SUSITNA HYDROELECTRIC PROJECT

FEDERAL ENERGY REGULATORY COMMISSION
PROJECT No. 7114

DRAFT

CULTURAL RESOURCES INVESTIGATIONS 1979-1985

VOLUME III
APPENDIX D (PART 1)

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APPENDIX D (PART 1)

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Appendix D - Historic and Archeological Sites Documented as Part of the Cultural Resources Survey

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D.1 - Introduction

Archeological fieldwork carried out between 1980 and 1984, in conjunction with the Susitna Hydroelectric Project, resulted in the recording and testing of 253 sites (including five previously known in the area) by University of Alaska Museum personnel. Reports for these sites and 17 others, which are located in areas associated with project features and facilities and documented in the Office of History and Archaeology files, are presented herein. Site reports for the 18 historic and 252 prehistoric sites (26 with multiple loci) are arranged in numerical order by their Alaska Heritage Resources Survey (AHRS) number. Site designations beginning with TLM (those sites falling within Talkeetna Mts. quadrangle) precede sites beginning with HEA (Healy quadrangle), FAI (Fairbanks quadrangle), and TYO (Tyone quadrangle).

Table D.1 provides an inventory of the historic/prehistoric status, level of testing, and map references for all sites documented as part of the cultural resources survey. Excluding the 17 sites recorded in the Office of History and Archaeology, survey level testing was undertaken at 190 of the sites, and systematic testing at 63 sites. A determination of estimated site size, as presented in Table D.2, was made on the basis of this testing. The 182 survey locales defined and examined in the course of fieldwork are listed in Table D.3, along with their associated sites.

References for the location of each site are presented as the heading of each site report, as well as on tables D.1 and D.3. Survey locale or site location maps and USGS quadangle maps on which the sites are plotted appear in Appendix E. A verbal description of site location by aliquot, latitude and longitude, and UTM designations is presented in Appendix F. Both of these appendices are bound separately and, due to

the sensitive nature of the information presented, are restricted in distribution.

The format for each site report differs depending on the level of testing the site received. Sites documented only in the AHRS files, but not visited or tested by University of Alaska Museum personnel, are brief. They include only the locational references and a site description based on the AHRS site report. Sites tested by Museum personnel are described in more detail. Reports for sites that were survey tested include locational references, sections on site setting and testing, a site map, and a summary of all cultural material collected. The setting section presents information on vegetation, topography, and proximity of the site to streams, lakes, or rivers. The testing section describes the number and placement of shovel tests and test pits, as well as the cultural material collected from them. The metric system is used for all measurements except those taken at historic sites. Because stratigraphic information is usually not available for survey level sites, artifact proveniences in the summary table are listed only as surface or subsurface, and are arranged in sequential order by scatter, shovel test, or test pit number. Artifacts found at each locus are presented separately in the artifact summary table.

The reports for the 63 systematically tested sites are more comprehensive and lengthy than survey level reports. Since fieldwork and data collection were more intensive at systematically tested sites, additional narrative sections, figures, and tables were required in these reports. The narrative includes a discussion section in which the stratigraphy, cultural components, and radiocarbon dating for the site are described. Some site reports present more detailed discussions of the lithic technology or faunal assemblage than others, when the data warrant it. Interpretation of cultural affiliation, chronological placement, and possible site activities are made in the evaluation section of the narrative. Figures include a site map (or maps if there are multiple site loci) and a composite profile of the stratigraphy. Soil/sediment designations on the composite profile are site specific

and do not necessarily correspond to the regional geoarcheological designations presented in Table 8.1 of this report. Each soil/sediment unit is described in a table which immediately follows the composite profile. Other tables which appear in the reports for systematically tested sites are an artifact summary, an inventory of faunal material (if present) by stratigraphic unit, and an inventory of lithic material by stratigraphic unit.

In all tables, cultural remains are listed by frequency, not by weight. Lithic specimens are described by raw material type and by morphological classification, but only tools are referenced by catalogue number. Approximate counts, i.e., figures preceded by "ca.," are occassionally listed when the number of flakes runs into the hundreds or thousands. Flakes less that 1/8" in size and flakes that were left uncollected on surface exposures are listed separately in the lithic inventories. In the case of the latter, raw material type is not listed as it could not be verified in the laboratory. Cobbles or rock fragments are inventoried in artifact summaries when these specimens clearly represent material brought onto the site by human activity, and not deposited naturally.

In faunal tables, specimens are listed by count, taxa, and presence or absence of burning. Approximate counts are sometimes given when the bone fragment lot is very large. Whenever possible, specimens are identified by skeletal element and by species. Specimens that are unidentifiable on the species level are classified according to the next higher level of identifiability, i.e., genus, family, order, or class. Fragments only identifiable as medium-large mammal indicate a range comparable to animals the size of dog to a moose. The degree of burning is described as either burned (slightly discolored), heavily burned (charred), or calcined (white and chalky in appearance). Any cultural modifications that may appear on a faunal specimen, such as butchery marks or evidence of tool manufacture, are also listed in the faunal tables.

The maps which accompany site reports were drafted differently depending on the level of testing the site received, and the size of the site. In most cases, survey level maps are free hand renditions, drawn only with the aid of a compass. The north arrow on these maps indicates true north. A transit and stadia rod were used in mapping large survey level sites that were to be grid shovel tested and in mapping all systematically tested sites. These maps are more accurate in topographic detail than the free hand maps, and also indicate north by both grid and magnetic north arrows. All test squares, test pits, and shovel tests which produced artifacts are depicted on the site maps. Culturally sterile shovel tests are also included, with the exception of those that fall outside the boundaries of the site map. With few exceptions, maps for all loci of a site are provided. Loci which contain an isolated artifact are occasionally not mapped.

Table D.1.

Historic/Prehistoric Status, Level of Testing, and Figure References for Sites Documented as Part of Cultural Resources Survey

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad[d]	Figure
TLM 005 (H)	AHRS	NA		D-6	E.19
TLM 006 (H)	AHRS	NA		D-6	E.19
TLM 007 (P)	AHRS	NA		C-4	E.5
TLM 009 (P)	AHRS	NA		C-1	E.8
TLM 015 (P)	SU	NA	E.245	D-4	E.2
TLM 016 (P)	SY	NA	E.244	D-3	E.3
TLM 017 (P)	SY	NA	E.248	D-4	E.2
TLM 018 (P)	SY	NA	E.249	D-4	E.2
TLM 020 (H)	SU	NA		D-5	E.1
TLM 021 (P)	SU	NA	E.48	C-2	E.7
TLM 022 (P)	SY	E	E.283	D-4	E.2
TLM 023 (H)	SU	E	E.283	D-4	E.2
TLM 024 (P)	SU	NA	E.282	D-4	E.2
TLM 025 (P)	SU	NA	E.49	D-3	E.3
TLM 026 (P)	SU	45	E.123	C-1	E.8
TLM 027 (P)	SY	14	E.90	D-4	E.2
TLM 028 (P)	SU	NA	E.50	C-1	E.8
TLM 029 (P)	SY	14	E.90	D-4	E.2
TLM 030 (P)	SY	13	E.89	D-4	E.2
TLM 031 (P)	SU	30	E.107	D-3	E.3
TLM 032 (P)	SU	30	E.107	D-3	E.3
TLM 033 (P)	SY	31	E.108	D-3	E.3
TLM 034 (P)	SY	11	E.87	D-4	E.2
TLM 035 (P)	SU	NA	E.283	D-4	E.2

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 036 (P)	SU	30	E.107	D-2	E.4
TLM 037 (P)	SU	30	E.107	D-3	E.3
TLM 038 (P)	SY	26	E.102	D-3	E.3
TLM 039 (P)	SY	27	E.103	D-3	E.3
TLM 040 (P)	SY	29	E.105	D-3	E.3
TLM 041 (P)	SU	NA	E.51	D-4	E.2
TLM 042 (P)	SY	45	E.123	C-1	E.8
TLM 043 (P)	SY	21	E.98	D-3	E.3
TLM 044 (P)	SU	30	E.107	D-2	E.4
TLM 045 (P)	SU	30	E.107	D-2	E.4
TLM 046 (P)	SY	30	E.107	D-2	E.4
TLM 047 (P)	SU	34	E.111	C-2	E.7
TLM 048 (P)	SY	27	E.103	D-3	E.3
TLM 049 (P)	SU	48	E.126	C-1	E.8
TLM 050 (P)	SY	29a	E.106	D-3	E.3
TLM 051 (P)	SU	151	E.245	D-4	E.2
TLM 052 (P)	SU	51	E.129	D-2	E.4
TLM 053 (P)	SU	51	E.130	D-2	E.4
TLM 054 (P)	SU	C	E.276	D-4	E.2
TLM 055 (P)	SY	C	E.277	D-4	E.2
TLM 056 (H)	SU	C	E.277	D-4	E.2
TLM 057 (P)	SU	NA	E.52	D-3	E.3
TLM 058 (P)	SY	21	E.98	D-3	E.3
TLM 059 (P)	SY	69	E.145	D-3	E.3
TLM 060 (P)	SY	68	E.144	D-3	E.3
TLM 061 (P)	SY	68	E.144	D-3	E.3
TLM 062 (P)	SY	78	E.152	D-3	E.3

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 063 (P)	SY	55	E.134	D-3	E.3
TLM 064 (P)	SY	72	E.147	D-3	E.3
TLM 065 (P)	SY	85	E.159	D-2	E.4
TLM 066 (P)	SU	NA	E.53	D-3	E.3
TLM 067 (P)	SU	NA	E.54	B-1	E.10
TLM 068 (P)	SU	NA	E.55	C-4	E.5
TLM 069 (P)	SY	91	E.164	D-2	E.4
TLM 070 (P)	SU	NA	E.55	C-4	E.5
TLM 071 (H)	SU	NA	E.206	C-2	E.7
TLM 072 (P)	SU	88	E.162	D-2	E.4
TLM 073 (P)	SY	103	E.174	C-1	E.8
TLM 074 (P)	SU	107	E.177	C-1	E.8
TLM 075 (P)	SU	89	E.163	D-2	E.4
TLM 076 (P)	SU	107	E.177	C-1	E.8
TLM 077 (P)	SY	84	E.158	D-2	E.4
TLM 078 (P)	SU	C	E.275	D-4	E.2
TLM 079 (H)	SU	33	E.110	D-2	E.4
TLM 080 (H)	SU	55	E.134	D-3	E.3
TLM 081 (P)	SU	C	E.276	D-4	E.2
TLM 082 (P)	SU	NA	E.56	B-2	E.9
TLM 083 (P)	SU	NA	E.275	D-4	E.2
TLM 084 (P)	SU	C	E.275	D-4	E.2
TLM 085 (P)	SU	C	E.275	D-4	E.2
TLM 086 (P)	SU	C	E.276	D-4	E.2
TLM 087 (P)	SU	C	E.275	D-4	E.2
TLM 088 (P)	SU	C	E.276	D-4	E.2
TLM 089 (P)	SU	NA	E.276	D-4	E.2

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 090 (P)	SU	NA	E.276	D-4	E.2
TLM 091 (P)	SU	NA	E.277	D-4	E.2
TLM 092 (P)	SU	NA	E.57	D-4	E.2
TLM 093 (P)	SU	NA	E.57	D-4	E.2
TLM 094 (P)	SU	C	E.275	D-4	E.2
TLM 095 (P)	SU	C	C.275	D-4	E.2
TLM 096 (P)	SU	C	E.275	D-4	E.2
TLM 097 (P)	SY	C	E.276	D-4	E.2
TLM 098 (P)	SU	NA	E.58	D-3	E.3
TLM 099 (P)	SU	NA	E.58	D-3	E.3
TLM 100 (P)	SU	NA	E.59	C-2	E.7
TLM 101 (P)	SU	NA	E.60	D-5	E.1
TLM 102 (P)	SY	77	E.151	D-3	E.3
TLM 103 (P)	SU	NA	E.60	D-5	E.1
TLM 104 (P)	SY	22	E.99	D-3	E.3
TLM 105 (P)	SU	NA	E.59	C-2	E.7
TLM 106 (P)	SU	NA	E.61	D-4	E.2
TLM 107 (P)	SU	NA	E.61	D-4	E.2
TLM 108 (P)	SU	NA	E.62	D-4	E.2
TLM 109 (P)	SU	NA	E.62	D-4	E.2
TLM 110 (P)	SU	NA	E.62	D-4	E.2
TLM 111 (P)	SU	NA	E.62	D-4	E.2
TLM 112 (P)	SU	NA	E.62	D-4	E.2
TLM 113 (P)	SU	NA	E.60	D-5	E.1
TLM 114 (P)	SU	NA	E.60	D-5	E.1
TLM 115 (P)	SY	121	E.192	D-2	E.4

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 116 (P)	SU	NA	E.63	D-3	E.3
TLM 117 (P)	SU	NA	E.58	D-3	E.3
TLM 118 (P)	SU	111	E.181	D-5	E.1
TLM 119 (P)	SY	118	E.189	D-3	E.3
TLM 120 (P)	SU	116	E.186	D-3	E.3
TLM 121 (P)	SU	116	E.186	D-3	E.3
TLM 122 (P)	SU	125	E.197	D-3	E.3
TLM 123 (P)	SU	125	E.198	D-3	E.3
TLM 124 (P)	SU	125	E.198	D-3	E.3
TLM 125 (P)	SU	116	E.186	D-3	E.3
TLM 126 (P)	SY	130	E.207	D-3	E.3
TLM 127 (P)	SU	116	E.187	D-3	E.3
TLM 128 (P)	SY	127	E.201	D-2	E.4
TLM 129 (P)	SU	125	E.198	D-3	E.3
TLM 130 (P)	SY	125	E.198	D-3	E.3
TLM 131 (P)	SU	125	E.198	D-3	E.3
TLM 132 (P)	SU	116	E.186	D-3	E.3
TLM 133 (P)	SU	125	E.198	D-3	E.3
TLM 134 (P)	SU	127	E.201	D-2	E.4
TLM 135 (P)	SU	127	E.201	D-2	E.4
TLM 136 (P)	SU	127	E.200	D-2	E.4
TLM 137 (P)	SU	153	E.248	D-4	E.2
TLM 138 (P)	SU	127	E.200	D-2	E.4
TLM 139 (P)	SU	127	E.200	D-2	E.4
TLM 140 (P)	SU	127	E.200	D-2	E.4
TLM 141 (P)	SU	127	E.202	D-2	E.4
TLM 142 (P)	SU	127	E.202	D-2	E.4

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 143 (P)	SY	127	E.200	D-2	E.4
TLM 144 (P)	SU	127	E.200	D-2	E.4
TLM 145 (P)	SU	127	E.202	D-2	E.4
TLM 146 (P)	SU	131	E.208	D-2	E.4
TLM 147 (P)	SU	127	E.202	D-2	E.4
TLM 148 (P)	SU	127	E.202	D-2	E.4
TLM 149 (P)	SU	131	E.208	D-2	E.4
TLM 150 (P)	SU	131	E.208	D-2	E.4
TLM 151 (P)	SU	131	E.208	D-2	E.4
TLM 152 (P)	SU	131	E.208	D-2	E.4
TLM 153 (P)	SU	NA	E.63	D-3	E.3
TLM 154 (P)	SU	131	E.208	D-2	E.4
TLM 155 (P)	SU	NA	E.64	D-3	E.3
TLM 159 (P)	SU	136	E.217	D-3	E.3
TLM 160 (P)	SU	151	E.245	D-4	E.2
TLM 164 (P)	SU	151	E.245	D-4	E.2
TLM 165 (P)	SU	153	E.249	D-4	E.2
TLM 166 (P)	SU	153	E.249	D-4	E.2
TLM 167 (P)	SU	153	E.248	D-4	E.2
TLM 168 (P)	SU	NA	E.64	D-3	E.3
TLM 169 (P)	SY	144b	E.233	D-3	E.3
TLM 170 (P)	SU	150	E.243	D-3	E.3
TLM 171 (P)	SY	134	E.214	D-3	E.3
TLM 172 (P)	SU	152	E.247	D-4	E.2
TLM 173 (P)	SY	159	E.255	C-1	E.8
TLM 174 (P)	SY	144a	E.232	D-3	E.3
TLM 175 (P)	SY	27	E.103	D-3	E.3

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 176 (P)	SU	F	E.278	D-4	E.2
TLM 177 (P)	SY	133	E.211	D-3	E.3
TLM 178 (H)	SU	155	E.251	D-4	E.2
TLM 179 (P)	SU	129	E.205	C-2	E.7
TLM 180 (P)	SY	153	E.248	D-4	E.2
TLM 181 (P)	SU	150	E.243	D-3	E.3
TLM 182 (P)	SY	128	E.204	C-2	E.7
TLM 183 (P)	SU	122	E.193	C-2	E.7
TLM 184 (P)	SY	138	E.221	D-3	E.3
TLM 185 (P)	SU	124	E.196	C-1	E.8
TLM 186 (P)	SU	129	E.204	C-2	E.7
TLM 187 (P)	SU	128	E.206	C-2	E.7
TLM 188 (P)	SU	F	E.279	D-4	E.2
TLM 189 (P)	SU	124	E.195	C-1	E.8
TLM 190 (P)	SU	124	E.195	C-1	E.8
TLM 191 (P)	SU	150	E.243	D-3	E.3
TLM 192 (P)	SU	152	E.247	D-4	E.2
TLM 193 (P)	SU	150	E.243	D-3	E.3
TLM 194 (P)	SY	80	E.154	D-2	E.4
TLM 195 (P)	SU	142	E.228	D-3	E.3
TLM 196 (P)	SU	123	E.194	C-1	E.8
TLM 197 (P)	SU	150	E.243	D-3	E.3
TLM 198 (P)	SU	141	E.227	D-3	E.3
TLM 199 (P)	SY	22	E.99	D-3	E.3
TLM 200 (P)	SY	22	E.99	D-3	E.3
TLM 201 (P)	SU	C	E.277	D-4	E.2
TLM 202 (P)	SU	F	E.278	D-4	E.2

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 203 (P)	SU	F	E.278	D-4	E.2
TLM 204 (H)	SU	157	E.253	C-2	E.7
TLM 205 (P)	SU	NA	E.65	D-2	E.4
TLM 206 (P)	SY	124	E.195	C-1	E.8
TLM 207 (P)	SY	124	E.195	C-1	E.8
TLM 208 (P)	SU	NA	E.66	C-3	E.6
TLM 209 (P)	SU	F	E.277	D-4	E.2
TLM 210 (P)	SU	F	E.277	D-4	E.2
TLM 211 (P)	SU	C	E.277	D-4	E.2
TLM 212 (H)	SU	F	E.279	D-4	E.2
TLM 213 (P)	SU	C	E.277	D-4	E.2
TLM 214 (P)	SU	F	E.278	D-4	E.2
TLM 215 (P)	SY	138	E.221	D-3	E.3
TLM 216 (P)	SY	138	E.221	D-3	E.3
TLM 217 (P)	SY	145	E.234	D-3	E.3
TLM 218 (P)	SU	143	E.231	D-3	E.3
TLM 219 (P)	SU	143	E.231	D-3	E.3
TLM 220 (P)	SY	138	E.221	D-3	E.3
TLM 221 (P)	SY	138	E.221	D-3	E.3
TLM 222 (P)	SU	138	E.221	D-3	E.3
TLM 223 (P)	SU	138	E.221	D-3	E.3
TLM 224 (P)	SU	138	E.221	D-3	E.3
TLM 225 (P)	SY	138	E.221	D-3	E.3
TLM 226 (P)	SY	138	E.221	D-3	E.3
TLM 227 (P)	SU	138	E.222	D-3	E.3
TLM 228 (P)	SU	138	E.221	D-3	E.3

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 229 (P)	SY	22	E.99	D-3	E.3
TLM 230 (P)	SY	22	E.99	D-3	E.3
TLM 231 (P)	SU	138	E.221	D-3	E.3
TLM 232 (P)	SU	33	E.110	D-2	E.4
TLM 233 (P)	SU	21	E.98	D-3	E.3
TLM 234 (P)	SU	138	E.221	D-3	E.3
TLM 235 (P)	SU	138	E.221	D-3	E.3
TLM 236 (P)	SU	138	E.221	D-3	E.3
TLM 237 (P)	SU	138	E.221	D-3	E.3
TLM 238 (P)	SU	83	E.158	D-2	E.4
TLM 239 (P)	SU	83	E.158	D-2	E.4
TLM 240 (P)	SU	33	E.110	D-2	E.4
TLM 241 (P)	SU	84	E.158	D-2	E.4
TLM 242 (P)	SU	84	E.158	D-2	E.4
TLM 243 (P)	SU	138	E.221	D-3	E.3
TLM 244 (P)	SU	138	E.221	D-3	E.3
TLM 245 (P)	SU	150	E.243	D-3	E.3
TLM 246 (P)	SU	33	E.110	D-2	E.4
TLM 247 (P)	SU	33	E.110	D-2	E.4
TLM 248 (H)	SU	33	E.110	D-2	E.4
TLM 249 (P)	SU	33	E.110	D-2	E.4
TLM 250 (P)	SU	33	E.110	D-2	E.4
TLM 251 (P)	SY	159	E.255	C-1	E.8
TLM 252 (P)	SU	7	E.83	D-4	E.2
TLM 253 (P)	SU	7	E.83	D-4	E.2
TLM 256 (P)	SU	178	E.155	D-2	E.4
TLM 257 (P)	SU	22	E.99	D-3	E.3

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	USGS Map Figure
TLM 258 (P)	SU	E	E.282	D-4	E.2
TLM 259 (P)	SU	175	E.270	D-4	E.2
HEA 007 (P)	AHRS	NA		D-5	E.37
HEA 012 (P)	AHRS	NA		D-5	E.37
HEA 033 (P)	AHRS	NA		D-5	E.37
HEA 035 (P)	AHRS	NA		D-5	E.37
HEA 038 (P)	AHRS	NA		D-5	E.37
HEA 081 (H)	AHRS	NA		D-4	E.38
HEA 091 (H)	AHRS	NA		D-5	E.37
HEA 137 (P)	AHRS	NA		D-5	E.37
HEA 174 (P)	SU	NA	E.67	A-3	E.11
HEA 175 (P)	SY	NA	E.68	A-2	E.12
HEA 176 (P)	SU	NA	E.67	A-3	E.11
HEA 177 (P)	SU	NA	E.69	A-2	E.12
HEA 178 (P)	SU	NA	E.70	A-2	E.12
HEA 179 (P)	SU	NA	E.70	A-2	E.12
HEA 180 (P)	SU	NA	E.58	A-3	E.11
HEA 181 (P)	SU	NA	E.71	A-3	E.11
HEA 182 (P)	SU	NA	E.71	A-3	E.11
HEA 183 (P)	SU	NA	E.58	A-3	E.11
HEA 184 (P)	SU	NA	E.58	A-3	E.11
HEA 185 (P)	SU	NA	E.58	A-3	E.11
HEA 186 (P)	SU	NA	E.72	A-3	E.11
HEA 210 (P)	SU	NA	E.73	D-4	E.38
HEA 211 (P)	SU	NA	E.74	A-3	E.11
FAI 070 (H)	AHRS	NA		A-5	E.36
FAI 089 (H)	AHRS	NA		A-5	E.36

Table D.1. (Continued)

AHRS Number[a]	Level of Testing[b]	Survey Locale Number[c]	Survey Locale or Site Location	USGS Map Quad	Figure
FAI 090 (H)	AHRS	NA		A-5	E.36
FAI 169 (H)	AHRS	NA		A-5	E.36
FAI 213 (P)	SU	NA	E.75	A-5	E.36
FAI 214 (P)	SU	NA	E.76	A-5	E.36
TYO 014 (P)	AHRS	NA		D-1	E.42

a. The (H) or (P) following site number indicates historic or prehistoric.

b. AHRS - sites reported in the files of the Alaska Office of History and Archaeology; SU - Survey Testing, SY - Systematic Testing

c. Letters indicate borrow area designations which were not duplicated with survey locale numbers. Sites are listed in association with locale surveyed when site was found, and therefore may not always fall within the boundaries of that survey locale. NA denotes sites not found in conjunction with survey locales or borrow areas.

d. The names for quad maps are not listed, however the first three letters of the site designation indicate the quad name. TLM sites are on the Talkeetna Mts. quad maps; HEA sites are on Healy quad maps; FAI sites are on Fairbanks quad maps; the TYO site is on a Tyonek quad map.

Table D.2.

Observed/Estimated Site Size

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 005	AHRS	
TLM 006	AHRS	
TLM 007	AHRS	
TLM 009	AHRS	
TLM 015		4
TLM 016	79	
TLM 017	6	
TLM 018	171	
TLM 020		4
TLM 021		(233)*
Locus A		200
Locus B		25
Locus C		8
TLM 022	57	
TLM 023		90
TLM 024	8	
TLM 025		140
TLM 026	75	
TLM 027	105	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 028		(8)
Locus A		4
Locus B		4
TLM 029	31	
TLM 030	2,571	
TLM 031		4
TLM 032		54
TLM 033	4	
TLM 034	6	
TLM 035		42
TLM 036		4
TLM 037		4
TLM 038		63
TLM 039	75	
TLM 040	144	
TLM 041		4
TLM 042	(156)	
Locus A	65	
Locus B	91	
TLM 043	40	
TLM 044		7,000
TLM 045		1,050
TLM 046		4,400

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 047		30
TLM 048		50
TLM 049		4
TLM 050	51	
TLM 051		4
TLM 052		8,000
TLM 053		(52)
Locus A		48
Locus B		4
TLM 054	4	
TLM 055	8	
TLM 056		225
TLM 057		30
TLM 058	4	
TLM 059	41	
TLM 060	15	
TLM 061	21	
TLM 062		384
TLM 063	15	
TLM 064		
Locus A		4
Locus B	9	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 065	(552)	
Locus A	524	
Locus B	4	
Locus C	24	
TLM 066		300
TLM 067		2,625
TLM 068		1,350
TLM 069		225
TLM 070		16
TLM 071		960
TLM 072	28	
TLM 073	9	
TLM 074		10
TLM 075	8	
TLM 076		(53)
Locus A		45
Locus B		4
Locus C		4
TLM 077	46	
TLM 078	39	
TLM 079		2,100
TLM 080		36
TLM 081	4	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 082	(17)	
Locus A	4	
Locus B	13	
TLM 083	4	
TLM 084	12	
TLM 085	4	
TLM 086	4	
TLM 087	28	
TLM 088	4	
TLM 089		375
TLM 090		4
TLM 091		(8)
Locus A		4
Locus B		4
TLM 092		4
TLM 093		30
TLM 094	20	
TLM 095	8	
TLM 096	4	
TLM 097	185	
TLM 098		4

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 099		(26)
Locus A		10
Locus B		16
TLM 100		(4,280)
Locus A		4,200
Locus B		80
TLM 101	8	
TLM 102	8	
TLM 103	14	
TLM 104	24	
TLM 105		150
TLM 106	4	
TLM 107	84	
TLM 108	270	
TLM 109	13	
TLM 110	52	
TLM 111	4	
TLM 112		15
TLM 113	5	
TLM 114	17	
TLM 115	4	
TLM 116		4

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 117		200
TLM 118		4
TLM 119	44	
TLM 120		9
TLM 121		4
TLM 122		4
TLM 123		75
TLM 124		2,250
TLM 125		4
TLM 126	17	
TLM 127		4
TLM 128		600
TLM 129		(154)
Locus A		150
Locus B		4
TLM 130		12
TLM 131		4
TLM 132		4
TLM 133		4
TLM 134		4
TLM 135		32
TLM 136		6
TLM 137	4	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 138		4
TLM 139		4
TLM 140		800
TLM 141		25
TLM 142		4
TLM 143	844	
TLM 144		288
TLM 145		12
TLM 146		4
TLM 147		4
TLM 148		4
TLM 149		4
TLM 150		4
TLM 151		4
TLM 152		4
TLM 153	16	
TLM 154		400
TLM 155		16
TLM 159		4
TLM 160		4
TLM 164		4
TLM 165	16	
TLM 166	37	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 167	4	
TLM 168		4
TLM 169	45	
TLM 170		20
TLM 171	9	
TLM 172	4	
TLM 173	(48)	
Locus A	4	
Locus B	28	
Locus C	16	
TLM 174	9	
TLM 175	34	
TLM 176	4	
TLM 177	4	
TLM 178		150
TLM 179		6
TLM 180		42
TLM 181		4
TLM 182	4	
TLM 183		4
TLM 184	93	
TLM 185		100
TLM 186		35

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 187		16
TLM 188	4	
TLM 189		300
TLM 190		12
TLM 191		4
TLM 192		4
TLM 193		4
TLM 194	9	
TLM 195		4
TLM 196	4	
TLM 197		4
TLM 198		4
TLM 199	46	
TLM 200	4	
TLM 201	43	
TLM 202	4	
TLM 203	40	
TLM 204		4,900
TLM 205		4
TLM 206	15	
TLM 207	35	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 208		(4,211)
Locus A		4,200
Locus B		6
Locus C		5
TLM 209	24	
TLM 210	8	
TLM 211	4	
TLM 212		96
TLM 213	4	
TLM 214	(16)	
Locus A	4	
Locus B	12	
TLM 215	52	
TLM 216	27	
TLM 217	22	
TLM 218		(16)
Locus A		12
Locus B		4
TLM 219		20
TLM 220	145	
TLM 221	28	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 222	(662)	
Locus A	87	
Locus B	531	
Locus C	4	
Locus D	36	
Locus E	4	
TLM 223	40	
TLM 224	16	
TLM 225	31	
TLM 226	(170)	
Locus A	58	
Locus B	32	
Locus C	16	
Locus D	16	
Locus E	32	
Locus F	16	
TLM 227	4	
TLM 228	4	
TLM 229	24	
TLM 230	66	
TLM 231	19	
TLM 232	439	
TLM 233	4	

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 234	(160)	
Locus A	104	
Locus B	56	
TLM 235	(71)	
Locus A	12	
Locus B	26	
Locus C	33	
TLM 236	30	
TLM 237	4	
TLM 238	26	
TLM 239	12	
TLM 240	314	
TLM 241	4	
TLM 242	49	
TLM 243	4	
TLM 244	4	
TLM 245		4
TLM 246	4	
TLM 247	592	
TLM 248		25

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
TLM 249	24	
TLM 250		4
TLM 251	17	
TLM 252	25	
TLM 253	4	
TLM 256	6	
TLM 257	4	
TLM 258	12	
TLM 259		123
HEA 007	AHRS	
HEA 012	AHRS	
HEA 033	AHRS	
HEA 035	AHRS	
HEA 038	AHRS	
HEA 081	AHRS	
HEA 091	AHRS	
HEA 137	AHRS	
HEA 174		2,000
HEA 175		5,000
HEA 176		(304)
Locus A		300
Locus B		4

Table D.2. (Continued)

	Observed site size based on distribution of artifacts, features and grid shovel testing (m^2)	Estimated site size based on distribution of artifacts, and features (m^2)
HEA 177		(13)
Locus A		4
Locus B		5
Locus C		4
HEA 178		18
HEA 179		4
HEA 180		1,003
HEA 181	34	
HEA 182	16	
HEA 183		4
HEA 184		4
HEA 185		8
HEA 186		600
HEA 210		8
HEA 211	20	
FAI 070	AHRS	
FAI 089	AHRS	
FAI 090	AHRS	
FAI 169	AHRS	
FAI 213		100
FAI 214		4
TYO 014	AHRS	

* Number in parentheses indicates sum of all loci.

Table D.3.

Survey Locales Examined as Part of Cultural Resources Survey

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
1	E.77	D-5		
2	E.78	D-5		
4	E.79	D-5		
4a	E.80	D-5		
5	E.81	D-4		
		D-5		
6	E.82	D-4		
7	E.83	D-4	2	TLM 252, TLM 253
8	E.84	D-4		
9	E.85	D-4		
10	E.86	D-4		
11	E.87	D-4	1	TLM 034
12	E.88	D-4		
13	E.89	D-4	1	TLM 030
14	E.90	D-4	2	TLM 027, TLM 029
15	E.91	D-4		
16	E.92	D-4		
17	E.93	D-4		
18	E.94	D-3		
19	E.95	D-3		
20	E.96	D-3		
20a	E.97	D-3		
21	E.98	D-3	3	TLM 043, TLM 058, TLM 233
22	E.99	D-3	6	TLM 104, TLM 199, TLM 200, TLM 229, TLM 230, TLM 257

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
23	E.100	D-3		
24	E.101	D-3		
26	E.102	D-3	1	TLM 038
27	E.103	D-3	3	TLM 039, TLM 048, TLM 175
28	E.104	D-3		
29	E.105	D-3	1	TLM 040
29a	E.106	D-3	1	TLM 050
30	E.107	D-2 D-3	7	TLM 031, TLM 032, TLM 036, TLM 037, TLM 044, TLM 045, TLM 046
31	E.108	D-2 D-3	1	TLM 033
31a	E.109	D-3		
32	E.155	D-2		
33	E.110	D-2	8	TLM 079, TLM 232, TLM 240, TLM 246, TLM 247, TLM 248, TLM 249, TLM 250
34	E.111	C-2	1	TLM 047
35	E.112	C-2		
36	E.113	C-2		
37	E.114	C-2		
38	E.115	C-2		
39	E.116	C-2		
40	E.117	C-2		
41	E.118	C-1		
41a	E.119	C-1		
43	E.120	C-1		

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
44	E.121	C-1		
	E.122			
45	E.123	C-1	2	TLM 026, TLM 042
	E.124			
46	E.125	C-1		
47	E.125	C-1		
48	E.126	C-1	1	TLM 049
49	E.127	C-1		
50	E.128	C-1		
51	E.129	D-2	2	TLM 052, TLM 053
	E.130			
52	E.131	D-5		
53	E.132	D-5		
54	E.133	D-5		
55	E.134	D-3	2	TLM 063, TLM 080
57	E.135	D-5		
59	E.136	D-4		
60	E.137	D-4		
61	E.138	D-4		
63	E.139	D-4		
64	E.140	D-4		
65	E.140	D-4		
66	E.94	D-3		
66a	E.141	D-3		
66b	E.141	D-3		
66c	E.142	D-3		
66d	E.142	D-3		
67	E.143	D-3		

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
68	E.144	D-3	2	TLM 060, TLM 061
69	E.145	D-3	1	TLM 059
70	E.146	D-3		
71	E.103	D-3		
72	E.147	D-3	1	TLM 064
73	E.148	D-3		
74	E.149	D-3		
75	E.105	D-3		
76	E.150	D-3		
77	E.151	D-3	1	TLM 102
78	E.152	D-3	1	TLM 062
79	E.153	D-2		
80	E.154	D-2	1	TLM 194
	E.155			
81	E.156	D-2		
82	E.157	D-2		
83	E.158	D-2	2	TLM 238, TLM 239
84	E.158	D-2	3	TLM 077, TLM 241, TLM 242
85	E.159	D-2	1	TLM 065
	E.160			
86	E.161	D-2		
87	E.160	D-2		
88	E.162	D-2	1	TLM 072
89	E.163	D-2	1	TLM 075
90	E.163	D-2		
91	E.164	D-2	1	TLM 069
92	E.165	D-2		
93	E.166	D-2		

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
94	E.167	D-2		
95	E.168	C-2		
96	E.168	C-2		
97	E.169	C-2		
97a	E.170	C-2		
99	E.171	C-1		
100	E.172	C-1		
101	E.171	C-1		
102	E.173	C-1		
103	E.174	C-1	1	TLM 073
104	E.175	C-1		
106	E.176	C-1		
107	E.177	C-1	2	TLM 074, TLM 076
108	E.178	C-1		
109	E.179	D-2		
110	E.180	D-2		
111	E.181	D-5	1	TLM 118
112	E.182	D-4		
113	E.183	D-4		
114	E.184	D-3		
115	E.185	D-3		
116	E.186	D-3	5	TLM 120, TLM 121, TLM 125,
	E.187			TLM 127, TLM 132
117	E.188	D-3		
118	E.189	D-3	1	TLM 119
119	E.190	D-3		
120	E.191	D-3		
121	E.192	D-2	1	TLM 115

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
122	E.193	C-2	1	TLM 183
123	E.194	C-1	1	TLM 196
124	E.195 E.196	C-1	5	TLM 185, TLM 189, TLM 190, TLM 206, TLM 207
125	E.197 E.198	D-3	7	TLM 122, TLM 123, TLM 124, TLM 129, TLM 130, TLM 131, TLM 133
126	E.199	D-4		
127	E.200 E.201 E.202	D-2	14	TLM 128, TLM 134, TLM 135, TLM 136, TLM 138, TLM 139, TLM 140, TLM 141, TLM 142, TLM 143, TLM 144, TLM 145, TLM 147, TLM 148
128	E.204 E.205 E.206	C-2	2	TLM 182, TLM 187
129	E.203 E.204 E.205 E.206	C-2 D-2	2	TLM 179, TLM 186
130	E.207	D-3	1	TLM 126
131	E.208	D-2	6	TLM 146, TLM 149, TLM 150, TLM 151, TLM 152, TLM 154

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
132	E.209	D-3		
	E.210			
133	E.211	D-3	1	TLM 177
	E.212			
134	E.213	D-3	1	TLM 171
	E.214			
135	E.215	D-3		
	E.216			
136	E.217	D-3	1	TLM 159
	E.218			
137	E.219	D-3		
138	E.220	D-3	19	TLM 184, TLM 215, TLM 216,
	E.221			TLM 220, TLM 221, TLM 222,
	E.222			TLM 223, TLM 224, TLM 225,
				TLM 226, TLM 227, TLM 228,
				TLM 231, TLM 234, TLM 235,
				TLM 236, TLM 237, TLM 243,
				TLM 244
139	E.223	D-3		
140	E.224	D-3		
	E.225			
141	E.226	D-3	1	TLM 198
	E.227			
142	E.228	D-3	1	TLM 195
	E.229			
143	E.230	D-3	2	TLM 218, TLM 219
	E.231			
144a	E.232	D-3	1	TLM 174

Table D.3 (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
144b	E.233	D-3	1	TLM 169
145	E.234	D-3	1	TLM 217
	E.235			
146	E.236	D-3		
	E.237			
	E.238			
147	E.239	D-3		
	E.240			
148	E.241	D-3		
149	E.242	D-3		
150	E.243	D-3	6	TLM 170, TLM 181, TLM 191,
	E.244	D-4		TLM 193, TLM 197, TLM 245
151	E.245	D-4	3	TLM 051, TLM 160, TLM 164
152	E.246	D-4	2	TLM 172, TLM 192
	E.247			
153	E.248	D-4	5	TLM 137, TLM 165,
	E.249			TLM 166, TLM 167,
				TLM 180
154	E.250	D-5		
155	E.251	D-5	1	TLM 178
156	E.252	D-4		
157	E.253	C-2	1	TLM 204
158	E.254	C-1		
159	E.255	C-1	2	TLM 173, TLM 251
160	E.256	C-1		
161	E.257	D-5		

Table D.3. (Continued)

Survey Locale	Survey Locale Map	USGS Map[a]	Number of Sites	AHRS Numbers[b]
162	E.82	D-4		
163	E.258	D-4		
164	E.259	D-3		
165	E.260	D-3		
166	E.261	D-2		
167	E.262	D-3		
168	E.263	D-3		
169	E.264	D-3		
170	E.265	D-2		
171	E.266	C-2		
172	E.267	D-5		
173	E.268	D-5		
174	E.269	D-5		
175	E.270	D-4	1	TLM 259
176	E.271	D-3		
178	E.155	D-2	1	TLM 256
179	E.272	C-1		

a. All sites are within the Talkeetna Mts. quadrangle.

b. Sites are listed in association with locale surveyed when site was found, and therefore may not always fall within the boundaries of that survey locale.

D.2 - Site Reports

AHRS Number TLM 005

Area:	South of Gold Creek Mouth
Location:	Proposed Railroad Route
USGS Map:	Talkeetna Mts. D-6, Figure E.19
Site Location:	Appendix F

Description:

TLM 005 is located south of the confluence of Gold Creek with the Susitna River. This historic site is known as the Gold Creek station which was organized in 1920 or 1921 for the construction of the Susitna River Bridge.

A new section house was constructed in the late 1930's and was reconstructed with a full basement in 1967 (AHRS files). There is a photograph of the station in Brovald (1982:70).

AHRS Number TLM 006

Area:	Gold Creek Mouth
Location:	Proposed Railroad Route
USGS Map:	Talkeetna Mts. D-6, Figure E.19
Site Location:	Appendix F

Description:

TLM 006 is the Susitna River Bridge along the Alaska Railroad at the confluence of Gold Creek with the Susitna River. This steel railroad bridge was fabricated by the American Bridge Company and installed in 1920, during the construction of the Alaska Railroad. The bridge consists of 11 bents with one 504-foot through truss, three 70-foot through girders, six 14-foot wood trestles, and two 70-foot trestle approaches. Repairs since the original construction include casing and new concrete tops on the piers and ties and the replacement of guard rail (AHRS files).

AHRS Number TLM 007

Area: Stephan Lake Outlet
USGS Map: Talkeetna Mts. C-4, Figure E.5
Site Location: Appendix F

Description:

TLM 007 is located at the west end of Stephan Lake near its outlet. The latitude and longitude coordinates reported by West in 1971, place the site on the south side of the outlet creek (AHRS files). West reported that artifacts were exposed on the surface and limited testing revealed a multicomponent occupation at the site. Chert artifacts and charcoal were collected, and West reported a date of 6000 years B.P. for the site. This site was not visited during the present study. Although this site was not visited during the present study, it is included because of its historical significance in being the first site excavated in close proximity to the project area.

AHRS Number TLM 009

Area:	Reported to be at the Tyone River Mouth
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Description:

TLM 009 was recorded in the AHRS files in 1979 on the basis of a literature review. It is described as the "stick village" at the mouth of the Tyone River in existence in 1903 when Monahan and McLaren ascended the Susitna (AHRS files). However, the files also indicate that the site location is somewhat unreliable.

In June, 1953, Ivar Skarland visited the Tyone River mouth in an attempt to locate the "stick village". He states, "A reported old campsite at the river junction (Tyone-Susitna) was not found, and I believe the reference was erroneous and perhaps pertained to the Tyone River-Tyone Creek junction where an ancient village is located. However, a large log cache was located at the junction of the rivers" (Skarland 1953:5).

In 1980 and 1981, the mouth of the Tyone River was revisited. Alder and willow thickets characterized the vegetation in the locale. Both the north and south sides of the Tyone River mouth were surveyed. Evidence of a modern fish camp was found on the north side of the Tyone River mouth. No evidence of cultural remains was found on the south side, although such remains were noted on the 1953 Susitna Archaeological Survey map (Skarland 1953). Since the confluence of the Tyone Creek with the Tyone River is outside of the project area, this location was not investigated.

AHRS Number TLM 015; Accession Number UA78-65

Area:	Northeast of Tsusena Creek Mouth
Survey Locale 151:	Figure E.245
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site, at an elevation of approximately 639 m asl (2275 feet), is located southeast of proposed Borrow Area F east of Tsusena Creek and north of the Susitna River. Situated on ice-stagnation terrain characterized by kettle and kame topography, the site is located at the top of a kame with large kettle lakes to the north, west, and south. A low ridge extends from this knoll toward the southwest and terminates in a lower knoll. Numerous other knolls and ridges and over 20 kettle lakes lie within a 1 km radius of the site. The site is located on a high point of relief and the view from the site is unrestricted, encompassing a radius of ca. 1.6 km of accessible terrain including portions of five kettle lakes to the north, northeast, west, and south. These lakes are between 10-30 m lower than the site and are all easily accessible from it. Much of the area between the lakes is poorly drained muskeg and marsh. The numerous ridges and knolls in the vicinity provide natural travel routes and vantage points overlooking the lakes and ponds. The lakes in the vicinity of the site vary from 1-18 ha in size. Many of the lakes are interconnected by their outlet and inlet streams. A lake southwest of the site has an outlet to Tsusena Creek. Tsusena Creek, which lies northwest of the site, is approximately 90 m lower in elevation and is not in view. Vegetation at the site consists primarily of shrub birch, lowbush cranberry, blueberry, Labrador tea, moss, and lichen. Dense stands of black spruce are present at lower elevations especially around the lake margins. Site TLM 051, situated near the top of a slightly higher kame, is in a similar topographic context.

Testing:

This site was identified during a preliminary reconnaissance conducted in 1978 prior to the establishment of Watana Camp (Bacon 1978b). It was revisited during the 1980 survey in order to check locational data and environmental information. No further testing was done at the site although three previously excavated test pits on the lower knoll approximately 200 m southwest of the site were reopened in an attempt to determine the provenience of the cultural material reported by Bacon. No cultural material was observed in these tests or during surface reconnaissance in the area. Initially it was assumed that the site location was on the lower knoll where the test pits were found and it was not until after the field season that it was learned that the site was located on the higher of the two knolls as indicated on the original site map (Bacon, personal communication). Intensive surface reconnaissance on the higher knoll failed to identify earlier testing at that location. Bacon (1978b) reports that subsurface testing at the site produced two flakes from different soil units in a single test and suggests that the site is multicomponent. One flake was recovered at a depth of 34 cmbs associated with a dark brown/black loess unit and a second flake was recovered between 34 and 49 cmbs associated with an orange sandy silt with pebble intrusion (Bacon 1978b:22) (Table D.4). Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.4.

Artifact Summary, TLM 015

Provenience		Description
Lithic Material		
Subsurface:	2	Basalt flakes

AHRS Number TLM 016; Accession Numbers UA78-66, UA83-132, UA84-143

Area:	Northwest of Deadman Creek Mouth
Site Map:	Figure D.1
	Square Placement, Figure D.2
Survey Locale 150:	Figure E.244
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

Located at an elevation of 739 m asl (altimeter: 2425 feet) approximately 1.5 km east of TLM 015, TLM 016 is located in the area of kettle and kame topography bordered to the west and east by Tsusena and Deadman creeks, respectively, and to the south by the Susitna River. The site is situated at the top of a relatively low, rounded kame which is the highest point of relief within a 600 m radius. A 1978 Corps of Engineers Survey Monument (WA 16 1978) is located on the knoll at the site location. This knoll slopes very gradually eastward, blending into the relatively flat terrain in that direction. The slope is steepest to the west where it approaches an angle of 15-20 degrees. To the northwest the slope is more gradual and several relatively flat benches occur, possibly a result of solifluction. The view from the top of the knoll is panoramic but the principal view is to the west and north encompassing portions of four lakes. These lakes vary in distance from 150 m to 1.5 km from the site and in size from 1-14 ha. A marsh, which appears to formerly have been a small pond 30-40 m in diameter, lies approximately 50 m to the southwest of the site. Deadman Creek, the closest creek to the site, lies to the east but is not visible. Like Tsusena Creek, Deadman Creek is deeply incised in a bedrock canyon with at least one major waterfall prior to its confluence with the Susitna River southeast of the site. Access to both of these creeks, the Susitna River, and the kettle lakes in the vicinity is across low, poorly drained tundra which is best traversed by staying on the knolls and low ridge systems that comprise the higher ground. Site vegetation

consists primarily of tundra, shrub birch, and willow but includes dwarf birch, lowbush cranberry, crowberry, blueberry, Labrador tea, and lichen. Shrub birch and willow are denser on the slopes of the knoll and lower elevations contain stands of black spruce and muskeg especially in the vicinity of the lakes.

Testing:

Surface and subsurface cultural material at this site was identified by Bacon (1978b). The site was initially identified by the presence of flakes exposed in a blowout at the top of the knoll next to a Corps of Engineers Monument (WA 16 1978). Six basalt and argillite flakes were collected by Bacon from this blowout. He excavated a total of five tests in the immediate vicinity of the surface exposure, three of which contained artifactual material. It was not possible to identify which of the five tests correspond to test pits 1, 2, or 5; therefore letter designations were employed for the reexcavated tests. Subsurface testing revealed a 1 cm thick concentration of charcoal at 16.5 cmbs in test pit 1. Forty bone fragments were excavated in association with the charcoal and three charcoal samples were collected, one of which was submitted for radiometric dating. A radiocarbon determination of 3675 ± 160 years: 1725 B.C. (GX-5630) was obtained from the sample (Bacon 1978b:24). In addition to the bone, six flakes were excavated from test pit 1 between 7.5 and 17.5 cmbs and were associated both with the charcoal stained level and with an overlying gray-brown loess level (Bacon 1978b:24). Two other tests in the site vicinity produced cultural material in 1978. Test pit 2 produced a notched pebble (UA78-66-3) and test pit 5 produced six flakes (Bacon 1978b: 26, 38). The inventory of material collected by Bacon from surface and subsurface testing included 18 flakes, 1 notched pebble, and 40 bone fragments.

Systematic testing at TLM 016 consisted of the excavation of four 1 x 1 m test squares. Three of the squares were located in the immediate vicinity of a surface erosional feature where a series of tests were excavated in 1978 (Bacon 1978b). The squares were positioned in a checkerboard pattern in order to intersect test A and test B

(designations given to two of Bacon's tests). It was not until the upper units had been excavated in three of the test squares that the outlines of the three remaining tests excavated in 1978 could be defined. The position of the 1 x 1 m test squares was such that all three of the contiguous squares incorporated tests from subsurface testing conducted in 1978. These tests were designated tests C, D, and E. The subsurface outlines of these tests were easily defined due to the mixed appearance of backfill matrix within the tests. The backfill matrix was excavated and screened separately from the undisturbed area. The provenience of the artifactual material recovered during testing in 1978 from the relocated tests is unknown.

An additional square was positioned 4 m southeast of the three contiguous squares. Excavation of this square was intended to address questions regarding site extent. The goals of systematic testing at TLM 016 were to determine stratigraphic position, content, and extent of the occupation reported by Bacon (1978b), as well as to obtain additional information regarding the occupation thought to be associated with the contact between the Watana and Oshetna tephras. Additional testing at the site included four shovel tests placed north and east of the excavation area.

A grid shovel testing program was undertaken, around the area of the systematic test squares, to assist in determining the site size and the distribution of cultural material. Forty-four grid shovel tests were excavated, three of which yielded cultural remains. Shovel test 1 contained three chalcedony flakes, shovel test 2 produced a basalt biface fragment (UA84-143-2; Figure D.362a), and shovel test 3 yielded three basalt flakes.

Discussion:

The results of systematic excavation confirmed the presence of a single component at the site, as reported by Bacon (1978b). All four of the test squares contained artifactual material at the stratigraphic level associated with charcoal and charcoal-stained matrix (unit 4, Figure

D.3). The systematic and grid shovel testing inventory included 10 tools or tool fragments, 143 pieces of lithic debitage, and 341 bone fragments. The collection of artifacts is summarized in Table D.6, and their distribution by stratigraphic unit appears in Table D.8.

Stratigraphy at the site consisted of ca. 12-22 cm of soil/sediments underlain by glacial material (Figure D.3; Table D.5). Six different units were defined. Three units represent at least three sedimentary sequences of volcanic tephra deposition. The tephras have been defined at other sites in the project area on the basis of petrographic laboratory work. The identification of these tephras in the field was based primarily on color distinctions between the stratigraphic units. The tephra designations are as follows: Devil (unit 2), Watana (unit 3), and Oshetna (unit 5). Some of the observed variation in color between units, and within units, may also be the result of soil forming processes. Unit 2 may represent an eluvial horizon, and unit 3a, which is the upper portion of the Watana tephra, is stained a dark reddish brown color.

Disturbance of the stratigraphic units as a result of natural processes such as cryoturbation, rodent burrowing, and root invasion was apparent. Rodent disturbance was particularly common in the area of the 1978 tests suggesting that this disturbance took place after the excavation of these tests.

The surface of the site is covered with a well-established organic layer, unit 1a, with a well-formed and networked root mat underlain by finely sorted organic material, unit 1b. In the area of the 1978 tests some surface disturbance was evident, as well as in an erosional area.

Between the Watana and Oshetna tephras a layer of charcoal-stained matrix with charcoal pieces has been identified (unit 4). The charcoal does not form a discrete layer, but rather appears to be partially mixed with the Oshetna tephra (unit 5). The charcoal layer may represent a paleosol that formed after the deposition of the Oshetna tephra. Due to the acidic nature of boreal soils, leaching of the finely sorted organic

fraction of the paleosol may have occurred leaving the charcoal, which is chemically inert, as all that remains of the surface. Lack of continuity of the unit 4 surface may be the result of erosion after occupation.

The cultural component at TLM 016 can be correlated to the charcoal-stained matrix (unit 4) with artifactual material being frequently found at the upper contact of and within the unit. Lithic artifacts consisting primarily of basalt flakes were recovered from all four of the test squares in association with this stratigraphic level. Small bone fragments were also collected, but these occurred in only two of the test squares, N100/E99 and N101/E100.

A total of 101 lithics were collected from unit 4 during systematic testing. The size range of the lithic material varies from cobble fragments of 4-7 cm to small, less than 1 cm flakes. With the exception of one chalcedony flake and four argillite flakes, the lithic material in unit 4 is basalt. Variation was evident in the spatial distribution of lithic debitage in terms of both quantity and size range. While N98/E105 had the highest flake count, 51 flakes, the lithic debitage, with the exception of one flake, is 2.5 cm or less along the longest axis. In contrast, only 12 lithics were recovered from N99/E100, consisting primarily of basalt flakes in the 2.5-5 cm size range. Basalt flakes collected from N100/E99 and N101/E100 include a size range from 0.5-5 cm. Bacon's 1978 excavations yielded 2 argillite and 4 basalt flakes on the surface and 2 argillite, 16 basalt flakes and a notched pebble (UA78-66-3) in what has been defined during systematic testing as unit 4. During the grid shovel testing program, three chalcedony flakes were recovered from unit 4.

Nine tools were recovered during systematic testing (Table D.6). Two of these tools were found while reexcavating the portion of test B intersected during systematic testing. Even though these two artifacts were not found in situ, it is probable that they are from the single component identified at the site. Seven tools and tool fragments were found in unit 4 during the excavation of the test squares. These

include 1 basalt modified flake (UA83-132-50; Figure D.362b), 1 basalt biface fragment (UA83-132-73), and 5 basalt flakes core fragments (UA83-132-40, 41, 42, 43, 45; Figure D.362e, f). The modified flake is triangular in shape with unifacial retouch on the ventral surface of the distal end. The biface fragment has been hinge fractured. All of the flake cores are less than 5 cm in size and their attributes suggest that the original cobbles were subangular to rounded with a weathered cortex. Tools from the disturbed context consist of a chert endscraper (UA83-132-6; Figure D.362c) and an argillite modified flake (UA83-132-127; Figure D.362d). The endscraper has steep unifacial retouch on the dorsal face of the convex distal end. Retouch does not extend onto the lateral margins. The modified flake is tabular in shape with continuous unifacial retouch along one of the edges.

Additional lithic artifacts collected during systematic testing include 7 flakes from various stratigraphic levels, 3 flakes located on the surface, and 22 flakes in disturbed contexts. The raw material type is characteristically basalt with the exception of 1 argillite flake, 1 chalcedony, and 1 chert flake. Artifactual material located on the surface and in stratigraphic levels other than unit 4 appears to have been displaced from unit 4 due to natural processes, testing conducted in 1978, or during systematic excavation. The distribution of material in other levels does not provide sufficient evidence for defining an additional component at the site.

Faunal material collected during systematic testing included 341 specimens, four of which were identifiable (Table D.7). Identified bone material included an ulna, sternum fragment and tarsometatarsus of ptarmigan (Lagopus sp.), and a possible ulna fragment which has been identified as probable caribou (Rangifer tarandus). The remaining material consisted of burned bone fragments of medium-large mammal. All of the faunal material were burned with the exception of the ptarmigan bone. Bacon's 1978 excavations yielded 40 bone fragments, only one of which was tentatively identified as a caribou rib fragment.

Faunal material was collected from two of the test squares, N100/E99 and N101/E100. Almost half of the material, 146 specimens, was located in disturbed contexts, i.e., in rodent burrows and the backfill of test E. The remaining material, with the exception of nine fragments, was located within unit 4 and unit 6a. Bone located in unit 6a may be due to postdepositional disturbance. The stratigraphic position of three ptarmigan bones (unit 1a, unit 2, and backfill of test E) suggests that this material is unrelated to the component associated with unit 4.

Five charcoal samples were collected from the site. All were collected from unit 4. Two of the samples were submitted for radiocarbon dating. These two samples were collected from a concentration of charcoal in N99/E100 and produced dates of 4950 ± 120 years: 3000 B.C. (Beta-7298), and 3220 ± 90 years: 1270 B.C. (Beta-7299). In addition to these dates is the date of 3675 ± 160 years: 1725 B.C. (GX-5630; Bacon 1978) which came from the sample submitted in 1978. The dates provide a range of 1730 years for the charcoal level. The range could possibly support the idea that the charcoal is not necessarily cultural in origin, but associated with a surface that was exposed during the interim between the Oshetna and Watana tephra depositions. While cultural charcoal may be included with the charcoal within unit 4, it may be impossible to distinguish from charcoal resulting from noncultural events. Although the charcoal samples presumably do not provide exact radiocarbon determinations for the cultural component, they probably date the geologic surface associated with the occupation.

Evaluation:

TLM 016 is located on a kame in an area of ice-stagnation topography. While the kame is not readily distinguished from others in the vicinity, it is the highest point of topographic relief in the immediate area and provides a panoramic view, including portions of four lakes to the north and west. The location of the site, in conjunction with the artifact assemblage, suggests that the site functioned as a hunting overlook and/or a campsite.

A single component is suggested at the site based on the homogeneity of lithic material and because the cultural material is situated stratigraphically in a charcoal layer between the Watana and Oshetna tephras. During excavation, most of the cultural material was found at the upper contact of and within the charcoal level. The level may represent a paleosol that developed during the interim between the tephra depositions. Absence of finely sorted organic material may be the result of leaching leaving only the chemically inert charcoal.

Evidence that this surface was exposed for a long period of time is reflected in the range of radiocarbon dates. Three dates ranged from 3000 B.C. to 1725 B.C., with an inclusive range of 1730 years. The range supports the idea that the charcoal may not necessarily be cultural in origin but may have accumulated as the result of natural processes during the interval between the Watana and Oshetna ashfalls.

Artifacts consisting primarily of basalt debitage and faunal material were recovered. Argillite, chalcedony, and chert are present, but occur infrequently, representing only 9% of the total lithic assemblage. The distribution and types of lithic debitage at the site suggest that various stages of lithic reduction occurred in different areas of the site. The spatial differences in lithic distribution are equally as likely to be the result of different occupations at the site.

While only a single prehistoric component appears to be represented at the site, further excavation could address more accurately the question of spatial variation. Two of the tools collected, a black chert endscraper (UA83-132-6) and a notched pebble (UA78-66-3), in conjunction with the dating of the stratigraphic position of the artifactual material, suggests that the component be ascribed to the Northern Archaic tradition. Collection of additional diagnostic artifacts, is necessary to substantiate this affiliation. Observed site size based on the distribution of artifacts is 79 square meters (Table D.2).

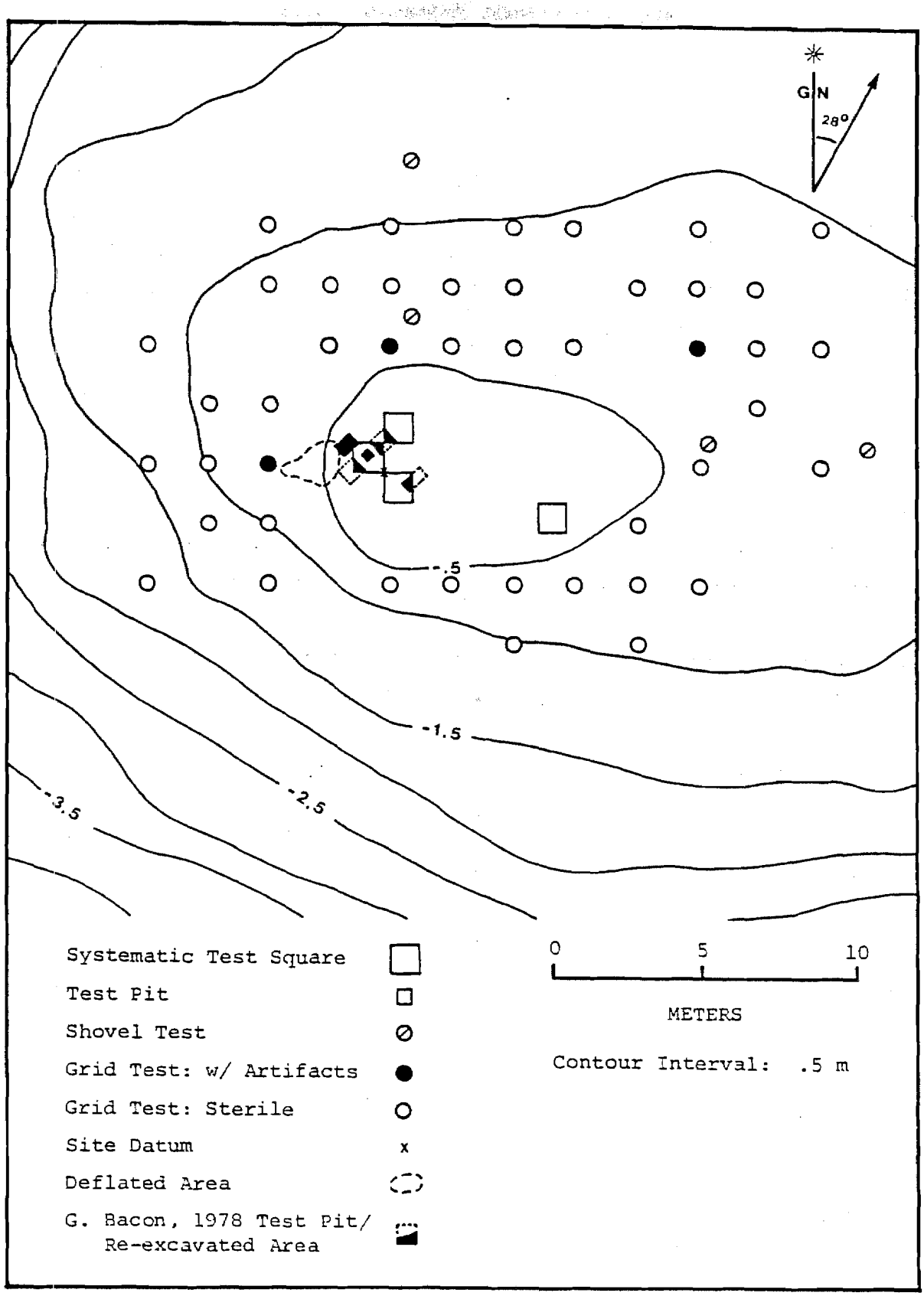

Figure D.1. Site Map, TLM 016

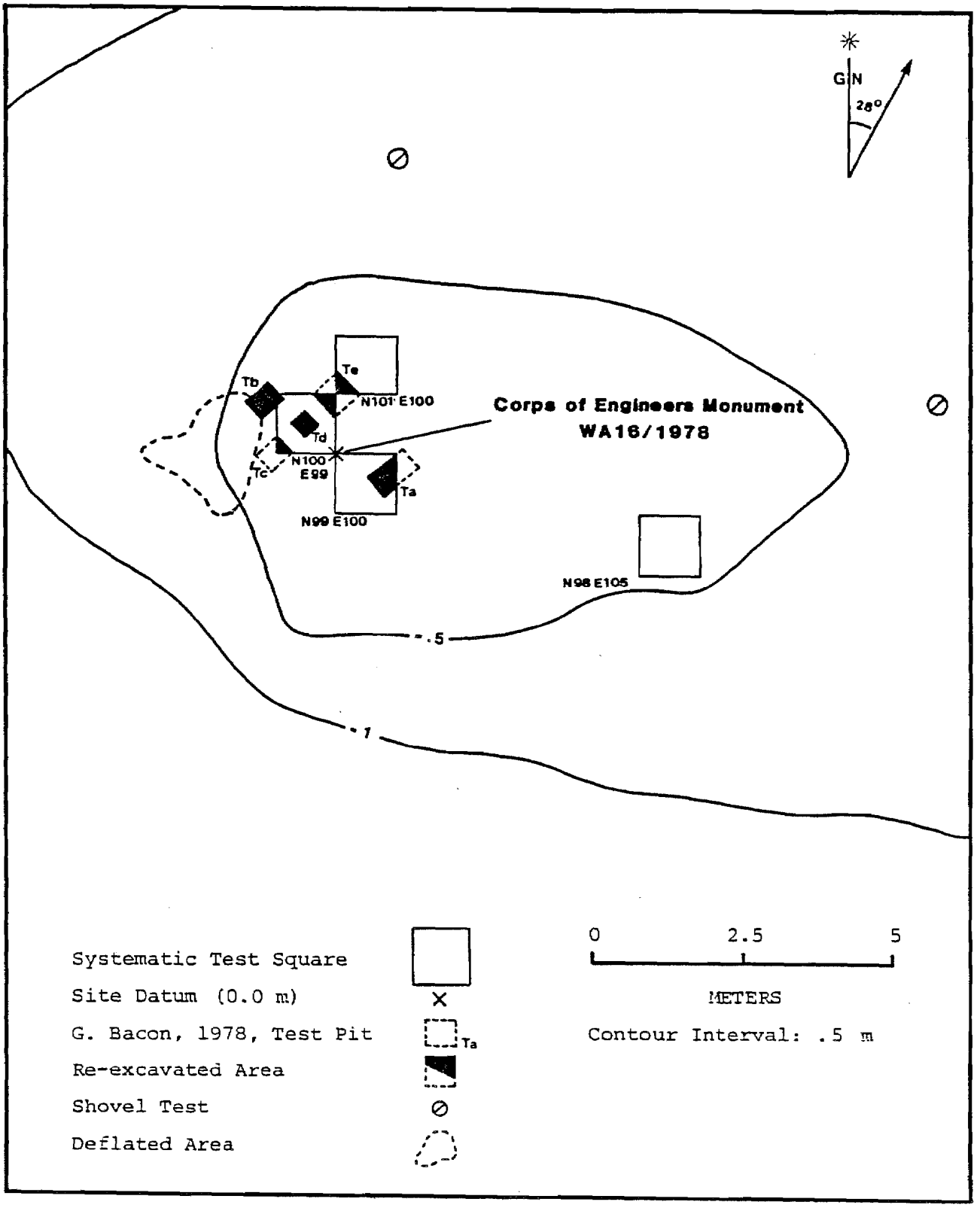

Figure D.2. Square Placement, TLM 016

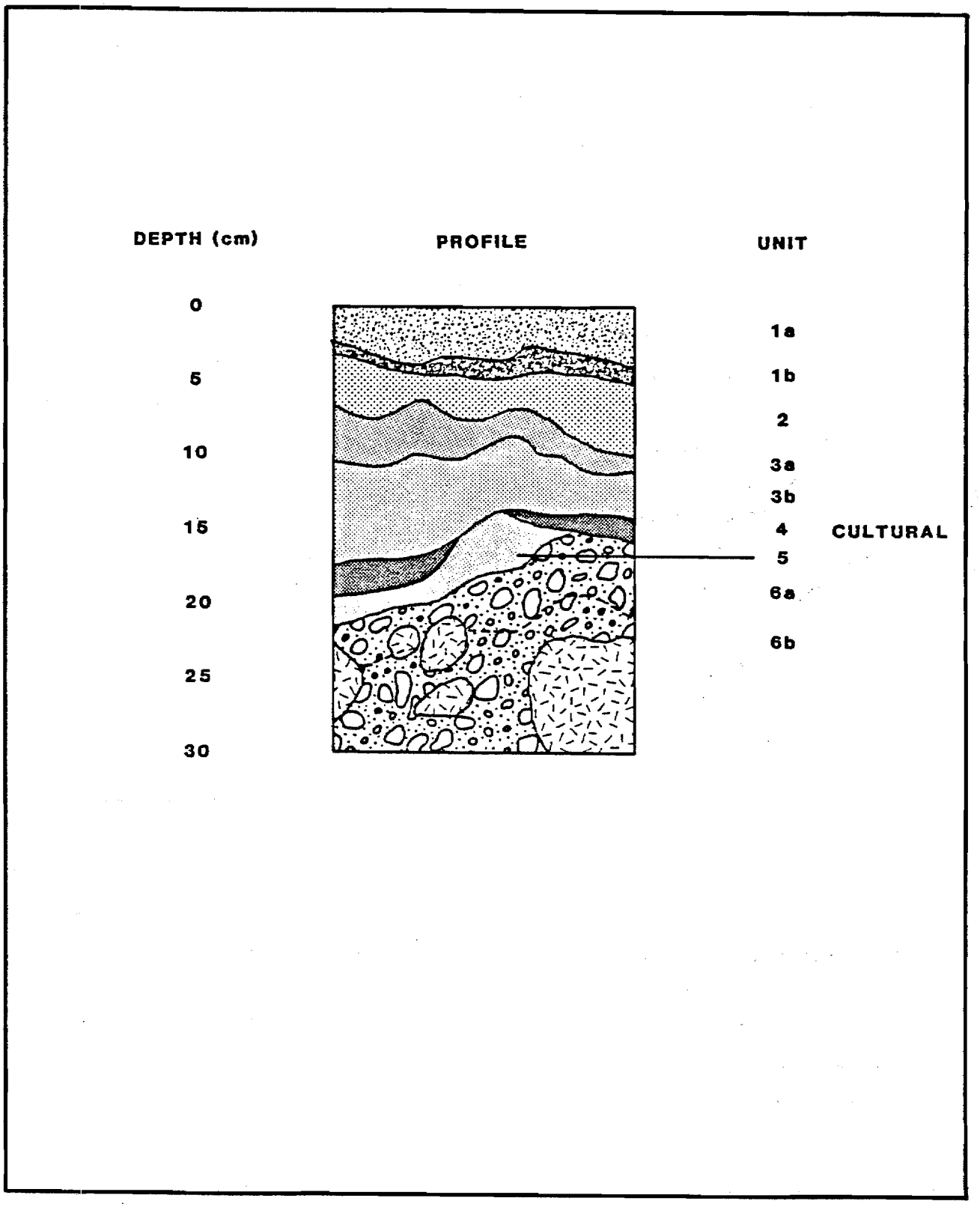

Figure D.3. Composite Profile, TLM 016

Table D.5.

Soil/Sediment Description for Composite Profile, TLM 016

Unit	Description
1a	Surface organic layer: roots and plant material from Labrador tea, lowbush cranberry, crowberry, dwarf birch, and lichen at the surface. Varies in thickness from 1-10 cm but is generally 1-3 cm thick. Lower boundary is clear and wavy. Nonmineral O1 horizon. Continuous except at the location, and in the vicinity, of 1978 tests.
1b	Fine silty sand with partially decomposed plant fragments and finely divided organic material; black (N 2.5/). Usually very thin, less than 2 cm. Lower boundary is abrupt to clear and wavy. Unit is not always easily distinguishable from the overlying organic mat. O2, or humus, horizon. Very rare bone fragments, possibly derived from back dirt of previously excavated test pits.
2	Fine grained silt-sized particles; pinkish gray (5YR 6/2). Ranges from 1-9 cm, generally 2-4 cm. Abrupt, wavy and irregular lower contact with unit 3. Tephra (Devil); eluvial A horizon. Discontinuous, although present in each of the test squares. Dries quickly to a fine powder. Leaching of organic material at the upper extent of the unit is evident. Root penetration. Basalt flake and rare bone fragments possibly derived from testing disturbance.

Table D.5. (Continued)

Unit	Description
3a	Fine to medium-grained particles, granular structure, friable; dark reddish brown (5YR 3/4). Ranges from 1-6 cm, usually 1-3 cm. Clear to diffuse and wavy to irregular lower boundary. Tephra (Watana); illuvial B2 horizon. Continuous across the grid squares. Oxidized, particularly at the contact with unit 2. Roots common.
3b	Very fine silt-sized particles; yellowish brown (10YR 5/6) to a very pale brown (10YR 7/4) (dry). Varies from 1-9 cm in thickness, usually 2-6 cm. Abrupt and smooth boundary with underlying unit. Tephra (Watana). Continuous unit in the three contiguous test squares and present in N98/E105. Dries to a fine powder. Gravels and root penetration. Basalt flake possibly derived from unit 4.
4	Very fine silt-sized particles with charcoal staining, flecks and pieces; black (10YR 2/1). Varies in thickness from 1-9 cm, usually 2-4 cm. Boundary varies from clear to diffuse and from smooth to wavy. Tephra (Oshetna) mixed with charcoal. Located in the NE corner of N98/E105, and is generally continuous in the three contiguous test squares with the exception of N101/E100 where the unit lacks continuity. Charcoal may be cultural and/or associated with a paleosol that formed after the deposition of unit 5 (Oshetna tephra). Basalt flakes and small bone fragments are common. Two radiocarbon dates: 3220 ± 90 years: 1270 B.C. (Beta-7299). and 4950 ± 120 years: 3000 B.C. (Beta-7298).

Table D.5. (Continued)

Unit	Description
5	Fine silt to sand-sized particles with occasional gravels and pebbles; grayish brown (10YR 5/2). Varies from 1-10 cm in thickness. Lower boundary is clear to diffuse, and wavy to broken. Tephra (Oshetna); buried eluvial A horizon. Present in each of the test squares but lacks continuity. Unit is poorly sorted and appears to be mixed with unit 6. Two basalt flakes, probably derived from unit 4.
6a	Sand and silt with pebbles and cobbles; usually strong brown (7.5YR 4/6) although variable in color depending on degree of weathering. Gradational lower boundary. Glacial drift. Poorly sorted. Rare flakes and bone fragments possibly due to postdepositional disturbance or mixing with unit 4 during excavation.
6b	Some fine silt, sand, pebbles and cobbles; light olive brown (2.5Y 5/4). Glacial drift. Poorly or very poorly sorted. Majority of cobbles were rounded, with glacial striations observed. Cobbles were usually 8-15 cm in diameter reaching a maximum of 30 cm. Excavation into this unit determined limit of excavation. Basalt flake probably intrusive from unit 4.

Table D.6.

Artifact Summary, TLM 016

Tools	
2	Modified flakes
	1 Argillite (UA83-132-127)
	1 Basalt (UA83-132-50)
1	Scraper
	1 Chert scraper (UA83-132-6)
2	Biface fragment
	2 Basalt (UA83-132-73, UA84-143-2)
5	Flake core fragments
	5 Basalt (UA83-132-40, 41, 42, 43, 45)
1	Notched pebble (UA78-66-3)
11	
Lithics Material	
7	Argillite flakes
143	Basalt flakes
4	Chalcedony flakes
1	Chert flakes
3	Cobbles fragments
158	
Faunal Material	
381	Bone fragments

Table D.7.

Faunal Material by Stratigraphic Unit, TLM 016

Unit		Description
1a	1	Ulna, unburned, ptarmigan (Lagopus sp.)
Organic Mat	1	Long bone fragment, calcined, medium-large mammal
2	1	Sternum fragment, unburned, ptarmigan (Lagopus sp.)
Devil tephra	6	Unidentifiable bone fragments, calcined, medium-large mammal
4	164	Unidentifiable bone fragments, calcined, medium-large mammal
Oshetna tephra with charcoal		
6a	22	Unidentifiable bone fragments, calcined, medium-large mammal
Glacial drift		
Unknown	1	Possible ulna fragment, proximal shaft, calcined, probably caribou (Rangifer tarandus)
(Disturbed context)	1	Tarsometatarsus, unburned, ptarmigan (Lagopus sp.)
	144	Unidentifiable bone fragments, calcined, medium-large mammal
1978	1	Dorsal rib fragment, calcined, probably caribou (Rangifer tarandus)
excavation	39	Long bone and unidentifiable bone fragments, calcined, medium-large mammal

Table D.8.

Artifact Summary by Stratigraphic Unit, TLM 016

Unit		Description
Surface	2	Argillite flakes
	6	Basalt flakes
	1	Chert flake
2	3	Basalt flakes
Devil tephra		
2/3a	1	Basalt flake
Contact between		
Devil and oxidized		
Watana tephra		
3b	1	Basalt flake
Watana tephra		
4	4	Argillite flakes
Oshetna tephra	106	Basalt flakes
with charcoal	4	Chalcedony flakes
	1	Basalt modified flake (UA83-132-50)
	1	Basalt biface fragment (UA83-132-73)
	5	Basalt flake cores (UA83-132-40, 41, 42, 43, 45)
	1	Notched pebble (UA78-66-3)
5	2	Basalt flakes
Oshetna tephra		

Table D.8. (Continued)

Unit		Description
6 Glacial drift	3	Basalt flakes
Rodent burrow, backfill from 1978 excavations, and unknown	1	Argillite flake
	21	Basalt flakes
	1	Argillite modified flake (UA83-132-127)
	1	Chert scraper (UA83-132-6)
	1	Basalt biface fragment (UA84-143-2)
	3	Cobble fragments

AHRS Number TLM 017; Accession Numbers UA78-67, UA80-164, UA84-55

Area:	Northeast of Tsusena Creek Mouth
Site Map:	Figure D.4
Survey Locale 153:	Figure E.248
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

Located at an elevation of 654 m asl (altimeter: 2147 feet), the site is north of the Susitna River and east of Tsusena Creek. The site is situated on a level kame near the top of a northwest-facing slope which descends to Tsusena Creek which is approximately 122 m lower in elevation. The bench upon which the site is located is a discrete feature oriented northeast-southwest and is approximately 75 x 30 m wide. Several other similar benches are located at about the same elevation on the northwest slope in the vicinity of the site. To the east the terrain continues to rise for approximately 61 m after which it becomes a relatively flat, undulating plain of glacial drift characterized by kettle and kame topography. The confluence of Tsusena Creek with the Susitna River is located southwest of the site and is approximately 152 m lower in elevation. A 180-degree field of view from the southwest to the northwest encompasses the Tsusena Creek drainage for a distance of several kilometers although the creek itself is not visible. Portions of the Susitna River approximately 2 km to the southwest are in view, and although access to the Susitna to the southwest is reasonably good, access to Tsusena Creek to the west and southwest is much better despite some restriction by sheer bedrock walls. Terrain on the west side of Tsusena Creek is visible from the site, but the necessity of crossing the deeply incised canyon and the deep, fast-flowing creek makes accessibility to this area difficult. Vegetation at the site is relatively open with scattered black spruce, birch, and a ground mat of moss and lichen covering most of the bench. Other vegetation at the site includes Labrador tea, blueberry, lowbush cranberry, crowberry, and willow. Several large boulders, apparently

glacial erratics, are conspicuous in the vicinity of the site. The site is located at the transitional zone between dense black spruce, which begin thinning out approximately 150 m below the site to the west, and a more open tundra and brush environment which becomes the dominant vegetation at about the elevation of the site and extends eastward.

Testing:

This site was identified by Bacon during a preliminary reconnaissance survey prior to the establishment of Watana Camp (Bacon 1978b). No surface cultural material was observed by Bacon at the site, but one of his tests next to a large boulder near the center of the bench (test pit 1) produced 372 basalt flakes, a large number of which were cortex flakes (Bacon 1978b:43). Only a portion of this subsurface flake scatter was excavated by Bacon. The site was revisited and Bacon's tests 1 and 3 were relocated. Test 1 was initially reexcavated to positively identify the provenience of the flakes recovered by Bacon and to draw a soil profile.

Eight survey shovel tests were excavated in the vicinity of test pit 1, all with negative results. Prior to systematic testing, a grid shovel testing program was implemented to locate additional subsurface material and to assist in determining the areal extent of the site. Sixteen grid shovel tests were excavated, but all were sterile. Based on this subsurface testing, TLM 017 appears to be limited to the immediate vicinity of test pit 1. The 1 x 1 m test square was, therefore, superimposed over the northern half of test pit 1. Test pit 1 occupied a major portion of the southeast quadrant of the test square. The goals of the systematic testing were to determine the exact stratigraphic position of the cultural material and the nature and extent of the occupation.

Discussion:

Museum testing at TLM 017 included the reexcavation of Bacon's test pit 1, excavation of 10 survey shovel tests, 16 grid shovel tests, and a

1 x 1 m systematic test square. Only one test pit (test pit 1) and the 1 x 1 systematic test square superimposed over it yielded cultural remains, 894 basalt flakes.

The stratigraphy at TLM 017 consists of ca. 20 cm of soil/sediments underlain by glacial material (Figure D.5; Table D.9). Six units have been defined for TLM 017. The surface of the site is covered with a well-established organic layer (unit 1a) which has a well-formed root mat underlain by finely sorted organic material (unit 1b). Beneath the organic units are at least three tephras identified as: Devil tephra (unit 2), Watana tephra (unit 3), and Oshetna tephra (unit 5). Occurring between the Watana and Oshetna tephras is a layer of charcoal-stained silt, which contains some finely sorted organics mixed with small charcoal pieces (unit 4). This charcoal matrix does not form a discrete layer, but appears to be partially mixed with the Oshetna tephra. Unit 4 may represent a paleosol that formed after the deposition of the Oshetna tephra. There is some evidence of disturbance of these stratigraphic units by natural processes, such as cryoturbation and root penetration. Previous archeological testing in the area has also caused some disturbance especially in the organic mat near test pit 1.

Test pit 1, located directly north and adjacent to a boulder, produced a total of 836 flakes, many of which were recovered during reexcavation of this test. The 372 basalt flakes excavated by Bacon were recovered from a dark brown-black loess-clay unit 1 cm thick located 23-24 cmbs and just above a 1 cm thick loess clay unit which overlies the sandy silt and unsorted pebbles characteristic of glacial drift (Bacon 1978b:27). This artifact-bearing unit has been subsequently defined as soil/sediment unit 4. During the reexcavation of test pit 1, 251 flakes were found in the backfill. Thirty-four additional flakes, excavated during the preparation of the west wall of test pit 1 for profiling, were associated with what appears to be a dark gray paleosol (unit 4) varying in depth from 11-24 cmbs. A C-14 sample was recovered from this layer and consists of small charcoal flecks and matrix in association with flakes. The subsurface flake scatter partly excavated in test pit

1, formed a very dense concentration of flakes which appears to be limited spatially to the immediate vicinity of the large boulder on the southern wall of the test.

The 1 x 1 m systematic test square was placed such that its southeast quadrant was superimposed over the northern half of test pit 1. During the excavation of this square, test pit 1 was reopened. The backfill was screened and an additional 155 basalt flakes were recovered from this fill. Twenty-four more flakes were recovered from the organic mat and have been attributed to previous disturbance(s) when test pit 1 was initially excavated or when it was reopened to profile the west wall. The flakes, therefore, have been included in the total for test pit 1 backfill.

The results of systematic testing confirm the presence of a single component at TLM 017. Fifty-eight flakes were recovered in situ during excavation of the test square. These flakes were recovered primarily from the southwestern quadrant and were found at the contact of the charcoal-stained matrix (paleosol) and the Oshetna tephra. These basalt flakes, many of which have some cortex present, range in size from less than 1 to 3-6 cm. Some previously collected flakes also have cortex. Flakes from TLM 017 could be defined as primary or secondary reduction flakes. The primary reduction flakes indicate that the raw material source was subangular to rounded cobble(s) with weathered cortex. The types of lithic debitage and its distribution within a 2 m radius suggest that a single prehistoric episode of tool manufacture occurred at this site.

Evaluation:

TLM 017 is situated on a level bench near the top of a northwest facing slope above Tsusena Creek. A 180-degree field of view, from the southwest to the northwest, encompasses the Tsusena Creek and Susitna River drainages. The location of the site, in conjunction with the artifact assemblage, suggests that the site functioned as a chipping station and/or hunting overlook.

A single component is indicated on the basis of the homogeneity of the lithic material and the positioning of flakes near or at the lower contact of a charcoal layer between the Watana and Oshetna tephras. This charcoal layer may represent a paleosol that developed during the interim between the tephra depositions. The basalt recovered from this site has the same distinctive cortex as the basalt found at TLM 259, which is a quarry and primary reduction site.

The results of the shovel testing and the systematic testing indicate that the site is limited to the immediate area north and west of a small boulder which is apparent on the surface of the site. It is probable that the majority of the site area has been excavated, and it is doubtful that the site extends any further north than the immediate testing area. Observed site size based on the distribution of artifacts is 6 square meters (Table D.2).

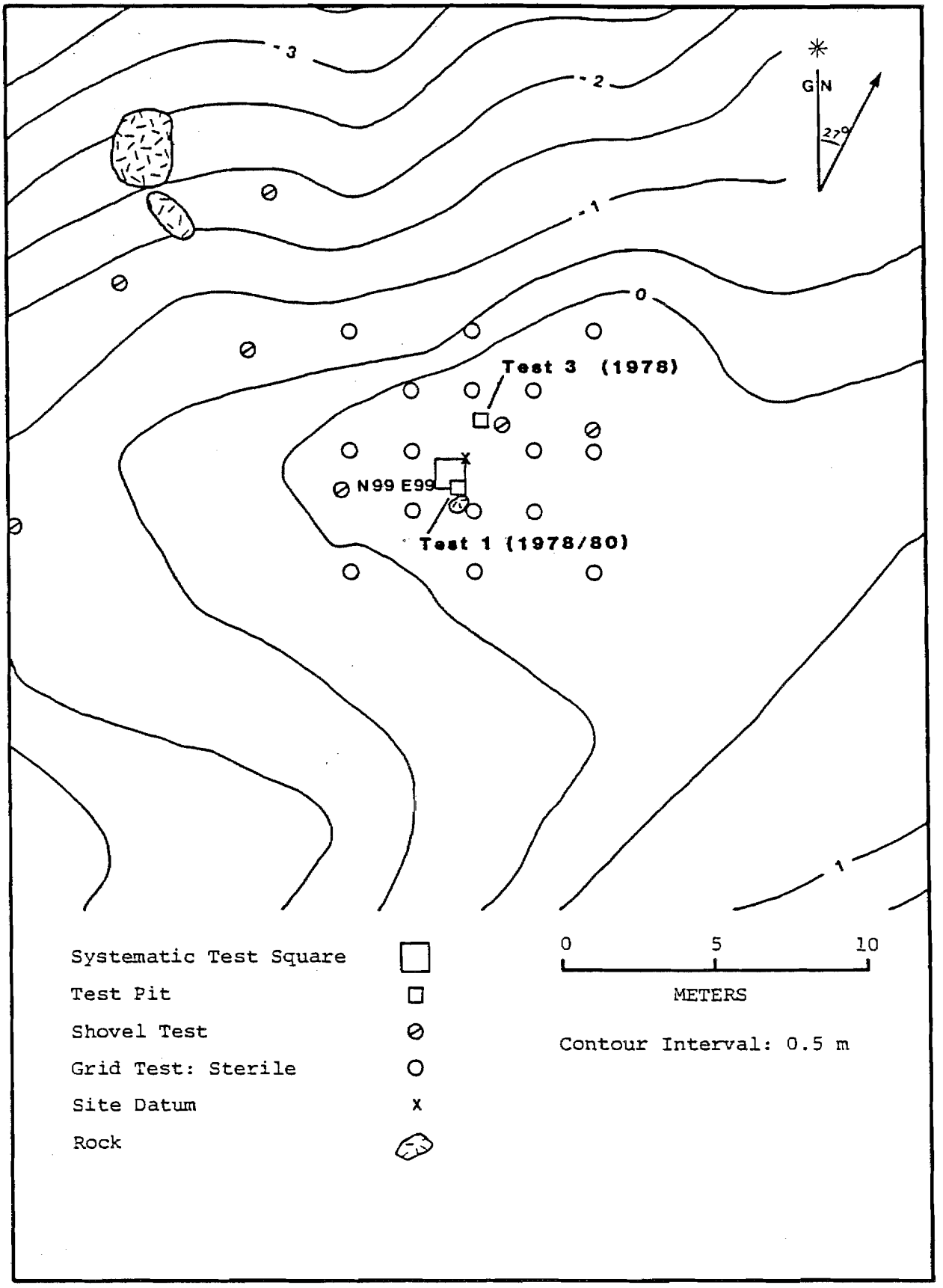

Figure D.4. Site Map, TLM 017

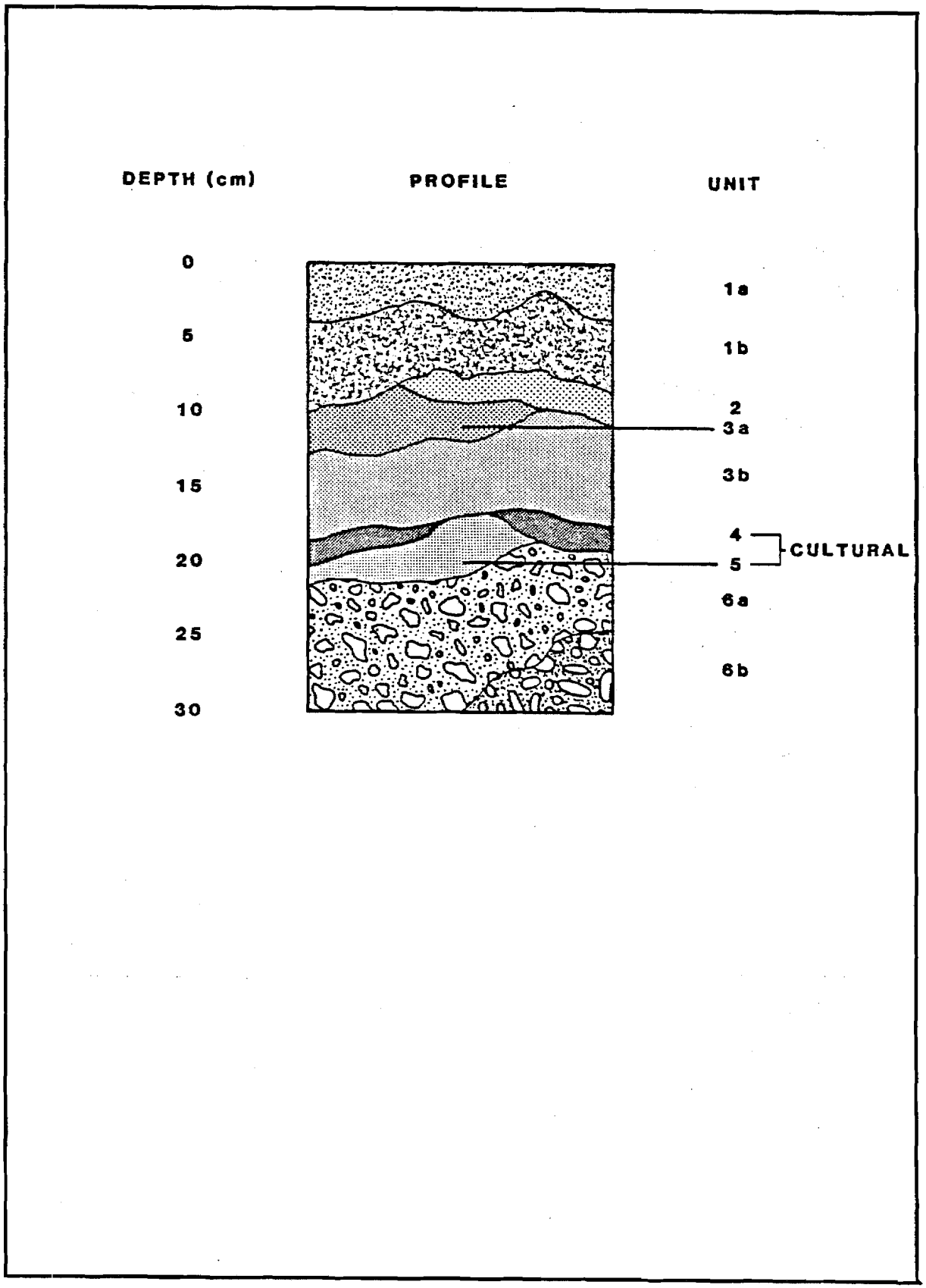

Figure D.5. Composite Profile, TLM 017

Table D.9.

Soil/Sediment Description for Composite Profile, TLM 017

Unit	Description
1a	Surface organic layer: roots and plant material from lowbush cranberry, crowberry, alpine azalea, heath, lichens, and grass at the surface. Varies in thickness from 1-4 cm but is generally 4 cm thick. Lower boundary is clear and wavy. Nonmineral O1 horizon. Continuous except in the vicinity of 1980 test pit. 24 Basalt flakes possibly displaced from backfill of Test Pit 1.
1b	Fine silty sand with partially decomposed plant fragments and finely divided organic material; black (5YR 2.5/1). Varies in thickness from 1-6 cm, generally 3-6 cm. Lower boundary is fairly distinct and smooth but occasionally mottled with unit 2. Fairly continuous O2, or humus horizon with charcoal present. Roots present.
2	Fine grained silt-sized particles; pinkish gray (7.5YR 6/2). Ranges in thickness from 1-6 cm, generally 2 cm. Abrupt wavy and irregular contact with unit 3. Tephra (Devil); eluvial A horizon. Discontinuous, although present throughout the square. Dries quickly to a fine powder. Leaching of organic material at the upper extent of the unit is evident. Root penetration.

Table D.9. (Continued)

Unit	Description
3a	Fine to medium silt-sized particles, granular structure, friable, gritty texture; dark reddish brown (5YR 3/4). Ranges in thickness from 1-5 cm, usually 3 cm thick. Clear to diffuse and wavy to irregular lower boundary. Tephra (Watana); illuvial B2 horizon. Discontinuous, but present throughout the square. Oxidized, particularly at the contact with unit 2. Roots common.
3b	Very fine silt-sized particles; yellowish brown (10YR 5/6) to a very pale brown (10YR 7/4) (dry). Varies from 10-13 cm in thickness, usually 8 cm thick. Abrupt, clear, and smooth boundary with underlying unit. Tephra (Watana). Continuous throughout square. Dries to a fine powder. Root penetration.
4	Very fine silt-sized particles with charcoal staining, flecks, and pieces; black (7.5YR 2/0). Varies in thickness from 1-11 cm, generally 4 cm thick. Boundary varies from clear to diffuse and from smooth to wavy. Generally continuous throughout N99/E99 except in NE quad. Charcoal may be cultural and/or that formed after the deposition of unit 5 (Oshetna tephra). Basalt flakes occur at lower contact with unit 5.

Table D.9. (Continued)

Unit	Description
5	Fine silt to sand-sized particles with occasional gravels, gritty texture; grayish brown (2.5Y 6/2). Varies from 1-7 cm in thickness; generally 4 cm thick. Lower boundary is clear to diffuse, and wavy to irregular. Tephra (Oshetna); buried eluvial A horizon. Present throughout square but lacks continuity. Unit is poorly sorted and appears to be mixed with unit 6. Basalt flakes occur at upper contact with unit 4.
6a	Sand and silt with pebbles and cobbles; usually strong brown (7.5YR 4/6) although variable in color depending on degree of weathering. Graduational lower boundary. Glacial drift. Poorly sorted. Oxidized, particularly at upper contact with unit 5.
6b	Some fine silt, sand, pebbles, and cobbles; dark yellowish brown (10YR 4/4). Glacial drift. Poorly or very poorly sorted. Majority of cobbles are rounded, with glacial striations observed. Cobbles are usually 8-15 cm in diameter reaching a maximum of 40 cm frost features present. This unit marked limit of excavation.

Table D.10.

Artifact Summary, TLM 017

Lithic Material	
894	Basalt flakes

Table D.11.

Artifact Summary by Stratigraphic Unit, TLM 017

Unit		Description
4/5 Contact between paleosol and Oshetna tephra	715	Basalt flakes
Test Pit 1 (Backfill)	179	Basalt flakes

AHRS Number TLM 018; Accession Numbers UA78-60, UA80-165, UA81-283, UA84-234

Area:	Northeast of Tsusena Creek Mouth
Site Map:	Figure D.6
Survey Locale 153:	Figure E.249
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site, located at an elevation of 717 m asl (altimeter: 2352 feet), is east of Tsusena Creek and north of the Susitna River. The site is located on a 1 km long east-west trending ridge at one of the highest points of relief along this ridge. The site is exposed in a blowout on the northern and eastern slopes just below the top of the easternmost knoll. A terrace is located at the base of the slope to the north of the knoll approximately 15-30 m lower than the elevation of the site. Beyond this terrace a glacially scoured plain capped by drift extends for several kilometers to the northeast. West of the site the slope descends for approximately 50 m until it levels out and forms the portion of the main ridge extending westward. The highest elevation on this ridge is ca. 729 m asl (2391 feet) which is located approximately 400 m west-southwest of the site. To the north and east, the ground slopes continuously, affording an expansive view of the broad plain extending northeast of the site which is characterized by kettle and kame topography. A concentration of kettle lakes is situated approximately 2-4 km to the northeast. The closest of these lakes, approximately 8 ha in size and 1.5 km distant, is in view, as is a small 0.5 ha pond located approximately 800 m to the northeast. To the southeast the ground is fairly flat for approximately 40 m to the edge of the Susitna River valley shoulder where it begins to slope steeply down towards the river located approximately 274 m below the site. Direct access to the Susitna River is difficult because the steep valley walls are sheer bedrock cliffs in places. Vegetation at the site

consists of scattered black spruce, shrub and dwarf birch, and includes several varieties of low berry bushes, moss, and lichen. Large blowouts occur on the northern slope of the knoll where much of the ground surface is deflated. In the lower drainages and on the plain to the north, open white and black spruce forest occurs with muskeg, denser black spruce stands are in the poorly drained areas, and white spruce and shrub birch are located on the better drained ground. Much of the plain extending to the northeast is moist tundra and ice-stagnation terrain.

Testing:

This site was identified during a survey conducted in 1978 (Bacon 1978b:28). The site is partly exposed by blowouts on the north and northeast slopes near the top of the ridge (Figure D.6). Twenty-nine flakes were collected from these blowouts in 1978 and excavation of a 20 x 20 cm test at the northern edge of one of the blowouts resulted in an additional 138 flakes. The subsurface flakes were excavated from a depth of 20 cmbs and appeared to be associated with a buried paleosol (Bacon 1978b:28). A single tool was surface collected at the site in 1978. This is a complete bifacially flaked triangular basalt point exhibiting a ground concave base (UA78-60-1; Figure D.362g). Two distinct raw materials are represented by the artifacts from the site: blue-gray argillite and fine-grained black basalt.

The site was visited in 1980 for the purpose of recording locational information and three additional artifacts were surface collected. These include the medial portion of a basalt biface (UA80-165-1; Figure D.362h), an argillite flake with facet possibly resulting from removal of a blade or bladelike flake (UA80-165-2), and an argillite burin spall (UA80-165-3; Figure D.362k). A high density of flakes was observed in blowouts at the site. Basalt flakes were concentrated on the southwest side of the knoll and argillite flakes on the northwest side with a lower concentration of flakes between the two main scatters. Some flakes were observed downslope to the northeast of the main blowout.

TLM 018 was systematically tested in 1981 with the excavation of three 1 x 1 m test squares. In addition, all surface material was systematically collected in 1 x 1 m square units.

Additional testing at TLM 018, after an interval of three years, included the systematic collection of surface artifacts which became exposed in the interim and a program of grid expansion shovel testing. Surface artifacts were located on the deflated portion of the knoll and on the vegetated surface surrounding the deflated area. These artifacts consisted primarily of unmodified flakes. Collection of surface artifacts was by quadrants of 1 x 1 m collection units. The collection units were established using the preexisting site grid, and are comparable to the collection units used in the previous systematic surface collection of artifacts at the site.

Grid expansion shovel testing was implemented to assist in determining the spatial limits of the site. Shovel tests were placed at systematic intervals expanding around the area of surface artifacts and the two 1 x 1 m test squares that contained subsurface artifacts (N100/E97 and N98/E104). A total of 70 shovel tests were excavated, eight of which contained artifacts. The artifacts were recorded from a variety of stratigraphic contexts, and included 14 flakes of argillite, basalt, obsidian, rhyolite, and quartzite material types.

Discussion:

The distribution of the surface artifacts tends to correspond to the nonvegetated, actively deflating portion of the knoll. A cautionary note must be interjected concerning the distribution of surface artifacts. The vegetational cover at the site varies from a thin layer of lichen and decomposed organic material (found in and surrounding the blowout area) to a thick, more well developed, O-A horizon (in the shrub area south and west of the blowout). The patchy distribution of this lichen cover appears to obscure some of the surface artifacts. For example, in surface collection unit N100/E97 the surface material extended under the lichen and organic cover.

Three tephra units were present at the site, but only the most recent tephra (Devil) was well defined. The middle (Watana) and lower (Oshetna) tephras were discontinuous above the drift (Figure D.7; Table D.12). Erosional surfaces in test square N98/E104 indicate that the O-A horizons and most recent tephra (Devil) lie unconformably on drift in the eastern parts of the site indicating erosion during pre-Devil times. In test square N95/E94 the upper three soil units were intact but the lower stratigraphy consisted of drift intermixed with tephra (units 4 and 5). The preservation of the three tephras near the modern erosional area may be the result of stabilizing vegetation suggesting that the northern area was vegetated and consequently more stable in the past, which may explain the better preservation of tephra units in this portion of the site.

Although the soil units present what appears to be the common stratigraphy for this area (i.e., O-A horizons, Devil tephra, Watana tephra, Oshetna tephra, drift) this knoll has undergone a more complicated depositional and erosional history than the single composite soil profile (Figure D.7) would indicate. Because of this, it is difficult to discuss the number and location of archeological components in the site and the stratigraphic relationship of surface to subsurface artifacts. It is likely, however, that a broad differentiation can be made between an upper "component" (units 1-3) which is post-Devil tephra and a lower "component" (units 4-6) which is pre-Devil tephra. The two "components" are separated by the Devil tephra which fell after 1800 years B.P.

Artifacts were found in association with both upper and lower contacts of soil unit 5, mixed Oshetna tephra and drift (Figure D.7). Given the degree of mixing in the lower stratigraphy at this site, it is premature to discuss or define a "component" associated with the lowermost tephra (Oshetna). A similar argument can be made for artifacts found in association with soil units 1 through 3, organics through Devil tephra. Although stratigraphic control is better in these upper units, the differentiation of two "components" may also be premature, based on current data.

Surface material from an area of approximately 100 square meters was collected in 1 x 1 m units in conjunction with systematic testing at the site. A total of 1414 specimens were recorded, with the greatest number being located in the northwest quadrant of the site. Basalt flakes were found primarily in the southwestern quadrant of the site, while weathered argillite flakes were recovered primarily from surface units in the northwestern site quadrant. The surface collection, with the exception of two argillite flake cores (UA81-283-2, 3; Figure D.363b, c), was comprised totally of flakes. Six modified flakes were recovered (UA81-283-16, 21, 46, 53, 58, 179), as well as one tci tho or boulder spall scraper (UA81-283-13; Figure D.363d).

A total of 570 subsurface artifacts, found in two of the three test squares (N98/E104 and N100/E97), consisted almost exclusively of flakes made from basalt, argillite, and obsidian. An obsidian flake core (UA81-283-149; Figure D.362i) is the only subsurface artifact that has not been categorized as a flake. One argillite modified flake (UA81-283-179) was also recovered.

Artifacts from the second surface collection period include 5 modified flakes (UA84-234-49, 103, 118, 125, 220), 1 chalcedony blade fragment (UA84-234-192; Figure D.362j), 2 rhyolite biface fragments (UA84-234-6, articulates with 44; Figure D.363a), 1663 flakes, 1 chert cobble fragment, and 1 unburned caribou patella. Argillite was the predominant material type (1008 flakes), with basalt being the second most common material type (345 flakes). The differential surface distribution of argillite and basalt flakes documented during the second collection was similar to that of the first collection. The collection also includes rhyolite and chert flakes, as well as single flakes of chalcedony and obsidian.

The distribution of positive grid shovel tests and the location of the two test squares that contained artifacts indicate that a large portion of the site is deflated. The stratigraphic section in some of the shovel tests represented well-defined vertical superposition of the soil/sediment units. Although testing to date has been unable to

delineate the number, content, and position of the archeological components, additional testing in the undeflated area may potentially provide data to resolve these questions.

Evaluation:

The site is situated on a glacial kame which has a panoramic view to the north. The environmental position of the site suggests that it may have served as a lookout from which hunters waited for the appearance of game on the plain to the north. Preliminary testing strongly suggests that this site may have served this function during at least two times during the past; both prior to and after the interval of Devil tephra deposition. The raw material distribution of the debitage tends to support this hypothesis because weathered argillite dominates the surface collection while basalt is the major rock type associated with the subsurface assemblage. The spatial and stratigraphic distributions of the argillite and basalt flakes lend credence to the existence of separate occupations. Argillite predominates in the northwestern portion of the site and in soil/sediment units below the Devil tephra. Conversely, basalt is most common in the southeastern portion of the site and stratigraphically at the contact between the finely sorted organics and Devil tephra.

The collection consists almost entirely of waste flakes which suggests that hunters were actively engaged in the manufacture of tools and weapons. The tci tho or boulder spall scraper found in the subsurface test may suggest that the locale served as a brief camp, and the sheer quantity of detrital material also supports this hypothesis. While the results of the systematic testing are not conclusive, they do suggest: that the site was occupied on at least two occasions, once prior to and once after the Devil ash fall and that the duration of the occupation(s) may have been for more than a single day. Observed site size based on the distribution of artifacts is 171 square meters (Table D.2).

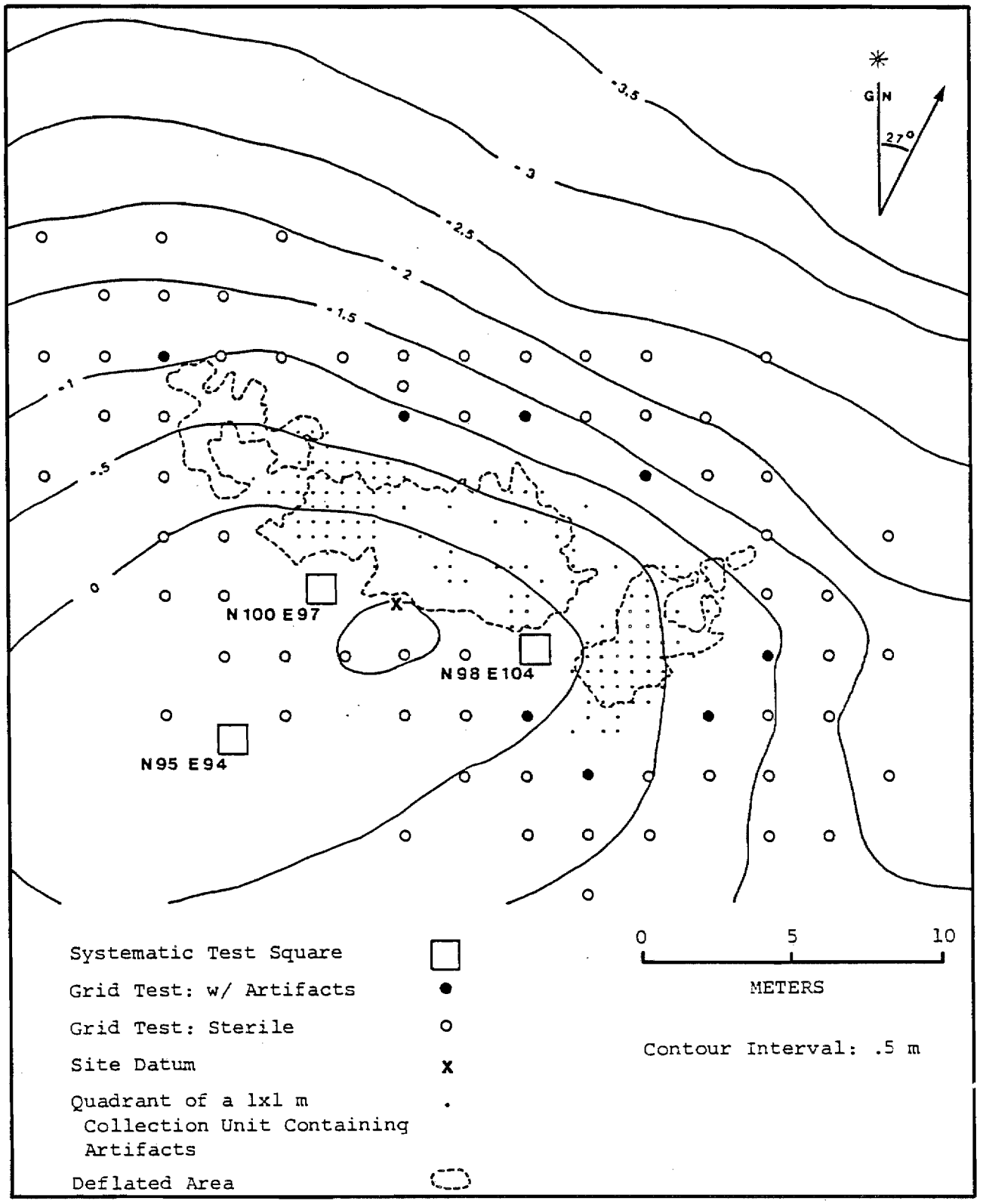

Figure D.6. Site Map, TLM 018

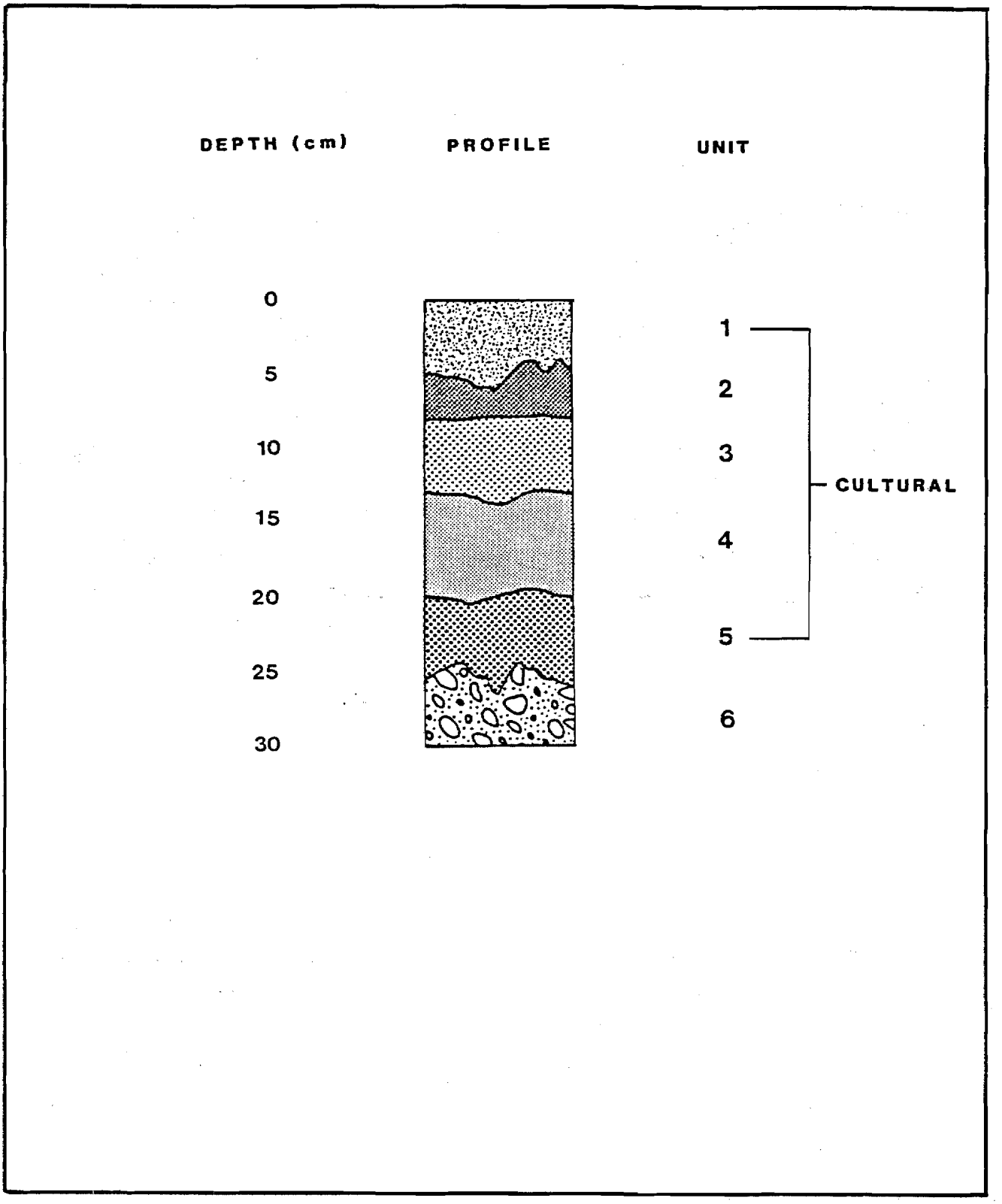

Figure D.7. Composite Profile, TLM 018

Table D.12.

Soil/Sediment Descriptions For Composite Profile, TLM 018

Unit	Description
1	Organic zone, mat of variable thickness moss, lichen, heaths
2	Finely sorted organics with many rootlets, lower contact clear and irregular, upper contact gradational
3	Tephra (Devil); discontinuous across site (eroded out to east), generally sharp and irregular upper and lower contacts
4	Tephra (Watana); discontinuous in east part of site, variable in thickness, well-sorted, oxidized layer not found exclusively in upper part of unit but rather are random oxidized zones throughout giving a patchy appearance, lower contact sharp to gradational, upper contact sharp
5	Mixed tephra (Oshetna) and drift; poorly sorted with tephra, silt and sand and pebbles; irregular and discontinuous unit, undulating contacts that vary from clear to gradational
6	Oxidized sand pebbles and granules, poorly sorted, oxidized, maximum pebble size ca. 12 cm

Table D.13.

Artifact Summary, TLM 018

Tools	
12	Modified flakes 5 Argillite (UA81-283-46, 179; UA84-234-49, 118, 125) 6 Basalt (UA81-283-13, 16, 21, 53, 58; UA84-234-200) 1 Rhyolite (UA84-234-103)
1	Blade fragment 1 Chalcedony (UA84-234-192)
1	Burin spall 1 Argillite (UA80-165-3)
3	Biface fragments 1 Basalt (UA80-165-1) 2 Rhyolite (UA84-234-6 articulates with 44)
1	Triangular point 1 Basalt (UA78-60-1)
4	Flake cores 3 Argillite (UA78-60-2; UA81-283-2, 3) 1 Obsidian (UA81-283-149)
1	Tci tho 1 Diorite (UA81-283-13)
23	

Table D.13. (Continued)

Lithic Material	
2,254	Argillite flakes
1,179	Basalt flakes
1	Chalcedony flake
78	Chert flakes
5	Obsidian flakes
1	Quartzite flake
91	Rhyolite flakes
212	Flakes less than 1/8" mesh
	203 Argillite
	8 Basalt
	1 Chert
1	Argillite rock fragment
1	Chert cobble fragment
3,823	
Faunal Material	
1	Unburned bone fragment

Table D.14.

Faunal Material by Stratigraphic Unit, TLM 018

Unit		Description
Surface	1	Patella, unburned caribou, (Rangifer tarandus)

Table D.15.

Artifact Summary by Stratigraphic Unit, TLM 018

Unit		Description
Surface	2,098	Argillite flakes
	673	Basalt flakes
	1	Chalcedony flake
	26	Chert flakes
	1	Obsidian flake
	89	Rhyolite flake
	212	Flakes less than 1/8" mesh
		203 Argillite
		8 Basalt
		1 Chert
	4	Argillite modified flake (UA81-283-46; UA84-234-49, 118, 125)
	6	Basalt modified flakes (UA81-283-13, 16, 21, 53, 58; UA84-234-200)

Table D.15. (Continued)

Unit		Description
	1	Rhyolite modified flake (UA84-234-103)
	1	Chalcedony blade fragment (UA84-234-192)
	1	Argillite burin spall (UA80-165-3)
	1	Basalt biface (UA80-165-1)
	2	Rhyolite biface fragments (UA83-234-6, articulates with 44)
	1	Basalt triangular point (UA78-60-1)
	3	Argillite flake cores (UA78-60-2; UA81-283-2, 3)
	1	Tci tho (UA81-283-13)
	1	Chert cobble fragment
	1	Argillite rock fragment (UA81-283-21)
1/2	2	Argillite flakes
Contact between organic mat and 02 horizon		
2	3	Argillite flakes
02 horizon	1	Basalt flake
	1	Chert flake
	1	Quartzite flake
2/3	2	Argillite flakes
Contact between	430	Basalt flakes
02 horizon and	1	Chert flake
Devil tephra	1	Argillite modified flake (UA81-283-179)

Table D.15. (Continued)

Unit		Description
3	2	Argillite flakes
Devil tephra		
3/4	1	Basalt flake
Contact between	1	Chert flake
Devil and Watana		
tephras		
4/5	139	Argillite flakes
Contact between	34	Basalt flakes
Watana and mixed	31	Chert flakes
Oshetna tephras	1	Obsidian flake
5	7	Argillite flakes
Mixed Oshetna tephra	29	Basalt flakes
and glacial drift	17	Chert flakes
	1	Obsidian flake core (UA81-283-149)
5/6	3	Basalt flakes
Contact between	1	Chert flake
mixed Oshetna tephra		
and glacial drift		
4/6	1	Argillite flake
Contact between	1	Rhyolite flake
Watana tephra and		
glacial drift		

Table D.15. (Continued)

Unit		Description
Below Watana tephra	1	Obsidian flake
Reworked Drift	7	Basalt flakes
	2	Obsidian flakes
Subsurface	1	Basalt flake
unknown	1	Rhyolite flake

AHRS Number TLM 020

Area: Mouth of Portage Creek
USGS Map: Talkeetna Mts. D-5, Figure E.1
Site Location: Appendix F

Setting:

The site, a historic inscription dated 1897, is located at the confluence of Portage Creek and the Susitna River. The inscription is approximately 4 m above the level of the beach and directly adjacent to it. It can be seen from the beach but to be approached requires a short, relatively easy climb over bedrock.

Description:

The site consists of a 40 x 40 cm inscription engraved into a vertical slab of bedrock. The text of the inscription in letters 4-5 cm high is as follows:

MILO DECKER
L. F. JUDSON
W. A. DICKEY
H. J. KENNASTON
July. 2
1897

A party of prospectors, including William A. Dickey, ascended the main branch of the Susitna River in 1897 to the Devil Canyon area, where they found the river to be impassable. Dickey and his companions turned back, even though a group of Indians, camped in the vicinity of Portage Creek mouth, offered to show them a portage route around the canyon. Dickey's journey was reported in the November 1897 issue of National Geographic (Bacon 1975a; Cole 1979). The rock inscription marks the furthest ascent of the Susitna River by this party.

Other than the inscription itself, no historic or prehistoric cultural material was observed in the vicinity and no subsurface testing was conducted at the site. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

AHRS Number TLM 021; Accession Number UA80-68

Area:	Northwest of Confluence of Gilbert Creek with Kosina Creek
Site Map:	Locus A, Figure D.8
	Locus B, Figure D.9
	Locus C, Figure D.10
Site Location Map:	Figure E.48
USGS Map:	Talkeetna Mts. C-2, Figure E.7
Site Location:	Appendix F

Setting:

Three distinct loci (A, B, and C), are located along the exposed rocky crest of an east-west trending ridge at an elevation of ca. 884 m asl (2900 feet). Locus A is situated at the extreme eastern end of the ridge overlooking Kosina Creek downstream from the confluence of Gilbert Creek with Kosina Creek. Kosina Creek is approximately 122 m lower than the elevation of locus A. Loci B and C are located 0.5 km and 1 km, respectively, to the west of locus A on high points of the ridge which offer unobstructed views to the north and south of low kettle and kame topography.

The ridge upon which the site is located is one of the most prominent features in the area and is the highest elevation within 8 km. Kettle lakes are in view, from all loci, to the north and southeast of the site. Kosina Creek is easily accessible from the site but is only visible from locus A. Vegetation at loci A and B is limited to dwarf birch, Labrador tea, various low bush berries, and lichens. Vegetation in the vicinity of locus C consists primarily of tundra and scattered black spruce. Locus C is situated at a point where the ridge is less well defined and is truncated by a north-south stream channel.

Testing:

Testing was concentrated at locus A, although all three loci have tentatively been recorded as representing a single site.

Locus A: Locus A consists of four flake scatters naturally exposed on the deflated, rocky crest of the ridge. Approximately half the surface material observed was collected. An argillite biface fragment (UA80-68-239; Figure D.364a), 2 quartzite modified flakes (UA80-68-144, 238), and 1 chert flake were found spatially isolated from the flake scatters (Table D.16). Four test pits were excavated but only test pit 4 produced cultural material from the surface to 5 cmbs. Artifact raw material types include argillite, chert, and quartzite.

Locus B: Locus B consists of six flake scatters exposed in a blowout on the crest of the ridge at a point slightly higher than the general ridge line. Scatter 1 included the medial section of an argillite preform (UA80-68-190; Figure D.364b). All observed surface artifacts were collected (Table D.17). Test pit 1 produced burned bone fragments and charcoal at a depth of 9 cmbs. A radiocarbon determination of 1160 ± 100 years: A.D. 790 (DIC-1878) was obtained from this charcoal (UA80-68-1a). A single flake (not collected) was observed in situ in the edge of a blowout adjacent to test pit 1 at the same depth as the bone and charcoal horizon in test pit 1. It is possible that the radiocarbon date obtained on the charcoal from test pit 1 may date the surface artifacts exposed by deflation.

Locus C: Locus C consists of a single flake scatter exposed in a blowout. The scatter consisted of 21 brown chert flakes, 6 basalt flakes, and 2 rhyolite flakes clustered within a 1 m diameter (Table D.18). All 21 chert flakes and two basalt flakes were surface collected. Test pit 1, located at the locus datum, produced one basalt modified flake (UA80-68-237) directly below the vegetative mat, between the surface and 5 cmbs. The distinctive dark brown chert from locus C was not observed at the other site loci.

For locus A, estimated site size based on the distribution of artifacts is 200 square meters. For locus B, estimated site size based on the distribution of artifacts is 25 square meters. For locus C, estimated site size based on the distribution of artifacts is 8 square meters (Table D.2).

Table D.16.

Artifact Summary, TLM 021 Locus A

Provenience		Description
Lithic Material		
Surface:		
Scatter 1	118	Argillite flakes
	3	Chert flakes
	1	Rock fragment
	ca. 75	Flakes (uncollected)
Scatter 2	8	Argillite flakes
	1	Chert flake
Scatter 3	5	Argillite flakes
	5	Chert flakes
Scatter 4	2	Argillite flakes
Isolated Finds	1	Chert flake
	2	Quartzite modified flakes (UA80-68-144, 238)
	1	Argillite biface fragment (UA80-68-239)
Subsurface:		
Test Pit 4	628	Argillite flakes
	2	Chert flakes

Table D.17.

Artifact Summary, TLM 021 Locus B

Provenience		Description
Lithic Material		
Surface:		
Scatter 1	40	Argillite flakes
	1	Argillite modified flake (UA80-68-147)
	1	Argillite preform fragment (UA80-68-190)
	1	Rock fragment
Scatter 2	2	Chert flakes
Scatter 3	1	Argillite flake
Scatter 4	6	Argillite flakes
	2	Argillite modified flakes (UA80-68-200, 201)
Scatter 5	6	Argillite flakes
	1	Basalt flake
	2	Argillite modified flakes (UA80-68-202, 203)
Scatter 6	2	Argillite flakes
Isolated Find	1	Flake (uncollected)

Table D.17. (Continued)

Provenience		Description
Faunal Material		
Surface:		
Scatter 6	2	Unidentifiable fragments, calcined, mammal
Subsurface:		
Test Pit 1	6	Unidentifiable fragments, calcined, medium-large mammal

Table D.13.

Artifact Summary, TLM 021 Locus C

Provenience		Description
Lithic Material		
Surface:		
Scatter 1	2	Basalt flakes
	21	Chert flakes
	6	Flakes (uncollected)
Subsurface:		
Test Pit 1	1	Basalt modified flake (UA80-68-237)

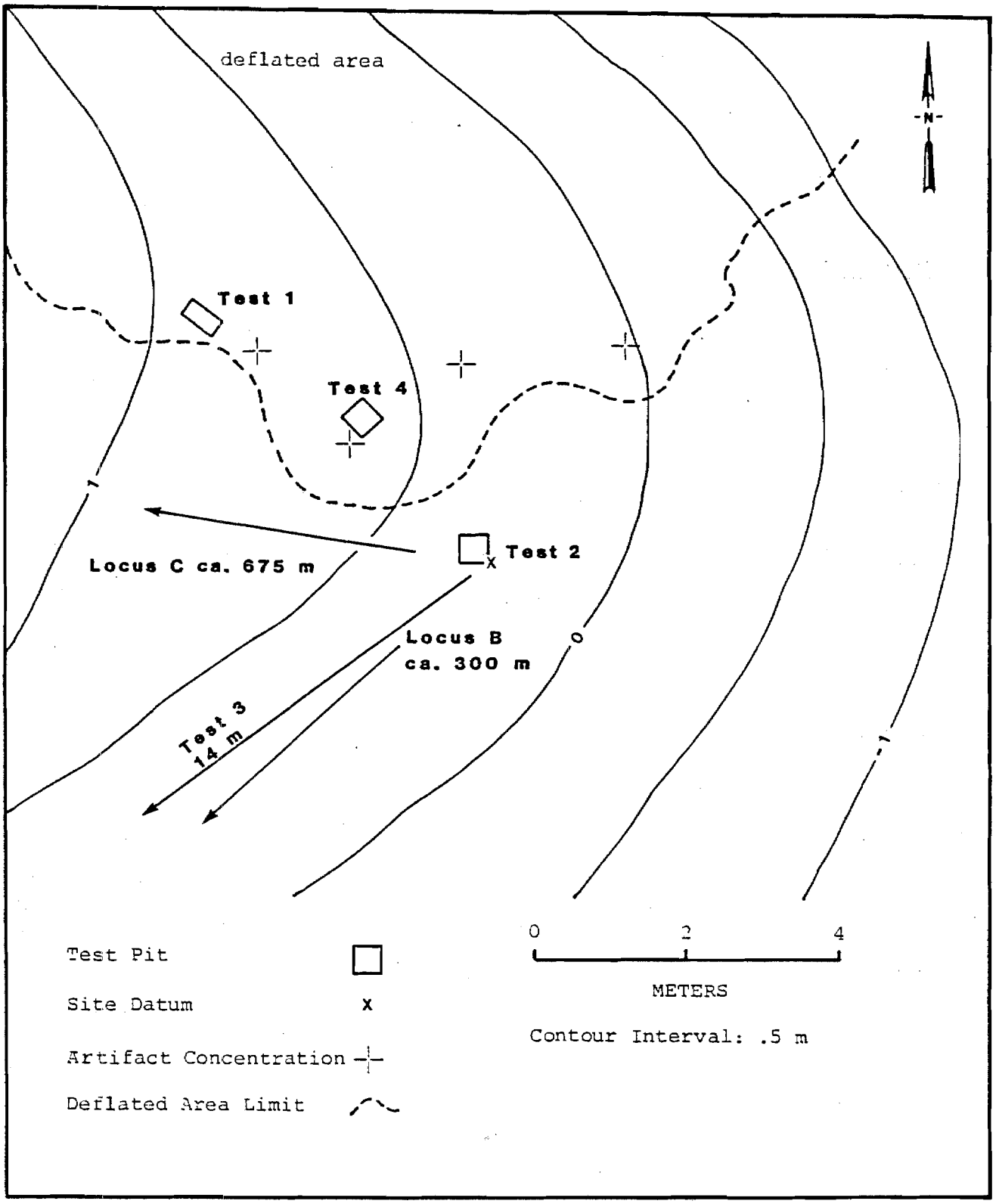

Figure D.8. Site Map, TLM 021 Locus A

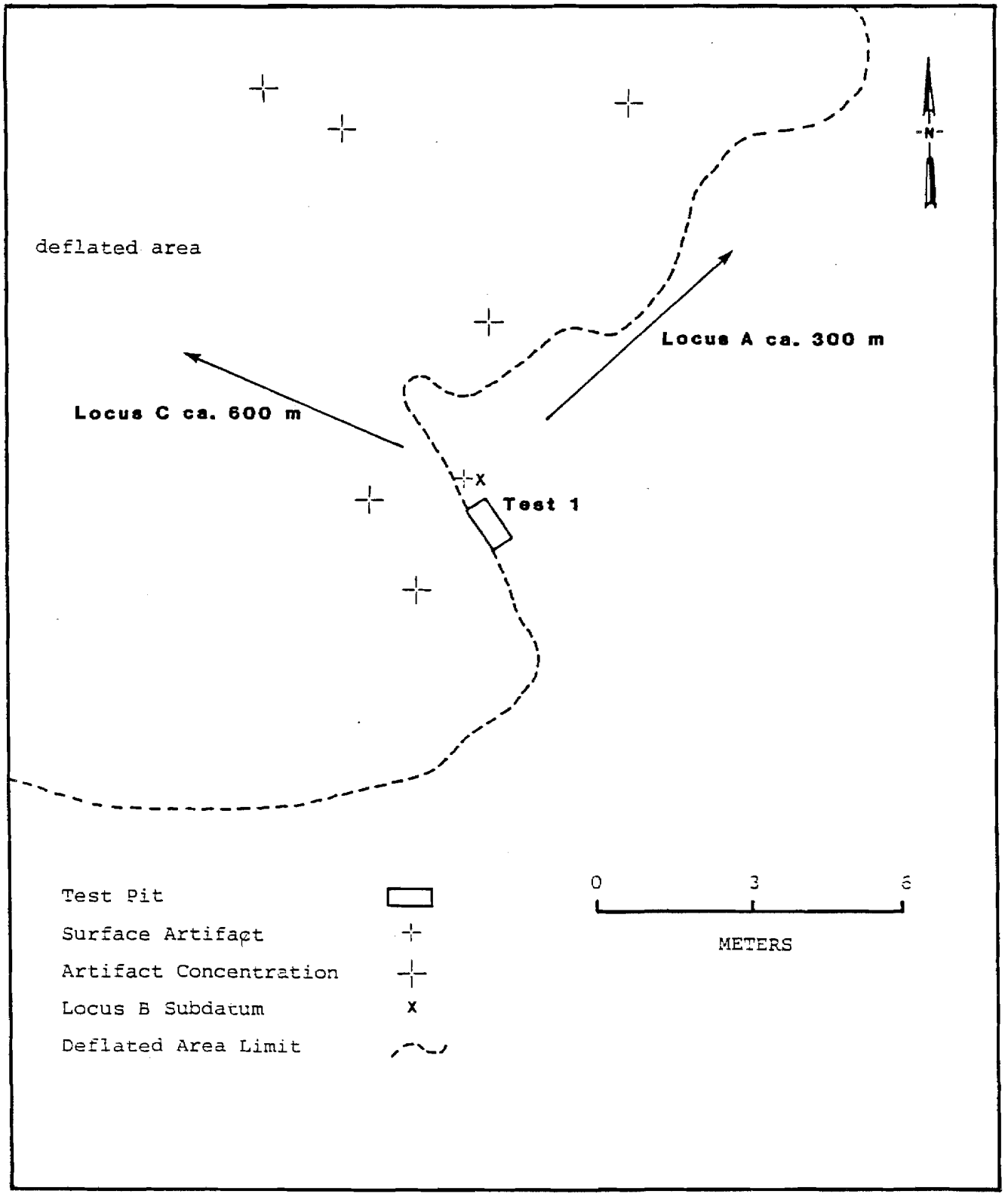

Figure D.9. Site Map, TLM 021 Locus B

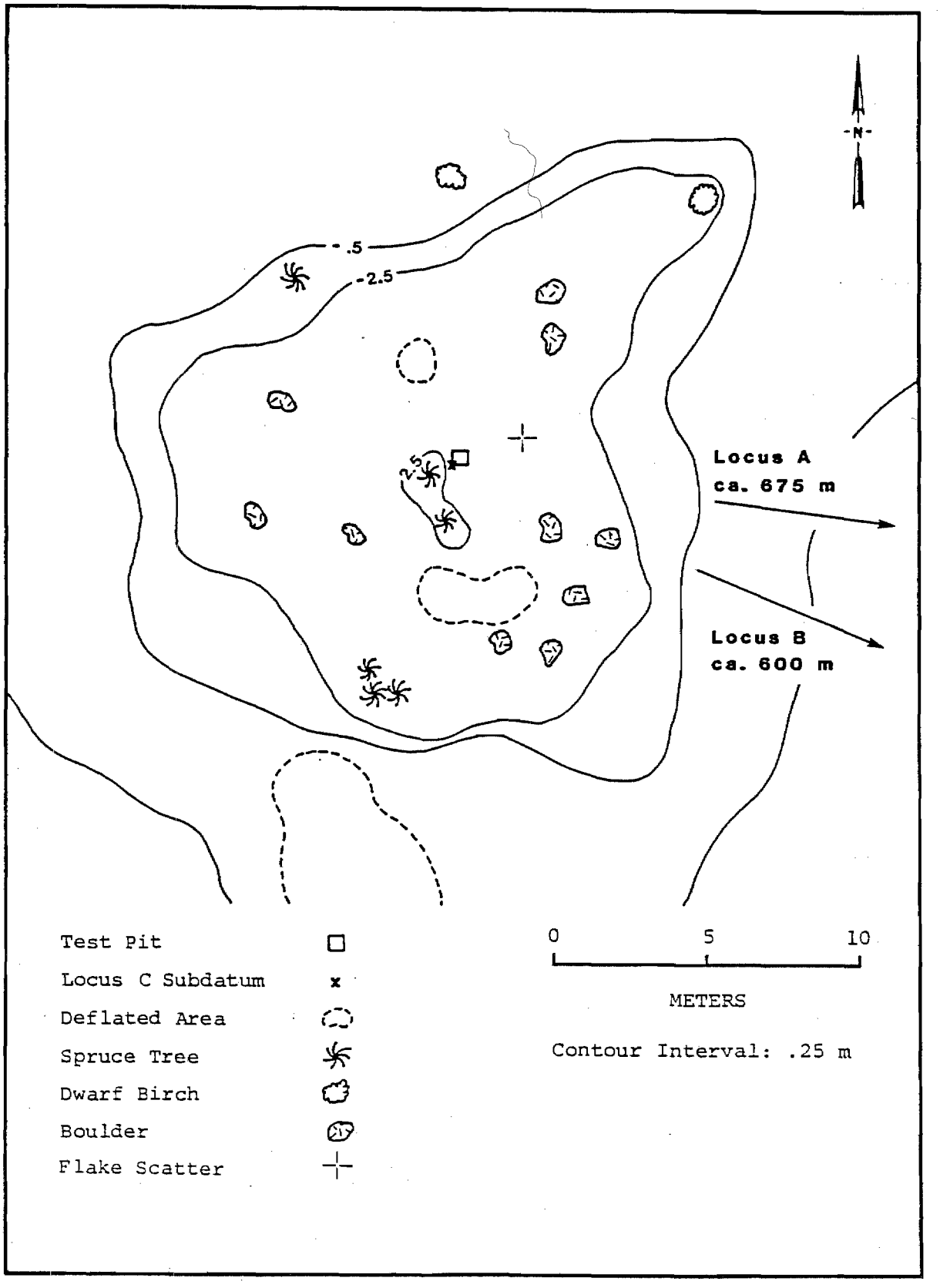

Figure D.10. Site Map, TLM 021 Locus C

AHRS Number TLM 022; Accession Numbers UA80-69, UA81-238, UA84-122

Area:	Mouth of Tsusena Creek
Site Map:	Figure D.11
Survey Locale:	Proposed Borrow E, Figure E.283
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site, located in proposed Borrow Area E, is situated on the east bank of Tsusena Creek at its confluence with the Susitna River. At this location Tsusena Creek is a shallow, fast-flowing, clear water stream approximately 15 m wide. The site is on the bank of a flat alluvial terrace overlooking the creek and the Susitna River to the south and southwest. The alluvial terrace, which has been downcut by Tsusena Creek at its eastern end, extends southwestward along the north bank of the Susitna River. It varies from approximately 400-800 m in width and is 450 m asl (altimeter: 1477 feet). From the site location both the north and south banks of the Susitna River are in view to the west. The terrain rises steeply to the north and northeast of the site where the elevation is ca. 61 m higher than the site. Immediately to the northeast, Tsusena Creek emerges from a deep canyon with almost vertical bedrock walls. Travel upstream is extremely difficult or impossible due to the narrow canyon and a ca. 30 m waterfall upstream from the mouth of the creek. The site is mantled by a mature forest of mixed white spruce, birch, aspen, and cottonwood. Wood, both charred and rotten, is clearly visible over most of the site. Some black spruce occurs in poorly drained areas. A thick vegetation mat of sphagnum moss, lichens, and grasses covers the floor of the forest.

Testing:

A shovel test revealed charcoal and burned bone at 15 cmbs. This was subsequently expanded into test pit 1, which produced additional bone

and charcoal and three river cobbles thought to represent a hearth. Four other shovel tests were excavated at this site during the initial survey testing. With the exception of one possible thermally altered rock, these tests were culturally sterile.

A grid shovel testing program was implemented to assist in determining the site size and the distribution of cultural remains. Seventeen grid shovel test were excavated. Two grid shovel tests (N98/E94 and N106/E94) produced unburned bone in the vegetation mat and the finely divided organic unit (Table D.21). Surface survey of the stream and river terraces, including the eroding banks, for ca. 150 m to the north and east of the site did not reveal additional cultural material.

During the systematic testing phase, five 1 x 1 m test squares and five additional shovel tests were excavated. Two of the test squares (N101/E94 and N103/E92) were placed near test pit 1 in order to confirm the presence of the presumed hearth features. The extent of these features was tested by the excavation of test squares N100/E96 and N104/E95. The fifth test square (N104/E99), placed in what appeared to be a house pit depression, proved to be sterile. This assessment may be a function of the limited excavation in this square. Heavy rains and thawed frost flooded the square and prevented excavation beyond soil unit 3.

Discussion:

Thermally altered rock, faunal material, cobbles, and a quartz flake comprise the cultural material recovered from this site (Tables D.20, D.21, and D.22). The stratigraphic postion of this material suggests three occupations, all fairly recent as indicated by radiocarbon dating. A modern radiocarbon date was obtained from charcoal collected during survey testing (DIC-1878) and another radiocarbon date of 300 ± 70 years: A.D. 1650 (DIC-2252) derived from charcoal collected during systematic testing. The occupations are represented by hearth features and/or faunal material found in soil units 1 and 2, 4, and 6 (Figure D.12). Six hearth features were identified during systematic testing.

Stratigraphy at the site is characterized by alternating sequences of sand, silt, and organic horizons. A total of 21 soil/sediment units were defined, however, only eight are of interest in terms of the cultural material (Figure D.12). The bulk of the stratigraphic section is fluvial in origin (sand and silt) with buried A horizons interspersed between the fluvial sediments (Table D.19), a situation not unexpected given the location of the site at the confluence of Tsusena Creek with the Susitna River. The general sequence of soil and sediment units is fairly uniform from test square to test square. Variability exists in the thickness of each unit and the coloration of some of the units.

Evidence for the upper occupation at the site consists of faunal remains found in soil units 1 and 2 of test square N100/E96 and in grid shovel tests N106/E94 and N98/E94. This material is unburned and better preserved than other bones found at the site. It is associated with rotten wood found in the finely divided organics (unit 2). Some pieces were found at the contact of these two stratigraphic units. The assemblage includes various skeletal elements of moose (Alces alces) and caribou (Rangifer tarandus). Cultural modification is evident on three bone fragments. Cut marks are present on a vertebral epiphysis of a moose (Alces alces) and a long bone fragment of undetermined genera. A third bone exhibits possible carving marks. A metapodial showing an epiphyseal fusion line and a vertebral epiphysis, both of moose, indicate an age of between one and two years for the individual represented at the site.

The middle and lower occupations are represented by several hearth features. Features 1a and 2 are associated with unit 4, while the lower occupation features 1b, 3, 4, and 5 are associated with unit 6. Both of these soil/sediment units are A horizons separated from each other by sand and silt.

Features 1a and 1b consisted of ca. 30 thermally altered rocks, pebbles, and ca. 465 calcined bone fragments which were scattered through test square N101/E94. It became apparent that two hearths were present when the southern and western walls were seen in cross section. Because of

the closeness of the two hearths, it is difficult to distinguish which rocks belong to which hearth. However, it is clear that the two hearths are superimposed and stratigraphically distinct as indicated in the south wall of the test. Faunal remains associated with these features are all fragmentary calcined specimens. The bone inventory includes a scaphoid bone (in five fragments) of caribou (Rangifer tarandus), 2 vestigial phalanx fragments of moose (Alces alces), 1 arctic ground squirrel (Spermophilus parryi) mandible fragment, and ca. 460 long bone and unidentifiable bone fragments of medium-large mammal.

The combined hearth area extends beyond test squares N101/E94 in all directions. The hearth depression from feature 1a is approximately 12 cm at its deepest point, while feature 1b is approximately 10 cm deep at its deepest point. Both hearths seem to be linear, i.e., longer than wide, but additional excavation is required to define their exact configuration. A radiocarbon date on charcoal from hearth 1b produced a date of 300 ± 70 years: A.D. 1650. Feature 1a, being stratigraphically above 1b, would therefore be more recent.

Feature 2 contained seven thermally altered rocks lining the perimeter of a slight depression that intersected the western wall of N103/E92. This feature is associated with soil unit 4. It extends approximately 60 cm from north to south and approximately 25 cm out from the western wall. No bones or artifacts were found in direct association with this feature. It is possible that 8 burned bone fragments found at the contact between soil units 3 and 4 are part of this middle occupation. Two additional thermally altered rocks were uncovered at the bottom of feature 2.

Feature 3 is located in soil unit 6 and contained a group of six rounded cobbles in the southwest quadrant of test square N103/E92. These rocks did not appear to be altered by thermal processes and no cultural material was found in association with the feature. It is possible that this rock configuration is the result of natural and not cultural processes.

Feature 4 is a hearthlike feature and was found in soil unit 6 of test square N100/E96 stratigraphically below a charred log. A total of eight pieces of thermally altered rock were found in the square and were located primarily in the northwest quadrant. A large depression (ca. 70 cm deep) covers the eastern section of the square. It intersects the north, south, and east walls so that the full extent of this feature is unknown. The strata are truncated, as seen in the soil profile, and the sand unit that the rocks intersect is absent from both the large depression and also from a smaller depression located in the southwest quadrant. The soil profile of the east wall shows a sharp boundary between the depression and a disturbed sand/silt area. A charcoal lens and a wood-rich stratum parallel the lines of this boundary. These strata are capped by a well-developed, more recent soil. The smaller depression that intersects the south wall is less clearly of cultural origin.

Feature 5 is also associated with unit 6. This feature, found in N104/E95 is comprised of three thermally altered rocks (uncollected) which do not appear to be part of a hearth.

Evaluation:

Three periods of cultural occupation have been documented at this site, and several cultural features have been noted. The lack of trade goods and one of the radiocarbon dates suggest that at least the earliest occupations of the site occurred during precontact times, either before trade goods had been introduced or before they were common. This could, however, be a spurious result of the small sample.

The site is situated in a sheltered forested valley bottom at the junction of the Susitna River and Tsusena Creek. Based on its physical setting and the occurrence of hearths and possibly other features, this site appears to represent a favored campsite which was reoccupied several times. The hearths appear to be linear features characterized by thermally altered rock, caribou bone, and moose bone. This type of feature is commonly associated with Athapaskan sites in the Alaskan

interior, suggesting late prehistoric Athapaskan occupation of the region.

The relatively rapid rate of soil deposition and the preservation of organic remains indicate that this site will prove to be useful for defining the activities associated with this time interval in the upper Susitna River valley. The preservation of organic material at the site presents the possibility that tools made of bone and antler may be recovered. Any such discoveries would be significant because the organic component of the Athapaskan tool kit during this period is poorly documented and understood. Observed site size based on the distribution of artifacts is 57 square meters (Table D.2).

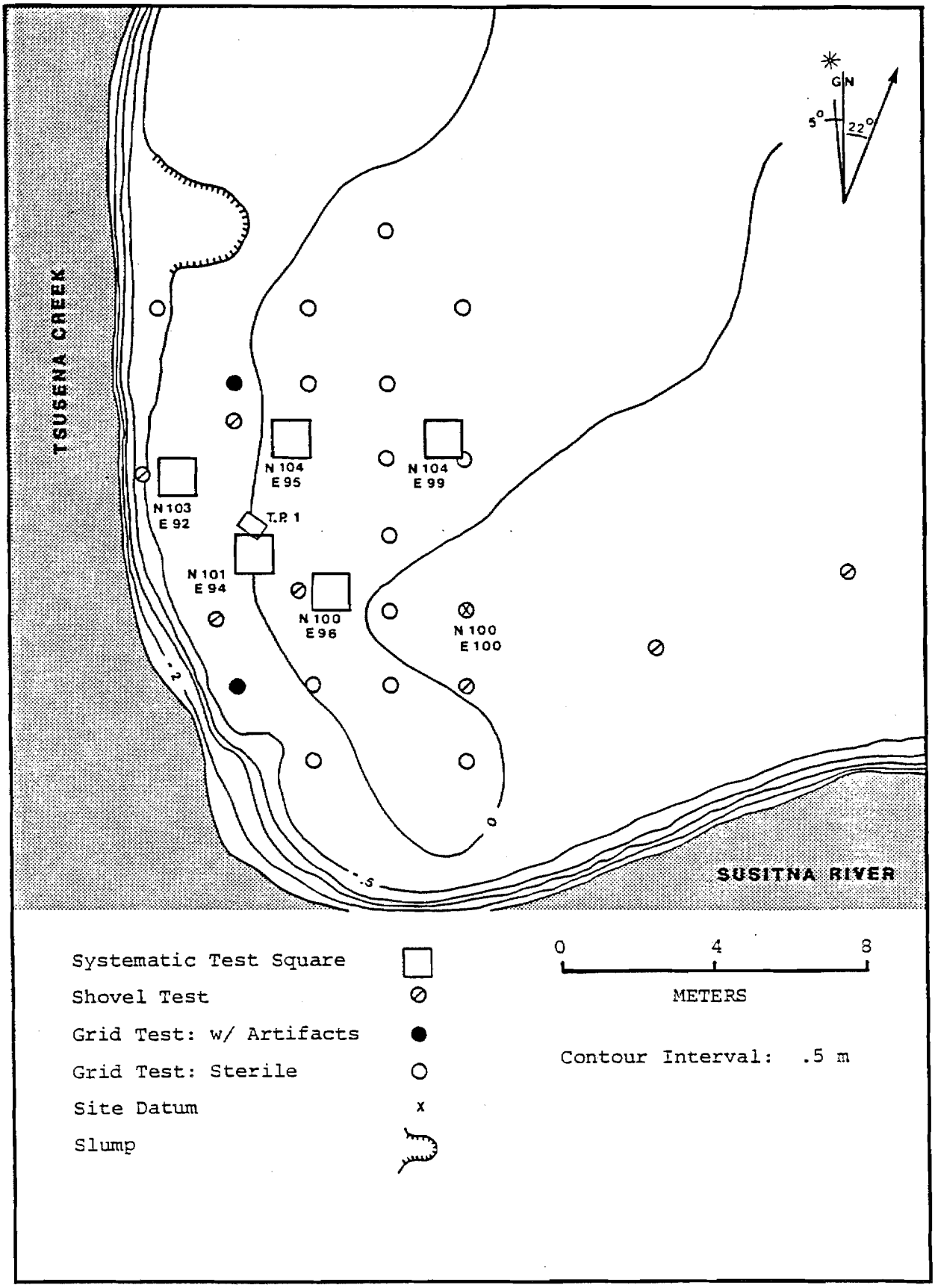

Figure D.11. Site Map, TLM 022

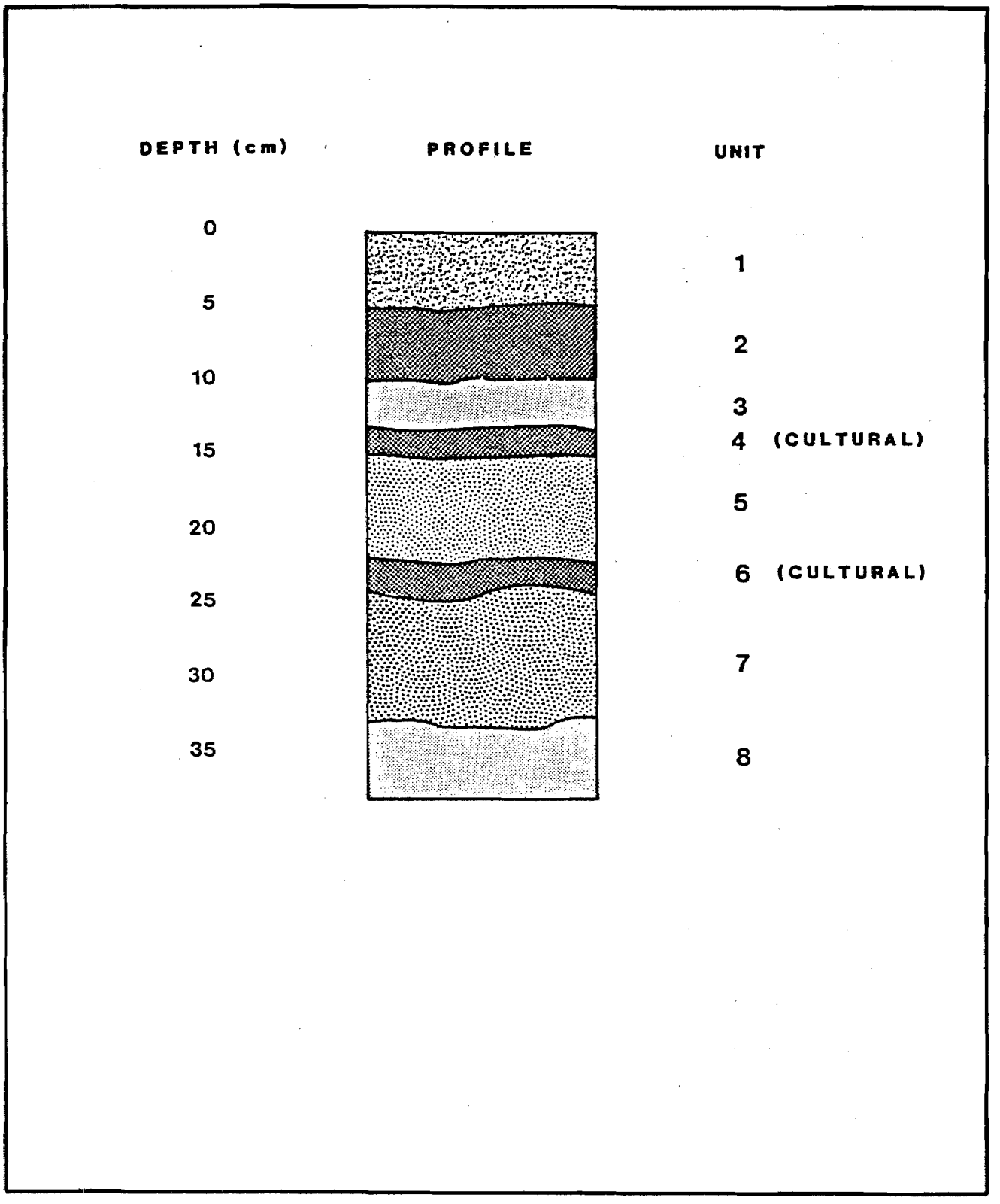

Figure D.12. Composite Profile, TLM 022

Table D.19.

Soil/Sediment Description for Composite Profile, TLM 022

Unit	Description
1	Duff; variable in thickness, O horizon. Cultural material.
2	Finely divided organic matter; very dark brown (10YR 2/2). A horizon. Sharp upper contact, at times with gradational lower boundary.
3	Silt to sandy silt; dark grayish brown (10YR 4/2) to light brownish gray (2.5Y 6/2). Leached zone E horizon. Generally sharp contacts but variable in thickness.
4	Finely divided organic matter; dark brown (7.5YR 3/2). A horizon. Thin layer with greasy texture. Continuous across site with clear upper and lower boundaries. Cultural material.
5	Intermixed sand and silt; yellowish brown (10YR 5/6) to brown (7.5YR 4/4). Fluvial deposit. Generally found as mixed sand/silt stratum, however at times the two sediment types appear as distinct lens. Continuous across site.

Table D.19. (Continued)

Unit	Description
6	Finely divided organic matter; very dark brown (10YR 2/1). A horizon. Thin layer with greasy texture. Generally sharp contacts. Continuous across site. Cultural material.
7	Well-sorted, medium grain size sand; yellowish brown (10YR 6/4). Fluvial deposit. Sharp contacts. Continuous deposit except where truncated by cultural features.
8	Well-sorted to moderately well sorted silt with inclusion of medium grained sand; brown (10YR 5/3). Fluvial deposit. Sharp contacts. Continuous across site.

Note: 11 more soil/sediment units were defined in test square N103/E92. These represent 5 larger units of sandy silt capped by a buried A horizon. These units are not described here for two reasons: no cultural material was associated with these soil units and only 1 test square was excavated to this depth.

Table D.20.

Artifact Summary, TLM 022

Lithic Material	
1	Quartz fragment
ca. 45	Thermally altered rocks
ca. 10	Thermally altered rocks (uncollected)
9	Cobbles (uncollected)
ca. 65	
Faunal Material	
ca. 712	Bones and fragments

Table D.21.

Faunal Material by Stratigraphic Unit, TLM 022

Unit		Description
1/2 Contact between organic mat and finely divided organics	1	Right mandibular fragment (condyle), unburned, moose (Alces alces)
	1	Distal phalanx, unburned, moose, (Alces alces)
	1	Vestigial phalanx, unburned, moose (Alces Alces)
	1	Vestigial phalanx, unburned, probably caribou (Rangifer tarandus)
	1	Vestigial phalanx, unburned, cervid
	5	Long bone and unidentifiable fragments, unburned, medium-large mammal
1 and 2 Mixed vegetation mat and finely divided organics	1	Molar fragment, unburned, probably moose (Alces alces)
	1	Mandible fragment, unburned, possibly moose (Alces alces)
	1	Cervical vertebra epiphysis, unburned, moose (Alces alces)
	1	Possible cervical vertebra fragment, unburned, probably moose (Alces alces)
	1	Vertebra epiphysis, unburned, cut mark, probably moose (Alces alces)
	1	Rib fragment, unburned, probably moose (Alces alces)
	1	Right distal tibia fragment, unburned, moose (Alces alces)

Table D.21. (Continued)

Unit		Description
	1	Distal metapodial fragment, fusion line visible, unburned, moose (Alces alces)
	1	Rib vertebral facet, unburned, caribou (Rangifer tarandus)
	1	Right distal radius fragment , unburned, caribou (Rangifer tarandus)
	2	Probable spinous processes, unburned, cervid
	1	Long bone fragment, unburned, cut mark, large mammal
	1	Unidentifiable fragment, unburned, possible carving marks, medium-large mammal
	151	Long bone and unidentifiable fragments, unburned, medium-large mammal
3/4 Contact between dark grayish brown silt and finely divided organics	8	Long bone and unidentifiable fragments, calcined and heavily burned, medium-large mammal
4 and 6 Associated with hearth features 1a and 1b	2	Vestigial phalanx fragments, calcined, moose (Alces alces)
	1	Scaphoid (five fragments), calcined, caribou (Rangifer tarandus)
	1	Vestigial phalanx fragment, calcined, cervid
	1	Mandible fragment, calcined, arctic ground squirrel (Spermophilus parryi)
	ca. 460	Long bone and unidentifiable fragments, calcined, medium-large mammal

Table D.21. (Continued)

Unit		Description
Subsurface Unknown	1	Distal fragment medial phalanx, calcined, caribou (Rangifer tarandus)
	1	Vestigial phalanx fragment, calcined, probably caribou (Rangifer tarandus)
	8	Tooth fragments, calcined, medium-large mammal
	1	Long bone fragment, unburned, large mammal
	53	Long bone and unidentifiable fragments, burned and calcined, medium-large mammal

Table D.22.

Artifact Summary by Stratigraphic Unit, TLM 022

Unit		Description
4 Associated with hearth feature 2	7	Thermally altered rocks
4 and 6 Associated with hearth features 1a and 1b	ca. 30	Thermally altered rocks
6 Associated with hearth feature 3	6	Cobbles (uncollected)
6 Associated with hearth feature 4	8	Thermally altered rocks
6 Associated with hearth feature 5	3	Thermally altered rocks (uncollected)
Subsurface unknown	1	Quartz flake
	7	Thermally altered rocks (uncollected)
	3	Cobbles (uncollected)

AHRS Number TLM 023; Accession Number UA80-70

Area:	West of Tsusena Creek Mouth
Site Map:	Figure D.13
Survey Locale:	Proposed Borrow E, Figure E.283
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site, a collapsed trapper's cabin, is located in proposed Borrow E west of the mouth of Tsusena Creek at the mouth of an unnamed, clear water creek which joins the Susitna River from the north. The cabin remains, not visible from the river, are located on a relatively flat alluvial terrace, at an elevation of 443 m asl (altimeter: 1454 feet), east of the braided mouth of the creek and north of the Susitna River. The terrain in the vicinity of the site has little topographic relief although immediately west of the cabin a narrow, dry 1.5 m deep abandoned channel cuts into the terrace. The alluvial terrace is approximately 1.2 km wide at the site location and is bounded to the north by the main river valley wall which rises steeply ca. 152 m and then continues to rise at a more moderate slope. Vegetation in the vicinity of the site consists of large white spruce, cottonwood, and birch. Ground cover consists of high brush with thick moss, blueberry, wild rose, grasses, and a litter of fallen logs and upturned stumps.

Testing:

This cabin is collapsed and the wall logs are partially decomposed and covered with soil and vegetation. The soil accumulation is probably due to a fallen sod roof. The lowest logs remain in situ, enabling measurement of the cabin to be made, the dimensions are approximately 11'5" x 16'4" m with the long axis oriented west-northwest. The remains of a door measuring 2'2" x 4'6" cm is evident in the southwest wall facing the Susitna River. The logs exhibit saddle notching at the ends. The ground in the immediate vicinity of the cabin is littered with

historic cultural debris (Figure D.13), which includes a frying pan, coffee cans, metal plates and dishes, glass jars, stove pipe, canvas, cans, milled lumber, nails, wire, a #6 trap, the rubber sole of a shoe, and various wooden and metal pieces of what appear to be the remains of a dog sled. One glass jar with the inscription "NUXATED IRON" was collected (Table D.23). All other historic artifacts were left in place. There is no evidence of outbuildings or a cache in the immediate vicinity of the site. Four shovel tests were dug in the vicinity of the cabin but none produced historic or prehistoric cultural material.

Winston Hobgood, a biologist and trapper involved in fur-bearer studies for the Susitna Hydroelectric Project, reported that this cabin was built by Oscar Vogel who trapped along the Susitna River in the 1930's and 1940's. This cabin, according to Hobgood (1980, oral communication), was one of a string of 10 line cabins approximately 10 miles apart with Vogel's main headquarters cabin located on the Talkeetna River. Vogel, primarily a wolf trapper, quit trapping in 1949 and died in Anchorage in 1979. The May 1972 issue of Alaska Magazine contains an article by Oscar H. Vogel entitled "My Years with the Wolves". A photograph of one of Vogel's line cabins illustrates the above article and is probably representative of what the cabin at site TLM 023 looked like prior to its collapse. Estimated site size based on the distribution of artifacts is 90 square meters (Table D.2).

Table D.23.

Artifact Summary, TLM 023

Provenience		Description
Historic Remains		
Surface:		
(Collected)	1	Glass bottle (NUXATED IRON)
Surface:		(Numbers are keyed to site map)
(Uncollected)	1	6" stovepipe sections
	2	Frying pan
	3	Metal pan
	4	5 gallon can
	5	Round can
	6	Square can with round screw lid
	7	Oil can
	8	Coffee can
	9	Hills Brothers coffee can
	10	Baking powder can
	11	Wild Rose lard can
	12	Glass jar bottom
	13	Bottle (iron)
	14	Metal bucket
	15	Wire loop
	16	Metal plate
	17	Rubber shoe sole
	18	Wood-metal frame part (dog sled)
	19	Canvas/wood

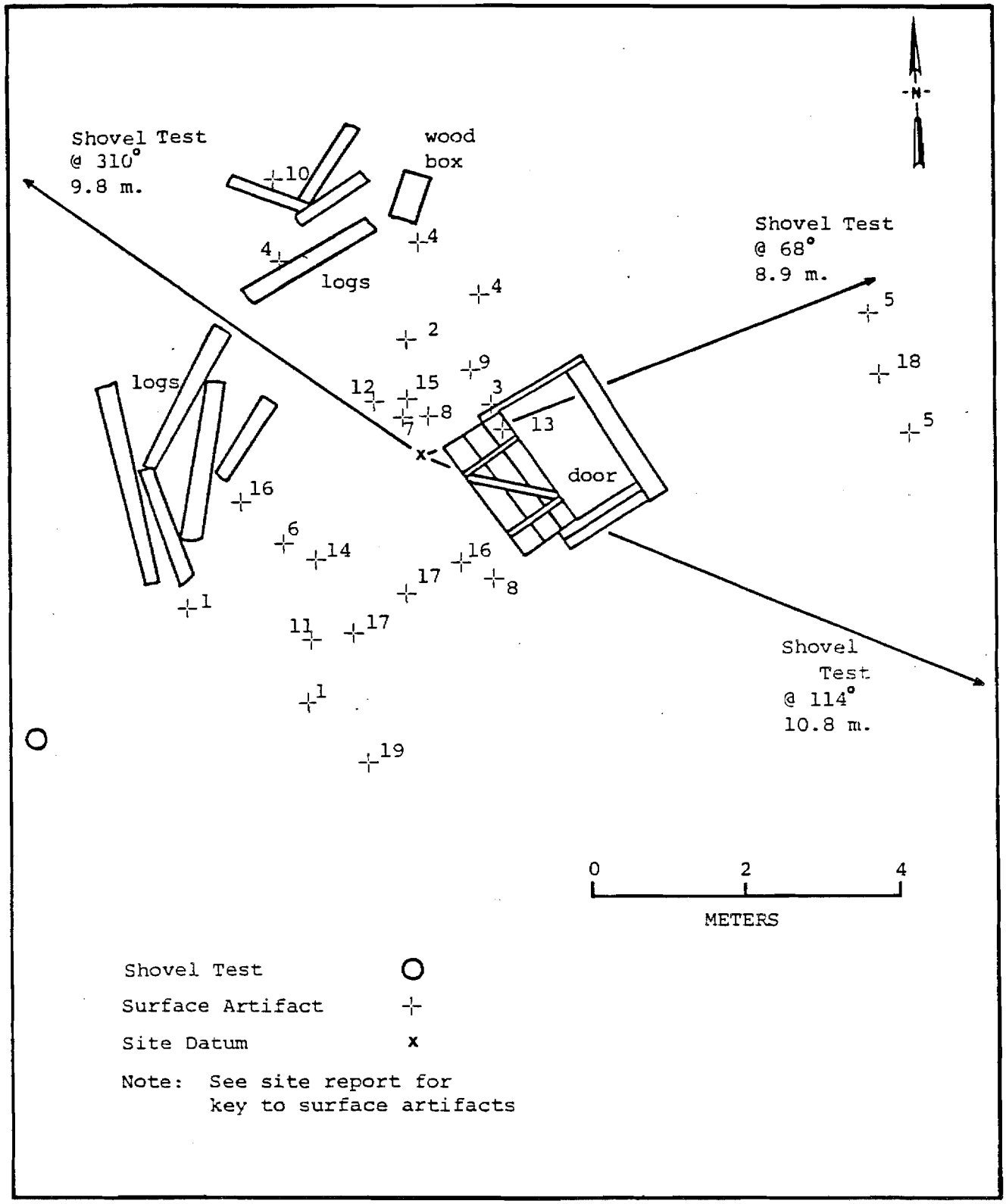

Figure D.13. Site Map, TLM 023

AHRS Number TLM 024; Accession Numbers UA80-71, UA84-141

Area:	Northwest of Tsusena Creek Mouth
Site Map:	Figure D.14
Site Location Map:	Figure E.282
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site, located northwest of Tsusena Creek just north of proposed Borrow Area E, is upstream from the mouth of a small unnamed creek which joins the Susitna River from the north. It is situated on the end of a ridge approximately 300 m west of the creek, and overlooks an alluvial terrace to the south. The site is located about 1 m below the point of a small projection and is about 10 m above the level of the alluvial terrace. To the northwest the ridge rises gradually for about 400 m and then becomes part of a hill connected to the upper valley bench which rises steeply to 478 m asl (altimeter: 1568 feet) elevation. The site is situated in a dense stand of birch, white spruce, and alder which restrict the view from the site. A thick carpet of moss covers the ground. In the absence of trees the creek and most of the alluvial terrace between the site and the Susitna River would be visible. Other ground vegetation in the vicinity of the site includes forbs, Labrador tea, and high bush berries. Black spruce are present on the alluvial terrace below the site.

Testing:

A shovel test produced a single basalt flake at a depth of 20-30 cmbs (Table D.24). This black basalt flake has a white patina on the dorsal surface. The shovel test was expanded into a 40 x 40 cm test pit (test pit 1) but no additional cultural material was found. Six rock fragments, three of which exhibit facets that appear polished, were collected from test pit 1. Laboratory analysis indicates that these rocks are siliceous metasedimentary types and that the facets are

natural cleavage planes. Three additional shovel tests and a second test pit were also excavated, but proved to be sterile.

A grid shovel testing program was implemented to locate subsurface material and to assist in determining the areal extent of TLM 024. Thirteen grid shovel tests were excavated; however, no subsurface cultural material was recovered in any of these tests. Three basalt flakes were recovered from the surface of the present moss mat adjacent to test pit 2 (N101/E101). Drift pebbles and disturbed matrix were observed in the moss cover adjacent to test pit 2 and suggest that the flakes may have originated from the original excavation of this test. The cortex on the basalt flakes is similar to that found on basalt cobbles at the quarry site at TLM 259 located to the southwest adjacent to the Susitna River. Observed site size based on the distribution of artifacts is 8 square meters (Table D.2).

Table D.24.

Artifact Summary, TLM 024

Provenience		Description
Lithic Material		
Surface:	3	Basalt flakes
Subsurface:		
Test pit 1	1	Basalt flake
	6	Rock fragments

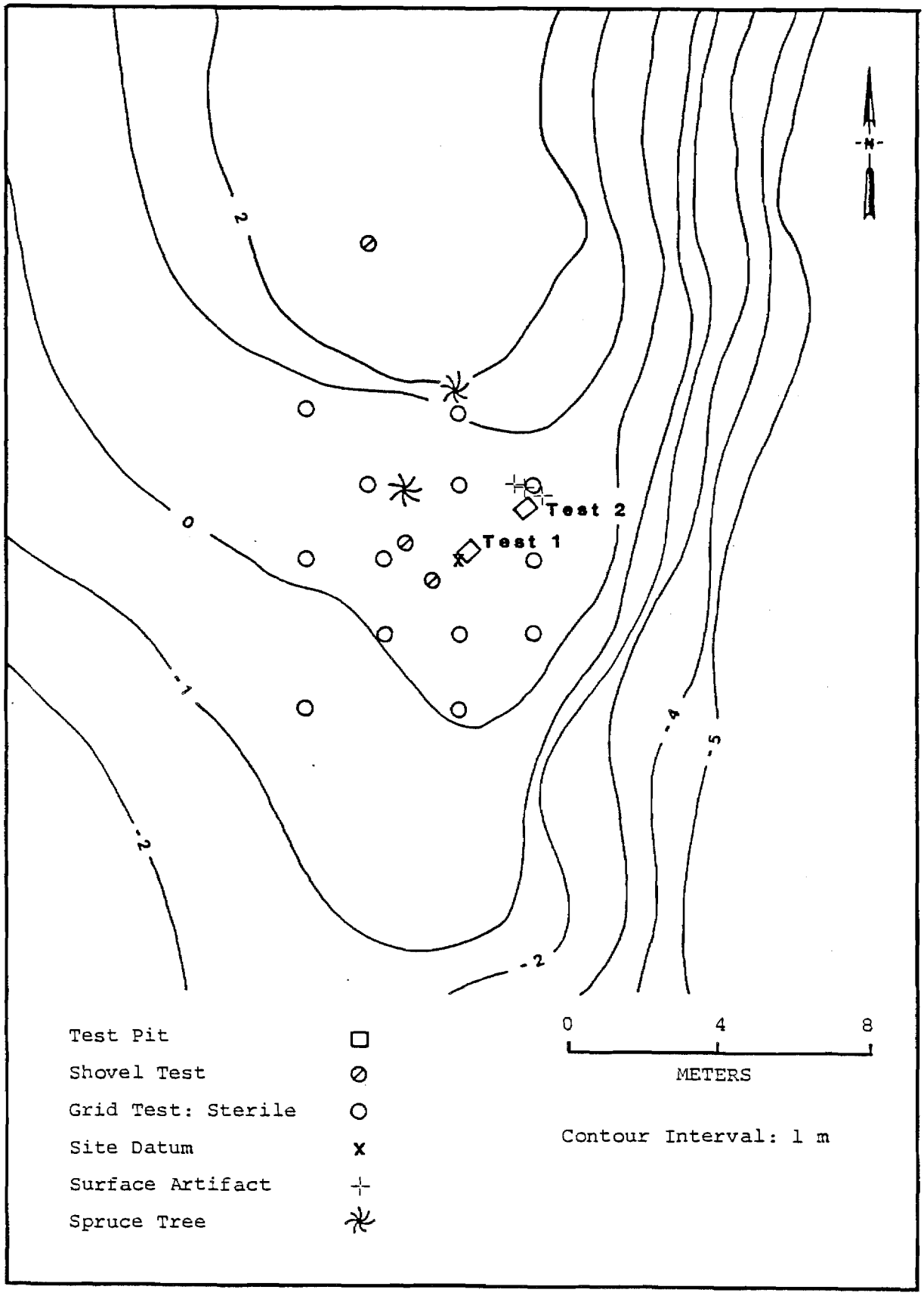

Figure D.14. Site Map, TLM 024

AHRS Number TLM 025; Accession Numbers UA80-72, UA81-225

Area:	Southwest of Watana Creek Mouth
Site Map:	Figure D.15
Site Location Map:	Figure E.49
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site, located south of the Susitna River and southwest of the mouth of Watana Creek, is situated at the northeast end of a ridge at the highest elevation of a streamlined knob, which is a crag-and-tail feature at ca. 792 m asl (2600 feet). Site topography exhibits sharp relief from the surrounding terrain which is 91-122 m lower in elevation. The view from the top of the hill is excellent in all directions for a distance of over 10 km, however, the view from the site is oriented towards the southwest, overlooking a small valley. To the north a long stretch of the Susitna River valley is visible, although the river itself cannot be seen. The Fog Lakes are visible 4 km to the west, as is the mouth of Watana Creek to the northeast. Bedrock is exposed at the summit of the hill and on the slopes to the north and southeast. Mosses, Labrador tea, and low brushes are the common vegetation on the site, with higher brush dominating the slopes below. Vegetation on the surrounding plain 100 m below is open moist tundra with black spruce adjacent to seasonal or former stream channels. More extensive stands of black spruce and birch are located on better drained slopes to the south and north with areas of treeless tundra to the east and west.

Testing:

Survey level testing showed the site to contain both surface and subsurface cultural material. A surface flake scatter covering an area 4 (north-south) x 35 m (east-west) was exposed in a blowout (Figure

D.15). Within this larger scatter, a concentration of flakes occupied an area of 6 (north-south) x 4 m (east-west). Artifacts collected on the surface consist of: 1 chert modified flake (UA81-225-2), 2 microblade fragments (UA81-225-3, 6; Figure D.364c, d), 1 chert biface (UA81-225-5; Figure D.364h), 1 argillite microblade core (UA81-225-1; Figure D.364g), 2 microblade core tablets (UA80-72-10; UA81-225-4; Figure D.364f,e), and 1 hammerstone (UA81-225-9; Figure D.364i). Twelve flakes were also collected on the surface. Other observed surface flakes were left in situ (Table D.25). Three test pits were excavated, two of which produced cultural material. A single chert flake was found in test pit 1 at 11 cmbs. Test pit 2 produced two basalt flakes between 7 and 10 cmbs. Raw materials of artifacts represented at this site are quite diverse and include argillite, basalt, chalcedony, chert, and obsidian. Estimated site size based on the distribution of artifacts is 140 square meters (Table D.2).

Table D.25.

Artifact Summary, TLM 025

Provenience		Description
Lithic Material		
Surface:	4	Argillite flakes
	4	Basalt flakes
	1	Chalcedony flake
	1	Chert flake
	2	Obsidian Flakes
	1	Chert modified flake (UA81-225-2)
	2	Argillite microblade fragments (UA81-225-3, 6)
	1	Chert biface (UA81-225-5)
	1	Argillite microblade core (UA81-225-1)
	1	Argillite microblade core tablet (UA81-225-4)
	1	Chert microblade core tablet (UA80-72-10)
	1	Hammerstone (UA81-225-9)
	1	Rock fragment
	1	Ochre piece
Subsurface:		
Test Pit 1	1	Chert flake
Test Pit 2	2	Basalt flakes

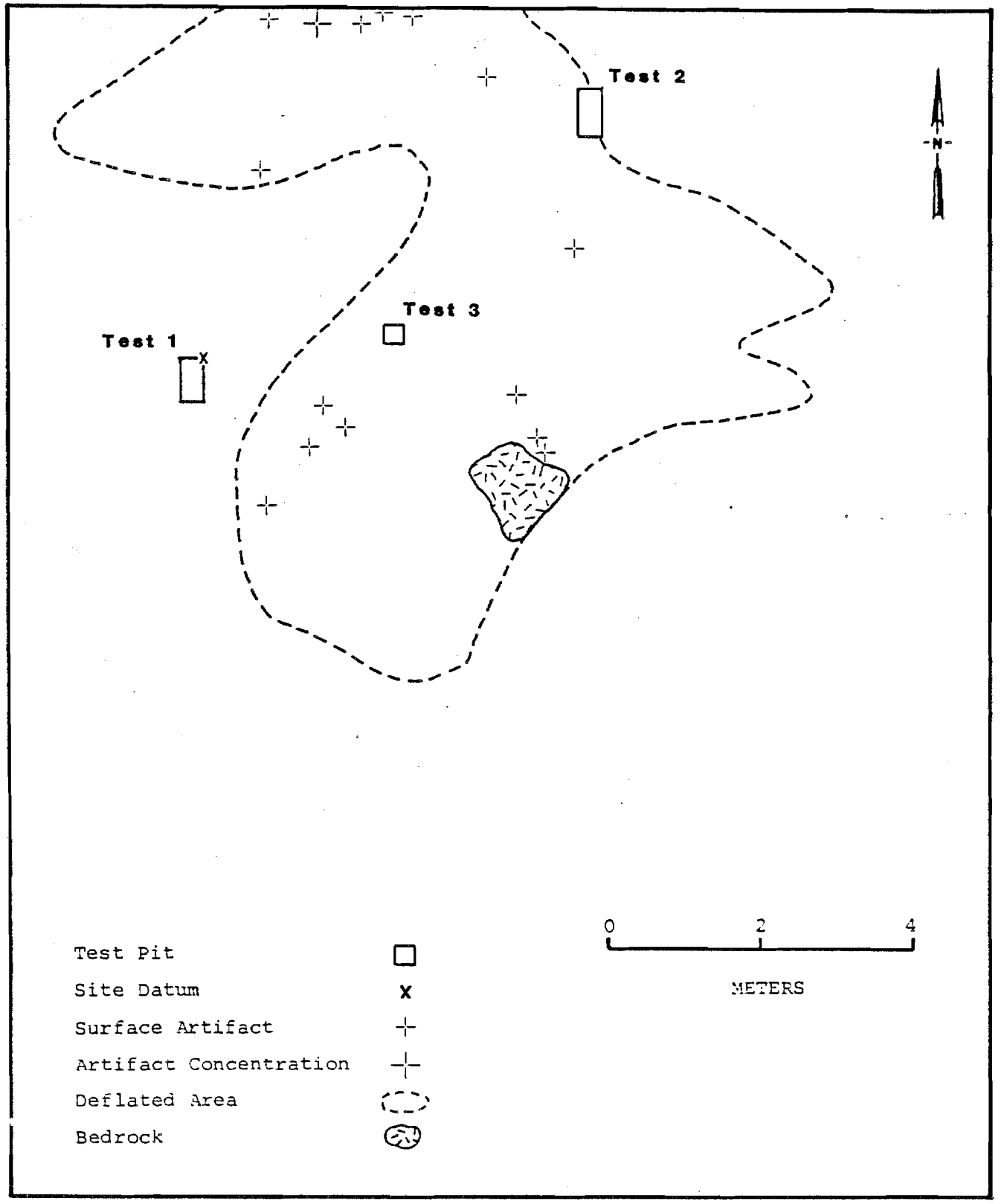

Figure D.15. Site Map, TLM 025

AHRS Number TLM 026; Accession Numbers UA80-73, UA81-218, UA84-139

Area:	Across from Goose Creek Mouth
Site Map:	Figure D.16
Survey Locale 45:	Figure E.123
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site is located on the north side of the Susitna River across from the mouth of Goose Creek. It is situated at 693 m asl (altimeter: 2275 feet) on the southwestern point of a projection of land ca. 1.5 km long. At this point the Susitna River forms a tight bend, flowing almost completely around the site. Two abandoned stream channels cut across the top of the ridge, one immediately northeast of the site and the other approximately 900 m northeast in the vicinity of site TLM 042. The site is ca. 46 m above the Susitna River with the point increasing in elevation to the northeast to ca. 762 m asl (2500 feet). The view to the northeast is excellent for approximately 3 km upriver. The view across the river encompasses approximately 1 km of the Goose Creek drainage. In this area the Susitna River is wide and shallow with gravel bars and islands in sight. Several small kettle lakes are located 2-3 km northeast of the site and are easily accessible from it. The site area is level and open with scattered spruce, willow, Labrador tea, blueberry, mosses, and lichens forming the major vegetation. The slopes leading down to the Susitna River are steep, eroded, and poorly vegetated. Spruce are present at the bottom of the slope and increase in density with proximity to the river.

Testing:

The site consists of isolated surface artifacts and a possible hearth, or other feature, all of which are exposed at the top of an eroded bank overlooking the Susitna River. All observed surface artifacts were collected from the exposure and include 1 chert endscraper (UA80-73-1;

Figure D.364k), 1 chert biface (UA80-73-4; Figure D.364j), 2 flakes, and 2 river cobbles (Table D.26). All of these artifacts were found on active erosional surfaces. Seven shovel tests and three test pits revealed no subsurface artifacts. The two large river cobbles in the bluff exposure overlooking the river to the northwest were located in silt deposits where no other gravels or cobbles were present. The river cobbles were out of geologic context and may represent the partial remains of a cultural feature. Their position in a silt matrix may be the result of human activity. In an attempt to determine if these cobbles were part of a hearth, or other feature, the bank was troweled back. No other cobbles or cultural materials were observed while preparing the bank to draw a soil profile.

Additional intensive surface survey and shovel testing were conducted because no subsurface or in situ cultural material had been found at the site. Eighty-five shovel tests were dug (not shown on site map). Only one shovel test (test B), located 103 degrees and 31 m from the site datum, produced cultural material, 134 calcined bone fragments. The bone occurred above 9 cmbs and seemed to be associated with a dark A horizon just below the humic mat.

A shovel testing expansion program was undertaken to assist in determining site size and the distribution of cultural materials. Thirty-four grid shovel tests were excavated around the shovel test containing calcined bone. One of the grid shovel tests (shovel test 1, N104/E104) contained a basalt flake. Observed site size based on the distribution of artifacts is 75 square meters (Table D.2).

Table D.26.

Artifact Summary, TLM 026

Provenience		Description
Lithic Material		
Surface:	1	Argillite flake
	1	Chert flake
	1	Chert scraper (UA80-73-1)
	1	Chert biface (UA80-73-4)
	2	Cobbles
Subsurface:		
Shovel test N104/E104	1	Basalt flake
Faunal Material		
Subsurface:		
Shovel test B	4	Right distal tibia fragments (articulating), burned, caribou (Rangifer tarandus)
	130	Long bone and unidentifiable fragments, burned, medium-large mammal

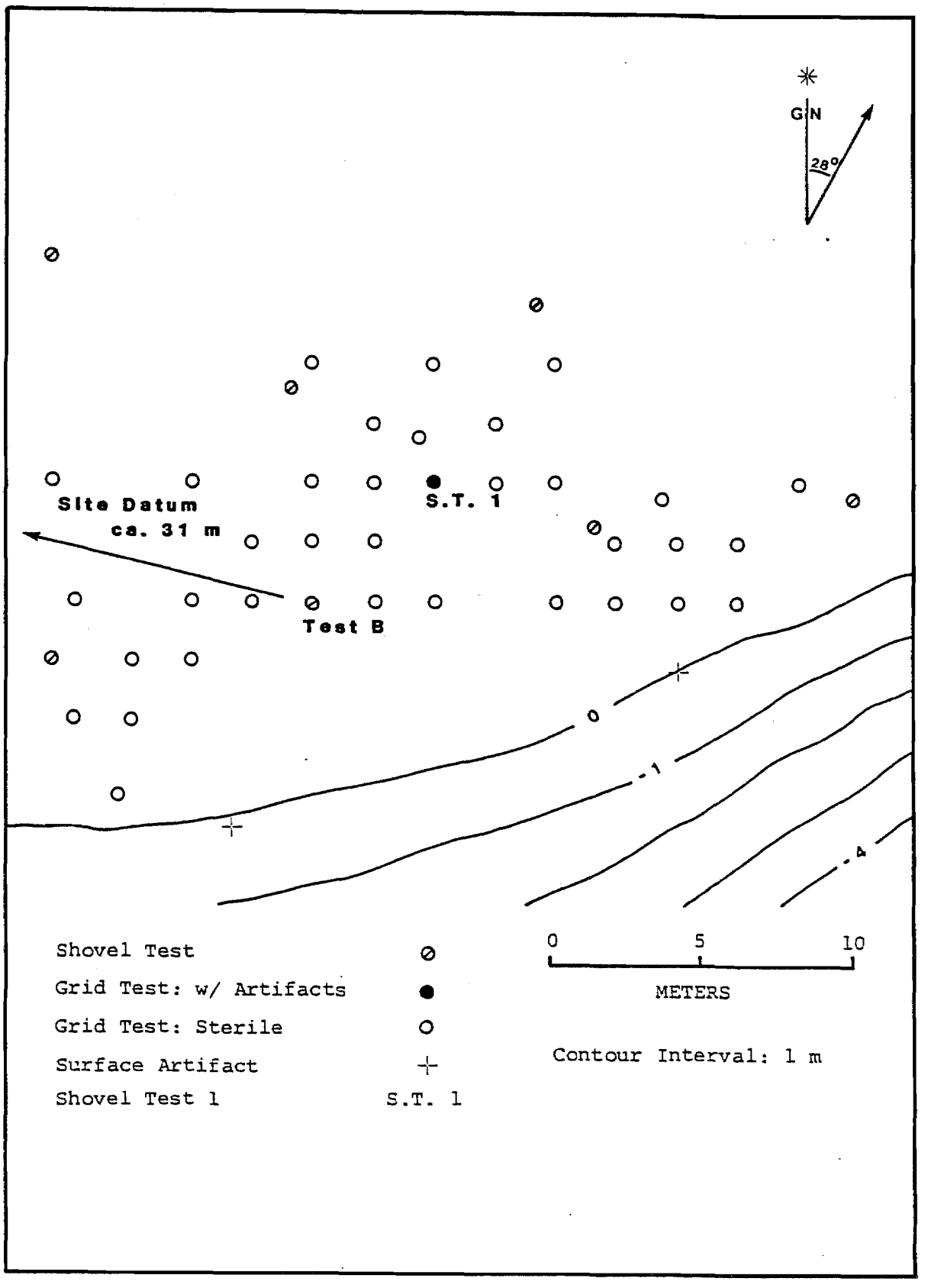

Figure D.16. Site Map, TLM 026

AHRS Number TLM 027; Accession Numbers UA80-74, UA81-243, UA84-218

Area:	North of Fog Creek Mouth
Site Map:	Figure D.17
Survey Locale 14:	Figure E.90
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located on the south side of the Susitna River at the mouth of a stream which joins the Susitna River from the east, north of the mouth of Fog Creek. Situated on the summit of a discrete cone-shaped knoll, at an elevation of 487 m asl (altimeter: 1598 feet), approximately 100 m from the river margin, the site overlooks both the Susitna River and the mouth of the small clear water stream to the south. The knoll forms the end of a ridge which extends northeast towards higher ground. In all other directions the 30 m high knoll slopes steeply to the level of the Susitna River. The top of the knoll is approximately 20 m square, sparsely vegetated, and commands a good view in all directions, which is limited only by the tops of several trees rooted on the steep slopes below. The Susitna River is in view for 5 km downstream and 1.6 km upstream. The views westward across the river and eastward along the ridge system behind the site are restricted by hills about 800 m asl (2625 feet). Below the site there is evidence of terracing by the Susitna River. Tree growth on the slopes of the knoll is dense but only a few birch and aspen grow on top, along with dwarf birch, blueberry, Labrador tea, lowbush cranberry, mosses, and lichens. The vegetation at the base of the knoll changes from birch and aspen to black spruce, highbush cranberry, grasses, and sphagnum moss.

Testing:

During the initial survey, this site was discovered through subsurface testing. No surface indication of the site was observed, however, cultural material was found in each of the three 40 x 40 cm test pits

excavated on the relatively flat summit. Cultural remains were recovered from two different soil horizons in test pit 1, although test pits 2 and 3 yielded cultural material from the lower horizon only.

A grid shovel program was undertaken to assist in determining site size and the distribution of cultural materials. Forty grid shovel tests were excavated, seven of which yielded artifacts. Forty-eight argillite and three basalt flakes were recovered, as well as one basalt modified flake (UA84-218-2).

Results from the preliminary testing suggested that the site may encompass the entire top of the knoll and may contain vertically stratified cultural material bracketed by deposits of volcanic ash. To confirm these contentions three 1 x 1 m test squares were excavated at the site during the systematic phase of testing.

Discussion:

Testing at TLM 027 involved the excavation of 3 test pits, 40 grid shovel tests, and 3 test squares. The cultural remains recovered from these testing episodes consisted of 40 tools or tool fragments, 561 flakes, and 2 cobbles. Tables D.28 and D.29, respectively, provide a total artifact inventory and distribution by stratigraphic unit. Three components were defined at this site on the basis of systematic testing.

Survey testing consisted of the excavation of three test pits, all of which yielded cultural material. Test pit 1 produced two distinct raw material types, each associated with a different soil horizon. Three basalt flakes were discovered between 3-5 cmbs at the contact between the humus layer and a whitish gray volcanic ash (Devil tephra). Between 16 and 24 cmbs and associated with the contact between a dark gray volcanic ash (Oshetna tephra) and glacial drift, 11 large patinated light green argillite flakes and an argillite rejuvenation flake (UA80-74-10; Figure D.365k) were found. It is uncertain whether or not the larger flakes have been retouched due to the weathered and extremely soft nature of these artifacts. These specimens appear to be associated

with a subsurface scatter which was only partly exposed by this test. Test pit 2 produced 12 flakes from a depth of 20-25 cmbs which appear to be struck from the same argillite material as the specimens recovered in the lower soil horizon in test pit 1. Test pit 3 produced two basalt flakes and six argillite flakes from a depth of 22-28 cmbs.

The artifacts recovered during the grid shovel testing program originated from the Oshetna tephra (unit 5), the contact between the Oshetna tephra and the glacial drift (unit 5/6), and the glacial drift (unit 6). The only tool, a weathered basalt unifacially modified flake (UA84-218-1), was recovered from an unspecified unit, but apparently from a lower stratum related to the Oshetna tephra.

All three 1 x 1 m systematic test squares produced cultural material and six soil units were identified (Figure D.18; Table D.27). Although the upper component was found in one square, the two lower components were represented in all squares. The lower components can be distinguished by their characteristic raw materials (basalt and weathered argillite) and apparent differences in lithic technology (bifacial vs. unifacial, respectively). The stratigraphic differentation of these two components, both of which are located in the lowermost tephra unit, was clear only in test square N101/E100 where the soil units were minimally disturbed. The bifacial, basalt industry was discovered in association with an organic level located at the contact of soil units 4 and 5, while the weathered argillite unifacial industry was associated with the contact of units 5 and 6. The Oshetna tephra (unit 5) appears to contain a mixture of both technological industries.

The spatial distribution of the artifacts indicates that most of the knoll top probably contains both weathered argillite and basalt artifacts, representative of the lower components, while the most recent component is more sporadic in horizontal distribution. The stratigraphy appears more disturbed from grid north to grid south.

Upper Component: The upper component was not well represented. Evidence for this component was clearly defined in only one test square

and consisted of three basalt flakes from the contact between the 02 horizon and the Devil tephra (unit 2/3). Three other flakes (two argillite and one chert) and a cobble recovered from the Devil tephra (unit 3) may also be a part of this component, but their direct association cannot be demonstrated at this time. The three basalt flakes found in test pit 1, during survey testing, also appear to be associated with this component. Two radiocarbon samples taken from this component suggest that the upper component may be as old as 1800 years B.P. One sample (UA81-243-3) from the lower portions of the finely divided organics (unit 2) yielded a date of 140 ± 45 years: A.D. 1810 (DIC-2244). The other sample (UA81-243-2) from the contact of the finely divided organics and the Devil tephra (unit 2/3) produced a date of 1800 ± 55 years: A.D. 150 (DIC-2284).

Middle Component: The second occupation was characterized by a relatively higher percentage of basalt artifacts, as compared to the other occupation levels. A radiocarbon sample derived from the contact of the Watana and Oshetna tephras (unit 4/5) produced a date for this component of 3210 ± 80 years: 1260 B.C. (DIC-2286). The 202 flakes represented the widest variety of raw materials, including argillite, basalt, chalcedony, chert, obsidian, and rhyolite. The tools, however, were either argillite or basalt. Argillite tools consisted of 2 modified flakes (UA81-243-281, 282), 1 complete blade (UA81-243-219; Figure D.365g), and 6 blade fragments (UA81-243-218, 224, 225 articulates with 226, 249, 441; Figure D.365e,f,d,a,h). Basalt tools consisted of one rather amorphous biface (UA81-243-32; Figure D.366c) and two basalt flake cores (UA81-243-30, 33; Figure D.366a).

Lower Component: Artifacts from the lowest component occur in the Oshetna tephra (unit 5), in the glacial drift (unit 6), and at the contact between these two units (unit 5/6). This component is characterized by the predominance of highly weathered argillite and blades. Two features were delineated at the site, both of which contained weathered argillite only and were characterized by large flakes, blades, and modified flakes. Because of the high degree of weathering on this material it is difficult to assess the extent of retouch or

utilization of these artifacts. The location of these features in the Oshetna tehpra (unit 5) and at the contact between the Oshetna tephra and the glacial drift (unit 5/6) makes assigning them to specific cultural components difficult as this unit contains elements of both of the lower components. The presence of only argillite artifacts and blades in these features may indicate their association with the lower component.

Feature 1, located in the southeast corner of test square N101/E100, associated with the contact between the Oshetna tephra and glacial drift (unit 5/6), consist of a flake scatter surrounding a rounded cobble. The largest flake is 10 cm long while the remaining flakes varies between 3 and 7 cm in length. Some modification is apparent on seven specimens (UA81-243-56, 57, 58, 59, 60, 63 and 65). A single blade (UA81-243-61; Figure D.365i), snapped at both ends, is associated with this flake scatter. These artifacts ringed a rounded cobble which appears to be the same, but unweathered, material as the flakes. There is little evidence of wear on the cobble or other indication of its use as a hammerstone or anvil. Its association with the cultural material and its existence in a soil unit devoid of other cobbles suggest that the presence of this cobble is a result of cultural and not natural activity.

Feature 2, located in the northeast quadrant of N108/E101, associated with the Oshetna tephra (unit 5), was composed of 22 pieces of argillite: 17 flakes, 2 blade fragments (UA81-243-231, 235; Figure D.365j), 1 core (UA81-243-229; Figure D.365m), 1 core fragment (UA81-243-230; Figure D.365l), and 1 rejuvenation flake (UA81-243-233). The polyhedral blade core (UA81-243-229) is blocky in appearance with the platform preparation apparently limited to the immediate area of blade removal. The core fragment (UA81-243-230) shows a retouched platform area similar to that seen in UA81-243-229.

Other tools recovered from the Oshetna tephra include 3 argillite blades and blade fragments (UA81-243-389, 448, 456; Figure D.365b, c), 1 basalt

biface (UA81-243-284), and 1 basalt flake core (UA81-243-372; Figure D.366b).

Evaluation:

The site commands a panoramic view to the south down and across the Susitna River valley. This may suggest that it was an overlook from which hunters manufactured tools while waiting for the appearance of large mammals below. The restricted nature of the topographic feature upon which the site is situated strongly implies that it did not serve as a large camp or village site. The site was occupied at least three times during the past, the last time sometime slightly after A.D. 200 The radiocarbon determinations which provide the minimum limiting dates for the Devil tephra are from the contact of units 2 and 3 of this site and may actually date the latest period of occupation at this site. The sparse nature of the artifactual material and lack of diagnostic specimens recovered from this occupation, make it difficult to further evaluate the site use during this time period.

The second occupation occurred about 1260 B.C. It was characterized by a relatively higher percentage of basalt artifacts, as compared to the other occupation levels. This occupation also displays the greatest diversity in raw materials.

The oldest component at the site did not yield charcoal or other organic material suitable for radiometric dating. However, its occurrence below the Oshetna tephra establishes its age as older than the minimum limiting date for the Oshetna ash. The lithics recovered from this component exhibit considerable weathering which suggests their exposure on the surface for a long period prior to the deposition of the Oshetna tephra. The assemblage is characterized by blades which bear a strong resemblance to similar specimens of the Ugashik Narrows phase, documented from the Alaska Penninsula (Dumond 1977).

Based on typological comparison of the assemblage with the Ugashik Narrows material, the pronounced degree of weathering on the specimens,

and the occurrence of the component below the Oshetna tephra, it is not unreasonable to postulate an age of approximately 7000 years B.P. for this component. Based on the foregoing discussion, this component appears to be one of the oldest archeological assemblages discovered during the course of the cultural resource survey for the Susitna Hydroelectric Project. Observed site size based on the distribution of artifacts is 105 square meters (Table D.2).

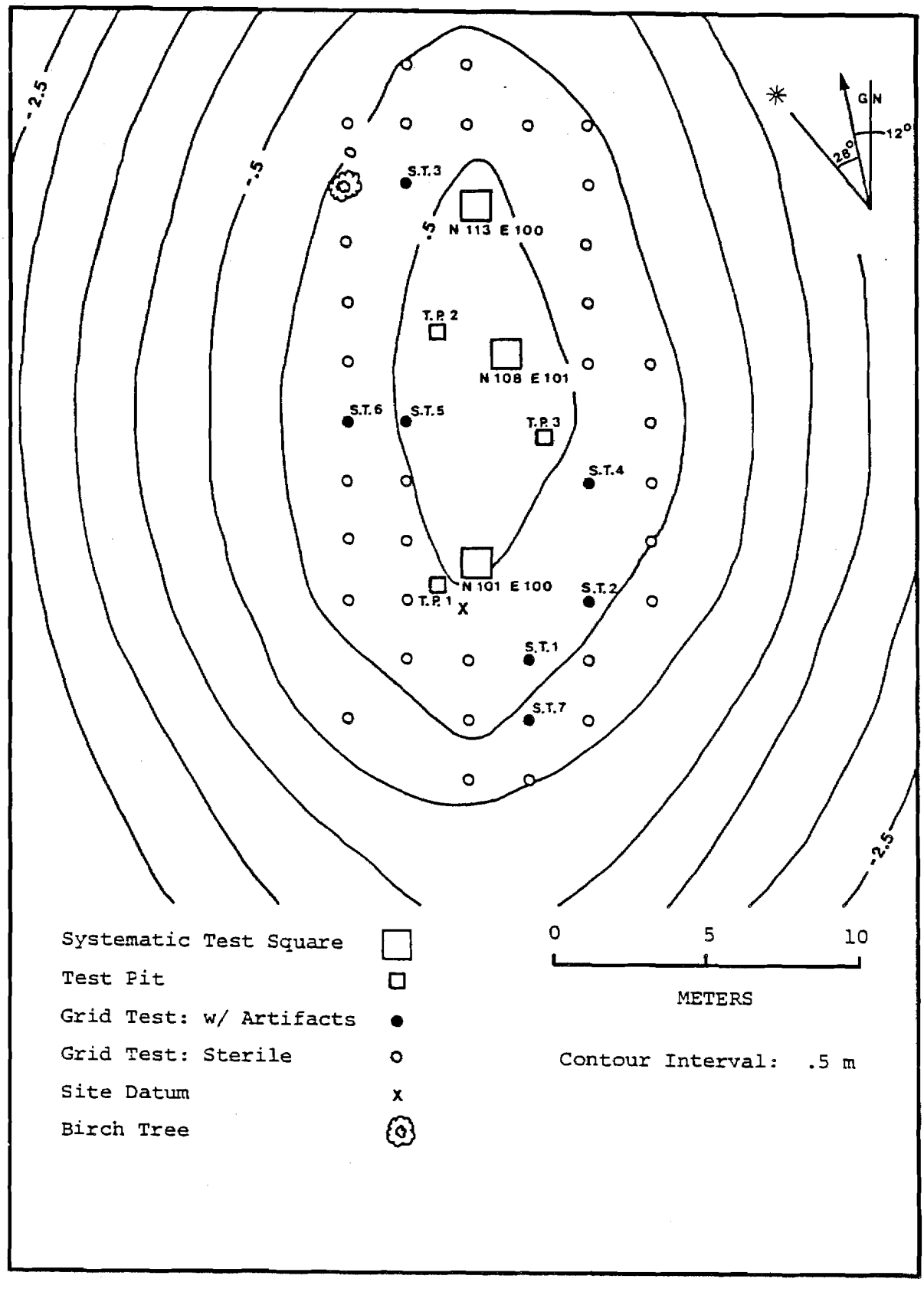

Figure D.17. Site Map, TLM 027

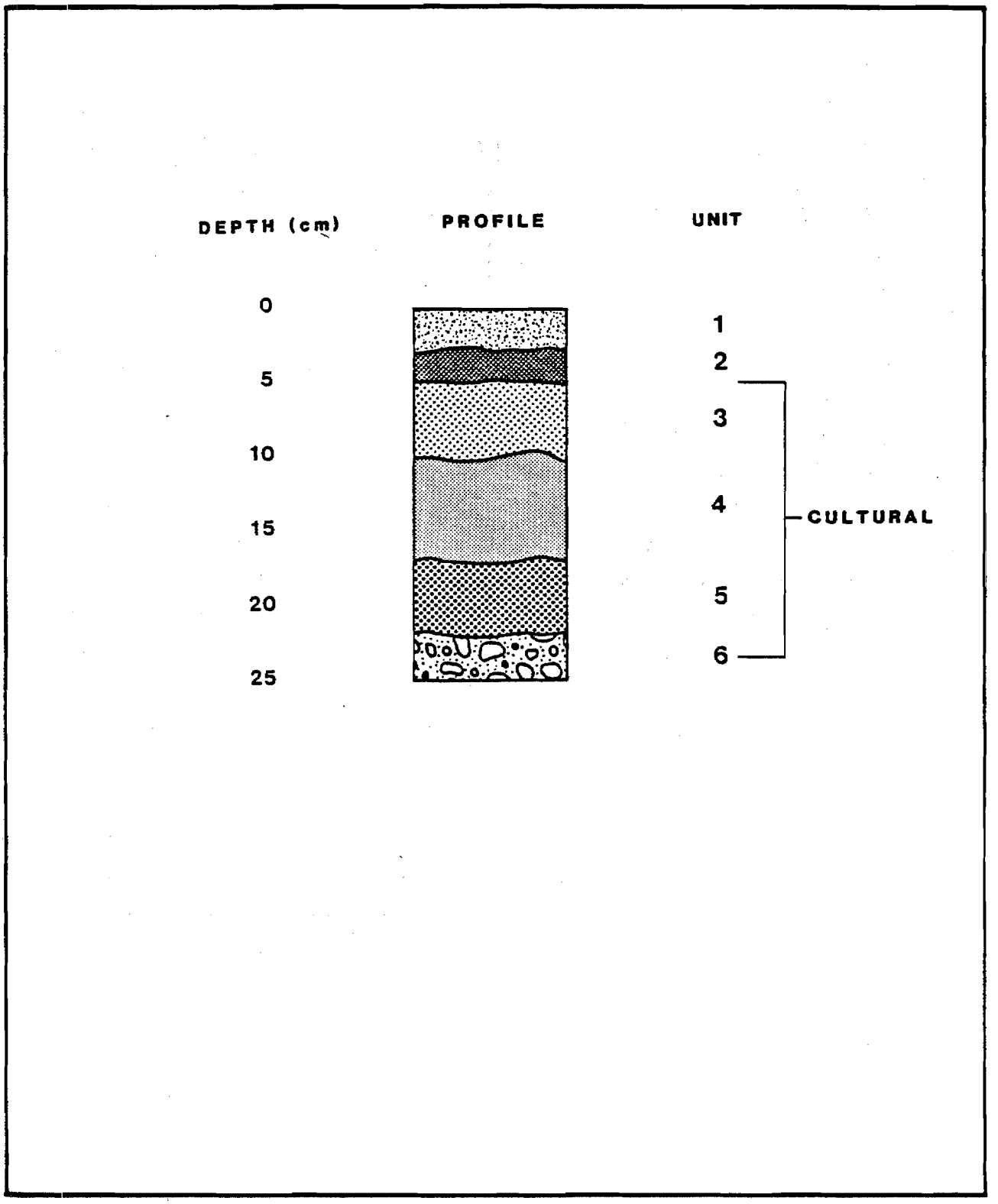

Figure D.18. Composite Profile, TLM 027

Table D.27.

Soil/Sediment Descriptions for Composite Profile, TLM 027

Unit	Description
1	Organic layer, roots, moss, lichen, and decomposed plant fragments. Continuous though variable in thickness.
2	Very finely divided organics mixed with silt; dark reddish brown (5YR 2.5/2). Variable in thickness and continuity. Contacts with unit 3 are both gradational and sharp.
3	A horizon/tephra (Devil). Variable in color depending on degree of alteration. Unaltered tephra is pinkish gray (7.5YR 7/2), while altered tephra is light brownish gray (2.5Y 6/2). Sharp lower boundary. Thickness variable throughout site.
4	Tephra (Watana). Variable in color depending on degree of oxidation; upper subzone dark reddish brown (5YR 3/4) highly oxidized with sand-sized concretions and grades into less oxidized zone strong brown (7.5YR 4/6) that in turn grades into unaltered tephra brownish yellow (10YR 6/6). Forms sharp upper contact with unit 3. Unit 4 mixed with unit 5 in test squares N108/E101 and N113/E100 while in test square N101/E100 the contact between units 4 and 5 is sharp.

Table D.27. (Continued)

Unit	Description
5	Tephra (Oshetna). Variable in color upper portions are brownish gray (10YR 5/3) that grade into a gray (10YR 5/1) tephra. Units 4 and 5 are separated by a thin charcoal layer in square N101/E100. Continuous although in squares N108/E101 and N113/E100 mixed with unit 4; pebble and granules from unit 6 are mixed with unit 5 in these two test squares. In square N100/E101 the contact between 5 and 6 is sharp but wavy.
6	Intermixed sand, pebbles, and granules; strong brown (7.5YR 5/8) to yellowish red (5YR 4/6). In square N101/E100 sandy layer between unit 5 and underlying granules and pebbles.

Table D.28.

Artifact Summary, TLM 027

Tools

18	Modified flakes 16 Argillite (UA80-74-25; UA81-243-46, 47, 51, 52, 56, 57, 58, 59, 60, 63, 65, 222 articulates with 223, 281, 282) 2 Basalt (UA81-243-42; UA84-218-1)
13	Blades and fragments 13 Argillite (UA81-243-61, 218, 219, 224, 225 articulates with 226, 231, 235, 249, 389, 441, 448, 456)
2	Bifaces 2 Basalt (UA81-243-32, 284)
2	Rejuvenation flakes 2 Argillite (UA80-74-10; UA81-243-233)
5	Flake cores and fragments 2 Argillite (UA81-243-229, 230) 3 Basalt (UA81-243-30, 33, 372)
40	

Table D.28. (Continued)

Lithic Material	
300	Argillite flakes
210	Basalt flakes
17	Chalcedony flakes
32	Chert flakes
1	Obsidian flake
1	Rhyolite flake
2	Cobbles
563	

Table D.29.

Artifact Summary By Stratigraphic Unit TLM 027

Unit		Description
2/3	3	Basalt flakes
Contact between		
02 horizon and		
Devil tephra		
3	1	Argillite flake
Devil tephra	2	Chert flakes
	1	Cobble
4	3	Argillite flakes
Watana tephra	24	Basalt flakes
	5	Chert flakes
	2	Argillite modified flakes (UA81-243-222 articulates with 223)
	3	Argillite blades (UA81-243-224, 225 articulates with 226)
4/5	50	Argillite flakes
Contact between	108	Basalt flakes
Watana and	14	Chalcedony flakes
Oshetna tephra	11	Chert flakes
	1	Obsidian flake
	1	Rhyolite flake
	4	Argillite blades and fragments (UA81-243-218, 219, 249, 441)
	1	Argillite rejuvenation flake (UA80-74-10)

Table D.29. (Continued)

Unit		Description
4 and 5	14	Basalt flakes
Mixed Watana	3	Chert flakes
and Oshetna tephras	2	Argillite modified flakes (UA81-243-281, 282)
	1	Basalt biface (UA81-243-32)
	2	Basalt flake cores (UA81-243-30, 33)
5	71	Argillite flakes
Oshetna tephra	51	Basalt flakes
	3	Chalcedony flakes
	11	Chert flakes
	2	Argillite modified flake fragments (UA81-243-46, 47)
	1	Basalt modified flake (UA81-243-42)
	3	Argillite blades and fragments (UA81-243-389, 448, 456)
	1	Basalt biface (UA81-243-284)
	1	Basalt flake core (UA81-243-372)
5	17	Argillite flakes
Feature 2	2	Argillite blade fragments (UA81-243-231, 235)
Upper portion		
of Oshetna tephra	1	Argillite rejuvenation flake (UA81-243-233)
	1	Argillite flake core (UA81-243-229)
	1	Argillite flake core fragment (UA81-243-230)

Table D.29. (Continued)

Unit		Description
5/6	73	Argillite flakes
Contact between	5	Basalt flakes
Oshetna tephra	2	Argillite modified flakes (UA81-243-51, 52)
and glacial drift		
5/6	45	Argillite flakes
Feature 1	7	Argillite modified flakes (UA81-243-56, 57,
Contact between		58, 59, 60, 63, 65)
Oshetna tephra	1	Argillite blade (UA81-243-61)
and glacial drift	1	Cobble
6	9	Argillite flakes
Glacial drift		
Unknown	31	Argillite flakes
Subsurface	5	Basalt flakes
	1	Argillite modified flake (UA80-74-25)
	1	Basalt modified flake (UA84-218-1)

AHRS Number TLM 028; Accession Number UA80-75

Area:	Esker Southwest of Tyone River Mouth
Site Map:	Locus A, Figure D.19
Site Location Map:	Figure E.50
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site, consisting of two loci (A and B), is located on the northern margin of the Susitna River downriver from the mouth of the Tyone River. The two site loci are situated on a long esker at an elevation of ca. 701 m asl (2300 feet) which parallels a bend of the river for approximately a kilometer. The esker is a discrete topographic feature with a 2 m wide flat crest approximately 30 m above the level of the Susitna River. A well-used game trail runs the entire length of the esker.

Locus A: This locus is located a few meters below the highest elevation at the northeast end of the esker. The outlet stream from a small lake northwest of locus A joins the Susitna River north of locus A at the terminus of the ridge. The mouth of this stream is not visible from locus A due to dense vegetation.

Locus B: This locus is located approximately 750 m southwest of locus A on the level crest of the same ridge line. The view from both loci is good in all directions although limited by the relatively low elevation of the esker. The view includes the Susitna River and the lowlands to the south and southwest for a distance of several kilometers. Other eskers of various lengths and elevations are located in the area on both sides of the Susitna River. Vegetation at both site loci includes black and white spruce, dwarf willow, bearberry, mosses, and lichens. To the southeast the terrain is characterized by poorly drained areas predominantly vegetated with black spruce, birch, and sphagnum moss including

areas of muskeg and standing water. The Susitna River borders the site to the southeast.

Testing:

Surface survey along the top of the esker resulted in the collection of two isolated flakes.

Locus A: At locus A one argillite flake was found in a blowout approximately 10 m south of the highest elevation on the ridge line (Table D.30). Intensive surface survey, one shovel test, and two test pits in the vicinity of the blowout did not result in the location of any additional cultural material. Test pit 1 was placed at the edge of the blowout where the flake was found; the shovel test and test pit 3 were placed at the highest elevation of the ridge.

Locus B: At locus B a basalt waste flake was surface collected from the middle of the game trail which follows the ridge crest (Table D.30). Again, intensive survey and a single test (test pit 1) in the area where the flake was found failed to produce any additional cultural material.

For locus A, estimated site size based on the distribution of artifacts is 4 square meters. For locus B, estimated site size based on the distribution of artifacts is also 4 square meters (Table D.2).

Table D.30.

Artifact Summary, TLM 028

Provenience		Description
Lithic Material		
Surface:		
Locus A	1	Argillite flake
Locus B	1	Basalt flake

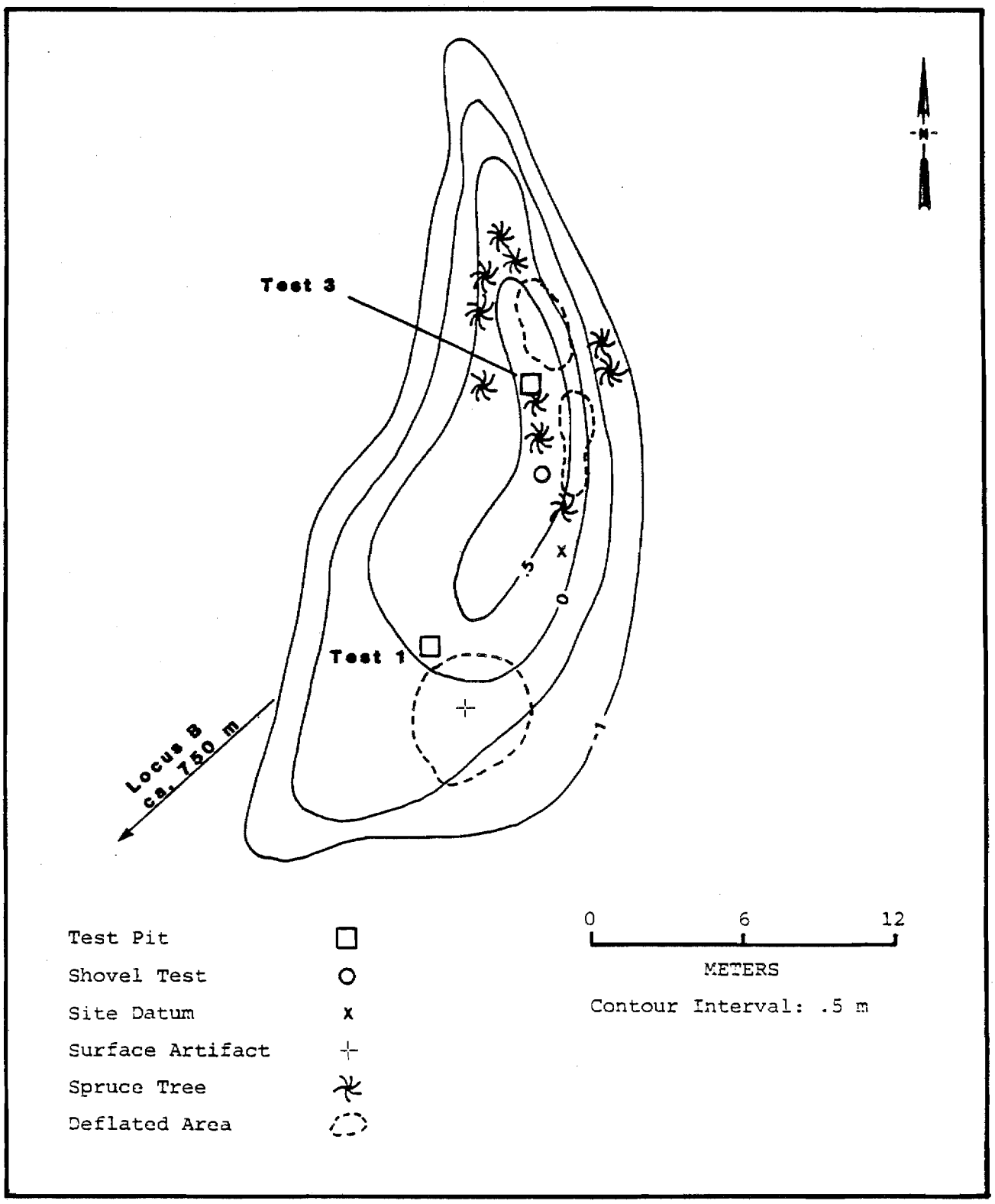

Figure D.19. Site Map, TLM 028

AHRS Number TLM 029; Accession Numbers UA80-76, UA84-65

Area:	North of Fog Creek Mouth
Site Map:	Figure D.20
Survey Locale 14:	Figure E.90
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located on the south side of the Susitna River at the mouth of an unnamed stream which joins the Susitna from the east, northeast of the mouth of Fog Creek. The site is approximately 200 m south of site TLM 027 and is situated on the edge of an alluvial terrace on the south side of the stream at a point where the direction of the ridge changes from a north-south to an east-west orientation. The elevation of the site above the level of the river is approximately 30 m and 464 m asl (altimeter: 1521 feet). Both the stream mouth and the knoll upon which site TLM 027 is located are in view, although the stream itself is obscured by vegetation and a steep slope. The Susitna River, its flood plain, and the adjacent uplands are also visible and easily accessible from the site. The views to the south and east are restricted to less than 50 m due to fairly dense black spruce and the increasing slope. The primary orientation of the site is to the northwest overlooking the stream and stream mouth. A well-used game trail crosses the site, then leads from the higher ground southeast of the site to the Susitna River flood plain to the northwest. Vegetation at the site includes scattered birch, black spruce, lowbush cranberry, Labrador tea, blueberry, sphagnum moss, and lichens. Surrounding vegetation varies between dense and open lowland spruce-hardwood forest with some white spruce and alder in the vicinity of the stream mouth. Sphagnum moss is thick near the stream and there are several moss-covered bedrock outcrops adjacent to the stream channel upstream from the mouth.

Testing:

Site TLM 029 was found during survey when a shovel test revealed artifacts near the terrace edge. A 50 x 70 cm test pit (test pit 1) was excavated near this location and produced 214 flakes (203 basalt, 10 chert, and 1 quartzite). No tools or faunal remains were recovered. Three additional test pits were excavated on other portions of the terrace and one on a bench lying above it, but they contained no cultural material.

A grid shovel test program was initiated to assist in determining site size and the distribution of cultural materials. A total of 34 grid shovel tests were excavated at the site, three of which contained basalt flakes. On completion of the shovel test expansion program, it became clear that the distribution of cultural material was restricted to the edge of the terrace overlooking the Susitna River. To more carefully examine the context of the artifacts at the site, a 1 x 1 m test square was excavated at N99/E97. This square was placed diagonally adjacent to test pit 1. The location was selected because it has a fairly level surface, is centrally located in relation to the terrace edge, and lies in close proximity to the portion of the site containing the highest density of cultural material.

Discussion:

The excavation of test square N99/E97 confirmed that basalt was the primary lithic material utilized at TLM 029. During the grid shovel test expansion, nine basalt flakes were recovered from three shovel tests. Approximately 500 basalt flakes were removed from test square N99/E97. The test square also produced a basalt endscraper (UA84-65-56; Figure D.366d), 2 unidentifiable bone fragments (Table D.33), and 3 pieces of ochre. Most of these artifacts were associated with the Oshetna paleosol and tephra (units 5a and 5b) and attributed to one cultural component.

Nine soil/sediment units were identified in the test square excavation. Figure D.21 shows the vertical position of these units, and Table D.31 provides a description of the unit characteristics. Although some of the stratigraphic units are mottled and mixed, their superposition is generally consistent throughout the test square. Overlying the glacial drift in the stratigraphic sequence are three tephra units. The Oshetna tephra is overlain by a thin (ca. 0.5 cm) discontinuous paleosol from which 266 basalt flakes were recovered. The Devil and Watana tephras, lying above, also produced basalt flakes, but in far fewer numbers. The sequence is capped by a compacted black sandy silt and the organic root mat.

Table D.32 provides an artifact inventory and Table D.34 lists the frequencies of artifacts by stratigraphic unit for all phases of testing at the site. Although flakes do appear in all units from the upper contact of the Devil tephra to the lower contact of the Oshetna tephra, 95% of the lithic debitage with stratigraphic provenience lay within the Oshetna paleosol (unit 5a), the Oshetna tephra (unit 5b) and their contacts. The bone and ochre were also recovered from these units. The stratigraphy of test pit 1 was distorted by solifluction, so flakes from this test had to be assigned to stratigraphic unit unknown. Test pit 1 flakes, lying at 14-34 cmbs, however, did appear to be associated with a light orange silty clay unit which was mottled with gray ash.

On the basis of survey and systematic testing, it appears that TLM 029 is a single component site. This assessment is based on the frequency distribution of cultural material within stratigraphic units, and the similarities in lithic tool manufacturing technologies and raw material preference for the assemblage as a whole. It is likely that artifacts found in the upper stratigraphic units at the site have been displaced from their original context by cryoturbation and other soil formation processes.

Evaluation:

Site TLM 029 is located on the edge of a terrace overlooking the Susitna River. This location provides a clear view of the Susitna River, its flood plain, and the adjacent upland areas, as well as the unnamed creek northeast of the site. Although artifacts were recovered from several soil/sediment stratigraphic units, a single component is likely to be represented at the site. This component is associated with the Oshetna paleosol and tephra and is comprised of unmodified flakes, an endscraper, two heavily burned bone fragments, and ochre fragments. Despite the fact that no diagnostic artifacts were recovered, the stratigraphic position of the assemblage suggests it may be associated with the Northern Archaic tradition which has been documented between the Watana and Oshetna tephras at other sites in the study area.

An examination of the lithic assemblage recovered from the site indicates an emphasis on a biface and core/flake tool manufacturing technology. A dense scatter of lithic debitage within the test square suggests an area of primary refuse for lithic tool manufacturing and maintenance activities. Other maintenance activities are indicated by the presence of an endscraper (e.g., hideworking, woodworking), and artistic or ritualistic activities are suggested by the presence of ochre. This site may have served as a temporary seasonal camp or hunting lookout. Hunting sites are often placed in locations providing maximum visual coverage of an area considered likely for game to be present. Observed site size based on the distribution of artifacts is 31 square meters (Table D.2).

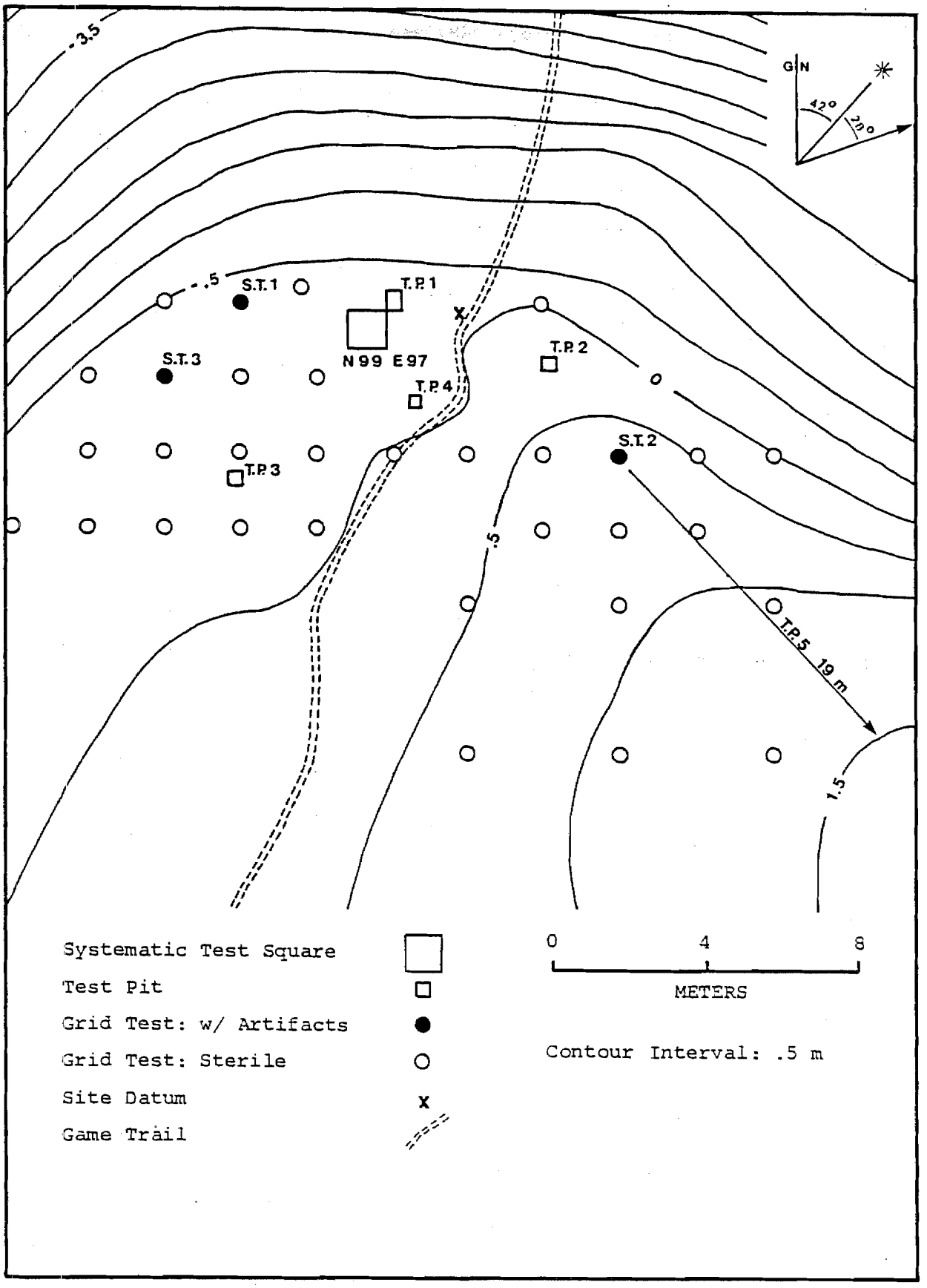

Figure D.20. Site Map, TLM 029

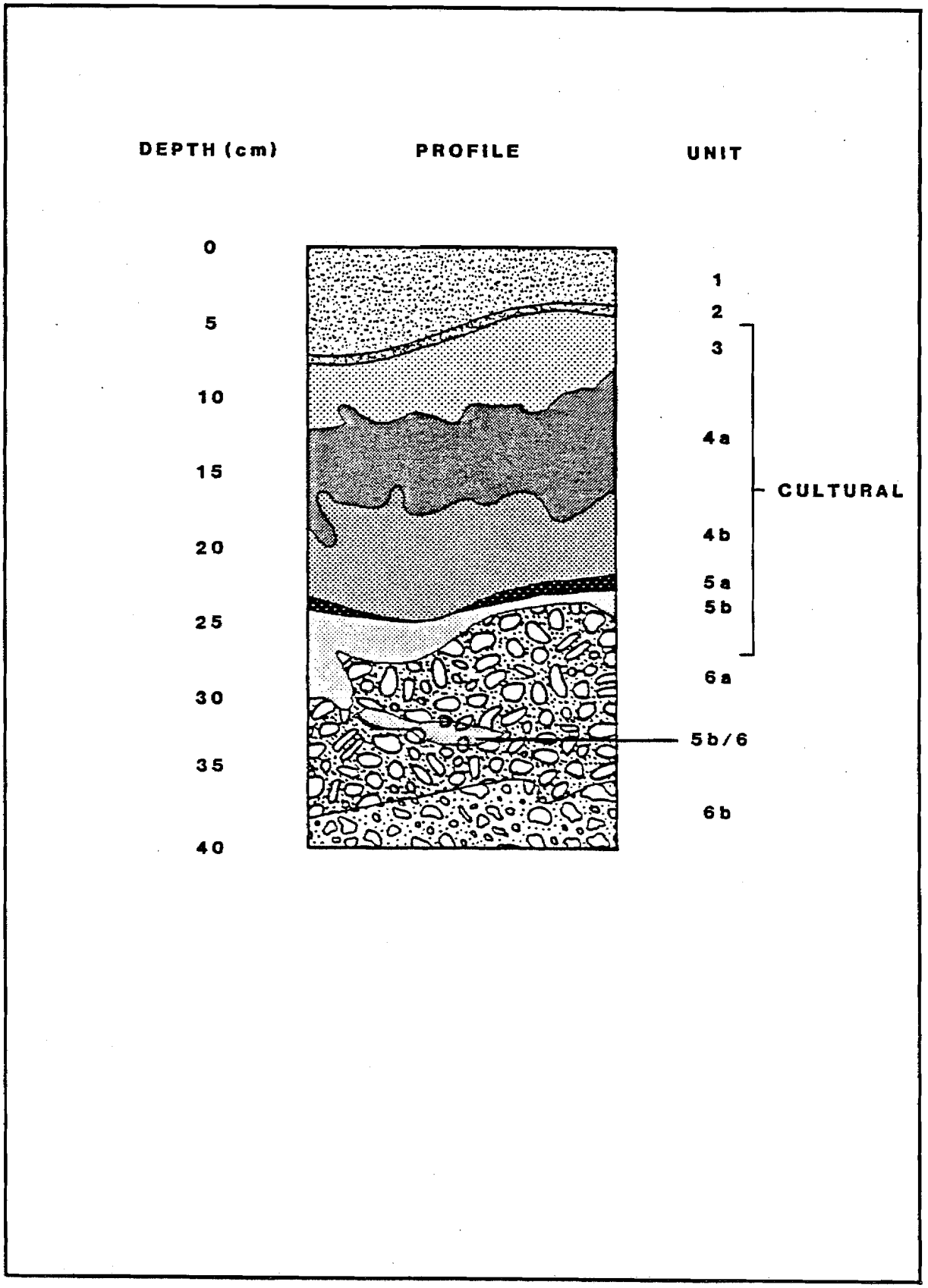

Figure D.21. Composite Profile, TLM 029

Table D.31.

Soil/Sediment Description for Composite Profile, TLM 029

Unit	Description
1	Organic root mat. Loosely compacted and contains decomposed organic material and sandy silt towards the base; strong brown (7.5YR 4/6). Varies between ca. 1 cm and 16 cm in thickness. Vegetation includes blueberry, moss, lichens, Labrador tea, lowbush cranberry, and crowberry in the area of the test square.
2	Loosely compacted sandy silt with charcoal and heavy carbon staining; black (N 2/). Distributed continuously throughout the test square. Unit varies in thickness from 0.5-5 cm. Lithics at lower contact.
3	Fine grained silt and tephra (Devil) with heavy carbon staining and some charcoal flecking; light brownish gray (10YR 6/2) to very dark gray (10YR 3/1). Moderately to densely compacted. Distributed continuously. Varies from ca. 0.5-8 cm in thickness. Contact with unit 2 diffuse; contact with 4a distinct. Cultural material present.

Table D.31. (Continued)

Unit	Description
4a	Fine-grained sediment composed of tephra (Watana) and sandy silt. Moderately compacted and lightly to heavily oxidized. Color varies from yellowish red (5YR 4/6) to dark reddish brown (5YR 3/4). Distributed continuously throughout the test square, but varies in thickness from ca. 2-17 cm. Contacts diffuse and heavy mottling is present. Cultural.
4b	Moderately compacted fine grain tephra (Watana) with slightly sandy silt; yellow (10YR 7/6). Continuous, but ranges in thickness from 0.5-10 cm. Contact with unit 4a diffuse; contact with units 5a and 5b distinct. Few lithic artifacts associated with this stratigraphic unit.
5a	Moderately compacted sandy silt with charcoal flecking and heavy carbon staining; black (N 2/). Oshetna paleosol. Discontinuous. Generally about 0.5 cm in thickness. Distinct contacts. Primary cultural unit.
5b	Moderately compacted sandy silt and tephra (Oshetna) with charcoal flecking; light brownish gray (10YR 6/2). Generally continuous. Varies between ca. 0.5 and 15 cm in thickness. Distinct contacts with unit 5a, but more diffuse contacts with unit 6a. Contains lithic and bone artifacts.

Table D.31. (Continued)

Unit	Description
5b and 6	Oshetna tephra mixed with the oxidized and unoxidized glacial drift; light olive brown (2.5YR 5/4) to dark grayish brown (2.5Y 4/2). Generally occurs below the Oshetna tephra unit. Loosely compacted texture Distributed discontinuously. When separate samples of units 5b and 6 were mixed together they produced a soil/sediment unit virtually identical to that observed in the profiles.
6a	Loosely compacted coarse sandy silt with cobbles; yellowish red (5YR 5/8). Oxidized glacial drift. Continuous. Contact with unit 5b fairly distinct; the contact with unit 6b is diffuse and often ambiguous. Artifacts found at the contact of unit 5b.
6b	Coarse sandy silt with pebbles and cobbles and is loosely compacted in texture; dark yellowish brown (10 YR 3/6) to olive brown (2.5 Y 4/4). Unoxidized glacial drift. Diffuse contacts with unit 6a.

Table D.32.

Artifact Summary, TLM 029

Tools	
1	Scraper
	1 Basalt (UA84-65-56)
Lithic Material	
748	Basalt flakes
12	Chert flakes
1	Quartzite flake
1	Basalt fragment
762	
Faunal Material	
2	Unidentifiable bone fragments
Other	
3	Ochre pieces

Table D.33.

Faunal Material by Stratigraphic Unit, TLM 029

Unit		Description
5a Oshetna paleosol	1	Unidentifiable bone fragment, heavily burned, mammal
5b/6a Contact between Oshetna tephra and oxidized drift	1	Unidentifiable bone fragment, heavily burned, medium-large mammal

Table D.34.

Artifact Summary by Stratigraphic Unit, TLM 029

Unit		Description
2/3 Contact between black silt and Devil tephra	2	Basalt flakes
3 Devil tephra	14	Basalt flakes
3/4a Contact between Devil and oxidized Watana tephras	3	Basalt flakes
4a Oxidized Watana tephra	3	Basalt flakes
4b Unoxidized Watana tephra	2	Basalt flakes

Table D.34. (Continued)

Unit		Description
4b/5a Contact between unoxidized Watana tephra and Oshetna paleosol	1	Basalt flake
4b/5b Contact between unoxidized Watana and Oshetna tephras	6	Basalt flakes
5a Oshetna paleosol	266	Basalt flakes
5a/5b Contact between Oshetna paleosol and Oshetna tephra	28	Basalt flakes
5b Oshetna tephra	80	Basalt flakes
	1	Basalt scraper (UA84-65-56)
	2	Ochre pieces

Table D.34. (Continued)

Unit		Description
5b/6a	76	Basalt flakes
Contact between	1	Ochre piece
Oshetna tephra		
and oxidized		
drift		
Subsurface	267	Basalt flakes
unknown (Survey	12	Chert flakes
testing and	1	Quartzite flake
backfill)	1	Basalt cobble fragment

AHRS Number TLM 030; Accession Numbers UA80-77, UA81-217, UA83-114, UA83-130

Area:	Fog Creek
Site Map:	Figure D.22
	Square Placement, Figure D.23
	Survey Level Testing North ½, Figure D.24
	Survey Level Testing South ½, Figure D.25
	Grid Shovel Testing, Figure D.26
Survey Locale 13:	Figure E.89
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located at an elevation of 482 m asl (altimeter: 1581 feet) on the south margin of Fog Creek upstream from the confluence of Fog Creek with the Susitna River. Situated on the point of a river terrace, the site is approximately 46 m above Fog Creek and overlooks the deeply incised bedrock canyon through which Fog Creek emerges to join the Susitna River. Fog Creek drains a large area including the Fog Lakes region and is a major tributary of the Susitna River. Below the site the creek is shallow with braided channels and is approximately 10 m wide. The site occupies the rounded bend of a continuous terrace where it changes from an east-west orientation, parallel to Fog Creek, to a north-south orientation parallel to the Susitna River. East of the site the terrace joins a ridge which rises parallel to Fog Creek. West of the site the terrace edge drops off steeply for 30 m to a broad, relatively flat, forested alluvial flood plain. The view from the site is primarily northeast up Fog Creek and west down Fog Creek to its mouth, encompassing a distance of approximately 1.5 km. Visibility in other directions is limited by the terrain and dense spruce forest. Both Fog Creek and the Susitna River are easily accessible from the site. A deeply incised game trail traverses the terrace on which the site is located and continues eastward up the ridge. Scattered spruce and birch are present at the site but do not block the view. Lowbush

cranberry, blueberry, Labrador tea, mosses, and lichens form the principal ground vegetation. The surrounding vegetation is a relatively dense lowland spruce-hardwood forest with white spruce and alder present along the creek.

Testing:

Testing at TLM 030 included systematic testing, survey testing, and grid shovel testing. Figure D.22 illustrates the topography of the site area and the portions of the terrace that were examined during systematic and survey testing.

The site was initially found when artifacts were observed eroding out of the game trail that traverses the site. A complete basalt side-notched point (UA80-77-520; Figure D.367o) was collected from the trail. Five test pits were excavated at the western end of the site, four of which produced cultural material.

Twelve 1 x 1 m test squares were excavated during systematic testing. The test squares were placed adjacent to one another and located on the northern edge of the terrace. At this location the terrace edge is oriented east-west paralleling Fog Creek. A series of 10 test squares were placed between two of the initial survey test pits (test pits 1 and 4). Square placement was designed such that one test square was superimposed over test pit 1 and another test square intersected test pit 4. An additional eight squares were placed between these squares in a configuration that would provide a continuous series of profiles between the two test pits. The objective of this square placement strategy was to clarify the relationship between two radiocarbon dates obtained from the two initial survey test pits and to ascertain the number, content, and stratigraphic position of the prehistoric component(s) reported at that time. Once excavation of the ten initial test squares was completed, two additional squares (105/E107 and N105/E109) were excavated. Excavation of these two squares was undertaken to resolve questions regarding the relationship of artifactual material to the stratigraphic sequence in this area of the

site. Refer to Figure D.23 for the location of the test squares and their relationship to the 1980 test pits.

Testing subsequently conducted as part of the resurvey of survey locale 13 consisted of a number of shovel tests placed in the southern portion of the terrace from ca. 75-180 m, south of the main excavation area. The three shovel tests that produced subsurface artifactual material were expanded into 40 x 40 cm test pits. Additional shovel tests were placed along the western terrace edge, four of which produced artifactual material (Figures D.24 and D.25).

A grid shovel testing program was implemented to determine the areal extent of the Fog Creek site, and to clarify the relationship between the artifactual material in the main excavation area and subsurface material located during resurvey testing. A 10 x 10 m grid was established over the terrace using the systematic testing site grid, and shovel testing was conducted at 10 m intervals. Two hundred twenty-four shovel tests were excavated, ten of which contained artifactual material (Figure D.26).

Discussion:

TLM 030 is located on a kame terrace on the east side of the Susitna River. The terrace parallels the river and is dissected by a number of drainages. The terrace is deeply incised north of the site by Fog Creek, a major tributary of the Susitna River, and is dissected to the south by a small, clear, moderately incised stream.

Initial survey testing was confined to the northern edge of the terrace overlooking the broad flat delta of Fog Creek and its confluence with the Susitna River. A high density of artifactual material was found in four of five test pits located along the terrace edge. Surface artifactual material, including a side-notched point (UA80-77-520), was located on a game trail. The game trail crosses the site and traverses the moderately steep slope of the western terrace edge to an alluvial plain of Fog Creek. The surface material is confined to the sloping

portion of the trail suggesting that these artifacts are undergoing downslope movement. Except for the point the surface material was not collected.

The four test pits that contained artifactual material (test pits 1, 3, 4 and 5) were located on top of the terrace. No artifacts were located in an additional test pit (test pit 2) which was situated on a bench ca. 2 meters below the main terrace area. The artifact inventory from the initial survey test pit include 519 flakes and 3 tools. Flakes are primarily basalt with a number of other material types represented. Tools consist of a rhyolite side-notched point base (test pit 1; UA80-77-89; Figure D.367a), a side-notched basalt point (test pit 1; UA80-77-327; Figure D.368g), and a retouched basalt flake (test pit 5; UA80-77-517; Figure D.370f). Artifactual material was recovered from within the Watana and Oshetna tephras and from the contact between these tephra units.

Charcoal samples collected from two of the test pits were submitted for radiocarbon dating. Dates of 2310 ± 220 years: 360 B.C. (test pit 1; DIC-1877), and 4720 ± 130 years: 2770 B.C. (test pit 4; DIC-1880) were obtained. The recent sample was collected from what was interpreted to be a charcoal lens at the upper portion of the unoxidized Watana and the older date was from a charcoal lens between the Watana and Oshetna tephras. The site was revisited and test pits 1, 3, and 4 were opened in order to reevaluate site stratigraphy particularly in reference to the radiocarbon dates. Thirty basalt flakes were collected.

Systematic Testing: All twelve of the test squares excavated during systematic testing contained artifactual material. High densities of material were recovered from the northernmost squares which are situated on the terrace edge, with the greatest number of artifacts recovered from N105/E109. Surface artifacts that were located on a game trail during the initial survey were relocated, and a basalt point preform (UA83-130-1956; Figure D.368d) near the base of the terrace was collected. A total of ca. 88,615 lithics, 10,356 bone fragments, 1967

miscellaneous items (ochre, pellets (insect scat) and floral and faunal specimens), and 120 tools or tool fragments were recovered from all levels of testing. The inventory of artifacts is summarized on Table D.36, and distribution by stratigraphic unit is summarized on Table D.38.

Site stratigraphy at TLM 030 includes six major soil/sediment units and a paleosol. With the exception of unit 2, each of the units is divided into two or more subunits that are distinguished by variations in color and/or texture. The subunits probably result from postdepositional alterations of the original sediment. With few exceptions the vertical placement of stratigraphic units is consistent between test squares. Figure D.27 illustrates the stratigraphic relationship between the various units, and Table D.35 provides descriptive information on the units and subunits defined at the site.

The stratigraphic sequence at TLM 030 consists of ca. 30 cm of fluvial and volcanic sediments overlying glacial deposits. Glacial deposits of sandy drift, pebbles, and cobbles form the basal unit (unit 6). The upper 10-20 cm of the glacial material is weathered and oxidized (unit 6a). The unit is moderately developed as indicated by concretions and cementation of the sand particles. The glacial material is overlain by a very fine silt to clay size sediment that contains sand grains and small pebbles (unit 5). This sediment is probably fluvial in origin and is related to the nature of terrace formation.

Sediments that are volcanic in origin form the bulk of the sedimentary material. These tephra sediments are superimposed over the fluvial sediment. The matrix contains silt size particles with glass shards and particles with glass mantles. At least four tephra events have been substantiated by petrographic analysis of samples collected from the site. Only three of the tephras are identifiable in the field, and the divisions between these tephra units are based on distinctive color and texture variations. Characteristics of color and texture may be attributed to soil forming processes. The tephra designations,

according to their order of deposition, are as follows: Oshetna (unit 4b), Watana (unit 3), and Devil (unit 2).

Unit 4 refers to all of the sediments between the paleosol, or the Watana tephra (unit 3) in places where the paleosol is absent, and the fluvial deposits (unit 5). While the Oshetna tephra (unit 4b) is the predominant unit in this stratigraphic position, a number of localized subunits are also identified (units 4a, 4c, 4d, 4e, 4f, and 4g). Unit 4a is a very fine silt sediment that is sometimes present in isolated thin lenses between the paleosol and unit 4b, the Oshetna tephra. Units 4c, 4d, and 4e occur at the same relative stratigraphic position as the Oshetna tephra. Units 4f and 4g are located within the Oshetna tephra. These additional subunits are sporadic in occurrence and are probably the result of prehistoric cultural modification of the original sediment.

A paleosol is located between the Watana (unit 3) and Oshetna (unit 4b) tephras. The paleosol appears as a discrete discontinuous lens that is characterized by small-medium size charcoal pieces and carbonized organics. Although the paleosol lacks continuity, it is located in all twelve of the test squares.

The Watana tephra (unit 3) has the greatest depth of any of the tephra units defined at the site. The unit may actually represent the accumulation of more than one episode of volcanic ash deposition. The subunits of unit 3 (units 3a, 3b, and 3c) are probably related to the variations in the accumulation of iron oxides and organics in the volcanic sediment. Distinctions between subunits are based on color and texture with variation from a fine yellowish brown matrix (unit 3c) at the lower extent of the unit to a granular dark reddish brown or reddish black matrix with concretions (unit 3a) at the upper extent of the unit. Organic material is also often associated with the occurrence of both sterile discrete areas distinguished by a waxy texture and consolidated sediment. These disturbed areas are also included under the unit 3a designation. The Devil tephra (unit 2) overlies the Watana tephra and is the uppermost unit in the tephra sequence.

The present site surface is comprised of a living, fibrous vegetation mat (unit 1a) and a thin lens of decayed plant material (unit 1b). The predominant species is sphagnum moss averaging 15 cm in thickness. The moss is interspersed with roots and stems of herbaceous species. Decayed tree limbs and stumps are incorporated into the organic layer.

The insulating properties of the vegetation mat promotes frozen soil conditions as noted in sediments in peripheral areas of the site. Variation in the thickness of the unit in the excavation area may be correlated with differential cryoturbation of the sediments between test squares.

Disturbance of the stratigraphic units as a result of natural processes of cryoturbation, bioturbation, and root invasion is apparent. Cryoturbation is the primary source of disturbance of the volcanic sediments as indicated by the convoluted appearance of contacts between these units, and the mottled appearance of the Watana tephra subunits. In the Oshetna tephra, artifacts followed the undulating surface of the upper contact, and, although artifacts would frequently appear vertical in orientation, they would in actuality be following the contours of the unit 4b surface. Cryoturbation has probably resulted in the displacement of artifacts from their original depositional context.

During systematic testing ca. 86,000 lithic specimens were recovered, and later classified according to their morphological attributes and raw material type. The use of a generalized classification scheme, as described below, in the initial analysis allows for more specific research on raw material preferences or availability, stages of lithic reduction, spatial distribution of artifact classes, and comparison between cultural components to be conducted in the future.

Two major categories were considered in the morphological analysis of lithic material. The first, tools, is discussed separately below. Tools are defined as artifacts that show signs of secondary modification, use modification, or manufacture for a specific purpose. The second category, lithic debitage, comprised the far greater percentage

of artifacts at the site. Relevant classes of debitage include flakes, exhausted flake cores, cobble fragments, and cobbles. Flakes retaining attributes of manufacture, flake fragments, and small pieces of shatter that are thin in cross section are combined within the flake class, constituting 99.9% of all artifacts at TLM 030. A further subdivision of the flake class by size was made during laboratory screening of all flakes recovered from the field. Flakes separated from the matrix in the field plus the bulk samples (unseparated matrix and flakes) were passed through 1/8" mesh screen, while other selected samples were only fine screened, or passed through 1/16" mesh. Regardless of screening procedure, all flakes of less than 1/8" in size are listed as a group in Table D.36.

Also included with the debitage category of lithics were angular shatter or exhausted flake cores, which consist of lithics that have been worked on all surfaces but often lack bulbs of force or other characteristics that are diagnostic of flakes. Cobble fragments, some of which contain negative bulbs of force, are pieces that have cortex on the dorsal surface and have a rounded dorsal contour. Cobbles were deemed artifactual if they had been modified and/or were exotic to the stratigraphic unit in which they were found.

Nine general classes of raw material were identified and include argillite, basalt, chalcedony, chert, chert/chalcedony, granite, obsidian, quartzite, and rhyolite. The classes represent four broad groups related to rock genesis, and can be described as extrusive igneous rocks and glass (basalt, rhyolite, and obsidian), intrusive igneous rock (granite), siliceous sedimentary material (argillite, chalcedony, chert, and chert/chalcedony), and metamorphic rock (quartzite).

While the four major groupings based on rock genesis are mutually exclusive, gradations of mineral composition occur within each group, sometimes making it visually difficult to discriminate between raw material classes. Distinctions were made, however, on the basis of grain size, gross mineral composition, and light transmission. For

example, both chalcedony and chert are cryptocrystalline silicas, but a distinction between the two can be made on the basis of translucency, i.e., chert is opaque whereas chalcedony is translucent. The majority of debitage is composed of basalt, representing 92% of the total lithic assemblage. It is the only material that consistently has cortex present, and is represented in the full range of morphological classes (i.e., flakes, exhausted flake cores, cobble fragments, and cobbles). The cortex of the basalt has a distinctive weathered appearance and its contour indicates that the source was fluvial cobbles. Argillite is the second most common material, representing 6% of the collection. With the exception of one piece of angular shatter and one cobble fragment, all of the argillite debitage are classified as flakes. Chalcedony and chert debitage comprises over 1.5% of the lithics. The remaining raw materials of rhyolite, obsidian and quartzite are rare and collectively do not account for more than 0.5% of the total. In addition to the above items, blocky pumice fragments, thermally fractured rocks and rock fragments, and shale fragments were also collected.

During all phases of testing, 110 tools or tool fragments, classified as points, preform, bifaces, core tools, scrapers (endscrapers/scrapers), modified (retouched) flakes, and modified cobbles, were recovered. Examples are illustrated in Figures D.367, D.368, D.369, D.370, D.371, and D.372. The vast majority of the artifacts were recovered from the 3/4b contact and unit 4b. Two retouched flakes and a biface fragment were recovered from the contacts of 2/3, 3b/c, with four tool fragments being found at the contact of 1/2 and within unit 2. One interesting find which demonstrates that vertical displacement has occurred between the upper and lower levels of the site is an argillite biface fragment (UA83-130-1939; Figure D.371c) from the Devil tephra (unit 2) which was found to articulate with a fragment (UA83-130-1950; Figure D.372c) from the Oshetna tephra (unit 4b). The atypical weathering on the fragment from the upper level exceeds that of other artifacts from unit 2, and thus is indicative of an increased length of exposure. The three tools from middle stratigraphic contexts may also have their origins in other levels but have subsequently been displaced.

Included within the total tool inventory are 18 relatively complete points and six point bases. Most were recovered from the upper contact of the Oshetna tephra or within the Oshetna tephra. Basalt and argillite are the primary lithic materials employed in point manufacture, with chert and rhyolite being used infrequently. Varying from triangular to lanceolate in outline, the length of complete points ranges from 26-63 mm, width from 18-30 mm, and thickness from 3.9-10.3 mm. Most frequently, however, points measured between 43 and 49 mm in length and 6.4-6.9 mm in thickness. The majority of the complete points and point bases have notches, concave to straight bases, and normally basal thinning and/or grinding. The mode of flaking varies from non-patterned to collateral, with secondary flaking or retouch present on the margins of three of the points.

The preform fragment (UA83-130-1956) recovered from the site can all be described as bifaces and may possibly represent one stage in projectile point manufacture. It is a basal fragment which is a lanceolate, and exhibits slightly flattened cross section. Primary flaking is apparent on both faces of the preforms and varies from irregular flakes terminating in step and hinge fractures to collateral flakes.

A total of 36 bifaces, 17 complete and 19 fragmentary, were collected from TLM 030. In general, these basalt and argillite tools can be described as roughly ovate in shape, with irregular flaking, end lacking secondary modification. There is one rhyolite biface end fragment (UA83-130-1957). This may indicate that they had been discarded during manufacture. The 22 basalt bifaces and fragments contrast with those made from argillite in size, variability of shape, and amount of retouch. The basalt specimens are generally smaller than the argillite specimens, ranging from 50-85 mm compared to the 60-113 mm length of the argillite pieces. Ranging from round to triangular to elongated in shape, the basalt bifaces also vary from biplano to biconvex in cross section, and exhibit irregular to continuous and from partially unifacial to mostly bifacial retouch. In contrast, the argillite bifaces have irregular to biconvex cross sections and exhibit relatively continuous bifacial retouch.

Two basalt core tools, roughly ovate to tear-shaped, with multiple retouched edges and with some cortex present, were present in the lower site stratigraphy (unit 4b). The tear-shaped specimen has two edges that converge to form a point. This specimen measures 80 mm in length compared to the 65 mm length of the more ovate specimen.

Testing produced 11 endscrapers of argillite, basalt, chert, and rhyolite, plus one argillite scraper. All of the endscrapers have convex working margins with moderate to steep unifacial retouch, typically on the dorsal surface. The largest endscraper is the single one of argillite, made on an irregular flake measuring 62 mm on its largest axis. The five basalt endscrapers, ranging from thumbnail to tear-shaped, measure 21-40 mm in length, while the three complete chert endscrapers, roughly tear-shaped, vary from 38-47 mm. The working edges of the four chert specimens encompass more than the end and continue onto one of the adjacent margins. The one rhyolite endscraper, tear-shaped and measuring 45 mm in length, also has unifacial retouch along part of one lateral margin. The one argillite scraper, measuring 54 mm and exhibiting a straight to convex working edge, has steep unifacial retouch on the dorsal surface of one of the lateral margins and on the distal end.

Of the 28 retouched flakes recovered 4 are made of argillite, 21 of basalt, 2 of chert, and 1 of obsidian. Ranging in size from 45-68 mm, the argillite retouched flakes are irregular to roughly ovate in shape, with unifacial and bifacial retouch of varying intensity on the margins. The basalt flakes range in size from 23-74 mm, have retouch generally limited to the margins, and comprise the full spectrum of shapes from circular to ovate to triangular to elongate. Four of the basalt specimens have bifacial retouch along at least one margin, and 18 have unifacial retouch, with the majority exhibiting retouch on their dorsal surface. The chert flakes, one irregularly shaped and measuring 49 mm, the other ovate and measuring 42 mm, both have marginal unifacial retouch on their dorsal surfaces. The single retouched obsidian flake is roughly square, measures 23 mm in length, and has unifacial retouch on both dorsal lateral margins. An interesting observation is that in

each of the nine cases in which flakes have been retouched on the distal margin, it is this margin that is the longest.

The final category of tools is modified pebbles and cobbles. One cobble, measuring 108 mm, is ovate with bifacial retouch on opposing margins. The other cobble, measuring 110 mm, has battering present at one end and is heavily modified on the opposite end as well as on an adjacent portion of one side. Battering is present on opposing ends of both pebbles, one a round quartz hammerstone measuring 42 mm and the other a 75 mm ovate-shaped possible hammerstone.

The faunal remains from TLM 030 are comprised of ca. 10,500 calcined to heavily burned bone and tooth fragments, generally ranging from 5-15 mm in length (Table D.37). Much of the bone has a dark brown mottled appearance. The fragments, almost entirely attributable to medium-large mammal, are unidentifiable below the class level, except in the case of three burned molar fragments and one vertebral facet that could be classified as artiodactyl, and one phalanx fragment probably of caribou. The order of Artiodactyla is represented in Interior Alaska primarily by caribou (Rangifer tarandus), moose (Alces alces), and Dall sheep (Ovis dalli). In terms of recognizable skeletal elements, medium-large mammal long bones and possible rib fragments are identified. Only three fragments are recognized as small-medium mammal, and only one fragment possibly belonged to a bird.

Bone occurred in nine of the 12 test squares at the site (no bone was found in N104/E104, N103/E105, or N104/E106). In five of these squares, however, the faunal assemblage totaled less than 10 fragments for the entire square. Only in N105/E109 and N104/E110 did the square totals exceed 1000 bone fragments. Stratigraphically, bone occurred from unit 3 through the contact between units 4b and 6. By far the heaviest concentration was found in stratigraphic unit 4b, particularly in N105/E109. Although bone was recovered from each quadrant in this test square from 4b, the greatest density occurred in the southwest quadrant where over 1000 finely comminuted bone fragments of 1-5 mm and ca. 1700 fragments ranging from 5-23 mm were found.

In addition to lithic and faunal remains, ochre pieces, thermally altered rock, and small angular rock shatter were accessioned. Floral specimens consist of 1 seed (possibly Rosa acicularsis or wild rose), 1 undientified foral part (possibly a bud scale from an unidentified shrub), and 1 equisetum macrofossil. Thirty-five pellets of compact vegetable material were also recovered; these appear to be insect scat, probably caterpillar (A. A. Batten, University of Alaska Museum, personal communication). A single beetle carapace was recovered from the sediments.

Artifactual material was found in association with all six of the soil/sediment units, but was predominantly recovered either from the contacts with the tephra units or within tephra sediments. The location of artifacts in sediments other than the defined tephra units may be the result of displacement.

Criteria used to define components at the site in order of prominence are: 1) ability to delineate a surface or level associated with artifactual material, 2) presence of sterile strata separating one level of artifacts from another, 3) the recovery of diagnostic artifacts that would suggest a cultural horizon not represented in other levels, and 4) the presence of raw material or artifact types absent in other levels. The ability to establish at least one of these relationships was considered sufficient to define a component. Using these criteria two distinct components can be identified at this site. Artifactual material from the middle stratigraphic units and contacts (2/3, 3, 3a, 3b, 3b/c, and 3c) was not assigned to either the upper or lower component and did not meet the previously mentioned criteria. Parsimony dictates that a distinction cannot be made between the middle units and the defined components. A third or middle component may exist at the site, but the available information does not allow definitive statements to be made concerning the origin of this artifactual material.

The upper component is positioned stratigraphically at the contact between the finely sorted organic layer (unit 1b) and the Devil tephra (unit 2). Artifacts located within units 1b and 2, and at the contacts

of units 1/2 and 1/3 were assigned to this component. Over 750 lithic artifacts were recovered from this stratigraphic context and, with the exception of four tools or tool fragments and fourteen ochre pieces, all of the material consisted of unmodified flakes of a variety of material types. Three tools recovered from the 1/2 contact and unit 2 consist of a chert endscraper (UA83-130-1124; Figure D.370i), a retouched basalt flake (UA83-130- 820), and a basalt biface tip (UA83-130-1477). The fourth tool (UA83-130-1939) articulates with a fragment (UA83-130-1950) from the Oshetna tephra (unit 4b), to form a complete argillite biface. The location of these two fragments in temporally distinct sediments indicates that displacement has occurred and that there was mixing of artifacts from different components. The distribution of artifacts between the test squares was disproportionate with nearly three-quarters of the artifacts located in N105/E107 (Figure D.23).

The highest density of artifactual material is associated with the lower component, representing over 99% of the artifact inventory. The lower component is associated with all aspects of the Oshetna tephra unit. Artifacts found within the tephra (unit 4b), at the contacts of the tephra with other units (contacts 3/4, 4/5, and 4/6), and in units at the same relative stratigraphic position (units 4c and 4d) were assigned to the lower component. Three additional stratigraphic units are also associated with the lower component. However, these latter units were not defined until after excavation and artifactual material associated with the units had been recorded as belonging with unit 4b. Artifacts were found in all squares, totalling from a few hundred to tens of thousands in the individual 1 x 1 m test squares.

The upper contact of the artifact level was irregular but easily defined due to the quantity of lithic debitage on its surface. The lower boundary was coincident with a rapid decline in artifact concentration. Consequently, the Oshetna tephra could be isolated as a cultural level. In some areas of the site, the unit was clearly separated from the sterile upper stratigraphic level of unit 3c. The artifact level is capped by a thin, discontinuous charcoal lens that represents the paleosol. Horsetail was also observed at this contact and a sample was

collected (UA83-130-3423). The paleosol developed in the interval between the depositions of the Oshetna and Watana tephras. The location of artifacts throughout the Oshetna tephra unit may be related to the unconsolidated nature of the sediment during the period of occupation. Lichen was found on the upper surface of a number of artifacts, indicating that these artifacts were exposed for a period of time prior to the development of the paleosol.

Lack of consistency in the vertical placement of stratigraphic units was evident within unit 4 in the eastern portion of N105/E107, the northern half of N104/E108, and within N105/E109. In N105/E107 and N104/E108 the Oshetna tephra appeared truncated and in N105/E109 the artifactual units were not the uniform gray color of the artifact level in other test squares. A number of subunits of unit 4 that occur at the same relative stratigraphic position were defined in these three squares (units 4c, 4d, 4e, 4f, and 4g). The three test squares that lack consistency with the generalized composite profile also have much higher artifact frequencies, with the greatest concentration in N105/E109 which represents a third of the artifacts from the lower component.

Artifactual material from N105/E109 included ca. 28,000 lithic and 8,000 bone fragments in conjunction with concentrations of red ochre of which nearly 1,000 pieces were collected, and hundreds of small, angular rock fragments. The base of the larger rocks rested in the lower extent of unit 4. Bone fragments, ochre, and lithic material were exposed when the rocks were removed. In the northeast quadrant of the test square the lithic concentration formed a pavement interspersed with matrix. In some areas of the square, particularly in the southwest quadrant, artifacts were within an ochre-stained matrix. The density of material in this square and the truncated nature of the sediments suggest that cultural material may be concentrated around a feature, such as a hearth or a more complex structural feature.

Ninety-four of the 110 tools and diagnostic artifacts recovered during all phases of testing are in association with the lower component. These artifacts are representative of several material types, stages of

manufacture, and functions. The majority of tools consist of flakes with unifacial or bifacial retouch along one or more margins. In addition, a number of side-notched points, endscrapers, bifaces and biface fragments, and modified cobbles were recovered. This material was summarized above. In N103/E111 a cluster of argillite bifaces was associated with a subangular cobble. Six complete bifaces and one fragment, which articulates with a fragment from unit 2, are associated with this cluster.

All but five of the ca. 10,500 bone fragments recovered during systematic testing originate from the lower component and most of this material was recovered from four of the twelve tests squares (N105/E107, N104/E108, N105/E109, and N104/E110). A discussion of these remains appeared above.

Ten charcoal samples were submitted from the site for radiocarbon dating. Nine of the samples were collected from either the paleosol between the Watana (unit 3) and Oshetna (unit 4b) tephras or in association with the Oshetna tephra. The tenth sample was collected from the lower extent of the finely divided organic layer (unit 1b) to its contact with the Devil tephra (unit 2).

The sample from the finely divided organic layer (unit 1b) provided a date of 170 ± 90 years: A.D. 1780 (Beta-7684). The sample was submitted to provide an upper limiting date for the deposition of the Devil tephra (unit 2) and for the upper component associated with the contact between the organic layer and the Devil tephra. Given its stratigraphic position, it is possible for the sample to incorporate carbon from the more recent organic material with which it is in close association. Therefore the date may not provide an accurate limiting date for the upper component or the deposition of the Devil tephra.

A suite of seven dates was obtained for the paleosol between the Watana (unit 3) and Oshetna (unit 4b) tephras. Multiple samples were dated in order to: (1) provide and upper limiting date for the extensive lower component and the deposition of the Oshetna tephra, (2) assess spatial

variation across the test squares in dating the paleosol, and (3) determine the duration of time represented by the paleosol.

The dates from the paleosol range from 1730-3290 years B.P. for an inclusive span of 1560 years. Two of the dates, 1730 ± 120 years: A.D. 220 (Beta-7689) and 2690 ± 70 years: 740 B.C. (Beta-7301), are more recent than would be expected given the stratigraphic position of the samples relative to other dates from the site for the paleosol. Exclusive of the above two samples dates for the paleosol range from 3160 ± 70 years: 1210 B.C. (Beta-7687) to 3290 ± 130 years: 1340 B.C. (Beta-7686) a time span of only 130 years. The intervening dates are 3180 ± 170 years: 1230 B.C. (Beta-7685) and 3290 ± 60 years: 1340 B.C. (Beta-7300). This reduced temporal interval should represent a reasonable upper limiting date for the lower component and the deposition of the Oshetna tephra.

Although the two youngest dates for the paleosol are from the easternmost test squares of N104/E110 (Beta-7689) and N103/E111 (Beta-7301), there does not appear to be any spatial patterning in the dates. An additional date for N103/E111 of 3270 ± 90 years: 1320 B.C. (Beta-7690) precludes the establishment of an east to west cline in dates for the paleosol.

The formation of the paleosol may span the 1560 years between 1730 years B.P. and 3290 years B.P. represented by the seven dates from the unit, but sampling difficulties are inherent in attempting to bracket the formation of a unit only a centimeter thick. Mixing of charcoal pieces from different periods of the paleosol in sampling the thin unit will normally generate a range of dates narrower than the true duration. Potential sources of contamination exist in the organic accumulation present in units 3a and 3b of the Watana tephra and in the downward displacement of carbon through cryoturbation. Such contamination could explain the two early dates for the paleosol.

The oldest date from the site, 5130 ± 140 years: 3180 B.C. (Beta-7302), was derived from radiocarbon dating of a large piece of charcoal. The

base of the charcoal piece was within the Oshetna tephra (unit 4b), although the upper extent of it was associated with the paleosol. The assignment of the date to a stratigraphic level is problematic. The sample differs from other charcoal samples collected from the paleosol in that it is a single large piece as opposed to a concentration of smaller charcoal pieces. The sample may provide a fortuitous lower limiting date for the paleosol or may be cultural in origin and date the lower component directly.

The final sample, 1870 ± 120 years: A.D. 80 (Beta-7691), was collected from unit 4e in a wall of N106/E102. It was intended to date the lower component. Unit 4e is a cultural unit at the same relative stratigraphic position as unit 4b which contained carbonized matrix in direct association with artifacts. Unit 4e is positioned between the Devil tephra (unit 2) and a fine silt level (unit 5). The disconformity represented by the absence of the Watana tephra (unit 3) increases the potential for illuviation and transport of carbon from the upper levels. The contextual difficulties surrounding the sample preclude its use as a date for the lower component.

Due to the density of material recovered during initial survey testing, the presence of multiple components, and the advantageous setting of the site, the vicinity around the confluence of Fog Creek with the Susitna River was selected as a high archeological potential area deserving of reinvestigation. In conjunction with renewed survey level testing of survey locale 13 at the time of systematic testing, the remainder of the terrace south of the original find of TLM 030 was tested.

Subsurface testing was conducted on the terrace from 75 m south of the main excavation area to the stream which forms the southern boundary of this terrace segment. Seven productive shovel tests were located between 75 and 180 m south of the main excavation area. Three of the shovel tests were expanded into 40 x 40 cm test pits. Figure D.24 and D.25 show the location of the test pits, four productive shovel tests, and negative shovel tests in the vicinity. Test pit 1, located

approximately 115 m south of the systematic tests and ca. 35 m from the terrace edge, produced 32 argillite flakes. Test pit 2, located ca. 15 m west-southwest of test pit 1 and ca. 15 m from the terrace edge, yielded 357 flakes of five different materials. Test pit 3, situated ca. 40 m south of test pit 2 and immediately adjacent to the western terrace edge, had 13 flakes of basalt and argillite. A dusky red, 1 cm thick, lens of ochre was located within the Oshetna tephra. Material from all three test pits came from Watana and Oshetna tephra units, extending down to on top of the drift in test pit 2. The shovel tests, numbered consecutively with the test pits, yielded a total of 8 flakes of argillite and a single specimen of basalt. Shovel tests 4 through 7 are distributed from 50 m north of test pits 1 and 2 and 10-30 m from the western edge of the terrace.

Survey testing on the Fog Creek terrace served to recover artifacts along the western edge of the terrace in stratigraphic units that may be correlated to the lower component located during systematic excavations to the north. The distribution of artifacts along the western terrace edge, thought to be contiguous with the archeological finds at the north edge of the terrace, prompted the shift from reconnaissance level survey procedures to a controlled grid testing program.

Grid testing was initiated to define the spatial extent of the site and to determine whether artifactual material recorded during subsequent reconnaissance testing on the western terrace margin represented a separate site or an extension of the main site locus. The entire terrace was mapped and gridded as an extension of the established grid with the site datum at N100/E100. Points were established and elevations recorded at even 10 m intervals across the terrace. Shovel testing began with the easternmost grid line, E170, and continued westward to E50. Testing commenced at the southern extent of each easting grid line and proceeded to the northern terminus of the line unless cultural material was encountered. Subsurface tests were placed in the southwestern corner of each 10 m grid square. The testing interval was selected to minimize site disturbance while defining site size. The matrix was screened through a $\frac{1}{4}$" mesh and all artifacts

collected by stratigraphic unit. Ten of the 224 shovel tests produced cultural material (Figure D.26).

The artifact inventory from the ten positive grid shovel tests includes 235 lithic artifacts and 5 bone fragments. The majority of lithic material consists of basalt flakes, accounting for 91% of the total inventory. A modified basalt flake (UA83-130-2119) was recovered from N80/E100. The flake is triangular in outline with continuous bifacial retouch along one side.

Artifacts from grid shovel tests were recovered from a number of stratigraphic contexts corresponding to both components defined during systematic testing. Overall, the stratigraphic sequence of the shovel tests is represented by the stratigraphic section from systematic testing. All positive shovel tests were located in well-drained areas. Several negative shovel tests represented areas of very poor drainage as indicated by water-saturated sediments. A number of tests placed in low areas in the central portion of the terrace contained gravels and silts interbedded between the Watana tephra (B horizon) and the Devil tephra (eluvial horizon). The sediment may represent an episode of stream transport across the terrace.

The vicissitudes of artifact distributions are shown by the results of survey level survey and the subsequent grid shovel testing program over the same area. Grid shovel tests placed between productive survey tests were often sterile. The discontinuous distribution of artifacts is exemplified by the sterile grid shovel tests at S10/E70 and S20/E70 despite their proximity to test pits 1 and 2, and shovel tests 4 and 5 (Figure D.26). The artifact density and the limited shovel testing program result in a very conservative appraisal of site limits.

Survey level testing in conjunction with controlled grid shovel testing provides for the delineation of site boundaries. Discussion of the site boundaries is facilitated by dividing the site into two segments. The northern segment of the site in which systematic testing was conducted extends as a ca. 40 m wide strip (N70 to N110) for approximately 60 m

(E80 to E140) along the northern terrace edge. This portion of the site occupies the relatively open, well-drained region at the northwestern corner of the terrace between the black spruce forest to the south and east, and the steep terrace slopes to the north and west. Clusters of large birch trees adjacent to the northern terrace edge, make this portion of TLM 030 easily discernible from the air. The western segment is contiguous with the northern segment. It starts as a ca. 20 m wide strip along the western terrace edge, expanding to approximately 40 m back from the edge in the middle of the terrace. In the southern half of the terrace, the distribution of artifacts appear to taper back to the terrace edge ca. 170 m south of the systematic tests. The western segment of the site is heavily vegetated with black spruce and lacks the distinctive features of the northern segment which might concentrate prehistoric activity. The flood plain of the Susitna River west of the terrace currently supports a thick forest cover negating the beneficial vantage which the western terrace edge would convey under a more open vegetation regime.

Evaluation:

TLM 030 is located on a river terrace upstream from the confluence of Fog Creek with the Susitna River. Testing indicates that the site area is expansive and encompasses the northern terrace edge which overlooks Fog Creek and the western edge paralleling the Susitna River. Lithic artifacts were recovered from shovel tests and test pits extending ca. 180 m along the western terrace edge and ca. 60 m along the northern terrace edge. The abundance of artifactual material in conjunction with the ca. 2571 square meter areal extent of the site indicates that the terrace was used intensively by prehistoric peoples.

The two components defined during systematic testing occur at the upper contact of the Devil tephra and within the Oshetna tephra. Interpretation of the number and stratigraphic position of components is in only partial agreement with the results of the initial survey testing. Support for the upper component in the Watana tephra defined during initial survey testing was not provided by systematic testing.

However, an additional component was defined at the contact between the Devil tephra and the finely divided organics. The hearth features defined in the initial survey may represent a well-developed A horizon and the charcoal lens which constitutes the paleosol rather than cultural activity.

A suite of radiocarbon samples collected from a paleosol which overlies the lower component provides upper limiting dates of 3290 ± 130 years: 1340 B.C. (Beta-7686) and possibly as early as 5130 ± 140 years: 3180 B.C. (Beta-7302). The upper component can be tentatively dated based upon its stratigraphic position relative to the Devil tephra.

The majority of the artifactual material was recovered from the lower component. The inventory includes lithics, floral and faunal remains, and red ochre. Tools and tool fragments cover a broad spectrum. These include diagnostic artifacts of side-notched points, endscrapers, and a variety of bifaces. Basalt lithic debitage, including primary reduction flakes and secondary flakes, along with a large number of bifaces and biface fragments suggest that tools of this material were manufactured at the site. Artifacts of argillite, the next most frequent material, may also have been reduced at the site, although the lack of cortex flakes may indicate initial preparation off the site. Numerous other material types constitute only a small fraction of the lithic assemblage and may not be readily available in the vicinity of the site. The generally small size of these flakes may be related to the modification of existing artifacts.

Faunal remains from the lower component indicate that the processing of small-large mammals (possibly caribou) and also birds was taking place at the site. The processing or disposal of bone is concentrated in the eastern portion of the systematic excavation. The concentration is correlated with a hearth feature and the calcined to heavily burned nature of the faunal material may have contributed to its preservation. Skeletal completeness does not allow for assessment of specific species or proximity of the kill site. Floral remains include seeds and an equisetum macrofossil. High artifact density, in association with red

ochre, and the concentration of bone in three of the 1 x 1 m test squares indicate a feature. A hearth or more complex structural feature would explain the artifact concentration and sediment disturbance in this area of the site. A program of further excavation, microstratigraphic analysis, and spatial analysis is required to ascertain the nature of the feature.

The site may have functioned in a variety of capacities as suggested by: 1) the advantageous ecological setting, 2) proximity to water sources, 3) access between the Susitna River and the upland plateau including Fog Lakes, and 4) the generalized nature of artifact types. The multiple components indicate repeated use of the terrace for at least 3000 years. Based on its relative stratigraphic position, the upper component may possibly be related to the Athapaskan tradition, although it is important to note that there are no diagnostic artifact types to confirm this assumption. The lower component can be attributed to the Northern Archaic tradition, based on the diagnostic elements of the artifact assemblage, stratigraphic position, and radiocarbon dating. TLM 030 holds high potential for a more complete delineation of the Northern Archaic tradition. The ecological setting and extremely high frequency of artifactual remains suggest the site may have functioned as a seasonally reoccupied camp or possibly a more permanent type of settlement. Presently less than one-third of one percent of the site area has been tested. Observed site size based on the distribution of artifacts is 2571 square meters (Table D.2).

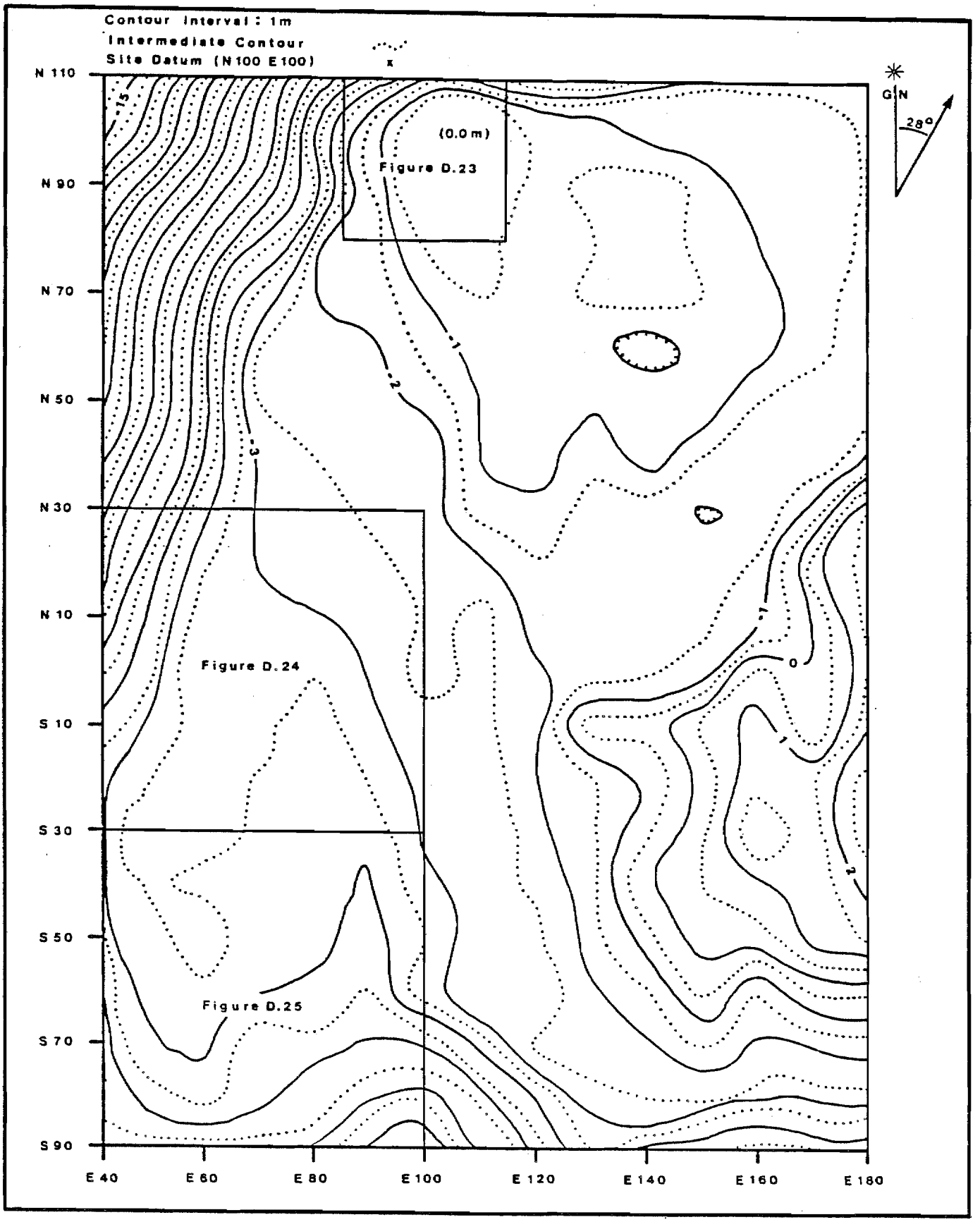

Figure D.22. Site Map, TLM 030

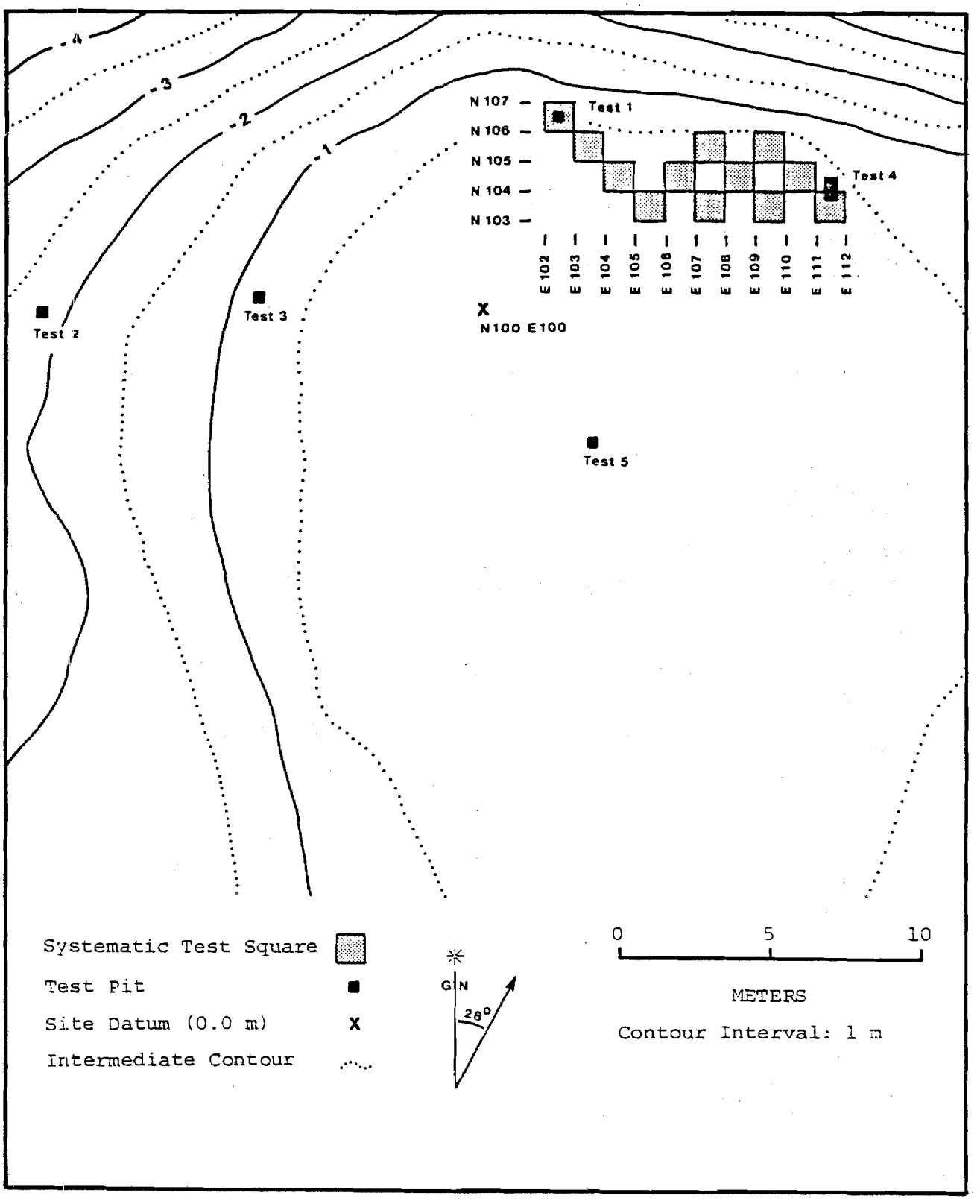

Figure D.23. Square Placement, TLM 030

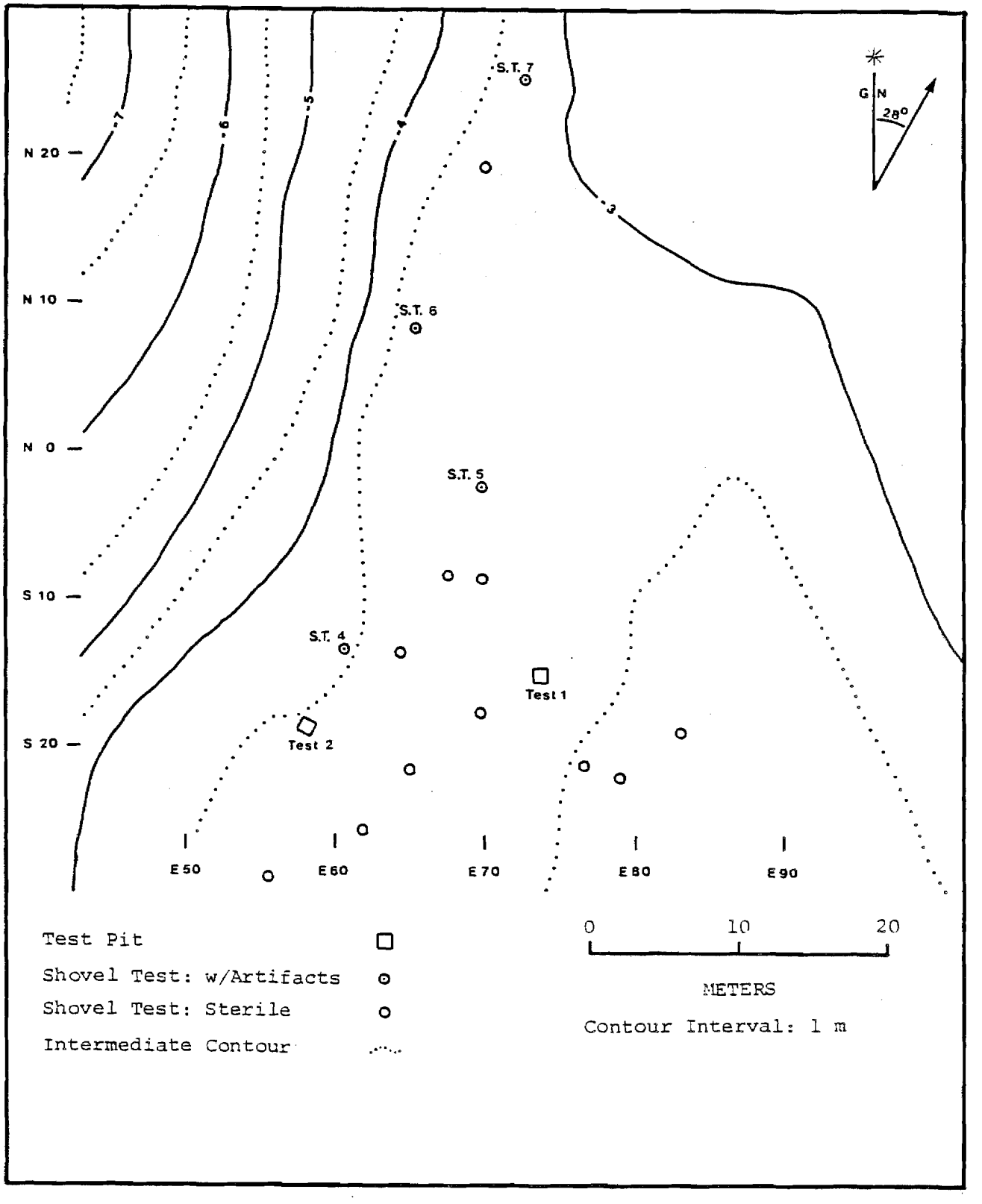

Figure D.24. Survey Level Testing North ½, TLM 030

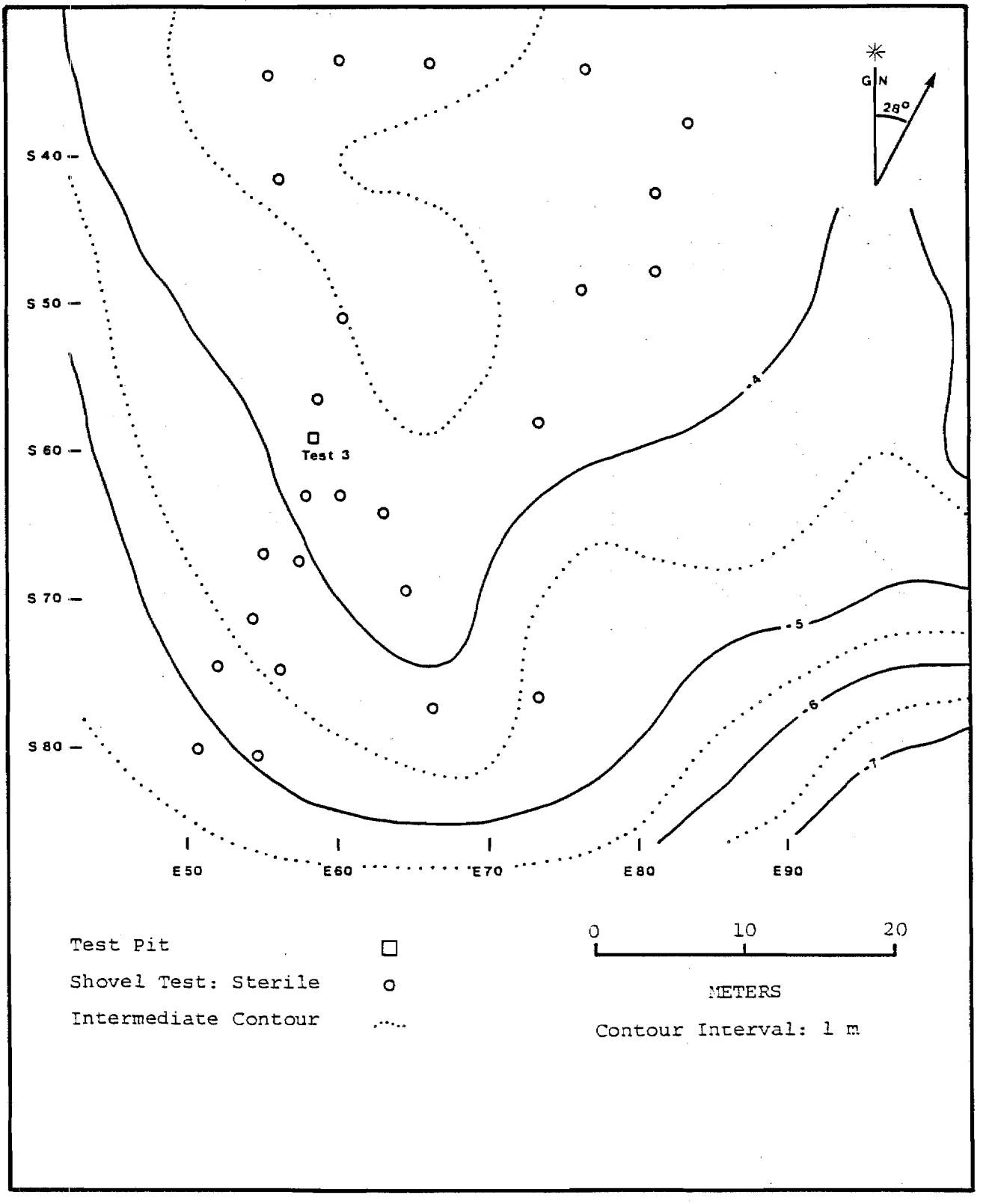

Figure D.25. Survey Level Testing South ½, TLM 030

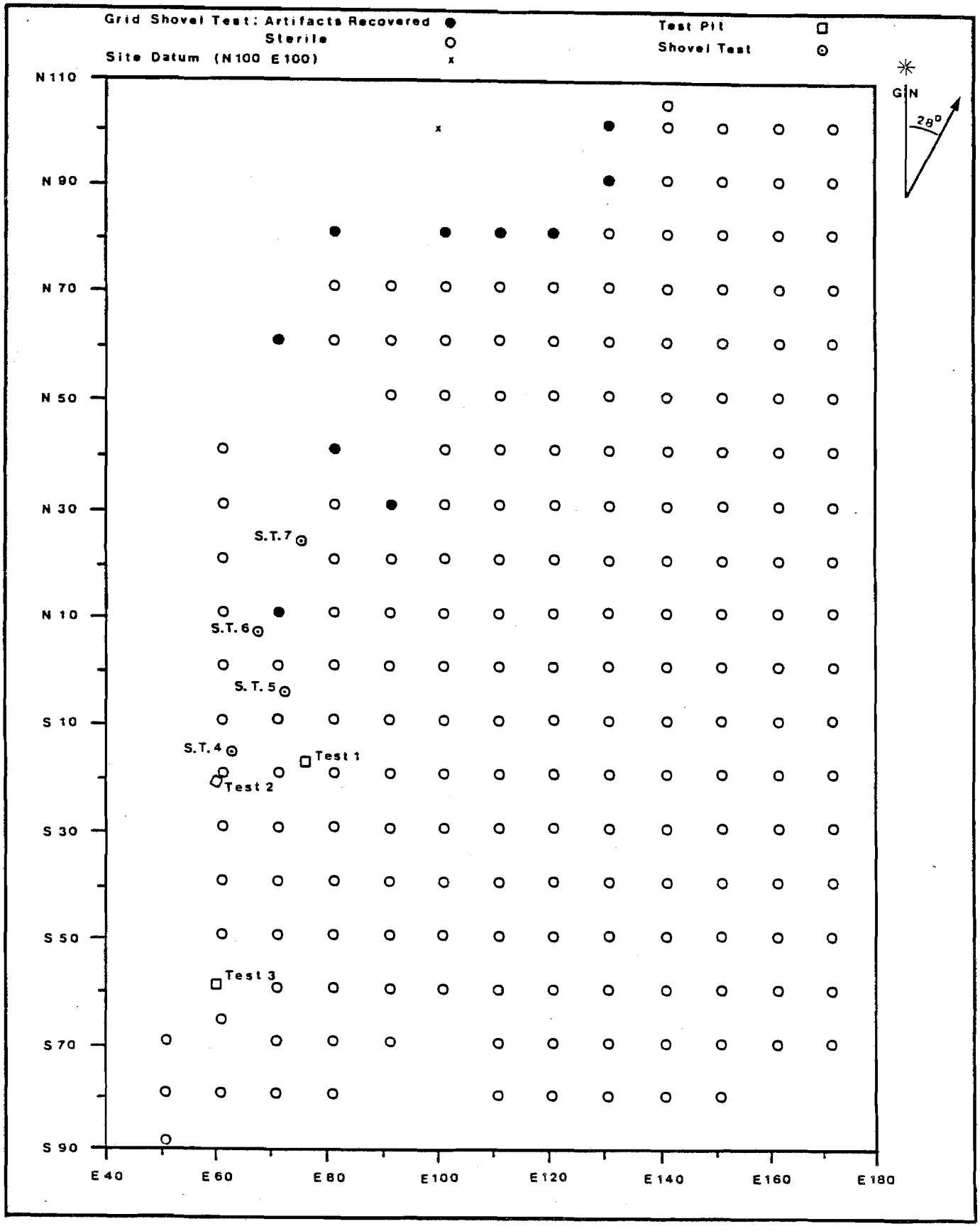

Figure D.26. Grid Shovel Testing, TLM 030

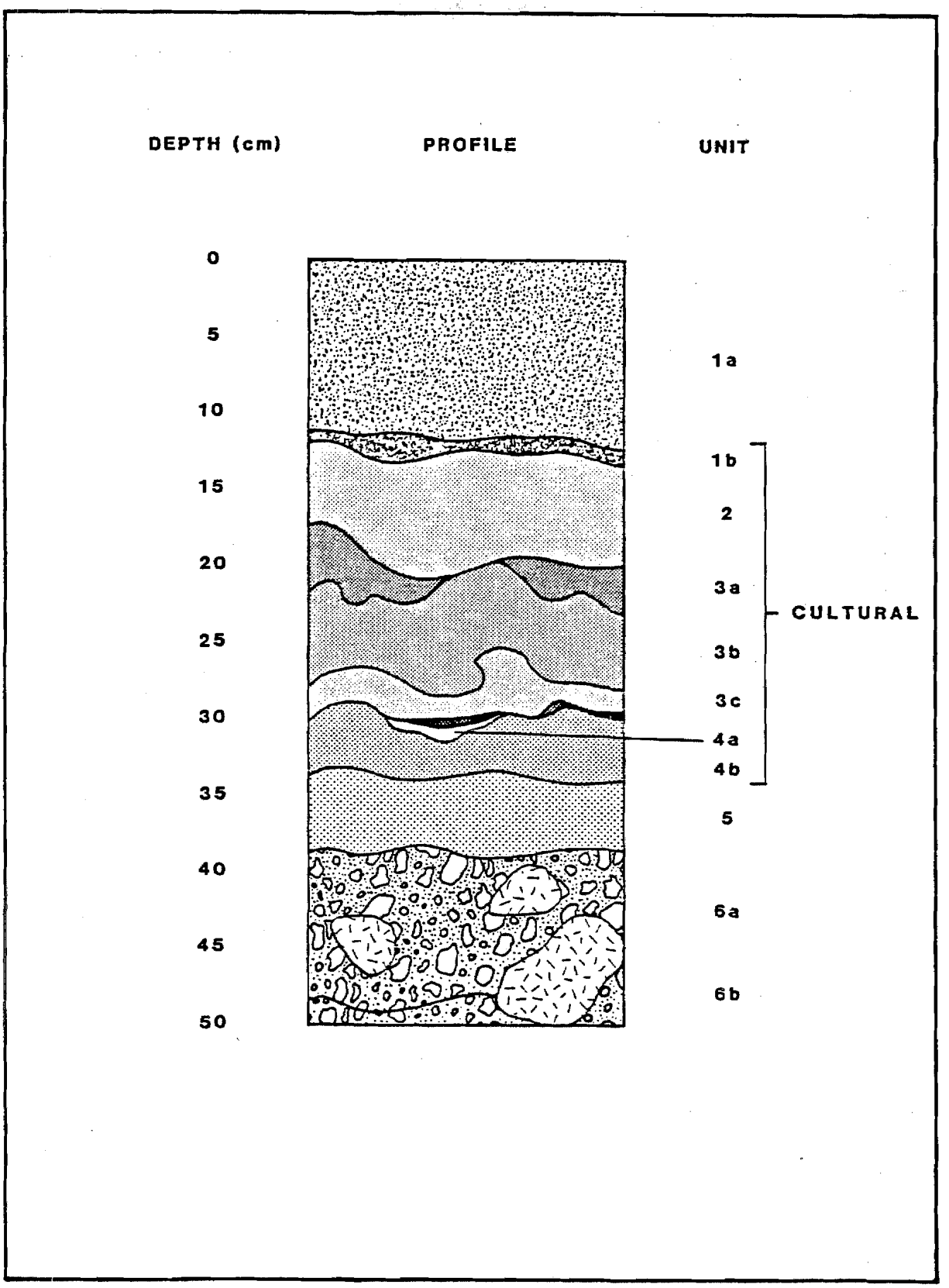

Figure D.27. Composite Profile, TLM 030

Table D.35.

Soil/Sediment Description for Composite Profile, TLM 030

Unit	Description
1a	Surface organic layer: fibrous root mat with living and partially decayed plant material from sphagnum moss, dwarf birch, Labrador tea, lowbush cranberry, and other herbaceous wood shrub vegetation at the surface. Varies in thickness from 1-29 cm, but is usually 8-12 cm. The lower boundary is clear and smooth to wavy. Nonmineral 01 horizon. Continuous surface cover across the excavation area. Layer is thickest in areas of sphagnum moss ground cover. Contains decayed wood and roots up to 5 cm in diameter.
1b	Fine silty sand with finely divided organic material, macroplant fragments, and rootlets; black (5YR 2.5/1). Varies in thickness from less than 1 cm to a maximum of 4 cm. Sharp and smooth to wavy lower contact. 02 horizon; peat layer with charcoal. In places unit 1b is undifferentiated from unit 1a, but the unit is generally continuous. Fibrous root material follows the contact between 1b and 2. Three basalt flakes were found within the unit, additional artifacts were recovered at the base of the unit along the contact with unit 2. A radiocarbon date of 170 ± 90 years: A.D. 1780 was obtained from the unit.

Table D.35. (Continued)

Unit	Description
2	Very fine silt size particles; varies in color from very dark gray (10YR 3/1) to brown (10YR 4/3) to pinkish gray (5YR 6/2). Variation in color may be due to downward leaching or organic material. Varies in thickness from 2-11 cm, but is usually 3-5 cm. Lower contact ranges from clear to indistinct and is very wavy and irregular. Tephra (Devil); eluvial A horizon. Unit is generally continuous and is present in all of the test squares. Unit is dense and compact. Artifacts are found at the contact and within this unit.
3	Very fine silt size particles; reddish black (10R 2.5/1) to yellowish brown (10YR 5/6). Massive unit that includes three subunits (3a, 3b, 3c) and varies in thickness from 3-27 cm with considerable variation occurring in individual test squares. The lower contact is sharp and wavy. Tephra (Watana); B horizon. Forms a continuous unit in all of the test squares with the exception of N106/E102. Absence of unit 3 in the northern portion of that square suggests that postdepositional erosion was active at the site. The unit frequently appears very mottled with 3a occurring predominantly at the upper extent and 3c at the lower extent. Variation between subunits may represent a continuum based on organic and iron accumulation and is related to soil-forming processes. Artifacts occur at the upper and lower contacts and within unit 3. Only 7 flakes are recorded from 3c.

Table D.35. (Continued)

Unit	Description
3a	Very fine silt size particles with granular structure and some cemented concretions; reddish black (10R 2.5/1) to dark reddish brown (5YR 2.5/2). Very irregular and wavy boundaries. Tephra (Watana); illuvial B horizon. Organic and iron accumulation. Often described as being mixed with unit 3b and 3c. Bioturbation observed in the form of ant colonies measuring up to 25 cm in diameter.
3b	Very fine silt size particles with granular structure; dark reddish brown (5Y 3/4 to 5Y 3/3). Contacts vary from sharp to diffuse. Tephra (Watana); illuvial B horizon. The sediment has a coarse texture, but peds will break apart and dry into a fine powder. Often occurs as large irregular mottles. Predominant subunit of unit 3.
3c	Very fine silt size particles that lack granular structure; yellowish brown (10YR 5/6). Very wavy and irregular contacts with subunits 3a and 3b, sharp undulating contact with charcoal lens and unit 4b. Tephra (Watana); B horizon. Generally occurs at the lower extent of unit 3. Dries to a very fine powder.

Table D.35. (Continued)

Unit	Description
Charcoal Lens (Paleosol)	Small-medium size pieces of charcoal and carbonized plant material; black (10YR 2/1). Occurs as a lens less than 1 cm in thickness. Paleosol. Lens is discontinuous but found in all of the test squares. Bifurcates in some places. Appears as isolated charcoal concentrations at the upper contact of units 4a and 4b. Radiocarbon dates cluster between 3160 years B.P. to 3290 years B.P. for an inclusive range of 130 years.
4a	Very fine silt size particles; light yellowish brown (10YR 6/4). Unit is no more than 1 cm thick. Contacts are sharp and smooth. Occurs in isolated pockets directly beneath charcoal concentrations associated with the paleosol. Identified in six of the test squares. Greasy in texture when wet and dries to a fine powder. It is lighter in color although similar in texture to unit 4b beneath it. Unit does not contain artifacts.
4b	Very fine silt size particles; grayish brown (10YR 5/2) to very dark gray (10YR 3/1). Varies in thickness form 1-10 cm and is usually 3-5 cm. Extremes of thickness occur within individual test squares. The lower contact with unit 5 is clear and smooth. Tephra (Oshetna); buried eluvial horizon. Present in all test squares, although in some places it lacks continuity. In N104/E108 unit is possibly truncated. Matrix is greasy in texture. Variation in color appears to be the result of downward staining or leaching of charcoal from the paleosol.

Table D.35. (Continued)

Unit	Description
	Contains some rounded pebbles at the lower boundary. Unit is at times subnormal to the surface and does not vary with surface slope. Abundant artifacts are located along undulating upper contact, at the lower contact and throughout the unit.

The following subunits of unit 4 are restricted spatially and are not included in the composite profile.

4c	Very fine silt size particles, greasy in texture when wet; in situ matrix is dusky red in color (10R 3/4), but dries to a brown (10YR 5/3). Varies from 1-8 cm in thickness. Contacts are diffuse. Tephra (Oshetna); buried eluvial horizon with red ochre staining. Isolated unit that was defined in three of the test squares (N105/E107, N104/E108, and N105/E109). Located at the same stratigraphic position as unit 4b and represents cultural modification of that matrix. Artifacts are found throughout unit.
4d	Fine silty matrix that is somewhat grainy in texture; when moist, matrix is reddish black in color (10R 2.5/1), dries to a dark reddish brown (5YR 2.5/2). Ranges from 1-8 cm in thickness. Upper contact is with unit 2 and lower contact is with unit 5, contacts vary from clear to diffuse. Isolated unit that was defined only in NW corner of N104/E108 and SE corner of N105/E107. Associated with small charcoal fragments, lithics, and

Table D.35. (Continued)

Unit	Description
	small bone fragments. Located at the same relative stratigraphic position as unit 3 and 4b.
4e	Fine silty matrix with granular structure; black (5YR 2.5/1). Ranges from 1-3 cm in thickness. Contacts are clear. Upper contact is with unit 2 and lower contact is with unit 5. Tephra (Oshetna)? Located at the same relative stratigraphic position as unit 4b and is confined to a limited section of the north and east walls of N106/E102. Contains artifacts and small charcoal flecks.
4f	Fine silty matrix, greasy in texture; dark reddish brown (2.5YR 2.5/4). Thickness of 1-3 cm. Upper contact is with units 4g and 4b, lower contact with 4b/5a. Isolated unit positioned stratigraphically within unit 4b that was defined only in N105/E109. Associated with artifactual material.
4g	Fine silt size particles. Dark yellowish brown (10YR 4/4). Less than 1-2 cm in thickness. Upper contact is with unit 4b and lower contact is with unit 4f. Discontinuous lens positioned stratigraphically within unit 4b that occurs in an isolated area of N105/E109. Associated with artifactual material.
5	Very fine silt to clay size particles (plastic and sticky when wet) with small sand grains and occasional rounded pebbles; varies in color from grayish brown (10YR 5/2 -

Table D.35. (Continued)

Unit	Description
	unit 5a) to dark yellowish brown (10YR 4/6 - unit 5b). Ranges in thickness from 1-16 cm although it is usually 4-6 cm. Contacts are clear and smooth, and generally less irregular than the overlying units. Cobbles and rounded pebbles frequently protrude into unit from the underlying unit (unit 6). Differentation between units 5a and 5b is based on color only. Unit 5a occurs at the upper portion of unit 5. Artifacts recovered from this unit were probably derived from unit 4.
6a	Very coarse sand, pebbles, and cobbles; dark reddish brown (5YR 2.5/2). Upper extent of glacial drift deposit; weathered. Poorly or very poorly sorted. The majority of the cobbles are rounded. Frost-shattered cobbles are present. The cobbles are usually 5-10 cm in diameter, reaching a maximum of 18 cm. Moderately developed unit with concretions and cementation of sand particles. Artifacts recovered from this unit probably derived from unit 4.
6b	Very coarse sand, pebbles, and cobbles; olive brown (2.5Y 4/4). Glacial drift. Similar to unit 5a but lacks concretions and is loosely consolidated. Excavation into this unit determined limit of excavation.

Table D.36.

Artifact Summary, TLM 030

31	Modified flakes 4 Argillite (UA83-130-1259, 1924, 1929, 1944) 24 Basalt (UA80-77-517; UA83-130-125, 352, 540, 820, 1253, 1254, 1256, 1261, 1524, 1572, 1621, 1934, 1953, 1990a, 1990b, 2119, 2872, 2875, 2876, 2877, 2878, 2879, 2880) 2 Chert (UA83-130-1258, 1577) 1 Obsidian (UA83-130-1955)
11	Scrapers 2 Argillite (UA83-130-1920, 2873) 4 Basalt (UA83-130-1263, 1380, 1922, 1941) 4 Chert (UA83-130-1124, 1421, 1921, 1938) 1 Rhyolite (UA83-130-1262)
20	Bifaces 12 Argillite (UA83-130-128 articulates with 129, 621, 1257, 1939 articulates with 1950, 1942, 1943, 1945 articulates with 1946, 1947, 1948) 8 Basalt (UA83-130-618, 1027, 1260, 1575, 1576, 1925, 1933, 1958)
13	Biface fragments 3 Argillite (UA83-130-620, 1523, 1927) 10 Basalt (UA83-130-619, 669, 787, 1578, 1725, 1916, 1940, 2116, 2874, 3192)

Table D.36. (Continued)

6	Biface end fragments 1 Argillite (UA83-130-1477) 4 Basalt (UA83-130-350, 880, 1936, 1954) 1 Rhyolite (UA83-130-1957)
1	Preform fragment 1 Basalt (UA83-130-1956)
17	Notched points 5 Argillite (UA83-130-127, 130, 1923, 1949 articulates with 1951) 11 Basalt (UA80-77-327, 520, UA83-130-48, 349, 351, 867, 1005, 1915, 1931, 1932, 1935) 1 Rhyolite (UA80-77-89)
6	Notched point bases 2 Argillite (UA83-130-126, 1952) 3 Basalt (UA83-130-441, 442, 1917) 1 Chert (UA83-130-1937)
1	Stemmed point base 1 Basalt (UA83-130-124)
1	Lanceolate point 1 Basalt (UA83-130-353)
3	Rejuvenation flakes 3 Basalt (UA80-77-1, 2, 430)
1	Flake core 1 Basalt (UA83-130-1919)

Table D.36. (Continued)

2	Flake core fragments 2 Basalt (UA80-77-474; UA83-130-2170)
2	Core tools 2 Basalt (UA83-130-535, 1573)
3	Hammerstones (UA83-130-969, 1892, 3366)
2	Modified cobbles (UA83-130-1464, 1926)
120	

Lithic Material

4,327	Argillite flakes
1	Argillite piece (angular shatter) (UA83-130-1912)
56,546	Basalt flakes
29	Basalt pieces (angular shatter or exhausted flake core fragments)
262	Chalcedony flakes
895	Chert flakes
2	Chert pieces (angular shatter)
1	Chert flake (crazed) (UA83-130-1632)
37	Obsidian flakes
1	Obsidian piece (angular shatter) (UA83-130-2623)
3	Quartz flakes
51	Quartzite flakes
372	Rhyolite flakes

Table D.36. (Continued)

24,553	Flakes less than 1/8" mesh
1,231	Argillite
23,067	Basalt
232	Chert and Chalcedony
4	Obsidian
19	Rhyolite
1,413	Rock fragments (less than 5 cm - thermally altered?)
50	Thermally altered rocks (greater than 5 cm)
9	Rock fragments with charcoal stain
1	Ochre-stained pebble (UA83-130-550)
1	Ovate biplano pebble (UA83-130-2889)
1	Cracked cobble (UA83-130-2719)
12	Cobbles
28	Cobble fragments
16	Blocky pumice fragment
2	Shale fragments
2	Pieces of unidentified material (UA83-130-3088)
88,615	

Faunal Material

ca. 10,356	Bone and teeth fragments

Table D.36. (Continued)

Other	
1,928	Ochre pieces
35	Pellets
1	Seed
1	Unidentified floral part
1	Beetle carapace (UA83-130-3271)
1	Equisetum sample (UA83-130-3423)
1967	

Table D.37.

Faunal Material by Stratigraphic Unit, TLM 030

Unit		Description
3a and 3b Within oxidized Watana tephra	2	Possible rib fragments, calcined, medium-large mammal
3b/c Within Watana tephra (contact between illuvial and lower zone of B horizon	1	Unidentifiable bone fragment, slightly burned, medium-large mammal
3c/4b Contact between Watana tephra (unoxidized, lower extent of tephra unit) and Oshetna tephra	1	Unidentifiable bone fragment, calcined, medium-large mammal
3/4b Contact between Watana tephra and Oshetna tephra	14	Unidentifiable bone fragments, calcined, medium-large mammal
	208	Unidentifiable bone fragments, calcined to heavily burned medium-large mammal
	1	Unidentifiable bone fragment, heavily burned, taxon unidentified

Table D.37. (Continued)

Unit		Description
4b	2	Molar fragments, heavily burned, artiodactyl
Within Oshetna	1	Possible vertebral facet, calcined,
tephra		artiodactyl
	3	Possible rib fragments, calcined,
		medium-large mammal
	24	Long bone and unidentifiable bone fragments,
		calcined, medium-large mammal
	1	Possible rib fragment, calcined,
		small-medium mammal
	1	Unidentifiable bone fragment, calcined,
		small mammal
	1	Unidentifiable bone fragment, calcined,
		bird
	6,824	Unidentifiable bone fragment, calcined to
		heavily burned, medium-large mammal
	1,000+	Bone meal fragments (ca. 1-5 mm), calcined
		to heavily burned, taxon unidentified
4b/d	1	Unidentifiable bone fragment, calcined,
Contact between		small-medium mammal
Oshetna tephra and	174	Unidentifiable bone fragments, calcined to
dark silty matrix		heavily burned, medium-large mammal
4c	3	Long bone fragments, calcined, medium-large
Within Oshetna		mammal
tephra (tephra	1,029	Unidentifiable bone fragments, calcined to
with ochre)		heavily burned, medium-large mammal

Table D.37. (Continued)

Unit		Description
4d Dark silty matrix with artifacts	6	Unidentifiable bone fragments, calcined, medium-large mammals
	2	Long bone fragments, calcined, medium-large mammal
4b/5 Contact between Oshetna tephra and very fine silt horizon	1	Molar fragment, burned, artiodactyl
	1	Phalanx fragment, calcined, probably caribou (Rangifer tarandus)
	1	Unidentifiable bone fragment, calcined, small-medium mammal
	64	Unidentifiable bone fragments, calcined, medium-large mammal
	950	Unidentifiable bone fragments, calcined to heavily burned, medium-large mammals
4b/6 Contact between Oshetna tephra and glacial drift	39	Unidentifiable bone fragments, calcined to heavily burned, medium-large mammals
5 Within very fine silt horizon	1	Unidentifiable bone fragment, calcined, medium-large mammal

Table D.38.

Artifact Summary by Stratigraphic Unit, TLM 030

Unit		Description
1b Within finely sorted organic horizon	3	Basalt flakes
1/2 Contact between organic horizon and Devil tephra	5	Argillite flakes
	173	Basalt flakes
	7	Chert flakes
	1	Flake less than 1/8" mesh (basalt)
	1	Basalt modified flake (UA83-130-820)
	1	Chert scraper (UA83-130-1124)
1/3 Contact between organic horizon and Watana tephra	9	Basalt flakes
2 Within Devil tephra	39	Argillite flakes
	442	Basalt flakes
	2	Chalcedony flakes
	6	Chert flakes
	3	Obsidian flakes
	5	Rhyolite flakes
	77	Flakes less than 1/8" mesh
		2 Argillite
		68 Basalt
		7 Chert and chalcedony

Table D.38. (Continued)

Unit		Description
	1	Argillite biface fragment (UA83-130-1477)
	1	Basalt biface fragment (UA83-130-1939) (1939 articulates with UA83-130-1950, from 4b)
	14	Ochre pieces
2/3	12	Argillite flakes
Contact between	200	Basalt flakes
Devel and	2	Chalcedony flakes
Watana tephras	6	Chert flakes
	1	Quartzite flake
	2	Rhyolite flakes
	1	Basalt modified flake (UA83-130-1953)
	1	Rock fragment (less than 5 cm thermally altered?)
3	1	Argillite flake
Within Watana	38	Basalt flakes
tephra	1	Chert flake
3a, 3b	55	Argillite flakes
Within oxidized	631	Basalt flakes
Watana tephra	4	Chalcedony flakes
(illuvial horizon)	8	Chert flakes
	1	Obsidian flake
	1	Rhyolite flake
	10	Rock fragments (less than 5 cm thermally altered?)
	2	Ochre pieces

Table D.38. (Continued)

Unit		Description
3b/c	31	Argillite flakes
Within Watana	275	Basalt flakes
tephra (contact	1	Chalcedony flake
between illuvial	5	Chert flakes
and lower zone	2	Basalt modified flakes (UA83-130-1990a, 1990b)
of B horizon)	1	Argillite biface fragment (UA83-130-1523)
	1	Ochre piece
3c	11	Basalt flakes
Within Watana tephra (unoxidized, lower extent of tephra unit)		
3/4	37	Argillite flakes
Contact of	478	Basalt flakes
Watana and	7	Chert flakes
Oshetna tephras	1	Quartzite flake
	1	Rhyolite flake
	1	Basalt modified flake (possible biface end fragment) (UA83-130-2119)
	1	Basalt modified flake (UA80-77-517)
	1	Basalt biface (UA80-77-437)
	1	Rhyolite notched point (UA80-77-89)
	1	Basalt rejuvenation flake (UA80-77-430)
	1	Basalt flake core fragment (UA80-77-474)
	3	Thermally altered rocks (greater than 5 cm)

Table D.38. (Continued)

Unit		Description
	4	Cobbles
	8	Cobble fragments
3/4b	592	Argillite flakes
Contact between	7,607	Basalt flakes
Watana and	1	Basalt piece with cortex (angular shatter
Oshetna tephras		or flake core fragment)
	46	Chalcedony flakes
	118	Chert flakes
	11	Obsidian flakes
	55	Rhyolite flakes
	1,400	Flakes less than 1/8" mesh
		65 Argillite
		1,298 Basalt
		29 Chert and chalcedony
		1 Obsidian
		7 Rhyolite
	1	Basalt modified flake (UA83-130-2878)
	1	Basalt scraper (UA83-130-1941)
	2	Basalt biface end fragments (UA83-130-350, 1954)
	1	Argillite notched point base (UA83-130-1952)
	4	Basalt notched points (UA83-130-48, 349, 351, 1005)
	1	Basalt lanceolate point (UA83-140-353)
	1	Basalt core fragment with cortex (UA83-130-2170)
	2	Basalt core tools (UA83-130-536, 1573)

Table D.38. (Continued)

Unit		Description
	197	Rock fragments (less than 5 cm - thermally altered?)
	1	Thermally altered rock (greater than 5 cm)
	9	Rock fragments with charcoal stain
	3	Blocky pumice fragments
	171	Ochre pieces
	1	Equisetum sample (UA83-130-3423)
4b	2,603	Argillite flakes
Within Oshetna	31,919	Basalt flakes
tephra	24	Basalt pieces (angular shatter or exhausted flake core fragments)
	161	Chalcedony flakes
	639	Chert flakes
	1	Chert flake (crazed) (UA83-130-1632)
	2	Chert pieces (angular shatter)
	17	Obsidian flakes
	1	Obsidian piece (angular shatter)
	3	Quartz flakes
	15	Quartzite flakes
	247	Rhyolite flakes
	16,596	Flakes less than 1/8" mesh
		840 Argillite
		15,617 Basalt
		130 Chert and chalcedony
		3 Obsidian
		6 Rhyolite

Table D.38. (Continued)

Unit	Description
	3 Argillite modified flakes (UA83-130-1259, 1929, 1944)
	15 Basalt modified flakes (UA83-130-125, 1253, 1254, 1256, 1261, 1524, 1572, 1621, 1934, 2872, 2875, 2876, 2877, 2879, 2880)
	2 Chert modified flakes (UA83-130-1258, 1577)
	2 Argillite scrapers (UA83-130-1920, 2873)
	3 Basalt scrapers (UA83-130-1263, 1380, 1922)
	2 Chert scrapers (UA83-130-1921, 1938)
	1 Rhyolite scraper (UA83-130-1262)
	10 Argillite bifaces (UA83-130-128 articulates with 129, 621, 1257, 1942, 1943, 1945 articulates with 1946, 1947, 1948)
	8 Basalt bifaces (UA83-130-618, 1027, 1260, 1575, 1576, 1925, 1933, 1958)
	4 Argillite biface fragments (UA83-130-620, 1927, 1930, 1950) (1950 articulates with 1939, from unit 2)
	10 Basalt biface fragments (UA83-130-619, 880, 1578, 1725, 1916, 1936, 1940, 2216, 2874, 3192)
	5 Argillite notched points (UA83-130-127, 130, 1923, 1949 articulates with 1951)
	5 Basalt notched points (UA83-130-867, 1915, 1931, 1932, 1935)
	1 Argillite notched point base (UA83-130-126)
	3 Basalt notched point bases (UA83-130-441, 442, 1917)

Table D.38. (Continued)

Unit		Description
	1	Chert notched point base (UA83-130-1937)
	1	Basalt stemmed point (UA83-130-124)
	1	Quartz hammerstone (UA83-130-969)
	2	Basalt core tools (UA83-130-536, 1573)
	1	Basalt flake core (UA83-130-1919)
	1	Basalt modified cobble (UA83-130-1926)
	1	Quartzite modified cobble (UA83-130-1464)
	973	Rock fragments (less than 5 cm - thermally altered?)
	39	Thermally altered rocks (greater than 5 cm)
	8	Cobbles
	14	Cobble fragments
	1	Ovate, biplano pebble (UA83-130-2889)
	4	Blocky pumice fragments
	2	Shale fragments
	2	Pieces of unidentified material (UA83-130-3085)
	1,429	Ochre pieces
	37	Seeds
	1	Beetle carapace (UA83-130-3271)
4b/c Within Oshetna tephra (tephra and includes tephra with ochre)	5	Basalt flakes

Table D.38. (Continued)

Unit		Description
4b/d	91	Argillite flakes
Contact between	293	Basalt flakes
Oshetna tephra and	7	Chalcedony flakes
dark silty matrix	2	Chert flakes
	2	Rhyolite flakes
	194	Flakes less than 1/8" mesh
		34 Argillite
		152 Basalt
		8 Chert and chalcedony
	18	Ochre pieces
4c	16	Argillite flakes
Within Oshetna	120	Basalt flakes
tephra (tephra	1	Basalt piece with cortex (angular shatter or
with ochre)		flake core fragment)
	2	Chert flakes
	1	Rhyolite flake
	429	Flakes less than 1/8" mesh
		27 Argillite
		392 Basalt
		10 Chert and chalcedony
	8	Rock fragments (less than 5 cm - thermally
		altered?)
	89	Ochre pieces

Table D.38. (Continued)

Unit		Description
4d	9	Argillite flakes
Dark silty matrix with artifacts	120	Basalt flakes
4b/5	617	Argillite flakes
Contact	12,126	Basalt flakes
between Oshetna	3	Basalt pieces (angular shatter or exhausted
tephra and very		flake core fragment)
fine silt horizon	37	Chalcedony flakes
	83	Chert flakes
	4	Obsidian flakes
	3	Quartzite flakes
	30	Rhyolite flakes
	5,303	Flakes less than 1/8" mesh
		224 Argillite
		5,037 Basalt
		42 Chert and chalcedony
	1	Argillite modified flake (UA83-130-1924)
	2	Basalt modified flakes (UA83-130-352, 540)
	1	Chert scraper (UA83-130-1421)
	2	Basalt biface fragments (UA83-130-669, 787)
	206	Rock fragments (less than 5 cm - thermally altered?)
	7	Thermally altered rocks (greater than 5 cm)
	9	Blocky pumice fragments
	1	Rhyolite cobble fragment (UA83-130-788)

Table D.38. (Continued)

Unit		Description
	1	Ochre-stained pebble (UA83-130-550)
	1	Cracked cobble (UA83-130-2719)
	194	Ochre pieces
4b/6	143	Argillite flakes
Contact between	1	Argillite piece (angular shatter)
Oshetna tephra	1,146	Basalt flakes
and glacial drift	1	Chalcedony flake
	8	Chert flakes
	30	Quartzite flakes
	23	Rhyolite flakes
	514	Flakes less than 1/8" mesh
		37 Argillite
		465 Basalt
		6 Chert and chalcedony
		6 Rhyolite
	1	Hammerstone (UA83-130-1892)
	7	Rock fragments (less than 5 cm - thermally altered?)
5	18	Argillite flakes
Within very	301	Basalt flakes
fine silt	2	Chert flakes
horizon	39	Flakes less than 1/8" mesh
		2 Argillite
		37 Basalt

Table D.38. (Continued)

Unit		Description
	11	Rock fragments (less than 5 cm - thermally altered?)
	2	Ochre pieces
6	1	Argillite flake
Within	55	Basalt flakes
glacial drift	1	Quartzite flake
	1	Rhyolite flake
Miscellaneous	57	Argillite flakes
(no provenience,	594	Basalt flakes
surface artifacts	1	Chalcedony flake
and reexcavated	1	Chert flake
test pits)	1	Obsidian flake
	5	Rhyolite flakes
	1	Obsidian modified flake (UA83-130-155)
	1	Rhyolite biface end fragment (UA83-130-1957)
	1	Basalt preform (UA83-130-1956)
	2	Basalt notched points (UA80-77-327, 520)
	2	Basalt rejuvenation flakes (UA80-77-1, 2)
	1	Hammerstone (UA83-130-3366)
	1	Cobble (boulder spall) (UA81-217-18)
	1	Cobble fragment (UA83-130-3365)
	8	Ochre pieces

AHRS Number TLM 031; Accession Number UA80-78

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.28
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on a high plateau on the north side of the Susitna River downriver from the mouth of Kosina Creek. A 1.5 km wide valley separates this plateau from higher mountains to the north. The site is situated approximately 274 m above the level of the river at an elevation of ca. 823 m asl (2700 feet), in a system of hills and ridges surrounding several small kettle lakes. The site is located on the eastern end of the southernmost ridge in this locale, approximately 300 m east of the largest of three kettle lakes which lie to the west of the site. The Susitna River is visible from the site, although not easily accessible. The site appears to be oriented towards the locally accessible terrain rather than the river. The principal view is to the east and south. The terrain in the vicinity of the site is kettle and kame topography. Vegetation at the site consists of low brush with scattered stands of black spruce. Bedrock is exposed on the ridge and, where not exposed, is generally within 20 cm of the surface. Most ridges in the vicinity are subject to deflation and there is little soil or vegetation along their crests. At lower elevations, off the ridges, vegetation consists of denser stands of black spruce, sphagnum moss, and muskeg. In the Susitna River valley to the south, the vegetation is an upland spruce-hardwood forest.

Testing:

A black chert endscraper (UA80-78-1; Figure 373a) was surface collected during survey along this ridge system. No other artifacts were observed on the surface although a black chert pebble fragment (UA80-78-2) of

similiar raw material was surface collected in the vicinity. Two test pits and one shovel test were excavated at the site, none of which produced subsurface cultural material (Table D.39). Test pit 1, in the immediate vicinity of the endscraper, revealed the soil deposition on the ridge to be 20 cmbs. A total of seven archeological sites were found situated on ridges and knolls within the same topographic setting (survey locale 30) as site TLM 031. Other sites within a 1 km radius of this site are TLM 032, TLM 036, and TLM 037. Each of these sites is located in an area of high topographic relief offering a panoramic view of the surrounding terrain. Initial surface and subsurface testing at TLM 031 suggest that this surface site may be limited to an isolated find not associated with other cultural material. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.39.

Artifact Summary, TLM 031

Provenience		Description
Lithic Material		
Surface:	1	Chert endscraper (UA80-78-1)
	1	Chert pebble fragment

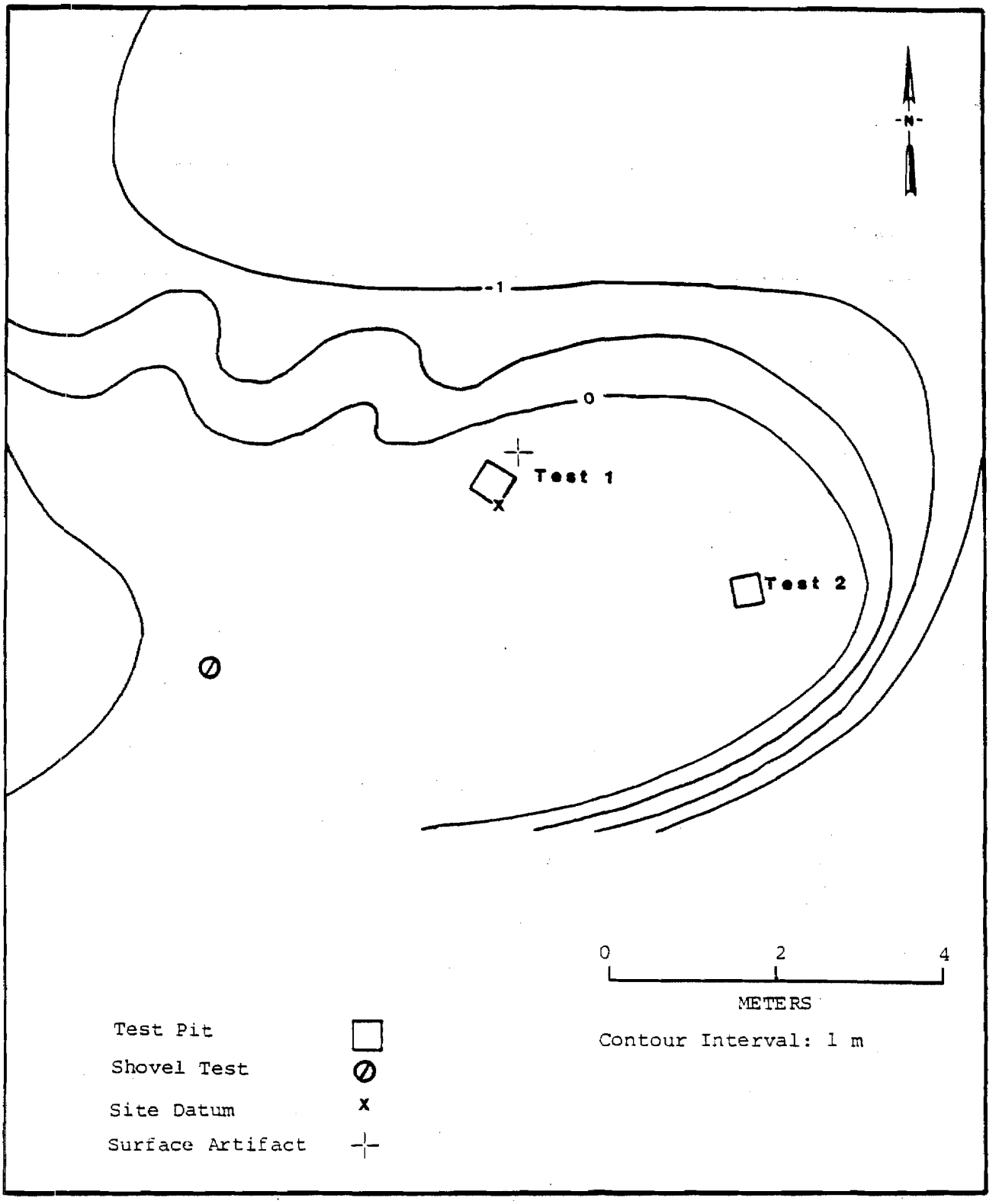

Figure D.28. Site Map, TLM 031

AHRS Number TLM 032; Accession Number UA80-79

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.29
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on a high plateau on the north side of the Susitna River downriver from the mouth of Kosina Creek. A 1.5 km wide valley separates this plateau from higher mountains to the north. Located approximately 274 m above the level of the river at an elevation of ca. 823 m asl (2700 feet), the site is situated in a system of hills and ridges surrounding several small kettle lakes. A total of seven archeological sites were found situated on ridges and knolls within the same topographic setting (survey locale 30) as site TLM 032. The only other known site within 1 km is site TLM 031, which is located to the northeast in similar topography, although separated from the lakes by an intervening ridge. Site TLM 032 is situated on a point of high relief at the eastern end of an 80 m long, discrete ridge which is part of a longer east-west trending ridge system which slopes steeply to a small lake 150 m to the east. However, the lake is not visible from the site. The ridge upon which the site is located is one of numerous glacially abraded ridges characteristic of this high plateau. TLM 032 is located southwest of the southern point of the largest of three kettle lakes at the eastern end of the plateau. The largest of these kettle lakes (approximately 6 ha in size) is 30 m lower in elevation and easily accessible from the site. Evidence of terracing approximately 3 m above the present level of the lake indicates former higher lake levels. Most of the margin of this large lake and another lake north of the site is visible from the site although the westernmost point of the largest lake and portions of the smaller lake are obscured by intervening topography. The view from the site is panoramic, but the view to the south is restricted by the rounded crest of the ridge line. The site

location is unique, in that it is the point of highest topographic relief in the immediate vicinity of the largest of the three kettle lakes and from which most of the lake is visible. To the east the Susitna River valley and portions of the river are visible, however, the site appears to be oriented toward the local accessible terrain. Due to its location on the deflated ridge crest among exposed bedrock outcrops, vegetation is limited to dwarf birch, willow shrubs, and low bush berries including cranberry, blueberry, and crowberry, among others. A few scattered black spruce occur on the ridges, but are more numerous in the areas of low relief between ridges where alders, willows, and shrubs become denser. The terrain around the lakes is gently sloping to the shorelines where marshy areas covered with grasses and sedges are present along the lake margins.

Testing:

The site is a ca. 6 square meters surface lithic scatter exposed among bedrock outcrops. The scatter is unique among surface sites in the area because it contains a high proportion of tools in comparison to flakes. All observed surface artifacts were collected. A single test (test pit 1) in the immediate vicinity of the scatter did not produce subsurface cultural material. A total of 16 artifacts were collected from the surface (Table D.40). Several specimens were also collected that were subsequently determined to be noncultural. Cultural material collected at the site included 6 flakes (3 argillite, 2 basalt, and 1 chert), 1 argillite modified flake (UA80-79-2; Figure D.373b), 1 chert scraper (UA80-79-1; Figure D.373c), 1 argillite scraper (UA80-79-8; Figure D.373d), 1 chalcedony flake core fragment (UA80-79-12; Figure D.373e), 1 hammerstone, which is a "notched" cobble with battering on one end (UA80-79-16; Figure D.373f), and 5 cobbles and fragments. Lithic raw materials represented at the site were diverse and included argillite, basalt, chalcedony, and chert. Estimated site size based on the distribution of artifacts is 54 square meters (Table D.2).

Table D.40.

Artifact Summary, TLM 032

Provenience		Description
Lithic Material		
Surface:	3	Argillite flakes
	2	Basalt flakes
	1	Chert flake
	1	Argillite modified flake (UA80-79-2)
	1	Argillite scraper (UA80-79-8)
	1	Chert scraper (UA80-79-1)
	1	Chalcedony flake core fragment (UA80-79-12)
	1	Hammerstone (UA80-79-16)
	5	Cobbles and rock fragments

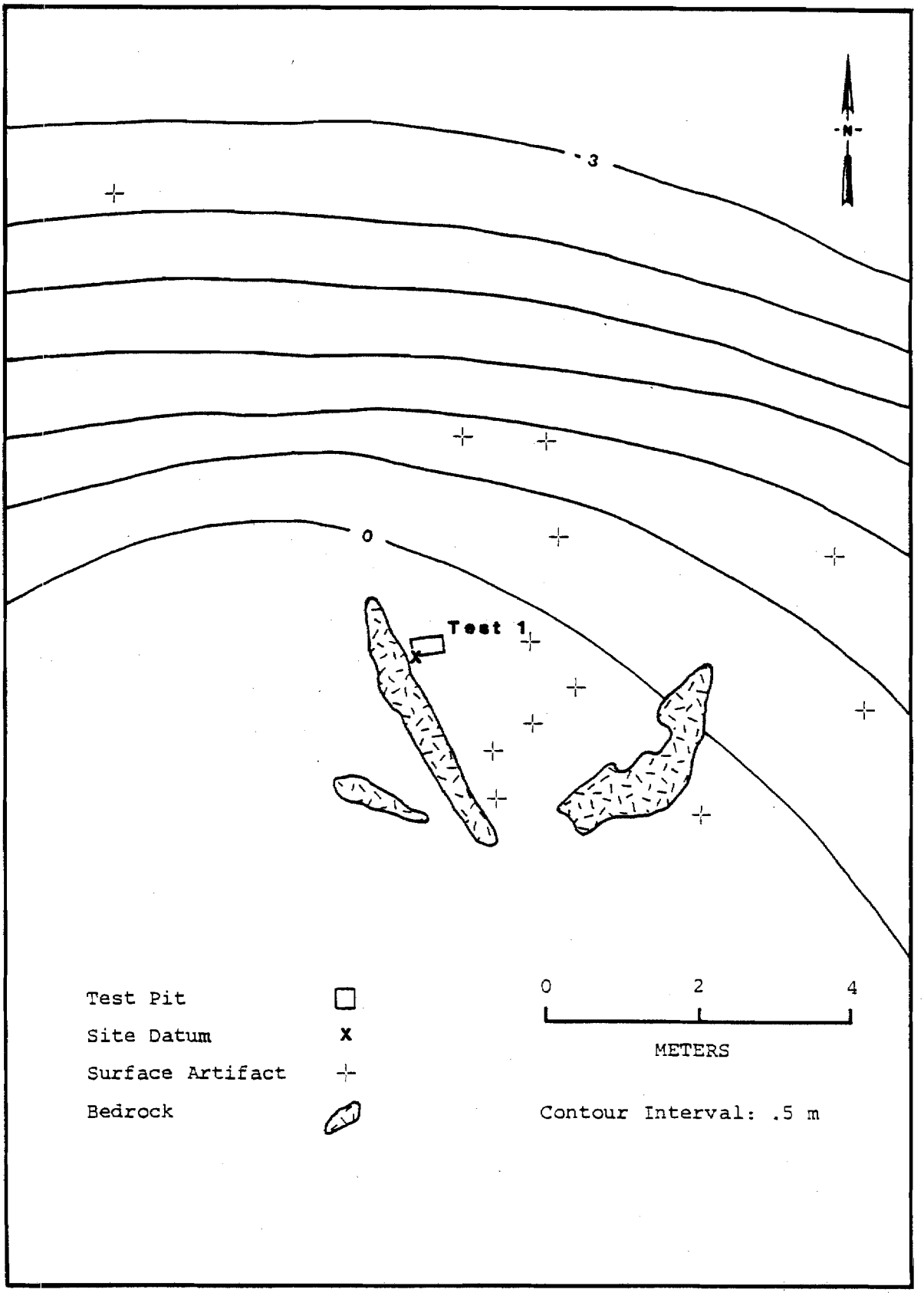

Figure D.29. Site Map, TLM 032

AHRS Number TLM 033; Accession Number UA80-80

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.30
Survey Locale 31:	Figure E.108
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is near the outlet of a small lake, located north of the Susitna River downriver from the mouth of the Kosina Creek. Situated on the point of a flat terrace northeast of the mouth of the outlet stream, the site overlooks the stream drainage to the northwest and west. Located at an elevation of 562 m asl (altimeter: 1843 feet), the site is approximately 30 m higher than the river and higher than most of the terrain in the immediate vicinty. The site is at the western point of a continuous terrace which lies south and parallel to the lake outlet stream and extends northeast toward the lake outlet. The level, open, well-drained edge of the terrace forms a natural route for pedestrian travel from the lake to the mouth of the outlet stream. A second, lower terrace exists approximately 20 m below and south of the site and there is evidence of additional terraces between the site and the river. The view from the site is best to the west and northwest overlooking the next lower terrace and the stream drainage, although the stream and its confluence with the Susitna River are not visible. Visibility in other directions is restricted by topography and trees. The lake to the east of the site is not visible although it and the stream are easily accessible from the site. The immediate area around the site is relatively flat and open with scattered spruce and birch growing on the terrace edge. Ground vegetation consists of a mat of lichens and mosses with some lowbush cranberry and dwarf willows. Spruce trees increase in number in all directions from the site. High brush, aspen, and birch also become dense away from the terrace edge and the slopes below the terrace.

Testing:

There is no surface indication of a site at this location, however a shovel test exposed a brown chert modified flake (UA80-80-1; Figure D.373g) at the contact between two silt units at 13 cmbs (Tables D.42 and D.43). Three test pits were excavated along the terrace edge near the point of the terrace during survey testing. Six 1 x 1 m test squares and five shovel tests were excavated at this site during the systematic level testing phase but additional cultural material was not recovered.

A grid shovel test program was implemented to assist in the location of subsurface cultural material, the distribution of cultural material, and the determination of site size. Sixteen grid shovel tests were excavated around N500/E499; however, no cultural material was encountered.

Discussion:

Initial survey testing uncovered a single brown chert retouched flake. The first three test squares excavated during systematic testing were placed such that one square (N500/E496) intersected the initial survey shovel test and two other squares were placed at 2 m distance, to test the areal extent of the site. The initial three test squares were located on a northwest facing slope. No cultural material was found in any of these test squares, but soil stratigraphy in them indicated solifluction of surface material down slope.

Because no cultural material was recovered from the first three squares, three additional test squares were excavated. Due to the amount of solifluction towards the slope of the ridge, these test squares were placed in a flat area near the ridge top. Although a greater distance from the initial survey shovel test, it was felt that these squares provided a better opportunity to find relatively undisturbed cultural material. Test square N502/E501 was located on a small flat surface that overlooked the outlet creek. Square N487/E502 was located in a

flat area bordering a draw and provided a view of the Susitna River. The last test square was placed near the high point of the ridge.

A depression located ca. 15 m to the east of the main excavation was also tested with three shovel tests. Two additional shovel tests were placed along the northern ridge paralleling the outlet creek. These shovel tests were excavated in an attempt to find other cultural material on the ridge top. Several bedrock outcrops, visible on the opposite side of the outlet creek, were also examined with negative results.

Eight soil/sediment units were delineated at the site (Figure D.31; Table D.41). These units are similar to the "type section" noted for the project with two exceptions: 1) greater mixing of units due to solifluction and 2) the presence in the south wall of test square N500/E496 of a thin lens of ash (tephra?). The mixing of the units is particularly evident in soil unit 6 where the lower tephra (Oshetna) has been churned up and mixed with the basal sand unit. The lack of two separate A horizons suggests erosional episodes in the upper units or mixture of these units.

Evaluation:

TLM 033 is located near a lake outlet stream on a high terrace overlooking the Susitna River. A chert biface fragment is the only artifact from the site. Systematic testing failed to produce additional cultural material. The site documents a single prehistoric use of the terrace possibly discarded as a result of tool breakage or repair, the artifact remains as evidence of early transient use of the location. This site appears to hold little potential to yield additional data pertinent to the prehistory of the project area. Observed site size based on the distribution of artifacts is 4 square meters (Table D.2).

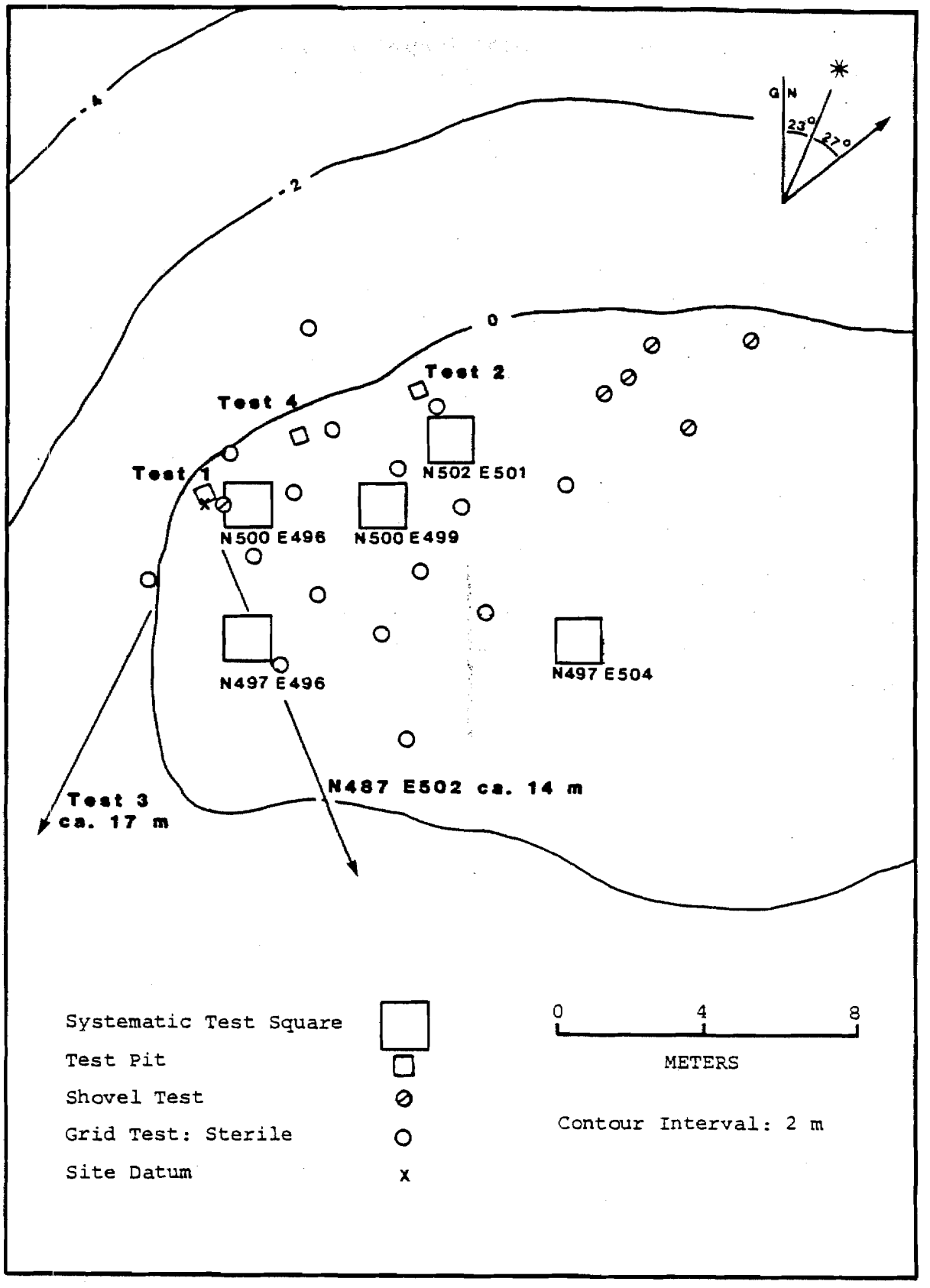

Figure D.30. Site Map, TLM 033

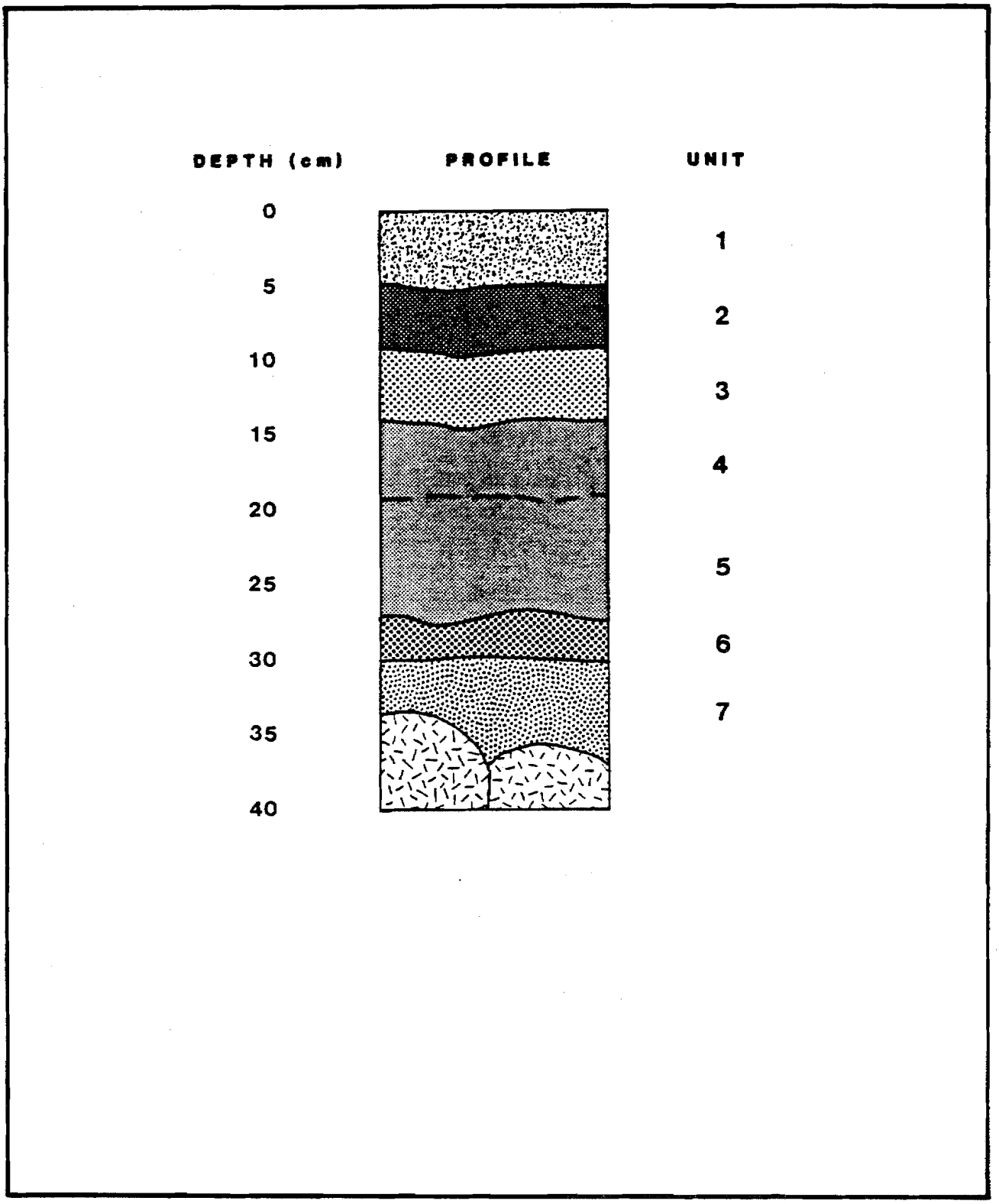

Figure D.31. Composite Profile, TLM 033

Table D.41.

Soil/Sediment Description for Composite Profile, TLM 033

Unit	Description
1	Duff; very dark brown (10YR 2/2). Sharp contact with unit 2. O horizon.
2	Finely sorted organics with some charcoal flecks; black (10YR 2/1). Sharp contact on lower boundary. A horizon.
3	Tephra (Devil); variable in color very dark gray (10YR 3/1) and grayish brown (10YR 5/2). Irregular and undulating contacts. Discontinuous in extent, often obscured by intermixed organic material. Very fine grain size. E horizon.
4	Tephra (Watana); dark reddish brown (5YR 2.5/2). Well sorted. Continuous but variable in thickness. Gradational contact with unit 5. Well-sorted B horizon.
5	Tephra (Oshetna); dark yellowish brown (10YR 4/6). Similar to unit 4 except unoxidized. Lower contact tends to be sharp but at times is intermixed with sand. C horizon.

Table D.41. (Continued)

Unit	Description
6	Mixed sand and tephra; grayish brown (10YR 5/2). Poorly sorted. Discontinuous across areas. Upper contact at times distinct but mostly seen as gradation. Mixing may be function of cryoturbation.
7	Sand; dark yellowish brown (10YR 3/4). Upward grading from coarse sand with pebbles to medium sand. There appears to be a thin oxidized zone in the upper portion of the sand zone.

Table D.42.

Artifact Summary, TLM 033

Tools	
1	Modified flake
	1 Chert (UA80-80-1)

Table D.43.

Artifact Summary by Stratigraphic Unit, TLM 033

Unit		Description
Subsurface unknown	1	Chert modified flake (UA80-80-1)

AHRS Number TLM 034; Accession Numbers UA80-141, UA84-96

Area:	Southwest of Fog Creek Mouth
Site Map:	Figure D.32
Survey Locale 11:	Figure E.87
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

TLM 034 is situated on the narrow crest of an east-west trending ridge, west of the Susitna River and southwest of the mouth of Fog Creek. The ridge extends from the Susitna River to a higher terrace about 40 m west of the site. The site is located on a small relatively flat area, at an elevation of 442 m asl (altimeter: 1451 feet), near the base of the ridge's rise to the higher terrace. South of the steep-sided ridge is a broad level river terrace, ca. 20 m lower in elevation. A small pond lies ca. 30 m northeast of the site, about 10 m lower than the site. The ridge descends gradually to the east to a low point about 50 m east of and ca. 5 m below the site, then rises again to the level of the site as it meets the river. The site is relatively open, with lowbush cranberry, crowberry, and lichens making up a sparse understory. Scattered paper birch, birch bushes, and the occasional black spruce are also present. A well-used game trail cuts through the site on the ridge crest. Thick black spruce forest surrounds the site, totally obstructing the view of the river terrace, the higher terrace to the west, the terrain north of the point, and the east end of the ridge and Susitna River.

Testing:

Initial field survey recovered two flakes in a single 40 x 40 cm test pit (test pit 1), described as occurring within a layer of brown silts (Watana tephra, unit 3). Systematic testing was conducted to determine the spatial extent of cultural material at this site and its stratigraphic context. To these ends, 17 grid shovel tests were placed

around test pit 1, and a test square, N100/E101, was placed adjacent to the test pit. Figure D.32 provides a map of TLM 034 and the location of subsurface testing conducted at the site.

Discussion:

Eighteen argillite flakes were recovered during systematic testing, all from test square N100/E101. They occur at the contact of Devil tephra (unit 2) and Watana tephra (unit 3) and within the Watana tephra. Table D.45 lists all artifacts recovered from the site during recon- naissance and systematic testing, and Table D.46 presents their distribution stratigraphically.

Based on exposures from N100/E101, six soil/sediment units were defined for the site. A surface organic layer (unit 1) is subdivided into a thin layer of roots and organic debris (unit 1a) and a humic layer of decomposed organics and silt (unit 1b). Beneath this is a thin gray brown Devil tephra layer (unit 2). Reddish brown to brownish yellow mottled silts (the Watana tephra) make up the underlying unit 3, the cultural unit at TLM 034. At the base of this unit is a thin carbon-stained zone, unit 4, which may be a paleosol. Unit 5 is a gray silty clay layer which may be related to Oshetna tephra, but which has been altered by animal traffic and mixing with underlying glacial drift (unit 6). Animal disturbance and root growth have significantly altered the stratigraphy in N100/E101. Figure D.33 depicts the stratigraphic sequence of this site, and Table D.44 gives descriptions of the units.

The artifacts encountered during systematic and survey testing are all part of a single spatially discrete component, located at the contact between the Devil and Watana tephras (unit 2/3). The 11 flakes located within the Watana tephra (unit 3) were probably displaced from the contact by animal traffic or root growth in the unit. All flakes are unmodified, apparently debitage from secondary stages of lithic reduction.

Evaluation:

The results of systematic testing confirm the existence of a small, spatially discrete chipping scatter with a highly limited artifact inventory. This occupation is located stratigraphically at the contact between Devil and Watana tephras (unit 2/3). The nature of the assemblage indicates a highly transient, limited occupation at the site. Observed site size based on the distribution of artifacts is 6 square meters (Table D.2).

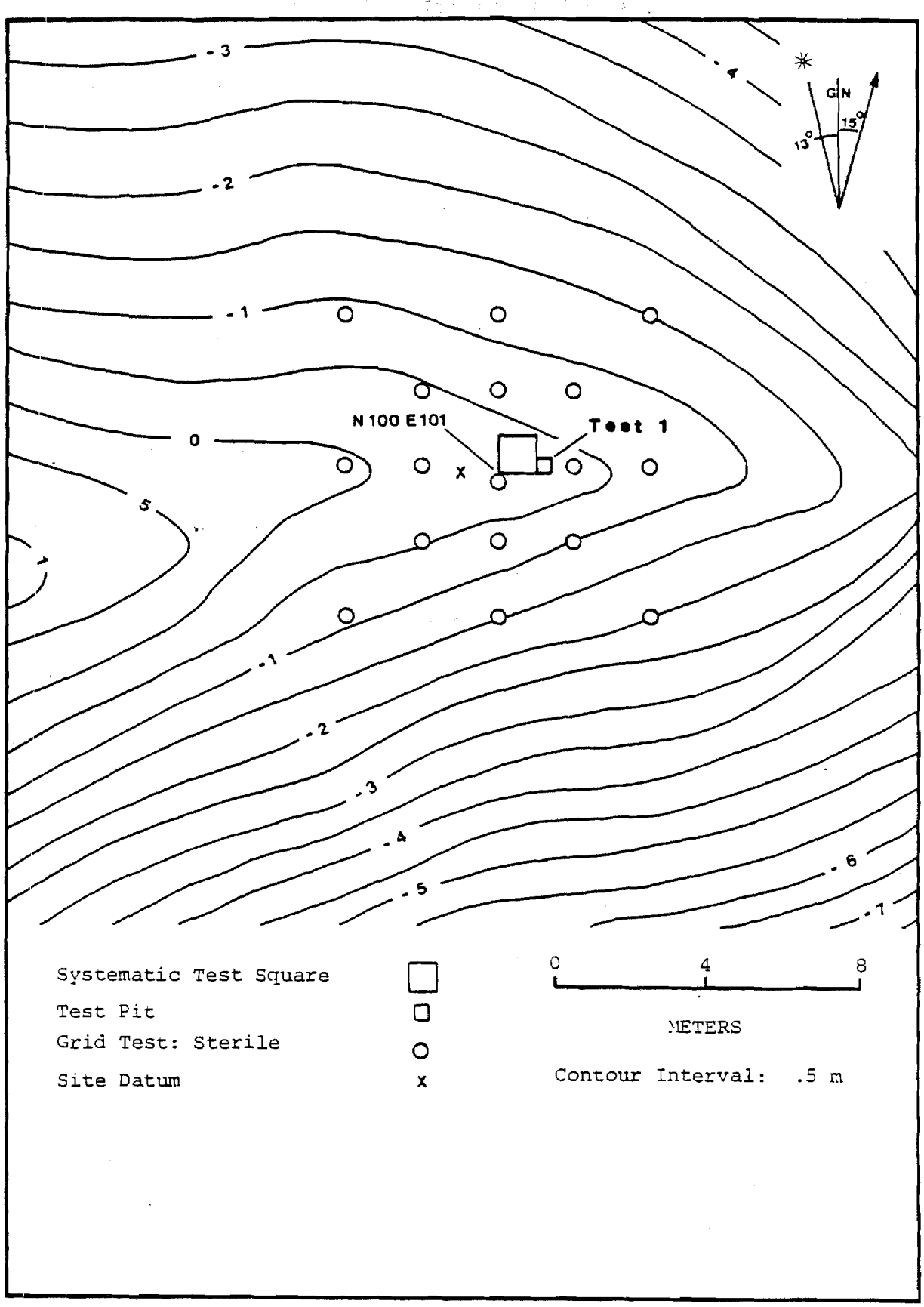

Figure D.32. Site Map, TLM 034

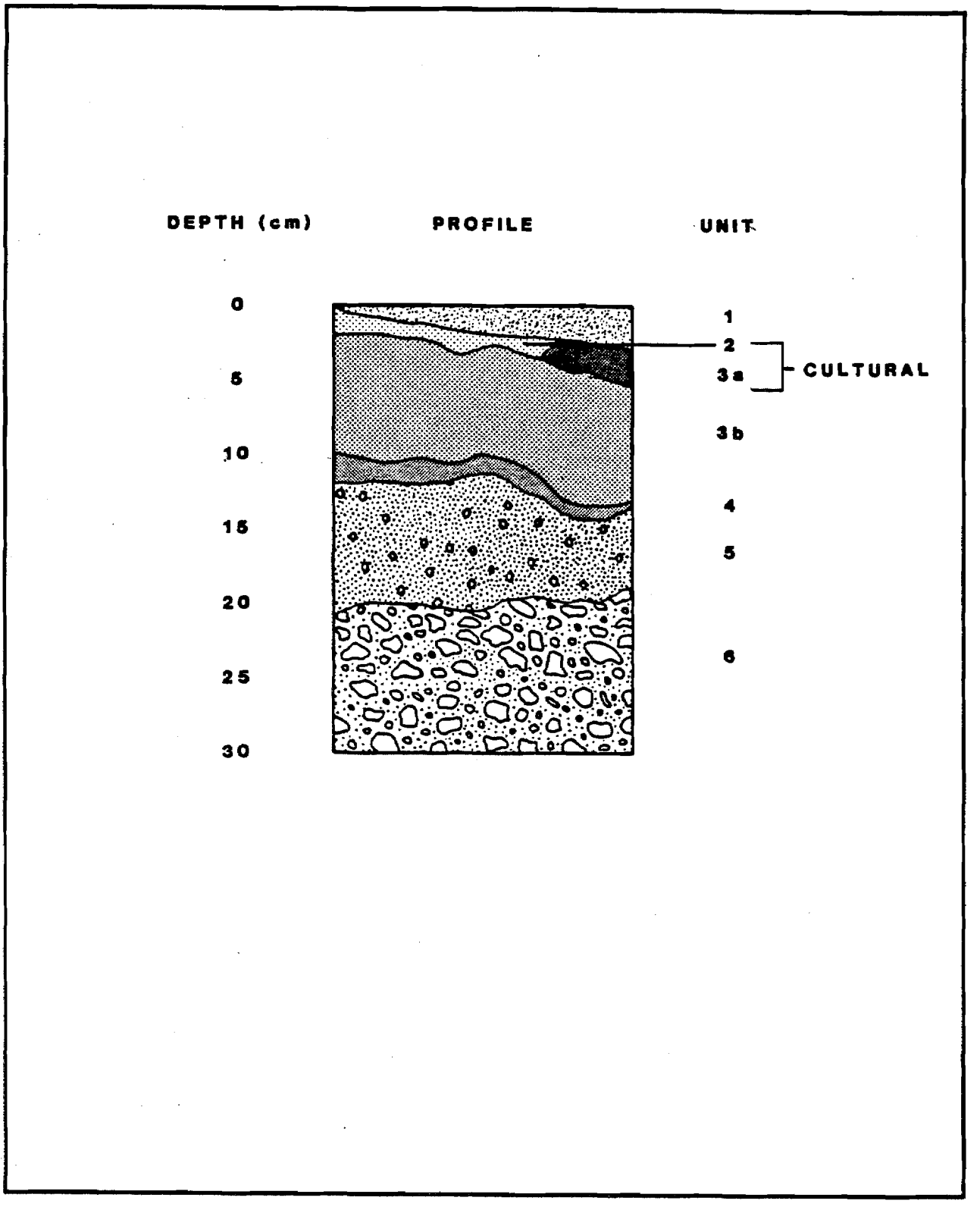

Figure D.33. Composite Profile, TLM 034

Table D.44.

Soil/Sediment Description for Composite Profile, TLM 034

Unit	Description
1	Surface organic mat which varies in thickness from 0 cm in game trail area to over 12 cm in vicinity of dwarf birch clump in SW corner. In general, this mat is thin with average depth of 1-2 cm. The unit, which is discontinuous, consists of rootlets, decomposing organic debris, humus, and occasional silt. Contact with unit 2 is diffuse and discontinuous. Where unit 2 is absent, contact of unit 1 with unit 3 is abrupt. This unit contains no artifacts.
2	Well-sorted very fine silt intermixed with humus; pale brown (10YR 6/3) to light brownish gray (10YR 6/2). Thickness varies from 0-3 cm, generally less than 1 cm. Discontinuous. Devil tephra. Contact with unit 1 is diffuse, wavy and discontinuous. Contact with unit 3 is abrupt and wavy. Frequent mixture with organic mat gives appearance of a leached soil horizon. No artifacts are found within this unit, although some argillite flakes are at the contact between units 2 and 3.
3 a	Silt to sand size particles (sand size particles result from the concretion by iron oxides); dark reddish brown (5YR 3/3). Oxidized Watana tephra. Varies from 0-3 cm. Discontinuous. Mottled, grades into 3b in broken, diffuse, and discontinuous contacts. Upper contact usually abrupt but sometimes mixed with unit 2. Cultural.

Table D.44. (Continued)

Unit	Description
3 b	Well-sorted fine silt, with occasional upwelled pebbles; light yellowish brown (10YR 6/4 to 2.5YR 6/4). Unoxidized Watana tephra. Discontinuous. Occurs as pockets up to 8-9 cm thick, often missing or mixed with drift. Diffuse contacts with units 3a and 5, occasionally abrupt contact when overlying unit 4.
4	Silt with a trace of charcoal; olive brown (2.5Y 4/4). Thickness of unit ranges from 0-1 cm. Discontinuous. Unit appears to occur as a darkened zone of Watana silt. Unit may be Oshetna paleosol, although there is no noticeable underlying tephra.
5	Clayey silt unit with numerous pebbles and occasional cobbles; olive gray (5Y 5/2). Sediment is dense and clayey, possibly associated with glacial activity and appears to be unweathered. Thickness of unit varies from 1-6 cm, generally 4 cm. Contact with unit 4 above and unit 6 below is abrupt and continuous with the exception of the SW corner where unit is absent. Some areas of this unit appear compacted and mixed with unit 4, generally in vicinity of game trail. Some areas contain more silt than clay.

Table D.44. (Continued)

Unit	Description
6	Poorly sorted sandy glacial drift; yellowish red (5YR 4/6). Unit contains red-stained cobbles, boulders to 38 cm in diameter, and pebbles. Contact with overlying units is abrupt except where rocks are upwelled by cryoturbation. Weathered.

Table D.45.

Artifact Summary, TLM 034

Lithic Material	
18	Argillite flakes
2	Flakes less than 1/8"
20	

Table D.46.

Artifact Summary by Stratigraphic Unit, TLM 034

Unit		Description
Unit 2/3 Contact between Devil and Watana tephras	9	Argillite flakes
Unit 3 Watana tephra	9 2	Argillite flakes Flakes less than 1/8"

AHRS Number TLM 035; Accession Number UA80-142

Area:	North of Tsusena Creek Mouth
Site Map:	Figure D.34
Site Location Map:	Figure E.283
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located on the west side of Tsusena Creek upstream from its mouth, just north of proposed Borrow E. Situated on the rounded point of a high river terrace west of Tsusena Creek, the site overlooks the Tsusena Creek drainage. The elevation of the terrace is ca. 488 m asl (1600 feet) which is approximately 30 m above Tsusena Creek and 61 m above the Susitna River. The terrace is continuous for 100 m north and 50 m west of the site where it blends into surrounding slopes. Ridges to the north and west rise to over 610 m asl (2000 feet). Except for isolated openings in the tree cover, the view in all directions is severely restricted by the existing vegetation, however, with decreased vegetation denseness good visibility of up to 2 km eastward across Tsusena Creek, southward to the Susitna River, and along the Susitna westward for 4 km would be possible. The view to the north is blocked by an ascending ridge behind the site. Both the Susitna River and Tsusena Creek are in view and easily accessible, although the site appears to be oriented more toward Tsusena Creek. A well-used game trail runs along the edge of the terrace traversing the site location. Scattered spruce and birch are found on the rounded, gradually sloping terrace with an understory including lowbush cranberry, blueberry, Labrador tea, bearberry, sphagnum moss, and lichen. Below the site spruce become denser and there are stands of birch. Wet marshy areas exist below the site and dryer, more tundralike areas characterize the ridge system above the site.

Testing:

Three test pits were excavated at the rounded point of the terrace. There is no surface indication of a site at this location, however, a shovel test which was expanded into test pit 1 produced a pale yellow argillite flake 3 cmbs at the contact between a dark brown silt and a gray silt (Table D.47). A second shovel test which was expanded into test pit 2 to the north of test pit 1 produced a basalt flake. Test pit 3 did not produce cultural material. Very little can be said concerning site function(s), spatial extent, or temporal placement without further testing. Cultural material of two different raw materials, from tests 10 m apart, although limited to only two flakes, indicates that the site could be fairly extensive. A basalt rock fragment subsequently determined not to be culturally modified was also collected from test pit 1. Estimated site size based on the distribution of artifacts is 42 square meters (Table D.2).

Table D.47.

Artifact Summary, TLM 035

Provenience		Description
Lithic Material		
Subsurface:		
Test Pit 1	1	Argillite flake
	1	Basalt cobble fragment
Test Pit 2	1	Basalt flake

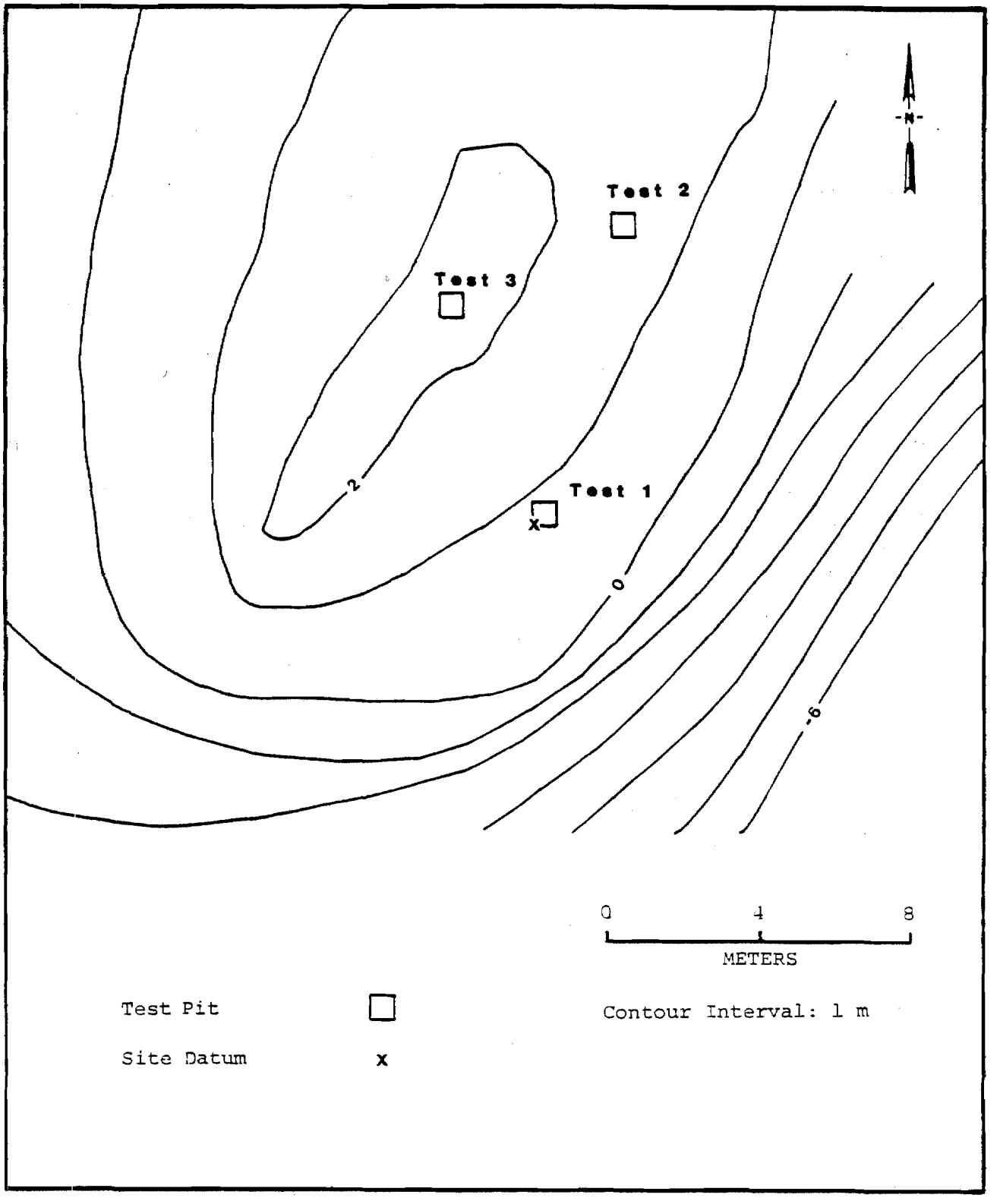

Figure D.34. Site Map, TLM 035

AHRS Number TLM 036; Accession Number UA80-143

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.35
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site is located on a high plateau on the north side of the Susitna River downriver from the mouth of Kosina Creek. A 1.5 km wide valley separates this plateau from higher mountains to the north. Located approximately 335 m above the level of the Susitna River at an elevation of ca. 853 m asl (2800 feet), the site is situated on the southwest side of a small knoll overlooking a south-facing slope leading down to the Susitna River. This knoll is connected to a higher knoll by a small saddle to the northeast. Higher rounded hills to the northwest mark the eastern border of a lake 6 ha in size, which is not visible from the site. A small pond is located 300 m north but cannot be seen from the site. The ridge upon which the site is located is part of a regional system of discontinuous ridges which occur on this plateau above the 762 m asl (2500 feet) elevation. Each of the knolls and ridges which comprise this system exhibits numerous bedrock and drift exposures. High rolling hills above 762 m asl (2500 feet) in elevation exist to the east, north, west, and southwest within 1 km of the site. The Susitna River lies to the south and a small stream flows in the valley west of the site. The view from the site is panoramic but the principal view is of the lower open areas to the east, southeast, south, and southwest. Visibility varies between 1 (southwest) and 5 km (southeast). Six additional archeological sites have been identified in the same local topographic context as TLM 036. The only recorded site within 1 km of TLM 036 is site TLM 044 located to the northeast. Vegetation at TLM 036 is transitional alpine tundra, with spruce, dwarf birch, moss, and lichens. At elevations below 762 m asl (2500 feet) spruce become more common, and above this elevation low shrubs, moss, and lichen prevail.

Testing:

The site consists of a surface lithic scatter exposed in a blowout measuring approximately 8 x 12 m. A dark red brown chert unifacially worked scraper with flake scars over the entire dorsal surface (UA80-143-1; Figure D.373h) was surface collected from this blowout along with a single light gray argillite flake found 72 cm east-northeast (62 degrees) from the scraper (Table D.48). No other cultural material was observed on the surface. A single test pit at the site did not reveal any subsurface cultural material and bedrock was encountered at 10 cmbs. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.48.

Artifact Summary, TLM 036

Provenience		Description
Lithic Material		
Surface:	1	Argillite flake
	1	Chert scraper (UA80-143-1)

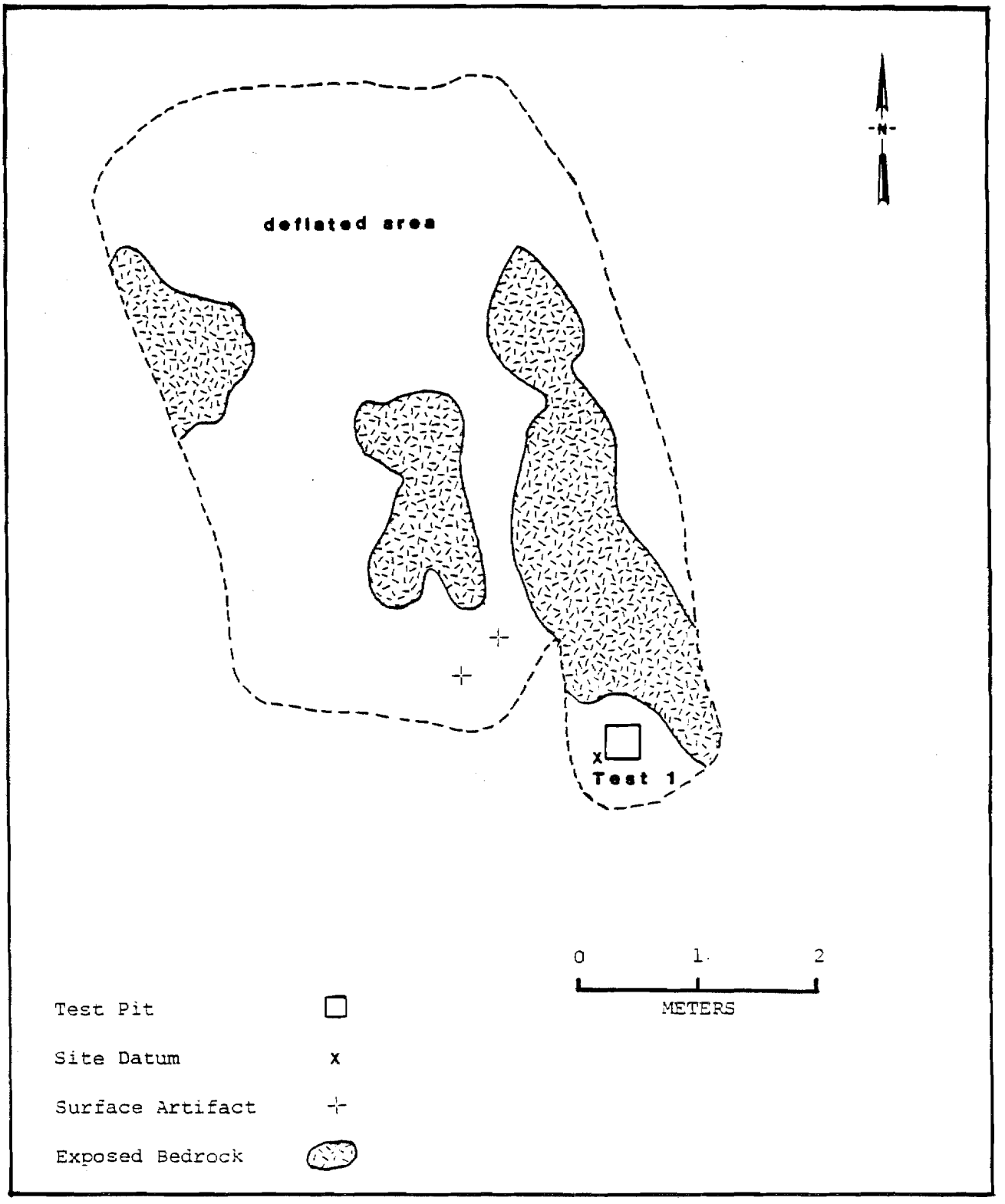

Figure D.35. Site Map, TLM 036

AHRS Number TLM 037; Accession Number UA80-144

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.36
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location	Appendix F

Setting:

The site is located on a high plateau on the north side of the Susitna River downstream from the mouth of Kosina Creek. A 1.5 km wide valley separates this plateau from higher mountains to the north. Located approximately 396 m above the Susitna River at an elevation of ca. 914 m asl (3000 feet), the site is situated on a southwest slope, ca. 5 m below the top of the second highest knoll on a ridge northeast of the largest of three kettle lakes. The site is one among numerous east-west trending glacially scoured ridges with exposed bedrock and drift characteristic of this high plateau. The site affords an excellent view of two kettle lakes to the southwest, the smallest lake is closest and ca. 61 m lower in elevation, while the larger lake is furthest and 91 m lower in elevation. Most of the accessible terrain in view from the site is 30-50 m lower in elevation and consists of undulating ridges and knolls without high relief. The view from the site is panoramic but the more accessible terrain to which the site appears to be oriented lies to the south and west and includes the kettle lakes, the north slopes and crests of a series of ridges running generally east-west and descending in elevation to the south, and a major northeast-southwest trending ridge which lies to the southwest of the site. Seven additional archeological sites have been identified in the same local topographic context. Other sites within a 1 km radius of site TLM 037 are site TLM 031 to the south, and site TLM 036 to the southeast. Vegetation at the site is sparse and consists of lowbush cranberry, bearberry, mosses, and lichens with occasional spruce present in more sheltered locations at lower elevations. Surrounding vegetation is alpine tundra with low shrubs. In the site vicinity spruce occur infrequently in saddles and

on less exposed slopes but are generally absent on ridge crests and the tops of knolls.

Testing:

The site consists of a surface lithic scatter exposed in a blowout measuring approximately 40 x 50 m in which bedrock exposures occur. A total of four flakes were observed on the deflated surface, two of which were collected (Table D.49). One of the collected flakes is gray chert and the other fine grained black basalt. The two uncollected flakes appeared to be of same raw material as the gray chert flake. No other cultural material was observed on the surface. Test pit 1, excavated to the north of the blowout, did not reveal any subsurface cultural material. Soil deposition in the vicinity of the site is shallow and bedrock was encountered within less than 10 cmbs. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.49.

Artifact Summary, TLM 037

Provenience		Description
Lithic Material		
Surface:	1	Basalt flake
	1	Chert flake
	2	Chert flakes (uncollected)

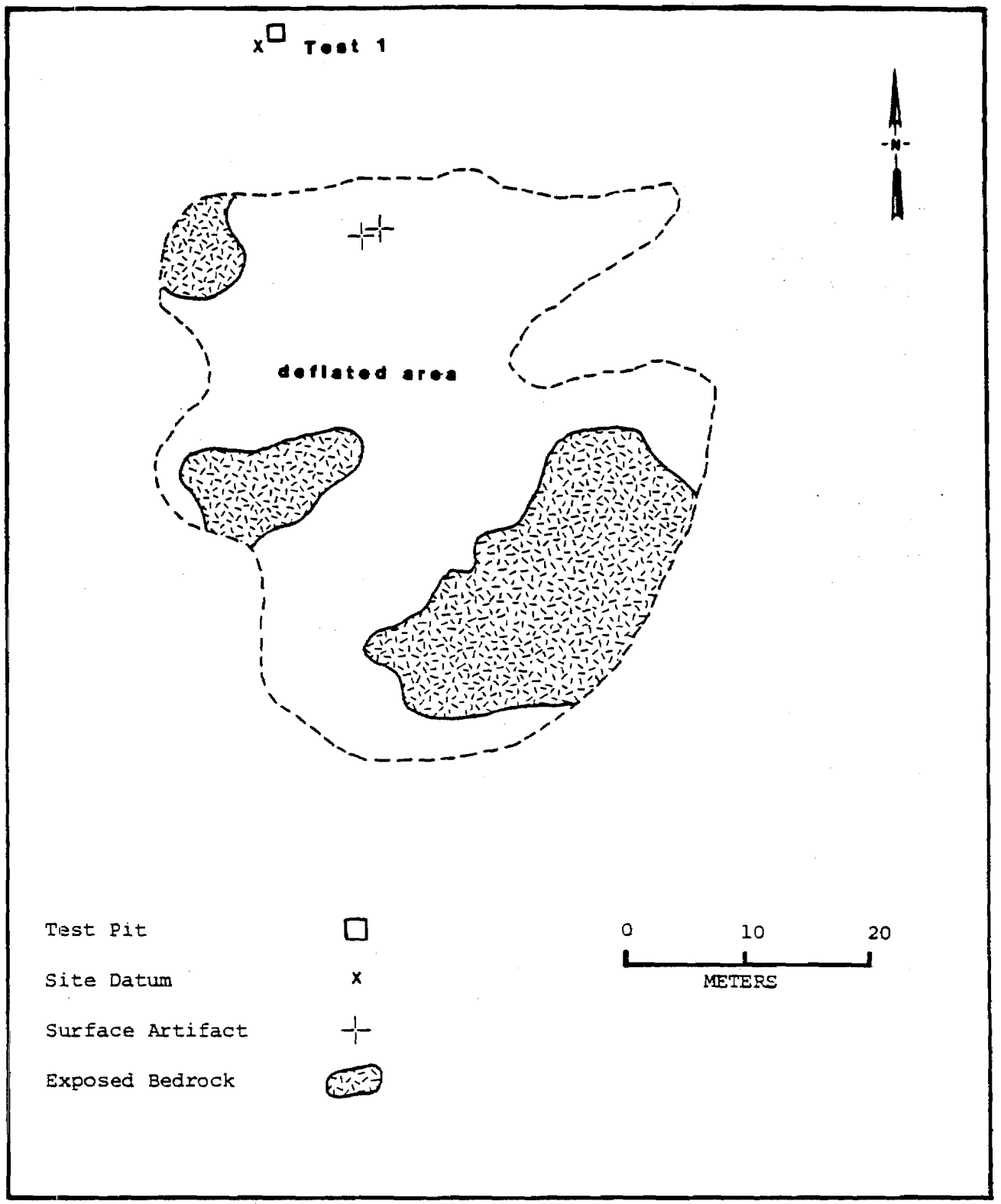

Figure D.36. Site Map, TLM 037

AHRS Number TLM 038; Accession Numbers UA80-145, UA81-224

Area:	Northeast of Watana Creek Mouth
Site Map:	Figure D.37
Survey Locale 26:	Figure E.102
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located upstream from the mouth of Watana Creek on the eastern edge of a plain overlooking the creek from the west. Watana Creek is east of the site and ca. 152 m lower in elevation. A major unnamed tributary joins Watana Creek northeast of the site. Located at an elevation of ca. 762 m asl (2500 feet), the site is situated on a small discrete lobe of the continuous edge of the plain which trends east-west for 500 m before trending northward. The site overlooks a large stream terrace to the north and northeast approximately ca. 61 m lower in elevation, and the confluence of the unnamed tributary and Watana Creek to the northeast. East of the site the plain terminates and a sharp ridge with a series of prominent knolls descends 61 m to the level of the large alluvial terrace below the site. Access to the lower terrace and Watana Creek is possible but quite steep and difficult or impossible in places where downcutting has resulted in cliffs and steep bedrock exposures. The view from the site encompasses the relatively level plain westward from the site and the lower alluvial terrace and portions of Watana Creek and its tributary to the north and northeast. Only a small portion of Watana Creek above the confluence is visible from the site. Visibility in other directions is restricted by spruce forest and by slightly higher terrain tc the south. Although not much higher than the surrounding plain, the site location affords a better view in more directions than other slightly lower lobes along the edge of the plain. The difference in potential views between this and other lobes (which were tested without finding cultural material) is subtle but apparently significant in terms of site location. On the north face

of the lobe, a 2 x 2 m blowout has exposed whitish gray sand approximately 2 m below the site. Vegetation at the site consists of alpine tundra and high brush and a single isolated black spruce. Dwarf birch and willow, lowbush cranberry, crowberry, bearberry, moss, and lichens form the major ground vegetation. Scattered black spruce occur on the plain, southeast of the site, and alder occupy the ravines between lobes along the edge of the plain. On the lower terrace to the northeast of the site spruce are denser and areas of muskeg are present.

Testing:

No surface cultural material was observed at the site location. However, backdirt from shovel test 1 revealed 4 calcined long bone fragments from a medium-large size mammal. Three additional shovel tests and a test pit (test pit 1) were excavated in the immediate vicinity of shovel test 1 and one test pit (test pit 2) was placed 11.5 m southwest of test pit 1 (Figure D.37). Shovel test 2 and test pit 2 did not reveal cultural material, however, shovel tests 3 and 4 and test pit 1 revealed extensive subsurface calcined faunal material in association with charcoal. No cultural lithic material was revealed by any of the subsurface tests.

Five 1 x 1 m test squares and an additional shovel test were excavated at the site (Figure D.37) in order to determine whether the charcoal associated with the burned faunal material represented a hearth or was natural in origin.

Discussion:

Survey level testing consisted of four shovel tests and two test pits. Only faunal remains and charcoal were recovered. Test pit 1 revealed 3 extremity bones identifiable as possibly caribou, (Rangifer tarandus), and ca. 650 long bone and unidentifiable bone fragments. These fragments were recovered between 10 and 35 cmbs in a gray and dark brown silty sand attributable to the Watana tephra unit identified during systematic testing. Shovel test 3 revealed one carpal fragment and one

carpal or tarsal fragment, identified as caribou (Rangifer tarandus), and ca. 60 long bone and unidentifiable bone fragments between 13 and 20 cmbs. Shovel test 4 revealed a possible radius shaft fragment and phalanx fragment tentatively identified as caribou, as well as ca. 310 long bone and unidentifiable bone fragments between 5 and 30 cmbs. The majority of bone fragments are probably from a medium-large size mammal(s) although some small mammals appear to be represented. The faunal inventory is listed in Table D.52. All of the bone fragments occur in pockets of charcoal or charred earth within silty sand units and most fragments show evidence of burning. Not enough charcoal was available to provide a radiocarbon date for the site, however the possibility of obtaining a sufficient sample is quite probable, with further testing. Although test pit 2 did not reveal cultural material it did contain a charcoal lens at approximately the same level as the charcoal noted in test pit 1.

During the systematic testing phase, no lithic debitage or tools were recovered at the site with the exception of thermally altered rock. All but one test square (N105/E97) produced burned bone and/or thermally altered rock. All of the faunal material from the test squares (N104/E101, N103/E104, and N97/E106) appeared to be associated with a buried A horizon directly above the Watana tephra (unit 4a) although some material was found within the Watana tephra (unit 4c). Species identified include caribou (Rangifer tarandus), and vole (Microtus sp.) (Table D.52).

Test square N105/E97 was excavated to test for the western extent of the cultural material. Cultural material was not observed in this test, but extensive cryoturbation was evident by the displacement of soil units. Test square N104/E101 was excavated 1 m west of test pit 1 which revealed cultural material (Figure D.37). The very fragmented bone recovered from the test square was far less concentrated than that noted in the test pit. Six thermally altered rocks were also recovered from this test (Table D.53). Test square N103/E104 was excavated 1 m southwest of test pit 1, in order to further define the extent of cultural material at the site. An 8 cm thick, wind blown sand unit

overlaid the cultural material in this test, which consisted of one thermally altered rock and four burned bone fragments. Test square N97/E106 also contained cultural material consisting of one thermally altered rock and one bone fragment. Test square N94/E102 was excavated in what appeared to be a more geographically stable zone of the site based on the character of the surface vegetation, thicker organic mat, and distance from the bluff edge. One thermally altered rock was recovered from this test. A test pit at N75/E100 (not shown on map) was excavated to ascertain the soil deposition away from the bluff edge. No cultural material was located in the 40 x 40 cm test.

Evaluation:

This site is situated on a high, well-drained overlook adjacent to Watana Creek and was probably used briefly as a hunting camp. This tentative conclusion is supported by the presence of thermally altered rock and the bones of caribou. No large cultural features such as house depressions were noted and the site lacks major ecological features (such as convenient access to fresh water) suggesting that it was not suitable for use as a more permanent type of camp.

Although no radiocarbon determinations are available from the site, the stratigraphic placement of the cultural material recovered indicates that the site was occupied after the deposition of the Devil tephra. Based on the results of systematic testing, the cultural occupation appears to be derived from a buried A horizon immediately below the Devil tephra and above the Watana tephra, although cryoturbation has resulted in some of the specimens intruding into the lower tephra. Estimated site size based on the distribution of artifacts is 63 square meters (Table D.2).

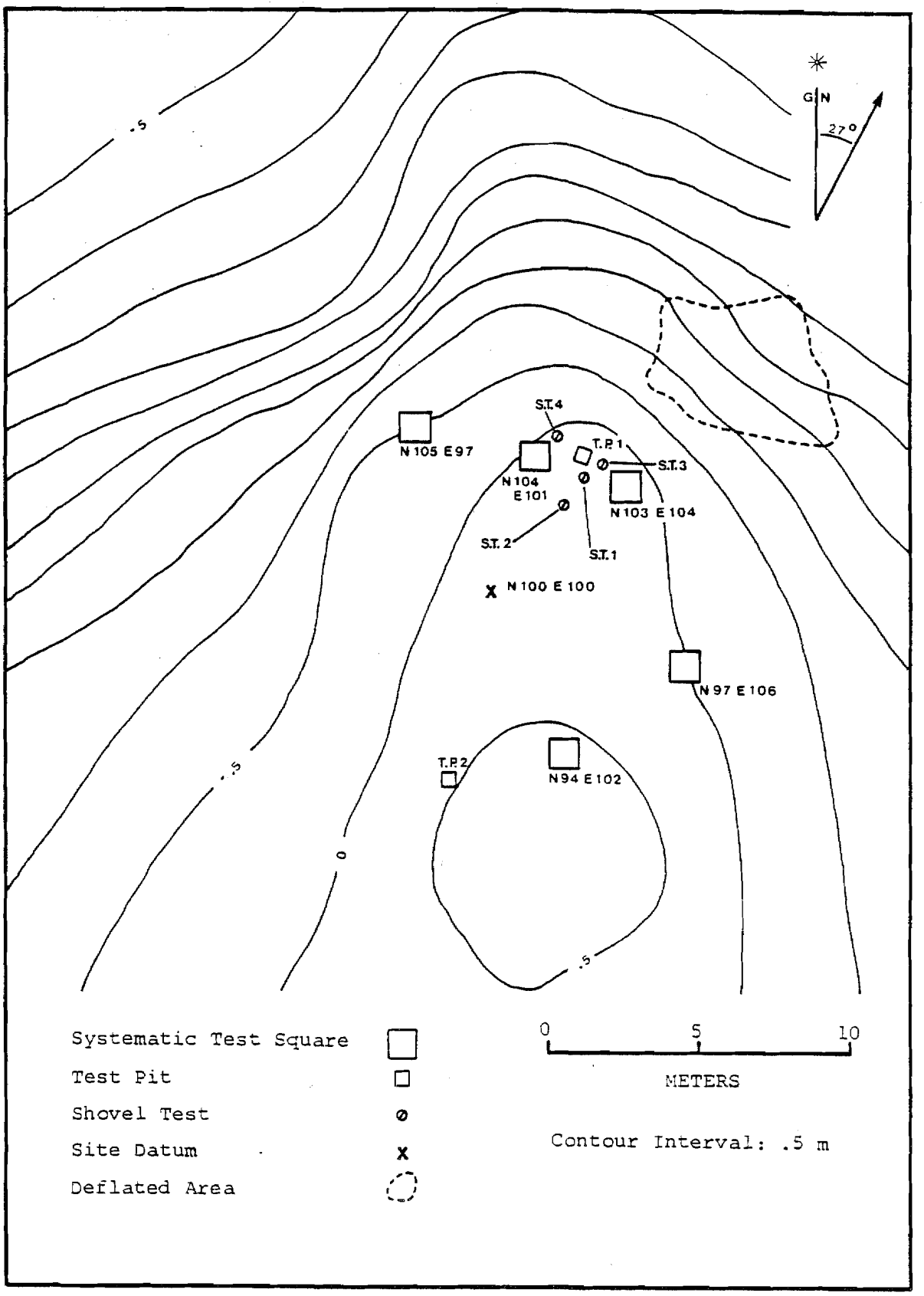

Figure D.37. Site Map, TLM 038

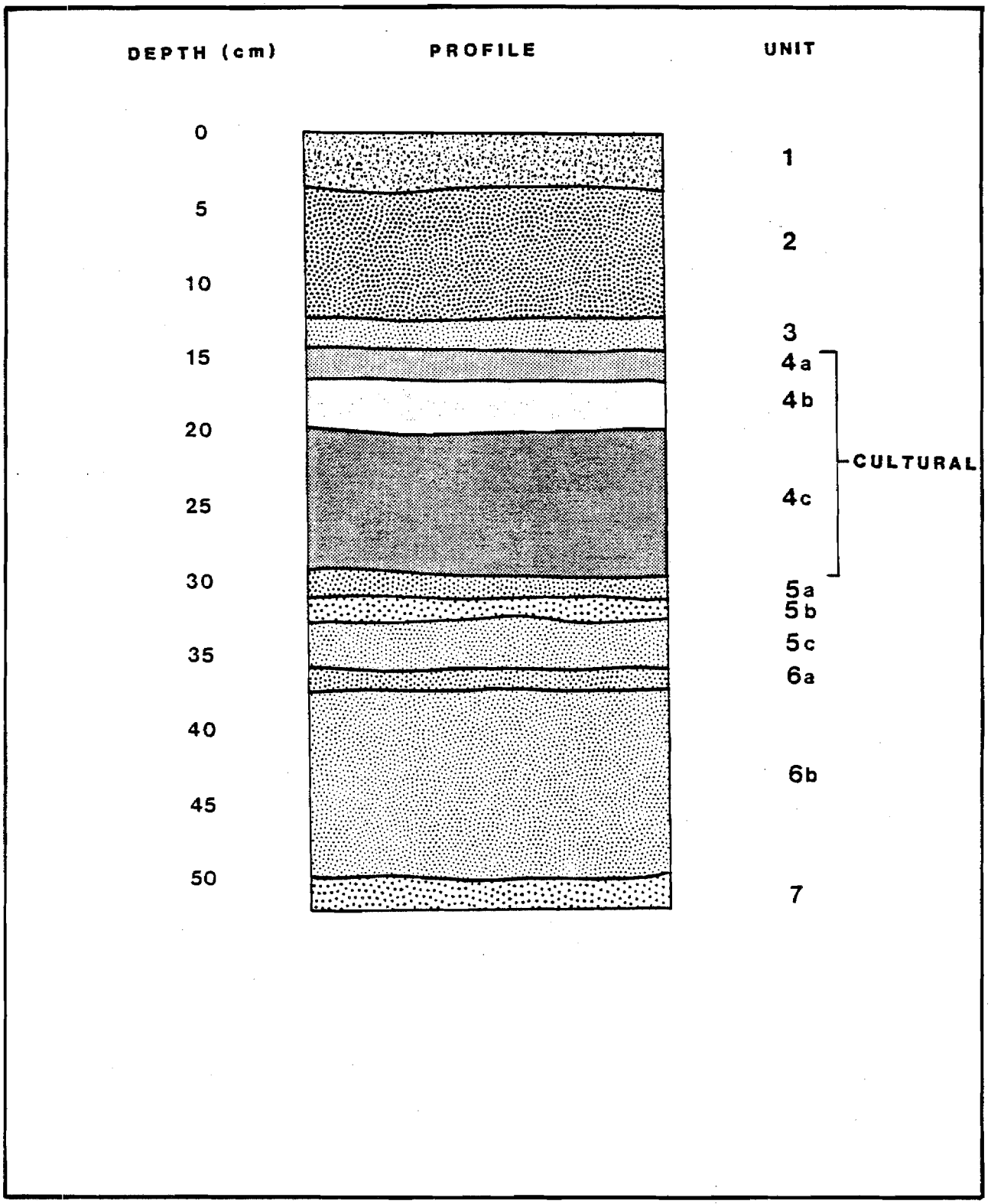

Figure D.38. Composite Profile, TLM 038

Table D.50.

Soil/Sediment Descriptions For Composite Profile, TLM 038

Unit	Description
1	Humus mixed with sand, organics not divided, 2-8 cm thick.
2	Poorly sorted unaltered eolian sand. Some non-divided organics present; grayish brown (2.5YR 5/2). Lower boundary sharp.
3	Light gray (10YR 6/1) silty fine sand possibly mixed with tephra.
4	Silt (tephra or mixed with tephra). Dries to a light powder, 5-25 cm thick. Occurs in four subunits. Watana tephra (?).
4a	Very dark gray (10YR 2.5/1).
4b	Grayish brown (2.5YR 5/2).
4c	Dark reddish brown (5YR 3/3) to dark yellowish brown (10YR 4/4).
4d	Brownish yellow (10YR 6/6).
5	Unsorted medium fine eolian sand. Occurs throughout site in a 3 to 15 cm thick unit. Lower boundary sharp. Consists of three subunits.
5a	Very dark grayish brown (10YR 3/2).
5b	Grayish brown (7.5YR 4/3) to dark yellowish brown (10YR 3/4).

Table D.50. (Continued)

Unit	Description
6	Unsorted medium to fine eolian sand. Occurs throughout site. Thickness up to 40 cm. Lower boundary very abrupt. Consists of three subunits.
6a	Very dark grayish brown, dark grayish brown (2.5YR 4/2).
6b	Dark yellowish brown (10YR 3.5/4).
7	Well-sorted medium sand, no soil development evident; olive (5YR 4/3). Possible lacustrine deposit.

Table D.51.

Artifact Summary, TLM 038

Lithic Material	
9	Thermally altered rocks
Faunal Material	
ca. 1,354	Bones and fragments

Table D.52.

Faunal Material by Stratigraphic Unit, TLM 038

Unit		Description
Surface	1	Rib fragment, unburned, probably caribou (Rangifer tarandus)
4	1	Cervical vertebra fragment, unburned,
Watana		caribou (Rangifer tarandus)
tephra	1	Unciform fragment, calcined,
		caribou (Rangifer tarandus)
	1	Metapodial proximal fragment, heavily
		burned, caribou (Rangifer tarandus)
	1	Metapodial distal fragment, heavily
		burned, caribou (Rangifer
		tarandus)
	1	Proximal phalanx distal fragment, calcined,
		caribou (Rangifer tarandus)
	1	Probable proximal phalanx distal fragment,
		calcined, caribou (Rangifer tarandus)
	1	Medial phalanx proximal fragment, calcined,
		caribou (Rangifer tarandus)
	1	Maxilla fragment, unburned,
		vole (Microtus sp.)
	1	Right mandibular fragment, unburned, vole
		(Microtus sp.)
	7	Rib fragments, calcined, medium-large mammal

Table D.52. (Continued)

Unit		Description
	1	Long bone fragment, unburned, gnaw marks medium-large mammal
	8	Long bone and unidentifiable bone fragments, unburned, medium-large mammal
	2	Flat bone fragments, calcined, medium-large mammal
	ca. 950	Long bone and unidentifiable bone fragments, heavily burned and calcined, mammal
Subsurface unknown (shovel tests 1, 3, and 4)	1	Possible radius shaft fragment, burned, probably caribou (Rangifer tarandus)
	1	Lunate, calcined, caribou (Rangifer tarandus)
	2	Carpals or tarsals, calcined and heavily burned, probably caribou (Rangifer tarandus)
	1	Proximal phalanx proximal fragment, burned, probably caribou (Rangifer tarandus)
	1	Rib fragment, calcined, medium-large mammal
	ca. 370	Long bone and unidentifiable bone fragments, heavily burned and calcined, mammal

Table D.53.

Artifact Summary by Stratigraphic Unit, TLM 038

Unit		Description
4	9	Thermally altered rocks
Watana tephra		

AHRS Number TLM 039; Accession Numbers UA80-146, UA81-277, UA84-229

Area:	Northeast of Watana Creek Mouth
Site Map:	Figure D.39
Survey Locale 27:	Figure E.103
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on the western margin of an 18 ha lake east of the mouth of Watana Creek on the north side of the Susitna River. The lake is referred to as Duck Embryo Lake or, less frequently, as Sally Lake. Situated at an elevation of 650 m asl (altimeter: 2131 feet) on top of a knoll at the southern end of the lake where the shoreline curves to the southwest, the site is located at the highest point on the perimeter of the lake. This knoll is at the northeast end of a ca. 800 m long discrete ridge system oriented northeast to southwest. The knoll rises approximately 20 m above the lake as well as most of the surrounding terrain. The view from the top of the knoll is panoramic, encompassing the entire lake and surrounding accessible terrain up to a distance of approximately 3 km. It is the only location on the lake from which the entire lake is visible. This lake is the largest within a 10 km radius and is a natural attraction for wildlife and waterfowl. Grayling (Thymallus arcticus) and trout (Salmo spp. and Salvelinus spp.) are known to inhabit the lake. The Susitna River is southwest of the site and approximately 152 m lower in elevation. An outlet stream at the north end drains the lake. Access to Watana Creek, along this stream is relatively easy. Site TLM 048 is also located on this lake, at the northern end near the outlet stream. Vegetation at site TLM 039 consists of scattered spruce, birch, and dwarf willow with ground vegetation including blueberry, bearberry, Labrador tea, wild rose, sphagnum moss, and lichen. Exposed soil and rock are found at the crest of the knoll on the eastern side where deflation is most pronounced. Surrounding vegetation is generally similar except that black spruce and

birch are denser, especially closer to the lake margin, and willows are much denser in less well drained areas between knolls and ridges.

Testing:

The site is comprised of subsurface lithic remains. No cultural material was observed on the surface. A total of three test pits were excavated at the site, test pit 1 approximately 5 m southeast of the highest point of the knoll, test pit 2 at the highest point of the knoll, and test pit 3 on the crest of a ridgeline approximately 10 m southeast of the highest point of the knoll (Figure D.39). Only test pit 1 revealed subsurface cultural material. A total of 14 flakes and a burin spall of black chert (UA80-146-11) were excavated between 3-16 cmbs.

Systematic testing consisted of three 1 x 1 m test squares placed along the east-west trending summit of a kame. Test squares were placed in the immediate vicinity of survey tests in order to further define the eastern and western extent of the site and to obtain additional cultural material and datable organics.

A shovel grid testing expansion program was undertaken to assist in determining site size and the distributions of cultural materials. Sixty-four grid shovel tests were excavated, four of which contained artifacts. These shovel tests yielded 90 argillite flakes, 8 basalt flakes, 62 chert flakes, and 3 quartzite flakes.

Discussion:

Lithic material was recovered from one of the three survey level test pits, four of the grid shovel tests, and all three of the systematic test squares. Lithic remains consisted of 1 microblade, 2 microblade fragments, 1 burin spall, 222 flakes, 1 thermally altered rock, 1 ochre piece, and 1 rock fragment (Table D.55). The artifact raw materials present at this site included argillite, basalt, chert, obsidian, quartz, quartzite, and rhyolite.

Site stratigraphy consists of less than 10 cm of organic and humic horizons above approximately 10 cm of volcanic tephra deposits which overlay glacial drift (Figure D.40; Table D.54). Three distinct tephras have been identified at the site based on color, texture and weathering characteristics. Stratigraphy at the site is clear but compressed into approximately 20 cm of vertical development. All test squares show essentially the same stratigraphy with the exception of N47/E49 in which a silty loam (unit 2) is present. This unit is not found in either of the other two tests and is interpreted as redeposited slope wash.

Artifacts were recovered from four of seven stratigraphic units identified at the site (Figure D.39). Cultural material occurs within the 02 horizon (unit 3) and in all stratigraphic units and contacts between the 02 horizon and glacial drift (unit 7). The artifacts found during the grid shovel testing program were recovered from the 02 horizon (unit 3) to the contact between the Devil and Watana tephras (unit 4/5). This contrasts with the location of artifacts collected from the initial survey testing and the systematic testing. During these testing episodes artifacts were recovered from the Devil tephra (unit 4) to the contact between the Oshetna tephra and glacial drift (unit 6/7). The contrast in the stratigraphic provenience of the artifacts found during the different phases of testing makes it difficult to determine the number and nature of components present at this site. The spatial distribution of artifacts in different stratigraphic units recorded during the grid shovel testing program may suggest the presence of two components at this site. However, the presence of more than one component is not determinable with the present data.

Diagnostic artifacts recovered during systematic testing were excavated from test square N48/E52 and consist of two complete microblades, one of which is represented by two articulating fragments. One black chert microblade fragment (UA81-277-20) was recovered from the contact between the Watana and Oshetna tephras (unit 5/6). This fragment articulates with a black chert microblade fragment (UA81-277-30; dorsal view Figure D.373i, ventral view Figure D.373j) recovered from within the Oshetna tephra (unit 6). This broken microblade is 2.35 x 0.7 cm and shows

retouch (possible backing) along one margin and light retouch (possible use wear) along the opposite margin. An obsidian microblade (UA81-277-29; Figure D.373k) recovered from this test square was excavated from within the Oshetna tephra (unit 6) and is complete, measuring 2.1 x 0.5 cm. This microblade shows continuous abrasion and crushing along one of two parallel arris which could have resulted from hafting. Moderate discontinuous retouch (possible use wear) occurs along the opposite margin and supports the conclusion that this microblade may have served as a point inset. Very minor discontinuous retouch on the opposite margin may have occurred during hafting or use. The only other diagnostic artifact recovered from TLM 039 was a black chert burin spall (UA80-146-11; Figure D.373l) struck from a biface. This artifact was recovered from test pit 1 during survey testing and was excavated from 12 cmbs associated with contact between the Watana and Oshetna tephras (unit 5/6).

Evaluation:

The setting of TLM 039 suggests that the site was probably used as a hunting overlook where tool resharpening or limited tool manufacture occurred. As previously mentioned, the site location offers a panoramic view encompassing a large lake and the surrounding easily accessible terrain. Lack of well-defined hearths and a diverse artifact assemblage implies that TLM 039 was probably not used as a major campsite. The site is exposed and probably would not have been an attractive camping area. Although there were several deflated areas, no surface artifacts or features were observed. Testing at this site has revealed the presence of one component and the possibility of a second component. The two components would be spatially as well as stratigraphically separate, although the data available from the various testing phases have not confirmed the presence of the second (upper) component. The presence of microblades in the Oshetna tephra and a burin spall at the contact of the Watana and Oshetna tephras indicates that the lower component represents the American Paleoarctic tradition. Estimated site size based on the distribution of artifacts is 75 square meters (Table D.2).

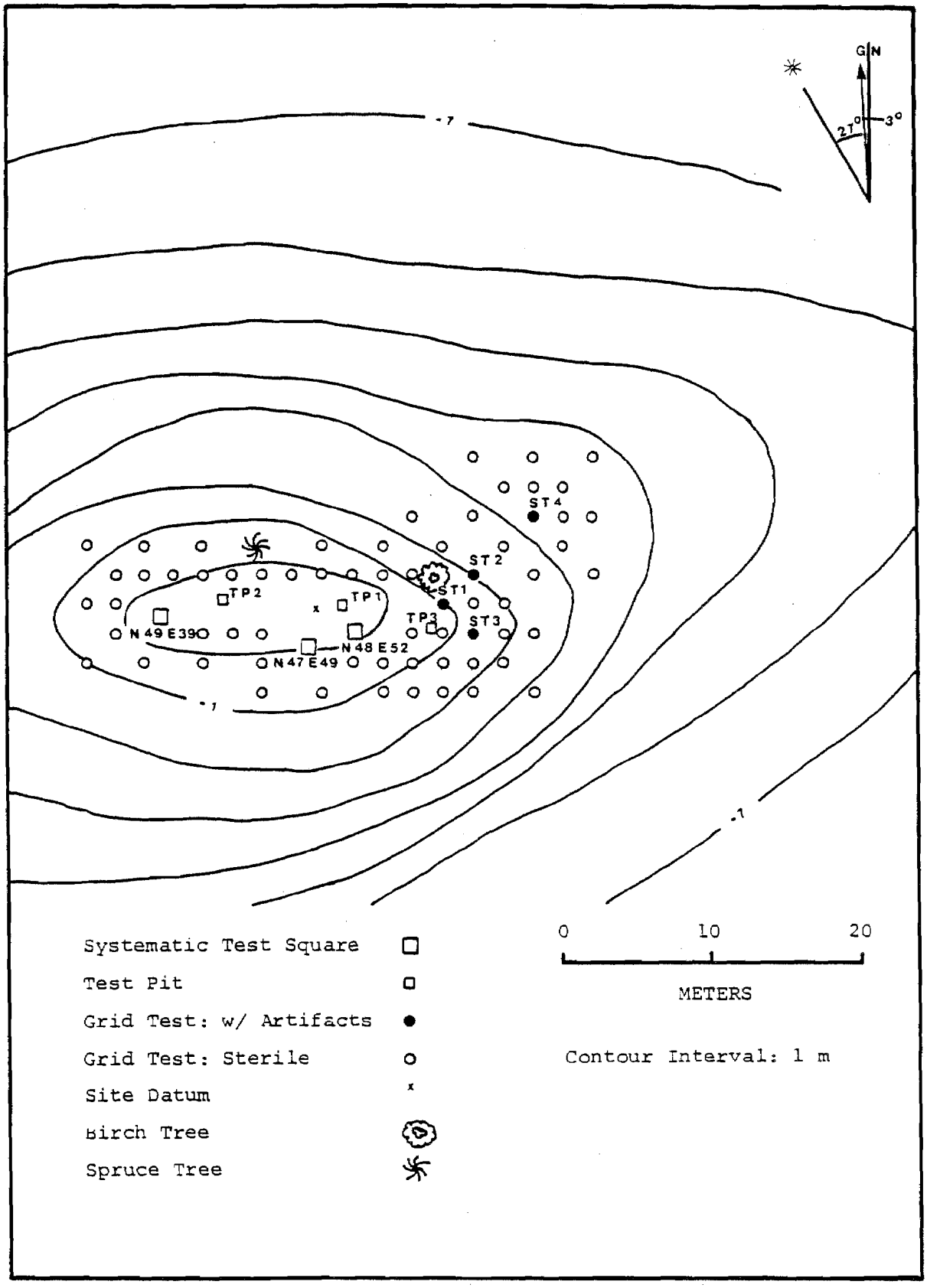

Figure D.39. Site Map, TLM 039

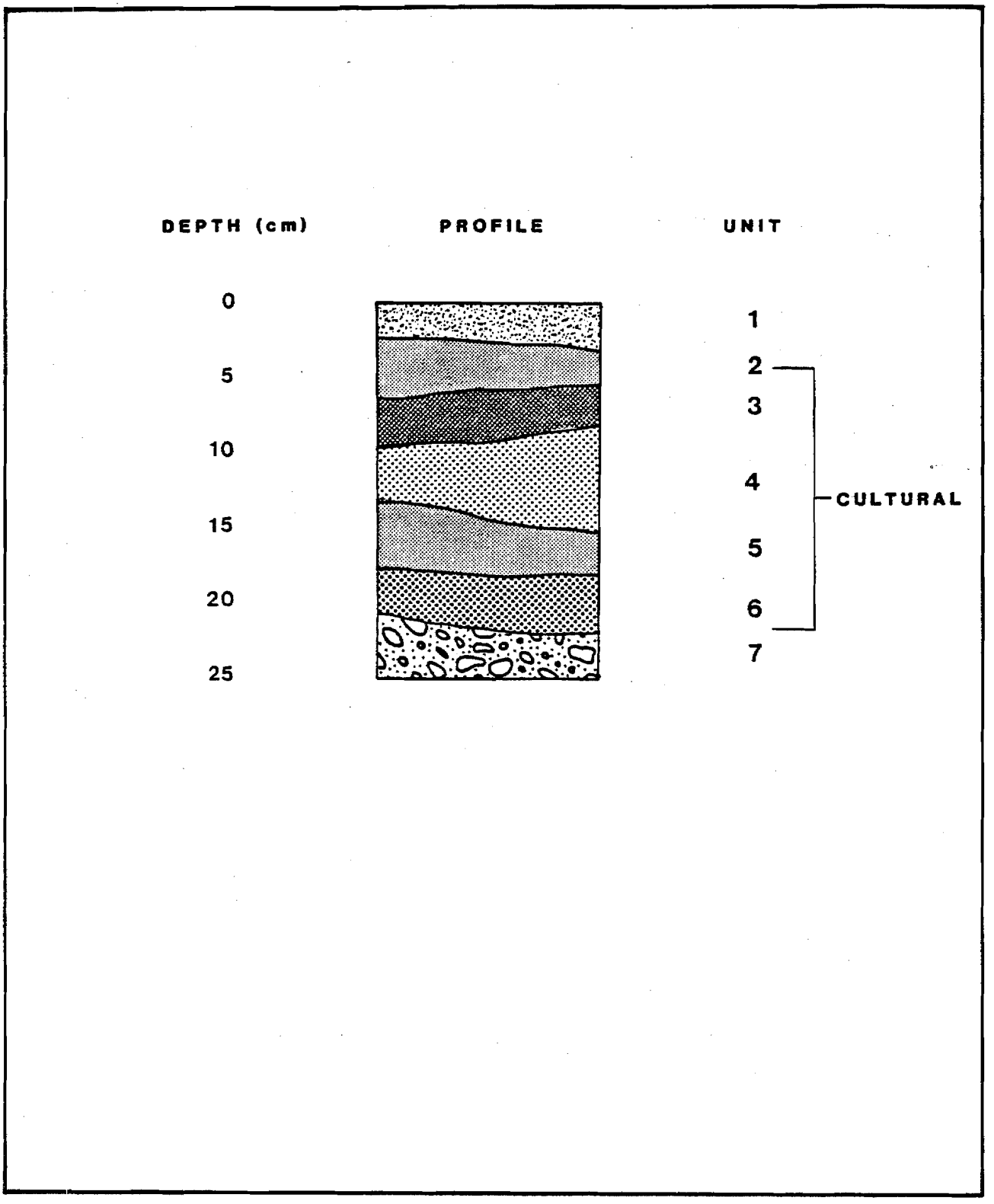

Figure D.40. Composite Profile, TLM 039

Table D.54.

Soil/Sediment Descriptions for Composite Profile, TLM 039

Unit	Description
1	Organic mat. Roots, moss, and leaves. Occurs over site in a layer 1-5 cm thick. O horizon.
2	Silty loam; dark brown (10YR 3/4). Occurs only in test square N47/E49. Interpreted as redeposited slope wash.
3	Finely divided organics with silt; very dark gray (10YR 2.5/1). Occurs in a 3-8 cm layer with abrupt lower boundary. 02 horizon.
4	Silt; light brownish gray (10YR 6/2). Occurs in a thin and discontinuous layer. Devil tephra.
5	Silt; light brownish gray (10YR 6/2). Heavily oxidized in the upper portion of the unit with the lower contact abrupt and smooth and marked by charcoal fragments. Watana tephra.
6	Sandy silt; grayish brown (2.5Y 5/2). Silt component dries to a fine white powder. Some mixing in places with underlying unit 7. Lower boundary with unit 7 clear and smooth. Oshetna tephra.
7	Silty, poorly sorted sand mixed with subrounded pebbles and cobbles. Upper portion dark yellowish brown (10YR 4/6), lower portion olive brown (2.5YR 4/4). Glacial drift.

Table D.55.

Artifact Summary, TLM 039

Tools	
1	Microblade
	1 Obsidian (UA81-227-29)
2	Microblade fragments
	2 Chert (UA81-277-20 articulates with 30)
1	Burin Spall
	1 Chert (UA80-146-11)
4	
Lithic Material	
116	Argillite flakes
19	Basalt flakes
75	Chert flakes
1	Quartz flake
8	Quartzite flakes
3	Rhyolite flakes
1	Thermally altered rock
1	Rock fragment
224	
Other	
1	Ochre piece

Table D.56.

Artifact Summary by Stratigraphic Unit, TLM 039

Unit	Description
3 02 horizon	23 Argillite flakes 2 Basalt flakes
3/4 Contact of 02 horizon and Devil tephra	19 Argillite flakes 6 Basalt flakes 9 Chert flakes 3 Quartzite flakes
4 Devil tephra	24 Argillite flakes 2 Basalt flakes 44 Chert flakes 2 Rhyolite flakes
4/5 Contact between Devil and Watana tephras	25 Argillite flakes 14 Chert flakes
5 Watana tephra	8 Argillite flakes 7 Basalt flakes 1 Chert flake 2 Quartzite flakes 1 Rhyolite flake 1 Ochre piece 1 Thermally altered rock

Table D.56. (Continued)

Unit	Description
5/6 Contact between Watana and Oshetna tephras	7 Argillite flakes 2 Basalt flakes 3 Chert flakes 1 Quartz flake 2 Quartzite flakes 1 Chert microblade fragment (UA81-277-20) (articulates with UA81-277-30, from unit 6) 1 Chert burin spall (UA80-146-11)
6 Oshetna tephra	5 Argillite flakes 3 Chert flakes 1 Quartzite flake 1 Chert microblade fragment (UA81-277-30) (articulates with UA81-277-20, from unit 5/6) 1 Obsidian microblade (UA81-277-29) 1 Rock fragment
6/7 Contact between Oshetna tephra and glacial drift	4 Argillite flakes 1 Chert flake
Unknown Subsurface	1 Argillite flake

AHRS Number TLM 040; Accession Numbers UA80-147, UA81-226, UA83-242, UA84-81

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.41
	Square Placement, Figure D.42
Survey Locale 29:	Figure E.105
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

TLM 040 is located on a resistant bedrock outcrop feature on the south side of the Susitna River, downriver from Kosina Creek. The terrain feature includes an isolated ridge with a terrace on its northeastern flank. The ridge is ca. 125 (northwest-southeast) x 20 m (northeast-southwest). It is bordered to the southeast by a small stream, and to the northwest by a channel of the Susitna River. South of the ridge is a relict river channel beyond which terrain ascends to upland areas. The ridge, at an elevation of 515 m asl (altimeter: 1689 feet), is approximately 20 m higher in elevation than the Susitna River, with bedrock exposures and steep colluvial slopes forming the margins of the terrace ca. 6-8 m below the ridge crest. The stream southeast of the site is ca. 50 cm wide, and both the stream and the Susitna River are accessible from the ridge. The topography of the ridge includes two high points with an intervening saddle, and a lower bench to the southeast. The view from the ridge is partially obstructed in all directions by the present vegetation. In the absence of this vegetation there would be an expansive view of the Susitna River.

Vegetation in the vicinity of the site is lowland spruce-hardwood forest with scattered birch and spruce trees on the ridge. The surface of the ridge is covered with a well-established vegetation mat including dwarf birch, sphagnum moss, lichens, grasses, Labrador tea, and low berry bushes. Surrounding vegetation is similar, although it is denser on the

terrace northeast of the site and to the southwest in the relict river channel. A game trail runs along the crest of the ridge.

Testing:

TLM 040 was located during survey testing when two flakes, one of which was modified (UA80-147-1), were found in a shovel test located in the central high area of the ridge. Two 40 x 40 cm test pits were excavated in this area, with one of the test pits (test pit 1) superimposed over the shovel test that yielded artifacts. However, no additional cultural material was located.

Systematic testing began with the excavation of three 1 x 1 m test squares (N80/E95, N83/E92, and N84/E95). Excavation of these test squares by natural stratigraphic units was considerably hampered by frozen ground associated with annual frost. Two additional test squares were opened (N83/E96 and N82/E95). Excavation of one of the test squares, N80/E95, was not completed as frozen sediment in that square was not penetrable.

In order to define the spatial extent of the site and more accurately clarify the stratigraphic context of artifactual material recovered during previous testing, the site was returned to when ground conditions were more suitable for subsurface investigation. A program of grid expansion shovel testing and additional systematic testing was implemented at the site. Figures D.41 and D.42 illustrates the topography of the site and the location of shovel tests, test pits, and test squares.

Grid expansion shovel testing involved the excavation of shovel tests expanding out from the central area of the ridge with the test squares that contained artifactual material. Forty-five grid shovel tests were excavated in the central site area, 11 of which contained subsurface artifactual material. Fifty-five grid shovel tests were excavated in the northern area of the ridge, and 22 grid shovel tests in the southern

area. Shovel tests in each of these areas produced artifacts. Grid expansion testing at TLM 040 was impeded by frozen ground. Of the 122 shovel tests initiated, 11 were not completed and are designated as frozen. Of the remaining 111 grid expansion shovel tests, 25 contained subsurface artifacts.

Additional systematic testing at the site consisted of reexcavating the test squares that contained artifactual material, completion of excavation of the test square opened during initial systematic testing (N80/E95), and the excavation of an additional test square (N81/E94). Review of the site stratigraphy and the excavation of the additional test square were conducted to resolve questions regarding the stratigraphic position of artifactual material recorded during previous testing.

Discussion:

The results of the initial systematic testing revealed cultural material concentrated at the contacts of the Oshetna tephra and the soil/sediment units which predate the deposition of Oshetna tephra. The majority of material was recovered from within the Oshetna tephra and at the contact of the Oshetna tephra and a silty sand unit below it. Testing at that time was hampered by frozen ground. The presence of cryoturbation while excavating with arbitrary units made the determination of artifact provenience difficult.

Additional testing conducted under more favorable ground conditions helped to elucidate the stratigraphy at the site and the location of cultural components. Grid shovel testing conducted in conjunction with renewed systematic testing revealed evidence for a third component at the contact of the organic silt and Devil tephra.

The soil/sediment sequence at TLM 040 includes ca. 30 cm of eolian and volcanic sediments overlying a basal unit of glacial material. The surface of the site is covered by a well-established organic mat. While the generalized profile (Figure D.43; Table D.57) is similar to many of

the sites in the Susitna River valley in possessing a sequence of three tephras, it has a number of characteristics which are atypical. These include eolian sediments with lenses of finely sorted organic material in the upper portion of the stratigraphic section and silty eolian sediments underlying the Oshetna tephra.

Seven soil/sediment units were defined at the site based on the profiles of the test squares (Figure D.43; Table D.57). The basal unit consisted of glacial material with cobbles and boulders ranging up to 65 cm in diameter (unit 7). The overlying sediment consists of a fine silty matrix (unit 6) which is frequently mixed with sand from unit 7. The silty sediment has been interpreted as being eolian in origin. Overlying the eolian sediments are a series of three volcanic sediments referred to as the Oshetna (unit 5), Watana (unit 4), and Devil (unit 3) tephras. Although the Oshetna tephra was generally well defined at the site the boundaries were irregular and frequently followed the contours of the tops of large boulders, filling interstices along the sides of the boulders and creating stratigraphic inversions. The Oshetna tephra is overlain by the Watana tephra unit. The upper extent of this tephra (unit 4a) is characterized by a zone of iron accumulation with granular structure and concretions. The Devil tephra is the uppermost tephra in the sequence. Overlying the Devil tephra is a generally thick (6-15 cm) unit (unit 2) of finely sorted organic material mixed with silt and silt lens. The surface of the site is covered with a well-established organic mat (unit 1).

Excavation of the three test squares which produced cultural material during initial systematic testing (N80/E95, N83/E92, and N82/E95) resulted in the recovery of 182 artifacts. No cultural material was found in test square N84/E95. Argillite was the most frequent raw material recovered, being represented by 93 flakes, a scraper in two fragments (UA81-226-4 articulates with 5), a blade fragment (UA81-226-33; Figure D.374n), and 2 flake cores (UA81-226-11, 117; Figure D.374r). Obsidian, normally a rare commodity within the project limits, is the next most frequent material type. There were 18 flakes and 29 blades (UA81-226-8, 9, 34, 42, 48, 49, 50, 59, 62, 63, 64, 65,

66, 67, 68, 69, 70, 71, 72, 73, 77, 78, 79, 84, 88, 96, 104, 107, 108; Figure D.374a-m). Basalt was represented by 17 flakes and a modified flake (UA81-226-54). There was only a single chert flake. Seventeen rhyolite flakes were recovered. A hammerstone (UA81-226-118; Figure D.374s) and a cobble fragment were also found.

Renewed systematic excavation of the two test squares, N80/E95 and N81/E94, produced 2 argillite blade fragments (UA84-81-39 articulates with 40) 1 basalt blade fragment (UA84-81-9), 18 obsidian blade fragments (UA84-81-6, 38, 48, 51, 52, 53, 54, 55, 67, 68, 72, 76, 97, 101, 102, 105, 106, 107; Figure D.374a-l), and 112 flakes, primarily of obsidian. The artifacts from these two test squares were found primarily in association with the Oshetna tephra (unit 5). The abundance of obsidian flakes and blades is atypical and appears to be spatially isolated. The obsidian blade fragments varied from being triangular to trapezoidal in cross section with generally parallel, but irregular margins. In contrast, the rhyolite and basalt blade fragments have straight and parallel margins.

Both of the scrapers found at the site were made on flakes. The argillite scraper (UA81-226-4, 5; Figure D.374o) is larger with a maximum breadth of 48 mm while the chert scraper (UA84-81-26; Figure D.374p) has a breadth of ca. 32 mm. There is steep unifacial flaking on the distal ends of both flakes with flaking extending up to the lateral margins. Evidence of crushing is present on the steeply flaked edges.

Blades constitute the largest artifact class at TLM 040. There is considerable variation in size with widths ranging from ca. 5-22 mm. Size variation is not dependent upon raw material as argillite specimens (UA84-81-71, UA84-226-33) occupy both extremes of the range. In addition to three argillite specimens (UA81-226-33, UA84-81-20, 71), blades were manufactured of basalt (UA84-81-9), 2 of chert (UA84-81-8, 100; Figure D.374m), and 48 of obsidian. Except for the extreme size of two of the argillite blades (UA81-22-33; UA84-81-20), the blades share common attributes of generally triangular cross section, irregular edges, and tapering sides. None of the blades appear to be complete.

Proximal end fragments are common among the obsidian specimens, representing approximately one-half of the inventory. Some of the obsidian appears to have been exposed to heat resulting in a dull patina and/or heat spalling, as in the case of specimen UA81-226-78 (Figure D.374i).

An argillite specimen (UA84-81-39 articulates with 40; Figure D.374a) approaches the characteristics of a microblade of parallel sides, parallel flake scars on the dorsal surface, and narrow breadth (5 mm). A combination of such microblade characteristics does not appear on any other single blade from the site.

A chert lanceolate point (UA84-81-17; Figure D.374q) was found at the contact between the Oshetna tephra and glacial material or within the glacial drift (unit 5/6, 6). The point is 49 mm in length, 23 mm in maximum width, and 9 mm in maximum thickness. The morphology of the point consists of a concave base with basal thinning, convex sides, and a bitriangular cross section. Parallel flaking on the edges does not carry across the midline.

Parts of flake cores were found. Two pieces (UA81-226-117, UA84-81-93; Figure D.374r) articulate to form a ca. 145 mm long argillite flake core. The break allows the sequence of reduction to be discerned. A hammerstone (UA81-226-118) was also found which shows battering at opposing poles.

Three cultural components can be defined on the basis of stratigraphic and spatial distribution. The upper component is tentatively defined on the basis of 8 basalt flakes and a thermally altered rock found in two grid expansion shovel tests, N97/E100 and N117/E98, located north of the main testing area. Material in the upper component is associated with the finely sorted organic layer (unit 2) and its contact with the Devil tephra (unit 3). The middle component is associated with the Oshetna tephra (unit 5) and its contacts with adjacent soil/sediment units. This component contains the bulk of cultural material and is the main occupation at the site. Cultural material possibly associated with the

middle component was located in the maximum extent of testing from N117 to N61. Obsidian blades are a major constituent of this component and are localized in the middle and southern portions of the site. Tentatively attributable to the middle component are sparse faunal remains (28 calcined longbone and unidentifiable fragments) collected from the mixed Oshetna Tephra (unit 5) and the silty sand (unit 6) in shovel test N83/E96 (Table D.59).

The lower component is based upon the finding of a chert lanceolate point (UA84-81-17) in a shovel test at N87/E98. The point was found either at the contact of the Oshetna tephra (unit 5) and a fine silty sand unit (unit 6) or within the latter unit. This shovel test was located immediately northeast of the main excavation area and is notable for its lack of obsidian material despite its close proximity to the concentration of this material.

Evaluation:

TLM 040 is located on a bedrock outcrop on the south side of the Susitna River west of the mouth of Kosina Creek. Testing indicates that the site is limited to the central portion of the ridge formed by the bedrock outcrop. Artifactual material was located along a 56 m extent of the ridge crest. Two major artifact areas correspond to the two broad areas at the highest part of the feature.

Three components were defined as a result of systematic and grid expansion shovel testing. The middle component accounts for the majority of artifactual remains. This component is associated with the Oshetna tephra and is unusual for the quantity of obsidian flakes and blades recovered from it. Argillite, basalt, chalcedony, and rhyolite were also used during the middle component. Both large and small blades occur in this component. Blades were made of argillite, basalt, and chert. Two scrapers, one of argillite and the other of chert, are the only other artifacts in the middle component.

The upper component is poorly defined on the basis of basalt flakes and thermally altered rock at the contact of the finely sorted organic silt and Devil tephra. The lower component is based upon a lanceolate point displaying a concave base with basal thinning and collateral flake scars. This point was found at the lower contact of the Oshetna tephra and underlying glacial material. The point possibly occupies a lower stratigraphic level than the middle component. Its location next to the major concentration of the middle component but lacking the characteristics of that component justifies consideration of separate status for the lower component.

TLM 040 is an important site for understanding the prehistory of the Susitna River canyon. The presence of a component below the Oshetna tephra, an abundance of obsidian blades, and cultural components chronologically encompassing in excess of three millennia combine to make the site unique. The site holds potential to answer questions on land use patterns, trade networks, and may hold answers concerning the earliest inhabitants of Interior Alaska. The numerous blades in the middle component approach the quality of microblades. The presence of blades in the middle component associated with the Oshetna tephra is not common in Northern Archaic assemblages in the project area. TLM 040 may provide dates concerning this enigmatic transition from the prominence of microblades during the American Paleoarctic to their absence during the Northern Archaic in the prehistory of the Susitna River canyon. Observed site size based on the distribution of artifacts is 144 square meters (Table D.2).

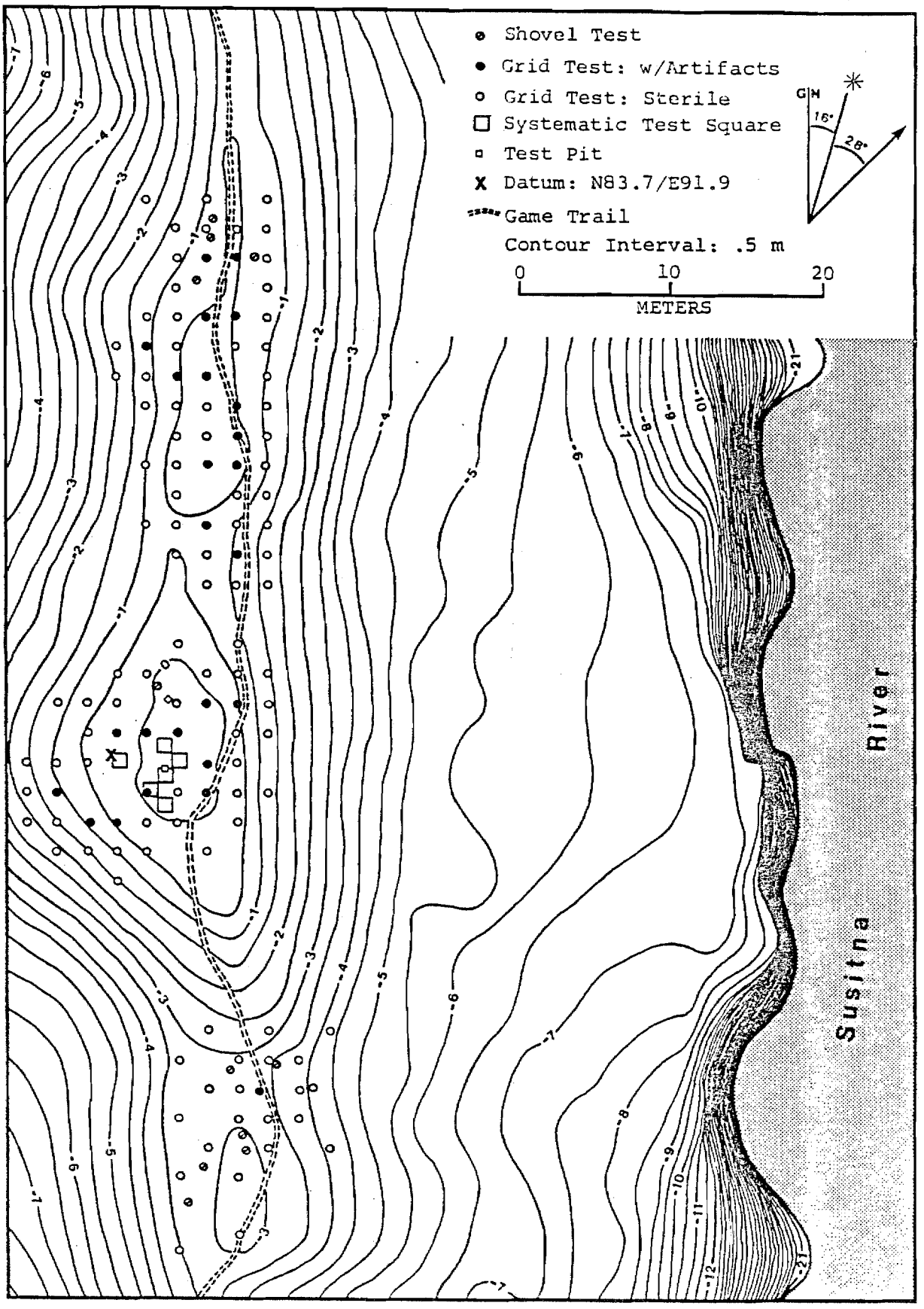

Figure D.41. Site Map, TLM 040

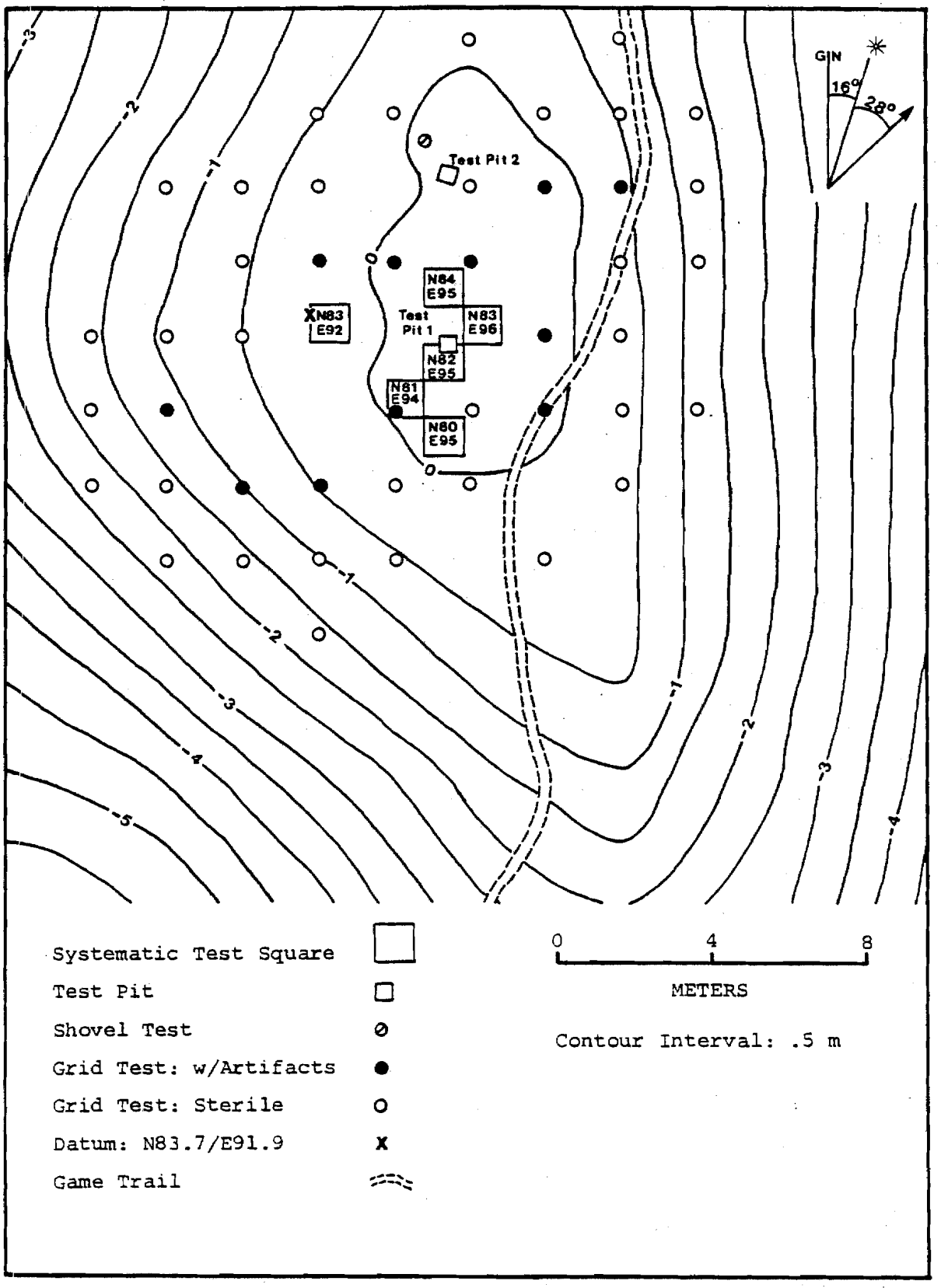

Figure D.42. Square Placement, TLM 040

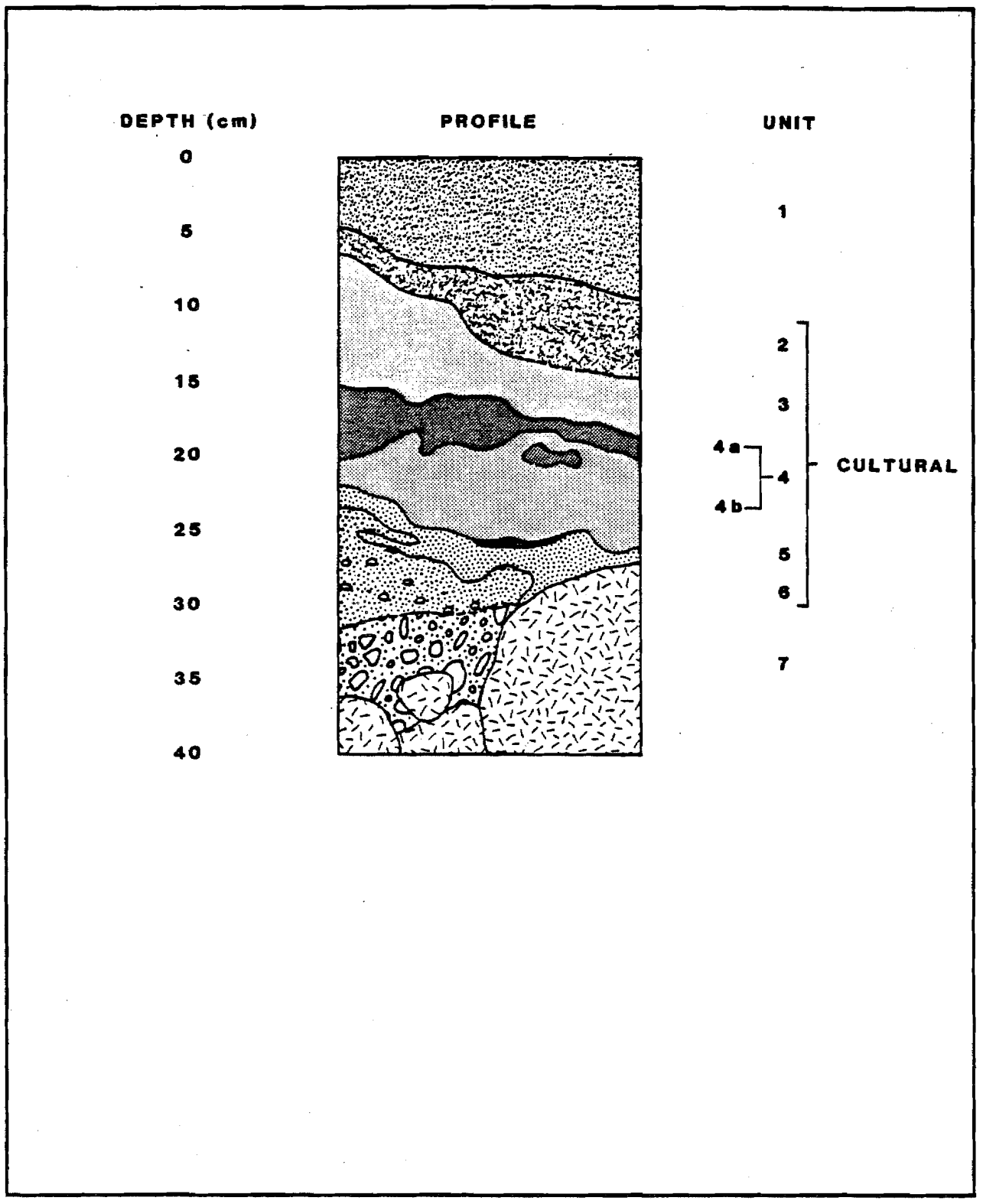

Figure D.43. Composite Profile, TLM 040

Table D.57.

Soil/Sediment Description for Composite Profile, TLM 040

Unit	Description
1	Surface organic layer: fibrous root mat with plant material from sphagnum moss, dwarf birch, Labrador tea, and other shrubs and grasses. Varies in thickness from 4-15 cm, but usually 5-10 cm. Lower boundary smooth and clear. Continuous surface cover across the site area.
2	Finely sorted organic material in fine-grained matrix, reddish black (10R 2.5/1) with bands of very dark gray silt (5YR 3/1). Massive continuous unit varies in thickness from 6-15 cm. Contacts with underlying unit wavy and clear. 02 horizon with lenses of highly decomposed plant material, eolian sediment, and/or tephra. In some places distinct organic and silt lenses, which may represent buried O horizons, generally unit is intermixed silt and organics. Root disturbance extensive. Some charcoal present. Eight basalt flakes from shovel test, N97/E100, were in association with this unit.
3	Very fine silt size particles, varies in color from dark gray (10YR 4/1) to dark reddish gray (5YR 4/2). Varies in thickness from 1-14 cm, although usually an average of 8 cm thick. Lower contact wavy and clear. Tephra (Devil); eluvial A horizon. Continuous unit in all of the test squares. A thermally altered rock from shovel test N117/E98 is the only artifact in association with unit.

Table D.57. (Continued)

Unit	Description
4	Very fine silt size particles; dark reddish brown (2.5YR 3/4) to brownish yellow (10YR 6/6). Massive unit that includes two subunits (4a, 4b). Tephra (Watana); B horizon. Forms a continuous unit with 4a occurring predominatly at the upper extent and 4b at the lower extent variation between subunits may be a result of the accumulation of iron oxides and organic material. A single basalt flake was found at the 3/4 contact and 24 flakes of argillite and obsidian located at contact with underlying units. The 24 flakes may be derived from unit 5.
4a	Very fine silt size particles. Granular structure forming occasional small cemented concretions; dark reddish brown (2.5YR 3/4). Thickness of unit varies from 1-9 cm. The lower boundary is clear to diffuse and irregular in contour. Tephra (Watana); zone of accumulation. B horizon. Zone lacks continuity and often has a mottled appearance.
4b	Very fine silt size particles; color varies from dark yellowish brown (10YR 4/6) to brownish yellow (10YR 6/6). Unit ranges in thickness from 2-15 cm. Lower contact with unit 5 is abrupt and generally smooth. In the absence of unit 5 lower contact is clear to diffuse. Tephra (Watana), B horizon. Continuous unit. In places lies directly on the top of glacial boulders.

Table D.57. (Continued)

Unit	Description
5	Very fine silt size particles with some sand; gray (10YR 6/1). Varies in thickness from 1-7 cm. Contacts vary from abrupt to clear and while the contour of the boundary is generally smooth it often plunges along the edges of large glacial boulders. Tephra (Oshetna) with fine sand particles. Unit generally continuous; although in areas of discontinuity, it is both lensed and mixed with unit 6. In some places this unit is overlain by a thin charcoal horizon; small charcoal flecks and pieces were found throughout unit. Bifurcation of the unit is apparant in some places. Numerous artifacts including flakes and blades are associated with this unit.
6	Silty-sandy matrix with some small cobbles present within and at the lower extent of unit. Color varies from a dark yellowish brown (10YR 4/4) to a dark brown (7.5YR 3/4). Unit is 1-8 cm thick. Where unit 5 is present the upper contact is sharp. In absense of a well-defined unit 5 mixing of 5 and 6 occurs and contact is clear to diffuse. Lower contact with unit 7 is gradual. Artifacts are associated with the upper contact and are also found within this unit. Artifacts include a lanceolate point (UA84-81-17), flake core, blades, flakes, and calcined bone fragments.

Table D.57. (Continued)

Unit	Description
7	Sand to coarse sand with cobbles and boulders measuring up to 65 cm along longest axis; olive brown (2.5YR 4/4). Excavation into this unit determined limit of excavation. Glacial material. Frost shattering seen on a number of rocks. Grus was also common. No apparent polish observed.

Table D.58.

Artifact Summary, TLM 040

Tools	
1	Modified flake 1 Basalt (UA81-226-54)
3	Scrapers 2 Argillite (UA81-226-4 articulates with 5) 1 Chert (UA84-81-26)
55	Blades 4 Argillite (UA81-226-33, UA84-81-20, 39 articulates with 40) 2 Basalt (UA84-81-9, 71) 1 Chalcedony (UA81-226-62) 2 Chert (UA84-81-8, 100) 46 Obsidian (UA81-226-8, 9, 34, 42, 48, 49, 50, 59, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 77, 78, 79, 84, 88, 96, 104, 107, 108; UA84-81-6, 38, 48, 51, 52, 53, 54, 55, 67, 68, 72, 76, 97, 101, 102, 105, 106, 107)
4	Flake cores 4 Argillite (UA81-226-11, 117 articulates with UA84-81-93; UA84-81-94)
1	Lanceolate point 1 Chert (UA84-81-17)
1	Hammerstone (UA81-226-118)
65	

Table D.58. (Continued)

Lithic Material	
419	Argillite flakes
48	Basalt flakes
4	Chalcedony flakes
29	Chert flakes
84	Obsidian flakes
27	Rhyolite flakes
76	Flakes less than 1/8" mesh
	58 Argillite flakes
	18 Obsidian flakes
1	Cobble fragment
1	Thermally altered rock
689	
Other	
1	Ochre piece
Faunal Material	
28	Bone fragments

Table D.59.

Faunal Material by Stratigraphic Unit, TLM 040

Unit		Description
5 and 6 Mixed Oshetna tephra and silty sand	28	Long bone and unidentifable bone fragments, calcined, medium-large mammal

Table D.60.

Artifact Summary by Stratigraphic Unit, TLM 040

Unit		Description
2	8	Basalt flakes
Finely sorted organics		
3	1	Rhyolite flake
Devil tephra	1	Thermally altered rock
3/4	1	Basalt flake
Contact between Devil and Watana tephra		
4	1	Basalt flake
Watana tephra	2	Obsidian flakes
	4	Obsidian blades (UA81-226-9, 66, 69, 78)
4/5	20	Argillite flakes
Contact between	1	Basalt flake
Watana and Oshetna	2	Obsidian flakes
tephras	2	Argillite flakes less than 1/8" mesh
	4	Obsidian blades (UA81-226-48, 77, 79, 96)

Table D.60. (Continued)

Unit		Description
4, 4/5 Watana tephra and contact between Watana and Oshetna tephras	1 1	Basalt flake Rhyolite flake
4, 4/5, 5 Watana tephra, contact between Watana and Oshetna tephras, and Oshetna tephra	1 1	Argillite flake Obsidian flake
4/5, 4/6 Contact between either Watana and Oshetna tephras or between Watana tephra and silty sand	3 1 1	Obsidian flakes Rhyolite flake Obsidian blade (UA84-81-48)
5 Oshetna tephra	275 16 2 6 50 20 55 16	Argillite flakes Basalt flakes Chalcedony flakes Chert flakes Obsidian flakes Rhyolite flakes Argillite flakes less than 1/8" mesh Obsidian flakes less than 1/8" mesh

Table D.60. (Continued)

Unit		Description
	2	Argillite scrapers (UA81-226-4 articulates with 5)
	3	Argillite blades (UA84-81-20 articualtes with 40)
	17	Obsidian blades (UA81-226-8, 34, 42, 68, 71, 73, 84, 88, 104; UA84-81-38, 51, 52, 53, 54, 55, 105, 106)
	1	Ochre piece
5, 5/6	1	Argillite flake
Oshetna tephra	1	Basalt flake
and contact between	2	Chalcedony flakes
Oshetna tephra and	4	Chert flakes
silty sand	2	Obsidian flakes
	1	Obsidian blade (UA81-84-67)
5, 5/6, 6	102	Argillite flakes
Oshetna tephra,	5	Basalt flakes
contact between	15	Chert flakes
Oshetna tephra	1	Rhyolite flake
and silty sand,	1	Argillite flake less than 1/8" mesh
silty sand	1	Chert scraper (UA84-81-26)
	1	Argillite blade (UA81-226-33)
	2	Argillite flake cores (UA81-226-11, 117 articulates with UA84-81-93 in unit 6)
	1	Cobble fragment (UA81-226-116)

Table D.60. (Continued)

Unit		Description
5/6, 6	1	Argillite flake
Contact between	1	Chert lanceolate point (UA84-81-17)
Oshetna tephra and		
silty sand and		
within silty sand		
5 and 6	1	Argillite flake
Mixed Oshetna tephra	9	Basalt flakes
and silty sand	15	Obsidian flakes
	2	Obsidian flakes less than 1/8" mesh
	2	Obsidian blades (UA84-81-6, 68)
6	6	Argillite flakes
Silty sand	3	Basalt flakes
	1	Chert flake
	8	Obsidian flakes
	1	Rhyolite flake
	1	Basalt modified flake (UA81-226-54)
	1	Basalt blade (UA84-81-71)
	1	Chert blade (UA84-81-8)
	7	Obsidian blades (UA81-226-49, 64, 65, 107, 108; UA84-81-72, 107)
	2	Argillite flake cores (UA84-81-93, 94)
	1	Hammerstone (UA81-226-118)
6/7	1	Obsidian blade (UA81-226-59)
Contact between		
silty sand and		
sand		

Table D.60. (Continued)

Unit		Description
6 and 7 Mixed silty sand and sand	1	Obsidian blade (UA81-226-63)
Subsurface unknown	12	Argillite flakes
	2	Basalt flakes
	3	Chert flakes
	1	Obsidian flake
	2	Rhyolite flakes
	1	Basalt blade (UA84-81-9)
	1	Chalcedony blade (UA81-226-62)
	1	Chert blade (UA84-81-100)
	8	Obsidian blades (UA81-226-50, 67, 70, 72, UA84-81-76, 97, 101, 102)

AHRS Number TLM 041, Accession Number UA80-148

Area:	Upper Fog Creek
Site Map:	Figure D.44
Site Location Map:	Figure E.51
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located on a high flat plain south of the Susitna River at an elevation of ca. 747 m asl (2450 feet) and southwest of the confluence of a large tributary which joins Fog Creek. The site is situated on a 4-6 m high knob on a broad northeast-southwest sloping grassy plain. The terrain slopes to the north, east, and south but rises gradually to the west to a maximum elevation of 775 m asl (2542 feet) approximately 600 m southwest of the site. Despite low topographic relief, the site location affords an unobstructed panoramic view of an open plain 300-400 m (northwest-southeast) approximately 1 km (northeast-southwest). This knob is a discrete topographic feature, one of a series of four or more such features situated approximately 200 m apart on the plain. Exposed fractured bedrock occurs in the immediate vicinity of the site and frost-fractured rock is evident on the surface. The site is at the highest part of the knoll which diffuses into the general slope of the ground to the southeast. The total area on top of the knob is approximately 10 (east-west) x 20 m (north-south). Fog Creek is northeast and ca. 183 m lower in elevation at its closest point and the large unnamed tributary to Fog Creek is southeast and ca. 91 m lower in elevation at its closest point. The Susitna River lies to the northwest and is ca. 335 m lower in elevation. Vegetation at the site consists of dwarf birch and willow on the slopes of the knob and crowberry, moss, and lichens grow on the surface. The surrounding vegetation on the plain consists of dwarf willow and birch with berries and grasses. Black spruce occur on the surrounding slopes below the plain.

Testing:

The site was identified by geologist Jerry Williams of Woodward and Clyde, a subcontractor of Acres American Inc. Mr. Williams removed a large argillite flake from the surface at the site and gave it to the project archeologists (Table D.61). He later visited the site with the archeologists and identified the approximate location at which the flake was found. A subsequent intensive surface survey and two subsurface tests failed to reveal additional cultural material. Test pit 1 revealed fractured bedrock to be within 10 cmbs directly under the vegetative mat. The exact location at which the flake was found was never identified and no additional cultural material was found in the vicinity. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.61.

Artifact Summary, TLM 041

Provenience		Description
Lithic Material		
Surface:	1	Argillite flake

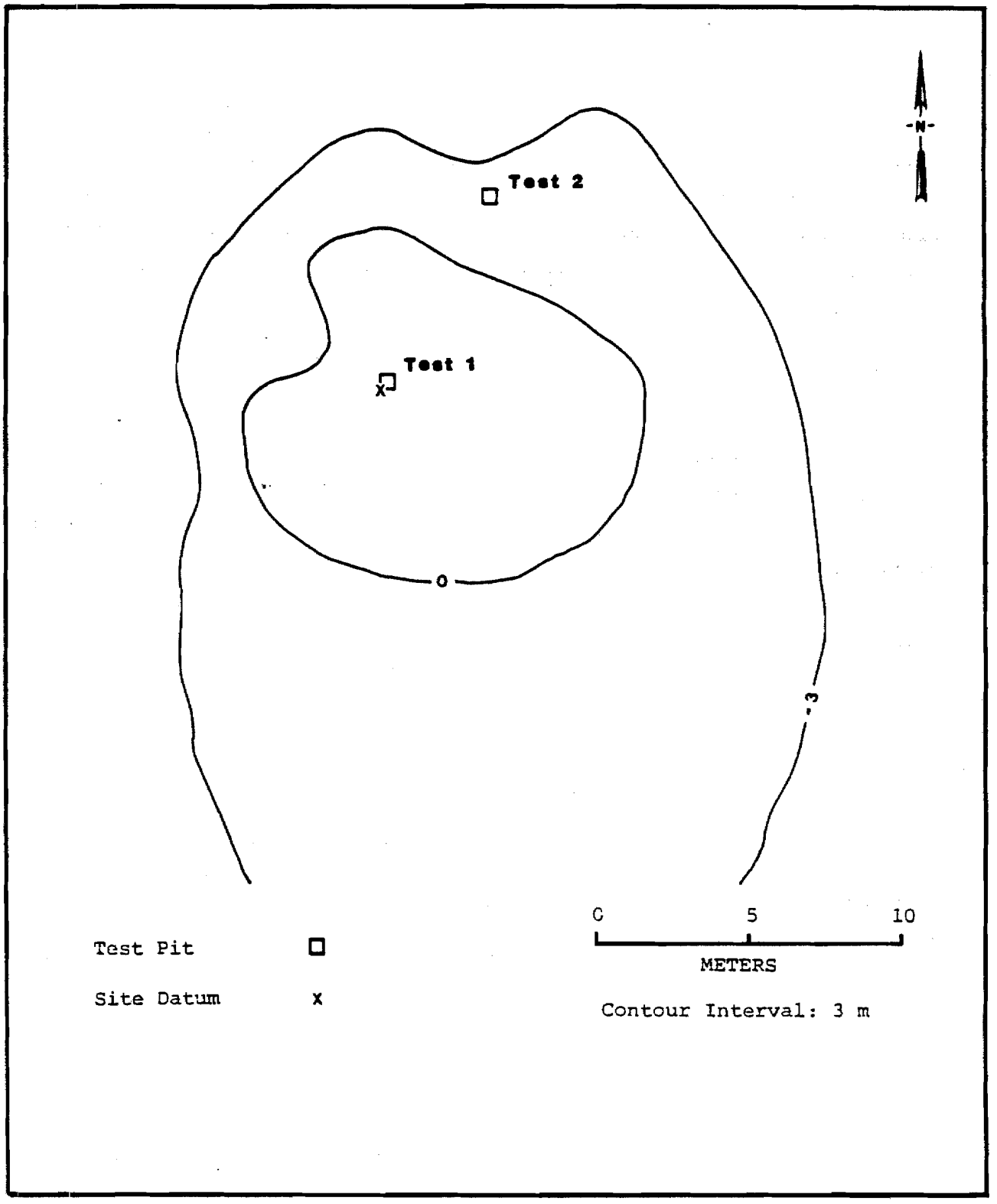

Figure D.44. Site Map, TLM 041

AHRS Number TLM 042; Accession Numbers UA80-149, UA81-230, UA84-231

Area:	Across from Goose Creek Mouth
Site Map:	Locus A, Figure D.45
	Locus B, Figure D.46
Survey Locale 45:	Figure E.123
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site is located on the north side of the Susitna River on a long projection of land forming a high ridge directly opposite the mouth of Goose Creek at 709 m asl (altimeter: 2325 feet). Two loci (A and B) comprise the site; both occupy areas on the southeastern edge of the ridge. The Susitna River makes a sharp meander around this projection changing its general direction from southwest to northwest. Eroded and exposed bluffs (with grades of 30-40 degrees) form the sides of the ridge; however, the crest is relatively level and varies between 100-300 m in width. Another site, TLM 026, is situated at the western end of this ridge.

Locus A: This locus is situated on the edge of a flat, continuous terrace, with a relict stream channel cutting across the top of the ridge to the west. The locus overlooks a crescent-shaped alluvial terrace above the present Susitna River channel and approximately 46 m below the site. The alluvial terrace below the locus is poorly drained and vegetated with dense stands of black spruce and areas of muskeg and marsh (containing sphagnum moss, sedges, and grasses). This alluvial terrace provides relatively easy access to the Susitna River from locus A. Vegetation to the immediate northeast of locus A, is composed of black and white spruce, alder, dwarf birch, willow, and various low bush berries, in addition to moss and lichen. The locus itself is fairly open, well drained, with some deflation, and affords clear views to the south and southeast.

Locus B: This locus is approximately 150 m east-northeast of locus A. The terrain rises steeply to the northeast to an elevation of ca. 762 m asl (2500 feet), obstructing views in that direction, and the view from locus B, like that of locus A, is primarily to the south and southeast, overlooking the lower alluvial terrace and the Susitna River. Ground vegetation at locus B is similar to that of locus A, however, a single, large white spruce (locus B subdatum) dominates the other vegetation. Spruce are dense on the descending slopes east of the locus and also on the flat terrain to the west. Willows and other hardwood species are the predominant vegetation on the slopes surrounding the north and west sides of the muskeg and marsh areas on the lower alluvial terrace.

Testing:

Locus A: In locus A, approximately 60 argillite and basalt flakes were exposed in the eroding bluff edge. This exposure extended over an area approximately 2 x 4 m located on the steep slope below the terrace edge. Two 40 x 40 cm test pits were excavated at the top of the slope, above the eroded area. Test pit 1, at the edge of the terrace, produced cultural remains, while test pit 2, further upslope, was sterile.

A grid shovel testing expansion program was undertaken to assist in determining site size and the distributions of cultural materials. At this locus, 11 grid shovel tests were excavated, but none contained cultural materials. A large number of artifacts were exposed on the surface of the terrace slope and were collected in 1 x 1 m quadrants. This surface collection consisted of 341 argillite flakes, 2 basalt flakes, and 1 obsidian flake.

Systematic testing was undertaken at this locus, because survey testing indicated that erosion had exposed only a portion of the activity area, suggesting that further testing might reveal artifacts in stratigraphic context. Accordingly, five 1 x 1 m systematic test squares and four shovel tests were excavated.

Locus B: In this locus surface artifacts were exposed along the eroding bluff edge on a 35-degree slope just below the edge of the terrace (Figure D.46). Flakes were observed on the surface above the eroding bluff edge, where slumping and erosion appear to have disturbed the original context. Three 40 x 40 cm test pits were excavated, 1 north of the eroding bluff edge (test pit 2), 1 at a slightly higher elevation (test pit 1), and 1 ca. 12 m north of the bluff edge (test pit 3). Only test pit 1 yielded cultural remains.

Systematic testing of locus B included the excavation of six 1 x 1 m test squares. Test squares N503/E494 and N503/E499 were placed north of the survey test where less disturbance of the soil units from solifluction and erosion was expected. The remaining four test squares were placed closer to the reconnaissance tests to further define the spatial extent of the site.

At locus B, 25 grid shovel tests were excavated, one of which contained cultural material. Shovel test 1 produced one basalt flake from an unknown subsurface provenience. Several surface artifacts were found exposed on the terrace slope and collected in 1 x 1 m quadrants. Nine basalt flakes and one chert flake were recovered.

Discussion:

Locus A: Survey and testing revealed both surface and subsurface cultural remains. Approximately half of the surface remains were collected. These remains included 1 argillite biface fragment (UA80-149-2; Figure D.375a), 1 basalt biface fragment (UA80-149-32), 21 argillite flakes, and 2 basalt flakes. A single argillite flake was surface collected at 9.5 m below the exposure where it had apparently been transported by slumping or solifluction. Test pit 1, located at the edge of the terrace, revealed seven argillite flakes at a depth of 0-3 cmbs, in and just under the humus at the contact between the humus and a red-gray mottled silt.

During the systematic level testing, three of the five test squares yielded a total of 156 lithic artifacts, 4 rock fragments, and 8 bone fragments. The lithic flakes and fragments were composed of two raw material types; argillite and basalt. Argillite artifacts show variability in texture and color that is probably due to differential weathering of this material. Much of the lithic debitage shows evidence of frost shattering. The inventory of artifacts is summarized on Table D.64 and distribution by stratigraphic unit is summarized on Table D.68.

The area suitable for subsurface testing was limited because of extensive erosion of the soil from most of the ridge top. Two 1 x 1 m systematic test squares were initially excavated to define the western (N99/E100) and northern (N100/E102) extent of subsurface material. Both squares contained subsurface artifacts and anomalous soil configurations. Test square N103/E103, located on the ridge top in an area with a more gradual slope, was excavated both to test the spatial extent of the site and to expose a soil profile that was less affected by solifluction. Test square N99/E105 was opened to define the eastern limits of the artifact distribution. The limited extent of flat surface on the ridge top coupled with the sterility of square N103/E103 and survey shovel test 2 suggested that the limits of the major artifactual concentration were defined by test squares N99/E100, N100/E102, N99/E103, and the flake scatter found on the slope during the survey testing.

When a single flake was discovered on the surface, ca. 15 m to the west of the main artifact concentration at this locus, four shovel tests were excavated to define the density of artifacts in this area. The placement of the shovel tests was affected by the shallowness of the soil and predominance of drift at the surface. One additional flake was found.

Twelve separate soil/sediment units were described at locus A (Figure D.47; Table D.62). Five of these units were present in all test squares, while the remaining seven units were present only locally. It would appear that the ridge has been in a continuous process of erosion based on the thinness of the O horizon, absence of an A horizon,

discontinuity of the tephra units and the presence of numerous disturbed areas. A series of depressions and/or "hearthlike" features were discovered in each of the test squares. In some cases, for example, N100/E102, the depression contained the only artifactual material recovered from the test square. Stratigraphic units from test squares N100/E102, N103/E103, and N99/E105 were ambiguous in terms of definition of these features as cultural or natural. Excavation of test square N99/E103, however, solved the problem and showed these anomalies to be solifluction features.

Artifactual material was associated with the upper organic soil units, oxidized sand, (unit 8) and depressions filled with tephra and organic material. Most of the sediments in the test area were disturbed; thus, it is doubtful that any of the artifacts were found in situ. It seems likely that the artifacts were originally deposited in upper organic rich zones and subsequently soliflucted or eroded out to their current positions. The oxidized sand unit (unit 8) is visible on the exposed slope suggesting that it is more resistant to erosion and, thus, forms a relatively stable surface on which artifacts are deposited.

Locus B: Survey and testing revealed both surface and subsurface cultural remains. Artifacts collected from the surface included a basalt stemmed point base (UA80-149-31; Figure D.375c), a chert flake retouched along one margin (UA80-149-30), a basalt biface fragment (UA80-149-28; Figure D.375e), and a dark gray chert flake. Two 40 x 40 cm test pits were excavated north of the eroding bluff edge and at a slightly higher elevation. Test pit 1 produced a basalt endscraper fragment (UA80-149-34; Figure D.375d) at a depth of 15-16 cmbs in a light brown silt. A possible paleosol containing charcoal and organics occurred at a depth of 16-20 cmbs. A possible volcanic ash, not apparent in the east wall profile, was recorded at a depth of 5-10 cmbs in the west wall of test pit 1. Test pit 2 did not reveal cultural material.

Cultural material was recovered from five of the six 1 x 1 m systematic test squares. Only one test square (N497/E499) produced faunal

material. The two tool fragments recovered during systematic testing include a chert side-notched point base (UA81-230-27; Figure D.375b) from the organic horizon in N497/E499 and a retouched black basalt flake (UA81-230-18) from the lower silt and sand horizon (unit 5) in N500/E498. This flake shows a possible burin facet on one margin and dorsal polish which may suggest hafting. In addition, a total of 107 waste flakes, 4 thermally altered rocks, and 20 calcined bone fragments were recovered during systematic testing. One test square (N503/E499) was sterile.

The stratigraphy at locus B consisted of approximately 35 cm of deposition overlying glacial drift (Figure D.48; Table D.63). Stratigraphic units in test squares N500/E494 and N497/E499 showed a great deal of disturbance as a result of soil creep and solifluction. Test squares placed on more level portions of the site showed less postdepositional disturbance but very little cultural material was recovered from these tests.

Six stratigraphic units were identified. A silty sand (unit 5) overlies unsorted drift (unit 6). Above the sand unit is a discontinuous paleosol (unit 4) consisting of peat and charcoal fragments associated with cultural material. A mixed silt and tephra (unit 3) overlies the sandy silt (unit 5), where the paleosol (unit 4) is not present. Unit 3, the Watana tephra, was the only volcanic ash identified at locus B. A fine sandy loam (unit 2) overlies the mixed silt and Watana tephra (unit 3). A radiocarbon determination on charcoal sample (UA81-230-121), from unit 2 in test square N499/E501 yielded a modern date (DIC-2282). No cultural material was directly associated with this charcoal. The uppermost stratigraphic unit at locus B consists of an organic horizon (unit 1) which is continuous over most of the site.

Lithic material, consisting of argillite, basalt, chert, obsidian, quartzite, and rhyolite artifacts, was recovered from five test squares and occurred in all stratigraphic units above glacial drift. The inventory of artifacts is summarized on Table D.65, and distribution by stratigraphic unit is summarized on Table D.69. The largest

concentration of lithic material (87 flakes and a point base) and all the faunal material (Table D.67) occurred in test square N497/E499. In this test a chert side-notched point base (UA81-230-27) was excavated from the organic horizon (unit 1). The largest concentration of lithic material (52 basalt waste flakes) in this test occurred in the silt and sand horizon (unit 5) below the paleosol (unit 4) which contained the majority of calcined bone found at this locus. It would appear that the cultural material at locus B is primarily associated with a former ground surface represented by the paleosol (unit 4) in this test. The occurrence of cultural material above and below unit 4 is probably a result of postdepositional disturbances which have resulted in a mixing of artifacts and sediments. Because of these disturbances it is difficult to accurately determine stratigraphic provenience for the cultural material at locus B. It is also unclear whether more than a single component is present.

Evaluation:

Locus A: Systematic testing at locus A has provided sufficient data to document that virtually all of this site has been disturbed through erosion. The vast majority of artifactual material recovered was derived from the exposed and actively eroding southern slope. While the composite soil profile suggests the site may have been multicomponent, the data are too inconclusive to determine this with certainty.

Locus B: Lack of well-defined features and the limited assemblage of artifacts make it difficult to definitively assess the function of locus B; however, the presence of two point bases, an endscraper fragment, waste flakes, and calcined bone suggest locus B was probably a temporary campsite. Its position at the edge of a bluff overlooking a lower alluvial terrace and the Susitna River suggests that locus B may have functioned as a briefly occupied hunting camp and observation point.

The 1.5 km long ridge on which the two loci of TLM 042 (as well as site TLM 026) occur is the easiest and most direct access to the Susitna

River from the uplands on the river's north side. It is likely that this ridge was used for travel between the Susitna River and the uplands to the north. Both loci of TLM 042 are situated on the southeastern-facing edge of this ridge overlooking a lower terrace, rather than on the northeastern edge, which drops steeply at an angle of 30-40 degrees all the way to the Susitna River. This may support the additional inference that locus B, and possibly locus A, was a hunting overlook. Observed site locus at locus A based on the distribution of artifacts is 65 square meters. At locus B, observed site size based on the distribution of artifacts is 91 square meters (Table D.2).

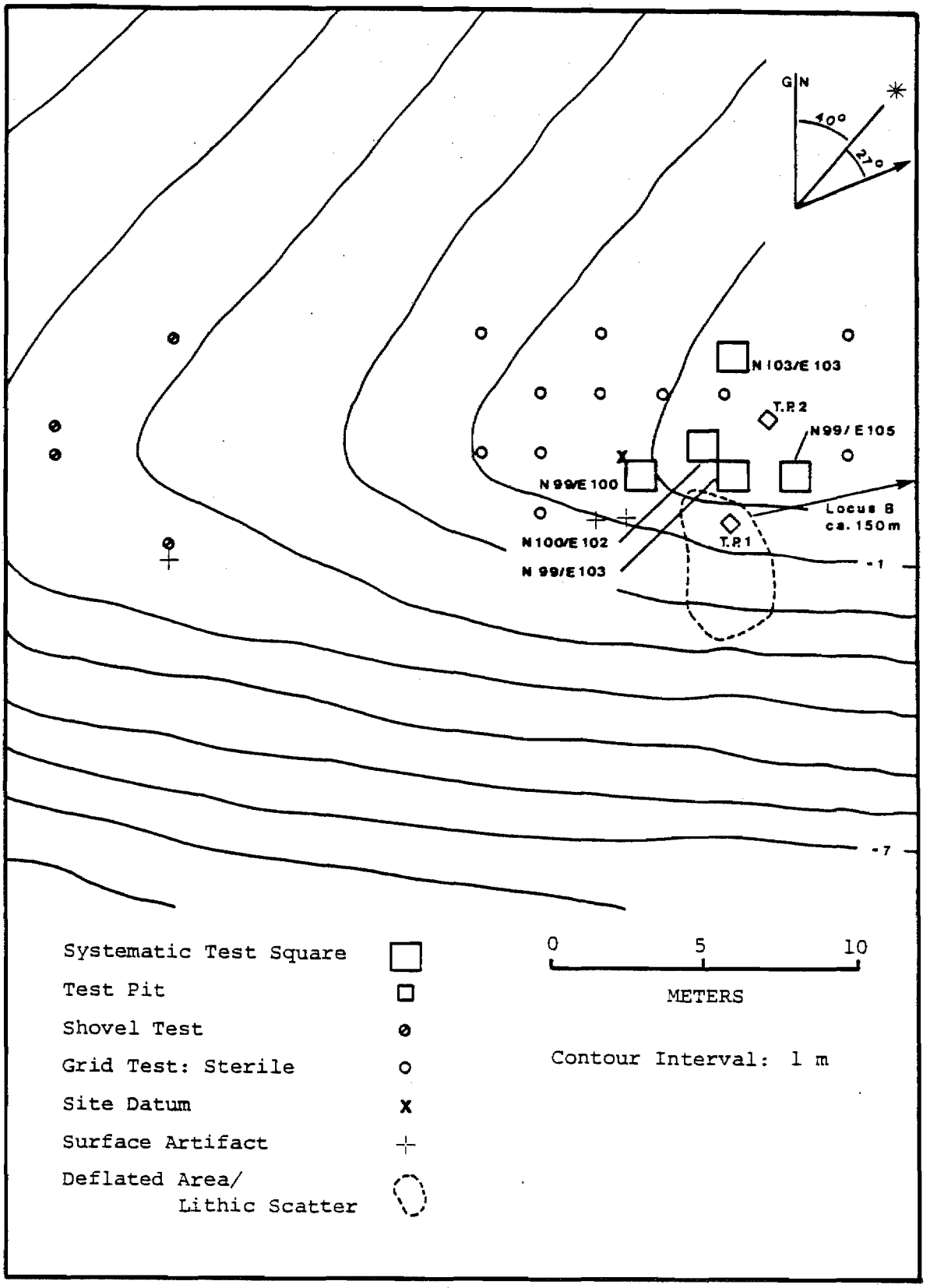

Figure D.45. Site Map, TLM 042 Locus A

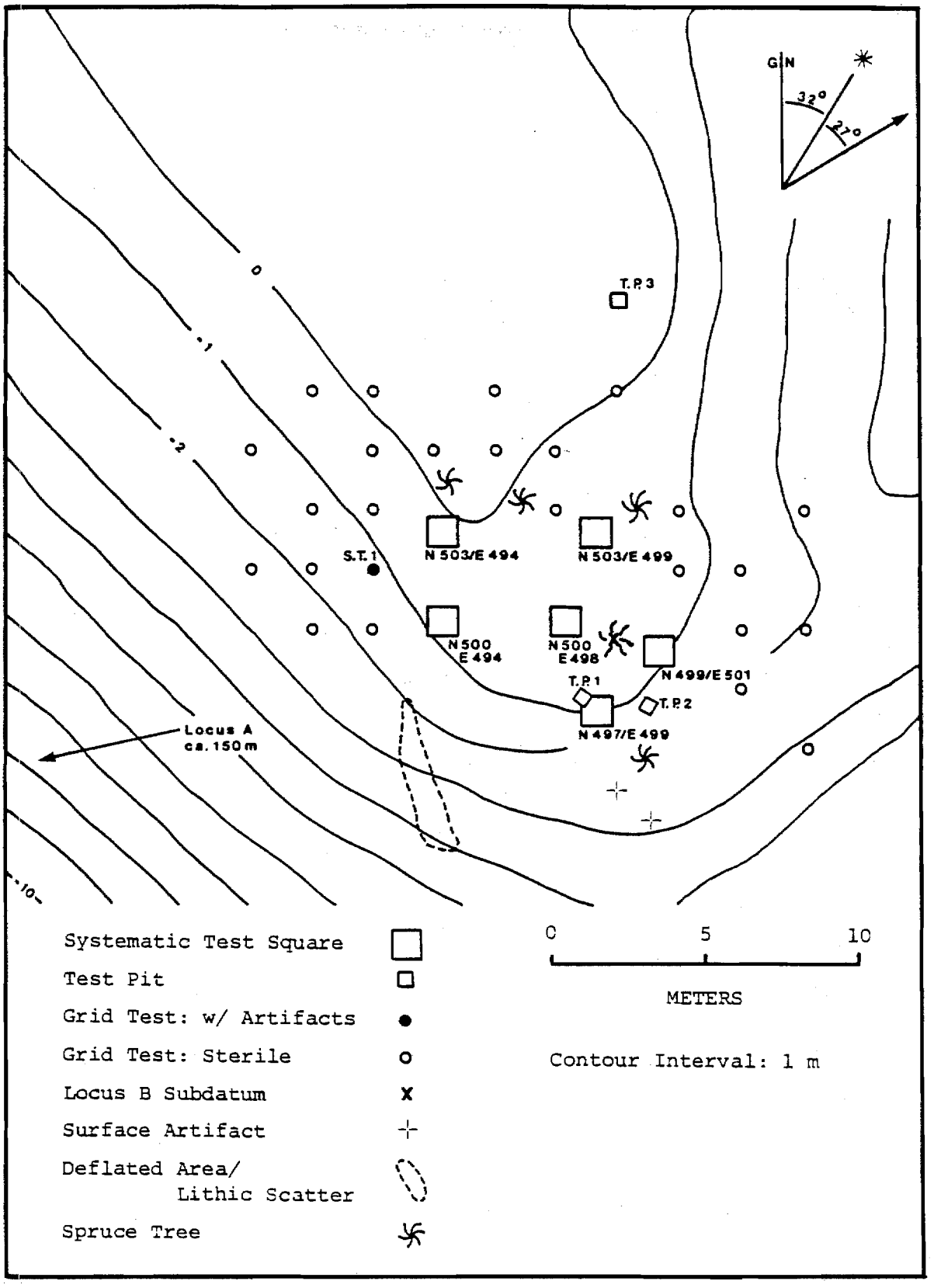

Figure D.46. Site Map, TLM 042 Locus B

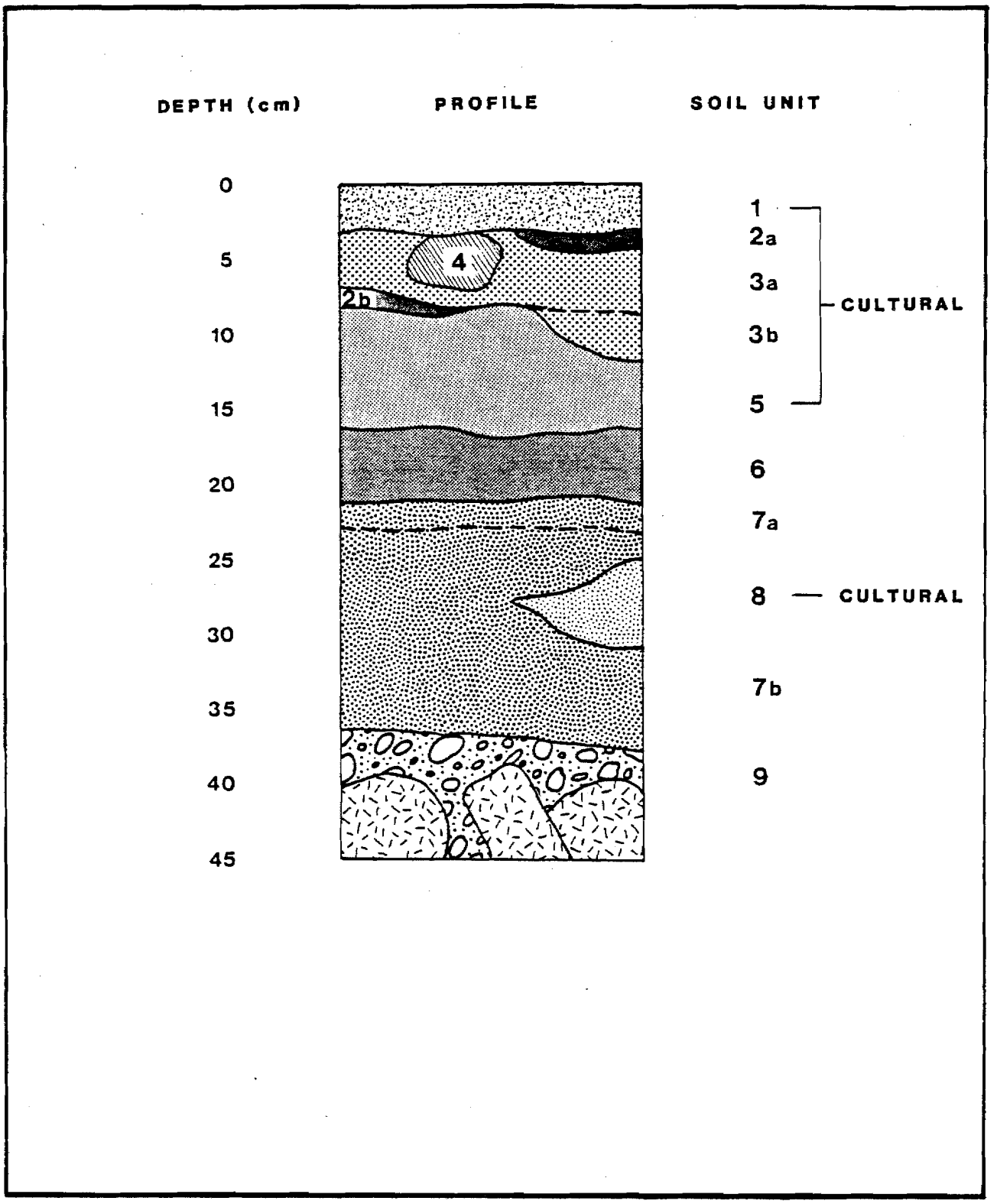

Figure D.47. Composite Profile, TLM 042 Locus A

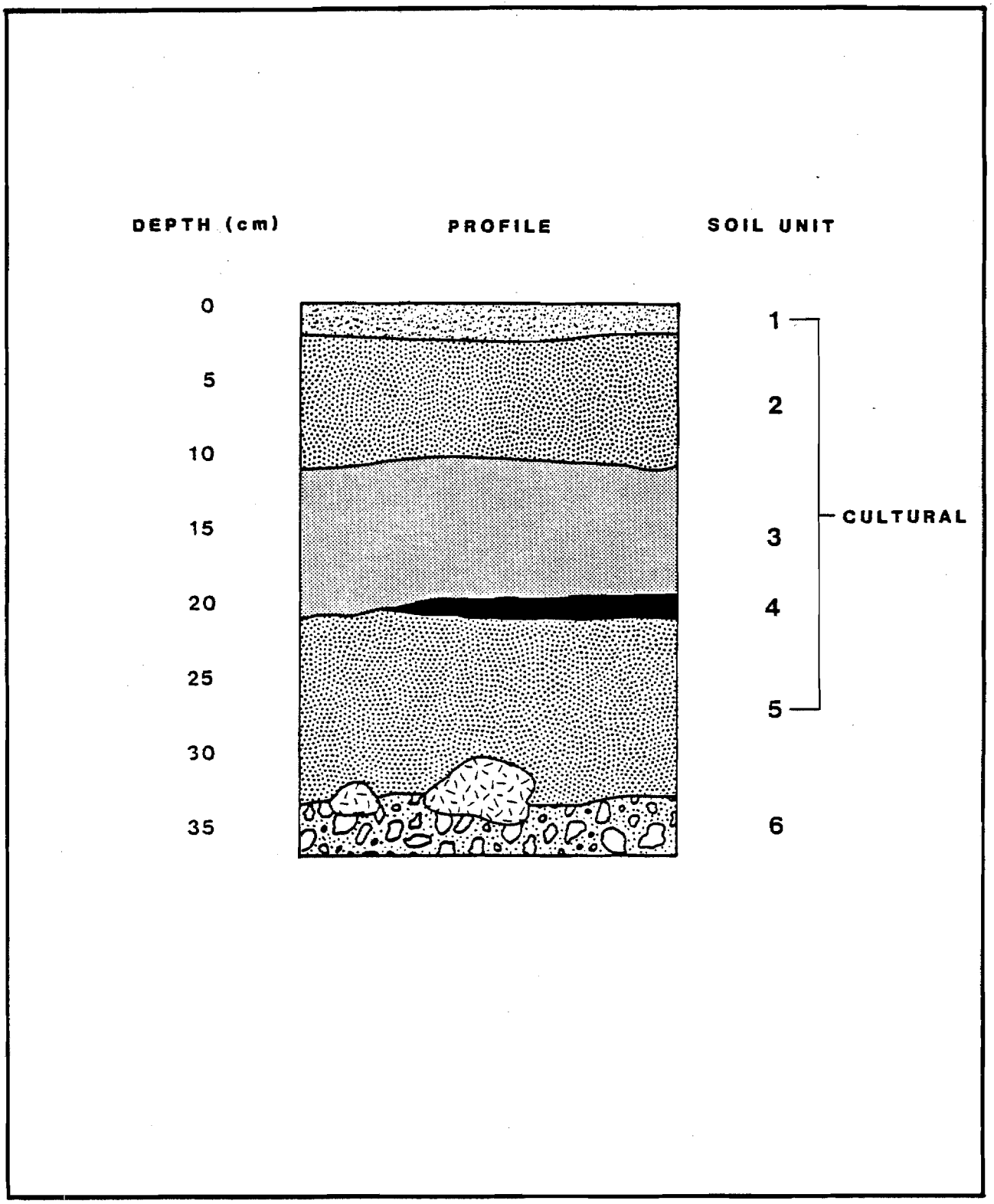

Figure D.48. Composite Profile, TLM 042 Locus B

Table D.62.

Soil/Sediment Description for Composite Profile, TLM 042 Locus A

Unit	Description
1	Duff; light brown (7.5YR 6/4). Variable thickness, often less than 1 cm. Continuous with clear lower boundary.
2a	Thin charcoal mat associated with unit 3a.
2b	Thin charcoal mat associated with unit 3a.
3a	Fairly well sorted tephra to fine silt with intermixed tephra; white (10YR 8/2) to light gray (10YR 7/2) to very dark grayish brown (2.5YR 3/2). Discontinuous. Clear to sharp contacts. Thin discontinuous charcoal lenses present.
3b	Tephra with intermixed fine sand; light gray (10YR 7/2) to strong brown (7.5YR 5/6). Localized in appearance. Sharp contacts.
4	Medium grain sand; light yellowish brown (2.5Y 6/4). Disturbed area localized appearance. Sharp lower contact upper contact intermixed with units 3a and 5.
5	Fine silt with intermixed tephra; brownish yellow (10YR 6/6). Discontinuous in extent but found in all test squares. Contacts vary from clear to gradational. This unit is probably a mixture of silt and tephra. Oxidized portion of unit 5.

Table D.62. (Continued)

Unit	Description
6	Silty sand intermixed with tephra; grayish brown (2.5YR 5/2). Discontinuous but with sharp boundaries where present.
7a	Fine to medium grain sand, oxidized; yellowish brown (10YR 5/6). Irregular zone of oxidized sand, probably oxidized horizon associated with soil unit 7b. Localized in appearance. Sharp upper boundary, gradational lower boundary.
7b	Medium size sand; olive brown (2.5Y 4/4). Generally is well sorted, gradational boundaries with an upper oxidized sand (unit 7a) and coarser material below (unit 9).
8	Fine grain sand, oxidized; dark yellowish brown (10YR 4/6). Localized in appearance. Sharp contacts. Cultural.
9	Mixed cobble, boulder, and sand; variable in nature from square to square. Poorly sorted (e.g., N100/E102) and in other cases a fining-upward cycle is evident (e.g., N99/E100). Maximum boulder size ca. 50 cm. Boulders both rounded and angular (angular probably a function of frost cracking). There is a slight orientation of rocks in NE-SW line that parallels current slope.

Table D.63.

Soil/Sediment Description for Composite Profile, TLM 042 Locus B

Unit	Description
1	Organic, roots and leaf litter. Thickness varies from 1-3 cm. Continuous over most but not all of site. Lower boundary abrupt and smooth.
2	Fine sandy loam; yellow brown (10YR 5/5). Thickness varies from 2-6 cm. Lower boundary abrupt where it overlies unit 3, clear where it overlies unit 4.
3	Mixed silt and tephra. Occurs in three subunits varying in color from very dark gray (10YR 3/1) to light grayish brown (10YR 6/2) to yellowish brown (10YR 5/6). Dries to a light powder. Present throughout most of site. Lower boundary abrupt. (Watana Tephra)
4	Peat with charcoal fragments. Discontinuous. Buried A horizon. (Paleosol)
5	Silty very fine sand. Occurs in four subunits varying in color from very dark grayish brown (10YR 3/2) to grayish brown (10YR 5/2) to dark yellowish brown (10YR 4/6) to olive (5Y 4.5/3). This unit grades coarser with depth and occurs throughout site. Lower boundary very abrupt.
6	Well-rounded boulders, cobbles, pebbles, and coarse sand. Maximum boulder size observed ca. 60 cm diameter.

Table D.64.

Artifact Summary, TLM 042 Locus A

Tools

13	Modified flakes 12 Argillite (UA81-230-203, 212, 214, 215, 216, 217, 219, 220, 221, 227, 231, 252) 1 Basalt (UA81-149-33)
2	Biface fragments 1 Argillite (UA80-149-2) 1 Basalt (UA80-149-32)
15	

Lithic Material

480	Argillite flakes
12	Basalt flakes
1	Obsidian flake
4	Rock fragments
497	

Faunal Material

8	Bone fragments

Table D.65.

Artifact Summary, TLM 042 Locus B

Tools

2	Modified flakes 1 Basalt (UA81-230-18) 1 Chert (UA80-149-30)
1	Scraper 1 Basalt (UA80-149-34)
1	Biface fragment 1 Basalt (UA81-149-28)
1	Notched point base 1 Chert (UA81-230-27)
1	Stemmed point base 1 Basalt (UA80-149-31)
6	

Table D.65. (Continued)

Lithic Material	
9	Argillite flakes
93	Basalt flakes
3	Chert flakes
2	Obsidian flakes
1	Quartzite flake
3	Rhyolite flakes
4	Rock fragments
115	
Faunal Material	
20	Bone fragments

Table D.66.

Faunal Material by Stratigraphic Unit, TLM 042 Locus A

Unit		Description
Unknown Subsurface	8	Unidentifiable fragments, calcined, mammal

Table D.67.

Faunal Material by Stratigraphic Unit, TLM 042 Locus B

Unit		Description
2 Sandy loam	6	Unidentifiable fragments, calcined, medium-large mammal
	1	Unidentifiable fragment, calcined, mammal
3 Mixed silt and tephra	12	Unidentifiable fragments, calcined, mammal
5 Silty sand	1	Unidentifiable fragment, calcined, mammal

Table D.68.

Artifact Summary by Stratigraphic Unit, TLM 042 Locus A

Unit		Description
Surface	446	Argillite flakes
	4	Basalt flakes
	1	Obsidian flake
	10	Argillite modified flakes (UA81-230-203, 212, 214, 215, 216, 217, 219, 220, 221, 227)
	1	Basalt modified flake (UA80-149-33)
	1	Argillite biface fragment (UA80-149-2)
	1	Basalt biface fragment (UA80-149-32)
Unknown	34	Argillite flakes
Subsurface	8	Basalt flakes
	2	Argillite modified flakes (UA81-230-231, 252)
	4	Rock fragments

Table D.69.

Artifact Summary by Stratigraphic Unit, TLM 042 Locus B

Unit		Description
Surface	9	Basalt flakes
	2	Chert flakes
	1	Chert modified flake (UA80-149-30)
	1	Basalt biface (UA80-149-28)
	1	Basalt stemmed point base (UA80-149-31)
1	1	Argillite flake
Organic mat	2	Basalt flakes
	1	Chert notched point base (UA81-230-27)
	4	Rock fragments
2	5	Argillite flakes
Sandy loam	7	Basalt flakes
	1	Obsidian flake
3	3	Argillite flakes
Watana tephra	5	Basalt flakes
	1	Obsidian flake

Table D.69. (Continued)

Unit		Description
3/4	1	Basalt flake
Contact between Watana tephra and palesol	1	Quartzite flake
4	5	Basalt flakes
Paleosol	1	Chert flake
	2	Rhyolite flakes
4 and 5	7	Basalt flakes
Mixed palesol and silty sand	1	Rhyolite flake
5	56	Basalt flakes
Silty sand	1	Basalt modified flake (UA81-230-18)
Subsurface	1	Basalt flake
unknown	1	Basalt scraper (UA80-149-34)

AHRS Number TLM 043; Accession Numbers UA80-150, UA81-221

Area:	West of Watana Creek Mouth
Site Map:	Figure D.49
Survey Locale 21:	Figure E.98
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on a river terrace on the north side of the Susitna River, west of a tributary creek (locally known as No Name Creek) that joins the Susitna River downriver from the mouth of Watana Creek. The site is at 513 m asl (altimeter: 1684 feet), and is approximately 23 m above the river. The orientation of the terrace is northwest-southeast. The site is located on a relatively flat surface approximately equidistant from the northeastern and southwestern edges. A higher ridge system is located to the north, northwest, and west of the site which is situated approximately 20 m from the point where these higher slopes meet the terrace. The site area is open but the view is restricted to approximately 30 m in all directions by trees which limit visibility to the immediate clearing. Both the Susitna River and the tributary creek to the east are easily accessible from the site. The clear water tributary is fast, but shallow, draining several lakes northwest and northeast of the site. Vegetation on the site consists of willow, Labrador tea, blueberry, and sphagnum moss with black and white spruce scattered around the perimeter. Birch is present on the slopes of the terrace, and birch and spruce become denser in all directions from the site with the understory becoming thicker closer to the creek and river.

Testing:

Cultural material was initially encountered at TLM 043 in a shovel test. This shovel test was expanded into test pit 1, which revealed a dense concentration of burned bone fragments at a depth of 7-11 cmbs in silty sand directly below the humus. Two additional test pits were excavated in the immediate vicinity of test pit 1 during the survey phase of testing, but only test pit 3 produced cultural material, a single calcined bone fragment. No cultural material was observed on the surface at the site location, nor was any lithic material recovered from the test pits.

Systematic testing at the site consisted of the excavation of six 1 x 1 m test squares and 11 shovel tests. Test squares N53/E50, N46/E49, N50/E51, and N49/E42 were placed in order to determine the extent of artifact distribution to the north, south, east, and west respectively. The two other test squares (N49/E48 and N50/E49) were excavated in an area likely to yield information on the cultural material encountered in the survey level testing. The 11 shovel tests, excavated along the north-south and east-west grid lines of the site, failed to produce cultural material. Due to the presence of frozen ground, only five of these tests could be excavated down to alluvial gravels.

A grid shovel testing expansion program was undertaken to assist in determining site size and the distributions of cultural materials. Twenty-seven grid shovel tests were excavated, but none of them contained cultural materials.

Discussion:

Five of the test squares, all except N49/E42, produced artifactual material including burned and unburned bone fragments, chert flakes, a chert cobble, thermally altered rock, and rock fragments (Tables D.71, D.72, and D.73). These have all been attributed to a single cultural component located in stratigraphic units 1 and 2, the organic mat and organic silt (Figure D.50; Table D.70).

Seven soil/sediment units were identified at the site. The cultural units (1 and 2) were underlain by three tephra units identified as Devil (unit 3), Watana (units 4 and 5), and Oshetna (unit 6) tephras, and finally by glacial drift (unit 7). The presence of a possible paleosol (unit 2a) was first noted during survey testing of test pit 1, and appeared as a dark stain immediately below the silty sand directly below the humus containing the faunal material.

The densest concentration of cultural material was recovered in the area of test pit 1, N49/E48, and N50/E49. The test pit yielded 4 calcined extremity fragments of caribou (Rangifer tarandus) 2 artiodactyl teeth fragments, 2 rib fragments of medium-large mammal, and ca. 640 long bone and unidentifiable burned bone fragments of medium-large mammal (Table D.72). Test square N50/E49 revealed over 10,000 burned bone fragments from units 1 and 2 in its southeast quadrant. The single species represented is caribou (Rangifer tarandus). Caribou extremity fragments dominate the faunal remains from test square N50/E49 but additional skeletal elements include 1 deciduous tooth, 1 right mandible fragment, 1 left fibula fragment, 1 cuneiform, 1 left astragalus fragment, and 1 possible lumbar vertebra articular facet. The identified bone fragments would indicate that one individual is represented at this site. Test square N49/E48 produced only ca. 30 bone fragments.

In addition to the faunal remains, six chert flakes and one chert cobble were recovered from N50/E49. The chert flakes exhibit thermal spalling and a glossy surface sheen, indicative of exposure to high temperatures. In N49/E48 five chert flakes with thermal spalling and potlidding are all derived from a sixth chert flake also found within the square. Three other chert flakes, representing three different chert varieties, were also recovered.

Bone fragments and chert flakes (two found in N50/E51) were sparsely represented in the other three test squares to the north, south, and east. However, over 30 thermally altered rocks and rock fragments were found in two of these squares (N46/E49 and N50/E51).

Evaluation:

The site occurs on a comparatively minor terrace near a small clear water tributary to the Susitna River in the valley bottom. It probably represents the remains of a hunting camp occupied for a relatively short period of time. Although no radiocarbon determinations are available from this site, the occupation clearly occurred following deposition of the Devil tephra and quite probably sometime within the last 1000 years. The distribution of thermally altered rock, and caribou, as well as the ecological situation of the site is strikingly similar to that of TLM 022, a site on Tsusena Creek. Both sites could well represent late prehistoric Athapaskan occupations of the Susitna River valley. A striking dissimilarity between the sites is the occurrence of lithic debitage at TLM 043. Observed site size based on the distribution of artifacts is 40 square meters (Table D.2).

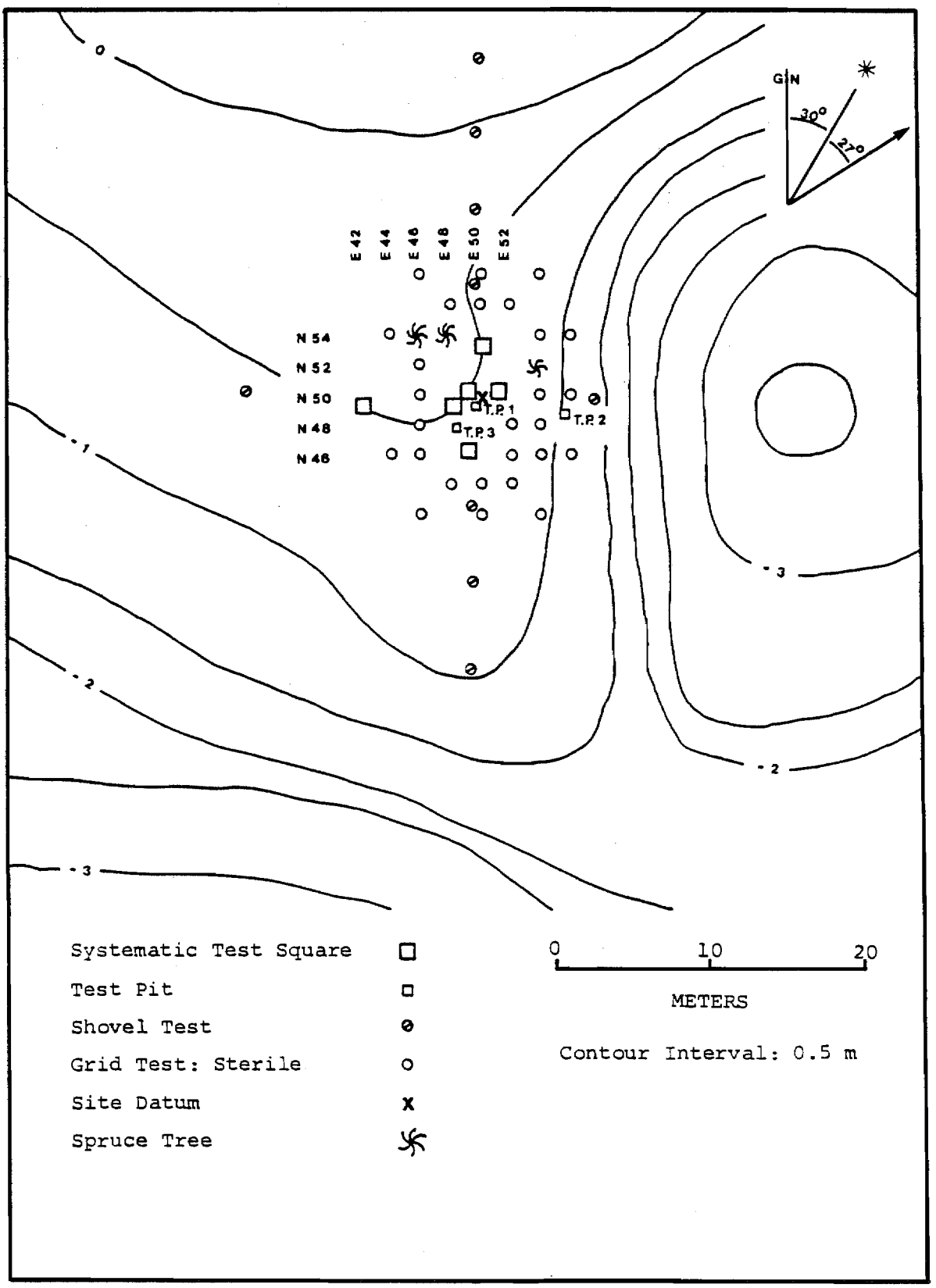

Figure D.49. Site Map, TLM 043

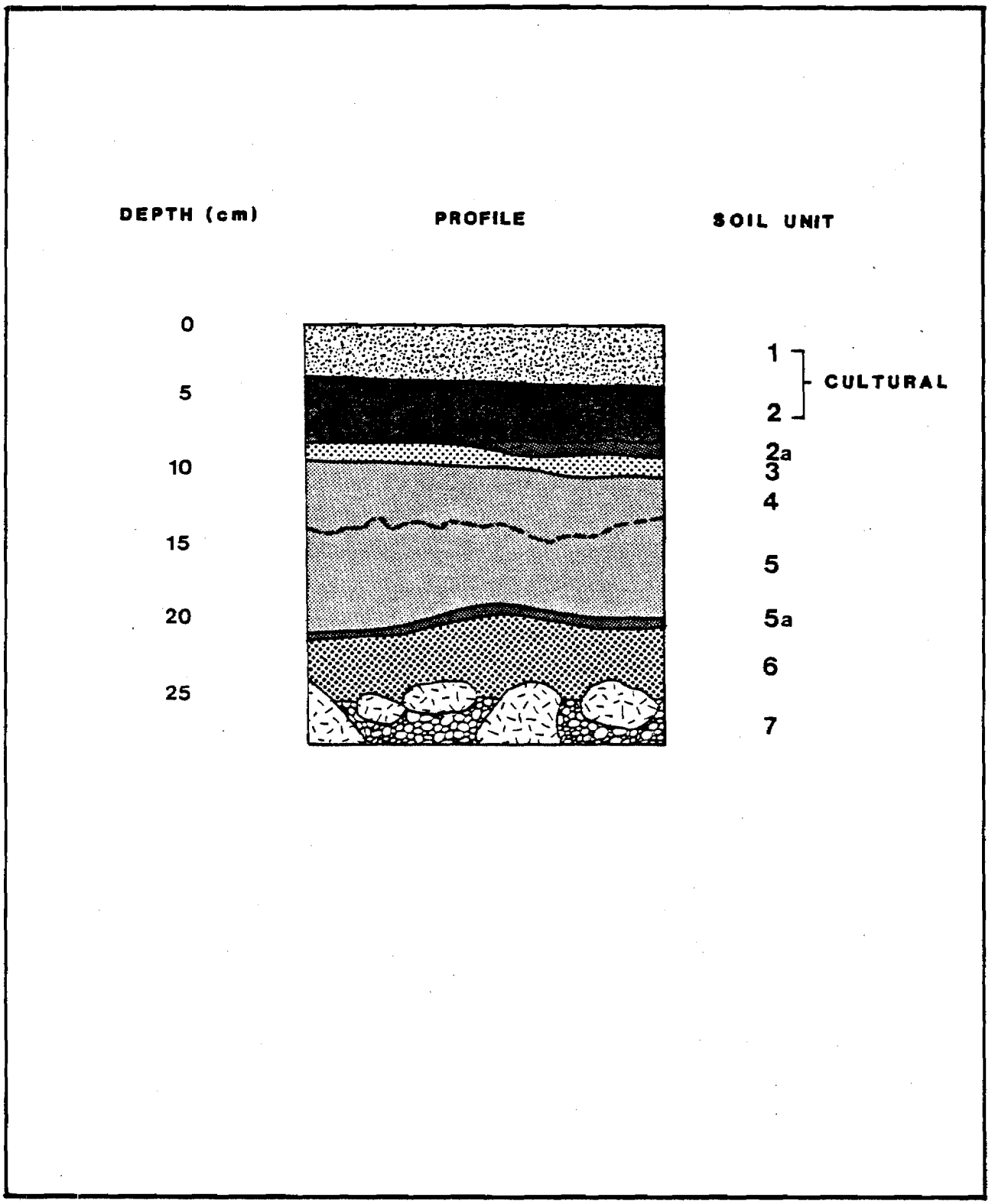

Figure D.50. Composite Profile, TLM 043

Table D.70.

Soil/Sediment Description for Composite Profile, TLM 043

Unit	Description
1	Highly organic dark reddish brown sandy loam with root pack, burned and unburned wood. Thickness varies as a function of surface vegetation. Indiscrete boundary to unit below. Continuous occurrence throughout site.
2	Highly organic silt loam with roots, charcoal, and unburned wood present; very dark gray (10YR 3/1 moist). At its lower boundary and limited in extent is a thin (1-2 cm) black (N/2 moist) silt loam designated as unit 2a. Lower boundary discrete and irregular.
3	Silt loam; light grayish brown (10YR 6/2 moist). Devil tephra. Occurrence varies but present throughout site. Boundary to next unit below discrete.
4	Mottled silt; dark reddish brown (5YR 3/2.5 moist) Watana tephra. Mixed with unit 5. Lower boundary with unit 5 indiscrete.
5	Silt; yellowish brown (10YR 5/4 moist) Watana tephra. Mixed with unit 4. Lower boundary discrete and in places, marked by a thin black (5Y 2.5/2 moist) band of loam (designated unit 5a).

Table D.70. (Continued)

Unit	Description
6	Silt; grayish brown (10YR 5/2 moist) Oshetna tephra. Occurrence throughout site. Irregular surface and conforms to top surface of boulders and cobbles of underlying unit.
7	Coarse sandy loam with over 50% (by volume) rounded pebbles, cobbles, and boulders; strong brown (7.5YR 4/5 moist) Glacial drift. Occurs throughout site.

Table D.71.

Artifact Summary, TLM 043

Lithic Material	
19	Chert flakes
19	Thermally altered rocks
1	Chert cobble
17	Rock fragments
56	
Faunal Material	
ca. 11,234	Bone and teeth fragments

Table D.72.

Faunal Material by Stratigraphic Unit, TLM 043

Unit		Description
1 Organic mat	27	Long bone and unidentifiable fragments, calcined, medium-large mammal
2 Organic silt	1	Right anterior mandible fragment, unburned, caribou (Rangifer tarandus)
	1	Deciduous tooth, burned, probably caribou (Rangifer tarandus)
	1	Possible tooth fragment, unburned, artiodactyl
	1	Possible lumbar vertebra articular facet, burned, caribou (Rangifer tarandus)
	1	Left fibula fragment, burned, caribou (Rangifer tarandus)
	3	Left astragalus fragments, burned, caribou (Rangifer tarandus)
	1	Cuneiform, burned, caribou (Rangifer tarandus)
	1	Distal metapodial fragment, burned, caribou (Rangifer tarandus)
	1	Possible metapodial fragment, calcined, possibly caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
	3	Distal fragments proximal phalanges, burned and calcined caribou (Rangifer tarandus)
	1	Medial phalanx fragment, unburned, cut marks, caribou (Rangifer tarandus)

Table D.72. (Continued)

Unit		Description
	1	Proximal fragment medial phalanx, calcined, caribou (Rangifer tarandus)
	2	Vestigial phalanx fragments, burned, caribou (Rangifer tarandus)
	1	Vestigial phalanx, calcined, probably caribou (Rangifer tarandus)
	1	Sesamoid, calcined, probably caribou (Rangifer tarandus)
	1	Flatbone fragment, unburned, cut marks, medium-large mammal
	5	Long bone and unidentifiable bone fragments, unburned, medium-large mammal
	ca. 10,530	Long bone, flat bone, and unidentifiable bone fragments, calcined and heavily burned, medium-large mammal
Subsurface Unknown (Survey testing)	1	Distal metapodial fragment, calcined, caribou (Rangifer tarandus)
	1	Probable distal metapodial fragment, calcined, probably caribou (Rangifer tarandus)
	1	Distal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
	1	Proximal fragment distal phalanx, calcined, caribou (Rangifer tarandus)
	2	Teeth fragments, calcined, artiodactyl
	2	Rib fragments, calcined, medium-large mammal
	642	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal

Table D.73.

Artifact Summary by Stratigraphic Unit, TLM 043

Unit		Description
2	19	Chert flakes
Organic silt	19	Thermally altered rocks
	1	Chert cobble
	17	Rock fragments

AHRS Number TLM 044; Accession Number UA80-151

Area:	Northwest of Jay Creek Mouth
Site Map:	Figure E.51
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site, reported to project archeologists by Jo Fehyle of Land Use Planning for the Susitna Hydroelectric Project, is located on a high plateau north of the Susitna River and northwest of Jay Creek. A 1 km wide valley and lake system separates this plateau from higher mountains to the north. The site is situated at an elevation of ca. 884 m asl (2900 feet) at the point of highest relief on the approximately 80 x 35 m deflated and exposed top of a discrete knoll. This knoll is one of a series of similar knolls, oriented generally northeast-southwest, which comprise a system of glacially scoured hills and ridges characteristic of this high plateau. The summit of the knoll is directly exposed to high winds and numerous blowouts are present. High relief affords a panoramic view of the surrounding terrain including the valley to the north, 122 m lower in elevation, which contains several small lakes approximately 800 m distant which are easily accessible from the site. Several kettle lakes are also visible at lower elevations to the southwest, the closest of which is 1 ha in size and is located approximately 400 m southwest and 61 m lower in elevation. To the south, the Susitna River is not in view, and although access would not be difficult, the site appears to be primarily oriented towards the wide valley and lake system to the north. Vegetation is transitional between upland spruce-hardwood forest and alpine tundra. Vegetation on the site consists primarily of moss and lichens with scattered dwarf birch and willow. Black spruce occupy slopes of the knoll, increasing in density with lower elevation. Areas between knolls are marshy and poorly drained. Six additional sites have been identified to date in the same topographic context as site TLM 044. Other sites within 1 km are

TLM 045 and TLM 046, and both are located on knolls immediately northeast of TLM 044.

Testing:

Both surface and subsurface cultural material were observed at the site. Five surface lithic scatters are exposed in blowouts near the highest elevation of the knoll (Table D.74). A total of 22 flakes, 2 modified flakes (UA80-151-40, 43), 1 biface fragment (UA80-151-42), and 19 bone fragments were surface collected. Test pit 1, the only subsurface test at scatter 1, revealed flakes and calcined mammal bone associated with charcoal between the surface and 8 cmbs.

Scatter 1: A total of eight flakes were surface collected and 25 observed flakes were left in situ from scatter 1. Test pit 1, excavated near the center of the scatter (Figure D.51), produced 14 basalt flakes between the surface and 5 cmbs associated with burned bone. Dark-stained earth containing concentrated burned bone and a single flake was found between 5 and 8 cmbs in this test. The dark stain may suggest a hearth or similar feature, however, initial testing did not reveal charcoal. All of the flakes from test pit 1 were basalt. In addition to basalt, other raw materials represented in the surface artifacts are argillite, chalcedony, chert, obsidian, and rhyolite.

Scatter 2: Scatter 2 (Figure D.51) consisted of three flakes only one of which, a quartzite flake, was collected.

Scatter 3: All of the observed artifacts at scatter 3 (Figure D.51) were surface collected. These consisted of 4 argillite flakes, 1 chert flake, and 1 obsidian leaf-shaped point (UA80-151-1; Figure D.375g). In addition, 19 calcined bone fragments were surface collected.

Scatter 4: All of the observed artifacts at scatter 4 (Figure D.51) were surface collected. These consisted of only two flakes, one argillite flake and one basalt modified flake (UA80-151-40).

Scatter 5: A total of 8 specimens were surface collected and 1 flake left in situ at scatter 5 (Figure D.51). Collected artifacts consisted of 4 basalt flakes, 3 chert flakes, and 2 chert, articulating biface fragments (UA80-151-42 articulates with 43; Figure D.375f). Brown and gray chert and black basalt are represented by the flakes.

Estimated site size based on the distribution of artifacts is 7,000 square meters (Table D.2).

Table D.74.

Artifact Summary, TLM 044

Provenience		Description
Lithic Material		
Surface:		
Scatter 1	5	Basalt flakes
	1	Chalcedony flake
	1	Chert flake
	1	Rhyolite flake
	25	Flakes (uncollected)
Scatter 2	1	Quartz flake
	2	Flakes (uncollected)
Scatter 3	4	Argillite flakes
	1	Chert flake
	1	Obsidian leaf-shaped point (UA80-151-1)
Scatter 4	1	Argillite flake
	1	Basalt modified flake (UA80-151-40)
Scatter 5	4	Basalt flakes
	3	Chert flakes
	2	Chert biface fragments (UA80-151-42 articulates with 43)
	1	Flake (uncollected)

Table D.74. (Continued)

Provenience		Description
Subsurface:		
Scatter 1		
Test pit 1	15	Basalt flakes
Faunal Material		
Surface:		
Scatter 3	19	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
Subsurface:		
Test pit 1	ca. 55	Long bone and unidentifiable bone fragments, calcined, mammal

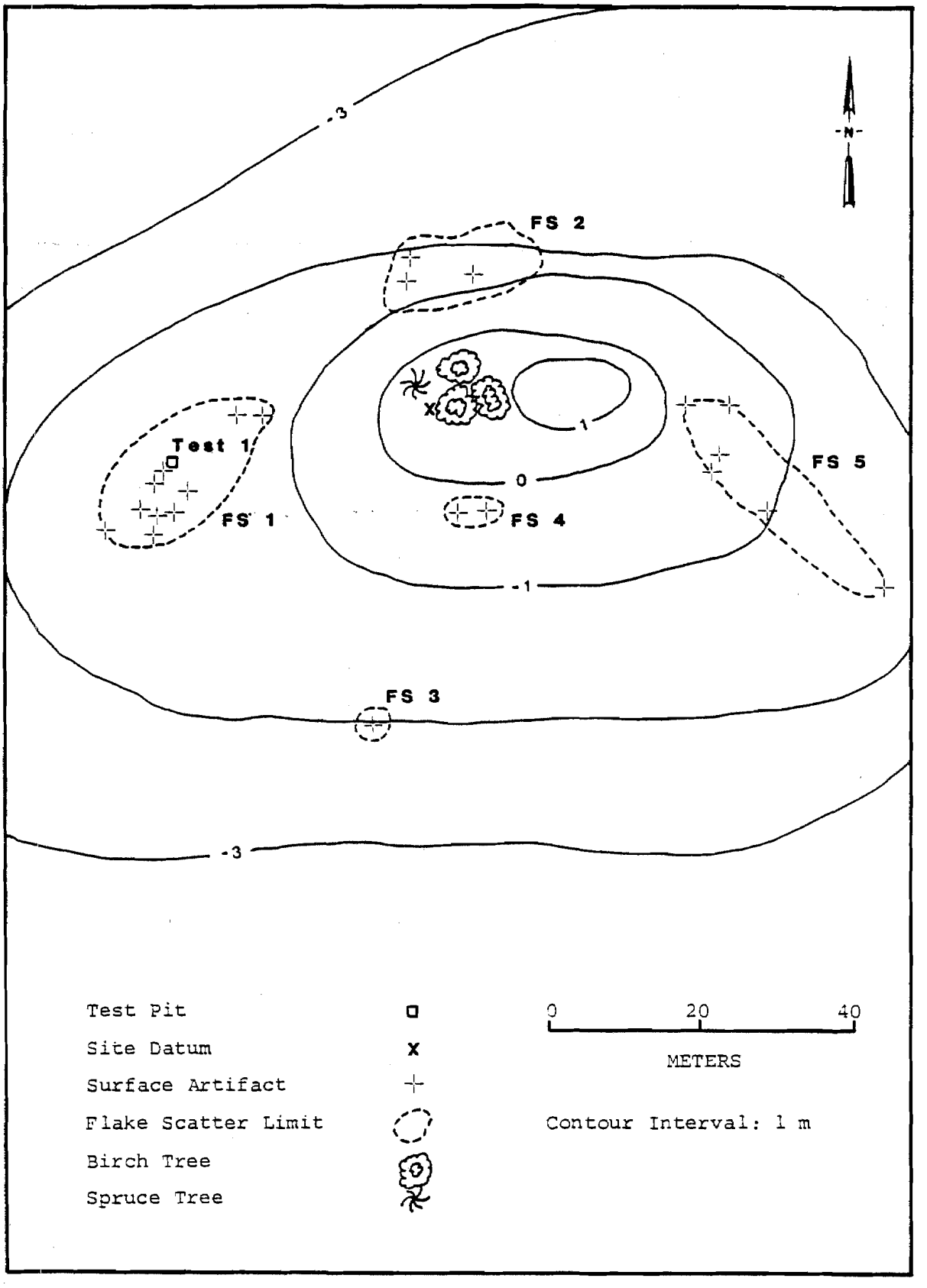

Figure D.51. Site Map, TLM 044

AHRS Number TLM 045; Accession Number UA80-152

Area:	Northwest of Jay Creek Mouth
Site Map:	Locus A, Figure D.52
	Locus B, Figure D.53
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The general location, elevation, and topographic setting of site TLM 045 is similar to that of TLM 044. The site, consisting of two loci (A and B), is located on the south and east facing slopes of a knoll approximately 300 m northeast of site TLM 044 and slightly lower in elevation. Both knolls are connected to the same ridge line by a low, broad saddle of approximately the same elevation as the lower knoll. Both loci are located at ca. 884 m asl (2900 feet).

Locus A: This locus is situated on the southern slope of the knoll, just below the 10 x 20 m flat summit. The northern and northwestern slopes of the knoll drop off steeply to the elevation of the valley and lake system to the north. The view from the immediate vicinity of locus A is to the south and is limited by intervening topography to less than 100 m. However, from the top of the knoll, only a few meters away, a panoramic view is available which overlooks the broad valley, lakes, and connecting outlet streams to the north. One possible reason for locus A to be located slightly below the exposed summit of the knoll is that strong winds are apparently quite frequent in the region and prehistoric hunters may have sought shelter from them.

Locus B: This locus is situated 15 m lower in elevation and 104.5 m east of the summit on an east facing slope overlooking a small valley. The view from this location includes both the valley to the north and low, marshy areas and kettle lakes to the southeast. A 3 ha lake is visible and easily accessible to the southwest. Numerous bedrock and

glacial drift exposures are present in the immediate vicinity of the site. Dwarf willow, crowberry, grasses, moss, and lichen form the predominant vegetation at the site and a few isolated spruce are present. Upland spruce forest occupies the low-lying valley to the north with areas of marsh and muskeg occurring at the lowest elevations in the valley. To the east and west spruce increase in frequency as elevation decreases. TLM 046 is located approximately 200 m to the northeast.

Testing:

Both surface and subsurface cultural material was recovered from three flake scatters comprising two loci (A and B) situated approximately 104 m apart (Figures D.52 and D.53). A complete point, 2 modified flakes, and 47 bone fragments were surface collected at the site. In addition, a total of 64 flakes were surface collected and 127 observed surface flakes were left in situ. A subsurface test at scatter 1 (Figure D.52, test pit 1) produced 23 flakes, as well as bone, charcoal, and thermally altered rock at a depth of 5-17 cmbs.

Locus A: This locus is composed of two lithic scatters.

Scatter 1: Scatter 1 is located in a blowout 4 m south of the site datum (Figure D.52). Two translucent chalcedony flakes were surface collected from this blowout. Four basalt flakes were also surface collected and six basalt flakes were left in situ (Table D.75).

Scatter 2: Scatter 2 is located in a blowout 7 m southeast of the site datum (Figure D.52). A dark brown chert flake retouched on one margin (UA80-152-15), 28 flakes, and 22 calcined bone fragments were surface collected from this blowout and an additional 77 flakes were left in situ. Most of the collected and observed flakes are basalt but other material represented include argillite, brown and gray chert, and rhyolite. Test pit 1, excavated near the northern edge of the blowout, produced 1 rhyolite and 2 basalt flakes between 6 and 10 cmbs from a gray silt unit. Calcined bone and charcoal from 5-17 cmbs were probably

associated with the flakes (Table D.75). In addition, rock exhibiting possible thermal cracking and discoloration was recovered between 10 and 12 cmbs in this test. This probable hearth in test pit 1 extended throughout the 40 x 40 cm test and was more deeply buried in the southwest corner. Twenty small argillite, basalt, and rhyolite flakes, and ca. 320 small, calcined bone fragments collected from test pit 1 between 10 and 12 cmbs. One medium-large mammal mandible fragment of an undetermined genera and a femoral head fragment of caribou (Rangifer tarandus) comprise the identifiable fragments.

Locus B

Locus B, located in a blowout 104.5 m east of the site datum (Figure D.53), is a surface lithic scatter, scatter 3 (Table D.75). A complete quartzite lanceolate point (UA80-152-37; Figure D.375h) with a constricted, thinned, straight base was surface collected from this blowout. In addition, 31 flakes, primarily of light and dark gray chert but including brown chert, clear obsidian, and quartzite were collected. Approximately 44 flakes were left in situ. Faunal material surface collected consisted of 26 bone fragments. These included 1 unburned medial phalanx (proximal end) fragment identified as caribou (Rangifer tarandus), and right and left maxilla fragments of arctic ground squirrel (Spermophilus parryi).

Estimated site size based on the distribution of artifacts is 1,050 square meters (Table D.2).

Table D.75.

Artifact Summary, TLM 045

Provenience		Description
Lithic Material		
Surface:		
Locus A		
Scatter 1	3	Basalt flakes
	2	Chalcedony flakes
	1	Basalt modified flake (UA80-152-4)
	6	Basalt flakes (uncollected)
Scatter 2	2	Argillite flakes
	21	Basalt flakes
	4	Chert flakes
	1	Rhyolite flake
	1	Chert modified flake (UA80-152-15)
	77	Flakes (uncollected)
Locus B		
(Scatter 3)	25	Chert flakes
	1	Obsidian flake
	5	Quartzite
	1	Quartzite lanceolate point (UA80-152-37)
	44	Flakes (uncollected)

Table D.75. (Continued)

Provenience		Description
Subsurface:		
Locus A		
Test Pit 1	4	Argillite flakes
	16	Basalt flakes
	3	Rhyolite flakes
	16	Thermally altered rocks
	4	Rock fragments
Faunal Material		
Surface:		
Locus A		
Scatter 2	22	Long bones and unidentifiable bone fragments, calcined, mammal
Locus B		
(Scatter 3)	1	Proximal fragment medial phalanx, unburned, weathered, caribou (Rangifer tarandus)
	2	Maxillary fragments with teeth (right and left), arctic ground squirrel (Spermophilus parryi)
	23	Long bone and unidentifiable bone fragments, calcined, medium-large mammal

Table D.75. (Continued)

Provenience		Description
Subsurface:		
Locus A		
Test Pit 1	1	Femoral head fragment (fovea capitus), calcined, caribou (Rangifer tarandus)
	1	Mandible fragment, calcined, medium-large mammal
	ca. 240	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
	ca. 80	Long bone and unidentifiable bone fragments, calcined, mammal

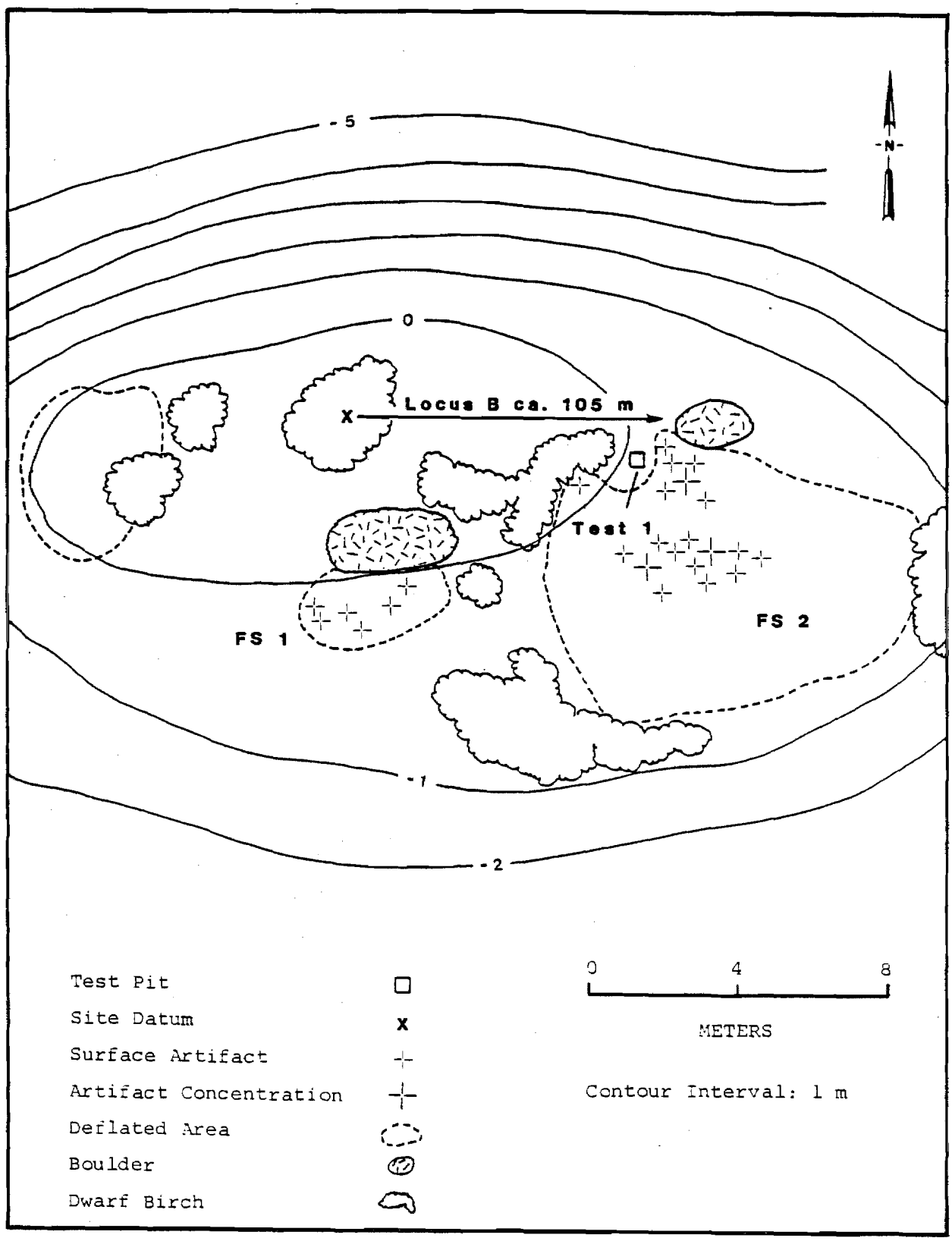

Figure D.52. Site Map, TLM 045 Locus A

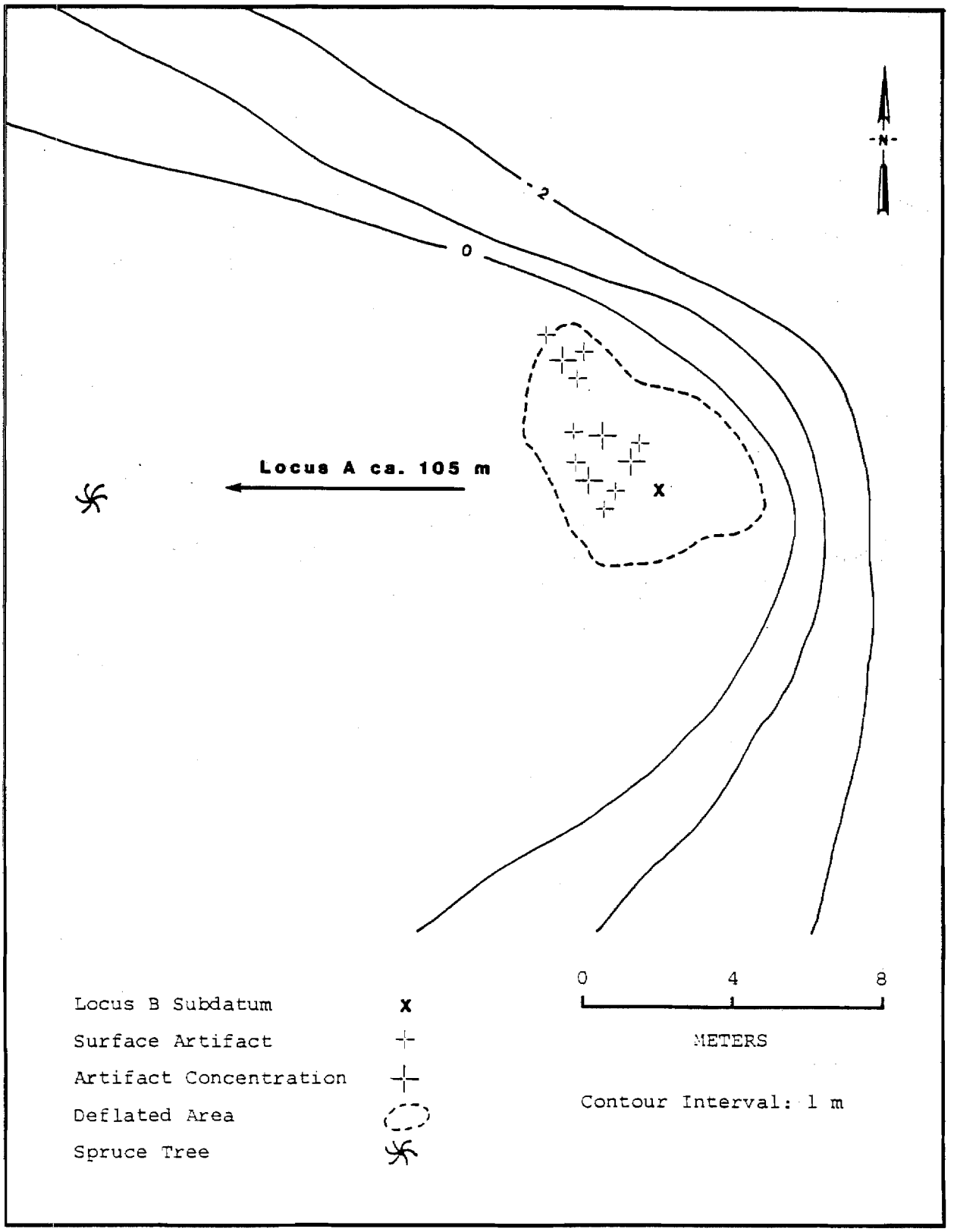

Figure D.53. Site Map, TLM 045 Locus B

AHRS Number TLM 046; Accession Numbers UA80-153, UA81-263

Area:	Northwest of Jay Creek Mouth
Site Map:	Figure D.54
Survey Locale 30:	Figure E.107
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The general location, elevation, and topographic setting of the site are similar to those of TLM 044 and TLM 045. Site TLM 046 is situated on the top of the easternmost and highest of three knolls, all of which are slightly above the 884 m asl (2900 feet) elevation. Sites TLM 044 and TLM 045 are located on the lower knolls to the southwest and are both within 500 m of site TLM 046. All three knolls are part of the same general landform and the western slope of the highest knoll joins the ridge upon which the two lower knolls are situated. Site TLM 046 is located at the northern end of a north-south oriented knoll which affords the most commanding panoramic view of any of the surrounding terrain features. The view encompasses both the valley to the north with its series of interconnected lakes, and the lower elevations to the east and southeast with kettle lakes. All of the lakes and streams visible from the site are easily accessible. Like the other knolls in the vicinity, exposed bedrock and deflated surfaces occur over much of the site. There are no trees on top of the knoll and what vegetation there is consists of moss, lichen, and very low brush. Vegetation becomes denser with decrease in elevation in all directions. Scattered spruce are present in low, wet areas below the site with alder and willow forming the primary vegetation on better-drained areas on the slopes of ridges and knolls.

Testing:

The site is comprised of six lithic and bone scatters covering an area approximately 40 x 150 m at the summit of the knoll. During survey

testing, subsurface tests were excavated at three of the scatters (1, 3, and 4), but only one (test pit 2 placed at scatter 1) produced cultural material.

Five 1 x 1 m test squares were excavated during systematic testing. Four of these were placed adjacent to surface scatters to determine whether subsurface cultural material was present and, if so, to ascertain its stratigraphic position. One of these squares, N239/E198, was excavated at scatter 1 to test the possible continuation of artifactual material first encountered in nearby test pit 2. The fifth test square was placed between scatters 4 and 5.

Discussion:

The total artifact assemblage from all phases of testing at TLM 046 included 4 modified flakes, 1 scraper, 3 lanceolate point bases, 363 unmodified flakes of various raw materials, and over 11,750 burned bone fragments (Table D.77). Three of the six lithic and bone scatters produced subsurface as well as surface material (Tables D.78 and D.79). Due to the widespread surface distribution of artifacts and the localized stratigraphy recorded in each test square, surface scatters and their associated subsurface tests will be discussed separately below, following a brief description of the overall site stratigraphy.

Stratigraphy at TLM 046 is characterized by very localized processes of erosion and reworking of stratigraphic units so that each test square revealed a unique stratigraphy. In addition, considerable cryoturbation is evident at the site adding further difficulty to correlation between test squares. Test square N130/E227 was the only test which revealed the full stratigraphic sequence present at the site (Figure D.55; Table D.76). The stratigraphy, as revealed in this test, is comprised of approximately 20 cm of deposition, including three tephra horizons overlying glacial drift and fractured bedrock. The organic horizon, 5-7 cm thick in this test, is absent or very thin over most of the site and much of the surface of the site is deflated.

Scatter 1: The surface remains from scatter 1 consisted of four argillite flakes and 15 basalt flakes, two of which were uncollected. Subsurface remains recovered from test pit 2 consisted of 30 flakes (4 argillite, 21 basalt, 1 chert, and 4 obsidian) found between 0 and 16 cmbs. This is the only occurrence of obsidian at the site. Test pit 2 also revealed charcoal and 8 burned bone between 5 and 16 cmbs. A radiocarbon determination of 2340 ± 145 years: 390 B.C. (DIC-1903) was obtained on a charcoal sample (UA80-153-38a) from this hearth. Three obsidian flakes were recovered from the same depth as the hearth and a fourth black obsidian flake was found between 5 and 10 cmbs.

Test square N239/E198 was excavated at scatter 1, adjacent to reconnaissance test 2. The stratigraphy of the test square was extremely cryoturbated and ranged from very poor to none. Because of this, excavation in this test was done in arbitrary 10 cm levels. A brown silt interpreted as Watana tephra (unit 4) directly underlay a thin organic mat. Devil tephra was not present. Below the Watana tephra, which showed evidence of extensive mixing by solifluction, was a humic horizon (unit 5) consisting of black silt. Beneath unit 5 was a discontinuous, very dark brown silt lens, also containing humic material and mixed with glacial drift and fractured bedrock (unit 7). The organic buildup in units 5 and 7 is attributed to natural water collection in a small depression centered 2 m southwest of the test square.

The cultural material in N239/E198 was mixed by cryoturbation but appeared to occur in association with the Watana tephra (unit 4). Both faunal material and lithic artifacts were recovered from this test. Faunal material excavated from the Watana tephra included ca. 105 calcined long bone and unidentifiable bone fragments (Table D.78). Lithic artifacts included 121 waste flakes of basalt, rhyolite, chert, and quartzite excavated primarily from the Watana tephra (unit 4). Some flakes did occur in the black silt humic horizon (unit 5) and the top of the glacial drift (Table D.79). Due to the poor stratigraphy and mixing of stratigraphic units in N239/E198, no correlation can be made between

the cultural material from this test square and the cultural material and radiocarbon date in test 2.

Scatter 2: This scatter yielded only surface remains. These consisted of 1 basalt lanceolate point base (UA80-153-50; Figure D.375k), 1 gray rhyolite burinated, lanceolate point base (UA80-153-53; Figure D375j), 1 basalt flake, 1 chert flake, and ca. 100 long bone and unidentifiable bone fragments of medium-large mammals. Test square N226/E191 excavated at the northern limit of scatter 2 proved to be sterile.

Scatter 3: Test square N203/E190 was excavated at scatter 3 adjacent to survey test 1 which was sterile despite hundreds of bone fragments on the surface nearby. Surface collection at scatter 3 during survey and systematic testing produced 98 flakes of various raw materials, 1 chert modified flake (UA80-153-77), 1 rhyolite modified flake (UA81-263-28), and 1 basalt endscraper (UA80-153-55; Figure D.375l) in addition to ca. 250 bone fragments, which include a calcined carpal/tarsal fragment of a medium-large mammal. Only the northern half of this test square was excavated.

Excavation of N203/E190 revealed a probable hearth, 5-10 cm below the surface, which consisted of black silty sand mixed with calcined bone fragments, flakes, and charcoal (unit 5). This cultural horizon was below a yellowish brown silt interpreted as Watana tephra (unit 4) which contained some calcined bone fragments. This was the only tephra present in the test. Both Devil and Oshetna tephras were missing. The cultural material in the Watana tephra is interpreted as having originated in unit 5 which had subsequently been mixed with the Watana tephra by cryoturbation. The possible hearth overlies a reddish brown silty coarse sand mixed with fractured and weathered bedrock.

Faunal material recovered from this test included 20 calcined long bone and unidentifiable bone fragments collected from the surface of the test square and more than 11,000 calcined long bone fragments excavated from units 4 and 5. Forty-five basalt, chert, and quartzite waste flakes were recovered from the possible hearth (unit 5). With the exception of

one metapodial shaft fragment of probable caribou (Rangifer tarandus) and a possible cranial fragment of a medium-large mammal, faunal material from this test was too fragmentary for identification. No diagnostic artifacts were recovered.

Scatter 4: This scatter produced only four surface artifacts. They consisted of two chert flakes and two basalt modified flakes (UA80-153-84, 87).

Scatter 5: Test square N155/E215 was excavated near a surface concentration of burned bone at flake scatter 5. Due to time limitations only the west half of this test was excavated. Forty-three subsurface flakes and ca. 275 calcined bone fragments, the majority of which were surface finds, were recovered from this test (Tables D.78 and D.79). Some lithic and faunal material were found in the upper cryoturbated stratigraphic units (unit 1 and 2) but the concentration of cultural material occurred in a grayish brown silt horizon (unit 6) interpreted as Oshetna tephra mixed with glacial drift (unit 7). This cultural horizon contained finely divided organic material and charcoal and may represent an old living surface at the contact between the Oshetna and Watana tephras. Devil tephra is not present in this test and unit 5 (a possible paleosol) is not well defined. Deflation has eroded the ground surface so that the Oshetna tephra (unit 6) is exposed at the surface in the north wall of this test and consequently cultural material from this unit appears as a surface scatter. It is likely that the origin of cultural material at scatter 5 is from this mixed Oshetna and drift horizon (unit 6). Faunal material was too fragmentary for identification and no diagnostic lithic artifacts were recovered.

Scatter 6: A red chert lanceolate point base (UA81-263-73; Figure D.375i) was surface collected from scatter 6. This bifacially chipped, lanceolate, straight-based point is similar to the two preform fragments (UA80-153-50, 53) surface collected from scatter 2.

Evaluation:

Extensive deflation has exposed six lithic concentrations at the summit of this knoll. Based on observed surface artifact distribution, the entire summit, comprising an area of approximately 40 x 150 m appears to have been utilized as a site. Both the topographic setting and the nature of the artifacts suggest the use of TLM 046 as a hunting overlook and campsite. The surface collection of calcined bone in association with charcoal concentrations and surface finds of 1 point base, 2 preform fragments, and 1 endscraper suggest the site functioned as a campsite and overlook, and possibly a kill site. The commanding, panoramic view, especially to the north overlooking a broad valley with several lakes, makes this locale an excellent overlook site. Two other sites (TLM 044 and TLM 045) are located on nearby knolls overlooking the same terrain and further demonstrate the excellent advantages of this locality for hunting.

Three probable hearth features were located during survey and systematic testing. The extremely poor stratigraphy and localized erosion at the site make correlation of subsurface cultural material between tests extremely difficult. The radiocarbon determination of 2340 ± 145 years: 390 B.C. (DIC-1903) on charcoal from the hearth in test 2 was the only date obtained, although charcoal from the other hearths was collected. This date cannot be correlated with other hearth features because of the lack of uniform stratigraphy at the site.

Cultural material from the probable hearths in test squares N155/E215 and N203/E190 occurs below the Watana tephra. In N155/E215 the cultural material appears to be associated with the contact between the Oshetna and Watana tephras. In test square N239/E198 cultural material appears to be associated with the Watana tephra but both Devil and Oshetna tephras are absent in this test, and solifluction has mixed stratigraphic units and artifacts. Association of cultural material with specific soil units is uncertain.

Evidence for more than a single component is inconclusive because of the extensive cryoturbation at this site. Horizontal distribution of lithic artifacts does not reveal differences between surface loci which might imply different occupations. Of 366 surface and subsurface artifacts that were collected, quartzite is the most common raw material (30%) followed by rhyolite (27%), basalt (25%), chert (9%), argillite (7%), chalcedony (1%), and obsidian (1%). Obsidian is the only raw material that is restricted in distribution.

Based on the above data, there appears to be at least one occupation of the site earlier than the deposition of the Watana tephra. The date of 2340 years B.P. from test 2 may date this component but stratigraphic correlation is uncertain and a later component may be present at the site, although present data are inconclusive. Estimated site size based on the distribution of artifacts is 4,400 square meters (Table D.2).

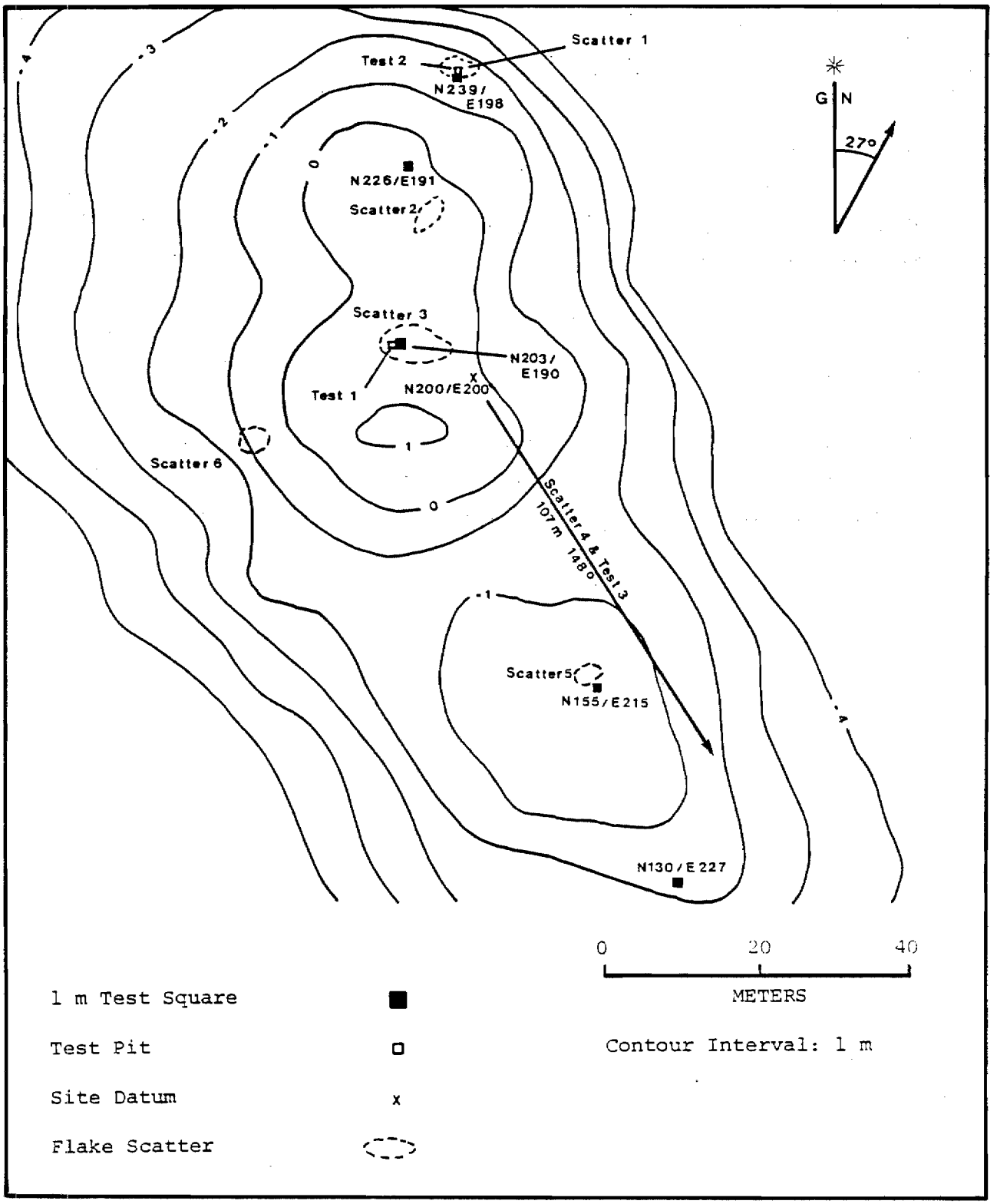

Figure D.54. Site Map, TLM 046

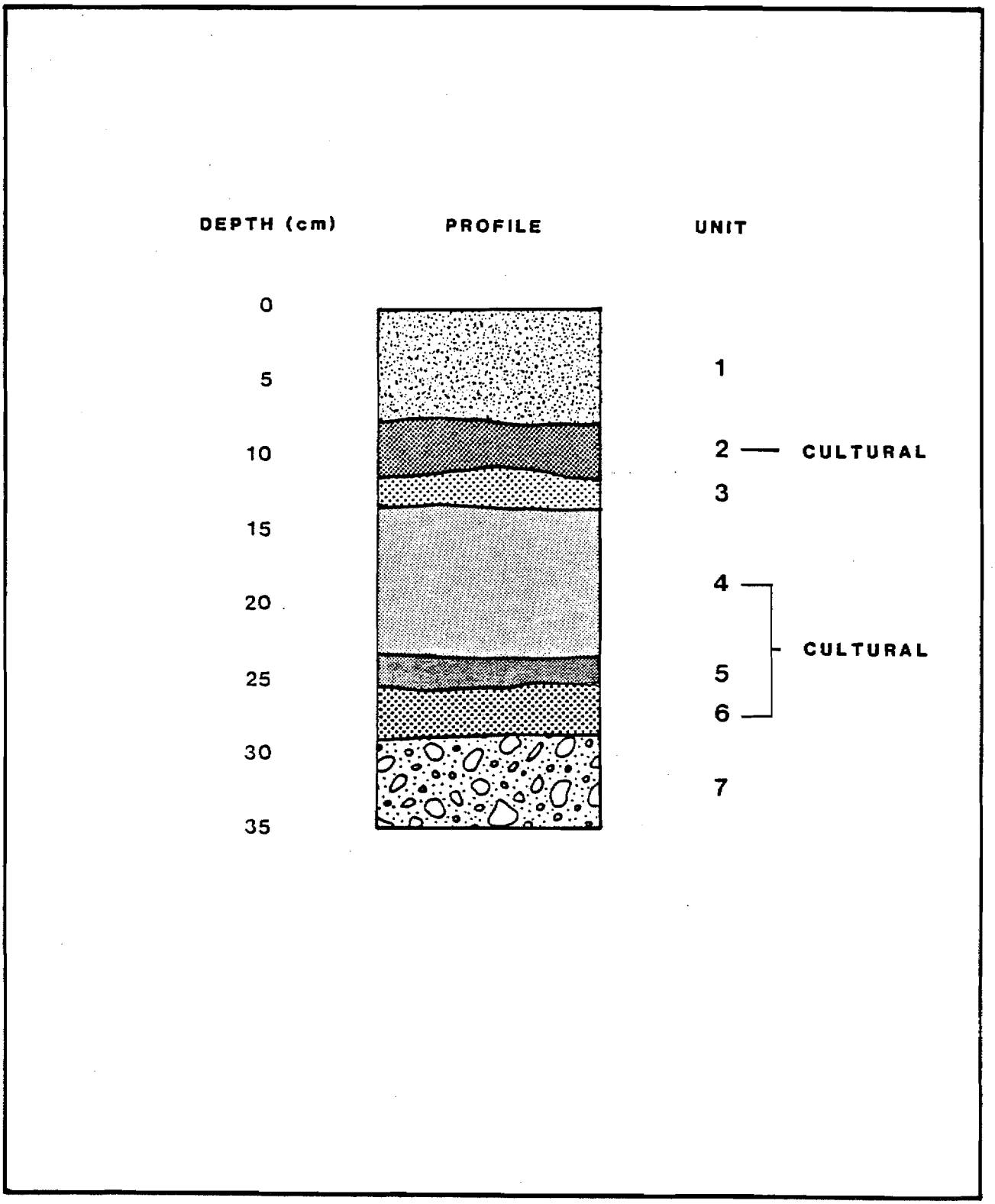

Figure D.55. Composite Profile, TLM 046

Table D.76.

Soil/Sediment Description for Composite Profile, TLM 046

Unit	Description
1	Organic silt; brown (10YR 4/3). Includes silt, fine roots, very small amount of humus. Generally from 5-7 cm thick but discontinuous in places. O horizon.
2	Finely divided organics with silt and charcoal fragments; very dark gray (5YR 3/1). Discontinuous and generally thin varying from 2-3 cm in thickness. Lower contact with unit 3 gradational. A horizon.
3	Fine silt; gray (7.5YR 7/2). Discontinuous with charcoal fragments occasionally present. Sharp to gradational lower contact with unit 4. Devil tephra.
4	Silt; varies in color from oxidized strong brown (7.5YR 5/6) to unoxidized light yellowish brown (10YR 6/4). Generally 10 cm thick. Evidence of frost action and solifluction where oxidized bands are perpendicular to ground surface. Sharp lower contact with units 5 and 6. Watana tephra.
5	Silt with charcoal; very dark gray (10YR 3/1). Thin, discontinuous layer comprised of silt, charcoal, and some humic material. Occasional pebbles present. Lower gradational contact with unit 6. Paleosol.

Table D.76. (Continued)

Unit	Description
6	Fine silt; light brownish gray (2.5Y 6/2). Discontinuous and in places mixed with unit 5. Generally 2-3 cm thick. Sharp lower contact with unit 7. Oshetna tephra.
7	Unsorted silt, pebbles, cobbles, and boulders; varies in color from yellowish red (5YR 4/6) to olive (5Y 5/3). Mixing with unit 6 occurs in some places. Glacial Drift.

Table D.77.

Artifact Summary, TLM 046

Tools	
4	Modified flakes
	2 Basalt (UA80-153-84-87)
	1 Chert (UA80-153-77)
	1 Rhyolite (UA81-263-28)
1	Scraper
	1 Chert (UA80-153-55)
3	Lanceolate point bases
	1 Basalt (UA80-153-50)
	1 Chert (UA81-263-73)
	1 Rhyolite (UA80-153-53)
8	

Table D.77. (Continued)

Lithic Material

25	Argillite flakes
88	Basalt flakes
4	Chalcedony flakes
31	Chert flakes
4	Obsidian flakes
108	Quartzite flakes
98	Rhyolite flakes
5	Flakes (uncollected)
363	

Faunal Material

ca. 11,760	Bone fragments

Table D.78.

Faunal Material by Stratigraphic Unit, TLM 046

Unit		Description
Surface:	1	Carpal/tarsal fragment, calcined, medium-large mammal
	ca. 610	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
1 and 2 Mixed organic silt and silt with charcoal	34	Unidentifiable bone fragments, calcined, medium-large mammal
4 and 5 Watana tephra and paleosol	1	Metapodial shaft fragment, calcined, probably caribou (Rangifer tarandus)
	1	Possible cranial fragment, calcined, medium-large mammal
	ca. 11,105	Long bone and unidentifiable bone fragments, calcined, mammal
Unknown	8	Long bone fragments, calcined and heavily burned, medium-large mammal

Table D.79.

Artifact Summary by Stratigraphic Unit, TLM 046

Unit		Description
Surface	21	Argillite flakes
	33	Basalt flakes
	1	Chalcedony flake
	7	Chert flakes
	57	Quartzite flakes
	2	Rhyolite flakes
	2	Basalt modified flakes (UA80-153-84, 87)
	1	Chert modified flake (UA80-153-77)
	1	Rhyolite modified flake (UA81-263-28)
	1	Chert scraper (UA80-153-55)
	1	Basalt lanceolate point base (UA80-153-50)
	1	Chert lanceolate point base (UA81-263-73)
	1	Rhyolite lanceolate point base, burinated (UA80-153-53)
	5	Flakes (uncollected)
1 and 2 Mixed organic silt and silt with charcoal	3	Basalt flakes
	3	Chalcedony flakes
	4	Chert flakes
	23	Quartzite flakes
	2	Rhyolite flakes

Table D.79. (Continued)

Unit		Description
4 and 5	30	Basalt flakes
Watana tephra and	18	Chert flakes
paleosol	25	Quartzite flakes
	94	Rhyolite flakes
7	1	Basalt flake
Glacial drift	1	Chert flake
	3	Quartzite flakes
Unknown	4	Argillite flakes
(Test pit 2)	21	Basalt flakes
	1	Chert flake
	4	Obsidian flakes

AHRS Number TLM 047; Accession Number UA80-154

Area:	West of Vee Canyon
Site Map:	Figure D.56
Survey Locale 34:	Figure E.111
USGS Map:	Talkeetna Mts. C-2, Figure E.7
Site Location:	Appendix F

Setting:

The site is located at an elevation of ca. 853 m asl (2800 feet) on the west side of the Susitna River downriver from Vee Canyon. Situated on the north end of a north-south oriented bedrock ridge approximately 274 m above the Susitna River, the site is west of the river. To the west of the site a sheer bedrock cliff drops approximately 30 m to an old river channel which is occupied by a small pond surrounded by marsh. The pond is directly below and southwest of the site. Located on the western edge of the northern point of the ridge overlooking this pond, the site is situated on the only relatively level part of the ridge. The site location is also the only part of the ridge where there is appreciable soil accumulation. The rest of the ridge crest, which extends to the south, is primarily exposed bedrock. Beyond the deeply incised old stream channel immediately west of the site, the terrain continues to rise to an elevation of ca. 1040 m asl (3422 feet). To the east a steep slope descends to the Susitna River. The Susitna River valley and the river itself are visible to the north, east, and south but the view to the west is restricted by bedrock cliffs and higher terrain. The site is located on a deflated gravel exposure with dwarf willow, low berry bushes, moss, and grasses scattered along the ridge where soil is sufficient to support vegetation. Vegetation is sparse on the sheer western slope of the ridge, but where the slope can support them, both birch and spruce are present. To the east spruce become denser with decrease in elevation and proximity to the river.

Testing:

The site consists of a 3 x 10 m surface lithic scatter exposed on the deflated crest of a bedrock ridge (Figure D.56). Artifacts surface collected from the site include 1 argillite modified flake (UA80-154-14), 1 argillite microblade fragment (UA80-154-5; Figure D.376a) and 1 chert biface (UA80-154-4; Figure D.376b)

In addition 24 argillite flakes and 1 basalt flake were surface collected and about 70 argillite flakes were left in situ (Table D.80). Two test pits excavated at the site (test pits 1 and 2) did not reveal subsurface cultural material. Test pit 2 revealed glacial drift and fractured rock at a depth of 25-30 cmbs overlain by 20-25 cmbs of silt and sandy silt. Intensive surface survey and subsurface testing (where possible) along the entire ridgetop failed to reveal additional cultural material and the site appears to be limited to only the extreme northern end of the ridge. Estimated site size based on the distribution of artifacts is 30 square meters (Table D.2).

Table D.80.

Artifact Summary, TLM 047

Provenience		Description
Lithic Material		
Surface:	24	Argillite flakes
	1	Basalt flake
	1	Argillite modifed flake (UA80-154-14)
	1	Argillite microblade fragment (UA80-154-5)
	1	Chert biface (UA80-154-4)
	ca. 70	Argillite flakes (uncollected)

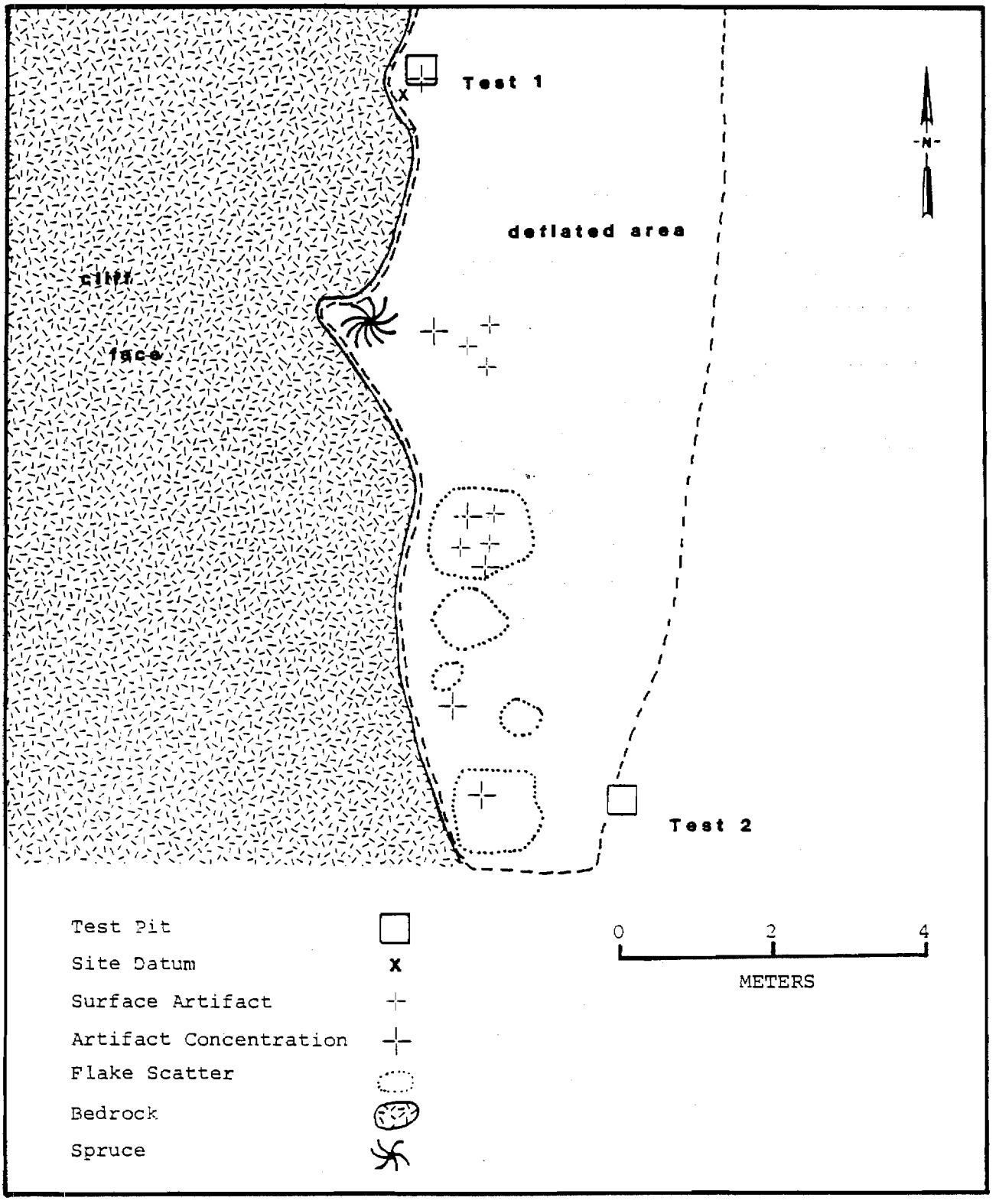

Figure D.56. Site Map, TLM 047

AHRS Number TLM 048; Accession Numbers UA80-155, UA81-278

Area:	Northeast of Watana Creek Mouth
Site Map:	Figure D.57
Survey Locale 27:	Figure E.103
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site, at an elevation of 637 m asl (altimeter: 2090 feet), is located at the northern end of a ca. 18 ha lake (locally known as Duck Embryo Lake or Sally Lake) east of Watana Creek and north of the Susitna River. Situated at the top of a ca. 20 m high, discrete, rounded knoll, east of the lake's outlet stream, the site is located at the point of highest relief on the relatively flat summit at the northwestern end of the knoll. The knoll itself is approximately 100 x 40 m and is oriented to the northwest. The view from the site is panoramic and varies in distance from 0.5-1 km depending on topography. To the west and south, the view encompasses the outlet stream and the entire northern margin of the lake and to the northeast it includes a low, marshy area where the lake outlet stream joins a small, slow-moving creek. Access to the lake, outlet stream, and all of the immediate surrounding terrain is excellent and access to Watana Creek would be fairly easy by following the outlet stream which joins Watana Creek northwest of the site. The knoll upon which the site is located is one of several knolls around the lake which offer excellent views of the lake and the surrounding kettle and kame topography. TLM 039 is located at the southeastern end of the lake on the highest knoll on the lake margin. The immediate vicinity of the site is well drained with ground vegetation consisting primarily of dwarf birch, Labrador tea, lowbush cranberry, crowberry, and a deep mat of moss and lichen. A few scattered white spruce and birch occupy the top of the knoll. Brush on the slopes of the knoll is higher and much denser than on the relatively open summit. The surrounding terrain varies from well-drained ridges and knolls with white spruce, birch, and

high brush to low, marshy areas with muskeg, sphagnum moss, grasses, and dense black spruce.

Testing:

No cultural material was observed on the surface at the site location. Initial survey testing involved the excavation of three shovel tests and two test pits on the summit of the knoll (Figure D.57). Shovel tests 1 and 2 did not produce cultural material; however, shovel test 3, expanded into test pit 1, produced an argillite biface (UA80-155-1) from 15-20 cmbs associated with a dark gray volcanic ash. Test pit 2, located 6 m northwest of test pit 1, did not reveal additional cultural material.

During the systematic testing phase, five 1 x 1 m test squares were excavated to determine the site size. Four of the five 1 x 1 m systematic test squares contained cultural material. In addition to the excavation of these test squares, a grid shovel testing program was undertaken to assist in determining the site size and distribution of cultural materials. Twenty-nine grid shovel tests were excavated, none of which yielded cultural material.

Discussion

Testing at TLM 048 consisted of the excavation of 3 survey shovel tests, 2 test pits, 5 test squares, and 29 grid shovel tests. The cultural remains recovered consisted of 1 modified flake, 1 microblade fragment, 1 biface, 1 flake core, 18 flakes, 316 thermally altered rocks, and ca. 1,420 bone fragments.

All three tephra were present at the site, but in certain areas the contacts of the stratigraphic units were unclear or the tephras were mixed with other sediments (Figure D.58; Table D.81). In spite of this ambiguity in stratigraphy, two components were clearly in evidence at this site. The most recent component, situated above the Devil tephra (unit 3), was found in two test squares (N34/E25 and N32/E22), while the

older component, associated with the Watana and Oshetna tephras (units 5 and 6) was encountered in three test squares (N30/E29, N34/E29, and N34/E25).

Component 1: This component was best represented in test square N32/E22 by a hearth feature (feature 1) that contained thousands of burned bone fragments and thermally altered rock fragments in an ash and organic matrix (units 7a and 7b). In addition, 6 chert flakes, 1 basalt modified flake (UA81-278-26), 1 chert flake core (UA81-278-13), and 2 rock fragments were located in this hearth feature. The flakes and flake core are made of a brown chert and show evidence of heat treatment, which would indicate that the manufacture or repair of stone tools occurred at this site. The two rock fragments were collected as questionable flakes but have been subsequently determined to be noncultural, resulting from heat spalling. A single thermally altered rock fragment found in N34/E25 is the only other specimen from component 1 that postdates the most recent Devil tephra.

The bone and rock concentration (feature 1) was limited to the northern half of the test squre N32/E22. A thin layer of ash, however, did extent 15-50 cm beyond this concentration into the southeast and southwest quadrants. A few, isolated bone fragments and thermally altered rock fragments were found in the southern half of this test square, but these represented only a fraction of those collected from the entire feature. Over 300 pieces of thermally altered rock fragments were excavated from the hearth, and these range in size from 20 cm to less than 1 cm. A fine screen sample, 20 x 20 x 20 cm in size, was taken from the hearth matrix, but the quantity of material and the size of the material in the wash sample prohibited counts being taken, as much of the sample is made up of crushed bone matrix and thousands of fine thermally altered rock fragments. Approximately 1,420, of the larger bone fragments (generally greater than 1-2 cm in size) were collected from the hearth. Fifteen of these bone fragments were identifiable as to species, all caribou (Rangifer tarandus) (Table D.83). Four other bone fragments were tentatively identified as

caribou. The remaining burned bone fragments are attributable to only medium-large mammal.

Component 2: This component is represented by lithic remains only. The total artifact inventory consists of 7 argillite flakes, 2 chert flakes, 3 rhyolite flakes, 1 argillite biface (UA80-155-1; Figure D.376d), and 1 argillite microblade fragment (UA81-278-3; Figure D.376c). This lower component has a greater variety of raw materials than does the upper component. Component 2, although present in a greater number of test squares, is more poorly defined stratigraphically than is component 1. The 14 artifacts comprising the cultural remains from component 2 are definitely associated with the lower tephra (the Oshetna tephra, unit 5), but whether they lie on the contact of units 5 and 6 (as in N34/E25), on the contact of units 4 and 5 (as in N34/E29), or on both contacts is not clear. The precise delineation of an original depositional surface for the artifacts found in this component is difficult to determine because of the irregular and gradational contacts in the lower stratigraphic units.

Evaluation:

This site is situated beside a ca. 18 ha lake at the top of a ca. 20 m high discrete knoll and probably functioned as a brief camp during two periods of occupation. Proximity to the lake and its outlet may suggest exploitation of freshwater aquatic resources such as fish and waterfowl. Component 1 shows evidence of activities centered around a hearth in association with caribou bone and thermally altered rock. It is underlain by the Devil tephra. Component 2 is poorly represented. It lies in an as yet undefined zone between the Watana and Oshetna tephra contact and the glacial drift. The exact provenience of the artifacts could not be determined, as all the test squares at this site showed similar disturbance in the lower portions of their stratigraphic sequences. Estimated site size based on the distribution of artifacts is 50 square meters (Table D.2).

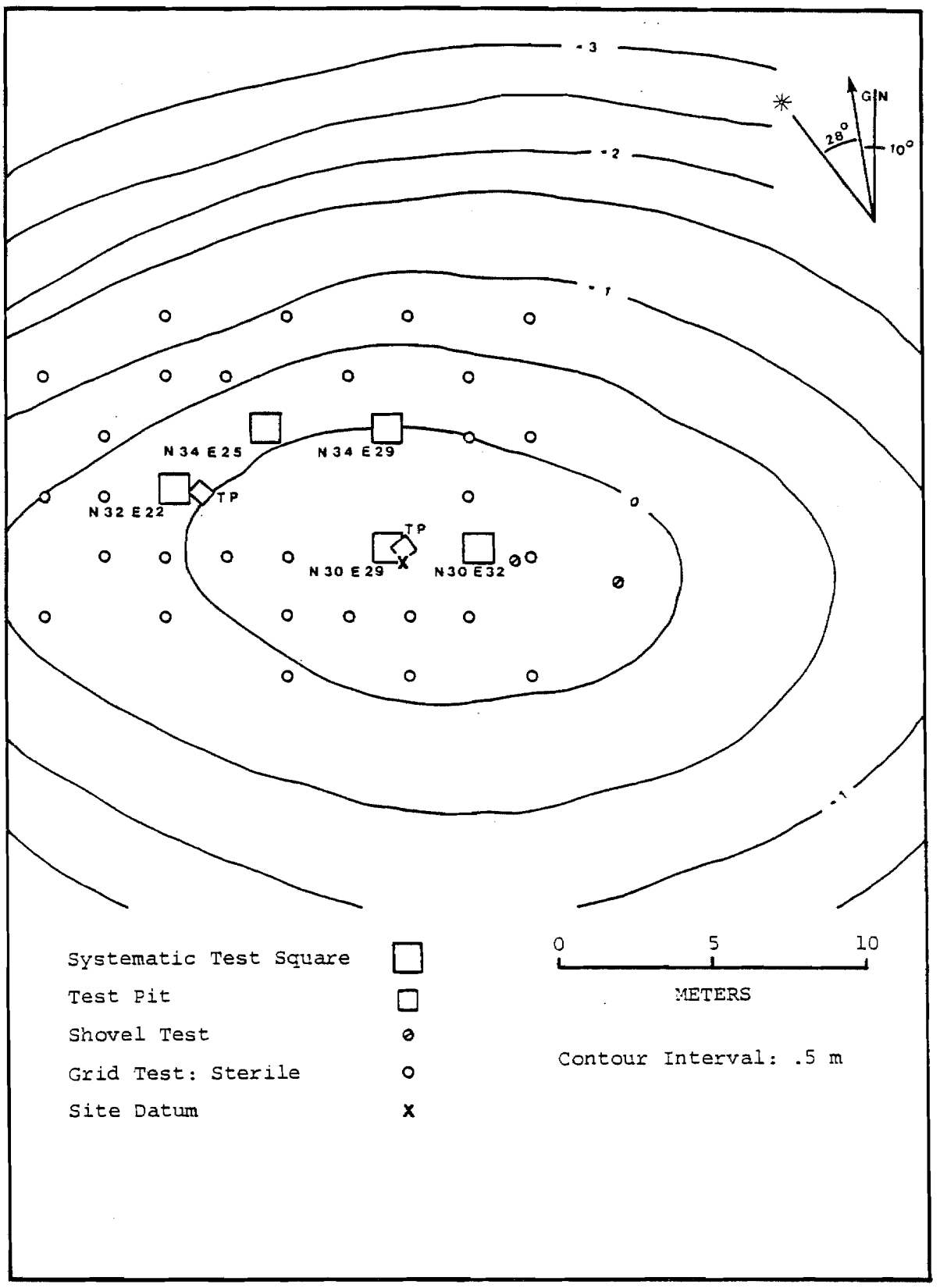

Figure D.57. Site Map, TLM 048

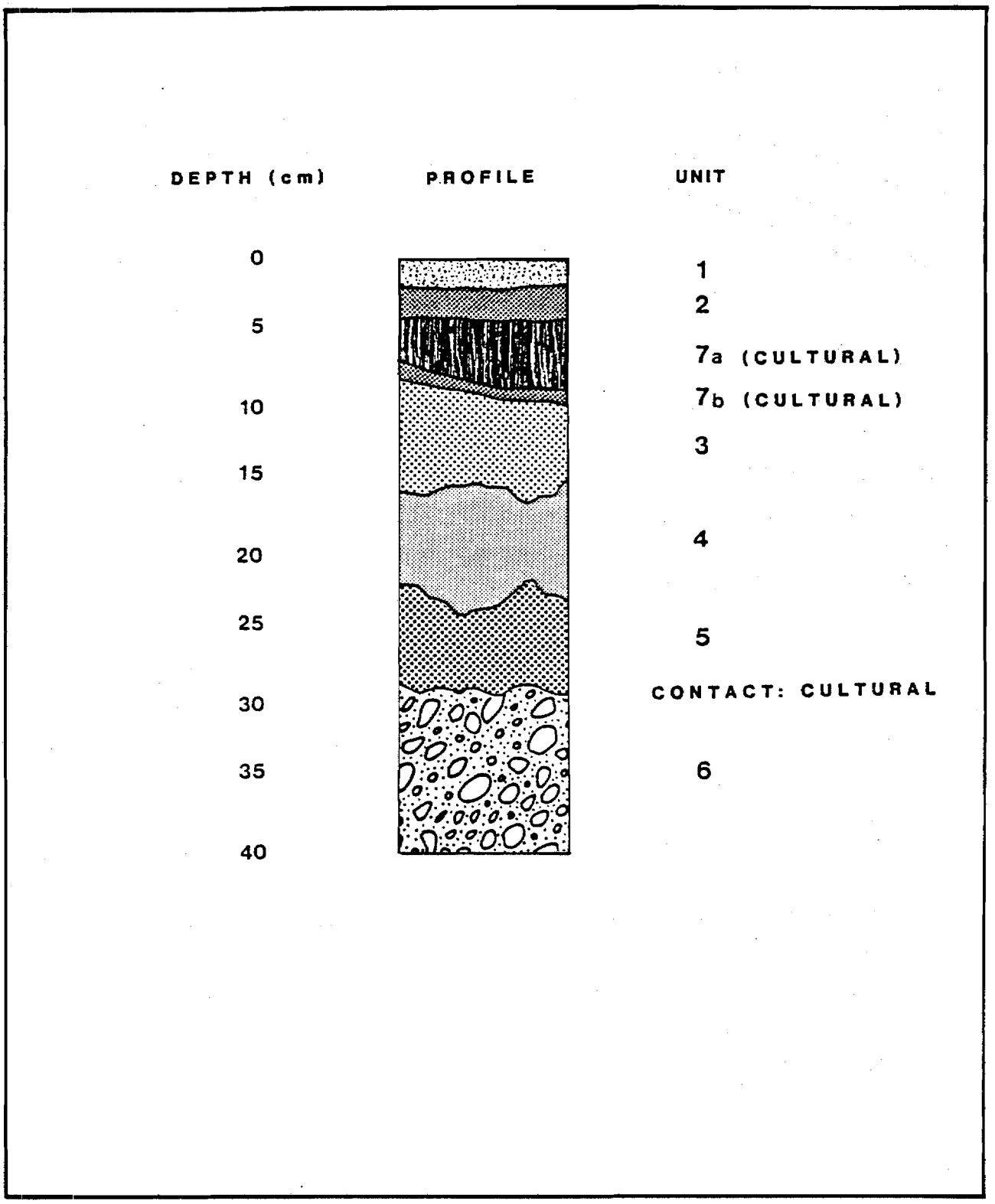

Figure D.58. Composite Profile, TLM 048

Table D.81.

Soil/Sediment Description for Composite Profile, TLM 048

Unit	Description
1	Organic layer: thick root mat in some squares; in other parts of site limited to a sparse lichen cover. Variable in thickness. O horizon.
2	Finely divided organic matter; dark reddish brown (5YR 2.5/2). Irregular in extent sometimes absent. In some areas contains many rootlets and small pieces of charcoal.
3	Fine-grained, well-sorted silt size particles; gray (10YR 6/1) to pinkish gray (7.5YR 6/2). Devil tephra. Variable in thickness. Continuous in some units while discontinuous in others. Contacts irregular and sharp.
4	Well-sorted to moderately well-sorted silt size particles with some sand; dark reddish brown (5YR 3/3 to 10YR 3/3) to brownish yellow (10YR 6/6) depending on degree of oxidation. Watana tephra. Discontinuous; in places mixed with other units. Generally no distinct oxidized band, instead oxidized areas distributed throughout unit. Irregular contacts.

Table D.81. (Continued)

Unit	Description
5	Oshetna tephra; gray (10YR 5/1). Unit rarely occurs in "pure" form but rather is intermixed with underlying drift (unit 6). Thin (ca. 1 cm or less) band of organics present sporadically at the upper contact of the unit. Discontinuous; variable in thickness where present. Upper and lower contacts (especially the latter) tend to be gradational; very irregular contacts.
6	Poorly sorted, mixed sand, granules, and cobbles; strong brown (7.5YR 4/6). Oxidized throughout. Cobbles generally rounded but occasionally angular rock fragment present; maximum cobble size ca. 15 cm. Upper contact irregular and gradational.
7a	Feature 1: Ash of cultural origin intermixed with rootlets, thermally altered rocks, bone, and bone meal; grayish brown (10YR 5/2). Present only in northern portion of N32/E22, in some areas may be mixed with unit 3, otherwise sharp contacts.
7b	Feature 1: Organic rich lens in ash (unit 7A); black (N 2/). Irregular in extent and thickness. Sharp contacts.

Table D.82.

Artifact Summary, TLM 048

Tools

1	Modified flake
	1 Basalt (UA81-278-26)
1	Microblade fragment
	1 Argillite (UA81-278-3)
1	Biface
	1 Argillite (UA80-155-1)
1	Flake core
	1 Chert (UA81-278-13)
4	

Lithic Material

7	Argillite flakes
8	Chert flakes
3	Rhyolite flakes
316+	Thermally altered rocks
2	Rock fragments
336+	

Faunal Material

ca. 1,421	Bone fragments

Table D.83.

Faunal Material by Stratigraphic Unit, TLM 048

Unit		Description
7a Associated with Feature 1	1	Left tibia medial shaft fragment, burned, caribou (Rangifer tarandus)
	1	Radius shaft fragment, burned, probably caribou (Rangifer tarandus)
	1	Possible cuboid fragment, calcined, caribou (Rangifer tarandus)
	1	Astragalus fragment, calcined, probably caribou (Rangifer tarandus)
	2	Distal metapodial (hindlimb) fragments, calcined, probably caribou (Rangifer tarandus)
	3	Distal metapodial fragments, calcined, caribou (Rangifer tarandus)
	1	Sesamoid, burned, probably caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, burned, caribou (Rangifer tarandus)
	6	Distal fragments proximal phalange, burned and calcined, caribou (Rangifer tarandus)
	4	Proximal fragments medial phalanges, burned and calcined, caribou (Rangifer tarandus)
	ca. 1,400	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal

Table D.84.

Artifact Summary by Stratigraphic Unit, TLM 048

Unit		Description
1/2 Contact between the organic mat and organic silt	1	Thermally altered rock
4/5 Contact between Watana and Oshetna tephras	1 2	Argillite flake Chert flakes
5 Oshetna tephra	1	Argillite biface (UA80-155-1)
5/6 Contact between Oshetna tephra and Glacial drift	6 3 1	Argillite flakes Rhyolite flakes Argillite microblade fragment (UA81-278-3)
7a and 7b Mixed cultural ash and organics	6 1 1 315+ 2	Chert flakes Basalt modified flake (UA81-278-26) Chert flake core (UA81-278-13) Thermally altered rocks Rock fragments

AHRS Number TLM 049; Accession Number UA80-156

Area:	East of Oshetna River Mouth
Site Map:	Figure D.59
Survey Locale 48:	Figure E.126
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site, situated approximately 732 m asl (2400 feet), is located south of the Susitna River and east of the mouth of the Oshetna River. The site occupies the pointed summit of a discrete knoll located on a north-south trending continuous ridge. This knoll is a prominent feature on the crest of the ridge and is separated from the higher ridge crest to the south by a slightly lower saddle. In all other directions the knoll is higher than the surrounding terrain and affords a panoramic view. To the north of the site the knoll slopes gradually down to a small, flat bench approximately 8 m below the summit and then drops off steeply to a northeast-southwest trending terrace approximately 30 m below the elevation of the site. The Susitna River, flowing in a serpentine course, is northwest of the site. The confluence of the Oshetna River with the Susitna River is not visible from the site, although sections of both rivers are in view. The site overlooks a broad alluvial terrace to the west, north, and east which is approximately 15 m above the Susitna River and approximately 45-60 m below the site. Much of this alluvial terrace is relatively flat and poorly drained. Two lakes are located on the terrace west of the site. The northernmost and smaller of the lakes, approximately 3 ha in size, is west of the site and in view. The southernmost lake, an equal distance southwest of the site, is not visible. These two lakes, the Susitna River, and Oshetna River are easily accessible from the site. Other large lakes lie 1-2 km south of the site at a higher elevation and would also be accessible by ascending the ridge upon which the site is located. Much of the surface of the knoll in the vicinity of the site is deflated with numerous small blowouts occurring on the southwest

slope. Vegetation at the summit consists of grass, fireweed, moss, and lichens with willow, alder, and dwarf birch occurring on the slopes below the site. Scattered white and black spruce are also present, increasing in density with a decrease in elevation.

Testing:

Cultural material was observed on the surface and in subsurface tests at this site (Table D.85). Four test pits were excavated on the knoll, two of which were placed at the highest elevation and two on the relatively level bench immediately to the north. Only one of these tests (test pit 1) produced cultural material. A single black basalt flake was found in test pit 1 between the surface and 5 cmbs in the humus layer below which glacial drift was encountered. A snowshoe hare (Lepus americanus) left mandible fragment was discovered between the surface and 5 cmbs in the humus at test pit 2. Two additional flakes were noted, but not collected, in a blowout on a narrow portion of the ridge top approximately 500 m south of the site datum. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.85.

Artifact Summary, TLM 049

Provenience		Description
Lithic Material		
Surface:	2	Flakes (uncollected)
Subsurface:		
Test Pit 1	1	Basalt flake
Faunal Material		
Subsurface:		
Test Pit 2	1	Left mandible fragment with teeth, unburned, snowshoe hare (*Lepus americanus*)

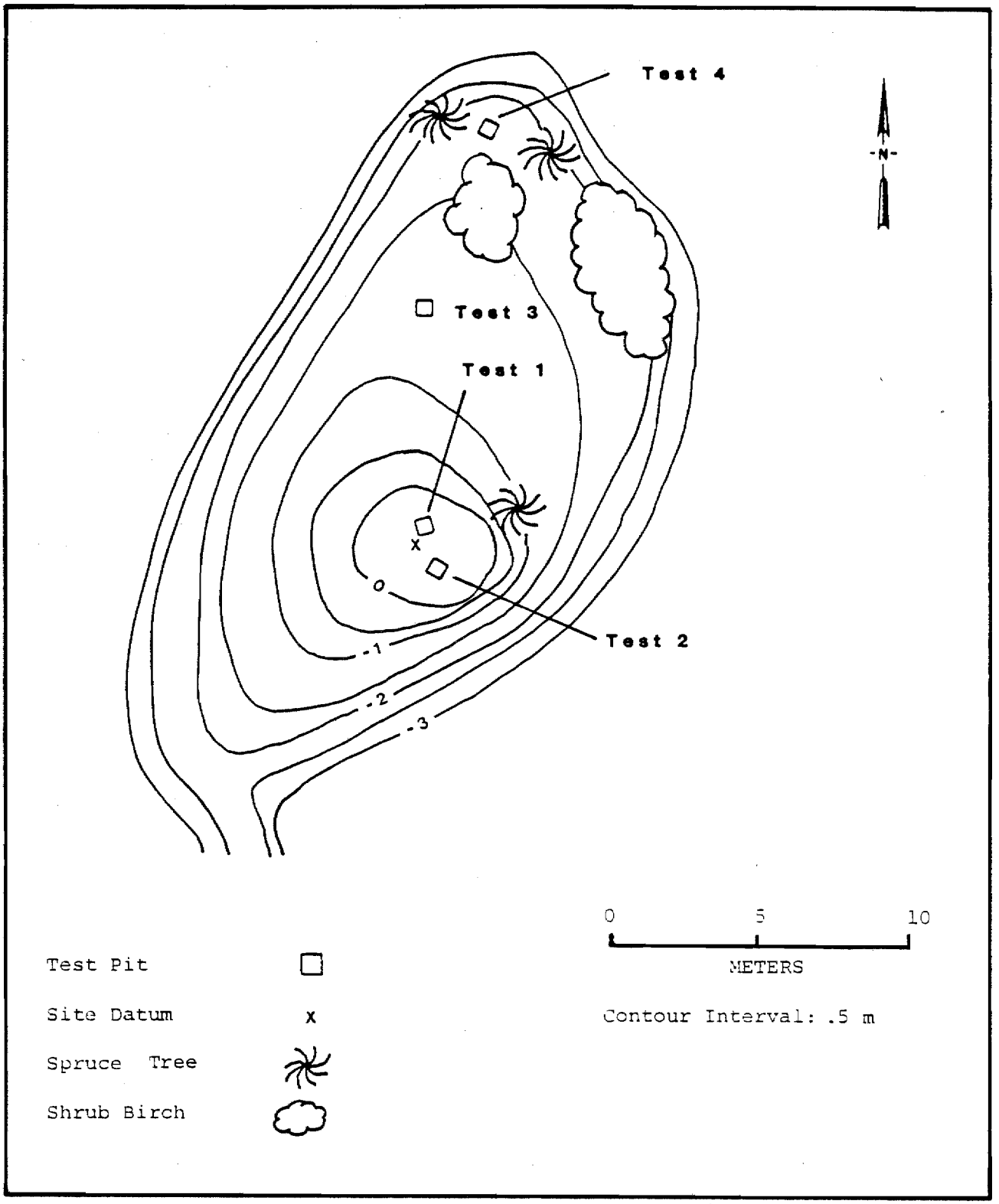

Figure D.59. Site Map, TLM 049

AHRS Number TLM 050; Accession Numbers UA80-157, UA81-299

Area:	Southeast of Watana Creek Mouth
Site Map:	Figure D.60
Survey Locale 29a:	Figure E.106
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located at 498 m asl (altimeter: 1635 feet) near the mouth of an unnamed creek which joins the Susitna River from the northeast, upriver from the mouth of Watana Creek. Situated on a small alluvial bench on the east bank of the 4 m wide creek, the site is upstream from the mouth of the creek and east of the creek margin. This small bench, is the only relatively flat area in an otherwise irregular ground surface. The bench is approximately 2 m above the creek and 4 m above the Susitna River. The site is in an area of low topographic relief which slopes steeply upward to the northeast toward a high plateau where a large number of sites have been identified. A ridge crest ascends to the west-northwest from the immediate vicinity of the site, and appears to be the easiest access route between the river and the higher terrain to the northeast. The creek near the site is fast and shallow and emerges from a narrow bedrock canyon containing cascades and falls upstream from the site. The view is limited to the immediate vicinity of the site and encompasses the creek and the opposite bank for a distance of 30-40 m. The northern bank of the Susitna River is visible to the southwest, although the view is largely obstructed by trees. Even with less dense vegetation the view would be restricted by topography to less than 100 m except to the southwest across the Susitna River which is approximately 200 m wide at this location and contains numerous forested islands. Vegetation is dense in the immediate vicinity of the site and consists of large white spruce, birch, and alder with lowbush and highbush cranberry, wild rose, Labrador tea, blueberry, equisetum, and various grasses. Surrounding vegetation is

similar but includes cottonwood and willow along the bank of the Susitna River and greater concentrations of white and black spruce to the southeast toward the river.

Testing:

No cultural material was observed on the surface at this site, however, shovel test 1 revealed thermally altered rock approximately 10 cmbs associated with burned bone and charcoal. This shovel test was expanded into test pit 1 which presented a concentration of charcoal, burned bone, and thermally altered rock 14-30 cmbs, between the humus and a yellow sand, and represented two hearth features. Two additional test pits (test pits 2 and 3) excavated to the northeast and southwest of test pit 1 did not reveal additional cultural material.

Systematic testing of TLM 050 included the excavation of six 1 x 1 m test squares and five shovel tests. Four of the test squares were concentrated in the immediate vicinity of test pit 1 which produced cultural material from two hearth features during survey testing. These test squares were excavated in an attempt to define the apparent hearth features, clarify their relationship, and determine the site size. The two additional test squares and five shovel tests were placed to help define the southern extent of the site.

A grid shovel testing expansion program was undertaken to assist in determining site size and the distributions of cultural materials. Twenty grid shovel tests were excavated, but none of them contained cultural materials.

Discussion:

During systematic testing, cultural material was recovered from all six test squares from what appear to be two occupational horizons at the site. Lithic material, faunal material, and thermally altered rock were recovered from these test squares (Tables D.87, D.88, and D.89). The upper component relates to the hearth features recorded during survey

testing, while the lower component is comprised of lithics only. The two northernmost shovel tests, also excavated during systematic testing, produced three thermally altered rock fragments but no other cultural material.

Stratigraphy throughout the site consisted of approximately 55 cm of fluvial deposits overlying glacial drift (Figure D.61; Table D.86). Eight major stratigraphic units were recognized. The upper organic mat with roots and decaying wood (unit 1) overlies a humic A horizon consisting of finely divided organics mixed with silt and sand (unit 2). Unit 2 contained cultural remains, which were assigned to component 1. Unit 3 consisted of sand and fine grain gravel probably resulting from overbank deposits from flooding of the Susitna River. This unit was continuous throughout the site. Underlying unit 3 was a very dark brown silt and sand deposit (unit 4) which contained lighter colored silt and sand lenses. Unit 4 contained cultural remains, which were assigned to component 2. Unit 5 consisted of a mixed silt and tephra deposit which exhibited a distinctive E-B soil horizon indicating a prolonged period of weathering. The upper part of this unit is reworked and mixed, as evidenced by small sand lenses found within it. Below unit 5 a silty loam (unit 6) overlays another sand and fine to coarse gravel deposit (unit 7) interpreted as overbank flooding deposits from the nearby creek west of the site. Below this, glacial drift (unit 8) was encountered consisting of unsorted, coarse sand, pebbles, and cobbles. The site appears to represent two periods of occupation, on the basis of their stratigraphic positioning in units 2 and 4.

Upper Component: The upper component was first encountered during survey testing, when two hearths were revealed. Hearth 1 occurs between 13 and 15 cmbs, and is located between the humus and the light brown silt. A radiocarbon determination of 280 ± 110 years: A.D. 1670 (DIC-1905) was obtained on a charcoal sample (UA80-157-3) from this hearth collected between 18 and 27 cmbs and above the light brown silt. Hearth 2, lying at a depth of 16-30 cmbs, is located between the light brown silt and a culturally sterile yellow sand. A concentration of burned bone, charcoal, and thermally altered rock is associated with

this hearth. Another charcoal sample (UA80-157-1) collected from hearth 2 between 28 and 35 cmbs was considered too small, after cleaning, to give a reliable date, but was run and produced a date of 280 ± 245 years: A.D. 1670 (DIC-1904).

The presence of two hearths was not recognized until the north wall of the test was prepared for a soil profile and consequently part of the faunal material from the two hearths was mixed. Test pit 1 was then extended 17 cm west and additional faunal material and charcoal were collected. Test pit 1 produced 1 cranial fragment, 1 rib fragment, 2 carpal/tarsal fragments, 2 caribou (Rangifer tarandus) phalanges, 1 caribou sesamoid, 1 caribou metapodial fragment, 1 bird tarsometatarsus fragment, and ca. 210 long bone and unidentifiable bone fragments. The majority of these faunal remains represent medium-large mammals. One of the bone fragments (Lot UA80-157-7) recovered between 17 and 30 cmbs exhibits a distinct cut mark. Other than 34 thermally altered rock fragments, no lithic material of cultural origin was found in test pit 1.

Cultural material associated with the upper component was recovered from the humic A horizon (unit 2) in five test squares. It is not known whether the dense concentration of charcoal, lithics, and faunal material recovered from these squares represents an extension of the hearths recorded during survey testing or an additional feature. Approximately 275 calcined or heavily burned and two unburned long bone fragments associated with charcoal and thermally altered rock were too fragmentary for identification (Table D.88). These bone fragments were recovered from the three adjacent test squares (N100/E102, N99/E101, and N98/E102). The majority of the calcined faunal remains represent medium-large mammals, which is also true for the larger bone fragments recovered during the survey testing.

Lithic artifacts associated with this component were excavated from a single test square (N96/E100) 3 m southwest of the main concentration. Six waste flakes of white chalcedony, chert, and basalt were recovered from unit 2 (Tables D.89). None of the flakes exhibit cortex. The

flakes appear to be products of pressure retouch resulting from resharpening of tools rather than debitage from primary tool manufacture.

Lower Component:: The lower component is separated from the upper component by a sand deposit (unit 3) which does contain some cultural material. Three bone fragments were found in unit 3 in test square N96/E100, but were interpreted as being intrusive from the unit above. A single gray green banded chert flake was also recovered from unit 3 in test square N99/E101. Because the chert flake is similar in raw material to lithic artifacts primarily associated with unit 4, it is also considered to be intrusive.

Cultural material recovered from unit 4, a dark brown silt and sand deposit underlying the well-sorted sand in unit 3, consists of lithic material and two bone fragments. These artifacts were excavated from three test squares (N99/E101, N95/E95, and N99/E103). Two large waste flakes of gray green banded chert similar to the flake from unit 3 and a large unifacially retouched flake of this same raw material (UA81-229-2) were recovered in test square N99/E101. This retouched flake has continuous dorsal retouch along the distal margin. It is large enough to fit easily in the hand and may have been used without hafting. Two yellow brown chert waste flakes were also recovered from unit 4 in tests N95/E95 and N99/E103. Two unburned long bone fragments of medium-large mammal were found in unit 3. In addition, two thermally altered rock fragments were recovered from this unit in test square N95/E95.

Evaluation:

TLM 050 appears to be a temporary campsite which shows evidence of two periods of occupation, the most recent of which was in late prehistoric or early historic times. The sheltered location of the site and the close proximity to water would make this location an attractive campsite. The lack of extensive debitage from tool manufacture and resharpening and the presence of only one tool suggests that TLM 050 was not occupied for a very long time during the two periods of occupation.

The lower occupation of the site is not dated by radiocarbon but occurs in a unit which was interpreted in the field as a mixed silt/tephra deposit (unit 4) overlying a yellowish brown tephra which shows evidence of considerable weathering (unit 5). If unit 5 is interpreted as Watana tephra and the tephra in unit 4 is Devil tephra, then the lower component would not be earlier than, the minimum limiting date on the Watana tephra.

Topography restricts the extent of the site to the north, west, and east. If the shovel tests to the south of the site are representative of the artifact distribution, the site is probably limited to the immediate vicinity of the area excavated during survey and systematic testing. The upper component is strikingly similar to the TLM 022 and TLM 043, and several sites located west of Watana Creek, which coupled with data from TLM 050 will greatly enhance our understanding of late prehistoric Athapaskan subsistence cycle in the upper Susitna River area. The lower component could provide critical data pertinent to understanding cultural developments and transitions prior to or during the early phases of late prehistoric Athapaskan times. Observed site size based on the distribution of artifacts is 51 square meters (Table D.2).

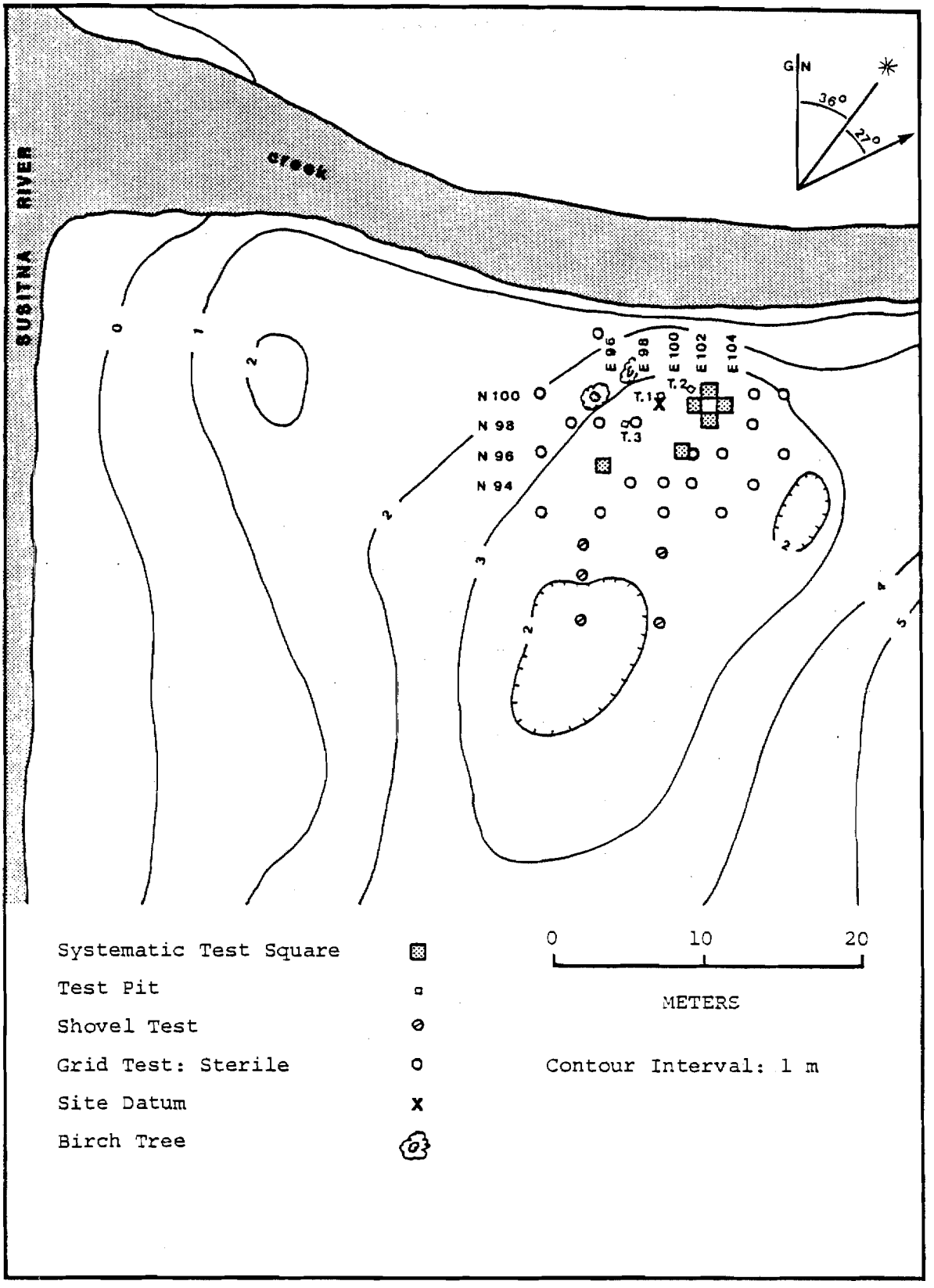

Figure D.60. Site Map, TLM 050

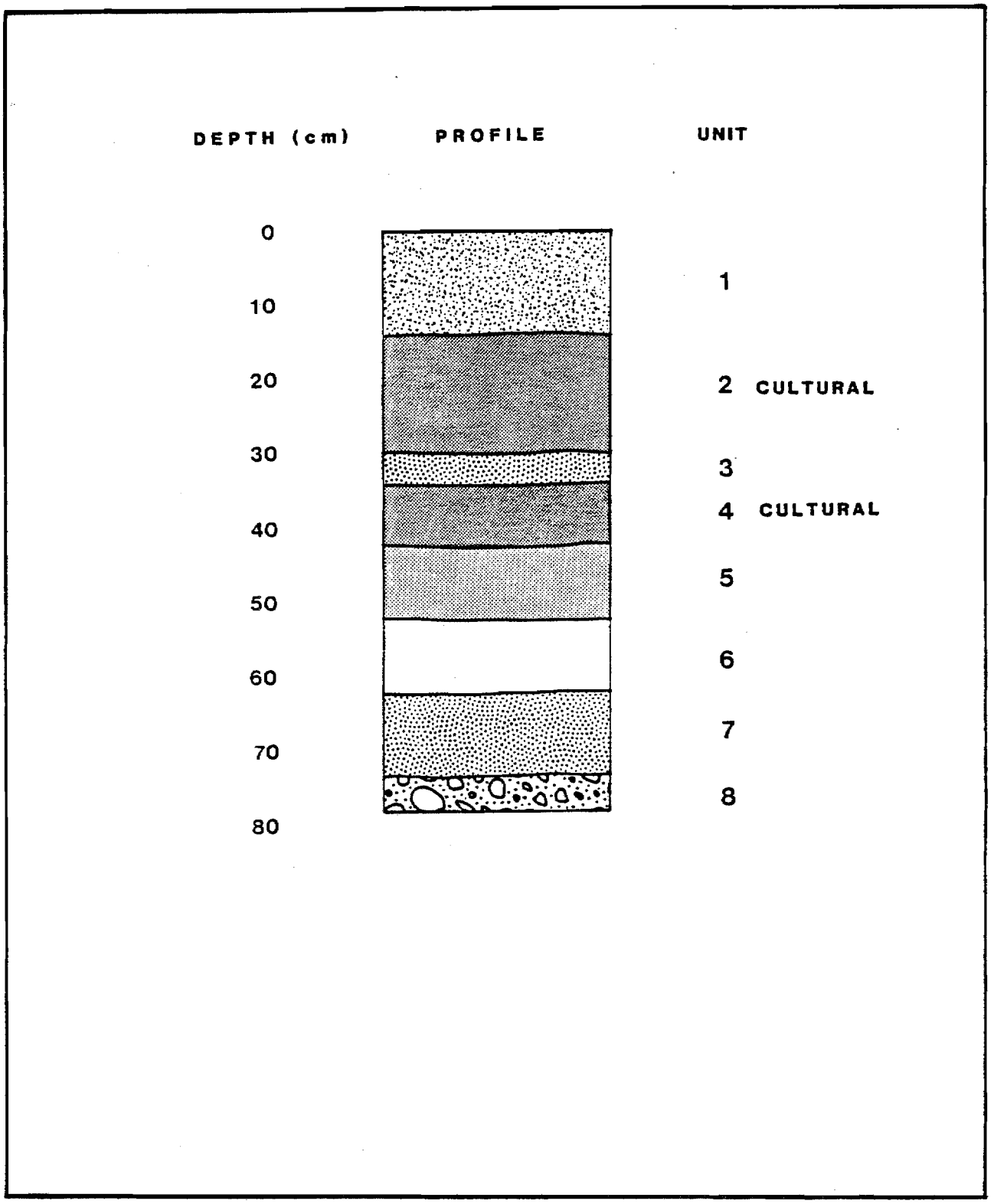

Figure D.61. Composite Profile, TLM 050

Table D.86.

Soil/Sediment Description for Composite Profile, TLM 050

Unit	Description
1	Organic mat, roots up to 20 cm in diameter. Lower boundary sharp.
2	Organic silt and silt; very dark brown (10YR 3/2). Varies in thickness from 15-20 cm, occurs over entire site. Dark brown and grayish brown lenses present along with decayed wood. Lower boundary abrupt. Cultural material present.
3	Sand; dark grayish brown (10YR 4/2). Poorly sorted, varies from medium to very coarse throughout site. Lower boundary abrupt.
4	Silt; very dark brown (10YR 3/2). Varies in thickness from 10-15 cm and is present over entire site. Dark brown and grayish brown color variation in discontinuous lenses. Possibly mixed with tephra. Lower boundary clear but involuted. Cultural material present.
5	Silt; yellowish brown (10YR 5/3). Unit varies in thickness from 8-14 cm. Possibly a tephra. Occurs throughout entire site. Lower boundary abrupt.

Table D.86. (Continued)

Unit	Description
6	Silty loam; olive gray (5Y 4/2). Sand and clay percentage varies. Thin dark brown silt subunit occurs discontinuously at upper contact. Lower contact clear and involuted or mixed with unit 7.
7	Sandy loam; olive gray (5Y 4/2). Approximately 10% cobbles. Lower boundary diffuse.
8	Poorly sorted silty coarse sand with pebbles, cobbles, and boulders; very dark brown.

Table D.87.

Artifact Summary, TLM 050

Tools	
1	Modified flake
	1 Chert (UA81-229-2)
Lithic Material	
1	Basalt flake
2	Chalcedony flakes
8	Chert flakes
147	Thermally altered rocks
1	Rock fragment
159	
Faunal Material	
ca. 499	Bones and bone fragments

Table 88.

Faunal Material by Stratigraphic Unit, TLM 050

Unit		Description
2 Organic silt	1	Possible rib fragment, calcined, medium-large mammal
	1	Long bone shaft fragment, unburned, medium-large mammal
	1	Flatbone fragment, unburned, medium-large mammal
	230	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal
	45	Unidentifible bone fragments, calcined, mammal
3 Sand	2	Long bone fragments, unburned, medium-large mammal
Unknown Hearths 1 and 2 (Survey testing	1	Left proximal metapodial (hindlimb) fragment, burned, caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, calcined, cut marks, caribou (Rangifer tarandus)
	1	Proximal fragment medial phalanx, calcined, caribou (Rangifer tarandus)
	2	Carpal/tarsal fragments, burned, large mammal
	1	Cranial fragment, unburned, medium-large mammal

Table D.88. (Continued)

Unit		Description
	1	Rib fragment, unburned, medium-large mammal
	1	Distal tarsometatarsus fragment, calcined, bird
	210	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal
	1	Unidentifiable bone fragment, calcined, small mammal

Table D.89.

Artifact Summary by Stratigraphic Unit, TLM 050

Unit		Description
2	1	Basalt flake
Organic silt	2	Chalcedony flakes
	3	Chert flakes
	109	Thermally altered rocks
	1	Rock fragment
3	1	Chert flake
Sand		
4	4	Chert flakes
Silt	1	Chert modified flake (UA81-229-2)
	2	Thermally altered rocks
Unknown	36	Thermally altered rocks
(Survey testing)		

AHRS Number TLM 051; Accession Number UA80-158

Area:	Northeast of Tsusena Creek Mouth
Site Map:	Figure D.62
Survey Locale 151:	Figure E.245
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located east of Tsusena Creek and northeast of the confluence of Tsusena Creek with the Susitna River. Located at an elevation of ca. 701 m asl (2300 feet) on a 50 x 15 m bench which forms the northern extension of the summit of a knoll, the site lies at the northwest corner of the bench 2-3 m lower than the point of highest relief on the knoll. This knoll, one of the highest in the vicinity, is located in kettle and kame topography where numerous knolls and ridges and approximately 17 lakes and ponds are located within a 1 km radius of the site. The site location provides a view of many of the kettle lakes to the south, east, and north; however, the principal view is to the south overlooking a 7-ha lake with a long finger of the lake extending to the northwest. The lake margin, located south of the site and approximately 30 m lower in elevation at the closest point, is entirely in view and easily accessible from the site. Tsusena Creek, approximately 90 m lower in elevation, is not visible from the site. Much of the Tsusena Creek canyon to the west is deeply incised vertical bedrock with numerous cascades and a major waterfall. Access to the creek, while possible, would require descending slopes of more than 30 degrees. The site appears to be oriented more toward the surrounding lakes which are easily accessible. TLM 015, identified by Bacon (1978b), is located in the same topographic context, to the south on a similar but slightly lower knoll. The ground surface at site TLM 051 is smooth and sloping with vegetation consisting primarily of dense shrub birch with open clearings where ground cover consists of lichen, moss, and low heath species. Scattered spruce are present on the knoll and

increase in density in lower elevations where alder thickets are present.

Testing:

No cultural material was observed on the surface at the site; however, a shovel test revealed four argillite flakes approximately 20 cmbs, one of which (UA80-158-1) was modified (Table D.90). This shovel test was expanded into test pit 1 (Figure D.62) which produced an additional argillite flake 17 cmbs in a possible paleosol lens contained within a matrix of yellow brown sand and gravel which was interpreted as glacial drift. All of the flakes recovered from the initial shovel test and test pit 1 show a light to dark brown staining on one side. A possible volcanic ash layer is present in test pit 1 between 5 and 10 cmbs. Four additional test pits were excavated at the site but did not reveal additional cultural material. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.90.

Artifact Summary, TLM 051

Provenience		Description
Lithic Material		
Subsurface:		
Test pit 1	4	Argillite flakes
	1	Argillite modified flake (UA80-158-1)

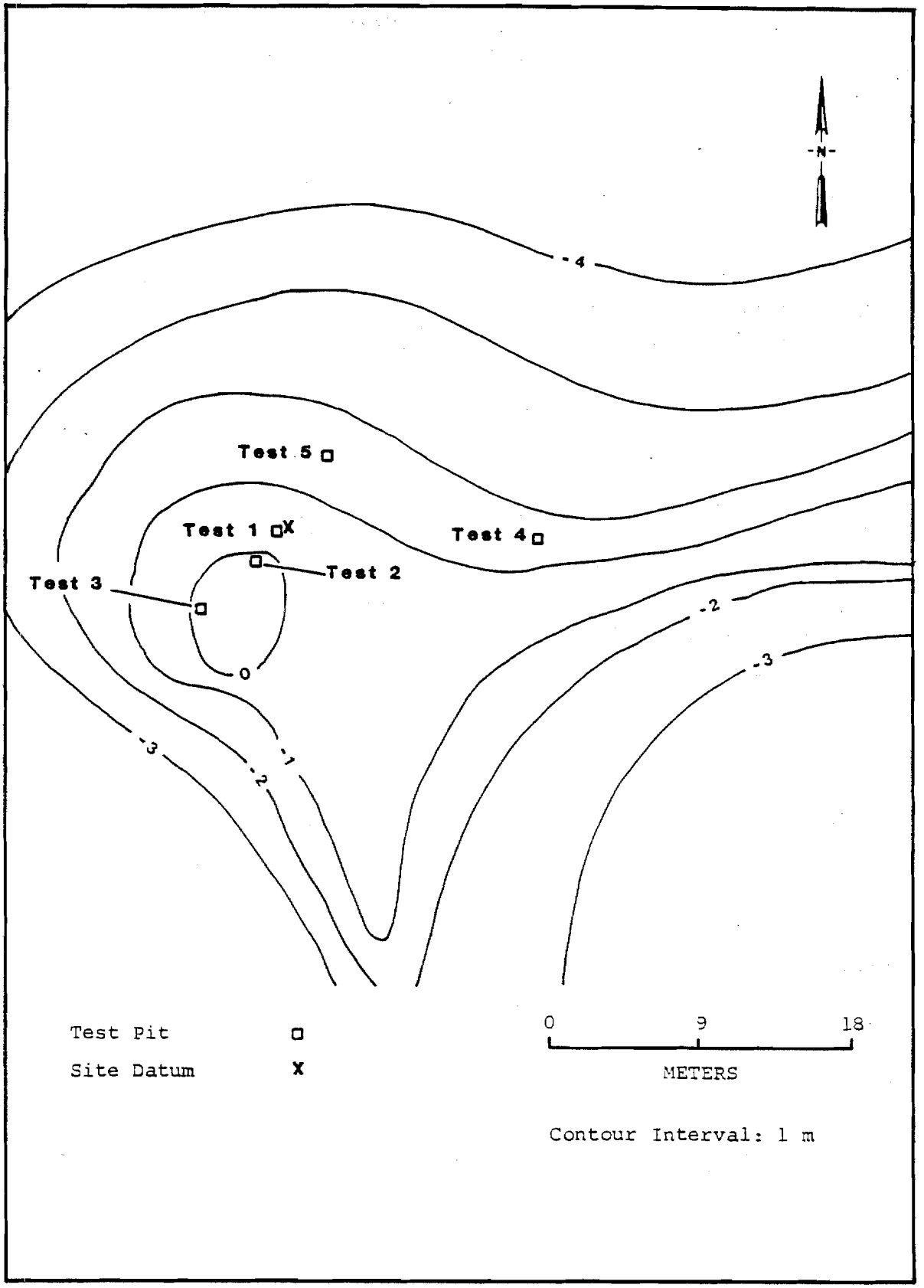

Figure D.62. Site Map, TLM 051

AHRS Number TLM 052; Accession Number UA80-159

Area:	Northwest of Jay Creek Mouth
Site Map:	Locus A, Figure D.63
Survey Locale 51:	Figure E.129
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site, consisting of two loci (A and B), is located on a southeast-northwest trending kame at an elevation of ca. 884 m asl (2900 feet) north of the Susitna River and northwest of the mouth of Jay Creek. This kame forms a ridge, the highest of numerous deflated ridges and knolls characteristic of the ice-stagnation terrain in this vicinity and affords an excellent vantage point overlooking lower areas of tundra. The ridge slopes gradually in all directions from the site location, except to the southwest along the ridge crest, where it is relatively level. The view from the ridge crest is panoramic ranging in distance from approximately 5 km to the south to less than 2 km to the north and west. Both site loci are located at the northeastern end of this discrete ridge and overlook the largest kettle lake in the area, an 8-ha lake, locally known as Laha Lake, southeast of the site and ca. 91 m lower in elevation. To the east of the site, the lake's outlet stream is visible. This stream drains the higher terrain to the north. A 3-ha lake, not visible from the site, is located to the west. Both of these lakes and the stream drainage are easily accessible from the site, as is all of the surrounding terrain within 5 km. Locus A is situated at the edge of the deflated crest of the ridge on the southern slope and locus B is located 138 m to the northeast on the rounded crest of the ridge. Most of the crest of the ridge is deflated and consequently vegetation is sparse. What vegetation there is includes dwarf willow, lowbush cranberry, moss, and lichen. A few scattered spruce grow on the ridge and increase in density in all directions as elevation decreases. The surrounding lower terrain is poorly drained and consists primarily

of tundra and low brush with areas of marsh and grass in the vicinity of the lake margins.

Testing:

Both surface and subsurface cultural materials were found at the site including a surface lithic scatter (locus A) exposed on the south slope of the ridge crest at the edge of a large deflated area, and two isolated surface artifacts (locus B) observed approximately 130-150 m northeast of locus A on the rounded and largely deflated crest of the northeastern end of the ridge (Figure D.63). Artifacts collected from this site include 1 point base, 1 preform, 1 biface fragment, and 1 chalcedony pebble fragment (Table D.91). Thirty-four additional flakes were observed on the surface but left in situ.

Locus A: Surface artifacts were observed at the southern edge of the deflated ridge crest during surface survey. The exposed portion of the flake scatter measures approximately 5 x 15 m (Figure D.63). Artifacts surface collected from this scatter include a straight, edge-ground black chert lanceolate point base (UA80-159-1; Figure D.376e), and a similiar but smaller fragment of a gray argillite biface exhibiting the same characteristics (UA80-159-4; Figure D.376f). In addition, four argillite and three basalt flakes were surface collected. Approximately 30 black basalt and three argillite flakes were left in situ. Test pit 1, excavated immediately southwest of the largest concentration of flakes, produced a single black basalt flake 7 cmbs at the contact between the humus and a gray leached silt (possibly Devil tephra). No other cultural material was revealed by test pit 1.

Locus B: Two isolated artifacts located on the surface outside of the immediate vicinity of locus A comprise the cultural material observed at locus B. The rounded, edge-ground base of a gray basalt preform fragment (UA80-159-12; Figure D.376g) was surface collected 138.6 m northeast of the datum at locus A (Figure D.63). A datum for locus B was established at this location. The only other cultural material observed on the surface at locus B was a single black basalt flake

located 33.8 m southeast of the locus B datum. No subsurface testing was conducted at locus B. Estimated site size based on the distribution of artifacts is 8,000 square meters (Table D.2).

Table D.91.

Artifact Summary, TLM 052

Provenience		Description
Lithic Material		
Surface:		
Locus A	4	Argillite flakes
	3	Basalt flakes
	1	Argillite biface fragment (UA80-159-4)
	1	Chert lanceolate point base (UA80-159-1)
	1	Chalcedony pebble
	3	Argillite flakes (uncollected)
	30	Basalt flakes (uncollected)
Locus B	1	Basalt preform fragment (UA80-159-12)
	1	Basalt flake (uncollected)
Subsurface:		
Locus A		
Test Pit 1	1	Basalt flake

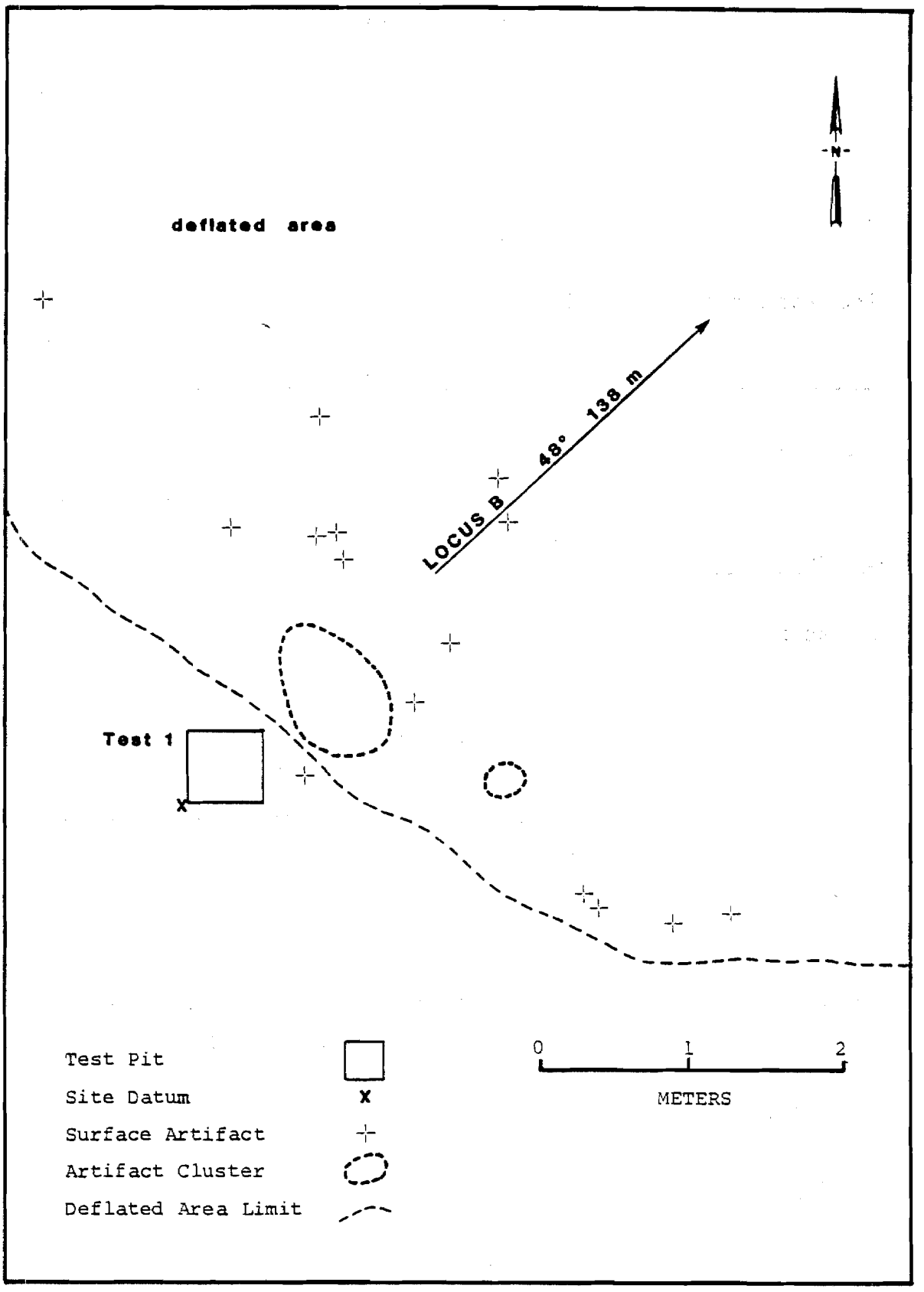

Figure D.63 Site Map, TLM 052 Locus A

AHRS Number TLM 053; Accession Number UA80-160

Area:	North-northeast of Jay Creek Mouth
Site Map:	Locus A, Figure D.64
Survey Locale 51:	Figure E.130
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site, consisting of two loci (A and B), is located north-northeast of the confluence of Jay Creek with the Susitna River and west of Jay Creek. Situated on a 150-200 m long, discrete, northeast-southwest trending ridge line at an elevation of ca. 975 m asl (3200 feet), the site is located in glacially scoured terrain characterized by numerous deflated ridges and knolls which overlook poorly drained areas of tundra and high brush. The Susitna River valley is visible approximately 3 km to the south, although the river is out of view. The two site loci are situated approximately 240 m apart on the opposite ends of the ridge.

Locus A: Locus A, at the northeastern end of the ridge, is situated at the point of highest relief on the ridge which slopes gradually upward from the southwest to the northeast. The northeastern end of the ridge terminates abruptly and locus A is situated on a relatively flat 20 x 25 m deflated area just before the ridge slopes steeply downward and continues to the northeast at a lower elevation. The principal view from the site is to the east encompassing the deeply incised canyon, downcut by Jay Creek and portions of the creek itself to the south-southeast. Over half the ground surface is deflated in the vicinity of locus A and what vegetation there is consists primarily of dwarf and shrub birch, lowbush cranberry, crowberry, bearberry, moss, and lichen. Scattered black spruce and alder are present on the slopes of the ridges and, along with dense shrub birch and tundra, form the principal vegetation at lower elevation.

Locus B: Locus B, situated at the southwestern end of the ridge, is on the slope slightly below the end of the relatively level crest of the ridge. Like locus A, this part of the ridge is deflated and consists almost entirely of exposed gravel and fractured rock. Locus B overlooks a broad expanse of tundra to the southwest and the view encompasses an 8 ha lake, locally known as Laha Lake, located southwest of the site. The larger of two small lakes immediately east of Laha Lake is also visible from locus B. Vegetation in the vicinity of locus B is similar to that of locus A.

Testing:

Surface and subsurface cultural material was located at the site; all observed surface artifacts were collected.

Locus A: Locus A consists of a surface lithic scatter covering an area of approximately 6 x 8 m (Figure D.64). Artifacts surface collected from locus A include 2 modified chert flakes (UA80-160-4, 6), 1 quartzite modified flake (UA80-160-1), and 2 unmodified flakes (Table D.92). Test pit 1, excavated at the west edge of the deflated area in which the artifacts are exposed, produced a single light brown quartzite flake 10 cmbs in a dark gray leached silt (possible Devil tephra). Glacial drift was encountered in test pit 1 between 10 and 19 cmbs.

Locus B: A single gray rhyolite flake (UA80-160-2) modified on the dorsal surface was surface collected approximately 240 m southwest of locus A (Figure D.64; Table D.92). Intensive surface survey in the vicinity of locus B and along the ridge crest between the two loci did not reveal any additional cultural material. Almost the entire area in the vicinity of locus B is deflated and no mapping or subsurface testing was initiated. At locus A, estimated site size based on the distribution of artifacts is 48 square meters. At locus B, estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.92.

Artifact Summary, TLM 053

Provenience		Description
Lithic Material		
Surface:		
Locus A	1	Basalt flake
	1	Quartzite flake
	2	Chert modified flakes (UA80-160-4, 6)
	1	Quartzite modified flake (UA80-160-1)
Locus B	1	Rhyolite modified flake (UA80-160-2)
Subsurface:		
Locus A		
Test Pit 1	1	Quartzite flake

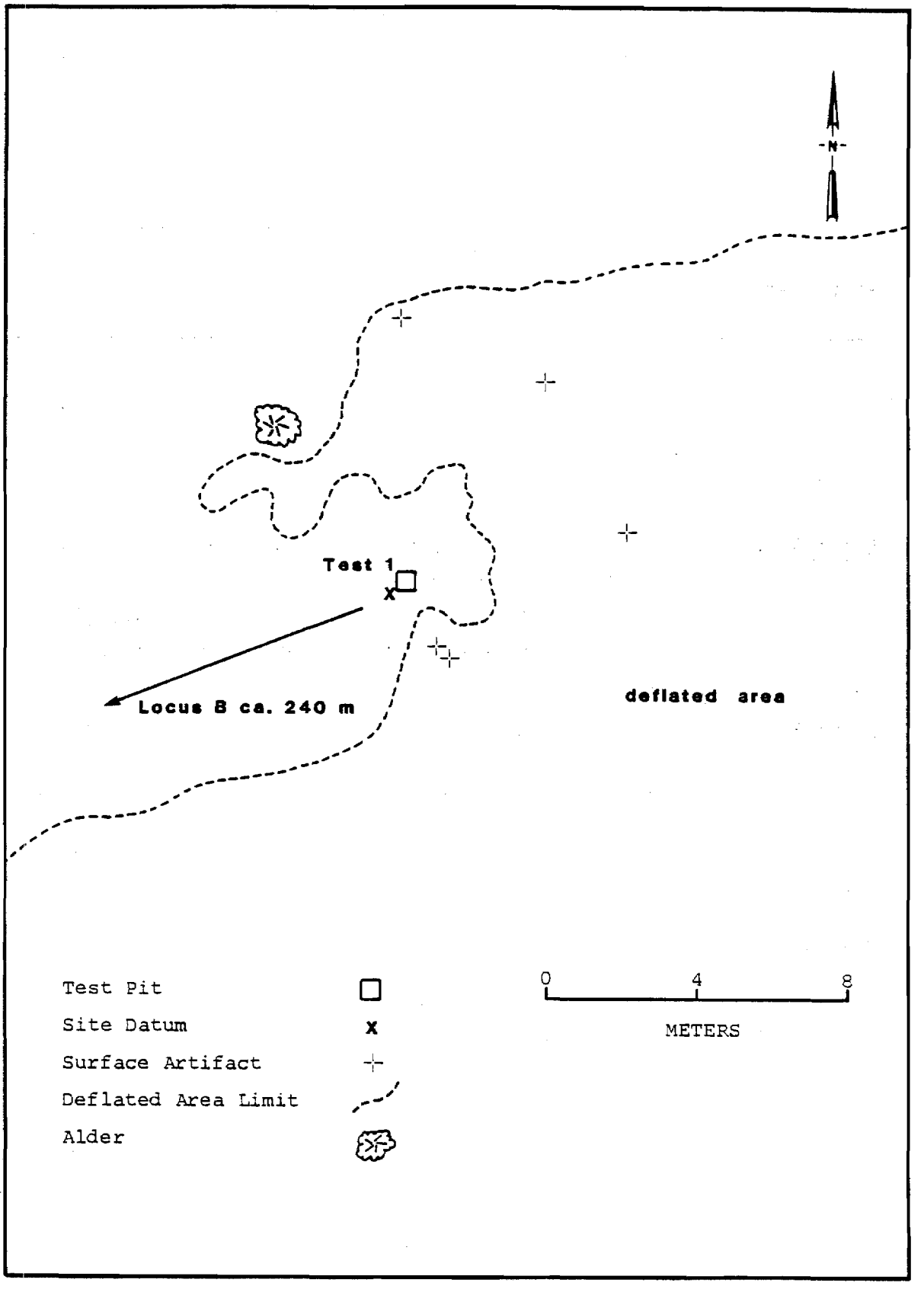

Figure D.64. Site Map, TLM 053 Locus A

AHRS Number TLM 054; Accession Number UA81-245

Area:	North of Tsusena Butte
Site Map:	Figure D.65
Survey Locale:	Proposed Borrow C, Figure E.276
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located on a kame east of Tsusena Creek. Although the site is 15-20 m above the level of Tsusena Creek at an elevation of 751 m asl (altimeter: 2465 feet), the location affords limited visibility of Tsusena Creek and the intervening series of kames and eskers to the west. A small clear water stream passes south of the site and in the past may have eroded the landform on which the site rests. The stream drains the 1525 m asl (5000 feet) mountains to the east through a "V"-shaped valley which terminates a kilometer above the site, eventually joining Tsusena Creek to the west-southwest in the immediate vicinity of TLM 086. TLM 054 occupies the southwest quarter of the 20 x 10 m kame. The kame is oriented northeast-southwest and is distinct from the ridges and slope of the eastern valley wall. A large marsh, ca. 200 (northwest-southeast) x 40 m, is the prominent terrain feature in view, being at the western base of the kame and 10-15 m lower in elevation. In addition to the marsh, the sinuous course of the stream to the south and the gentle slopes of valley walls to the east form the principal surrounding topographic features. The absence of spruce trees would increase the visibility from the site to a kilometer to the north and south as well as along the southward course of Tsusena Creek to the west. In addition to spruce, local vegetation consists of dwarf birch, Labrador tea, sphagnum moss, and lichens.

Testing:

Two dark gray chalcedony flakes were recovered from beneath the organic mat during an initial shovel test (Table D.93). The shovel test was expanded into test pit 1, resulting in the additional recovery of one small bone fragment at 5 cmbs. No cultural material was found on the surface or in a second subsurface test 5 m to the northeast. A grid shovel testing program was implemented to assist in determining the areal extent of TLM 054. Sixteen grid shovel tests were excavated, but none produced cultural remains. Observed site size based on the distribution of artifacts is 4 square meters (Table D.2).

Table D.93.

Artifact Summary, TLM 054

Provenience		Description
Lithic Material		
Subsurface:		
Test pit 1	2	Chalcedony flakes
Faunal Material		
Subsurface:		
Test pit 1	1	Unidentifiable bone fragment, calcined, large mammal

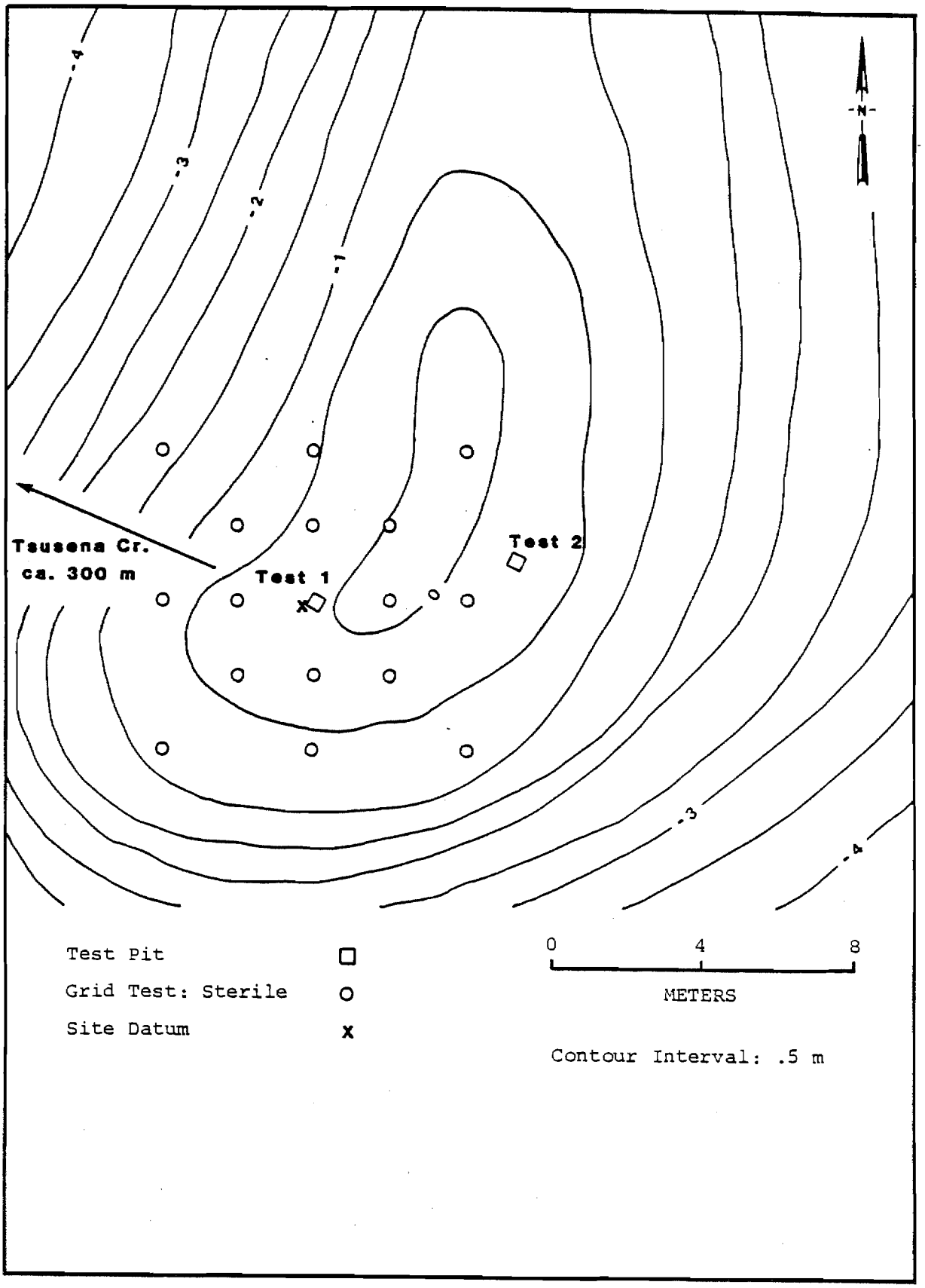

Figure D.65. Site Map, TLM 054

AHRS Number TLM 055; Accession Number UA81-246

Area:	Northwest of Tsusena Butte
Site Map:	Figure D.66
Survey Locale:	Proposed Borrow C, Figure E.277
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is located north of the northwest tip of Tsusena Butte, and west of Tsusena Creek. It lies in a north-south glacial valley of about 500 m in width, dominated by marshy terrain interspersed with ice stagnation topography. The site is situated atop a ca. 12 m circular knoll at the southern end of the valley, at an elevation of 756 m asl (altimeter: 2479 feet). This discrete knoll rises only about 2 m above the immediate surrounding terrain. The relief in the vicinity decreases in height to the east toward Tsusena Creek, and the valley wall rises in elevation to the west of the site. Site TLM 097 is northeast of TLM 055 and as it lies below the level of an intervening knoll it is not visible. Parts of Tsusena Creek are visible from the site, as is Tsusena Butte and the eastern valley wall of Tsusena Creek. Vegetation at the site consists of lichen, moss, dwarf birch, blueberry, lowbush cranberry, crowberry, and scattered spruce. The surface is uneven due to vegetation concentrations and differential soil deposition. Spruce trees are clustered in the poorly drained channels surrounding the site and on the slopes of the valley wall. The marshy plain to the east of the site is covered by muskeg.

Testing:

There are no surface indications of the site. However, a shovel test revealed a pale red rhyolite scraper (UA81-246-1; Figure D.376h) at 7 cmbs. In the subsequent test (test pit 1), four gray argillite flakes were found at 9 cmbs. An additional shovel test, dug prior to discovery of the site yielded no artifacts.

During the systematic testing of site TLM 097, TLM 055 was revisited and a single 1 x 1 m test square excavated at the site in an attempt to obtain additional diagnostic lithic material. Three very small chert flakes were the only lithic material recovered from this test square.

A grid shovel testing program was undertaken to assist in determining site size. A total of 23 shovel tests were excavated; however, none contained artifacts.

Discussion

Testing at TLM 055 involved the excavation of 1 survey shovel test, 1 test pit, 1 test square, and 23 grid shovel tests. The cultural remains recovered from this site consisted of 1 rhyolite scraper, 4 argillite flakes, 3 chert flakes, 5 thermally altered rocks, and 4 bone fragments (Tables D.95, D.96, and D.97).

Six stratigraphic units were defined at TLM 055. These units are depicted in Figure D.67 and described in Table D.94. The basal sediment is glacial drift (unit 6) which has an oxidized portion and an unoxidized portion. Above the glacial drift is the Oshetna tephra (unit 5) which may be mixed with other sediments in the grid shovel tested areas. Overlying the Oshetna drift is the Watana tephra. The lower portion of this tephra unit is unoxidized (unit 4b) while the upper portion (unit 4a) shows variable amounts of oxidation. The contact between the subunits is gradational. The Devil tephra (unit 3) caps the sequence of tephras present at this site. It is variable in color and may be discontinuous off the summit. The tephra sequence is overlain by an 02 horizon (unit 2) with abundant charcoal, especially at its lower boundary, which may indicate a paleosol development or a burning episode. The sedimentary units are capped by an organic mat (unit 1) of mosses, lichens, dwarf birch, Labrador tea, and berries. The stratigraphy encountered during systematic testing indicates some geologic mixing of the soil units underlying the Devil tephra (unit 3) as these units are discontinuous throughout the test pit.

The initial survey testing revealed a rhyolite scraper (UA81-264-1) in the lower portion of the finely divided organics (unit 2) and four argillite flakes at the contact between the finely divided organics and the Devil tephra. Systematic testing yielded three chert flakes from unit 2. Four unidentifiable burned bone fragments and five thermally altered rocks were found in association with a dense concentration of charcoal in the same finely divided organic horizon from which the previous material was collected. The grid shovel testing program did not produce any additional cultural remains. On the basis of the survey and systematic testing phases, the site appears to be single component and restricted to a very limited area in the immediate vicinity of the top of the knoll.

Evaluation:

TLM 055 is located on a knoll that is centrally located between Tsusena Creek and the sloping valley walls to the west, northwest of Tsusena Butte. The surrounding terrain is interspersed with similar knolls, valley terrace remnants, and poorly drained marshy channels and bogs. Testing at the site has revealed the presence of a single component in the lower portion of the organics which overlie the Devil tephra and the contact of these two units. The site is apparently spatially restricted to the knoll top. Estimated site size based on the distribution of artifacts is 8 square meters (Table D.2).

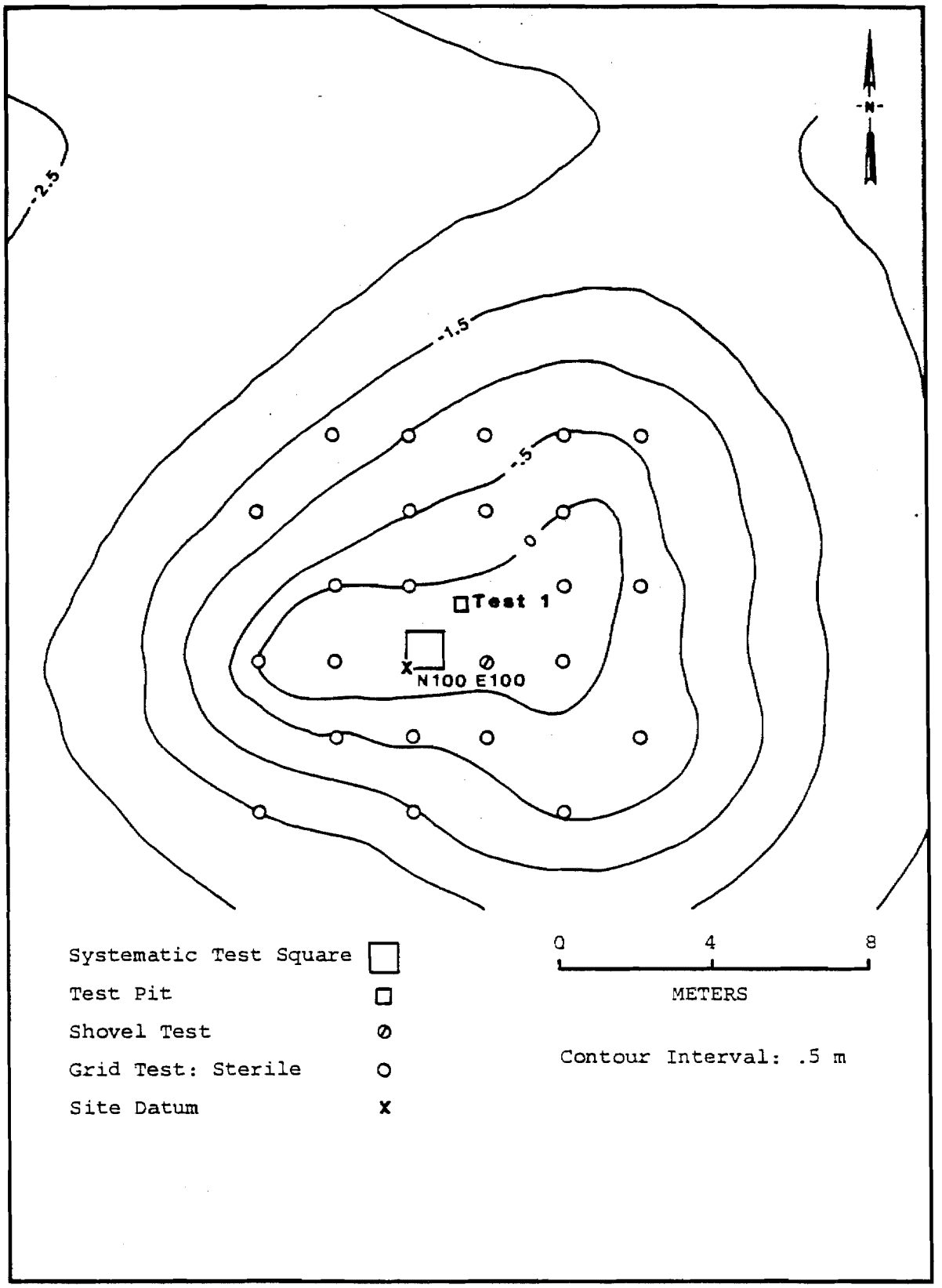

Figure D.66. Site Map, TLM 055

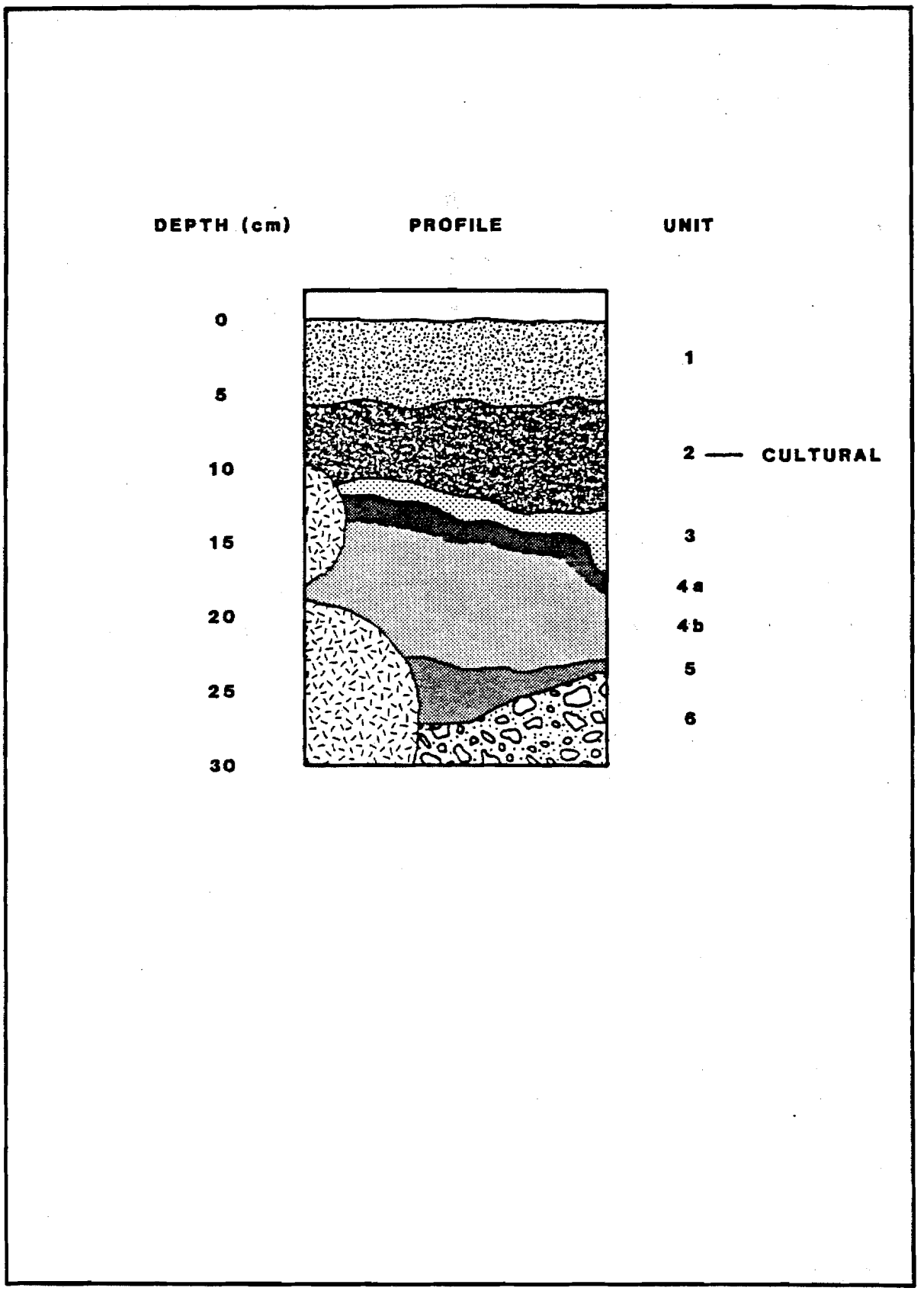

Figure D.67. Composite Profile, TLM 055

Table D.94.

Soil/Sediment Description for Composite Profile, TLM 055

Unit	Description
1	Organic root mat: dwarf birch, Labrador tea, lowbush cranberry, mosses, lichens, blueberry, crowberry, and leaf cover. Thickness varies from less than 1 cm to greater than 6 cm.
2	Finely divided organics mixed with very fine grained silt; black (10YR 2/1). Abundant charcoal flecks and pieces present with dark organics, possibly burned. Diffuse contact with unit 3. O2 horizon, possibly mixed with tephras and/or eolian deposits in lower portion of unit. Basal portion may have very high concentrations of charcoal.
3	Very fine grained silt; grayish brown (10YR 5/2), with pockets of dark brown (7.5YR 3/2). Devil tephra. Discontinuous, off knoll top.
4a	Fine silt; dark reddish brown (5YR 2.5/2). Heavily oxidized. Oxidized Watana tephra. Upper contact clean. Lower contact with unit 4b gradational. Amount of oxidation variable.
4b	Fine silt; yellowish brown (10YR 5/6). Unoxidized Watana tephra. Upper contact with 4a gradational. Lower contacts clear. Unit 4 ca. 6 cm in depth.

Table D.94. (Continued)

Unit	Description
5	Silt; brown (10YR 5/3). Oshetna tephra. Silty sand where mixed with drift (unit 6). Unit ca. 4 cm in depth.
6	Sand mixed with pebbles, cobbles, and boulders; dark brown (7.5YR 3/4) to dark reddish brown (5YR 3/3) where oxidized. Glacial drift.

Table D.95.

Artifact Summary, TLM 055

Tools	
1	Scraper
	1 Rhyolite (UA81-246-1)
Lithic Material	
4	Argillite flakes
3	Chert flakes
5	Thermally altered rocks
12	
Faunal Material	
4	Bone fragments

Table D.96.

Faunal Material by Stratigraphic Unit, TLM 055

Unit		Description
2 02 horizon	4	Unidentifiable bone fragments, burned, mammal

Table D.97.

Artifact Summary by Stratigraphic Unit, TLM 055

Unit		Description
2 02 horizon	3	Chert flakes
	1	Rhyolite scraper (UA81-246-1)
	5	Thermally altered rocks
2/3 Contact between 02 horizon and Devil tephra	4	Argillite flakes

AHRS Number TLM 056

Area:	West of Tsusena Butte
Site Map:	Figure D.68
Survey Locale:	Proposed Borrow C, Figure E.277
USGS Map:	Talkeetna Mts. D-4, Figure E.2
Site Location:	Appendix F

Setting:

The site is a cabin located on the western boundary of Borrow C, west of Tsusena Creek. The confluence of Tsusena Creek with the Susitna River lies to the south. The base of Tsusena Butte is directly east across the creek. The cabin is situated on a gently sloping terrace 4 m above Tsusena Creek at an elevation of 733 m asl (altimeter: 2404 feet), south of a 3 m high knoll. To the west of the site the slope is gentle but rolling to the base of the steep valley wall 800 m distant.

Vegetation in the area consists of occasional white and black spruce trees with an understory of grasses, moss, bearberry, Labrador tea, and dwarf birch. Thick stands of low willow border the creek.

Documentation:

The site consists of a dirt-floored, one room ($10\frac{1}{2}$ x $7\frac{1}{2}$ ft. - internal dimensions) log cabin constructed of unstripped spruce logs with moss chinking. The corner joints are saddle notched. The roof originally sloped toward the west and was supported by a center beam and the top wall logs upon which rested one layer of split logs with a sod covering. Due to the collapse of the west wall and roof, the exact slope angle could not be determined. The east wall was approximately $7\frac{1}{2}$ ft. high. Both the north and south walls were constructed with the wider end of the logs (tree base) to the east, causing the top of the walls to slant toward the west.

Openings in the cabin include a small vent hole covered with sheet metal with punched holes at the top of the north and south walls. The south wall has a ca. 2 x 4 ft. door opening. The door is missing, but hinge holes indicate that the door was hung on the east side and swung out.

Few interior furnishings were noted, however only a third of the cabin interior is visible due to the collapsed sod covered roof. A crushed sheet metal stove is in the southwest section of the cabin. Along the south end of the east wall is a built-in table with lower shelf. It appears that the rear (north) of the cabin contained some sort of raised platform now buried under the sod. One metal frying pan was noted on the floor.

General condition of the cabin is poor. The majority of the log members are extensively rotted. Although the cabin may not be salvageable, additional work could provide information on construction techniques and contents. There was no collection of cultural material at the site.

No associated outbuildings were noted. A rectangular 1.3 (east-west) x 1.8 m (north-south) depression is located southwest of the cabin. A number of recent tools were found 2 m east of the cabin under a stand of spruce trees. These included a draw knife, a double headed axe, a coil of rope, and a section of stove pipe with damper. There is a sparse scatter of metal cans near the cabin, however, no garbage dump was noted. A recent number 1 spring trap was found approximately 50 m south of the cabin. Estimated site size based on the distribution of artifacts is 225 square meters (Table D.2).

Table D.98.

Artifact Summary, TLM 056

Provenience	Description
Historic Remains	
(Uncollected)	Sheet metal frying pan
	Double headed axe
	Draw knife
	Coil of rope
	Stove pipe with damper
	Sheet metal cans
	Number 1 spring trap

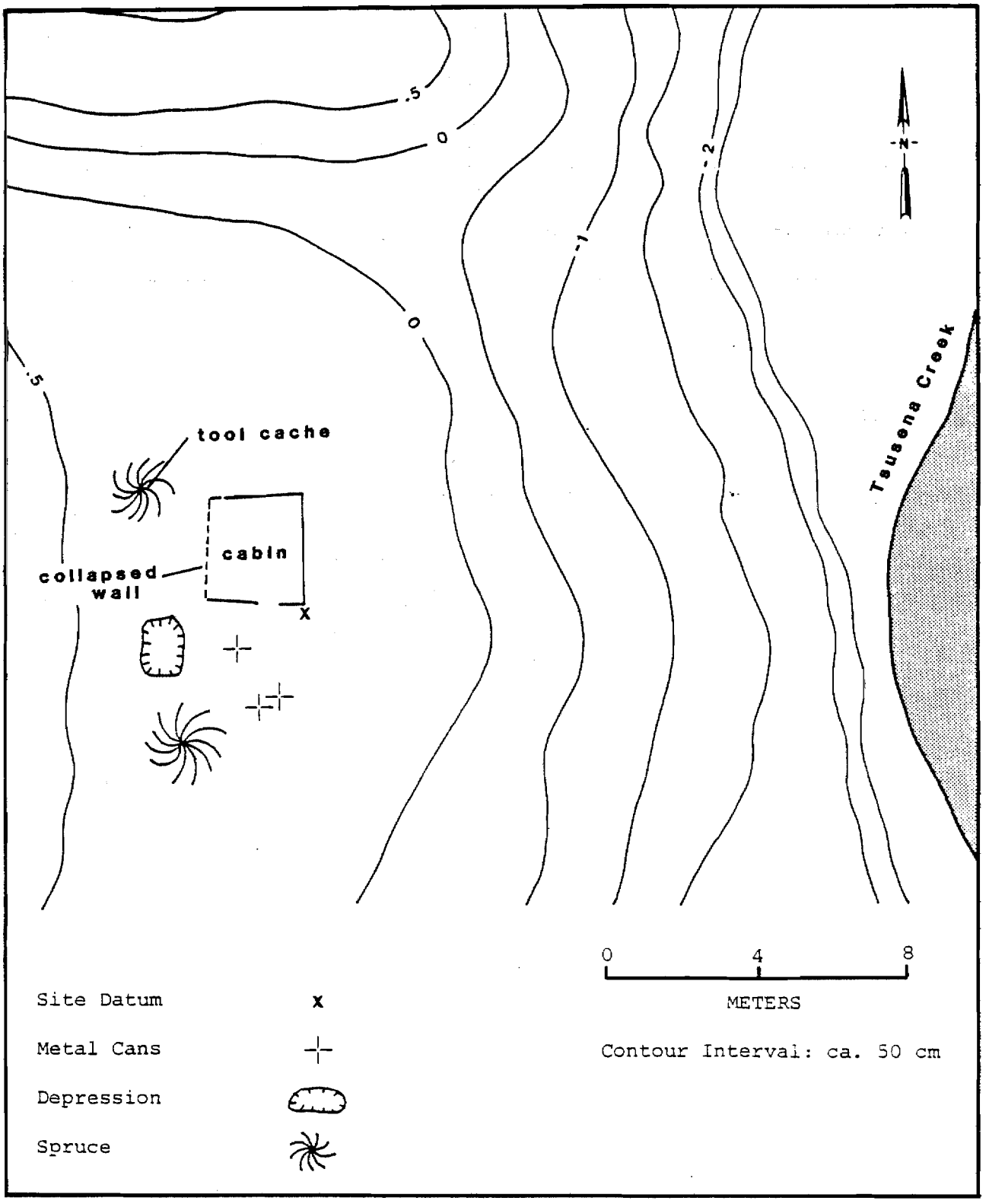

Figure D.68. Site Map, TLM 056

AHRS Number TLM 057; Accession Numbers UA80-255, UA81-203

Area:	East Shore of Big Lake
Site Map:	Figure D.69
Site Location Map:	Figure E.52
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site, at an elevation ca. 945 m asl (3100 feet), is located on the east margin of Big Lake overlooking an outlet creek to the north and the lake itself to the west. Occupying 30 m across the top of a rounded knoll, the site is east of and approximately 30 m above Big Lake, and south of the creek. Terrain rises to the south of the site along the lake margin, appearing as deflated ridges and knolls, and rises to the east as well, in large rounded hills which prevent visibility of Watana Creek and the Susitna River valley. The overlook characteristic of the site, therefore, is directed toward the lake to the west and the surrounding slopes and valleys in other directions. The site is above present treeline. Dwarf birch, heath, moss, lichens, sedges, and grasses cover the ground surface. Several deflated areas occur over the knoll. High brush, including dwarf birch and alder, line creek margins and poorly drained areas.

Testing:

The site was discovered by the presence of surface artifacts in a blowout. The surface collected artifacts consisted of 1 chalcedony flake, 2 chert flakes, 1 rhyolite flake, 3 basalt modified flakes (UA80-255-1; UA81-203-1, 3), and 1 chert microblade fragment (UA81-203-4). Seven plus basalt waste flakes were left uncollected in the blowout. An isolated basalt flake was collected from the surface on the northern portion of the knoll (Table D.99). Five shovel tests, four

of which were placed on the knoll, were sterile. A 40 x 40 cm test pit (test pit 1) dug on the flat top of the knoll was also sterile (Figure D.69). The stratigraphy, consisting of a humic mat over sandy gravels with silt, was devoid of clear tephra units. Estimated site size based on the distribution of artifacts is 30 square meters (Table D.2).

Table D.99.

Artifact Summary, TLM 057

Provenience		Description
Lithic Material		
Surface:	1	Basalt flake
	1	Chalcedony flake
	2	Chert flakes
	1	Rhyolite flake
	3	Basalt modified flakes (UA80-255-1; UA81-203-1, 3)
	1	Chert microblade fragment (UA81-203-4)
	ca. 7	Basalt flakes (uncollected)

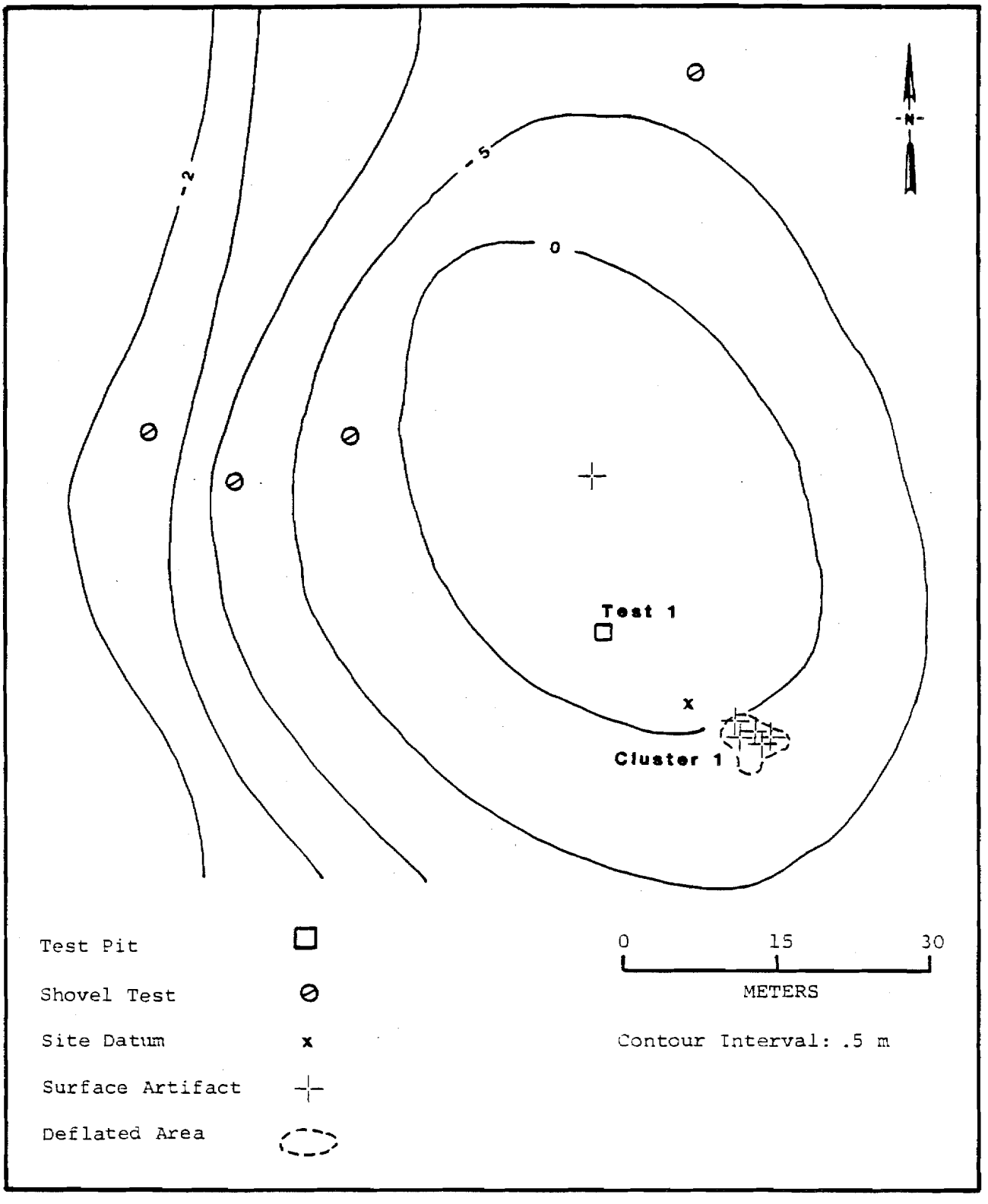

Figure D.69. Site Map, TLM 057

AHRS Number TLM 058; Accession Numbers UA81-204, UA84-95

Area:	West of Watana Creek
Site Map:	Figure D.70
Survey Locale 21:	Figure E.98
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on one of a series of terraces of a creek, locally known as No Name Creek, downriver from the mouth of Watana Creek. The terrace is ca. 38 m above the present level of the Susitna River, at an elevation of 513 m asl (altimeter: 1682 feet). The site is located on the northwest corner of this northwest-southeast trending terrace, north and east of a channel dividing this terrace from a slightly lower terrace. At its eastern end the terrace ascends to the northeast and descends to the southeast. The site overlooks a tributary creek to the northwest, including a basin vegetated with open spruce forest which constitutes a former channel of the creek. The Susitna River is south of the site, but is not visible due to vegetation and topography. The terrace on which the site is located forms a natural access route from higher terrain to both the Susitna River and the tributary creek. Vegetation at the site consists of open white spruce and birch forest with heath and lichen covering the terrace between isolated spruce trees. Spruce stands also occur to the south in the intervening channel and beyond the eastern end of the terrace.

Testing:

TLM 058 was discovered when lithic material was exposed in a shovel test placed on the terrace during survey. Survey testing at this time was limited to the expansion of the discovery test into a 40 x 40 cm test pit (test pit 1) and the placement of six additional shovel tests in the immediate vicinity. A second 40 x 40 cm test pit (test pit 2) was excavated ca. 10 m southeast of the first in an attempt to locate

additional cultural material and to investigate site stratigraphy. All cultural material collected during survey testing came from the first shovel test and its expansion into test pit 1. The lithic inventory consists of 2 chert flakes, 1 quartzite flake, and 1 chert modified flake with bifacial retouch (UA81-209-3). They were described as originating in a dark gray tephra (Devil) below the organic layer (Table D.101 and D.102).

A grid shovel testing program was implemented to locate subsurface material and to assist in determining the areal extent of the site. Seventeen shovel tests were excavated, but all failed to produce cultural material. The six initial survey shovel tests were reexcavated and the matrix screened through one-quarter inch mesh screen. The tests were confirmed to be negative. Nine additional grid shovel tests (placed to the north and south of the site datum) also proved negative.

Systematic testing at TLM 058 consisted of the location and reexcavation of test pit 1 and the excavation of one 1 x 1 m test square N99/E99. The reexcavated matrix from test pit 1 did not produce cultural material. The single test square was excavated at the approximate center of the shovel test pattern. This test square was placed at the least vegetational disturbed area 1 m east of test pit 1. This test square produced no cultural material.

Discussion:

No artifacts or indications of cultural disturbance were discovered during the excavation of N99/E99. The stratigraphy of the site is typical of the project area as a whole. The basal stratigraphic unit is a sterile slightly oxidized glacial drift (unit 6) containing unconsolidated sands and cobbles. This drift is overlain with a series of three volcanic tephra deposits: the Oshetna (unit 5), the Watana (unit 4), and the Devil (unit 3b). The Oshetna tephra has a dark stain at the contact with the Watana that conforms to an associated paleosol identified at other locations. This stain is incorporated into the unit designation for the Oshetna tephra (unit 5). The tephra sequence is

overlain with an organic mat divided into two units: the decayed humic layer at the organic mat and Devil tephra (unit 1b), and the current living site vegetation cover (unit 1a). The stratigraphic sequence exhibited evidence of frost disturbance (Figure D.71; Table D.100) and contacts between the units were, at times, indistinct. This necessitated the excavation of several layers in arbitrary 5 centimeter units (units 2 and 3). This occurred at the contacts of the decayed humic layer (unit 1b), the Devil (unit 3b) and the Watana (unit 4). All other contacts were sharp and well defined.

Evaluation:

TLM 058 is located on an old terrace of the Susitna River and a creek locally known as No Name Creek, overlooking the valley formed by the creek. No cultural material was located during systematic testing. The varied material types (black and brown chert and white quartzite) found in test pit 1 suggest that a number of incidences of tool reduction or modification took place within a very restricted area. Extensive testing in the immediate site area failed to disclose evidence of intensive occupation. Estimated site size based on the distribution of artifacts is 4 square meters (Table D.2).

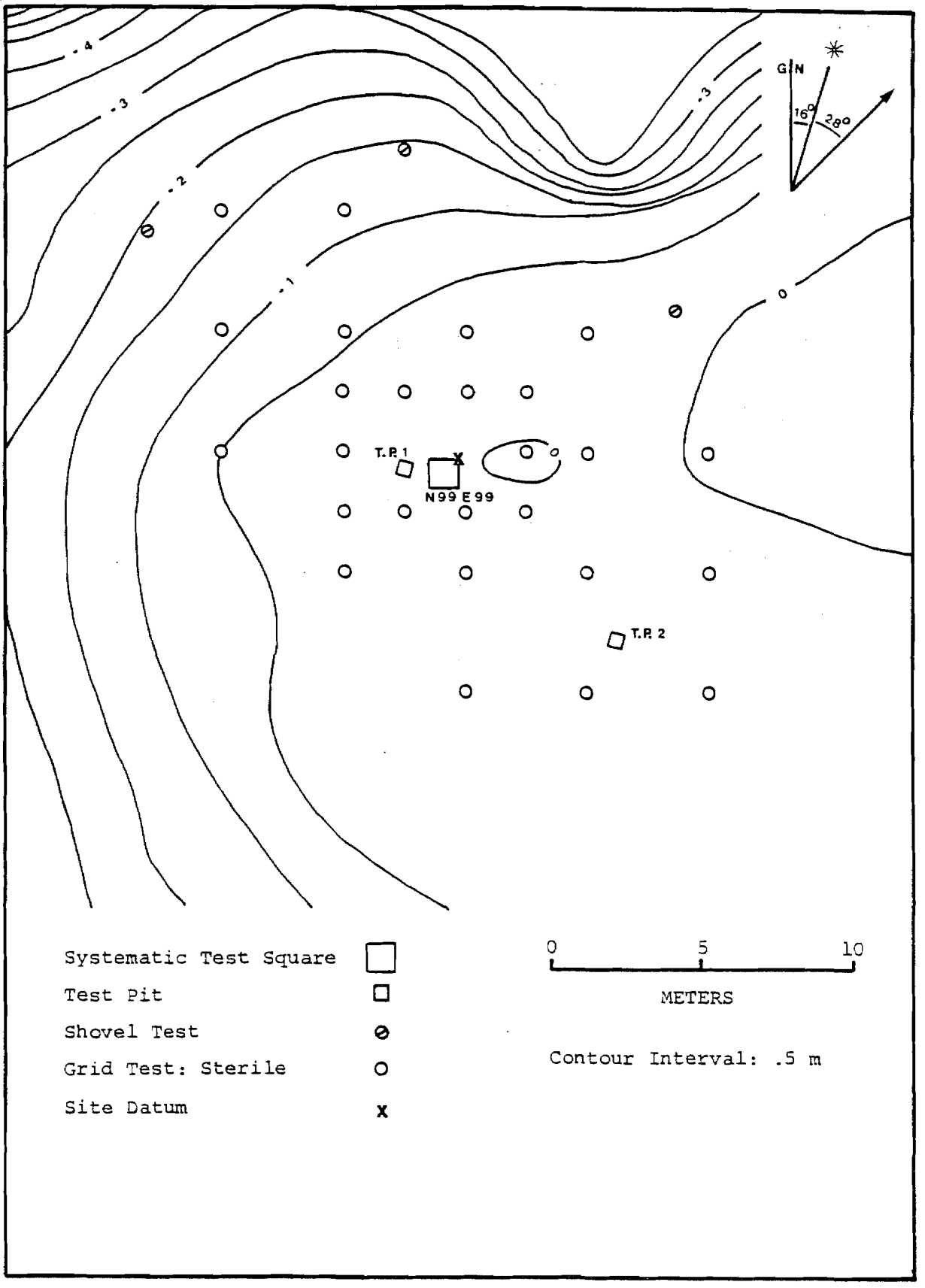

Figure D.70. Site Map, TLM 058

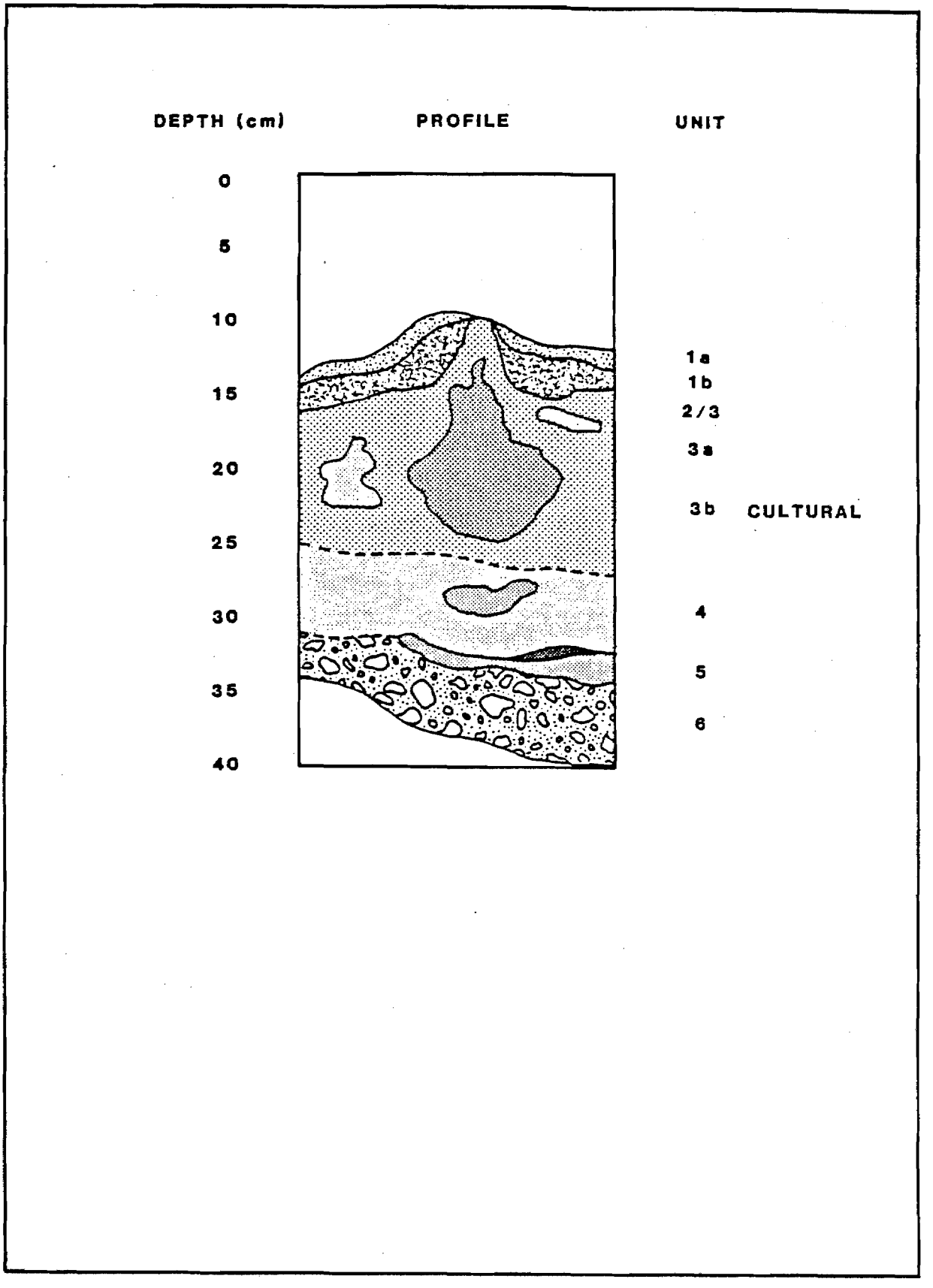

Figure D.71. Composite Profile, TLM 058

Table D.100.

Soil/Sediment Description for Composite Profile, TLM 058

Unit	Description
1a	Surface organic root mat, consisting of thin intertwinned blanket of roots. Thickness between 0.5-4 cm. Discontinuous, irregular to wavy contact with 02 unit below. Truncated by intrusions from below.
1b	Sandy silt organic unit with some charcoal staining. Generally dark reddish brown (5YR 3/4), with staining, black (N2/). 02 horizon. Varies in thickness from 0.5 -10 cm. Discontinuous, truncated in small areas by unit below, irregular to wavy contact with disturbed unit below. Heavy root penetration.
2 and 3	Arbitrary level units, composed of mixed tephras and organics. Heavily mottled and cryoturbated unit; ranging in color from light yellowish brown (10YR 6/4) to very dusky red (2.5YR 2.5/2). Varies in thickness from 6-20 cm, generally 12 cm. Continuous, irregular to wavy contacts with units above and below. Heavy root penetration decreasing as unit descends. Extensive chemical weathering, appearing as pockets of leached and oxidized tephras. Described as well-mixed tephras, Devil and Watana with possible intrusion of Oshetna.

Table D.100. (Continued)

Unit	Description
3a	Fine silt, heavily oxidized, very dusky red (2.5YR 2.5/2). Part of arbitrary levels (2 and 3). Varies in thickness from 0.5-10 cm, appearing as thin lenses and large clods. Discontinuous irregular contacts with units above, below, and within. Abrupt, well-defined contacts to graded gradual contacts.
3b	Very fine silt, leached; very pale brown (10YR 7/3). Devil tephra. Varies in thickness 0.5-2 cm. Part of arbitrary levels (2 and 3). Appears as thin, lenses or small pockets. Discontinous wavy contacts with arbitrary levels difficult to delineate. Cultural.
4	Fine silt; strong brown, (7.5YR 5/8). Watana tephra. Varies in thickness from 0.5-12 cm. Discontinous, gradual lessening of cryoturbation of arbitrary units above. Wavy to irregular contacts above to distinct abrupt wavy contacts below. Lessening root penetration.
5	Silt; gray (7.5YR N/6). Oshetna tephra. Varies in thickness from 0.5-20 cm. Discontinuous, generally abrupt contacts with units above and below. Appears as lens and pockets. Wavy contacts. Some organic lenses (0.5 cm) appearing above this unit.

Table D.100. (Continued)

Unit	Description
6	Sand, mixed with pebbles and cobbles; strong brown (7.5YR 4/6). Glacial drift; poorly sorted. Continuous, distinct abrupt contacts with units above, slightly wavy to regular. Defines extent of excavation.

Table D.101.

Artifact Summary, TLM 058

Tool	
1	Modified flake
	1 Chert (UA81-204-3)
Lithic Material	
2	Chert flakes
1	Quartzite flake
3	

Table D.102.

Artifact Summary by Stratigraphic Unit, TLM 058

Unit		Description
3b	2	Chert flakes
Devil tephra	1	Quartzite flake
	1	Chert modified flake (UA81-209-3)

AHRS Number TLM 059; Accession Number UA81-205

Area:	Between Deadman and Watana Creeks
Site Map:	Figure D.72
Survey Locale 69:	Figure E.145
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on a system of kames between Deadman and Watana creeks, east of a creek, known locally as No Name Creek, and north of the Susitna River. It is 664 m asl (altimeter: 2177 feet) and ca. 183 m above the Susitna River. The site is situated at the top of a low, rounded kame, flanked on the southwest by a slightly higher kame, on the northwest by a descending slope, and on the east by a shallow channel, beyond which is a knoll slightly lower than the site. This channel drains into a small creek north of the site, which flows west into the clear water No Name Creek running south through the kame system to the Susitna River. Neither creek is visible from the site. The predominant view is to the east looking up the Susitna River valley, and to the northeast, overlooking the knolls below. A lake basin lies to the south of the site, bounded by low knolls, of which the site knoll is one. This basin is not entirely in view from the site. Vegetation in the site vicinity is classified as woodland white spruce. The vegetation at the site consists of scattered white spruce, low shrub ground cover, including mosses and lichens, heath, and dwarf birch, with little or no exposed ground surface. A stand of black spruce fills a channel to the southwest, between the site and the higher knoll.

Testing:

The site is characterized by a 1.8 x 1.5 m depression ca. 35 cm deep, oriented northwest-southeast on the long axis. A vaguely defined berm 30 cm high surrounds the depression. This feature (feature 1), located at the top of the knoll, does not appear to be natural due to the

regularity of the dimensions. No cultural material was observed on the surface of the site, although a 40 x 40 cm test pit (test pit 1) dug in the floor of the depression adjacent to its southwest side did produce cultural material. Test pit 2, 7.5 m northeast of feature 1, was sterile. Test pit 3, 2.1 m northeast of feature 1, revealed a bone fragment between 9 and 10 cmbs in a layer of black finely divided organics (unit 2) below humus and above a light gray tephra unit. Five shovel tests, all sterile, were placed around feature 1 prior to systematic testing.

Systematic testing consisted of the excavation of three 1 x 1 m test squares. These were excavated at the site to define the extent and nature of the rectangular depression.

A grid shovel testing program was implemented to assist in the determination of site size and distribution of subsurface cultural material. Twenty-four grid shovel tests were excavated during the program, but these failed to produce additional cultural material.

Discussion:

TLM 059 was defined by the presence of a rectangular depression feature. Test pit 1, placed inside the depression, yielded a large number of bone fragments, mostly burned, and partially burned wood, which have been intrepreted as timbers. Bone was encountered closer to the surface in the southeast quarter of test pit 1 than elsewhere in the test. Burned and decaying timbers underlie the highest bone occurrence in this section, while elsewhere the wood overlies and is contiguous with the bone. These cultural remains were recovered from 16-45 cmbs in a gravelly sandy matrix. Charcoal was also encountered in the peat lenses above the bone and between the gravelly sand lenses. A charcoal sample, taken from 28 cmbs, produced a date of 740 ± 70 years: A.D. 1210 (DIC-2253).

The limited amount of material in the systematic test squares suggests that the site lies primarily in the 1.8 x 1.5 m depression itself. The

artifact inventory from these squares (Table D.104, D.106, and D.107) includes 5 thermally altered rocks (N103/E102), 1 basalt flake (N101/E103), and 1 bone fragment (N104/E99). It can be inferred from the lack of structural features in N103/E102, which bisected the southern corner of the depression, that the depression is not a house pit, but might instead represent a cache or some other type of feature.

Testing of the depression and surrounding area revealed the presence of two different types of stratigraphy. A description of the stratigraphy outside the depression is presented in Table D.103 and illustrated in Figure D.73. Inside the depression the normal stratigraphic sequence had been altered. The stratigraphy of test pit 1 is comprised of alternating units of peat with charcoal and gravelly sand. By contrast, the stratigraphy of test pits 2 and 3, and shovel tests in the vicinity, did not indicate the presence of gravelly sand or peat. Lenses of drift were found in all three systematic test squares between the upper organic units and the Devil tephra (Figure D.73). This is apparently the case in the tests outside the depression. The presence of drift material suggests that it originally had been dug from the area of the depression and tossed a distance of approximately 3 m.

Stratigraphy in the three systematic test squares and test pits 2 and 3, shows considerable reworking of the three tephra units (Figure D.73, Table D.103). Other disturbance in the regional stratigraphic sequence (i.e., unit 3) is probably the result of human activity at the site associated with the excavation of the depression. The stratigraphy in the depression suggests that the feature may have a complex history of reuse. The presence of thermally altered rock in unit 3 of test square N103/E102 could be used as evidence for multiple use of the depression (i.e., the redigging of a previous hearth area, throwing the earlier hearth material onto the berm surrounding the depression). The stratified nature of test pit 1 would also argue for multiple events within the depression. Test pit 1, inside the depression adjacent to the southwest wall, produced ca. 1,430 bones and bone fragments, as well as bone meal. The bone meal was present throughout the gravelly sandy-peat matrix. The faunal remains were all mammalian and represented, for the

most part, medium-large mammals (Table D.105). Identifiable faunal remains represented one species - caribou (Rangifer tarandus). The presence of both mature and immature (epiphyses) skeletal elements, indicate that two individuals are probably represented by these faunal remains. Two of the bone fragments, a caribou proximal radius fragment and an unidentifiable long bone fragment, had cut marks. One unidentified bone fragment was found in unit 3 of test square N104/E99.

Evaluation:

TLM 059 represents the remains of a structure which may show a series of activities not occurring contemporaneously, but within a relatively brief interval of time. It is suggested that the depression functioned as a cache. The site is located in an elevated region above Watana Creek, but does not offer a panoramic view of the surrounding area. The feature is dated to approximately A.D. 740 by radiocarbon dating and this agrees with its stratigraphic superposition above the Devil tephra. Observed site size based on the distribution of artifacts is 41 square meters (Table D.2).

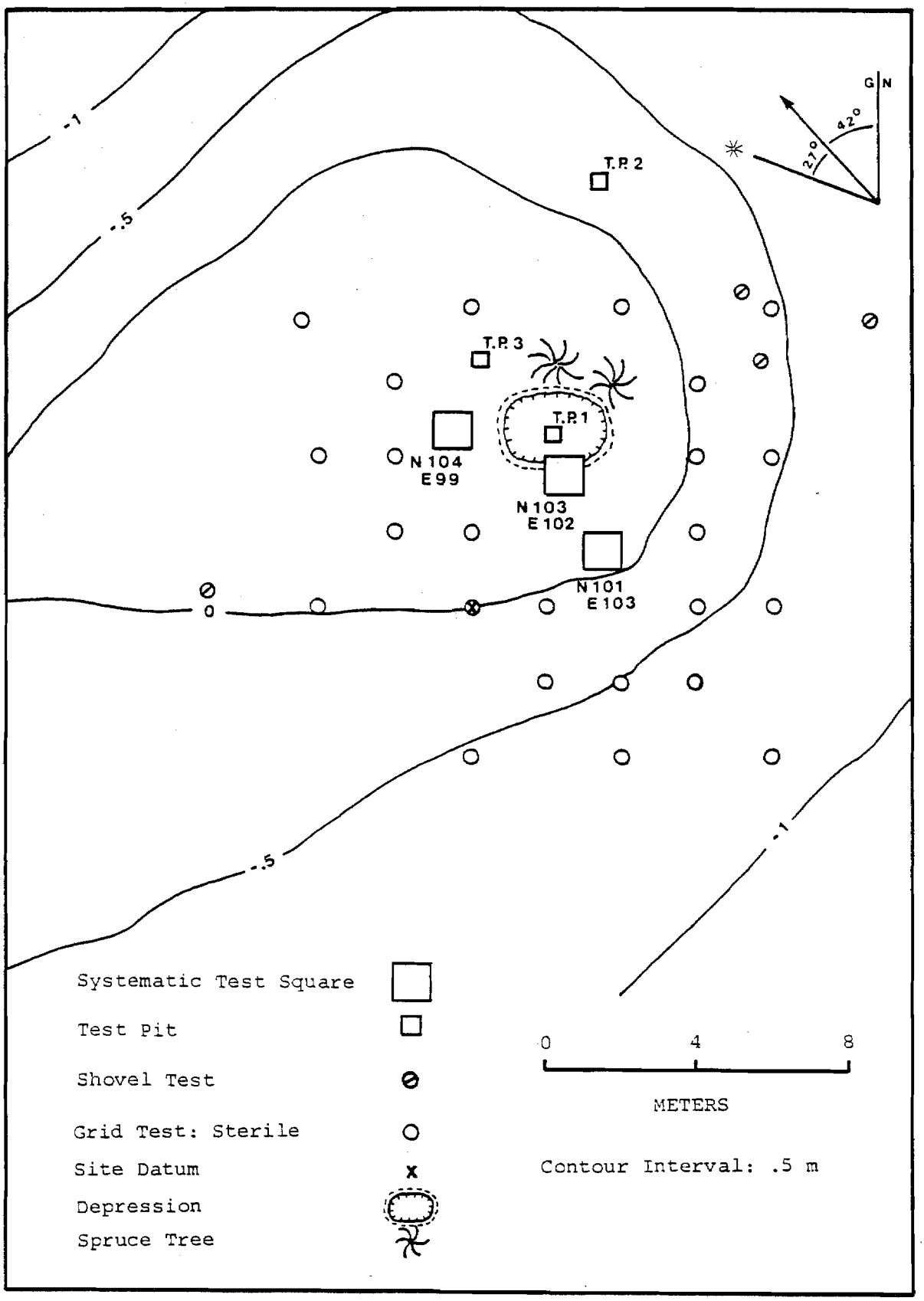

Figure D.72. Site Map, TLM 059

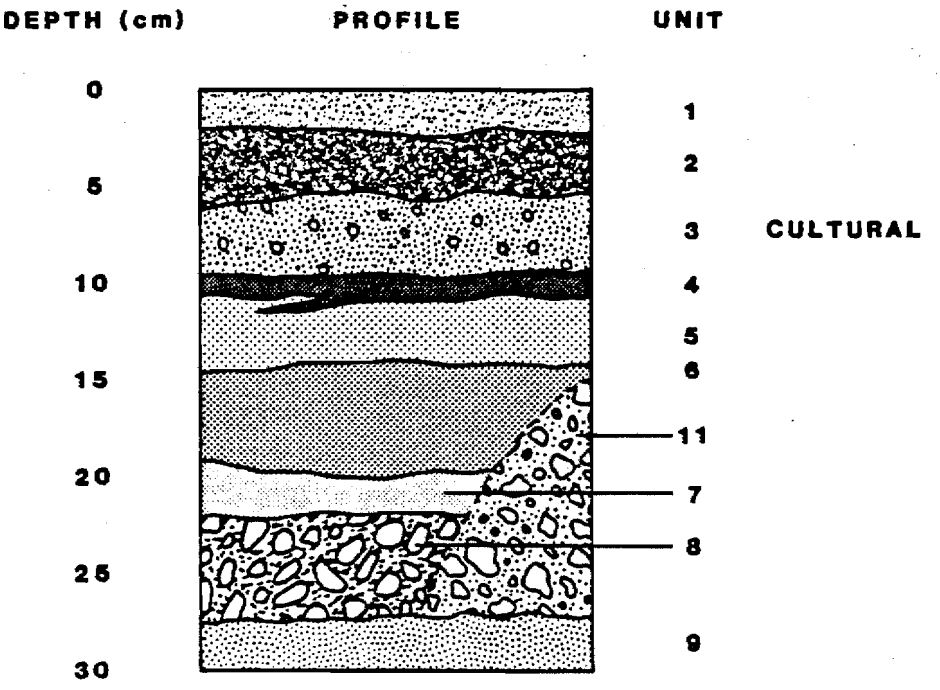

Figure D.73. Composite Profile, TLM 059

Table D.103.

Soil/Sediment Description for Composite Profile, TLM 059 -- Outside Depression

Unit	Description
1	Organic material, roots and lichens; variable in extent and thickness. O horizon.
2	Finely divided organic material; very dark brown (10YR 2/2). Variable in thickness. O2 horizon.
3	Poorly sorted sand, gravels, and cobbles; olive brown (2.5Y 4/4). Discontinuous but present in all 3 test squares. Cultural material probably from depression.
4	Finely sorted organic rich lens; black; (10YR 2/1) Discontinuous but present in all 3 test squares. Irregular and gradational upper and lower contacts; at times overlies unit 5 and at times found within unit 5.
5	Tephra (Devil); dark gray (10YR 4/1) to light brownish gray (10YR 6/2). Variable in color. Discontinuous in extent with gradational upper contacts and sharp to gradational lower contacts.
6	Tephra (Watana), or tephra mixed with sand; variable in color depending on degree of oxidation, dark yellowish brown (10YR 4/6) to yellowish brown (10YR 5/6). Discontinuous in appearance and variable in thickness. Contacts, especially lower one, often gradational.

Table D.103. (Continued)

Unit	Description
7	Mixed sand and tephra (Oshetna); variable in color depending on amount of mixing, gray (10YR 5/1) to brown (10YR 5/3). Some pebbles present in unit. Discontinuous. Both upper and lower contacts tend to be gradational. Generally not a well-defined unit at this site. This unit includes the disturbed fill within the depression.
8	Poorly sorted sand, gravels, and large cobbles; yellowish brown (10YR 5/6). Oxidized. Both rounded and angular cobbles are present. Continuous across site; gradational upper and lower contacts.
9	Medium to coarse grain sand; variable in color, olive gray (5Y 4/2) to dark grayish brown (2.5Y 4/2). Moderately well sorted. Upper contact gradational.
10	Disturbed area found in N103/E102 containing numerous roots; appears to be related to excavation of depression (not included in profile).
11	Mixed drift with 2 or 3 tephra units dark yellowish brown (10YR 4/6). Gradational boundaries (both vertical and horizontal) with a sandy texture; occurs locally in N101/E103.

Table D.104.

Artifact Summary, TLM 059

Lithic Material	
1	Basalt flake
6	Thermally altered rocks
7	
Faunal Material	
ca. 1,540	Bones and bone fragments

Table D.105.

Faunal Material by Stratigraphic Unit, TLM 059

Unit		Description
2 Finely divided organics (outside depression)	1	Unidentifiable fragment, burned, mammal
3 Sand (outside depression)	1	Unidentifiable fragment, heavily burned, mammal
Fill gravelly sandy peat matrix (survey test pit 1)	1	Cervical vertebral articular facet, calcined, caribou (Rangifer tarandus)
	1	Lumbar vertebra fragment, burned, caribou (Rangifer tarandus)
	1	Probable lumbar vertebral articular facet, burned, caribou (Rangifer tarandus)
	1	Caudal vertebra, calcined, probable caribou (Rangifer tarandus)
	1	Rib fragment, calcined, probable caribou (Rangifer tarandus)
	1	Right proximal ulna fragment, burned, caribou (Rangifer tarandus)
	2	Left proximal ulna fragments, burned and heavily burned, caribou (Rangifer tarandus)

Table D.105. (Continued)

Unit		Description
	1	Right proximal radius fragment, burned, caribou (Rangifer tarandus)
	1	Left proximal radius fragment, burned, caribou (Rangifer tarandus)
	2	Left proximal radius fragments, heavily burned, caribou (Rangifer tarandus)
	1	Innominate fragment, burned, probable caribou (Rangifer tarandus)
	1	Left fibula fragment, heavily burned, caribou (Rangifer tarandus)
	1	Right astragalus fragment, burned, caribou (Rangifer tarandus)
	1	Right calcaneus fragment, calcined, caribou (Rangifer tarandus)
	1	Cuneiform fragment, burned, caribou (Rangifer tarandus)
	1	Sesamoid, unburned, caribou (Rangifer tarandus)
	2	Sesamoid, calcined, caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, burned, caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
	2	Distal fragments proximal phalanx, burned, caribou (Rangifer tarandus)

Table D.105. (Continued)

Unit		Description
	1	Probable distal fragment proximal phalanx, burned, caribou (Rangifer tarandus)
	1	Distal fragment proximal phalanx, immature, burned, probable caribou (Rangifer tarandus)
	1	Proximal fragment medial phalanx, burned, caribou (Rangifer tarandus)
	2	Distal fragment medial phalanx, burned and heavily burned, caribou (Rangifer tarandus)
	1	Medial phalanx fragment, heavily burned, caribou (Rangifer tarandus)
	1	Distal phalanx, heavily burned, caribou (Rangifer tarandus)
	1	Vestigial phalanx fragment, burned, caribou (Rangifer tarandus)
	2	Vestigial phalanx fragments, burned and calcined, probable caribou (Rangifer tarandus)
	1	Vestigial phalanx, heavily burned, caribou (Rangifer tarandus)
	1	Cranial fragment, calcined, medium-large mammal
	1	Vertebral articular facet, burned, medium-large mammal
	2	Vertebral fragments, burned, medium-large mammal

Table D.105. (Continued)

Unit		Description
	1	Possible rib fragment, burned, medium-large mammal
	8	Vertebra fragments, immature, burned and heavily burned, medium-large mammal
	1	Possible vertebra fragment, immature, burned, medium-large mammal
	7	Rib fragments, calcined and heavily burned, medium-large mammal
	1	Possible innominate fragment, unburned, medium-large mammal
	1	Possible innominate fragment, burned, medium mammal
	1	Flatbone fragment, heavily burned, medium-large mammal
	1	Long bone fragment, burned, cut marks, medium-large mammal
	1	Unidentifiable bone fragment, possible cut marks, calcined, medium-large mammal
	ca. 1,370	Long bone and unidentifiable bone fragments, heavily burned and calcined, medium-large mammal

Table D.105. (Continued)

Unit		Description
7b Fill, gravelly sandy peat matrix (mixed sand and tephra - test pit 1	1	Atlas articular surface fragment, calcined, caribou (Rangifer tarandus)
	1	Cervical vertebra fragment, calcined, caribou (Rangifer tarandus)
	1	Dorsal rib fragment, calcined, probable caribou (Rangifer tarandus)
	2	Probable dorsal rib fragments, burned, probable caribou (Rangifer tarandus)
	1	Probable dorsal rib fragment, calcined, probable caribou (Rangifer tarandus)
	1	Possible sternum fragment, calcined, probable caribou (Rangifer tarandus)
	1	Right pelvis fragment (acetabulum), burned, caribou (Rangifer tarandus)
	1	Right tibia shaft fragment, burned, caribou (Rangifer tarandus)
	1	Left distal tibia fragment, burned, caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
	3	Distal fragments proximal phalanx, burned and calcined, caribou (Rangifer tarandus)
	1	Possible rib fragment, immature, calcined, medium-large mammal
	90	Vertebra and unidentifiable bone fragments, burned and calcined, medium-large mammal

Table D.105. (Continued)

Unit		Description
Unknown	1	Epiphysis, calcined, medium-large mammal
Subsurface (back dirt)	1	Unidentifiable bone, calcined, medium-large mammal

Table D.106.

Artifact Summary by Stratigraphic Unit, TLM 059

Unit		Description
3 Sand	5	Thermally altered rocks
4/5 Contact between organic lens and Devil tephra	1	Basalt flake
Fill, mixed sand and tephra (inside depression)	1	Thermally altered rock

AHRS Number TLM 060; Accession Numbers UA81-206, UA84-86

Area:	Northeast of Watana Creek Mouth
Site Map:	Figure D.74
Survey Locale 68:	Figure E.144
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

TLM 060 is located on the northwestern end of a long, high northwest-southeast trending kame, downriver from the confluence of Watana Creek with the Susitna River. The kame forms a 100 m long ridge, situated on the northern rim of Susitna River canyon, at an elevation of 663 m asl (altimeter: 2176 feet), is the highest and most prominent topographic feature of the kettle and kame terrain west of a tributary of the Susitna River, known locally as No Name Creek. From the site the view consists of the Susitna River and lower forested terrain to the east and north. There is a good view of a small (ca. 1 ha) kettle lake approximately 150 m to the west. Site TLM 061 is visible 300 m to the east, and TLM 171 is visible across the kettle lake on a kame of similar elevation 300 m to the west. The site, occupying the level, rounded top of the ridge at its northwestern high point, contains dwarf birch shrubs and scattered white spruce, paper birch, lowbush blueberry, and Labrador tea. The slopes of the kame are forested with spruce and poplar. The surrounding area is covered with a mosaic of dwarf birch cover and spruce woodland, with wetland vegetation surrounding the lake to the west.

Testing:

The site was initially discovered when a black chert biface fragment (UA81-206-1; Figure D.376i) was found on the surface in a soil slump west of the ridge crest, approximately 15 m south of the northern end of the ridge. Eight shovel tests placed along the crest of the ridge

resulted in the recovery of one argillite modified flake (UA81-206-2), about 15 m southeast of the surface find. Three 40 x 40 cm test pits placed on the site failed to produce any other cultural material.

A grid shovel test expansion program was conducted around the areas containing artifacts and one 1 x 1 m test square, N124/E97, was excavated. The grid shovel testing program yielded no further cultural remains in the vicinity of previous finds, but a shovel test (N125.44/E100.25) produced three chert flakes near the northeast end of the ridge. Expansion around this test resulted in three other positive shovel tests yielding a total of eight chert flakes, one of which was modified (UA84-86-4). A total of 70 shovel tests were excavated during the grid shovel testing program. The 1 x 1 m systematic test square was placed adjacent to one of the positive tests in an effort to determine the nature and stratigraphic position of this portion of the site. See Figure D.74 for a map of the site and location of the test square and cultural materials.

Discussion:

Excavation of test square N124/E97 resulted in the recovery of 451 lithic artifacts and one unidentifiable calcined bone fragment, in stratigraphic contexts ranging from the finely divided organic layer (unit 1b) down into weathered glacial drift (unit 5a). All the material is probably referable to a single component, and the vertical dispersion within the stratigraphic column is the result of postdepositional cryoturbation. The raw material types represented in the square include argillite, chert, rhyolite, and quartzite, with chert being by far the most abundant. Table D.108 lists the artifact inventory from the site, and Table D.110 presents the distribution of materials by stratigraphic unit.

Seven stratigraphic units were designated for the site, based on the exposures from test square and shovel test excavation. A surface vegetation mat (unit 1a) is underlain by a humic 02 horizon (unit 1b). These surface organic units tend to be relatively thick in the area of

the test square. Beneath these are the Devil (unit 2) and Watana (units 3a and 3b) tephra layers. The Watana tephra shows extensive oxidation in parts (unit 3a), but is discontinuous and apparently heavily cryoturbated. A thin paleosol unit (unit 4) occurs in patches throughout the square, and is also markedly cryoturbated. Beneath this paleosol is weathered (unit 5a) and unweathered (unit 5b) glacial drift. The presence of small drift pebbles scattered throughout the stratigraphic column is further evidence of the cryoturbation affecting the site at this location. Figure D.75 depicts stratigraphic units at the site, which are described in Table D.107.

While artifacts were encountered in all units from unit 1b through 5a, the majority of the flakes are from an identical veined chert material and probably represent a single stoneworking episode. Given the abundant evidence for vertical stratigraphic mixing of pebbles and sedimentary units, the dispersion of cultural materials in this area is not surprising. It is likely that a single occupational component is represented in this part of the site and that the dispersion of flakes through the stratigraphic column is the result of postdepositional disturbance.

The distribution of flakes stratigraphically shows a concentration in the thin paleosol (unit 4) and its upper and lower contacts. Two-thirds of all flakes from the test square occur in this stratigraphic position, and there is a consistent gradual decrease in the number of flakes found in strata, as distance from the paleosol (unit 4) increases. Although the original stratigraphic position of the component cannot be determined with certainty, the prevalence of material on and in the paleosol (unit 4) may indicate occupation of the site during the period of paleosol formation.

All flakes encountered in this component are by products of secondary and retouch stages of lithic reduction, probably from a bifacial reduction industry. Five of the flakes (UA84-86-4, 13, 17, 52, and 59) show signs of edge modification, but the amount of edge damage in all cases is slight.

Evaluation:

Systematic testing at TLM 060 indicates that the artifacts located during initial field survey are isolated occurrences in the site. Their temporal positions remain unknown. An additional assemblage was located at the northwest end of the site, containing abundant lithic material but also highly limited in areal extent. The most likely stratigraphic position for this occupation is the paleosol but this determination is by no means certain owing to acute vertical mixture of flakes. The assemblage probably represents a short-term occupational episode involving the manufacture of stone tools.

TLM 060 appears to represent the accumulation of several very short-term occupational episodes within a single area. These occupations may have been separated by long periods of time, and the site may therefore have up to three known components, but because the stratigraphic position of the artifacts found in initial field survey is unknown, the number of separate occupations at the site is also unknown. Due to the site's prominent topographic setting, the site may have served as a lookout with tool repair occurring during hunting expeditions. Observed site size based on the distribution of artifacts is 15 square meters (Table D.2).

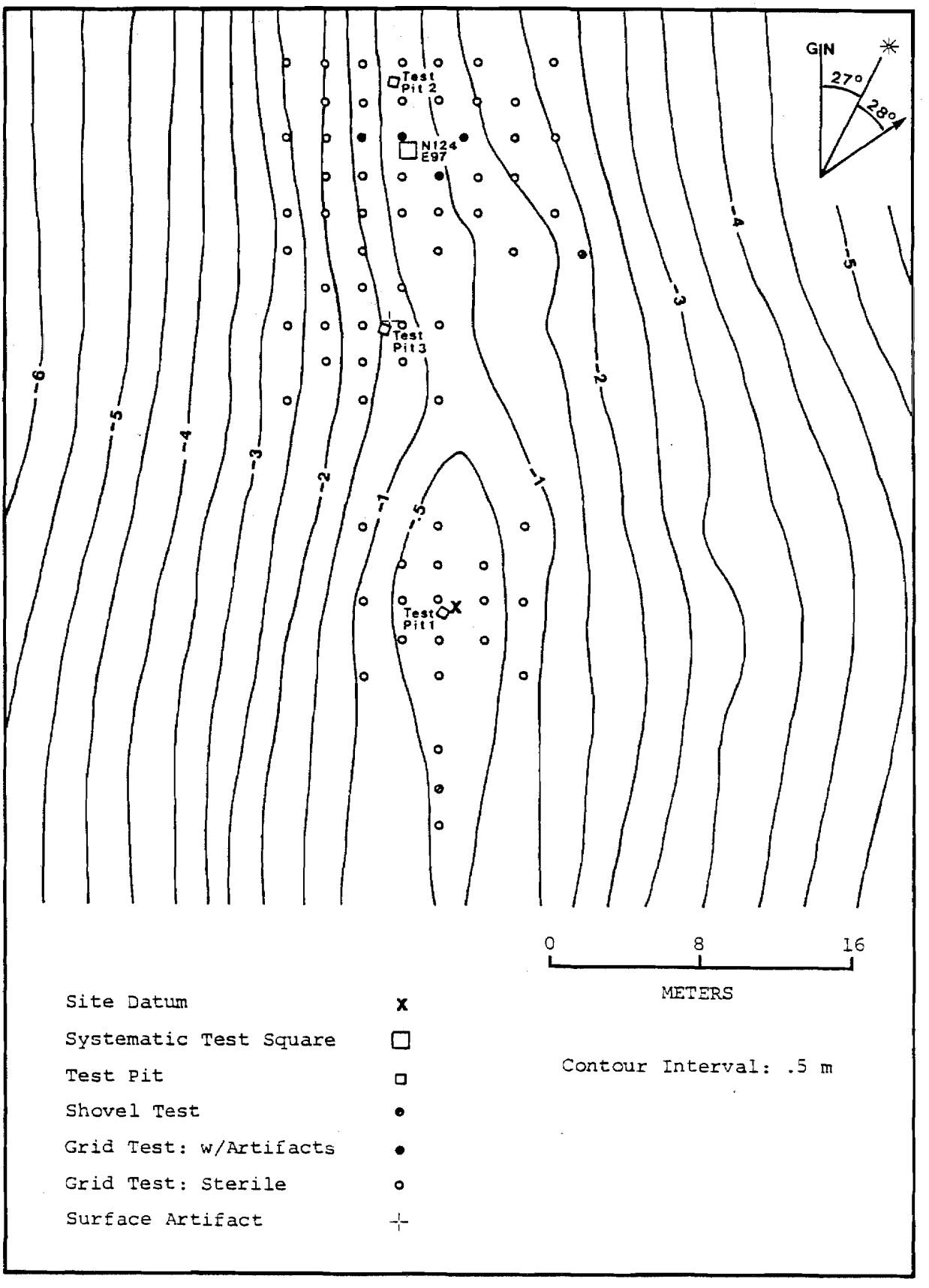

Figure D.74. Site Map, TLM 060

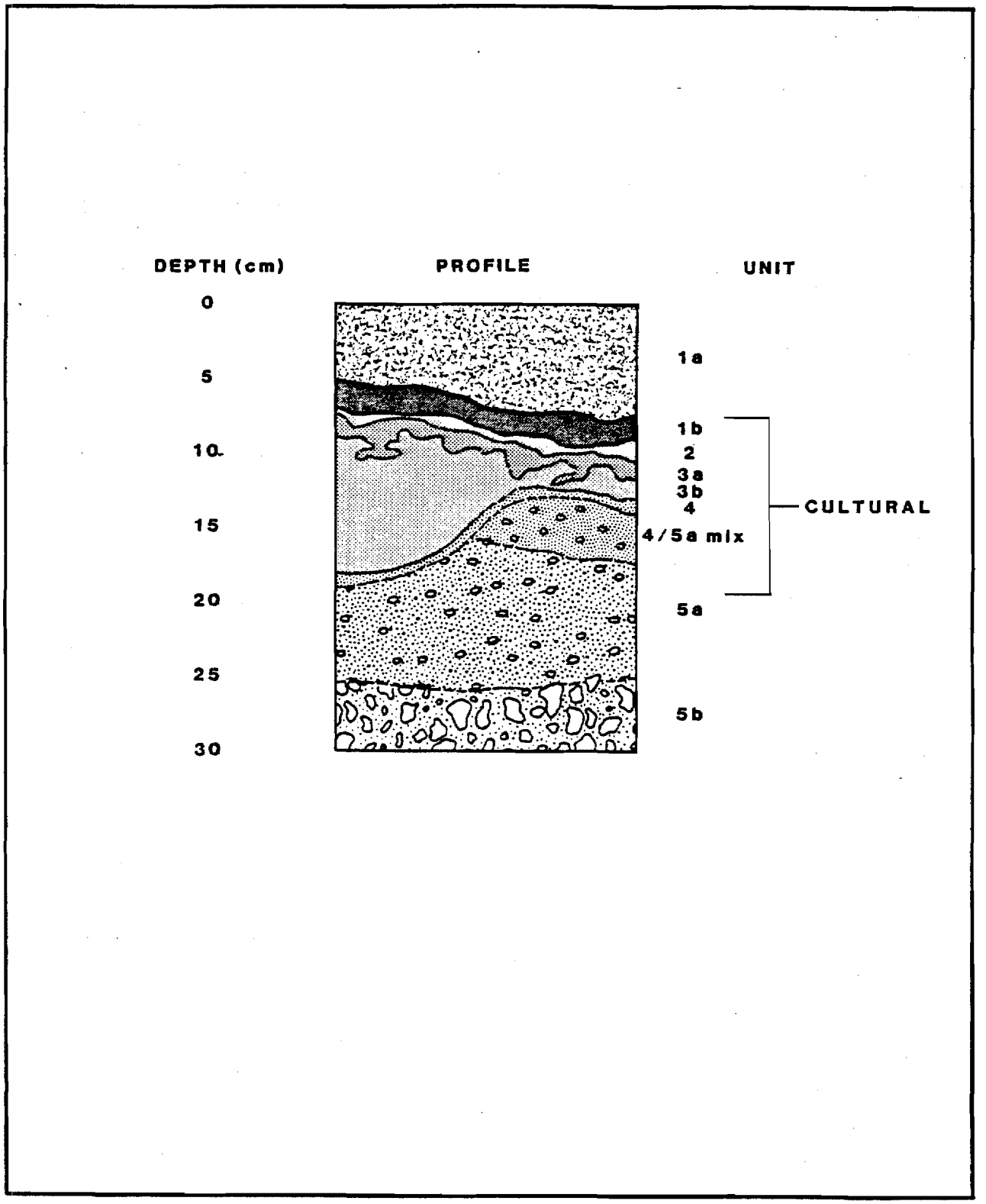

Figure D.75. Composite Profile, TLM 060

Table D.107.

Soil/Sediment Description for Composite Profile, TLM 060

Unit	Description
1a	Continuous thick, dense layer of roots and organic debris, mixed with a small amount of silt. Varies between 2-12 cm thick, usually 5-8 cm. Contains a few small scattered pebbles. Contact with unit 1b is abrupt, wavy, with marked contrast in amount of roots. Units below 1b sometimes make contact with 1a in areas of localized uplift, around large roots.
1b	Very dark brown (10YR 2/1) to black (5YR 2.5/1). 02 horizon with humics, finely divided organics, silt, and occasional scattered pebbles. Varies in thickness from 1-6 cm, usually 2-3 cm. Continuous across square. Abrupt, wavy contact with 1a, abrupt to somewhat diffuse contact with unit 2 below. Contains some artifactual material.
2	Pale brown (10YR 6/2) to light brownish gray (10YR 6/3); well-sorted, very fine silt. Devil tephra. Discontinuous. Thickness variable, ranging from 0-3.5 cm, usually 1-2 cm. Sometimes mixed with units 1b or 3. Upper contact abrupt to diffuse and wavy, lower contact usually diffuse and wavy to broken. Both contacts and the unit itself contain artifacts, as well as a few scattered pebbles from drift.

Table D.107. (Continued)

Unit	Description
3a	Dark reddish brown (5YR 3/3) silt to sand size particles, well sorted, the sand size particles probably cemented or coated silt particles owing to concretion with iron oxides. Illuvial horizon. Watana tephra. Mottled, grades into unit 3b below. Broken, diffuse, and discontinuous contact. Usually abrupt contact with unit 2, sometimes mixed with unit 2. Areally discontinuous, varying between 0 and 3 cm thick. Contains artifacts.
3b	Light yellowish brown (10YR 6/4) to yellowish brown (10YR 5/6) well-sorted, extremely fine silt, with scattered pebbles. Watana tephra. Discontinuous in area, varying between 0-9 cm. Often missing or mixed with glacial drift (unit 5). Diffuse contact with unit 3b and 5a, abrupt to diffuse wavy contact with unit 4. Contains artifacts, especially at contact with unit 4.
4	Thin (less than 1 cm), highly discontinuous brown (10YR 4/3) sandy silt with abundant finely divided charcoal flecks. Paleosol. Often mixed with units 3b or 5a, usually diffuse broken or wavy contact with unit 5, often missing entirely. Contains abundant pebbles and flakes.

Table D.107. (Continued)

Unit	Description
5a	Dark yellowish brown (10YR 4/6) poorly sorted silty sand with abundant gravel, shale pebbles, and occasional rounded cobbles. Variably thick between 4 and 15 cm, usually 8-10 cm. Gradual contact with 5b below, marking depth of weathered glacial drift. Continuous across square. Often mixed with units 3 and 4 above, usually diffuse contact with these units. Contains artifacts in upper part.
5b	Olive brown (2.5Y 4/4) unweathered poorly sorted gravelly sand. Glacial drift. Marks bottom of excavation.

Table D.108.

Artifact Summary, TLM 060

Tools	
6	Modified flakes
	1 Argillite (UA81-206-2)
	4 Chert (UA84-86-4, 13, 17, 52)
	1 Quartzite (UA84-86-59)
1	Biface fragment
	1 Chert (UA81-206-1)
7	
Lithic Material	
10	Argillite flakes
367	Chert flakes
41	Quartzite flakes
10	Rhyolite flakes
26	Flakes less than 1/8 inch
454	
Faunal Material	
1	Calcined bone fragment

Table D.109.

Faunal Material by Stratigraphic Unit, TLM 060

Unit		Description
5a Weathered drift	1	Unidentifiable bone fragment, calcined, medium-large mammal

Table D.110.

Artifact Summary by Stratigraphic Unit, TLM 060

Unit		Description
Surface	1	Chert biface fragment (UA81-206-1)
1a/1b	1	Chert flake
Contact between organic mat and fine organic		
1b	4	Chert flakes
Fine organic layer		
1/2	1	Chert flake
Contact between	1	Quartzite flake
organic mat and Devil tephra		
2	15	Chert flakes
Devil tephra	4	Rhyolite flakes
	1	Argillite modified flake (UA81-206-2)
	1	Chert modified flake (UA84-86-13)
2/3a	4	Argillite flakes
Contact between	27	Chert flakes
Devil and Watana	2	Quartzite flakes
tephras	8	Flakes less than 1/8 inch
	1	Chert modified flake (UA84-86-17)

Table D.110. (Continued)

Unit		Description
3a	2	Argillite flakes
Oxidized	23	Chert flakes
Watana tephra	5	Quartzite flakes
3b	13	Chert flakes
Unoxidized	2	Quartzite flakes
Watana tephra		
3a and 3b	13	Chert flakes
Watana tephra	4	Quartzite flakes
	1	Chert modified flake (UA84-86-4)
3b/4	47	Chert flakes
Contact between	8	Quartzite flakes
unoxidizied Watana	4	Rhyolite flakes
tephra and paleosol	8	Flakes less than 1/8 inch
4	3	Argillite flakes
Paleosol	132	Chert flakes
	7	Quartzite flakes
	1	Chert modified flake (UA84-86-52)

Table D.110. (Continued)

Unit		Description
4/5a	1	Argillite flake
Contact between	63	Chert flakes
paleosol and	11	Quartzite flakes
weathered drift	2	Rhyolite flakes
	10	Flakes less than 1/8 inch
	1	Quartzite modified flake (UA84-86-59)
5a	28	Chert flakes
Weathered	1	Quartzite flake
drift		

AHRS Number TLM 061; Accession Number UA81-207, UA84-87

Area:	Northwest of Watana Creek Mouth
Site Map:	Figure D.76
Survey Locale 68:	Figure E.144
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located west of Watana Creek on the northern border of the Susitna River canyon at an elevation of 628 m asl (altimeter: 2062 feet). It is situated at the summit of a discrete ca. 20 m high kame of conical form located northeast of the kame on which site TLM 060 is located. The site is near the center of the relatively flat summit of the kame, approximately 5 m southeast of the highest elevation which occurs at the northwest end of the summit. The top of the kame occupies an area of approximately 10 x 15 m with extremely steep slopes to the north and east. This is the highest point of land between site TLM 060 to the west and an unnamed tributary creek, locally known as No Name Creek, to the east. The view from the site is panoramic but somewhat obscured by fairly dense tree growth. Gradually rising terrain to the southwest limits the view to less than 500 meters in that direction. A kettle lake of less than 1 ha lies approximately 500 m southwest of the site, but is obscured from view by intervening higher terrain. Immediately east of the site the terrain drops steeply ca. 90 m to the south-flowing tributary creek. Another eastward-flowing creek, originating as an outlet from the lake 2.3 km to the northwest, joins the southward-flowing tributary 300 m northeast of the site. These two creeks are not in view from the site due to the steepness of the terrain and fairly dense forest growth.

The terrain in the vicinity of the site is undulating and poorly drained with numerous kames and ridges and kettle depressions characteristic of ice-stagnation terrain. The Susitna River lies approximately 1 km south of the site at its closest point and is in view for approximately 6 km

upstream to the southwest. The river is ca. 152 m lower in elevation and not easily accessible due to the distance and difference in elevation. The stream drainage to the east occupies a deep "V"-shaped valley with exposed bedrock present. Two alluvial terrace levels are present on the west side of the stream below the site.

Vegetation in the site vicinity consists of low shrub and woodland white spruce. The slopes of the kame support a mixed birch, aspen, and spruce tree cover. The lower terrain around the base of the kame consists of sphagnum moss, grasses, and wet tundra with areas of marsh. Black spruce are also present on this wetter terrain. On-site vegetation consists of low shrubs including dwarf birch and blueberry. Aspen and birch occur on the slopes of the kame along with a few large white spruce. Bearberry, Labrador tea, moss, and lichen form a solid ground mat at the summit of the kame, which is relatively open with only low vegetation present.

Testing:

A shovel test near the center of the kame's summit revealed subsurface charcoal and bone. This shovel test was expanded into test pit 1 which produced ca. 535 calcined medium-large mammal bone fragments. Charcoal and 15 fragments of thermally altered rock were associated with these bone fragments which occurred between 12 and 25 cmbs in two distinct soil/sediment units in test pit 1. This concentration of burned bone and charcoal in test pit 1 appears to extend to the southwest of the test. A single possible basalt flake was recovered from the backdirt of one shovel test prior to its enlargement into test pit 1. The shovel test adjacent to test pit 1 produced three small possible fragments of red ochre (UA81-207-4). Seven additional shovel tests were placed at the summit of the kame but none of these produced faunal material or charcoal. No cultural material was observed on the surface of the kame.

Systematic testing at TLM 061 consisted of the excavation of one 1 x 1 m test square and a grid shovel test expansion program. A total of 29 grid shovel tests were excavated, two of which produced cultural

remains. In grid shovel test N100/E104 a basalt flake was found below the Devil tephra (unit 2) near its contact with the oxidized Watana tephra (unit 3a). In grid shovel test N102/E104 21 argillite flakes and six chert flakes were recovered from the organic silt (unit 1b), the contact between the organic silt and the Devil tephra (unit 1b/2), and the Devil tephra (unit 2). The majority of these flakes were recovered at the contact of the organic silt and Devil tephra (unit 1b/2). The one 1 x 1 systematic test square, N100/E102, was placed between test pit 1 and the positive grid shovel tests.

Discussion:

Testing at TLM 061 consisted of the excavation of 1 test pit, 8 survey shovel tests, 29 grid shovel tests, and one 1 x 1 m test square. The cultural remains recovered from this site include 1 argillite biface fragment, 47 flakes, 15 thermally altered rock fragments, and ca. 555 bone fragments (Table D.112). Three types of lithic raw material are present, represented by 21 argillite, 18 basalt, and 8 chert flakes. Faunal material from this site consist of fragmentary bones which are calcined or heavily burned and mostly attributable to medium-large mammal(s). The few identifiable bones and bone fragments are caribou (Rangifer tarandus). Identifiable skeletal elements consist of a metapodial fragment, sesamoid, and vestigial phalanx fragment (Table D.113).

Six soil/sediment stratigraphic units have been identified at TLM 061 (Figure D.77; Table D.111). The basal layers of a general stratigraphic section from the test square consist of an upper, oxidized drift (unit 5a), a dark gray silty sand (unit 5b), and a lower, unoxidized drift horizon (unit 5c). These glacial drift units are overlain by a sequence of three tephras. The Oshetna tephra (unit 4) overlies the oxidized drift (unit 5a), but lacks continuity throughout the test square. The upper extent of the Oshetna tephra shows evidence of carbon staining, but lacks the evidence of a well-defined paleosol that is present in other sites in the project area. Above the Oshetna tephra are the oxidized and unoxidized portions of the Watana tephra (units 3a and 3b),

which usually appear as a mottled mixture. The Watana tephra units are overlain by the Devil tephra (unit 2). These volcanic sediments are capped by the organic mat (unit 1a and 1b).

Survey testing at TLM 061 yielded faunal remains in association with charcoal and thermally altered rock in two distinct soil units that were recorded prior to the designation of stratigraphic units described above. A gray brown sand occurs only in the southern half of test pit 1 between 12 and 22 cmbs and may represent a cultural feature intrusive into an older cultural deposit of gray brown silty sand occurring 13-25 cmbs. It appears that the faunal material and charcoal in both the gray brown sand and the gray brown silty sand represent different occupations of the site. A dark gray ash horizon occurs 23 cmbs in test pit 1. This ash is present directly above the brown silty sand and separates the two cultural stratigraphic horizons.

Systematic testing confirmed the presence of two cultural components at TLM 061. Artifacts from these components were found in three of the six soil/sediment units and at their contacts. The upper occupation occurs in the Devil tephra (unit 2) and its upper contact with the organic silt layer (unit 1b/2). The lower component occurs in the Oshetna tephra (unit 4) and its lower contact with the drift (unit 4/5). Cultural material also occurs within the Watana tephra (unit 3). Disturbance of the stratigraphic units as a result of natural processes such as cryoturbation may have displaced flakes and bone from either or both of the components into the Watana tephra. However, it is possible that these artifacts represent a middle site component.

Upper Component: Cultural material associated with this component were found in one shovel test (N102/E104) and the test square (N100/E102). The cultural material includes both lithic and faunal material. One basalt flake and one unburned long bone fragment of a medium-large mammal were found in the test square on the contact between the organic silt and Devil tephra (unit 1b/2). In the shovel test (N102/E104), 11 argillite flakes and four chert flakes were found at this same contact. One chert flake was found within the organic silt layer (unit 1b), and

10 argillite flakes and one chert flake were found within the Devil tephra. The cultural remains recovered from the gray brown sand during survey testing, may be from a cultural feature associated with this upper component.

Lower Component: The lower component is concentrated in the lower extent of the Oshetna tephra (unit 4) and its contact with the oxidized drift (unit 4/5). Cultural material in this stratigraphic context consists of both lithic and faunal material from the test square N100/E102. One basalt flake was recovered from within the Oshetna tephra (unit 4). At the contact between the Oshetna tephra and underlying oxidized drift (unit 4/5), there were 12 basalt flakes, 1 chert flake, and 1 argillite biface fragment (UA84-87-15; Figure D.376j). The faunal material associated with this component consists of seven calcined unidentifiable bone fragments found within the Oshetna tephra (unit 4) and three calcined unidentifiable bone fragments found at the contact between the Oshetna tephra and oxidized drift (unit 4/5). The cultural remains recovered from the gray brown silty sand beneath the dark gray ash horizon during survey level testing may be associated with this lower component.

Evaluation:

TLM 061 is situated on the summit of a discrete, conically shaped kame located northwest of the mouth of a creek locally known as No Name Creek. The view from the site is essentially panoramic but is somewhat obscured by dense forest growth and steep undulating kettle and kame topography. The location of the site, in conjunction with the artifact assemblage, suggests that it functioned as a chipping station and food processing location.

Systematic testing at TLM 061 indicates the presence of two or possibly three, cultural occupations. An upper component associated with the organic silt and Devil tephra unit and a lower component in the Oshetna tephra and its contact with the oxidized drift were identified. Cultural material found within the Watana tephra may indicate a middle

component, but is more likely displaced from the two adjacent components. Based on the homogeneity of lithic morphology associated with the lower occupation of the site, it is speculated that cultural activity focused on lithic reduction and bifacial tool manufacture. The presence of burned bone, thermally altered rocks, charcoal, and lithic material suggest food processing activities. Observed site size based on the distribution of artifacts is 21 square meters (Table D.2).

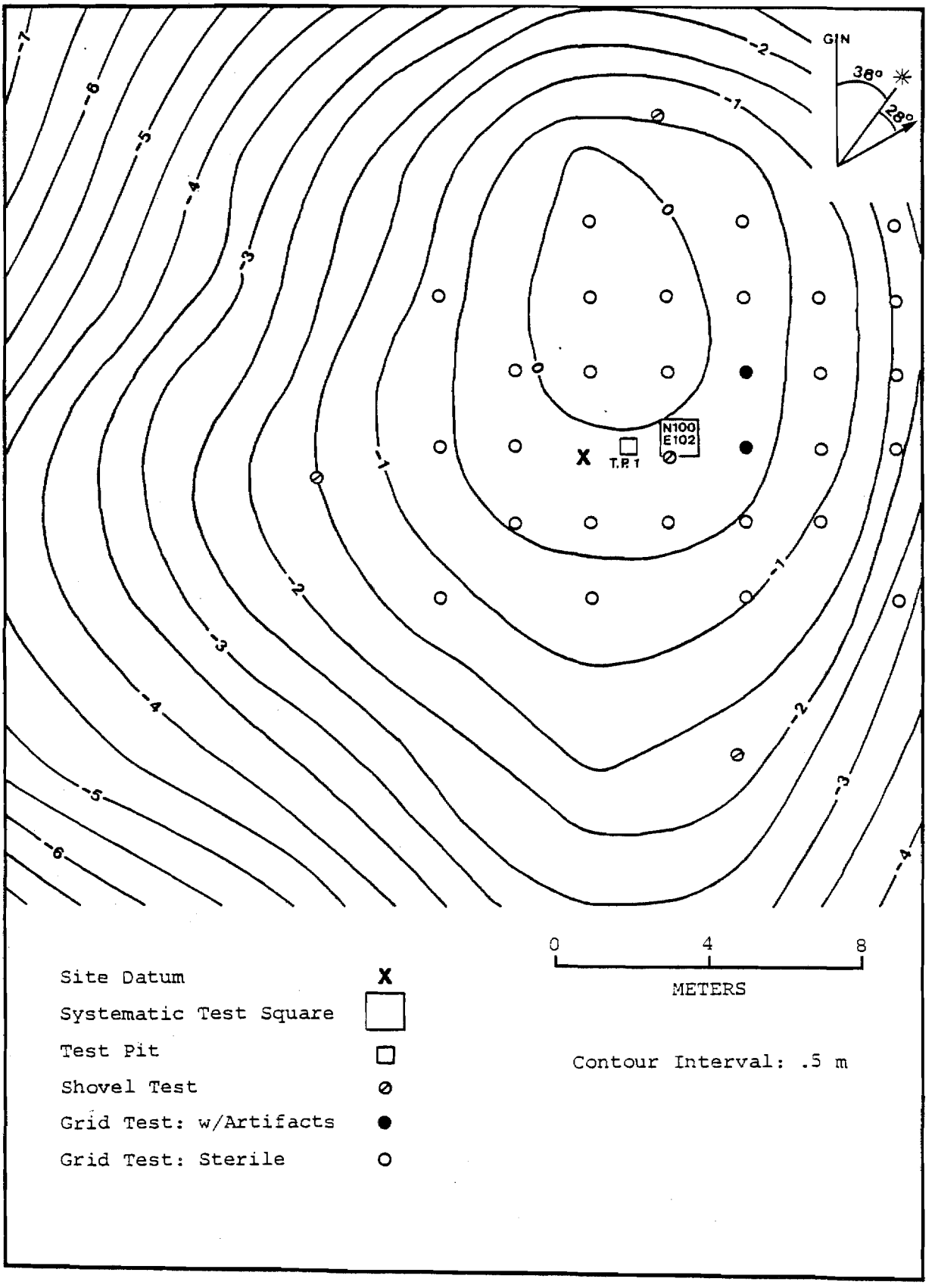

Figure D.76. Site Map, TLM 061

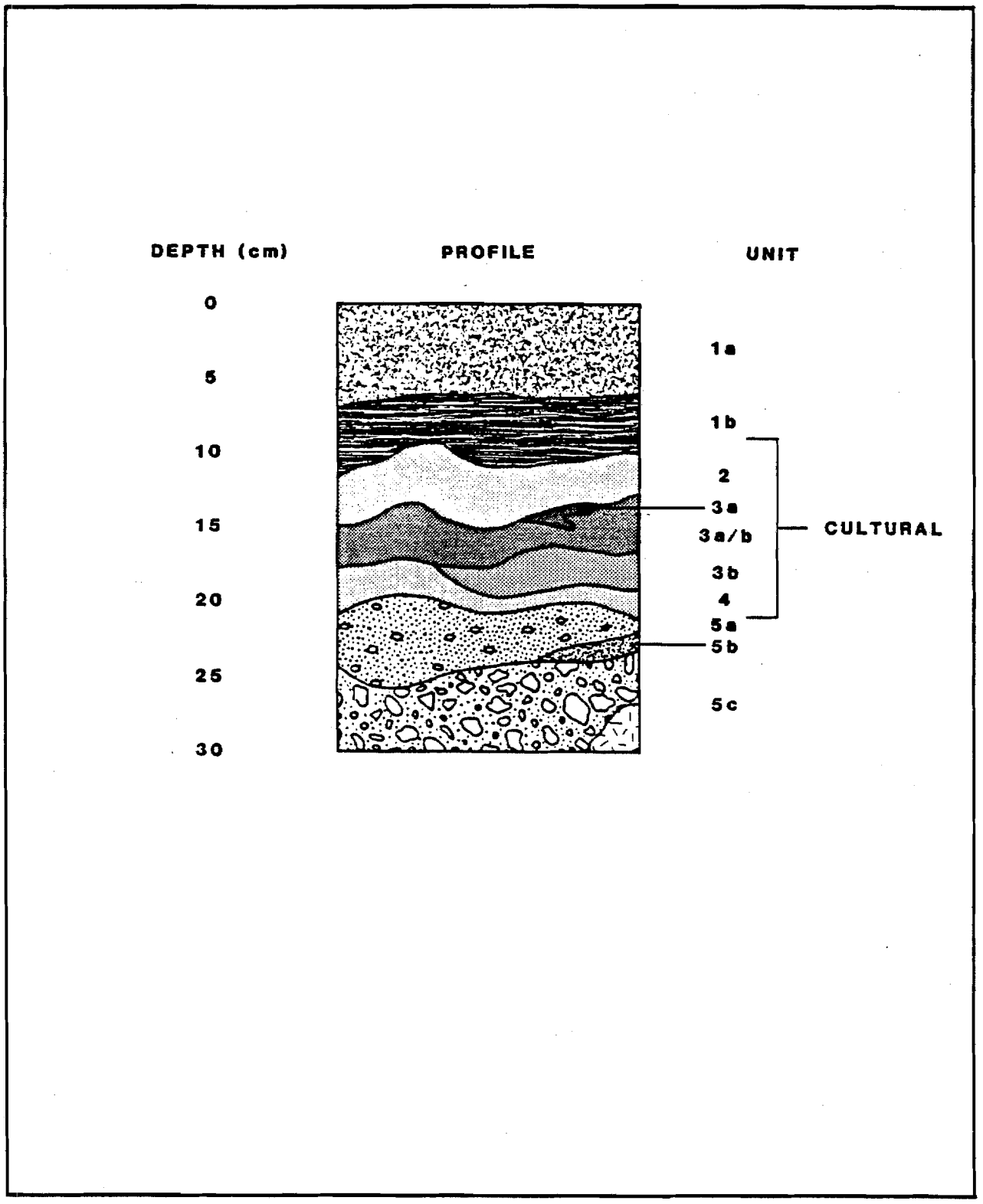

Figure D.77. Composite Profile, TLM 061

Table D.111.

Soil/Sediment Description for Composite Profile, TLM 061

Unit	Description
1a	Surface organic layer, thick fibrous root mat with living and partially decomposed plant material from Labrador tea, blueberry, lowbush cranberry, sphagnum moss, low heath, and lichens. Varies in thickness from 3-11 cm, but is usually 7 cm. The lower boundary is clear and smooth. Continuous. O1 horizon.
1b	Very fine silt with decomposed plant fragments and rootlets; black (N 2/). Varies in thickness from 2-9 cm, usually 4 cm. Lower boundary clear and smooth to wavy. Continuous, O2 horizon with tiny flecks of charcoal present. Cultural material at lower contact with unit 2.
2	Fine-grained silt size particles; pinkish gray (7.5YR 6/2) to dark gray (N 4/) to very dark gray (N 3/). Ranges in thickness from 2-7 cm, but generally is 4 cm. Abrupt, wavy contact with unit 3a. Tephra (Devil); eluvial A horizon. Fairly continuous. Root penetration. Cultural.

Table D.111. (Continued)

Unit	Description
3a	Fine to medium silt size particles, granular structure, friable; strong brown (7.5YR 5/6). Ranges in thickness from 2-4 cm. Lower boundary wavy to indistinct. Mottling and cryoturbation evident. Discontinous. Tephra (Watana); illuvial B2 horizon. Oxidized. Cultural.
3a and 3b	Fine to medium silt size particles, granular structure, friable; strong brown (7.5YR 5/6) to (7.5YR 5/8). Ranges in thickness from 2-7 cm, generally 4 cm. Lower boundary abrupt to wavy, but fairly distinct. Mottling and cryoturbation evident. Discontinuous. Tephra (Watana); illuvial B2 horizon. Some oxidation. Cultural.
3b	Very fine silt size particles; yellowish brown (10YR 5/6). Ranges in thickness from 2-7 cm, but is generally 6 cm. The lower boundary is clear and distinct. Tephra (Watana); illuvial B2 horizon. Discontinuous. Cryoturbated. Cultural.
4	Fine silt size particles mixed with sand; very dark grayish brown (10YR 3/2). Varies in thickness from 2-7 cm, generally 3 cm. Lower boundary clear to diffuse with a wavy discontinuous contact. Tephra (Oshetna); eluvial A horizon. Cryoturbated. Cultural material within this unit and its lower contact with unit 5a.

Table D.111. (Continued)

Unit	Description
5a	Sand and silt size particles mixed with gravels; strong brown (7.5YR 5/6) to (7.5YR 4/6). Varies in thickness from 1-16 cm, generally 6-9 cm. Lower boundary gradual and distinct to diffuse. Glacial drift. Poorly sorted. Oxidized.
5b	Sand and silt size particles, gritty texture, granular structure; dark gray (10YR 4/1). Varies in thickness from 1-11 cm, generally 2 cm. Possible percolation layer of decomposed slate. Glacial drift. Poorly sorted. Lower boundary distinct and wavy to straight. Present primarily in the southwest corner of the test square.
5c	Sand and silt with pebbles and cobbles; brown (10YR 5/3). Glacial drift. Poorly sorted. Cobbles are rounded, usually 4-8 cm in diameter. Frost feature present. Unit determined the extent of excavations.

Table D.112.

Artifact Summary, TLM 061

Tools

1	Biface
	1 Argillite (UA84-87-15)

Lithic Material

21	Argillite flakes
18	Basalt flakes
8	Chert flakes
15	Thermally altered rocks
62	

Other

3	Ochre pieces

Faunal Material

ca. 556	Bone fragments

Table D.113.

Faunal Material by Stratigraphic Unit, TLM 061

Unit		Description
2 Devil tephra	1	Long bone fragment, unburned, medium-large mammal
3b Unoxidized Watana tephra	7	Unidentifiable bone fragments, calcined, medium-large mammal
4 Oshetna tephra	7	Unidentifiable bone fragments, calcined, medium-large mammal
4/5 Contact between Oshetna tephra and Glacial drift	3	Unidentifiable bone fragments, calcined, medium-large mammal
Subsurface Unknown (Survey testing)	1	Distal metapodial (hindlimb) fragment, heavily burned, caribou (Rangifer tarandus)
	1	Vestigial phalanx fragment, calcined, caribou (Rangifer tarandus)
	1	Sesamoid, calcined, caribou (Rangifer tarandus)
	10	Long bone and unidentifiable bone fragments, heavily burned, large mammal
	ca. 525	Long bone and unidentifiable bone fragments, calcined, medium-large mammal

Table D.114.

Artifact Summary by Stratigraphic Unit, TLM 061

Unit		Description
1b	1	Chert flake
Organic silt		
1b/2	11	Argillite flakes
Contact between	1	Basalt flake
organic silt and	4	Chert flakes
Devil tephra		
2	10	Argillite flakes
Devil tephra	1	Chert flake
2/3a	1	Basalt flake
Contact between Devil tephra and oxidized Watana tephra		
3a	1	Basalt flake
Oxidized Watana tephra		
3b	1	Basalt flake
Unoxidized	1	Chert flake
Watana tephra		

Table D.114. (Continued)

Unit		Description
4	1	Basalt flake
Oshetna tephra		
4/5	12	Basalt flakes
Contact between	1	Chert flake
Oshetna tephra	1	Argillite biface fragment (UA84-87-15)
and drift		
Unknown	1	Basalt flake
(Survey	15	Thermally altered rocks
testing)	3	Ochre pieces

AHRS Number TLM 062; Accession Numbers UA81-208, UA84-237

Area:	West of Kosina Creek Mouth
Site Map:	Figure D.78
Survey Locale 78:	Figure E.152
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located on the south side of the Susitna River west of the mouth of Kosina Creek. It is situated on the relatively flat, densely forested edge of a continuous alluvial terrace at an approximate elevation of 560 m asl (altimeter: 1836 feet). The site is on the extreme northeastern point of the terrace where it changes direction from an east-west trending terrace to a north-south trending terrace. The site elevation is ca. 60 m above the river level. The Susitna River is northeast of the site. The terrace point on which the site is situated is the highest and most prominent landform in the immediate site vicinity. Areas of exposed bedrock are visible on the steep eastern slope of the terrace immediately below the site location. The mouth of an unnamed creek, located east of the site, is not visible from the site due to the dense forest cover. The northern terrace edge slopes steeply down to a broad lower terrace level approximately 30 m lower in elevation. This lower terrace edge arcs northwest from the site following the Susitna River margin. The view from the site encompasses both the lower terrace to the northwest and the marshy wet tundra terrain below. The view extends across the Susitna River encompassing the mouth of the outlet stream from a small lake located northeast of the site on the north side of the Susitna River and the terrace and ridges in the vicinity of site TLM 033 which is directly across the river at almost the same elevation. A small, forested island is also visible east of the site at the confluence of the unnamed creek with the Susitna River. Site vegetation consists of open black spruce forest with birch and some white spruce present. Ground vegetation in

the site vicinity includes dwarf birch, lowbush cranberry, Labrador tea, and a thick lichen and moss mat. Surrounding vegetation is open mixed forest which includes fairly dense birch and willow in the vicinity of the creek drainage to the east of the site. White spruce occurs on higher, better-drained ground and, primarily, black spruce occupies the flat terraces.

Testing:

Initial testing at the site was restricted to the extreme northeastern edge of the terrace. One shovel test exposed a gray chert flake core 17 cmbs within a matrix of whitish gray tephra. This test, expanded into test pit 1, also produced two fragments of a unifacially retouched red chert endscraper in the same matrix. Surface material collected at the site consists of a black basalt waste flake found on the top of the moss and lichen mat next to the southernmost shovel test. The provenience of this flake is unclear as it may have dropped out of the backdirt from this test. This test was enlarged into test pit 2 but no subsurface cultural material was observed. Intensive surface survey in the immediate vicinity of test 2 did not produce any additional surface artifacts. Six additional survey shovel tests at the site were all sterile.

Six 1 x 1 m test squares and 49 shovel tests were excavated during systematic testing. Five test squares were placed near the eastern edge of the terrace where survey testing had shown cultural material to be present. These tests were placed to define the extent and continuity of the site along the terrace edge and to obtain additional diagnostic artifacts and charcoal if possible. Shovel testing was conducted along east-west transects at 5 m intervals to define the western extent and boundary of the site.

A grid shovel testing program was undertaken to assist in determining site size and the distribution of cultural materials. Thirty-one grid shovel tests were excavated, however, only one shovel test contained cultural material. Shovel test N94/E96 revealed a dense concentration

of bone fragments in a mixed or cryoturbated Watana unit. This lens of bone matrix ranges from 24-29 cmbs, resting on the top of the Oshetna tephra.

Discussion:

Testing at TLM 062 involved the excavation of 6 survey shovel tests, 2 test pits, 80 grid shovel tests, and 6 test squares. One test pit, 1 shovel test, and 1 test square produced cultural material. The cultural remains recovered at this site include both lithic and faunal material and represent two cultural components. Table D.116 presents a complete artifact summary for the site. The stratigraphic distributions of lithic and faunal material are presented on Tables D.117 and D.118.

Stratigraphy at this site is characterized by 15-30 cm of deposits overlying unsorted glacial drift (Figure D.79; Table D.115). Much of the deposition at the site appears to be of volcanic origin with 20-25 cm of tephra directly overlying the drift and capped by modern organic and humic horizons. Three volcanic tephra horizons have been distinguished on the basis of color, weathering, and stratigraphic position. Contacts between these tephra units are in some cases extremely involuted and often gradational, therefore, artifact provenience at the contact zone between tephra units frequently could not be assigned to a single tephra and was instead assigned to a contact transition zone. In general, the stratigraphy was fairly uniform at the site and correlation of tephra and soil units between test squares was possible. Test square N80/E103 contained a buried humic horizon (unit 2a) and a Devil tephra lens (unit 3a) within the Watana tephra (unit 4). These were interpreted as a localized disturbance of the stratigraphy, probably as a result of an uprooted tree. In test square N90/E95.5 a lens of charcoal (unit 6) was associated with flakes and calcined bone at the contact between the Watana tephra and the Oshetna tephra.

There appears to be a difference in the raw material of artifacts between the upper and lower components. Rhyolite flakes are found only at the contact between the finely divided organics and the Devil tephra

(unit 2/3). Light gray quartzite and very fine grain dark gray chert are associated with the Devil tephra (unit 3) and do not occur below its lower contact with Watana tephra (unit 4). The flakes from the upper component lack cortex. The small size of these flakes is characteristic of pressure flaking and suggests that finishing work or resharpening was occurring at the site during the upper component occupation. Basalt flakes are concentrated in the Oshetna tephra (unit 5, 5a) and at its upper contact with unit 4. They also occur in the Watana and Devil tephras with less frequency.

Approximately 2132 calcined bone fragments were recovered from both components at this site. Only six of these fragments were identifiable. They include caribou (Rangifer tarandus) extremity fragments and a rib fragment. One unidentifiable bone fragment has possible cut marks.

Upper Component: This component is associated with the Devil tephra (unit 3) and is represented by basalt, chert, quartzite, and rhyolite flakes and calcined bone fragments. This component was present in all five test squares which produced cultural material. Tools recovered during systematic testing, which are attributable to this component, include a basalt biface fragment (UA81-208-75; Figure D.376m), with continuous retouch along two adjacent margins and hinge fractures on two margins, and a basalt modified (retouched) flakes (UA81-208-85), which may be and endscraper fragment. The component also occurred in test pit 1, excavated during initial survey, which produced a red chert endscraper (UA81-208-2, 3; Figure D.376l) found in two fragments and a gray chert flake core (UA81-208-1; Figure D.376k). Cultural material from this component was primarily associated with the contact between the A horizon and the Devil tephra (units 2 and 3) but also occurred within the Devil tephra and at its lower contact with the Watana tephra.

Feature 1, a concentration of over 1,200 calcined bone fragments associated with 28 basalt flakes, occurred in test square N100/E107 at the gradational contact between the A horizon (unit 2) and the Devil tephra (unit 3), with some lithic and faunal material recovered from within the Devil tephra. Devil tephra (unit 3) was not present directly

below feature 1 in test square N100/E107, indicating a possible cultural mixing or modification of this surface. A radiocarbon determination on charcoal recovered from within the Devil tephra (unit 3) and in association with the red chert endscraper from test pit 1 yielded a date of 1380 ± 155 years: A.D. 570 (DIC-2246).

Lower Component: The lower component at the site was present only in test square N90/E95.5 and was associated with the Oshetna tephra (unit 5). Cultural material includes basalt flakes, calcined bone fragments, and a modified (retouched) flake of fine-grained black basalt (UA81-208-174) which may represent a complete endscraper. A concentration of 125 basalt flakes (Feature 2) was associated with the Oshetna tephra and a zone of apparent mixing between the Oshetna tephra and the Watana tephra in the northern half of the test (units 5, 5a). A concentration of over 454 calcined bone fragments and two basalt flakes (Feature 3) occurred in the zone of mixing (unit 5a) between the Oshetna and Watana tephra in the southern half of the test. In addition, six basalt flakes and 251 calcined bone fragments, one with possible butchering marks (UA81-208-95), were recovered from the Watana tephra and appeared to be associated with feature 3. The faunal material found in grid shovel test 1 (N94/E96) may also be associated with feature 3.

Unfortunately N90/E95.5 was the only test square containing artifacts from both the upper and lower components at the site. Cryoturbation has mixed cultural material through several stratigraphic units with no sterile horizon separating the two components. Calcined bone and/or flakes occurred within the Watana tephra in four test squares and in one grid shovel test, and may represent a third component.

Evaluation:

No evidence of permanent or semipermanent structures was observed during testing, so it is presumed that the site probably functioned as a temporary campsite and hunting overlook at which tool manufacture occurred. The negative evidence of 79 sterile shovel tests suggests that the site is limited in spatial extent with the utilized area being in the vicinity of the terrace edge. There appears to be a horizontal separation between the two components, with the most recent occupation concentrated near the edge of the terrace and the earlier occupation well back from the edge. With the limited amount of testing it is too early to look for patterns relating to activity areas at the site, but there does seem to be some preliminary evidence of differential use of the site at different time periods. The small rhyolite, quartzite, and chert flakes associated with the upper component suggest finishing work or lithic resharpening. These activities are not indicated by the basalt flakes present in the lower component.

While the results of systematic testing were not entirely conclusive, they do demonstrate TLM 062 to be a multicomponent site. The upper component probably documents the site's use as a hunting camp at approximately A.D. 570. This component is critical to understanding the recent cultural history of the upper Susitna River basin, because it occurs immediately prior to the Athapaskan tradition. The lower component appears to represent a campsite where subsistence activities relating to either the cooking of meat or the processing of bone took place. Estimated site size based on the distribution of artifacts is 384 square meters (Table D.2).

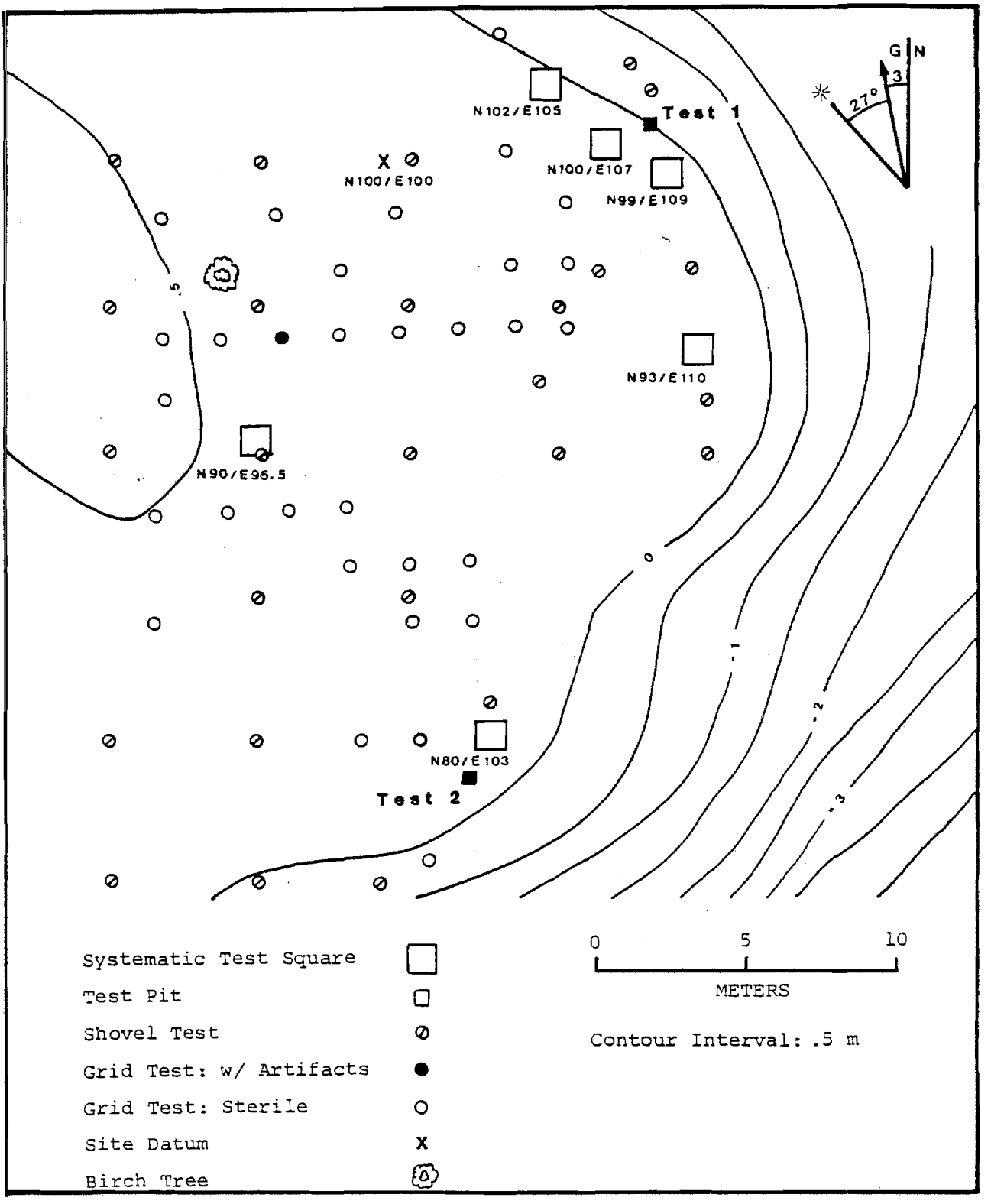

Figure D.78. Site Map TLM 062

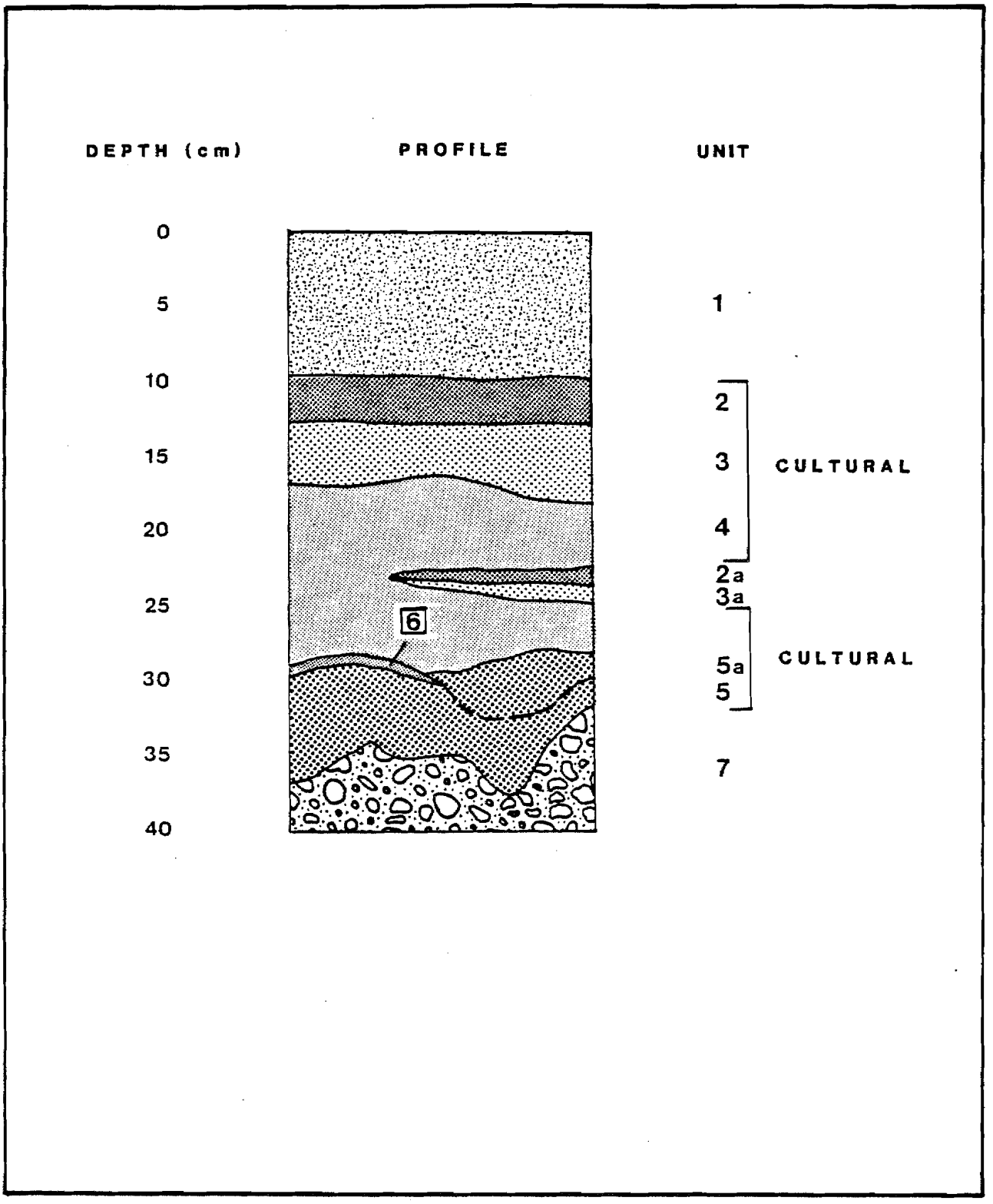

Figure D.79. Composite Profile, TLM 062

Table D.115.

Soil/Sediment Description for Composite Profile, TLM 062

Unit	Description
1	Organic with roots and rootlets; varies in color from very dusty red (2.5YR 2.5/2) to dark reddish brown (2.5YR 2.5/4). Varies in thickness from 2-17 cm. Small pieces of charcoal are occasionally present. Contact with unit 2 is gradational. O horizon.
2	Finely divided organics; black (5YR 2.5/1 to 10YR 2/1). Charcoal present in all tests and shovel tests with greatest concentration at contact with unit 3. Thickness varies from 2-9 cm. Lower contact with unit 3 gradational with some mixing. Greasy texture. A horizon. Cultural.
2a	Finely divided organics; black (5YR 2.5/1). Occurs only in test square N80/E103. Interpreted as buried unit 2.
3	Very fine silt; ranges from light brownish gray (10YR 5/2) to light gray (10YR 7/1) with dark gray streaks (10YR 3/1) at upper gradational contact with unit 2 where mixing occurs and charcoal flecks are present. Varies in thickness from 1-8 cm and is occasionally discontinuous. Sharp lower contact with unit 4. Occasional charcoal flecks present. Dries to a fine white powder. Devil tephra. Cultural.

Table D.115. (Continued)

Unit	Description
3a	Very fine silt; light brownish gray (10YR 6/2). Occurs only in test square N80/E103. Interpreted as buried unit 3.
4	Very fine silt; ranges in color from dark reddish brown (2.5YR 2.5/4) in strongly oxidized upper contact with unit 3 to yellowish brown (10YR 5/6) or pale yellow (2.5Y 7/2) in lower portion of unit. Strongly oxidized zone discontinuous and mottled with granular texture. Oxidation gradational within unit. Thickness varies from 4-28 cm. Lower contact with unit 5 sharp and involuted. Watana tephra. Cultural.
5	Medium silt to sandy silt; varies in color from dark grayish brown (10YR 4/2) to gray (10YR 6/1). Pebbles present, probably due to mixing with unit 6. Often overlain by thin discontinuous charcoal lense. Sharp but very involuted contact with unit 6. Oshetna tephra. Cultural.
5a	Fine silt; brown (10YR 5/3). Contains many charcoal flecks. Involuted and gradational contacts with units 4 and 5. Contains flakes and calcined bone fragments. Occurs only in test square N90/E95.5. Interpreted as mixing of units 4 and 5. Cultural.

Table D.115. (Continued)

Unit	Description
6	Charcoal lens.
7	Oxidized coarse sand, pebbles, and cobbles; ranges in color from strong brown (7.5YR 4/6) to yellowish brown (10YR 5/6). Unsorted. Glacial drift.

Table D.116.

Artifact Summary, TLM 062

Tools	
2	Modified flake
	2 Basalt (UA81-208-85, 174)
2	Scraper fragments
	2 Chert (UA81-208-2 articulates with 3)
1	Biface fragment
	1 Basalt (UA81-208-75)
1	Flake core
	1 Chert (UA81-208-1)
6	
Lithic Material	
178	Basalt flakes
6	Chert flakes
18	Quartzite flakes
5	Rhyolite flakes
207	
Faunal Material	
ca. 2,132	Bone and bone fragments

Table D.117.

Faunal Material by Stratigraphic Unit, TLM 062

Unit		Description
2/3 Contact between finely divided organics and Devil tephra	1	Sesamoid bone, calcined, caribou, (Rangifer tarandus)
	2	Distal fragments proximal phalanx, calcined, caribou (Rangifer tarandus)
	18	Long bone and unidentifiable fragments, calcined, medium-large mammal
2/3 (Feature 1)	1	Distal metapodial fragment, calcined, caribou (Rangifer tarandus)
	1,200+	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
4 Watana tephra	1	Possible metapodial distal fragment, calcined, caribou (Rangifer tarandus)
	1	Probable proximal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
	1	Unidentifiable bone fragment, possible cut marks, calcined, medium-large mammal
	248	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
4, 4/5 Within Watana tephra, contact between Watana and Oshetna tephras	1	Dorsal rib fragment, calcined, probably caribou (Rangifer tarandus)
	172	Unidentifiable bone fragments, calcined, mammal

Table D.117. (Continued)

Unit		Description
5 Oshetna tephra	31	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
5a	1	Rib fragment, calcined, medium-large mammal
Mixed Watana and Oshetna tephras	454	Long bone and unidentifiable bone fragments, calcined, medium-large mammal

Table D.118.

Artifact Summary by Stratigraphic Unit, TLM 062

Unit		Description
2	8	Basalt flakes
Finely divided organics		
2/3	24	Basalt flakes
Contact between	4	Chert flakes
finely divided	7	Quartzite flakes
organics and	5	Rhyolite flakes
Devil tephra		
3	15	Basalt flakes
Devil tephra	2	Chert flakes
	10	Quartzite flakes
	1	Basalt modified flake (UA81-208-85)
	2	Chert scraper fragments (UA81-208-2 articulates with 3)
	1	Basalt biface fragment (UA81-208-75)
	1	Chert flake core (UA81-208-1)
4	6	Basalt flakes
Watana tephra	1	Quartzite flake
5	9	Basalt flakes
Oshetna tephra	1	Basalt modified flake (UA81-208-174)

Table D.118. (Continued)

Unit		Description
5/5a Contact between Oshetna tephra and mixed unit	64	Basalt flakes
5a Mixed Watana and Oshetna tephra units	52	Basalt flakes

AHRS Number TLM 063; Accession Numbers UA81-209, UA84-127

Area:	Southeast of Watana Creek Mouth
Site Map:	Figure D.80
Survey Locale 55:	Figure E.134
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

TLM 063 is located near the top of an isolated, ca. 20 m high kame south of the Susitna River, and southeast of the mouth of Watana Creek. The kame is steep sided and oval, with an east-west trending, rounded crest. The site is on the eastern end of the crest, at its southern edge where the slope begins to steepen. The kame is situated on the northern margin of a low, level flood plain terrace, which is approximately 10 m higher than the present elevation of the Susitna River. At an elevation of 505 m asl (altimeter: 1656 feet), the site is about 20 m higher than the surrounding flood plain terrace and ca. 30 m above the river. The terrace extends southward from the river about 400 m to the southern wall of the Susitna River canyon and runs for over 5 km east and west of the site. South of the site and ca. 200 m distant on this terrace is an esker ridge and small (ca. 1 ha) kettle lake. A small outlet stream runs from the lake to the river ca. 300 m west of the site. A clear view of the terrace to the west almost to the outlet stream mouth can be obtained from the site, but visibility is impaired in other directions by forest vegetation. The kame summit is wooded with paper birch, aspen, and white spruce, with an understory of juniper, Labrador tea, sphagnum moss, dwarf birch, blueberry, and other plants. Surrounding vegetation on the terrace is extensive dwarf birch and blueberry scrub brush with patchy black spruce woods.

Testing:

Over 700 small fragments of burned bone and a single red chert flake were recovered from test pit 1 during initial field survey. These

artifacts were found in a reddish brown loess stratum within a series of eolian silts deposited at the site. Ten additional shovel tests and another test pit (test pit 2) excavated during survey failed to produce further artifactual material.

To assist in defining the boundaries and stratigraphic context(s) of the site, a shovel test expansion program and excavation of a 1 x 1 m test square, N99/E107, was conducted. Three sterile survey shovel tests and 24 grid shovel tests were excavated, two of which yielded cultural material.

Discussion:

Four basalt flakes were recovered from the single positive shovel test, and the test square revealed an additional rhyolite flake and two unidentified calcined bone fragments. The most productive area of the site lies on its eastern end, where test pit 1 produced abundant faunal material. The positive grid shovel test (N99/E105) is located in the next most productive area in the site. Test square N99/E107, located directly between these areas, contains very little cultural material (Table D.120). Three raw materials (basalt, chert, and rhyolite) are represented in the lithic artifacts. All are small flakes with no evidence of modification.

Owing to its position adjacent to the Susitna River, the site contains a stratigraphic sequence dominated by eolian silts. Seven soil/sediment units are recognized at TLM 063, based on the exposures in test square N99/E107. Beneath a thin surface organic mat (unit 1) is a leached layer of grayish brown silt mixed with modern rootlets (unit 2). A similar silt unit (unit 3) with less roots and brown in color, underlies this leached zone. Unit 3 may be an illuvial horizon of the present soil development regime. Below unit 3 is a grayish yellow extremely fine, well-sorted silt (unit 4) similar in texture to other silt units at the site. Patches of this unit bear a resemblance to Devil tephra in having glass shards and being cohesive when moist; the unit may be a mixture of this tephra and locally derived eolian silts. Below unit 4

is a locally discontinuous lens of reddish silt that appears to have been thermally oxidized by natural or cultural means. The unit (unit 5) is limited in areal extent, and contains charcoal in some areas of the site (but not in N99/E107) and seems to follow traces of partially carbonized roots in test square N99/E107. Burned bone from the test square and test pit 1 is present in this stratigraphic unit. Unit 6, a yellow extremely fine, well-sorted silt, underlies the localized unit 5 and unit 4. Unit 6 resembles the Watana tephra in color, texture, and stratigraphic position, and is considered to be the Watana tephra unit at this site. It may contain a significant component of fluvially derived eolian silts as well. Lithic artifacts from test square N99/E107 and shovel test N99/E105 occurred in this unit. Unit 6 drapes over and mixes with the rocky glacial drift surface (unit 7), which marked the bottom of excavation. Organic stringers composed of decaying roots and rootlets occur throughout the sequence, often at contacts between units, but no paleosols were discernible. Figure D.81 provides a depiction of the soil/sediment units present at the site, and Table D.119 describes these units in more detail.

Artifacts from test square N99/E107, shovel test N99/E105, and test pit 1 all come from the oxidized silt unit (unit 5) or upper part of the Watana tephra (unit 6), suggesting a single occupational component at the site, located in silts between units 4 and 6. The component consists of abundant small pieces of calcined bone, three of which were identified as caribou extremity fragments and a small number of unmodified pieces of lithic debitage (Tables D.121 and D.122). It is not possible to conclude whether the oxidized silt (unit 5) is cultural in origin and part of this component as well, or is natural in origin, as no definite hearth feature was located. The abundance of calcined bone in test pit 1 indicates unit 5 may be cultural, but it occurs well beyond the distribution of calcined bone into areas lacking artifacts (e.g., test pit 2).

Assigning the occupation to the contact between the Devil and Watana tephra depends on identification of units 4 and 6 as the Devil and Watana tephras, respectively. While this identification seems

reasonable, more sedimentological work is required to clarify the relationships of the rather unique stratigraphic sequence at TLM 063 with the generalized stratigraphy developed for the Susitna River region as a whole.

Evaluation:

TLM 063 is a small, single component site consisting of abundant small fragments of burned bone and several pieces of lithic debitage. The occupation is attributed to the unit contact between unit 4 and unit 6, which is thought to represent the contact between the Devil and Watana tephras at this site. Activities at the site during this occupation seem to have been limited to processing of game for consumption and a small amount of stoneworking. The time span of occupation was probably brief, accounting for the low artifact density and distribution. Observed site size based on the distribution of artifacts is 15 square meters (Table D.2).

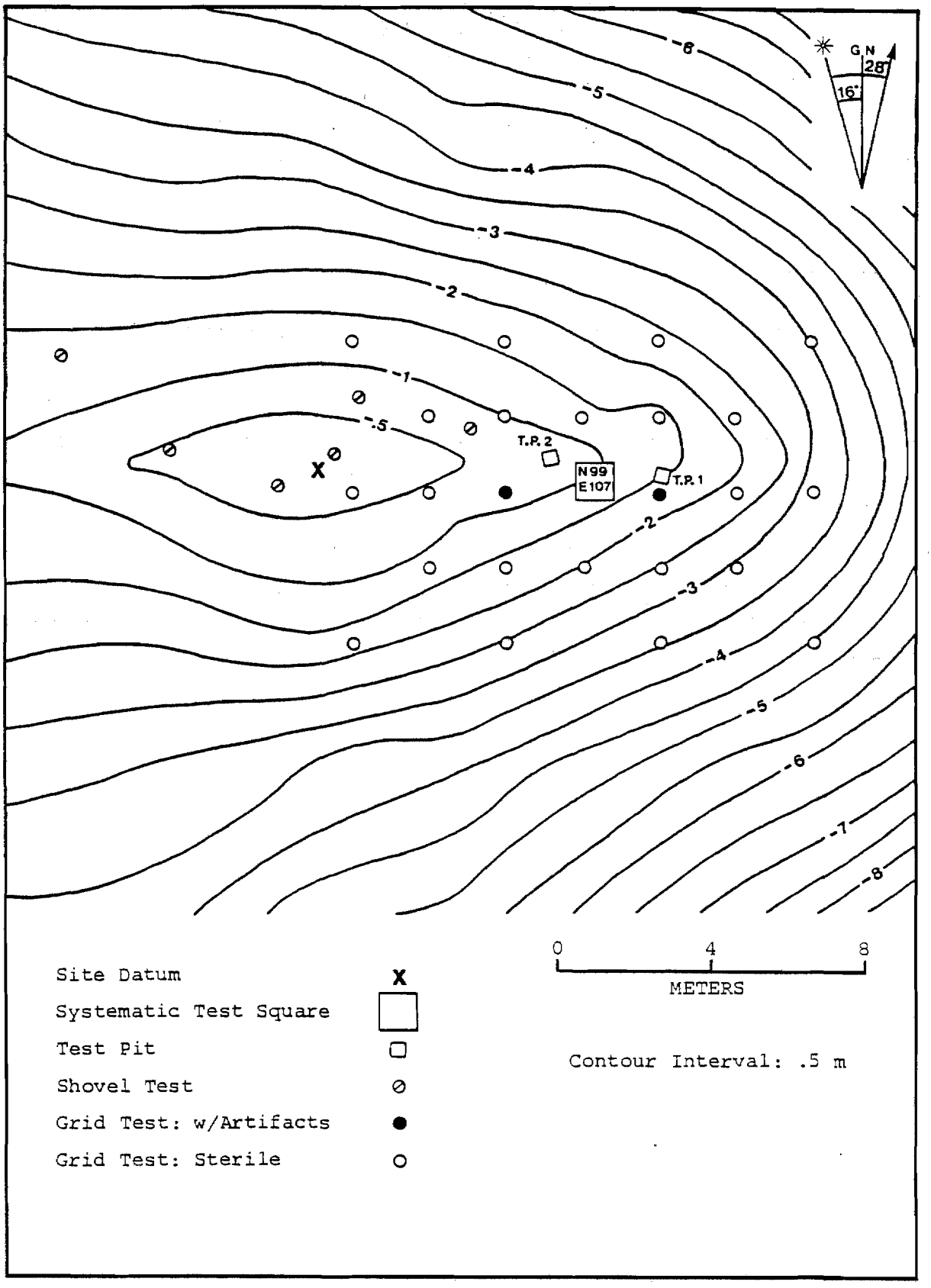

Figure D.80. Site Map, TLM 063

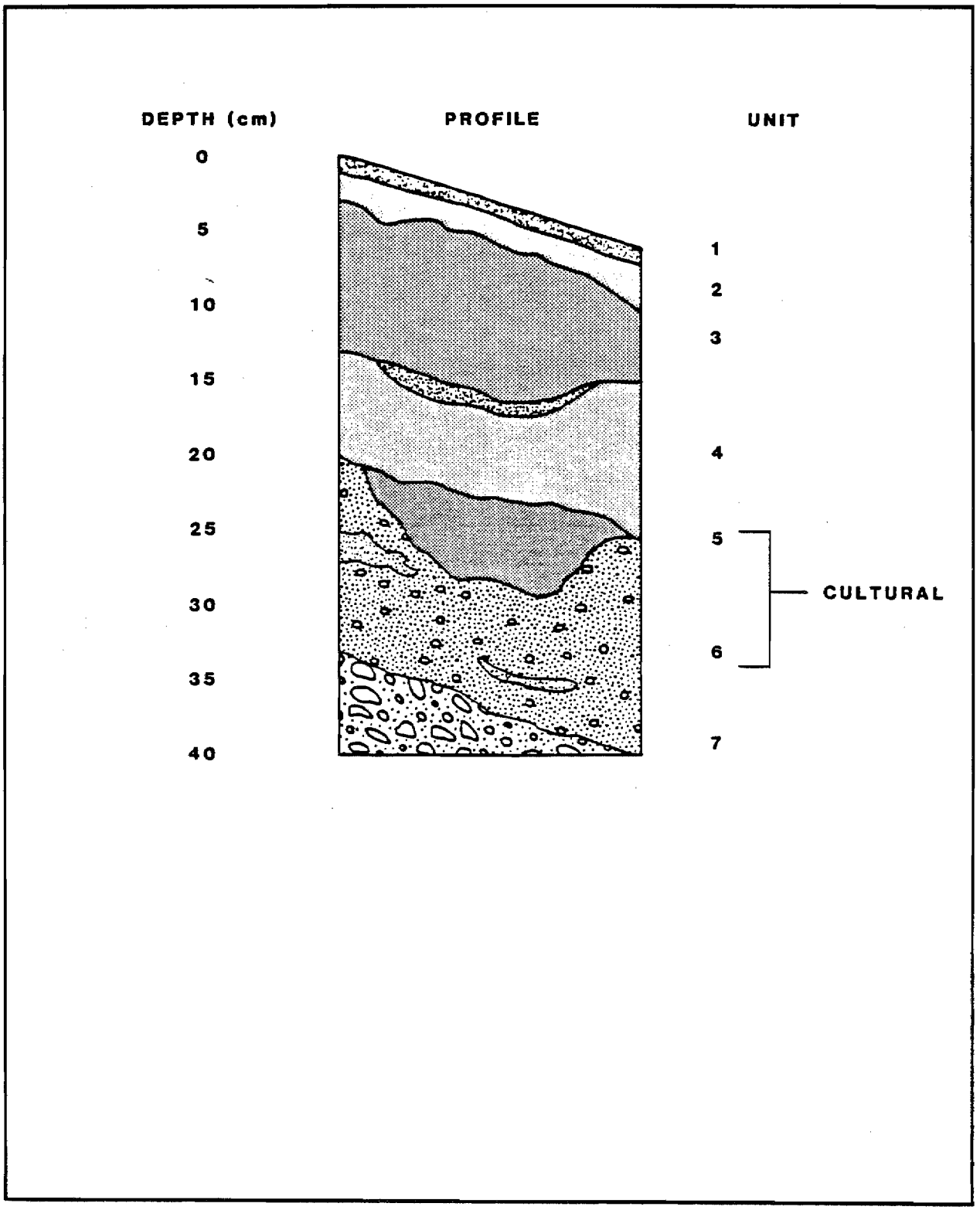

Figure D.81. Composite Profile, TLM 063

Table D.119.

Soil/Sediment Description for Composite Profile, TLM 063

Unit	Description
1	Organic mat: thin, discontinuous layer of present day vegetative material, roots and decomposing organics. Thickness varies from less than 1-2 cm. In the NW corner, overlain by a thin lens of backfill from previous excavation of test pit 2. Contact with underlying unit diffuse.
2	Eolian silt, fine well-sorted, with abundant rootlets and carbon staining; gray brown (10YR 6/2). Continuous with thickness varying between 0 and 5 cm, with a mode of 2-3 cm. Contact with unit 3 below is generally abrupt. Unit is a probable leached zone.
3	Extremely fine, well-sorted eolian silt; brown (10YR 4/3). Continuous. Varying in thickness from 2-10 cm. Contact with unit 4 generally abrupt and wavy.
4	Extremely fine, well-sorted eolian silt; yellowish gray brown (2.5YR 6/4). May contain Devil tephra. Continuous. Ranging in thickness from 2-10 cm with a mode of 5 cm. In NE and NW corners, near base of unit, texture is fine grained and compact resembling Devil tephra. Discontinuous decomposed stringers of organic material, probably of roots and rootlets.

Table D.119. (Continued)

Unit	Description
5	Extremely fine, well-sorted eolian silt. Unit appears to follow partially carbonized root fragments; reddish in color (7.5YR 4/6). Oxidized. Discontinuous with minor pale streaks occurring in eastern and southern profiles. Best developed in NW quad with greatest thickness of 6 cm. Redness of unit increases with depth. Upper contact gradational and diffuse, but obvious; lower contact abrupt. Two unidentifiable calcined bone fragments are associated with this unit.
6	Extremely fine, well-sorted silt with occasional drift pebbles yellowish brown (10YR 5/8). Continuous. Varying in thickness from 3-15 cm. Contact with unit 4 above gradational and diffuse, involving a color change from grayish to yellowish brown. Watana tephra. Contact with unit 5 above is abrupt. Contact with unit 7 below is diffuse and mixed. Gray or reddish mottling occurs in some areas. Unit contained one flake.
7	Poorly sorted glacial drift, marks the bottom limit of excavation. Surface of unit consists of pebbles and well-rounded cobbles up to 15 cm in diameter. Bottom of unit consists of rocks in sandy matrix (7.5YR 5/8).

Table D.120.

Artifact Summary, TLM 063

Lithic Material	
4	Flakes
	4 Basalt
1	Flake
	1 Rhyolite
5	
Faunal Material	
755+	Bone fragments

Table D.121.

Faunal Material by Stratigraphic Unit, TLM 063

Unit		Description
5 Reddish silt	2	Longbone and unidentifiable fragments, calcined, medium-large mammal
Subsurface unknown (Survey testing)	1	Right astragalus fragment, calcined, caribou (Rangifer tarandus)
	1	Cuneiform fragment, calcined, caribou (Rangifer tarandus)
	1	Possible proximal phalanx fragment, calcined, caribou (Rangifer tarandus)
	750+	Long bone and unidentifiable fragments, calcined, medium-large mammal

Table D.122.

Artifact Summary by Stratigraphic Unit, TLM 063

Unit		Description
4-6 From Devil tephra(?) through Watana tephra(?)	4	Basalt flakes
6 Watana tephra(?)	1	Rhyolite flake

AHRS Number TLM 064; Accession Numbers UA81-220, UA84-68

Area:	South of Susitna River and Southeast of Watana Creek Mouth
Site Map:	Locus A, Figure D.82
	Locus B, Figure D.83
Survey Local 72:	Figure E.147
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located south of the Susitna River and southeast of the mouth of Watana Creek, just south of survey locale 72. Two site loci (A and B) are located on two knolls ca. 109 m apart on a northeast-southwest axis. Loci A and B are at an elevation of 675 asl (altimeter: 2213 feet). These knolls comprise part of a series of low, rounded knolls on a relatively flat, gently sloping lacustrine plain at an elevation of 579-686 m asl (1950-2250 feet), and ca. 183-213 m (600-700 feet) above the Susitna River at its nearest point. A small lake (less than 1 ha) lies to the southwest of the site. A tributary creek cuts a steep canyon west of the site through which access to the Susitna River could be obtained. The flake scatter which represents locus A is situated on the southwestern knoll, ca. 1 m above the surrounding plain, and about 50 cm lower than the top of the knoll. The slope of the knoll is estimated to be less than 10 degrees. Locus B, 109 m northeast of locus A, is on a knoll rising ca. 4 m above the surrounding terrace on the north, while only ca. 1 m on the south and east. The cultural material is located ca. 50 cm below the top of the knoll on the southeast slope. The view from the site is essentially panoramic. Particularly noteworthy is the view in southerly directions overlooking the lacustrine plain and the steep slopes of Mt. Watana. The Susitna River canyon to the north and the valley of the tributary creek to the west are visible, although the watercourses themselves cannot be seen. A broad expanse of open black and white spruce widely scattered on the plain is in view from both loci. Vegetation on the two

knolls consists of a thin organic mat of lichens, low heath, dwarf birch, Labrador tea, crowberry, bearberry, lowbush cranberry, blueberry, and alpine azalea. Small frost boils and deflated areas occur sporadically.

Testing:

Two loci (A and B) on separate knolls were defined during survey testing. Locus A contained only surface remains while locus B contained both surface and subsurface remains . Five waste flakes (one of which was collected), 1 chalcedony flake, and 1 basalt modified flake (UA81-220-1) were discovered on the surface of locus A. The chalcedony flake was collected from the surface of a frost boil (scatter 2) at the northwestern portion of the locus while the majority of material was present on the southwestern end of locus A. A 50 x 50 cm test pit (test pit 1) at scatter 1, and a shovel test at the southwestern base of the locus A knoll were excavated but proved to be sterile.

Locus B consisted of a scatter of 21 basalt flakes (10 of which were collected) on a frost boil on the southeast slope of the locus B knoll. The slope inclines at an estimated 10 degrees or less. Test pit 2 was excavated 1 m northwest and uphill from this scatter. A light brown argillite flake and a basalt biface fragment (UA81-220-14; Figure D.376o) were recovered from the test at 6 and 8 cmbs, respectively, at the contact between a black humic horizon with charcoal flecks and a light gray tephra unit (Devil tephra). Surface survey of deflated frost boils and the excavation of two shovel tests on the flat surface of the knoll did not provide additional cultural remains.

A grid shovel testing program was implemented at locus B to assist in determining the areal extent of the locus and to obtain additional information regarding the occupation previously found at the contact of the organic soil and Devil tephra. Twenty-seven grid shovel tests were excavated, but none produced artifactual remains. Approximately 4 m southeast of the site datum and ca. 20 cm south of test pit 2, 102 basalt flakes were observed on and around a frost boil. A 1 x 1 m

systematic test square was placed over the area of the frost boil and exposed artifacts.

Discussion:

Testing at TLM 064 involved survey testing only at locus A and both survey and systematic testing at locus B. Three survey shovel tests, 27 grid shovel tests, 2 test pits, and 1 1 x 1 m test square were excavated at the site. Six hundred and twenty-six flakes, which were all basalt except for one argillite and one chalcedony flake, were recovered from both loci. Three tools were also found: a basalt modified flake, a basalt biface fragment, and an argillite lanceolate point base.

Six soil/sediment stratigraphic units are identified at TLM 064. Figure D.84 illustrates the vertical superposition of these units. Table D.123 describes the various unit characteristics. The vertical placement of the soil/sediment units is fairly consistent within the single test square. A general stratigraphic section consists of oxidized and unoxidized glacial drift (units 6a and 6b) overlain by a sequence of tephras. The Oshetna tephra (unit 5) occurs occasionally, represented in a discontinuous context between the drift and the overlying unoxidized and oxidized Watana tephra (unit 4b and unit 4a, respectively). The paleosol between the Oshetna and Watana tephras, found elsewhere in the project area, is not present in the stratigraphic sequence. Above the Watana tephra lies the Devil tephra (unit 3). Above the volcanic sediments is a humic, carbonaceous organic silt layer (unit 2) that represents the O2 horizon of the contemporary organic mat which caps the sequence. This thin lichen mat is sparse and contains plant debris and rootlets from lowbush cranberry, low heath, and lichens.

The single cultural component at TLM 064 (locus B) can be correlated to the organic silt layer (unit 2) and its contacts with adjacent units (unit 1, 3, 4a). The inventory of artifacts for locus A is summarized on Table D.124, and distribution by stratigraphic unit for locus A is summarized on Table D.126. The inventory of artifacts for locus B is

summarized on Table D.125, and distribution by stratigraphic unit for locus B is summarized on Table D.177. Four hundred sixty-four small basalt flakes (less than 2 cm) and one argillite lanceolate point base (UA84-68-5; Figure D.376n) occurred within unit 2. A total of 102 basalt flakes were recovered from the thin organic mat directly above the dense concentration of lithic material in the organic silt. The presence of flakes in the organic mat may be due to a frost boil, which is in the southern portion of the test square. Cryoturbation in the vicinity of the frost boil presumably caused the displacement of 30 basalt flakes found in the Devil tephra (unit 3) and one basalt flake found in the oxidized Watana tephra (unit 4a).

Evaluation:

TLM 064 consists of two site loci (A and B) that are situated on two knolls surrounded by a relatively flat, gently northward sloping lacustrine plain. The site affords a panoramic view of the plain, the walls of the Susitna River canyon to the north, and a tributary creek to the west. The location of the site and the artifact assemblage suggest that the site functioned as a chipping station for tool manufacture and/or as a hunting overlook. Survey testing in locus A revealed two widely separated lithic scatters. Results of survey testing, the grid shovel testing program, and systematic testing indicate that locus B is limited to the immediate area surrounding an undeflated frost boil. The artifactual assemblage, consisting primarily of small basalt flakes in association with a lanceolate point base, represents a post-Devil tephra occupation. Observed site size for locus B based on the distribution of artifacts is 9 square meters (Table D.2).

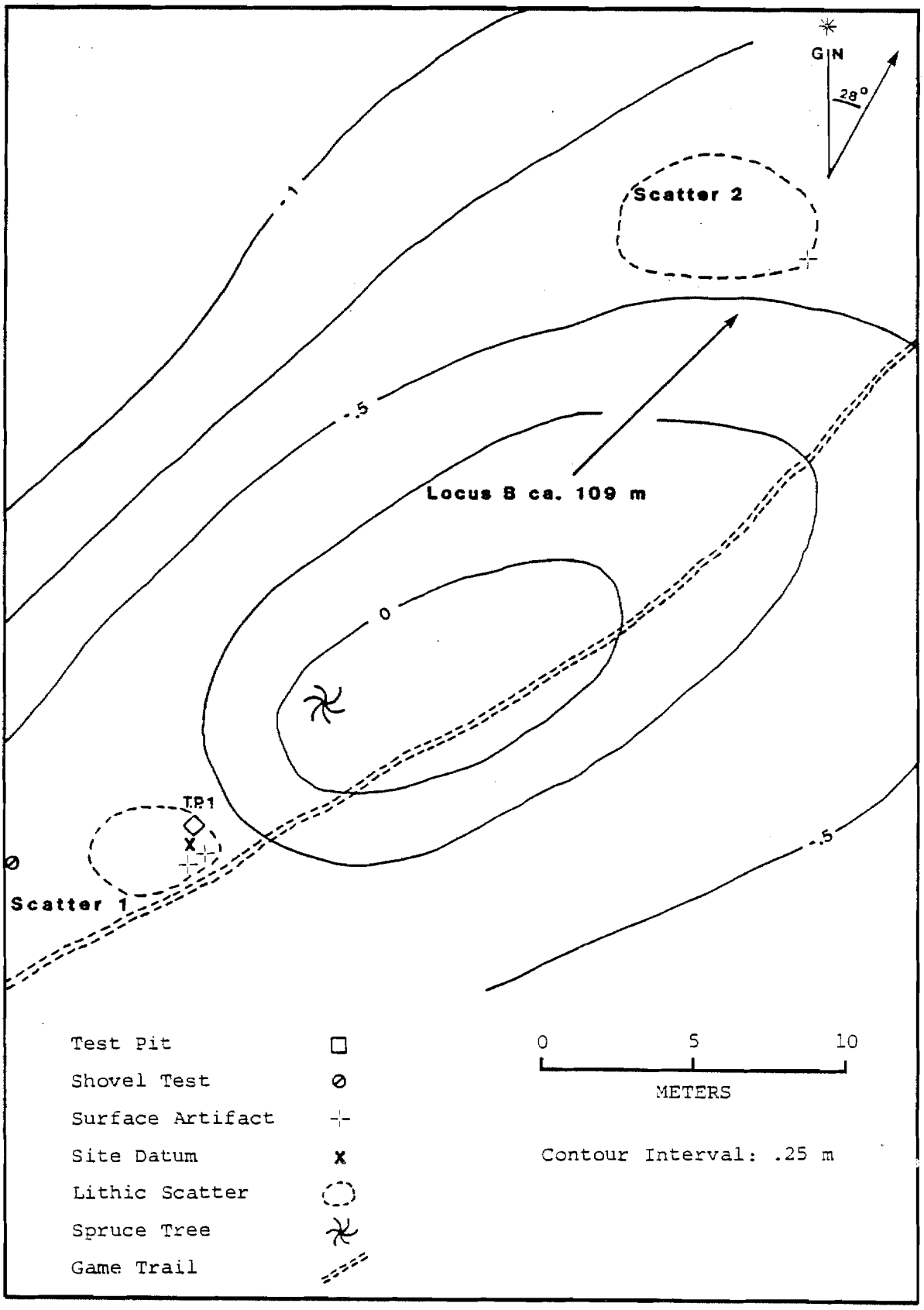

Figure D.82. Site Map, TLM 064 Locus A

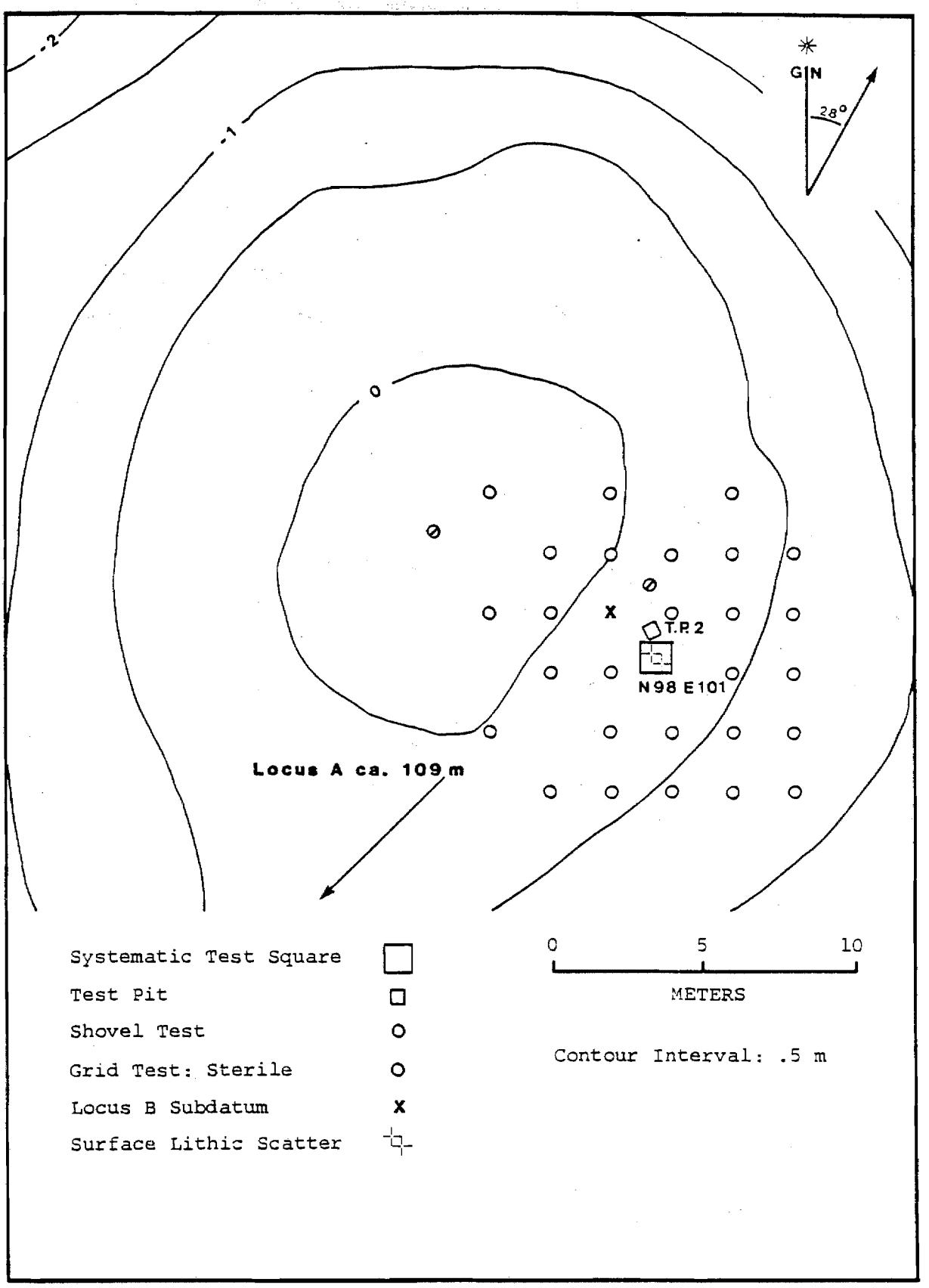

Figure D.83. Site Map, TLM 064 Locus B

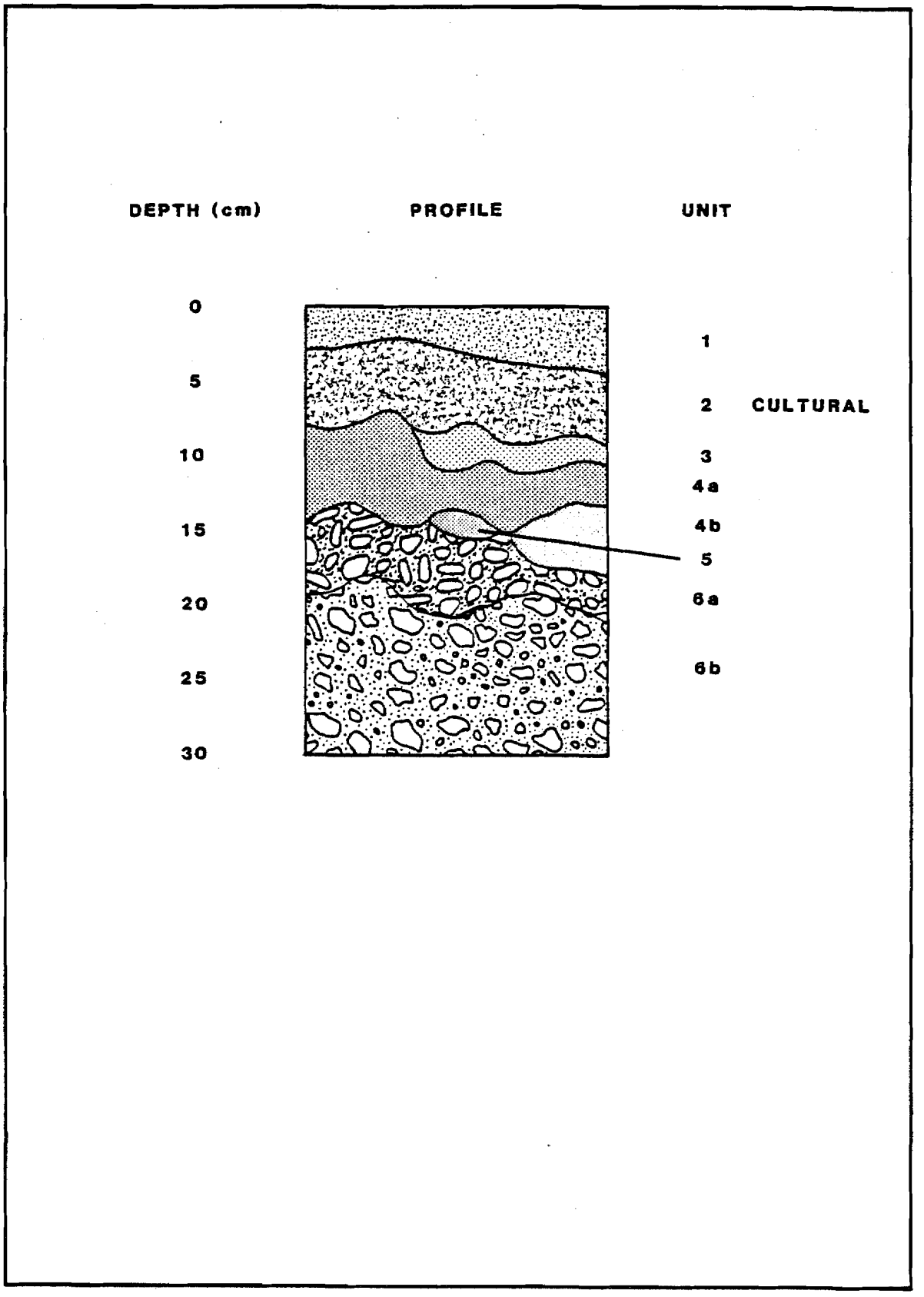

Figure D.84. Composite Profile, TLM 064, Locus B

Table D.123.

Soil/Sediment Description for Composite Profile, TLM 064 Locus B

Unit	Description
1	Surface organic layer: rootlets and sparse plant material from lowbush cranberry and low heath. O1 horizon. Varies in thickness from 1-5 cm, generally 2 cm. Lower boundary clear to smooth. Continuous. Cultural material displaced from underlying unit.
2	Very fine silt with decomposed plant fragments and finely divided organic material; dark reddish brown (5YR 3/2). Varies in thickness from 1-10 cm, usually 5 cm. Lower boundary gradual to wavy. Fairly continuous except in southeast corner. Humic, carbonaceous, O2 horizon with tiny flecks of charcoal present. Rootlets present. Cultural unit.
3	Fine-grained, silt size particles; pinkish gray (7.5YR 6/2). Ranges in thickness from 1-6 cm, generally 3 cm. Tephra (Devil); eluvial horizon. Discontinuous with abrupt to irregular boundary. Dries quickly to a fine powder. Leaching of organic material at upper extent of unit is evident. Rootlet penetration. Low percentage of cultural material displaced from overlying unit.

Table D.123. (Continued)

Unit	Description
4a	Fine to medium silt and sand size particles, granular structure, friable, gritty texture, pea gravel present; very dusky red (10YR 2.5/2). Ranges in thickness from 1-9 cm, generally 4 cm. Clear to diffuse to wavy lower boundary. Tephra (Watana); illuvial B2 horizon. Highly weathered. Fairly continuous. Oxidized, particularly at the contact with unit 3 and unit 2. Poorly sorted and apparently mixed with unit 6a.
4b	Fine silt size particles; strong brown (7.5YR 5/8 to 7.5YR 4/6). Thickness varies from 4-6 cm. Lower boundary is diffuse. Tephra (Watana). Discontinuous. Occurs only in southeast corner of N98/E101.
5	Fine silt to sandy size particles, gritty texture; dark yellowish brown (10YR 3/4). Thickness generally 4 cm. Lower boundary is diffuse to irregular. Tephra (Oshetna); buried eluvial A horizon. Discontinuous. Occurs only in small pockets along west and south wall profiles.
6a	Sand and silt mixed with pebbles and cobbles; usually strong brown (7.5YR 4/6) although variable in color depending on degree of weathering. Graduational lower boundary. Glacial drift. Poorly sorted. Oxidized, particularly at upper contact with unit 4a.

Table D.123. (Continued)

Unit	Description
6b	Sand and some silt mixed with pebbles and cobbles; olive brown (2.5Y 4/4). Glacial drift. Poorly or very poorly sorted. Cobbles are usually 8-19 cm in diameter. Excavation into this unit determined limit of excavation.

Table D.124.

Artifact Summary, TLM 064 Locus A

Tools

1	Modified flake
	1 Basalt (UA81-220-1)

Lithic Material

1	Basalt flake
1	Chalcedony flake
4	Basalt flakes (uncollected)
6	

Table D.125.

Artifact Summary, TLM 064 Locus B

Tools	
1	Biface fragment 1 Basalt (UA81-220-14)
1	Lanceolate point base 1 Argillite (UA84-68-5)
2	
Lithic Material	
1	Argillite flake
608	Basalt flakes
11	Basalt flakes (uncollected)
620	

Table D.126.

Artifact Summary by Stratigraphic Unit, TLM 064 Locus A

Unit		Description
Surface	1	Basalt flake
	1	Chalcedony flake
	1	Basalt modified flake (UA81-220-1)
	4	Basalt flakes (uncollected)

Table D.127.

Artifact Summary by Stratigraphic Unit, TLM 064 Locus B

Unit		Description
Surface	10	Basalt flakes
	11	Basalt flakes (uncollected)
1	102	Basalt flakes
Organic mat		
2	465	Basalt flakes
Organic silt	1	Argillite lanceolate point base (UA84-68-5)
2/3	1	Argillite flake
Contact between	1	Basalt biface fragment (UA81-220-14)
organic silt and		
Devil tephra		
3	30	Basalt flakes
Devil tephra		
4a	1	Basalt flake
Oxidized Watana		
tephra		

AHRS Number TLM 065; Accession Numbers UA81-222, UA84-238

Area:	South of Kosina Creek Mouth
Site Map:	Locus A, Figure D.85
	Loci B and C, Figure D.86
Survey Locale 85:	Figure E.159
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site consists of three loci (A, B, and C) located on a broad terrace south of the confluence of Kosina Creek and the Susitna River. The terrace descends steeply on its northern and western faces, then slopes gradually upwards to the base of a steeply ascending slope to the south. The terrace, about 60 (east-west) x 75 m (north-south), is terminated by a creek drainage on the east.

Locus A: This locus is situated on the eastern edge of the terrace overlooking the creek drainage about 30 m to the east. Locus A, located at 597 m asl (altimeter: 1959 feet), is approximately 45 m higher than Kosina Creek where it flows west of the site, and approximately 67 m higher than the present elevation of the Susitna River. Locus A lies about 40 m back from the northern edge of the terrace, from which edge a narrow ridge descends to the flood plain below, along the western bank of the creek. Visual coverage of the Susitna River to the northeast and the terrain to the east, south, and west toward loci B and C is good. However, the flood plain to the northwest is only seen from the terrace edge north of locus A. Vegetation at locus A consists of a birch and spruce grove with heath and moss on the ground surface.

Locus B: This locus is located ca. 74 m southwest of locus A at the western edge of the terrace and lies at an elevation of 594 m asl (altimeter: 1949 feet). Locus B is situated on a 15 m lobate projection toward the eastern slopes of the Kosina Creek drainage. The view is limited to the main body of the terrace east of locus B, and to

shallow channels and sections of the terrace to the south and west. As at locus A, a birch and spruce grove hinders the view to the north. Heath and moss cover the ground surface at the locus.

Locus C: This locus occupies the central portion of the broad terrace directly north of locus B and is ca. 64 m west-southwest of locus A. The terrace surface rises slightly at this point, providing a slightly drier microenvironment than the nearby terrace margin on the slope base. The lower Susitna River flood plain and Kosina Creek drainage are obscured by the terrace edge ca. 30 m north and west. Vegetation at locus C includes moss and lichen mat with interspersed groups of stunted black poplar, willow, and dwarf birch surrounded by Labrador tea.

Testing:

Locus A: Locus A is characterized by a rectangular depression (feature 1), approximately 2.3 x 2.7 x 0.3 m deep, oriented north-south on the long axis; a circular depression (feature 2), ca. 1 m in diameter; and an area, ca. 2 x 5 m, of sedges, moss, and grass, comprising a discontinuity in the general vegetation (feature 4). No surface artifacts were observed during survey testing and none of the features were tested. Two 40 x 40 cm test pits within 6 m of the features, however, revealed bone and thermally altered rock. Test pit 1 yielded unburned and calcined bone fragments including parts of a caribou (Rangifer tarandus) mandible and a possible thermally altered rock at 5-7 cmbs in dark charcoal-flecked humus. Test pit 2 contained one unburned bone fragment at 3 cmbs in dark humus. Four additional shovel tests in the vicinity of locus A were sterile.

Systematic testing at the site consisted of the excavation of four 1 x 1 m test squares at locus A. These test squares were located at N90/E103, N93/E104, N99/E105, and N102/E98. Test square N99/E105 was excavated to obtain a representation of the undisturbed stratigraphy in the site area. The remaining three test squares were excavated to obtain information about the features in the site area.

Locus B: Locus B consists of a single circular depression 43 cm in diameter and 20 cm deep (feature 3). It was tested prior to the discovery of locus A by means of a shovel test, and revealed two unburned, innominate fragments of caribou (Rangifer tarandus) at 8 cmbs in humus. Three additional shovel tests in the vicinity were sterile. No surface artifacts were noted. Fourteen shovel tests placed between loci A and B on the terrace were also sterile.

Locus C: Locus C was first defined during the grid shovel testing program. One of the grid shovel tests, N85.5/E39, placed next to a ca. 50 cm square depression, produced bone and hearth materials confirming the depression as a cultural feature.

A grid shovel testing program was implemented to assist in determining the site size and the distribution of cultural material. This program resulted in the excavation of 295 grid shovel tests at and between the three loci of the site, 49 of which produced cultural materials. Forty-four of these tests produced unburned and calcined bone in the organic layer. One shovel test (N96/E96) produced a thin piece of iron (UA84-238-45; Figure D.377e) also in the organic layer. Thirty-one survey shovel tests were placed at peripheral locations on the terrace to investigate potential features.

Discussion:

Testing at the three loci (A, B, and C) resulted in the excavation of 52 survey shovel tests, 2 test pits, 4 test squares, and 295 grid shovel tests. Surface features observed at TLM 065 loci A and B include two shallow rectangular depressions (features 1 and 4) and two circular depressions (features 2 and 3) located on a relatively level terrace overlooking the confluence of Kosina Creek with the Susitna River. Locus C has one shallow rectangular depression. Lithic and historic remains found at locus A are listed on Tables D.129 and D.135; faunal remains from locus A, B, and C are listed on Tables D.132, D.133, and D.134 respectively.

The soil/sediment sequence at TLM 065 consists of 12-60 cm of sediments, which were divided into six units. These soil/sediment units are depicted on Figure D.87 and described in Table D.128. The site is capped by an organic mat of roots and leaves (unit 1). Beneath this organic mat is a sandy loam, 02 horizon (unit 2), which appears to be culturally disturbed. A cultural fill unit of sand and gravel, identified during grid shovel testing, occurred between the root mat and 02 horizon at locus C. The three tephra units typically present in the project area were not defined at this site. Only the Watana tephra unit was recognized (unit 5) overlain by a black sandy silt (unit 3) and a coarse sand and gravel unit (unit 4). This tephra unit often occurs as a lens in the coarse sand and gravel unit. The basal unit at this site is the glacial drift (unit 6).

Test squares were located at three of the surface depressions recorded during survey level testing. Test square N90/E103 bisected feature 2, a spherical depression approximately 1 m in diameter. Eight bone fragments, 1 piece of wood, 1 glass bead (UA81-222-77; Figure D.377c), 3 thermally altered rocks, and birch bark were recovered in this test. Test N93/E104 was positioned to intersect the wall of the larger rectangular depression (feature 1) located 3 m north of feature 2. Excavation of feature 1 revealed heavily decayed logs running parallel to the berm forming the margin of the depression. Artifacts collected from this test include eight beads (UA81-222-1, 2, 3, 4, 6, 7, 8, 15; Figure D.377d,b,a) and four thermally altered rocks. Excavation of test square N102/E98 was begun to test the nature of a very shallow depression at the northern end of the site (feature 4). Thermally altered rock and faunal material were encountered but not collected. Testing was discontinued so as not to further disturb this feature. The fourth test square, N99/E105, was placed 1 m south of survey test pit 1 in an area not immediately adjacent to a depression. A shallow concentration of faunal material was encountered directly below the organic mat. Material collected included 1 gray chert flake, 1 chalcedony flake, 1 bead fragment (UA81-222-63), and approximately 100 unburned and calcined bone fragments.

The three loci were connected by grid shovel transects (Figures D.85 and D.86). Bone was not encountered during the transects, but this may represent a factor of poor preservation under lichen mat rather than a distinct site hiatus. The majority of bone producing tests were covered by thick moss and Labrador tea. Minor interruptions in otherwise dense bone concentrations at locus A were found to be associated with lichen mat ground cover. Several shovel tests at both loci A and C contained a continuous layer of decomposed wood within the organic horizon. This wood appeared to be aligned and could not be attributed to remnants of trees growing on this portion of the terrace. The terrace is presently devoid of large spruce except at the eastern and western ends. These wood mats may represent the remains of collapsed above surface dwellings. Additional depressions noted on the terrace edges ca. 40 m southwest and ca. 50 m northwest of locus B, and ca. 75 m northeast of locus A were shovel tested but could not be confirmed as being cultural. A bear excavation, resembling a cache pit in proportion and placement, is located on the north descending ridge ca. 75 m north of locus A.

Faunal remains comprise the vast majority of cultural material from TLM 065. Over 1200 bone fragments and teeth were recovered from all three loci. Caribou (Rangifer tarandus) is the only identified species, represented by 165, mostly unburned specimens. These specimens include all skeletal components, i.e., skull, axial, forelimb, hindlimb, and extremity elements. One bone tool fragment is a longitudinally split metapodial shaft fragment bevelled at one end. The unidentified portion of the assemblage is characterized primarily by small, calcined bone fragments recovered from two shovel tests (N96/E96 and N108/E100) and to a lesser extent from test square N99/E105.

Stratigraphically, the bones were distributed almost entirely in the 02 horizon and its upper contact with the vegetation mat. At locus A (Table D.132), bones were widely distributed in grid shovel tests across the terrace, in both test pits and in test squares N99/E105 and N99/E103, which bisected feature 2. The faunal material from locus B (Table D.133) was limited to two fragments recovered from feature 3

during survey testing. Five shovel tests produced unburned bone and teeth at locus C (Table D.134).

As a result of the large sample of identified caribou bone and teeth, an estimate of the minimum number of individuals (MNI) could be made. Discrimination between individual animals at loci A and C was made on the presence, stage of development, and wear on teeth. At locus A, an MNI of 5 was calculated. At least two of the individuals were young, represented by deciduous teeth, and unerupted and virtually unworn permanent teeth. The dentition of the two older individuals was considerably more worn. The presence of four left maxillary premolars (an individual has only three maxillary premolars per side) indicated that these worn teeth belonged to two, rather than one individual caribou. A fifth caribou was represented by extremely worn maxillary and mandibular molars. On the basis of dentition, two individual caribou were differentiated at locus C. All tooth specimens were recovered from one shovel test, N85.5/E39. One young individual was represented by one deciduous and six permanent mandibular molars. The stages of eruption and wear indicate that the individual was approximately one year old at time of death, according to dental eruption data presented by Spiess (1979:75, 76). The dental remains of an older individual consisted of two worn left maxillary premolars. The two pelvic fragments recovered from feature 3 at locus B may represent an individual previously accounted for at one of the other two loci, and therefore no MNI value was assigned. Thus, a total caribou MNI of 8 has been estimated for the entire site.

Lithic material was limited to seven thermally altered rocks, a chalcedony flake, and a chert waste flake (Table D.129). Most of this material was associated with the culturally disturbed sandy loam (unit 2). Nine tubular beads, one bead fragment, and 10 rolls of birch bark attest to the relatively late occupation of TLM 065. The standard color names (see Kronerup & Wanscher 1961) of the beads recovered at the site are as follows: four opaque cornflower blue; two opaque baby blue; one semi-translucent azure blue; one opaque grayish turquoise; and one polychrome, opaque reddish brown ("Cornaline d' Aleppo"). The color

name of the bead fragment is opaque dark reddish brown. The presence of these trade beads denotes either direct or indirect Native contact with Euro-Americans (e.g., de Laguna 1947:225, 244; Ketz 1983; Osgood 1936:47).

Evaluation:

This site documents early historic occupation of the area at a time when Athapaskan culture was beginning to undergo rapid, dramatic, and irrevocable cultural change. Few habitation sites have been recorded in the project area which have yielded such a large sample of identifiable faunal material. Locus A appears to consist of a ca. 45 m diameter scatter of bone surrounding feature 1 (Figure D.85). Bone recovered from this locality represents caribou processing and secondary deposition of refuse below the terrace edge. An apparent cache pit is recorded at locus B. Locus C represents a ca. 20 m diameter area of caribou bone processing.

The site probably dates to the late 1800's based on the rather clear definition of the surface features at the site and the discovery of trade beads and an iron fragment. This site may provide data important to questions concerning Athapaskan culture during the contact with European culture. TLM 065 provides an essential physical link which will enable future research to apply the direct historical approach in delineating cultural development through time. Observed site size for Locus A based on the distribution of artifacts is 524 square meters. Observed site size for Locus B based on the distribution of artifacts is 4 square meters. Observed site size for Locus C based on the distribution of artifacts is 24 square meters (Table D.2).

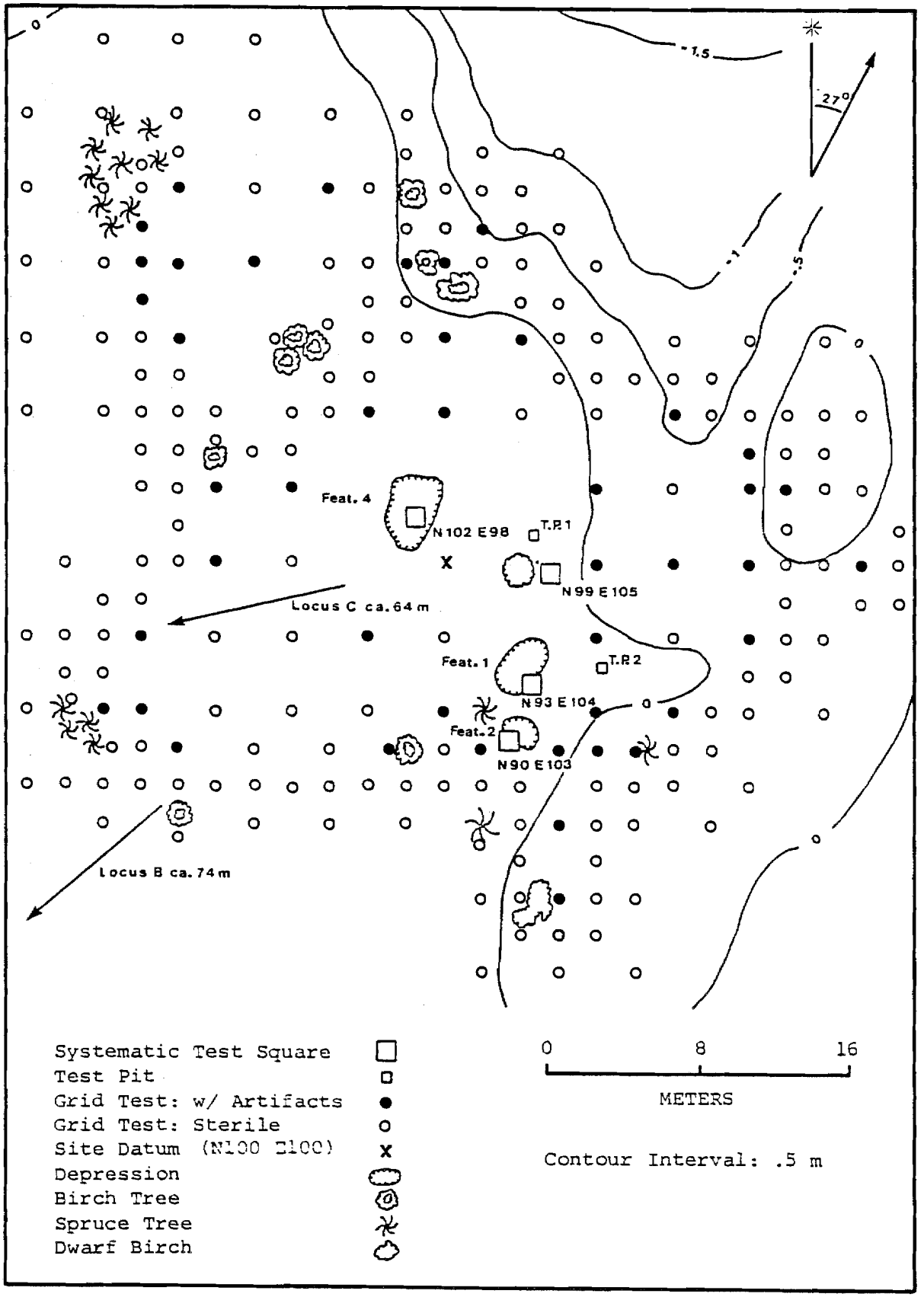

Figure D.85. Site Map, TLM 065 Locus A

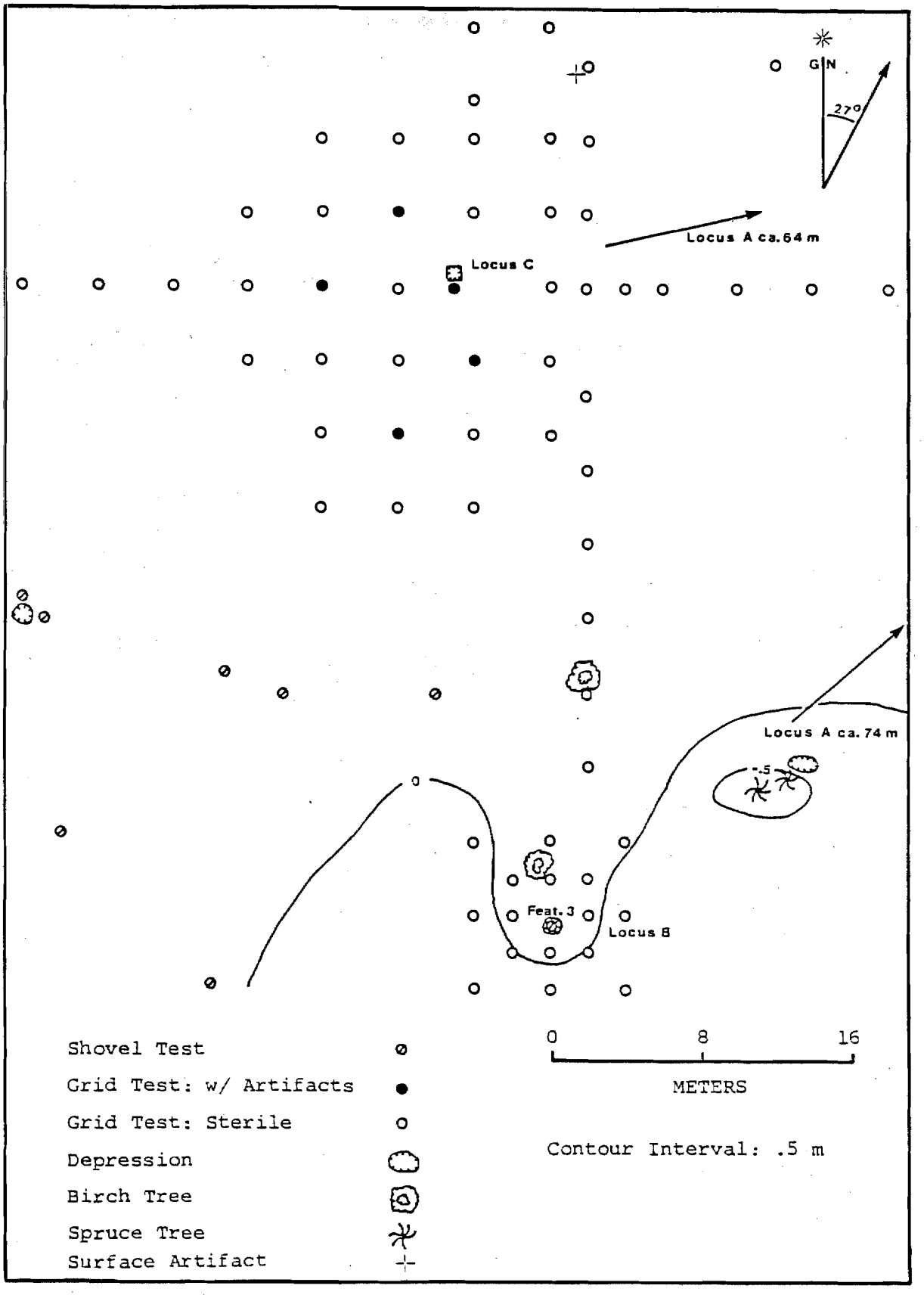

Figure D.86. Site Map, TLM 065 Loci B and C

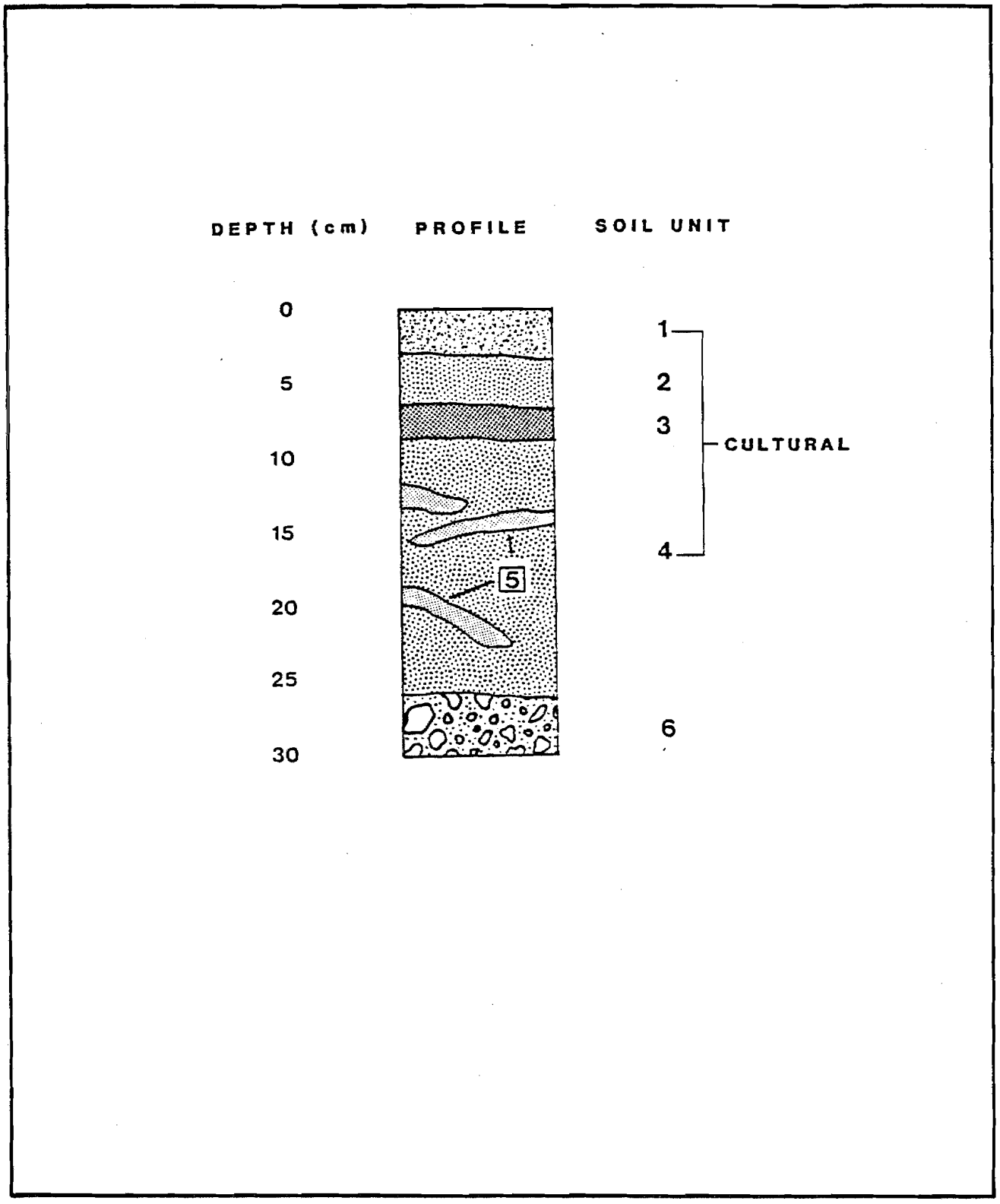

Figure D.87. Composite Profile, TLM 065

Table D.128.

Soil/Sediment Description for Composite Profile, TLM 065

Unit	Description
1	Organic mat. Mat of undivided organics, roots and leaves. Lower boundary abrupt.
2	Sandy loam; very dark brown (10YR 2/1). Lies directly below the organic mat; 02 horizon. This is a culturally disturbed unit with cultural material mixed with disturbed soil horizon.
3	Sandy silt; black (N 2/). Occurs in a 1-4 cm thick unit throughout entire site.
4	Coarse sand and gravel; gray (5Y 5/1). Pebbles, both angular and rounded, range in size from 1-4 cm in diameter. Contains lens of fine silt (unit 5) mixed within this unit.
5	Fine silt; light yellow (2.5Y 7/2). Watana tephra. Discontinuous. Considerable mixing of units 4 and 5 has occurred and unit 5 occurs as lenses within unit 4.
6	Coarse sand and gravel; olive (5Y 5/4). Glacial drift. Continuous. Poorly sorted. Upper contact with unit 5 is sharp.

Table D.129.

Artifact Summary, TLM 065 Locus A

Lithic Material	
1	Chalcedony flake
1	Chert flake
7	Thermally altered rocks
9	
Faunal Material	
1,209	Bones and bone fragments
Historic Remains	
1	Iron fragment (UA84-233-45)
9	Beads (UA81-222-1, 2, 3, 4, 6, 7, 8, 15, 77)
1	Bead fragment (UA81-222-63)
1	Shaped wood piece (UA81-222-76)
2	Wood chunks (UA81-222-82, 83)
10	Birch bark fragments (UA81-222-81)
24	

Table D.130.

Artifact Summary, TLM 065 Locus B

Faunal Material	
2	Bone Fragments

Table D.131.

Artifact Summary, TLM 065 Locus C

Faunal Material	
43	Bone fragments

Table D.132.

Faunal Material by Stratigraphic Unit, TLM 065 Locus A

Unit		Description
1/2 Contact between vegetation mat and 02 horizon	1	Left metapodial shaft fragment, unburned, modified (flesher ?), caribou (Rangifer tarandus) (UA84-238-65)
	1	Left maxillary second premolar, worn, unburned, caribou (Rangifer tarandus)
	1	Left maxillary third premolar, worn, unburned, caribou (Rangifer tarandus)
	1	Left maxillary fourth premolar, worn, unburned, caribou (Rangifer tarandus)
	1	Left maxillary third or fourth premolar, worn, unburned, caribou (Rangifer tarandus)
	1	Right mandibular first or second molar, worn, unburned, caribou (Rangifer tarandus)
	1	Left mandibular second molar, worn, unburned, caribou (Rangifer tarandus)
	1	Right mandibular fragment with third molar, worn, unburned, caribou (Rangifer tarandus)
	1	Right anterior mandibular fragment, unburned, caribou (Rangifer tarandus)
	1	Left mandibular fragment, unburned, gnaw marks, caribou (Rangifer tarandus)
	1	Possible mandibular fragment, unburned, probably caribou (Rangifer tarandus)
	1	Cervical vertebral facet, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	1	Lumbar vertebra fragment, unburned, caribou (Rangifer tarandus)
	4	Rib fragments, unburned, caribou (Rangifer tarnadus)
	1	Right humerus shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Distal humerus fragment, unburned, caribou (Rangifer tarandus)
	1	Right distal radius fragment, unburned, caribou (Rangifer tarandus)
	1	Left proximal radius shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Left distal radius fragment, unburned, caribou (Rangifer tarandus)
	1	Possible left distal radius fragment, unburned, caribou (Rangifer tarandus)
	2	Right radius/ulna shaft fragments, unburned, caribou (Rangifer tarandus)
	1	Left radius/ulna shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Left distal radius/ulna fragment, unburned, caribou (Rangifer tarandus)
	2	Distal radius/ulna fragments, unburned, caribou (Rangifer tarandus)
	2	Left proximal ulna fragments, unburned, caribou (Rangifer tarandus)
	1	Right innominate (ischium) fragment, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	1	Left innominate (ilium) fragment, unburned, caribou (Rangifer tarandus)
	1	Left innominate fragment, unburned, caribou (Rangifer tarandus)
	1	Right femoral head fragment, unburned, caribou (Rangifer tarandus)
	1	Right femur fragment, unburned, caribou (Rangifer tarandus)
	1	Probable right femure fragment, unburned, gnaw marks, caribou (Rangifer tarandus)
	1	Left distal tibia fragment, unburned, caribou (Rangifer tarandus)
	2	Left tibia shaft fragments, unburned, caribou (Rangifer tarandus)
	4	Tibia shaft fragments, unburned, caribou (Rangifer tarandus)
	1	Right calcaneus, unburned, caribou (Rangifer tarandus)
	1	Right calcaneus fragment, unburned, caribou (Rangifer tarandus)
	1	Left calcaneus fragment, unburned, caribou (Rangifer tarandus)
	2	Calcaneus fragments, unburned, caribou (Rangifer tarandus)
	1	Right astragalus, unburned, gnaw marks, caribou (Rangifer tarandus)
	2	Left astragalus, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	2	Left cuneiform, unburned, caribou, (Rangifer tarandus)
	1	Left proximal metapodial (forelimb) fragment, unburned, caribou (Rangifer tarandus)
	1	Left proximal metapodial fragment, unburned, caribou (Rangier tarandus)
	2	Proximal metapodial (forelimb) fragments, unburned, caribou (Rangifer tarandus)
	1	Distal metapodial (forelimb) fragment, unburned, caribou (Rangifer tarandus)
	1	Possible proximal metapodial (forelimb) fragment, unburned, caribou (Rangifer tarandus)
	1	Possible right distal metapodial (hindlimb), fragment, unburned, caribou (Rangifer tarandus)
	1	Probable left distal metapodial (hindlimb) fragment,unburned, caribou (Rangifer tarandus)
	2	Left metapodial shaft (hindlimb) fragments, unburned, caribou (Rangifer tarandus)
	2	Metapodial shaft (hindlimb) fragments, unburned, caribou (Rangifer tarandus)
	3	Metapodial shaft fragments, unburned, caribou (Rangifer tarandus)
	1	Metapodial shaft fragment, unburned, probable caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	4	Proximal fragments proximal phalanx, unburned, caribou (Rangifer tarandus)
	2	Distal fragments proximal phalanx, unburned, caribou (Rangifer tarandus)
	3	Proximal fragments medial phalanx, unburned, caribou (Rangifer tarandus)
	2	Cranial fragments, unburned, medium-large mammal
	2	Immature vertebral fragments, unburned, weathered, medium-large mammal
	1	Rib fragment, unburned, medium-large mammal
	97	Long bone and unidentifiable bone fragments, unburned, medium-large mammal
	366	Long bone and unidentifiable bone fragments, calcined, medium-large mammal
1/2, 2 Contact between vegetation mat and O2 and within O2	2	Deciduous mandibular molars, unburned, caribou (Rangifer tarandus)
	3	Premolar or molar fragments, unerupted, unburned, caribou (Rangifer tarandus)
	2	Maxillary premolars, worn, unburned, caribou (Rangifer tarandus)
	1	Right maxillary second molar, worn, unburned, caribou (Rangifer tarandus)
	1	Maxillary molar, worn, unburned, caribou (Rangifer tarandus)
	2	Maxillary molars, extremely worn, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	1	Right mandible fragment with third molar, unworn, unburned, caribou (Rangifer tarandus)
	5	Left mandible fragments with first and second molars, extremely worn, unburned, caribou (Rangifer tarandus)
	1	Left mandibular first molar, worn, unburned, caribou (Rangifer tarandus)
	1	Maxillary fragment, unburned, caribou (Rangifer tarandus)
	3	Left mandibular fragments, unburned, caribou (Rangifer tarandus)
	11	Cranial fragments, unburned, probable caribou (Rangifer tarandus)
	1	Thoracic vertebra, unburned, caribou (Rangifer tarandus)
	2	Right humerus shaft fragments, unburned, caribou (Rangifer tarandus)
	1	Left proximal radius fragment, unburned, caribou (Rangifer tarandus)
	1	Probable radius shaft fragment, unburned, probable caribou (Rangifer tarandus)
	1	Femur shaft fragment, unburned, probable caribou (Rangifer tarandus)
	1	Probable tibia shaft fragment, unburned, probable caribou (Rangifer tarandus)
	1	Right distal tibia fragment, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit	Description
1	Right fibula, unburned, caribou (Rangifer tarandus)
1	Left astragalus, unburned, caribou (Rangifer tarandus)
1	Left calcaneus fragment, unburned, caribou (Rangifer tarandus)
1	Left proximal metapodial (forelimb) fragment, unburned, caribou (Rangifer tarandus)
1	Proximal fragment proximal phalanx, burned, caribou (Rangifer tarandus)
1	Proximal fragment proximal phalanx, calcined, caribou (Rangifer tarandus)
1	Distal fragment proximal phalanx, unburned, caribou (Rangifer tarandus)
1	Proximal fragment medial phalanx, unburned, caribou (Rangifer tarandus)
1	Vertebral fragment, unburned, medium-large mammal
2	Rib fragments, unburned, small mammal
8	Long bone shaft fragments, unburned, medium-large mammal
110	Long bone and unidentifiable bone fragments, unburned, medium-large mammal
75	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal
15	Unidentifiable bone fragments, unburned, mammal

Table D.132. (Continued)

Unit		Description
2 02 horizon	1	Right mandible fragment with first, second, and third molars, unworn, unburned, caribou (Rangifer tarandus)
	1	Right scapula fragment, unburned, caribou (Rangifer tarandus)
	1	Right humerus shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Right distal humerus fragment, unburned, caribou (Rangifer tarandus)
	1	Distal fragment possible left radius/ulna, unburned, caribou (Rangifer tarandus)
	1	Naviculo-cuboid fragment, calcined, caribou (Rangifer tarandus)
	1	Possible naviculo-cuboid fragment, calcined, caribou (Rangifer tarandus)
	1	Proximal metapodial fragment (hindlimb), unburned, caribou (Rangifer tarandus)
	1	Right metapodial shaft fragment, unburned caribou (Rangifer tarandus)
	1	Metapodial shaft fragment, unburned, probably caribou (Rangifer tarandus)
	1	Proximal fragment proximal phalanx, unburned, caribou (Rangifer tarandus)
	1	Distal fragment proximal phalanx, unburned, caribou (Rangifer tarandus)

Table D.132. (Continued)

Unit		Description
	1	Cranial fragment, burned, medium-large mammal
	3	Flat bone fragments, unburned, medium-large mammal
	8	Long bone and unidentifiable bone fragments, unburned, medium-large mammal
	364	Long bone and unidentifiable bone fragments, burned and calcined, medium-large mammal
1-4 Feature 2	1	Atlas vertebra fragment, unburned, caribou (Rangifer tarandus)
	2	Right innominate (actetabulum) fragments, unburned, caribou (Rangifer tarandus)
	1	Left radius/ulna distal epiphysis, unburned, caribou (Rangifer tarandus)
	1	Proximal fragment medial phalanx, unburned, caribou (Rangifer tarandus)
	1	Long bone shaft fragment, unburned, medium-large mammal
	2	Unidentifiable bone fragments, unburned, medium-large mammal

Table D.132. (Continued)

Unit		Description
Unknown	1	Left mandibular second molar, unworn, unburned, caribou (Rangifer tarandus)
	1	Right mandible fragment, unburned, caribou (Rangifer tarandus)
	1	Radius/ulna shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Right tibia shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Possible sesamoid, unburned, probable caribou (Rangifer tarandus)
	1	Unidentifiable fragment, unburned, medium-large mammal

Table D.133

Faunal Material by Stratigraphic Unit, TLM 065 Locus B

Unit		Description
Feature 3	2	Right innominate fragments (acetabulum and ischium), unburned, caribou (Rangifer tarandus)

Table D.134

Faunal Material by Stratigraphic Unit, TLM 065 Locus C

Unit		Description
Surface	1	Left calcaneus, unburned, caribou (*Rangifer tarandus*)
1/2 Contact between vegetation mat and 02 horizon	1	Left distal radius fragment, unburned, caribou (*Rangifer tarandus*)
	1	Long bone fragment, unburned, gnaw marks, medium-large mammal
Fill/2 Contact between cultural fill under root mat and 02 horizon (shovel test N85.5/E39)	1	Deciduous right mandibular third molar, unburned, caribou (*Rangifer tarandus*)
	1	Right mandibular second molar, unworn, unburned, caribou (*Rangifer tarandus*)
	2	Mandibular third molars, right and left, unerupted, unburned, caribou (*Rangifer tarandus*)
	2	Mandibular first molars, right and left, unworn, unburned, caribou (*Rangifer tarandus*)
	1	Left mandibular second molar, unworn, unburned, caribou (*Rangifer tarandus*)
	1	Left maxillary third premolar, worn, unburned, caribou (*Rangifer tarandus*)
	1	Left maxillary fourth premolar, worn, unburned, caribou (*Rangifer tarandus*)
	1	Right mandible fragment, unburned, caribou (*Rangifer tarandus*)

Table D.134. (Continued)

Unit		Description
	2	Scapula fragments, right and left, unburned, caribou (Rangifer tarandus)
	1	Immature proximal tibia fragment, unburned, caribou (Rangifer tarandus)
	1	Right proximal metapodial (hindlimb) fragment, unburned, caribou (Rangifer tarandus)
	1	Right distal metapodial (hindlimb) fragment, possible cut marks, unburned, caribou (Rangifer tarandus)
	1	Left metapodial shaft fragment, unburned, caribou (Rangifer tarandus)
	19	Flat bone fragments, unburned, medium-large mammal
	1	Unidentifiable bone fragment, unburned, medium-large mammal
2 02 horizon	1	Left tibia shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Possible proximal metapodial (hindlimb), fragment, unburned, caribou (Rangifer tarandus)
	1	Possible metapodial shaft fragment, unburned, caribou (Rangifer tarandus)
	1	Long bone fragment, unburned, medium-large mammal

Table D.135.

Artifact Summary by Stratigraphic Unit, TLM 065 Locus A

Unit		Description
2	1	Chalcedony flake
Decayed organic	1	Chert flake
horizon mixed	4	Thermally altered rocks
with sand	1	Iron fragment (UA84-238-45)
	5	Beads (UA81-222-6, 7, 8, 15, 77)
	1	Bead fragment (UA81-222-63)
	1	Shaped wood piece (UA81-222-76)
	10	Birch bark fragments, (UA81-222-81)
4	4	Beads (UA81-222-1, 2, 3, 4)
Gray sandy	3	Thermally altered rocks
silt		
Unknown	2	Wood chunks (UA81-222-82, 83)

AHRS Number TLM 066; Accession Number UA81-212

Area:	Northeast of Watana Creek Mouth
Site Map:	Figure D.88
Site Location Map:	Figure E.53
USGS Map:	Talkeetna Mts. D-3, Figure E.3
Site Location:	Appendix F

Setting:

The site is located east of Watana Creek at an elevation of ca. 914 m asl (3000 feet), on the east-southeast slope of a ridge extending from the southwest base of a 1256 m asl (4120 feet) peak. Watana Creek itself is not visible from the top of the ridge, although the creek valley walls can be seen along with at least seven small (less than 5 ha) lakes on the plain to the east of the creek. There is a fairly steep slope on the west side of the ridge down toward the plain and Watana Creek. The site is situated on a gentle slope overlooking a small unnamed creek with a northeast-southwest trending drainage which lies in a shallow valley southeast of the site along the base of the ridge. This valley continues toward the northeast providing a passage to upper Watana Creek between the peak which is northeast of the site and a range of mountains on the far side of the drainage and to the east.

The site is located on a deflated surface composed of granitic rock and some shale. The terrain consists of colluvium over bedrock and bedrock exposures. Vegetation at the site includes dwarf birch, lowbush cranberry, Labrador tea, and grasses. White spruce and stands of birch are also found in the vicinity.

Testing:

Three bifacially chipped tools were recovered from an exposed blowout surface (Table D.136). Intensive surface survey of other exposed areas along the ridge failed to reveal any additional cultural remains. The

tools included: a leaf-shaped point of gray chert found in two pieces (UA81-212-1 articulates with 2; Figure D.377h), a black chert lanceolate point with a possibly reworked tip and a square base (UA81-212-5; Figure D.377f) and an ovate preform of gray chert found in two pieces (UA81-212-3 articulates with 4; Figure D.377g). The ovate preform pieces were found in the edge of a blowout at a depth of 4-7 cm below the apparent ground surface. Test pit 1 and one shovel test placed at this location failed to reveal any additional subsurface cultural material. Estimated site size based on the distribution of artifacts is 300 square meters (Table D.2).

Table D.136.

Artifact Summary, TLM 066

Provenience		Description
Lithic Material		
Surface:	2	Chert leaf-shaped point fragments (UA81-212-1 articulates with 2)
	1	Chert lanceolate point (UA81-212-5)
Subsurface:		
Test pit 1	2	Chert preform fragment (UA81-212-3 articulates with 4)

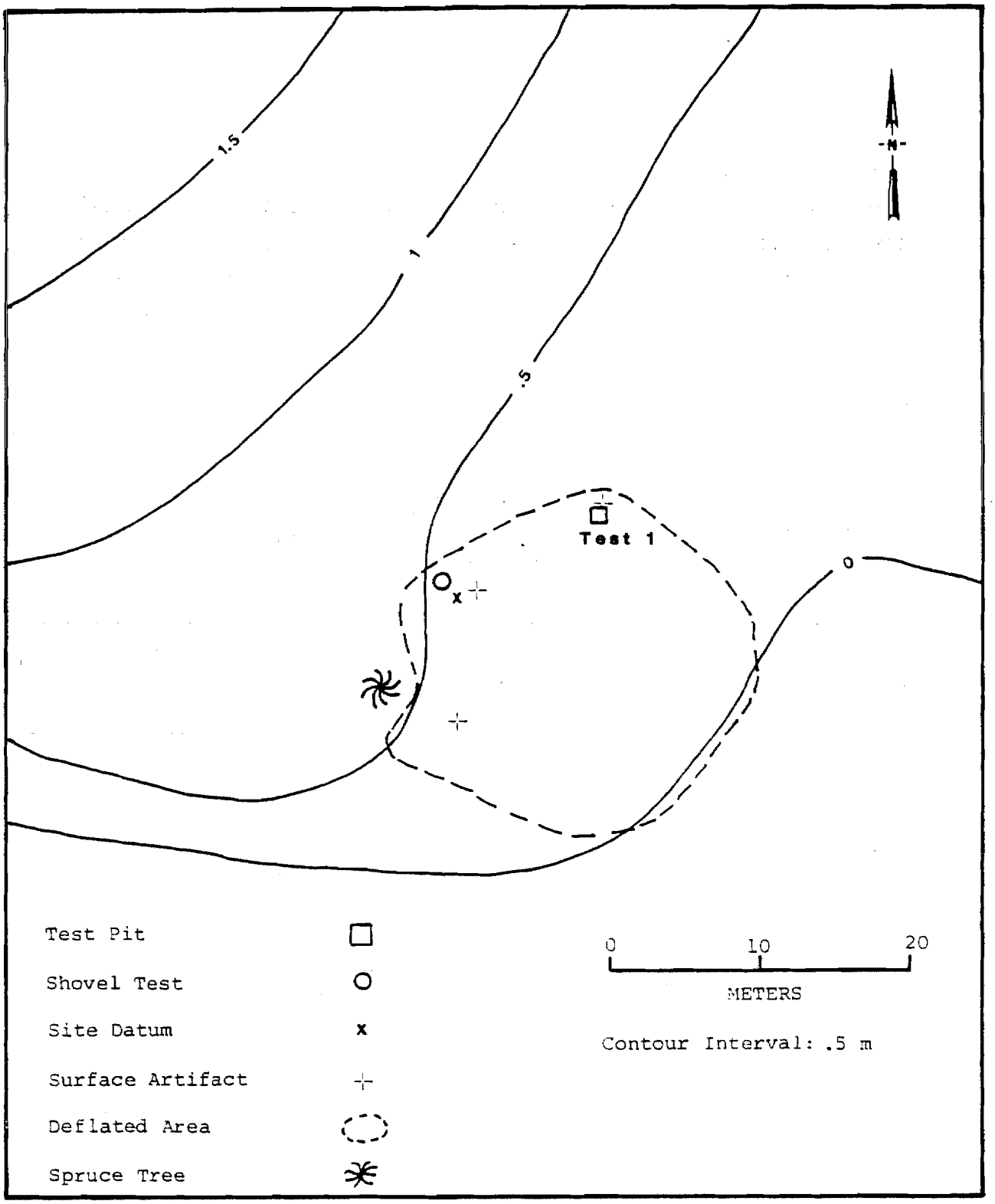

Figure D.88. Site Map, TLM 066

AHRS Number TLM 067; Accession Number UA81-213

Area:	Big Bones Ridge
Site Map:	Figure D.89
Site Location Map:	Figure E.54
USGS Map:	Talkeetna Mts. B-1, Figure E.10
Site Location:	Appendix F

Setting:

This site is situated on top of a ca. 1094 m asl (3588 feet) knoll along the east side of Big Bones Ridge, west of Sanona Creek. The knoll is a prominent feature whose eastern slope drops continuously to the level of Sanona Creek 180 m below. Higher ground in the immediate region occurs on another knoll to the west across a broad, gentle sloping saddle. Together the pair of knolls form an east-west trending ridge system which characterizes this portion of Big Bones Ridge. Sanona Creek is a clear water stream following a serpentine but northerly course. The knoll top is relatively flat, differing less than 3 m across its 100 (north-south) x 75 m (east-west) extent. A 360-degree field of view is obtainable from the perimeter of the knoll. The principal vantages from the site are: (1) westward across a broad saddle to a higher knoll, bordered on the south by a northwest-southeast trending ridge and in the north by an east-west ridge; (2) northward onto the southern slopes and tops of a series of three east-west running ridges and the 1 km wide intervening valley with a minor stream at its base; and (3) eastward and downslope onto Sanona Creek and the west-facing slopes on the opposite side. The view is unobstructed by the less than 50 cm high clumps of mosses, grasses, and lichens which constitute the cover on the vegetated two-thirds of the knolltop. The surrounding terrain is covered with low shrub, which reaches heights of 1.5 m in the valley bottoms. Treeline occurs 50 m below the top of the knoll with sporadic occurrences of spruce to the east and along minor stream channels to the north and south of the site. Some hardwoods of birch and aspen occur along Sanona Creek.

Testing:

The site consists of two major surface lithic concentrations (cluster 1 and cluster 2) and three rock features (Figure D.89). Although the bulk of cultural material is exposed on the surface, one chert flake was located in a subsurface test (Table D.137). The known lithic concentrations occur on the northwestern and northeastern edge of the knoll. Cluster 1 consisted of eight artifacts recovered in a 1 (north-south) x 3 m (east-west) area, and are listed in Table D.137. Cluster 2, a 3 m diameter scatter in the eastern segment of the site, contained 30 black basalt flakes, five of which were collected. Additional isolated surface finds that were collected from the perimeter of the northern half of the knoll are listed in Table D.137.

Two test pits were excavated at the site. Test pit 1, located adjacent to cluster 1, produced one chert flake. Test pit 2, located adjacent to a rock "windbreak" in the northeast portion of the knoll, did not produce any cultural remains. In the northeast corner of the site are two linear rock features which may have functioned as windbreaks. Feature 1 (Figure D.89) is a 3.3 x 1 m linear rockpile oriented north-northwest by south-southeast showing definite stacking and placement of local bedrock boulders. The height of the finished wall would approach 50 cm. Feature 2 (Figure D.89), a smaller "windbreak" measuring 50 x 50 x 50 cm, is located 2.8 m southeast of feature 1. A 3 x 12 cm "window" formed by the two uprights and cap stone affords a view to the east. A third feature (Figure D.89), located 10 m south-southeast of cluster 1 is a small, naturally formed rock ring (ca. 30 cm in diameter) encircling a smooth pebble (UA81-213-18; Figure D.3771). The 4 x 4 cm triangular pebble is composed of black banded green material exotic to the site.

Estimated site size based on the distribution of artifacts is 2,625 square meters (Table D.2).

Table D.137.

Artifact Summary, TLM 067

Provenience		Description
Lithic Material		
Surface:		
Cluster 1	1	Argillite flake
	1	Chalcedony flake
	1	Quartz flake
	1	Chert modified flake (UA81-213-6)
	1	Chalcedony preform (UA81-213-3)
	1	Chalcedony preform fragment (UA81-231-4)
	1	Chert preform fragment (UA81-213-5)
	1	Rock fragment
Cluster 2	5	Basalt flakes
	25	Basalt flakes (uncollected)
Isolated finds	2	Basalt flakes
	1	Chalcedony flake
	2	Rhyolite flakes
	1	Basalt biface fragment (UA81-213-17)
	1	Chert pebble (UA81-213-18)
	1	Cobble
	1	Chert rock fragment
Subsurface:		
Test Pit 1	1	Chert flake

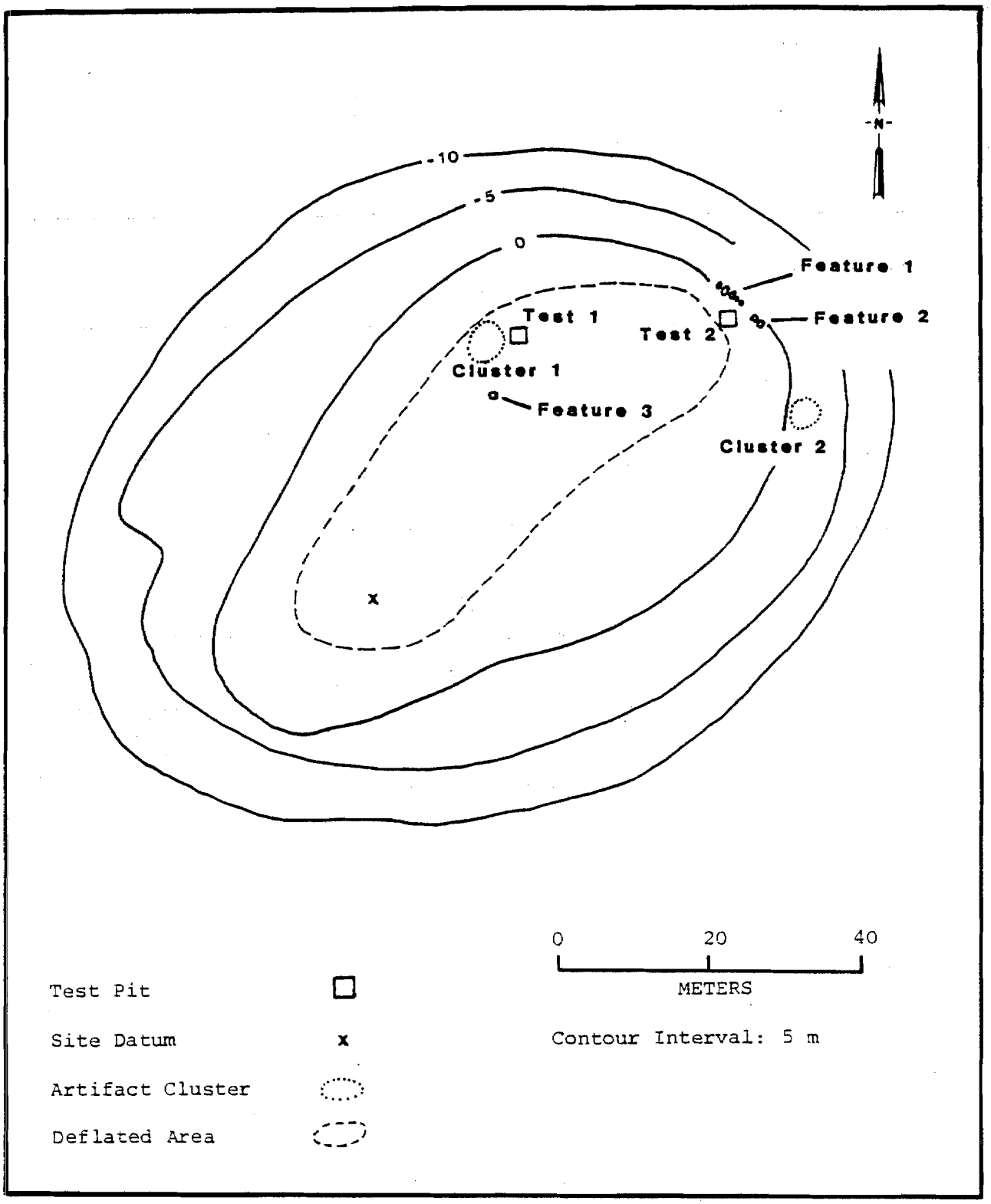

Figure D.89. Site Map, TLM 067

AHRS Number TLM 068; Accession Number UA81-214

Area:	East of Stephan Lake
Site Map:	Figure D.90
Site Location Map:	Figure E.55
USGS Map:	Talkeetna Mts. C-4, Figure E.5
Site Location:	Appendix F

Setting:

The site is located at the northern terminus of a north-south oriented 2 km wide glacial valley east of Stephan Lake. The site is situated at an elevation of approximately 838 m asl (2750 feet) on the southeastern slope of a low knoll located on the crest of a discontinuous end moraine, on the eastern flank of this broad, "U"-shaped valley. This elongated knoll trends northeast-southwest and forms a discrete feature on the crest of this moraine which is one of a series of moraine ridges occurring at the northern end of the valley. These ridges and the intervening lower poorly drained terrain and associated small kettle lakes are characteristic of the ice-stagnation terrain in the site vicinity.

The site is located ca. 2 m below the highest elevation on the knoll, in an area on the southwest slope which has been extensively deflated. The view from the top of the knoll is panoramic but is best to the northwest across undulating terrain with low knolls and ridges. Three small kettle lakes lie immediately west of the site within 100 m. These lakes are visible from the top of the knoll at the site location.

Vegetation at the site is limited to bearberry and other low herbaceous plants which, in addition to lichen, occur in patches within the deflated area where the site is located. Dwarf birch, shrub birch, and willow are present on the slopes of the moraine and in the depressions between knolls along the moraine crest. The margins of the kettle lakes west of the site are wet and marshy. General vegetation in the site

area is alpine tundra with tree line located ca. 1 km to the north where spruce are visible from the site.

Testing:

The site consists of a surface lithic scatter exposed on the deflated southeast slope of the moraine and isolated surface lithics located along the moraine crest to the north of the main lithic concentration (Figure D.90). A total of seven artifacts were surface collected from the site (Table D.138). The medial section of a black chert leaf-shaped point fragment (UA81-214-1; Figure D.377m), diamond-shaped in cross section and complete except for a missing tip at the distal end and a broken base, was surface collected from the main lithic scatter. Also collected were 2 argillite modified flakes (UA81-212-2, 5), 1 basalt modified flake (UA81-212-4), and 1 black basalt waste flake. Isolated finds surface collected along the moraine crest north of the main lithic concentration include a dark gray basalt scraper (UA81-214-7; Figure D.377n) and a grayish white argillite flake. Two waste flakes were left uncollected at the main scatter along with several medium-large mammal bones which were observed on the surface but do not appear to be cultural. Minimal subsurface testing was done because of the large deflated area (ca. 80% of the ground surface) and minimal soil deposition in the undeflated areas. Test pit 1, the only subsurface test (40 x 40 cm), did not reveal any cultural material.

The fact that the main concentration of artifacts was located ca. 2 m lower than the highest elevation (which afforded the best view) may indicate wind shelter in high, open, exposed areas was an important factor in the relationship between site location and landform. Estimated site size based on the distribution of artifacts is 1,350 square meters (Table D.2).

Table D.138.

Artifact Summary, TLM 068

Provenience		Description
Lithic Material		
Surface:	1	Argillite flake
	1	Basalt flake
	2	Argillite modified flakes (UA81-214-2, 5)
	1	Basalt modified flake (UA81-214-4)
	1	Basalt scraper (UA81-214-7)
	1	Chert leaf-shaped point fragment (UA81-214-1)
	2	Flakes (uncollected)

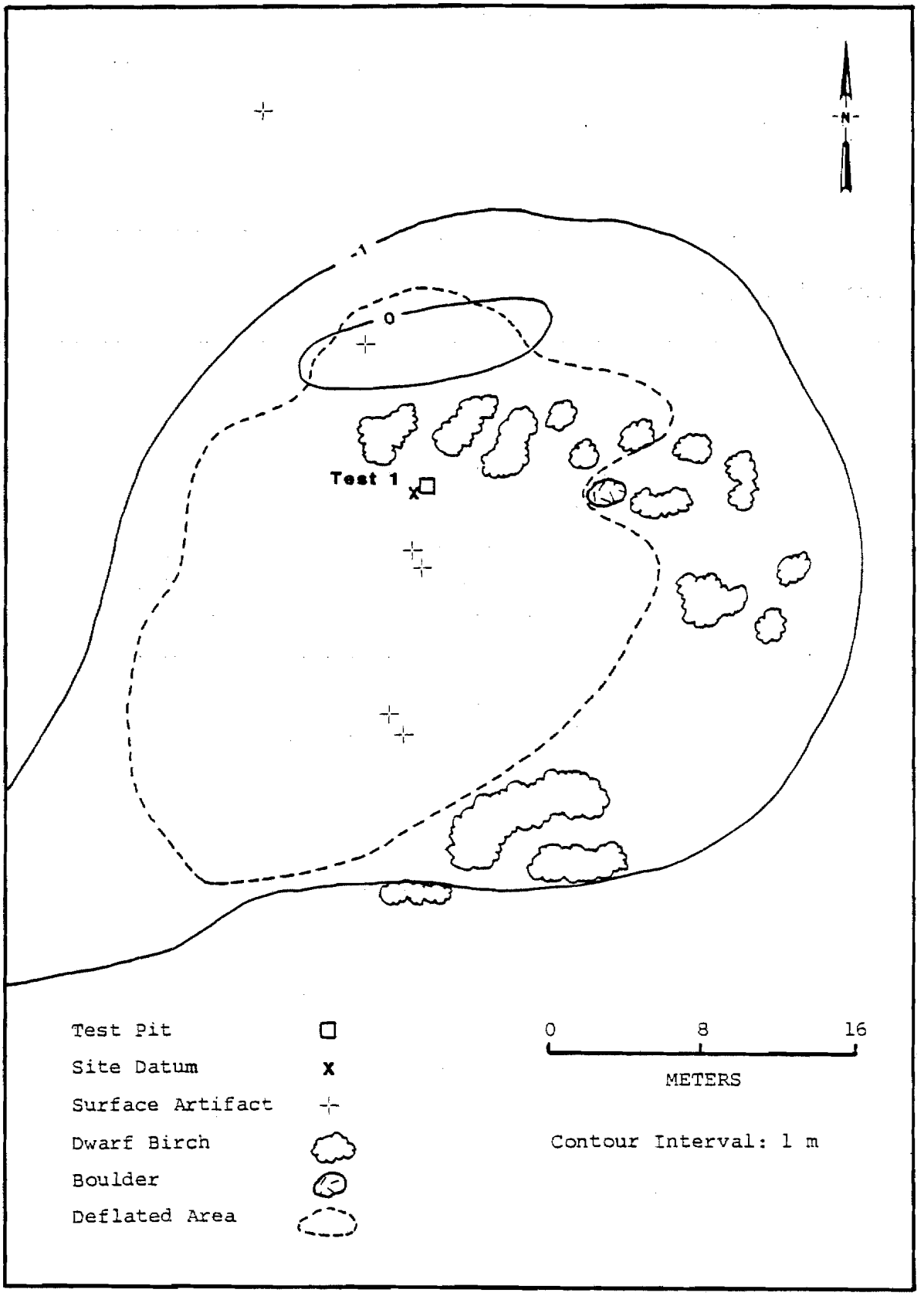

Figure D.90. Site Map, TLM 068

AHRS Number TLM 069; Accession Numbers UA81-215, UA83-131

Area:	Northeast of Jay Creek Mouth
Site Map:	Figure D.91
Survey Locale 91:	Figure E.164
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site is located east of Jay Creek and north of the Susitna River at an elevation of ca. 792 m asl (2600 feet). The site is situated at the top of an elongated knoll in an area of glacially scoured bedrock. The knoll descends for a distance of 80 m from the site to the east-southeast at a 25-degree slope. To the west-northwest the knoll descends at a gentler slope for about 100 m. The site itself is on a discrete, flat-topped bedrock exposure measuring 20 x 30 m. Looking north from the site the view encompasses an unnamed creek drainage 700 m distant. To the east are three knolls ranging 150-200 m distant and 15-25 m higher in elevation than the site knoll. A drainage flows between them into a low, poorly drained area containing a small marshy pond which lies 50 m east-northeast of the site. Beyond these landforms to the east, the land rises sharply. To the south are three knolls ranging 100-750 m distant. The closest knoll is equal in elevation to the site knoll and the furthest southern knoll is the highest one in view at ca. 823 m asl (2700 feet). To the west the land descends towards the Susitna River in a series of knolls and drainages. The site knoll is unique in comparison to the other knolls described due to its low relief and its close proximity to three water sources: the Susitna River ca. 274 m below and to the southwest, the unnamed creek drainage to the north, and the pond to the east-northeast. Vegetation surrounding the bedrock exposure consists of dwarf birch, lowbush cranberry, and Labrador tea upon a lichen mat. A small stand of paper birch lies in a flat area at the base of the southwest side of the knoll. Spruce trees occur along nearby drainages. There are numerous grass species surrounding the pond area.

Testing:

Site TLM 069 was located during survey testing. Several flakes and burned bone fragments were noted in one shovel test, and one black chert flake was noted in the other. Three flakes, lying in a discrete surface exposure, were also recorded, but left uncollected. Three test pits (40 x 40 cm) were excavated (Figure D.91). Test pit 1 proved to be the most productive, although each of the test pits yielded both lithic and faunal material.

Three 1 x 1 m test squares and three 50 x 50 cm test squares were initially excavated at TLM 069 during systematic testing (Figure D.91). Test square N99/E101 was excavated near test pit 3 at the highest point of the knoll on which the site is located. Test square N99/E112 was placed at the eastern end of the knoll to test the extent of subsurface cultural material east of test pit 1. Test square N100/E108 was excavated near test pit 1 at the north edge of the knoll. The three smaller 50 x 50 cm test squares (N99/E123, N99/E125, and N99/E136) were excavated on the eastern flank of the knoll to define the limit of subsurface cultural material.

Further testing at this site was undertaken to clarify the site stratigraphy and the extent of disturbances due to cryoturbation and slope processes. Three surface lithics were collected, two of which were of known provenience, as indicated on the site map. An additional three 1 x 1 m test squares were excavated. Placement of the test squares was intended to: 1) maximize the recovery of diagnostic cultural material in clear stratigraphic context (N99/E109), 2) to assess both downslope reworking of sediment units with associated cultural material, and 3) to further assess extent of the site (N99/E87 and N109/E120).

Discussion:

Cultural material from TLM 069 was found almost entirely in the test pits and in the 1 x 1 m test squares placed on the knoll top (N99/E101, N99/E109, N99/E112, and N100/E108). Test square N99/E87, placed several meters to the west of the artifact concentration, produced a single flake, and N109/E120, to the northeast, proved to be culturally sterile. Of the 50 x 50 cm test squares, N94/E123 was the only one to yield artifacts, consisting of lithics and bone.

Basalt is by far the best represented of the lithic materials occurring at the site, and accounts for 61% of the 1,988 lithic specimens of known raw materials that were collected. Chert is represented by 23% of the lithics, while argillite and rhyolite account for 7% and 6%, respectively. The remaining 3% of the assemblage is comprised of chalcedony, obsidian, and quartzite flakes, plus rock fragments and a cobble. Twenty-five of the lithics have been classified as tools, primarily modified flakes and bifaces. Two scrapers, 1 blade, 3 preforms, and 1 flake core fragment are also included in the lithic assemblage. The faunal assemblage is made up of over 3500 bone fragments, the majority of which are long bone or unidentifiable specimens.

The soil/sediment stratigraphy at the site can be categorized on the basis of topographic situation and depositional mechanisms (Figure D.92; Table D.139). The soil/sediment units on the relatively flat top of the site knoll are primarily glacial and eolian in origin and are sharply defined stratigraphically except where modified by frozen ground processes and bioturbation. Eolian deposition above an unknown thickness of glacial drift consists of approximately 10-15 cm of silts and sandy silts identified as tephras. The lowermost silt (unit 5) occurs as discontinuous lenses in only two test squares (N100/E108 and N99/E109), and is identified as the Oshetna tephra. The Oshetna tephra may be mixed with other units. Watana tephra (unit 4) overlies the Oshetna tephra, or where the Oshetna tephra is absent, it overlies

glacial drift. Watana tephra was present in all tests excavated on the knoll top. Also present in all the knoll top tests was the Devil tephra (unit 3).

Capping the silts are two soil units. The first consists of finely divided organic matter mixed with silt (unit 2, an O2 horizon). The second is the modern surface organic accumulation (unit 1, an O1 horizon). These are thin units with a combined average thickness of ca. 5 cm, and occurred in all the knoll top tests. In test square N99/E109 a black silt lens with finely divided organic material and associated cultural debris separated the Devil tephra (unit 3) from the O2 horizon (unit 2). The cultural material in this lens included charcoal granules, lithic debitage, and bone fragments (Table D.141).

On the relatively steep (ca. 18-20 degree) slopes bordering the knoll top to the north and west, silt units reworked as colluvium overlie glacial drift in thicknesses ranging from approximately 5 to 10 cm. The gray silt identified as Oshetna tephra was absent from the test squares N99/E87 and N109/E120 on the knoll slopes. The silts identified as the Watana and Devil tephras appeared as stringers in colluvium in both tests. Overlying the tephra units were units 2 and 1, respectively; both horizons of variable thickness. The combined maximum thickness of these organic units on the knoll slopes exceeded that found on the knoll top, reaching 24 cm in N109/E102.

Systematic testing produced cultural material from all stratigraphic units from the organic mat through the glacial drift (units 1-6). Several factors complicate the organization of this material into cultural components. There are no sterile units separating components, and all stratigraphic units have been subjected to postdepositional disturbance. Bioturbation through root action under tussocks has created significant disturbance in units 2-4a. Frozen ground processes are evident in all stratigraphic units except the organic horizons (units 1 and 2). Erosion of the Oshetna tephra has obscured stratigraphic relationships in the lower half of the section. Together these processes have locally erased stratigraphy and displaced many

artifacts and bone fragments. The inventory of artifacts is summarized in Table D.140, and the distribution by stratigraphic unit is summarized in Table D.142.

Interpretation of the cultural horizons has been made possible only by discovery of what appear to be undisturbed zones within the site. The upper component was isolated through the discovery of a dark organic lens at the contact between the 02 horizon (unit 2) and the Devil tephra (unit 3). Cultural material found in this lens included lithic debris, bone fragments, and charcoal. The lens was restricted to the east one-half of test square N99/E109.

A middle component is inferred from a small concentration of waste flakes and bone fragments found sandwiched between the Watana (unit 4b) and the Oshetna (unit 5) tephras. Material in this stratigraphic position was found in all quadrants of N100/E108. In addition to waste flakes, N100/E108 produced a large (length = 122 mm) preform (UA81-215-290; Figure D.378h) and the base of a smaller biface (UA81-215-246; Figure D.378g) from this contact.

The lowermost component was identified when a gray basalt, discoidal preform (UA83-131-42; Figure D.378b) was discovered at the contact between a small pod of undisturbed Oshetna tephra (unit 5) and the oxidized surface of the glacial drift (unit 6). This piece is biconvex in transverse section and longitudinal in profile. The lateral edges of the biface are excurvate and contract toward the base. Accompanying the biface were a few small waste flakes and bone fragments. These were collected as part of a sediment sample, and do not appear in Table D.140.

Most of the artifacts and bone fragments cannot be correlated to a cultural component. These artifacts include 5 modified flakes, 1 chert scraper (UA81-215-488; Figure D.378f), 1 obsidian scraper (UA81-215-47; Figure D.378e), 1 basalt blade (UA83-131-51; Figure D.378d), 1 basalt biface fragment (UA81-215-50; Figure D.378c), and 1 rhyolite preform (UA81-215-49; Figure D.378a).

The faunal assemblage at TLM 069 consists of over 3,430 bone fragments stratigraphically situated from the 02 horizon through glacial drift (Table D.141). Many of the bones have a brownish mottled appearance as the result of weathering. In general, the fragments are small, ranging in size from less than 5-34 mm, calcined, and attributable to medium-large mammals. Three fragments were positively and three tentatively identified as caribou (Rangifer tarandus). The identified fragments consisted of vertebral elements and extremities. Two tooth enamel fragments recovered during survey testing may also be attributable to caribou. In addition, three fragments were attributable to a bird or small mammal.

Despite the apparent bone density in the lower stratigraphic units, the small percentage of identifiable bone at the site, makes it difficult to assess the skeletal completeness of the animals being killed, and thus the proximity of the kill site. The fact that most of the major skeletal components, long bones, axial skeleton (rib and vertebra), and extremities (phalanx and metapodial), are represented suggests that the animal(s) may have been butchered at the site.

Evaluation:

Three cultural components were identified at TLM 069. The uppermost component, consists of a restricted concentration of debitage, charcoal, and bone fragments in an organic-stained matrix. No typologically diagnostic artifacts were recovered from this component. The two lower components at the site, situated at the Watana/Oshetna contact and at the contact of the Oshetna tephra and the drift, are difficult to interpret due to natural site disturbance. Artifacts associated with these components are non-diagnositc, and therefore connot be ascribed to a cultural tradition.

Systematic testing demonstrated that the major locus is confined to the flat top of the site knoll. The extent of mass wasting activity was made evident in excavating test squares on the flanks of the site knoll. Mass wasting at the site has moved significant quantities of the Devil

and Watana tephras (units 3 and 4) downslope, and has probably displaced a small amount of cultural material as well. A single waste flake was found in colluvium in test square N99/E87. Testing on the knoll slopes also indicates that the Oshetna tephra (unit 5) was stripped from the site by deflation. This interpretation reinforces the conclusion that cultural material from the Watana/Oshetna contact (unit 4/5 contact) was lowered to the drift surface as a lag deposit.

TLM 069 probably functioned primarily as a big game hunting station, and secondarily as a temporary habitation site and manufacturing area. The site knoll is a dry area elevated over much of the surrounding wet terrain. The knoll provides an unobstructed view of the highlands to the north and east, and the benchland to the west. The Jay Creek mineral lick, which is heavily used by Dall sheep, is also visible 3.2 km to the northeast.

Modern big game use of the site area is heavy, and is concentrated in the early summer. Skoog (1968:451) reports that this highland area is important as escape terrain for elements of the Nelchina caribou herd at the peak of the fly season in June. Use of mineral licks in the Alaska Range by Dall sheep (Heimer 1973:38-39) and moose (Tankersley 1981:22-26) also peaks in June. If game in the site area followed a similar pattern in the past, prehistoric occupations at TLM 069 may have been timed to coincide with early summer prey concentrations.

Recovery of bone from the site reinforces the interpretation that TLM 069 site functioned as a hunting station. The abundant debitage at the site indicates that manufacture or maintenance of stone tools was an important activity during all three occupations. Examination of the tools found at the site suggests that maintenance or construction of nonlithic artifacts also occurred during at least one occupation. Macroscopic wear patterns are visible on several of these tools. Four tools have areas of edge polish indicating use on some yielding material. Edge crushing is visible on four tools, pointing toward use on a resistant material. One tool, a large preform (UA81-215-290), shows both types of edge wear. These tools and their wear patterns

suggest that wood or bone working, and hide processing may have been important activities at the site. Estimated site size based on the distribution of artifacts is 225 square meters (Table D.2).

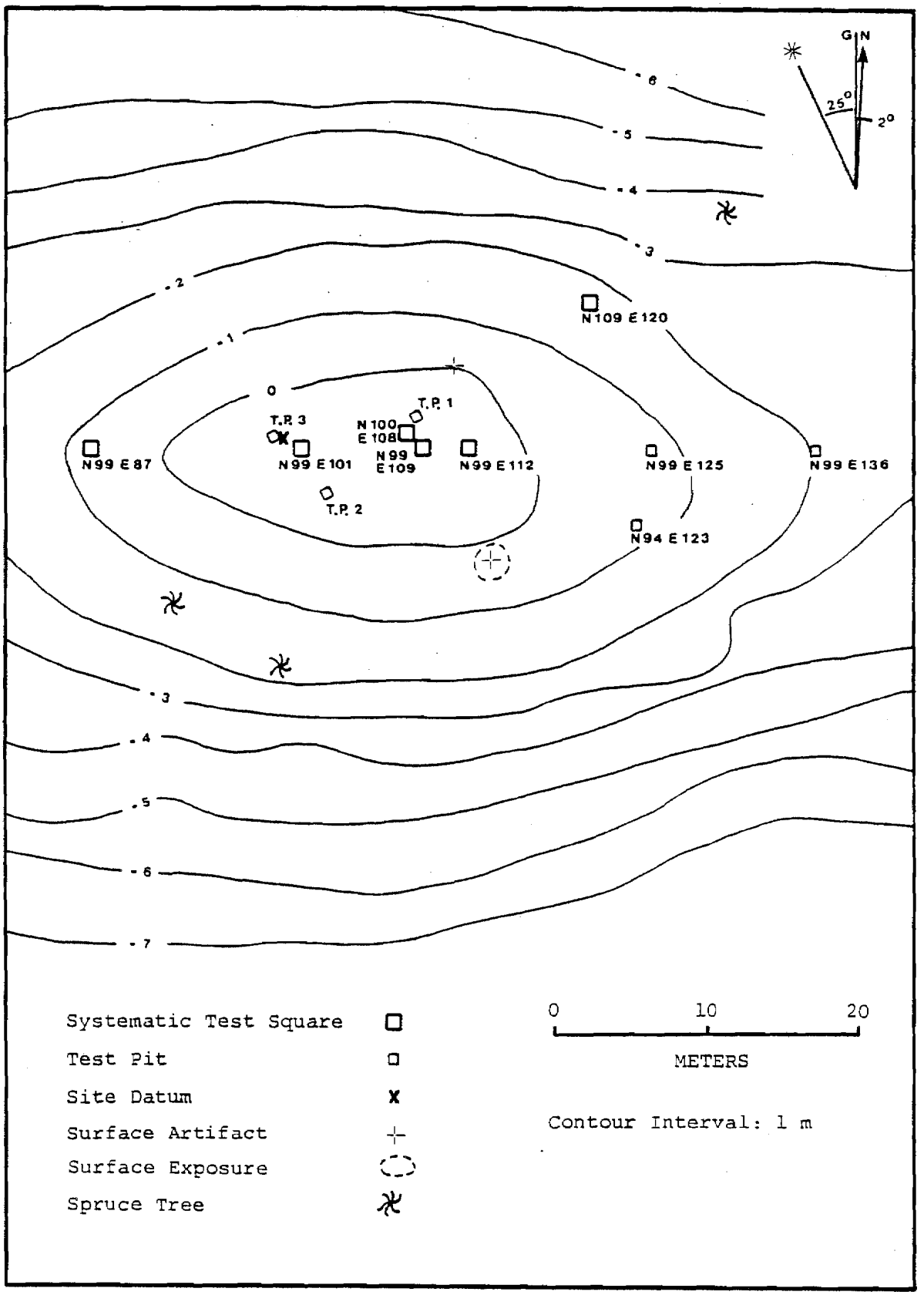

Figure D.91. Site Map, TLM 069

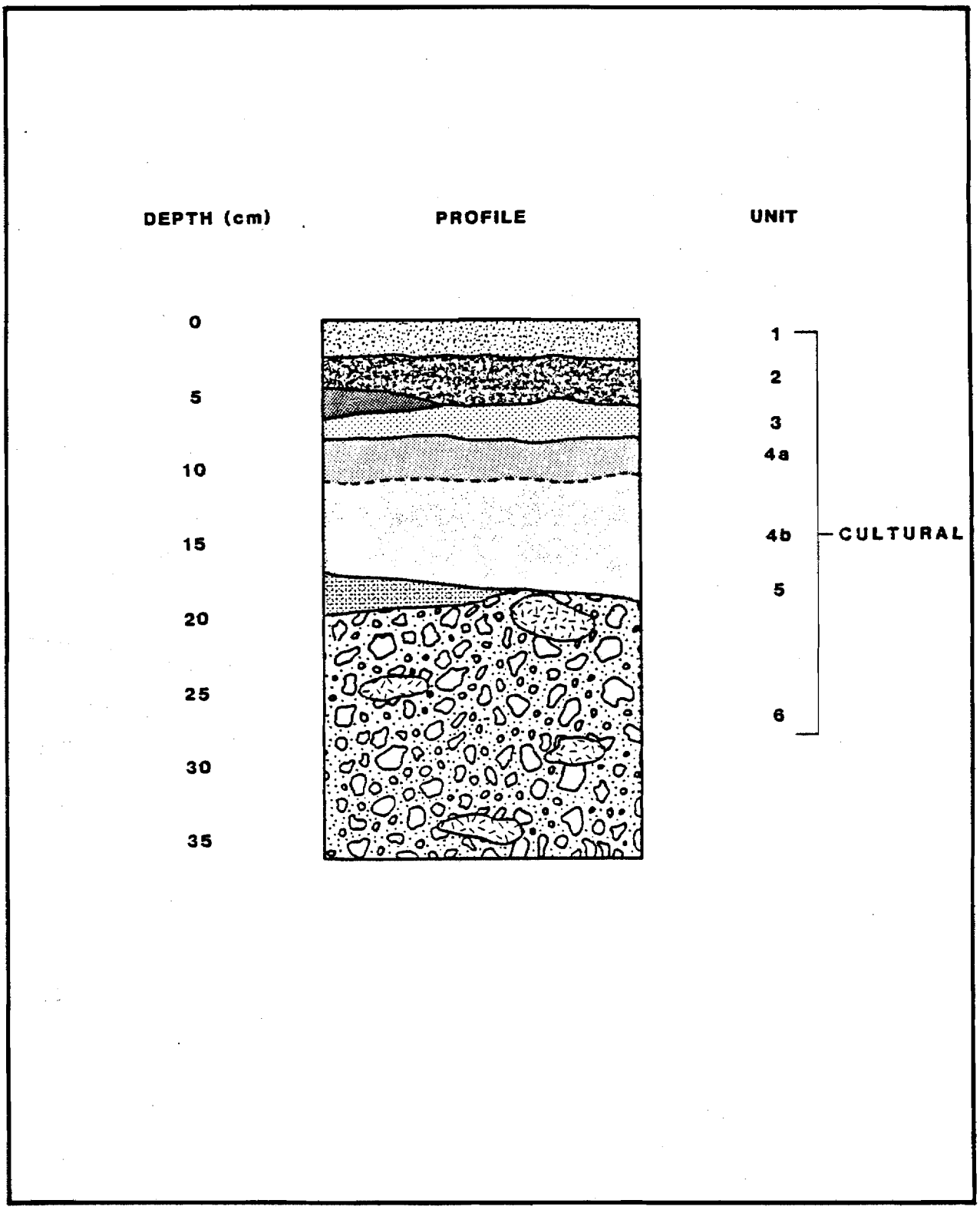

Figure D.92. Composite Profile, TLM 069

Table D.139.

Soil/Sediment Description for Composite Profile, TLM 069

Unit	Description
1	Surface organic accumulation: roots and plant material from dwarf birch, cranberry, crowberry, lichen, and moss. Varies in thickness from 2-15 cm, modal thickness 2-3 cm. Lower boundary is abrupt. An O1 horizon. Generally continuous. Frequently truncated under tussocks by bioturbated sediments. Peatlike on wet slopes.
2	Silt with finely divided organics; black (7.5YR 2/0). 1-6 cm in thickness. Gradational contacts with underlying units. An O2 horizon. A thin horizon conforming to the present surface. Frequently truncated under tussocks by bioturbated sediments. Thicker and peatlike on slopes.
3	Silt; light brown to gray (10YR 6/2), pink-tinged in fresh exposures. 1-3 cm in thickness. Abrupt upper and lower contacts. Devil tephra. Thin and discontinuous on the site kame, and occurs as pockets and stringers in colluvium on slopes. Frequently truncated under tussocks by bioturbated sediments. Some staining by illuvial organics.

Table D.139. (Continued)

Unit	Description
4a	Sandy silt; dark red orange to red brown (5YR 3/3). 2-4 cm in thickness. Lower contact gradational. Oxidized Watana tephra. Absent on slopes, variably expressed on the kame top.
4b	Compact silty sand to silt; yellow brown (10YR 6/4). 2-8 cm in thickness. Generally abrupt contact with underlying units, some mixing evident. Unoxidized Watana tephra. Generally continuous but absent or mixed by colluviation on slopes. Some pebbles or cobbles in the lower one-third of the unit.
5	Silty sand; gray (5Y 7/1). 1-3 cm in thickness. Abrupt upper and lower contacts where unmixed. Oshetna tephra. Discontinuous, occurring as lenses and pockets. May be mixed with units 4b and 6 by cryoturbation processes. Absent on slopes.
6	Coarse silty sand with pebbles, cobbles and boulders; grading from reddish brown to olive at depth (2.5YR 4/4 to 5Y 5/3). Unit not totally exposed. Contact with overlying unit 4b gradational to abrupt, with localized mixing. Glacial drift. Clasts are subrounded to angular. May be mixed with overlying units by colluviation on slopes.

Table D.140.

Artifact Summary, TLM 069

Tools

10	Modified flakes
	5 Basalt (UA81-215-42, 51, 64, 101; UA83-131-15)
	1 Chert (UA81-215-128)
	2 Obsidian (UA81-215-4, 5)
	2 Rhyolite (UA81-215-245, 489)
2	Scrapers
	1 Chert (UA81-215-488)
	1 Obsidian (UA81-215-47)
1	Blade
	1 Basalt (UA83-131-51)
8	Bifaces and fragments
	2 Argillite (UA81-215-6, 144)
	2 Basalt (UA81-215-50, 127)
	2 Chert (UA81-215-203, 502)
	1 Obsidian (UA81-215-48)
	1 Rhyolite (UA81-215-246)

Table D.140. (Continued)

3	Preforms 1 Basalt (UA83-131-42) 1 Chert (UA81-215-290) 1 Rhyolite (UA81-215-49)
1	Flake core fragment 1 Chert (UA83-131-14)
25	

Lithic Material

146	Argillite flakes
1,195	Basalt flakes
7	Chalcedony flakes
451	Chert flakes
36	Obsidian flakes
15	Quartzite flakes
122	Rhyolite flakes
1	Cobble
13	Rock fragments
6	Flakes (uncollected)
1,992	

Faunal Material

ca. 3,431	Calcined bone fragments

Table D.141.

Faunal Material by Stratigraphic Unit, TLM 069

Unit		Description
2 O2 horizon	1	Long bone fragment, calcined, medium-large mammal
2/3 Contact between O2 horizon and Devil tephra	1 5	Long bone fragment, calcined, medium-large mammal Unidentifiable fragments, calcined, medium-large mammal
2/3-4a Disturbed context	6	Unidentifiable fragments, calcined, medium-large mammal
3 Devil tephra	5	Long bone and unidentifiable fragments, calcined, medium-large mammal
3/4, 3/4a between Devil and Watana tephras	1 9	Unidentifiable fragment, calcined, Contact bird or small mammal Long bone and unidentifiable fragments, calcined, medium-large mammal
4 Watana tephra	58 11	Long bone and unidentifiable fragments, calcined, medium-large mammal Unidentifiable fragment, calcined, mammal

Table D.141. (Continued)

Unit		Description
4a Oxidized Watana tephra	1	Vertebral facet, calcined, medium-large mammal
	1	Probable rib, calcined, medium-large mammal
	3	Long bone fragments, calcined, medium-large mammal
	106	Unidentifiable fragments, calcined, medium-large mammal
4b Unoxidized Watana tephra	1	Probable phalanx fragment, calcined, possible caribou (Rangifer tarandus)
	4	Long bone fragments, calcined, medium-large mammal
	79	Unidentifiable fragments, calcined, medium-large mammal
	1	Unidentifiable fragment, calcined, small-medium mammal
4/5 Contact between Watana and Oshetna tephras	328	Long bone and unidentifiable fragments, calcined, medium-large mammal
4/6, 4b/6 Contact between Watana tephra drift	1	Vertebral centrum fragment, calcined, medium-large mammal
	1	Possible rib fragment, calcined, glacial medium-large mammal
	702	Long bones, flat bones, and unidentifiable fragments, calcined, medium-large mammal

Table D.141. (Continued)

Unit		Description
5/6 Contact between Oshetna tephra and glacial drift	9	Unidentifiable fragments, calcined, medium-large mammal
6 Glacial drift	1	Facet of cervical vertebra, calcined, caribou (Rangifer tarandus)
	1	Facet of lumbar vetebra, calcined, caribou (Rangifer tarandus)
	2	Probable centra of cervical vertebrae, calcined, possibly caribou (Rangifer tarandus)
	1	Spinous process of thoracic vertebra, calcined, possibly caribou (Rangifer tarandus)
	1	Metapodial shaft fragment, calcined, possibly caribou (Rangifer tarandus)
	3	Possible rib fragments, calcined, medium-large mammal
	12	Long bone fragments, calcined, medium-large mammal
	1	Unidentifiable fragment, calcined, cut marks, medium-large mammal
	521	Unidentifiable fragments, calcined, medium-large mammal

Table D.141. (Continued)

Unit		Description
Unknown (survey testing)	2	Tooth enamel fragments, calcined, artiodactyl
	ca. 150	Long bone and unidentifiable fragments, calcined, medium-large mammal
	2	Rib fragments, calcined, small mammal
	ca. 1,400	Long bone and unidentifiable fragments, calcined, mammal

Table D.142.

Artifact Summary by Stratigraphic Unit, TLM 069

Unit		Description
Surface	6	Flakes (uncollected)
1	2	Basalt flakes
Organic mat	1	Chert flake
2	3	Argillite flakes
O2 horizon	11	Basalt flakes
	1	Chalcedony flake
	3	Chert flakes
2/3	5	Basalt flakes
Contact between	1	Obsidian flake
O2 horizon and	3	Rhyolite flakes
Devil tephra		
2 and 3	3	Argillite flakes
O2 horizon and	5	Basalt flakes
Devil tephra	1	Chalcedony flake
	1	Rhyolite flake
3	3	Argillite flakes
Devil tephra	14	Basalt flakes
	5	Chert flakes
	1	Obsidian flake

Table D.142. (Continued)

Unit		Description
3 and 4	3	Argillite flakes
Devil and	6	Basalt flakes
Watana tephras	6	Chert flakes
	2	Rhyolite flakes
	1	Chert scraper (UA81-215-488)
4a	6	Argillite flakes
Oxidized	28	Basalt flakes
Watana tephra	4	Chert flakes
	1	Rhyolite flake
2-4a; 2/3-4a;	10	Basalt flakes
3-4a	1	Chert flake
Disturbed	5	Rhyolite flakes
Context		
4b	38	Basalt flakes
Unoxidized Watana	1	Chalcedony flake
tephra	13	Chert flakes
	1	Quartzite flakes
	3	Rhyolite flakes
	1	Rock fragment

Table D.142. (Continued)

Unit		Description
4a and 4b	17	Argillite flakes
Watana tephra	82	Basalt flakes
	26	Chert flakes
	1	Obsidian flake
	6	Rhyolite flakes
	2	Rhyolite modified flakes (UA81-215-245, 489)
4/5	14	Argillite flakes
Contact between	54	Basalt flakes
Watana and	1	Chalcedony flake
Oshetna tephras	26	Chert flakes
	1	Quartzite flake
	24	Rhyolite flakes
	1	Rhyolite biface fragment (UA81-215-246)
	1	Chert preform (UA81-215-290)
5	7	Basalt flakes
Oshetna tephra	2	Chert flakes
4/6; 4b/6	44	Argillite flakes
Contact between	316	Basalt flakes
Watana tephra	154	Chert flakes
and glacial	23	Obsidian flakes
drift	4	Quartzite flakes
	22	Rhyolite flakes
	4	Basalt modified flakes (UA81-215-51, 64, 101; UA83-131-15)

Table D.142. (Continued)

Unit		Description
	1	Chert modified flake (UA81-215-128)
	1	Obsidian scraper (UA81-215-47)
	1	Basalt blade (UA83-131-51)
	1	Argillite biface (UA81-215-144)
	2	Basalt biface fragments (UA81-215-50, 127)
	1	Chert biface (UA81-215-203)
	1	Obsidian biface fragment (UA81-215-48)
	1	Rhyolite preform (UA81-215-49)
	1	Chert flake core fragment (UA83-131-14)
	6	Rock fragments
	1	Cobble
5/6 Contact between Oshetna tephra and glacial drift	1	Basalt preform (UA83-131-42)
5 and 6 Oshetna tephra and glacial drift	2	Argillite flakes
	12	Basalt flakes
	1	Chert flake
6 Glacial drift	17	Argillite flakes
	113	Basalt flakes
	39	Chert flakes
	10	Obsidian flakes
	4	Quartzite flakes
	29	Rhyolite flakes
	1	Rock fragment

Table D.142. (Continued)

Unit		Description
Unknown (primarily from Survey testing)	34	Argillite flakes
	492	Basalt flakes
	3	Chalcedony flakes
	170	Chert flakes
	5	Quartzite flakes
	26	Rhyolite flakes
	1	Basalt modified flake (UA81-215-42)
	2	Obsidian modified flakes (UA81-215-4, 5)
	1	Argillite biface fragment (UA81-215-6)
	1	Chert biface fragment (UA81-215-502)
	5	Rock fragments

AHRS Number TLM 070; Accession Number UA81-216

Area:	East of Stephan Lake
Site Map:	Figure D.93
Site Location Map:	Figure E.55
USGS Map:	Talkeetna Mts. C-4, Figure E.5
Site Location:	Appendix F

Setting:

The site is located at an elevation of ca. 914 m asl (3000 feet), east of Stephan Lake and at the northern end of a 2 km wide glacial valley oriented north-south. It is situated on the deflated summit of a low knoll on the crest of a north-south oriented, discontinuous lateral moraine located on the eastern side of this broad, "U"-shaped valley. This moraine is one of a series of parallel lateral moraines occurring between ca. 853 m and ca. 1036 m asl (2800-3400 feet). These ridges and the intervening lower, poorly drained undulating terrain characterize the ice-stagnation topography in the vicinity of the site. Several creeks originating in cirques located along the east side of the valley flow northwest, dissecting the lateral moraines so that they form a series of discontinuous ridges. The site is located at the highest, southwest end of a knoll where the moraine immediately south of the site has been notched by seasonal stream runoff, forming a northwest-southeast trending 8 m deep gully. This gully separates the site knoll from a slightly higher knoll ca. 60 m to the southwest on the same moraine. From the site location the knoll descends steeply to the northwest and north ca. 40 m to poorly drained, undulating ground moraine topography. Northeast of the site the knoll slopes more gradually along the crest of the moraine, descending 10 m in elevation to a small northwest-southeast trending creek 70 m northeast of the site. This creek has dissected the moraine forming a 5 m deep, grassy gully 70-80 m northeast of the site.

The site elevation is 10-50 m higher than the surrounding terrain with the greatest difference in elevation to the north where visibility is

excellent for several kilometers and portions of three small (less than 1 ha) kettle lakes located to the north and northeast, can be seen. The view from the site is panoramic, encompassing lower terrain in all directions except to the immediate southwest where higher ground on the same moraine obstructs the view, and to the west where another higher moraine ridge limits the view.

Approximately 80% of the ground surface at the site location is deflated gravel with numerous cobbles and boulders present. Soil deposition at the site is 12 cm of silt over glacial drift and vegetation is limited to only a few patches of bearberry and other herbaceous vegetation less than 5 cm in height. Vegetation includes willow and shrub birch present on the slopes of the moraine and concentrated in the creek drainages to the north and south of the site. Vegetation in the site vicinity is alpine tundra with the present tree line located northeast of the site.

Testing:

The site consists of a 4 x 4 m surface lithic scatter exposed at the summit of a deflated knoll (Table D.143). A complete gray basalt endscraper (UA81-216-1; Figure D.378i), two light gray argillite flakes, and a black basalt flake were surface collected from a blowout at the summit of the knoll. Two gray argillite flakes were left uncollected on the surface. One 40 x 40 cm test (test pit 1) placed adjacent to the flake concentration did not reveal any subsurface cultural material. Intensive surface survey along the moraine crest for ca. 200 m north and south of the site location did not reveal any additional cultural material. The site appears to be limited to surface lithics at the top of a single knoll. Estimated site size based on the distribution of artifacts is 16 square meters (Table D.2).

Table D.143.

Artifact Summary, TLM 070

Provenience		Description
Lithic Material		
Surface:	2	Argillite flakes
	1	Basalt flake
	1	Basalt scraper (UA81-216-1)
	2	Argillite flakes (uncollected)

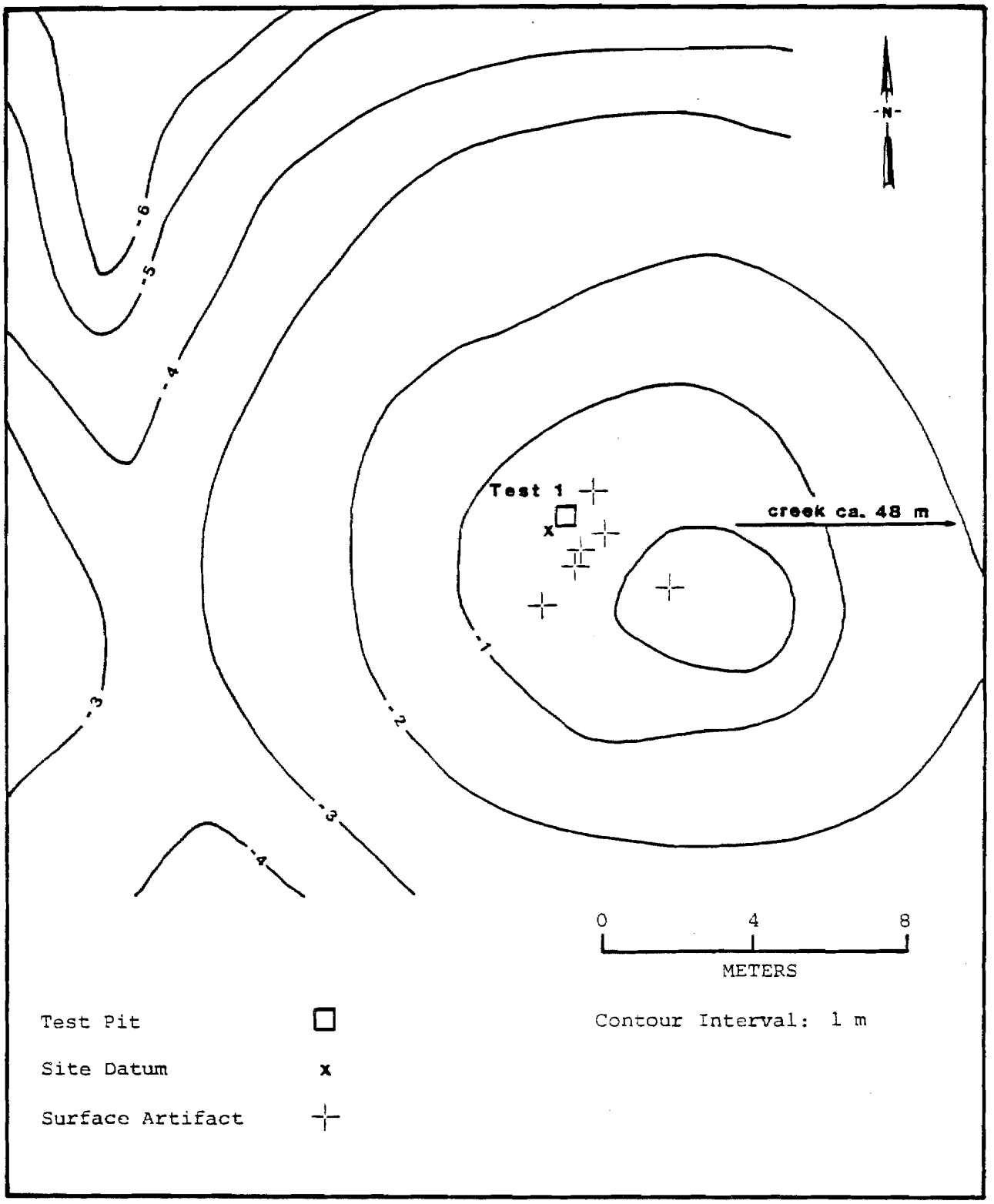

Figure D.93. Site Map, TLM 070

AHRS Number TLM 071

Area:	Southeast of the Confluence of Gilbert Creek with Kosina Creek
Site Map:	Figure D.94
Survey Locale 128:	Figure E.206
USGS Map:	Talkeetna Mts. C-2, Figure E.7
Site Location:	Appendix F

Setting:

The site is the trapping headquarters of Elmer Simco built in the early 1930's, located east of Gilbert Creek, a small tributary of Kosina Creek. The confluence of Gilbert Creek with Kosina Creek is approximately 100 m to the north. The cabin is situated on a low, gently sloping terrace less than 5 m above the creek at an elevation of ca. 724 m asl (2375 feet). The front of the cabin faces the creek, which is clean and fast moving with many boulders. Vegetation in the area surrounding the cabin consists of grasses, moss, low shrubs, dwarf birch, spruce, and aspen.

Documentation:

Documentation involved the examination of the headquarters cabin, associated outbuildings, and historic debris scattered at the site. An inventory was conducted of the items found in the cabin, which included many of the original furnishings and supplies.

The cabin structure consists of a one room, dirt floored, 12 x 15 ft. (internal dimensions) log cabin. The walls are constructed of horizontal, stripped spruce logs with the average diameter being 11 in. The corner joints are square-notched with the logs extending past their point of intersection. The cracks between the logs are chinked with moss and dirt. Portions of the interior walls are covered with brown paper and canvas for additional weatherizing. Wall openings consist of a small 14 x 26 in. glazed window in the south wall, a 2'7" x 5'5" door

with a 17 x 13 in. glazed window (window has been removed and is lying on the work table) in the west wall and a small 12 x 10 in. screened opening in the gable above the door. The roof is peaked and is constructed of sawn boards supported by seven horizontal log beams (two being the top wall logs on either side) running the length of the structure and extending 2'8" past the front wall to form an overhang providing a dry area for firewood and other storage. The roof boards are covered with canvas, flattened cans, and sheet metal. A large (1 x 2 m) section of the southwest corner of the roof is missing along with a small (0.25 x 1 m) section midway along the north wall. The sheet metal roof has blown off in other areas, exposing the fragile, rapidly deteriorating canvas underlayer. Many of the cabin's wall logs exhibit advanced stages of dry rot. General condition of the cabin structure is fair to poor.

The cabin still contains many of the original furnishings and supplies present when used as a trapping headquarters cabin in the 1930-1950's. Inside the cabin is a wooden plaque stating "Oct 1930, This is the Headquarters Cabin of Elmer Simco and all property. To whom it may concern. Make yourself at home while here. I'm here nearly every 2 days. Elmer Simco." This plaque also lists his seven other trapping camps and has a tally of dates when he was at the cabin. Other dates and names are written on the cabin walls. Interior cabin furnishings include a loft at either end (east and west), shelves and a work table along the north half of the west wall, and additional shelves and a bunk complete with springs on the north wall. The east wall has a radio cabinet minus the chassis and a screened storage cabinet containing flour and wool clothing. A sheet metal wood stove and oven is in the southwest section of the cabin. Clothing items are hanging along the south wall and scattered about the cabin along with numerous magazines including: Redbook, Saturday Evening Post, and Master Detective. The shelves contain a wide variety of foodstuffs, medical supplies, and cooking utensils. Piled on the bunk are straw ticks, blankets, and a wooden handmade chair with a caribou skin covering. A wooden dogsled hangs from the ceiling and a harness from the west wall. Leakage from the roof is causing destruction of many of the interior items.

Stablization of the cabin was authorized by APA and conducted by Harza-Ebasco in September 1984. This consisted of roof repairs which included the supporting of interior roof beams and attaching plywood sheets to the roof exterior. Plastic sheets were then overlain on top of the plywood and attached with wooden slats. The door was also adjusted so it could be closed and the door's window opening was boarded over.

Outbuilding number 1 consists of a small 6 x 5 ft. (internal dimensions) shed with attached 4'4" x 5' (internal dimensions) outhouse. The shed is constructed of a pole frame with vertically affixed sawn scrap board sides and a split board covered peaked roof having a slight amount of sod covering still present. A 2 ft. wide door is in the east wall. Hanging on the inside walls are pieces of dog harness and a pick. The rear west wall of the shed is the east wall of the adjoining outhouse. This structure is also of pole frame construction with affixed vertical boards. The roof originally was sloped toward the north but is currently collapsed. It was apparently sod covered also. The inside of the walls was originally canvas lined.

Outbuilding number 2 consists of a low, 2 ft. high, three bay, 5' x 9'6" (outside dimensions) dog kennel constructed of horizontal stripped spruce logs. Each bay has an 11 in. square opening cut into the logs with an adjacent metal staple. One opening has a dog chain leading into it. The roof is collapsed but appears to have been sloped toward the rear of the structure and sod covered.

Outbuilding number 3 is a grass covered and badly decomposed low structure approximately 13 x 6 ft. (outside dimensions) with 3 bays. One opening was noted on the south side. Although larger, its construction appears to be similar to outbuilding number 2 kennel.

Other associated features at the site include an apparent garbage dump north of the cabin containing enamalware pots and a general scatter of historic debris around the complex, indicating other possible refuse piles. A dogsled is parked adjacent to the northwest corner of the

cabin. Wood lying in front of the cabin may represent the remains of an additional feature in this area.

No cultural material was collected at this site. Estimated site size based on the distribution of artifacts is 960 square meters (Table D.2).

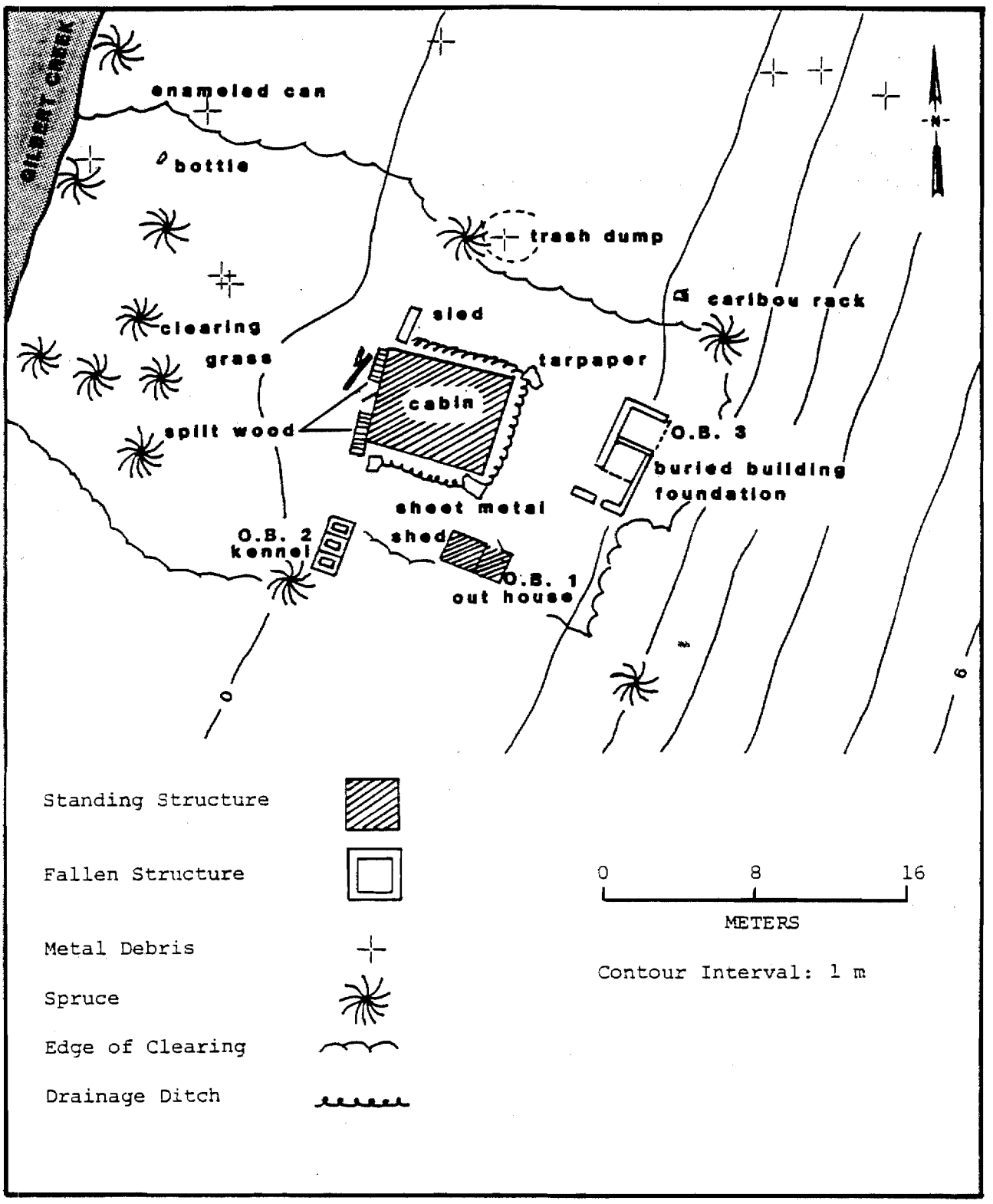

Figure D.94. Site Map, TLM 071

AHRS Number TLM 072; Accession Number UA81-233

Area:	East of Jay Creek Mouth
Site Map:	Figure D.95
	Map of Feature 1, Figure E.96
Survey Locale 88:	Figure E.162
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site, a large circular depression, is located along the wall of the Susitna River canyon, northeast of the mouth of Jay Creek at an elevation of 558 m asl (altimeter: 1830 feet). The site is situated on the southwest-facing 15-20 degree slope, at the southwestern end of an isolated ridge. This ridge extends from the canyon wall for 45 m downslope before leveling out into a ca. 6 x 9 m area which terminates abruptly in a 30-degree slope to the west, south, and east. A ca. 90 cm deep cultural depression is excavated into the southern end of the level area. This ridge line is ca. 4.5 m higher than the adjacent slope at its northeastern juncture with the canyon wall, but gains in relief at its terminus where it is ca. 10 m higher, forming a rounded lobe on an otherwise undifferentiated slope. The site is located north of the Susitna River margin and ca. 50 m above a 400 x 100 m grassy alluvial terrace and a former river channel both of which lie between the base of the canyon wall and the river. To the north the canyon wall continues to rise 20-30 degrees for approximately 300 m before leveling out at ca. 470 m asl (2200 feet). The principal view from the site is to the south but is restricted by dense forest cover to less than 50 m except for a few openings through which portions of the lower river terrace and the Susitna River are visible. Without the present dense vegetation, visibility from the site would be excellent, encompassing much of the lower terrace and former river channel. Soils on the slope are unstable and subject to creep, as evidenced by the many recurved spruce observed in the survey area. In places the ground cover has broken due to

slummpage of the soil below and formed erosional scars. These scars are usually moist.

Vegetation at the site consists of dense mixed spruce and birch. On the berm of the depression and within the pit are a number of very small white spruce. These young spruce are unique in the immediate vicinity of the site and may indicate a relatively young age for the depression. Grass is also present in and adjacent to the depression but does not occur elsewhere in the site vicinity. A single birch 18 cm in diameter, is present adjacent to the depression on the southwestern perimeter of the berm. Ground cover on the slope around the site and in gently sloping swales to the east and west of the depression includes willow, Labrador tea, lowbush cranberry, wild rose, and horsetail. At the base of the slope below and to the south of the site, the flat poorly drained terrain is characterized by wet muskeg and sphagnum moss with scattered black spruce.

Testing:

A ca. 90 cm deep circular depression (feature 1) was observed at the southern end of a low ridge running generally parallel with a southwestern slope. What appears to be a berm occurs around the edges of the depression but is most evident on the west, south, and east sides. The north side is flat and relatively level. The diameter of the depression, measured from the inside of the berm, is 4.2 (north-south) x 4.5 m (east-west). Within this circular depression is an apparently subrectangular pit measuring 2.2 (east-west) x 2 m (north-south). The straight vertical walls of this pit are most evident on the west and south sides, where a 30-40 cm wide shelf or "bench" of soil is present ca. 50 cm above the deepest part of the depression. Intensive survey failed to reveal other features of similar nature in the vicinity of feature 1. Seven shovel tests were dug around the outside of the pit. None of these revealed cultural material although one of them (shovel test 3) produced large pieces of burned wood and charcoal in the horizon just below the humus mat. This shovel test was subsequently enlarged into a 40 x 40 cm test (test pit 3). No faunal or

lithic material was revealed in this test, however additional charcoal was encountered in two soil units. A buried paleosol occurs 10-16 cmbs in test pit 3 between a yellow-brown silty sand and an oxidized light gray clayey silt.

Excavation of test pit 1 was started near the center of the depression and a complete unburned moose (Alces alces) metapodial was exposed embedded in the vegetative mat at the bottom of the pit. This metapodial was left in place and the test pit was discontinued so as not to disturb the feature. Because the excavation of test pit 1 was discontinued it is not represented on the site map.

Test pit 2, a 60 x 40 cm test pit, was excavated in the northern portion of the western wall in order to investigate the wall stratigraphy. The test pit was placed so that half (30 cm) of the test pit was placed on the wall and half was placed in the depression. Cultural remains were encountered along the western wall of the depression (Table D.144). These remains included scattered fragments of birch bark, a birch bark roll, which was left in situ, organic matter with seeds, and a possible conical birch bark container measuring 30 x 15 cm.

A grid shovel testing program was implemented to locate subsurface cultural remains outside the feature and assist in determining the site size. Thirteen grid shovel tests were excavated. All grid shovel tests produced similar stratigraphic profiles of mixed glacial sands and tephra covered with a thick root mat. A recognizable glacial substratum was not reached in any of these tests, indicating that an appreciable amount of colluvium has been deposited on the site area. Grid shovel test N98/E96 contained an alignment of wood charred on the lower side in the root mat. A buried soil level was noted in three grid shovel tests on the south side of the depression. No faunal or lithic material were encountered in these grid shovel tests. Observed site size based on the distribution of artifacts is 28 square meters (Table D.2).

Table D.144.

Artifact Summary, TLM 072

Provenience		Description
Lithic Material		
Subsurface:		
Test pit 2	12	Birch bark fragments
	2	Birch bark rolls (uncollected)
		Birch bark fragments (uncollected)
		Organic matter with seeds (uncollected)
Faunal Material		
Subsurface:		
Test pit 1	1	Metapodial, unburned, moose (Alces alces) (uncollected)

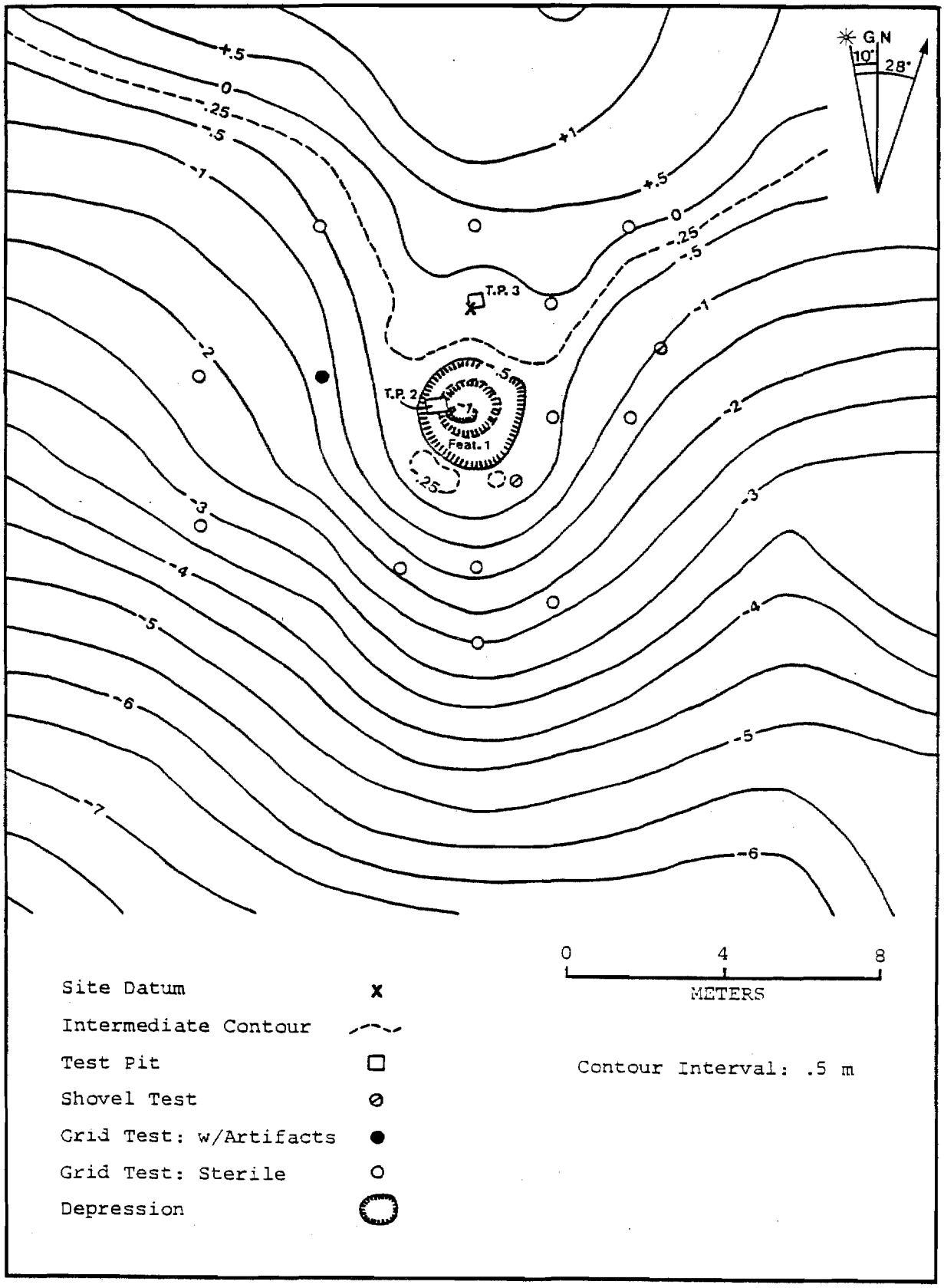

Figure D.95. Site Map, TLM 072

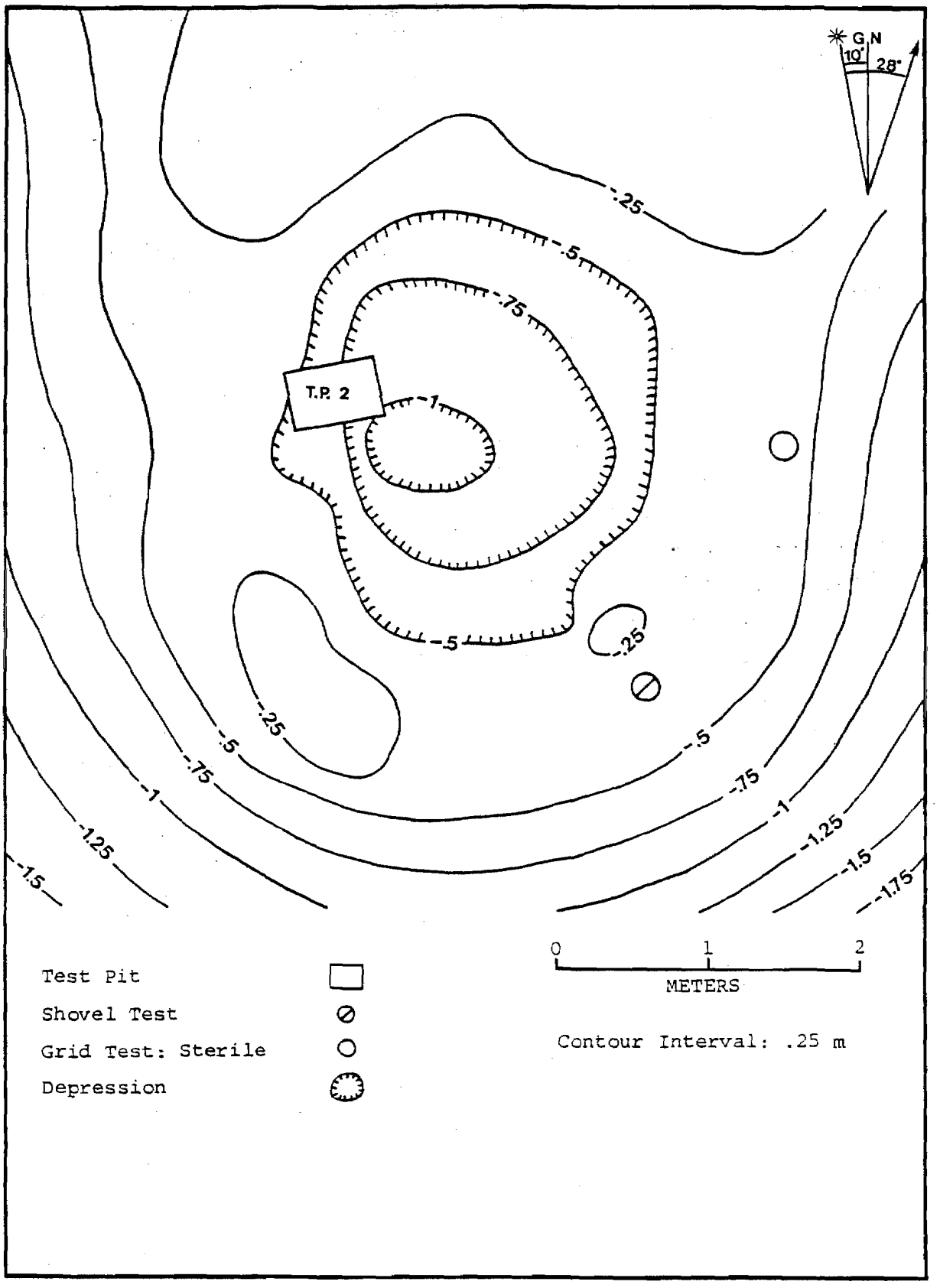

Figure D.96. Map of Feature 1, TLM 072

AHRS Number TLM 073; Accession Numbers UA81-227, UA84-136

Area:	Southeast of Oshetna River Mouth
Site Map:	Figure D.97
Survey Locale 103:	Figure E.174
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site is located at an elevation of 688 m asl (altimeter: 2257 feet) east of the Oshetna River and south of the Susitna River. The landform associated with the site appears to be a series of river terraces presenting steep slopes to the west and north. TLM 073 is situated on the highest of these former river terraces, which is broad and flat, measuring approximately 800 (north-south) x 400 m (east-west) with little local relief. The eastern portion of the terrace slopes downward to an area of low relief containing two lakes. Numerous boulders are visible through surface vegetation, particularly the eastern portion where they are found in high concentration with little or no covering vegetation. The view from the western perimeter of the terrace is panoramic. The lack of forest vegetation around the site and its relatively high position provides for an excellent view of the Oshetna River valley (and its confluence with the Susitna River) to the north, west, and southwest, as well as to higher terrain to the east, northeast, and south.

Landforms associated with TLM 026, TLM 042, TLM 206 to the northwest, and TLM 049 to the northeast, are visible. Access to the Susitna and Oshetna rivers is good. The Oshetna River's course is somewhat bending, with at least 100 m of comparatively flat flood plain on either side, intermittently forested. The Susitna River's course is serpentine, with a cutbank north of the Oshetna River mouth . Intervening scattered spruce trees prevent good views of most of the terrace and TLM 207, located 150 m south along the edge of the same terrace. The two lakes to the east are not visible from the site, but are within a distance of

500 m. The nearer lake, crescent shaped and approximately 6 ha in size, is at a distance of approximately 400 m, and drains southwest into the Oshetna River. The smaller lake, approximately 3 ha in size, is at a distance of approximately 500 m, and drains northwest into the Susitna River. Both lakes appear to be eutrophic, and are being reclaimed as marsh and bog. Site vegetation consists of small scattered white spruce, Labrador tea, shrub birch, willow, blueberry, lowbush cranberry, and lichens. Lower elevations and terrace slopes contain denser stands of shrub willow and white spruce; as well as poorly drained soil and muskeg in the vicinity of the Oshetna River.

Testing:

No surface artifacts were observed at the site. During the initial survey testing two test pits and one shovel test were placed at the site location, only test pit 1 produced cultural material.

A grid shovel testing program was implemented around test pit 1 to assist in determining site size and the distribution of the cultural remains. Sixteen shovel tests were excavated during this program, but all were sterile. Nine additional survey shovel tests, which were placed along the bluff edge, also proved to be sterile. One 1 x 1 m systematic test square N99/E97 adjacent to test pit 1 was excavated to better determine the stratigraphic location(s) of cultural materials.

Discussion:

Testing at TLM 073 included the excavation of 10 shovel tests, 2 test pits, 16 grid shovel tests, and 1 test square. A number of natural depressions were noted in the site area, the largest of which was mapped. These pits are apparently not associated with the occupation of the site. The cultural remains recovered at this site consist of 1 biface tip fragment and 49 flakes of rhyolite, basalt, quartzite, argillite, and chert, ordered according to frequency. The inventory of artifacts is summarized on Table D.146, and the distribution by stratigraphic unit is summarized on Table D.147.

The artifactual material recovered from the initial survey testing included six flakes located in the first shovel tests and 12 other flakes recovered from 5-23 cmbs while excavating test pit 1.

A single rhyolite biface tip fragment (UA84-136-1; Figure D.378j) was located on the surface of test square N99/E97 in a layer of backfill from test pit 1, and is most likely derived from test pit 1. A total of 29 flakes were recovered from test square N99/E97, and an additional two flakes obtained from the narrow block between test pit 1 and test square N99/E97.

Seven soil/sediment units have been distinguished based on exposures in test pit 1 and test square N99/E97. Because the terrace was once an exposed boulder field, overlying sediments drape around the boulders, filling interstices and creating stratigraphic inversions. Substantial cryoturbation at the site is demonstrated by the occurrence of drift pebbles displaced via frost jacking and scattered throughout the stratigraphic column, by the mixture of strata vertically, and by the vertical position of many of the flakes found. Artifacts are consequently vertically mixed in the stratigraphic column as well. The soil/sediment units are shown in Figure D.98 and described in Table D.145. The surface organic mat (unit 1) overlies a silt layer (unit 2) containing abundant finely divided organics, eolian silt, and tephra. Mixed with and underlying unit 2 is a thin layer of Devil tephra (unit 3), modified through contact with unit 2 above and Watana tephra (units 4a and 4b) below. The Watana tephra is mottled with heavily oxidized parts (unit 4a) mixed with unoxidized areas (unit 4b). It usually occurs above, but may occur below, the mixed Oshetna tephra and paleosol unit (unit 5). The surface of this unit contains a small amount of finely divided charcoal. The paleosol and tephra components are indistinguishable stratigraphically, and are often mixed with glacial drift (unit 6), which marks the extent of excavation at the site. Artifacts occur at the unit 3/4a and 4/5 contacts and in units 4a, 4b, and 5.

The extensive cryoturbation of sediments and vertical mixing of artifacts at TLM 073 makes determination of the numbers of separate occupational components problematic. However, the small size of the site and similarity of raw materials represented in different strata suggest that a single component is present, despite the range of stratigraphic units in which artifacts occur. The greatest density of artifacts appears to be in the Oshetna layer (unit 5), and it is likely that the original stratigraphic position of the component was the Watana/Oshetna contact (unit 4/5 contact). The component consists almost entirely of lithic debris composed of five raw material types: rhyolite, basalt, quartzite, argillite, and chert, in descending order of abundance. The only tool recovered is the rhyolite biface tip fragment (UA84-136-1), this fragment lacks formal features diagnostic of any cultural period in Interior Alaskan prehistory.

Evaluation:

TLM 073 is a small, spatially discrete site dominated by unmodified flakes although one broken biface tip (UA84-136-1) was recovered. A wide variety of lithic raw material types are represented in the assemblage. Substantial vertical displacement of strata and artifacts is evident at the site, making determination of the number and stratigraphic position(s) of separate components problematic, but a single component attributable to the contact of the Watana and Oshetna tephras (unit 4/5 contact) is the most probable interpretation of the distribution of materials. This component represents a spatially limited transient occupation probably limited to stoneworking activities. Estimated site size based on the distribution of artifacts is 9 square meters (Table D.2).

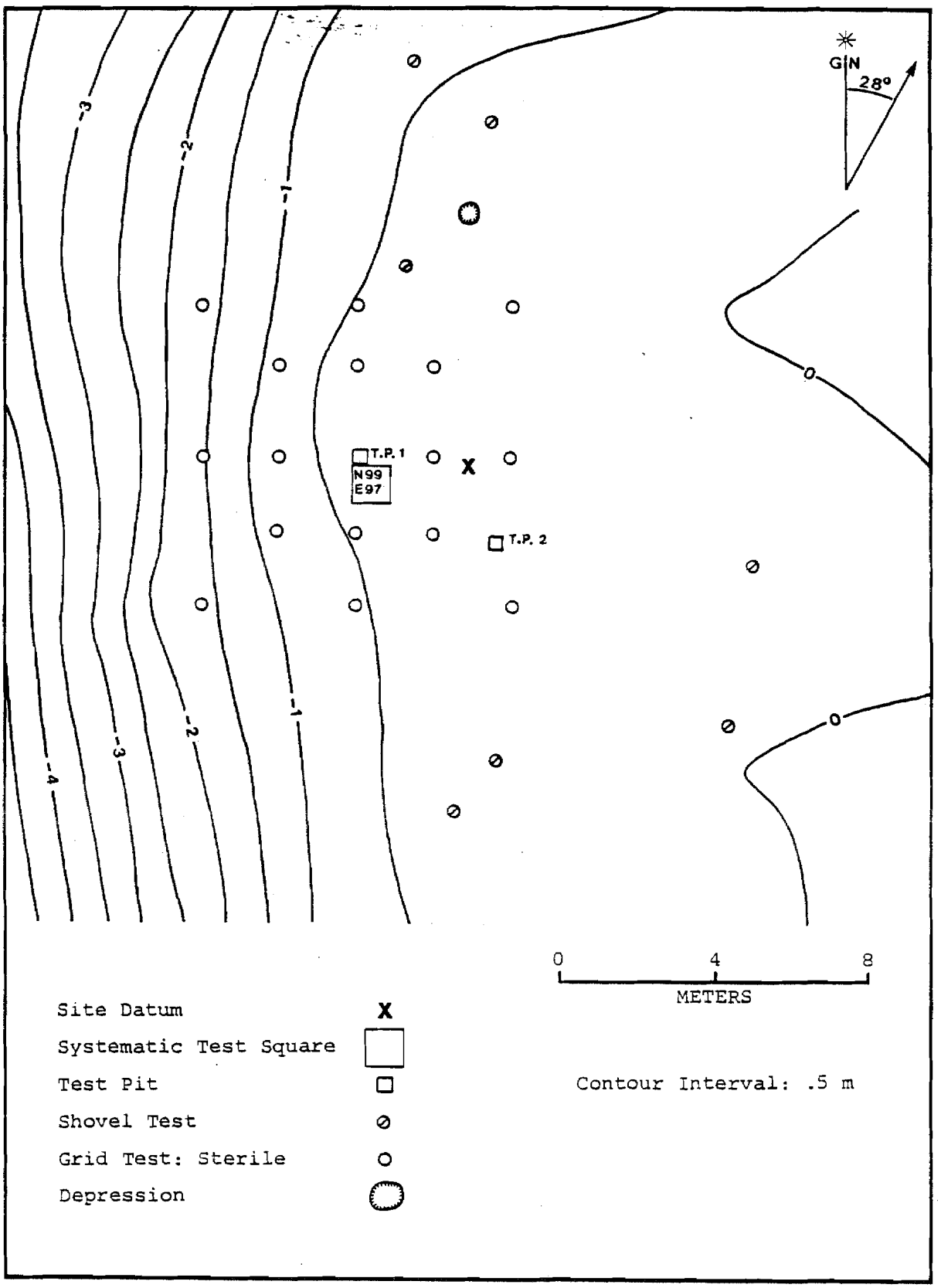

Figure D.97. Site Map, TLM 073

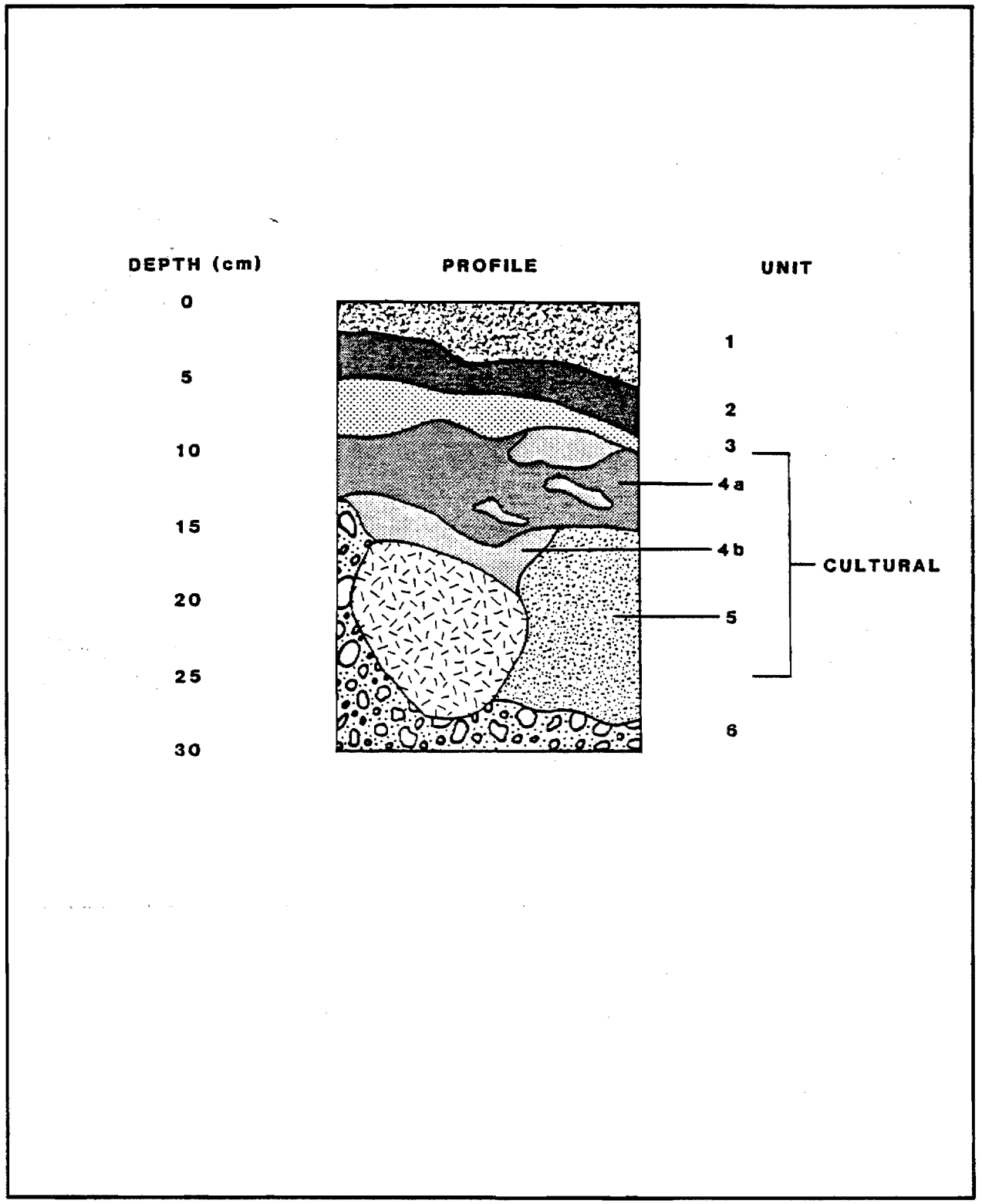

Figure D.98. Composite Profile, TLM 073

Table D.145.

Soil/Sediment Description for Composite Profile, TLM 073

Unit	Description
1	Surface organic mat. Dense mat of roots from lowbush cranberry, Labrador tea, and other small shrubs, decaying organic debris, scattered small pebbles and small component of dark reddish brown (5YR 3/2) silt. continuous. Varying in thickness from 10 cm in S.E. quad to 2-5 cm throughout rest of square. Contact with unit 2 is gradual and wavy, marked by an increase in silt and decrease in denseness of roots.
2	Fine silt with abundant finely divided organics, including roots; very dark brown (10YR 3/2). Unit contains scattered pebbles upwelled from unit 6 (Drift). Silt is often mixed with Devil tephra where it appears to be a highly charcoal and organic stained Devil tephra. Contact with unit 3 is gradual and wavy.
3	Very fine, well-sorted, platy silts with upper component stained by organics and lower component stained by red oxides. Color varies from brown (10YR 4/3) to dark gray (10YR 4/1) to pale brown (10YR 6/3). Devil tephra. Unit is nearly continuous across square varying in thickness from less than 1-10 cm around crevices in frost heaved drift boulders. Unit is generally 2-4 cm thick. Contact with unit 4 below is wavy and diffuse. A few small gravels, probably displaced from unit 6 are present. Artifacts at the contact with unit 4.

Table D.145. (Continued)

Unit	Description
4a	Well-sorted, very fine silt; very dark reddish brown (5YR 3/3). Oxidized Watana. Discontinuous, occurs as a patchy unit primarily above unit 4b with occasional streaking within 4b. Unit is highly mottled and grades into unit 4b below. Thickness varies from less than 1-8 cm, with a mode of 5. Cultural.
4b	Extremely fine, well-sorted silt with a few small scattered gravels. Color varies from yellowish brown (10YR 5/6) to dark yellowish brown (10YR 4/6). Unoxidized Watana. Continuous. Thickness varies from 1-10 cm, usually 5-7 cm. Greatest depth around drift rocks. Lower contact irregular and abrupt. Occasional patches of this unit underlie unit 5. Cultural.
5	Poorly sorted sandy silt with pebbles; very dark grayish brown (10YR 3/2). Oshetna paleosol and tephra. Paleosol is charcoal stained with some charcoal pieces. Surface cryoturbated and mottled in color due to mixture with unit 6 below. Discontinuous. Absent in parts of new quad. Thickness generally 3-4 cm, but varies from 0-8 cm or more around pockets in rocks. Cultural.
6	Sand silt with few pebbles and large round boulders (2-3 feet maximum diameter), grading downward to coarse gravelly sand. Color varies from dark yellowish brown (10YR 3/6) to dark brown (7.5YR 3/4). Unit marks bottom of excavation and is sterile.

Table D.146.

Artifact Summary, TLM 073

Tools

1	Biface fragment
	1 Rhyolite (UA84-136-1)

Lithic Material

3	Argillite flakes
12	Basalt flakes
3	Chert flakes
10	Quartzite flakes
21	Rhyolite flakes
49	

Table D.147.

Artifact Summary by Stratigraphic Unit, TLM 073

Unit		Description
3/4 Contact between the Devil and Watana tephras	1	Quartzite flake
4b	2	Chert flakes
Watana	1	Quartzite flake
tephra	5	Rhyolite flakes
4a Oxidized Watana tephra	4	Rhyolite flakes
4/5 Contact between Watana and Oshetna tephras	1	Rhyolite flake
5	1	Chert flake
Oshetna paleosol	5	Quartzite flakes
and Oshetna tephra	11	Rhyolite flakes
Unknown	3	Argillite flakes
(Survey	12	Basalt flakes
testing)	3	Quartzite flakes
	1	Rhyolite biface fragment (UA84-136-1)

AHRS Number TLM 074; Accession Number UA81-228

Area:	Northeast of Oshetna River Mouth
Site Map:	Figure D.99
Survey Locale 107:	Figure E.177
USGS Map:	Talkeetna Mts. C-1, Figure E.8
Site Location:	Appendix F

Setting:

The site is located on the edge of the southern upland terrace overlooking the Susitna River on a bend in the river northeast of the mouth of the Oshetna River. The gently sloping terrace edge, dissected into a string of shallow lobes, is ca. 700 m asl in elevation (2300 feet). Directly and steeply downslope 50 m to the north lies the Susitna River, at 152 m asl (2180 feet) elevation. South of the site is an undulating plain consisting of small hills, ridges, and depressions. One such depression (300 m to the southwest) contains a shallow pond. The small hills and ridges rise about 2-15 m above the depressions. A low ridge running parallel to the Susitna River south of the site is 2 m higher than the site, cutting off the view of the southern plain. From this ridge site TLM 076 is visible to the southwest. The site location affords a broad panorama of the Susitna River to the north, east, and west. The site is vegetated by a sparse shrub layer surrounding extensive, nonvegetated, natural exposures, and a few scattered spruce on the rise south of the site.

Testing:

The site produced one large chalcedony cortex-backed flake, found at 10-18 cmbs in a brown tephra unit in test pit 1, and a concentration of charcoal, which may represent a firepit, in test pit 2. The charcoal is concentrated in the western half of this test from 8-23 cmbs in depth. The flake in test pit 1 was associated with a brown tephra (Watana), which occurs stratigraphically below a light gray tephra (Devil) and above a brown sand (Table D.148). Six shovel tests were placed in the

area, with negative results. No surface artifacts were found. Estimated site size based on the distribution of artifacts is 10 square meters (Table D.2).

Table D.148.

Artifact Summary, TLM 074

Provenience		Description
Lithic Material		
Subsurface:		
Test Pit 1	1	Chalcedony flake

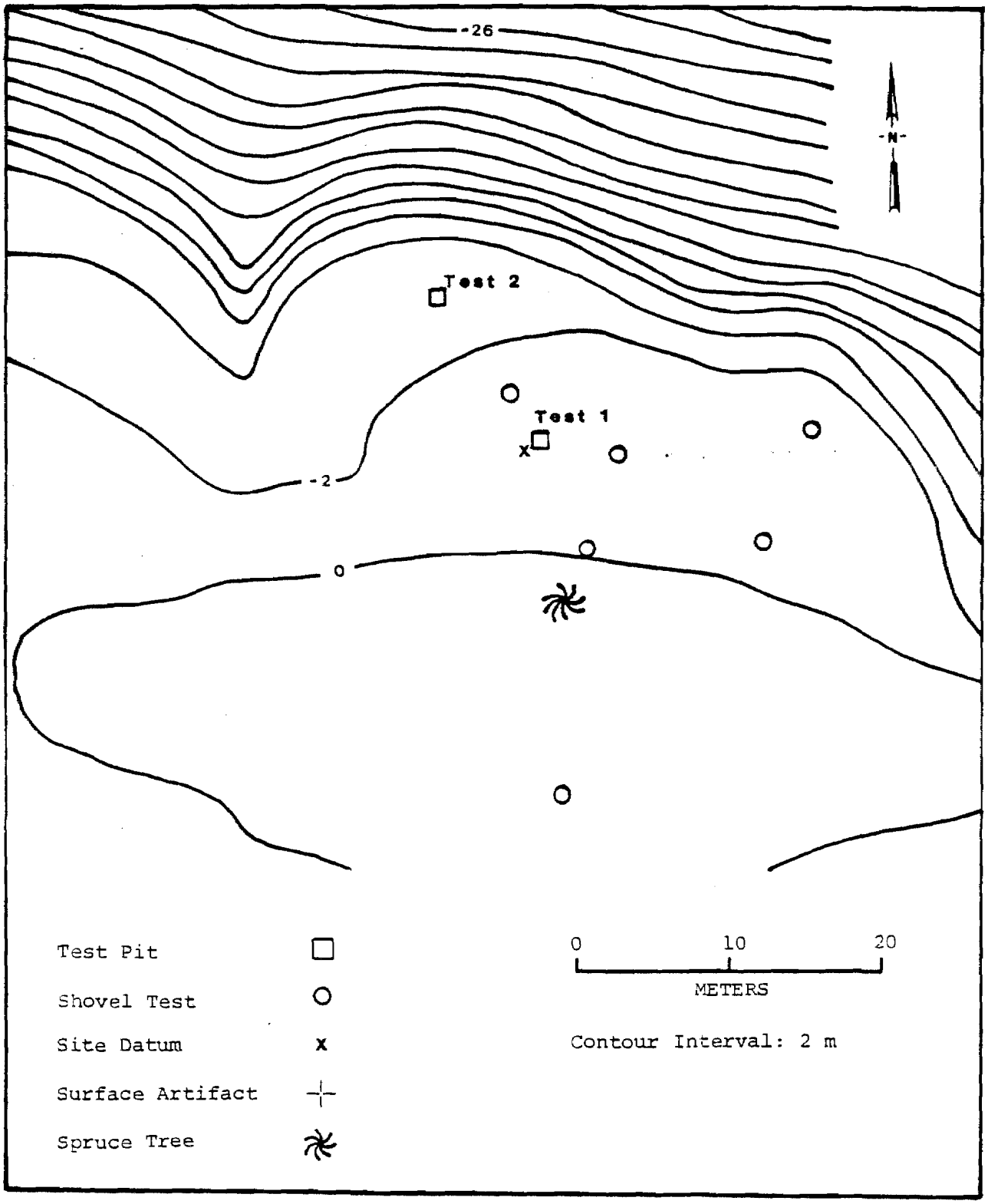

Figure D.99. Site Map, TLM 074

AHRS Number TLM 075; Accession Number UA81-231

Area:	Southeast of Jay Creek Mouth
Site Map:	Figure D.100
Survey Locale 89:	Figure E.163
USGS Map:	Talkeetna Mts. D-2, Figure E.4
Site Location:	Appendix F

Setting:

The site, consisting of two loci (A and B), is located on the south side of the Susitna River southeast of the mouth of Jay Creek. It is situated at 596 m asl (altimeter: 1956 feet) on a discrete ridge and knoll system. There are three such ridge and knoll systems that trend east-west for a distance of 500 m along the north facing slope of the valley wall. These ridge systems are separated from one another by drainages on the eastern and western sides which flow north 200 m down a 15-degree slope to a flat alluvial terrace ca. 300 m below. The site ridge rises ca. 20 m above adjacent terrain and has a crescent shape. This crescent ridge slopes from the northwest in a clockwise direction to its terminus 8 m lower and to the southwest. The open end of the crescent faces west and drops down immediately into a drainage.

The site occupies both the higher narrow ridge in the northwest, locus B, and the lower rounded knoll, locus A, which is 36 m to the southwest and 8 m lower in elevation. The site datum is at locus A. Views from the two loci differ, with the higher ridge affording the more encompassing view. The view from this ridge includes the slope below, the lower alluvial terrace, and the Susitna River. To the west, an adjacent drainage is visible. Less dense tree cover would allow views of the nearby knolls and expanded views of nearby drainages. The lower knoll, locus A, overlooks the drainage to the west and affords a restricted view of the Susitna River to the northwest. The south-trending portion of the higher ridge line to the north, locus B, curves around the knoll on its eastern side sheltering it from wind.

Vegetation at locus A consists of dry white lichen mat interspersed with patches of dwarf birch, Labrador tea, and lowbush cranberry. White spruce occur along the perimeter of the knoll. The drainage to the west is more intensely vegetated and includes willow, aspen, mosses and other herbaceous plants. Locus B has a dry white lichen mat as well, with deflated soils and gravel at the surface. The slope leading north down to the Susitna River is covered in dwarf birch, low woody plants, with white spruce and a few aspen trees present. The entire ridge and knoll system around the site is lightly covered with white spruce and woody shrubs with clearing areas where the white lichen mats prevail.

Testing:

The site is comprised of two loci of subsurface lithic artifacts, no surface indication of the site was observed. Two 40 x 40 cm test pits were excavated: test pit 1 on the lower knoll, locus A, and test pit 2 on the higher ridge, locus B. Test pit 1 produced artifacts only in the original shovel test, a black chert rejuvenation flake (UA81-231-1; Figure D.378k), and a small black basalt flake (Table D.149). The provenience of these artifacts appears to be 5-7 cmbs under the humic mat lying in association with charred wood above a white tephra layer (Devil). Test pit 2 produced one very pale brown argillite flake 0-7 cmbs. Another very pale brown argillite waste flake was excavated from test pit 2 at 4 cmbs in a yellow brown tephra unit (Watana) (Table D.149). Seven sterile shovel tests were excavated in the vicinity of locus B and on the slope south and east of test pit 2. A grid shovel testing program was undertaken to assist in the determination of site size and the distribution of cultural remains. Fifteen grid shovel tests were excavated around test pit 1, locus A, and seventeen grid shovel tests were excavated around test pit 2, locus B. All were sterile. Observed site size based on the distribution of artifacts is 8 square meters (Table D.2).

Table D.149.

Artifact Summary, TLM 075

Provenience		Description
Lithic Material		
Subsurface:		
Locus A		
Test pit 1	1	Basalt flake
	1	Chert rejuvenation flake (UA81-231-1)
Locus B		
Test pit 2	2	Argillite flakes

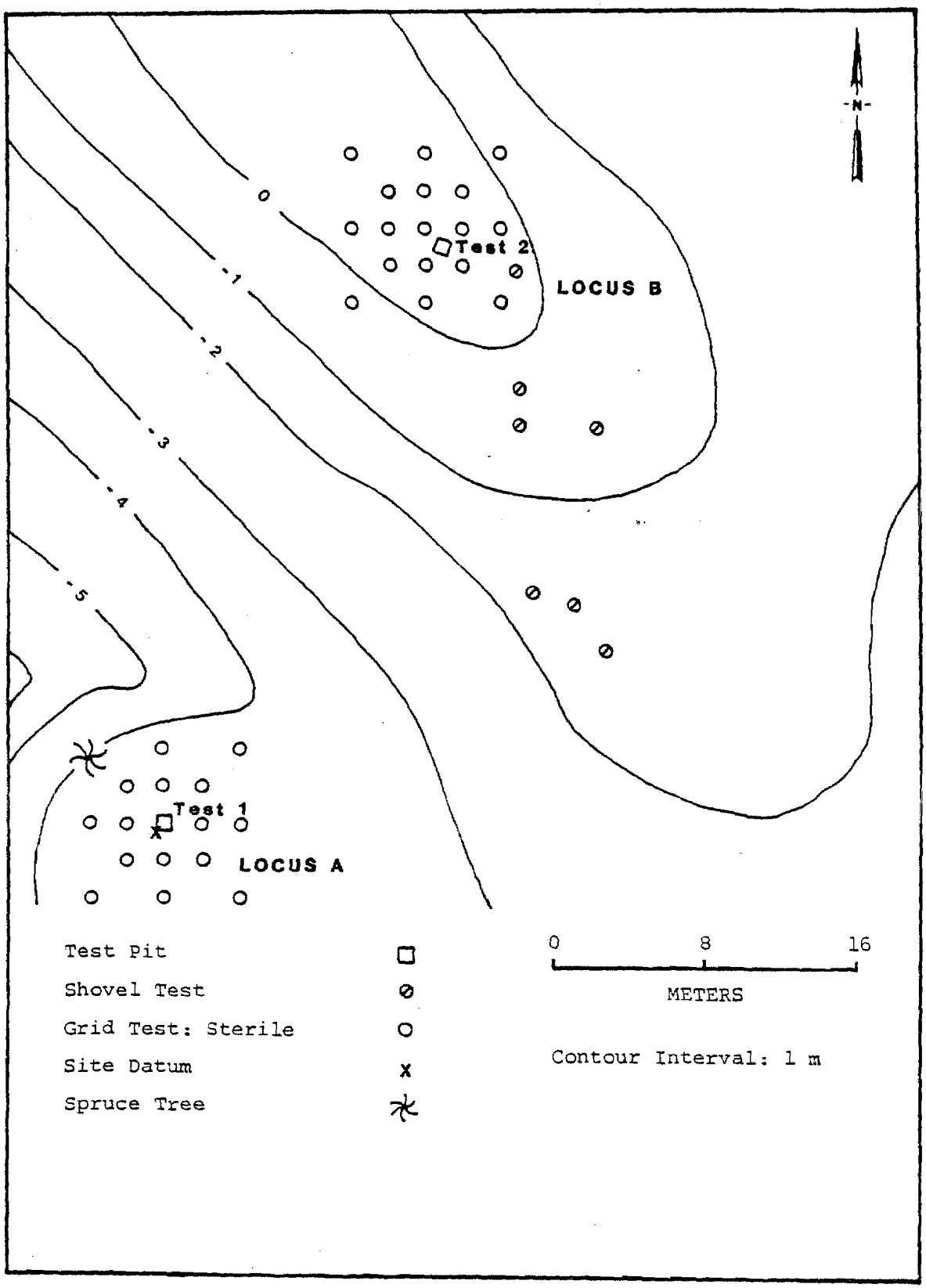

Figure D.100. Site Map, TLM 075