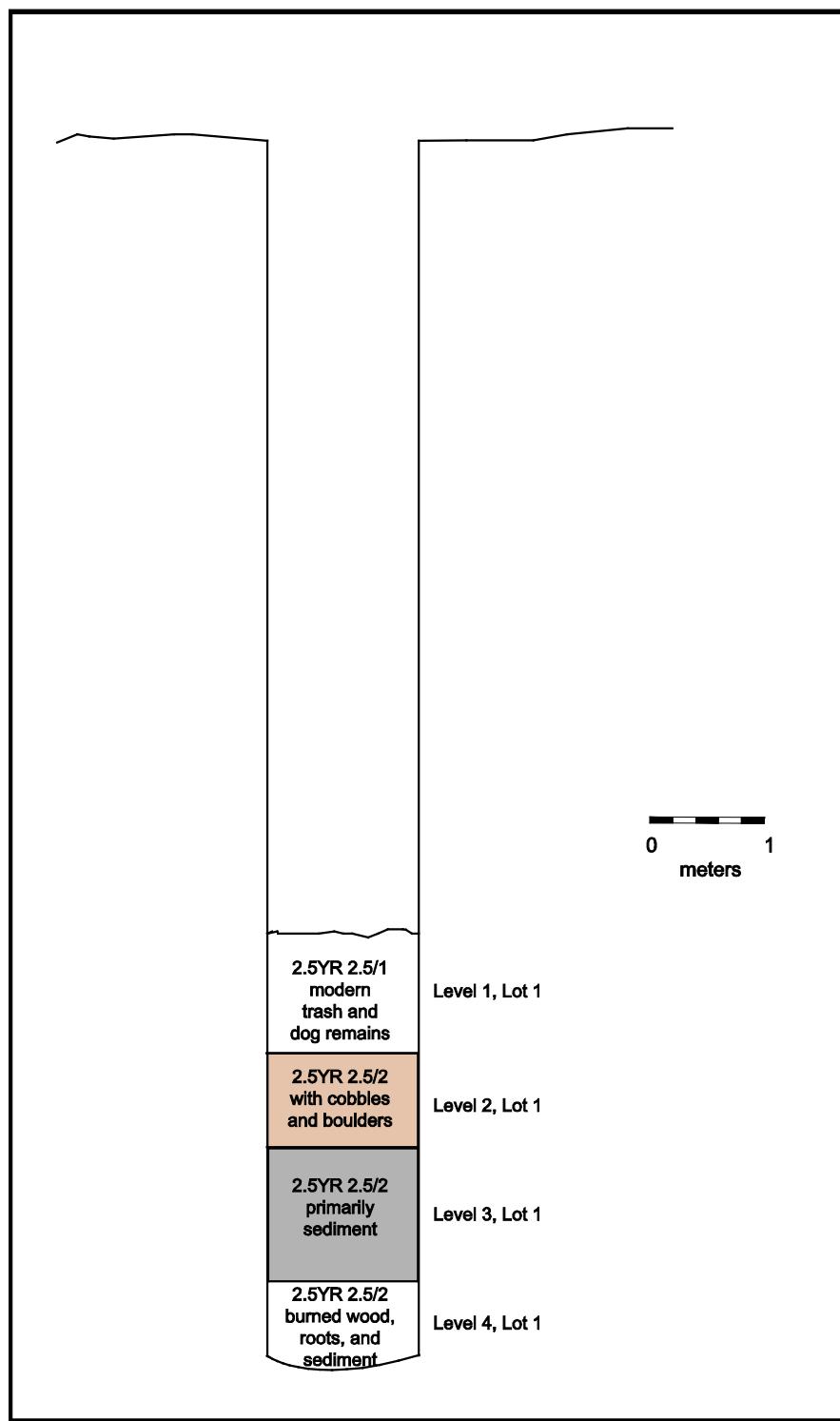


Figure 217. Sacalaca, Operation 3 (Well) Profile

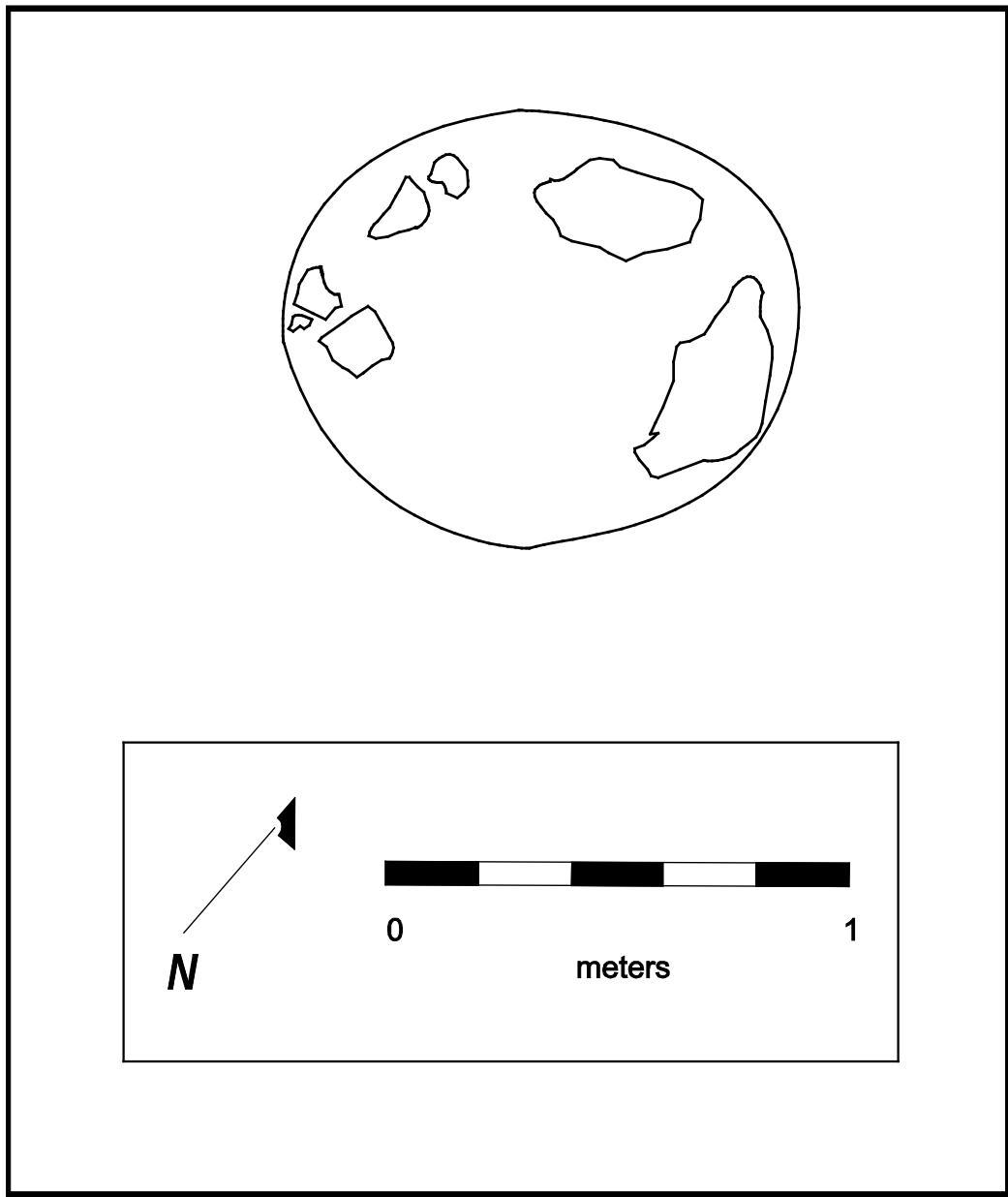


Figure 218. Sacalaca, Operation 3 (Well), Plan of Rocks at Level 2, Lot 1

heavy rain. No artifacts of any kind were present during the 1.16-m-thick deposit, although occasional small animal bones were present.

Operation 3, Level 4, Lot 1 began where more live roots and burned wood (in chunks and flecks) appeared, staining the surrounding sediment a very dark red (2.5YR 2.5/2). More cobbles and occasional boulders were also present. It is likely that this represents another period of sustained *milpa* in the surrounding terrain. No artifacts were present. This deposit concluded at 3.79-3.84 m below the initial ground surface in the well, at 63-68 cm in thickness, when the solid bedrock bottom of the well was reached. This was 10.5 m below the modern ground surface.

While it was extremely disappointing to find no artifacts older than about 15-20 years of age in the well, it is hypothesized that the well's original excavators had an even greater disappointment. Until the concluding depth, the sides of the well were composed of discernible cobbles and boulders that formed a conglomerate in a less dense material that could have been removed with non-metal tools. The bottom of the well was formed by an entirely different layer than was seen above, a solid and very hard stone that, unlike the deposit above, was not easily chipped by a small metal pick. The well was concluded at just over half of the depth that would have been needed to reach water, based upon the depth of other wells in the region. In the absence of any other evidence, it might be speculated that this indicates a Prehispanic origin for the well excavation, when tools capable of chipping at this formation would not have been present.

Part 3: The *Ejido* of Sacalaca

Chapter 33: Sacalaca Operation 4

Dave Johnstone

Sacalaca is a Rank 2 site located within and under the modern town of the same name. As a consequence, the ancient site has been subjected to extensive damage, including stone robbing, as well as the construction of roads and wells. Two test pits were excavated in 2003 (Flores Colin 2003a; Johnstone 2003). While Operation 2 was placed in a location with only Terminal Classic construction, Operation 1 encountered an earlier, unexcavated construction phase (Figure 219). Earlier, ceramics admixed within the Terminal Classic construction fill included sherds from the Middle Formative through the Late Classic Periods. As the Late Classic is a period for which we have little data outside of the site of Yo'okop, it was hoped that further excavation would yield more data on this enigmatic period.

A large residential platform (Structure S5E6-7) was chosen for the locus of this year's excavation because the visible masonry did not contain veneer stones typical of the Terminal Classic period. Stone robbing on the east side of the platform showed over 1 meter of dry core fill. Operation 4 was a 2x2 m test pit located in the center of the platform. No foundation braces were observed anywhere on the surface of the platform.

Level 1 consisted of a dark brown sandy silt (Figure 220). No plaster was encountered, but the presence of gravel sized broken limestone mixed with the occasional cobble sized fragment may have once been a subfloor. Some lithics were recovered, including the stem of a biface. Dry core fill was not encountered, and bedrock was struck between 15 and 25 cm. This suggests that the core of the platform is a natural rise that was given a rectangular form through the construction of a perimeter wall behind which was placed dry core fill to bring the margins of the platform up to the height of the top of the bedrock. A surprisingly large ceramic sample was recovered. Though some Late Classic material was included, the majority of the sherds dated to the Terminal Classic Period.

Interpretation

While Sacalaca clearly has construction predating the Terminal Classic Period, we have yet to excavate any of these constructions. It is clear though that the site achieved its maximum horizontal extent during the Terminal Classic. Interestingly, this is when the palace (S5E5-2) facing the plaza was filled in and covered by new construction, and a new palace (S10E2-2) was built some 600 meters to the south.

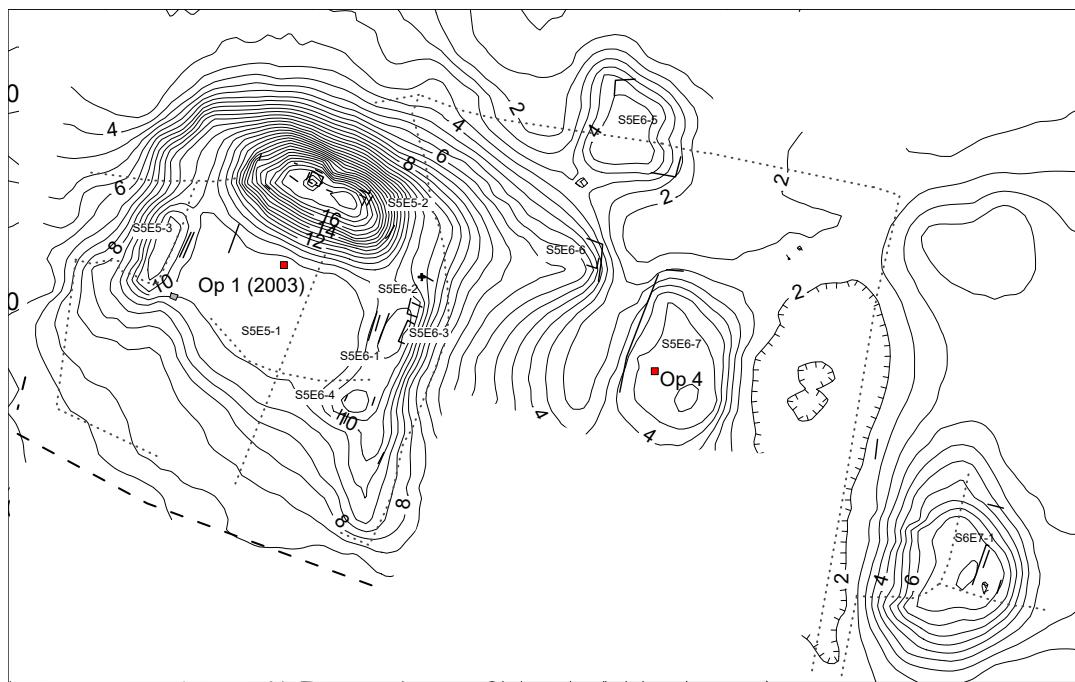


Figure 219. Sacalaca, Operation 4, Excavation Location

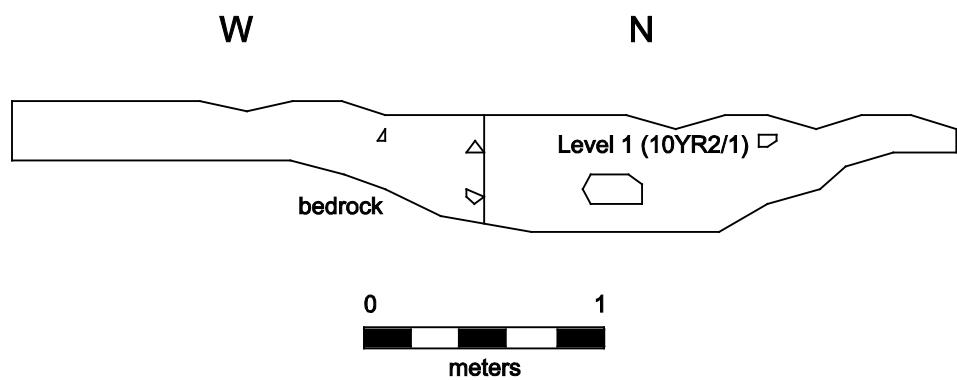


Figure 220. Sacalaca, Operation 4, North and West Profiles

Part 3: The *Ejido* of Sacalaca

Chapter 34: Santa Cruz, Operation 1

Barry B. Kidder

In a previous field season (Normark et al. 2011b) a near total survey was possible in the area surrounding Operation 1 because of recent *milpa* burning. Subsequent mapping revealed three superficial limestone structures located on a natural mound that may represent a familial group. Operation 1 was a 2 x 2-m unit placed on the northwest part of this mound between two superficial structures (N2W2-2 and N2W2-3) and was positioned 10 degrees west of magnetic north (Figure 221). This test unit was placed in this location to ascertain the date and degree of relation between these superficial structures and in order to understand possible construction sequences related to these structures.

On the surface, continual modern burn events produced charcoal and soil discoloration. Additionally, the presence of rodent burrows suggests bioturbation might be a factor in natural formation processes. Finally, the presence of guano palms and other scrub brush may further exacerbate bioturbation.

Level 1, Lot 1 of Operation 1 consisted of a dark, organic layer (10YR 2/1) known locally as *boosh luum* and cobbles roughly 5-10 cm in diameter at a 15% concentration. As the terrain slopes downward in the northern half of the operation large cobbles and small boulders were used as fill to level out the area between Structures N2W2-2 and N2W2-3. In general size of rocks increases to the north of the unit in this level in order to make a flat sub-surface for constructing the superficial structure. As depth increases, the size of rocks also increases which is typical for dry-core fill construction. The overwhelming presence of Muna and Yokat Striated ceramics (roughly 88.5% of the identifiable sherds) suggests this level and lot date to the Terminal Classic. The presence of honey-brown and white cherts and chalcedony was also noted (total of six flakes). Additionally, a small circular bead was found in the northeastern portion of the unit near the surface; however, its exact location is unknown because it was discovered while screening. Level 1, Lot 1 terminates with the presence of a new soil with a reddish-brown hue (7.5YR 3/3) known locally as *chac luum*. Near this soil change several large rocks associated with construction fill appear in the middle of the unit (Figure 222).

Level 2, Lot 1 of Operation 1 begins with the *chac luum*. In the southern half of the unit in this level there is a higher concentration (~30%) of pebbles (3-10 cm in diameter) that was probably also a product of construction fill; however, after the first 5-7cm within Level 2 the concentration of pebbles decreases to around 10%. In the southwest corner of unit, roughly 30 cmbsd, was a rock with dimensions of 50 cm by 35 cm, length and height respectively, near N2W2-2. Similarly, in the southern half of the unit around 35 cmbsd, there were three boulders ranging from 30-40 cm in height and 50-60 cm in length. These massive rocks suggest construction process was labor intensive: rocks were so large and cumbersome, three workers could not safely remove the largest two boulders—easily weighing over 100 kg—from the unit (Figure 223).

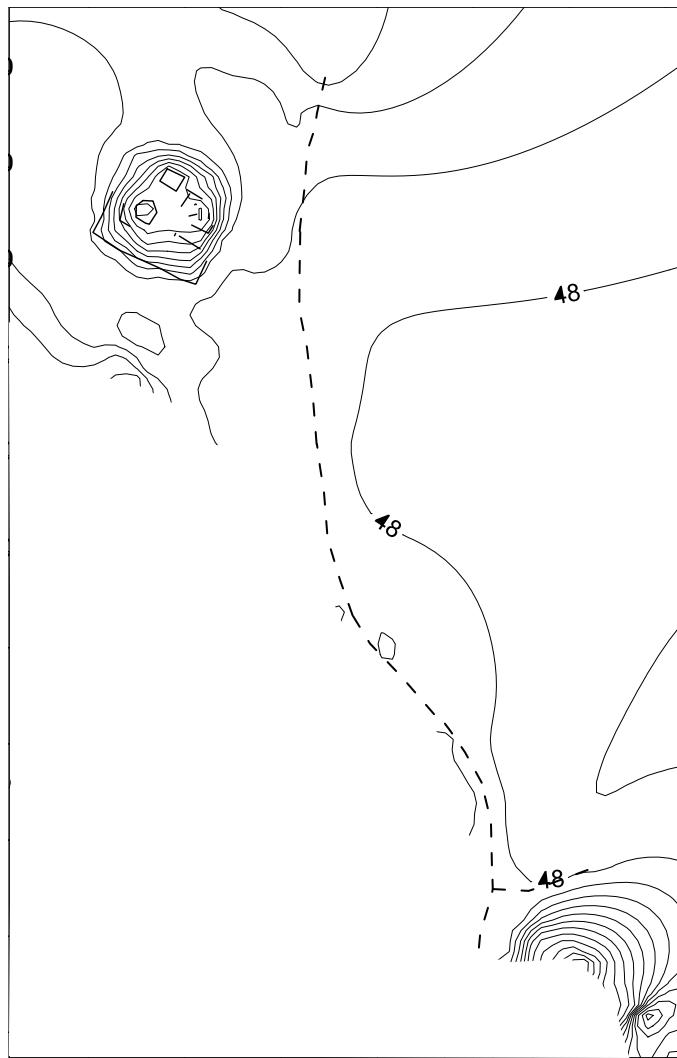


Figure 221. Santa Cruz, Excavation Locations

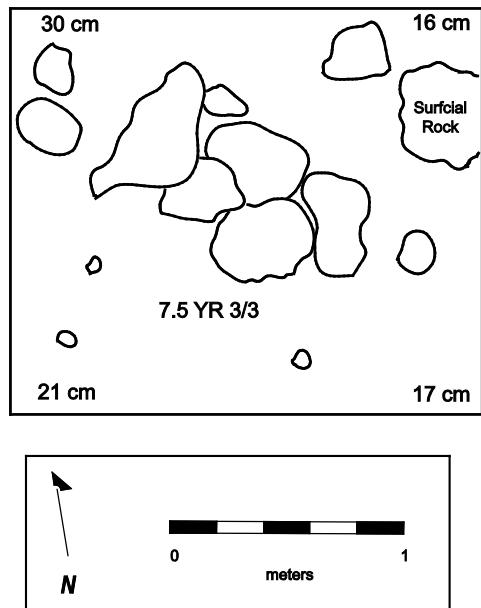


Figure 222. Santa Cruz, Operation 1, End of Level 1

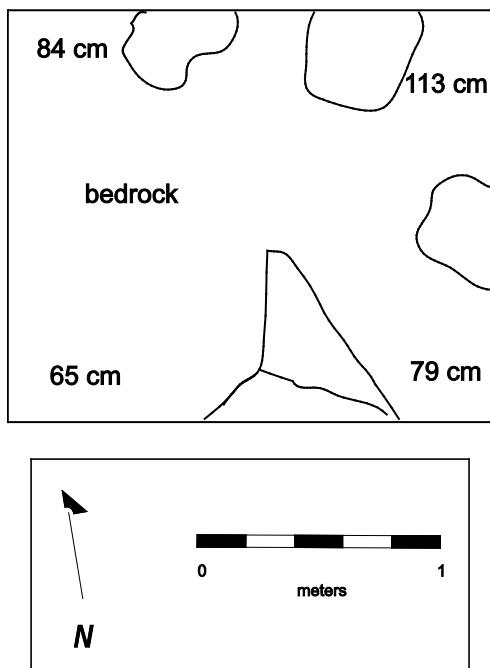


Figure 223. Santa Cruz, Operation 1, End of Level 2

As depth within this level increased, the relative number of artifacts decreased. This level terminated with the presence of bedrock throughout the unit.

Artifacts from Level 2, Lot 1 include ceramics dating mostly to the Terminal Classic. However, coupled with the ceramics from Level 2, Lot 2 and the presence of bioturbation, it is possible that this level has a Late Formative component. Interestingly, a relatively small distal fragment (13 mm long and 10 mm wide) of a prismatic blade made of Pachuca obsidian was also recovered.

Level 2, Lot 2 of Operation 1 consisted solely of the discrete deposition of a broken Sierra Red vessel (24 sherds). This concentration of sherds was found along the east to roughly 10 cm out to the west and 70 cm to the south at a depth of roughly 40 cm below surface depth.

Interpretation

Based on the artifactual evidence and stratigraphy, this Operation is believed to be a single occupation site dating to the Terminal Classic. Besides Level 2, Lot 2, the vast majority of ceramic recovered date to the Terminal Classic. From Level 1, Lot 1 88.5% of the identifiable sherds date to the Terminal Classic, and they were surely associated with activities from the three nearby circular structures. However, the assemblage of Level 2, Lot 2, which consisted solely of the Late Formative ceramic type Sierra Red, must be addressed. Since the sherds recovered were in a rather discrete location and the sherds were rather large and able to be refitted in many cases, it is likely a Sierra Red vessel was intentionally deposited within the dry-core fill layer. Therefore, this presence of Sierra Red probably does not denote a Late Formation occupation but rather the intentional deposition of an hierloomed vessel. Besides Level 2, Lot 2, the presence of Formative ceramics is negligible thereby furthering reinforcing the absence of a Formative occupation at this location.

The presence of Pachuca obsidian, which was located in Level 2, Lot 1, further bolsters the interpretation of a Terminal Classic occupation. Pachuca obsidian, easily identifiable in the field by its green color, is sourced to the area around the Late Formative/Early Classic primate city of Teotihuacán. During the Late Formative/Early Classic, the distribution of Pachuca obsidian was controlled by Teotihuacán elites and its presence in the Maya world was limited to elite contexts as symbol of elevated status; however, during the Terminal Classic, with the rise of a merchant class, Pachuca obsidian became more widely distributed—especially in the Northern Lowlands—and was found in greater quantity in nonelite contexts (Braswell 2010; McKillop 1996). Furthermore, the relatively small size of the obsidian blade recovered, suggests the people around Santa Cruz were somewhat “down-the-line” in the distribution and consumption of this particular artifact type. Thus, the presence of Pachuca obsidian in the same level as Formative and Terminal Classic period ceramics, gives further credence to a Terminal Classic occupation.

Finally, the amount of labor exerted in construction must be addressed. While the dry-core fill method is typical of the area, the three small boulders used as fill would have been a considerable cost in labor to locate, to procure, and to transport. Surely this amount of labor would require help from beyond the nuclear family, and it is likely this help was received from the other nearby families. The triadic arrangement of superficial limestone structures probably represents a familial or corporate group (cf.

Ashmore and Wilk 1988; Tourtellot 1988). As such, these small boulders probably attest to the ability to harness labor beyond the nuclear family.

Part 3: The *Ejido* of Sacalaca

Chapter 35: Santa Cruz, Operation 2 and Interpretation

Dave Johnstone

Operation 2 was a 2x2 m test pit located east of the entrance to the cave at Santa Cruz (Figure 221). There were no structures within 20 m of the test pit, with the nearest cultural remains visible at the surface being a *metate* located 40 m to the north of the unit. The unit was excavated as a single level, as the soil matrix was consistent throughout. This soil was a dark brown, sandy silt whose depth ranged from 12 to 29 cm below the surface (Figures 224-226). A single veneer stone was encountered in direct contact with the bedrock. A small sample of very weathered sherds was recovered. Those that were identifiable dated almost exclusively to the Terminal Classic Period.

Interpretation

The ceramics recovered from Santa Cruz suggest that there may be earlier components to this site, though no construction episodes dating to earlier phases were encountered in the two units excavated. The ceramics from outside the cave entrance mirror those visible on the surface within it. If this proves to be the case, then the latest occupation of Santa Cruz might be associated with an intensification of use of the cave during the Terminal Classic Period.



Figure 224. Santa Cruz, Operation 2, Surface



Figure 225. Santa Cruz, Operation 2, Bedrock



Figure 226. Santa Cruz, Operation 2, Backfilled

Part 3: The *Ejido* of Sacalaca

Chapter 36: Xtojil: Introduction and Operation 1

Dave Johnstone

Xtojil is a Rank Three site located 8.2 km northeast of Sacalaca. It was first reported in 2003 along with its associated cave entrance, at which time a sketch map was produced (Flores C. 2003b). In 2010, an effort was made to better document those sites that we had visited in a preliminary fashion, and an attempt was made to map these. As part of this greater effort, a portion of Xtojil was cleared to permit the production of a contour map of the principal plaza, pyramid, and associated residences (Normark 2010). The informal nature of the plaza is shared by other sites in the region, including Yaxche 1, Ramonal Oriente, La Esperanza, Benito Juarez (Johnstone 2010:71), as well as Yo'okop's Group D (Shaw 2001). The presence of cut veneer stones, and Puuc Slateware ceramics on the surface suggested that these sites were contemporaneous and were occupied during the Terminal Classic period. The presence of open fronted architecture at all but Benito Juarez is something that is also shared by these sites. Excavation of two of these structures at the site of Nohcacab (Shaw and Johnstone 2006) suggest that open fronted architecture dates to the postmonumental phase of the Terminal Classic (A.D. 920-1100). As such, there appears to be continuity of occupation from the Terminal Classic through the Postclassic.

This season, excavations at Xtojil were intended as a control for investigations focused on the cave (see Johnstone, this report). Two units were excavated: Operation 1, located east of structure N1W1-3, and Operation 2 located south of structure N2E1-1 (Figure 227). It was hoped that these localities in front of prominent structures might encounter stucco floors that would enable sealed units that would permit accurate dating for the foundation of Xtojil.

Operation 1

Operation 1 was a 2x2m test pit located in front of the stairs fronting the largest residence at the site (Figure 228). This structure is a platform measuring 18 x 8 x 1.5 m, with 5-6 stairs giving access to the summit. A poorly preserved foundation brace is visible on the summit.

Level 1 was a dark, humus rich soil with many small angular rocks in the range of cobbles to pebbles (Figure 229). These likely resulted from a chich subfloor. However no traces of plaster were found. This subfloor lay atop a layer of angular cobble sized stones, some of which rested directly on the bedrock. A small bag of ceramics dating to the Terminal Classic was recovered. Level 1 stopped at an average depth of 44 cm.

Level 2 was a lighter colored soil with fewer rocks. It lies directly on top of the bedrock. Even fewer ceramics were recovered in this level, but they too dated to the Terminal Classic Period (Figures 230 and 231).

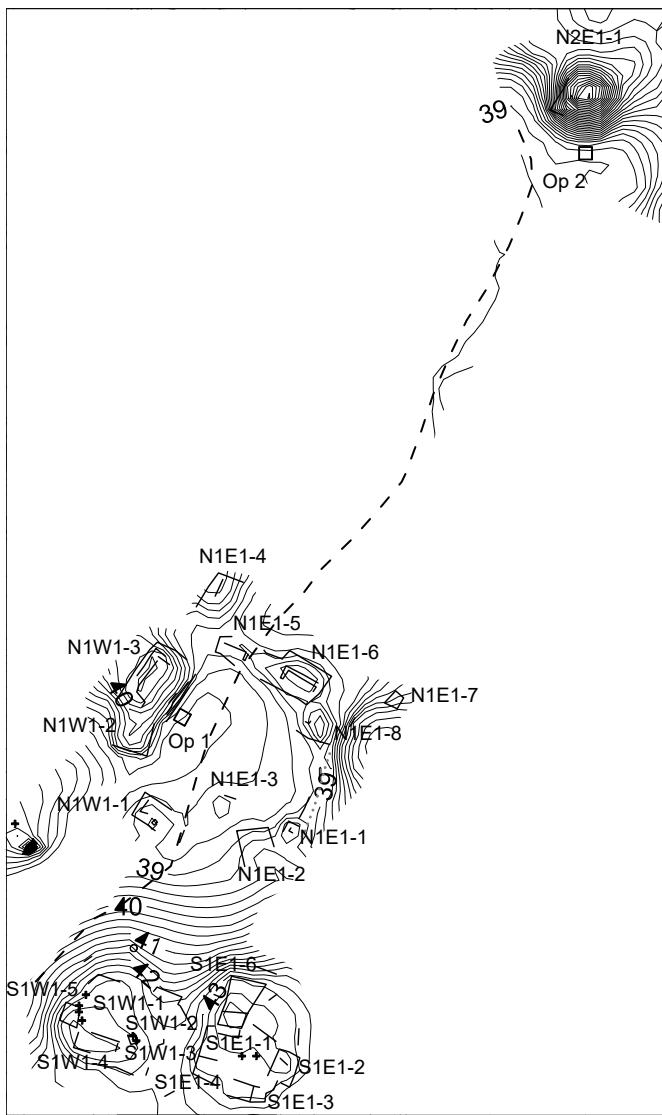


Figure 227. Xtojil, Excavation Locations



Figure 228. Xtojil, Operation 1, Surface

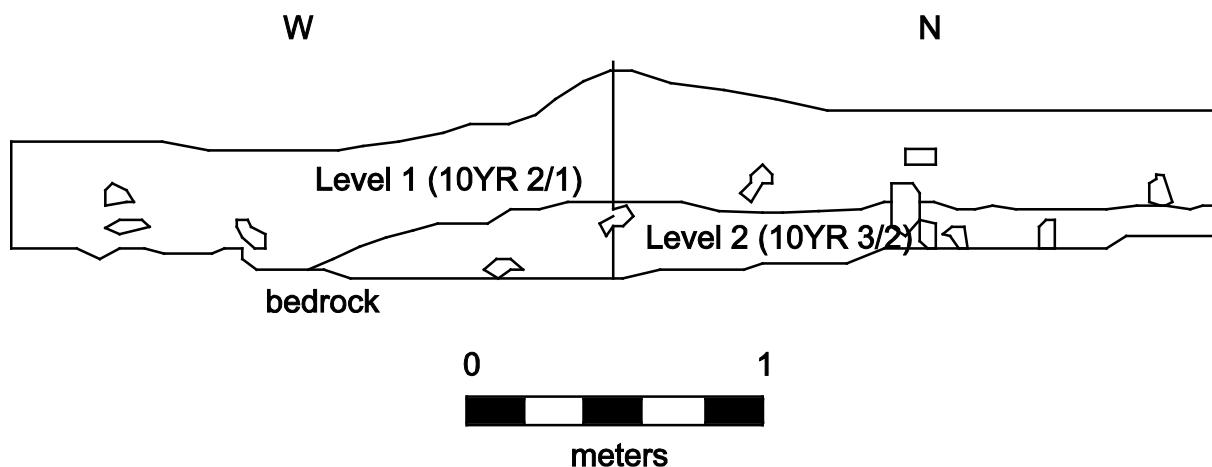


Figure 229. Xtojil, Operation 1, West and North Profiles



Figure 230. Xtojil, Operation 1, Bedrock



Figure 231. Xtojil, Operation 1, Backfilled

Part 3: The *Ejido* of Sacalaca

Chapter 37: Xtojil: Operation 2 and Interpretation

Dave Johnstone

Operation 2

Operation 2 was a 2x2 m. test pit located in front of the stairs leading to the summit of a small pyramid (Figure 227). Level 1 consisted of a reddish brown soil with very few angular pebble sized stones (Figure 232). Instead, it included angular cobble sized stones and seven veneer stones. As these are scattered throughout the level, they probably result from the gradual collapse of the adjacent structure. A medium bag of Terminal Classic ceramics was recovered.

Level 2 consisted of red *chac luum* soil containing many sascab (decomposed limestone) chunks that may indicate the remnants of a floor. No plaster was recovered though. No veneer stones were present in this level. Several tabular limestone blocks rested atop the limestone. Below these blocks, the soil was culturally sterile. A Chum Unslipped jar was found along the south wall of the unit. These vessels were used for cooking, and this one had handle for suspension. Unfortunately, a tree root had grown right through the vessel, reducing it to fragments. As no changes in the soil were noted in plan or profile, it was likely that this vessel represents a dedicatory offering placed in front of the small pyramid at the time of its construction. The vessel contained two large unmodified stones, as well as a collection of sherds (Lot 3). A lance point was also recovered from Level 2. The medium bag of sherds from within Level 2 as well as the offering vessel and its contents all dated to the Terminal Classic Period.

Interpretation

Given the absence of earlier construction or earlier ceramic assemblages, it seems as if Xtojil was established as a 'green field' site in the Terminal Classic Period. This foundation was associated with at least one dedicatory cache, though the meaning of this behavior is presently unclear. It remains to be seen if the imperative for the founding of the site relates to the nearby cave.

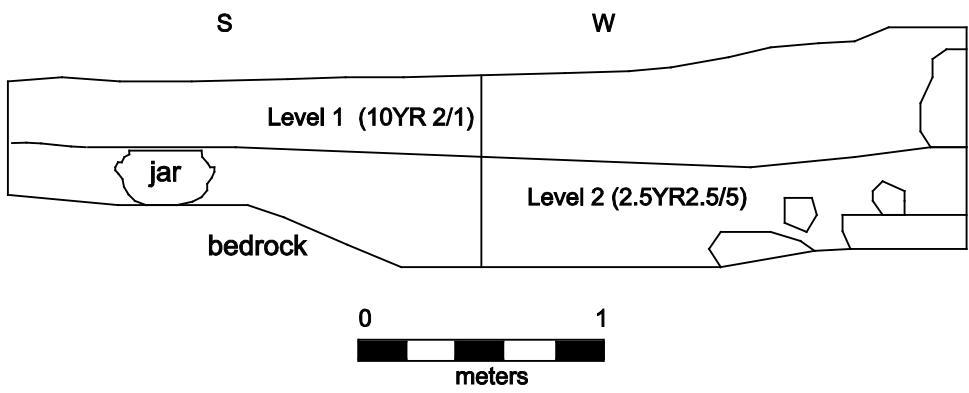


Figure 232. Xtojil, Operation 2, South and West Profiles

Part 3: The *Ejido* of Sacalaca

Chapter 38: Yo'aktun, Operation 2

Justine M. Shaw

The site of Yo'aktun, located approximately 7 km to the southwest of the *pueblo* of Sacalaca, was first subject to excavation in 2005 (Shaw 2005). This season, two test pits were excavated (see Chapter 39 this volume). The first, Operation 2, was a 2 x 2-m unit approximately 40 m north of the site's cave entrance. Although it was not observed during the initial visits to the site, this year the area to the immediate east of the cave was cleared, revealing a 1.60 x 1.54 m *haltun* measuring 65 in depth, with a smaller adjacent 25 x 18 cm *haltun*. Both were inhabited by small turtles and were therefore cleared of any floating vegetation or other remains. It is likely that this water feature, rather than the water accessed by a 150-m-long cave necessitating stooping and navigation through tight spaces at the bottom of a drop-off of several meters.

The unit was placed approximately 1 m to the south of a round foundation brace near the summit of a natural rise (Figure 233). The surface of the unit was littered with collapse from the structure and its underlying leveling event. The sediment under the leaf litter was a reddish black (2.5YR 2.5/1) with many roots and rootlets. After loose cobbles and some of the surface sediment were removed, larger stones became visible in the SE corner of the unit (Figure 234). The material inside the stones was separated as Operation 2, Level 1, Lot 2, while the remainder of the unit was excavated as Level 1, Lot 1. However, upon excavation, the stones and fill in both lots proved to be identical, with no genuine cultural feature being present.

Operation 2, Level 1, Lot 1 dates to the Terminal Classic, based upon its ceramics, which exclusively pertain to this time period. This deposit, 19 to 98 cm in thickness (Figure 235), and sloping to the south like the entire unit, was terminated at bedrock. While it was primarily the same color as Level 1, Lot 2, it lightened to reddish brown (2.5YR 5/4) above the bedrock, colored by small pieces of degraded limestone (*sascab*).

Based upon its close association with the round foundation brace, the date of the material in the unit indicates that such round structures date to this period. It had been hypothesized that such round features, which stratigraphically have been seen to postdate diagnostically Terminal Classic architecture elsewhere in the region, date to the Postclassic. However, this excavation confirms data from Sisal and Gruta de Alux (Flores 2011; Shaw et al. 2011), indicating that they are instead Terminal Classic. Like open-fronted architecture, round foundation braces may be associated with a later Terminal Classic post-monumental period of occupation. Such expedient architecture might also have become more prevalent if mobility increased as the Terminal Classic drought (Hodell et al. 2005) escalated and/or refugees from the south came into the region.

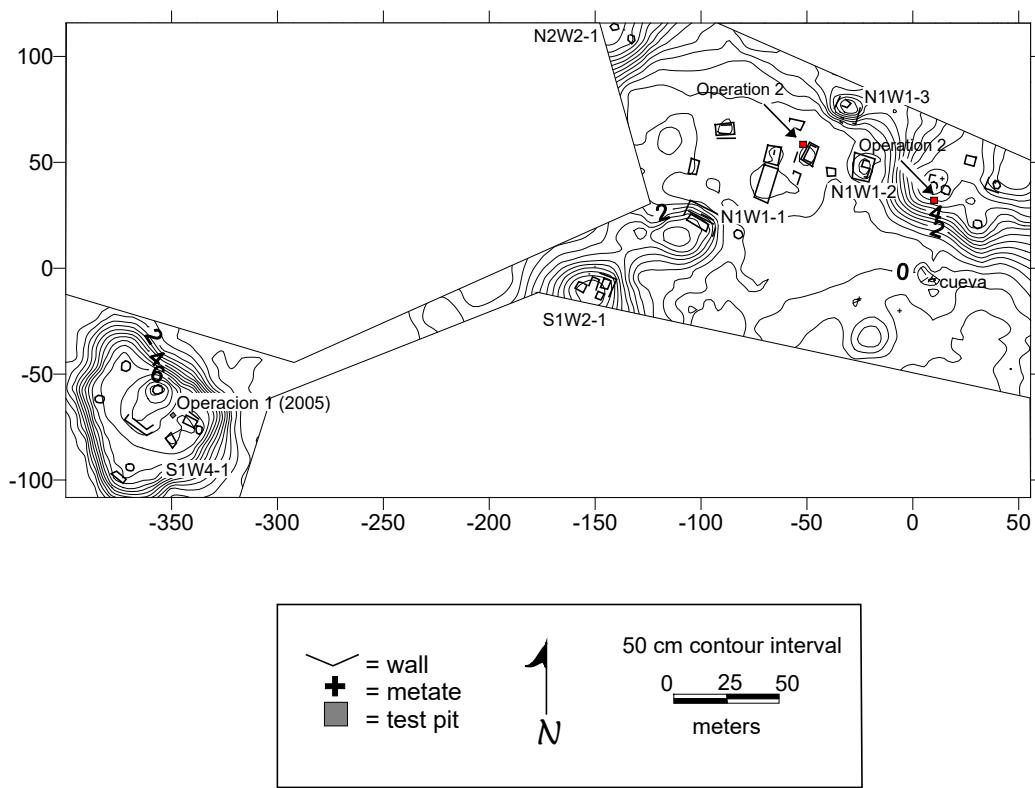


Figure 233. Yo'aktun, Excavation Locations

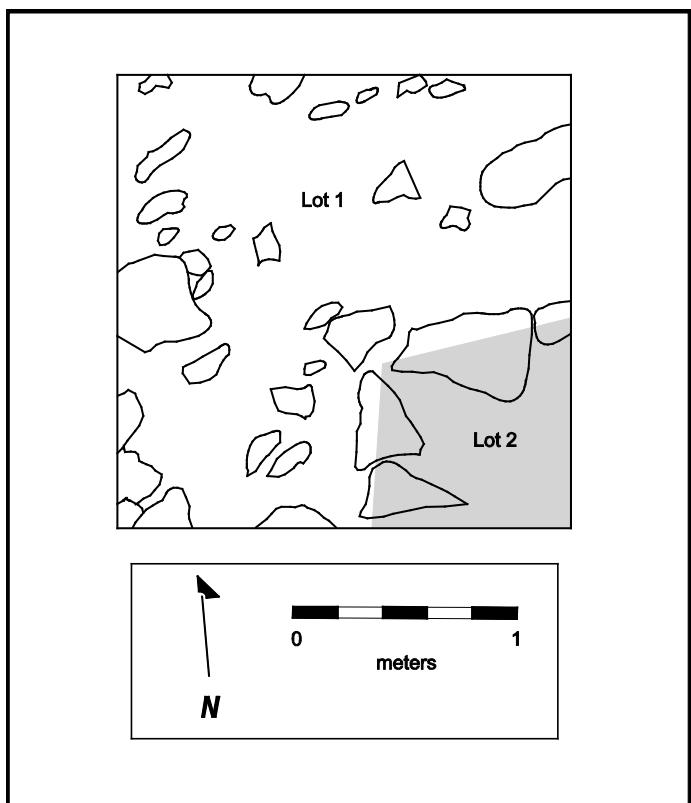


Figure 234. Yo'aktun, Operation 2 Plan

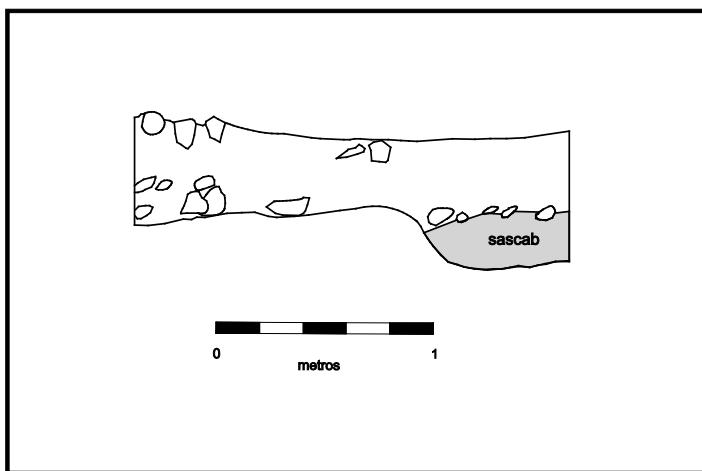


Figure 235. Yo'aktun, Operation 2, North Profile

Part 4: The *Ejido* of Sacalaca

Chapter 39: Yo'aktun, Operation 3

Alberto G. Flores Colin

This unit was located in the eastern portion of the mapped area of the site and adjacent to Structure N1W1-5 (Figure 233). This test pit was situated near to the northeastern corner of the abovementioned structure. The goal of this unit was to locate sealed deposits that could provide a date for this part of the settlement, as well as to be able to define their cultural affiliation. This operation was a 2x2-m unit that was excavated following natural levels (Figure 236).

Level 1, Lot 1, consisted of a layer of a blackish soil (10YR 2/1), which included a large quantity of organic material and several roots (Figure 237). Once this deposit was removed, the existence of a layer of pebbles (about 5 x 10 cm) was discovered, which appeared to be consistent throughout the unit (Figure 238). Sherds located within this level were Yokat Striated var. Yokat and Muna Slate from the Terminal Classic.

The following level (Level 2, Lot 1) was formed by gravel mixed with a reddish sediment (10R 3/4). The complete removal of this stratum led to the discovery of the bedrock or *laja*; therefore the excavation of the unit was concluded (Figure 239). Ceramics from this level was few, and also belonged to the same Terminal Classic types as the previous level.

Once the registration process was conducted (Figura 240), the unit was backfilled with the same material that was previously removed (Figure 241).

Interpretation

Level 2, Lot 1, was possibly the first occupational surface, perhaps predating the construction on the nearby structures. The top segment of this level corresponded to a layer of pebbles (*chich*). While it was not homogeneous, it seems to have been an occupational surface, although we cannot say that was part of a subfloor. The ceramic types Yokat Striated var. Yokat and Muna Slate suggest a Terminal Classic date for this stratum. Level 1, Lot 1 corresponds to the stratum formed since this part of the site was abandoned, being mostly composed of organic material.

Although the information in this unit was minimal, we can say that the occupation in this part of this site was not long and continuous, at least as has been demonstrated with the stratigraphic and ceramics evidence produced by this unit.



Figure 236. Yo'aktun, Operation 3, Surface



Figure 237. Yo'aktun, Operation 3, Level 1, Lot 1

Figure 238. Yo'aktun, Operation 3, Level 1, Lot 2

Figure 239. Yo'aktun, Operation 3, Bedrock

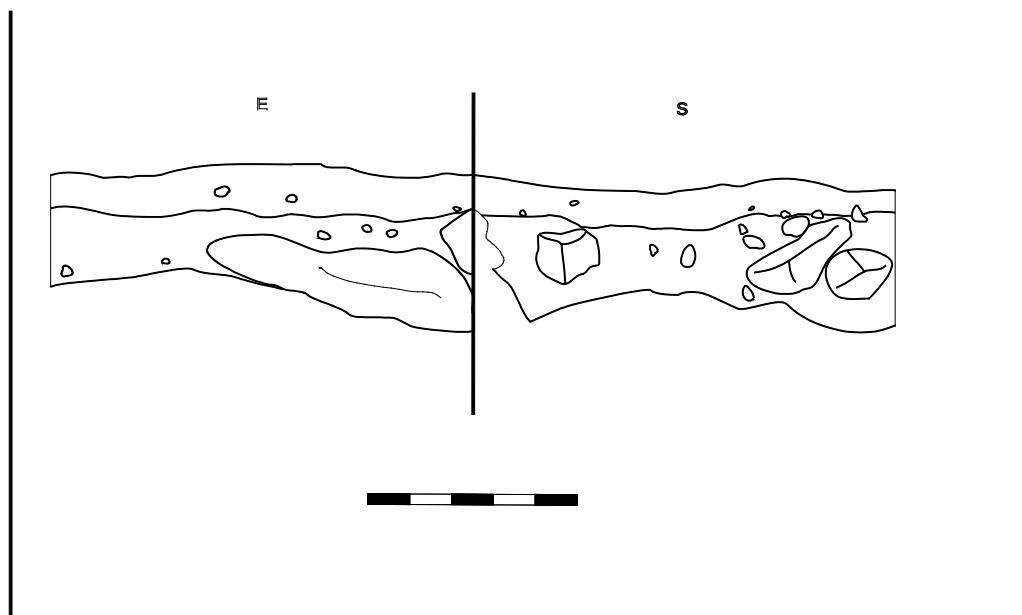


Figure 240. Yo'aktun, Operation 3, East and South Profiles



Figure 241. Yo'aktun, Operation 3, Backfilled

Part 4: The *Ejido* of Sacalaca

Chapter 40: Yodzonot, Operation 1

Barry B. Kidder

Operation 1 was a 2x2-m unit placed to the southwest of the entrance of a circular Structure S1W1-4 (Figure 242) and was oriented 20 degrees west of north. The unit was located on a natural hill in a modern-day *milpa* so the area was subject to periods of burning. Adjacent to the northwest corner of the unit limestone bedrock was exposed.

Level 1, Lot 1 consisted of a dark organic layer (10YR 2/1), known locally as *boox luum*. In the upper portion of this level, there is a large presence of limestone cobbles and pebbles (5cm – 20 cm in diameter) probably related to the nearby circular structure. Below this layer of cobbles and pebbles, several limestone rocks (15-20 in number and reaching sizes of 20-30 cm in diameter) also appear. This gradation of limestone is a common practice called dry-core fill—also known locally as *chich*—and was used to level undulating terrain. After removing this layer of dry-core fill, two small boulders (30-40 cm in diameter) was found in the northern part of the unit. Upon removing these small boulders, a lighter soil layer was exposed. Thus the lower portion of Level 1 consisted of large cobbles as part of construction fill and the western half bedrock is exposed and in the rest of the unit large cobbles are used to level the surface with bedrock (Figure 243). Level 1 terminated with the presence of bedrock or *laja* in the western portion of the unit and the exposure of aforementioned dark brown soil layer (10YR 3/2).

The overwhelming majority of unidentifiable ceramics (87% of the sherds) recovered from Level 1 were of the Muna and Yok'at type, suggesting a Terminal Classic occupation. However, the vast majority of total sherds from this lot and level were unidentifiable (143 of 214 total sherds). Additionally, a flake of banded chalcedony measuring 44 mm long and 22 mm wide was recovered.

Level 2, Lot 1 began with a transition to a dark brown soil layer. At this level the relative frequency of artifacts decreased compared to the previous level. However, most of the identifiable ceramics from this level and lot date to the Late Formative (29 total) while nearly equal numbers of Middle Formative (16 total) and Terminal Classic (18 total) sherds were also recovered. Additionally, a tubular shell pendant was recovered along the west wall and 64 cm south from the north at a depth of 56 cm below surface depth. This level terminated with the expose of bedrock, which was relatively level except for the southwestern corner of the unit which, following the natural slope of the hill, dropped precipitously (Figure 244).

Interpretation

Evinced by the nearby circular structure and ceramic assemblage of Level 1 Lot 1, the most recent occupation of this operation undoubtedly dates to the Terminal Classic. Interestingly, the number of ceramic sherds recovered from Level 1 is significantly less than those recovered from Level 1 from Operation 2 at Yodzonot, which was located a short distance away on a natural rise as well. This discrepancy is

probably the result of the location of the unit in relation to the orientation of the adjacent structure. Operation 1 at Yodzonot was located near the entrance of Structure S1W1-4 and, as a result, it would have been kept clean in antiquity. The construction sequence also points to a Terminal Classic occupation. The dry core fill, which grew in rock diameter directly with increasing depth, suggests this construction effort functioned to help level the area in order to build the nearby structure on solid ground and counteract colluvial processes. While ceramics from Level 2 date to earlier time periods (Middle

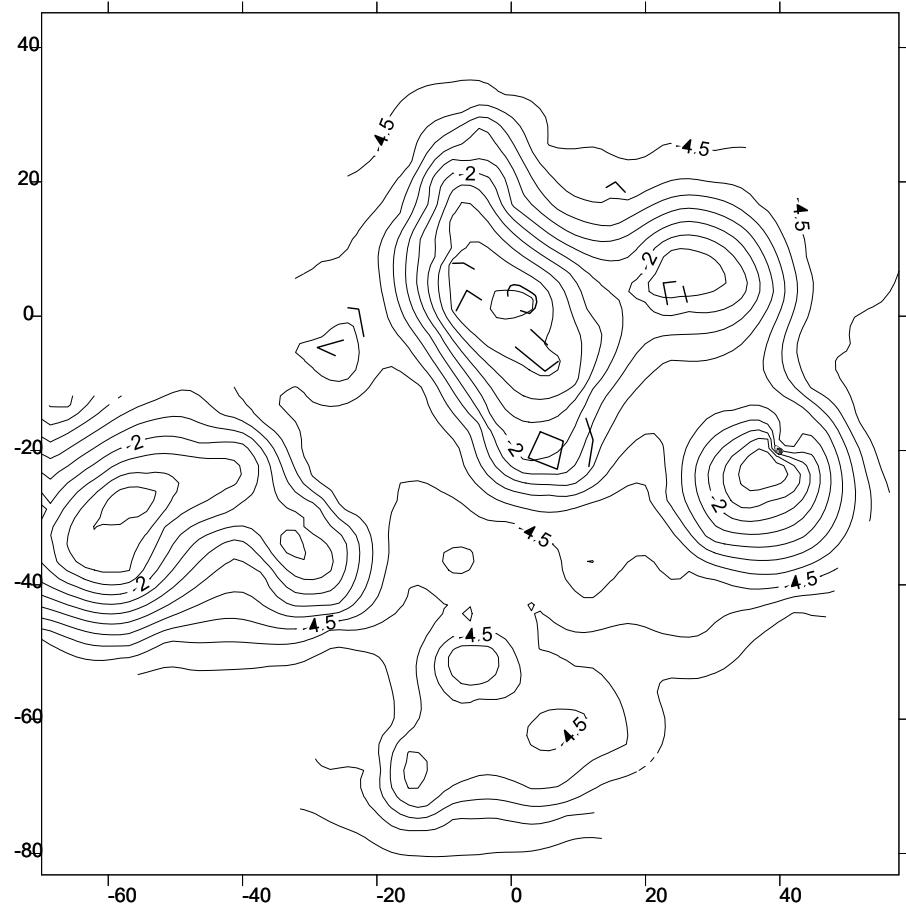


Figure 242. Yodzonot, Excavation Locations

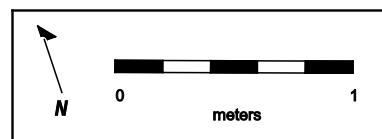
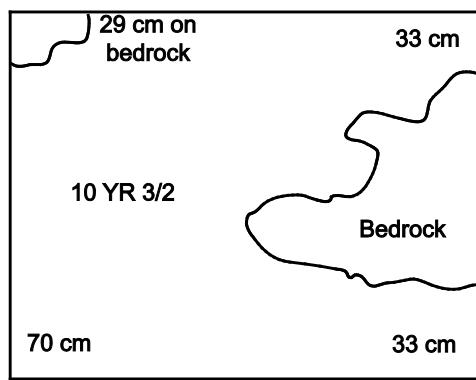


Figure 243. Yodzonot, Operation 1, Level 1, Lot 1

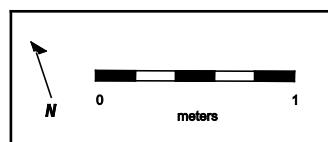
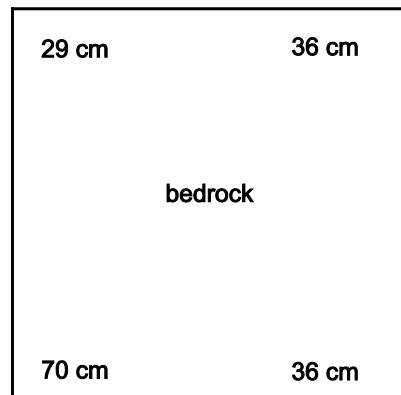


Figure 244. Yodzonot, Operation 1, Level 2, Lot 1

and Late Formative) as well as the Terminal Classic, it is likely these earlier sherds were part of the construction fill used to level the immediate area around Structure S1W1-4. However, the presence of a definitive Late Formative occupation nearby (see Chapter 41 this volume) does not preclude the possibility that the earlier ceramic types found may indicate an earlier occupation.

Part 4: The *Ejido* of Sacalaca

Chapter 41: Yo'dzonot Operation 2

Dave Johnstone

Yo'dzonot is a Rank 4 site located 3 km west southwest of the pueblo of Sacalaca, some 300 m north of a permanent cenote. The modern Telmex tower in Sacalaca is visible from portions of Yo'dzonot. The site is located in a region of extremely fertile soil, some of which is under permanent cultivation, while other portions are subjected to milpa agriculture. Portions of this dispersed site were mapped during 2010 (Shaw and Flores 2010). The foundation braces tend to be located atop natural bedrock outcrops. The site was selected to explore the relationship of Yo'dzonot to the secondary site of Sacalaca.

Three 2x2 m test pits were excavated at Yo'dzonot. Operation 1 was placed immediately south of Structure S1W1-4 (Figure 242). This was a circular foundation brace thought to date to the Postclassic period. Operation 2 was positioned behind Structure N1E1-1, an apsidal foundation brace, in an area where we hoped to encounter a midden. Operation 3 was placed south of Structure S1W1-2, a rectangular foundation brace. This structure was unusual, in that it was not built on a bedrock outcrop.

Operation 2 was placed behind an apsidal foundation brace in an area where we hoped to encounter a midden. Initially the area selected did not appear very promising, as the surface was covered by angular cobble to boulder sized pieces of limestone. With the exception of a single veneer stone, these did not appear to have been shaped, and probably did not result from building collapse. It may be that this layer was an attempt to enlarge the surface of the mound. However, no evidence of the pebble sized *chich* subfloor was found, suggesting that the area was probably not paved.

Level 1 extended to an average depth of 35 cm below the surface. What matrix was present consisted of a dark brown silty loam. Despite the concentration of stones, level 1 produced a large sample of ceramics. These were large, well preserved sherds, and dated overwhelmingly to the Terminal Classic period. In addition to the ceramics, level 1 also produced a large collection of chert flakes and cores.

The matrix for Level 2 was grey sascab enriched silt. While there were a few boulder sized limestone pieces, the smaller fraction decreased from cobble sized to pebble sized. A *metate* fragment was recovered from the center of the unit. The ceramics from Level 2 were still plentiful, though smaller, and less well preserved. While some Terminal Classic, and even a few Late Classic sherds were recovered, the sample consisted primarily of sherds dating to the Early Classic period. Unlike Level 1, no lithics were recovered in Level 2.

Two features were identified in Operation 2: both of which were excavated into the soft sascab (Figures 245 and 246). They were both oval pits a little over a meter in diameter. Pit 1 extended to a depth of 48 cm, while Pit 2 was 45 cm deep. Neither pit was lined, nor was there any evidence of burning within either pit. Neither pit contained any artifacts.

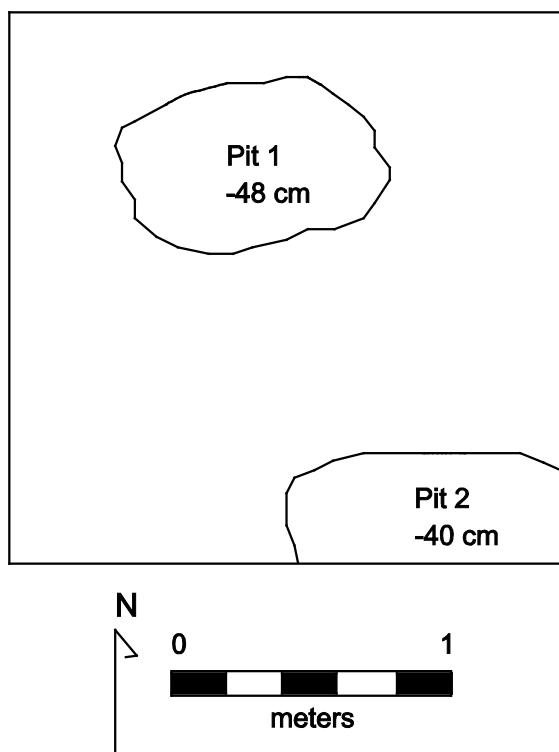


Figure 245. Yodzonot, Operation 2, Pits 1 and 2

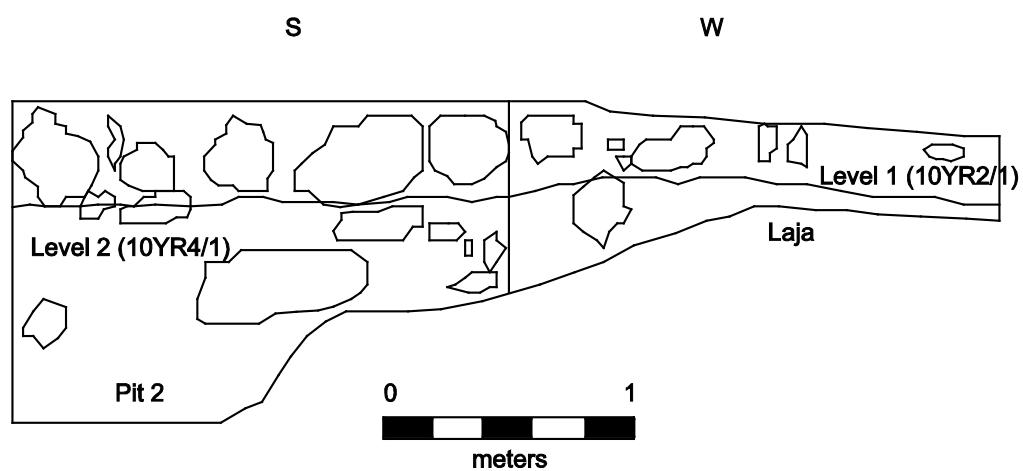


Figure 246. Yodzonot, Operation 2, South and West Profiles

In terms of its overall relationship to Sacalaca, Yo'dzonot's ceramic profile bore a strong resemblance to that of Sacalaca, with all periods from the Middle Formative through the Terminal Classic being represented. Despite this, the only period for which we have associated construction is the Terminal Classic. All of the localities tested, and their associated foundation braces appear to date to this time.

The differences between Level 2 and Level 1 of Operation 2 are telling. The small ceramic sizes, weathered surfaces and wide range of time periods suggest that his level was the product of a gradual accumulation of materials over a long period of time. In contrast, the large, well preserved, and temporally specific nature of the ceramics that were recovered from Level 1 indicate that this level was deposited over a short period of time. The associated lithic material also recovered suggests that we may indeed have encountered a midden containing the domestic debris accumulated from adjacent structures.

The plastered floor in front of Structure S1W1-2 was a surprise, as was the use of Middle Formative fill to patch it. The presence there of a stone plug for a hollow log bee colony suggests other economic activities in the area in addition to farming which may have permitted more extravagant architectural expenditures like external plaster floors.

Part 4: The *Ejido* of Sacalaca

Chapter 42: Yodzonot, Operation 3

Leslie Reyes

Yodzonot's Operation 3 was a 2x2 m test unit located 1 m south of Structure S1W1-2 (Figure 242). The test unit was placed to the south and near the base of Structure S1W1-2 in hopes that a good artifact sample would be collected to further research a possible date and function of the feature located above. Various modern burn events produced charcoal and discolorations within the top few centimeters of soil. Boulders and cobbles from the structure located on a slope due north had collapsed into the test unit location and limestone bedrock was present on the surrounding surface areas. Vegetation around the unit included Guano trees and various shrubs and tall grasses. Excavation of this test unit proceeded in cultural levels.

Operation 3, Level 1, Lot 1 removed the vegetation, various associated roots, and collapsed boulders and cobbles that had tumbled down off the structure located above. Soil within this level was (w) 10YR 2/1 black sandy clay loam. There were no mottles in the matrix. Soil was structureless with massive grained sediments. Soil consistency when dry was loose, when moist soil was friable, and when wet soil was non-sticky and plastic. Roots are common and range in size from very fine (0.075mm-1mm) to coarse (>5mm in diameter). Carbonates found in the soil were due to limestone deposits. Gravel content consisted of 15 percent well sorted granules, pebbles, cobbles and small boulders. Gravels were angular to subangular in shape with the exception of one veneer stone which was rectangular. Excavation of level 1 was low in difficulty except when removing large boulders.

The exposure of a plaster floor at 42 cm below the surface changed the level from 1 to Operation 3, Level 2, Lot 1. The plaster floor was broken and discontinuous throughout this level. Operation 3, Level 2, Lot 1, soils were (w) 10YR 3/6 dark yellowish brown sandy loam. There were no mottles in the matrix. Soil was structureless with massive grained sediments. Soil consistency when dry was loose, when moist soil was friable, and when wet soil was non-sticky and plastic. Few roots were present within Operation 3, Level 2, Lot 1. Roots ranged in size between fine and medium in diameter. Sediments in this level were violently effervescent due to the plaster floor and associated limestone sascab. The horizon boundary of Operation 3, Level 2, Lot 1 was abrupt and broken. Excavation of level 2 lot 1 was moderate in difficulty with arm-applied pressure and a pick. Trying to stay above the broken plaster floor was more challenging than cleaning the sediments off of the exposed plaster. After speaking with one of the project principle investigators, it was decided that further excavation of Operation 3, Level 2, Lot 1, was to continue by excavating the unprotected areas of the unit while keeping the intact floor sections separate. The completed excavation of the sediments at floor level changed the level from Level 2, Lot 1, to Operation 3, Level 2, Lot 2.

In Operation3, Level 2, Lot 2, excavators removed the construction fill in areas of the excavation unit that were not protected by plaster floor. This lot was rather deep and extended down to 124 cm below the surface; eventually stopping at a new soil

color. The purpose for excavating the construction fill not protected by floor separately from construction fill protected by plaster floor was to try and isolate potentially mixed ceramics that may have fallen into construction fill during different occupational periods. Most of the sediment in Operation 3, Level 2, Lot 2 was *sascab* with some sediment trickling down into the core and ballast from the level above.

A new lot, Operation 3, Level 2, Lot 3, was created upon completing the excavations of all unprotected construction fill within the excavation unit. This new lot focused on removing plaster floor from within the excavation unit. Operation 3, Level 2, Lot 3 extended from 30 cm to 50 cm below the surface in the eastern profile and from 30 cm to 40 cm below the surface in the southern profile. Excavators originally thought that there were two separate floor events but after cleaning the upper floor and talking it over amongst each other, decided to excavate the lot as one cultural event. This decision was made based on the broken floor within the excavation unit and the presence of *sascab* which extended down into the construction fill making it appear as if there was one floor. This resulted in the misinterpretation of a really think floor rather than the actual two separate thin floors. This became evident while mapping the southern profile. Excavators noticed that there was an absence of construction fill in the southeast corners of both the eastern and southern wall profiles of the excavation unit. This suggests the cut into each floor was made at some point after their construction. The associated floor cuts extend horizontally 120 cm toward the southeast wall and in the south wall profile 90 cm toward the southeast corner of the excavation unit (Figure 247).

Excavators continued to remove construction fill once the plaster and *sascab* was removed. A new lot was created after the large cobles and small boulders were taken away because of a color change in sediments. Operation 3, Level 2, Lot 4 consisted of sediments that were 10YR 3/3 dark brown sandy loam. No mottles were present but some *sascab* had trickled down through the construction fill into this level. The soil was structureless and single grained in form. Soil consistency when dry was slightly hard (easily broken between thumb and forefinger), when moist soil was friable, and when wet soil was slightly sticky and plastic. Roots were common in this lot and ranged from very fine to medium in size. Carbonates were present within this lot due to the residual of limestone *sascab*. The horizon boundary was gradual and irregular due to the wavy limestone bedrock which underlies the unit. Excavation difficulty was moderate and a large pick and shovel was used to quickly remove sediments from the unit.

Disturbances for Level 2, Lot 4 consist of an ash lens at 115 cm below the surface located in the southeast corner of the excavation unit. This ash lens may be associated with a cultural event in which a cut was made in both floors above. No ash was observed within the unit but excavators noticed the ash located in the south wall near the eastern corner. The ash lens was 10YR 4/1 dark gray silt in consistency. The ash soil structure was structureless and massive in form causing the ash to spill out of the wall and into the base of the unit. Operation 3, Level 2, Lot 4 had a gravel content of 20 percent. The gravels consisted of pebbles, cobbles, and small boulders that were subrounded to sub angular in shape. Charcoal was not present in this lot except for the ash located within the south wall. Operation 3, Level 3, Lot 1 was created because of a soil color change.

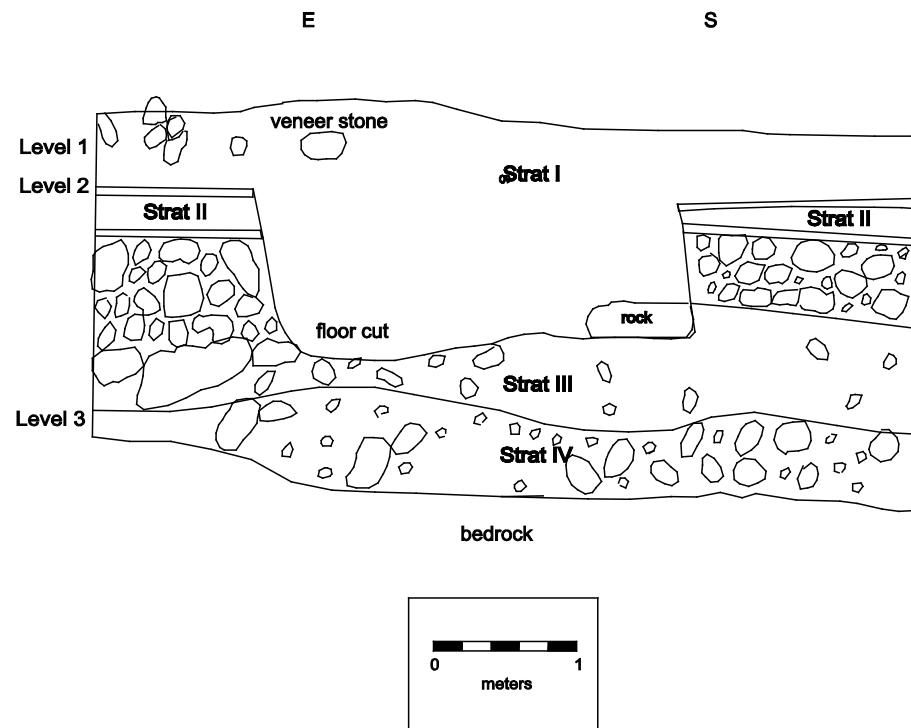


Figure 247. Yodzonot, Operation 3 East and South Profiles

Soils within Operation 3, Level 3, Lot 1 were 10YR 4/6, yellowish red sandy clay loam. No mottles were present in this soil. Soil structure was structureless and single grained. Soil consistency when dry was loose, when moist was friable, and when wet was slightly sticky and plastic. Few roots were present and ranged from fine to medium in size. Carbonates present due to the limestone bedrock. The horizon boundary of this soil was abrupt and wavy due to the irregular limestone bedrock located directly below. This level had high excavation difficulty due to the wet and dense nature of the sediments which made the soil more clay-like. Operation 3 test excavation unit was terminated at limestone bedrock (Figure 248).

The presence of two floors was a surprise to excavators and it is not known how far these two floors horizontally extend since the floors continued beyond the excavation unit. The cut found within Operation 3, Level 2, Lots 2 through 4 was also an unexpected feature. This cut contained mostly Middle and Late Formative ceramic sherds but is believed to be a Terminal Classic cultural event which coincides with the dates of both floors found within the unit. Further research should be carried out in future field seasons to explore the horizontal extent of both floors in order to gather research on whether or not the structure located to the north is associated with one or both floors.

Cultural materials for Operation 3, Level 1 consists of 242 ceramic sherds. Although Middle and Late Formative, one Late Classic and a small sample of Early Classic sherds were collected, the majority of identifiable ceramic sherds recovered from level 1 date to the Terminal Classic period. In Operation 3, Level 2, Lots 1 through 4, large samples of Middle and Late Formative ceramic sherds were collected but the Late Classic period was completely unrepresented. Early Classic ceramic sherds were few but larger in sample size than the Terminal Classic. In fact, Late and Terminal Classic ceramic sherds are not present in Operation 3, Level 2, Lots 2 through 4. Most of the ceramics collected within Operation 3, Level 2, Lots 2 and 3 were coming from the sascab beneath the plaster floor and several had sascab stuck to them. This suggests that those particular ceramics were added to the sascab at the time of the construction of the floor or that they were possibly coming from a nearby sascabera located roughly 60 meters northeast of Operation 3 (Figure # Ceramic Data Table for Yodzonot Operation 3).

Other cultural materials for Operation 3, Level 2, Lot 1 also include a small number of chert flakes and one limestone beehive plug. The limestone beehive plug was mapped and photographed in situ as well as photographed in the lab. This beehive plug was found at 160 cm south and 67 east at 22 cmbs within the excavation unit and measures 190 m x 180 mm x 35 mm. The lithic material collected from within this level was predominately white gray, tan, and pink chert with some white chalcedony. A total of 24 pieces of lithicdebitage were collected and analyzed. The results were as follows: 11 tertiary, 1 secondary, 1 thinning flake, 9 shatter, 1 primary and 1 bipolar core. Eleven pieces of debitage were white chert and 7 pieces were gray chert. The gray chert was heat treated, and most likely was once white. The one piece of pink chert that was collected from within this unit was heat treated and most likely was once white. Further lithic research will be done in the future to better understand the different lithic resources available within this area and possible trade between neighboring areas.

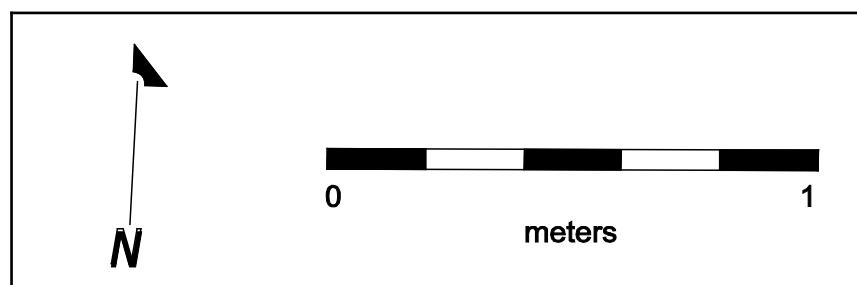
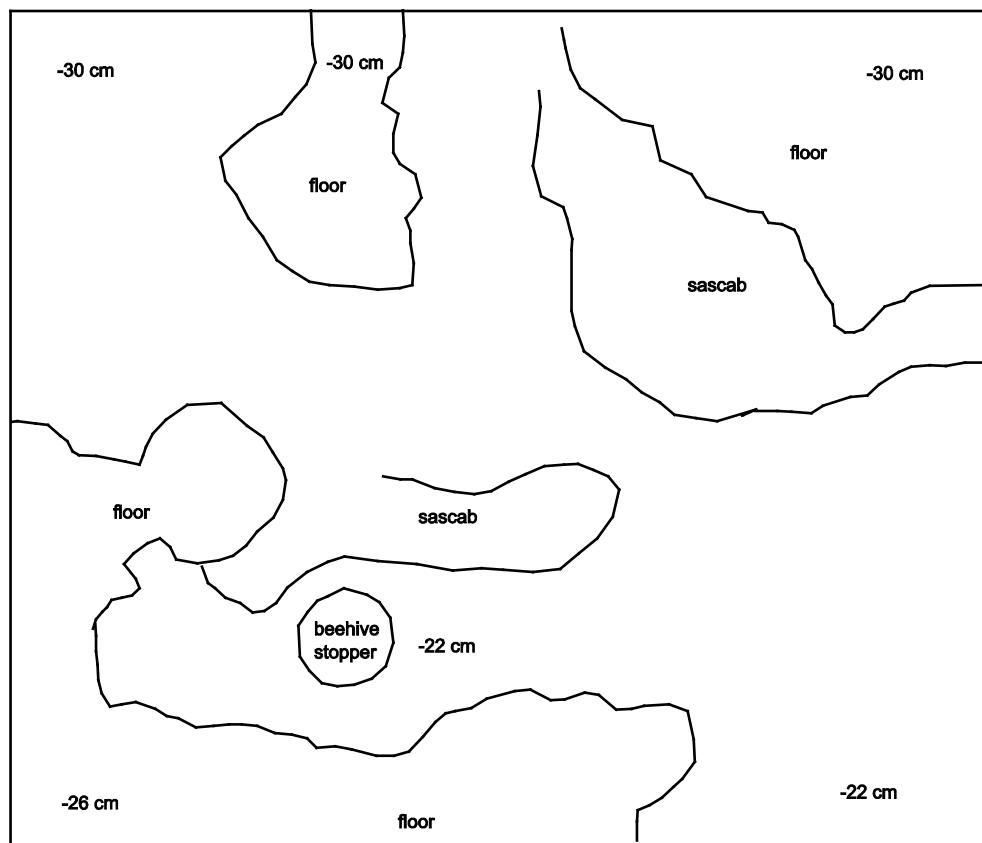


Figure 248. Yodzonot, Operation 3, Plan at Bedrock

Part 4: The *Ejido* of San Felipe

Chapter 43: San Felipe, Operation 6

Jorge P. Huerta Rodríguez

San Felipe's Operation 1 is located in an artificial leveling that is the base for the North Group and in the area where Sacbe 1 terminates just in front of the Structure N3E4-2 (Figure 249). This unit was a 2 x 2 m test pit, and its location was selected in order to not affect any possible substructure that could exist in this area, but also to provide related information to the above-mentioned structure. In addition, since this is the area to which Sacbe 1 leads, archaeological and stratigraphic information will be helpful to get a better understanding, though indirectly, about this causeway, as well as the site's occupation, possible function, and chronology.

The excavation was carried out following natural levels. All the material extracted from this well was passed through a sieve, to later be recovered and stored in a bag, labeled with its provenance. Each level and/or lot were documented by photographs and drawings, both plant and profiles of the unit. All sherds were washed, marked and analyzed in the laboratory by Dr. Dave Johnstone (see Chapter 47 this volume), following the type-variety system (Smith et al. 1960).

At the end of the excavation and documentation process, the unit was backfilled with the same material that was extracted until the surface level was reached. In total, this unit had 18 levels that will be described below.

The surface of the unit (Figure 250) had quite a lot of litter and roots, with a slight slope toward the northwest corner. The sediment had a reddish brown color (10R 3/2, dusky red), was slightly compacted and mixed with small and medium stones (of about 3x2 and 9x5 cm on average). In regard to the archaeological materials recovered, there were only a few fragments of ceramic sherds.

Level 1, Lot 1 (Figure 251) was composed of small rocks (about 3x3.5 and 5x7 cm on average), and a somewhat sandy sediment with a brown color (10R 2.5 /1, very dusky red). This level had an average thickness of 8 cm. In regard to the ceramic material, there were mainly samples from Terminal Classic (Yokat Striated, Muna Slate, Sacalum Black on Slate, Tekit Incised, Akil Impressed, Teabo Red, and Ticul Thin Slate), as well as a few from the Postclassic period (as evidenced by 6 fragments of the Chen Mul Modeled type).

Level 2, Lot 1 (Figure 252) had a sandy-silty composition, with several small stones. This level presented a light brown color (2.5 YR 2.5/2, very dusky red), although the main difference with the above stratum was an increase of white and small stones (of about 2x2 and 4x6 cm). No cultural material was recovered at this level.

Level 3, Lot 1 (Figure 253) had a light brown color (2.5 YR 2.5 /2, very dusky red). Despite being the same color as the previous level, its composition was different, because this was more dry, compacted, and tough. In addition, we found the presence of somewhat larger gravel and stones (about 10x12 cm) (Figure 254). With respect to the materials recovered, the majority belonged to Terminal Classic types, such as the Dzudzuquil Cream To Buff (1 piece), Xanaba Red (3), Yokat Striated Var. Yokat (31), Oxcutzcab Appliqué (2), Muna Slate (36), and Ticul Thin Slate (1), in addition to other

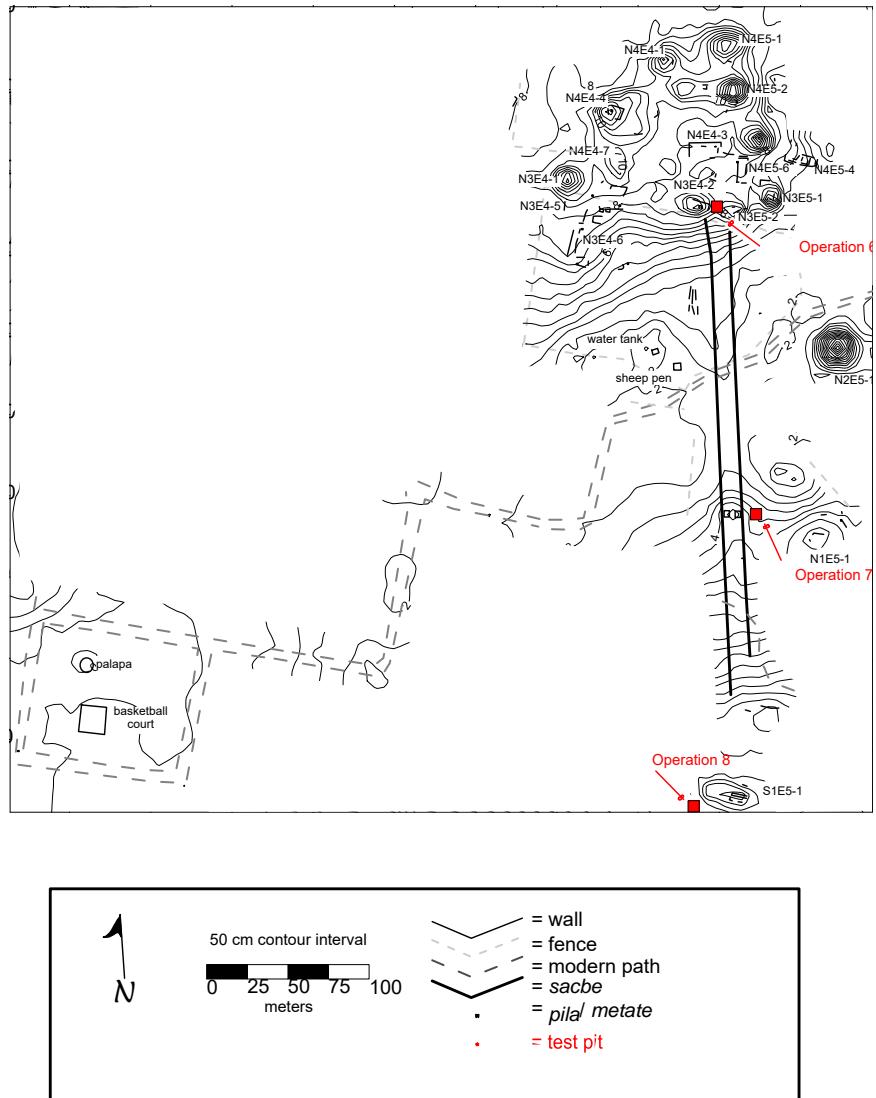


Figure 249. San Felipe, Excavation Locations



Figure 250. San Felipe, Operation 6, Surface



Figure 251. San Felipe, Operation 6, Level 1, Lot 1



Figure 252. San Felipe, Operation 6, Level 2, Lot 1



Figure 253. San Felipe, Operation 6, Level 3, Lot 1 Rocks



Figure 254. San Felipe, Operation 6, Level 3, Lot 1

(53 fragments) that could not be analyzed due to their poor state of conservation.

Level 4, Lot 1 (Figure 255) had a brown color (2.5 YR 2/2 brown) and was composed of a sandy sediment mixed with small rocks (about 5 to 7 cm), as well as with multiple roots. In total, 27 ceramic fragments were recovered that corresponded to Terminal Classic types, including Yokat Striated Var. Yokat (1), Muna Slate (4), although a few dates back to earlier times as the Yaxcaba Striated (2 fragments), Xanaba Red (4), Cancel Trickle On Network (2), and Ticul Thin Slate (1), while the rest could not be identified due to its poor state of preservation. At the end of the extraction of this level, a floor was discovered; with this the next level was begun.

Level 5, Lot 1 (Figure 256) was a cultural level (Floor 1), white in color with lighter shades of brown (7.5 YR 8.5 /1, pinkish white). This floor was more or less well preserved, and was formed by a mixture of *sascab* and eroded stucco. The average thickness of this was about 10 cm; it showed a slope toward the northeast corner of the unit.

Once the floor was removed, a more sandy soil that was light brown in color (10YR 7/3, very pale brown), with a few roots, was discovered; it was named Level 6, Lot 1 (Figure 257). The average thickness of the deposit was 4 cm, and only a few ceramic fragments were found in this level (only 14 sherds), five of which were found in a poor state of preservation. Among those that were analyzed are examples of the types Yaxcaba Striated (2 fragments), Xanaba Red (4), and Dos Arroyos Orange Polychrome (3) from the Terminal Classic. While this level seems to be part of the above floor, it was decided to consider as another level due to the fact that we didn't know in detail what would be its composition, since it was not obvious that it was a subfloor, but seemed to be another level. Once the deposit was removed, what appeared to be a second stucco floor was discovered, which showed similar characteristics to the prior floor (Floor 1).

Level 7, Lot 1 (Figure 258) was composed of a mixture of *sascab* and eroded stucco with small rocks (about 10 x 12 cm), as well as a few pebbles of blackish color. The tonality of this floor was white with veins of light brown (10YR 8/1, white). The floor also had a slight slope toward the northeast, with an average thickness of 8 cm (although on the south side it was 10 cm thick). It is important to emphasize that this floor had a high degree of erosion.

The next level, Level 8, Lot 1 (Figure 259), was composed of a sandy sediment that was light brown in color (10YR 7/3, very pale brown), somewhat dry, and compacted. The average thickness of the level was 3 cm. A total of 6 ceramic fragments were found, mainly from the Early Classic, such as the types of Yaxcaba Striated (1 piece), Xanaba Red (1), Caucel Trickel On Red (2), t Dos Arroyos Orange Polychrome (1) and Akil Impressed (1). After this layer was completely removed, the presence of another floor was revealed.

This third floor, Level 9, Lot 1 (Figure 260) was composed of a mixture of degraded stucco and several small stones (some of a blackish color). This floor was better preserved than the previous ones, although it was thinner (about 6.5 cm in average). The coloring of this floor was white with some red veins (10YR 8/2, very pale brown).

The next level, Level 10, Lot 1 (Figure 261), had a very light brown color (10YR 6/3, pale brown), and had an average thickness of 2 cm. Despite its thinness,



Figure 255. San Felipe, Operation 6, Level 4, Lot 1



Figure 256. San Felipe, Operation 6, Level 5, Lot 1 (Floor 1)



Figure 257. San Felipe, Operation 6, Level 6, Lot 1



Figure 258. San Felipe, Operation 6, Level 7, Lot 1



Figure 259. San Felipe, Operation 6, Level 8, Lot 1



Figure 260. San Felipe, Operation 6, Level 9, Lot 1



Figure 261. San Felipe, Operation 6, Level 10, Lot 1

the number of sherds recovered was greater than in the previous level, with a total of 9 ceramic fragments. These sherds also belonged to the Early Classic, mainly from the types of Yaxcaba Striated (1 piece) and Xanaba Red (7 parts), in addition to a sherd that was not identified. The removal of this layer revealed another stucco floor.

This next floor, Level 11, Lot 1 (Figure 262) was composed of degraded stucco and small white and black stones. In regard to the color, this floor has many veins of light brown (10YR 8/1, very pale brown). Unlike the previous floors, it had a whiter color and greater hardness, in addition to being better preserved; furthermore it showed an inclination toward the southeast corner of the unit.

Level 12, Lot 1 (Figure 263) was composed of a sandy sediment that was brown in color (10YR 6/3, pale brown) and contained several small stones, which had a very soft consistency, with an average thickness of 4 cm. The ceramic materials also belonged to the Early Classic, with examples of the types Yaxcaba Striated (2 parts), Xanaba Red (6) and Caucel Trickel on Red (2). Once that this level was removed another floor was detected (Floor 5).

The fifth floor (Level 13, Lot 1), was made up of a mixture identical to that observed in the previous floor (Floor 4), including being of the same color (Figure 264). This floor was well preserved, having an average thickness of 8 cm, although in some parts it exceeded 11 cm.

The next deposit, Level 13, Lot 2 (Figure 265) was a sandy sediment, mixed with a few medium-sized stones (about 25×40 cm). The color of this stratum was light brown (10 YR 6/4, light yellowish brown). In the southwest corner a stone was found that, based upon its dimensions was thought to be an architectural feature, although in fact it was an isolated stone. The deposit had an average thickness of 8 cm. The ceramic material located within this level belongs to the types Juventud Red (1 piece), Sierra Red (1), Laguna Verde Incised (1), Xanaba Red (8), Caucel Trickel On Red (1), from Early Classic, although also an example from the Terminal Classic was located (of the Yokat Striated type). Once this layer was removed in its entirety, the presence of what would be a sixth floor was noted.

Floor 6 (Level 14, Lot 1) (Figure 266) was a mixture of degraded stucco and sascab; it had a light brown color with several white veins (10YR 6/3, pale brown). This floor was in very poor state of preservation; in addition to that, it was less compact and more fragile than the previous floor. Floor 6 had an average thickness of 9 cm.

Below this floor Level 14 Lot 2 was found (Figure 267), formed by a sandy and somewhat compacted sediment, which presented a grayish brown color (10YR 5/2, grayish brown). The average thickness was of 4 cm and the material recovered included examples of the types Chunhinta Black (2 fragments), Dzudzuquil Cream To Buff (4), Xanaba Red (LF) (11), Aguila Orange (1), and Teabo Red (1 piece). Once this level was removed, a series of rocks that seemed to be part of a dry core fill, or cultural leveling, was discovered.

The next level, Level 14, Lot 3 (Figure 268) was composed of large stones (about 41×64 cm), which lay placed without any apparent order, which were part of the construction fill. The average thickness of this level was 40 cm. Once this was removed, the presence of another deposit was revealed.

Level 15, Lot 1 (Figure 269) was a sandy sediment, brown in color (10 YR 4/4, dark yellowish brown), and slightly compact. Ceramics recovered from this level



Figure 262. San Felipe, Operation 6, Level 11, Lot 1



Figure 263. San Felipe, Operation 6, Level 12, Lot 1



Figure 264. San Felipe, Operation 6, Level 13, Lot 1



Figure 265. San Felipe, Operation 6, Level 13, Lot 2



Figure 266. San Felipe, Operation 6, Level 14, Lot 1



Figure 267. San Felipe, Operation 6, Level 14, Lot 2



Figure 268. San Felipe, Operation 6, Level 14, Lot 3



Figure 269. San Felipe, Operation 6, Level 15, Lot 1

belonged to the types Chunhinta Black V. Ucu (1 piece), Dzudzuquil Cream To Buff (2), Tumben Incised (1), Yaxcaba Striated (2), and Xanaba Red (5).

Level 16, Lot 1 (Figure 270) was a light brown sediment with reddish veins (7.5 YR 4/6, strong brown); it was somewhat compacted, with numerous pieces of gravel. The thickness of this deposit was 8 cm. Only 25 sherds were recovered, 11 of which could not be identified, whereas others belonged to the types Dzudzuquil Cream to Buff (1 piece), Yaxcaba Striated (1) and Xanaba Red (12 fragments).

Although it was not a radical change, a slight difference in the constitution of this layer led to change to the next level, Level 16, Lot 2 (Figure 271). The change in the sediment consisted of the presence of several stones of medium size, about 34×50 cm. The average thickness of this level was approximately 25 cm and the recovered sherds belong to the types Chunhinta Black V. Ucu (1 piece), Dzudzuquil Cream To Buff (6), Tumben Incised (1), Chancenote Unslipped (8), Sierra Red (7), Laguna Verde Incised (1), and Polvero Black (1 piece).

Once that this lot was removed, Level 17, Lot 1 (Figure 272) was discovered, which was a sandy sediment brown in color (7.5 YR 5/4, brown). The layer had a thickness of 18 cm and was quite a bit more compacted, much more than the previous levels. Apparently this deposit was well leveled, possibly as an occupational surface. Sherds recovered belong to types Sierra Red (1 sherd), Yaxcaba Striated (1) and Ticul Thin Slate (1 piece).

The next lot, Level 17, Lot 2 (Figure 273) was formed of a series of large stones (about 49×60 cm) and had an average thickness of 35 cm. Sherds recovered from this lot belong to the types Chunhinta Black V. Ucu (1 piece), Juventud Red (2), Dudzuquil Cream To Buff (12), Tumben Incised (1), Chancenote Unslipped (4), and Sierra Red (8 pieces).

After the previous level was totally removed, Level 18, Lot 1 (Figure 274) was located, which was composed of a reddish brown sediment (5YR 3/4, dark reddish brown), in addition to several medium-sized stones (about 32×61 cm). The level had an average thickness of 10 cm, and had sherds from the types of Chunhinta Black V. Ucu (2 fragments), Juventud Red (2), Dudzuquil Cream To Buff (5), Tumben Incised (1), and Sierra Red (8 pieces), in addition to a fragment of seashell.

Level 18, Lot 2 (Figure 275) was a sandy sediment of slightly reddish brown coloration (5YR 4/3, reddish brown). This layer had a very variable thickness, because in some parts it was only 3 cm thick, while in others it extended for 12 cm. This variation of thickness is due to the fact that, immediately below this bedrock or *laja* was located (Figure 276). Because of this, once all the sediment was removed and the surface of bedrock was totally exposed, the deepest point of the excavation was reached (2.90 m in the southwest corner). Within this last level, a total of 26 ceramic fragments were located, 11 of which were in a very poor state of preservation and could not be identified, while the remainder belonged to the types Chunhinta Black V. Ucu (1 piece), Juventud Red (2), Dudzuquil Cream To Buff (5), Cananaima Red/Cream Incised (2), Xanaba Red (LF) (1), Sierra Red (3), and Laguna Verde Incised (1).



Figure 270. San Felipe, Operation 6, Level 16, Lot 1



Figure 271. San Felipe, Operation 6, Level 16, Lot 2



Figure 272. San Felipe, Operation 6, Level 17, Lot 1



Figure 273. San Felipe, Operation 6, Level 17, Lot 2



Figure 274. San Felipe, Operation 6, Level 18, Lot 1



Figure 275. San Felipe, Operation 6, Level 18, Lot 2



Figure 276. San Felipe, Operation 6, Bedrock

Interpretation

According to the stratigraphic evidence (Figure 277) and the ceramics of this unit, we can conclude the following sequence. Level 1, Lot 1, as well as the Level 2, Lot 1, must correspond to the process that formed since the site was abandoned until present. Although there is a small sample of the materials from Postclassic, this evidence may correspond to sporadic visits instead of to a great occupation.

Level 3, Lot 1 and Level 4 Lot 1 may correspond to the Terminal Classic occupation, perhaps being the last floor of this part of the plaza, of which there is no more evidence that the whitish tone of this stratum. Below these the first floor that we were able to locate (Level 5 Lot 1) was found, perhaps this well-preserved floor corresponded to the last phase of construction of this part of the settlement, during the Terminal Classic. Level 6, Lot 1 is part of the subfloor of Floor 1, and is part of the same construction episode.

Level 7, Lot 1 was a second floor (Floor 2), with a slope towards the southeast corner, perhaps as part of an artificial drainage that led the water into the middle of the plaza, while Level 8, Lot 1 is part of the subfloor of the Floor 2. The sherds of this level suggest that this deposit dates back to the Early Classic, with the exception of a Terminal Classic sherd, which may have fallen during the excavation process.

The Level 9, Lot 1 corresponded to the third floor, while the Level 10 Lot 1 was its respective subfloor. This construction episode also corresponded to the Early Classic. Furthermore, it had a similar composition to that seen in Level 6, Lot 1 and Level 8, Lot 1. Level 11, Lot 1 was a fourth floor, while Level 12 Lot 1 is its subfloor; this is like Level 13 Lot 1, the fifth floor, with Level 13 Lot 2 as its subfloor (the thickest of all the above). Both floors and subfloors belong to the Early Classic, although we found a Terminal Classic sherd that fell from upper levels during excavation.

The sixth floor and subfloor corresponds to Level 14, Lot 1 and Level 14, Lot 2, dating from the Early Classic. It was quite degraded, so that it might have been exposed for a long time and / or materials used were not sufficiently resistant, such as the above-mentioned floors. Level 14, Lot 2 was a dry core fill or leveling, which is part of the same building episode as Floor 6. This leveling occurred during the Early Classic and is part of one of the most ambitious construction projects of the site, because it considerably raised the plaza level.

Level 15, Lot 1 may be the result of two factors (alone or in combination). The first would be due to a system of preparation for dry fill in the previous level, or through falling particles and other materials from the dry core fill, so it seems if this also belongs to the Early Classic.

Level 16, Lot 1 also appears to be part of the same construction episode, although at first it was thought that it was another floor; however, what is definite is that dates from the Early Classic. Moreover, Level 16, Lot 2 is a construction fill, perhaps part of the same event as Floor 6, although in this deposit only fragments from Middle and Late Formative were located.

Level 17, Lot 1 was another floor (Floor 7), which was quite eroded, that belongs to the Late Formative. While Level 17, Lot 2 was the subfloor, a dry core fill was built with the purpose of giving a leveling and support the floor. Although most of the sherds belonged to Middle Formative, 8 sherds date this lot to the Late Formative period.

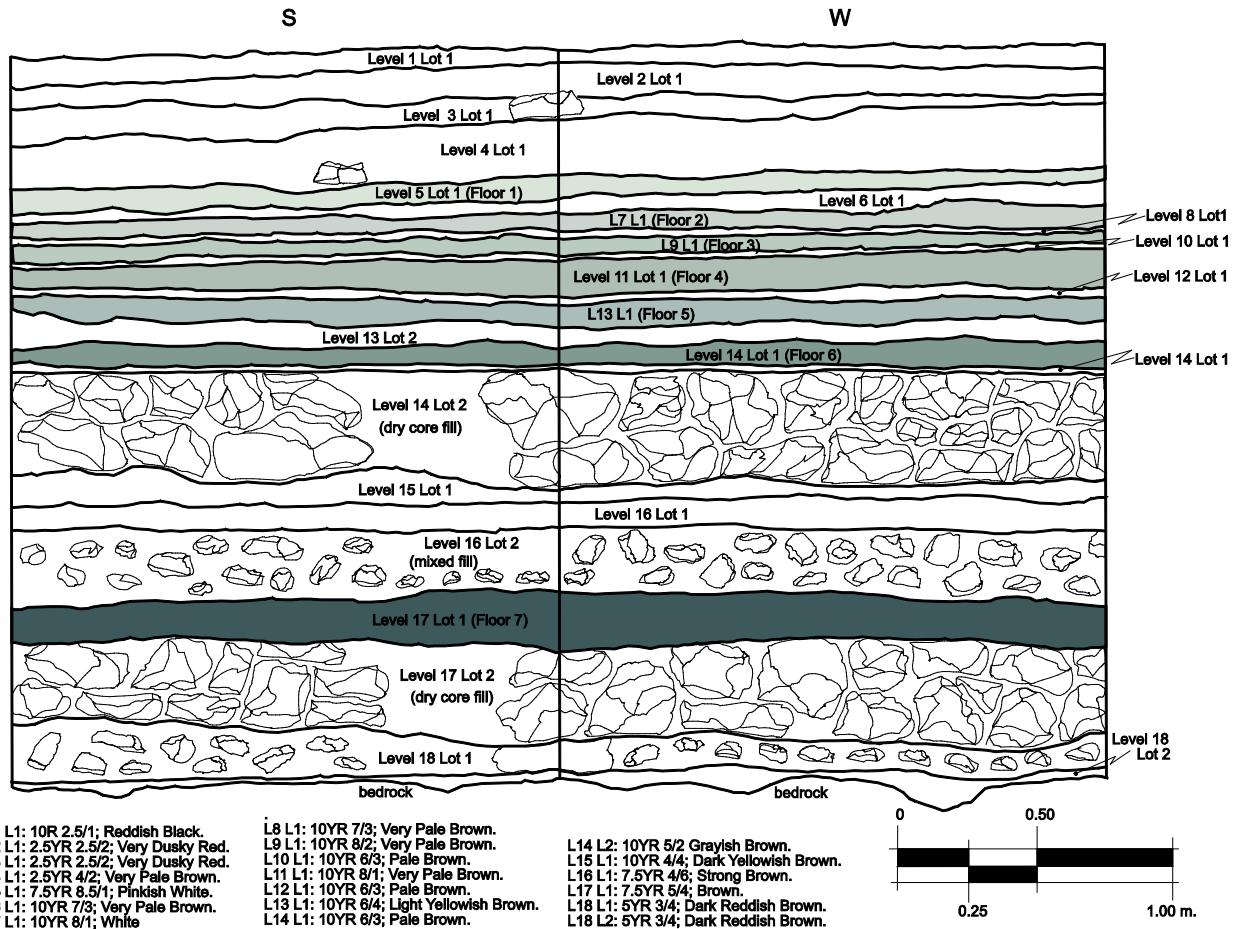


Figure 277. San Felipe, Operation 6, South and West Profiles

The last level, Level 18, Lot 1 seems to be an occupational surface that dates from the Late Formative and it may be that this is the original surface of this part of the site. Level 18, Lot 2 is part of the same surface, although the sherds located within this strata, dates from the Middle Formative.

While a Formative occupation appears to have been present in the lowest levels, the data collected from this unit suggest that the site had two major construction episodes; the first was during the Early Classic and the other in the Terminal Classic. Additionally, this excavation confirms that the North Group has a long occupation and the surface on which sits is a large, artificial leveling.

Part 4: The *Ejido* of San Felipe

Chapter 44: San Felipe, Operation 7

Leslie Reyes

Operation 7 was a 2x2-m test unit located 0.5 m east in the NW corner and 2 m east in the SW corner of a *sacbe* feature (Figure 249). The test unit was placed to the east of the *sacbe* to research a possible date and function of the feature which was comprised of two piles of large boulders and cut limestone rocks. This feature was situated on top of the *sacbe* and the test unit was placed in a location that would not compromise the *sacbe* infrastructure. We hoped that a significant amount of data would be obtained during excavations in this location but seeing as the unit was located in an area with bedrock on the surface we terminated the unit with a relatively shallow depth. Various modern burn events produced charcoal and discolorations within the top few centimeters of soil. Boulders and cobbles from the *sacbe* had collapsed into the test unit location and, as previously mentioned, limestone bedrock was present on the surrounding surface areas. Excavation proceeded in natural levels, which corresponded to soil changes.

Operation 7, Level 1, Lot 1 removed the vegetation, various associated roots, and collapsed boulders and cobbles that had tumbled down off the *sacbe*. The soil within this level was (w) 10YR 3/3 dark brown sandy clay loam. There were no mottles in the matrix. Soil was structureless with massive grained sediments. Soil consistency when dry was loose, when moist was friable, and when wet was non-sticky and plastic. Roots are common and range in size from very fine (0.075mm-1mm) to coarse (over 5mm in diameter). Carbonates found in the soil were due to frequent burning of the area by modern farmers and limestone deposits. The limestone bedrock forms a wavy boundary with above soils. Gravel content consisted of 15 percent well sorted granules, pebbles, cobbles and small boulders. Gravels were angular to subangular in shape (Figures 278 and 279). Excavation of this test pit was low in difficulty except when removing large boulders and while working in and around the tree stump located in the upper NW corner of the unit.

Cultural materials include 466 ceramic sherds. Middle Formative and Early Classic sherds were collected but yielded small sample sizes. Although Late Formative ceramic sherds were the next largest period represented, Terminal Classic sherds provided the largest sample of the group and thus the unit dates to the Terminal Classic. Noticeably absent were both Late Classic and Post Classic period ceramics (Table 7). Other cultural materials collected from the unit include lithic materials. A majority of the lithic materials were chalcedony and chert flakes with some limestone debitage. One small marine shell fragment was also collected and a possible piece of plaster which was recovered from the screen.

The Operation 7 test unit was terminated at limestone bedrock. Excavation of the test unit was to explore the possible function of the feature located on the *sacbe* above. The feature may be a defensive wall put in place to deter hostile visitors from entering the plaza by way of the *sacbe* but there were no strong indications of this being

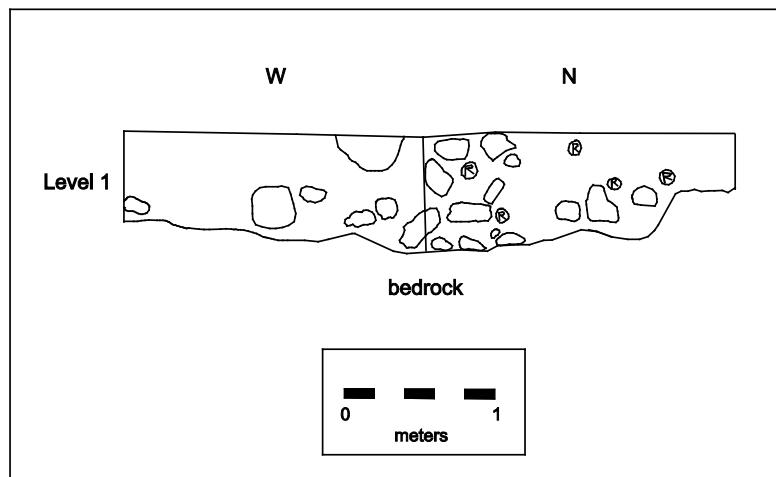


Figure 278. San Felipe, Operation 7, West and North Profiles

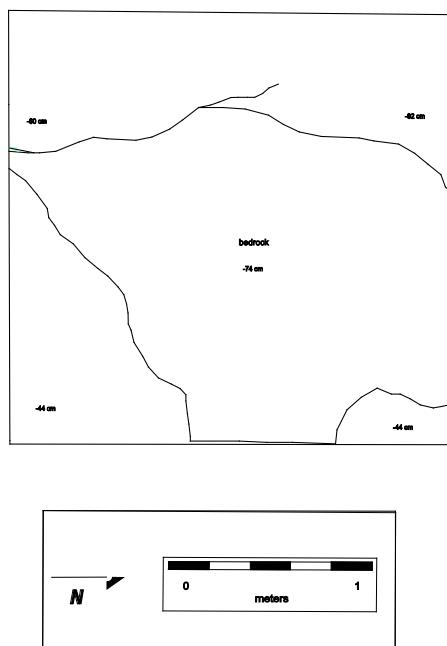


Figure 279. San Felipe, Operation 7, Plan at Bedrock

so. Although no tools were found during excavation in the Operation 7 test unit, thinning flakes and tertiary flakes were recovered which suggests that there may have been some tool retouching in that vicinity. Further research of the *sacbe* feature should be carried out in future field seasons to further explore the possible function of the rock piles on the *sacbe*.

Part 4: The *Ejido* of San Felipe

Chapter 45: San Felipe, Operation 8

Alberto G. Flores Colin

This unit is located on an artificial leveling, located to the southwest of Structure S1E5-1, in an artificial plaza which is connected with the North Acropolis through Sacbe 1 (Figure 249). The unit was positioned next to the southeast corner of Structure S1E5-1, in order to locate sealed deposits that might indicate a date and construction sequence for this architectural complex. This operation was a 2 x 2 m unit, excavated following natural levels (Figure 280).

Level 1, Lot 1, consisted of a layer of a blackish soil (7.5YR 2.5/1), which included a large quantity of organic material and several roots (Figure 281). In addition, the presence of gravel and some boulders from the collapse was noted. Ceramics from this level was few, mostly was a mixture of samples from Terminal Classic (Yokat Striated var. Yokat and Muna Slate), Early Classic (Xanaba Red), and Late (Sierra Red) and Middle Formative (Chuhinta Black v. Ucu). Level 2, Lot 1 (Figure 282) was a layer of a dark reddish sediment (2.5YR 2.5/1), which was mixed with pebbles or *chich*, perhaps part of the sub-floor of the last pavement of this plaza. Ceramics of this level was a few, mostly the types Yokat Striated var. Yokat and Muna Slate from the Terminal Classic. It was decided to change to the next lot (Level 2, Lot 2), which corresponded to the northern part of the unit, due the discovery of large stones, mostly located in the southern half of the pit (Figure 283). This division into two lots was because we speculates that the southern half with large stones may have been part of an architectural element (Figure 284), and this division would give us better control of the excavation if that were the case. Nevertheless, once Level 2, Lot 2 was totally removed, it was discovered that the large stones (40 x 30 cm on average) covered the entire unit. For this reason, it was decided to change to the following level.

Level 3, Lot 1 was a series of large stones that covered the entire unit, which were mixed with a dark reddish sediment (2.5YR 3/6). After these large stones were removed, bedrock was exposed in the southern half, while the northern part was excavated until a sterile deposit (Figure 285). Ceramics located in this level are mainly of the types Yokat Striated var. Yokat and Muna Slate from the Terminal Classic.

Once all registration of the unit (via photos and drawings of the profiles) (Figure 286) was concluded, the excavation was backfilled with the same material that was previously removed (Figure 287).

Interpretation

Level 3, Lot 1 possibly was the natural surface where the first settlers were established; Terminal Classic sherds relate this level with this period. Although it is not completely obvious, it is probable that the large stones of this level were placed in order to create a raised surface that ended in this northern plaza of the south group of San Felipe. Level 2, Lots 1 and 2 seems to have been the surface of this plaza level, since a large quantity of gravel or *chich* was found, interspersed with the remains of degraded stucco, suggesting that this was the floor and final surface of this was the major construction episode in the plaza. Although it was not possible to locate a sealed lot with which we could accurately date this construction episode, ceramics of the types Yokat Striated var. Yokat and Muna Slate suggests that it also may have been built during the Terminal Classic. Finally,



Figure 280. San Felipe, Operation 8, Surface



Figure 281. San Felipe, Operation 8, Level 1, Lot 1



Figure 282. San Felipe, Operation 8, Level 2, Lot 1



Figure 283. San Felipe, Operation 8, Level 2, Lot 2

Figure 284. San Felipe, Operation 8, Level 2, Lots 1 and 2



Figure 285. San Felipe, Operation 8, Bedrock

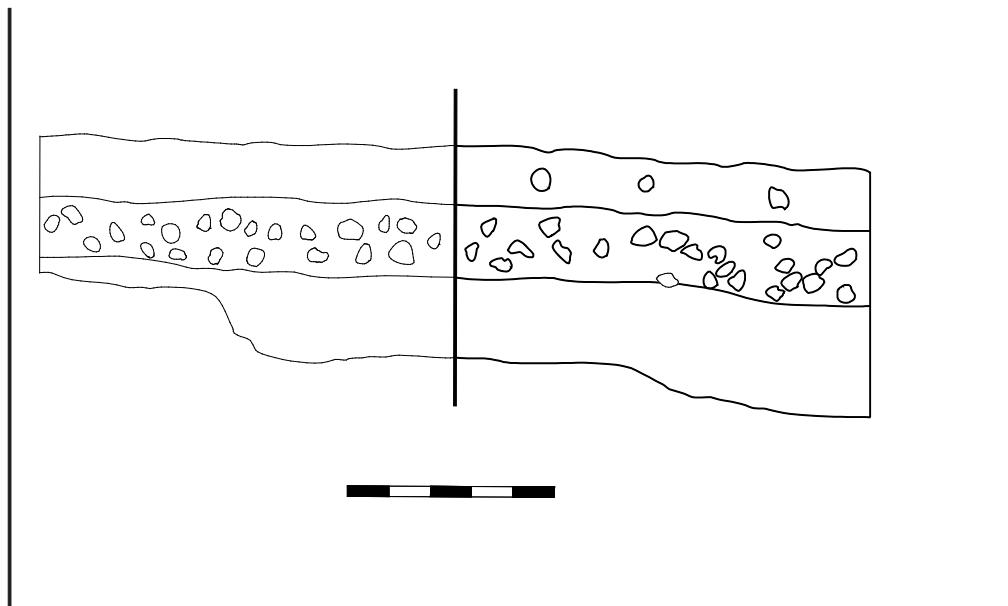


Figure 286. San Felipe, Operation 8, Profiles



Figure 287. San Felipe, Operation 8, Backfilled

Level 1, Lot 1 is the stratum formed since this part of the site was abandoned, mainly composed of organic material and several stones from the collapse of the nearby structure (Structure S1E5-1). Although this unit provided us some insights into the sequence of construction events that occurred in this portion of San Felipe, it is necessary to conduct more test pits and extended excavations in order to get a better understanding of the complexity of this settlement.

Part 4: The *Ejido* of San Felipe

Chapter 46: Mapping of San Felipe's South Group

Alberto G. Flores Colin and Leslie Reyes

Most of this extensive settlement of San Felipe is located beneath and between the houses of the current town of the same name. The northern part of this settlement, where the remaining monuments lie, was recorded in 2008 (Shaw and Flores 2008). During this process, the core of the settlement was recorded; it lies on a natural elevation and consists of nine pyramidal structures surrounding an acropolis in addition to several foundations braces scattered among these mounds (Figure 288). In addition, during the same season, a causeway or *sacbe* that communicated this North Group with a southern group was noted; it could not be entirely recorded by time constraints.

In this 2012 season, we continued with the registration of the South Group, since in 2008 only Structure S1E5-1 was mapped. In this process, it was discovered that this southern group consisted of three small plazas that were aligned in a northeast-southwest direction; these were formed only by low range structures with foundation braces at their tops (Figure 289).

In addition, to the northwest of this set of plazas, the largest structure of this complex was found, Structure S1E4-1. It seems to have been a low pyramidal structure. However, due to the proximity to the center of the village, this building has been used as a quarry for construction materials for the nearby houses; therefore its top has been almost entirely destroyed. At present, there are five large looter holes' that have removed every architectural feature from this building (Figure 290).

The first of these plazas (in a southwest direction) is about 40 x 25 m. It shows a more formal and orthogonal trace. Furthermore, it's surrounded by the largest buildings of this group, Structures S1E1-1, S2E5-1, S1E4-1 and S1E4-2, which are low range structures that were the base of foundation braces. The first of these, the largest in dimensions, does not exceed 2 m in height, while the others range from 50 cm to 1.5 m tall. Another notable feature is what seems to have been an altar, located just in front of the Structure S2E5-1 (in the eastern side of the plaza), although this construction is not well preserved and its shape cannot be clearly defined.

The next plaza is smaller in size (30 x 20 m) and only presents three of its sides bordered with low range structures. The northwest side is closed by two small structures (Structures S2E4-2 and S2E4-3) that are rectangular in shape but that seem to have been open to the west, in the opposite direction to the plaza. If the above is correct, only Structure S1E4-3 and S1E4-4 were facing the plaza. These two buildings are similar platforms; both are foundation braces that appear to have had two rectangular areas (almost square) at their ends, while the central area (the largest in size) seems to have had a double wall in the back, perhaps being an open-fronted section.

The third of these small plazas, which is located at the southwest end of this complex, is flanked by the Structure S1E4-4 (in the northeast) and a sort of dry wall made with large stones. These stones do not seem to be a common "*albarrada*", but may have been the foundation of a wall or palisade that surrounded and encircled the area of this plaza. In the southwest extreme, there seems to be a missing section that is about 3 m wide, which may have been the entrance to this arrangement. It should be noted that this wide "*albarrada*" or foundation of palisade also was located "closing" the space between several of the structures

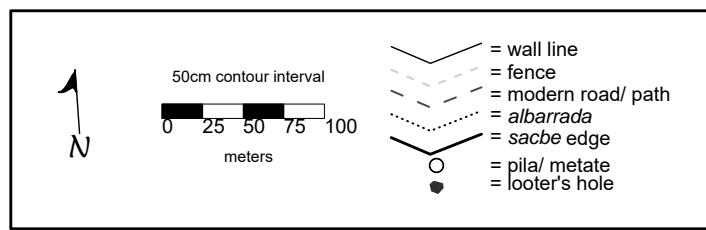
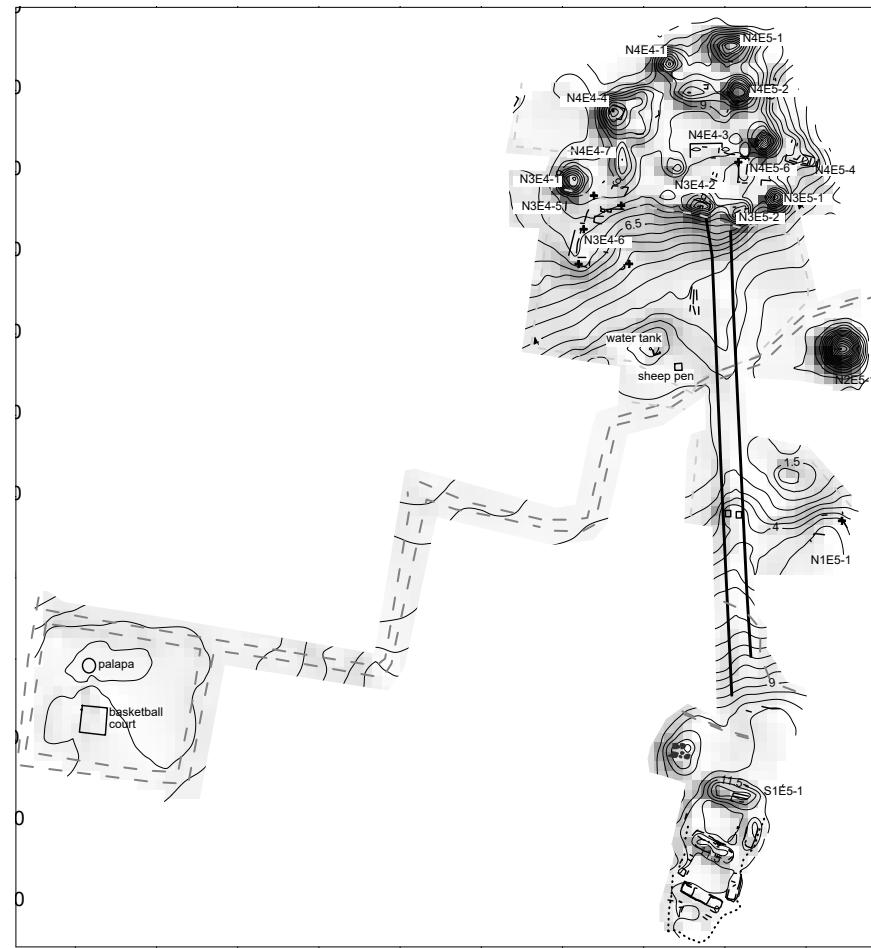


Figure 288. The Site of San Felipe

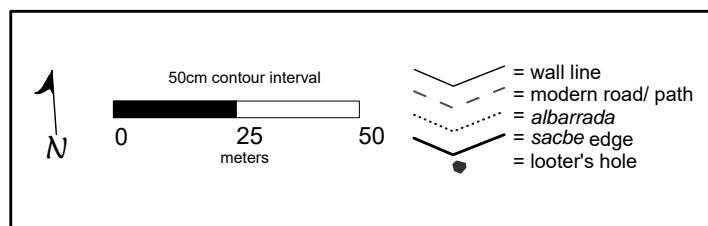
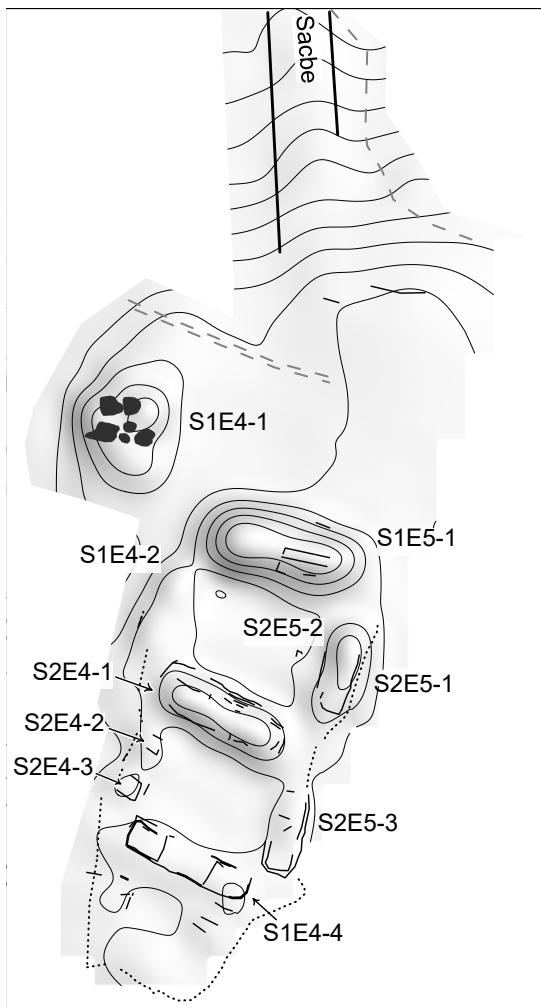


Figure 289. San Felipe's South Group



Figure 290. San Felipe, Structure S1E4-1

of the previous plazas, which gives us the impression that these three plazas were “fenced” during their last period of use. In addition, some alignments were located on the west side and this plaza, which seem to be the remains of several structures that have not been preserved; possibly, their stones were taken to build the surrounding “albarrada”.

Although we have no evidence to affirm the following assumption, it seems that these dry-laid walls or “albarradas” are not contemporary with the rest of the structures, and perhaps these plazas also do not belong to the same period. A test pit excavated to the southwest of the Structure S1E5-1 indicates that the plaza was constructed during the Terminal Classic and that, unlike the Northern Group, there is not a long occupation in this area (see Chapter 45 this volume). We assume that this same situation occurred in the other plazas of this South Group, although some buildings may belong to a later period, the Postclassic (or even to a Post-contact period).

Regarding to the functions of this South Group, originally (in 2008) we had thought it was a residential area. However, detailed mapping of this complex suggests that could have been the area of residence and/or administration for an elite group or lineage, perhaps not the main lineage of the settlement but of certain significance that resulted in the creation of the *sacbe* that links these two parts of the site. Future excavations in this Southern Group may help in resolving these questions.

Although there is a missing section of about 50 m prior to this complex of three plazas, it seems that in reality between Structure S1E5-1 and the causeway there was a plaza or artificial leveling that was the final destination of this construction. Future excavations in the area will be able to indicate if there was a plaza area between the Southern Group and the *sacbe* and perhaps help to get a better understanding, though in an indirect way, of the function and temporality of this causeway.

Many questions about this settlement still are pending; in addition to that, only a small portion of the whole site has been mapped. However, what seems clear is that this site was the most extensive and perhaps the one with one of the larger occupations within this part of our study area. Although its remains are not as monumental as the ones of Ichmul and Yo'okop, this settlement should be considered as one of the most relevant and crucial population centers within the history of the Cochuah region, which encourages us and motivates us to continue research in several areas of this important site.

Part 5: Summary and Analysis

Chapter 47: Ceramic Summary

Dave Johnstone

The CRAS project excavated 15 sites during the 2012 field season, 12 of which had no previous excavation. A total of 9,764 sherds were analyzed from the excavations along with a further 32 sherds recovered from a surface collection (Figures 291-303 and Tables 2-18). All sherds were analyzed using the Type-Variety method (Smith et al. 1960). Conjoinable sherds were counted as one. In cases where the sherds were too eroded to permit identification of at least the ceramic type, they were placed in the unidentified category. Samples from components for any site with counts of over 100 sherds were given a named ceramic complex.

Only three of the sites were selected to answer questions related to ceramics. At Sacalaca, and Yopila we hoped to encounter samples dating to the elusive Late Classic period, while at Yo'Aktun, we were hoping to recover a domestic component to our Postclassic ceramic inventory. Five sites, Ramonal Oriente, Xtojil, Chakal Ja'as, Yaxche, and Fortin were known to have primarily Terminal Classic occupations, and produced the expected samples dating to that period, resulting in much of this year's samples representing the Terminal Classic period.

Chakal Ja'as

While the vast majority of the ceramics recovered from Chakal Ja'as this season dated to the Terminal Classic period (Cuzam complex), the pooled data from 2005 and this season's sample makes it possible to name a ceramic complex for the Late Formative period (Table 2). The Beech complex likely dates to the late phase (A.D. 1-250) of the period, on the basis of a large relative percentage of Xanaba Red. Mirroring the results from 2005 (Johnstone 2005a), the unslipped striated ware common in the Terminal Classic sample from the residential zone was absent in the well fill, illustrating the specialized nature of the well.

Yo'dzonot

Of all the sites tested this season, Yo'dzonot yielded the biggest ceramic sample (Table 3). From this, it was possible to define four complexes. The first complex (Tsuun'un) dated to the Middle Formative period. The sherds from this complex were recovered from construction fill or floor patches dating to the Terminal Classic period. Since many of the Middle Formative sherds had sascab adhering to them, it is likely that they were originally deposited in a sascabera that was subsequently mined for construction material. One such sascabera was mapped 80 m east of Op 1. Three groups were represented: the Chunhinta, the Joventud, and the Dzudzuquil. The latter, likely produced on the Northern Plains, is the most commonly represented. There are strong modal relationships between this group and the Chunhinta group with respect to vessel form, surface treatment, and decoration. The Late Formative Koos complex sherds were primarily encountered in the *chac luum* (red soil) that overlies the bedrock.

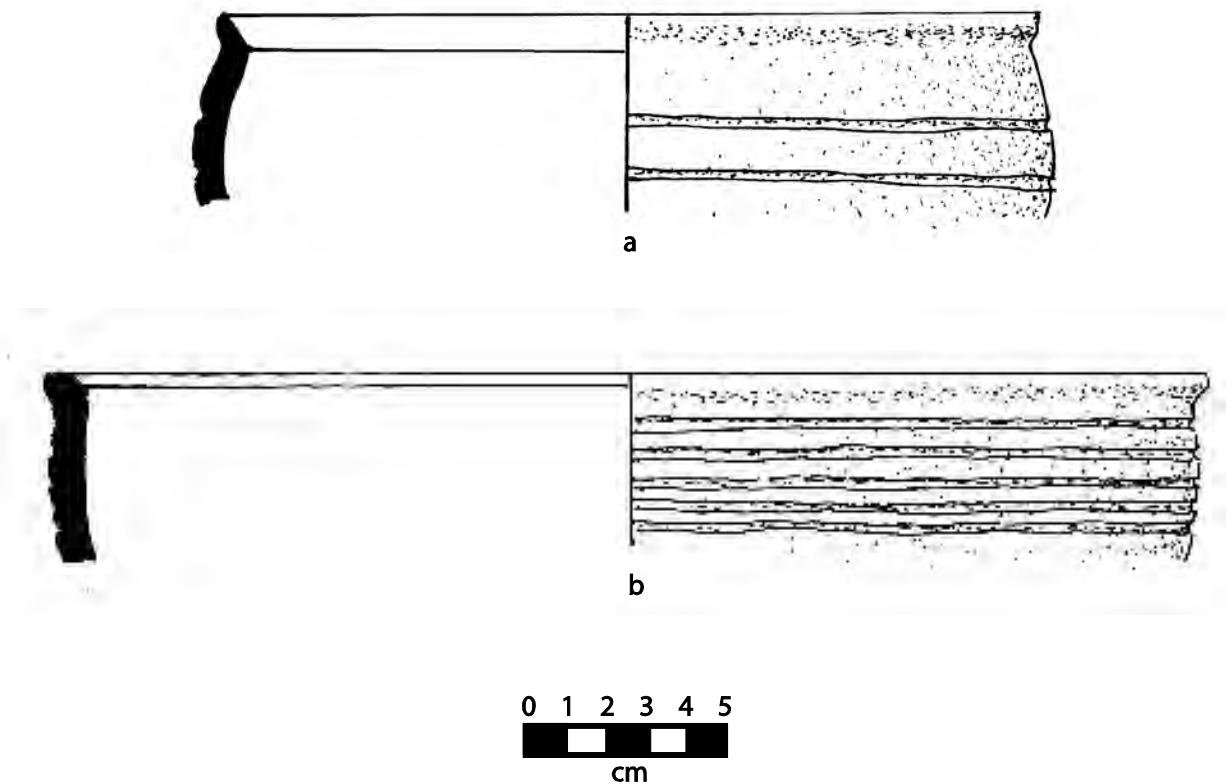


Figure 291. Middle Formative Ceramics, a) Tumben Incised basin (Ramonal Oriente) and b) Tumben Incised basin (Aktun Huay Max)

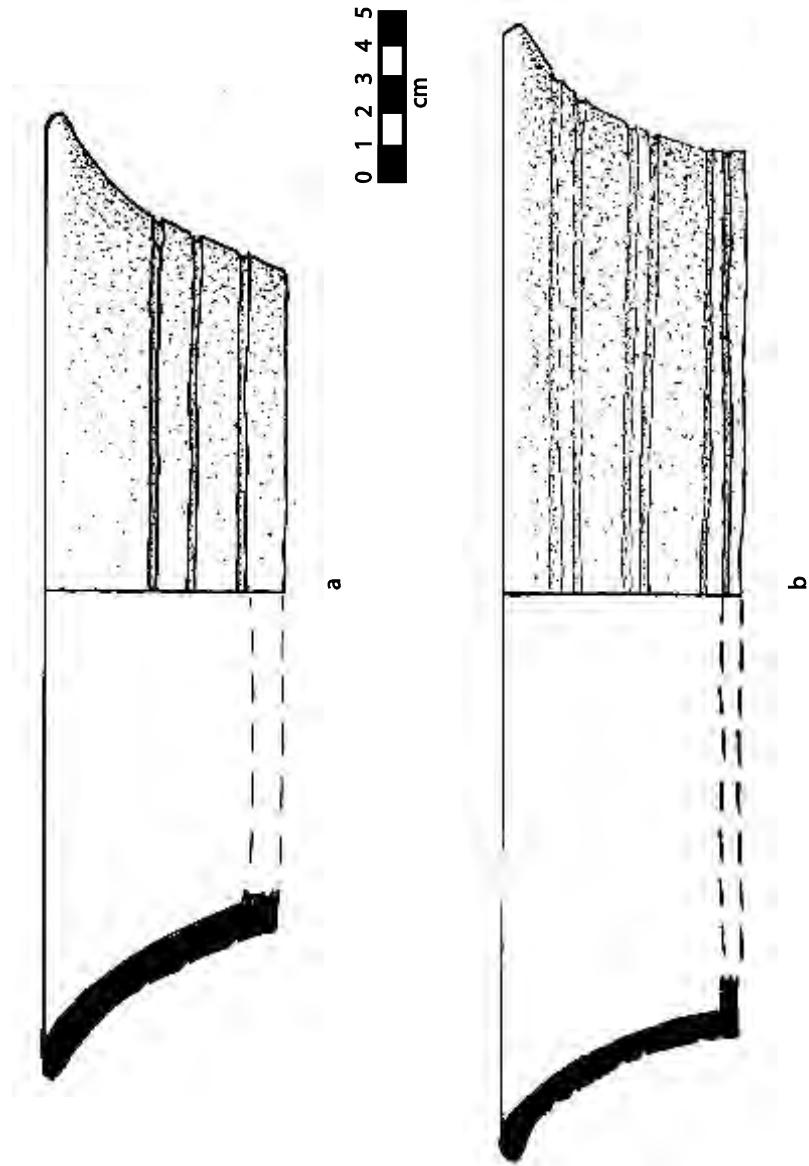
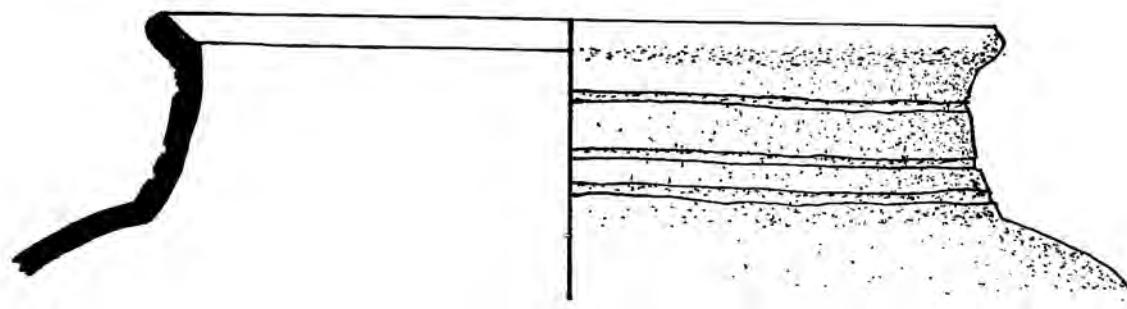
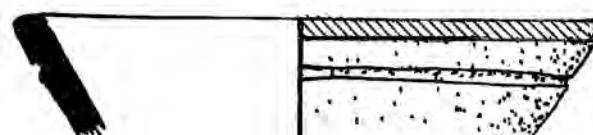


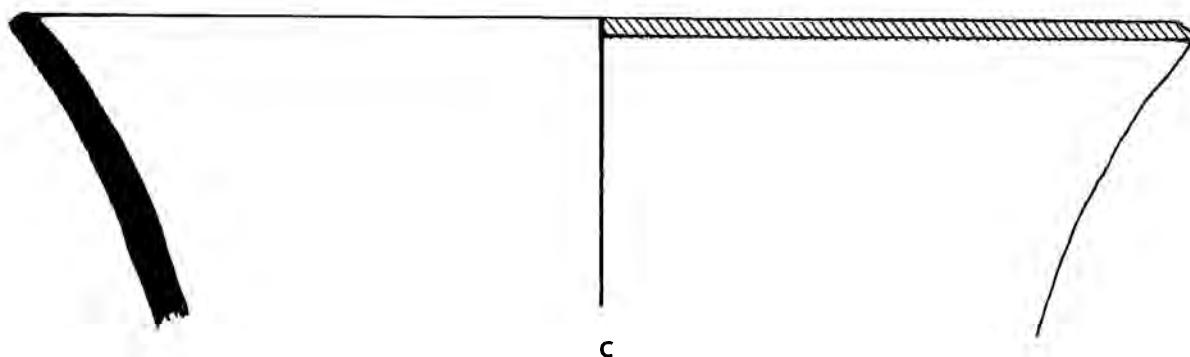
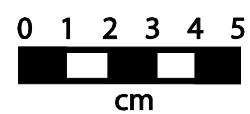
Figure 292. Middle Formative Ceramics,
a) Tumben Incised bowl (Ramonal Oriente)
and
b) Tumben Incised bowl (Ramonal Oriente)



a



b



c

Figure 293. Middle Formative Ceramics, a) Tumben Incised jar (Aktun Huay Max),
b) Canaima Incised Dichrome bowl (San Felipe) and c) Majan Red/ Cream bowl
(Ramonal Oriente)

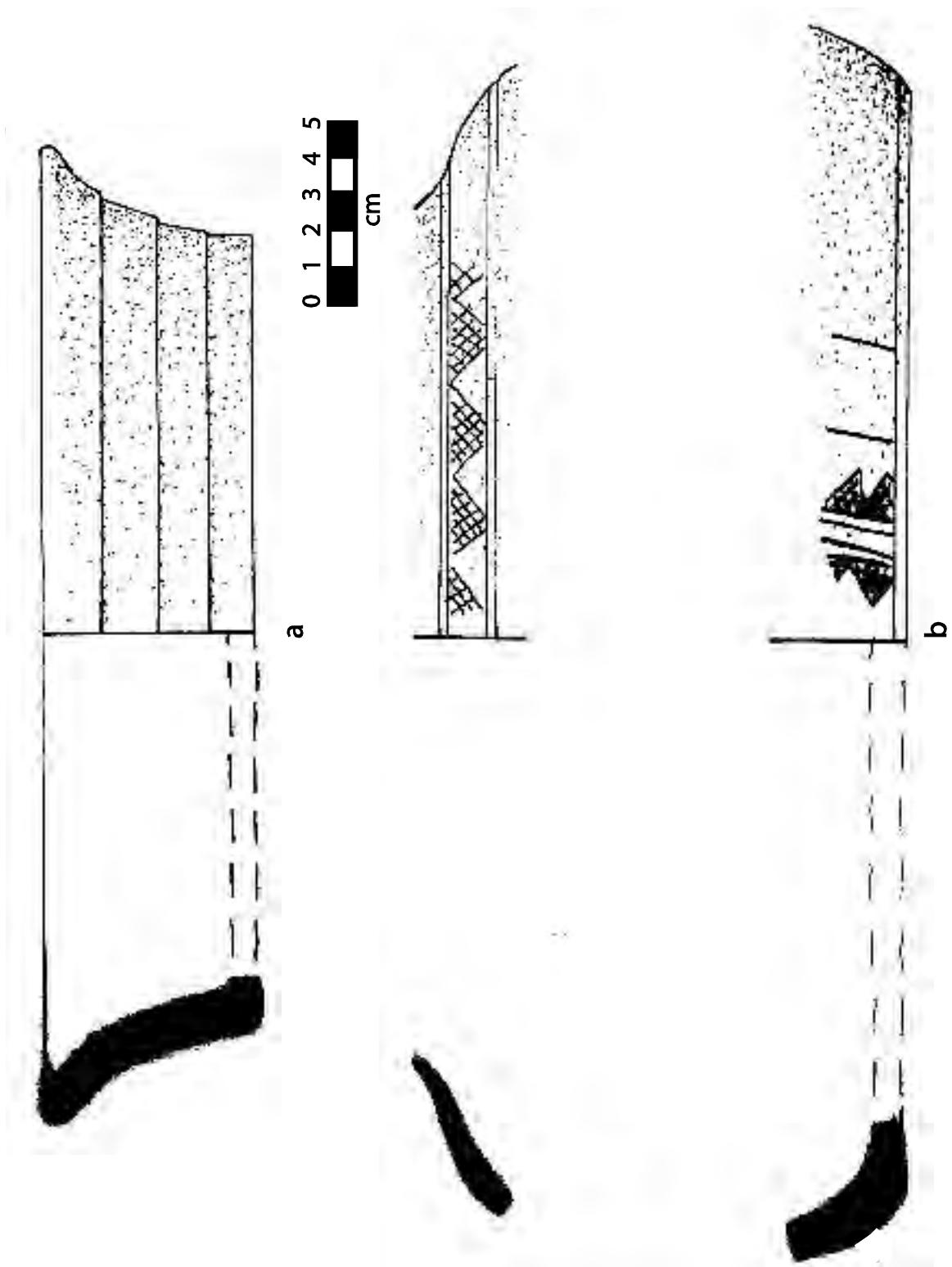


Figure 294. Middle Formative Ceramics, a) Desvario Chamfered (Yo'dzonot) and b) Guitara Incised (Ramonal Oriente)

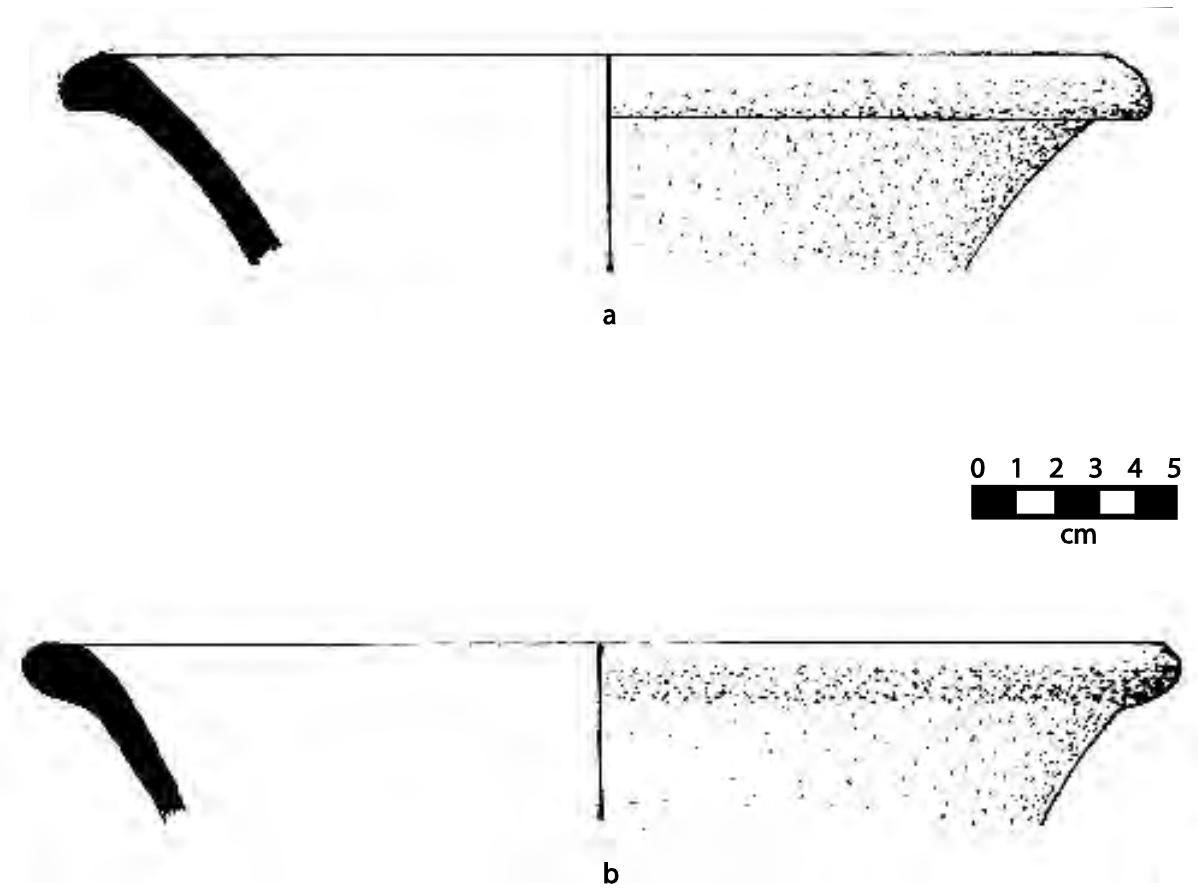


Figure 295. Late Formative Ceramics, a) Sierra Red bowl (Fortín de Yo'okop) and b) Sierra Red bowl (Fortín de Yo'okop)

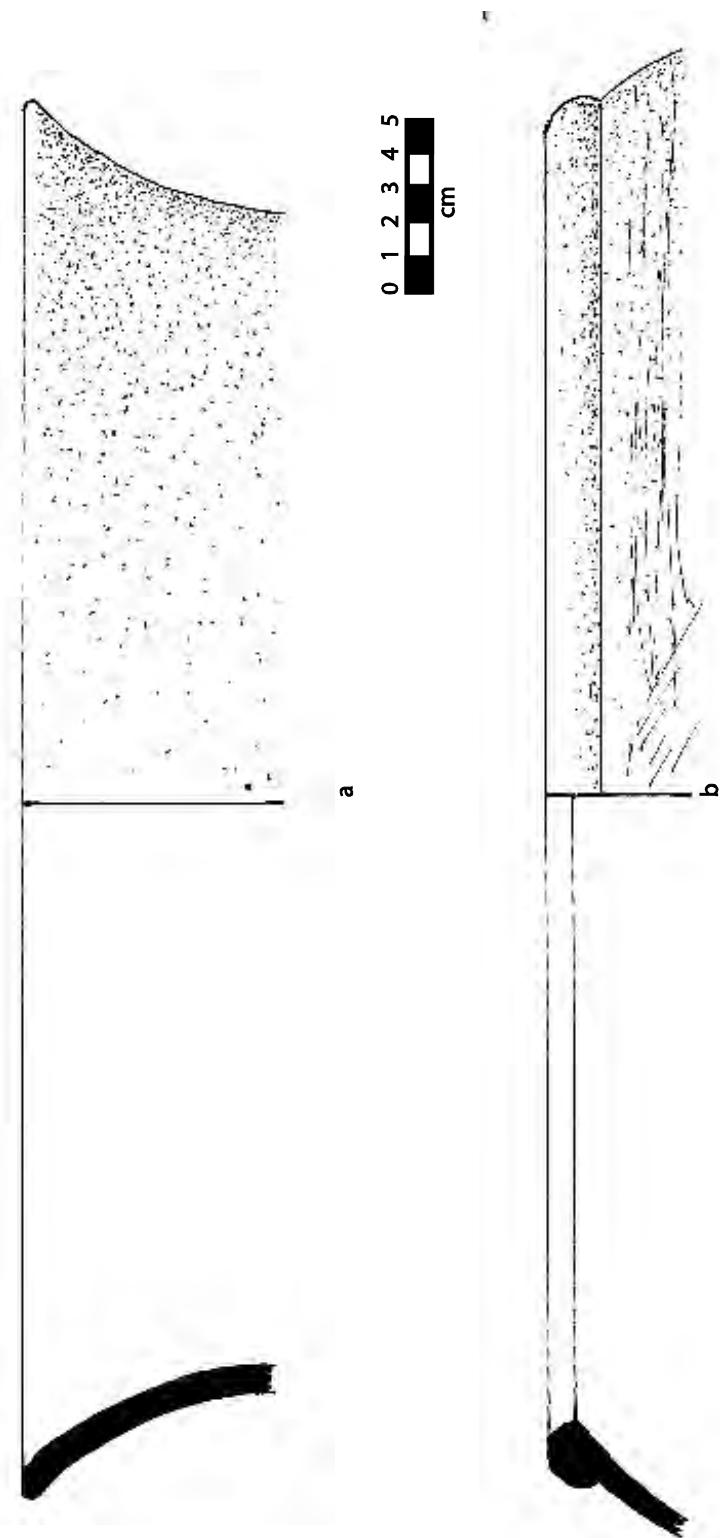


Figure 296. Late Formative Ceramics, a) Sierra Red basin (Santa Cruz) and b) Dzalpach Composite tecomate (Yaxche)

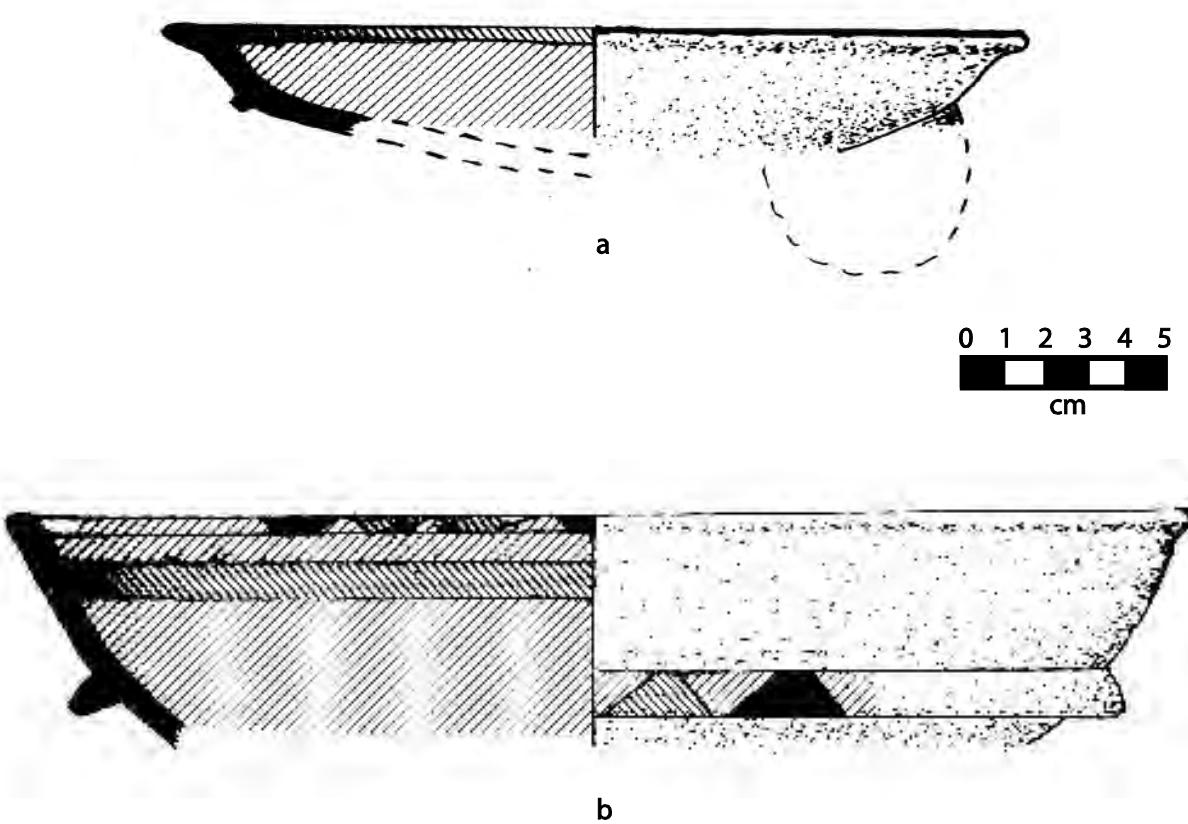


Figure 297. Early Classic Ceramics, a) Dos Arroyos Orange Polychrome bowl (San Felipe) and b) Tituc Orange Polychrome var. Camichin bowl (Yo'dzonot)



Figure 298. Early Classic Ceramics, Caucel Trickle-on-Red basin (Fortín de Yo'okop)

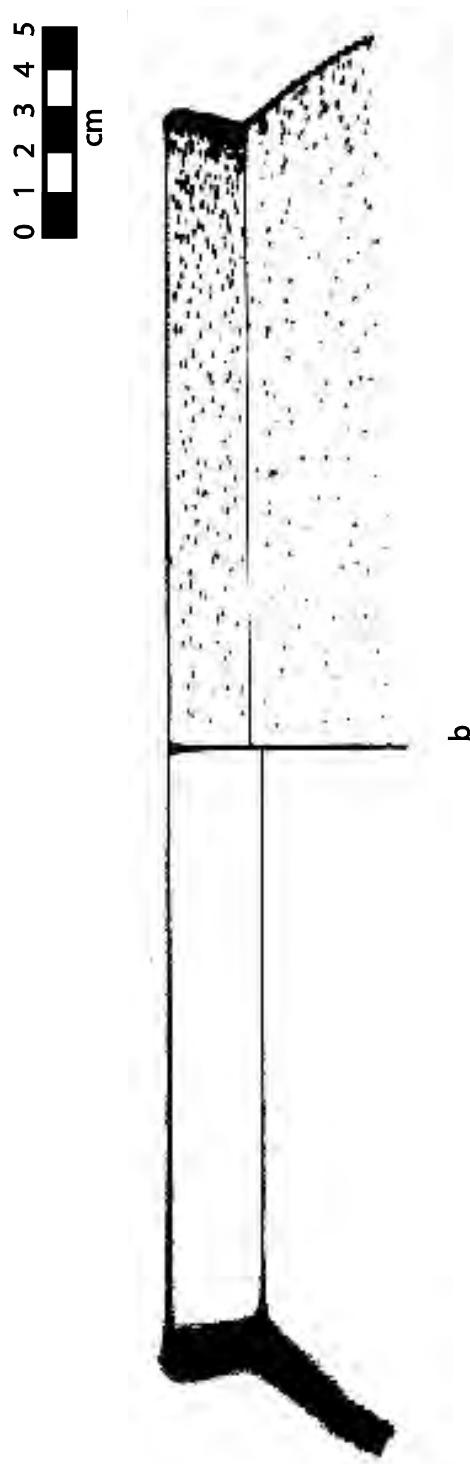


Figure 299. Early Classic Ceramics, Saban Unslipped jar (Yo'dzonot)

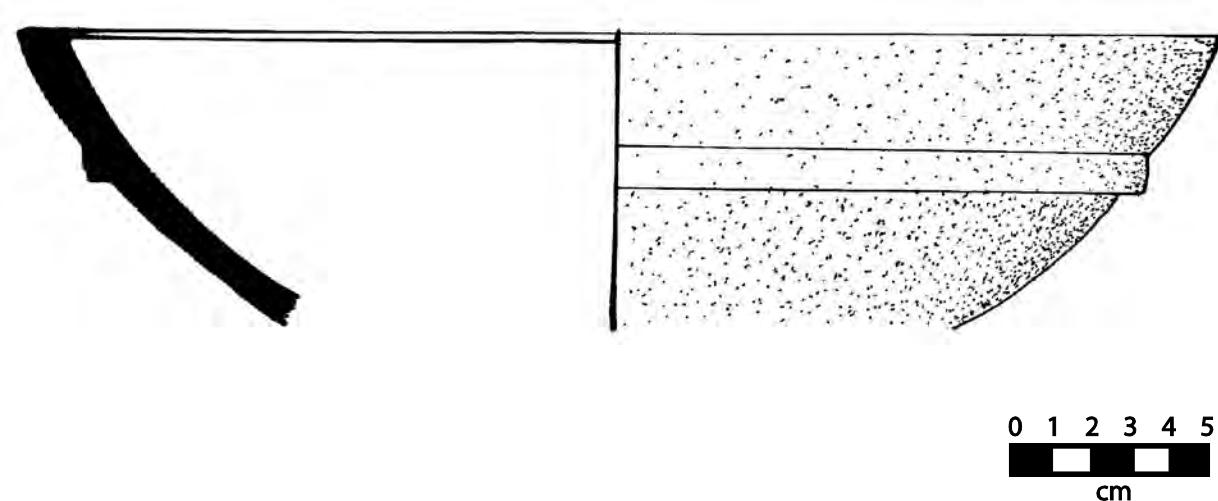


Figure 300. Late Classic Ceramics, Batres Red bowl (Yo'dzonot)

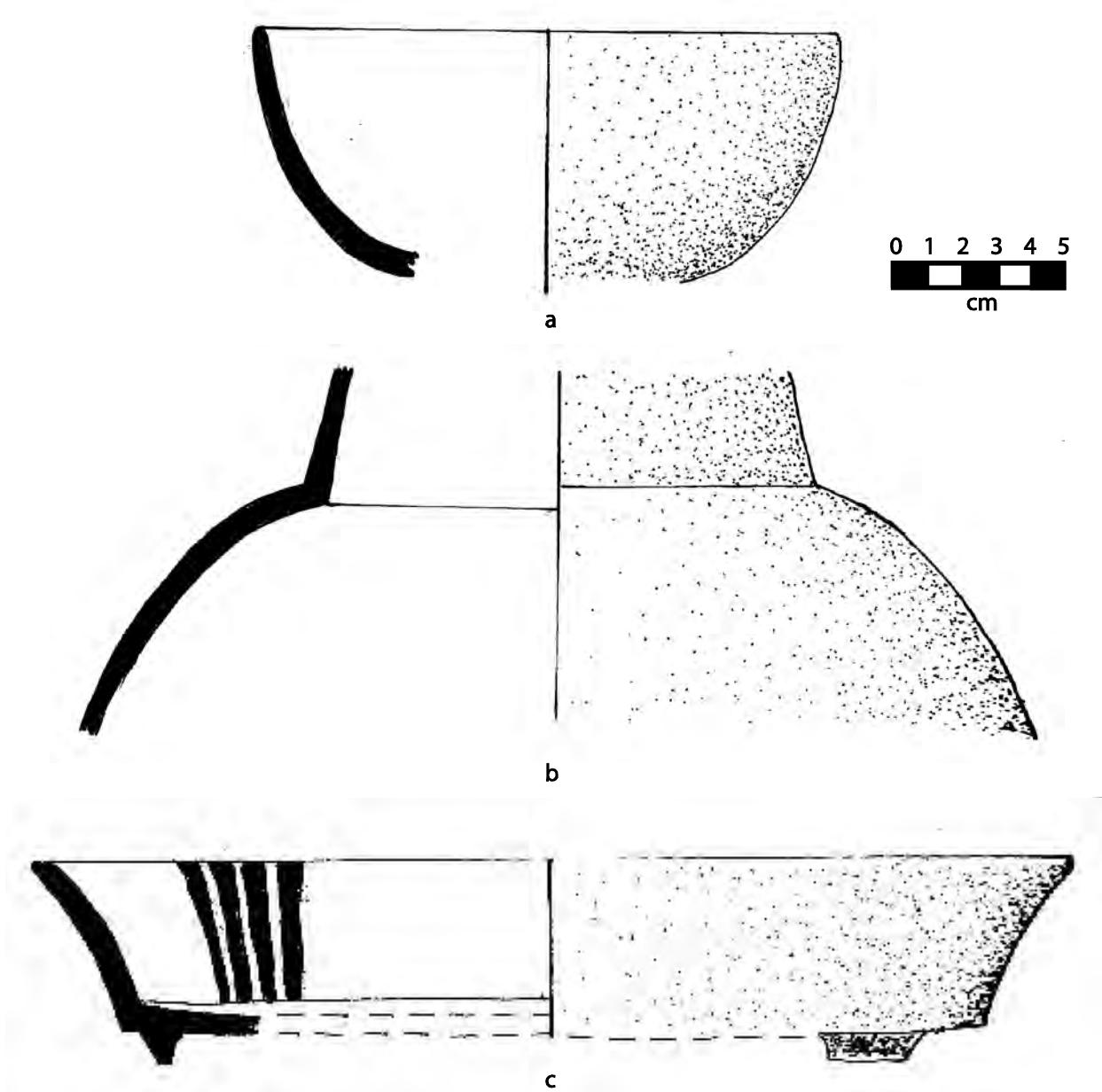
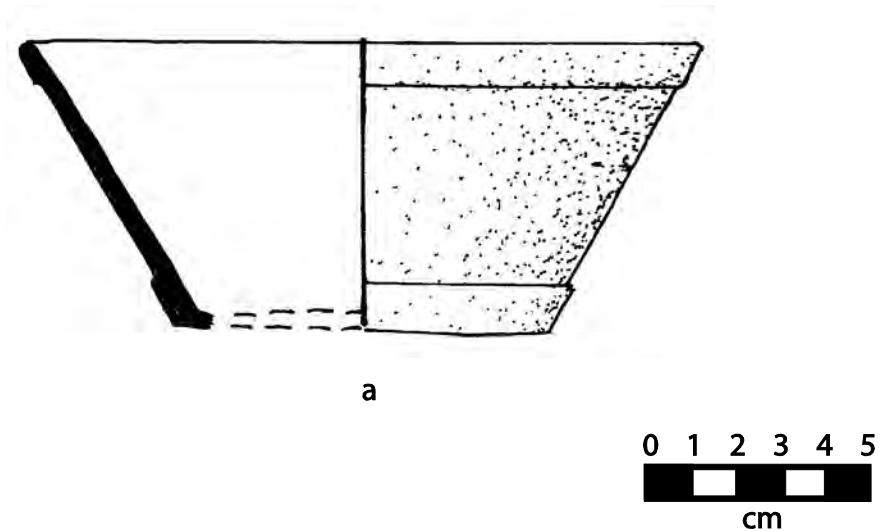
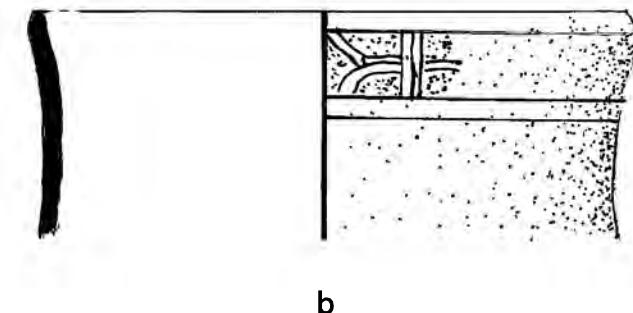


Figure 301. Terminal Classic Ceramics: a) Muna Slate bowl (Yo'dzonot), b) Muna Slate jar (Aktun Huay Max), and c) Sacalum Black-on-Slate bowl (Yo'pila)



a

0 1 2 3 4 5
cm



b

Figure 302. Terminal Classic Ceramics, a) Ticul Thin Slate bowl (Chumkatzin) and b) Tabi Gouged-Incised vase (Yo'dzonot)

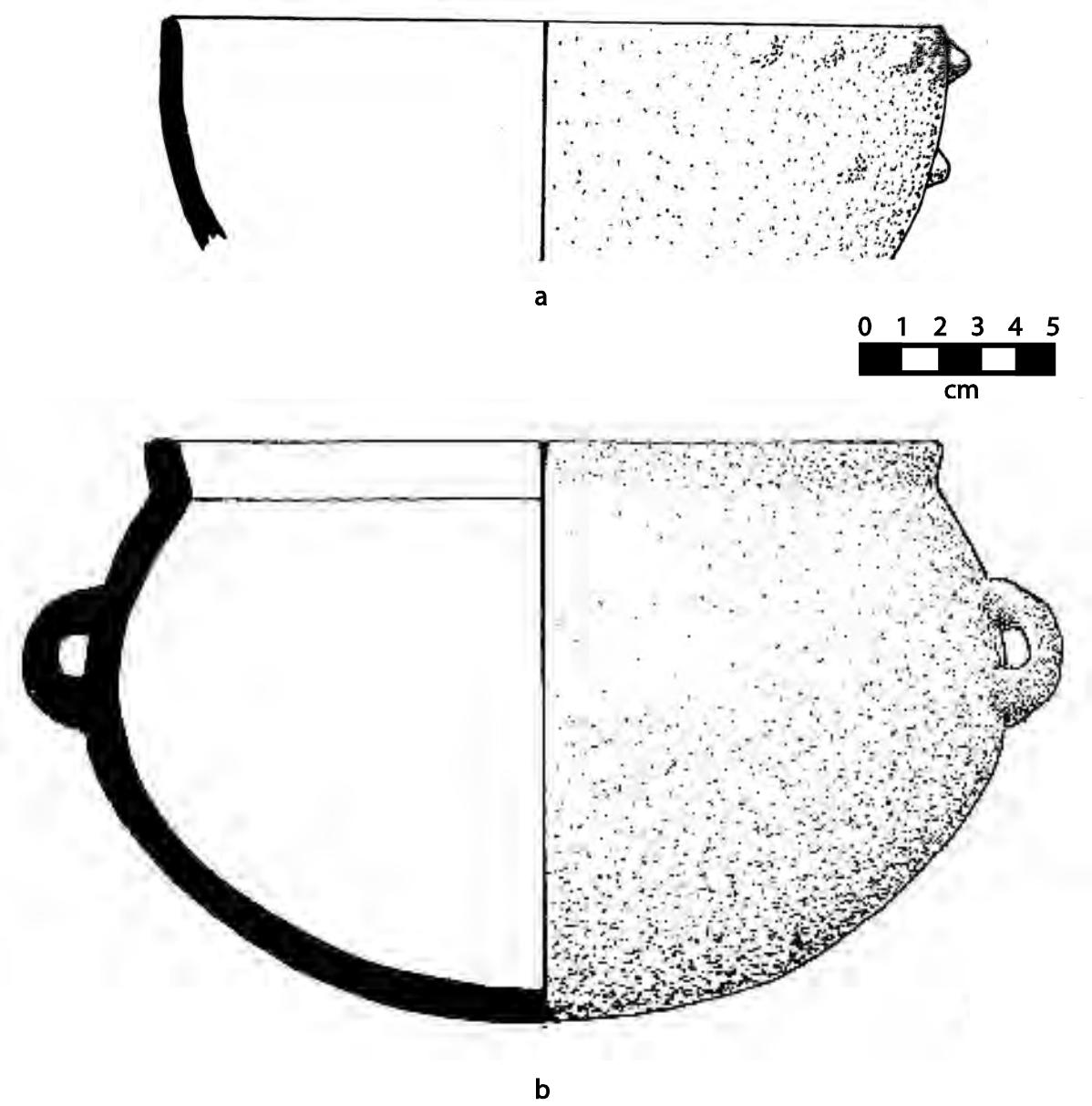


Figure 303. Terminal Classic ceramics, a) Oxcutzcab Applique incensario (Xtojil) and
b) Chum Unslipped jar (Xtojil)

As a complex, it differs little from other contemporaneous complexes in the Cochuah region. The Early Classic Chom complex was primarily recovered from deposits overlying bedrock in Op 2. Unfortunately, the small Early Classic sample from Sacalaca prohibits direct comparison to that site, but the Chom complex is similar to other contemporaneous sites in the CRAS study area, with high proportions of Xanaba Red. Like Sacalaca, Yo'dzonot also has tantalizing hints of a possible Late Classic component, though in numbers too small to define one. The most abundantly represent period at Yo'dzonot is the Terminal Classic Bak complex. This was associated with construction deposits in all localities tested. This complex can be safely included in the Western Cehpech ceramic sphere.

Ramonal Oriente

Ramonal Oriente (Table 4) was one of three sites tested this season (also Yaxche and Xtojil) that shared a similar architectural footprint of a rather disorganized or informal plaza with a nearby temple. As the structures surrounding these plazas contained veneer stones, we were expecting a Terminal Classic date for the sites. Given the presence of several Postclassic shrines at Ramonal Oriente, we hoped that this season's excavations would also yield some ceramics dating to this period as well. As expected, the primary occupation of this site dated to the Terminal Classic, with these ceramics coming from both collapse debris and subfloor construction material. The Mech complex is similar to others within the study area, dominated by types in the Chum and Muna groups. Unexpectedly large numbers of sherds from the Middle and Late Formative periods were incorporated into later construction suggests that there may have been substantial occupation for Ramonal Oriente during these periods as well.

Sacalaca

Sacalaca was selected for excavation in the hopes that it would yield a sample dating to the Late Classic period. With the exception of Yo'okop, ceramics from this time period are extremely rare throughout the study area. While some Late Classic sherds were recovered, the small sample size prohibits a meaningful comparison to other sites, even when pooled with the Late Classic sherds recovered during the 2003 excavations (Table 5). The Terminal Classic sample recovered was a large one, and Sacalaca's Ts'uuyi complex can be included within the Western Cehpech ceramic sphere.

Yaxche

Like Ramonal Oriente and Xtojil, Yaxche had an informal plaza, and associated temple. We had expected that the ceramics from this site would date to the Terminal Classic period, based on the presence of veneer stones visible on the surface. That proved to be the case, with the majority of the sherds being assignable to the K'ulu complex. Of interest was a large sample of Middle and Late Formative ceramics from Op 3. While not part of contemporaneous construction, the sample suggests that Yaxche may have had a substantial occupation during the Formative, with a hiatus during the Early and Late Classic periods. The site was then reoccupied during the Terminal Classic (Table 6).

San Felipe

The 2012 excavations at San Felipe revolved around its *sacbe* (raised road). The ceramics recovered tended to reinforce the already established patterns of continuous occupation with the exception of a hiatus during the Late Classic period (Table 7). To date, we do not have any pure Middle Formative lots, with these sherds admixed with Late Formative or later deposits. Similar to Yo'dzonot, the most commonly occurring types come from the Dzudzuquil ceramic group. The Early Classic is associated with construction activity in the northern portion of the site. The accompanying Pech ceramic complex includes imported polychromes that come in two forms: basal flange bowls with annular ring bases, and Z angle bowls with hollow globular feet (Figure 291). The Terminal Classic Chiwob complex is found throughout San Felipe, but the southern portion of the site excludes earlier material.

Yo'pila

Yo'pila was the second site where we had hoped to recover a ceramic sample dating to the Late Classic period. While we did identify some sherds from this period, the majority of the small sample from both units dated to the Terminal Classic period (Table 8). This sample was not large enough to define a ceramic complex.

Yo'okop

Like San Felipe, the units at Yo'okop were scattered along a *sacbe*. Unfortunately, none of these units were within the body of the *sacbe*, and did not include construction material. As a result, the ceramic samples recovered were small, and in a poor state of preservation (Table 9). While the majority of the identifiable sherds dated to the Terminal Classic period, their relationship to the *sacbe* itself remains uncertain.

Santa Cruz

With an assemblage that is dominated by Terminal Classic sherds (Table 10), the two excavations at Santa Cruz are a temporal match to the surface sherds observed in the associated cave. Like the well at Chakal Ja'as, Chum group unslipped ware is rare to absent from the cave and its immediate surroundings, while common in residential contexts. A scattering of Late Formative ceramics from *chac luum*, and admixed into later construction suggests the possibility that portions of the site were occupied during this period, and that it was subsequently reoccupied during the Terminal Classic.

Fortin de Yo'okop

The presence of core-veneer masonry architecture at the surface on the outskirts of the site, and the reuse of veneer stones within the redoubt itself suggested that we would encounter Terminal Classic ceramics at the Fortin. While this proved to be the case, large samples from the Late Formative and the Early Classic enabled the establishment of ceramic complexes for those periods in addition to the Akach complex of the Terminal Classic (Table 11). The Late Formative sample did not contain any Xanaba Group ceramics, suggesting that the sample derived from the early phase (250 BC-1 AD). The Early Classic Holon complex is similar to others in the region in terms of

types represented, but not in terms of frequency. Large numbers of imports from the Southern Lowlands (Balanza Black, Dos Arroyos Orange Polychrome) were represented in the sample. These frequencies were higher than the nearby Rank 1 site of Yo'okop (Johnstone 2005b:162).

Xtojil

Xtojil is apparently a greenfield site established during the Terminal Classic period. Like Yaxche and Ramonal Oriente, Xtojil displays an informal plaza and nearby temple. The Tsub ceramic complex is similar to other contemporaneous sites in the region in content, although the Chum group is somewhat underrepresented (Table 12).

Chumkatzim

Only a small ceramic sample was recovered from Chumkatzim. The quality of preservation of the sherds was poor, resulting in few having sufficient characteristics remaining to permit identification to type. However, the majority of those that were identified dated to the Terminal Classic period (Table 13).

Ramonal Poniente

The majority of the recovered from Ramonal Poniente dated to the Terminal Classic Uxum complex (Table 14). While broadly similar to most other contemporaneous sites in the study area, the sample from Ramonal Poniente was unusual in the high number of Teabo Red sherds. Also, a single sherd of Balancan Fine Orange was identified. This type is a tradeware from the Tabasco region, and is extremely uncommon in the CRAS region.

San Isidro

The ceramic sample from San Isidro resembles that from Chumkatzim: it is small, poorly preserved, and dominated by sherds dating to the Terminal Classic period (Table 15). The poor state of preservation result from the site's continued use as a ranch and for *milpa* (shifting agriculture). These activities result in frequent fires. Similar to Ramonal Poniente, the Terminal Classic assemblage displays a high frequency of Teabo Red sherds.

Aktun Huay Max

Three small ceramic surface collections were made within Huay Max cave. The majority of these sherds dated to the Terminal Classic; principally Muna Slate Jars (Figure 293). As with the collection from the well at Chakal Ja'as, the near absence of unslipped striated ware is notable, implying a specialized deposit. In addition to the Terminal Classic, the Late Formative period was also strongly represented; primarily in the Lower Cave (Table 16).

Yo'aktun

Previous excavations at Yo'aktun (Shaw 2005) had isolated a series of floors, the earliest of which dated to the Late Formative, while the latest dated to the Terminal Classic period (Table 17). Unfortunately the ceramic sample recovered was too small to define ceramic complexes. This season, it was hoped that in addition to amplifying

the overall ceramic sample, we would be able to recover sherds from the underrepresented Postclassic period. While the first of these goals was met, enabling the naming of the KaabTerminal Classic complex, the second was not, as no sherds from the Formative period were encountered.

Abuelos

Beyond noting the presence of cultural material at Abuelos, nothing useful may be added to our knowledge of this site from our excavations in 2012. This is due to the minuscule ceramic sample recovered, and their poor condition (Table 18).

Conclusions

This season, we were able to define at least one ceramic complex at nine new sites. All of these sites included occupations during the Terminal Classic period. In addition, one new site had a Middle Formative complex, two of the newly excavated sites had Late Formative complexes, and two of the new sites had Early Classic complexes. At none of the newly excavated sites were we able to define a complex for the Late Classic, or Postclassic periods, despite three sites being chosen for that purpose. This absence in the samples from this season has also been reflected in previous seasons, underscoring how few sites in the Cochuah region had significant occupations during these periods. Our understanding of these periods remains severely limited.

Table 1. New Ceramic Complexes

Period\Site	Chakal Ja'as	Yo'dzonot	Ramonal Orient	Yaxche	Santa Cruz	Fortin de Yo'okop	Xtojil	Ramonal Poniente	Yo'actun
Terminal Classic	Cuzam	Bak	Mech	K'ulu	Chac 'Tsi 'Tsib	Akach	Tsub	Uxum	Kaab
Late Classic									
Early Classic		Chom				Holon			
Late Formative	Beech	Koos				Ah Kisil			
Middle Formative		Tsuun'un							

Of the five sites that had seen prior excavation, we were able to define a further three complexes: a Late Formative complex at Chakal Ja'as, and Terminal Classic complexes at Sacalaca and Yo'aktun. These results do not relate to discovering portions of the sites for which we had no prior data, but rather the addition of a larger sample to data we already possessed. These larger samples are necessary to make meaningful comparisons to other sites both within the CRAS study area, as well as to other regions. In general there are broad similarities between sites in terms of types present in any given period. This excludes special deposits like caves and wells from which certain domestic wares are largely absent. Differences in frequencies of certain types between sites are a potential source for data concerning ceramic production and distribution.

Table 2. Ceramics from Chakal Ja'as

Type	3/1/1	3/1/2	3/1/3	4/1/1	Total
Achiotes Unslipped					0
Chunhinta Black v. Ucu	1	5			6
Nacolal Incised	1				1
Joventud Red					0
Desvario Chamfered					0
Guitarra Incised	1				1
Dzudzuquil Cream to Buff	9	5	1		15
Tumben Incised	7	4			11
Majan Red on Cream	4	1			5
Chancenote Unslipped	3	2		2	7
Tancah Unslipped					0
Xanaba Red (LF)		10	1		11
Dzalpach Composite					0
Sierra Red	33	23	12		68
Laguna Verde Incised	5		2		7
Ciego Composite					0
Lagartos Punctate					0
Repasto Black on Red					0
Flor Cream					0
Mateo Red on Cream					0
Polvero Black		1			1
Saban Unslipped					0
Yaxcaba Striated	1				1
Xanaba Red	31				31
Caucel Trickel on Red	2				2
Huachinango	1				1
Tituc Orange Poly v. Tituc					0
Balanza Black				1	1
Lucha Incised					0
Aguila Orange		1			1
Dos Arroyos Orange Poly.					0
Maxcanu Buff					0
Tituc Orange Poly v. Camichin					0
Tituc Orange Poly v. Bandas					0

Table 2. Ceramics from Chakal Ja'as

Type	3/1/1	3/1/2	3/1/3	4/1/1	Total
Dos Caras Striated					0
Sacalaca Striated					0
Encanto Striated v. Sacna					0
Arena Red	7	1			8
Batres Red					0
Lakin Impressed					0
Muna Slate (LC)	4	2			6
Sacalum Black on Slate (LC)					0
Saxche Orange Polychrome					0
Juleki Cream Polychrome					0
Chantori Black on Orange					0
Sayan Red on Cream					0
Chum Unslipped				2	2
Yokat Striated var Applique				2	2
Yokat Striated var Yokat	20			325	345
Muna Slate	378	65	25	139	607
Sacalum Black on Slate	44	5	3	3	55
Tekit Incised	4			2	6
Tekit Incised v. Dzib					0
Teabo Red	35	4	1	2	42
Ticul Thin Slate	1	1		4	6
Balantun Black on Slate					0
Navula Unslipped					0
Yacman Striated					0
Chen Mul Modeled					0
Mama Red					0
Unidentified	180	86	7	142	415
Total sherds	673	164	36	621	1494

Table 3. Ceramics from Yo'dzonot

Type	<u>1/1/1</u>	<u>1/2/1</u>	<u>2/1/1</u>	<u>2/2/1</u>	<u>3/1/1</u>	<u>3/2/1</u>	<u>3/2/2</u>
Achiotes Unslipped					2		1
Chunhinta Black v. Ucu	1	3			1	19	3
Nacolal Incised					2		
Joventud Red		1				20	3
Desvario Chamfered					5		
Guitarra Incised					6		1
Dzudzuquil Cream to Buff	8			3	32		10
Tumben Incised	4			1	3		1
Tipikal Red on Striated					21		
Chancenote Unslipped		3					
Tancah Unslipped							
Xanaba Red (LF)	1	1				25	
Dzalpach Composite							
Sierra Red		22			1	27	28
Laguna Verde Incised		3			2	12	9
Ciego Composite							
Lagartos Punctate							
Alta Mira Fluted						2	
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							
Saban Unslipped				16			
Yaxcaba Striated				143	1	14	18
Xanaba Red	11		82		1	27	
Caucel Trickel on Red			7				
Tituc Orange Poly v. Tituc			8				
Balanza Black	1				3	1	1
Lucha Incised							
Aguila Orange		1		7			
Dos Arroyos Orange Poly		6	23		1		
Maxcanu Buff							
Tituc Orange Poly v.					2		
Camichin							
Tituc Orange Poly v. Bandas					4		

Table 3. Ceramics of Yo'dzonot

Type	3/2/3	3/2/4	3/3/1	Total
Achiotes Unslipped				3
Chunhinta Black v. Ucu	1			28
Nacolal Incised				2
Joventud Red				24
Desvario Chamfered				5
Guitarra Incised				7
Dzudzuquil Cream to Buff		1		54
Tumben Incised				9
Tipikal Red on Striated				0
Chancenote Unslipped	2			26
Tancah Unslipped				0
Xanaba Red (LF)	8			35
Dzalpach Composite				0
Sierra Red	2	1	5	86
Laguna Verde Incised		2	1	29
Ciego Composite				0
Lagartos Punctate				0
Alta Mira Fluted				2
Repasto Black on Red				0
Flor Cream				0
Mateo Red on Cream				0
Polvero Black				0
Saban Unslipped				16
Yaxcaba Striated		1		177
Xanaba Red		1		122
Caucel Trickel on Red				7
Tituc Orange Poly v. Tituc				8
Balanza Black				6
Lucha Incised				0
Aguila Orange				8
Dos Arroyos Orange Poly				30
Maxcanu Buff				0
Tituc Orange Poly v.				
Camichin				2
Tituc Orange Poly v. Bandas				4

Table 3. Ceramics from Yo'dzonot

Type	<u>1/1/1</u>	<u>1/2/1</u>	<u>2/1/1</u>	<u>2/2/1</u>	<u>3/1/1</u>	<u>3/2/1</u>	<u>3/2/2</u>
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red				3	1		
Batres Red				1			
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome			1	23			
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped					4	36	
Yokat Striated var. Applique	1						
Yokat Striated var. Yokat	26	6	159	32	46	4	
Muna Slate	36	12	131	21	52	1	
Sacalum Black on Slate	1		7	1	5		
Tekit Incised			2				
Akil Impressed			2		1		
Teabo Red	4			6	9	2	
Ticul Thin Slate	1		2		2		
Tabi Gouged-Incised			1				
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled							
Mama Red							
Unidentified	143	49	83	144	108	198	58
Total sherds	212	67	388	231	228	241	58

Table 3. Ceramics from Yo'dzonot

Type	3/2/3	3/2/4	3/3/1	Total
Dos Caras Striated				0
Sacalaca Striated				0
Encanto Striated v. Sacna				0
Arena Red				4
Batres Red				1
Lakin Impressed				0
Muna Slate (LC)				0
Sacalum Black on Slate (LC)				0
Saxche Orange Polychrome				24
Juleki Cream Polychrome				0
Chantori Black on Orange				0
Sayan Red on Cream				0
Chum Unslipped				40
Yokat Striated var. Applique				1
Yokat Striated var. Yokat				273
Muna Slate	2			255
Sacalum Black on Slate				14
Tekit Incised				2
Akil Impressed				3
Teabo Red				21
Ticul Thin Slate				5
Tabi Gouged-Incised				1
Navula Unslipped				0
Yacman Striated				0
Chen Mul Modeled				0
Mama Red				0
Unidentified	4	11	18	816
Total sherds	4	11	20	2150

Table 4. Ceramics from Ramonal Oriente

Type	1/1/1	1/2/1	1/3/1	1/4/1	2/1/1	2/2/1	2/3/1
Achiotes Unslipped							
Chunhinta Black v. Ucu					7		
Nacolal Incised							
Joventud Red							
Desvario Chamfered			1				
Guitarra Incised							
Dzudzuquil Cream to Buff					8		
Tumben Incised					5		
Majan Red on Cream					2		1
Chancenote Unslipped							
Tancah Unslipped							
Xanaba Red (LF)						1	
Dzalpach Composite							
Sierra Red	2		2		8	2	1
Laguna Verde Incised							
Ciego Composite							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							1
Saban Unslipped							
Yaxcaba Striated		3		1			
Xanaba Red		1		1		2	
Caucel Trickel on Red							
Tituc Orange Poly v. Tituc							
Balanza Black							
Lucha Incised							
Aguila Orange					1		
Dos Arroyos Orange Poly			2				
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 4. Ceramics from Ramonal Oriente

Type	2/4/2	3/1/1	3/2/1	3/2/2	3/2/4	Total
Achiotes Unslipped						0
Chunhinta Black v. Ucu		1				8
Nacolal Incised						0
Joventud Red						0
Desvario Chamfered						1
Guitarra Incised						0
Dzudzuquil Cream to Buff	1			6		15
Tumben Incised		1		13		19
Majan Red on Cream				1		4
Chancenote Unslipped						0
Tancah Unslipped						0
Xanaba Red (LF)	1			2		4
Dzalpach Composite						0
Sierra Red	1	3		17		36
Laguna Verde Incised	2	3	2			7
Ciego Composite						0
Lagartos Punctate						0
Repasto Black on Red						0
Flor Cream						0
Mateo Red on Cream						0
Polvero Black				1		2
Saban Unslipped						0
Yaxcaba Striated						4
Xanaba Red						4
Caucel Trickel on Red						0
Tituc Orange Poly v. Tituc						0
Balanza Black						0
Lucha Incised						0
Aguila Orange			1			2
Dos Arroyos Orange Poly						2
Maxcanu Buff						0
Tituc Orange Poly v.						0
Camichin						0
Tituc Orange Poly v. Bandas						0

Table 4. Ceramics from Ramonal Oriente

Type	1/1/1	1/2/1	1/3/1	1/4/1	2/1/1	2/2/1	2/3/1
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna					1		
Arena Red							
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome					1		
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped			3		7		
Yokat Striated var Applique	2	5	1				
Yokat Striated var Yokat	38	78	103	1	2	2	1
Muna Slate	22	49	95	3	9	4	6
Sacalum Black on Slate	3	5	1	1			
Tekit Incised	2	2	3				
Tekit Incised v. Dzib							
Teabo Red		1	9		4		2
Ticul Thin Slate	1		6			1	
Balantun Black on Slate							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled							
Mama Red							
Unidentified	24	36	90	4	219	15	11
Total sherds	92	176	311	11	241	22	20

Table 4. Ceramics from Ramonal Oriente

Type	2/4/2	3/1/1	3/2/1	3/2/2	3/2/4	Total
Dos Caras Striated						0
Sacalaca Striated						0
Encanto Striated v. Sacna						1
Arena Red				1		1
Batres Red						0
Lakin Impressed						0
Muna Slate (LC)						0
Sacalum Black on Slate (LC)						0
Saxche Orange Polychrome			1			2
Juleki Cream Polychrome						0
Chantori Black on Orange						0
Sayan Red on Cream						0
Chum Unslipped	26	1	2	10	2	51
Yokat Striated var Applique						8
Yokat Striated var Yokat		7	58			290
Muna Slate	1	9	51	33		282
Sacalum Black on Slate			1			11
Tekit Incised					1	8
Tekit Incised v. Dzib						0
Teabo Red	1	3	2	5		27
Ticul Thin Slate		2	2			12
Balantun Black on Slate						0
Navula Unslipped						0
Yacman Striated						0
Chen Mul Modeled						0
Mama Red						0
Unidentified	66	22	30	11	1	529
Total sherds	94	44	147	60	4	1330

Table 5. Ceramics from Sacalaca

<u>Type</u>	4/1/1
Achiotes Unslipped	
Chunhinta Black v. Ucu	
Nacolal Incised	
Joventud Red	
Desvario Chamfered	
Guitarra Incised	
Dzudzuquil Cream to Buff	
Tumben Incised	
Tipikal Red on Striated	
Chancenote Unslipped	
Tancah Unslipped	
Xanaba Red (LF)	1
Dzalpach Composite	
Sierra Red	1
Laguna Verde Incised	
Ciego Composite	
Lagartos Punctate	
Repasto Black on Red	
Flor Cream	
Mateo Red on Cream	
Polvero Black	
Saban Unslipped	
Yaxcaba Striated	
Xanaba Red	
Caucel Trickel on Red	
Tituc Orange Polychrome v. Tituc	
Balanza Black	
Lucha Incised	
Aguila Orange	
Dos Arroyos Orange Polychrome	
Maxcanu Buff	
Tituc Orange Polychrome v. Camichin	
Tituc Orange Polychrome v. Bandas	

Table 5. Ceramics from Sacalaca

<u>Type</u>	4/1/1
Dos Caras Striated	1
Sacalaca Striated	
Encanto Striated v. Sacna	1
Arena Red	15
Batres Red	
Lakin Impressed	
Muna Slate (LC)	1
Sacalum Black on Slate (LC)	
Saxche Orange Polychrome	
Juleki Cream Polychrome	
Chantori Black on Orange	
Sayan Red on Cream	
Chum Unslipped	4
Yokat Striated var Applique	1
Yokat Striated var Yokat	158
Muna Slate	107
Sacalum Black on Slate	5
Tekit Incised	1
Tekit Incised v. Dzib	
Teabo Red	11
Ticul Thin Slate	4
Balantun Black on Slate	
Navula Unslipped	
Yacman Striated	
Chen Mul Modeled	
Mama Red	
Unidentified	124
Total sherds	433

Table 6. Ceramics from Yaxche

Type	1/1/1	2/1/1	2/2/1	2/3/1	3/1/1	3/2/1
Achiotes Unslipped						
Chunhinta Black v. Ucu					5	
Nacolal Incised						
Joventud Red						
Desvario Chamfered						
Guitarra Incised						
Dzudzuquil Cream to Buff				17		
Majan Red/Cream				1		
Tumben Incised				4	1	
Tipikal Red on Striated						
Chancenote Unslipped				1		
Tancah Unslipped						
Xanaba Red (LF)				10	1	
Dzalpach Composite					1	
Sierra Red	1				26	1
Laguna Verde Incised					1	
Ciego Composite						
Lagartos Punctate						
Repasto Black on Red						
Flor Cream						
Mateo Red on Cream						
Polvero Black						
Saban Unslipped						
Yaxcaba Striated	5		2			
Xanaba Red	5		2			
Caucel Trickel on Red			2			
Tituc Orange Poly v. Tituc						
Balanza Black						
Lucha Incised						
Aguila Orange	2					
Dos Arroyos Orange Poly	3					
Maxcanu Buff						
Tituc Orange Poly v.						
Camichin						
Tituc Orange Poly v. Bandas						

Table 6. Ceramics from Yaxche

Type	3/3/1	3/3/2	Total
Achiotes Unslipped			0
Chunhinta Black v. Ucu	4	2	11
Nacolal Incised		2	2
Joventud Red			0
Desvario Chamfered			0
Guitarra Incised			0
Dzudzuquil Cream to Buff	3	2	22
Majan Red/Cream			1
Tumben Incised		1	6
Tipikal Red on Striated			0
Chancenote Unslipped	4		5
Tancah Unslipped			0
Xanaba Red (LF)			11
Dzalpach Composite			1
Sierra Red	11	8	47
Laguna Verde Incised	2	2	5
Ciego Composite			0
Lagartos Punctate			0
Repasto Black on Red			0
Flor Cream			0
Mateo Red on Cream			0
Polvero Black			0
Saban Unslipped			0
Yaxcaba Striated			7
Xanaba Red			7
Caucel Trickel on Red			2
Tituc Orange Poly v. Tituc			0
Balanza Black			0
Lucha Incised			0
Aguila Orange			2
Dos Arroyos Orange Poly			3
Maxcanu Buff			0
Tituc Orange Poly v.			
Camichin			0
Tituc Orange Poly v. Bandas			0

Table 6. Ceramics from Yaxche

Type	1/1/1	2/1/1	2/2/1	2/3/1	3/1/1	3/2/1
Dos Caras Striated						
Sacalaca Striated						
Encanto Striated v. Sacna						
Arena Red						
Batres Red						
Lakin Impressed						
Muna Slate (LC)		3				
Sacalum Black on Slate (LC)						
Saxche Orange Polychrome	1		3			
Juleki Cream Polychrome						
Chantori Black on Orange						
Sayan Red on Cream						
Chum Unslipped		4				
Yokat Striated var Applique		2				
Yokat Striated var Yokat	81	88	12		2	4
Muna Slate	35	78	12		1	2
Sacalum Black on Slate	9	7	1			
Tekit Incised	1	2			1	
Tekit Incised v. Dzib						
Teabo Red	13		1			
Ticul Thin Slate	2	4				
Balantun Black on Slate						
Navula Unslipped						
Yacman Striated						
Chen Mul Modeled				2		
Mama Red						
Unidentified	211	111	10	1	32	
Total sherds	353	299	39	1	38	6

Table 6. Ceramics from Yaxche

Type	3/3/1	3/3/2	Total
Dos Caras Striated		0	
Sacalaca Striated		0	
Encanto Striated v. Sacna		0	
Arena Red		0	
Batres Red		0	
Lakin Impressed		0	
Muna Slate (LC)		3	
Sacalum Black on Slate (LC)		0	
Saxche Orange Polychrome		4	
Juleki Cream Polychrome		0	
Chantori Black on Orange		0	
Sayan Red on Cream		0	
Chum Unslipped	2	6	
Yokat Striated var Applique		2	
Yokat Striated var Yokat	3	190	
Muna Slate	3	131	
Sacalum Black on Slate		17	
Tekit Incised		4	
Tekit Incised v. Dzib		0	
Teabo Red		14	
Ticul Thin Slate		6	
Balantun Black on Slate		0	
Navula Unslipped		0	
Yacman Striated		0	
Chen Mul Modeled		2	
Mama Red		0	
Unidentified	27	13	405
Total sherds	35	13	916

Table 7. Ceramics from San Felipe

Type	6/1/1	6/3/1	6/4/1	6/6/1	6/8/1	6/10/1	6/12/1
Achiotes Unslipped							
Chunhinta Black v. Ucu							
Nacolal Incised							
Joventud Red							1
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff			1				
Tumben Incised							
Majan Red on Cream							
Canaima Red/Cream Incised							
Chancenote Unslipped							
Tancah Unslipped							
Xanaba Red (LF)							
Dzalpach Composite							
Sierra Red							
Laguna Verde Incised							
Ciego Composite							
Alta Mira Fluted							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							
Saban Unslipped							
Yaxcaba Striated	2	2	1	1	2		
Xanaba Red	3	4	4	1	7	6	
Caucel Trickel on Red		2		2		2	
Tituc Orange Poly v. Tituc							
Balanza Black							
Lucha Incised							
Aguila Orange							
Dos Arroyos Orange Poly				3	1		
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 7. Ceramics from San Felipe

Type	6/13/ 1	6/14/ 1	6/15/ 1	6/16/ 1	6/16/ 2	6/17/ 1	6/17/ 2
Achiotes Unslipped							
Chunhinta Black v. Ucu		2	1		1		1
Nacolal Incised							
Joventud Red							2
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff	1	4	2	1	6		12
Tumben Incised				1	1		1
Majan Red on Cream							
Canaima Red/Cream Incised							
Chancenote Unslipped						8	4
Tancah Unslipped							
Xanaba Red (LF)			11				
Dzalpach Composite							
Sierra Red	1					7	1
Laguna Verde Incised		1				1	
Ciego Composite							
Alta Mira Fluted							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black						1	
Saban Unslipped							
Yaxcaba Striated				2	1		1
Xanaba Red	8			5	12		
Caucel Trickel on Red		1					
Tituc Orange Poly v. Tituc							
Balanza Black							
Lucha Incised							
Aguila Orange		1					
Dos Arroyos Orange Poly							
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 7. Ceramics from San Felipe

Type	6/18/1	6/18/2	7/1/1	8/2/1	8/2/2	8/3/1	Total
Achiotes Unslipped							0
Chunhintia Black v. Ucu	2	1	13	1		1	23
Nacolal Incised			4				4
Joventud Red	2	2	5				12
Desvario Chamfered					1		1
Guitarra Incised							0
Dzudzuquil Cream to Buff	5	5	14				51
Tumben Incised	1		4		1		9
Majan Red on Cream							0
Canaima Red/Cream Incised		2					2
Chancenote Unslipped			8				20
Tancah Unslipped							0
Xanaba Red (LF)		1					12
Dzalpach Composite							0
Sierra Red	1	3	59	1		7	88
Laguna Verde Incised		1	7			1	11
Ciego Composite							0
Alta Mira Fluted			1				1
Lagartos Punctate							0
Repasto Black on Red							0
Flor Cream							0
Mateo Red on Cream							0
Polvero Black							1
Saban Unslipped							0
Yaxcaba Striated			3	1			16
Xanaba Red			4	2			56
Caucel Trickel on Red							7
Tituc Orange Poly v. Tituc			1				1
Balanza Black				7			7
Lucha Incised							0
Aguila Orange							1
Dos Arroyos Orange Poly				1			5
Maxcanu Buff							0
Tituc Orange Poly v.							0
Camichin							0
Tituc Orange Poly v. Bandas							0

Table 7. Ceramics from San Felipe

Type	<u>6/1/1</u>	<u>6/3/1</u>	<u>6/4/1</u>	<u>6/6/1</u>	<u>6/8/1</u>	<u>6/10/1</u>	<u>6/12/1</u>
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red							
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome							
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped							
Yokat Striate var Applique							
Yokat Striated var Yokat	45	31	1				
Oxcutzcab Applique		2					
Halacho Impressed							
Muna Slate	39	36	4				
Sacalum Black on Slate	1						
Tekit Incised	1						
Akil Impressed	1					1	
Teabo Red	3						
Ticul Thin Slate	2	7	1				
Balantun Black on Slate							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled	6						
Mama Red							
Unidentified	81	53	13	5		1	2
Total sherds	179	129	19	5	1	1	2

Table 7. Ceramics from San Felipe

Type	6/13/ 1	6/14/ 1	6/15/ 1	6/16/ 1	6/16/ 2	6/17/ 1	6/17/ 2
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red							
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome							
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped							
Yokat Striate var Applique							
Yokat Striated var Yokat		1					
Oxcutzcab Applique							
Halacho Impressed							
Muna Slate							
Sacalum Black on Slate							
Tekit Incised							
Akil Impressed							
Teabo Red			1				
Ticul Thin Slate						1	
Balantun Black on Slate							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled							
Mama Red							
Unidentified	1	7	10	11	3	22	31
Total sherds	2	8	10	11	3	23	31

Table 7. Ceramics from San Felipe

Type	6/18/1	6/18/2	7/1/1	8/2/1	8/2/2	8/3/1	Total
Dos Caras Striated							0
Sacalaca Striated							0
Encanto Striated v. Sacna							0
Arena Red				3			3
Batres Red							0
Lakin Impressed							0
Muna Slate (LC)							0
Sacalum Black on Slate (LC)							0
Saxche Orange Polychrome							0
Juleki Cream Polychrome							0
Chantori Black on Orange							0
Sayan Red on Cream							0
Chum Unslipped							0
Yokat Striate var Applique							0
Yokat Striated var Yokat	31		13	3	14		139
Oxutzcab Applique							2
Halacho Impressed							0
Muna Slate	73		15	3	4		174
Sacalum Black on Slate							1
Tekit Incised							1
Akil Impressed							2
Teabo Red	9		1		1		15
Ticul Thin Slate	2						13
Balantun Black on Slate							0
Navula Unslipped							0
Yacman Striated							0
Chen Mul Modeled							6
Mama Red							0
Unidentified	11	11	220	70	14	68	634
Total sherds	11	11	335	102	20	87	1318

Table 8. Ceramics from Yo'pila

Type	1/1/1	2/1/1	2/2/1	Total
Achiotes Unslipped				0
Chunhinta Black v. Ucu				0
Nacolal Incised				0
Joventud Red				0
Desvario Chamfered				0
Guitarra Incised				0
Dzudzuquil Cream to Buff	4			4
Tumben Incised				0
Majan Red on Cream				0
Chancenote Unslipped				0
Tancah Unslipped				0
Xanaba Red (LF)				0
Dzalpach Composite				0
Sierra Red	16	2		18
Laguna Verde Incised		1		1
Ciego Composite				0
Lagartos Punctate				0
Repasto Black on Red				0
Flor Cream				0
Mateo Red on Cream				0
Polvero Black				0
Saban Unslipped				0
Yaxcaba Striated				0
Xanaba Red				0
Caucel Trickel on Red				0
Tituc Orange Polychrome v. Tituc				0
Balanza Black				0
Lucha Incised				0
Aguila Orange				0
Dos Arroyos Orange Polychrome				0
Maxcanu Buff				0
Tituc Orange Polychrome v.				0
Camichin				0
Tituc Orange Polychrome v. Bandas				0

Table 8. Ceramics from Yo'pila

Type	1/1/1	2/1/1	2/2/1	Total
Dos Caras Striated				0
Sacalaca Striated				0
Encanto Striated v. Sacna	13			13
Arena Red	3			3
Batres Red				0
Lakin Impressed				0
Muna Slate (LC)	3			3
Sacalum Black on Slate (LC)				0
Saxche Orange Polychrome				0
Juleki Cream Polychrome				0
Chantori Black on Orange				0
Sayan Red on Cream				0
Chum Unslipped				0
Yokat Striate var Applique				0
Yokat Striated var Yokat	20	1		21
Muna Slate	21	3		24
Sacalum Black on Slate		1		1
Tekit Incised				0
Tekit Incised v. Dzib				0
Teabo Red	9		1	10
Bechal Incised	9			9
Ticul Thin Slate			1	1
Balantun Black on Slate				0
Navula Unslipped				0
Yacman Striated				0
Chen Mul Modeled				0
Mama Red				0
Unidentified	96	8	5	109
Total sherds	174	13	7	194

Table 9. Ceramics from Yo'okop

Type	<u>10/1/1</u>	<u>11/1/1</u>	<u>11/1/2</u>	<u>12/1/1</u>	<u>12/2/1</u>	<u>12/3/1</u>
Achiotes Unslipped						
Chunhinta Black v. Ucu						
Nacolal Incised				1		
Joventud Red						
Desvario Chamfered						
Guitarra Incised						
Dzudzuquil Cream to Buff						
Tumben Incised						
Majan Red on Cream						
Chancenote Unslipped						
Tancah Unslipped						
Xanaba Red (LF)						
Dzalpach Composite						
Sierra Red			2			
Laguna Verde Incised						
Ciego Composite						
Lagartos Punctate						
Repasto Black on Red						
Flor Cream						
Mateo Red on Cream						
Polvero Black						
Saban Unslipped						
Yaxcaba Striated				3		4
Xanaba Red						
Caucel Trickel on Red						
Tituc Orange Poly v. Tituc						
Balanza Black					1	
Lucha Incised						
Aguila Orange						
Dos Arroyos Orange Poly						
Maxcanu Buff						
Tituc Orange Poly v.						
Camichin						
Tituc Orange Poly v. Bandas						

Table 9. Ceramics from Yo'okop

Type	13/1/1	14/1/1	15/1/1	Total
Achiotes Unslipped			0	0
Chunhinta Black v. Ucu			0	0
Nacolal Incised			1	1
Joventud Red			0	0
Desvario Chamfered			0	0
Guitarra Incised			0	0
Dzudzuquil Cream to Buff			0	0
Tumben Incised			0	0
Majan Red on Cream			0	0
Chancenote Unslipped			0	0
Tancah Unslipped			0	0
Xanaba Red (LF)			0	0
Dzalpach Composite			0	0
Sierra Red	4		6	6
Laguna Verde Incised			0	0
Ciego Composite			0	0
Lagartos Punctate			0	0
Repasto Black on Red			0	0
Flor Cream			0	0
Mateo Red on Cream			0	0
Polvero Black			0	0
Saban Unslipped			0	0
Yaxcaba Striated	1		8	8
Xanaba Red			0	0
Caucel Trickel on Red			0	0
Tituc Orange Poly v. Tituc			0	0
Balanza Black			1	1
Lucha Incised			0	0
Aguila Orange			0	0
Dos Arroyos Orange Poly			0	0
Maxcanu Buff			0	0
Tituc Orange Poly v.			0	0
Camichin			0	0
Tituc Orange Poly v. Bandas			0	0

Table 9. Ceramics from Yo'okop

Type	<u>10/1/1</u>	<u>11/1/1</u>	<u>11/1/2</u>	<u>12/1/1</u>	<u>12/2/1</u>	<u>12/3/1</u>
Dos Caras Striated						
Sacalaca Striated						
Encanto Striated v. Sacna						
Arena Red						
Batres Red						
Lakin Impressed						
Muna Slate (LC)						
Sacalum Black on Slate (LC)						
Saxche Orange Polychrome					1	
Juleki Cream Polychrome						
Chantori Black on Orange						
Sayan Red on Cream						
Chum Unslipped						
Yokat Striate var Applique			1			
Yokat Striated var Yokat	5		10	12	2	1
Muna Slate	3	1	10	2	4	
Sacalum Black on Slate			8			
Tekit Incised						
Tekit Incised v. Dzib						
Teabo Red	2		4	1		
Ticul Thin Slate	1		2	3		
Balantun Black on Slate						
Navula Unslipped						
Yacman Striated						
Chen Mul Modeled						
Mama Red						
Unidentified	42		6	70	17	5
Total sherds	53	1	41	88	24	6

Table 9. Ceramics from Yo'okop

Type	13/1/1	14/1/1	15/1/1	Total
Dos Caras Striated				0
Sacalaca Striated				0
Encanto Striated v. Sacna				0
Arena Red				0
Batres Red				0
Lakin Impressed				0
Muna Slate (LC)				0
Sacalum Black on Slate (LC)				0
Saxche Orange Polychrome				1
Juleki Cream Polychrome				0
Chantori Black on Orange				0
Sayan Red on Cream				0
Chum Unslipped				0
Yokat Striate var Applique				1
Yokat Striated var Yokat	4	1	1	36
Muna Slate	6	1	2	29
Sacalum Black on Slate				8
Tekit Incised				0
Tekit Incised v. Dzib				0
Teabo Red	1		1	9
Ticul Thin Slate		2		8
Balantun Black on Slate				0
Navula Unslipped				0
Yacman Striated				0
Chen Mul Modeled				0
Mama Red				0
Unidentified	6	6	4	156
Total sherds	17	10	8	264

Table 10. Ceramics from Santa Cruz

Type	1/1/1	1/2/1	1/2/2	2/1/1	Total
Achiotes Unslipped					0
Chunhinta Black v. Ucu					0
Nacolal Incised					0
Joventud Red					0
Desvario Chamfered	1				1
Guitarra Incised					0
Dzudzuquil Cream to Buff		2			2
Tumben Incised					0
Majan Red on Cream					0
Chancenote Unslipped					0
Tancah Unslipped					0
Xanaba Red (LF)	1				1
Dzalpach Composite					0
Sierra Red	4	4	24		32
Laguna Verde Incised					0
Ciego Composite					0
Lagartos Punctate					0
Repasto Black on Red					0
Flor Cream					0
Mateo Red on Cream					0
Polvero Black	1				1
Saban Unslipped					0
Yaxcaba Striated					0
Xanaba Red	4			5	9
Caucel Trickel on Red	1				1
Tituc Orange Polychrome v. Tituc	2				2
Balanza Black					0
Lucha Incised					0
Aguila Orange					0
Dos Arroyos Orange Polychrome					0
Maxcanu Buff					0
Tituc Orange Polychrome v. Camichin					0
Tituc Orange Polychrome v. Bandas					0

Table 10. Ceramics from Santa Cruz

Type	1/1/1	1/2/1	1/2/2	2/1/1	Total
Dos Caras Striated					0
Sacalaca Striated					0
Encanto Striated v. Sacna					0
Arena Red					0
Batres Red					0
Lakin Impressed					0
Muna Slate (LC)				3	3
Sacalum Black on Slate (LC)					0
Saxche Orange Polychrome					0
Juleki Cream Polychrome					0
Chantori Black on Orange					0
Sayan Red on Cream					0
Chum Unslipped					0
Yokat Striate var Applique	2				2
Yokat Striated var Yokat	80	20		2	102
Muna Slate	44	16		10	70
Sacalum Black on Slate		1		1	2
Tekit Incised					0
Tekit Incised v. Dzib					0
Teabo Red		2		3	5
Ticul Thin Slate	3				3
Balantun Black on Slate					0
Navula Unslipped					0
Yacman Striated					0
Chen Mul Modeled					0
Mama Red					0
Unidentified	204	60		32	296
Total sherds	333	99	0	51	483

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>1/1/2</u>	<u>1/2/2</u>	<u>1/3/1</u>	<u>1/3/3</u>	<u>1/4/1</u>	<u>2/1/1</u>	<u>2/1/2</u>
Achiotes Unslipped							
Chunhinta Black v. Ucu							
Nacolal Incised							
Joventud Red							
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff							
Tumben Incised							
Majan Red on Cream							
Chancenote Unslipped							
Tancah Unslipped							
Xanaba Red (LF)							
Dzalpach Composite							
Sierra Red							
Laguna Verde Incised							
Ciego Composite							
Alta Mira Fluted							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							
Saban Unslipped							
Yaxcaba Striated							
Xanaba Red							
Caucel Trickel on Red							
Tituc Orange Poly v. Tituc							
Special Black/Red							
Balanza Black							
Lucha Incised							
Aguila Orange							
Dos Arroyos Orange Poly							
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>2/1/3</u>	<u>2/1/4</u>	<u>2/2/1</u>	<u>2/3/1</u>	<u>2/3/2</u>	<u>2/3/3</u>	<u>3/1/1</u>
Achiotes Unslipped							
Chunhinta Black v. Ucu							
Nacolal Incised		1					
Joventud Red							
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff							
Tumben Incised							
Majan Red on Cream							
Chancenote Unslipped							
Tancah Unslipped							
Xanaba Red (LF)							
Dzalpach Composite							
Sierra Red	4						1
Laguna Verde Incised	1			1			
Ciego Composite							
Alta Mira Fluted							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							
Saban Unslipped							
Yaxcaba Striated							
Xanaba Red							
Caucel Trickel on Red							
Tituc Orange Poly v. Tituc							
Special Black/Red							
Balanza Black	1						
Lucha Incised							
Aguila Orange							
Dos Arroyos Orange Poly							3
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>3/2/1</u>	<u>3/3/1</u>	<u>3/3/2</u>	<u>4/1/1</u>	<u>5/1/1</u>	<u>5/2/1</u>	<u>6/1/1</u>
Achiotes Unslipped							
Chunhinta Black v. Ucu					1		1
Nacolal Incised							
Joventud Red							
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff							
Tumben Incised							
Majan Red on Cream							
Chancenote Unslipped						2	
Tancah Unslipped							
Xanaba Red (LF)							
Dzalpach Composite							
Sierra Red							1
Laguna Verde Incised							
Ciego Composite							
Alta Mira Fluted							
Lagartos Punctate							
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black							
Saban Unslipped	1	1			1	3	
Yaxcaba Striated	1	2			56	41	
Xanaba Red	5	2	1		23	15	
Caucel Trickel on Red		1	1	4		1	
Tituc Orange Poly v. Tituc							
Special Black/Red					1		
Balanza Black					3	4	
Lucha Incised							
Aguila Orange				2			
Dos Arroyos Orange Poly					11	6	
Maxcanu Buff			1				
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas					3	3	

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>6/2/1</u>	<u>6/2/2</u>	<u>6/3/1</u>	<u>6/3/2</u>	<u>6/3/3</u>	<u>6/3/4</u>	<u>6/3/5</u>
Achiotes Unslipped							
Chunhinta Black v. Ucu	5	2					
Nacolal Incised	1						
Joventud Red	1						
Desvario Chamfered							
Guitarra Incised							
Dzudzuquil Cream to Buff	9						
Tumben Incised							
Majan Red on Cream							
Chancenote Unslipped	1	6		3		2	
Tancah Unslipped							
Xanaba Red (LF)							
Dzalpach Composite							
Sierra Red	33	35	3	2	2	1	
Laguna Verde Incised	2			2			
Ciego Composite							
Alta Mira Fluted		1					
Lagartos Punctate		1					
Repasto Black on Red							
Flor Cream							
Mateo Red on Cream							
Polvero Black		1					
Saban Unslipped							
Yaxcaba Striated	23	1					
Xanaba Red	4	1					
Caucel Trickel on Red							
Tituc Orange Poly v. Tituc							
Special Black/Red							
Balanza Black	1	1					
Lucha Incised							
Aguila Orange			1				
Dos Arroyos Orange Poly	3	2					
Maxcanu Buff							
Tituc Orange Poly v.							
Camichin							
Tituc Orange Poly v. Bandas							

Table 11. Ceramics from Fortin de Yo'okop

Type	6/3/6	6/3/9	7/2/1	7/3/1	7/3/2	7/3/3	Total
Achiotes Unslipped							0
Chunhinta Black v. Ucu							9
Nacolal Incised							2
Joventud Red							1
Desvario Chamfered							0
Guitarra Incised							0
Dzudzuquil Cream to Buff							9
Tumben Incised							0
Majan Red on Cream							0
Chancenote Unslipped							14
Tancah Unslipped							0
Xanaba Red (LF)							0
Dzalpach Composite							0
Sierra Red							82
Laguna Verde Incised							6
Ciego Composite			1				1
Alta Mira Fluted							1
Lagartos Punctate							1
Repasto Black on Red							0
Flor Cream							0
Mateo Red on Cream							0
Polvero Black							1
Saban Unslipped							6
Yaxcaba Striated							124
Xanaba Red							51
Caucel Trickel on Red							7
Tituc Orange Poly v. Tituc							0
Special Black/Red							1
Balanza Black							10
Lucha Incised							0
Aguila Orange							3
Dos Arroyos Orange Poly							25
Maxcanu Buff							1
Tituc Orange Poly v.							0
Camichin							0
Tituc Orange Poly v. Bandas							6

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>1/1/2</u>	<u>1/2/2</u>	<u>1/3/1</u>	<u>1/3/3</u>	<u>1/4/1</u>	<u>2/1/1</u>	<u>2/1/2</u>
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red							
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome						1	
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped							
Yokat Striate var Applique							
Yokat Striated var Yokat	1					1	
Muna Slate						4	7
Sacalum Black on Slate							1
Tekit Incised							
Akil Impressed							
Teabo Red							1
Ticul Thin Slate							
Tabi Gouged/Incised							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled						1	
Mama Red							
Unidentified	1		1	1	1	13	35
Total sherds	1	1	1	1	1	20	44

Table 11. Ceramics from Fortin de Yo'okop

Type	<u>2/1/3</u>	<u>2/1/4</u>	<u>2/2/1</u>	<u>2/3/1</u>	<u>2/3/2</u>	<u>2/3/3</u>	3/1/1
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red							
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome							
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped							
Yokat Striate var Applique							
Yokat Striated var Yokat	2	1			1		8
Muna Slate	8		5	1	2		7
Sacalum Black on Slate	3			1			
Tekit Incised							
Akil Impressed							
Teabo Red	1			1			
Ticul Thin Slate							
Tabi Gouged/Incised							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled				1			
Mama Red							
Unidentified	9	3	11	5	3	3	10
Total sherds	30	4	18	8	6	3	29

Table 11. Ceramics from Fortin de Yo'okop

Type	3/2/1	3/3/1	3/3/2	4/1/1	5/1/1	5/2/1	6/1/1
Dos Caras Striated				1			
Sacalaca Striated							
Encanto Striated v. Sacna				3			
Arena Red					3		1
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome					3		
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped							
Yokat Striate var Applique				6			
Yokat Striated var Yokat				15	152	1	
Muna Slate				6	100		5
Sacalum Black on Slate					3		
Tekit Incised					2		
Akil Impressed							
Teabo Red				2			
Ticul Thin Slate					5		
Tabi Gouged/Incised					1		
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled							
Mama Red							
Unidentified	7		4	33	132	15	17
Total sherds	13	1	11	63	511	91	25

Table 11. Ceramics from Fortin de Yo'okop

Type	6/2/1	6/2/2	6/3/1	6/3/2	6/3/3	6/3/4	6/3/5
Dos Caras Striated							
Sacalaca Striated							
Encanto Striated v. Sacna							
Arena Red				1			
Batres Red							
Lakin Impressed							
Muna Slate (LC)							
Sacalum Black on Slate (LC)							
Saxche Orange Polychrome							
Juleki Cream Polychrome							
Chantori Black on Orange							
Sayan Red on Cream							
Chum Unslipped	55			1			
Yokat Striate var Applique							
Yokat Striated var Yokat	17	5			1		
Muna Slate	32	17	2		4	2	
Sacalum Black on Slate	4	1					
Tekit Incised							
Akil Impressed	1						
Teabo Red		1					
Ticul Thin Slate							
Tabi Gouged/Incised							
Navula Unslipped							
Yacman Striated							
Chen Mul Modeled							
Mama Red							
Unidentified	248	146	32	29	8	3	1
Total sherds	441	220	40	41	12	6	1

Table 11. Ceramics from Fortin de Yo'okop

Type	6/3/6	6/3/9	7/2/1	7/3/1	7/3/2	7/3/3	Total
Dos Caras Striated							1
Sacalaca Striated							0
Encanto Striated v. Sacna							3
Arena Red							5
Batres Red							0
Lakin Impressed							0
Muna Slate (LC)							0
Sacalum Black on Slate (LC)							0
Saxche Orange Polychrome							4
Juleki Cream Polychrome							0
Chantori Black on Orange							0
Sayan Red on Cream							0
Chum Unslipped							56
Yokat Striate var Applique							6
Yokat Striated var Yokat			1				206
Muna Slate	2	3		5			212
Sacalum Black on Slate							13
Tekit Incised							2
Akil Impressed							1
Teabo Red				1			7
Ticul Thin Slate							5
Tabi Gouged/Incised							1
Navula Unslipped							0
Yacman Striated							0
Chen Mul Modeled							2
Mama Red							0
Unidentified	1	4		2	15	8	30
Total sherds	1	6	5	2	21	8	43

Table 12. Ceramics from Xtojil

Type	1/1/1	1/2/1	2/1/1	2/2/1	2/2/2	2/2/3	Total
Achiotes Unslipped							0
Chunhinta Black v. Ucu							0
Nacolal Incised							0
Joventud Red							0
Desvario Chamfered							0
Guitarra Incised							0
Dzudzuquil Cream to Buff							0
Tumben Incised							0
Majan Red on Cream							0
Chancenote Unslipped							0
Tancah Unslipped							0
Xanaba Red (LF)							0
Dzalpach Composite							0
Sierra Red					2		2
Laguna Verde Incised							0
Ciego Composite							0
Lagartos Punctate							0
Repasto Black on Red							0
Flor Cream							0
Mateo Red on Cream							0
Polvero Black							0
Saban Unslipped							0
Yaxcaba Striated							0
Xanaba Red							0
Caucel Trickel on Red							0
Tituc Orange Polychrome v. Tituc							0
Balanza Black					4		4
Lucha Incised							0
Aguila Orange							0
Dos Arroyos Orange Polychrome							0
Maxcanu Buff							0
Tituc Orange Polychrome v.							0
Camichin							0
Tituc Orange Polychrome v. Bandas							0

Table 12. Ceramics from Xtojil

Type	<u>1/1/1</u>	<u>1/2/1</u>	<u>2/1/1</u>	2/2/1	2/2/2	2/2/3	Total
Dos Caras Striated							0
Sacalaca Striated							0
Encanto Striated v. Sacna							0
Arena Red							0
Batres Red							0
Lakin Impressed							0
Muna Slate (LC)							0
Sacalum Black on Slate (LC)							0
Saxche Orange Polychrome							0
Juleki Cream Polychrome							0
Chantori Black on Orange							0
Sayan Red on Cream							0
Chum Unslipped					1		1
Oxkutzcab Applique						4	4
Yokat Striate var Applique			2				2
Yokat Striated var Yokat	5	3	26	24		5	63
Muna Slate	18	2	36	56		1	113
Sacalum Black on Slate			2	4			6
Tekit Incised			2	6			8
Akil Impressed							0
Teabo Red		1		1			2
Ticul Thin Slate							0
Balantun Black on Slate							0
Navula Unslipped							0
Yacman Striated							0
Chen Mul Modeled							0
Mama Red							0
Unidentified	7	4	19	28		9	67
Total sherds	31	9	87	125	1	19	272

Table 13. Ceramics from Chumkatzim

Type	1/1/1	1/1/2	2/1/1	2/1/2	Total
Achiotes Unslipped					0
Chunhinta Black v. Ucu					0
Nacolal Incised					0
Joventud Red					0
Desvario Chamfered					0
Guitarra Incised					0
Dzudzuquil Cream to Buff					0
Tumben Incised					0
Majan Red on Cream					0
Chancenote Unslipped					0
Tancah Unslipped					0
Xanaba Red (LF)					0
Dzalpach Composite					0
Sierra Red	1				1
Laguna Verde Incised					0
Ciego Composite					0
Lagartos Punctate					0
Repasto Black on Red					0
Flor Cream					0
Mateo Red on Cream					0
Polvero Black					0
Saban Unslipped					0
Yaxcaba Striated					0
Xanaba Red					0
Caucel Trickel on Red					0
Tituc Orange Polychrome v. Tituc					0
Balanza Black					0
Lucha Incised					0
Aguila Orange	1				1
Dos Arroyos Orange Polychrome					0
Maxcanu Buff					0
Tituc Orange Polychrome v.					0
Camichin					0
Tituc Orange Polychrome v. Bandas					0

Table 13. Ceramics from Chumkatzim

Type	1/1/1	1/1/2	2/1/1	2/1/2	Total
Dos Caras Striated					0
Sacalaca Striated					0
Encanto Striated v. Sacna	2				2
Arena Red	1		1		2
Batres Red					0
Lakin Impressed					0
Muna Slate (LC)					0
Sacalum Black on Slate (LC)					0
Saxche Orange Polychrome					0
Juleki Cream Polychrome					0
Chantori Black on Orange					0
Sayan Red on Cream					0
Chum Unslipped					0
Yokat Striate var Applique					0
Yokat Striated var Yokat	15	15	4	8	42
Muna Slate	8	3		5	16
Sacalum Black on Slate	1			1	2
Tekit Incised					0
Nohcacab Composite			1		1
Teabo Red					0
Ticul Thin Slate		1			1
Balantun Black on Slate					0
Navula Unslipped					0
Yacman Striated					0
Chen Mul Modeled					0
Mama Red					0
Unidentified	30	9	5	13	57
Total sherds	55	32	10	28	125

Table 14. Ceramics from Ramonal Poniente

Type	1/1/1	1/2/1	1/2/2	1/3/1	1/4/1	2/1/1
Achiotes Unslipped						
Chunhinta Black v. Ucu	1					2
Nacolal Incised						
Joventud Red						
Desvario Chamfered						
Guitarra Incised						
Dzudzuquil Cream to Buff						
Tumben Incised					1	
Majan Red on Cream						
Canaima Red/Cream						
Incised						
Chancenote Unslipped						
Tancah Unslipped						
Xanaba Red (LF)	1			1		3
Dzalpach Composite						
Sierra Red	1			1		6
Laguna Verde Incised						
Ciego Composite						
Lagartos Punctate						
Repasto Black on Red						
Flor Cream						
Mateo Red on Cream						
Polvero Black				1		
Saban Unslipped						
Yaxcaba Striated						
Xanaba Red			4			
Caucel Trickel on Red						
Tituc Orange Poly v. Tituc						
Balanza Black			2			
Lucha Incised						
Aguila Orange						
Dos Arroyos Orange Poly						
Maxcanu Buff						
Tituc Orange Poly v.						
Camichin						
Tituc Orange Poly v. Bandas						

Table 14. Ceramics from Ramonal Poniente

Type	2/3/1	2/3/2	2/4/1	Total
Achiotes Unslipped				0
Chunhinta Black v. Ucu				3
Nacolal Incised				0
Joventud Red				0
Desvario Chamfered				0
Guitarra Incised				0
Dzudzuquil Cream to Buff				0
Tumben Incised				1
Majan Red on Cream				0
Canaima Red/Cream				
Incised	1			1
Chancenote Unslipped				0
Tancah Unslipped				0
Xanaba Red (LF)	1			6
Dzalpach Composite				0
Sierra Red	2			10
Laguna Verde Incised				0
Ciego Composite				0
Lagartos Punctate				0
Repasto Black on Red				0
Flor Cream				0
Mateo Red on Cream				0
Polvero Black	1			2
Saban Unslipped				0
Yaxcaba Striated				0
Xanaba Red				4
Caucel Trickel on Red				0
Tituc Orange Poly v. Tituc				0
Balanza Black				2
Lucha Incised				0
Aguila Orange				0
Dos Arroyos Orange Poly				0
Maxcanu Buff				0
Tituc Orange Poly v.				
Camichin				0
Tituc Orange Poly v. Bandas				0

Table 14. Ceramics from Ramonal Poniente

Type	1/1/1	1/2/1	1/2/2	1/3/1	1/4/1	2/1/1
Dos Caras Striated						
Sacalaca Striated						
Encanto Striated v. Sacna						
Arena Red						
Batres Red						
Lakin Impressed						
Muna Slate (LC)						
Sacalum Black on Slate (LC)						
Saxche Orange Polychrome						
Juleki Cream Polychrome						
Chantori Black on Orange						
Sayan Red on Cream						
Chum Unslipped				4		4
Yokat Striate var Applique						
Yokat Striated var Yokat	2		4	7	56	
Muna Slate	6	4	10	12	74	
Sacalum Black on Slate			1	2	5	
Tekit Incised					2	
Tekit Incised v. Dzib						
Teabo Red	3	3	1	2	1	8
Ticul Thin Slate						7
Balancan Fine Orange						1
Navula Unslipped						
Yacman Striated						
Chen Mul Modeled						4
Mama Red						
Unidentified	17	30	1	36	24	96
Total sherds	21	43	6	64	48	269

Table 14. Ceramics from Ramonal Poniente

Type	2/3/1	2/3/2	2/4/1	Total
Dos Caras Striated				0
Sacalaca Striated				0
Encanto Striated v. Sacna				0
Arena Red				0
Batres Red				0
Lakin Impressed				0
Muna Slate (LC)				0
Sacalum Black on Slate (LC)				0
Saxche Orange Polychrome				0
Juleki Cream Polychrome				0
Chantori Black on Orange				0
Sayan Red on Cream				0
Chum Unslipped				8
Yokat Striate var Applique				0
Yokat Striated var Yokat	1			70
Muna Slate	6			112
Sacalum Black on Slate				8
Tekit Incised				2
Tekit Incised v. Dzib				0
Teabo Red	1			19
Ticul Thin Slate				7
Balancan Fine Orange				1
Navula Unslipped				0
Yacman Striated				0
Chen Mul Modeled				4
Mama Red				0
				0
Unidentified	4	1	1	210
Total sherds	17	1	1	470

Table 15. Ceramics from San Isidro

Type	1/1/1	1/2/1	Total
Achiotes Unslipped		0	
Chunhinta Black v. Ucu		0	
Nacolal Incised		0	
Joventud Red		0	
Desvario Chamfered		0	
Guitarra Incised		0	
Dzudzuquil Cream to Buff		0	
Tumben Incised		0	
Majan Red on Cream		0	
Chancenote Unslipped		0	
Tancah Unslipped		0	
Xanaba Red (LF)		0	
Dzalpach Composite		0	
Sierra Red	11	11	
Laguna Verde Incised	1	1	
Ciego Composite		0	
Lagartos Punctate		0	
Repasto Black on Red		0	
Flor Cream		0	
Mateo Red on Cream		0	
Polvero Black	2	2	
Saban Unslipped		0	
Yaxcaba Striated	2	2	
Xanaba Red		0	
Caucel Trickel on Red		0	
Tituc Orange Polychrome v. Tituc		0	
Balanza Black		0	
Lucha Incised		0	
Aguila Orange		0	
Dos Arroyos Orange Polychrome		0	
Maxcanu Buff		0	
Tituc Orange Polychrome v. Camichin		0	
Tituc Orange Polychrome v. Bandas		0	

Table 15. Ceramics from San Isidro

Type	1/1/1	1/2/1	Total
Dos Caras Striated			0
Sacalaca Striated			0
Encanto Striated v. Sacna	4		4
Arena Red	2		2
Batres Red			0
Lakin Impressed			0
Muna Slate (LC)			0
Sacalum Black on Slate (LC)			0
Saxche Orange Polychrome			0
Juleki Cream Polychrome			0
Chantori Black on Orange			0
Sayan Red on Cream			0
Chum Unslipped			0
Yokat Striate var Applique			0
Yokat Striated var Yokat	3	2	5
Muna Slate	18	14	32
Sacalum Black on Slate			0
Tekit Incised			0
Tekit Incised v. Dzib			0
Teabo Red	4	3	7
Ticul Thin Slate			0
Balantun Black on Slate			0
Navula Unslipped			0
Yacman Striated			0
Chen Mul Modeled			0
Mama Red			0
Unidentified	96	71	167
Total sherds	129	104	233

Table 16. Ceramics from Aktun Huay Max

Type	Area 1	Area 2	Area 3	Total
Achiotes Unslipped				0
Chunhinta Black v. Ucu				0
Nacolal Incised				0
Joventud Red				0
Desvario Chamfered				0
Guitarra Incised				0
Dzudzuquil Cream to Buff				0
Tumben Incised	1	2		3
Majan Red on Cream				0
Chancenote Unslipped				0
Tancah Unslipped				0
Xanaba Red (LF)				0
Dzalpach Composite				0
Sierra Red	8	1		9
Laguna Verde Incised	2			2
Ciego Composite				0
Lagartos Punctate				0
Repasto Black on Red				0
Flor Cream				0
Mateo Red on Cream				0
Polvero Black				0
Saban Unslipped				0
Yaxcaba Striated				0
Xanaba Red				0
Caucel Trickel on Red				0
Tituc Orange Polychrome v. Tituc				0
Balanza Black				0
Lucha Incised				0
Aguila Orange				0
Dos Arroyos Orange Polychrome				0
Maxcanu Buff				0
Tituc Orange Polychrome v.				0
Camichin				0
Tituc Orange Polychrome v. Bandas				0

Table 16. Ceramics from Aktun Huay Max

Type	Area 1	Area 2	Area 3	Total
Dos Caras Striated				0
Sacalaca Striated				0
Encanto Striated v. Sacna				0
Arena Red				0
Batres Red				0
Lakin Impressed				0
Muna Slate (LC)				0
Sacalum Black on Slate (LC)				0
Saxche Orange Polychrome				0
Juleki Cream Polychrome				0
Chantori Black on Orange				0
Sayan Red on Cream				0
Chum Unslipped				0
Yokat Striate var Applique				0
Yokat Striated var Yokat			1	1
Muna Slate	5	6	3	14
Sacalum Black on Slate		1		1
Tekit Incised				0
Tekit Incised v. Dzib				0
Teabo Red				0
Ticul Thin Slate				0
Balantun Black on Slate				0
Navula Unslipped				0
Yacman Striated				0
Chen Mul Modeled				0
Mama Red				0
Unidentified		1		1
Total sherds	15	9	7	31

Table 17. Ceramics from Yo'aktun

Type	2/1/1	2/1/2	3/1/1	3/1/2	3/2/1	Total
Achiotes Unslipped						0
Chunhinta Black v. Ucu						0
Nacolal Incised						0
Joventud Red						0
Desvario Chamfered						0
Guitarra Incised						0
Dzudzuquil Cream to Buff						0
Tumben Incised						0
Majan Red on Cream						0
Chancenote Unslipped						0
Tancah Unslipped						0
Xanaba Red (LF)						0
Dzalpach Composite						0
Sierra Red						0
Laguna Verde Incised						0
Ciego Composite						0
Lagartos Punctate						0
Repasto Black on Red						0
Flor Cream						0
Mateo Red on Cream						0
Polvero Black						0
Saban Unslipped						0
Yaxcaba Striated						0
Xanaba Red						0
Caucel Trickel on Red						0
Tituc Orange Polychrome v. Tituc						0
Balanza Black						0
Lucha Incised						0
Aguila Orange						0
Dos Arroyos Orange Polychrome						0
Maxcanu Buff						0
Tituc Orange Polychrome v. Camichin						0
Tituc Orange Polychrome v. Bandas						0

Table 17. Ceramics from Yo'aktun

Type	<u>2/1/1</u>	<u>2/1/2</u>	<u>3/1/1</u>	<u>3/1/2</u>	<u>3/2/1</u>	Total
Dos Caras Striated						0
Sacalaca Striated						0
Encanto Striated v. Sacna						0
Arena Red						0
Batres Red						0
Lakin Impressed						0
Muna Slate (LC)						0
Sacalum Black on Slate (LC)						0
Saxche Orange Polychrome						0
Juleki Cream Polychrome						0
Chantori Black on Orange						0
Sayan Red on Cream						0
Chum Unslipped						0
Yokat Striate var Applique						0
Yokat Striated var Yokat	14	5		2		21
Muna Slate	25	5	9	7	3	49
Sacalum Black on Slate	1		1			2
Tekit Incised						0
Akil Impressed		2				2
Teabo Red						0
Ticul Thin Slate						0
Balantun Black on Slate						0
Navula Unslipped						0
Yacman Striated						0
Chen Mul Modeled						0
Mama Red						0
Unidentified	2		1	6	2	11
Total sherds	44	10	11	15	5	85

Table 18. Ceramics from Abuelos

<u>Type</u>	<u>1/1/1</u>
Achiotes Unslipped	
Chunhinta Black v. Ucu	
Nacolal Incised	
Joventud Red	
Desvario Chamfered	
Guitarra Incised	
Dzudzuquil Cream to Buff	
Tumben Incised	
Majan Red on Cream	
Chancenote Unslipped	
Tancah Unslipped	
Xanaba Red (LF)	
Dzalpach Composite	
Sierra Red	
Laguna Verde Incised	
Ciego Composite	
Lagartos Punctate	
Repasto Black on Red	
Flor Cream	
Mateo Red on Cream	
Polvero Black	
Saban Unslipped	
Yaxcaba Striated	
Xanaba Red	
Caucel Trickel on Red	
Tituc Orange Polychrome v. Tituc	
Balanza Black	
Lucha Incised	
Aguila Orange	
Dos Arroyos Orange Polychrome	
Maxcanu Buff	
Tituc Orange Polychrome v. Camichin	
Tituc Orange Polychrome v. Bandas	

Table 18. Ceramics from Abuelos

<u>Type</u>	1/1/1
Dos Caras Striated	
Sacalaca Striated	
Encanto Striated v. Sacna	
Arena Red	
Batres Red	
Lakin Impressed	
Muna Slate (LC)	
Sacalum Black on Slate (LC)	
Saxche Orange Polychrome	
Juleki Cream Polychrome	
Chantori Black on Orange	
Sayan Red on Cream	
Chum Unslipped	
Yokat Striate var Applique	
Yokat Striated var Yokat	1
Muna Slate	
Sacalum Black on Slate	
Tekit Incised	
Tekit Incised v. Dzib	
Teabo Red	
Ticul Thin Slate	
Balantun Black on Slate	
Navula Unslipped	
Yacman Striated	
Chen Mul Modeled	
Mama Red	
Unidentified	1
Total sherds	2

Part 5: Summary and Analysis

Chapter 48: Non-ceramic Artifacts from the 2012 CRAS Field Season

Leslie Reyes

The 2012 field season recovered almost double the non-ceramic artifacts than in the previous 2010 field season. In all, 174 non-ceramic artifacts were recovered from test excavation units in various *ejidos* within the Cochuah Regional Archaeological Survey (CRAS). Although, there was a big increase in non-ceramic artifacts from previous seasons, the overall total is still low compared to other projects located in the Yucatan and Northern Belize. This may be because the 2012 field season was focused on a regional survey of sites in the *ejidos* of San Felipe, Saban, and Sacalaca, rather than focusing on excavating plazas or whole structures.

Chert comprised most of thedebitage recovered from test excavation units. A variety of chert types were represented in the overall non-ceramic artifacts excavated with most having a white and/or pinkish color. Several non-ceramic artifacts were fire affected which is probably due to the repeated burning of vegetation for *milpas* by current and previous Maya inhabitants living within the project area. One mono fragment, one bee hive plug, several projectile points, and obsidian blades were also recovered from test excavations. The results of the analysis of non-ceramic materials recovered from test excavation units are found in the artifacts tables for each site.

Debitage from chert found during test excavations at Chakal Ja'as consisted of the majority of the lithic artifacts recovered during the field season. 2012 data (Tables 19-31) show that a majority of the lithic artifacts within the CRAS project area are not part of lithic de-cortication stages but that of later reduction stages. Of 174 non-ceramic materials recovered during test excavations, only 12 were in the de-cortication stages; 2 primary and 10 secondary flakes. Chakal Ja'as and San Felipe excavations recovered the highest number of early-stage reduction debitage this field season with 4 secondary flakes each. Since there are no known chert outcrops in the immediate proximity to the CRAS project area, the presence of chert suggests at least some trading of raw material deposits. The lack of primary and secondary flakes within the project area would suggest that inhabitants at sites located in the *ejidos* of San Felipe, Saban, and Sacalaca were trading goods in exchange for chert that had already underwent early stage reduction. The result was that preforms were making their way into the CRAS project area and then further flint knapping was taking place within outdoor patio areas and the debitage was being discarded in areas away from living space. An ethnoarchaeological investigation of lithic production among the Lacandon living in villages located in the Chiapas area provides information from modern Maya who produce chert tools. Although these tools are produced mainly for tourism purposes, we can still use the Lacandon case to get a better understanding as to what ancient Maya would have also done. In the Lacandon case, raw materials were tested at the quarry site, then suitable nodules were taken back to the village, and knapping was performed in the outdoor patio with the debitage being discarded in waste dumps away from the residences (Clark 1991).

For the non-ceramic materials there are no specific patterns of distribution that would suggest a given activity was taking place in a particular location. Lithic reduction occurred interspersed among structures within our project area. Researchers working at Colha in Northern Belize have attempted to identify areas of activity through the study of artifact distribution and lithic reduction areas located upon mounds. By systematically surface collecting the mound in 1x1 meter units, researchers concluded that there were areas of differing activities upon the structures but that there were no definite patterns of distribution that would suggest task specific areas (Wilk 1975:152). A later conclusion was made that the excavation of entire structures and the areas surrounding them may be needed to better understand what activities were taking place on mounds at Colha. This determination is also probable within the CRAS project area.

Modern-day Northern Belize has been thoroughly studied when it comes to chert lithic tools and their production processes but discoveries of specialized lithic workshops in other areas of the Maya region are largely absent (Speal 2009:91). Understanding the distribution and exchange of chert found within the CRAS project area can be obtained through raw material sourcing. This can be done through a visual assessment by a geologist who specializes in the lithics of that region. Sites in Northern Belize, such as Colha, produces high quality chert outcrops of very distinctive, fine-grained deep brown, tan, gray, or banded chert that has been proven to be visually sourceable (Cackler et al 1999; Tobey 1994). Several chert types recovered from excavations within the CRAS project area have attributes of chert coming from this area of Northern Belize. These include deep brown and tan chert, as well as, banded chert. Other possible sources for chert may be from Becan or Xkichmook. Macroscopic inspection of lithics excavated from Chichen Itza has revealed that chert in the Cochua region resembles that of Xkichmook (Potter 1993:287-288). "In terms of distance, chert was a more accessible mineral resource for the Cochua region than obsidian was." (Lloyd 2005:171-172)

As for the 5 obsidian blades and one projectile point recovered during 2012 test excavations, it is reasonable to conclude that since there were no cores or flakes recovered during test excavations, the obsidian blades and projectile point came into the Cochua region in their finished form via trade. This does not mean that inhabitants were not retouching their projectile points or reusing their blades in the area but rather that they were not being made in the area.

Table 19. Lithics from Yo'Aktun

Site	Op:Lev:Lot	Artifact Type	Material	Color	Dimensions	Associated Time Period
Yo'Aktun	2:1:1	Thinning flake	Chalcedony	10YR 6/4 Light Yellowish Brn	17 mm L 21 mm W	Terminal Classic
Yo'Aktun	2:1:1	Thinning flake	Chalcedony	10 YR 6/8 Brownish Yellow	20 mm L 15 mm W	Terminal Classic
Yo'Aktun	2:1:1	Shatter	Chert	2.5YR 8/4 Pink	16 mm L 11 mm W	Terminal Classic
Yo'Aktun	2:1:2	Bipolar core fragment	Chert	10YR 8/1 White	20 mm L 15 mm W	Terminal Classic

Table 20. Summary of Artifacts from Chakal Ja'as

Site	Op:Lev: Lot	Artifact Type	Material	Color	Dimensions	Associated Time Period
Chakal Ja'as	4:1:1	Tertiary flake	Chert	7.5YR 6/1 Gray (heat treated)	30 mm L 21 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chert	10YR 8/1 White	25 mm L 26 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chert	10YR 8/1 White	20 mm L 26 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Biface fragment	Chert	10YR 5/1 Gray	28 mm L 31 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Secondary flake	Chert	10YR 8/1 White	16 mm L 13 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Secondary flake	Chert	10YR 5/1 Gray	29 mm L 19 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chert	10YR 8/1 White	20 mm L 20 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Secondary flake	Chert	10YR 8/1 White (pink edges)	21 mm L 26 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Secondary flake	Chert	10YR 8/1 White	16 mm L 18 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chert	10YR 6/1 Gray	16 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 6/1 Gray	11 mm L 17 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chert	10YR 6/1 Gray	15 mm L 11 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chalcedony	White	19 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Pink	10 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Pink	15 mm L 5 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 8/1 White	11 mm L 18 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 6/4 Light Yellowish Brn	17 mm L 11 mm W	Terminal Classic

Chakal Ja'as	4:1:1	Distal flake fragment	Chert	10YR 8/1 White	19 mm L 19 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 6/4 Light Yellowish Brn	11 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	7.5YR 8/4 Pink	17 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 6/1 Gray	15 mm L 15 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 6/4 Light Yellowish Brn	17 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	10YR 6/4 Light Yellowish Brn	14 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 8/2 Very Pale Brn	15 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 5/1 Gray	10 mm L 7 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 8/1 White	11 mm L 14 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 8/1 White (heat treated)	11 mm L 14 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 7/8 Yellow	8 mm L 11 mm W	Terminal Classic

Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 8/1 White	7 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	10YR 6/4 Light Yellowish Brn	7 mm L 5 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	2.5YR 8/4 Pink	8 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chalcedony	10YR 6/4 Light Yellowish Brn	11 mm L 11 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 8/1 White	10 mm L 13 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 5/2 Grayish Brn	11 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 6/6 Brownish Yellow	10 mm L 12 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	10YR 6/4 Light Yellowish Brn	11 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Biface thinning flake	Banded Chert	10YR 5/1 Gray	25 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	10YR 6/4 Light Yellowish Brn	12 mm L 11 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Banded Chert	10YR 6/1 Gray (pink bands)	11 mm L 14 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 6/6 Brownish Yellow	8 mm L 12 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Colorless	10 mm L 12 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Colorless	10 mm L 6 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Yellow	12 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 6/4 Light Yellowish Brn	10 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chalcedony	10YR 6/4 Light Yellowish Brn 360	7 mm L 11 mm W	Terminal Classic

Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	Yellow	11 mm L 17 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 4/1 Dark Gray	9 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Tertiary flake	Chert	10YR 6/8 Brownish Yellow	9 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 7/3 Very Pale Brn	7 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 7/3 Very Pale Brn	8 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 6/1 Gray	13 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Shatter	Chalcedony	10YR 5/1 Gray (banded)	10 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake fragment	Chalcedony	Yellow	9 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 6/6 Brownish Yellow	8 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 7/3 Very Pale Brn	13 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chert	10YR 5/3 Brown	10 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Thinning flake	Chalcedony	10YR 7/3 Very Pale Brn	11 mm L 8 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chalcedony	10YR 7/3 Very Pale Brn	6 mm L 10 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Flake fragment	Chert	10YR 5/1 Gray	5 mm L 9 mm W	Terminal Classic
Chakal Ja'as	4:1:1	Distal flake fragment	Chert	10YR 8/1 White	25 mm L 45 mm W	Terminal Classic

Table 21. Lithics from Fortin de Yo'okop

Site	Op:Lev:Lot	Artifact Type	Material	Color	Dimensions	Associated Time Period
Fortin de Yo'okop	5:1:1	Tertiary flake	Chert	2.5YR 3/4 Dark Reddish Brn	29 mm L 16 mm W	Terminal Classic
Fortin de Yo'okop	5:1:1	Shatter	Chert	10YR 4/2 Dark Grayish Brn	15 mm L 35 mm W	Terminal Classic
Fortin de Yo'okop	5:1:1	Blade	Obsidian	Gray	32 mm L 10 mm W	Terminal Classic
Fortin de Yo'okop	5:2:1	Projectile Point (missing distal end)	Obsidian	Gray	60 mm L 25 mm W (shoulder to shoulder) Shoulder -5 mm W Neck- 15 mm W; 15 mm L	Early Classic

Table 22. Lithics from Ramonal Oriente

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
Ramona I Oriente	3:1:1	Block shatter	Chert	10YR 6/6 Brownish Yellow	26 mm L 25 mm W	Terminal Classic
Ramona I Oriente	3:1:1	Pot-lid	Chert	10YR 5/1 Gray	21 mm L 26 mm W	Terminal Classic
Ramona I Oriente	3:1:1	Shatter	Chert	10R 5/4 Weak Red	13 mm L 34 mm W	Terminal Classic

Table 23. Lithics from Ramonal Poniente

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
Ramona I Poniente	2:2:1	Tertiary flake	Chert	10YR 7/1 Light Gray	16 mm L 29 mm W	Terminal Classic
Ramona I Poniente	2:2:1	Shatter	Chert	10YR 8/2 Very Pale Brn 2.5YR 5/4 Reddish Brown	19 mm L 28 mm W	Terminal Classic
Ramona I Poniente	2:2:1	Shatter	Chert	5YR 4/2 Dark Reddish Brn	15 mm L 23 mm W	Terminal Classic

Table 24. Lithics from Sacalaca

Site	Op:Lev: Lot	Artifact Type	Material	Color	Dimension s	Associated Time Period
Sacalaca	4:1:1	Biface fragment	Chert	10YR 4/3 Brown	21 mm L 16 mm W	Terminal Classic
Sacalaca	4:1:1	Utilized flake	Chert	10YR 8/1 White (Gray bands)	35 mm L 20 mm W	Terminal Classic
Sacalaca	4:1:1	Bipolar core	Chert	10YR 8/1 White	34 mm L 19 mm W	Terminal Classic
Sacalaca	4:1:1	Tertiary flake	Chert	10YR 8/1 White	20 mm L 21 mm W	Terminal Classic

Table 25. Lithics from San Felipe

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
San Felipe	6:8:1	Mano fragment	Limestone	10YR 8/1 White		Early Classic
San Felipe	6:17:2	Secondary flake	Chert	10YR 8/1 White	40 mm L 35 mm W	Late Formative
San Felipe	6:17:2	Tertiary flake	Chert	10YR 8/1 White	29 mm L 24 mm W	Late Formative
San Felipe	7:1:1	Core	Chert	10YR 7/3 Very Pale Brn	50 mm L 35 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	10YR 2/2 Very Dark Brn	36 mm L 15 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	10YR 8/2 Very Pale Brn	9 mm L 21 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	2.5YR 8/2 Pale Red	14 mm L 29 mm W	Terminal Classic
San Felipe	7:1:1	Utilized flake	Chert	10YR 4/2 Dark Grayish Brn	18 mm L 43 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	5YR 5/2 Reddish Gray	30 mm L 20 mm W	Terminal Classic
San Felipe	7:1:1	Thinning flake	Chalcedony	5YR 3/3 Dark Reddish Brn	21 mm L 27 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	10YR 8/1 White	16 mm L 28 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	7.5YR 8/2 Pinkish White	23 mm L 17 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chalcedony	7.5YR 8/4 Pink	8 mm L 20 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	10YR 8/1 White	24 mm L 30 mm W	Terminal Classic

San Felipe	7:1:1	Secondary flake	Chert	10YR 3/3 Dark Brown	22 mm L 25 mm W	Terminal Classic
San Felipe	7:1:1	Flake fragment	Chert	10YR 8/4 Very Pale Brn	30 mm L 30 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	10YR 7/4 Very Pale Brown	20 mm L 24 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	5YR 7/3 Pink	17 mm L 29 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	2.5YR 4/6 Red	16 mm L 16 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	2.5YR 8/1 White	20 mm L 18 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	2.5YR 4/1 Reddish Brown	17 mm L 21 mm W	Terminal Classic
San Felipe	7:1:1	Secondary flake	Chert	2.5YR 4/1 Dark Reddish Gray	14 mm L 13 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	2.5YR 8/1 White	15 mm L 13 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	10YR 8/1 White	8 mm L 15 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	10YR 8/1 White	10 mm L 7 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	10YR 8/1 White	6 mm L 11 mm W	Terminal Classic
San Felipe	7:1:1	Tertiary flake	Chert	10YR 8/1 White	15 mm L 11 mm W	Terminal Classic
San Felipe	7:1:1	Shatter	Chert	2.5YR 7/4 Light Reddish Brown	9 mm L 5 mm W	Terminal Classic

Table 26. Lithics from San Isidro

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
San Isidro	1:1:1	Biface fragment	Chert	10YR 8/1 White (fire affected) 10YR 3/1 Very Dark Gray	25 mm L 54 mm W	Terminal Classic
San Isidro	1:1:1	Tertiary fragment	Chert	10R 3/4 Dusky Red	15 mm L 31 mm W	Terminal Classic
San Isidro	1:1:1	Shatter	Chert	5YR 4/1 Dark Gray	20 mm L 10 mm W	Terminal Classic
San Isidro	1:1:1	Secondary flake	Chert	10YR 5/3 Brown	45 mm L 40 mm W	Terminal Classic
San Isidro	1:2:1	Shatter	Limestone	10YR 5/2 Grayish Brn	12 mm L 26 mm W	Terminal Classic

Table 27. Lithics from Santa Cruz

Site	Op:Lev:Lot	Artifact Type	Material	Color	Dimensions	Associated Time Period
Santa Cruz	1:1:1	Shatter	Chert	10YR 8/1 White (appears to be burned)	40 mm L 25 mm W	Terminal Classic
Santa Cruz	1:1:1	Shatter	Chalcedony	unknown	35 mm L 15 mm W	Terminal Classic
Santa Cruz	1:1:1	Tertiary flake	Chert	10YR 5/8 Yellowish Brn	28 mm L 22 mm W	Terminal Classic
Santa Cruz	1:1:1	Shatter	Chert/ Chalcedony inclusions	10R 8/2 Pinkish White	39 mm L 19 mm W	Terminal Classic
Santa Cruz	1:1:1	Tertiary flake	Chert	10YR 5/8 Yellowish Brn	25 mm L 20 mm W	Terminal Classic
Santa Cruz	1:1:1	Tertiary flake	Chert	10YR 8/1 White	30 mm L 20 mm W	Terminal Classic
Santa Cruz	1:2:1	Shatter	Chert	10YR 8/1 White	34 mm L 51 mm W	Terminal Classic
Santa Cruz	1:2:1	Tertiary flake	Chert	10 YR 6/4 Light Yellowish Brn	19 mm L 30 mm W	Terminal Classic
Santa Cruz	1:2:1	Shatter	Chert	10YR 8/1 White	15 mm L 20 mm W	Terminal Classic
Santa Cruz	1:2:1	Shatter	Chert	10YR 8/1 White	18 mm L 26 mm W	Terminal Classic
Santa Cruz	1:2:1	Tertiary flake	Chert	10YR 8/1 White	22 mm L 14 mm W	Terminal Classic
Santa Cruz	1:2:1	Secondary flake	Chert/ Chalcedony inclusions	10YR 8/1 White	20 mm L 15 mm W	Terminal Classic
Santa Cruz	1:2:1	Blade fragment	Obsidian	Translucent Green	10 mm L 8 mm W	Terminal Classic

Table 28. Lithics from Xtojil

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
Xtojil	2:2:1	Projectile point Photo# 296- 297 Silver Canon powershot	Chert	10YR 4/3 Brown	55 mm L 31 mm W (shoulders) 20 mm W (neck)	Terminal Classic

Table 29. Lithics from Yaxche

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
Yaxche	1:1:1	Tertiary flake	Chert	10YR 4/3 Brown	40 mm L 35 mm W	Terminal Classic

Table 30. Lithics from Yodzonot

Site	Op:Lev:Loc	Artifact Type	Material	Color	Dimensions	Associated Time Period
Yodzonot	1:1:1	Tertiary flake	Banded Chalcedony	unknown	44mm L 22 mm W	Terminal Classic
Yodzonot	2:1:1	Fragment	Chert	10YR 8/1 White	19 mm L 28 mm W	Terminal Classic
Yodzonot	2:1:1	Blade fragment	Obsidian	Gray banded	31 mm L 9 mm W	Terminal Classic
Yodzonot	2:1:1	Fragment	Chert	10YR 8/1 White	29 mm L 40 mm W	Terminal Classic
Yodzonot	2:1:1	Fragment	Chert	10YR 8/1 White (fire affected)	25 mm L 27 mm W	Terminal Classic
Yodzonot	2:1:1	Tertiary flake	Chert	10YR 8/1 White	45 mm L 53 mm W	Terminal Classic
Yodzonot	2:1:1	Primary flake	Chert	10YR 5/1 Gray	74 mm L 47 mm W	Terminal Classic
Yodzonot	2:1:1	Tertiary flake	Chert	2.5YR 5/3 Reddish Brn	15 mm L 15 mm W	Terminal Classic
Yodzonot	2:1:1	Shatter	Chert	10R 8/2 Pinkish White	13 mm L 11 mm W	Terminal Classic
Yodzonot	2:1:1	Tertiary flake	Chert	10YR 8/2 Very Pale Brn	40 mm L 26 mm W	Terminal Classic
Yodzonot	2:1:1	Fragment	Chert	2.5YR 5/2 Weak Red 7.5 YR 6/1 Gray	27 mm L 45 mm W	Terminal Classic
Yodzonot	2:1:1	Tertiary flake	Chert	10YR 7/1 Light Gray	16 mm L 23 mm W	Terminal Classic
Yodzonot	2:1:1	Shatter	Chert	10R 6/4 Pale Red	15 mm L 13 mm W	Terminal Classic
Yodzonot	2:1:1	Shatter	Chert	10YR 5/2 Grayish Brn	20 mm L 35 mm W	Terminal Classic
Yodzonot	2:1:1	Shatter	Chert	10YR 5/2 Grayish Brn	21 mm L 26 mm W	Terminal Classic
Yodzonot	2:1:1	Tertiary flake	Chert	10YR 4/2 Dark Grayish Brn	22 mm L 14 mm W	Terminal Classic
Yodzonot	3:2:1	Primary flake	Chert	2.5YR 8/4 Pink (fire affected)	25 mm L 22 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 7/4 Very Pale	24 mm L 30 mm W	Terminal Classic

				Brn		
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 4/2 Dark Gray Brn	20 mm L 33 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 8/1 White	22 mm L 17 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	7.5YR 6/1 Gray	17 mm L 30 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 8/1 White	35 mm L 30 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 4/2 Dark Grayish Brn	35 mm L 18 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chalcedony	10YR 8/1 White	18 mm L 16 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 7/4 Very Pale Brn	21 mm L 15 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 7/4 Very Pale Brn	20 mm L 22 mm W	Terminal Classic
Yodzonot	3:2:1	Bipolar core fragment	Chert	10YR 8/1 White	16 mm L 26 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	26 mm L 44 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 7/1 Light Gray	16 mm L 19 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	25 mm L 19 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	26 mm L 19 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	21 mm L 18 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White (fire affected)	15 mm L 10 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	28 mm L 42 mm W	Terminal Classic
Yodzonot	3:2:1	Tertiary flake	Chert	10YR 8/1 White	15 mm L 22 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 7/1 Light Gray	16 mm L 37 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Banded Chert	10YR 8/1 White 10YR 7/1 Light Gray	18 mm L 35 mm W	Terminal Classic
Yodzonot	3:2:1	Shatter	Chert	10YR 8/1 White	10 mm L 14 mm W	Terminal Classic
Yodzonot	3:2:1	Secondary flake	Chert	10YR 4/2 Dark	10 mm L 17 mm W	Terminal Classic

				Grayish Brn		
Yodzonot	3:2:1	Shatter	Chert	10YR 4/2 Dark Grayish Brn	22 mm L 22 mm W	Terminal Classic
Yodzonot	3:2:1	Beehive plug	Limestone	10YR 8/1 White	190 mm x 180 mm x 35 mm	Terminal Classic

Table 31. Lithics from Yo'okop

Site	Op:Lev:Lo t	Artifact Type	Material	Color	Dimension s	Associated Time Period
Yo'okop	10:1:1	Blade	Obsidian	Gray banded	35 mm L 15 mm W	Terminal Classic
Yo'okop	10:1:1	Shatter	Chert	5YR 6/3 Light Reddish Brn	20 mm L 15 mm W	Terminal Classic
Yo'okop	12:1:1	Tertiary flake	Chert	10YR 7/4 Very Pale Brn	28 mm L 40 mm W	Terminal Classic
Yo'okop	12:1:1	Tertiary flake	Chert	10YR 4/3 Brown	47 mm L 27 mm W	Terminal Classic

Part 5: Summary and Analysis

Chapter 49: The Use of Caves as Water Sources

Dave Johnstone

The Maya Lowlands present certain challenges to settlement; chief of which is the availability of water. Access to a permanent water source is a precondition for permanent nucleated settlement. Under ideal conditions, this would mean a river, lake, or spring. These features are largely absent from the Northern Lowlands. North of a line from the mouth of the Rio Champoton to Laguna Bacalar, is the region of karstic drainage. Here, the porous limestone bedrock allows the rapid passing of rain from the surface to the water table. Access to the water table is limited to dissolution features such as caves and collapsed domes (cenotes). Nucleated settlements tend to cluster around such naturally occurring permanent water features (Garza and Kurjack 1980). Larger sites have access to multiple cenotes (Brown 2006).

Sites without access to permanent water sources were dependent on rainfall for both their crops and for drinking water. Rainfall in the Lowlands is seasonal, with the majority of the precipitation falling between June and October. The months of February through May are considered the dry season, without significant precipitation. This presents a serious adaptive challenge.

Permanent natural water sources (lakes, caves and cenotes) are relatively rare within the Cochuah region. For the most part, they are clustered in the northern portion of the survey area where there is more topographic relief and bedrock exposure. Permanent occupation could have been enabled through the exploitation of natural water features such as caves. Natural water sources should have been the first to have been exploited for water, as they did not require a great deal of additional labor.

Caves have long held the interest of archaeologists in the Northern Lowlands (Andrews 1965, 1970, Bonor 1987, Hatt *et al.* 1953, Mercer 1896, Rissolo 2001, Tec 2007, Thompson 1897a, Thompson 1959). Most of those that contain permanent water have evidence of human use, though there is a substantial variation in times of use. Some caves, such as Balankanche, were reserved for religious rituals, and contained a limited range of whole vessels in primary context (Andrews 1970). Others, like Aktun Xkyc (Brainerd 1953), or Loltun (Robles 1997), contained a wider range of vessel forms, which were encountered fragmented, and in secondary context

While we have documented many caves within the CRAS study area (Normark 2003, 2008; Shaw 2004), we had yet to make any systematic exploration of their interiors, and so do not yet know how many contain water or artifacts related to their use. Five caves were selected for mapping and surface collection. These include Xtojil, Santa Cruz, Yo'aktun, Huay Max, and Santa Rosa. These are some of the larger caves within the study area, and have either demonstrated or attested water sources within them. Surface collections in these contexts will not only enable us to assign a period for which they were used, but

also the shapes of the ceramics will indicate what types of activities were conducted within the caves. It is expected that caves that were exploited as water sources will have their ceramics concentrated in areas closest to water pools, and that the range of vessel forms will be limited to those suitable for carrying water such as jars.

Aktun Xtojil

Aktun Xtojil is surrounded by the prehistoric settlement of the same name. A short drop connects to a 6-m-long horizontal passage. This connects to the top of a large dome with a 13-m vertical drop to the floor of this large chamber. A debris cone is in the center of the chamber, with a large stone cube atop the cone. Two passages lead down from the chamber one to the southeast, and another to the northwest. The latter reportedly ends in a pool of water. Owing to the distance from the cave entrance to the top of the dome, we were unable to employ a pulley to access the floor of the dome, or the more distant passages, and so were unable to determine if the cave was used in antiquity. Our local informants claimed that access in times past was via a log with a series of notches cut on one side. We did not have sufficient manpower to fell, shape and transport such an improvised ladder.

Aktun Santa Cruz

Aktun Santa Cruz is likewise surrounded by prehistoric settlement. A large solution feature has at its base a 1-m diameter hole that opens into the top of a large dome. The roots of a fig tree pass through this hole 11 m to the floor of the dome, and provide modern access during the dry season. We employed a pulley to lower ourselves and our equipment to the dome floor. The floor of the dome is largely artifact-free.

Two passages lead off from the dome. The first, on the eastern side, descends to a small chamber. This chamber is likewise devoid of surface artifacts, but tool marks on the chamber wall suggest that this may have been used as a *sascabera*, or lime powder mine. The second passage is located on the west side of the dome and higher than the first passage. It is nearly sealed from the dome by the construction of a dry laid masonry wall with a doorway in its center (Figure 304). The passage slopes sharply downwards from the wall. A stairway of uncut stones descends this slope, reaching a horizontal passage that permits one to walk erect. At intervals along this passage are concentrations of slateware jar fragments (Figure 305).

The end of the high portion of the horizontal chamber is decorated with a collection of charcoal pictographs (Normark 2003). These seem to be of relatively recent origin, as the bear Spanish names. It is possible that the cave served as a refuge during the Caste War. In addition to the pictographs, we located some finely incised petroglyphs that may date to earlier periods. From this point. The lowered ceiling require those passing beyond to crouch. To permit easier passage, people in the past amplified the passage height by removing some of the sediment to the side and creating a path. At the end of



Figure 304. Aktun Santa Cruz, Dry-Laid Wall



Figure 305. Aktun Santa Cruz, Slateware Jar Fragments

this passage is a small pool containing fish, suggesting that it is connected to a larger drainage system. No sherds were located in this area.

Yo'aktun

Like the previous caves, Yo'aktun is surrounded by prehistoric settlement. The entrance is on the north face of a collapse feature (*rejollada*). It was originally mapped in 2004 (Shaw 2004). After a restricted opening, the cave opens up to a passageway that runs for 130 m until it encounters a pool containing water. For most of this distance, it is possible to walk upright. Shaw noted a dearth of sherds in the cave in 2004. The cave was revisited this season, to see if this was indeed the case, and this was confirmed on reinspection.

Aktun Huay Max

The majority of this season's cave efforts were concentrated on Aktun Huay Max (Figure 298). I had visited this cave informally in 2000, and I noted sherds and architectural elements within the cave at that time. Unlike the previous three caves, there was no settlement nearby. Two entrances in the ceiling of a dome give access to the cave. Calcium carbonate deposited around a tree root has formed a column in the center of the dome. A 1-m-high terrace between the column and the north wall acts as a retaining wall keeping sediment from choking the entrance to the main passage (Figure 306). Stairs south of the column lead to the passage entrance.

The entrance to the passage is extremely cramped, and can only be accessed by crawling. The passage slopes steeply down. Today water seeps are located just inside the entrance. At the bottom of the slope there is a dry laid retaining wall that runs for a distance of 3 m. This wall appears to have been built in order to permit easier access to deeper parts of the cave. Martos (1997:193) suggests a similar dry laid wall in a cave from Rancho Ina functions as a symbolic entrance to the principal gallery.

Beyond the retaining wall lies the main chamber. It is sufficiently high to permit one to walk upright. Another column divides the space, behind which is the entrance to a lower passage. The main chamber is the focus of cultural activity. There is one location along the south face where some sediment has been removed, or pushed aside. It is difficult to say if this was an example of clay mining (Andrews 1970:15; Rissolo 2006:518; Uc 2006). Some concentrations of ceramics were noted. None give the appearance of resulting from the breakage of single vessels.

The lower passage is exceedingly low and narrow, and it is impossible to stand at any point of its length. At 33 m in length, the passage is mercifully short, at terminates at a small pool of water. No cultural remains were observed either in or near the pool.

Beyond the lower passage, the main chamber continues at approximately the same elevation for a distance of 75 m, at which point there is an abrupt drop off. From this point, the cave splits into two passages. A short distance to the southeast, a passage leads down to a chamber containing two pools. No

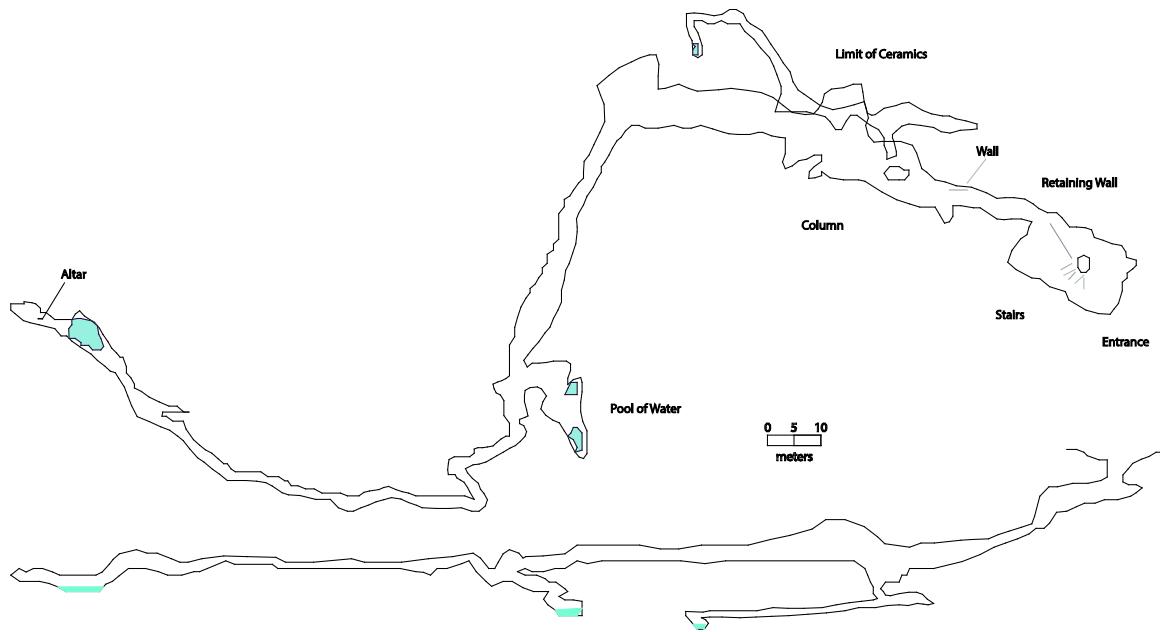


Figure 306. Map of Huay Max Cave



Figure 307. Aktun Huay Max, Retaining Wall

cultural material was observed either in or near these pools. To the west, a low passage continues 70 m to a fourth pool. This is the largest encountered in the cave, but it is only 1.5 m deep. Like Aktun Santa Cruz, there is a concentration of graffiti drawn on the walls with charcoal. These appear much more recent, and are dominated by proclamations of love. Interestingly, beyond the pool are two boxlike altars constructed of dry-laid, uncut slabs. No sherds were observed in or near the pool or the altars (Figure 308).

Three lots of ceramics were collected from Actun Huay Max. Sherds dating to the Middle Formative, Late Formative, and Terminal Classic periods were identified. Those of the Formative periods displayed a wide range of vessel forms, while that later period was almost exclusively jars.

Aktun Santa Rosa

Located in the southern portion of Saban *ejido*, Aktun Santa Rosa was similar to Aktun Huay Max, in that no settlement surrounded the cave, or for a long distance up to it. The cave maintains a fairly constant slope throughout, except for a drop immediately above the pool located at the end. The entrance is very low, requiring one to crawl on one's belly to enter. The ceiling clearance gradually increases as one moves into the cave such that it is possible to walk upright for the last third of its length. While many bats inhabit this cave, the water in its tiny pool is crystal clear. With the exception of a single sherd located near the pool, no cultural remains were observed in this cave.

Summary

Given the small sample of caves visited this season, there was surprising diversity in the archaeological signature (Table 32).

Table 32. Caves Examined During the 2012 Field Season

<u>Aktun</u>	<u>Water</u>	<u>Settlement</u>	<u>Architecture</u>	<u>Ceramics</u>
Xtojil	?	+	?	?
Santa Cruz	+	+	+	+
Yo'aktun	+	+	-	-
Huay Max	+	-	+	+
Santa Rosa	+	-	-	-

Only some of the sites had associated settlement surrounding them. Presumably, these populations could have exploited the caves as a water source as the need arose. Others are more distant from populations centers. Aktun Santa Rosa is nearly equidistant from Yo'okop, Fortin, and Yaxche (approximately 3 km). Aktun Huay Max is 2.5 km away from Gruta de Alux, and Huay Max. While the former was apparently not visited in antiquity with any frequency, the latter was the locus of cultural activity for a long period of time. It is difficult to imagine that people would have made the trek from one of these sites to Aktun Huay Max on a regular basis.



Figure 308. Altar in Huay Max Cave

The degree to which the caves were modified with architecture was also quite variable. These investments in improvements to these caves include terraces, stairs, retaining walls, pathways and altars. With the exception of the altars, these improvements either make the caves more accessible, or direct traffic within the caves.

Only two of the caves had any significant ceramic deposits within them. Shaw (2004:145) suggested that the paucity of sherds at Yo'aktun might be a product of their being buried by bat guano. While it is impossible to test this hypothesis without excavation, it should be noted that the other cave without sherds also contains a large bat colony, and thick guano deposits. The sherds are not located in those areas where one would expect routine drawing of water to result in occasional breakage; near the pools themselves. At Huay Max, the sherds are restricted to the first third of the cave, and are absent from deeper passages. In fact the sherds in both Huay Max and Santa Rosa are concentrated in the most public areas of the cave, where individuals might stand, or congregate. This would tend to rule out the use of the cave as a water source for daily consumption. The forms of the sherds themselves, being largely jars, are what one might expect if gathering water might have been one of the primary activities in the cave. This is in contrast to the ceramic assemblages from Loltun, (Robles 1997), or Xpuhil (Tec 2007:236) where basins are the most common forms. Since the Maya were not drawing water from the pools, the only other source of water is that obtainable from ceiling drip. While this source is potable, it is insufficient to supply the daily needs for even a single family. These drips are located close to the cave entrances, in the parts of the cave closest to the surface. Presently these same drips are used by local *h-men* (shaman) to collect *zuhuy ha* ("virgin" water) for their rituals- especially those connected to the *cha chac* (rain ceremony). It is tempting to think that these kinds of behaviors had ancient antecedents.

Part 5: Summary and Analysis

Chapter 50: Conclusions

Dave Johnstone

The 2012 field season had three components: water, settlement, and sacbeob (roadways). The first dealt with the question of how the Maya adapted to a seasonal water deficit in a land without surface water sources like lakes or rivers. The second research component examined site planning and organization. The third component was aimed at determining the dating of a pair of roads.

Water Resources

Our research efforts focused on both natural water sources (caves), as well as cultural sources (shaft and walk-in wells). Logistical difficulties limited our exploration of caves to just four caves. While all contained water, only two showed evidence of sustained cultural exploitation, principally during the Terminal Classic period. Moyes et al. (2009) have suggested that in Belize this period was one of intensification of cave use associated with a "drought cult". Ethnohistorically, these rituals of maintenance correlate with agriculturally high risk (Freidel and Shaw 2000). Our sample is too small to suggest a similar phenomenon in the Cochuah region, but we can rule out the systematic use of caves as sources of water, given the distribution of ceramics within the caves. Our attempts to date the construction of the wells in our research area were frustrated by inaccessibility, and the unfinished nature of one of the wells selected. At present, the timing of the construction of these features remains an open question. Likewise, our efforts to define and date the *bukte* (walk-in well) at Chakal Ja'as were met with mixed results. While we did expose a deeper section of the feature, a lined bottom was not encountered. As the overwhelming majority of the ceramics throughout the fill dated to the Terminal Classic period, it is likely, but not definitive that the feature dates to this time. Collectively, we can say that while some efforts were likely made to construct artificial features to access the water table during the Terminal Classic, caves were not used to extract water directly. Instead it is likely that ritual uses were a means to invoke more consistent rains. At Santa Cruz there is associated settlement surrounding the site during the Terminal Classic period, while at Aktun Huay Max, there is no associate settlement nearby the cave.

Settlement Systems

Mapping during the 2010 field season showed a number of sites shared a characteristic plan with a series of residential platforms informally arranged around a plaza, associated with a small nearby pyramid. Excavations at Xtojil, Ramonal Oriente, and Yaxche showed that this settlement plan did date to the Terminal Classic period. As these sites were either newly founded, or reoccupied following a long hiatus, this plan is one that has its origins in the Terminal Classic. Interestingly, our mapping this season of the southern portion of the site of San Felipe revealed that while the plaza there dated to the Terminal Classic, the associated platforms there had a very formal arrangement, with no nearby pyramid. Clearly the informal plaza is not the only

architectural plan displayed during the Terminal Classic. Sites that display the more formal planning appear to be limited to rank one (Yo'okop, Ichmul) or rank two (Sacalaca, Yopila, San Felipe) sites.

Sacbeob

The intrasite sacbe at San Felipe connects the more formal southern portion of the site with the less formal northern portion. The area in between is used today for animal husbandry, but in the past was probably reserved for agriculture. It is difficult to date a feature that is not directly tested; however, the Terminal Classic ceramics recovered from adjacent to the road suggest that it might have been constructed during that period. This is consistent with all of the other roads within the study area for which we have data (Shaw 2008). At Yo'okop, we focused attention on an intrasite road (Sacbe 2). Like San Felipe, we did not directly sample the feature itself, with a series of units located in disturbed areas, or to one side of the *sacbe*. These units were less revealing than that from San Felipe, and add little to our understanding of the feature, or its construction history.

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