Section 110 Report

Cultural Resources Survey and Evaluation, Fort Wainwright and Training Lands

2010 and 2011

August 2012

Section 110 Report

Cultural Resources Survey and Evaluation, Fort Wainwright and Training Lands

2010 and 2011

By

Julie A. Esdale, Ph.D., RPA; Edmund P. Gaines, M.A., R.P.A; Kate S. Yeske; Whitney E. McLaren; Mike Shimel; and James F. Kunesh

Prepared by:
Center for Environmental Management of Military Lands
Colorado State University
Ft. Collins, CO 80523-1500

Lisa Graham
Conservation Branch
Directorate of Public Works
U.S. Army Garrison Fort Wainwright
Fort Wainwright, AK

ACKNOWLEDGEMENTS

The successful completion of the 2010 and 2011 field seasons was only made possible by personnel who contributed valuable labor and expertise to these efforts. Working in remote areas of the Tanana Valley presents its own brand of hardships and adversity. That they continued to discover archaeological sites and collect high-quality data despite these adversities is a testament to their work ethic, tenacity, and professionalism. With the deepest appreciation, we graciously thank:

2010
Brian Beringer
Laura Dice
Aimee Ely
James Kunesh*
Whitney McLaren
Josh Noyer
Mike Shimel*
Patrick Vincent
Kate Yeske*

*Crew Chief

2011
Nathan Barnes
Elizabeth Carroll
Matt Dighton
Lindsay Doyle
Maegan Ellicott
Heather Hardy*
Haley McCaig
Whitney McLaren*
Ally Pelto
Jim Quinn*
Charlie Rose
Benjamin Storey*
Dan Stryker
Matt Terry*
Kate Yeske*

In addition, we also graciously thank Scott Shirar for the identification of faunal remains found at site FAI-02043 and Jeff Rasic for his assistance with ongoing elemental analysis of the obsidian artifacts recovered during 2010 and 2011.

List of Acronyms

AHRS – Alaska Heritage Resource Survey
ANC – Anchorage
APE – Area of Potential Effect
ARPA – Archaeological Resources Protection Act
ATV – All Terrain Vehicles
BP – Years before Present
BRTA – Black Rapids Training Area
CEMML – Center for Environmental Management of Military Lands
cm – centimeter
cm BS – Centimeters below Surface
CMT – Culturally Modified Tree
CRM – Cultural Resources Manager
DEM – Digital Elevation Model
DOE – Determination of Eligibility
DTA – Donnelly Training Area
FAI – Fairbanks
FP – Firing Point
FRA – Fort Richardson
FS – Field Specimen
FWA – Fort Wainwright
GRTA – Gerstle River Training Area
ICRMP – Integrated Cultural Resources Management Plan
ITAM – Integrated Training Area Management
LA-ICP-MS – laser ablation inductively coupled plasma mass spectrometry
m – meter
mm – millimeter
MASL – Meters above Sea Level
MOUT –Military Operations on Urban Terrain
MRE – Meal-Ready-to-Eat
NHPA – National Historic Preservation Act
NRHP – National Register of Historic Places
PDZ – Potential Development Zone
PL – Point Located
SFAC – Soldier Family Assistance Center
SHPO – State Historic Preservation Officer
TARP – Training Area Restoration Plan
TFTA – Tanana Flats Training Area
UAC – Urban Assault Course
USAG – U. S. Army Garrison
USARAK – U. S. Army Alaska
USARAL – U. S. Army Alaska (historic)
USGS – U. S. Geological Survey
UTM – Universal Transverse Mercator

UXO – Unexploded Ordinance
WT – Warrior in Transition
XRF – X-ray fluorescence
XBD – Big Delta
XMH – Mt. Hayes
YTA – Yukon Training Area

Table of Contents

ACKNOWLEDGEMENTS iii
List of Acronyms iv
Table of Contents vi
Table of Figures viii
List of Tables xviii
1.0 INTRODUCTION 1
1.1 Setting and Environment 1
1.2 Previous Work and Status of Archaeological Resources 2
1.3 Prehistoric Context 4
1.4 Historic Context 8
1.4.1 Early History 8
1.4.2 Ladd Field National Historic Landmark 11
1.4.3 Ladd Air Force Base Cold War Historic District 11
1.4.4 Fort Wainwright 12
2.0 FWA CANTONMENT AND ADJACENT TRAINING AREAS 12
2.1 Introduction 12
2.2 Cantonment Surveys 12
2.3 Cantonment Sites 16
2.3.1 2011 Archaeological Sites 16
3.0 YUKON TRAINING AREA (YTA) 20
3.1 Introduction 20
3.2 YTA Surveys 21
3.3 YTA Sites 23
3.3.1 2010 Archaeological Sites 25
3.3.2 2011 Archaeological Sites 36
4.0 TANANA FLATS TRAINING AREA (TFTA) 39
4.1 Introduction 39
4.2 TFTA Surveys 40
4.2.1 Blair Lakes Vicinity: Alluvial Terrace Edge and Uplands 41
4.2.2 Dune Field 42
4.2.3 Bedrock Knolls 44
4.3 TFTA Sites 45
4.3.1 Alluvial Terrace Edge Sites 48
4.3.2 Dune Field 225
4.3.3 Bedrock Knolls 290
5.0 DYKE RANGE 296
5.1 Introduction 296
5.2 Dyke Range Surveys 297
5.3 Dyke Range Archaeological Sites 297
6.0 DONNELLY TRAINING AREA (DTA) 298
6.1 Introduction 298
6.2 DTA Surveys 299
6.3 DTA Sites 300

6.3.1 DTA East Sites 311
6.3.2 Molybdenum Ridge Sites 331
7.0 GERSTLE RIVER TRAINING AREA (GRTA) 388
7.1 Introduction 388
7.2 GRTA Surveys 389
7.3 GRTA Sites 389
8.0 BLACK RAPIDS (BRTA) AND WHISTLER CREEK TRAINING AREAS 390
8.1 Introduction 390
8.2 BRTA and Whistler Creek Surveys 390
8.3 BRTA and Whistler Creek Sites 390
9.0 SUMMARY AND RECOMMENDATIONS 392
9.1 Summary 392
9.1.1 Cantonment 392
9.1.2 YTA 392
9.1.3 TFTA 392
9.1.4 Dyke 392
9.1.5 DTA 392
9.1.6 GRTA 392
9.1.7 BRTA and Whistler Creek 392
9.2 DOEs 393
9.3 Future Plans 393
9.3.1 Cantonment 393
9.3.2 YTA 393
9.3.3 TFTA 393
9.3.4 Dyke 394
9.3.5 DTA 394
9.3.6 GRTA 394
9.3.7 BRTA and Whistler Creek 395
10.0 REFERENCES 396
APPENDIX 1: Determinations of Eligibility for Seven Sites 407
APPENDIX 2: FAI-02043 Lithic Accession Log 435
APPENDIX 3: FAI-02043 Bone Accession Log 446
APPENDIX 4: Section 106 Undertakings 2010 and 2011 449

Table of Figures

Figure 1. FWA training lands 2
Figure 2. FWA cantonment 13
Figure 3. Cantonment disturbance layer 14
Figure 4. Cantonment surveys by year 15
Figure 5. Cantonment archaeological site locations 17
Figure 6. Map of three historic features found in TA108 18
Figure 7. Feature 1, rectangular depression 18
Figure 8. Feature 2, unknown object 19
Figure 9. Feature 3, box structure 19
Figure 10. YTA 20
Figure 11. YTA potential development zones 21
Figure 12. YTA survey areas by year 22
Figure 13. Location of sites within YTA 24
Figure 14. Geologic evolution of rockshelters 24
Figure 15. XBD-00368 sketch map 26
Figure 16. XBD-00368 overview (view to southwest) 27
Figure 17. XBD-00368 overview (view to north) 27
Figure 18. XBD-00368 test pit stratigraphy 28
Figure 19. XBD-00368 stratigraphy 28
Figure 20. XBD-00369 overview (view to northeast) 29
Figure 21. XBD-00369 sketch map 30
Figure 22. XBD-00369 test pit stratigraphy 31
Figure 23. XBD-00369 stratigraphy 31
Figure 24. XBD-00370 sketch map 33
Figure 25. XBD-00370 overview (view to southwest) 34
Figure 26. XBD-00370 overview (view to north) 34
Figure 27. XBD-00370 test pit stratigraphy 35
Figure 28. XBD-00370 stratigraphy 35
Figure 29. Map of XBD-00387 36
Figure 30. Vegetation in APE and view from site at LZ Lynx 37
Figure 31. Test pit HT106 where chert flakes were found 37
Figure 32. XBD-00387 stratigraphy 38
Figure 33. Disturbed ground at FP 5 38
Figure 34. TFTA 39
Figure 35. TFTA survey areas by year 40
Figure 36. TFTA physiographic regions surveyed during 2010 41
Figure 37. Location of stabilized dune field in TFTA 43
Figure 38. Geologic map of dune field and AHRS sites (adapted from Péwé et al. 1966) 44
Figure 39. TFTA archaeological site locations 47
Figure 40. Locations of terrace edge sites discovered in 2009 and 2010 48
Figure 41. DEM of FAI-02043 location 49
Figure 42. FAI-02043 landform 49
Figure 43. FAI-02043 sketch map 50

Figure 44. FAI-02043 ground overview (view to north) 51
Figure 45. FAI-02043 aerial overview (view to south) 51
Figure 46. FAI-02043 excavation unit (view to east) 53
Figure 47. FAI-02043 excavation unit profile 53
Figure 48. Level 6 plan view 56
Figure 49. Level 7 plan view 57
Figure 50. Level 8 plan view 58
Figure 51. Level 9 plan view 59
Figure 52. Level 10 plan view 60
Figure 53. Level 11 plan view 61
Figure 54. Level 12 plan view 62
Figure 55. Level 13 plan view 63
Figure 56. FAI-02043 excavation in progress 64
Figure 57. FAI-02043 manuport in situ in Strat II sands 64
Figure 58. FAI-02043 manuports and flakes in situ in Strat II sands 65
Figure 59. FAI-02043 biface 65
Figure 60. FAI-02043 scraper fragment 66
Figure 61. FAI-02043 debitage size frequency 67
Figure 62. FAI-02043 material type frequency 68
Figure 63. FAI-02043 faunal size frequency 69
Figure 64. *Lepus othus* astragalus 69
Figure 65. *Anatidae* (sp) vertebrae 70
Figure 66. *Anatidae* (sp) sternum 70
Figure 67. *Bison bison* M_3 70
Figure 68. FAI-02043 cobble/hammerstone (FS 174) 71
Figure 69. FAI-02043 cobble (FS 605) 71
Figure 70. Fauna and ^{14}C-dated charcoal from test pit AT 291 72
Figure 71. AT 291 green-fractured, large mammal long bone frag in Stratum II sand matrix 72
Figure 72. AT 291 green-fractured, large mammal long bone frags in Strat II sand matrix 73
Figure 73. FAI-02043 Excavation unit north wall stratigraphy, soils, and ^{14}C dates 74
Figure 74. FAI-02043 composite profile 75
Figure 75. FAI-02044 aerial overview (view to southeast) 77
Figure 76. FAI-02044 sketch map 78
Figure 77. FAI-02044 overview (view to southeast) 79
Figure 78. FAI-02044 test pit stratigraphy 79
Figure 79. FAI-02044 stratigraphy 80
Figure 80. FAI-02045 sketch map 81
Figure 81. FAI-02045 aerial overview (view to south) 82
Figure 82. FAI-02045 overview (view to south) 82
Figure 83. FAI-02045 stratigraphy 83
Figure 84. FAI-02046 aerial overview (view to south) 84
Figure 85. FAI-02046 sketch map 85
Figure 86. FAI-02046 overview (view to east) 86
Figure 87. FAI-02046 test pit stratigraphy 86
Figure 88. FAI-02046 stratigraphy 87
Figure 89. FAI-02047 aerial overview (view to south) 88

Figure 90. FAI-02047 sketch map 89
Figure 91. FAI-02047 overview (view to east) 90
Figure 92. FAI-02047 microblade 90
Figure 93. FAI-02047 test pit stratigraphy 91
Figure 94. FAI-02047 stratigraphy 91
Figure 95. FAI-02048 aerial overview (view to south) 92
Figure 96. FAI-02048 sketch map 93
Figure 97. FAI-02048 overview (view to south) 94
Figure 98. FAI-02048 test pit stratigraphy 94
Figure 99. FAI-02048 stratigraphy 95
Figure 100. FAI-02049 sketch map 96
Figure 101. FAI-02049 aerial overview (view to south) 97
Figure 102. FAI-02049 overview (view to north) 97
Figure 103. FAI-02049 test pit stratigraphy 98
Figure 104. FAI-02049 stratigraphy 98
Figure 105. FAI-02050 aerial overview (view to south) 99
Figure 106. FAI-02050 sketch map 100
Figure 107. FAI-02050 overview (view to southeast) 101
Figure 108. FAI-02050 microblade 102
Figure 109. FAI-02050 test pit stratigraphy 102
Figure 110. FAI-02050 stratigraphy 103
Figure 111. FAI-02051 sketch map 105
Figure 112. FAI-02051 aerial overview (view to south) 106
Figure 113. FAI-02051 overview (view to northwest) 106
Figure 114. FAI-02051 test pit stratigraphy 107
Figure 115. FAI-02051 stratigraphy 107
Figure 116. FAI-02052 sketch map 109
Figure 117. FAI-02052 aerial overview (view to west) 110
Figure 118. FAI-02052 overview (view to northwest) 110
Figure 119. FAI-02052 test pit stratigraphy 111
Figure 120. FAI-02052 stratigraphy 111
Figure 121. FAI-02053 aerial overview (view to south) 112
Figure 122. FAI-02053 sketch map 113
Figure 123. FAI-02053 overview (view to south) 114
Figure 124. FAI-02053 test pit stratigraphy 114
Figure 125. FAI-02053 stratigraphy 115
Figure 126. FAI-02054 aerial overview (view to east) 116
Figure 127. FAI-02054 site map 117
Figure 128. FAI-02054 overview (view to south) 118
Figure 129. FAI-02054 test pit stratigraphy 118
Figure 130. FAI-02054 stratigraphy 119
Figure 131. FAI-02055 sketch map 120
Figure 132. FAI-02055 aerial overview (view to south) 121
Figure 133. FAI-02055 overview (view to northeast) 121
Figure 134. FAI-02055 test pit stratigraphy 122
Figure 135. FAI-02056 sketch map 124

Figure 136. FAI-02056 aerial overview (view to south) 125
Figure 137. FAI-02056 overview (view to southwest) 125
Figure 138. FAI-02056 treefall (view to northeast) 126
Figure 139. FAI-02056 stratigraphy (note: depth of cultural material is unknown) 126
Figure 140. FAI-02057 sketch map 128
Figure 141. FAI-02057 aerial overview (view to south) 129
Figure 142. FAI-02057 overview (view to northeast) 129
Figure 143. FAI-02057 test pit stratigraphy 130
Figure 144. FAI-02057 stratigraphy 130
Figure 145. FAI-02058 sketch map 132
Figure 146. FAI-02058 aerial overview (view to west) 133
Figure 147. FAI-02058 overview (view to west) 133
Figure 148. FAI-02058 microblade 134
Figure 150. FAI-02058 stratigraphy 135
Figure 151. FAI-02059 sketch map 137
Figure 152. FAI-02059 aerial overview (view to west) 138
Figure 153. FAI-02059 overview (view to west) 138
Figure 154. FAI-02059 bifaces 140
Figure 155. FAI-02059 endscraper 140
Figure 156. FAI-02059 test pit stratigraphy 141
Figure 157. FAI-02059 stratigraphy 141
Figure 158. FAI-02060 sketch map 143
Figure 159. FAI-02060 aerial overview (view to east) 144
Figure 160. FAI-02060 aerial overview (view to south) 144
Figure 161. FAI-02060 retouched flake 145
Figure 162. FAI-02060 test pit stratigraphy 146
Figure 163. FAI-02060 stratigraphy 146
Figure 164. FAI-02061 aerial overview (view to south) 147
Figure 165. FAI-02061 sketch map 148
Figure 166. FAI-02061 overview (view to west) 149
Figure 167. FAI-02061 stratigraphy 150
Figure 168. FAI-02062 aerial overview (view to southwest) 151
Figure 169. FAI-02062 sketch map 152
Figure 170. FAI-02062 overview (view to northwest) 153
Figure 171. FAI-02062 test pit stratigraphy 153
Figure 172. FAI-02062 stratigraphy 154
Figure 173. FAI-02063 sketch map 155
Figure 174. FAI-02063 aerial overview (view to west) 156
Figure 175. FAI-02063 overview (view to south) 156
Figure 176. FAI-02063 projectile point fragment 157
Figure 177. FAI-02063 test pit stratigraphy 158
Figure 178. FAI-02063 stratigraphy 158
Figure 179. FAI-02064 sketch map 160
Figure 180. FAI-02064 aerial overview (view to west) 161
Figure 181. FAI-02064 overview (view to southeast) 161
Figure 182. FAI-02064 microblades 162

Figure 183. FAI-02064 burin spall 163
Figure 184. FAI-02064 test pit BT79 stratigraphy (view to south) 163
Figure 185. FAI-02064 stratigraphy 164
Figure 186. FAI-02065 sketch map 165
Figure 187. FAI-02065 aerial overview (view to south) 166
Figure 188. FAI-02065 overview (view to south) 166
Figure 189. FAI-02065 retouched flake 167
Figure 190. FAI-02066 sketch map 168
Figure 191. FAI-02066 aerial overview (view to south) 169
Figure 192. FAI-02066 aerial overview (view to northwest) 169
Figure 193. FAI-02066 biface 171
Figure 194. FAI-02066 microblade 171
Figure 195. FAI-02066 test pit stratigraphy 172
Figure 196. FAI-02066 stratigraphy 172
Figure 197. FAI-02067 sketch map 174
Figure 198. FAI-02067 aerial overview (view to south) 175
Figure 199. FAI-02067 overview (view to south) 175
Figure 200. FAI-02067 test pit stratigraphy 176
Figure 201. FAI-02067 stratigraphy 177
Figure 202. FAI-02068 sketch map 178
Figure 203. FAI-02068 aerial overview (view to south) 179
Figure 204. FAI-02068 overview (view to west-northwest) 179
Figure 205. FAI-02068 test pit stratigraphy 180
Figure 206. FAI-02068 stratigraphy 181
Figure 207. FAI-02069 aerial overview (view to south) 182
Figure 208. FAI-02069 sketch map 183
Figure 209. FAI-02069 overview (view to northeast) 184
Figure 210. FAI-02069 test pit stratigraphy 184
Figure 211. FAI-02069 stratigraphy 185
Figure 212. FAI-02070 sketch map 186
Figure 213. FAI-02070 aerial overview (view to south) 187
Figure 214. FAI-02070 overview (view to northeast) 187
Figure 215. FAI-02070 uniface 188
Figure 216. FAI-02071 sketch map 190
Figure 217. FAI-02071 aerial overview (view to south) 191
Figure 218. FAI-02071 overview (view to east-northeast) 191
Figure 219. FAI-02071 test pit stratigraphy 192
Figure 220. FAI-02071 stratigraphy 192
Figure 221. FAI-02072 sketch map 194
Figure 222. FAI-02072 aerial overview (view to south) 195
Figure 223. FAI-02072 overview (view to south) 195
Figure 224. FAI-02072 test pit stratigraphy 196
Figure 225. FAI-02072 stratigraphy 196
Figure 226. FAI-02073 sketch map 198
Figure 227. FAI-02073 aerial overview (view to south) 199
Figure 228. FAI-02073 overview (view to southwest) 199

Figure 229. FAI-02073 microblades 200
Figure 230. FAI-02073 microblade core 201
Figure 231. FAI-02073 microblade core tablet 201
Figure 232. FAI-02073 test pit stratigraphy 202
Figure 233. FAI-02073 stratigraphy 202
Figure 234. FAI-02074 aerial overview (view to south) 203
Figure 235. FAI-02074 sketch map 204
Figure 236. FAI-02074 overview (view to north) 205
Figure 237. FAI-02074 test pit stratigraphy 205
Figure 238. FAI-02074 stratigraphy 206
Figure 239. FAI-02075 sketch map 207
Figure 240. FAI-02075 aerial overview (view to south) 208
Figure 241. FAI-02075 overview (view to northwest) 208
Figure 242. FAI-02075 bifacially flaked cobble 209
Figure 243. FAI-02075 test pit stratigraphy 210
Figure 244. FAI-02075 stratigraphy 210
Figure 245. FAI-02076 aerial overview (view to south) 211
Figure 246. FAI-02076 sketch map 212
Figure 247. FAI-02076 overview (view to east) 213
Figure 248. FAI-02076 test pit stratigraphy 213
Figure 249. FAI-02076 stratigraphy 214
Figure 250. FAI-02077 aerial overview (view to south) 215
Figure 251. FAI-02077 sketch map 216
Figure 252. FAI-02077 overview (view to southeast) 217
Figure 253. FAI-02077 biface 218
Figure 254. FAI-02077 microblade 218
Figure 255. FAI-02077 test pit stratigraphy 219
Figure 256. FAI-02077 stratigraphy 220
Figure 257. FAI-02078 aerial overview (view to south) 221
Figure 258. FAI-02078 sketch map 222
Figure 259. FAI-02078 overview (view to northeast) 223
Figure 260. FAI-02078 test pit stratigraphy 223
Figure 261. FAI-02078 stratigraphy 224
Figure 262. Prehistoric sites discovered in dune field in 2009 and 2010 225
Figure 263. FAI-02079 aerial overview (view to west) 226
Figure 264. FAI-02079 sketch map 227
Figure 265. FAI-02079 overview (view to south) 228
Figure 266. FAI-02079 test pit stratigraphy 228
Figure 267. FAI-02079 stratigraphy 229
Figure 268. FAI-02080 aerial overview (view to east) 230
Figure 269. FAI-02080 sketch map 231
Figure 270. FAI-02080 overview (view to north) 232
Figure 271. FAI-02080 test pit stratigraphy 232
Figure 272. FAI-02080 stratigraphy 233
Figure 273. FAI-02081 sketch map 234
Figure 274. FAI-02081 aerial overview (view to east) 235

Figure 275. FAI-02081 overview (view to southeast) 235
Figure 276. FAI-02081 microblade 236
Figure 277. FAI-02081 test pit stratigraphy 236
Figure 278. FAI-02081 stratigraphy 237
Figure 279. FAI-02082 aerial overview (view to south) 238
Figure 280. FAI-02082 sketch map 239
Figure 281. FAI-02082 overview (view to southwest) 240
Figure 282. FAI-02082 retouched flake 240
Figure 283. FAI-02082 test pit stratigraphy 241
Figure 284. FAI-02082 stratigraphy 241
Figure 285. FAI-02083 aerial overview (view to southeast) 242
Figure 286. FAI-02083 sketch map 243
Figure 287. FAI-02083 overview (view to northeast) 244
Figure 288. FAI-02083 test pit stratigraphy 244
Figure 289. FAI-02083 stratigraphy 245
Figure 290. FAI-02084 aerial overview (view to east) 246
Figure 291. FAI-02084 sketch map 247
Figure 292. FAI-02084 overview (view to south) 248
Figure 293. FAI-02084 test pit stratigraphy 249
Figure 294. FAI-02084 stratigraphy 249
Figure 295. FAI-02085 aerial overview (view to north) 250
Figure 296. FAI-02085 sketch map 251
Figure 297. FAI-02085 overview (view to west) 252
Figure 298. FAI-02085 test pit stratigraphy 252
Figure 299. FAI-02085 stratigraphy 253
Figure 300. FAI-02086 aerial overview (view to south) 254
Figure 301. FAI-02086 sketch map 255
Figure 302. FAI-02086 overview (view to southwest) 256
Figure 303. FAI-02086 burin spall 256
Figure 304. FAI-02086 test pit stratigraphy 257
Figure 305. FAI-02086 stratigraphy 257
Figure 306. FAI-02087 aerial overview (view to south) 258
Figure 307. FAI-02087 sketch map 259
Figure 308. FAI-02087 overview (view to west) 260
Figure 309. FAI-02087 test pit stratigraphy 261
Figure 310. FAI-02087 stratigraphy 261
Figure 311. FAI-02088 aerial overview (view to northwest) 262
Figure 312. FAI-02088 sketch map 263
Figure 313. FAI-02088 overview (view to southeast) 264
Figure 314. FAI-02088 test pit stratigraphy 265
Figure 315. FAI-02088 stratigraphy 265
Figure 316. FAI-02089 aerial overview (view to west) 266
Figure 317. FAI-02089 sketch map 267
Figure 318. FAI-02089 overview (view to southeast) 268
Figure 319. FAI-02089 test pit stratigraphy 268
Figure 320. FAI-02089 stratigraphy 269

Figure 321. FAI-02090 aerial overview (view to east) 270
Figure 322. FAI-02090 sketch map 271
Figure 323. FAI-02090 overview (view to west) 272
Figure 324. FAI-02090 test pit stratigraphy 272
Figure 325. FAI-02090 stratigraphy 273
Figure 326. FAI-02091 aerial overview (view to south) 274
Figure 327. FAI-02091 sketch map 275
Figure 328. FAI-02091 overview (view to northwest) 276
Figure 329. FAI-02091 test pit stratigraphy 277
Figure 330. FAI-02091 stratigraphy 277
Figure 331. FAI-02092 sketch map 279
Figure 332. FAI-02092 aerial overview (view to northeast) 280
Figure 333. FAI-02092 site overview (view to west) 280
Figure 334. FAI-02092 test pit stratigraphy (view to southeast) 281
Figure 335. FAI-02092 stratigraphy 282
Figure 336. FAI-02093 sketch map 283
Figure 337. FAI-02093 aerial overview (view to west) 284
Figure 338. FAI-02093 site overview (view to north) 284
Figure 339. FAI-02093 test pit stratigraphy (view to northwest) 285
Figure 340. FAI-02093 stratigraphy 286
Figure 341. FAI-02094 aerial overview (view to northwest) 287
Figure 342. FAI-02094 site overview (view to southwest) 288
Figure 343. FAI-02094 test pit stratigraphy 288
Figure 344. FAI-02094 stratigraphy 289
Figure 345. Bedrock knolls and site FAI-02095 290
Figure 346. FAI-02095 aerial overview (view to west) 292
Figure 347. FAI-02095 site overview (view to east) 292
Figure 348. FAI-02095 site overview (view to south) 293
Figure 349. FAI-02095 test pit stratigraphy (flake in situ) 295
Figure 350. FAI-02095 stratigraphy 295
Figure 351. Dyke Range 296
Figure 352. Dyke Range survey areas by year 297
Figure 353. DTA 299
Figure 354. DTA surveys by year 301
Figure 355. Close-up of DTA East surveys by year 302
Figure 356. Location of sites within DTA West 309
Figure 357. Location of sites within DTA East 310
Figure 358. Location of 2011 sites in DTA East 311
Figure 359. Location of XMH-01455 312
Figure 360. Map of XMH-01455 313
Figure 361. XMH-01455 site vegetation 313
Figure 362. Test pit AT-1 314
Figure 363. XMH-01455 flakes 314
Figure 364. Location of XMH-10456 315
Figure 365. Map of XMH-01456 316
Figure 366. Vegetation at XMH-01456 317

Figure 367. Stratigraphic profile of test pit AT-59 317
Figure 368. Test pit AT-59 318
Figure 369. Scraper from XMH-01456 318
Figure 370. Location of XMH-01457 319
Figure 371. Map of XMH-01457 320
Figure 372. Vegetation at XMH-01457 321
Figure 373. Bifaces from XMH-01457 321
Figure 374. Location of XMH-01458 322
Figure 375. Map of XMH-01458 323
Figure 376. Vegetation at XMH-01458 324
Figure 377. Flake from XMH-01458 324
Figure 378. Location of XMH-01459 325
Figure 379. Map of XMH-01459 326
Figure 380. Vegetation at XMH-01459 327
Figure 381. Stratigraphy of test pit BT-383 327
Figure 382. Test pit BT-383 328
Figure 383. Flake from XMH-01459 328
Figure 384. Location of XMH-01460 329
Figure 385. Vegetation at XMH-01460 330
Figure 386. Photo of scraper from XMH-01460 330
Figure 387. Location of 2011 sites in DTA West, Molybdenum Ridge Area 331
Figure 388. XMH-01434 sketch map 332
Figure 389. XMH-01434 overview 333
Figure 390. XMH-01435 sketch map 334
Figure 391. XMH-01435 overview 335
Figure 392. Preform from XMH-01435 335
Figure 393. XMH-01435 stratigraphy 336
Figure 394. XMH-01436 sketch map 337
Figure 395. XMH-01436 overview 338
Figure 396. XMH-01437 sketch map 339
Figure 397. XMH-01437 overview 339
Figure 398. Aerial view of XMH-01438 340
Figure 399. XMH-01438 sketch map 341
Figure 400. Plot 1 inset of Figure 399 342
Figure 401. Plot 2 inset of Figure 399 342
Figure 402. Plot 3 inset of Figure 399 343
Figure 403. Plot 4 inset of Figure 399 343
Figure 404. XMH-01438 overview 344
Figure 405. Example of XMH-01438 surface flakes 344
Figure 406. Bifaces and unifaces from XMH-01438 347
Figure 407. XMH-01438 stratigraphy 348
Figure 408. XMH-01438 test pit 348
Figure 409. XMH-01439 sketch map 349
Figure 410. XMH-01440 sketch map 350
Figure 411. XMH-01440 site overview 351
Figure 412. XMH-01441 sketch map 352

Figure 413. XMH-01441 site overview 353
Figure 414. XMH-01442 sketch map 354
Figure 415. XMH-01442 site overview 355
Figure 416. XMH-01443 sketch map 356
Figure 417. XMH-01442 overview 356
Figure 418. XMH-01444 sketch map 358
Figure 419. XMH-01444 overview 359
Figure 420. Notched projectile point base from XMH-01444 359
Figure 421. XMH-01444 stratigraphy 360
Figure 422. XMH-01444 test pit 360
Figure 423. XMH-01445 sketch map 361
Figure 424. XMH-01445 overview 362
Figure 425. XMH-01445 stratigraphy 363
Figure 426. XMH-01445 test pit MKT27 363
Figure 427. XMH-01446 sketch map 364
Figure 428. XMH-01446 overview 365
Figure 429. XMH-01447 sketch map 366
Figure 430. XMH-01447 overview 367
Figure 431. XMH-01447 stratigraphy 368
Figure 432. XMH-01447 test pit MKT-28 368
Figure 433. XMH-01448 sketch map 369
Figure 434. XMH-01448 overview 370
Figure 435. XMH-01448 stratigraphy 371
Figure 436. XMH-01448 test pit 371
Figure 437. XMH-01449 sketch map 372
Figure 438. XMH-01449 overview 373
Figure 439. XMH-01449 stratigraphy 374
Figure 440. XMH-01449 test pit MWT15 374
Figure 441. Aerial view of XMH-01450 375
Figure 442. XMH-01450 sketch map 376
Figure 443. XMH-1450 overview 377
Figure 444. XMH-01451 sketch map 378
Figure 445. XMH-01451 overview 379
Figure 446. XMH-01452 sketch map 380
Figure 447. XMH-01452 overview 381
Figure 448. Stratigraphy from XMH-01452 382
Figure 449. Test pit MWT29 382
Figure 450. XMH-01453 sketch map 383
Figure 451. XMH-01453 overview 384
Figure 452. XMH-01453 stratigraphy 385
Figure 453. Test pit MWT33 385
Figure 454. XMH-1454 sketch map 386
Figure 455. XMH-01454 overview 387
Figure 456. GRTA and BRTA in relation to DTA 388
Figure 457. GRTA survey areas by year and location of archaeological sites 389
Figure 458. BRTA survey areas by year and location of archaeological sites 391

List of Tables

Table 1. Archaeological sites in the FWA cantonment 16
Table 2. Archaeological sites in YTA 23
Table 3. Archaeological sites in TFTA 45
Table 4. FAI-02043 unit excavation levels, depths, strata, and methods 54
Table 5. Debitage size count/level 66
Table 6. FAI-02043 material type/level 67
Table 7. FAI-02043 faunal fragment size count/level 68
Table 8. AMS ^{14}C dates from FAI-2043 73
Table 9. FAI-02045 accession log 83
Table 10. FAI-02047 accession log 90
Table 11. FAI-02049 accession log 97
Table 12. FAI-02050 accession log 101
Table 13. FAI-02051 accession log 106
Table 14. FAI-02052 accession log 110
Table 15. FAI-02058 accession log 134
Table 16. FAI-02058 microblade attributes 134
Table 17. FAI-02059 accession log 139
Table 18. FAI-02059 biface attributes 139
Table 19. FAI-02059 endscraper attributes 139
Table 20. FAI-02059 cobble attributes 139
Table 21. FAI-02060 retouched flake attributes 144
Table 22. FAI-02060 accession log 145
Table 23. FAI-02061 accession log 149
Table 24. FAI-02062 accession log 153
Table 25. FAI-02063 accession log 157
Table 26. FAI-02063 biface attributes 157
Table 27. FAI-02064 accession log 162
Table 28. FAI-02064 microblade attributes 162
Table 29. FAI-02064 burin attributes 163
Table 30. FAI-02065 accession log 166
Table 31. FAI-02065 retouched flake attributes 167
Table 32. FAI-02066 accession log 170
Table 33. FAI-02066 biface attributes 170
Table 34. FAI-02066 microblade attributes 171
Table 35. FAI-02067 accession log 176
Table 36. FAI-0268 accession log 180
Table 37. FAI-02070 accession log 188
Table 38. FAI-02070 uniface attributes 188
Table 39. FAI-02071 accession log 191
Table 40. FAI-02072 accession log 195
Table 41. FAI-02073 accession log 200
Table 42. FAI-02073 microblade attributes 200
Table 43. FAI-02073 microblade core attributes 200

Table 44. FAI-02073 microblade core tablet attributes 201
Table 45. FAI-02075 accession log 209
Table 46. FAI-02075 biface attributes 209
Table 47. FAI-02077 accession log 217
Table 48. FAI-02077 biface attributes 217
Table 49. FAI-02077 microblade attributes 218
Table 50. FAI-02079 accession log 228
Table 51. FAI-02081 accession log 236
Table 52. FAI-02081 microblade attributes 236
Table 53. FAI-02082 uniface attributes 240
Table 54. FAI-02083 accession log 245
Table 55. FAI-02084 accession log 248
Table 56. FAI-02086 burin attributes 256
Table 57. FAI-02087 accession log 260
Table 58. FAI-02088 accession log 264
Table 59. FAI-02091 accession log 276
Table 60. FAI-02092 accession log 281
Table 61. FAI-02093 accession log 285
Table 62. FAI-02095 accession log 293
Table 63. Archaeological sites in DTA West 303
Table 64. Archaeological sites in DTA East 304
Table 65. XMH-01455 accession log 314
Table 66. XMH-01456 accession log 318
Table 67. XMH-01457 accession log 321
Table 68. XMH-01458 accession log 324
Table 69. XMH-01459 accession log 328
Table 70. XMH-01460 accession log 330
Table 71. XMH-01435 accession log 335
Table 72. XMH-01437 accession log 340
Table 73. XMH-01438 accession log 345
Table 74. XMH-01440 accession log 351
Table 75. XMH-01443 accession log 357
Table 76. XMH-01444 accession log. 359
Table 77. XMH-01446 accession log 365
Table 78. XMH-01447 accession log 367
Table 79. XMH-01448 accession log 370
Table 80. XMH-01449 accession log 373
Table 81. XMH-01451 accession log 379
Table 82. XMH-01452 accession log 381
Table 83. XMH-01453 accession log 384
Table 84. Sites described as eligible for the NRHP 393

1.0 INTRODUCTION

Section 110 of the National Historic Preservation Act (NHPA: 16 U.S.C. 470) states that every federal agency must establish a preservation program for the identification, evaluation, nomination of sites to the National Register, and protection of historic properties. Although Army Regulation 200-1 requires full compliance with federal law, most Section 110 inventories and evaluations in Army training lands take place in coordination with Section 106 reviews of project undertakings. In recent years, Fort Wainwright's Cultural Resource Manager (CRM) has begun a consultation process with Range Control at Fort Wainwright (FWA) and Donnelly Training Area (DTA) to establish potential development zones (PDZs) based upon projected training needs. FWA and DTA are two large tracts of military managed land outside the FWA main post cantonment area. These PDZs are areas with no immediate undertakings, but regions that the Army plans to develop in the 2-10 year time range. Identification of PDZs has allowed the CRM to focus archaeological survey efforts, in addition to 106 projects, in the areas of FWA's 1.6 million acres considered most necessary.

The purpose of this report is twofold. First, it provides information on survey locations and archaeological site discoveries in FWA and its training lands during 2010 and 2011 that were not associated with Army undertakings and therefore not seen by the SHPO in Section 106 letters. Second, it summarizes all survey efforts by the Army's cooperative partner, Colorado State University's Center for Environmental Management of Military Lands (CSU-CEMML), since 2002 and lists all known sites managed by FWA.

Because this report summarizes all archaeological surveys and site identification from 2010 and 2011, some sites will have already been reported to the SHPO in Section 106 consultation letters. These sites are marked to differentiate them from sites that have not yet been reported.

All archaeological fieldwork was conducted by CEMML employees under the direct supervision of archaeologists meeting the professional standards outlined in the Secretary of the Interior's "Professional Qualifications Standards" as defined in 36 CFR §61. In 2010, all work was supervised by Edmund Gaines, M.A., and in 2011 all work was supervised by Julie Esdale, Ph.D. Three crews comprised of three to five archaeologists conducted the fieldwork.

1.1 Setting and Environment

FWA consists of the Main Post cantonment area and associated training lands, which include three main areas: the Yukon Training Area (YTA), the Tanana Flats Training Area (TFTA), and the Donnelly Training Area (DTA). These are located in central Alaska, north of the Alaska Range in the Tanana River Valley (Figure 1). The post lies 120 miles south of the Arctic Circle near the cities of Fairbanks and North Pole in the Fairbanks North Star Borough. FWA has the northern continental climate of the Alaskan Interior, characterized by short, moderate summers; long, cold winters; and little precipitation or humidity. Average monthly temperatures in Fairbanks range from -11.5° F in January to 61.5° F in July, with an average annual temperature of 26.3° F. The record low temperature is -66° F and the record high is 98° F. Average annual precipitation is 10.4", most of which falls as rain during summer and early fall. Average annual snowfall is 67", with a record high of 168" during the winter of 1970-71 (Natural Resources Branch 2002).

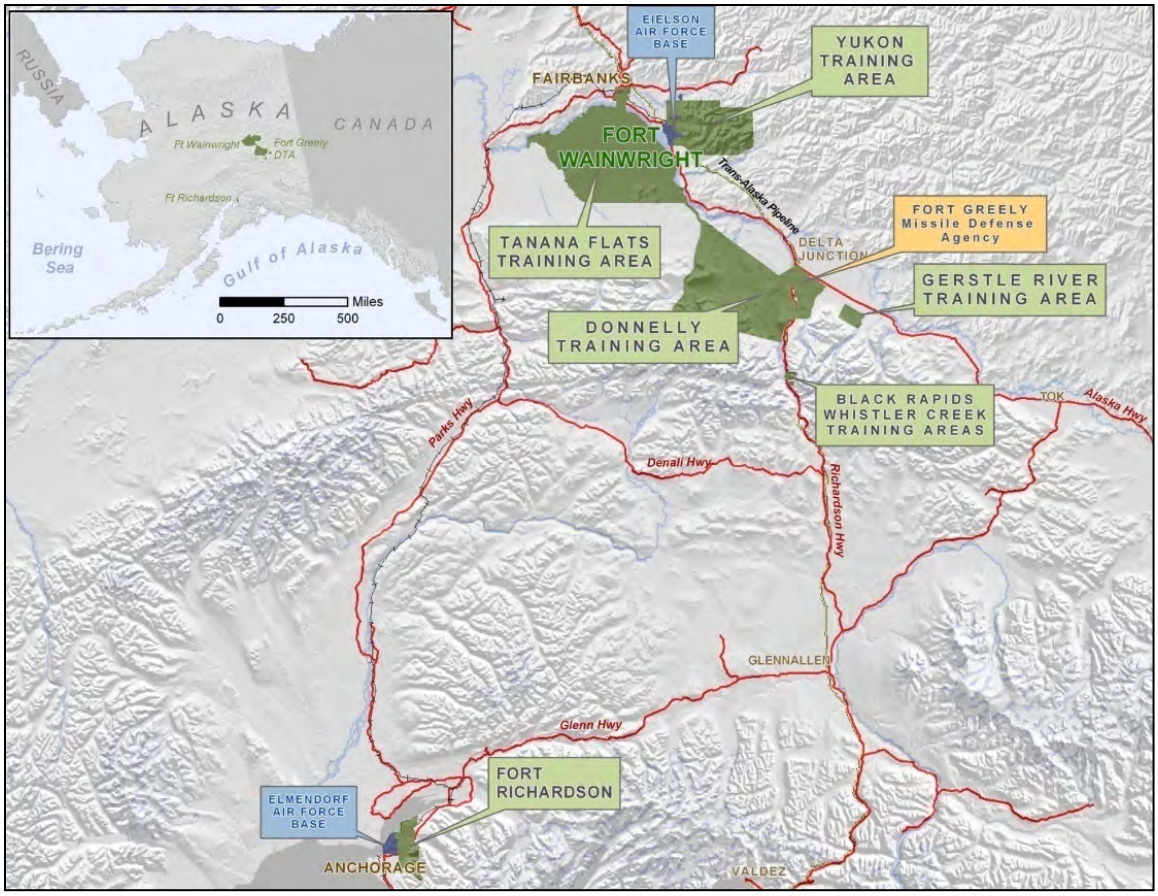


Figure 1. FWA training lands

1.2 Previous Work and Status of Archaeological Resources

Archaeological research on FWA training areas has resulted in numerous technical reports that provide information on surveyed areas and archaeological sites in military lands (Bacon 1979; Bacon and Holmes 1979; Dixon et al. 1980; Esdale and Robertson 2007; Espenshade 2010; Bradley et al. 1973; Gaines 2009; Gaines et al. 2010, 2010; Hedman et al. 2003; Higgs et al. 1999; Holmes 1979; Johnson and Bozarth 2008; Marshall 2007; Potter 2005; Potter et al. 2000; Rabich and Reger 1978; Raymond-Yakoubian 2006; Raymond-Yakoubian and Robertson 2005; Robertson 2010; Robertson et al. 2004, 2006, 2007, 2008, 2009; Staley 1993) and several scientific papers (Holmes and Anderson 1986; West 1967, 1975).

FWA and its training lands contain 636 known archaeological sites and 4 archaeological districts. Sixty sites are eligible for the National Register of Historic Properties (NRHP), 512 sites have not been evaluated, and 64 additional sites have been determined ineligible for the NRHP. Of the eligible or un-evaluated sites, 12 are historic sites and 560 are prehistoric sites.

Archaeological surveys of the FWA Main Post area began in 1979. Jim Dixon surveyed the north side of the Chena River and Birch Hill area, discovering and relocating several prehistoric archaeological sites (FAI-40, 41, 42, 43, 199, and 200) (Dixon et al. 1980). Surveys of the Main Post building areas continued in the 1980s by Julia Steele (Steele 1992, 1983) and Georgeanne

Reynolds (Reynolds 1983, 1985). No sites were found in these previously disturbed areas. John Cook surveyed the River Road pond in 1996 and found one site (FAI-509), which has failed to be relocated in subsequent attempts. In 2001, the Army began contracting cultural resource surveys and evaluations with Colorado State University's Center for Environmental Management of Military Lands (CEMML). Surveys by several different principal investigators have targeted areas of construction undertakings. Two historic sites (FAI-1603 and 1604) and one additional prehistoric site (FAI-1990) were found in these investigations. In 2011, CEMML completed surveys of the entire cantonment, north and south of the Chena River, discovering one additional historic site (FAI-2117). Of the 11 archaeological sites known from the FWA cantonment, 2 (FAI-1603 and 1604) have been determined not eligible. The remaining sites have not yet been evaluated.

Archaeological sites were first identified in the Tanana Flats Training Area (TFTA) in 1973 by Zorro Bradley and others who conducted a survey in the Blair Lakes area (Bradley et al. 1973). James Dixon continued surveys for archaeological district designations in the regions of Blair Lakes (District FAI-335), Clear Creek Butte (District FAI-336), and Wood River Buttes (District FAI-337) (Dixon et al. 1980). In 1993, proposed work in the Clear Creek Butte area prompted a contract to relocate several archaeological sites (Staley 1993.) These three districts have been revisited by CEMML archaeologists a few times over the last decade, and notably 92 new sites were found in 2009-2010 during survey of the Wood River Buttes, Salmon Loaf, and north and east of Blair Lakes. In total, archaeologists have identified 147 archaeological sites in TFTA. Of these sites, 11 have been determined eligible for inclusion in the National Register (FAI-44, 45, 46, 48, 49, 54, and 194 to 198), 2 are not eligible (FAI-1607 and 2046), and 134 remain to be evaluated for eligibility.

The road system in the Yukon Training Area (YTA) was the first of many areas to be investigated. Charles Holmes discovered 8 sites in a 1978 road survey (Holmes 1979). John Cook conducted a Determination of Eligibility (DOE) evaluation on one of these sites in 1979 (Cook 1979.) Michael Kunz surveyed the Stuart Creek area in 1992 but discovered no archaeological sites, and Northern Land Use Research's 1999 survey of Stuart Creek and the YTA road system uncovered one historic site (Higgs et al. 1999). CEMML archaeologists have been surveying portions of YTA in conjunction with construction projects on an annual basis since 2001. Currently, North Beaver Creek, Skyline, Johnson, Quarry, Brigadier, and Manchu roads in YTA are almost entirely surveyed, as is the area east of Skyline Road outside of the Stuart Creek Impact Area, McMahon Trench, the Manchu Range, and the majority of Training Areas 307 and 310, north and south of Manchu and Quarry roads. Twenty archaeological sites have been identified in YTA. Ten of the sites have been determined not eligible for listing in the National Register (FAI-157, XBD-93, 94, 95, 103, 104, 186, 260, 264, and 266), and ten have not been evaluated. XBD-162 will not be evaluated due to its location in a heavily used portion of the Stuart Creek Impact Area.

Archaeological investigations in what is now the Donnelly Training Area began in the 1960s, when Frederick West was searching for sites related to the first Americans (West 1967). He excavated the Donnelly Ridge site (XMH-5) in 1964 and found an assemblage containing microblade core technology similar to early Holocene Denali Complex sites. Several surveys of Ft. Greely and adjacent training lands in the late 1970s documented 64 new sites (Rabich and

Reger 1977; Bacon 1979; Holmes 1979; Bacon and Holmes 1979). Julia Steele surveyed various locations in DTA from 1980-1983, finding four additional new sites (Steele 1980, 1980, 1982, 1982, 1983, and 1983), and Georgianne Reynolds surveyed the Donnelly Dome area in 1988, locating one more (Reynolds 1988). Investigations in DTA from 1992-2002 were by D. Staley (Staley 1993), Tony Gamza (Gamza 1995), Andrew Higgs (Higgs et al. 1999), and Daniel Odess (Odess 2002). Sixteen new sites were found during this decade of fieldwork, and attempts were made to relocate old sites.

Concentrated efforts to expand survey coverage of DTA East began with CEMML archaeologists in 2002. Over 200 new sites were located in the Texas Range, Donnelly Drop Zone, and Eddy Drop Zone in the first half of the decade. In 2007, one site was found in the northernmost portion of DTA West by Ben Potter and others during survey for the Alaska Railroad Northern Rail Extension Project (Potter et al. 2007). In recent years, CEMML research aimed to evaluate many known archaeological sites in DTA for inclusion in the National Register in conjunction with use of the Battle Area Complex and its surface danger zone. Sites have also been discovered during surveys for road and trail maintenance. Potential expansions into DTA West, west of the Delta River, have prompted recent surveys into new areas such as Molybdenum Ridge, where 21 new sites were discovered in 2011. Because of its remote setting, however, the archaeology of Donnelly West is still poorly understood and represents a gap in USAG FWA's inventory of cultural properties. The Cold Regions Test Center (CRTC) has also contracted with CEMML and others since the last ICRMP to survey areas in DTA West, east of the Little Delta River, and many new archaeological sites have been recorded (Espenshade 2010).

To date, 455 archaeological sites have been identified within DTA. Forty-nine sites have been found to be eligible for the National Register, and 50 were found not eligible. An additional 356 sites remain to be evaluated. Historic archaeology sites are poorly represented in this region, with only six currently known to exist. The Donnelly Ridge District (XMH-388) encompasses Denali sites identified by Frederick West, south and west of Donnelly Dome. Future archaeological studies in DTA will concentrate on completing surveys of 100% of the land in DTA East, conducting DOEs on archaeological sites in high traffic areas, and exploring parts of DTA West that are opening up for expansion of military training activities.

The Gerstle River Training Area and Black Rapids Training Area (GRTA and BRTA), also managed by FWA, have been infrequently utilized by training activities, and very few surveys or identification of archaeological sites have occurred these areas. CEMML archaeologists surveyed two small portions of GRTA in 2011. One prehistoric site (XMH-1359) is previously known from this training area. Two sites, which have not been evaluated for the NRHP, have been discovered in BRTA (XMH-317, 318). Future research is planned for GRTA where military activities are planned to take place in the next five years.

1.3 Prehistoric Context

Interior Alaska has been continuously inhabited for the last 14,000 years, and evidence of this continuum of human activity has been preserved within and around FWA's training lands. Interior Alaska's ice-free status during the last glacial period provided a corridor connecting the Bering Land Bridge and eastern Asia to North America. This allowed small bands of nomadic

peoples to colonize Alaska and the rest of the continent and began a period of habitation in Interior Alaska that has persisted through the entire Holocene, the arrival of European traders in the late 1810s, the Klondike gold rush of the late 19th and early 20th centuries, and the military development of the Interior during the middle of the 20th century. FWA's cantonment and training lands comprise a vast and still relatively un-surveyed region with areas of high potential for yielding evidence of this activity.

Alaska has long been regarded as the gateway to the Americas and has held archaeological interest as the possible location for the oldest archaeological sites in the New World. This is due to more than Alaska's proximity to Asia and ice-free condition at the end of the Pleistocene. Similarities between archaeological assemblages in Siberia and Alaska and the discovery of lanceolate projectile points in the muck deposits around Fairbanks in the early 1900s (which bore a resemblance to Clovis points of some antiquity in the American Southwest) also sparked interest in Alaska as a source area for all Native Americans.

After initial colonization, archaeologists generally divide Interior Alaska's prehistory into three broad archaeological themes: the Paleoarctic Tradition (12,000-6,000 years ago[1]), the Northern Archaic Tradition (6,000-1,000 years ago), and the Athabaskan Tradition (1,300-800 years ago) (Potter 2008). Archeological materials from these cultures are generally limited to lithic artifacts such as projectile points, cutting tools, scrapers, waste flakes from tool manufacturing, faunal remains, and hearths.

Reconstructions of paleoecological evidence suggest that the end of the Pleistocene was marked by a warming trend in Interior Alaska that may have contributed to initial colonization of the area (Bigelow and Powers 2001). Several sites in areas surrounding Army lands demonstrate that people began living in Interior Alaska 14,000 years ago. Significant sites in the Tanana Valley dating between 14,000-12,000 years ago include Healy Lake (Bigelow and Powers 2001), Walker Road (Bigelow and Powers 2001), Swan Point (Bigelow and Powers 2001), Mead (Bigelow and Powers 2001), and Broken Mammoth (Bigelow and Powers 2001). There are no sites in Alaska, however, that predate the oldest sites in the contiguous United States, nor do Alaska's oldest sites resemble the Clovis culture (Bigelow and Powers 2001). This makes Alaska's earliest inhabitants questionable ancestors to all Native Americans despite genetic evidence pointing to a north-central Asian homeland (Eshleman et al. 2003). The Younger Dryas cooling event from 13,000-12,000 years ago (Bigelow and Powers 2001) may have led to a temporary population decline (Potter 2008) in the Interior before permanent colonization. The Paleoarctic Tradition is a term is now generally used by archaeologists to refer to the earliest settled people known from all over Alaska. It was originally defined by Anderson[2] (Anderson 1968, 1970) as the earliest microblade-using tradition in the American Arctic, with a proposed relationship to northeast Asian late Pleistocene cultures based on similarities in these distinctive artifact types. Archaeological evidence indicates that early settlers camped on terraces, lake shores, buttes, and bluffs. By using these locations on high ground, they could locate and track prey that included large mammals such as mammoth and bison. Evidence from the Upward Sun River Site, located just 5 km southeast of TFTA, for example, demonstrates that hunter-gatherers

[1] All dates are given in calendar years *before present*.
[2] Anderson called it the "American Palaeoarctic Tradition," but most researchers use the shortened version.

in Interior Alaska were concentrating on bison and wapiti at the end of the Pleistocene (The Upward Sun River Site is also known for one of the earliest burials in the Americas. [Potter 2008; Potter et al. 2008; Potter et al. 2011]). It is likely that the treeless environment and nomadic nature of these peoples had a direct impact on the kinds of tools they fashioned. Stone, bone, antler, and ivory provided the most abundant material for manufacturing weapons and cutting tools. Artifacts typically associated with this culture include small stone microblades, microblade cores, bifacial projectile points, and unifacial scraping tools.

In Interior Alaska, this tradition historically included two cultural divisions called the Nenana and Denali complexes. The Nenana Complex was identified by Powers and Hoffecker from sites in the Nenana Valley (Powers and Hoffecker 1989). This complex began approximately 11,000 years ago with an artifact assemblage that included triangular or teardrop-shaped, bifacially worked projectile points ("Chindadn" points [Cook 1969; 1975; Holmes and Cook 1999]); large unifacial chopper-like tools; and flake tools. The Nenana Complex is defined as lacking microblades, microblade cores and burins, and was proposed to predate the microblade-rich Denali Complex. Many Nenana Complex archaeological sites are located in the Tanana Valley, adjacent to FWA training lands (Broken Mammoth [Holmes 1996; Yesner et al. 1999], Chugwater [Lively 1996], Donnelly Ridge [West 1967; 1996, Donnelly Ridge is located in DTA], Healy Lake [Cook 1989], Mead [Holmes 2007] and Swan Point [Holmes et al. 1996; Holmes 1998, 2007]).

The Denali Complex, dated roughly to 10,500 to 8,000 years ago, was originally defined by West (West 1967; 1975) and includes distinctive wedge-shaped microblade cores, core tablets and their derivative microblades, large blades, biconvex bifacial knives, certain end-scraper forms, and burins. West later defined the Denali Complex as a regional variant of the American Paleoarctic Tradition (West 1981). Denali sites in the vicinity of FWA's training lands include Mt. Hayes (West 1996), Swan Point (Holmes et al. 1996; Holmes 1998, 2007), and Gerstle River (Potter 2001). At least one site in TFTA (XMH-2043) has also been dated to this period.

The relationship between the proposed Nenana and Denali complexes is as of yet unresolved. As discussed above, some researchers view the Nenana Complex as a bifacial industry that predates the microblade-based Denali Complex. However, current research at sites such as Swan Point and Broken Mammoth indicates that microblades and burins were used by the earliest known cultures in Interior Alaska, with a later co-occurrence with Chindadn points—the defining artifact type of the Nenana Complex. Although some archaeologists still believe that there is a cultural distinction between the Nenana and Denali complexes (e.g., Dumond 2001), the general understanding from Interior Alaskan archaeologists is that there is a behavioral explanation for the presence or absence of microblades in different assemblages (Holmes 2001; Potter 2008; Yesner and Pearson 2002). Moreover, both Nenana and Denali technology persist in central Alaska throughout the Holocene (Bever 2006).

Site density declined in the areas around FWA in the early Holocene, suggesting a slight depopulation during a period of climate change which initiated the widespread establishment of spruce forests (Potter 2008). The boreal forest in Interior Alaska was established by 8,000 years ago (Bigelow and Powers 2001). Sites from this time period are less well publicized than the older sites, but include Houdini Creek (circa 8,600 years old), Hurricane Bluff (c. 9,800 years

old), Lucky Strike (c. 8,500 years old), Gerstle River (c. 10,000 years old), and the Campus Site (c. 7,700 years old) (Pearson and Powers 2001; Potter et al. 2007; Potter 2008). Bison, wapiti, and birds were the most important subsistence game during this period (Potter 2007, 2008).

Site density increased again after about 6,000 years ago in Interior Alaska (Potter 2008). This population increase coincides roughly with the Northern Archaic Tradition and the appearance of side-notched projectile points. Anderson originally defined the Northern Archaic Tradition to specifically address notched point-bearing stratigraphic horizons that did not contain microblades at the Onion Portage site in northern Alaska (Anderson 1968). Alaskan notched points were generally similar to Archaic-age dart points in the contiguous United States. Time has shown middle Holocene assemblages in Alaska to be quite diverse, however, and it is questionable whether this trait is related to southern forms or if it is a reliable indicator of cultural affiliation (Clark 1992; Cook and and Gillespie 1986). Artifact assemblages associated with this culture can vary but generally contain myriad tools ranging from bifacial knives and microblades to end scrapers and side-notched points. Middle Holocene hunter-gatherers had a subsistence economy focused on seasonally abundant game including caribou, fish, and moose (Potter 2008). Notched point assemblages occur in many sites in Interior Alaska including over one dozen on Army lands (XBD-277, XMH-277, XMH-283, XMH-303, XMH-309, XMH-874, XMH-950, XMH-1130, XMH-1168, XMH-1300, Robertson et al. 2004, Raymond-Yakoubian and Robertson 2005.) Several sites (XBD-270, XMH-915, XMH-925), including the excavated Banjo Lake site in DTA (XMH-874), have also produced middle Holocene dates from hearth charcoal. The 6,300-6,700-year-old dates from Banjo Lake were also associated with a microblade component (Robertson et al. 2008).

Utilization of microblade and burin-based industries appears to continue through the middle and late Holocene in Interior Alaska (Esdale 2008; Potter 2004). By the late Holocene, archaeologists see a shift from seasonal large mammal hunting with a nomadic lifestyle to a focus on seasonally over-abundant resources, use of storage, and more permanent settlements (Potter 2008b). Artifact assemblages do not drastically change until the last millennium of the Holocene when microblades disappear from the archaeological record (Potter 2008).

Linguistic evidence suggests that the Athabaskan culture may have appeared in the Tanana Valley as early as 2,500 years ago. Through ethnography, oral history, and a broad array of cultural items, much has been learned about Athabaskan culture and history in the region. Artifacts associated with the Athabaskan culture are exceptionally diverse and include bone and antler projectile points, fishhooks, beads, buttons, birch bark trays, and bone gaming pieces. In the Upper Tanana region, copper was available and used in addition to the traditional material types to manufacture tools such as knives, projectile points, awls, ornaments, and axes (Clark 1981). A late prehistoric Athabaskan occupation is recognized at several sites in and around FWA's training lands (Andrews 1975; Andrews 1987; Cook 1989; Mishler 1986; Sheppard et al. 1991; Shinkwin 1979; Yarborough 1978). Of particular interest in this regard is a copper projectile point recently found in a buried context at DTA (XBD-272) (Robertson et al. 2009).

The Athabaskan Tradition includes late prehistoric and proto-historic cultures generally believed to be the ancestors of Athabascan tribes who currently inhabit Interior Alaska. Excavated Athabaskan sites are rare, but the limited body of evidence allows for several generalizations.

Raw material usage was reorganized in the Athabaskan Tradition, which de-emphasized stone tool making and increased the emphasis on the manufacture of items from native copper and organic materials (Dixon 1985). Assemblages include ground and pecked stone artifacts and an increased use of expedient tools. There was a broadening and diversifying of the resource base at this time to include small mammal and freshwater marine animals such as fish and mollusks (McFadyen Clark 1981; McFadyen Clark 1996; Ream 1986; Sheppard et al. 1991; Shinkwin 1979). Athabaskan sites tend to occur in resource-rich areas near lakes, streams and rivers, and are generally characterized by large house pit and cache pit features. Proto-historic Athabaskan assemblages include Euro-American trade goods such as glass beads and iron implements. Sites of this time period reflect an increased reliance on outside trade and include log cabins co-occurring with traditional house pits, as well as a change in site location to maximize trading opportunities (Andrews 1975; Andrews 1977; Andrews 1987; McFadyen Clark 1981; VanStone and Goddard 1981).

Athabascan settlement patterns depended greatly on the availability of subsistence resources, and Interior bands lived a nomadic lifestyle. They often traversed vast areas to support themselves and spent considerable time engaged in subsistence activities. It was often necessary for bands to divide into smaller groups to find game, and preserved fish were used as a staple of the diet in addition to fresh game (Andrews 1975).

Four Athabascan linguistic and geographic groups have inhabited the Tanana Valley: the Upper Tanana, Tanacross, Tanana and Koyukon. Each group is further distinguished according to geographic location. Bands of the Tanana and Tanacross groups are historically associated with the geographic area that embodies Forts Wainwright and Greely. Salcha, Chena, Wood River, Goodpaster, and Healy Lake bands have inhabited the region since protohistoric times and possibly even prehistoric times (Andrews 1975). Use of the region varied from one band to the next. The Salcha, Chena, Goodpaster, and Wood River bands of the Tanana Athabascans and the Healy Lake band of the Tanacross Athabascans used certain parts of what are now Forts Wainwright and Greely (McKennan 1981). Several villages have been reported on or near FWA. One occupied by the Wood River band is said to have been located in the southern part of FWA but has not been found (Dixon 1980; Reynolds 1986). The Blair Lakes Archaeological District (FAI-335) on FWA may relate to the prehistory of the Athabaskan Tradition. Euro-American historic archaeological sites are also present (Gamza 1995; Phillips 1984).

1.4 Historic Context

1.4.1 Early History

With the beginning of Euro-American contact in Interior Alaska in the early 19th century, trade influences and influxes of new populations began to change life in the region. Land use patterns shifted from traditional indigenous uses to activities based on Euro-American economic and political systems. FWA's training lands fall within an area occupied at the time of Euro-American contact by Lower-Middle Tanana Athabascans, including bands described generally as the Salcha, Big Delta-Goodpaster, Wood River, and Chena bands (McKennan 1981; Andrews 1975; Mishler 1986). Historical accounts document traditional settlement patterns that were focused on a widely mobile seasonal round, with the fall caribou hunt playing a pivotal role in subsistence preparations for the winter, and summer activities focused at fish camps, berry and

root collecting and in sheep hunting. These activities were frequently communal, with several local bands connected by common interest, geography and intermarriage. Despite anthropological attempts to define boundaries for the peoples living in the lower Tanana River Valley, natural terrain served as the only definable boundary to settlement patterns (McKennan 1981).

As Euro-American traders, miners, missionaries and explorers moved into the Tanana River Valley, the traditional life ways of local Athabascan groups were disrupted. Access to trade goods and the development of the fur trade not only affected traditional material culture, but also began to dramatically affect subsistence activities and settlement patterns. Similarly, the arrival of missionaries in the Alaskan Interior profoundly influenced traditional social organization. The introduction of mission schools for Native children and the doctrine of new religious beliefs contributed to an erosion of traditional practices (McKennan 1981).

Russian fur traders began settling Interior Alaska starting in the 1810s, establishing a post at Nulato on the Yukon River and one at Taral on the Copper River. British traders established Fort Yukon in 1847. Trade goods from these posts may have passed to Tanana Athabascans and Upper Tanana Athabascans through intra-Native trade networks. Direct contact between Tanana Athabascans and white traders increased after the 1860s. With the U.S. purchase of Alaska in 1867, control of trading stations and the fur trade passed to Americans. Through the 1880s, American traders established several additional posts on the Yukon and Tanana rivers, including locations at Nuklukayet (modern-day Tanana), Belle Isle (modern-day Eagle), and Fort Yukon.

Trade goods introduced by Euro-American settlers influenced the Native lifestyle. Clothing, staples, tools, and other necessities could be obtained through trade. Guns allowed hunters to obtain game with greater efficiency. Gradually, Athabascan Native groups began to alter their traditional nomadic patterns in favor of more permanent settlements. However, while significant, this contact would not have as dramatic an impact on the region as the discovery of gold in the Interior during the last decades of the 19th century. The towns established by Euro-American settlers at the turn of the 20th century, in response to the Klondike Gold Rush and the eventual military development of the region, would rapidly and permanently change the demography and economy of Interior Alaska.

Gold strikes in the Fortymile River region, Birch Creek area, and the Canadian Klondike began drawing miners and prospectors north in the 1880s and 1890s. In response to this gold rush, E.T. Barnette established a trading post on the Chena River in 1901. The following year, prospector Felix Pedro discovered gold nearby, and a new gold rush soon led to the founding of Fairbanks at the site of Barnette's original trading post. Most mining activities in the region occurred on creeks north of Fairbanks, with the town serving as a supply center. Agricultural and other commercial activities, such as lumber, also developed to support mining activities in the Fairbanks area. Homesteads existed on parts of what is today the Main Post of FWA as early as 1904.

In 1898, the discovery of gold in the Tanana uplands began a rush of Euro-American settlement into the Tanana River Valley. As the economic importance of the Tanana Valley increased, the need for reliable transportation routes and communication systems rose in tandem. Existing

trails, such as the Bonnifield, Donnelly-Washburn and Valdez-Fairbanks trails, saw increased use and development in the first decade of the 20th century. This increase in activity also resulted in the establishment of several roadhouses and posts. In 1906, Congressional appropriations led to improvement of the Valdez-Fairbanks Trail, crossing the Alaska Range south of Delta Junction, following the Tanana River to Fairbanks. Completion of the Alaska Railroad in 1923 was followed two decades later by construction of the Alaska Highway in 1942, firmly tying the Alaskan Interior to the outside.

As Fairbanks grew in the first decade of the 20th century, several agricultural homesteads were developed on lands now encompassed by sections of the FWA cantonment. These homesteads provided Fairbanks with a variety of agricultural products and wood for fuel, but were subsumed when lands were withdrawn for the creation of Ladd Field, which later became FWA (Price 2002).

Riverboats were the primary means of getting people and supplies into the Interior at the turn of the 20th century. The Fairbanks town site was located at the upper limit of navigation for stern-wheeler riverboats on the Chena River. Upriver from that point, residents navigated the river using shallow-draft boats in summer and sleds in the winter. As commerce in the area increased, roads and trails were constructed, sometimes following earlier indigenous routes. The major overland route to tidewater was the Valdez-Fairbanks Trail, which began as a military trail from Valdez to Eagle in 1899.

Transportation and communication networks, including the Alaska Railroad, were developed to serve new settlements in Interior Alaska. A branch of the railroad route was extended to Fairbanks in 1904. Roadhouses along the route catered to travelers. Some of these roadhouses were located out on what are now FWA training lands. One property was on the Bonnifield Trail in the Tanana Flats Training Area while two roadhouses and a seasonal tent operation existed along the Donnelly-Washburn Trail in the current Donnelly Training Area. Secondary routes connected Fairbanks to the surrounding mining districts.

By 1910, most of the easily accessible placer gold deposits were exhausted, and capital-intensive technologies became necessary to extract remaining deposits. These methods were not possible with the existing transportation infrastructure. The completion of the Alaska Railroad in 1923 expanded transportation options for the region, connecting Fairbanks to the tidewater at Seward and making large-scale dredging operations economically feasible. Aviation also became a key component of Interior transportation, beginning in earnest in the 1920s. However, it was not until 1931 that Weeks Field, originally constructed in 1923, was officially dedicated as an airfield. Industrialized corporate activity became the hallmark of the region's mining in the remaining years before World War II.

Development in the Alaskan Interior increased dramatically with the advent of World War II and subsequent military build-up in Alaska. Of particular significance was the development of airfields near Delta Junction (Fort Greely), Fairbanks (Ladd Field, later FWA), and 26 miles southeast of Fairbanks (Eielson Air Force Base). These locations began as Lend-Lease bases and cold weather testing centers, but soon expanded with the increased need for military support during World War II and later during the Cold War.

Full historic contexts of early mining, transportation, and homesteads on FWA have been completed. These studies have determined that there are no properties eligible for the National Register under these contexts. Several village sites associated with the early contact period have been reported near FWA. One was reported near Wood River Buttes, two just northwest of the installation's boundary, and one near Fairbanks (Reynolds 1986). None have been reported or located on the Main Post.

1.4.2 Ladd Field National Historic Landmark

In 1935 Ladd Field was authorized as a small cold weather testing station that was envisioned by General H. H. Arnold. Construction began in 1939, and by 1940 Ladd Field was operational.

Cold weather testing at Ladd Field helped to improve the aircraft and equipment used by front-line aircrews. The Cold Weather Test Detachment's experimental tests contributed to the development of aircraft design, ground procedures and personnel equipment with stateside research agencies and manufacturers. After the start of World War II, Ladd Field also served as the transfer point for the Alaska Siberia (ALSIB) Lend-Lease aid to the Soviet Union. From 1942 to the end of the war in 1945, Ladd Field saw 7,926 aircraft and associated cargo change hands. Though it was controversial, the Lend-Lease aid to the Soviet Union played some part in the eventual defeat of Nazi Germany. Ladd Field also served as an air depot for the repair and supply of aircraft under the Air Transport Command, processing thousands of passengers as well as tons of cargo and mail.

In 1984, Ladd Field was listed on the National Register of Historic Places. Ladd Field was listed as significant for three main themes:1) cold weather testing, 2) aircraft repair, supply depot and air transfer hub and 3)as the transfer point for aircraft and cargo transiting the ALSIB route to the Soviet Union.

1.4.3 Ladd Air Force Base Cold War Historic District

In 1947, the Air Force became a separate service, and Ladd Field became known as Ladd Air Force Base (AFB). Missions flown out of Ladd AFB played a significant role in the early years of the Cold War confrontation with the Soviet Union. Early in the Cold War, military planners decided on a heartland concept for Alaskan defense, concentrating on bases near Anchorage and Fairbanks as the strategic anchor points. Ladd AFB became the Northern Sector Headquarters for the Alaskan Air Command, and its foremost missions during the Cold War were air defense, strategic reconnaissance and arctic research.

Ladd AFB's air defense mission was part of the plan to deter the Soviet Union from taking Alaskan territory and using it as a base from which to threaten the continental United States. Ladd AFB hosted tactical fighter intercept squadrons and combat alert cells. An Air Defense Command Center located on Ladd AFB was responsible for directing air battles in Alaska's northern sector. It also provided support to segments of the Distant Early Warning Line. In the earliest years of the Cold War, Ladd AFB hosted some of the first long-range strategic aerial reconnaissance units.

Ladd AFB was also the scene of significant Cold War arctic research. The cold weather equipment testing, begun during World War II, continued through the Cold War and expanded to

include the Arctic Aero medical Laboratory (AAL). The AAL studied human adaptation to Arctic and Sub-Arctic climates with an eye toward military applications.

In 2001, the Ladd AFB Cold War Historic District was determined eligible for the National Register of Historic Places. It was determined to be significant for its role in the early Cold War missions of the 46th/72nd Air Reconnaissance unit and for the fighter intercept squadrons stationed here.

1.4.4 Fort Wainwright

In 1960, Ladd AFB was transferred to the Army and was renamed Fort Jonathan Wainwright on January 1, 1961. In Alaska, Cold War missions were predominately under the command of the Air Force with the Army providing ground force defense and logistical supply. The Army also carried out cold weather training tactics and cold weather equipment testing. The onset of the Vietnam War and its high costs drained the Army's resources; troops at Wainwright were reassigned or deployed, causing a significant decrease in the post's population. In 1986, the mission of the post changed once again with the assignment of the 6th Light Infantry Division to FWA. Since 1986, FWA's mission has been to support worldwide deployment.

2.0 FWA CANTONMENT AND ADJACENT TRAINING AREAS

2.1 Introduction

The FWA cantonment and adjacent training areas (Figure 2) consists of approximately 15,500 acres east of Fairbanks on the floodplain of the Chena River. The Main Post lies within the Tanana-Kuskokwim lowland. This depression was subsiding as the Alaska Range was rising to the south and filling with sediments from those mountains. The area is bounded by uplands to the north, the Alaska Range to the south, and consists of alluvial fans extending northward from the mountains. The Tanana River flows along the northern edge of the lowland. The terrain is generally flat lowland, ranging from 128 to 512 feet above sea level (Nakata Planning Group 1987). Bedrock is primarily composed of Precambrian Birch Creek schist, with few areas of granite and quartz diorite. The cantonment is covered by alluvial sediments and a thick mantle of micaceous aeolian silt (loess) derived from outwash plains south of the Tanana River (Muhs and Budahn 2006). Soils are typically well-drained, brown silt loam associated with poorly-drained silt loams in depressions and drainages (Natural Cooperative Soil Survey 1999).

Fort Wainwright has four vegetation types: moist tundra, treeless bogs, open low-growing spruce forests, and closed spruce-hardwood forests. The white spruce-paper birch forest of Interior Alaska is often called the boreal forest or taiga. Vegetation types of Interior Alaska form a mosaic and reflect fire history, slope and aspect, and presence or absence of permafrost (Viereck and Little 1972). Forests are dominant, diverse ecosystems on cantonment and adjacent training lands. Vegetation ranges from pure stands of spruce or hardwoods to spruce/hardwood mixtures.

2.2 Cantonment Surveys

All surveys in the FWA cantonment during the 2010 field season were associated with Army undertakings. In 2011, an effort was made to complete systematic surveys of all previously un-surveyed areas of the cantonment, north and south of the Chena River. Portions of the Small

Arms Complex south of the Richardson Highway (see Figure 2) were also surveyed in 2010. Large parts of the complex are off-limits to archaeologists due to danger from unexploded ordinances.

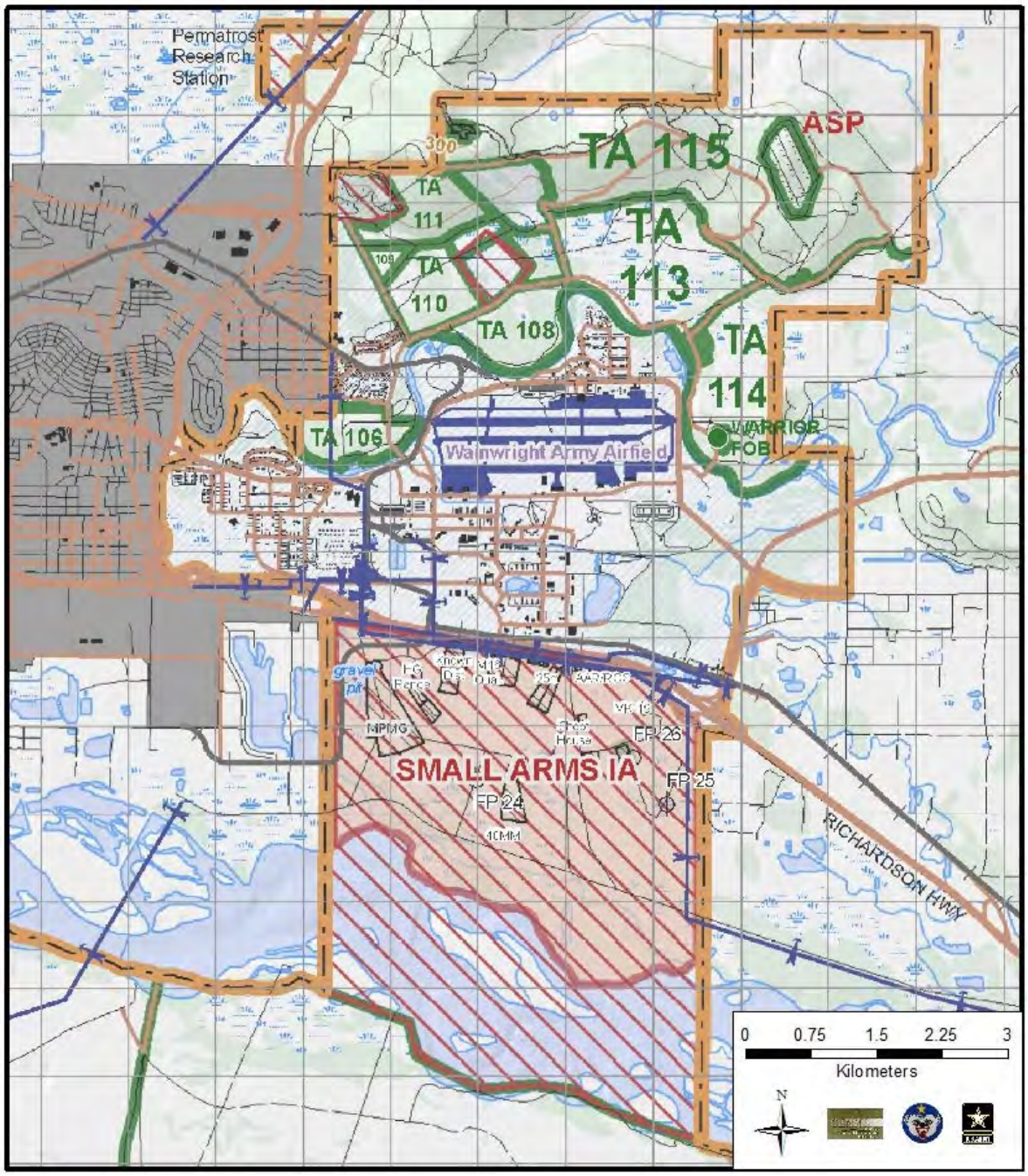


Figure 2. FWA cantonment

In 2010, the Small Arms Complex (red in Figure 2) was the concentration of an archaeological survey both as a part of two small undertakings (previously reported to the SHPO) and for Section 110 inventory. Much of the Small Arms Complex is restricted due to the possible

presence of dudded impacts, and several areas are considered disturbed (Figure 3). The portions of the Small Arms Complex surveyed in 2010 (425 acres) are shown in Figure 4. Section 106 surveys on the cantonment included the golf course clubhouse area and Chena Bend bike trails (SHPO letter 9/10/10) (included in 2010 survey layer, Figure 4)[3].

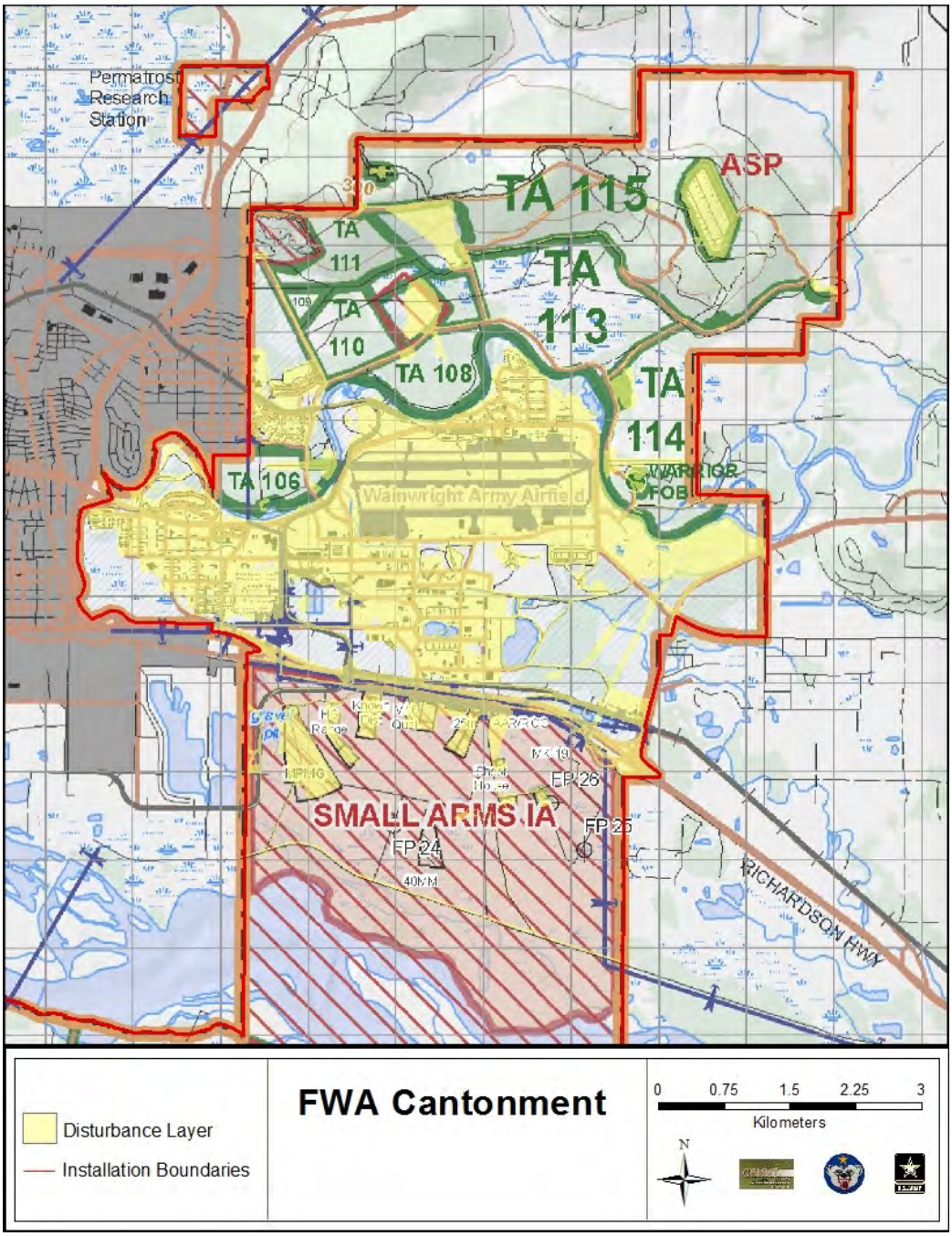


Figure 3. Cantonment disturbance layer

[3] All section 106 activities for 2010 and 2011 are listed in Appendix 4.

In 2011, much of the cantonment north and south of the Chena River (5955 acres, Figure 4) was surveyed for Section 110 inventory. That total includes surveys of Birch Hill (1170 acres) and TA 108 (196 acres) for Section 106 projects already reported in letters to the SHPO (SHPO letter 8/30/11).

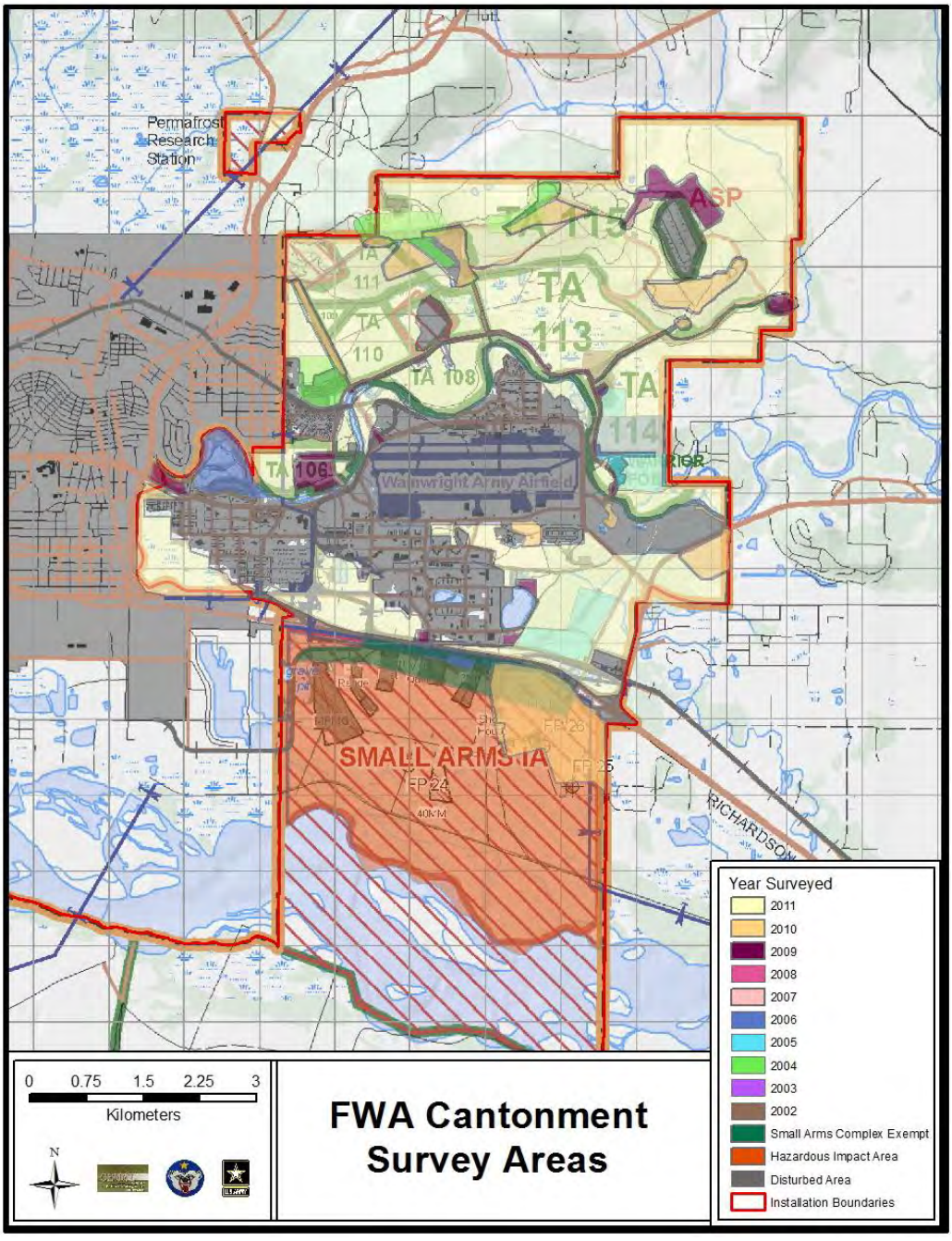


Figure 4. Cantonment surveys by year

2.3 Cantonment Sites

Only 11 archaeological sites are known from the cantonment area (Table 1, Figure 5). Two have been determined ineligible by the SHPO and CEMML. Determinations of Eligibility (DOE) are planned for the remaining nine sites during the 2012 field season.

Table 1. Archaeological sites in the FWA cantonment

#	AHRS #	Period	DOE Status
1	FAI-00040	Prehistoric	Not Evaluated
2	FAI-00041	Prehistoric	Not Evaluated
3	FAI-00042	Prehistoric	Not Evaluated
4	FAI-00043	Prehistoric	Not Evaluated
5	FAI-00199	Prehistoric	Not Evaluated
6	FAI-00200	Prehistoric	Not Evaluated
7	FAI-00509	Prehistoric	Not Evaluated
8	FAI-01603	Historic	Ineligible
9	FAI-01604	Historic	Ineligible
10	FAI-01990	Prehistoric	Not Evaluated
11	FAI-02117	Historic	Not Evaluated

2.3.1 2011 Archaeological Sites

FAI-02117 *(From previous 106 letter- SHPO concurrence 8/30/11)*
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

FAI-02117 is located on the FWA cantonment, in Training Area 108, just north of the Chena [redacted] (Figure 6). This site consisted of three different features related to the military or homestead-era history of FWA. Feature 1 is a rectangular depression measuring 220 cm long x 110 cm wide x 40 cm deep (Figure 7). Feature 2 is a sled or other device made from wood, metal, springs, leather cords, and round nails. The feature consists of a rectangular box (250 cm long x 61 cm wide x 28 cm deep) made from 2" and 1 5/8" thick boards (Figure 8). A metal foot-powered steering device is located at one end of the sled. At the opposite end, a curved wood handle is tied onto the frame with leather lashing. The third feature is a closed box structure with a hinged wood door (Figure 9). The box is 135 cm long x 84 cm wide x 82 cm deep. An old fuel can is mounted inside the structure and a stove-pipe with metal flashing was found on top of the box.

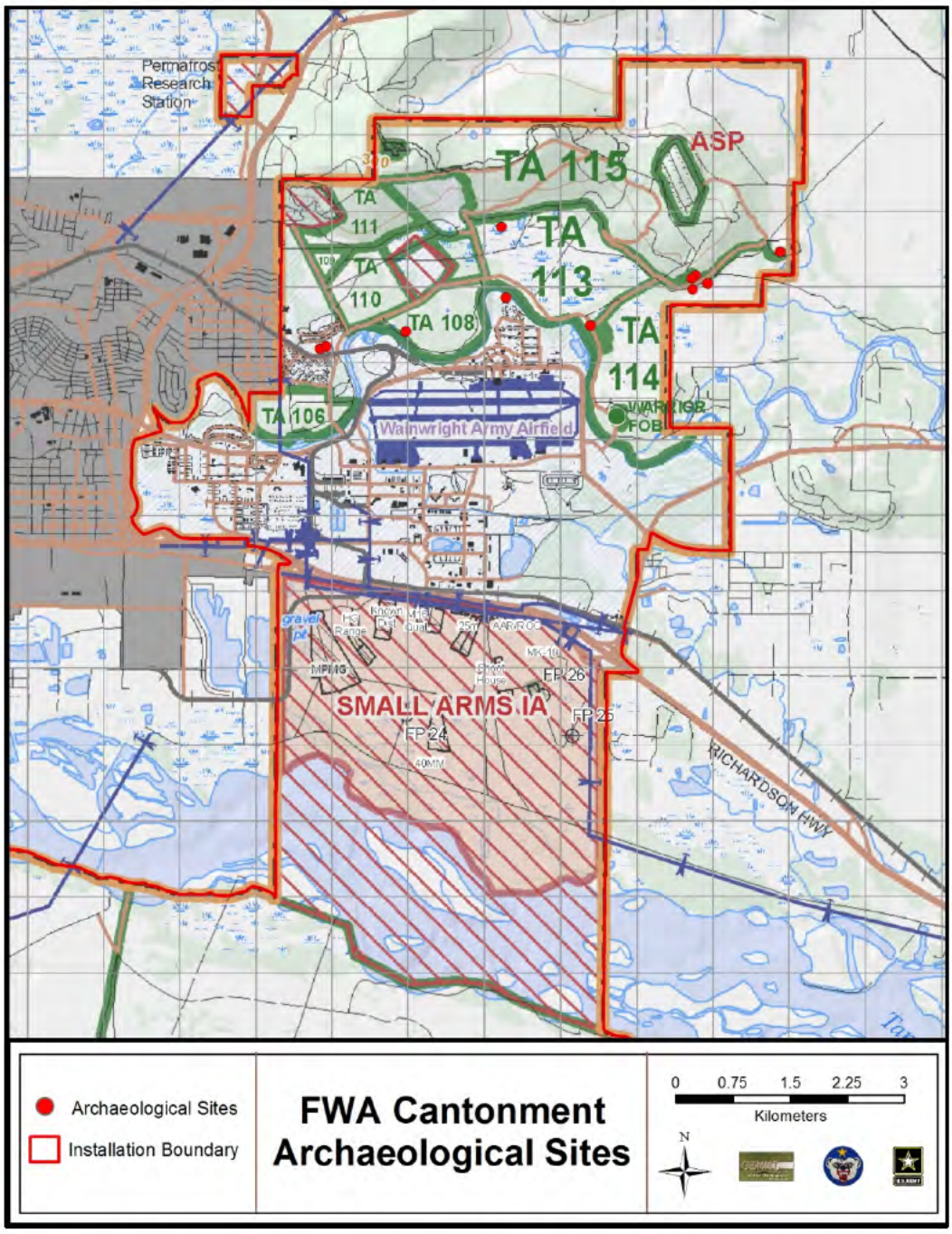


Figure 5. Cantonment archaeological site locations

Figure 6. Map of three historic features found in TA108

Figure 7. Feature 1, rectangular depression

Figure 8. Feature 2, unknown object

Figure 9. Feature 3, box structure

3.0 YUKON TRAINING AREA (YTA)

3.1 Introduction

FWA's YTA (Figure 10) consists of nearly 250,000 acres within the western portion of the Yukon-Tanana Uplands section of the Northern Plateau physiographic province of Interior Alaska (Wahrhaftig 1965). This area is characterized by round, even-topped, north-east to east trending ridges that rise roughly 150 to 450 m above adjacent valley floors to an elevation of 450-915 masl (meters above sea level). Bedrock is primarily composed of Precambrian Birch Creek schist, with few areas of granite and quartz diorite. Most of YTA is covered by a thin (1-200 cm) mantle of micaceous aeolian silt (loess) derived from outwash plains south of the Tanana River (Muhs and Budahn 2006). Soils are typically well-drained brown silt loam associated with poorly-drained silt loams in depressions and drainages (Natural Cooperative Soil Survey 1999).

YTA has four vegetation types: moist tundra, treeless bogs, open low-growing spruce forests, and closed spruce-hardwood forests. The white spruce-paper birch forest of Interior Alaska is often called the boreal forest or taiga. Vegetation types of Interior Alaska form a mosaic and reflect fire history, slope and aspect, and presence or absence of permafrost (Viereck and Little 1972). Forests are dominant diverse ecosystems on YTA. Vegetation ranges from pure stands of spruce or hardwoods to spruce/hardwood mixtures.

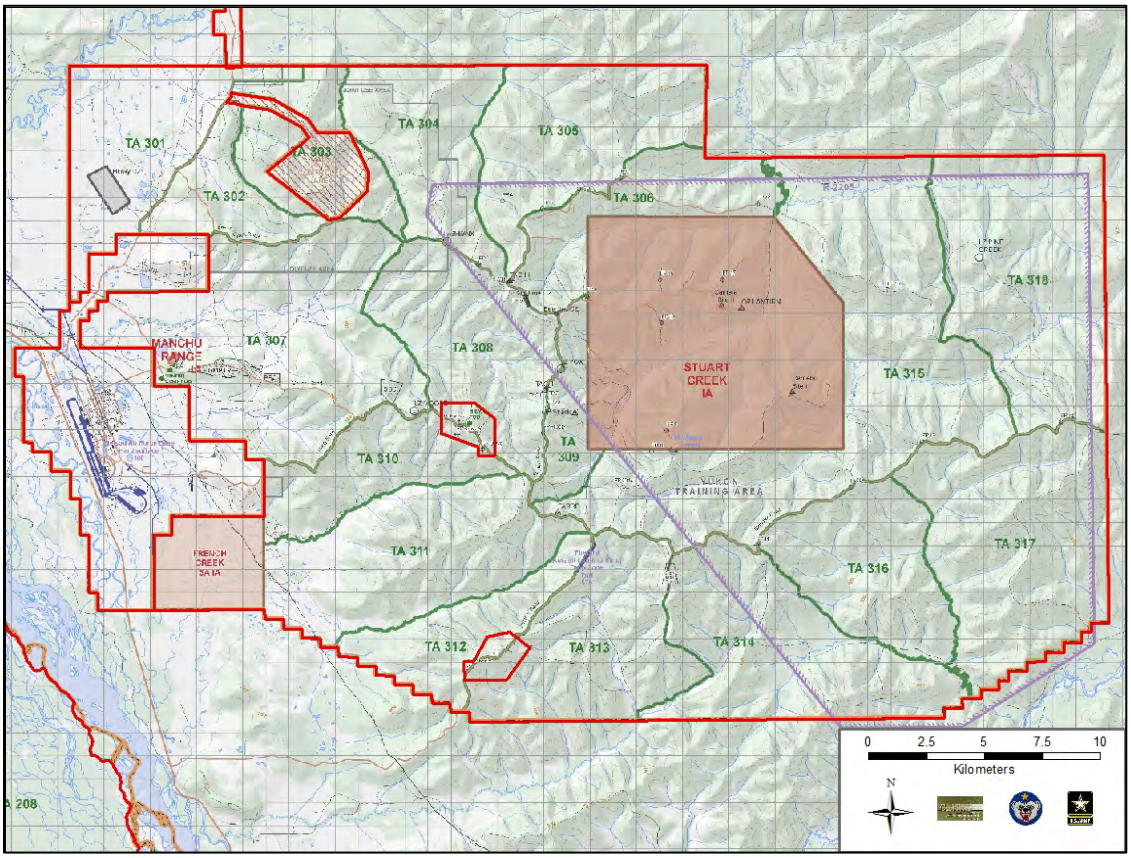


Figure 10. YTA

3.2 YTA Surveys

Archaeological surveys in YTA have generally been guided by Section 106 undertakings. Road and trail maintenance and expansion and the development of timber sales areas were the most common projects in 2010 and 2011. FWA's Range Control has developed areas of potential future development (called PDZs– potential development zones) that have also been surveyed for archaeological resources in advance of any actual undertakings (Figure 11). During the 2010 and 2011 field seasons, survey was completed on four PDZs. Pedestrian surveys at 20 m intervals covered 70 acres of the Johnson Road PDZ, 134 acres of the Grizzly High PDZ, 595 acres of Brigadier Road, and 74 acres of the Skyline Road PDZ. Skyline Road and 20 m on either side of the road has been surveyed in its entirety (Figure 12). In addition, 1 km blocks to the east of Skyline Road were completed in 2006 (Figure 12). Much of Brigadier Road had been previously surveyed, but the firing points and higher potential areas along the road bed were re-examined in 2010. Complete survey coverage of PDZs will help to streamline future military activities in these areas.

The next survey efforts for PDZs will take place during the 2012 field season. Much of the Transmitter Road area is scheduled for survey (Figure 11) and DOEs are planned for all archaeological sites adjacent to the road beds or firing points in YTA (Figure 13).

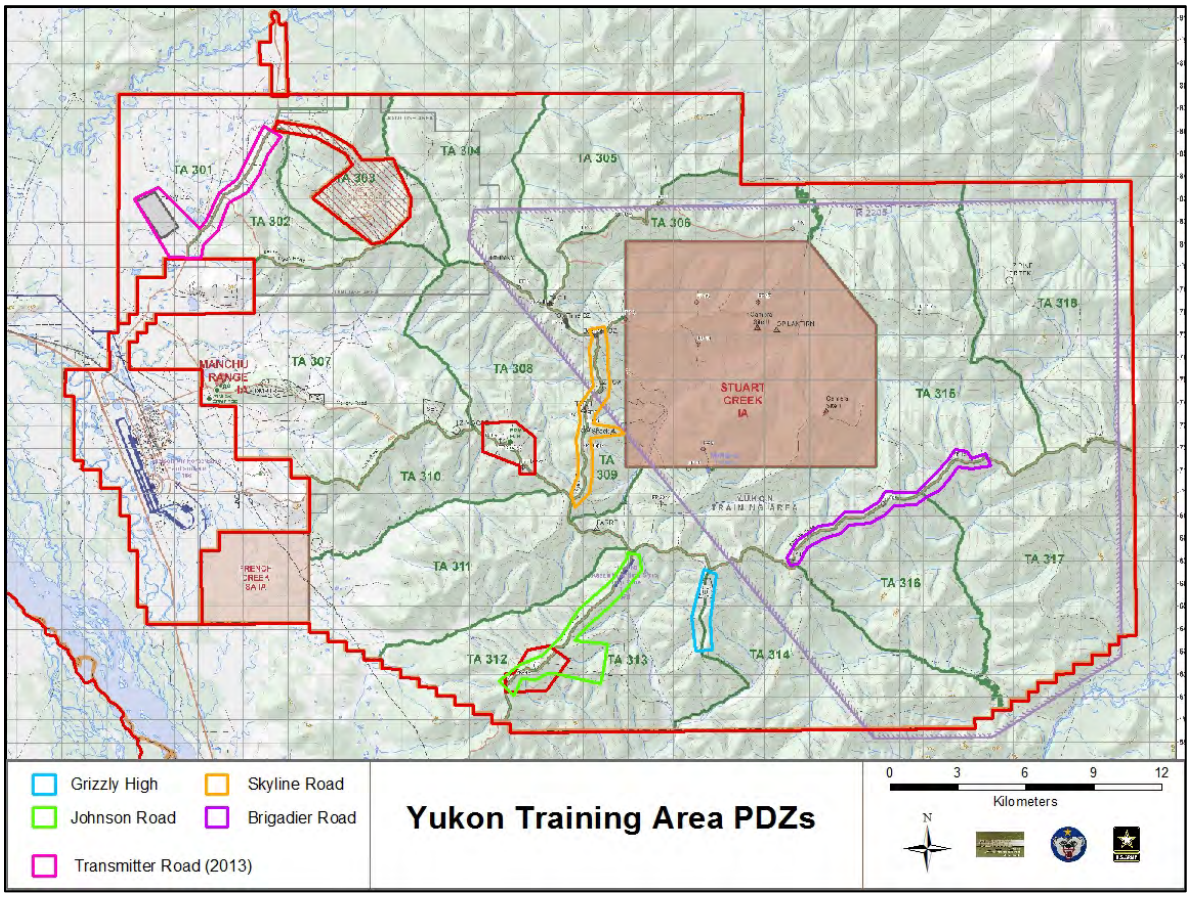


Figure 11. YTA potential development zones

Survey areas for Section 106 undertakings in 2010 and 2011 included North Beaver Creek Road (SHPO letter 5/3/11), Beaver Creek Road to LZ Lynx (SHPO letter 11/2/11), McMahon Trench and Firing Point 2014 (SHPO letter 1/14/10), the borrow pit area at the intersection of Quarry and Skyline roads (SHPO letter 8/30/11), and timber sales areas along Quarry Road, Johnson Road, and Transmitter Road (SHPO letters 8/30/11 and 11/2/11).

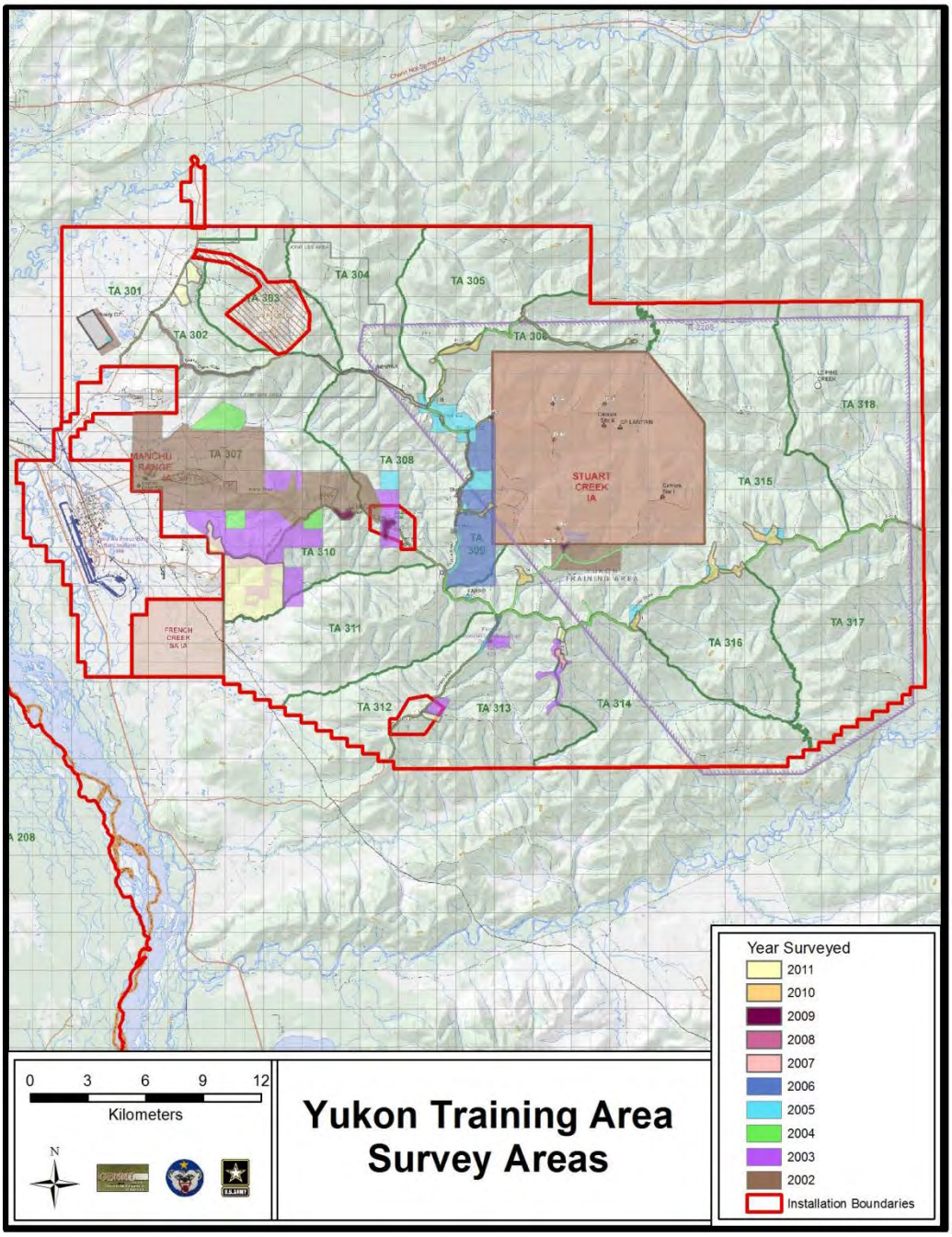


Figure 12. YTA survey areas by year

3.3 YTA Sites

Twenty archaeological sites are known from YTA (Table 2, Figure 13). The vast majority (19) are prehistoric lithic scatters. Ten of these sites have been determined ineligible for the NRHP and the other 10 have yet to be evaluated. Four of these sites were discovered during the 2010 and 2011 field seasons. During the summer of 2010, CEMML archaeologists discovered three sites (XBD-00368, XBD-00369, and XBD-00370) in the North Beaver Creek Road area of YTA (Figure 13). XBD-00368 and XBD-00369 are likely collapsed rockshelter sites that add to the growing body of evidence of this site type in YTA and the surrounding Yukon-Tanana upland (Figure 14). In 2010, one additional site was found at Firing Point Lynx on West Beaver Creek Road (XBD000369). XBD-00369 is an open-air site with lithic debitage buried in an intact stratigraphic sequence.

Table 2. Archaeological sites in YTA

#	AHRS #	Period	DOE Status
1	FAI-00157	Prehistoric	Ineligible
2	FAI-00165	Prehistoric	Not Evaluated
3	FAI-01556	Prehistoric	Not Evaluated
4	XBD-00093	Prehistoric	Ineligible
5	XBD-00094	Prehistoric	Ineligible
6	XBD-00095	Prehistoric	Ineligible
7	XBD-00103	Prehistoric	Ineligible
8	XBD-00104	Prehistoric	Ineligible
9	XBD-00105	Prehistoric	Not Evaluated
10	XBD-00111	Prehistoric	Not Evaluated
11	XBD-00162	Prehistoric	Not Evaluated
12	XBD-00186	Historic	Ineligible
13	XBD-00260	Prehistoric	Ineligible
14	XBD-00264	Prehistoric	Ineligible
15	XBD-00266	Prehistoric	Ineligible
16	XBD-00364	Prehistoric	Not Evaluated
17	XBD-00368	Prehistoric	Not Evaluated
18	XBD-00369	Prehistoric	Not Evaluated
19	XBD-00370	Prehistoric	Not Evaluated
20	XBD-00387	Prehistoric	Not Evaluated

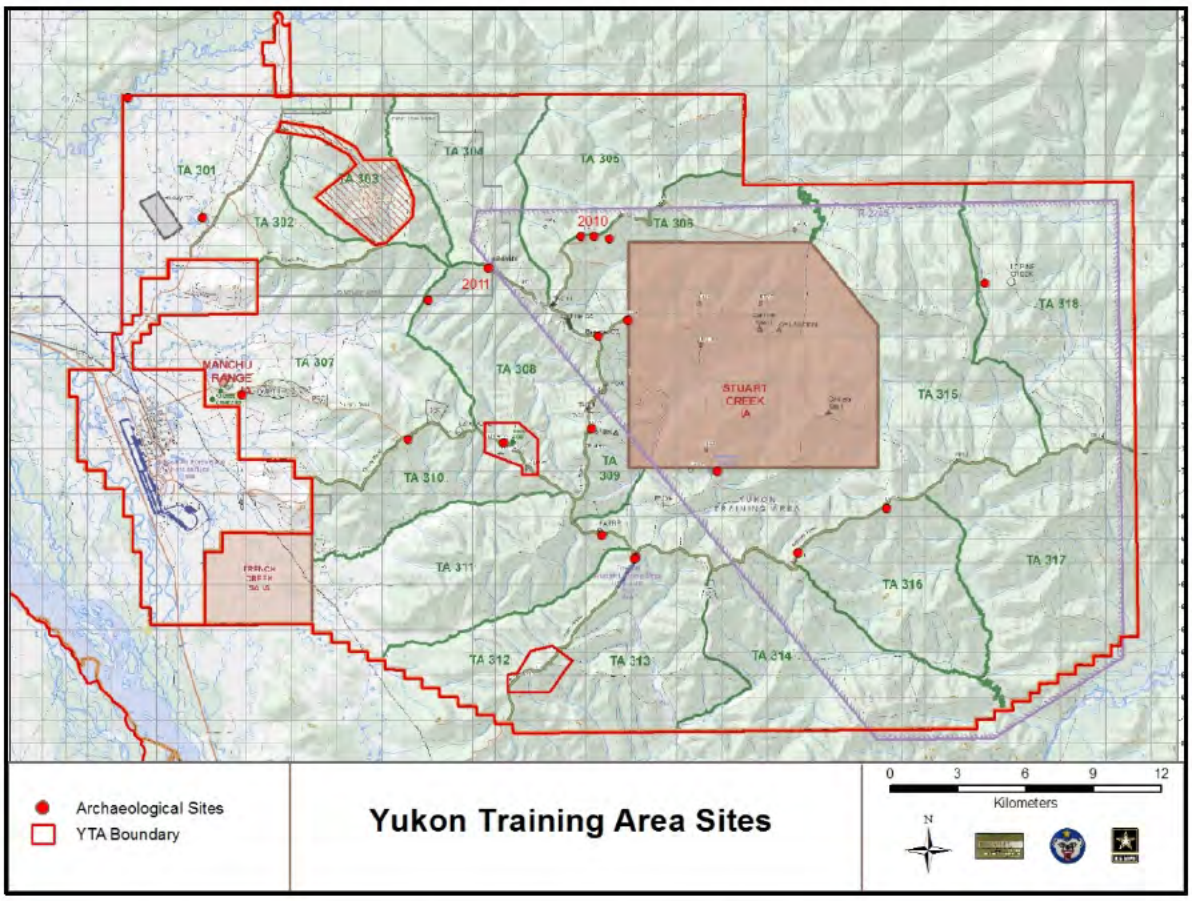


Figure 13. Location of sites within YTA

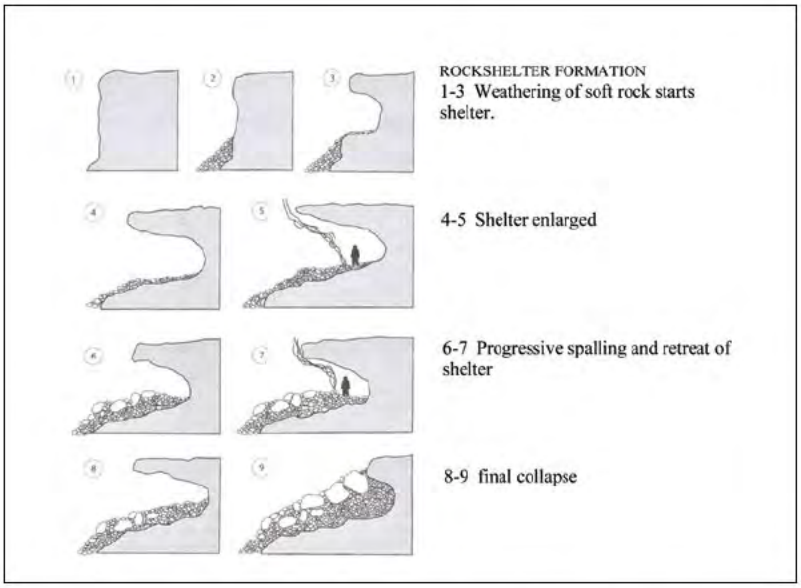


Figure 14. Geologic evolution of rockshelters

3.3.1 2010 Archaeological Sites

XBD-00368 *(From previous 106 letter- SHPO concurrence 5/3/11)*
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XBD-00368 is located near the southern base of a large hill on the north side of North Beaver Creek Road, at UTM coordinates [redacted] (Figure 15, 16). Site elevation is 663 masl. The general site area is approximately two meters above North Beaver Creek Road (Figure 17). The site boundaries are fairly restricted by an abandoned two-track 2-3 m northeast of the site, push piles 3-5 m west and southwest of the site, and North Beaver Creek Road, 4 m south of the site datum. North of the site, the terrain begins to climb at a 20-30° slope to the crest of the hill, approximately 50 m above the site. South of North Beaver Creek Road, the terrain drops sharply (25-35°) to the valley below. The nearest water source is a branch of Moose Creek, approximately 2.5 km south of the site. A branch of Hunts Creek is located approximately 2.5 km north of the site. The location is south-facing with a limited viewshed due to topography and vegetation.

The ecosystem is characterized by upland moist mixed needleleaf/broadleaf forest. Site vegetation includes spruce, birch, aspen, alder, willow, low scrub, mosses, and lichen. Surface exposure was generally 0-5%, higher in disturbed areas (push piles, etc.) in the vicinity.

The site is situated at the base a schist/quartz rock outcrop that rises approximately two meters above the surrounding ground surface (Figure 17). It is possible, if not likely, that the site represents the remains of a collapsed rockshelter that evolved in a scenario similar to that illustrated in Figure 14.

Site XBD-00368 was identified through subsurface testing. Cultural material was recovered from one of two test pits, which yielded a single dark gray (5Y 4/1) chert broken flake (UA2010-239), size class 10-20 mm at 25-35 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silts containing a high concentration of schist pebbles, gravels, cobbles, and flagstones, at least 50 cm thick, overlying decomposing schist bedrock extending to at least 80 cm BS (Figure 18, Figure 19).

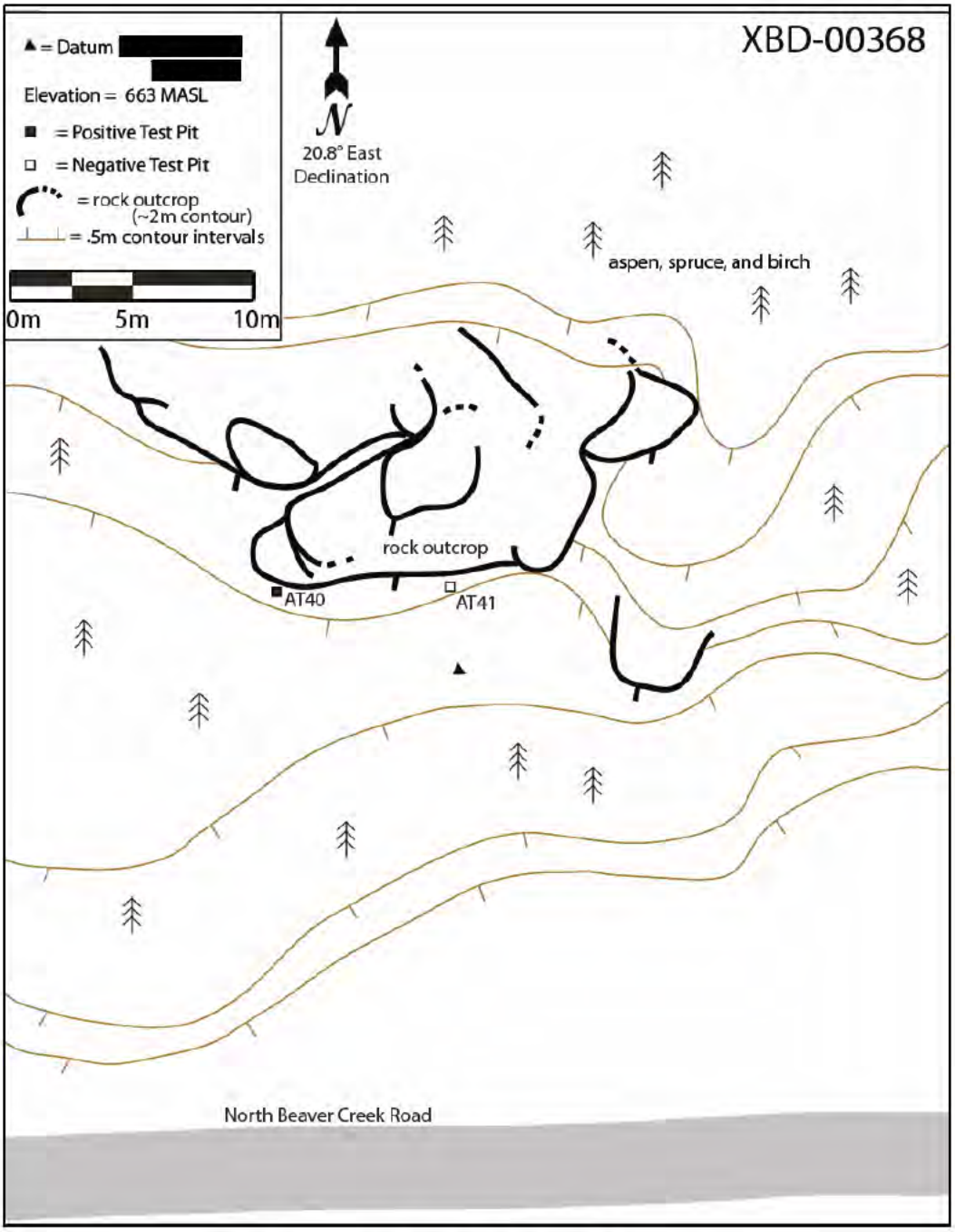


Figure 15. XBD-00368 sketch map

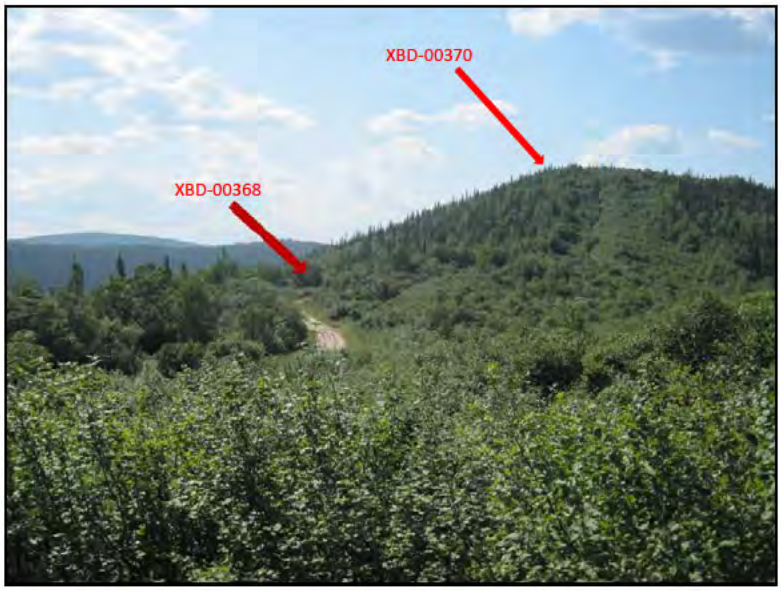


Figure 16. XBD-00368 overview (view to southwest)

Figure 17. XBD-00368 overview (view to north)

Figure 18. XBD-00368 test pit stratigraphy

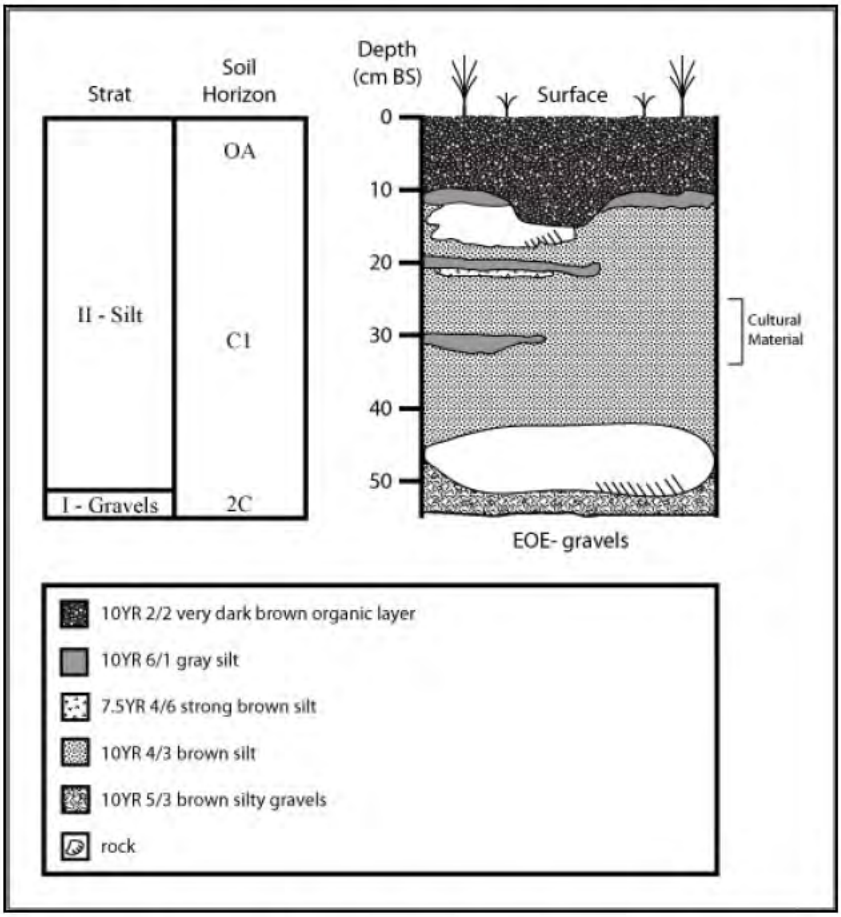


Figure 19. XBD-00368 stratigraphy

XBD-00369
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XBD-00369 is located on the southern slope of Brigadier Road North in YTA. UTM coordinates are [redacted]. Site elevation is 755 masl. The site is situated on a narrow knoll, which has steep (25°) slopes to the south and west and remains fairly level (8-10°) to the north and east (Figure 20, Figure 21). Brigadier Road is approximately 150 m to the north of XBD-00369. The site is estimated at approximately 20 m east–west and 10 m north–south. The nearest water source is an unnamed drainage creek 1 km to the west, which is not visible from the site.

The location would offer approximately a 180° view; however, vegetation in the form of upland moist mixed broadleaf/needleleaf forest obscures the view. The vegetation is comprised of spruce, birch, willow, lichen, and moss. The vegetation surrounding the estimated site area is denser than the vegetation covering the immediate site area and is primarily black spruce and moss. No surface exposure exists due to lichen and moss cover.

Site XBD-00369 was identified through subsurface testing. Two 50 cm x 50 cm test pits were excavated, one of which contained cultural material. One translucent white and black (5Y 8/1 with 2.5/N) 10-20 mm broken chert flake (UA2010-240) was collected at 30-40 cm BS.

Site stratigraphy consists of aeolian silts 19-39 cm thick unconformably overlying aeolian silts/decaying schist bedrock (Figure 22, Figure 23).

Figure 20. XBD-00369 overview (view to northeast)

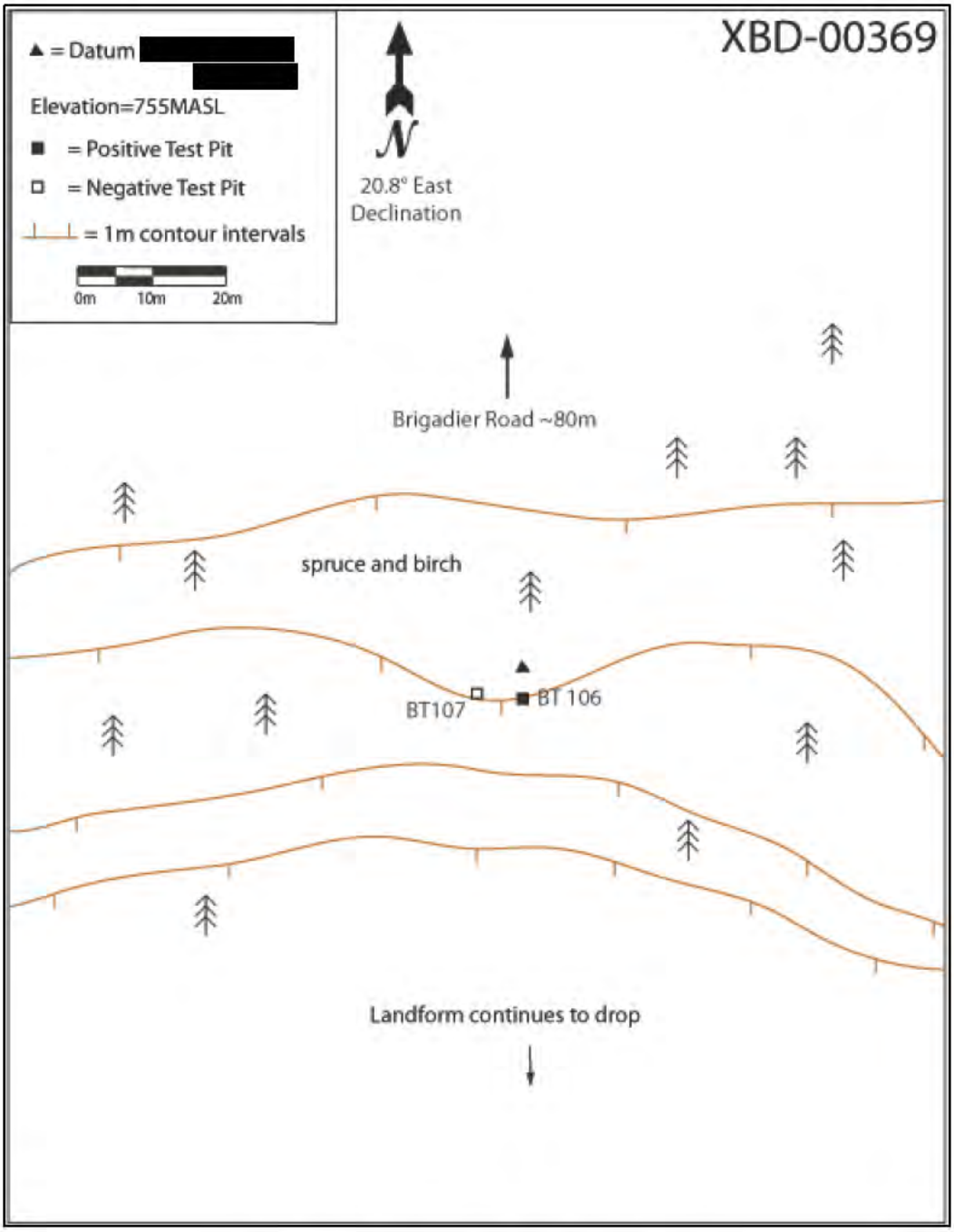


Figure 21. XBD-00369 sketch map

Figure 22. XBD-00369 test pit stratigraphy

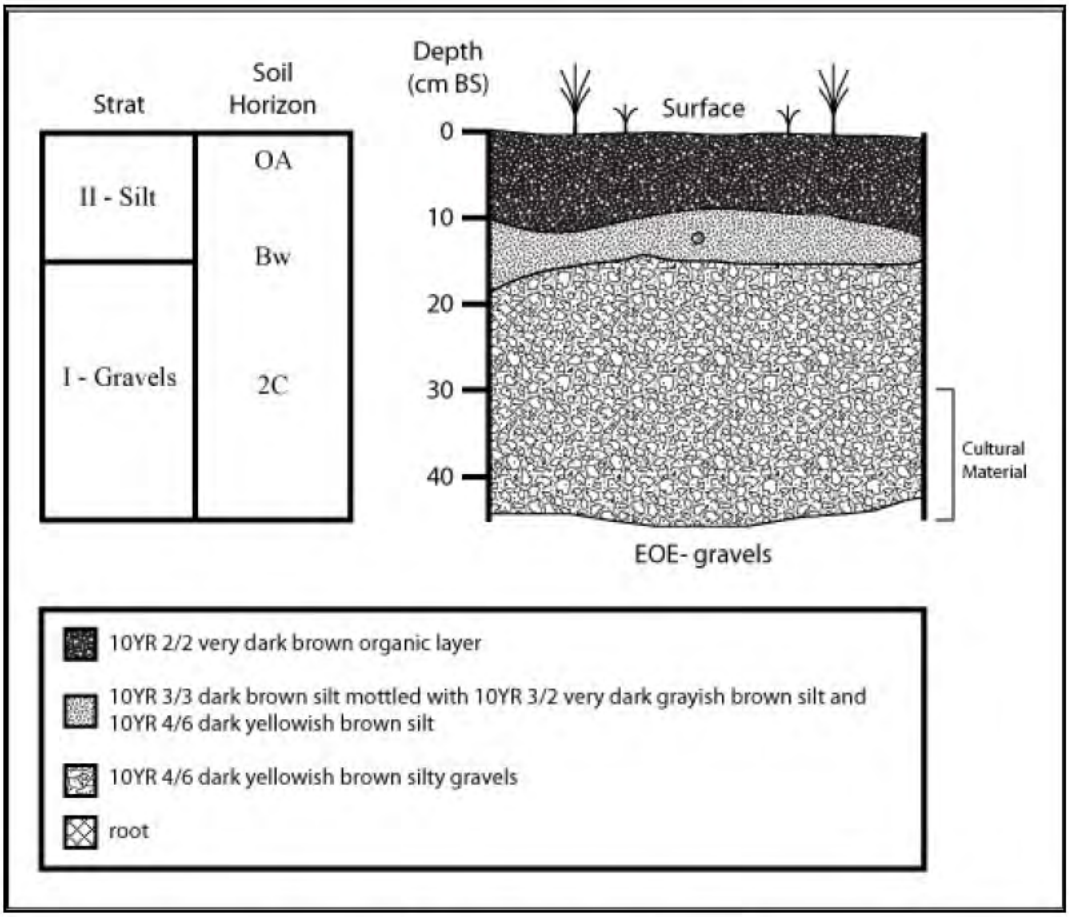


Figure 23. XBD-00369 stratigraphy

XBD-00370 *(From previous 106 letter- SHPO concurrence 5/3/11)*
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XBD-00370 is located near the crest of a large hill north of North Beaver Creek Road at UTM coordinates [redacted]. Site elevation is 712 masl. The site is situated at the base of a schist/quartz rock outcrop near the western crest terminus, 15 m south of a gravel two-track that splits off North Beaver Creek Road and bisects the hill west-east (Figure 24, Figure 25). The site occupies a fairly level bench in surrounding terrain that slopes sharply (15-35°) down to North Beaver Creek Road. North of the site, the terrain climbs briefly to the crest of the hill before dropping down to the Hunts Creek drainage at a 20-35° slope. Hunts Creek is approximately 1 km east of the site, is seasonally wet, and is the closest source of water. The site location provides a good viewshed to the south, despite being partially obstructed by trees.

The ecosystem is characterized by upland moist mixed needleleaf/broadleaf forest. Site vegetation includes spruce, birch, aspen, alder, willow, low scrub, and a dense moss and lichen ground cover. Surface exposure is 0%.

Site XBD-00370 was identified through subsurface testing. Cultural material was recovered from one of two 50 cm x 50 cm test pits, which yielded a single black (2.5/N) chert broken flake (UA2010-241), size class 5-7.5 mm at 0-10 cm BS. No tools were recovered from the site.

The site is situated at the base of a schist/quartz rock outcrop that rises approximately two meters above the surrounding ground surface (Figure 26). It is possible, if not likely, that the site represents the remains of a collapsed rockshelter that evolved in a scenario similar to that illustrated in Figure 14.

Site stratigraphy consists of aeolian silts containing a high concentration of schist pebbles, gravels, cobbles, and flagstones at least 50 cm thick overlying poorly sorted gravels extending to at least 80 cm BS (Figure 27, Figure 28).

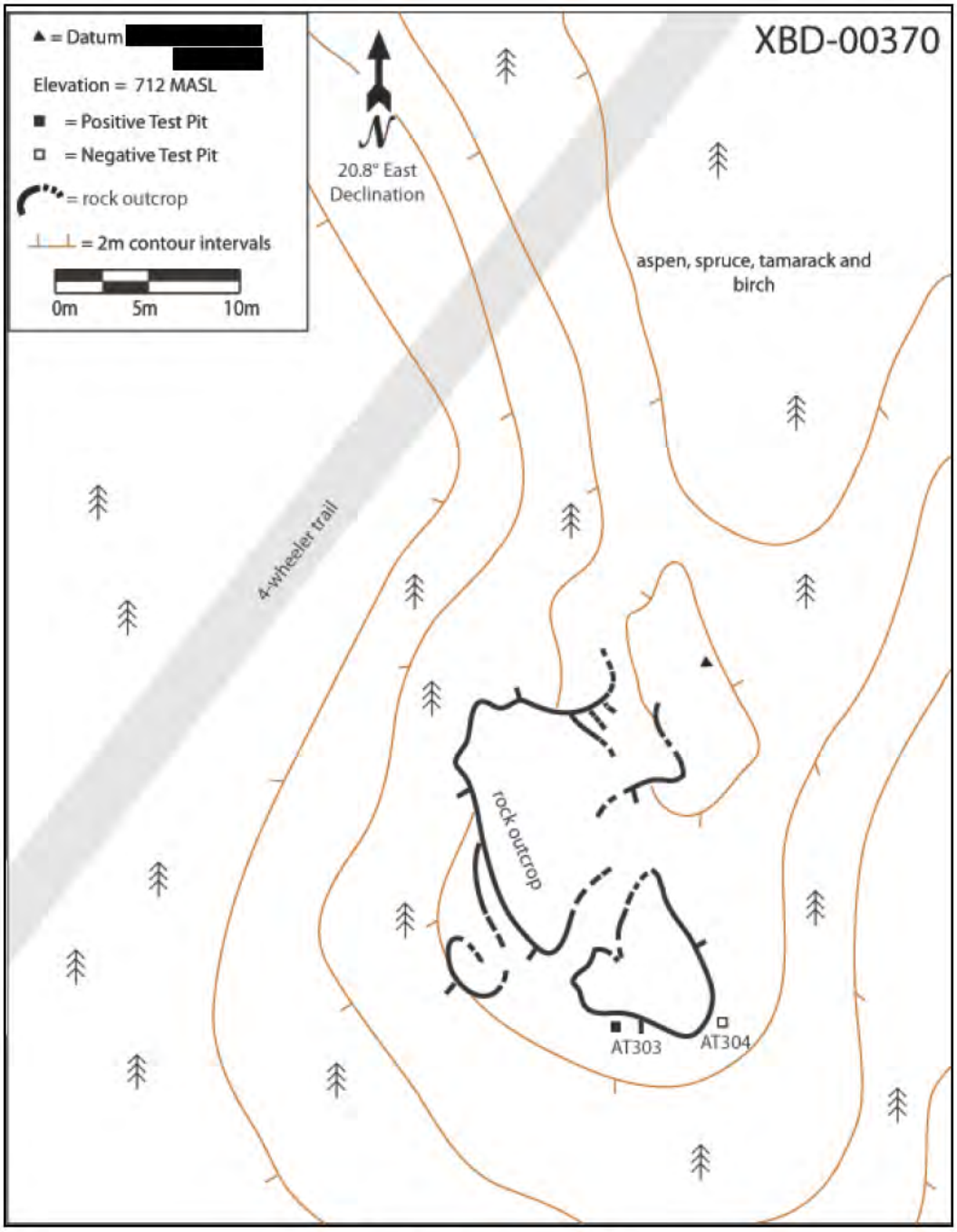


Figure 24. XBD-00370 sketch map

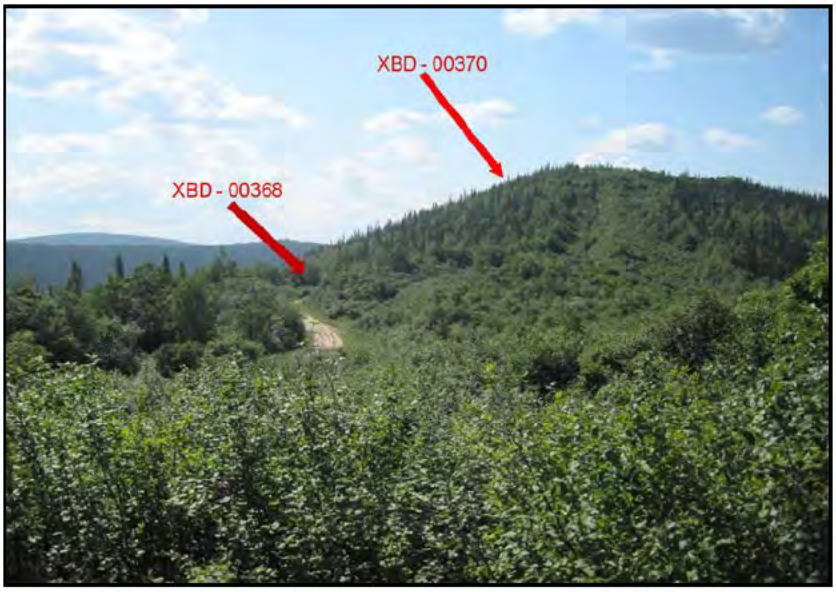


Figure 25. XBD-00370 overview (view to southwest)

Figure 26. XBD-00370 overview (view to north)

Figure 27. XBD-00370 test pit stratigraphy

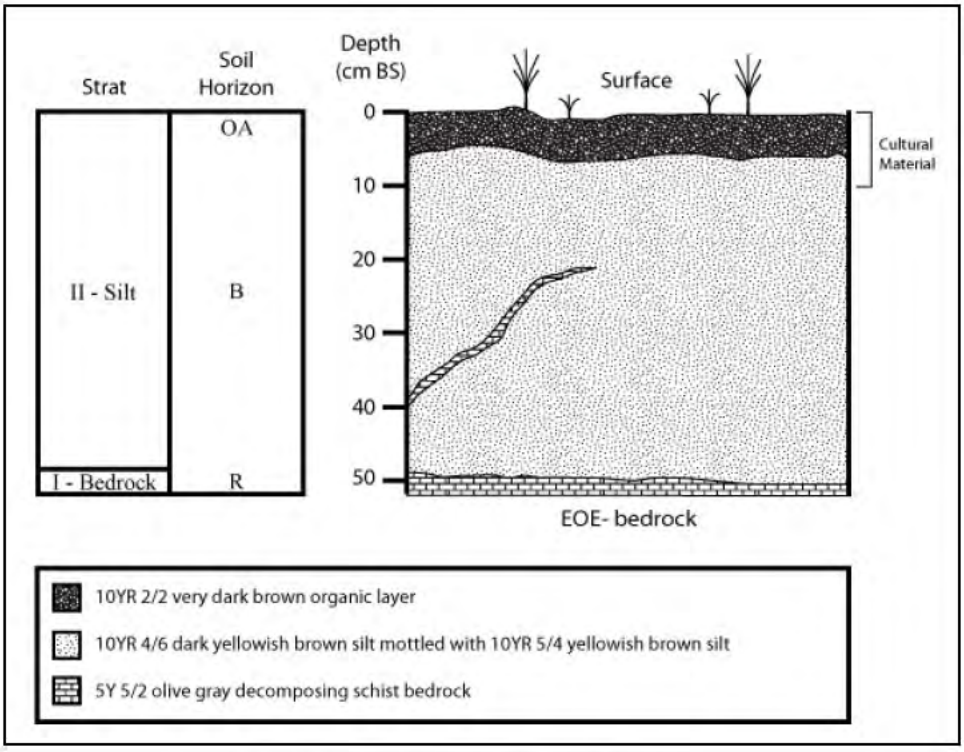


Figure 28. XBD-00370 stratigraphy

3.3.2 2011 Archaeological Sites

XBD-00387 *(From previous 106 letter- SHPO concurrence 11/22/11)*
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

This site is located on a 2 m high rise north of Beaver Creek Road (Figure 29).

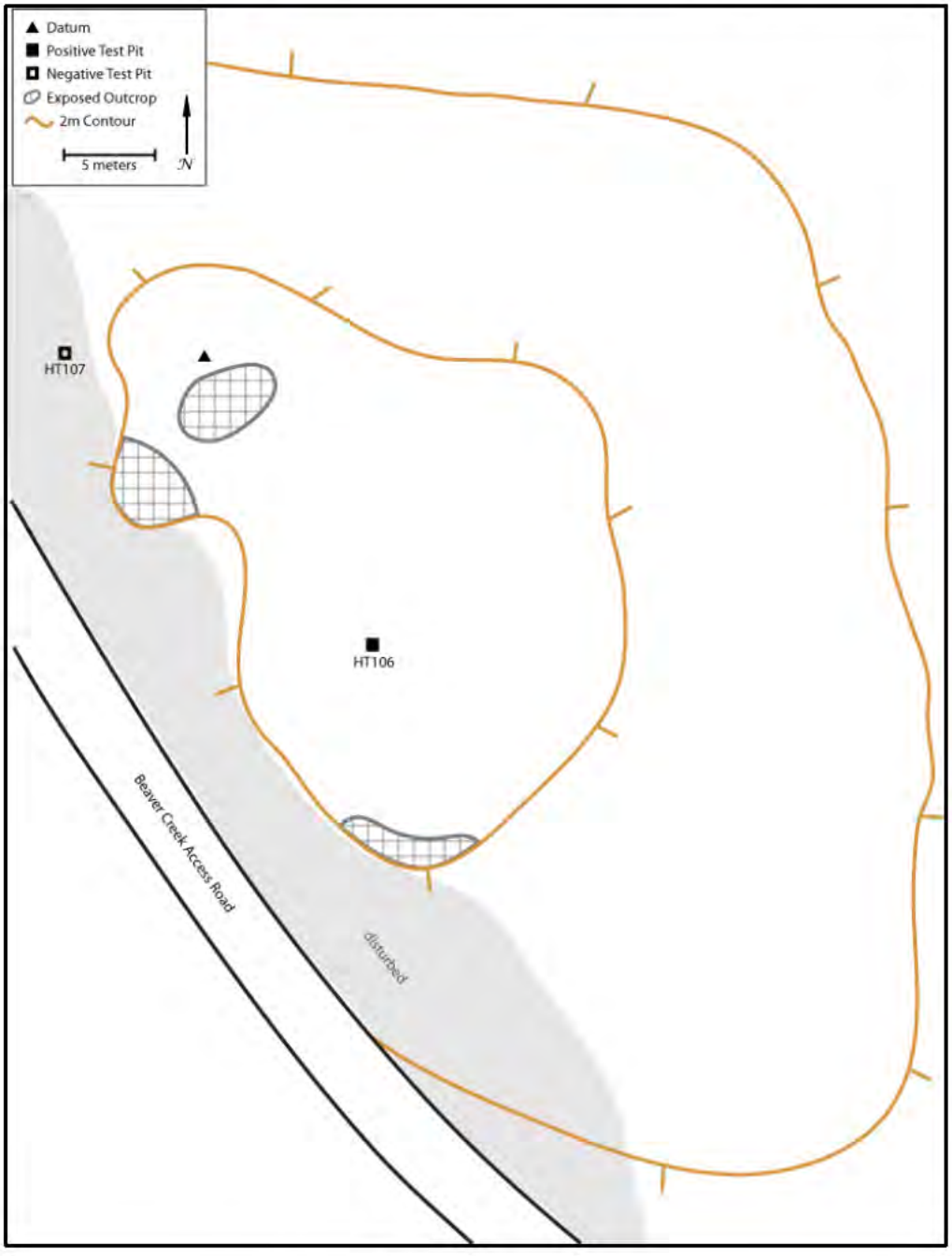


Figure 29. Map of XBD-00387

UTM coordinates are [redacted]. Spruce and aspen trees, alder shrubs, and willow shrubs composed the main site vegetation (Figure 30). The viewshed from the test pit location was 360°. Loess lies above shallow schist bedrock (test pit excavated to 33 cm below surface) (Figure 31, Figure 32). Five chert flakes (UA2011-433) were found in the root mat (0-7 cm below surface) of a single test pit adjacent to a modern fire pit. The flakes were made from black and gray chert and all consistent with late stage bifacial thinning and bifacial pressure flaking. Other test pits on the same landform were negative for cultural resources and showed significant ground disturbance (Figure 33).

Figure 30. Vegetation in APE and view from site at LZ Lynx

Figure 31. Test pit HT106 where chert flakes were found

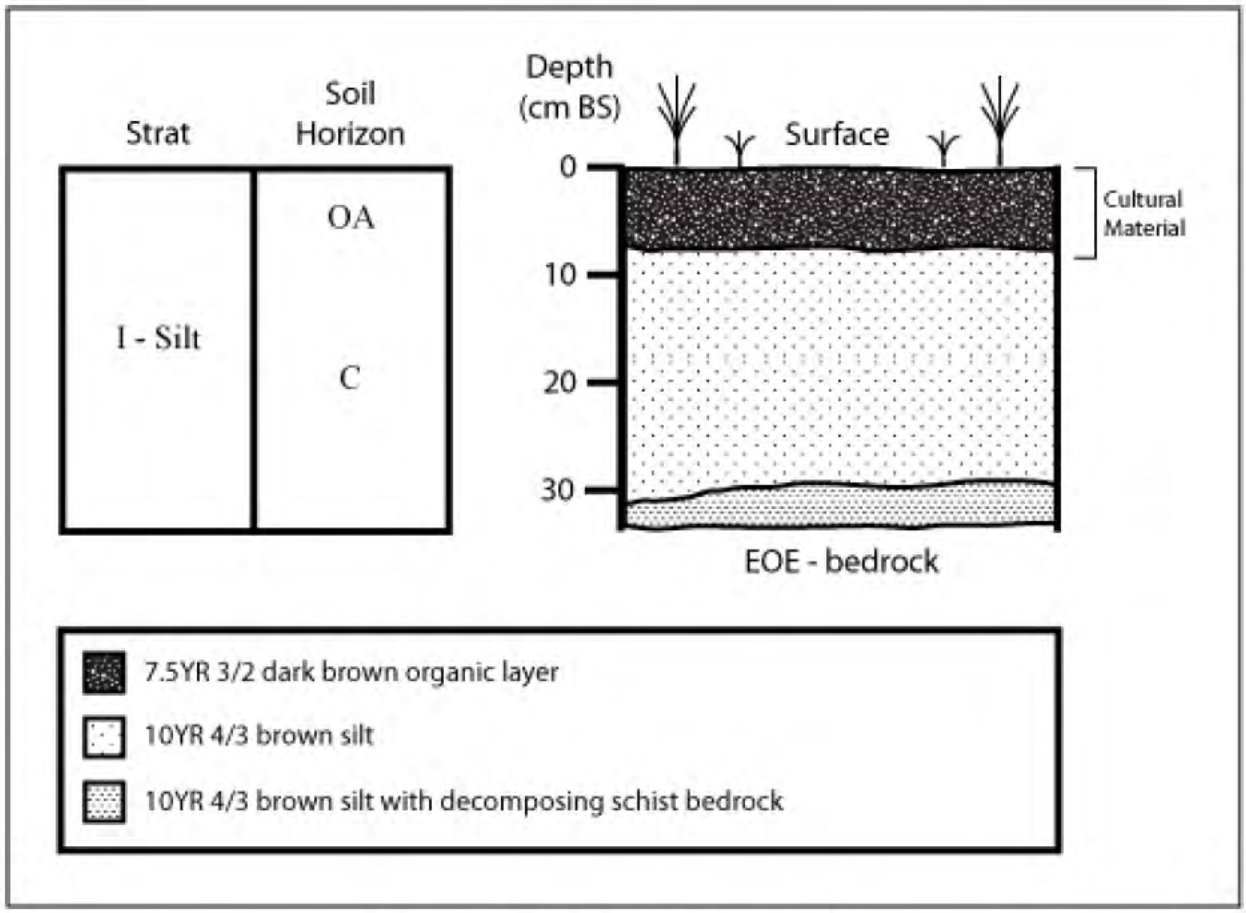


Figure 32. XBD-00387 stratigraphy

Figure 33. Disturbed ground at FP 5

4.0 TANANA FLATS TRAINING AREA (TFTA)

4.1 Introduction

TFTA encompasses 654,000 acres, located to the south and west of the Tanana River (Figure 34). Extending 32 miles south of Fairbanks, it occupies the majority of the land between the Wood and Tanana rivers. The area is located in the Tanana-Kuskokwim lowlands (Wahrhaftig 1965) and is characterized by several topographically high features on the landscape: Clear Creek Buttes; Wood River Buttes; and the highlands surrounding Blair Lakes, which contain the highest point in the flats– a hill that rises to an elevation of 426 masl. The flats were formed by the northern migration of the Tanana River in response to uplift and orogeny associated with the Alaska Range to the south. The majority of the area is composed of recent deposits and alluvium. Higher landforms such as Wood River Buttes, Clear Creek Buttes, and the Blair Lakes hills are bedrock knolls capped by a thin mantle of aeolian silt (loess).

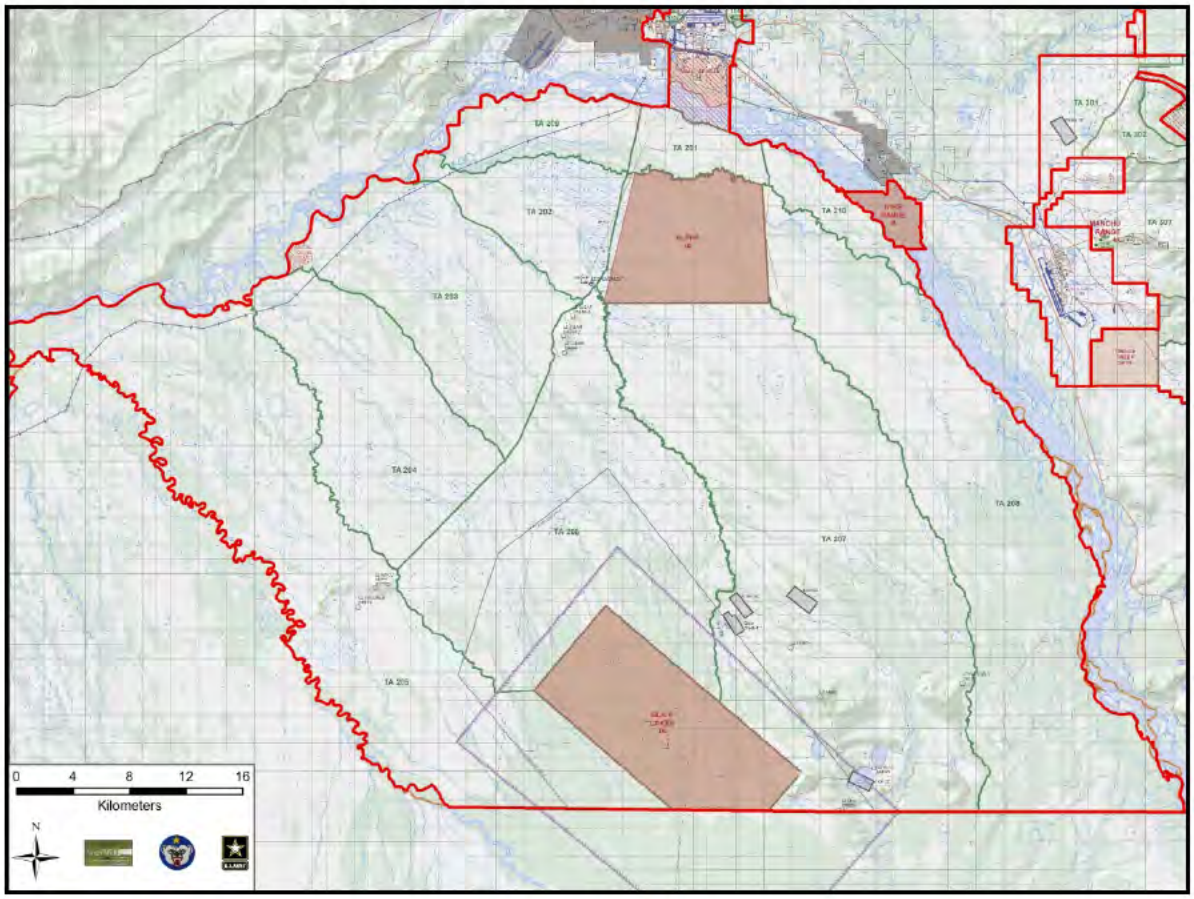


Figure 34. TFTA

TFTA encompasses a large area and a wide array of physiographic features. The area contains three main vegetation types: treeless bogs, open low-growing spruce forests, and closed spruce-hardwood forests. Forests in the Tanana Flats include black spruce in low, poorly-drained areas and spruce and mixed hardwood (poplar, birch, and aspen) in upland areas. Lowlands are mainly covered with herbaceous marsh and shrub wetlands.

4.2 TFTA Surveys

Although portions of TFTA have been surveyed for archaeological sites since the 1970s (Clear Creek Buttes, Wood River Buttes, Blair Lakes), systematic surveys in the training area didn't begin until 2008 (Figure 35).

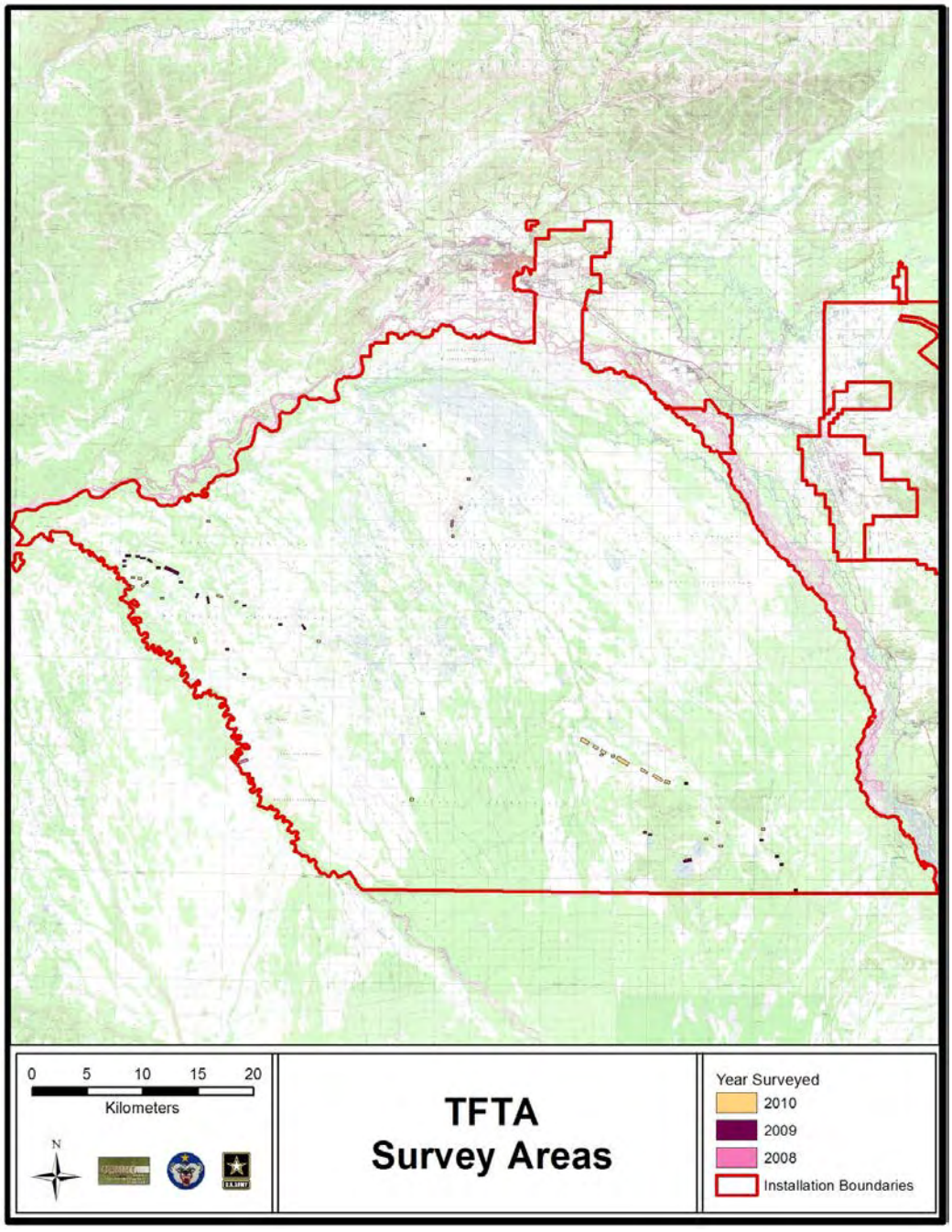


Figure 35. TFTA survey areas by year

During the summer of 2010, Colorado State University's CEMML archaeologists continued a judgmental survey from 2008 and 2009 (Gaines 2009; Gaines et al. 2010) of three main

physiographic regions of TFTA: (1) a vegetated dune field east of the Wood River, (2) low bedrock knolls north of Clear Creek, and (3) an alluvial terrace and uplands in the vicinity of Blair Lakes (Figure 36). No surveys of TFTA took place during the 2011 field season.

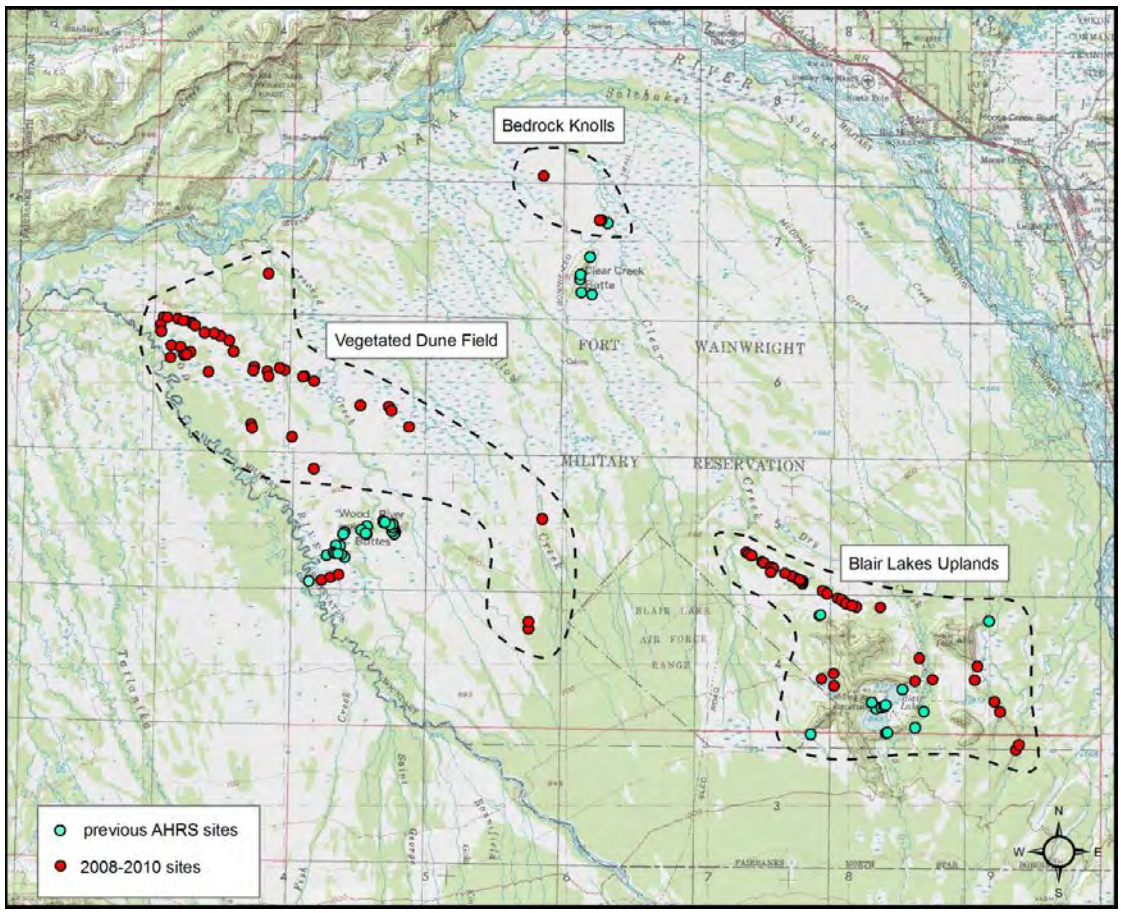


Figure 36. TFTA physiographic regions surveyed during 2010

4.2.1 Blair Lakes Vicinity: Alluvial Terrace Edge and Uplands

The Blair Lakes and surrounding hills are located in the southeastern portion of TFTA, immediately west of the Tanana River. The Blair Lakes consist of Blair Lake North (266 acres), Blair Lake South (557 acres), Pork Chop Lake (118 acres), and Anne Lake (255 acres). Lake formation occurred during the late Pleistocene as a result either of rapid aggradation of Dry Creek, tectonic faulting, or a combination of the two. Elevated beach ridges on the east shore of Blair Lake North indicate higher lake levels during the terminal Pleistocene or early Holocene and, on the basis of their elevation, indicate that the two lakes would have been connected during this time (Dixon et al. 1980).

Select areas in the Blair Lakes vicinity were targeted for archaeological survey during 2010 as part of long-range planning related to possible range developments in TFTA. Fieldwork was conducted by a team of seven CEMML archaeologists under the supervision of Edmund Gaines, M.A., R.P.A. during July and August 2010. Field methods consisted of rotary wing and fixed

wing aerial reconnaissance to select high-probability locations for ground survey and testing. Ground survey consisted of visual surface inspection, and subsurface testing consisted of 50 x 50 cm shovel tests screened through ¼" mesh.

The 2010 survey area can be roughly divided into two general landforms: (1) an alluvial terrace, and (2) the Dry Creek drainage and adjacent knoll. A prominent terrace edge punctuates the landscape north and east of the Blair Lakes. It is comprised of alluvial deposits (Péwé et al. 1966) that create a roughly north/south to southeast/northwest trending bench that rises 15-25 m above the abandoned Tanana River floodplain alluvium below. An unnamed hill northeast of Blair Lakes punctuates the terrace edge. At this higher landform, the terrace turns and extends at a roughly NW direction for roughly 15 km before it gradually subsides to the flats below. The eastern portion of the terrace was targeted as high-probability area for ground survey during 2009 identifying four prehistoric archaeological sites (Gaines et al. 2010). These efforts continued north and northwest during 2010. Survey efforts focused on 38 high-potential areas along the northwestern terrace edge, resulting in the identification of 33 prehistoric archaeological sites. All but two of these were found through subsurface testing. Additional efforts were focused on the Dry Creek alluvial system and an adjacent low hill, just north of Blair Lake North. Occupying an area of roughly 31 km², the hills and ridges surrounding Blair Lake are composed of metamorphic rocks, primarily Birch Creek schist. These uplands rise from the surrounding outwash terrace and contain the highest point in TFTA – an unnamed hill that rises to an elevation of 426 masl. Dry Creek is an ephemeral stream with several low gravel terraces and low knobs overlooking the channel. The hill north of Blair Lake South is composed of schist bedrock capped by a mantle of aeolian silt. Six high-probability areas were targeted for ground survey during 2010 in this area, resulting in the identification of three prehistoric archaeological sites.

4.2.2 Dune Field

The northwestern portion of TFTA contains a 45 km²/19,255-acre, discontinuous vegetated sand dune field that occupies a triangular area east of the lower Wood River, south of the Tanana River and north of the Wood River Buttes (Figure 37). Topographically, the dune field is dominated by a northeast-southwest trending linear dune complex that extends roughly 5 km, is 200-800 m in width, and rises as high as 45 m above the surrounding flats. This represents the most obvious dune feature and has received the most attention from the limited research in the area (e.g., Dixon et al. 1980: 215). This feature and a few of the larger dunes to the south and west appear on USGS geologic and topographic maps of the area (Péwé et al. 1966; Figure 38). Low-speed, low-elevation overflights of the area conducted by CEMML during 2009 and 2010 revealed the presence of several dozen additional linear, parabolic, and ovate sand dunes diffusely spread over a 40 km2/16,900 acre area to the south and west of the linear dune complex. In many places the dunes surround undrained depressions, old ponds, and relict stream channels.

Geologically, the dune field remains relatively unstudied, and there is much to learn in terms of dune morphology, timing of and paleoenvironmental factors influencing dune formation and stabilization. The existing literature (e.g., Péwé 1975; Péwé et al. 1966; Hopkins 1982; Lea and Waythomas 1990) tends to associate this dune field with the extensive Nenana Dune field located more than 35 km to the west (Collins 1985). The dunes were probably formed from

sands derived from the Tanana River during full to late glacial times. Some researchers (e.g., Lea and Waythomas 1990) hypothesize late glacial to early Holocene dune formation from existing full-glacial sand sheets throughout much of central Alaska. Given large areas of reworked sand deposits on the margins of the dunes in Tanana Flats, such a scenario might account for dune formation here. Final dune formation likely occurred during the latest Pleistocene, with subsequent early Holocene dune stabilization and vegetation. This notion is supported by an inferred terminal Pleistocene increase in wind intensity in central Alaska during the Younger Dryas (Bigelow et al. 1990).

Lithologically the dunes consist of very fine to medium aeolian sand, and reworked organic silty sand. Both deposits are capped by aeolian silt from 1 to 3.5 m thick. Vegetation in the dunes is dominated by broadleaf and mixed broadleaf-needleleaf forests associated with better drained soils. The dunes are surrounded by abandoned floodplain alluvium on the north and west, swamp deposits on the east and Holocene-aged outwash in the south and central portions.

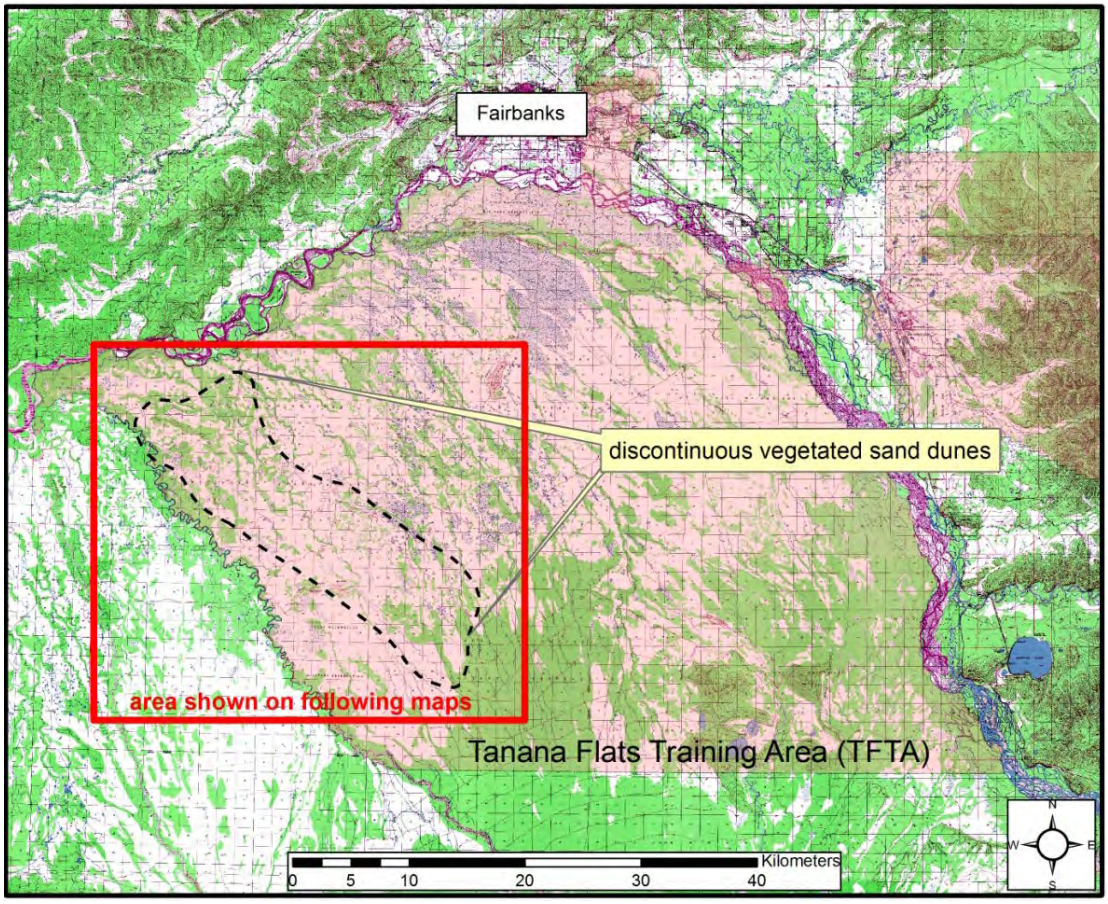


Figure 37. Location of stabilized dune field in TFTA

The dunes were subject to archaeological survey during 1979 (Dixon et al. 1980: 33, 48, 217-218). No sites were identified during at the time, despite the fact that over 495 shovel test pits were excavated. The recent dune field survey was initiated in 2009 by CEMML, with 25 prehistoric sites found in the initial survey.

The dune field was targeted for archaeological survey during 2010 as part of a long range planning and feasibility assessment related to potential range development in TFTA. Fieldwork was conducted by a team of five CEMML archaeologists under the direct supervision of Edmund Gaines, M.A., R.P.A. during August 2010 using the same field methods described above.

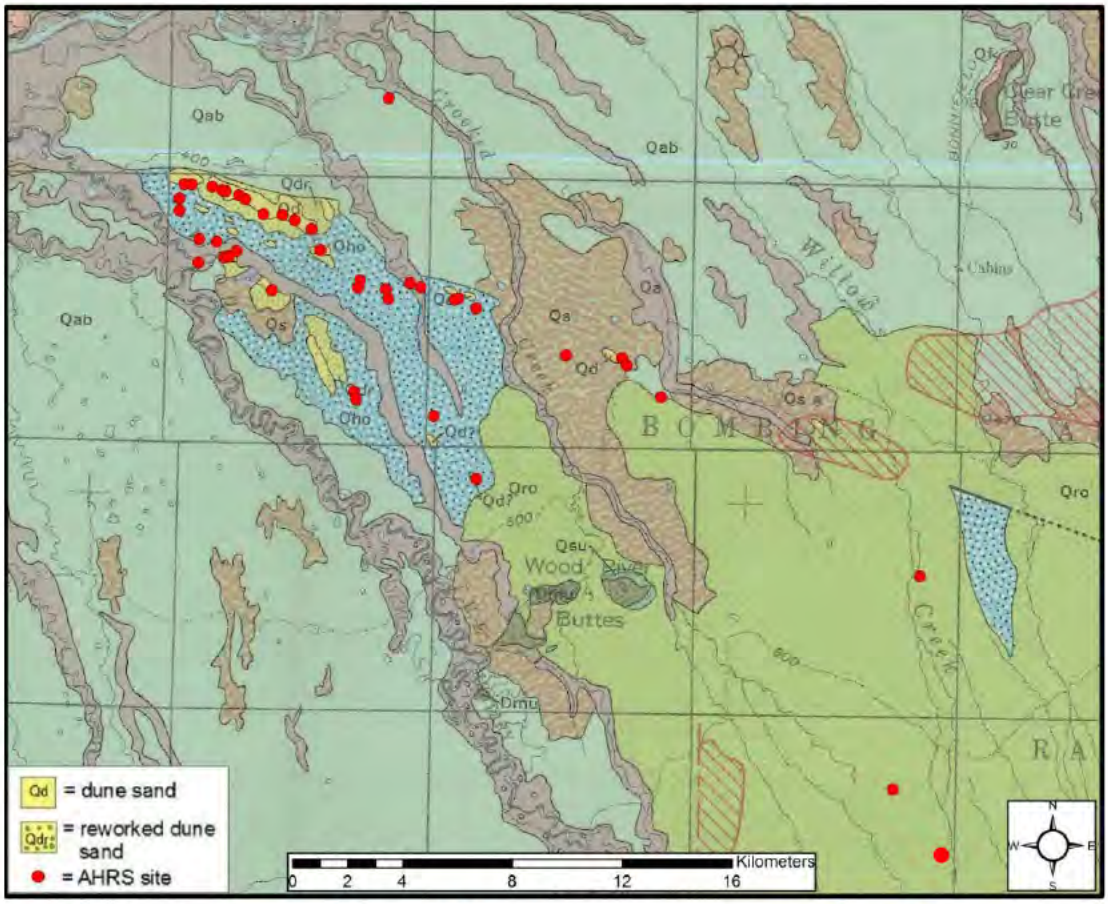


Figure 38. Geologic map of dune field and AHRS sites (adapted from Péwé et al. 1966)

4.2.3 Bedrock Knolls

The northern portion of TFTA is punctuated by a series of bedrock knolls. These are composed of Precambrian Birch Creek schist bedrock and covered with a thin (50-150 cm) mantle of loess. The larger knolls, such as Clear Creek Buttes and Wood River Buttes, rise to an elevation of 300 masl. These features are readily identified on a USGS topographic map. One of the initial archaeological surveys of TFTA conducted by Dixon et al. (1980) targeted these higher, readily identifiable landforms, resulting in the identification of five sites on Clear Creek Buttes (Clear Creak Buttes Archaeological District) and 25 sites on Wood River Buttes (Wood River Buttes Archaeological District). There are, however, several lower, smaller knolls to the north of Clear Creek Butte. Due to their low elevation, most of these do not appear on USGS topographic maps but are identifiable by low-speed, low-elevation flyover. One of these low landforms, Salmon Loaf Butte, is home to one site identified in 2001 and two sites identified in 2008 (Gaines et al. 2009). During 2010, an additional low knoll was selected for ground survey. The knoll was

initially identified as a high-probability landform during snow machine reconnaissance in January 2010. This survey identified one archaeological site.

4.3 TFTA Sites

TFTA is currently home to 140 known prehistoric sites and 7 historic sites (Table 3, Figure 39).

Table 3. Archaeological sites in TFTA

#	AHRS #	Period	DOE Status	#	AHRS #	Period	DOE Status
1	FAI-0044	Prehistoric	Eligible	**76**	FAI-2012	Prehistoric	Not evaluated
2	FAI-0045	Prehistoric	Eligible	**77**	FAI-2013	Prehistoric	Not evaluated
3	FAI-0046	Historic	Eligible	**78**	FAI-2014	Prehistoric	Not evaluated
4	FAI-0047	Prehistoric	Not evaluated	**79**	FAI-2015	Prehistoric	Not evaluated
5	FAI-0048	Prehistoric	Eligible	**80**	FAI-2016	Prehistoric	Not evaluated
6	FAI-0049	Prehistoric	Eligible	**81**	FAI-2018	Prehistoric	Not evaluated
7	FAI-0050	Prehistoric	Not evaluated	**82**	FAI-2019	Prehistoric	Not evaluated
8	FAI-0051	Prehistoric	Not evaluated	**83**	FAI-2020	Prehistoric	Not evaluated
9	FAI-0052	Prehistoric	Not evaluated	**84**	FAI-2021	Prehistoric	Not evaluated
10	FAI-0053	Prehistoric	Not evaluated	**85**	FAI-2022	Prehistoric	Not evaluated
11	FAI-0054	Historic	Eligible	**86**	FAI-2023	Prehistoric	Not evaluated
12	FAI-0055	Prehistoric	Not evaluated	**87**	FAI-2024	Prehistoric	Not evaluated
13	FAI-0056	Prehistoric	Not evaluated	**88**	FAI-2025	Prehistoric	Not evaluated
14	FAI-0057	Historic	Not evaluated	**89**	FAI-2026	Prehistoric	Not evaluated
15	FAI-0058	Historic	Not evaluated	**90**	FAI-2027	Prehistoric	Not evaluated
16	FAI-0059	Prehistoric	Not evaluated	**91**	FAI-2028	Prehistoric	Not evaluated
17	FAI-0060	Prehistoric	Not evaluated	**92**	FAI-2029	Prehistoric	Not evaluated
18	FAI-0086	Prehistoric	Not evaluated	**93**	FAI-2030	Prehistoric	Not evaluated
19	FAI-0087	Prehistoric	Not evaluated	**94**	FAI-2031	Prehistoric	Not evaluated
20	FAI-0088	Prehistoric	Not evaluated	**95**	FAI-2032	Prehistoric	Not evaluated
21	FAI-0170	Prehistoric	Not evaluated	**96**	FAI-2033	Prehistoric	Not evaluated
22	FAI-0171	Prehistoric	Not evaluated	**97**	FAI-2043	Prehistoric	DOE pending
23	FAI-0172	Prehistoric	Not evaluated	**98**	FAI-2044	Prehistoric	Not evaluated
24	FAI-0173	Prehistoric	Not evaluated	**99**	FAI-2045	Prehistoric	Not evaluated
25	FAI-0174	Prehistoric	Not evaluated	**100**	FAI-2046	Prehistoric	Not evaluated
26	FAI-0175	Prehistoric	Not evaluated	**101**	FAI-2047	Prehistoric	DOE pending
27	FAI-0176	Prehistoric	Not evaluated	**102**	FAI-2048	Prehistoric	Not evaluated
28	FAI-0177	Prehistoric	Not evaluated	**103**	FAI-2049	Prehistoric	Not evaluated
29	FAI-0178	Prehistoric	Not evaluated	**104**	FAI-2050	Prehistoric	Not evaluated
30	FAI-0179	Prehistoric	Not evaluated	**105**	FAI-2051	Prehistoric	Not evaluated
31	FAI-0180	Prehistoric	Not evaluated	**106**	FAI-2052	Prehistoric	Not evaluated
32	FAI-0181	Prehistoric	Not evaluated	**107**	FAI-2053	Prehistoric	Not evaluated
33	FAI-0182	Prehistoric	Not evaluated	**108**	FAI-2054	Prehistoric	Not evaluated
34	FAI-0183	Prehistoric	Not evaluated	**109**	FAI-2055	Prehistoric	Not evaluated
35	FAI-0184	Prehistoric	Not evaluated	**110**	FAI-2056	Prehistoric	Not evaluated
36	FAI-0185	Prehistoric	Not evaluated	**111**	FAI-2057	Prehistoric	Not evaluated

37	FAI-0186	Prehistoric	Not evaluated	**112**	FAI-2058	Prehistoric	Not evaluated
38	FAI-0187	Prehistoric	Not evaluated	**113**	FAI-2059	Prehistoric	Not evaluated
39	FAI-0188	Prehistoric	Not evaluated	**114**	FAI-2060	Prehistoric	DOE pending
40	FAI-0189	Prehistoric	Not evaluated	**115**	FAI-2061	Prehistoric	Not evaluated
41	FAI-0190	Prehistoric	Not evaluated	**116**	FAI-2062	Prehistoric	Not evaluated
42	FAI-0191	Prehistoric	Not evaluated	**117**	FAI-2063	Prehistoric	DOE pending
43	FAI-0192	Prehistoric	Not evaluated	**118**	FAI-2064	Prehistoric	DOE pending
44	FAI-0193	Prehistoric	Not evaluated	**119**	FAI-2065	Prehistoric	Not evaluated
45	FAI-0194	Prehistoric	Eligible	**123**	FAI-2066	Prehistoric	DOE pending
46	FAI-0195	Prehistoric	Eligible	**121**	FAI-2067	Prehistoric	Not evaluated
47	FAI-0196	Prehistoric	Eligible	**122**	FAI-2068	Prehistoric	Not evaluated
48	FAI-0197	Prehistoric	Eligible	**123**	FAI-2069	Prehistoric	Not evaluated
49	FAI-0198	Prehistoric	Eligible	**124**	FAI-2070	Prehistoric	Not evaluated
50	FAI-0243	Prehistoric	Not evaluated	**125**	FAI-2071	Prehistoric	Not evaluated
51	FAI-0335	Prehistoric	Eligible	**126**	FAI-2072	Prehistoric	Not evaluated
52	FAI-0336	Prehistoric	Eligible	**127**	FAI-2073	Prehistoric	DOE pending
53	FAI-0337	Prehistoric	Eligible	**128**	FAI-2074	Prehistoric	Not evaluated
54	FAI-0391	Historic	Not evaluated	**129**	FAI-2075	Prehistoric	Not evaluated
55	FAI-0423	Historic	Not evaluated	**130**	FAI-2076	Prehistoric	Not evaluated
56	FAI-1356	Prehistoric	Not evaluated	**131**	FAI-2077	Prehistoric	DOE pending
57	FAI-1357	Prehistoric	Not evaluated	**132**	FAI-2078	Prehistoric	Not evaluated
58	FAI-1607	Historic	Ineligible	**133**	FAI-2079	Prehistoric	Not evaluated
59	FAI-1885	Prehistoric	Not evaluated	**134**	FAI-2080	Prehistoric	Not evaluated
60	FAI-1886	Prehistoric	Not evaluated	**135**	FAI-2081	Prehistoric	Not evaluated
61	FAI-1887	Prehistoric	Not evaluated	**136**	FAI-2082	Prehistoric	Not evaluated
62	FAI-1888	Prehistoric	Not evaluated	**137**	FAI-2083	Prehistoric	Not evaluated
63	FAI-1889	Prehistoric	Not evaluated	**138**	FAI-2084	Prehistoric	Not evaluated
64	FAI-1998	Prehistoric	Not evaluated	**139**	FAI-2085	Prehistoric	Not evaluated
65	FAI-2001	Prehistoric	Not evaluated	**140**	FAI-2086	Prehistoric	Not evaluated
66	FAI-2002	Prehistoric	Not evaluated	**141**	FAI-2087	Prehistoric	Not evaluated
67	FAI-2003	Prehistoric	Not evaluated	**142**	FAI-2088	Prehistoric	Not evaluated
68	FAI-2004	Prehistoric	Not evaluated	**143**	FAI-2089	Prehistoric	Not evaluated
69	FAI-2005	Prehistoric	Not evaluated	**144**	FAI-2090	Prehistoric	Not evaluated
70	FAI-2006	Prehistoric	Not evaluated	**145**	FAI-2091	Prehistoric	Not evaluated
71	FAI-2007	Prehistoric	Not evaluated	**146**	FAI-2092	Prehistoric/H	Not evaluated
72	FAI-2008	Prehistoric	Not evaluated	**147**	FAI-2093	Prehistoric	Not evaluated
73	FAI-2009	Prehistoric	Not evaluated	**148**	FAI-2094	Prehistoric	Not evaluated
74	FAI-2010	Prehistoric	Not evaluated	**149**	FAI-2095	Prehistoric	Not evaluated
75	FAI-2011	Prehistoric	Not evaluated	**150**	FAI-2097	Prehistoric	Not evaluated

Three archaeological districts – Clear Creek Buttes Archaeological District (five sites on the crest of Clear Creek Buttes), Wood River Buttes Archaeological District (27 prehistoric sites located among the Wood River Buttes), and Blair Lakes Archaeological District (four prehistoric sites and two historic sites located on north shore of Blair Lake South) – are also located in this training area. Eleven sites are eligible for the NRHP, two are not eligible, and 134 have not yet been evaluated (Table 3). Fifty-four new sites were discovered in 2011. They are described below.

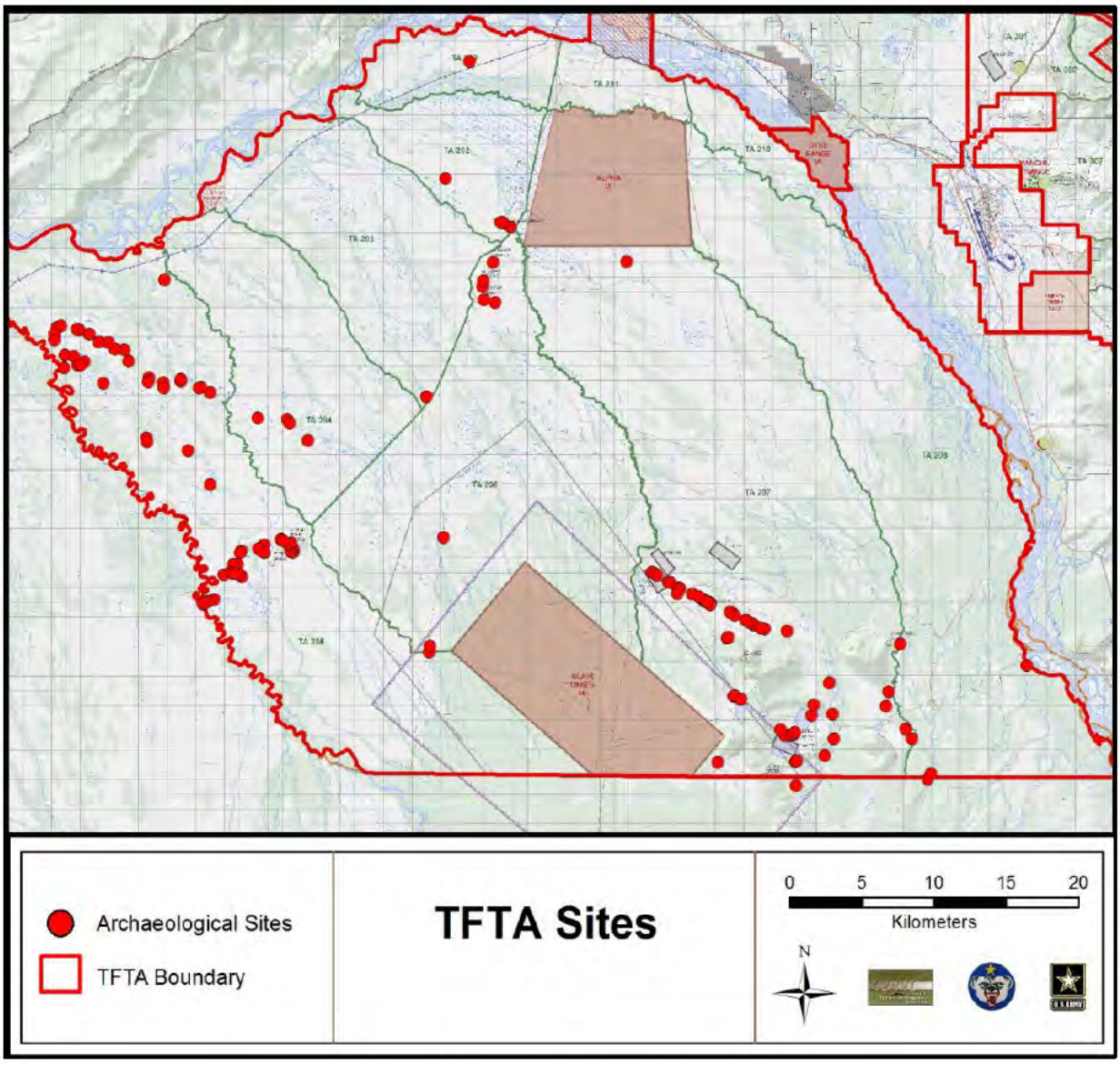


Figure 39. TFTA archaeological site locations

4.3.1 Alluvial Terrace Edge Sites

Thirty-six archaeological sites were found in 2010 along the alluvial terrace edge, Dry Creek, and the adjacent knolls (Figure 40). One of these sites, FAI-02043 was especially significant for its deep stratigraphy, multiple cultural components, and late Pleistocene radiocarbon dates. Test excavations at this site, as well as preliminary data for all other sites, are provided in this section.

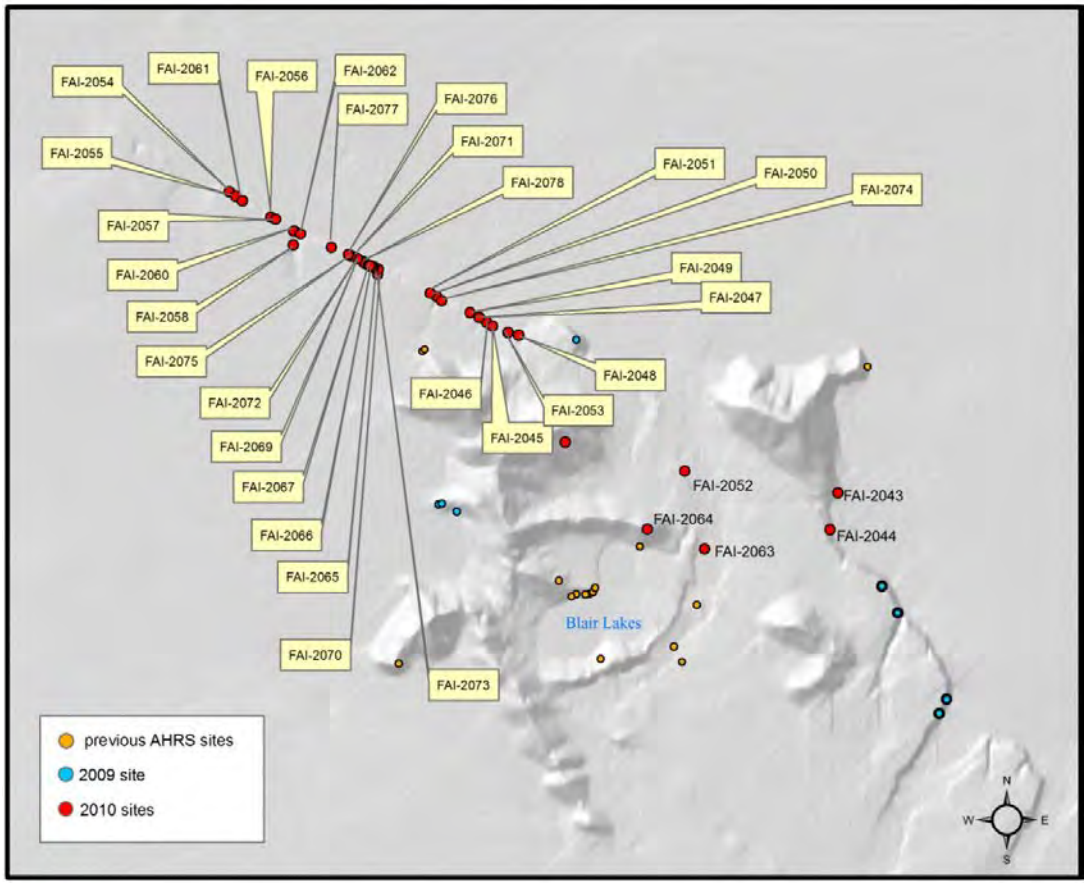


Figure 40. Locations of terrace edge sites discovered in 2009 and 2010

FAI-02043
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Eligible (See DOE form in Appendix 1)

Site FAI-02043 is located at the foot of a large bedrock knoll, roughly 7 km east of the Blair Lakes at UTM coordinates [redacted]. Site elevation is 260 masl. The site is located on a roughly 100-m-wide promontory that juts around 200 m to the east of prominent bedrock knoll where it interfaces with a north-south running terrace edge (Figure 41, Figure 42). Site slope is 0-3%. The east, north, and south sides slope at ~25%-35%, dropping 20-25 m to the flats below, while to the west and northwest, the landform gradually

rises up to the knoll above (Figure 43). The vantage point provides a commanding view to the east of the flats below, the Tanana River Valley, and Flag Hill. The ecosystem is characterized as mixed needleleaf-broadleaf forest with an understory of young birch, some alder, shrubs and forbs (Figure 44, Figure 45). There is little (5-10%) surface exposure on the site area; however, the slope to the east exhibits large bare patches over 50-60%.

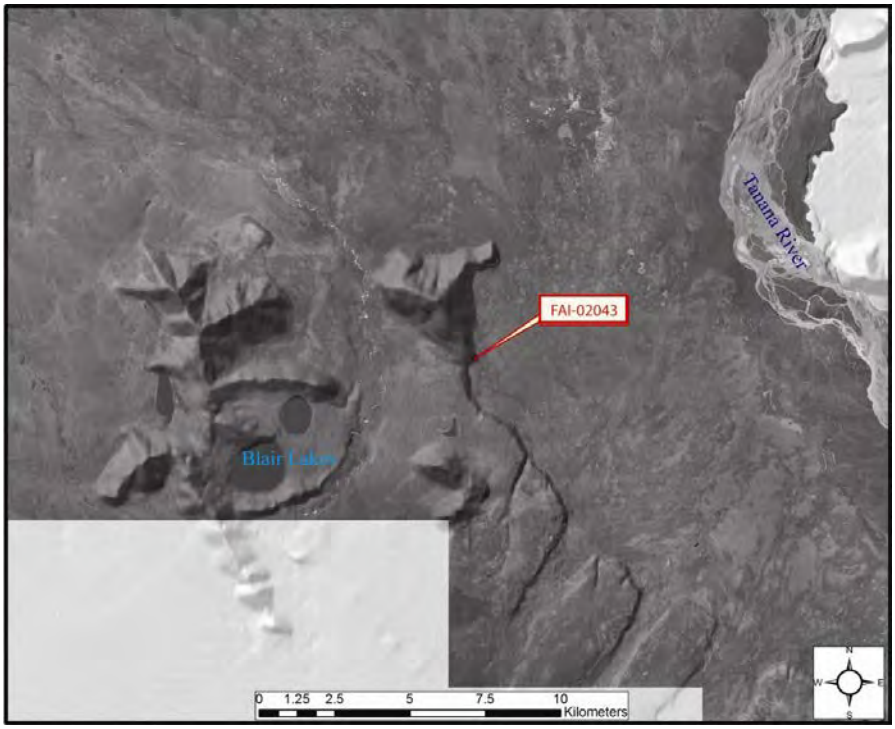


Figure 41. DEM of FAI-02043 location

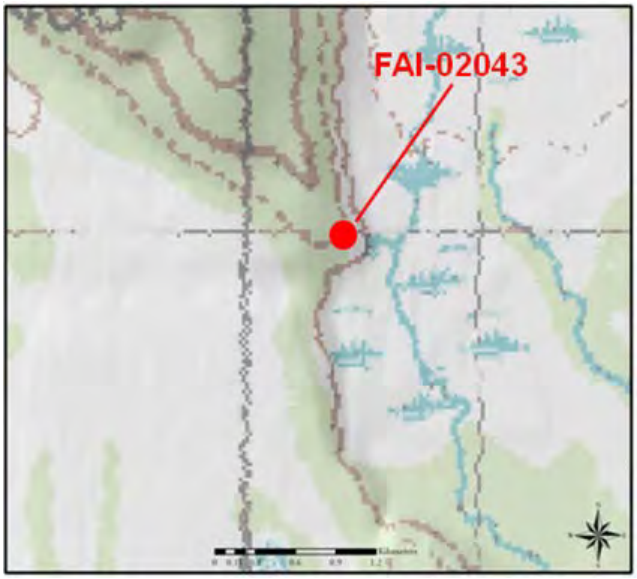


Figure 42. FAI-02043 landform

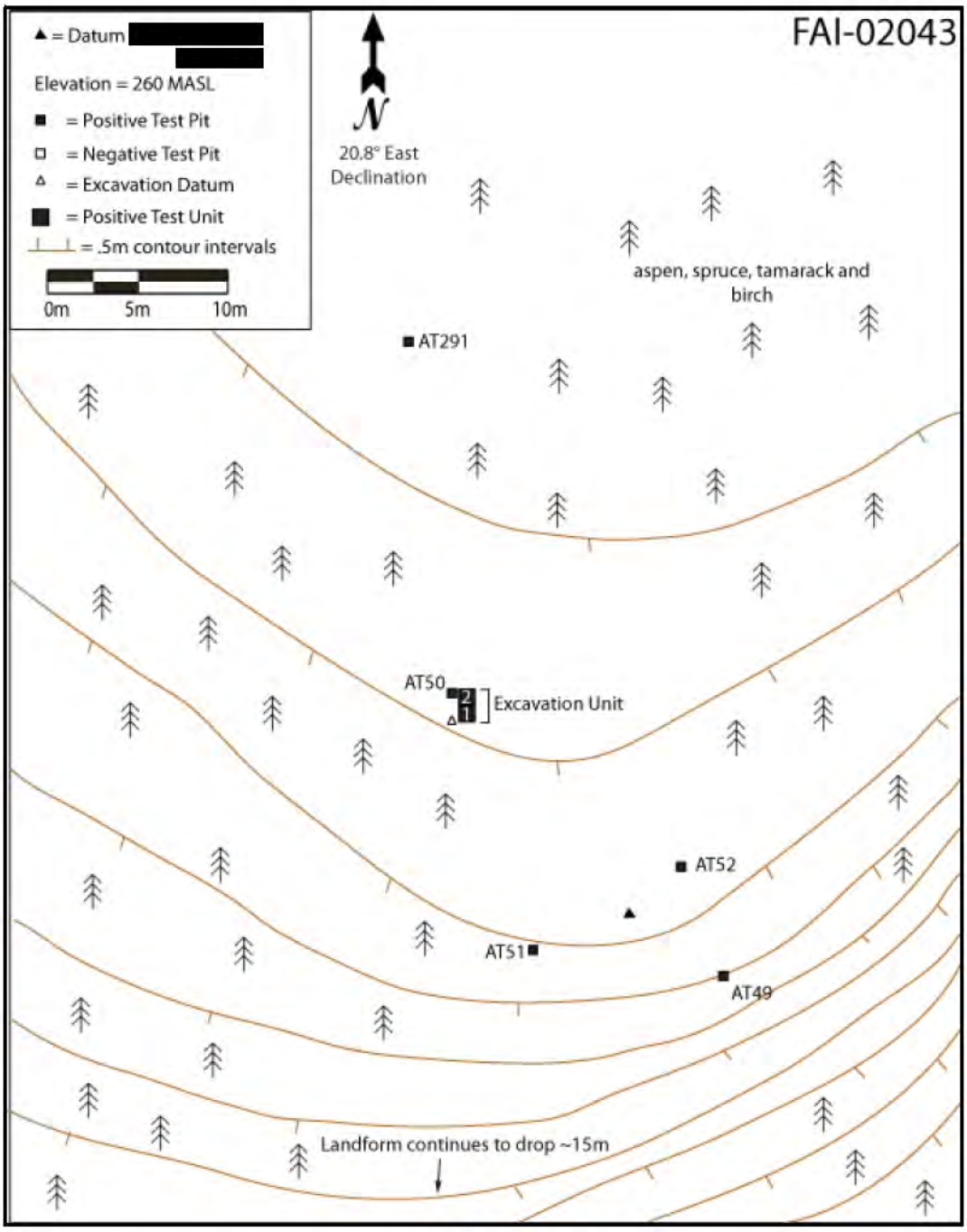


Figure 43. FAI-02043 sketch map

Figure 44. FAI-02043 ground overview (view to north)

Figure 45. FAI-02043 aerial overview (view to south)

Site Discovery

Site FAI-02043 was identified through subsurface testing. At the time of discovery, 94 flakes were recovered from four of four test pits excavated (Appendix 2); two of these tests also yielded unidentifiable large mammal faunal fragments. Shovel testing suggested that the site contained at least two components: one at ~0-45 cm BS and another deeply buried in the lower loess and basal sands at 90-120 cm BS. Three of the four test pits, those nearest the edge of the landform, reached basal gravels at 100-130 cm BS, while one test pit (AT 50) was excavated to the depth possible with a shovel, terminating at 140 cm BS without finding the bottom of the basal sands.

Test pit AT 50 provided a piece of charcoal associated with flaked stone roughly 2 cm above the loess/sand contact that dated to 10,730 ± 50 ^{14}C years BP (Beta-281235), demonstrating the antiquity of the lower component. Dispersed charcoal found in association with flakes in the upper component at 22 cm BS produced a date of 6460 ± 40 (Beta-283427), revealing the presence of a middle-Holocene occupation.

Site Testing and Unit Excavation

Several factors pointed to the need to more thoroughly characterize the archaeological environment of this area of TFTA. In 2009 and 2010, five other buried prehistoric sites were found on the same landform within 1.4-6 km, and an additional 14 sites were found on the same alluvial terrace 10-20 km to the northwest. Site FAI-02043 has a demonstrated occurrence of deeply buried artifacts associated with a 10,730 ± 50 ^{14}C years BP date. This date came from a position more than 50 cm higher than the deepest test and 20 cm above the lowest extent of cultural material, indicating the potential for even more ancient remains. The site also yielded large faunal fragments, which are a rarity in Interior Alaska. Given the poorly understood nature of cultural resources in the area and to assist range development planning, a research design was developed to better understand the archaeological resources at FAI-02043 and in the vicinity.

The overarching goal of site testing was to assess the significance of prehistoric cultural material in the area. The was accomplished through: (1) a strategy of testing deep stratigraphic deposits for the presence of archaeological materials, (2) expanding test pit AT50 to a 1 x 2 m excavation unit, (3) characterizing site stratigraphy, (4) characterizing landform geomorphology, and (5) determining dates of prehistoric occupation. Test excavations were conducted from August 5-12 and October 3-10, 2010, by a four-person CEMML crew under the direction of Edmund Gaines.

In order to address these research objectives, a total of 2 m^2 were excavated to a depth of about 135 cm BS. A 1 x 2 m excavation unit (Figure 46, Figure 47) expanded off of shovel test AT50, located in the northwest corner of the excavation unit. A metric grid system maintained horizontal control, with the southwestern corner of the excavation unit designated 500N (north)/100 E (east). Excavation took place in two excavation units: Excavation Unit 1 (EU1) from 500-501N, 100-101E; and adjacent Excavation Unit 2 (EU2) at 501-501N, 100-101E. The resulting 2 x 1 m excavation block extends from 500-502N, 100-101E.

A datum placed in the southwestern corner of the excavation unit at UTM coordinates 489017E; 7139975N (Trimble NAD 83) maintained vertical control throughout the course of excavation. All elevation measurements performed during the course of excavation were taken in reference to this vertical datum utilizing string line and level. The initial datum, Datum A, was set at a height of 4.5 cm above the ground surface in the southwestern corner of the excavation unit. During the second phase of excavation in October, a new datum, Datum C, replaced Datum A. Datum C was established in roughly the same spot as Datum A at a height of 3 cm above ground surface.

Figure 46. FAI-02043 excavation unit (view to east)

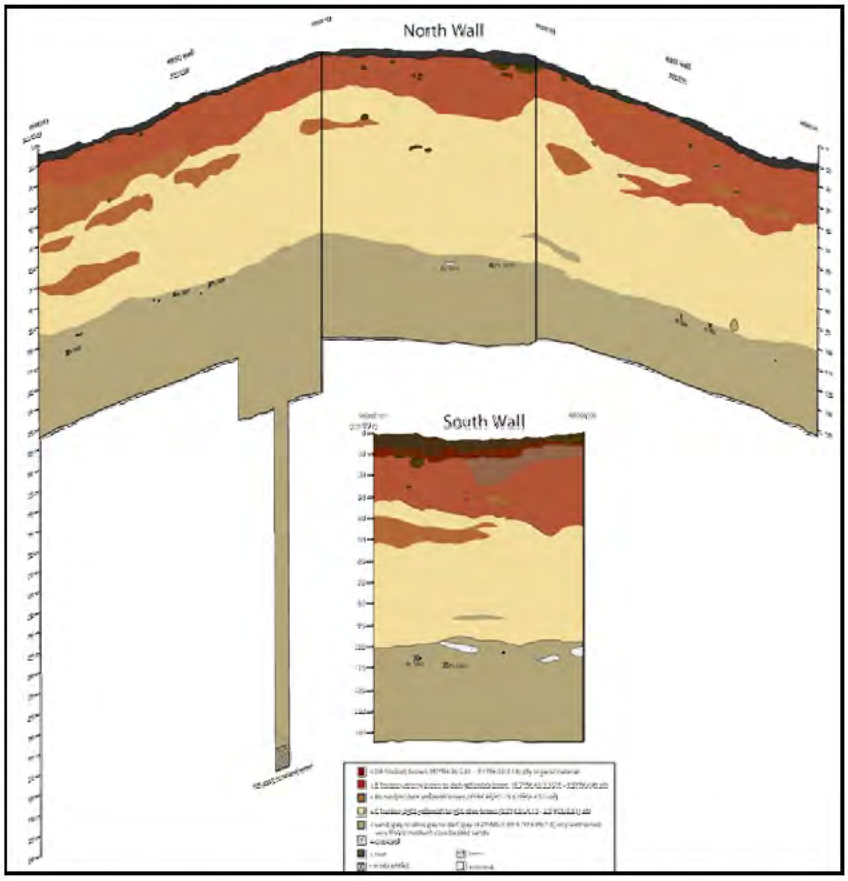


Figure 47. FAI-2043 excavation unit profile

A total of 14 levels were excavated (Table 4), extending the excavation roughly 35 cm into the basal sands and at least 15 cm deeper than the lowest recovered artifact. The upper five levels to a depth of 75 cm BS were shovel skimmed and screened through ¼" mesh. Roughly 10 cm above the depth of artifacts known from initial shovel testing, one level was excavated via trowel and 1/8" screen to a depth of 85 cm BS. Upon encountering artifacts, levels were excavated in 5 cm increments via trowel and sifted though1/8" screen. This excavation strategy was continued throughout the entire extent of cultural deposits. Roughly 10 cm below the depth of the lowest artifact recovered at 115 cm BS, shovel skimming and sifting through ¼" screen were resumed to ensure that excavations proceeded well into sterile deposits. Table 4 details excavation levels, depths (cm BS), the strata excavated, and methods:

Table 4. FAI-02043 unit excavation levels, depths, strata, and methods

Level	cm BS (±3)	Stratum	Methods	Screen
1	5-15	10yr4/6 dark yellowish brown silt, OA	shovel skim	1/4"
2	15-25	10yr4/6 dark yellowish brown silt, OA	shovel skim	1/4"
3	25-45	10yr4/6 dark yellowish brown silt, OA	shovel skim	1/4"
4	45-65	10yr4/6 to 2.5yr5/4	shovel skim	1/4"
5	65-75	2.5y light olive-brown silt	shovel skim	1/4"
6	75-85	2.5y light olive-brown silt	trowel	1/8"
7	85-90	2.5y5/3 light olive-brown sand/silt; to 2.5y 4/3 olive-brown fine sand silt	trowel	1/8"
8	90-95	2.5y5/4 light olive-brown silt and 2.5y5/4 light olive-brown sand	trowel	1/8"
9	95-100	silt	trowel	1/8"
10	100-105	silt	trowel	1/8"
11	105-110	silt to sand	trowel	1/8"
12	110-115	sand	trowel	1/8"
13	115-125	sand	trowel	1/8"
14	125-140	sand	shovel skim	1/8"

Collection and Documentation

All cultural material was collected and information recorded in accord with USAG FWA standards outlined in the ICRMP (CEMML 2001) and UAF Museum of the North collection requirements. An attempt was made to identify all cultural material *in situ* and record the precise 3-point provenience. Such materials were assigned a distinct PL (point located) number, their precise provenience recorded, and then individually bagged. Materials found in the screen were separated according to artifact type (e.g., bone, lithics ...) and bagged according to excavation unit, sub-quad when possible, and level/depth. Provenience information was recorded on artifact bags, in a field specimen (FS) log, on drawn plan views, and in the case of X, Y, Z located artifacts, in the PL log.

Excavation information consisting of plan views, stratum/level descriptions and measurements, field specimen data were recorded on standardized archaeological recording forms. All of this information was also recorded in individual excavator's notebooks as well as the field director's

notebook. Profiles were drawn to scale on metric graph paper. The PL log was kept in a separate notebook. Digital photos documented the site and excavation process. Artifacts, samples, stratigraphic profiles, excavation processes and overviews, as well as aerial views, were photo-documented throughout all stages of excavation. A total of 798 photos were taken, ensuring comprehensive photo-documentation of the excavation process. All photos were logged in a separate notebook that served as the dedicated photo log.

Additional site testing consisted of a single shovel test (AT 291) excavated roughly 20 m to the north of the excavation unit. In order to test the depth of basal gravels across the landform, a series of five auger tests were conducted. One of these was placed in the bottom of test pit AT50 adjacent to the excavation unit.

Testing Results: Excavation

Levels 1-5 of the excavation unit produced no cultural remains. Artifacts were recovered from Levels 6-13. The basal level, Level 14, was 25 cm thick and excavated into entirely sterile deposits. Figures 48 through 58 detail the location of lithics and bone in each excavation level.

A total of 1,106 pieces of lithic debitage and 538 faunal fragments were recovered from the excavation unit. In addition, two cobble hammerstones and at least four enigmatic angular rocks, likely manuports, were recovered from the lower zone of cultural material. Lithic and faunal material was recovered from depths of 75 to125 cm BS; however, the continuous bell-shaped distribution of frequency of both artifact types by depth prevents separating components at the current phase of investigation.

Recovered tools were rare and only include two artifacts. One is an irregularly shaped small biface (Figure 59) made of gray rhyolite (10YR 6/1). It measures 29.4 mm maximum length, 13.8 mm maximum width, and 7.4 mm maximum thickness. It is completely covered on both faces by fine sub-parallel pressure retouch and displays a snap break on its proximal margin. The second tool recovered is a scraper fragment made on a flake (27.9 mm long, 11.75 mm max width, 2.1 mm max thickness) (Figure 60). It displays snap breaks on both lateral margins. The distal margin is 11.75 mm wide; the entire extent of which is covered by fine sub-parallel pressure retouch.

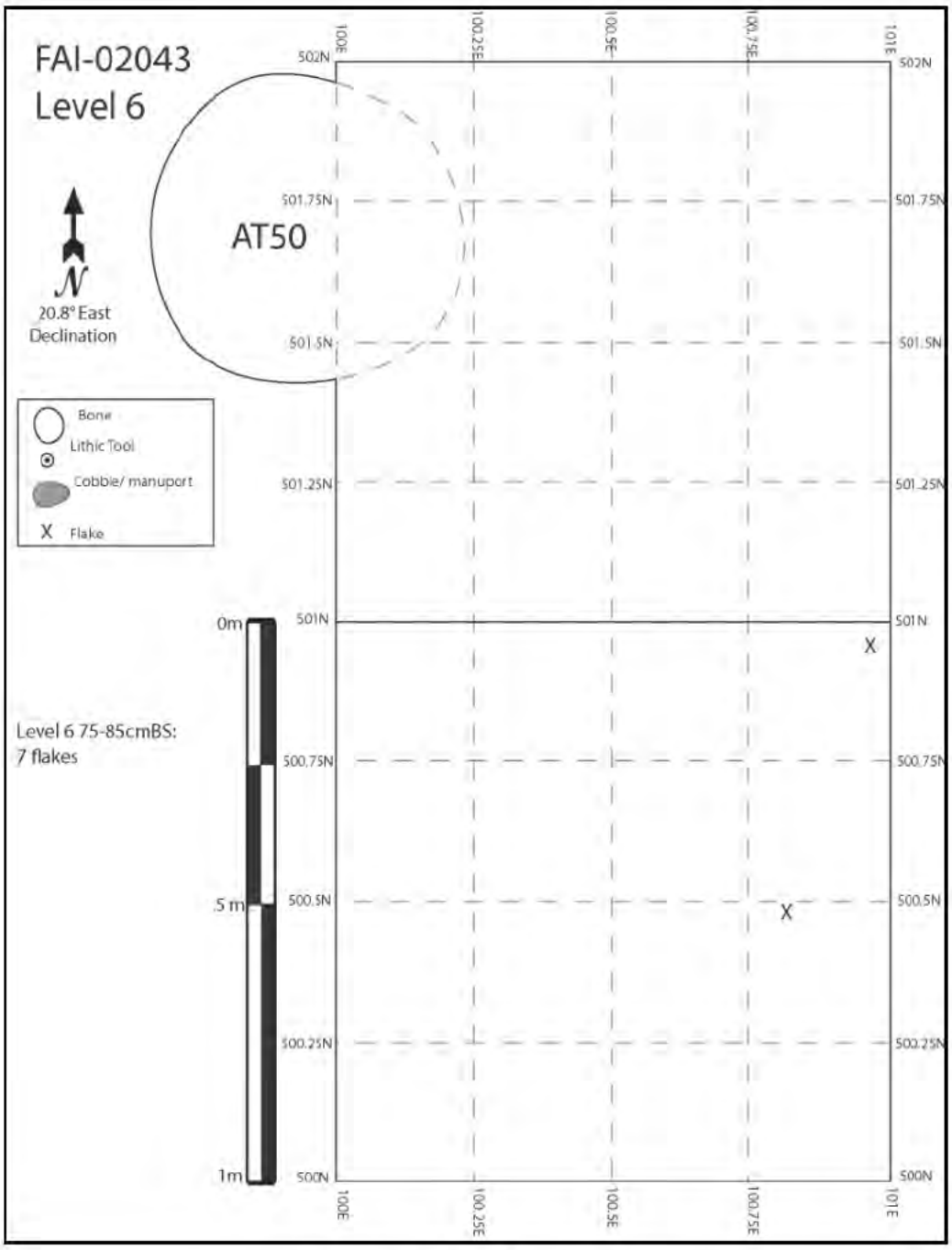


Figure 48. Level 6 plan view

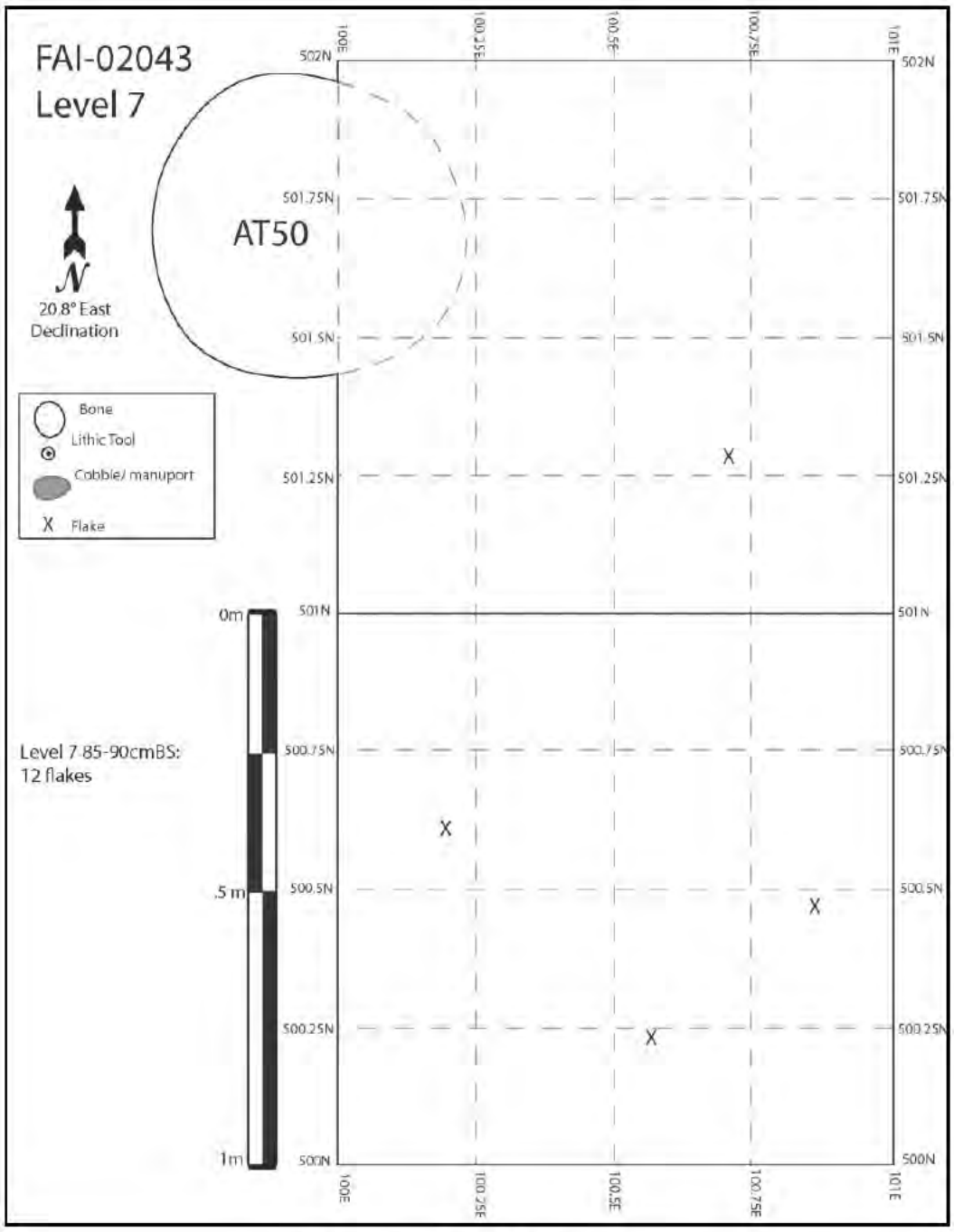


Figure 49. Level 7 plan view

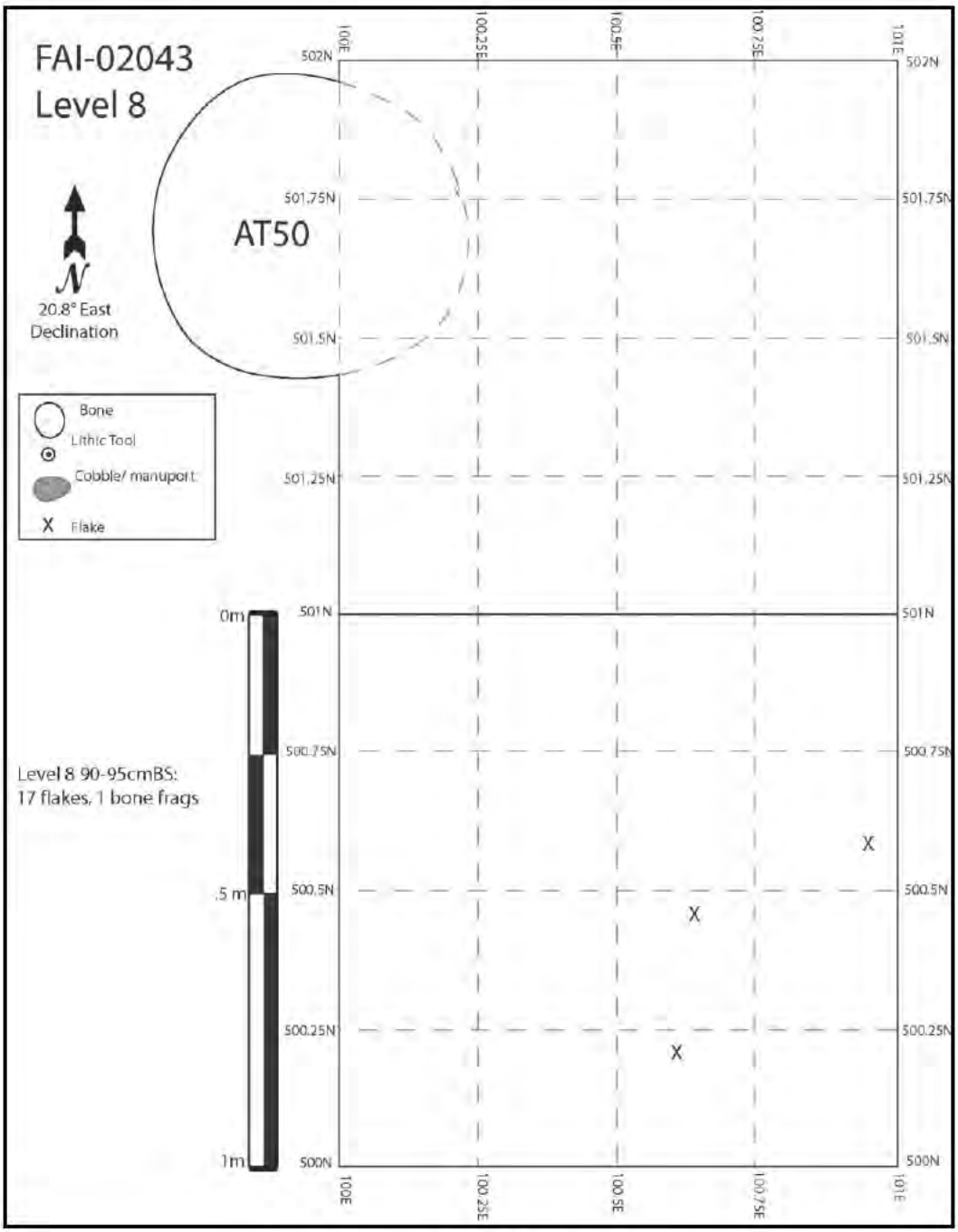


Figure 50. Level 8 plan view

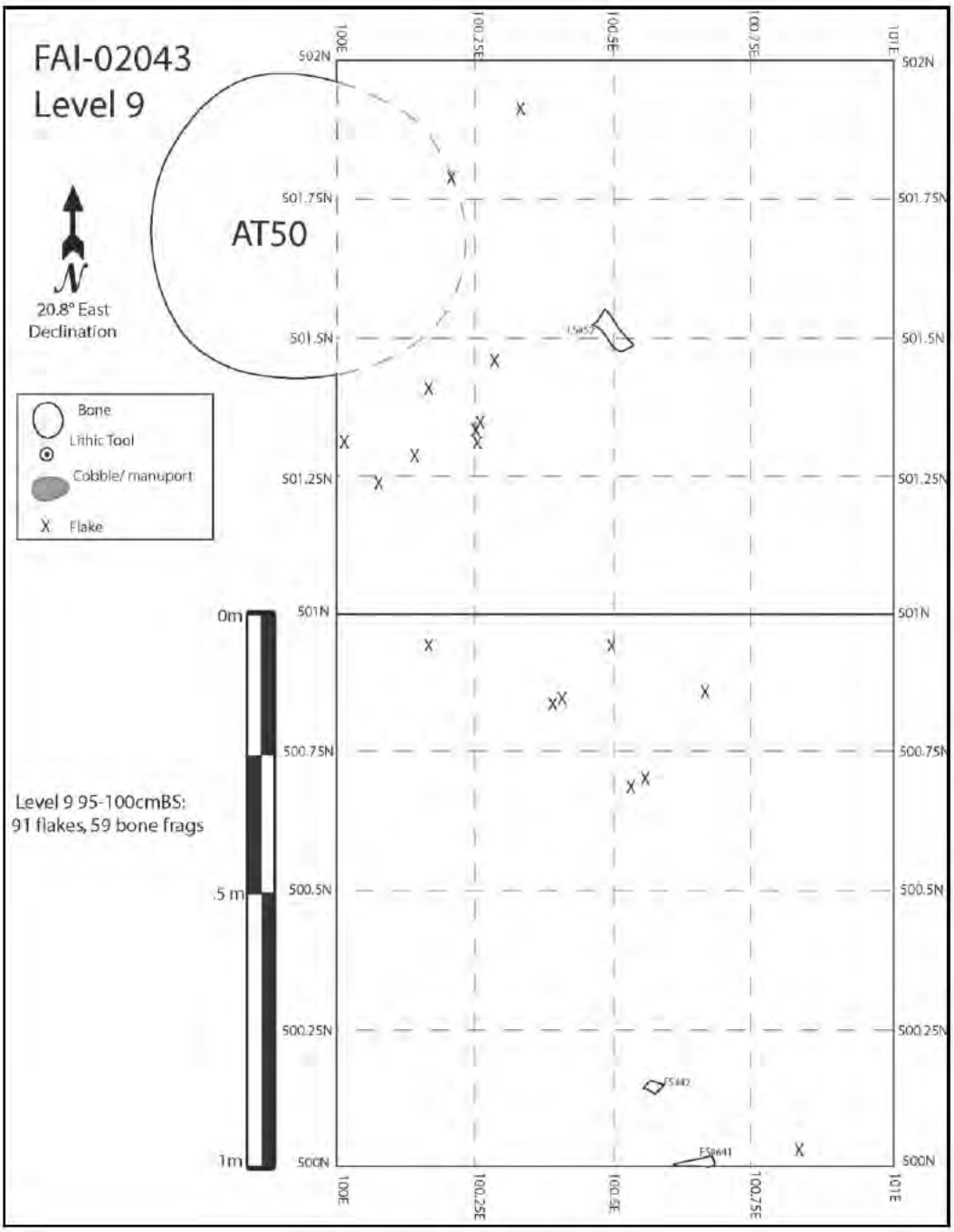


Figure 51. Level 9 plan view

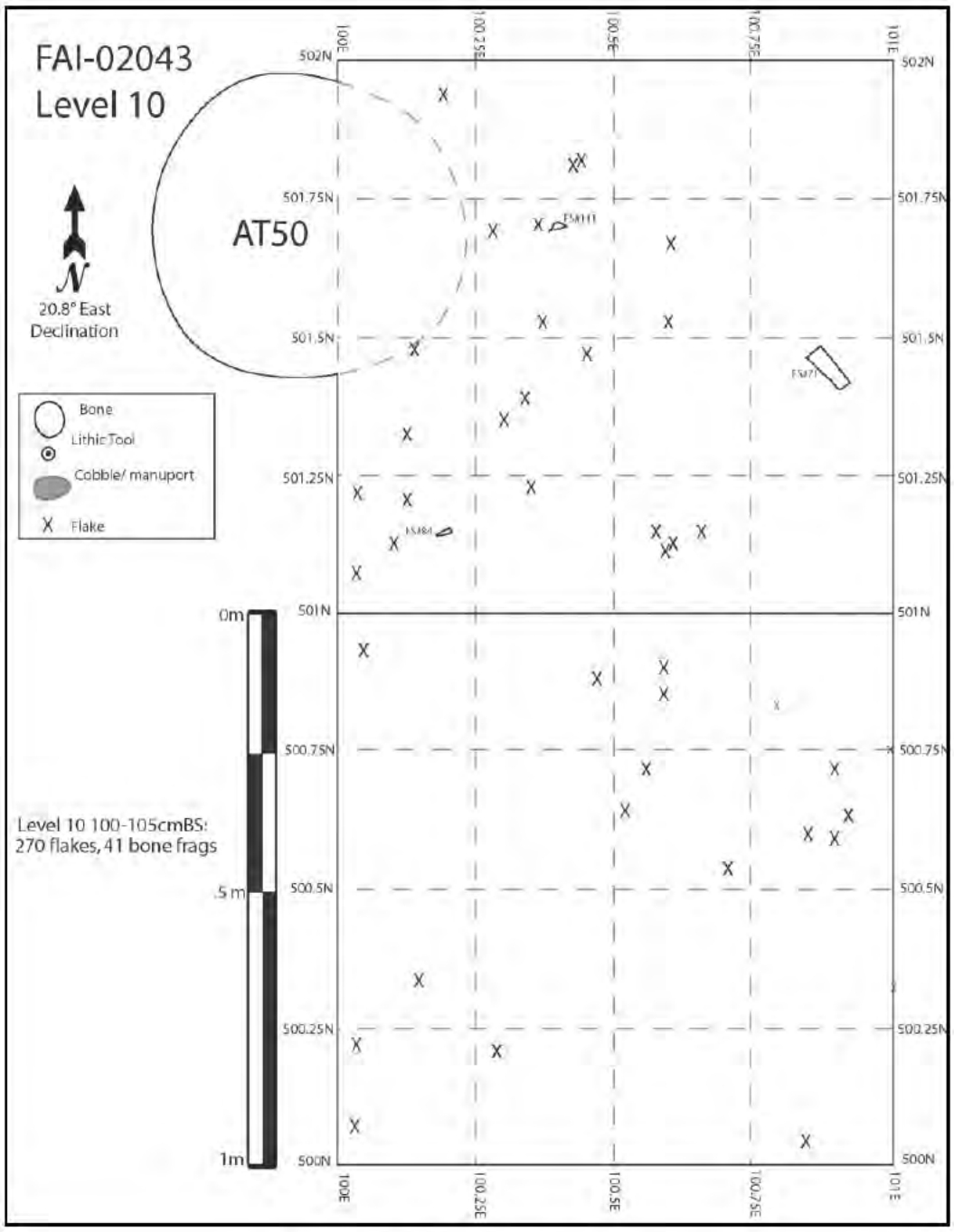


Figure 52. Level 10 plan view

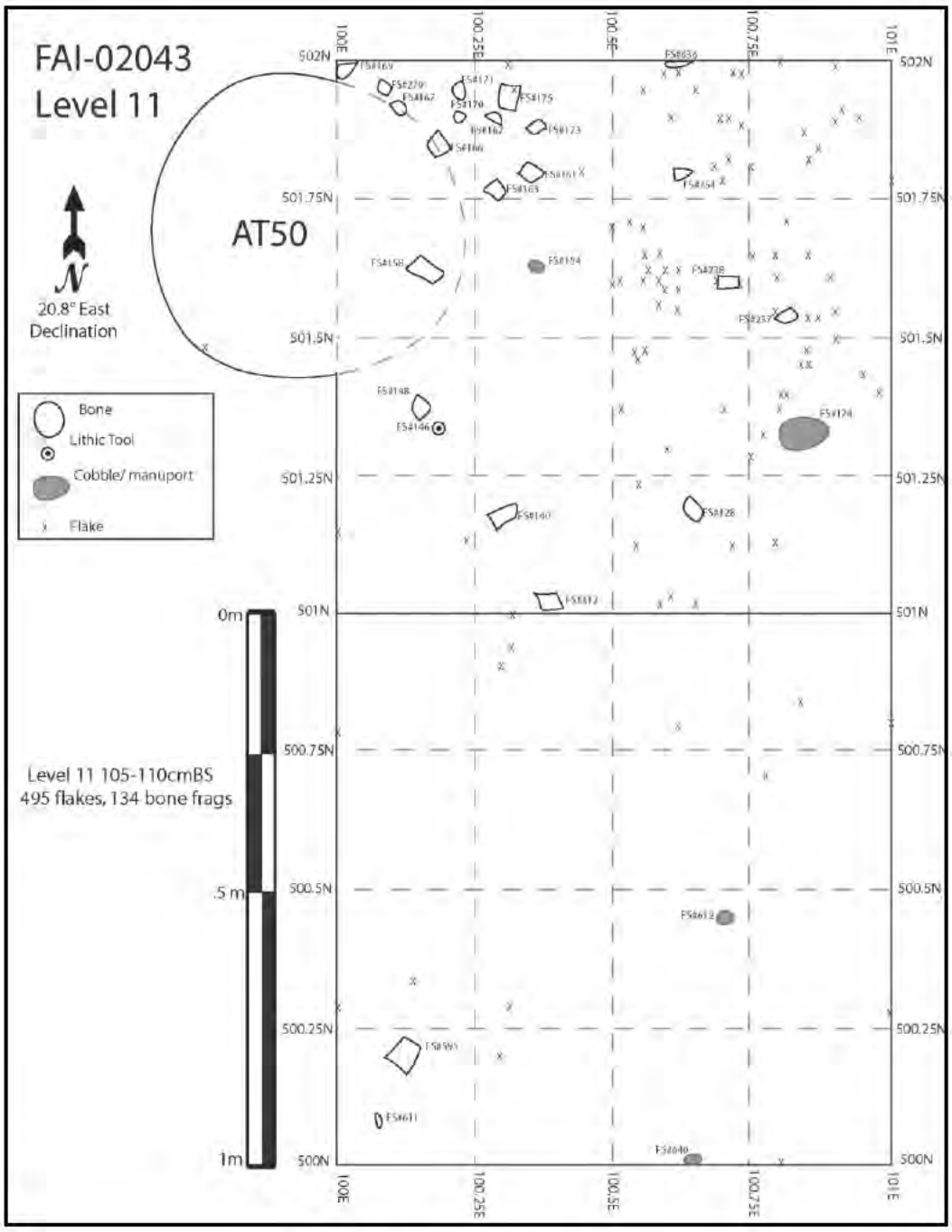


Figure 53. Level 11 plan view

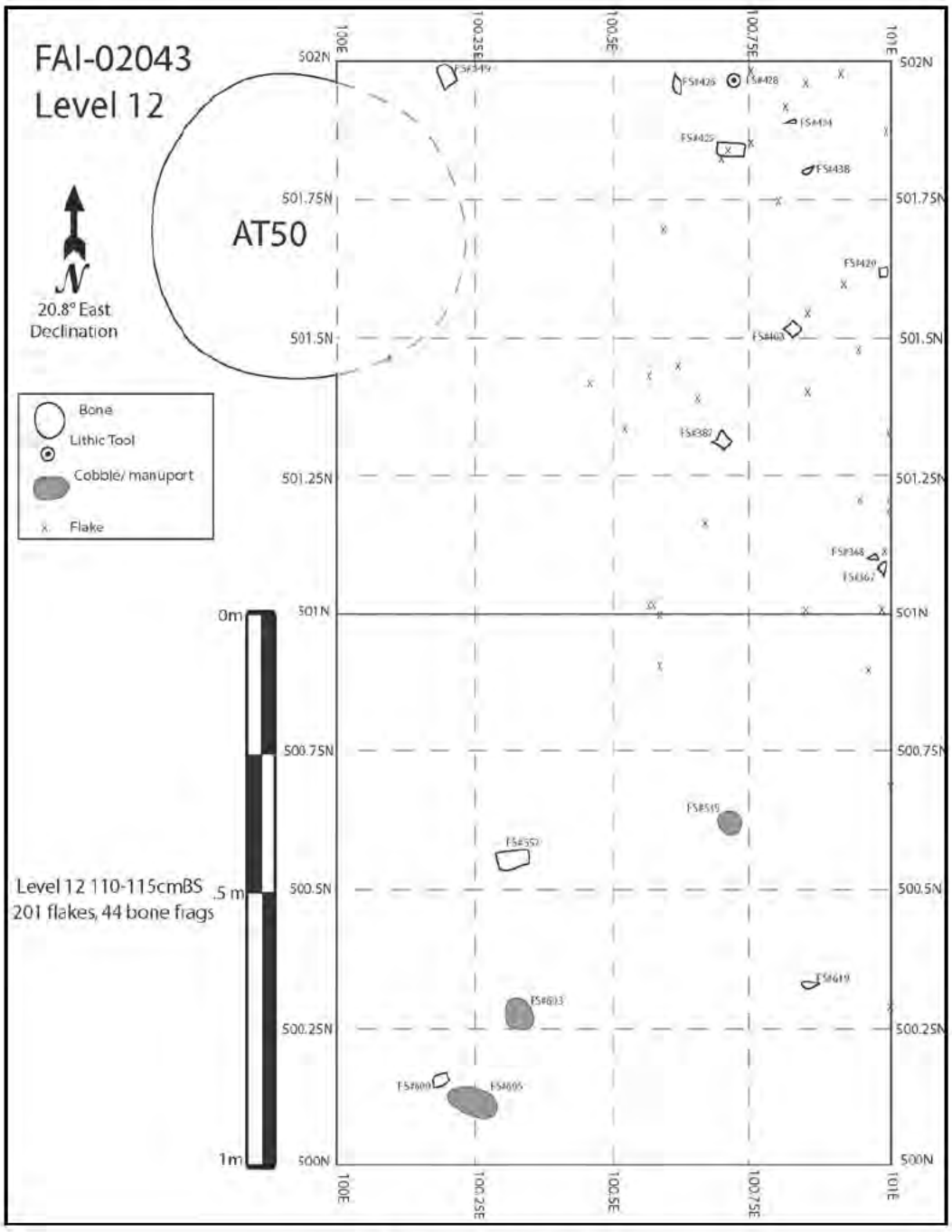


Figure 54. Level 12 plan view

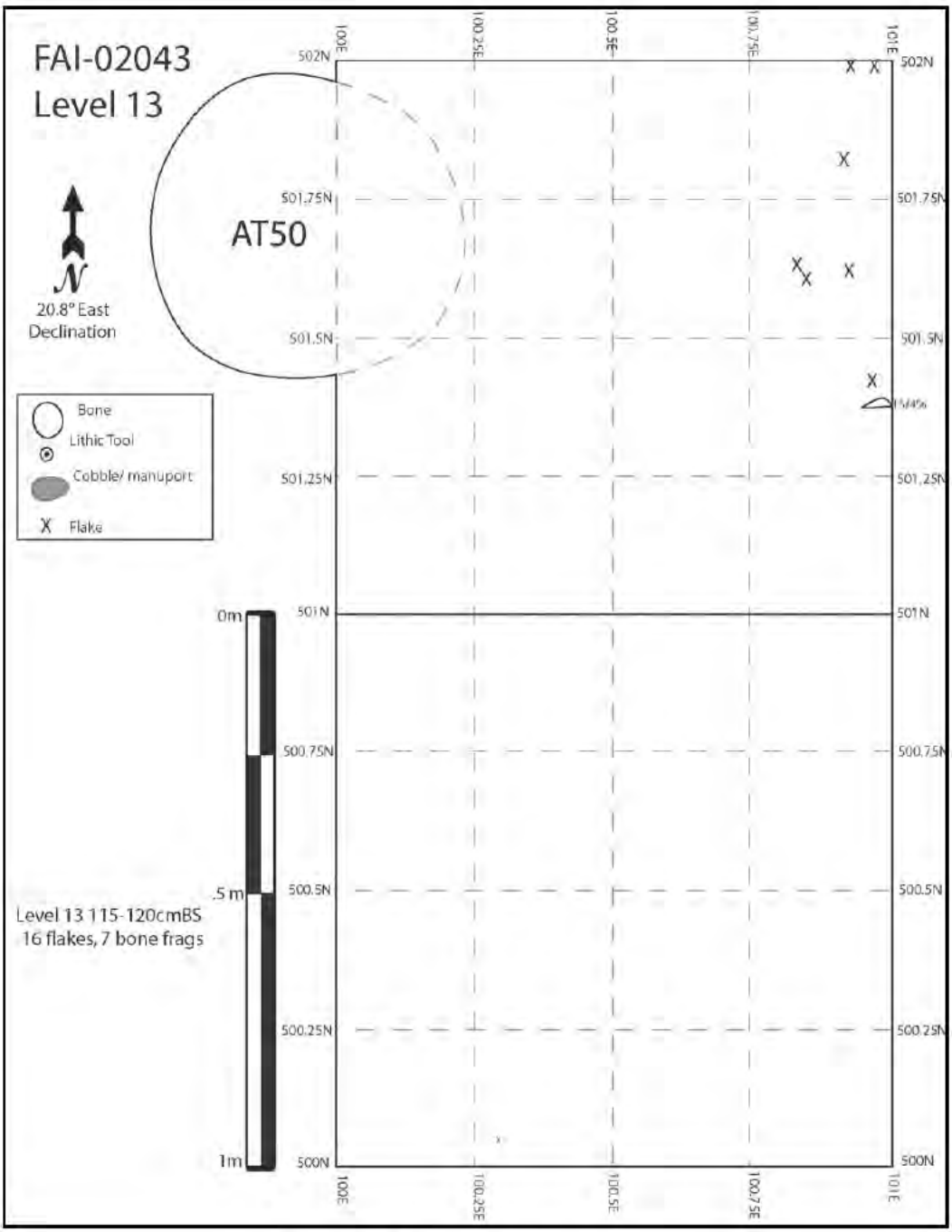


Figure 55. Level 13 plan view

Figure 56. FAI-02043 excavation in progress

Figure 57. FAI-02043 manuport in situ in Strat II sands

Figure 58. FAI-02043 manuports and flakes in situ in Strat II sands

Figure 59. FAI-02043 biface

Figure 60. FAI-02043 scraper fragment

With the exception of the tools described above, all of the recovered flaked stone is small (<10 mm diameter; Table 5; Figure 61) tertiary debitage characterized as broken flakes, flake fragments and flakes reflective of late-stage reduction and tool maintenance. Rhyolite is the major material type, comprising 73% of the assemblage (n=807). Other material types include (chert 12%; n=132), basalt (15%; n=163), two pieces of obsidian, and one piece of silicified silt/mudstone (Table 6, Figure 62).

Table 5. Debitage size count/level

	Size Range						
Level	**0-2.5 mm**	**2.5-5 mm**	**5-7.5 mm**	**7.5-10 mm**	**10-20 mm**	**20-30 mm**	**30-40 mm**
6	0	0	2	2	3	0	0
7	0	4	1	5	1	1	0
8	1	8	11	2	3	0	0
9	12	33	25	15	5	1	0
10	44	72	79	40	22	2	0
11	49	99	164	108	71	4	0
12	18	41	74	40	24	4	0
13	0	4	5	5	2	0	0

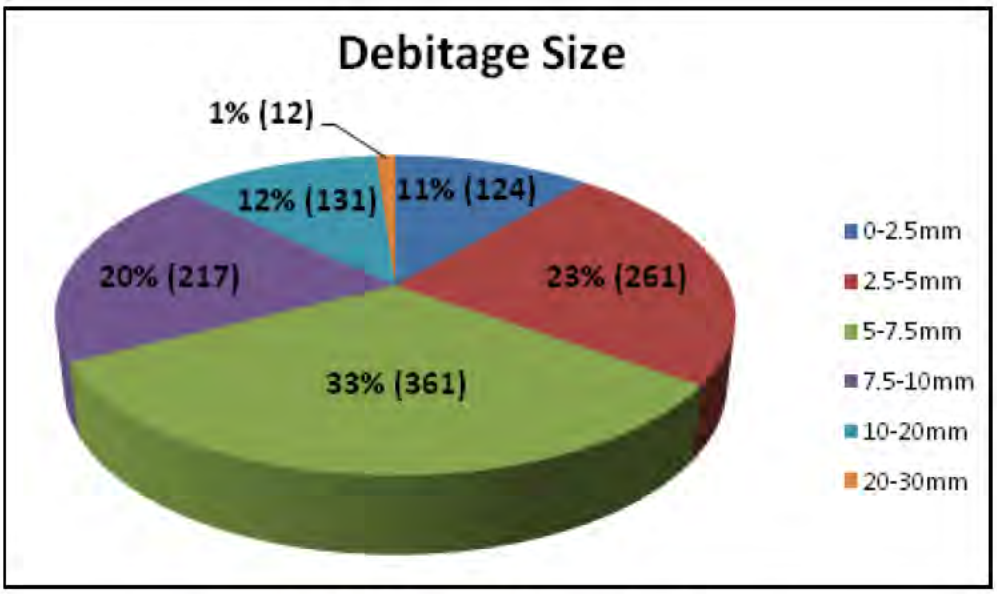


Figure 61. FAI-02043 debitage size frequency

Table 6. FAI-02043 material type/level

Level	Material Type					
	Basalt	**Chert**	**Rhyolite**	**Obsidian**	**Quartz**	**Siltstone**
6	1	1	5	0	0	0
7	4	1	7	0	0	0
8	5	3	17	0	0	0
9	8	9	73	1	0	0
10	36	28	194	0	1	0
11	78	60	356	1	0	0
12	27	28	145	0	0	1
13	4	2	10	0	0	0

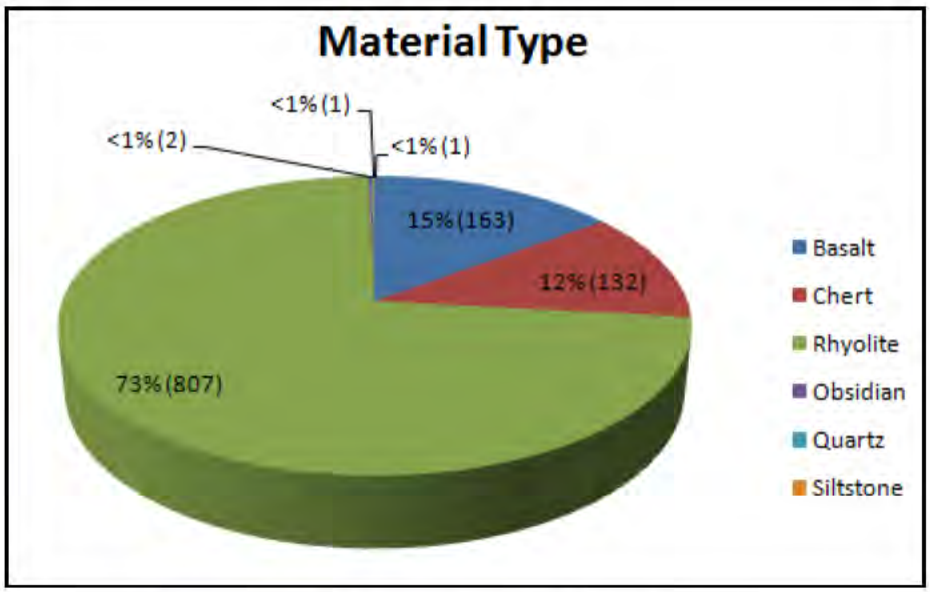


Figure 62. FAI-02043 material type frequency

The majority (96%; n=520) of the faunal remains are unidentifiable fragments (Table 7, Figure 63). Some are very large mammal (moose/bison sized) long bone fragments exhibiting breakage patterns characteristic of green bone fractures. Identifiable faunal remains (Appendix 3) consist of an Alaskan hare (*Lepus othus*) astragalus (Figure 64), a vertebrae and sternum from a goose/swan-sized waterfowl (*Anatidae* sp.) (Figure 65 and Figure 66), and a *Bison* sp. permanent M_3 molar (Figure 67). A specimen identified as red-backed vole (*Myodes rutilus*) is likely intrusive as it represents a nearly complete individual, is in a much fresher state of preservation than the other faunal specimen, and was found in the vicinity of a krotovina.

Table 7. FAI-02043 faunal fragment size count/level

Level	Size Range						
	0-5mm	**5-7.5mm**	**7.5-10mm**	**10-20mm**	**20-30mm**	**30-40mm**	**>40mm**
8	6	5	1	2	0	0	0
9	11	20	14	13	0	0	0
10	58	18	7	1	0	0	0
11	216	28	29	14	0	0	5
12	57	13	6	8	1	1	0
13	0	1	2	1	0	0	0

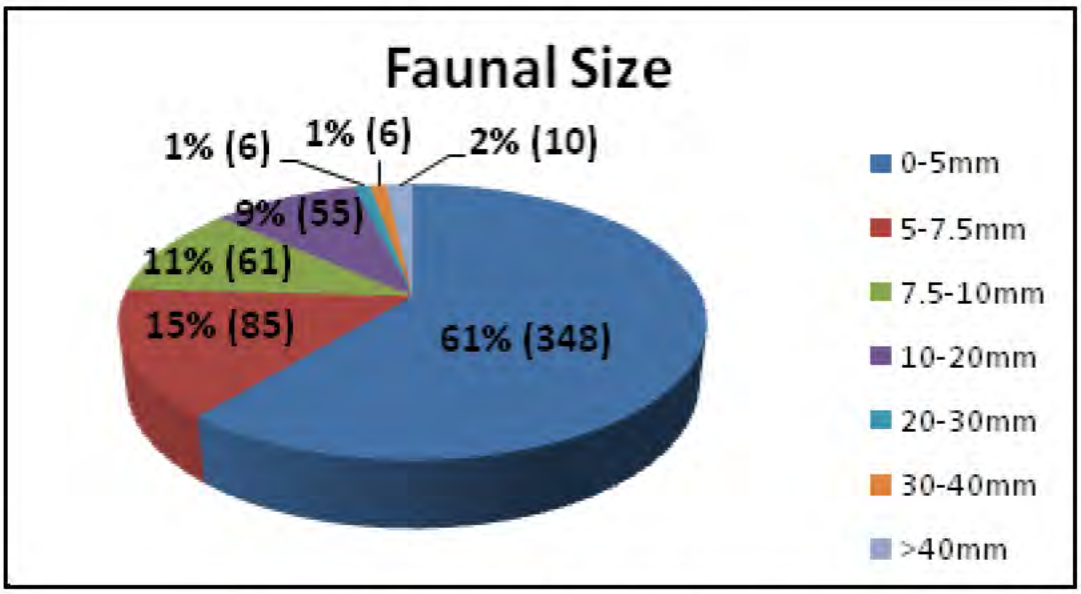


Figure 63. FAI-02043 faunal size frequency

Figure 64. *Lepus othus* astragalus (archaeological specimen on left, modern comparative on right)

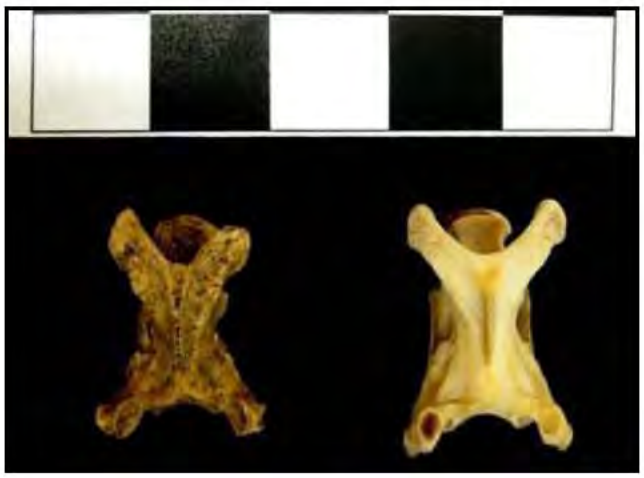


Figure 65. ***Anatidae*** **(sp) vertebrae (archaeological specimen on left, modern comparative on right)**

Figure 66. ***Anatidae*** **(sp) sternum (archaeological specimen on left, modern comparative on right)**

Figure 67. ***Bison bison*** **M_3**

Two rounded cobbles were found in the lowest component. The first of these (FS 174; Figure 68) is 78.3 mm long, 45.1 mm wide, and 20.9 mm thick. It has slight pitting on one end, indicating that it served as some sort of hammerstone. The second cobble (FS 605, Figure 69) is 81.2 mm long, 61.9 mm wide, and 44.3 mm thick, and weighs 269.115 g. It displays no pitting. Eight other angular to subangular rocks between 17.74 and 60.44 g in weight and between 20-50 mm in diameter were recovered. The presence of large rocks in an aeolian silt and sand deposit indicates that they may have been transported to the site by human agents.

Figure 68. FAI-02043 cobble/hammerstone (FS 174)

Figure 69. FAI-0243 cobble (FS 605)

Testing Results: Test Pit AT 291

Concurrent to unit excavation, test pit AT 291 was excavated roughly 20 m to the north of the excavation unit. The test pit produced over 330 flakes of lithic debitage (Appendix 2) and several green-fractured, large mammal long bone fragments (Figure 70; Figure 71, Figure 72). A piece of charcoal was found in direct association with bone fragment and flake at 100 cm BS. This produced an AMS (atomic mass spectroscopy) ^{14}C date of 11,600 ± 50 (Beta 283430).

Figure 70. Fauna and ^{14}C-dated charcoal from test pit AT 291

Figure 71. AT 291 green-fractured, large mammal long bone fragment in Stratum II sand matrix (note associated flake)

Figure 72. AT 291 green-fractured, large mammal long bone fragments in Strat II sand matrix

Three AMS ^{14}C dates were obtained from dispersed charcoal in very close association with cultural material. In all cases, the charcoal selected for dating was physically touching flakes. The samples were collected with steel instruments, either a trowel or dental pick, then stored in tinfoil and archival-quality plastic bags. All were submitted to Beta Analytic Laboratories for analysis, where they underwent standard pretreatment including physically removing rootlets and identifiable contaminants and an acid-base wash.

Table 8 presents the results of AMS determinations. Sample Beta # 283427 was collected from test pit AT 49 at the time of site discovery and represents a secure date for the upper component; sample Beta #283435 was collected from test pit AT 50 also the time of discovery and is a good date on the upper portions of the lower component. Sample Beta #283430 was collected during site testing from the lowest portions of the lower component. It was physically touching a flake and bone fragment (Figure 70) and is a secure date for the lowest portions of the lower component.

Table 8. AMS ^{14}C dates from FAI-2043

Material	Beta Lab#	C12/C13	Y BP	2 Sigma Cal	Depth (cm BS)	Strat
charcoal	283435	-25.3	10130 ± 50	11600-11990 Cal BP	22	upper Strat III silt; base of Bw
charcoal	283427	-26.3	6460 ± 40	7270-7430 Cal BP	90	lower Strat III silt, near II/III
charcoal	283430	-22.4	11600 ± 50	13330-13570 Cal BP	100	upper Strat II sand

Three general lithostratigraphic units were defined. These consist of basal gravels (Stratum I) overlain by thinly bedded aeolian sand (Stratum II), which is in turn capped by 100-150 cm of massive loess (Stratum III). Soil development noted in the field consists of modern boreal forest O/A/B/Bw horizons (Typic Chryocrept), with a series of buried Bw horizons in the middle to upper Stratum III loess. Augering revealed that both the thickness and weathering of Stratum III loess was relatively uniform across the site. Stratum III sands varied in thickness from roughly 1 m thick near the point of the local landform to 3.5 m thick at the excavation unit to roughly 5 m thick at the northern extent of augering roughly 20 m north of the excavation unit. In general, site stratigraphy was observed to be relatively uniform where observed in the test pits,

excavation unit and auger tests. As such, it allowed for the development of generalized composite stratigraphic profiles detailed in Figure 73 and Figure 74.

Figure 73. FAI-02043 Excavation unit north wall stratigraphy, soils, and ^{14}C dates

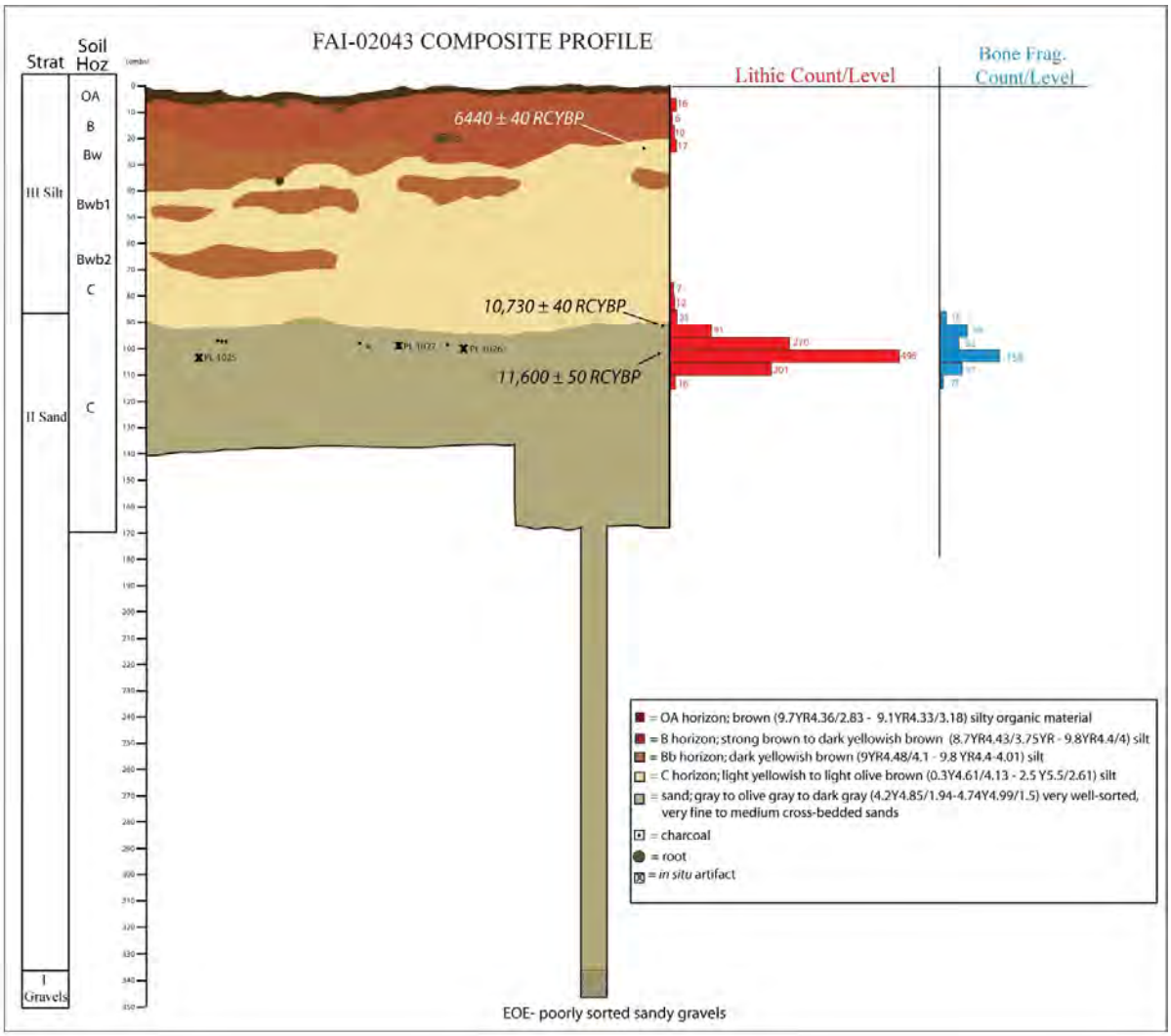


Figure 74. FAI-02043 composite profile

Discussion and NRHP Eligibility

While the sample from FAI-02043 is limited thus far, several robust inferences are possible. Cultural zone (CZ) 2 is coeval with Upward Sun River component C1, Broken Mammoth component CZ 4, the lowest Mead components, Swan Point CZ4, and four components in the Nenana Basin (Goebel et al. 1996; Goebel and Bigelow 1996; Hoffecker 1996; Holmes 1996; Pearson 1997; Potter et al 2008, 2010, 2011). The character of the lithic and faunal assemblages from this site is most similar to Broken Mammoth CZ 4 and Upward Sun River C1 with abundant lithic debitage and few formal tools. The presence of large and small game and waterfowl is also very similar to the Upward Sun River C1 and Broken Mammoth CZ 4 faunal assemblages and provides further evidence of broad-spectrum hunting strategies in late Pleistocene Eastern Beringia. The long bone breakage patterns and associated cobbles indicate marrow extraction. The presence of waterfowl suggests an early summer to fall occupation.

Site FAI-02043 is an intact, deeply buried prehistoric archaeological site with demonstrated integrity and cultural components that are among the earliest in Alaska and the entire North American continent. The spatial and stratigraphic integrity of the components, the presence of well-preserved identifiable fauna, and dateable organic remains indicates the potential to yield significant information on the earliest populations of Alaska and the New World, contributing to a broader regional and continental context. Site FAI-02043 is eligible under NRHP Criteria D for its potential to yield information important to understanding the prehistory of the region.

It is important to note that the site boundaries have not been determined, but are potentially extensive. Cultural deposits could occur across the entire 20,000 m^2 flat area on the top of the landform.

Given the NRHP eligibility and significance of the site and undefined site boundaries, if range development projects are proposed in the vicinity, a strategy to mitigate adverse effects to the site must be implemented. The first step of this mitigation should be properly defining site boundaries.

FAI-02044
Latitude: [redacted]
Longitude: [redacted]
Determination: Not Evaluated

Site FAI-02044 is located on a 20 m x 10 m finger that extends to the east/southeast from a north-south trending alluvial terrace edge at UTM coordinates [redacted] (Figure 75, Figure 76). Site elevation is 248 masl. The site has a 180° viewshed of the Tanana River Valley to the north. Two small ponds are visible to the northwest. The site area is generally level, while the adjacent terrace slope drops 10–15 m at approximately 35° to the valley below. The local landform is approximately 20 m wide north-south; drainages on both sides isolate it from the larger north-south running terrace.

The site ecosystem is characterized as upland moist mixed needleleaf/broadleaf forest (Figure 77). Site vegetation consists of mature aspen surrounded by mixed aged spruce and birch. The understory is alder, wild rose and low scrub, with a dense moss and lichen ground cover. Surface exposure is 0%.

Site FAI-02044 was found through subsurface testing. Cultural material was recovered from one of two test pits excavated. A single black (2.5/N) chert broken flake (UA2010-186), size class 10-20 mm, was recovered at a depth of 49-59 cm BS. Site stratigraphy consists of aeolian silts at least 100 cm thick; both test pits encountered frozen ground at 100 cm BS and were terminated at this depth (Figure 78, Figure 79).

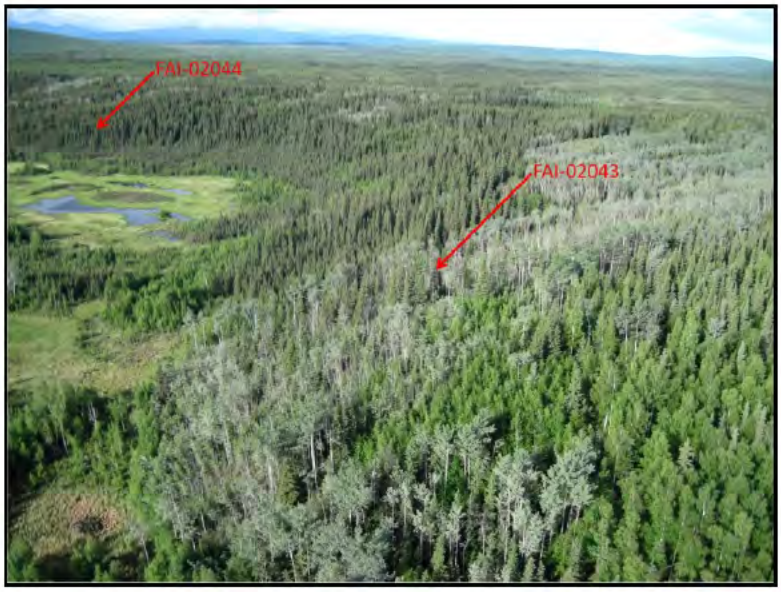


Figure 75. FAI-02044 aerial overview (view to southeast)

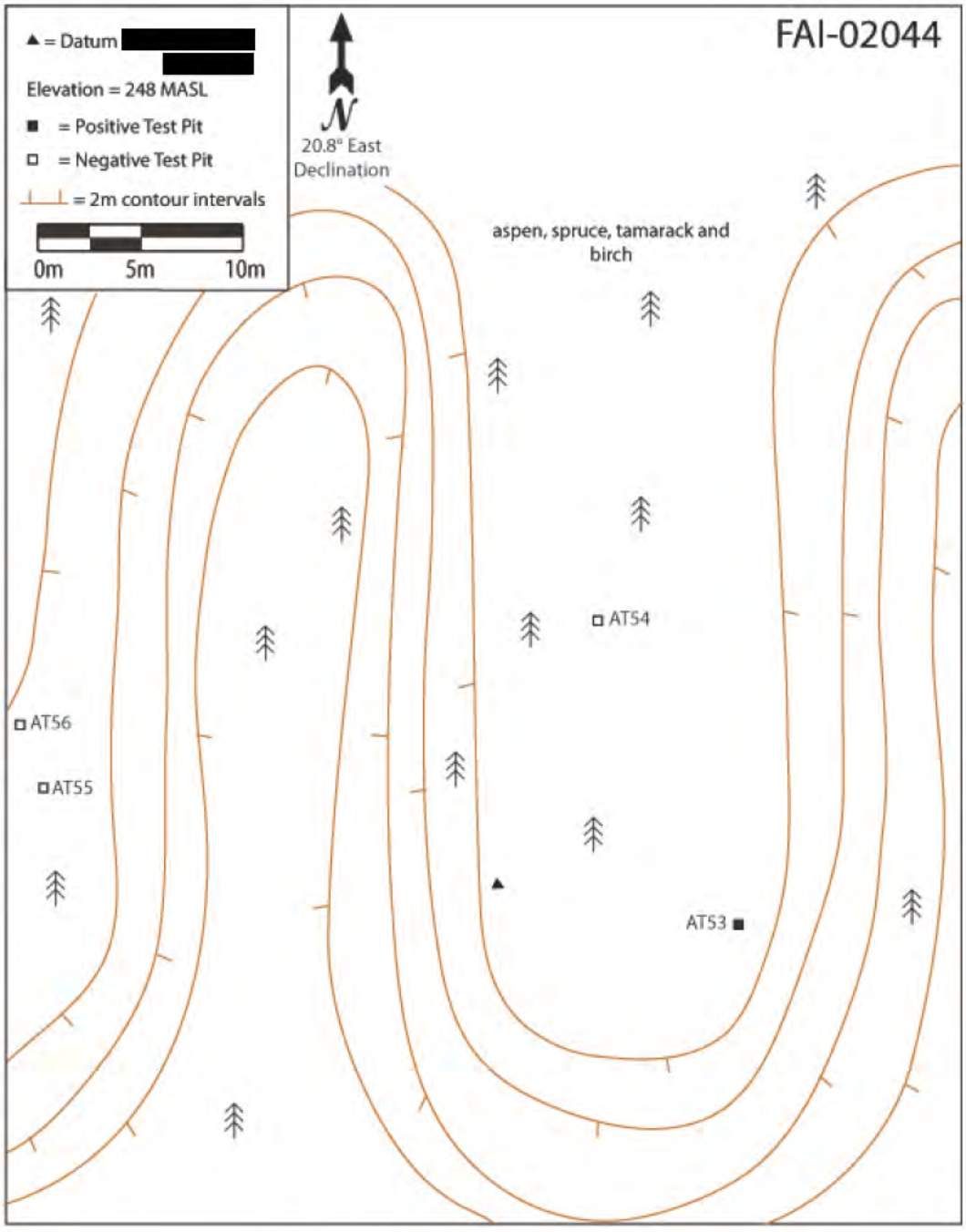


Figure 76. FAI-02044 sketch map

Figure 77. FAI-02044 overview (view to southeast)

Figure 78. FAI-02044 test pit stratigraphy

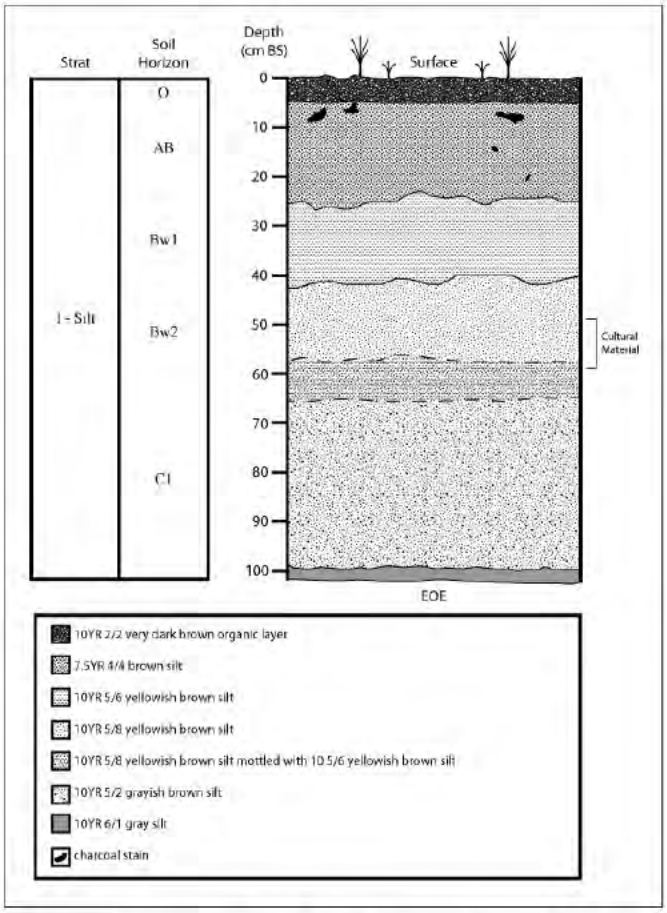


Figure 79. FAI-02044 stratigraphy

FAI-02045
Latitude: [redacted]
Longitude: [redacted]
Determination: Not Evaluated

Site FAI-02045 is located on the point of an alluvial terrace approximately 2.5 km southwest of Dry Creek at UTM coordinates [redacted] (Figure 80, Figure 81). Site elevation is 214 masl. The site area overlooks the Tanana River Valley to the east. The point is approximately 40 m wide with 30°-35° slopes on the north, south and east sides. West of the landform, the terrain slopes down at 5°-10° to a two-track 80 m distant. The site area and adjacent slopes are thickly wooded, obstructing any significant viewshed. The nearest source of water is an unnamed seasonal creek approximately 1.3 km to the northwest.

The ecosystem is characterized as upland moist mixed needle/broadleaf forest (Figure 82). Site vegetation consists of mature aspen, mixed aged spruce and birch, and a few very large cottonwoods. The understory is alder, wild rose and low scrub, with a dense moss and lichen

ground cover. Surface exposure is 0%, except on the northern site border where exposed push piles are located.

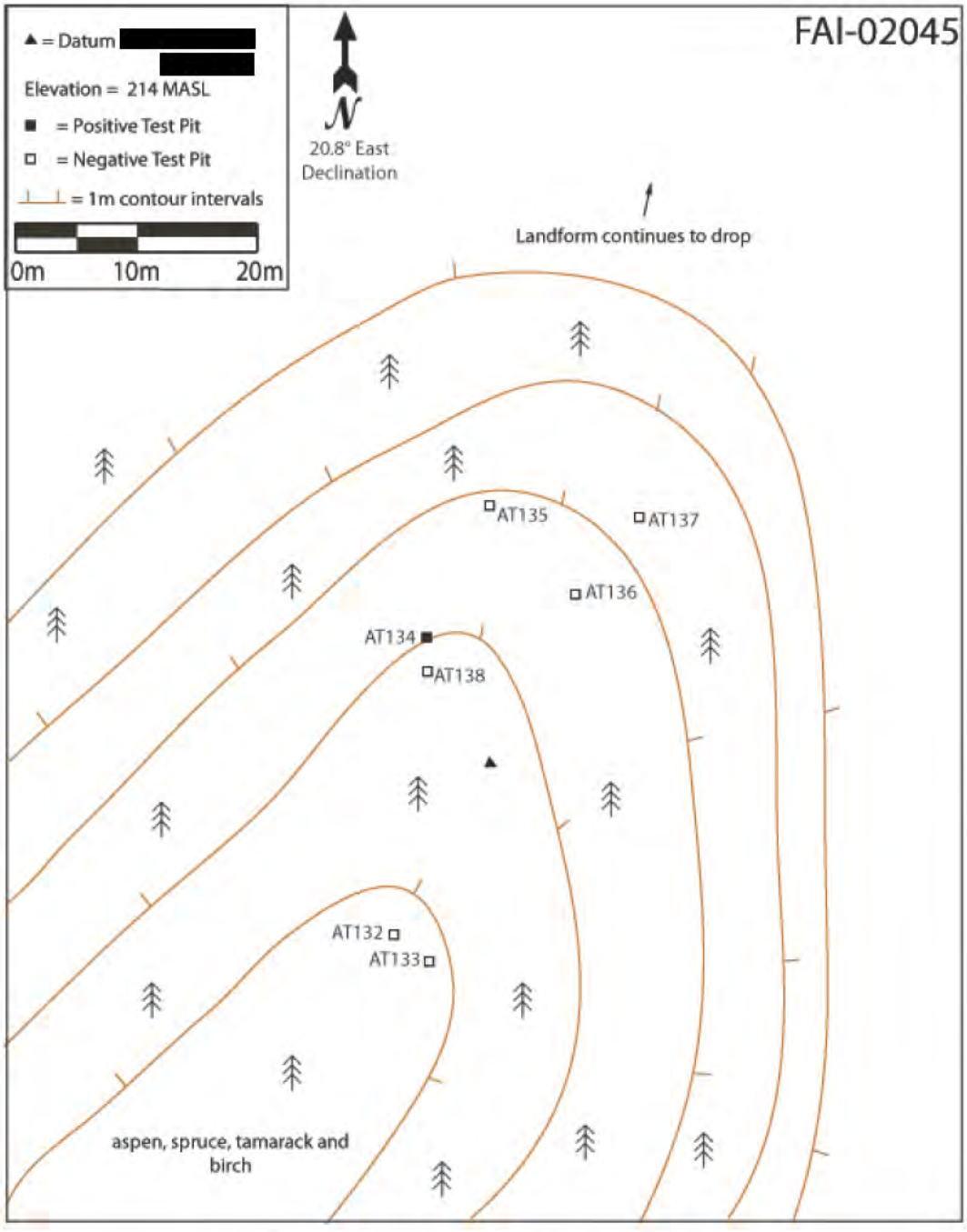


Figure 80. FAI-02045 sketch map

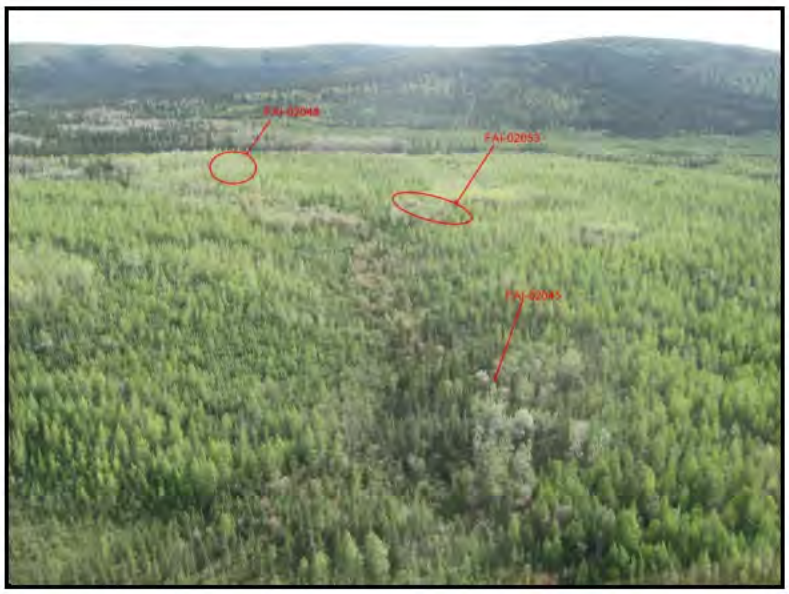


Figure 81. FAI-02045 aerial overview (view to south)

Site FAI-02045 was found through subsurface testing. Cultural material was recovered from one of the seven 50 cm x 50 cm test pits excavated. A total of five lithic artifacts were recovered at depths ranging from 5-30 cm BS (Table 9). No tools were recovered. Site stratigraphy consists of aeolian silts at least 50 cm thick overlying poorly-sorted silty gravels extending 50-60 cm BS (Figure 83).

Figure 82. FAI-02045 overview (view to south)

Table 9. FAI-02045 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-187-0001	1	5-10	utilized flake	1	basalt	black
UA2010-187-0002	2	5-10	flake	1	chert	black
UA2010-187-0003	3	10-15	flake	1	chert	black & translucent
UA2010-187-0004	4	20-25	removed			
UA2010-187-0005	5	25-30	flakes	2	chert	dark gray & dark grayish brown

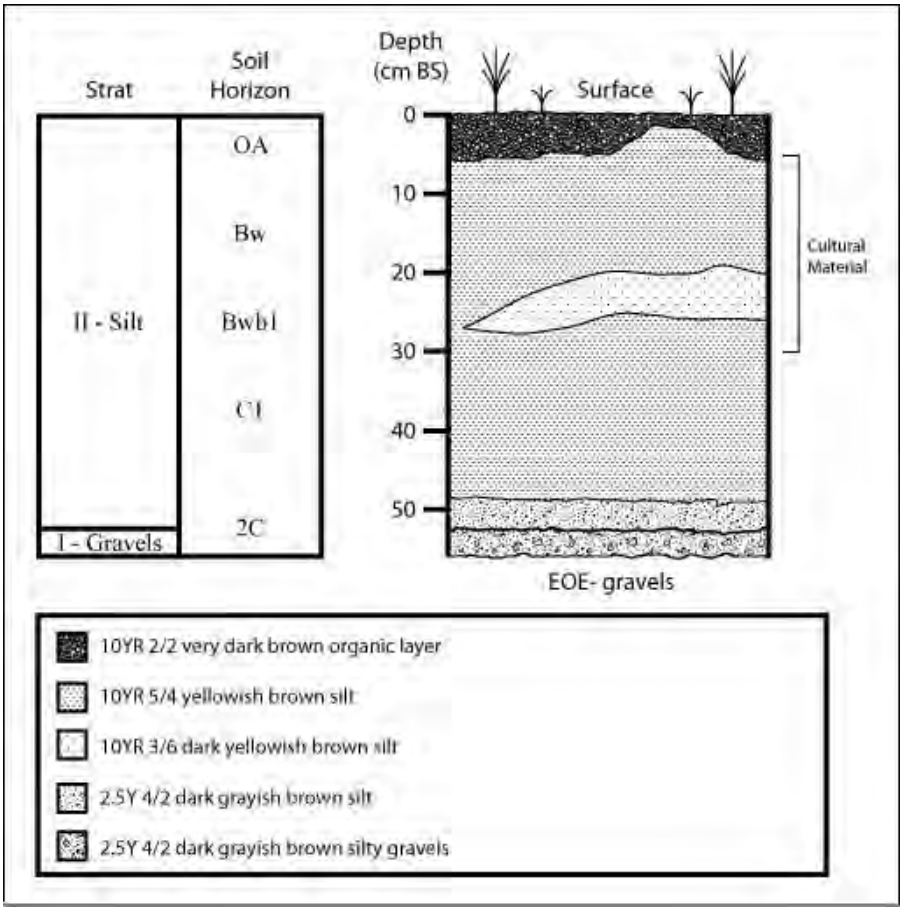


Figure 83. FAI-02045 stratigraphy

FAI-02046
Latitude: [redacted]
Longitude: [redacted]
Determination: Not Evaluated

Site FAI-02046 is located on a terrace edge at UTM coordinates [redacted] (Figure 84, Figure 85). Site elevation is 212 masl and has a view of the Tanana River Valley to the north. The site is situated on a narrow strip of level land 15 m north-south by 90 m east-west. It is bordered by a linear row of push piles to the south and the terrace edge to the north. A gravel two-track lies 5 m south of the push piles. The ground surface between the push piles and the two-track appears to have been mechanically scraped. North of the terrace edge, the terrain slopes down to the valley at approximately 20°.

The ecosystem is characterized as upland moist mixed needle/broadleaf forest (Figure 86). Site vegetation is sparse, mostly mixed aged aspen, spruce, and birch. The understory is alder, wild rose and low scrub, with a thin moss/lichen groundcover. Surface exposure is 0-10%.

Site FAI-02046 was found through subsurface testing. Cultural material was recovered from one of the seven 50 cm x 50 cm test pits excavated. A single very dark gray (3/N) basalt flake (UA2010-188), size class 10-20 mm, was recovered at 5-20 cm BS. No tools were found.

Site stratigraphy consists of aeolian silts 50-60 cm thick overlying poorly-sorted sandy gravels extending at least 65 cm BS (Figure 87, Figure 88).

Figure 84. FAI-02046 aerial overview (view to south)

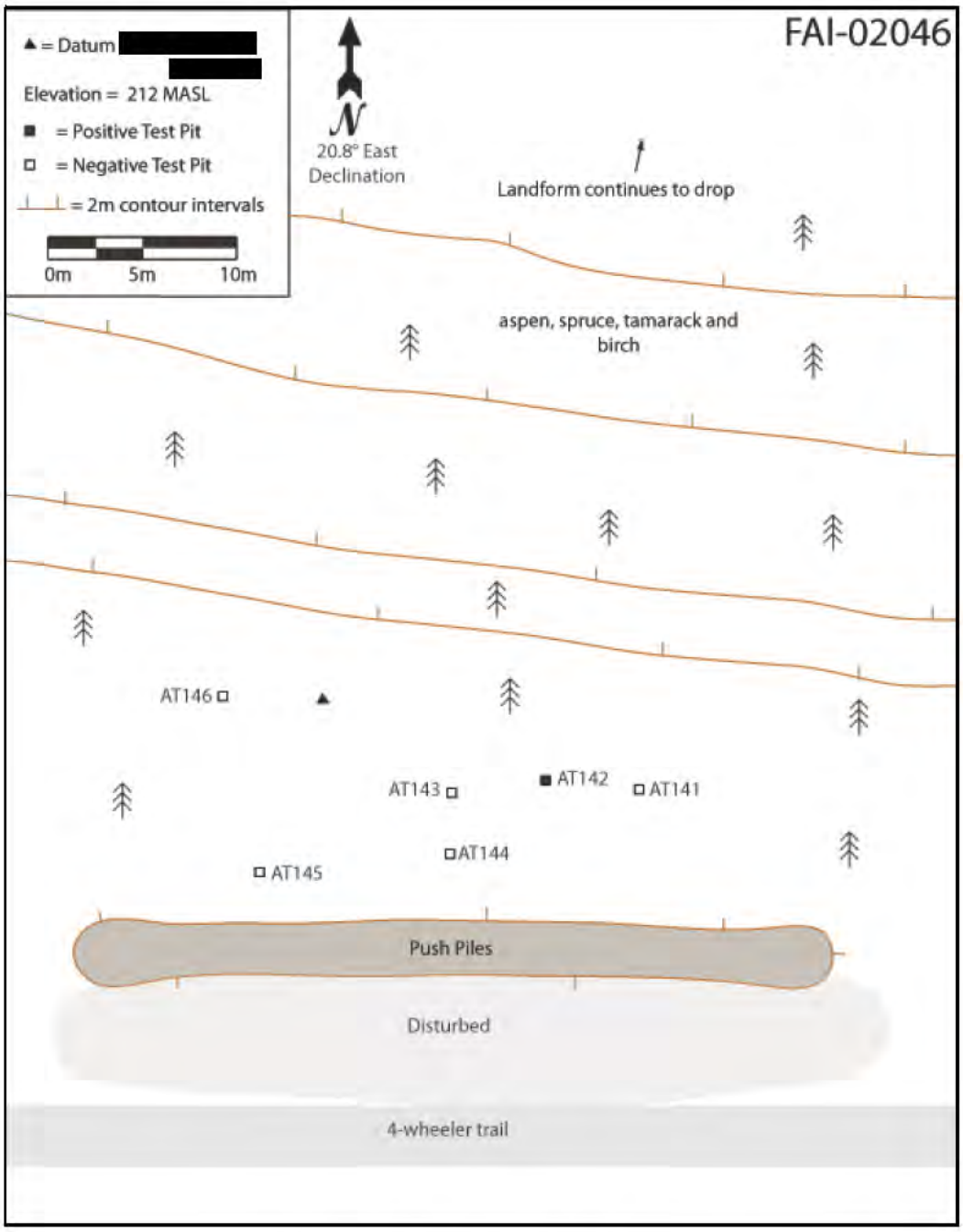


Figure 85. FAI-02046 sketch map

Figure 86. FAI-02046 overview (view to east)

Figure 87. FAI-02046 test pit stratigraphy

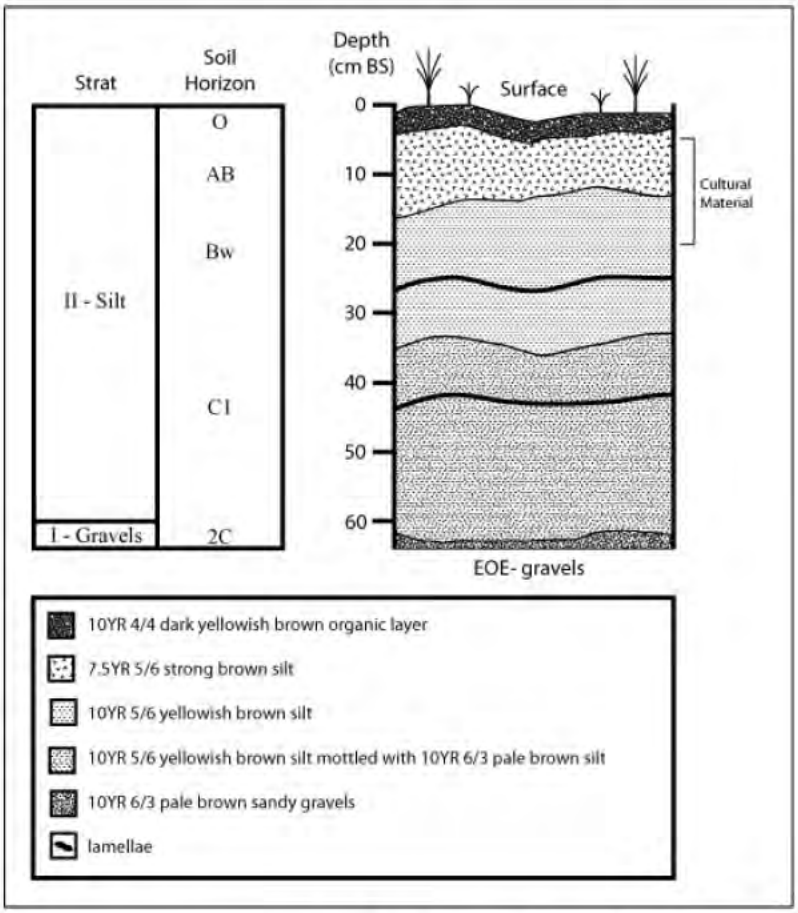


Figure 88. FAI-02046 stratigraphy

FAI-02047
Latitude: [redacted]
Longitude: [redacted]
Determination: Eligible (See DOE form in Appendix 1)

Site FAI-02047 is located on a glacial outwash terraced bench at UTM coordinates [redacted] (Figure 89, Figure 90). Site elevation is 212 masl. The site is situated on a north-south terrace overlooking a substantial drainage to the west and the Tanana River Valley to the south and southeast. The terrace slopes gradually north-south and west-east at 0°-5°, with sharper slopes on its southern and western edges (15°-25°). The terrace is elevated approximately 10-12 m above both the drainage and the valley. A dirt two-track rises from the drainage and cuts across the site near the terrace's southern terminus.

The ecosystem is characterized as upland moist mixed needle/broadleaf forest (Figure 91). Site vegetation consists of mature aspen and mixed aged spruce and birch. The understory is alder, wild rose and low scrub, with a dense moss and lichen ground cover. Surface exposure across

the site is generally 0%, with the exception of the two-track road bed and shoulder, where surface visibility is 100%.

Site FAI-02047 was found through subsurface testing. Cultural material was recovered from four of the six 50 cm x 50 cm test pits excavated. A total of 13 lithic artifacts were recovered at depths ranging from surface to 65 cm BS (Table 10). A microblade medial fragment was recovered from one test pit at 60-65 cm BS (Table 10, Figure 92). Four calcined bone fragments were recovered from a test pit at depths ranging from 0-16 cm BS. All of these were small unidentifiable fragments less than 7 cm in diameter. Stratigraphic charcoal found in association with the cultural material produced an AMS ^{14}C date of 1430 ± 40 B.P. (Beta-283428).

Site stratigraphy consists of aeolian silts at least 50 cm thick overlying poorly sorted sandy gravels extending at least 75 cm BS (Figure 93, Figure 94).

Figure 89. FAI-02047 aerial overview (view to south)

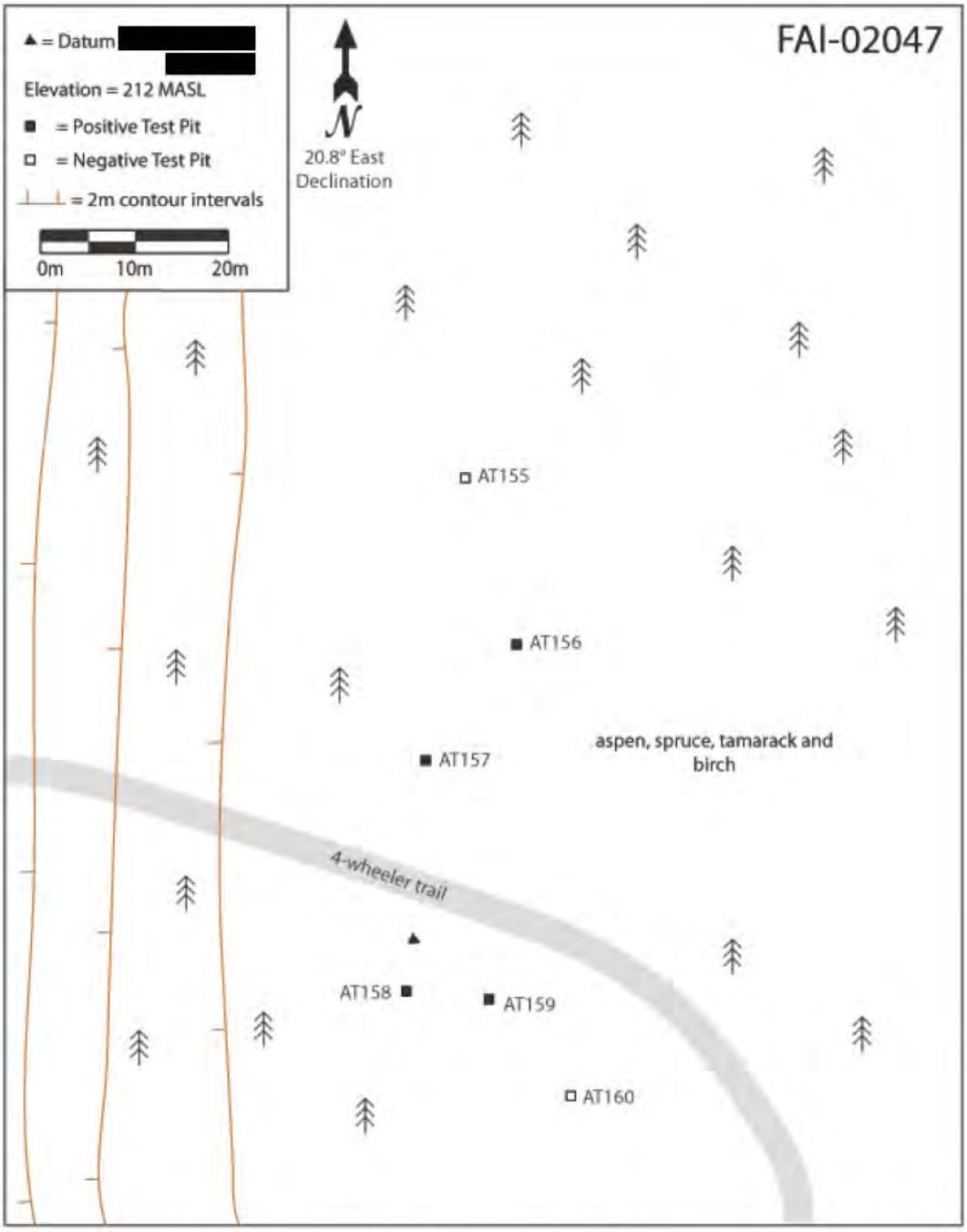


Figure 90. FAI-02047 sketch map

Figure 91. FAI-02047 overview (view to east)

Table 10. FAI-02047 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-189-0001	1	surface	flake	1	basalt	dark gray
UA2010-189-0002	2	0-10	flakes	3	chert, rhyolite	black, yellowish and pale brown
UA2010-189-0003	3	10-20	flake	1	rhyolite	very dark gray
UA2010-189-0004	4B	23	flake	1	chert	translucent grayish brown
UA2010-189-0005	5	30-40	flake	1	chert	translucent dark gray
UA2010-189-0006	6	60-65	microblade	1	chert	gray
UA2010-189-0007	7	0-12	flakes	2	rhyolite	very pale and yellowish brown
UA2010-189-0008	8	18	flake	2	rhyolite	light yellowish brown
UA2010-189-0009	9	0-10	flake	1	chert	very dark gray
UA2010-189-0010	10	10	flake	1	chert	translucent gray
UA2010-189-0011	11	20-30	flake	1	chert	dark gray
UA2010-189-00012	4A	23	charcoal			

Figure 92. FAI-02047 microblade

Figure 93. FAI-02047 test pit stratigraphy

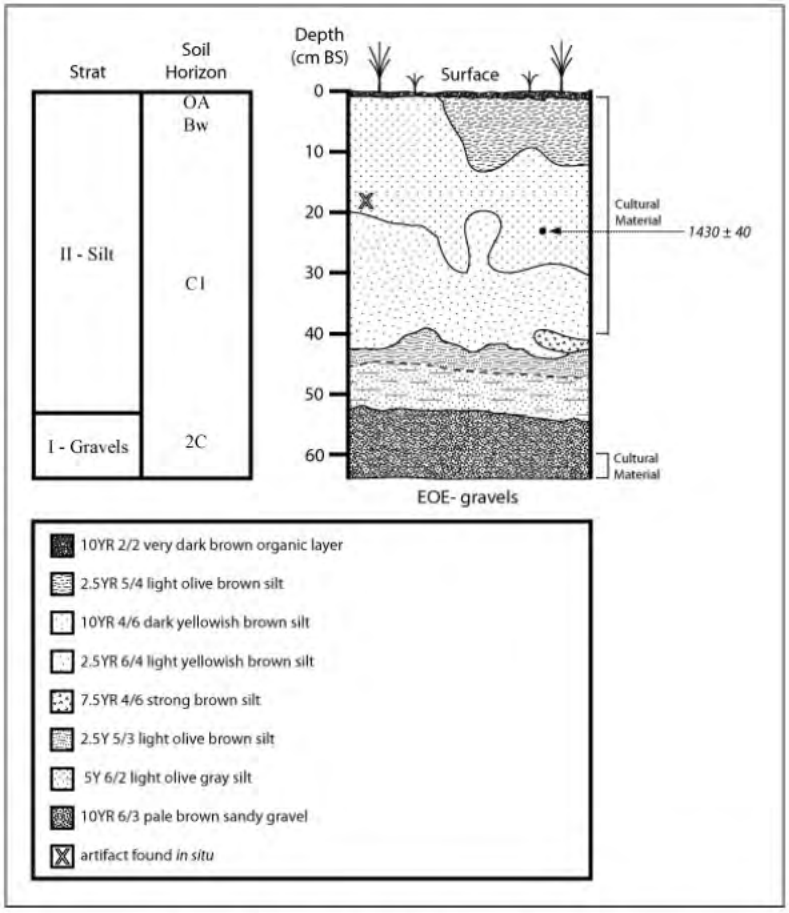


Figure 94. FAI-02047 stratigraphy

FAI-02048
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02048 is located on a terrace edge approximately 2 km southwest of Dry Creek, at UTM coordinates [redacted] (Figure 95, Figure 96). Site elevation is 221 masl. The site is situated on a level area approximately 60 m north-south by 40 m east-west. The landform drops off to the north/northeast at a 15°-20° slope, and to the east at a 20°-30° slope. West and southwest of the site, the slope is a more gradual, 5°-10° slope for at least 50 m. The location of the site provides an unobstructed 80° viewshed north to southeast. Dry Creek is the nearest water source, and seasonally-wet drainages cut through the outwash bench in numerous, closer locations.

The ecosystem is characterized as upland dry mixed broadleaf and needleleaf forest (Figure 97). Site vegetation includes spruce, birch, aspen, willow, alder, and low forbs, with a dense moss/lichen groundcover. There is little to no surface exposure in the site area. The site appears to be undisturbed.

Site FAI-02048 was identified through subsurface testing. Cultural material was recovered from one of the twelve 50 cm x 50 cm test units excavated, which yielded one dark gray (4/N) chert flake fragment (UA2010-190), size class 10-20 mm, at 30-35 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silt 50-60 cm thick overlying poorly sorted silty gravel extending to at least 75 cm BS (Figure 98, Figure 99).

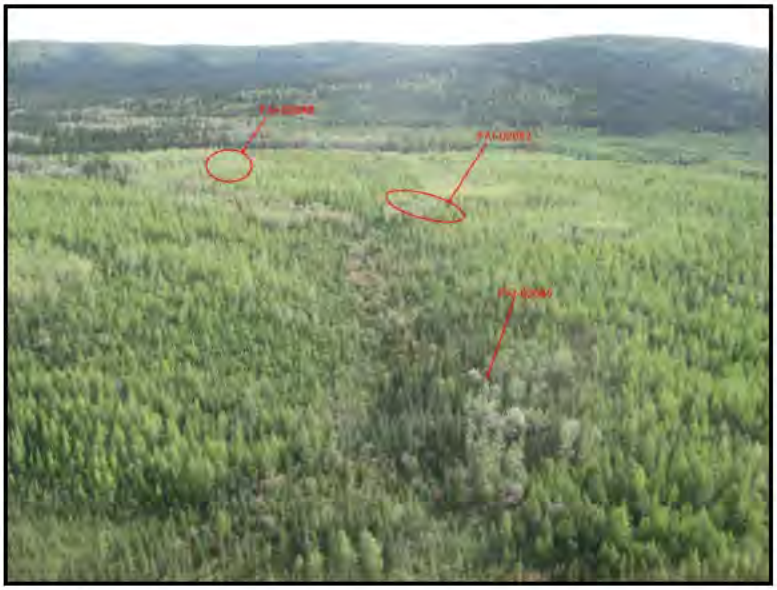


Figure 95. FAI-02048 aerial overview (view to south)

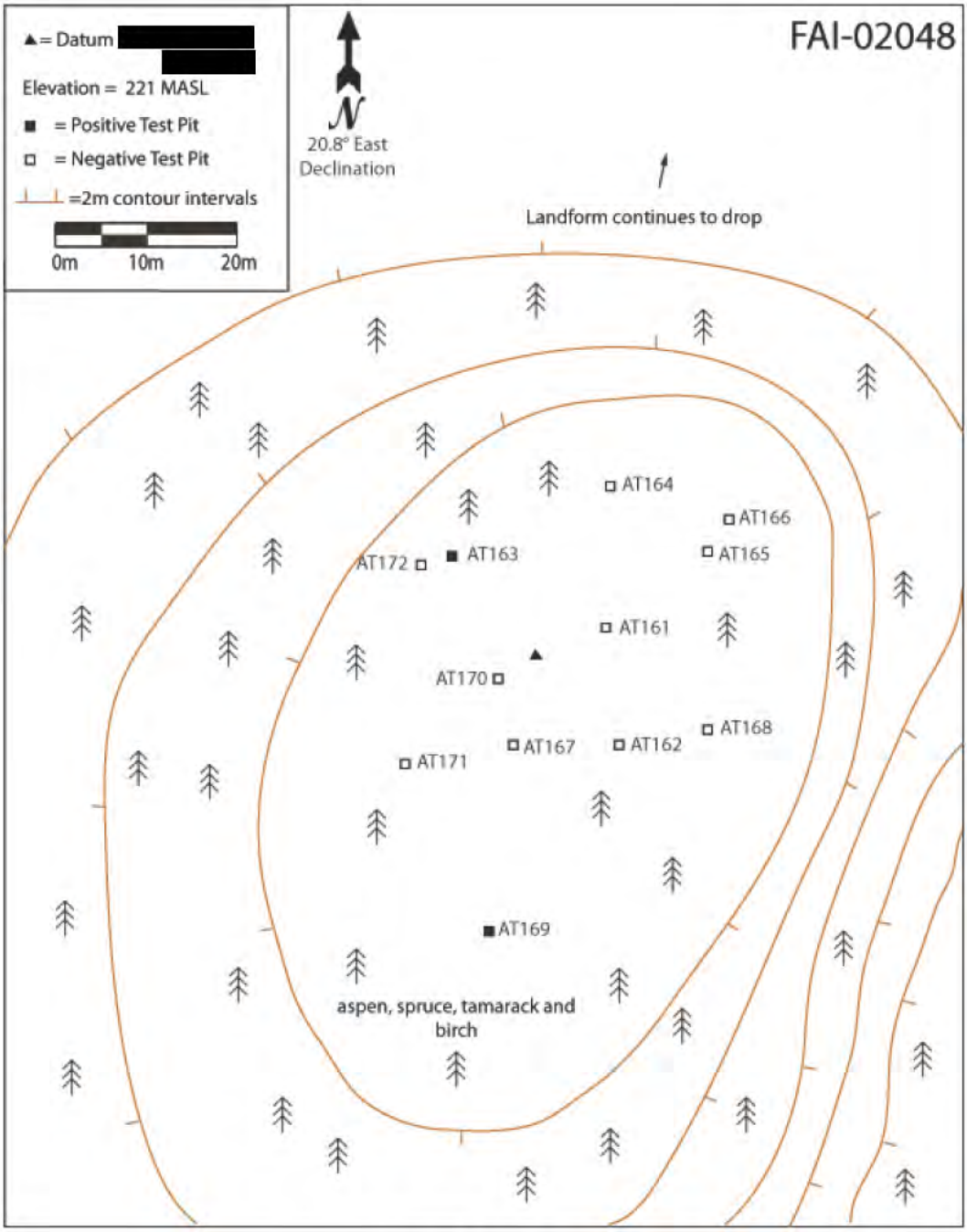


Figure 96. FAI-02048 sketch map

Figure 97. FAI-02048 overview (view to south)

Figure 98. FAI-02048 test pit stratigraphy

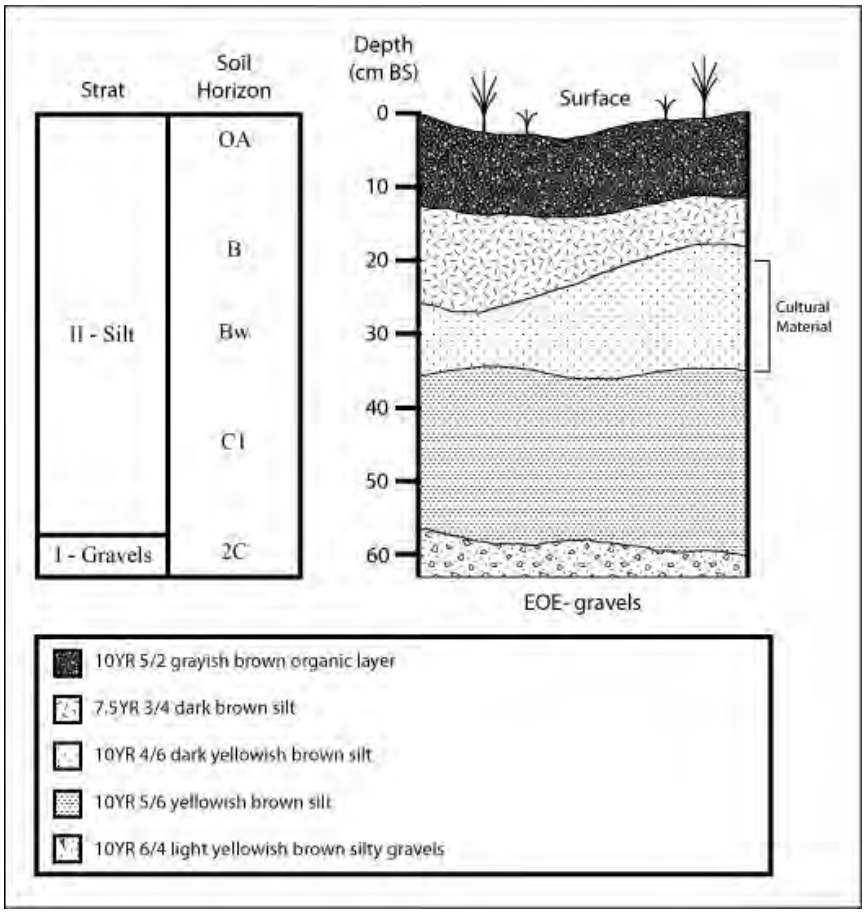


Figure 99. FAI-02048 stratigraphy

FAI-02049
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02049 is located on a terrace edge approximately 2.5 km southwest of Dry Creek, at UTM coordinates [redacted] (Figure 100, Figure 101, Figure 102). Site elevation is 213 masl. The site is situated on a point on a north-facing terrace overlooking the Tanana River Valley. The slope down to the valley floor starts at approximately 5°-10°, dropping off to a 30°-40° slope near the bottom. The nearest source of water is Dry Creek, and seasonally-wet drainages cut through the outwash bench in numerous, closer locations.

The ecosystem is characterized as upland moist mixed broadleaf and needleleaf forest (Figure 101). Site vegetation consists of spruce, birch, aspen, willow, alder, and low shrubs. A dense

moss/lichen ground cover obscures any surface visibility. The site is disturbed by an abandoned two-track that runs north to south along the east side of the terrace.

Site FAI-02049 was identified through subsurface testing. Cultural material was recovered from one of the three 50 cm x 50 cm test units excavated. In total, two flakes were recovered from the site at depths 25-35 cm BS (Table 11). No tools were recovered from the site.

Site stratigraphy consists of aeolian silt 50-70 cm thick overlying poorly sorted, silty gravel extending to at least 90 cm BS (Figure 103, Figure 104).

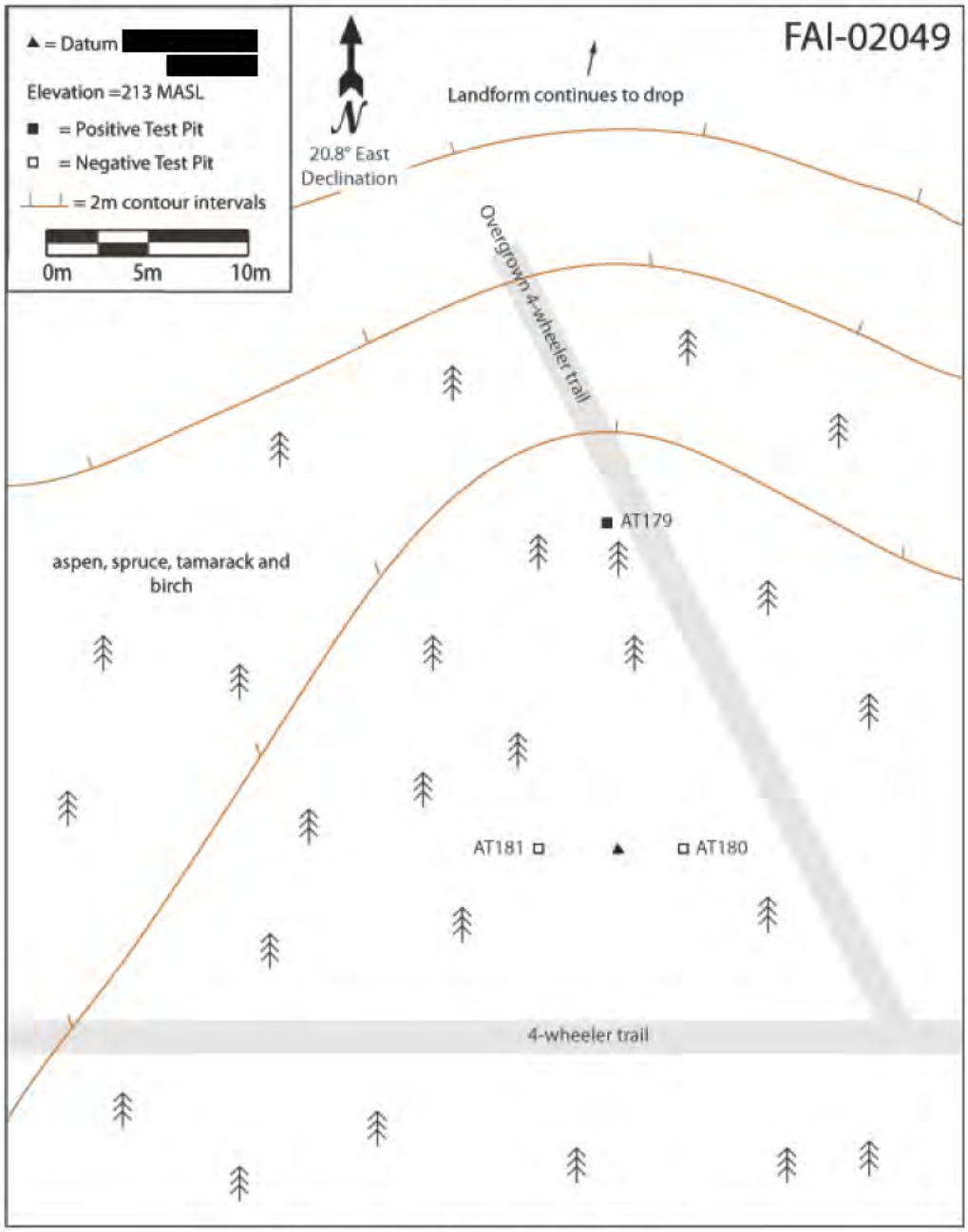


Figure 100. FAI-02049 sketch map

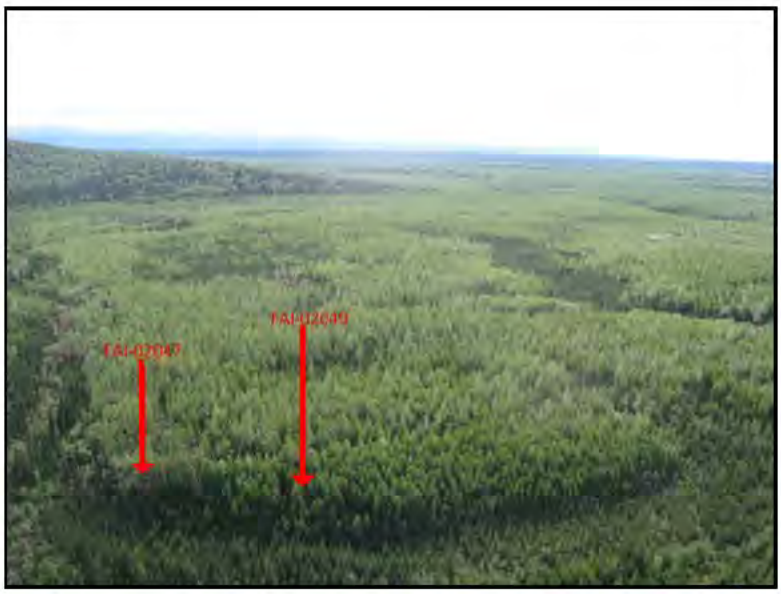


Figure 101. FAI-02049 aerial overview (view to south)

Figure 102. FAI-02049 overview (view to north)

Table 11. FAI-02049 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-191-0001	1	25-35	flake and flake fragment	2	rhyolite	light brownish gray and gray
UA2010-191-0002	2	19	charcoal			

Figure 103. FAI-02049 test pit stratigraphy

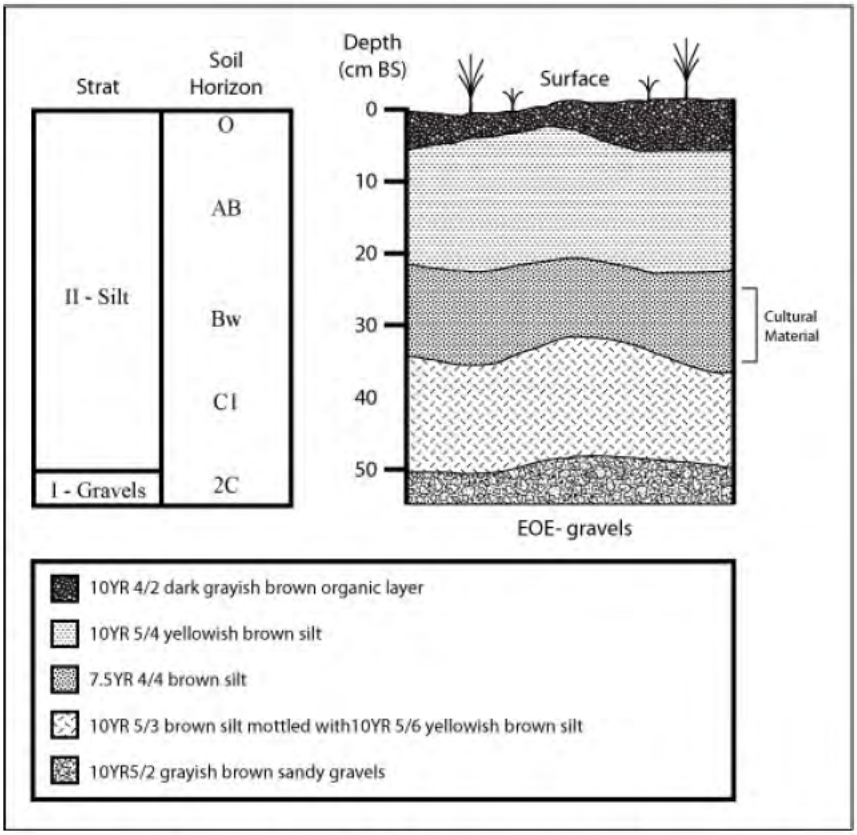


Figure 104. FAI-02049 stratigraphy

FAI-02050
Latitude: [redacted]
Longitude: [redacted]
Determination: Not Evaluated

Site FAI-02050 is located on a terrace edge at UTM coordinates [redacted] (Figure 105, Figure 106). Site elevation is 215 masl. The site is situated on the summit of a round, flat-topped hill with an exceptional view of the Tanana River Valley and the Dry Creek drainage to the east. The summit is approximately 16 m in diameter, sloping down on all sides at 5°-15°. An unnamed, southwest-northeast trending creek lies at the base of the hill on the southeast side and is the closest source of water.

The ecosystem is characterized as upland broadleaf forest (Figure 107), and the site is primarily a homogenous young aspen forest with very little understory except for wild rose. Ground cover is mostly a thin layer of forest duff, and surface exposure is 5-10%.

Site FAI-02050 was found through subsurface testing. Cultural material was recovered from each of the three 50 cm x 50 cm test pits excavated. A total of 45 lithic artifacts were recovered at depths ranging from 0-125 cm BS (Table 12). One microblade medial fragment was recovered from one test pit at 60-65 cm BS (Table 12, Figure 108).

Site stratigraphy consists of aeolian silts at least 96 cm thick overlying fine sands extending to at least 150 cm BS (Figure 109, Figure 110).

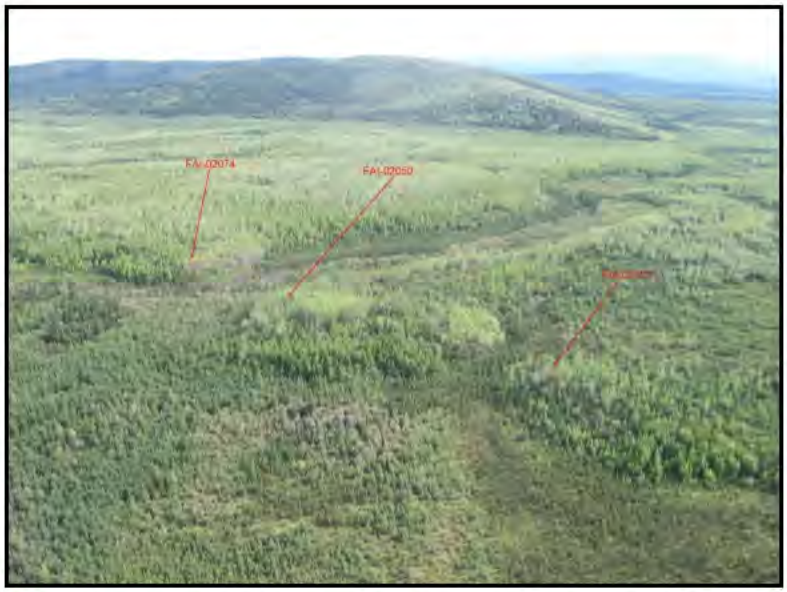


Figure 105. FAI-02050 aerial overview (view to south)

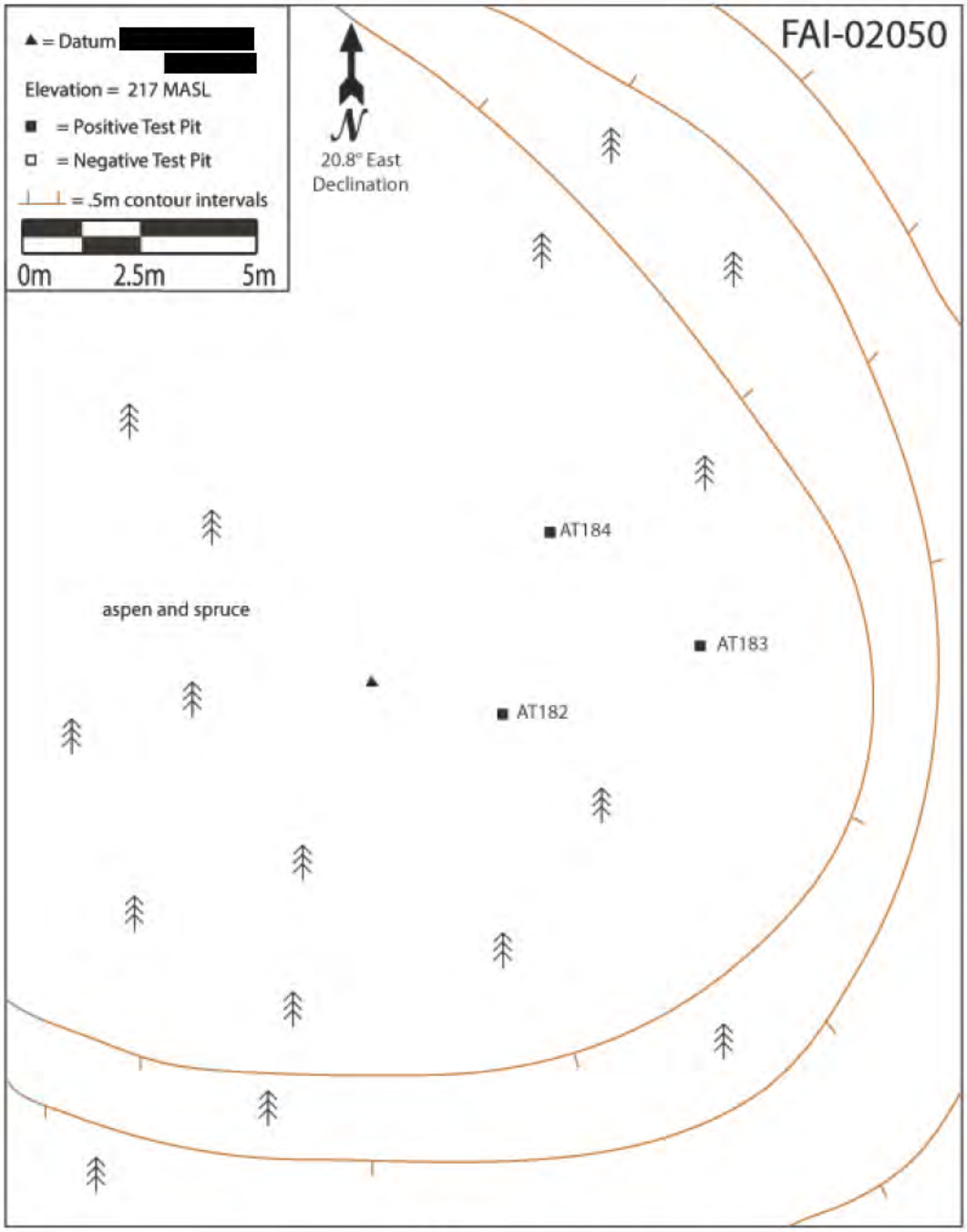


Figure 106. FAI-02050 sketch map

Figure 107. FAI-02050 overview (view to southeast)

Table 12. FAI-02050 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-192-0001	1	0-10	flake	1	rhyolite	pale brown
UA2010-192-0002	2	10-15	flake	1	basalt	dark gray
UA2010-192-0003	3	15-20	flake fragment	2	rhyolite	light and light yellowish brown
UA2010-192-0004	4	25-30	flake fragment	1	rhyolite	light yellowish brown
UA2010-192-0005	5	30-40	flake fragment	6	rhyolite and chert	various
UA2010-192-0006	6	40-45	flake	1	rhyolite	dark grayish brown
UA2010-192-0007	7	45	flake	1	basalt	very dark gray
UA2010-192-0008	9	5-15	flake fragment	1	chert	translucent white w/ very dark gray bands
UA2010-192-0009	10	22	charcoal			
UA2010-192-0010	11	30-40	flake fragment	1	rhyolite	light yellowish brown
UA2010-192-0011	12	40-50	flake	1	rhyolite	light yellowish brown
UA2010-192-0012	13	120-125	flake	1	basalt	black
UA2010-192-0013	14	10-20	flake	1	chert	banded very dark gray, gray
UA2010-192-0014	15	25-30	flake	11	chert, basalt, rhyolite	various
UA2010-192-0015	16	30-35	flake fragment	7	chert, basalt, rhyolite	various
UA2010-192-0016	17	32	flake fragment	1	chert	very pale brown
UA2010-192-0017	18	34	flake fragment	1	basalt	dark gray
UA2010-192-0018	19	55-60	flake fragment	1	rhyolite	pale brown
UA2010-192-0019	20	60-65	microblade fragment	1	chert	very dark gray
UA2010-192-0020	21	wall	flake fragment	1	chert	dark greenish gray

Figure 108. FAI-02050 microblade

Figure 109. FAI-02050 test pit stratigraphy

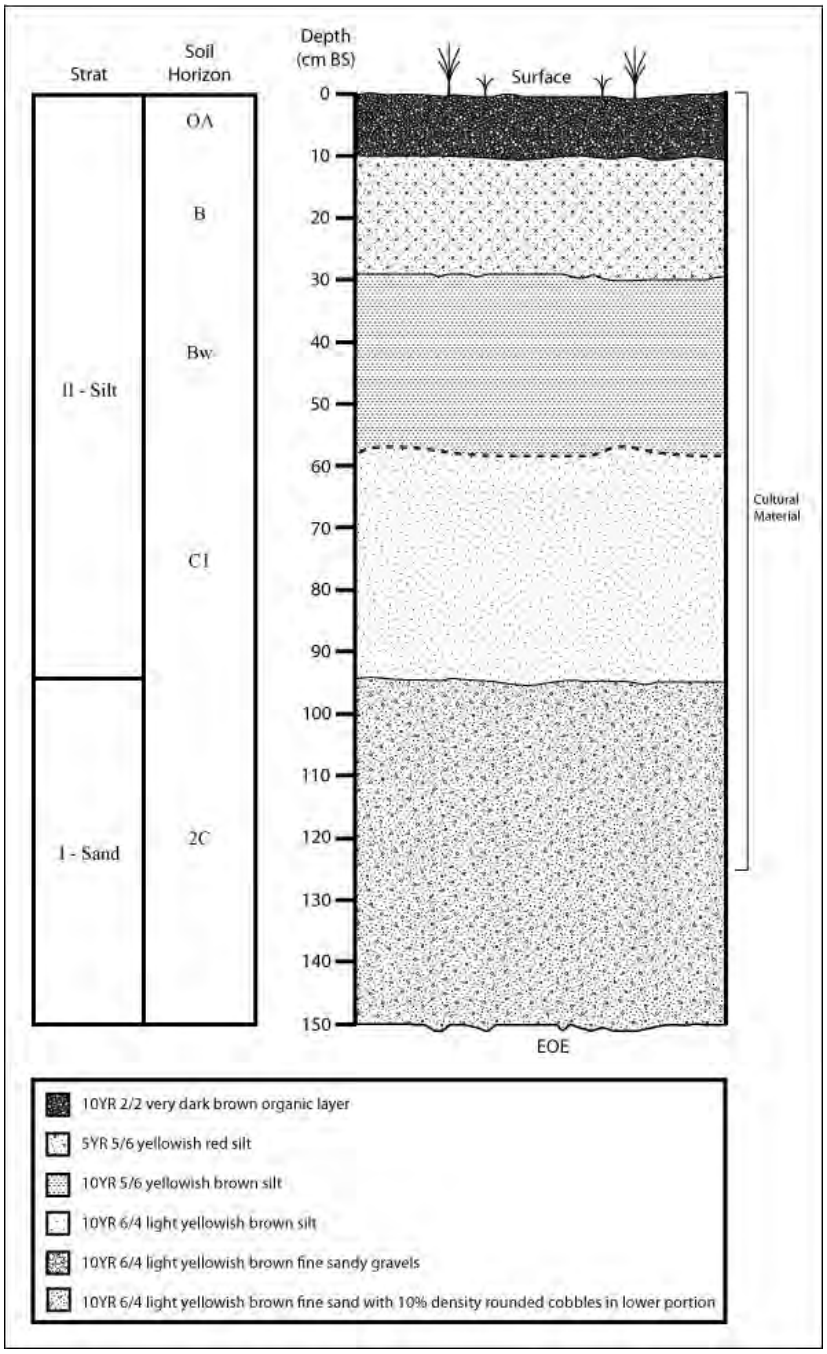


Figure 110. FAI-02050 stratigraphy

FAI-02051
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02051 is located on a terrace edge at UTM coordinates [redacted] (Figure 111, Figure 112). Site elevation is 217 masl. The site is situated on a level hilltop overlooking a large drainage to the southeast and the Tanana River Valley to the north. The hilltop is relatively level and approximately 50-60 m in diameter. The sides of the hill slope down at 15°-30° to the north, east and south toward a lower terrace 15-20 m below. The west side of the hilltop remains fairly level for at least 50 m. An unnamed, southwest-northeast trending creek approximately 500 m southeast of the site is the closest source of water. The location provides excellent 180° views of the valley and the Dry Creek drainage to the north and east.

The ecosystem is characterized by upland dry broadleaf forest (Figure 113). Site vegetation consists of spruce, aspen, wild rose, Labrador tea, bearberry, salmonberry, and other low shrubs. Ground cover is a dense moss/lichen carpet. Surface visibility is 0%.

Site FAI-02051 was identified through subsurface testing. Cultural material was recovered from two of the four 50 cm x 50 cm test units excavated. Each of the positive test pits yielded a single rhyolite flake at depths ranging from 55-80 cm BS (Table 13). No tools were recovered from the site.

Site stratigraphy consists of aeolian silts 65-75 cm thick overlying poorly sorted silty gravels extending to at least 80 cm BS (Figure 114, Figure 115). AT187 contains a coarse sand and gravel layer (65-80 cm BS) below silty gravels (60-65 cm BS).

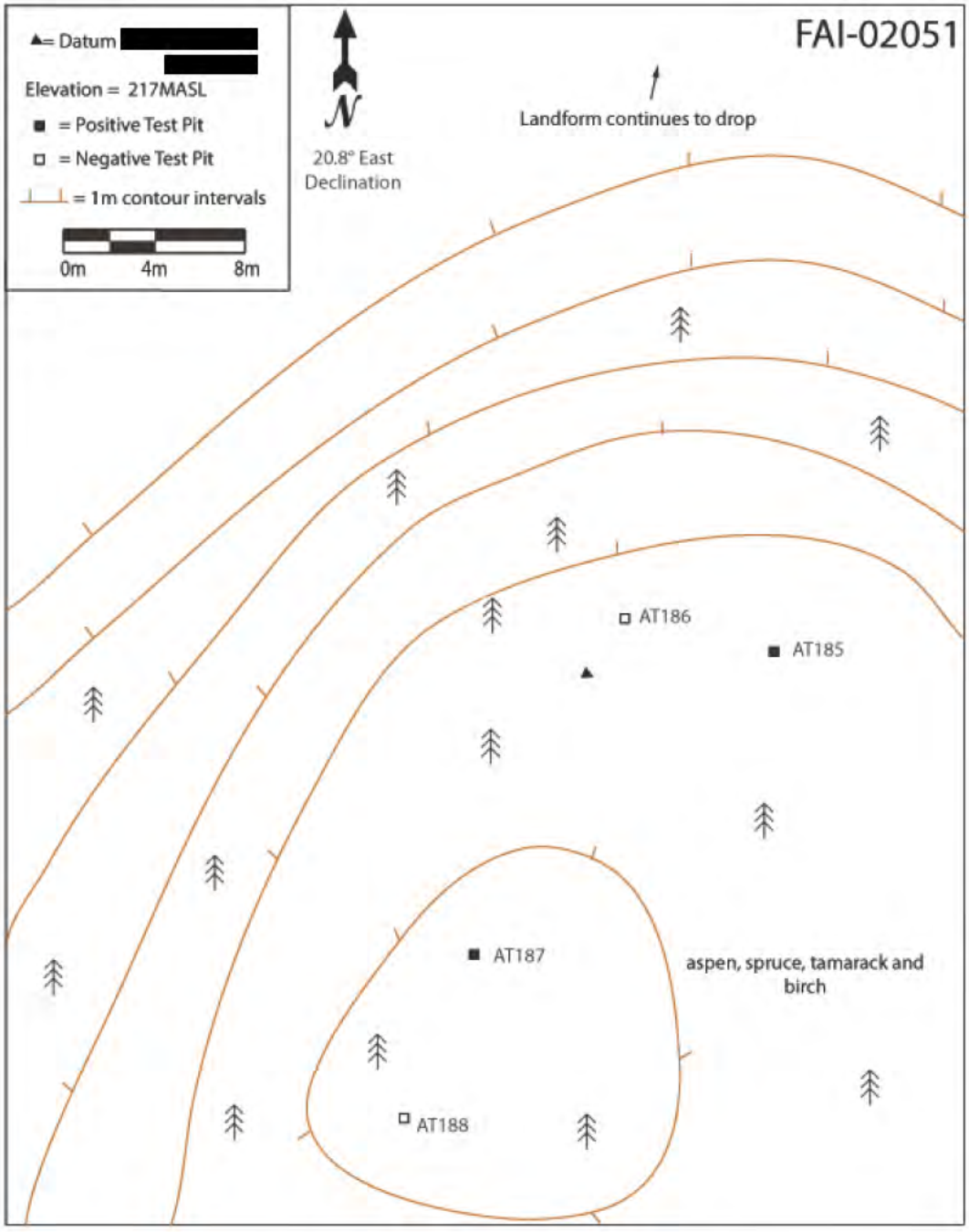


Figure 111. FAI-02051 sketch map

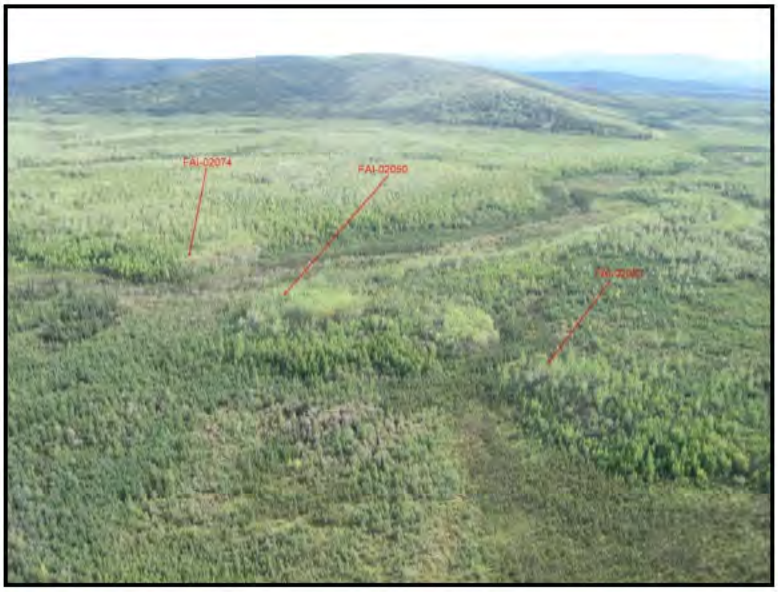


Figure 112. FAI-02051 aerial overview (view to south)

Figure 113. FAI-02051 overview (view to northwest)

Table 13. FAI-02051 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-193-0001	1	55-65	flake fragment	1	rhyolite	light olive gray
UA2010-193-0002	2	80	flake fragment	1	rhyolite	light brownish gray

Figure 114. FAI-02051 test pit stratigraphy

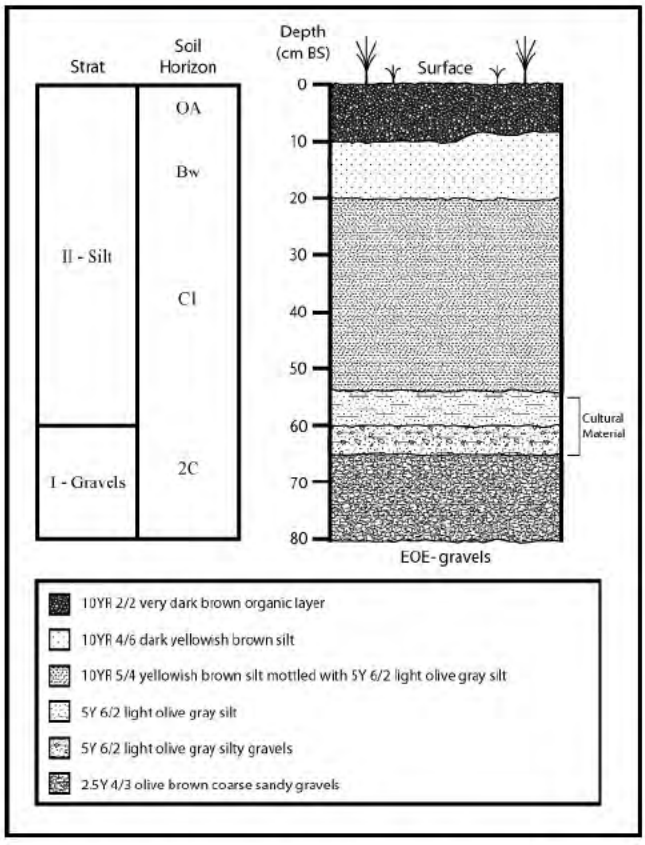


Figure 115. FAI-02051 stratigraphy

FAI-02052
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02052 is located on a terrace edge approximately 500 m west of Dry Creek at UTM coordinates [redacted] (Figure 116, Figure 117). Site elevation is 245 masl. The landform drops 15-20 m at a 50° slope to the east, north, and northeast. South of the site, the terrain gradually gains elevation for at least 50 m. A small, southwest-northeast drainage borders the site to the west. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations. The viewshed is approximately 120° with limited views of the Dry Creek drainage and the Tanana River Valley.

The ecosystem is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 118). Site vegetation consists primarily of mixed age spruce and birch with an understory of willow, alder, wild rose, low forbs, and a dense moss/lichen groundcover. Surface exposure is 0%. No disturbances were observed.

Site FAI-02052 was identified through subsurface testing. Cultural material was recovered from one of three 50 cm x 50 cm test units excavated. In total, two gray chert flakes were recovered from depths of 30-48 cm BS (Table 14). No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 30 cm thick overlying poorly sorted sandy gravel extending to at least 50 cm BS (Figure 119, Figure 120).

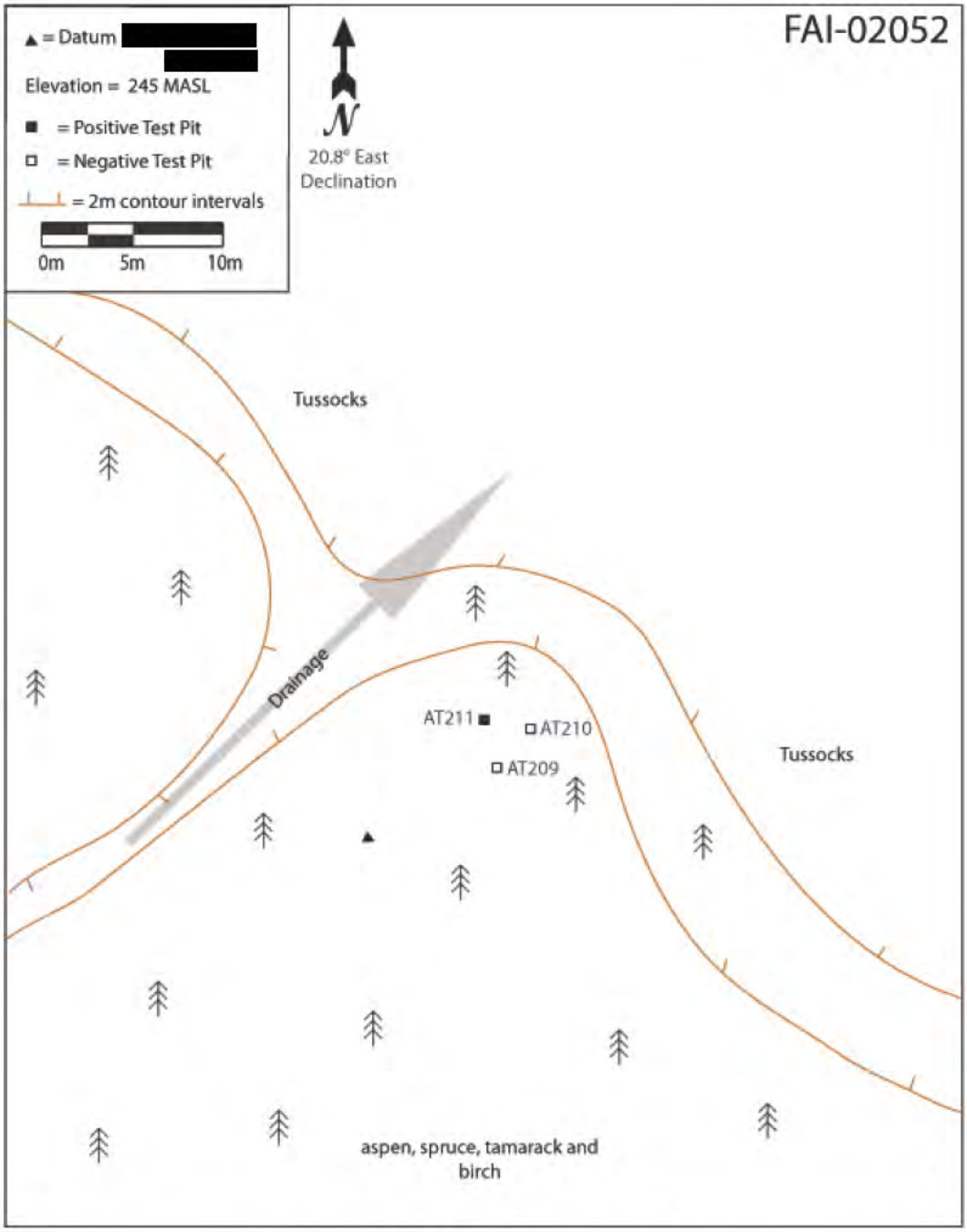


Figure 116. FAI-02052 sketch map

Figure 117. FAI-02052 aerial overview (view to west)

Figure 118. FAI-02052 overview (view to northwest)

Table 14. FAI-02052 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-194-0001	1	30-40	flake	1	chert	dark gray
UA2010-194-0002	2	48	flake	1	chert	dark gray

Figure 119. FAI-02052 test pit stratigraphy

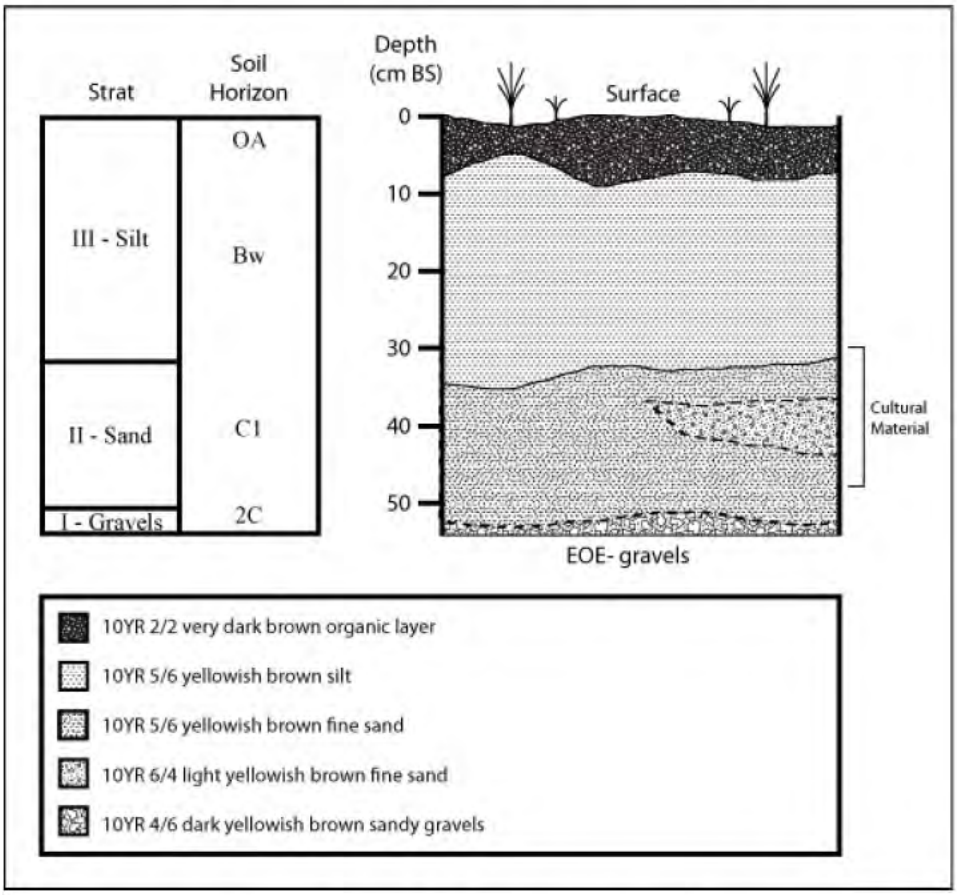


Figure 120. FAI-02052 stratigraphy

FAI-02053
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02053 is located on the edge of a north-facing terrace approximately 2.5 km southwest of Dry Creek at UTM coordinates [redacted] (Figure 121, Figure 122). Site elevation is 225 masl. The site area overlooks the Tanana River Valley to the north. The terrain slopes down north-east at 15°-20° and climbs at 0°-5° to a dirt two-track 80 m west and south of the site. Dense vegetation precludes any significant viewshed. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist mixed broadleaf and needleleaf forest (Figure 123). Site vegetation includes spruce, birch, aspen, low shrubs, mosses, and lichen. There is little to no surface exposed within or around the site area. The site area appears to be undisturbed.

Site FAI-02054 was identified through subsurface testing. Cultural material was recovered from one of the eight 50 cm x 50 cm test pits excavated. One test pit yielded a single translucent light greenish gray (10Y 7/1) rhyolite broken flake (UA2010-195), size class 10-20 mm, at 25-35 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 45 cm thick overlying poorly sorted sandy gravel extending to at least 85 cm BS (Figure 124, Figure 125).

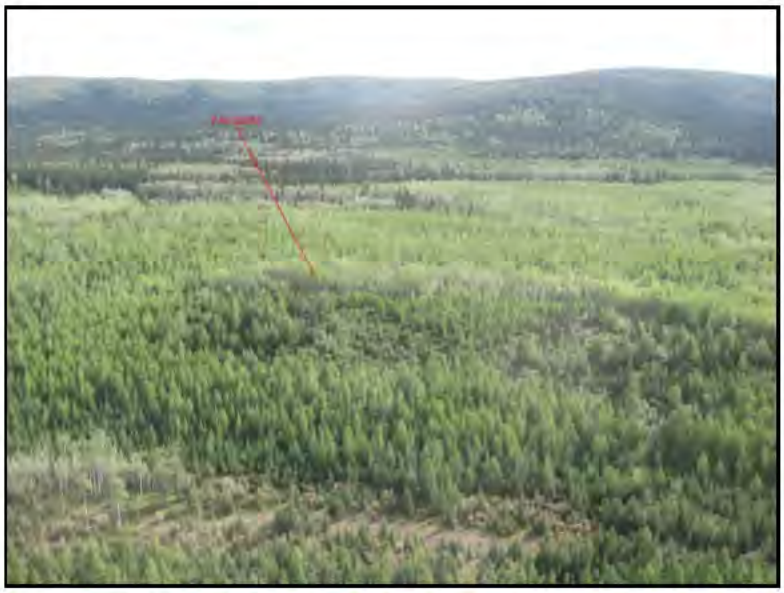


Figure 121. FAI-02053 aerial overview (view to south)

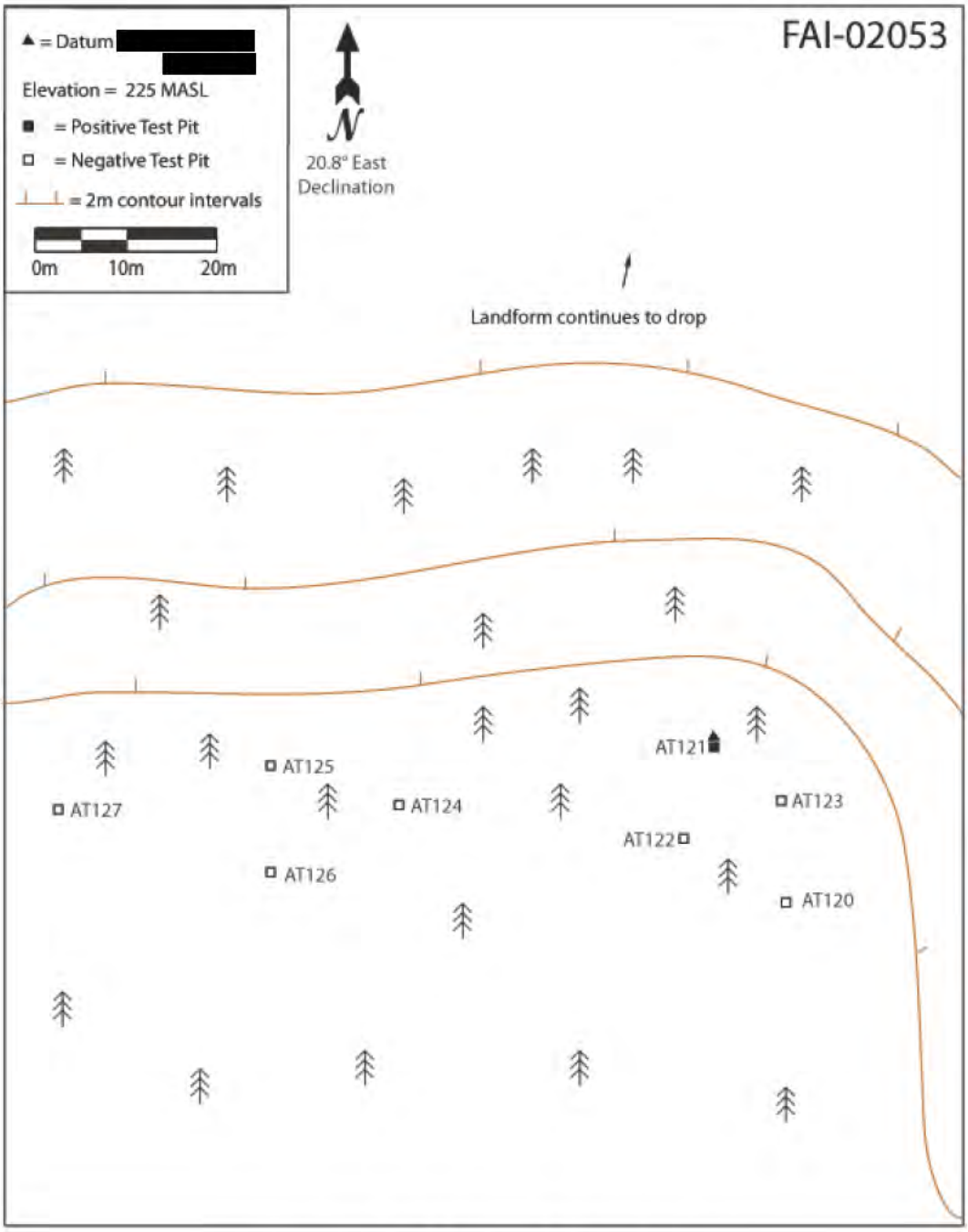


Figure 122. FAI-02053 sketch map

Figure 123. FAI-02053 overview (view to south)

Figure 124. FAI-02053 test pit stratigraphy

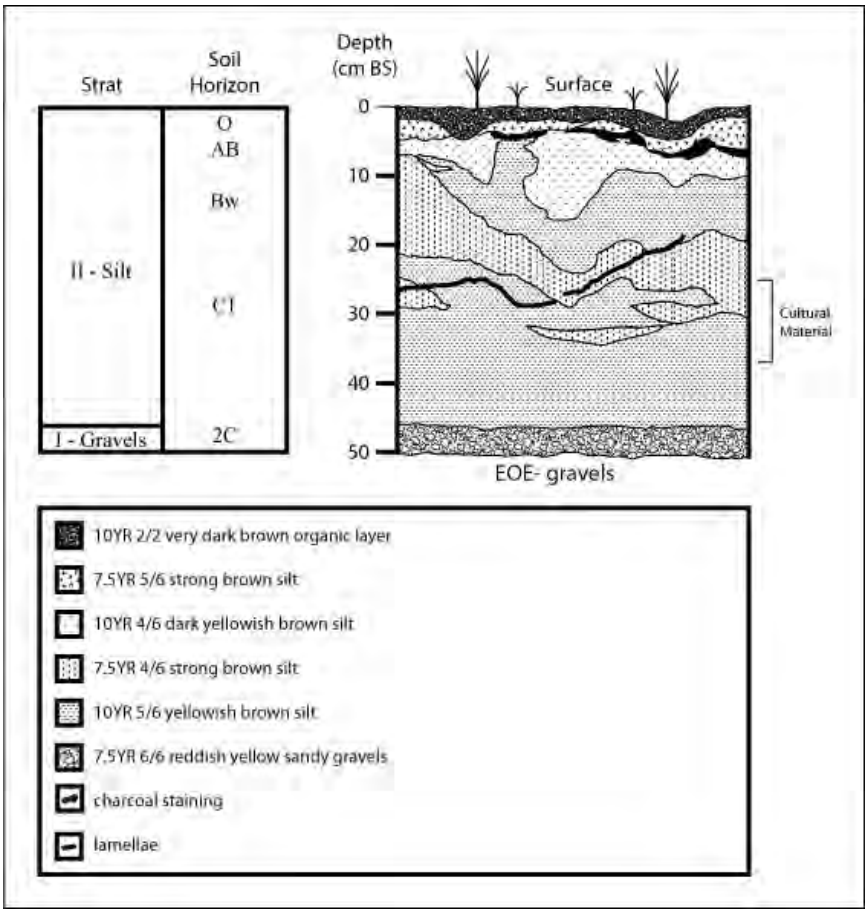


Figure 125. FAI-02053 stratigraphy

FAI-02054
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02054 is located on a north-facing terrace edge approximately 3 km southwest of Dry Creek at UTM coordinates [redacted] (Figure 126, Figure 127). Site elevation is 210 masl. The site is situated on the edge of an east-west trending terrace perched 5 m above a lower, smaller terrace, some 15 m above a large, east-west dry drainage. The slope from site to drainage is 30°- 40°. A dirt two-track parallels the terrace approximately 30 m south of the site. The location provides a viewshed of the drainage northeast of the site. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist mixed needleleaf/broadleaf forest (Figure 128). Site vegetation includes spruce, birch, aspen, alder, willow, low scrub, mosses, and lichen.

Surface exposure is minimal, except in discrete areas where military foxholes and related activity areas have disturbed the site.

Site FAI-02054 was identified through subsurface testing. Cultural material was recovered from one of two 50 cm x 50 cm test pits, which yielded a single light brown (7.5Y 6/4) rhyolite flake fragment (UA2010-196), size class 20-30 mm, at 0-10 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 70 cm thick overlying silty sands and poorly sorted gravel extending to at least 80 cm BS (Figure 129, Figure 130).

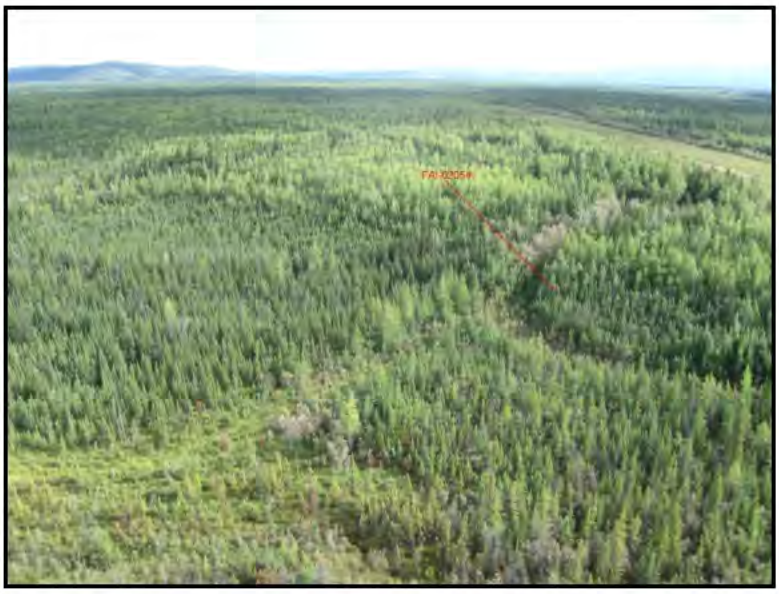


Figure 126. FAI-02054 aerial overview (view to east)

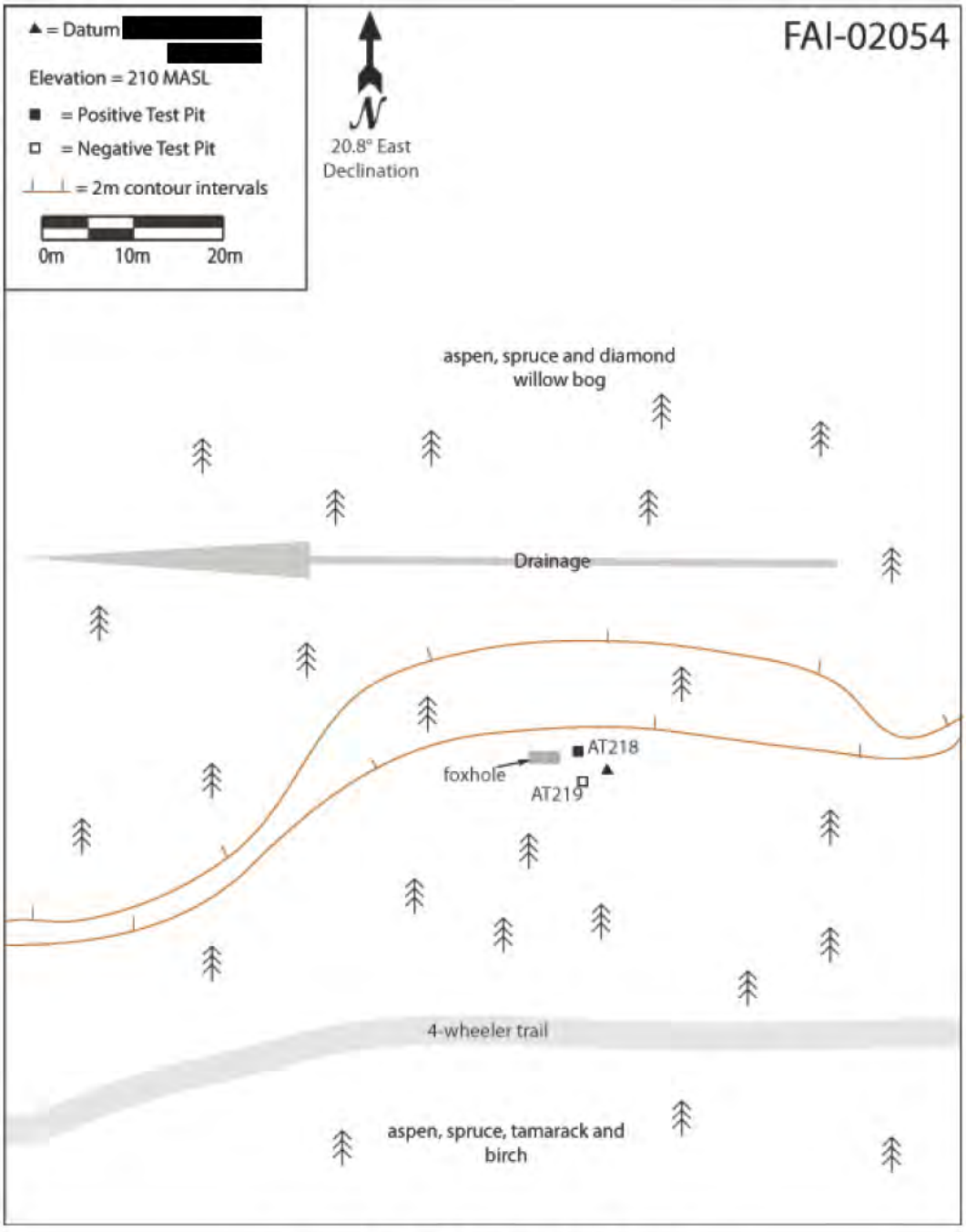


Figure 127. FAI-02054 site map

Figure 128. FAI-02054 overview (view to south)

Figure 129. FAI-02054 test pit stratigraphy

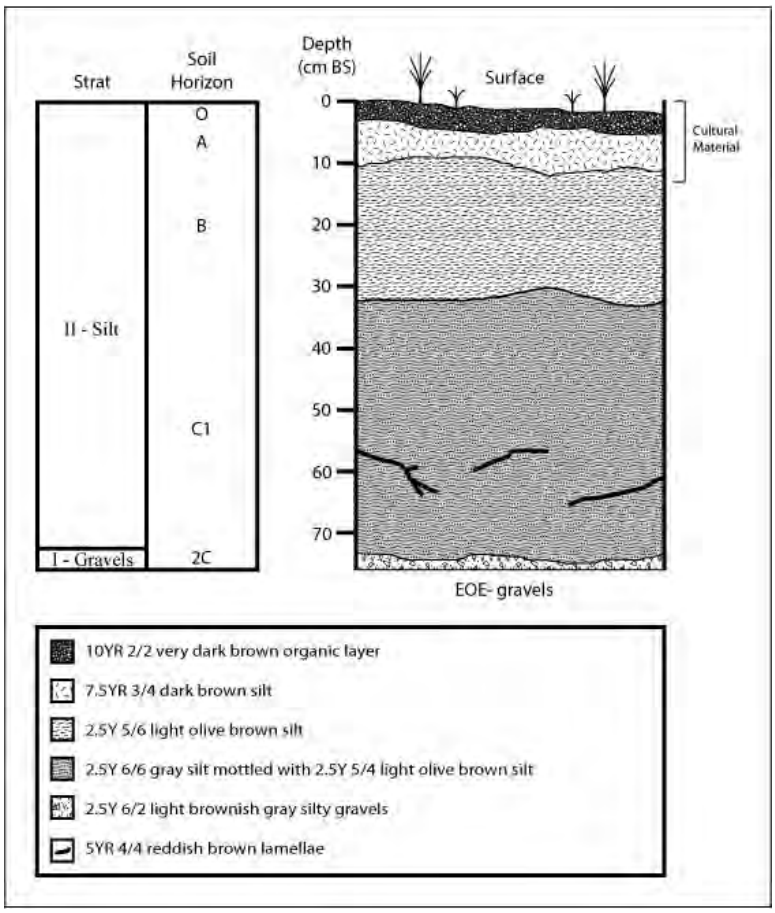


Figure 130. FAI-02054 stratigraphy

FAI-02055
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02055 is located on a north-facing terrace edge approximately 2.5 km southwest of Dry Creek at UTM coordinates [redacted] (Figure 131, Figure 132). Site elevation is 199 masl. The site is situated on an elevated rounded point extending roughly 10-20 m in diameter. The sides of the knoll slope down to a small drainage 50 m north and east of the site, steeper to the east than to the north. The location of the site provides a viewshed of a nearby drainage to the east and limited views of the Dry Creek drainage to the north/northeast. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations.

The ecosystem surrounding the site is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 133). Site vegetation includes spruce, birch, aspen, willow, alder, and low shrubs. Ground cover at the site is minimal, but some areas have up to 30% surface exposure. An abandoned military foxhole is located 5 m north of the site.

Site FAI-02055 was identified through subsurface testing. Cultural material was recovered from one of the two 50 cm x 50 cm test pits excavated, which yielded a single dark gray (2.5Y 4/1) chert broken flake (UA2010-197), size class 30-40 mm, at 0-5 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 75 cm thick overlying sandy silt and poorly sorted gravel extending to at least 80 cm BS (Figure 134, Figure 135).

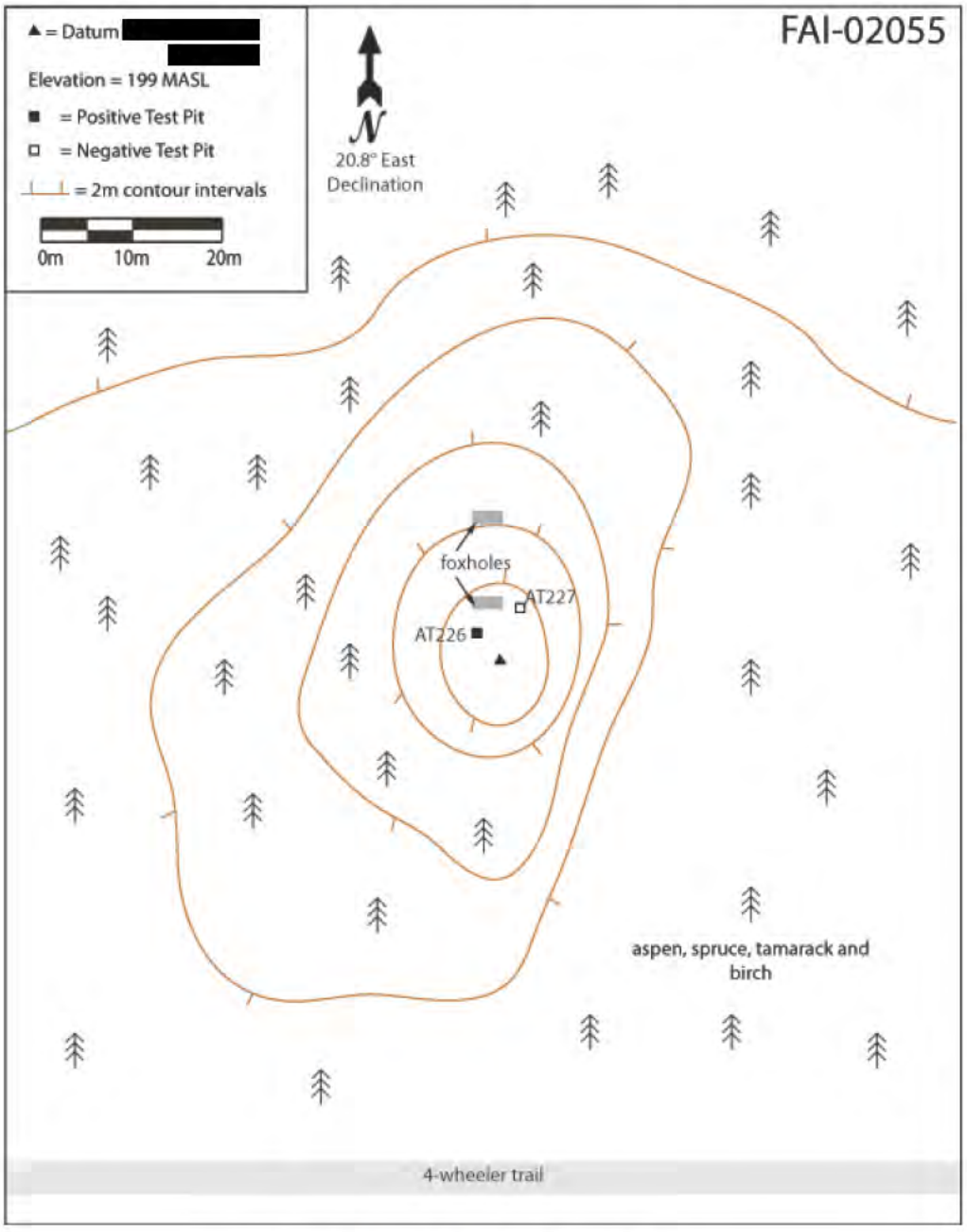


Figure 131. FAI-02055 sketch map

Figure 132. FAI-02055 aerial overview (view to south)

Figure 133. FAI-02055 overview (view to northeast)

Figure 134. FAI-02055 test pit stratigraphy

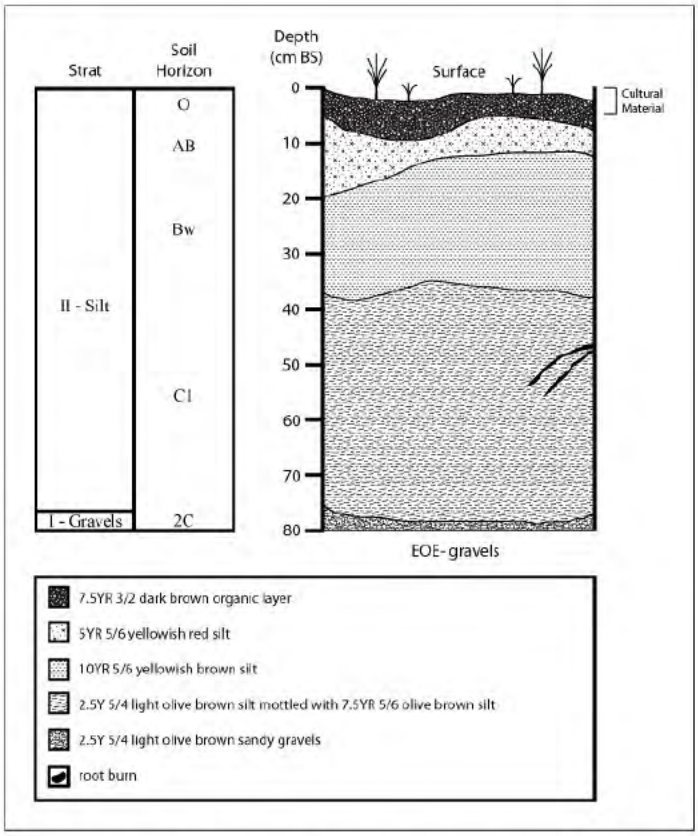


Figure 135. FAI-02055 stratigraphy

FAI-02056
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-2056 is located on a north-facing terrace edge some 2.5 km southwest of Dry Creek and less than 1 km east of the Clear Creek Assault Strip at UTM coordinates are [redacted] (Figure 136, Figure 137). Site elevation is 208 masl. The site is situated on a low east-west trending terrace edge bordered by two elevated terraces to the east and west. Fifteen meters north of the site, the terrain slopes gradually (0-5°) down to another terrace edge. South of the site, the terrain remains generally level for at least 50 m. The viewshed is significantly limited by vegetation and topography. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 138). Site vegetation includes mixed age spruce, birch, scrub alder, willow, mosses, and lichen. There is minimal surface exposure in the site area. The site appears to be undisturbed, although there are a number of military foxholes in the vicinity.

Site FAI-02056 was identified on the basis of a single dark reddish gray (10R 3/1) chert broken flake (UA2010-198), size class 20-30 mm, found within the exposed roots of a treefall (Figure 139). Soil in and around the roots was removed and screened, and 19 bone fragments were recovered. All of these are small fragments less than 10 cm in diameter. A single 50 cm x 50 cm test pit 15 m northeast of the treefall yielded no cultural material.

Site stratigraphy consists of aeolian silt 48 cm thick overlying poorly sorted, sandy silt and gravel extending to a depth of 50 cm BS (Figure 139).

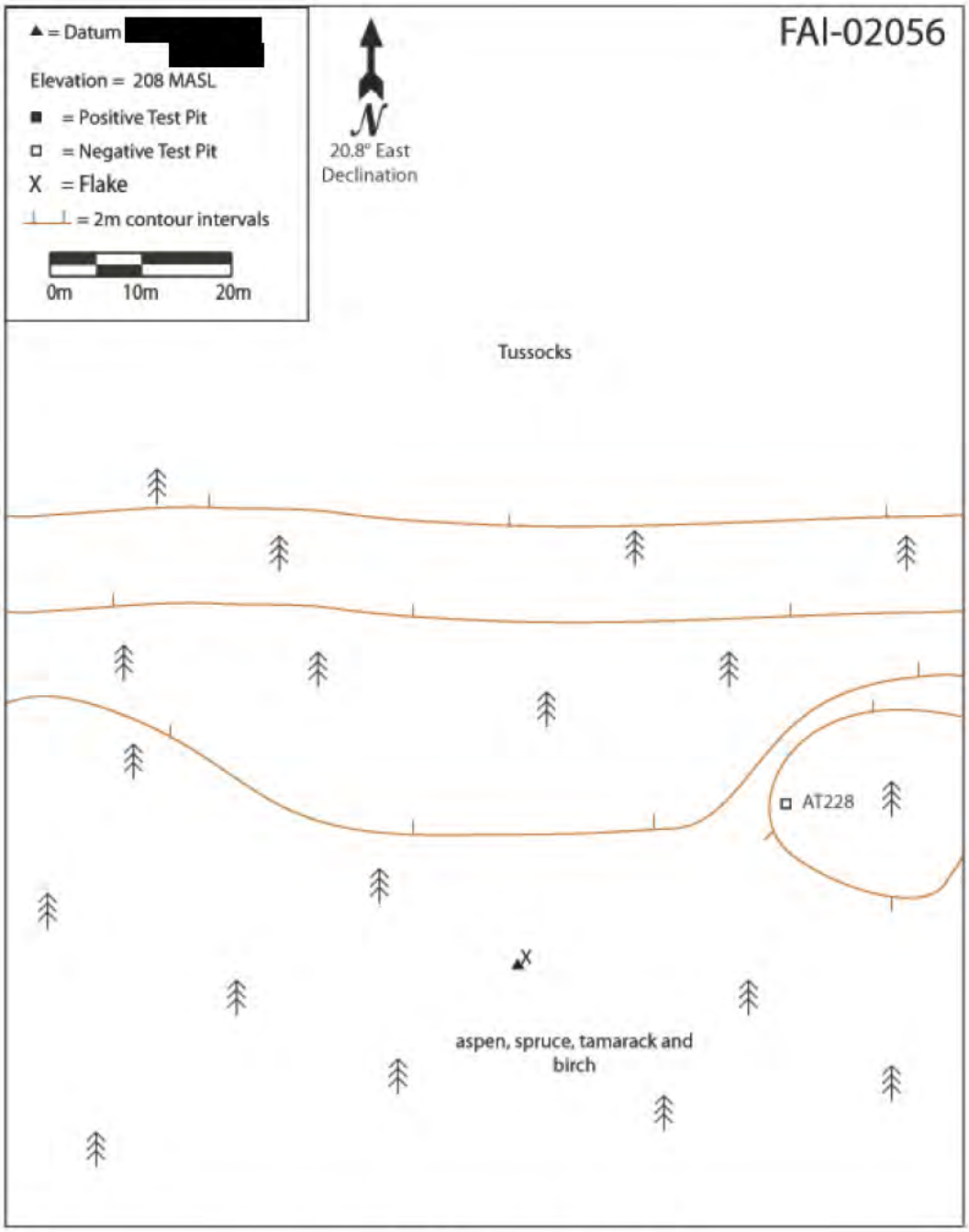


Figure 135. FAI-02056 sketch map

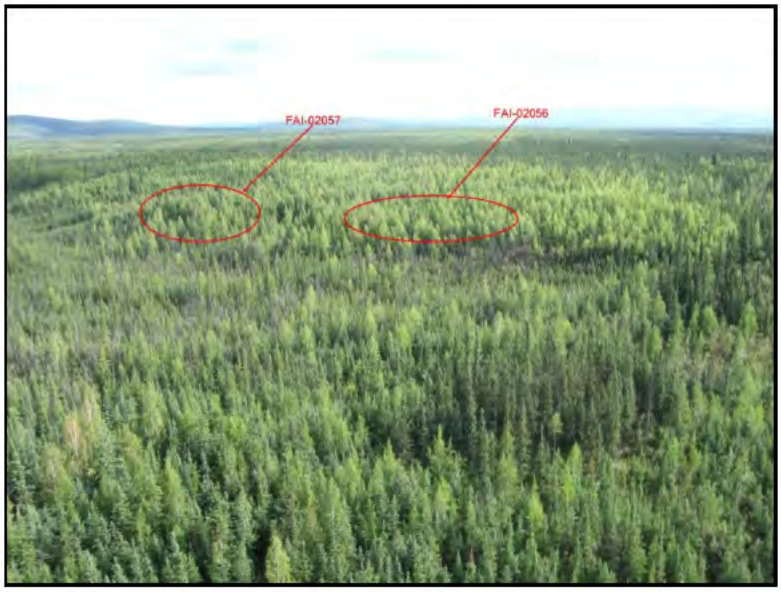


Figure 136. FAI-02056 aerial overview (view to south)

Figure 137. FAI-02056 overview (view to southwest)

Figure 138. FAI-02056 treefall (view to northeast)

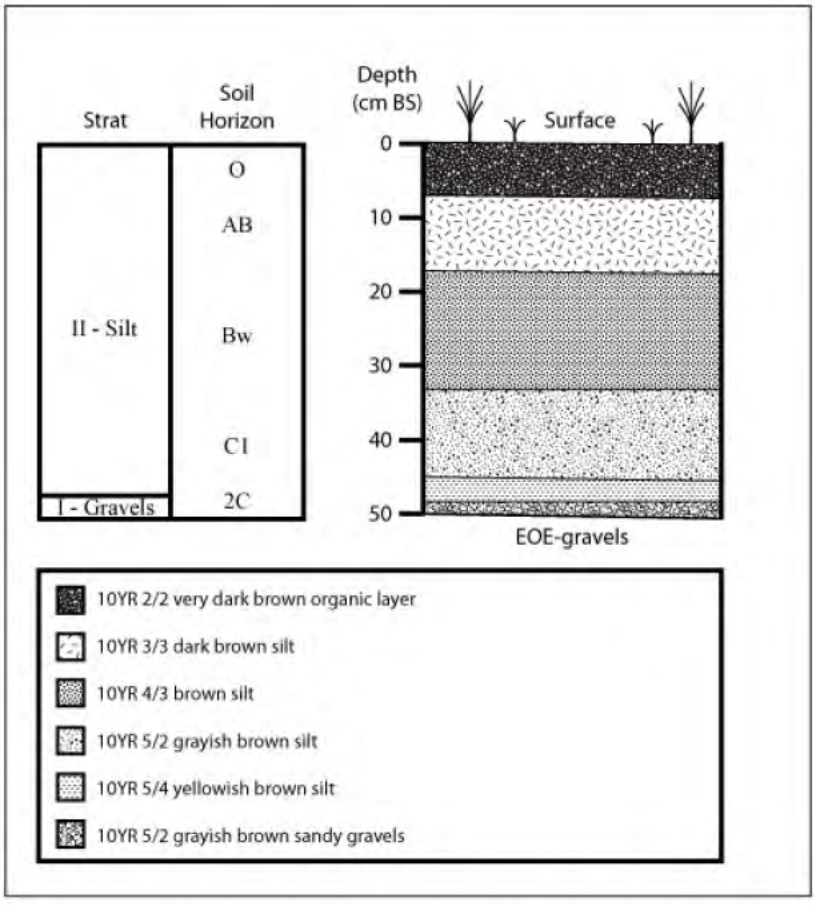


Figure 139. FAI-02056 stratigraphy (note: depth of cultural material is unknown)

FAI-02057
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02057 is located on a north-facing terrace edge approximately 3 km southwest of Dry Creek at UTM coordinates [redacted] (Figure 140, Figure 141). Site elevation is 215 masl. The site is situated on an elongated point that protrudes from the terrace and is situated between two north-south drainages. The site overlooks a large dry drainage running east-west, 30-40 m north of the site. The terrain surrounding the site slopes down north, east, and west at approximately 5°-10° to a secondary, lower terrace. Below this terrace, the slope increases to 10°-15° until it terminates in the drainages. South of the site, the terrain slopes gradually uphill for at least 50 m. The viewshed is limited to the dry drainage to the north. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist mixed broadleaf and needleleaf forest (Figure 142). Site vegetation includes spruce, birch, aspen, willow, alder, and low scrub. Surface exposure ranges from 0-30%. The site area is disturbed by two military foxholes and is littered by a can scatter and other military-related debris.

Site FAI-02054 was identified through subsurface testing. Cultural material was recovered from one of four 50 cm x 50 cm test units, which yielded a single gray (7.5YR 5/1) chert flake fragment (UA2010-199), size class 10-20 mm, at 20-25 cm BS. No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 50 cm thick overlying poorly sorted, silty gravel and/or sandy silt and gravel extending to at least 65 cm BS (Figure 143, Figure 144).

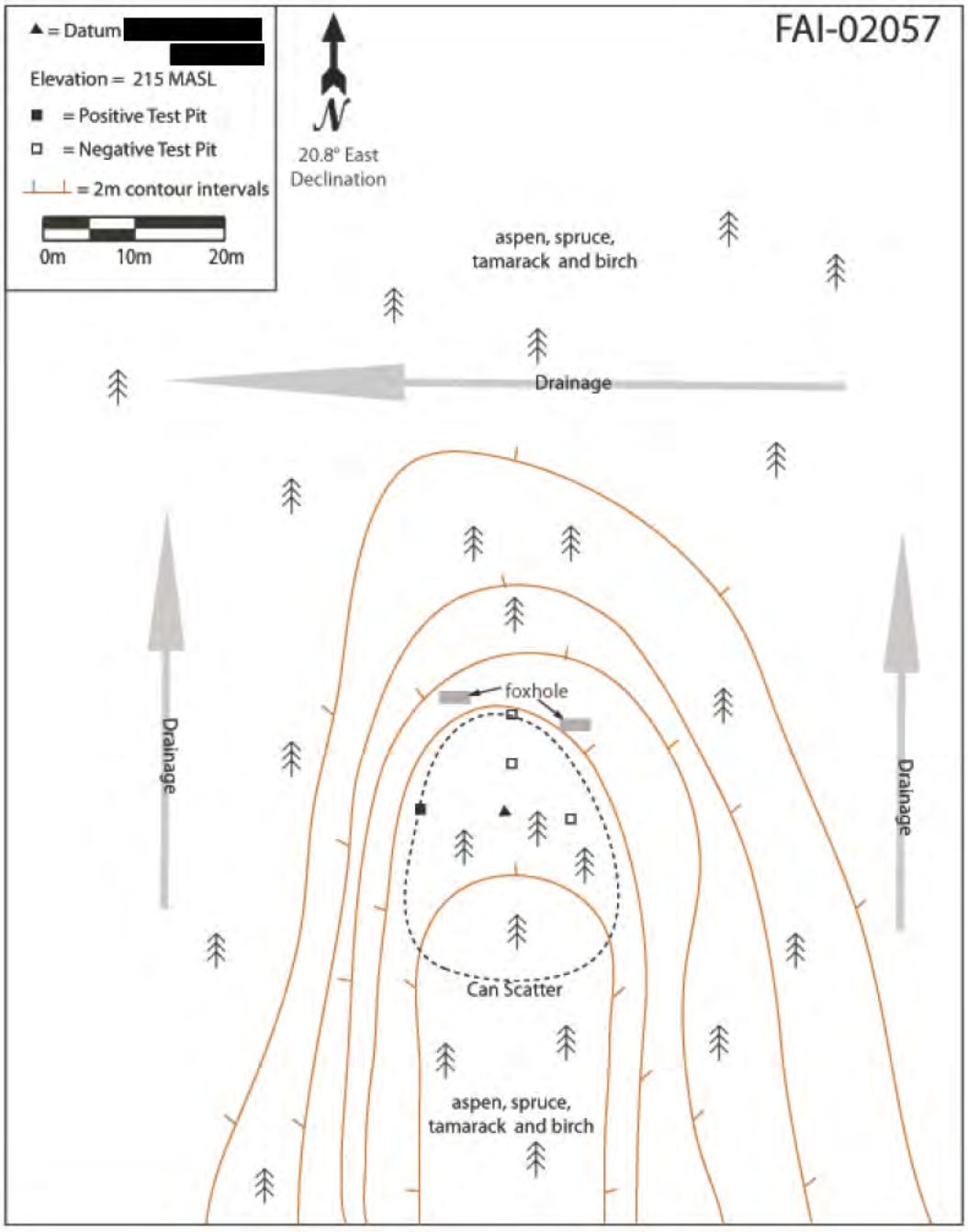


Figure 140. FAI-02057 sketch map

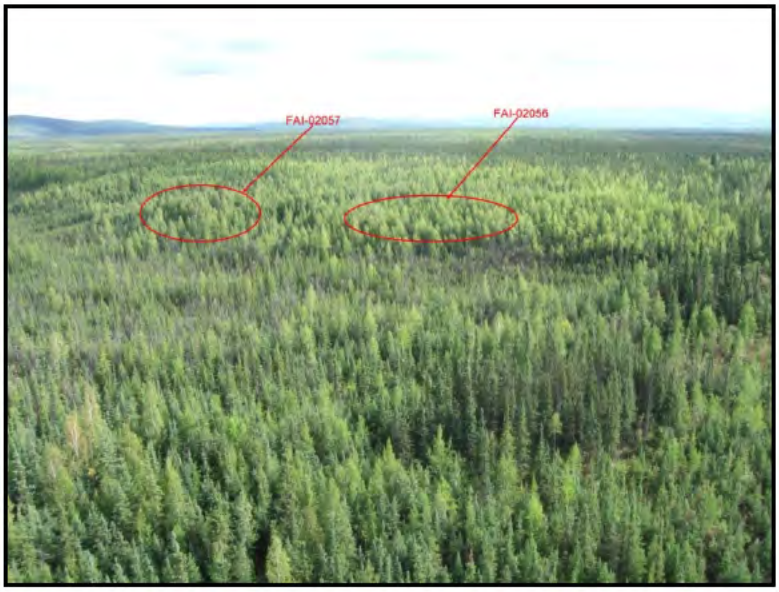


Figure 141. FAI-02057 aerial overview (view to south)

Figure 142. FAI-02057 overview (view to northeast)

Figure 143. FAI-02057 test pit stratigraphy

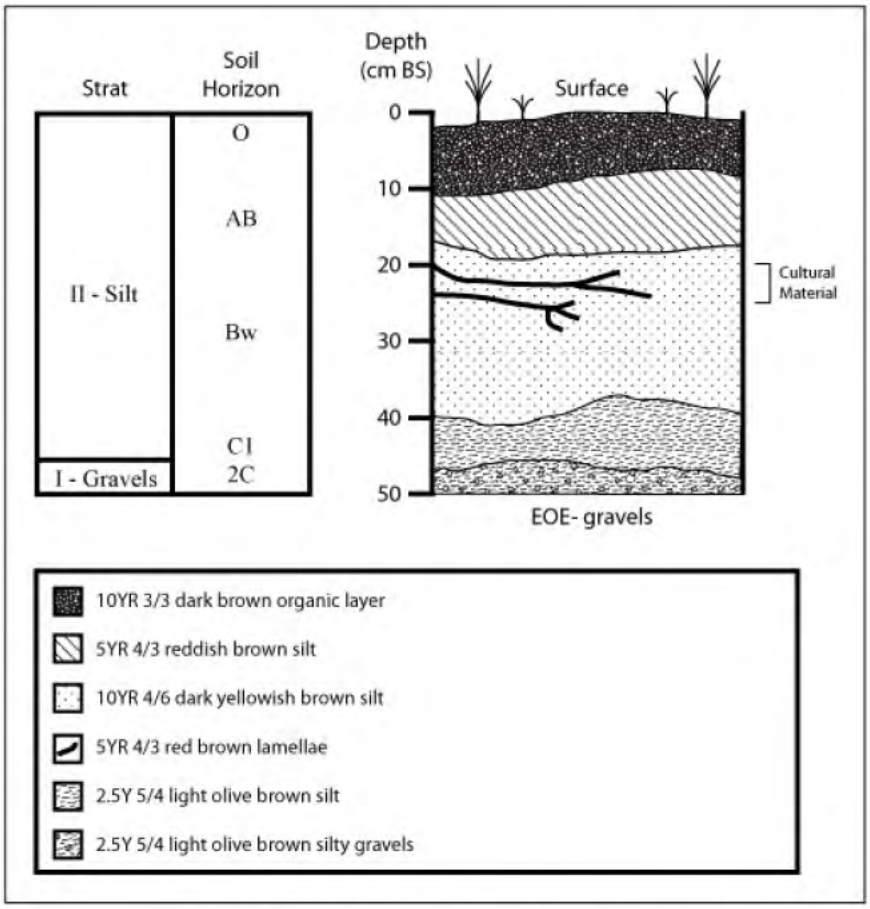


Figure 144. FAI-02057 stratigraphy

FAI-02058
Latitude: [redacted]
Longitude: [redacted]
Determination: Not Evaluated

Site FAI-02058 is located on the second of three stepped terraces overlooking a large, south-north drainage to the east and the Tanana River floodplain to the north (Figure 145, Figure 146). Site UTM coordinates are [redacted]. Site elevation is 200 masl. The site is located on the northern terminus of the small level terrace approximately 10-15 m in width. East of the terrace edge, the terrain slopes down at approximately 15° to a smaller, lower terrace, then at a 7-8° slope to the drainage bottom. Forty meters west of the site and 10 m higher is a larger terrace, site location of FAI-02059. The Flag Hill Radio Tower is visible on the skyline to the southeast at 120°.

The ecosystem is characterized as upland moist mixed needleleaf (Figure 147). The terrace is thickly wooded with small spruce trees except on the terrace edge, where the ground surface is bare dirt and gravel, void of any ground cover and prone to erosion. Site vegetation is primarily low thick spruce trees with a sparse understory of alder, willow, mosses, and lichen. Dry Creek is the nearest water source, although several unnamed seasonal creeks cut through the outwash bench at closer locations.

Site FAI-02058 was found through subsurface testing. Cultural material was recovered from a single 50 cm x 50 cm test pit excavated. A total of five lithic artifacts were recovered at depths ranging from 0-10 cm BS, one of which is a single flake found on the surface of the eroding slope immediately below the terrace edge (Table 15). Tools recovered consist of a single microblade medial fragment (Table 16, Figure 148).

Site stratigraphy consists of aeolian silts at least 10 cm thick overlying at least 45 cm of compact aeolian silts that contain numerous 1-3 cm thick, lamellae-like bands. Small rounded gravels are present from 10 cm BS to at least 45 cm BS (Figure 149, Figure 150).

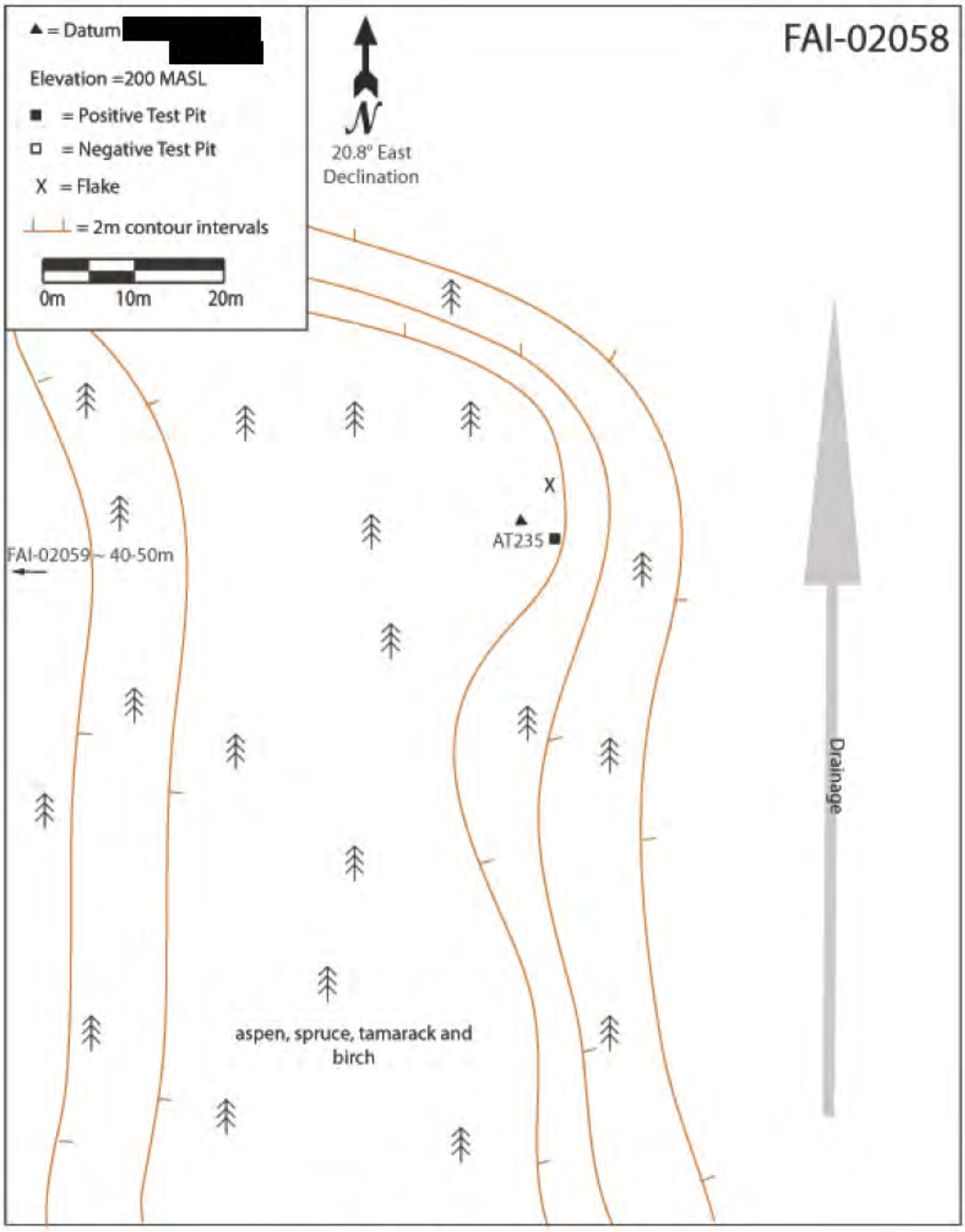


Figure 145. FAI-02058 sketch map

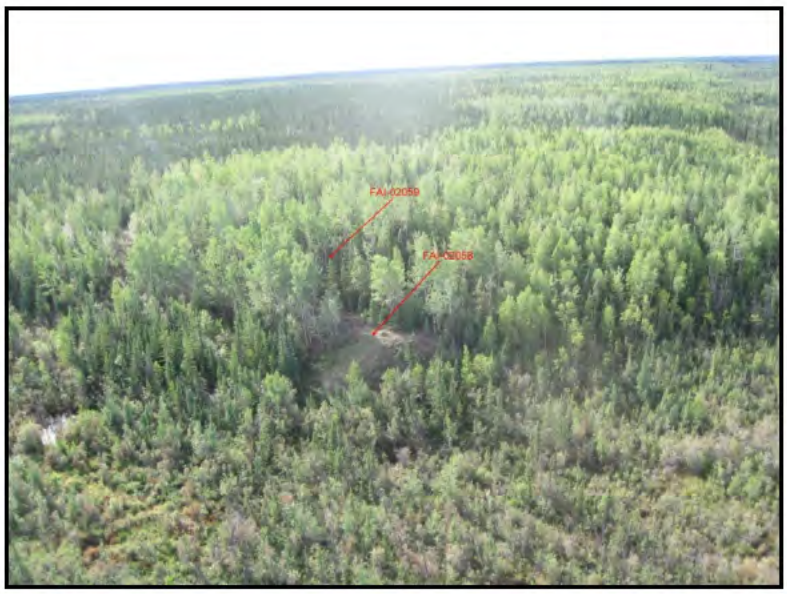


Figure 146. FAI-02058 aerial overview (view to west)

Figure 147. FAI-02058 overview (view to west)

Table 15. FAI-02058 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-200-0001	1	surface	flake fragment	1	rhyolite	gray
UA2010-200-0002	2B	0-10	broken flake	1	chert	dark gray
UA2010-200-0003	3	0-10	bone	3		
UA2010-200-0004	4	6	charcoal			
UA2010-200-0005	5	7	flake fragment	1	rhyolite	dark gray
UA2010-200-0006	6A	8	broken flake	1	chert	light gray
UA2010-200-0007	2A	0-10	microblade fragment	1	rhyolite	light brown
UA2010-200-0008	6B	8	charcoal			

Table 16. FAI-02058 microblade attributes

UA Accession #	L (mm)	W (mm)	T (mm)	# of Arrises	Segment	Retouch	Material	Color	Munsell Code
UA2010-200-0007	7.1	7.3	1.5	1	medial	no	rhyolite	light brown	7.5YR 6/3

Figure 148. FAI-02058 microblade

Figure 149. FAI-02058 test pit stratigraphy

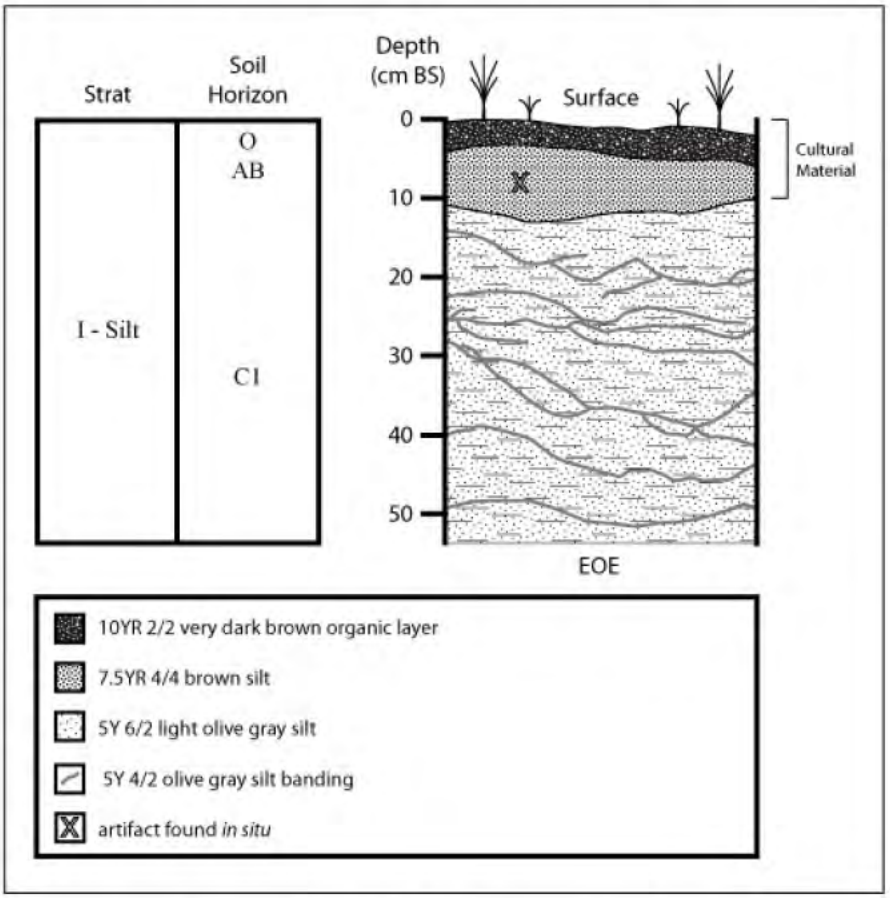


Figure 149. FAI-02058 stratigraphy

FAI-02059
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02059 is located on the upper of three stepped terraces overlooking a large, south-north drainage to the east and the Tanana River Valley to the north (Figure 151, Figure 152). UTM coordinates for the site are [redacted]. Site elevation is 202 masl. The site is situated on a level area near the eastern edge of the terrace. The terrace drops at a 5°-15° slope to the north, east, and west. South of the site, the terrace roughly parallels the eastern drainage at a slightly lower elevation. The location of the site provides an excellent viewshed of the eastern drainage and the Tanana River Valley to the north. Dry Creek is the nearest water source, although several unnamed seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist mixed needleleaf forest (Figure 153). The terrace is thickly wooded with small spruce trees except on the terrace edge, where the ground surface is bare dirt and gravel, void of any ground cover and prone to erosion. Site vegetation is primarily low thick spruce trees with a sparse understory of alder, willow, mosses, and lichen.

Site FAI-02059 was located through subsurface testing. Cultural material was recovered from one of three 50 cm x 50 cm test units excavated. In total, 42 artifacts were recovered at depths of 0-45 cm BS. These artifacts include 39 pieces of debitage (Table 17), two biface fragments (Table 18, Figure 154), one complete endscraper (Table 19, Figure 155), and one tested cobble (Table 20).

Site stratigraphy consists of aeolian silts at least 70 cm thick containing intermittent bands and pockets of sand, overlying poorly sorted silty gravels extending to at least 80 cm BS (Figure 156, Figure 157).

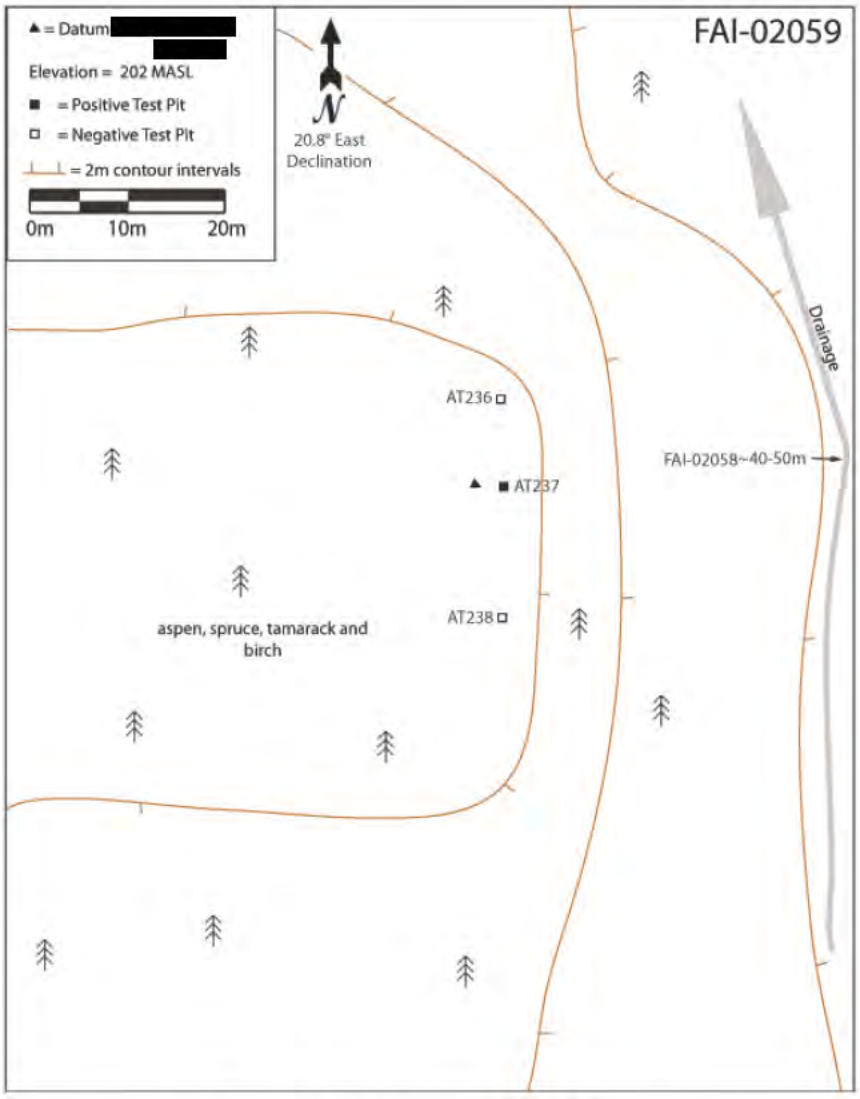


Figure 150. FAI-02059 sketch map

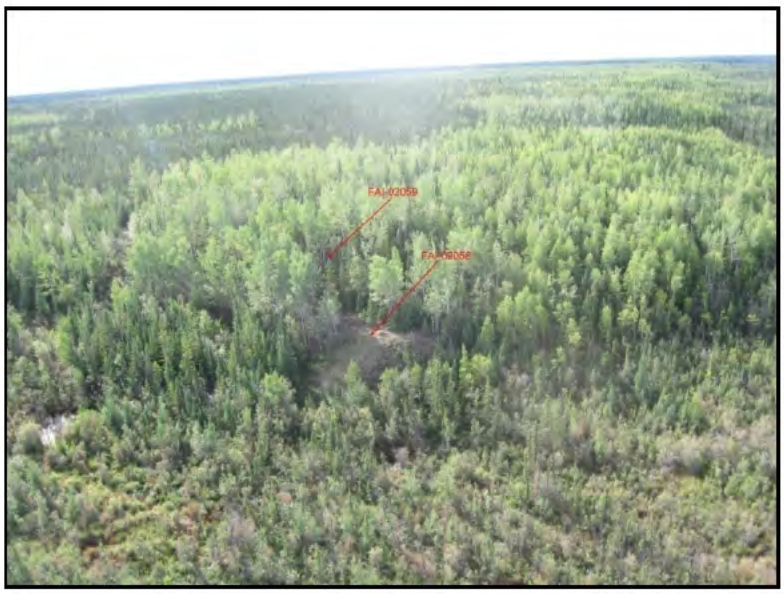


Figure 151. FAI-02059 aerial overview (view to west)

Figure 152. FAI-02059 overview (view to west)

Table 17. FAI-02059 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-201-0001	1	0-5	flake	1	chert	very dark gray
UA2010-201-0002	2	5-10	flake	1	rhyolite	pale brown
UA2010-201-0003	3A	15-20	flake fragment	1	chert	very dark gray
UA2010-201-0004	4	15-20	flake and flake fragment	9	chert, basalt & rhyolite	various
UA2010-201-0005	5	19-20	flake fragment	1	basalt	black
UA2010-201-0006	6	18	flake	1	chert	very dark gray
UA2010-201-0007	7	20	flake fragment	1	chert	very dark gray
UA2010-201-0008	8	20	flake fragment	2	chert	very dark gray
UA2010-201-0010	10	22	flake and flake fragment	2	chert	dark gray
UA2010-201-0011	11	23	flake and flake fragment	4	chert	dark gray
UA2010-201-0012	12	20-25	flake and flake fragment	4	chert	dark gray
UA2010-201-0013	13	25	flake and flake fragment	2	chert	dark gray
UA2010-201-0014	14	26	flake	2	chert	dark gray
UA2010-201-0015	15	26	flake	1	basalt	dark gray
UA2010-201-0016	16	25-30	flake and flake fragment	3	chert	dark gray
UA2010-201-0017	17	30-35	flake and flake fragment	3	chert	dark gray
UA2010-201-0018	18	35	flake fragment	1	chert	gray

Table 18. FAI-02059 biface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)
UA2010-201-0009	9	22	chert	dark gray	50.2	41.1	14.2
UA2010-201-0020	3B	15-20	basalt	black	78.2	37.8	12.2

Table 19. FAI-02059 endscraper attributes

							Retouch Length (mm)			
UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	A (left lat.)	B (dist.)	C (right lat.)	D (prox.)
UA2010-201-0021	3C	15-20	rhyolite	mottled	30.2	29.9	29	24.1	26.5	0

Table 20. FAI-02059 cobble attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	Shape	L(mm)	W(mm)	T(mm)
UA2010-201-0019	19	45	grano-diorite	greenish gray	rounded	80.1	65.6	33.9

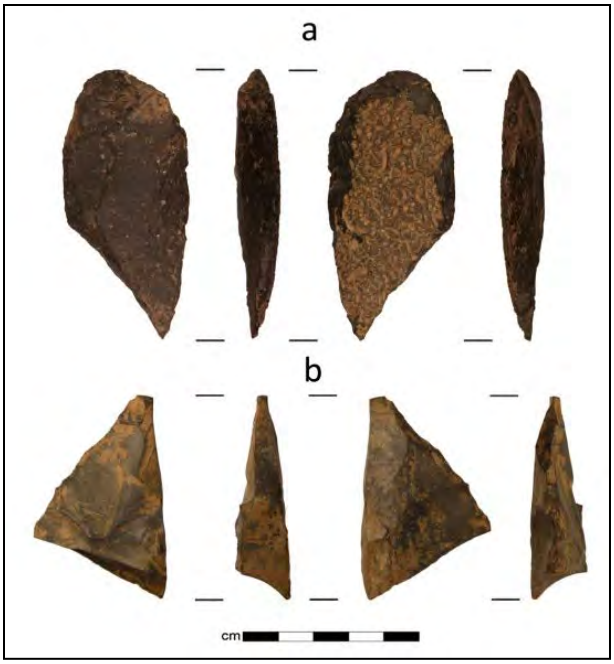


Figure 153. FAI-02059 bifaces

Figure 154. FAI-02059 endscraper

Figure 155. FAI-02059 test pit stratigraphy

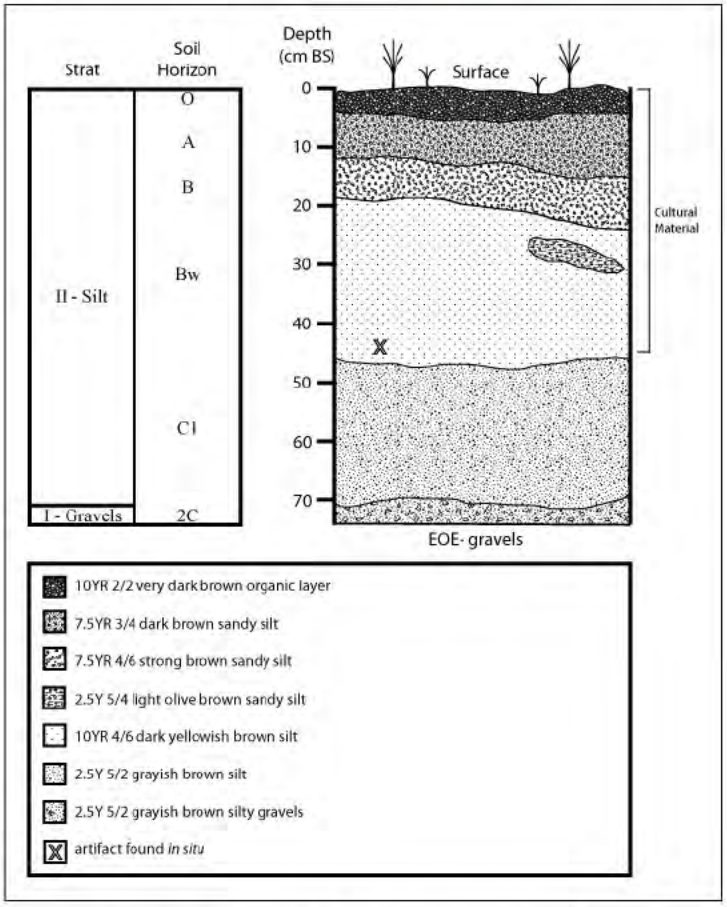


Figure 156. FAI-02059 stratigraphy

FAI-02060
Latitude: [redacted]
Longitude: [redacted]
Determination: Eligible (See DOE form in Appendix 1)

Site FAI-02060 is located on a north-facing terrace edge at UTM coordinates are [redacted] (Figure 158, Figure 159, Figure 160). Site elevation is 198 masl. The site is situated in the northwest corner of the elevated terrace overlooking a north-south drainage to the west and the Tanana River Valley to the north. The terrace is approximately 10-12 m above the drainage and the valley; a 15° slope leads down to both. East and southeast of the site, the terrain gradually slopes up to the crest of the landform 45 m east of the site datum. The terrace provides an excellent viewshed of the Tanana River Valley and the Dry Creek drainage to the north. Dry Creek is the nearest water source, and several unnamed seasonal creeks cut through the outwash bench at closer locations.

The ecosystem is characterized as upland moist needleleaf forest. Site vegetation consists of dense low spruce thickets, mature aspen, and mixed-aged birch. The understory is alder, willow, wild rose, and low scrub, with a dense moss and lichen ground cover. Surface exposure is 0%.

Site FAI-02060 was initially identified by a single retouched flake found on the surface near the western terrace edge (Table 21, Figure 161). Subsequent subsurface excavations produced cultural material from all four 50 cm x 50 cm test pits excavated. A total of 34 lithic artifacts were recovered from test pits at depths ranging from 0-37 cm BS (Table 22).

Dispersed charcoal associated with cultural material at 29 cm BS produced an AMS ^{14}C date of 8130 ± 40 (Beta-283429).

Site stratigraphy consists of aeolian silts 45-55 cm thick overlying a thick gravel layer extending to at least 65 cm BS (Figure 162, Figure 163).

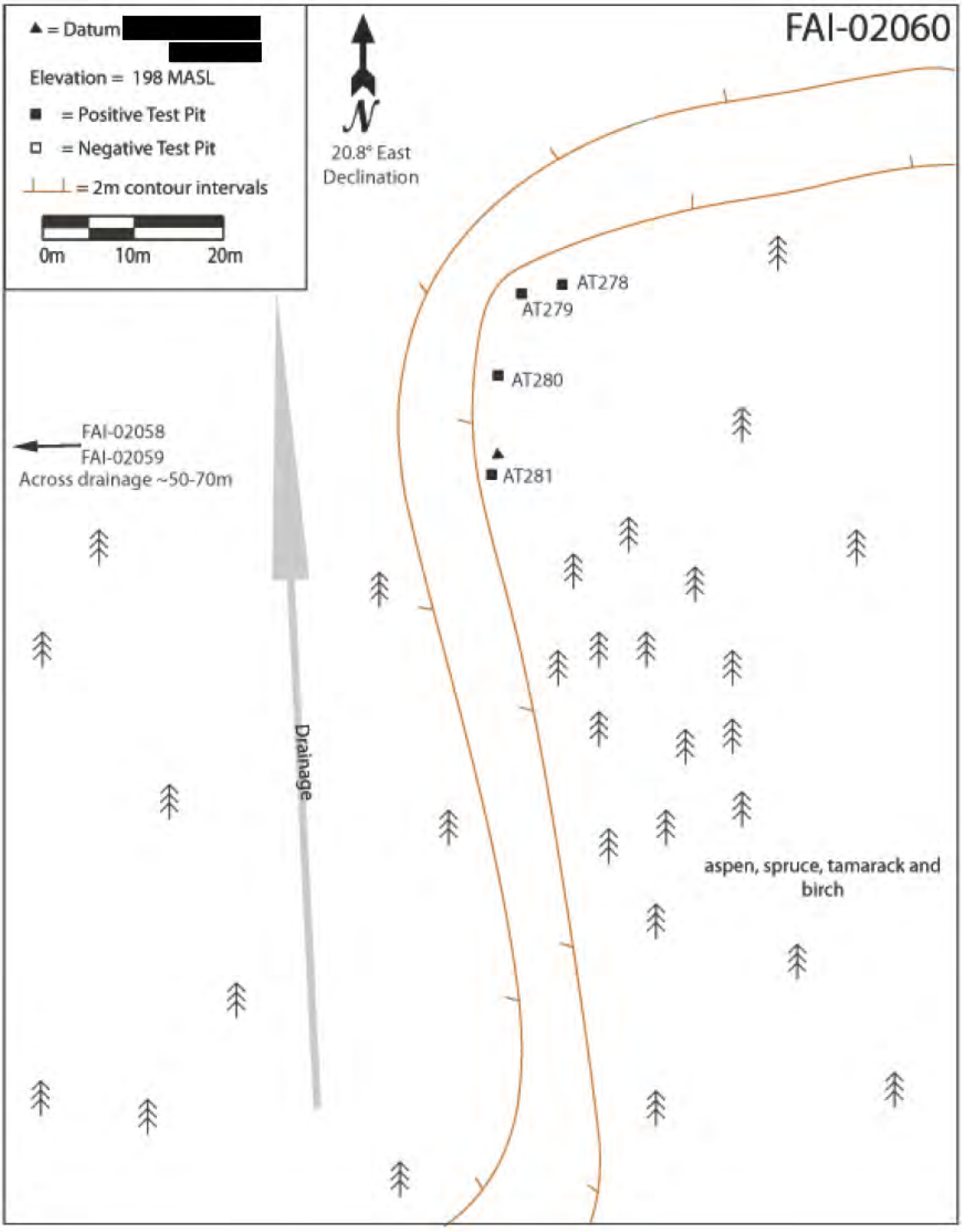


Figure 157. FAI-02060 sketch map

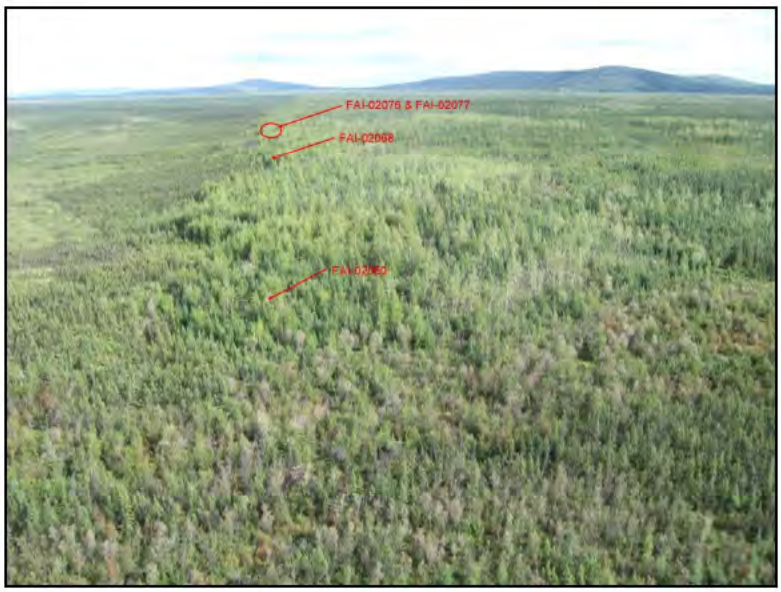


Figure 158. FAI-02060 aerial overview (view to east)

Figure 159. FAI-02060 aerial overview (view to south)

Table 21. FAI-02060 retouched flake attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	Retouch Length (mm) A (left lat.)	B (dist.)	C (right lat.)	D (prox.)
UA2010-202-0001	1	surface	rhyolite	mottled	71.1	56.4	12.2	60.3	0	51.1	0

Figure 160. FAI-02060 retouched flake

Table 22. FAI-02060 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-202-0002	2	0-10	flake and flake fragment	2	rhyolite and basalt	grayish brown and very dark gray
UA2010-202-0003	3	25-30	flake fragment	1	rhyolite	very dark gray, yellowish brown
UA2010-202-0004	4	29	charcoal #1			
UA2010-202-0005	5	30	charcoal #2			
UA2010-202-0006	6	30	charcoal #3			
UA2010-202-0007	7	5-10	flake fragment	2	rhyolite and chert	light gray and light brownish gray
UA2010-202-0008	8	20-25	flake and flake fragment	5	rhyolite and chert	various
UA2010-202-0009	9	25-30	flake and flake fragment	4	rhyolite	gray and light brownish gray
UA2010-202-0010	10	25-35	flake and flake fragment	10	chert	very dark gray
UA2010-202-0011	11	33	flake fragment	1	chert	dark gray
UA2010-202-0012	12	37	flake and flake fragment	7	chert	dark gray
UA2010-202-0013	13	29-37	soil sample			
UA2010-202-0014	14	0-10	flake and flake fragment	2	chert	dark gray

Figure 161. FAI-02060 test pit stratigraphy

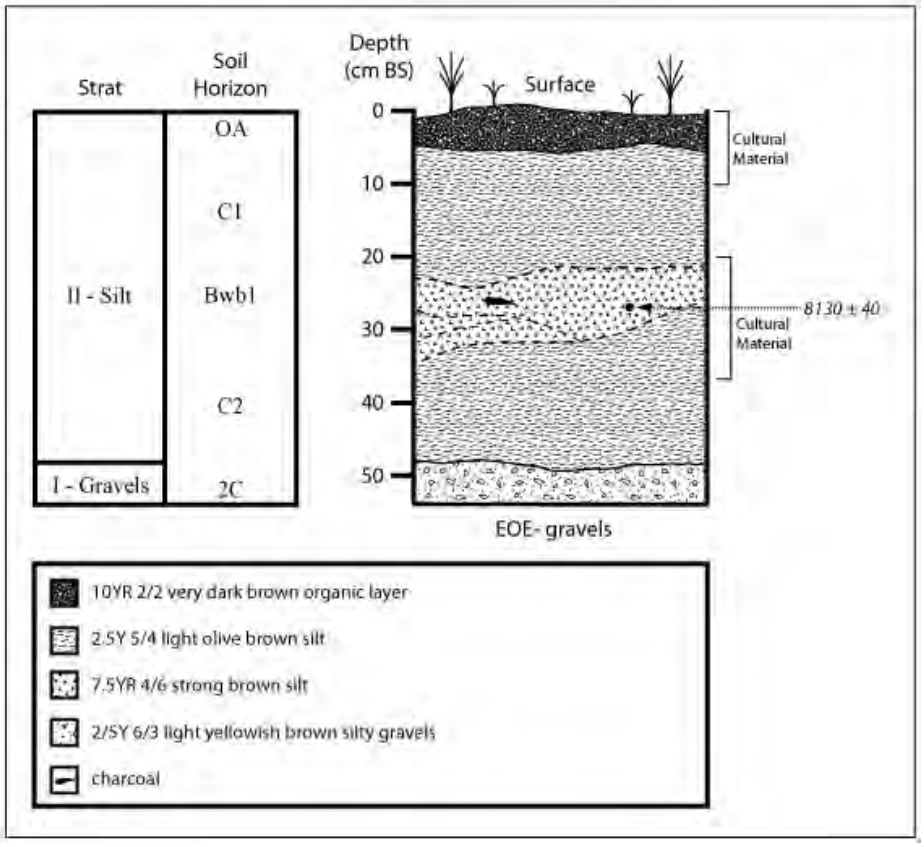


Figure 162. FAI-02060 stratigraphy

FAI-02061
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02061 is located on a north-facing terrace edge roughly 2.5 km southwest of Dry Creek–which is the closest water source–at UTM coordinates are [redacted] (Figure 164, Figure 165). Site elevation is 200 masl. The site is situated on a point separated from the greater terrace by two drainages. The site is fairly level, but the terrain drops to the east at a 20° slope. North and south of the site, the terrain slopes more gradually down to the smaller drainages. The viewshed is minimal, limited by the surrounding topography.

The ecosystem is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 166). Site vegetation includes spruce, birch, aspen and low shrubs, with a dense moss/lichen groundcover. Surface exposure is minimal, except for an exposed, non-vegetated military foxhole at the northern site perimeter.

Site FAI-02061 was identified through subsurface testing. Cultural material was recovered from one of four 50 cm x 50 cm test pits excavated. In total, two rhyolite flakes were recovered from depths of 25-30 cm BS (Table 23). No tools were recovered from the site.

Site stratigraphy consists of aeolian silt at least 70cm thick overlying sandy silt and poorly sorted gravels extending to at least 85 cm BS (Figure 167).

Figure 163. FAI-02061 aerial overview (view to south)

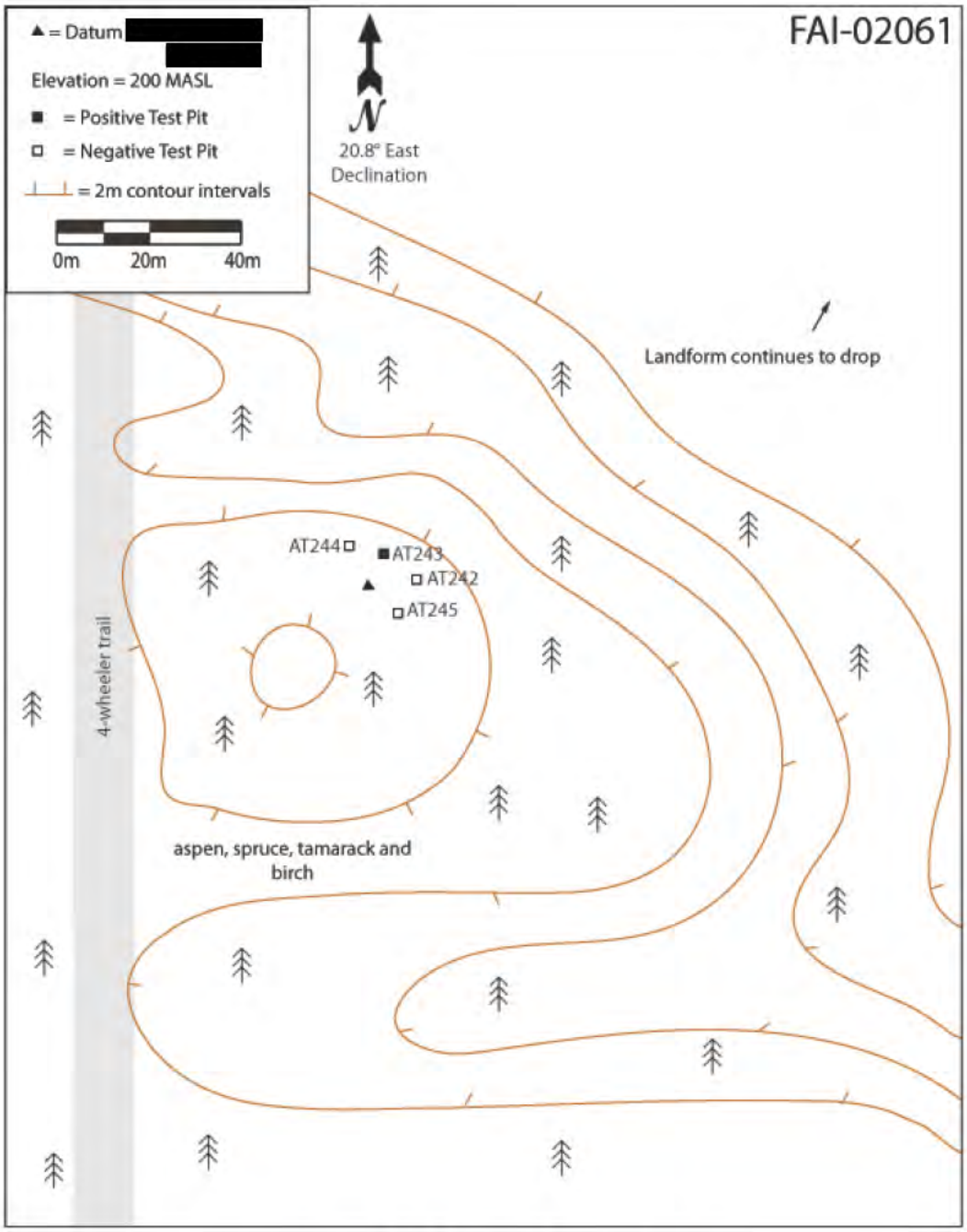


Figure 164. FAI-02061 sketch map

Figure 165. FAI-02061 overview (view to west)

Table 23. FAI-02061 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-203-0001	1	25-30	flake	1	rhyolite	brown
UA2010-203-0002	2	25-30	flake fragment	1	ryholite	pale brown

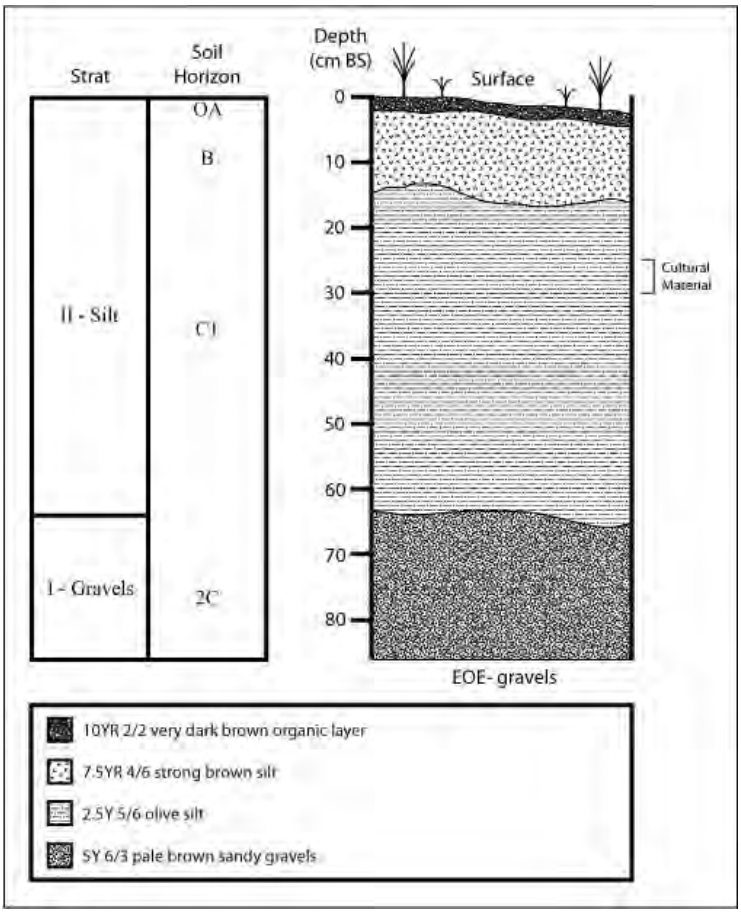


Figure 166. FAI-02061 stratigraphy

FAI-02062
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02062 is located on a north-facing terrace edge approximately 3 km southwest of Dry Creek and about 1 km southeast of the Clear Creek Assault Strip at UTM coordinates [redacted] (Figure 168, Figure 169). Site elevation is 202 masl. The site is situated on small, level knoll 2-4 m in diameter overlooking a south-north drainage lying to the east. The site area has a 0°-5° slope. The sides of the knoll slope down 15°-20° in all directions. The location of the site provides an excellent 180° viewshed of a large drainage to the east and a limited view of the Tanana River Valley to the north.

The ecosystem surrounding the site is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 170). Site vegetation consists of spruce, birch, aspen, willow, alder, and low

shrubs. The site itself is mostly bare ground with a few low shrubs. The ecosystem in the drainage below the site is characterized by lowland tussock scrub bog, and this is the nearest source of water. The site is disturbed by a modern campsite.

Site FAI-02062 was identified through subsurface testing. Cultural material was recovered from a single 50 cm x 50 cm test pit excavated. Two chert flakes were recovered at a depth of 0-10 cm BS (Table 24). No tools were recovered from the site.

Site stratigraphy consists of aeolian silts at least 37cm thick overlying poorly sorted sandy gravel extending to at least 45 cm BS (Figure 171, Figure 172).

Figure 167. FAI-02062 aerial overview (view to southwest)

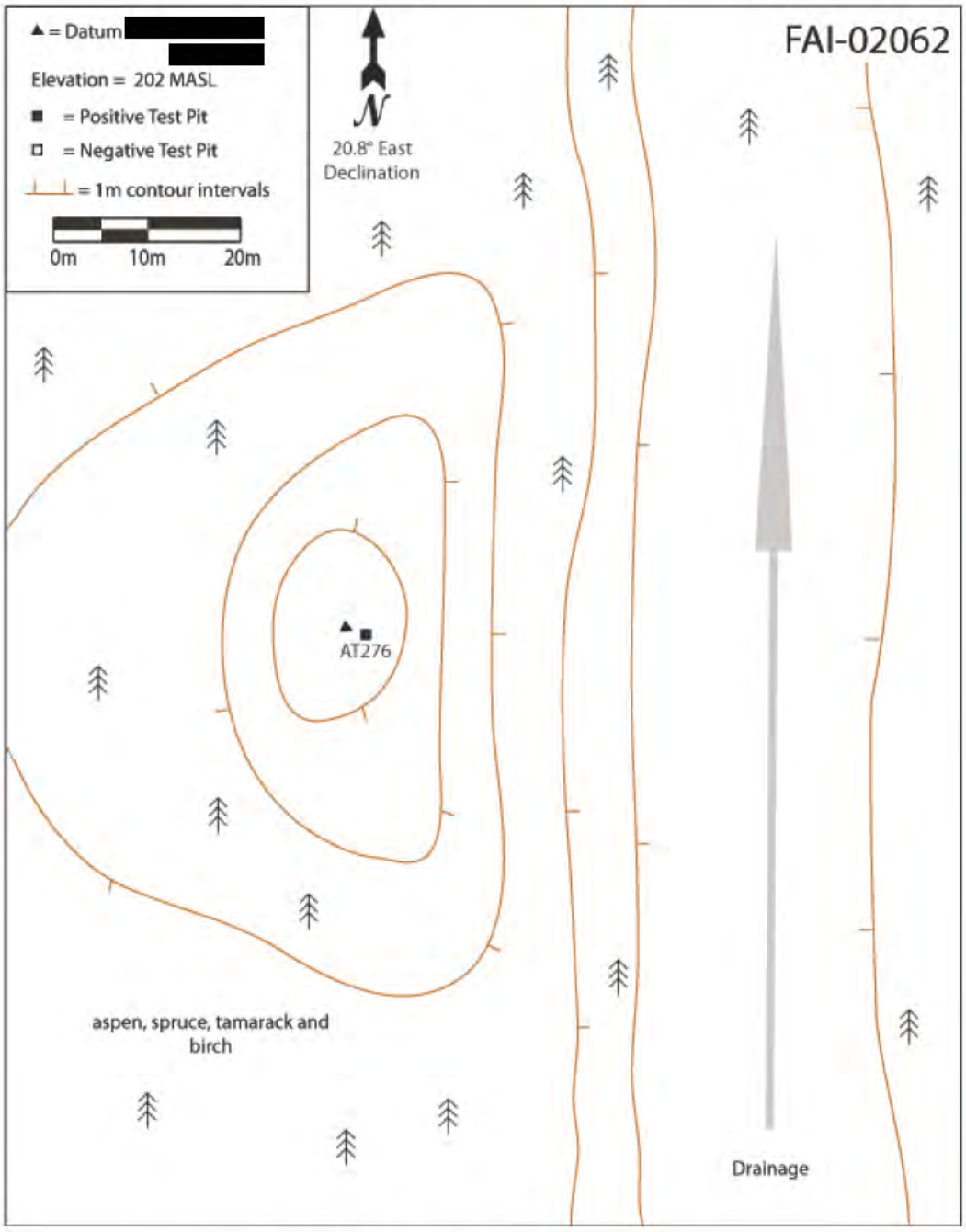


Figure 168. FAI-02062 sketch map

Figure 169. FAI-02062 overview (view to northwest)

Figure 170. FAI-02062 test pit stratigraphy

Table 24. FAI-02062 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-204-0001	1	0-10	flake fragment	2	chert	dark gray

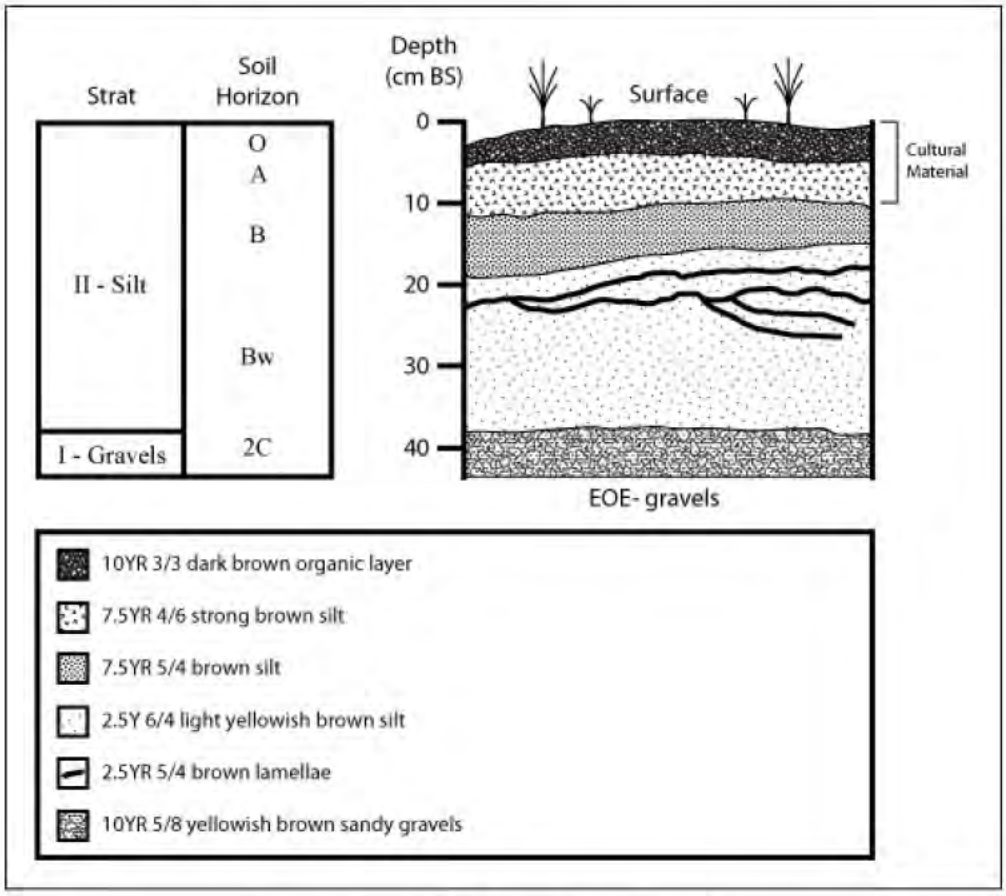


Figure 171. FAI-02062 stratigraphy

FAI-02063
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Eligible (See DOE form in Appendix 1)

Site FAI-02063 is located on a north-south trending terrace edge approximately 1.5 km east-northeast of Blair Lake North (Figure 173, Figure 174). UTM coordinates are [redacted]. Site elevation is 273 masl. The terrace is elevated approximately 25 m above Dry Creek, which is the nearest source of water. The eastern terrace drops down to Dry Creek at approximately 40°. The slope to the west is much more gradual, 5-10°, but continues for at least 60 m. The site sits at a point on the terrace edge that protrudes 2-3 m to the east. This point provides a 180° view of Tanana Flats below. Pork Chop Lake can be seen directly east, approximately 2 km away.

The ecosystem is characterized as upland moist mixed broadleaf/needleleaf forest (Figure 175). The vegetation consists of spruce, aspen, rose, bearberry, low scrub, moss and lichen. The surface exposure is on average 50% with visibility higher near the eroding terrace edge.

Site FAI-02063 was found through subsurface testing. Three 50 cm x 50 cm shovel tests were excavated, one of which contained cultural material. Cultural material was recovered from 35-60 cm BS. The site consists of 11 chert flakes (Table 25) and one broken chert projectile point (Table 26, Figure 176). The flakes were dispersed from 35-60 cm BS, and the projectile point was recovered from 50-55 cm BS.

Site stratigraphy consists of aeolian silts and sands at least 44 cm thick overlying basal poorly sorted sandy gravels (Figure 177, Figure 178).

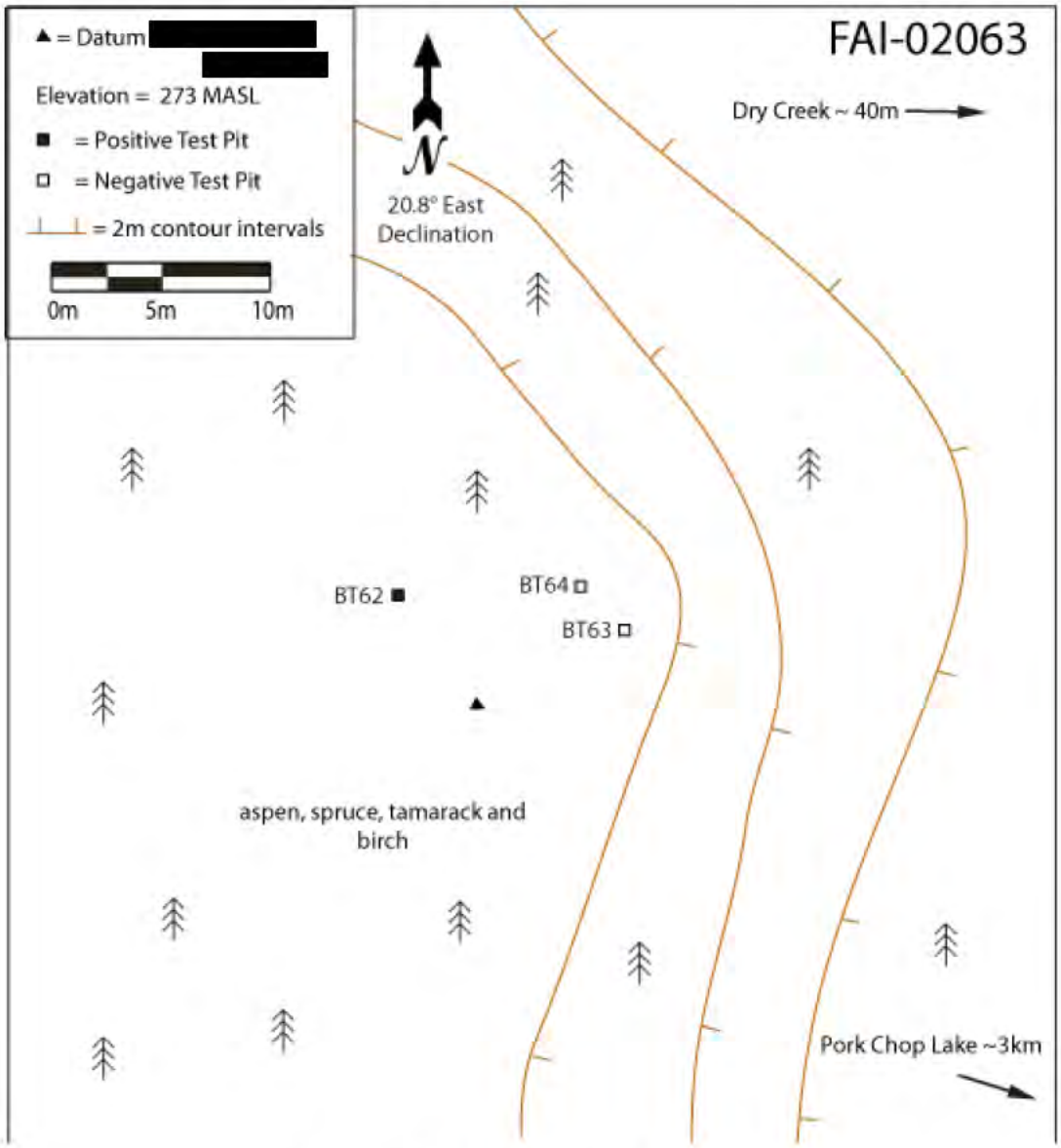


Figure 172. FAI-02063 sketch map

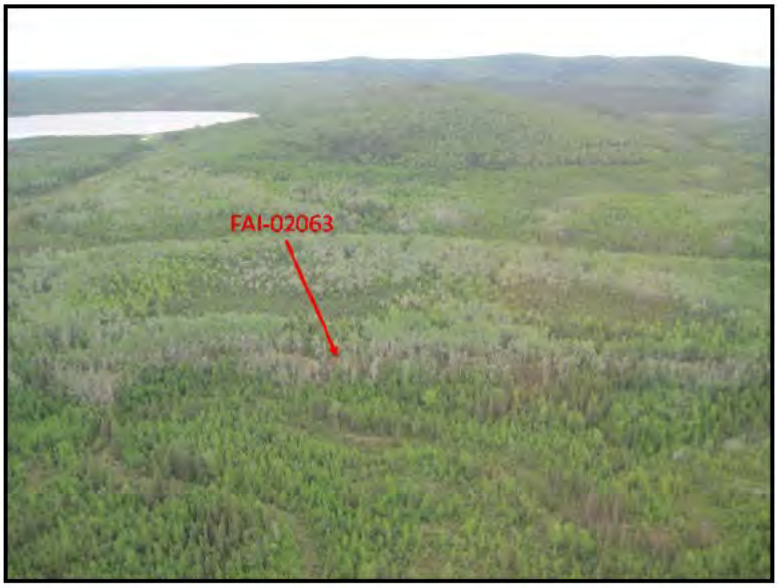


Figure 173. FAI-02063 aerial overview (view to west)

Figure 174. FAI-02063 overview (view to south)

Table 25. FAI-02063 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-205-0001	1	35-50	flake and flake fragment	8	chert	various
UA2010-205-0002	2	40	flake	1	chert	dark gray
UA2010-205-0003	3	42-43	flake	1	chert	black
UA2010-205-0005	5	50-60	flake fragment	1	chert	dark gray

Table 26. FAI-02063 biface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L (mm)	W (mm)	T(mm)
UA2010-205-0004	4	50-55	chert	dark gray	64.9	20.5	6.9

Figure 175. FAI-02063 projectile point fragment

Figure 176. FAI-02063 test pit stratigraphy

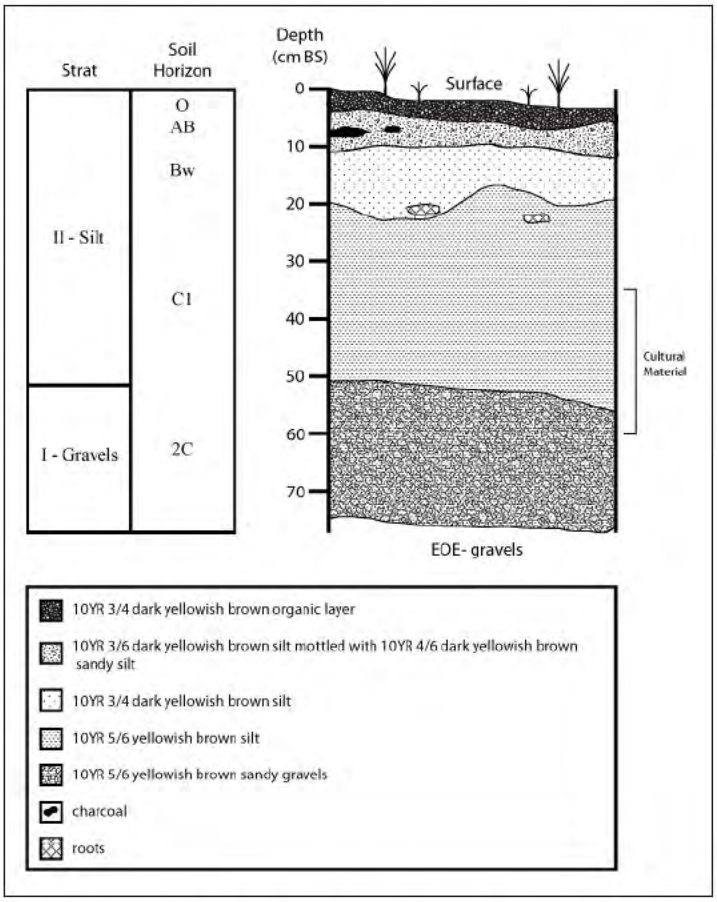


Figure 177. FAI-02063 stratigraphy

FAI-02064
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Eligible (See DOE form in Appendix 1)

Site FAI-02064 is located on the crest of a bedrock knoll north of Blair Lakes (Figure 179, Figure 180) at UTM coordinates [redacted]. Site elevation is 351 masl. The view from the crest is 360°. Blair Lake North, the closest source of water, can be seen approximately 500 m to the southeast. The slopes to the northeast and southwest are approximately 30°, and the slopes to the northwest and southeast are approximately 15°. The highest point of the crest (approximately 40 m northwest-southeast by 15 m northeast-southwest) has been mechanically scraped. Push piles line the southern edge of the disturbance.

The ecosystem is characterized as upland dry needleaf/broadleaf forest (Figure 181). Vegetation consists of mature aspen and spruce with an understory of fireweed, rose, low bush cranberry, moss, and lichen. Surface visibility is 0-10%.

Site FAI-02064 was found through subsurface testing. Five 50 cm by 50 cm test pits were excavated. Two test pits contained cultural material consisting of 70 lithic flakes 0-45 cm BS (Table 27), two microblades at 10-33 cm BS (Table 28; Figure 182) and one burin spall at 35 cm BS (Table 29, Figure 183).

Dispersed charcoal found in association with cultural material at 40 cm BS produced an AMS ^{14}C date of 2170 ± 40 (Beta- 283435).

Site stratigraphy consists of aeolian silts at least 38 cm thick overlying decaying schist bedrock (Figure 184, Figure 185).

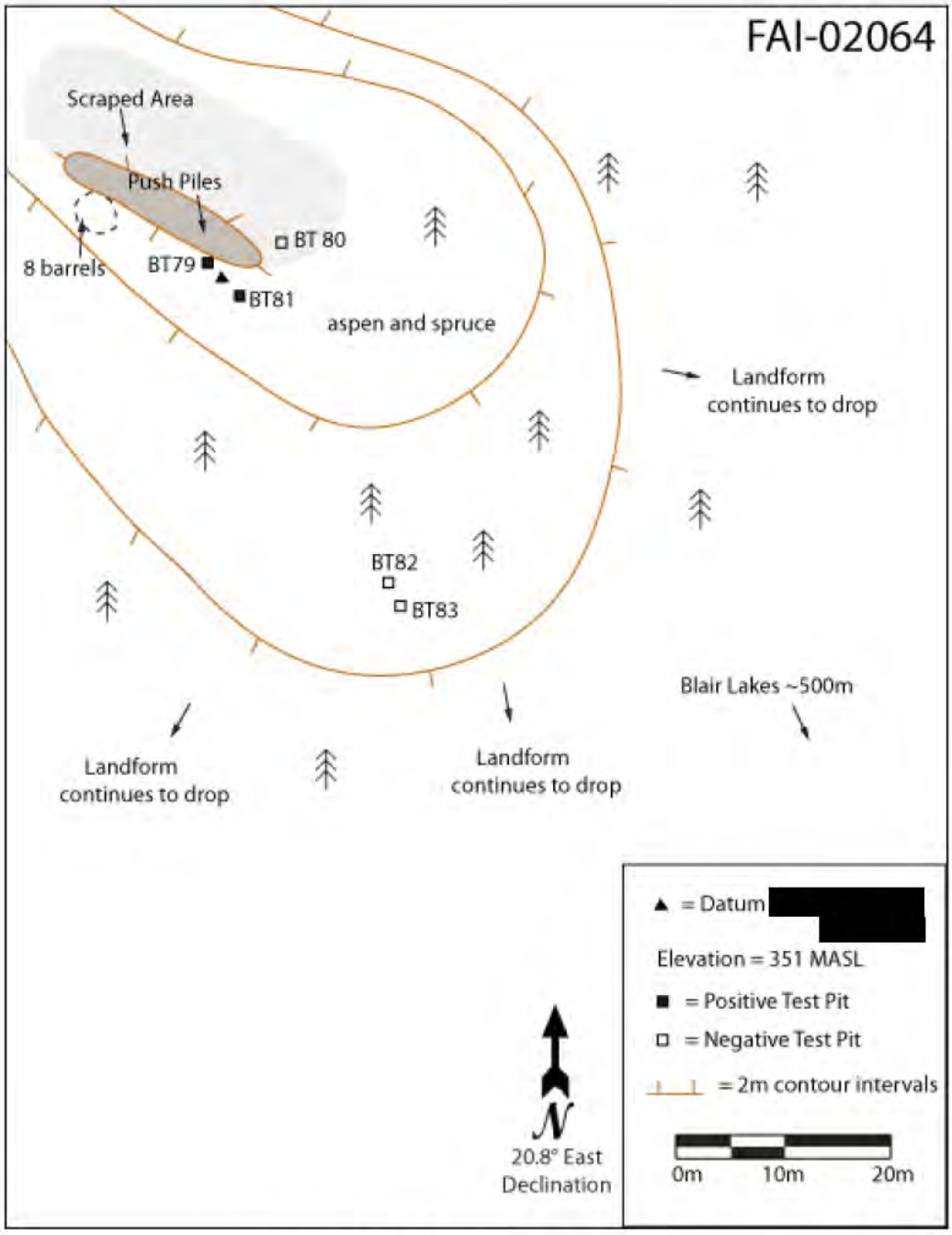


Figure 178. FAI-02064 sketch map

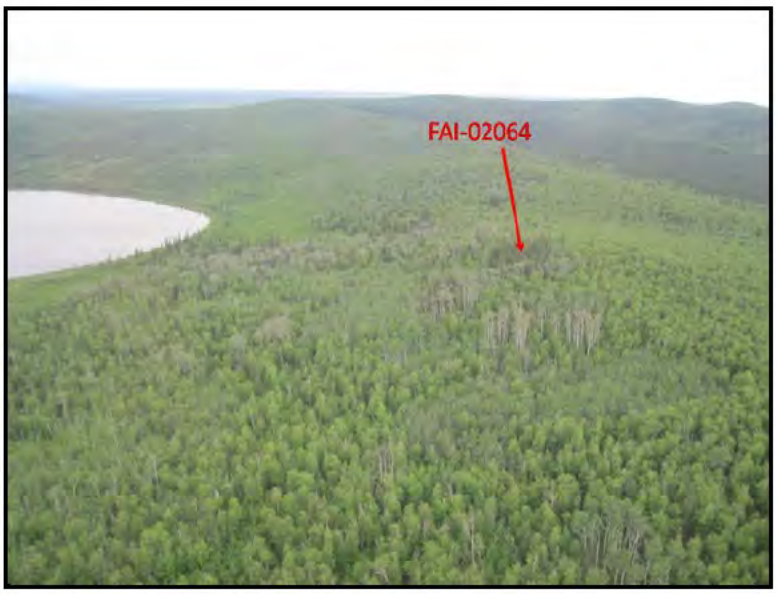


Figure 179. FAI-02064 aerial overview (view to west)

Figure 180. FAI-02064 overview (view to southeast)

Table 27. FAI-02064 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-206-0001	1	10-20	flake fragment	2	rhyolite	various
UA2010-206-0002	2	20-30	flake and flake fragment	18	chert and rhyolite	various
UA2010-206-0003	3	25-35	flake fragment	1	rhyolite	very pale brown
UA2010-206-0004	4	30	flake and flake fragment	5	chert and rhyolite	various
UA2010-206-0005	5	33	flake fragment	5	chert and rhyolite	various
UA2010-206-0006	6	33	flake	1	rhyolite	light yellowish brown
UA2010-206-0007	7	33	flake fragment	1	rhyolite	light brown
UA2010-206-0008	8	33-34	charcoal			
UA2010-206-0009	9	34	flake fragment	1	chert	black
UA2010-206-0010	10	34	flake	1	rhyolite	light brown
UA2010-206-0011	11	34-35	charcoal			
UA2010-206-0012	12A	35	flake fragment	2	rhyolite	various
UA2010-206-0013	13A	35-40	flake and fragment	5	chert and rhyolite	various
UA2010-206-0014	14	37	flake fragment	2	rhyolite	light brown
UA2010-206-0015	15	37	flake	1	chert	dark gray
UA2010-206-0016	16	40	charcoal			
UA2010-206-0017	17	40-45	flake and flake fragment	6	chert and rhyolite	various
UA2010-206-0018	18	0-45	flake and flake fragment	12	chert and rhyolite	various
UA2010-206-0019	19	10-20	flake fragment	5	chert and rhyolite	various
UA2010-206-0020	20	20-30	flake and flake fragment	3	chert and rhyolite	various
UA2010-206-0021	13B	35-40	flake	1	obsidian	clear

Table 28. FAI-02064 microblade attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of Arises	Segment
UA2010-206-0001	1	10-20	chert	brown	18.3	7.2	2.4	1	medial
UA2010-206-0005	5	33	chert	dusky red	7.0	7.4	1.6	2	proximal

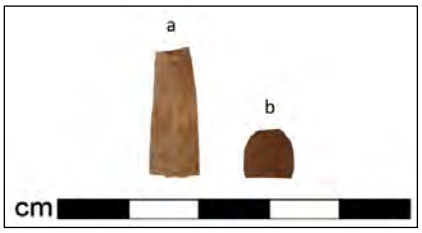


Figure 181. FAI-02064 microblades

Table 29. FAI-02064 burin attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)
UA2010-206-0022	12B	35	chert	light brownish gray	14.6	6.5	4.7

Figure 182. FAI-02064 burin spall

Figure 183. FAI-02064 test pit BT79 stratigraphy (view to south)

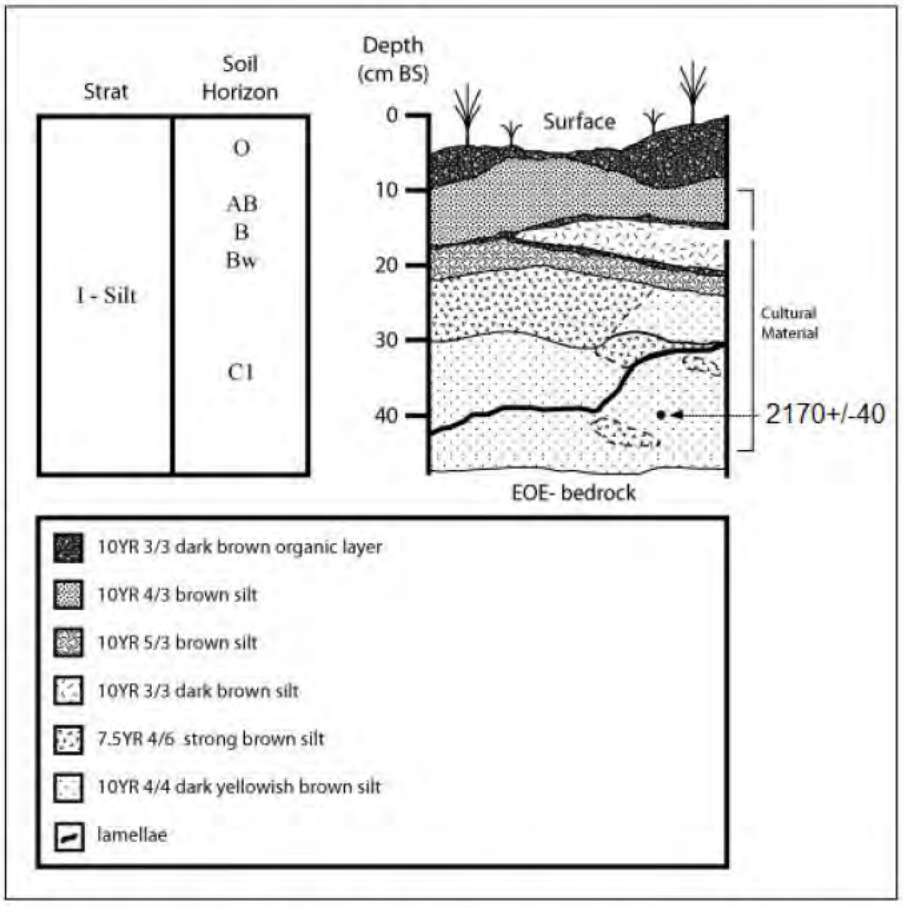


Figure 184. FAI-02064 stratigraphy

FAI-02065
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02065 is located on the edge of a north-facing terrace at UTM coordinates are [redacted] (Figure 186, Figure 187). Site elevation is 208 masl. The landform overlooks the Tanana Flats to the north and northwest and a 100 m wide drainage channel to the east and southeast. The terrace edge slopes roughly 45° to the tussocks approximately 15 m below. The terrace edge extends roughly 120 m to the west, where FAI-02066 was discovered. The viewshed from the site is approximately 270° with open views of the Fairbanks hills to the northeast, Clear Creak Buttes approximately 25 km to the northwest at 325°, and the outline of Dry Creek approximately 3 km to the north. There are numerous water sources in the vicinity of the site including multiple creeks, the nearest of which flows north-south through the drainage channel 50 m to the east.

The ecosystem is characterized as upland needleleaf forest (Figure 188). Vegetation is comprised of spruce, tamarack, aspen and willow with an understory of forbs, low-bush cranberries, moss and lichen. Surface exposure on the eroding terrace edge is 90-100% due to wind, water, and bioturbation (animal burrows). Exposure drops to 10-20% a few meters from the edge. FAI-02070 is located on the same landform approximately 50 m to the south of FAI-02065.

Site FAI-02065 was identified on the basis of six flakes (Table 30) and one unifacial tool (Table 31, Figure 189) found on the surface. No tests pits were excavated and no stratigraphic information was collected; however, FAI-02066 is approximately 120 m west on the same landform and likely has similar stratigraphy.

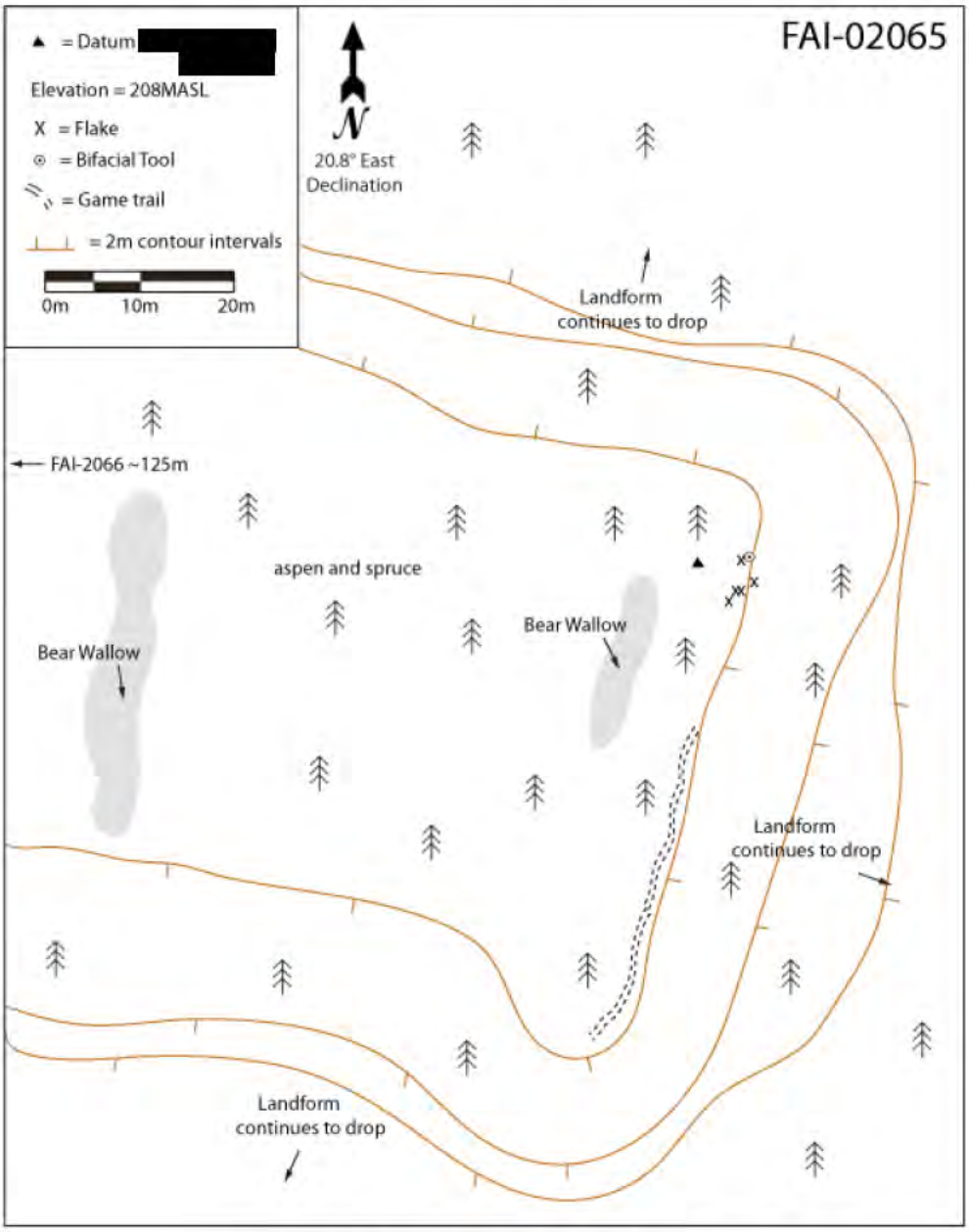


Figure 185. FAI-02065 sketch map

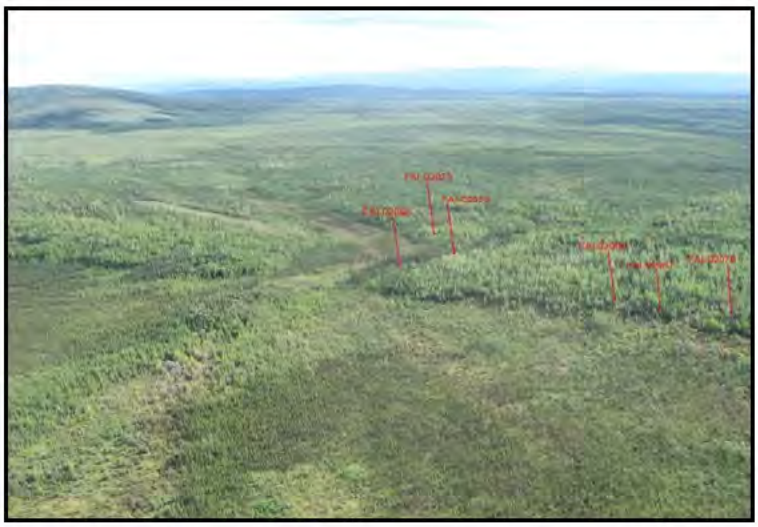


Figure 186. FAI-02065 aerial overview (view to south)

Figure 187. FAI-02065 overview (view to south)

Table 30. FAI-02065 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-207-0001	1	Surface	flake fragment	1	chert	very dark gray
UA2010-207-0002	2	Surface	flake fragment	1	chert	translucent dark gray
UA2010-207-0003	3	Surface	flake fragment	1	chert	very dark gray
UA2010-207-0004	4	Surface	flake fragment	1	chert	very dark gray
UA2010-207-0005	5	Surface	flake fragment	1	chert	very dark gray
UA2010-207-0007	7	Surface	flake fragment	1	chert	light gray w/ yellowish brown

Table 31. FAI-02065 retouched flake attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)
UA2010-207-0006	6	surface	chert	black	94.3	54.8	12.1

Figure 188. FAI-02065 retouched flake

FAI-02066
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02066 is located on a north-facing terrace edge, on a point formed by a narrow channel that dissects the landform (Figure 190, Figure 191). UTM coordinates are [redacted]. Site elevation is 212 masl. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below and approximately 45° to the northwest into the drainage channel 10-15 m below. FAI-02065 is located roughly 120 m east of this site on the same landform. FAI-02067 is located to the west on the opposite side of the drainage channel. The nearest water source is a drainage creek which flows north-south approximately 170 m east of the site.

The location would offer roughly a 250° view; however, thick vegetation in the form of upland moist mixed broadleaf/needleleaf forest obscures the viewshed (Figure 192). The vegetation is comprised of spruce, aspen, tamarack, and birch with an understory of forbs, grasses, fireweed, low-bush cranberry, moss, and lichen. No disturbances were observed. Surface exposure is 5%.

The site was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated, three of which contained cultural material. Eighty-seven lithic flakes were recovered from 0-33

cm BS (Table 32). Two re-fitting heat-fractured biface fragments were recovered from one test pit with one found in situ at 9 cm BS (Table 33, Figure 193). The other fragment was recovered between 0-30 cm BS. One black chert microblade proximal fragment was found in a test pit at 0-33 cm BS (Table 34, Figure 194).

Site stratigraphy consists of aeolian silts and sands at least 75 cm thick overlying basal poorly sorted sandy gravels (Figure 195, Figure 196).

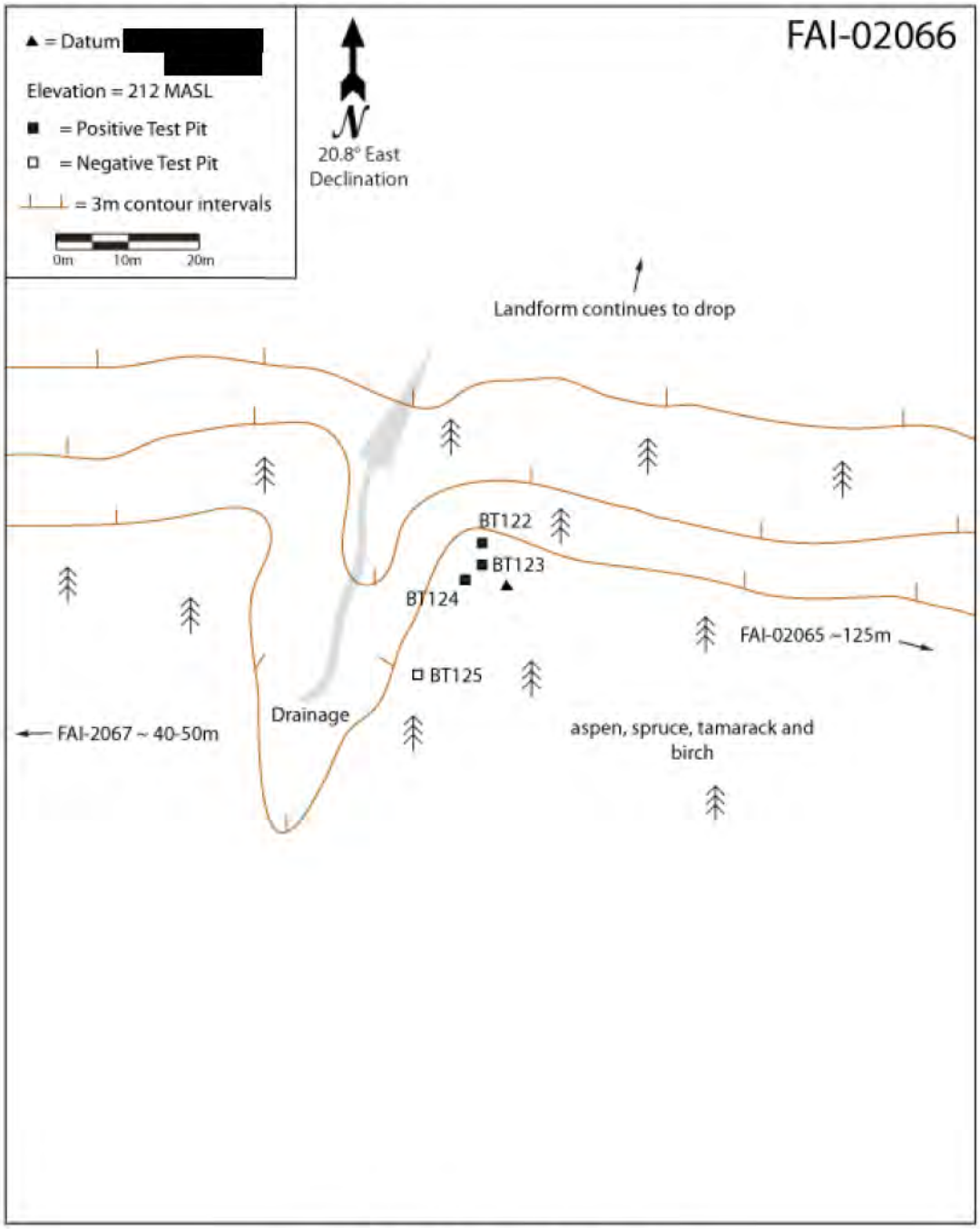


Figure 189. FAI-02066 sketch map

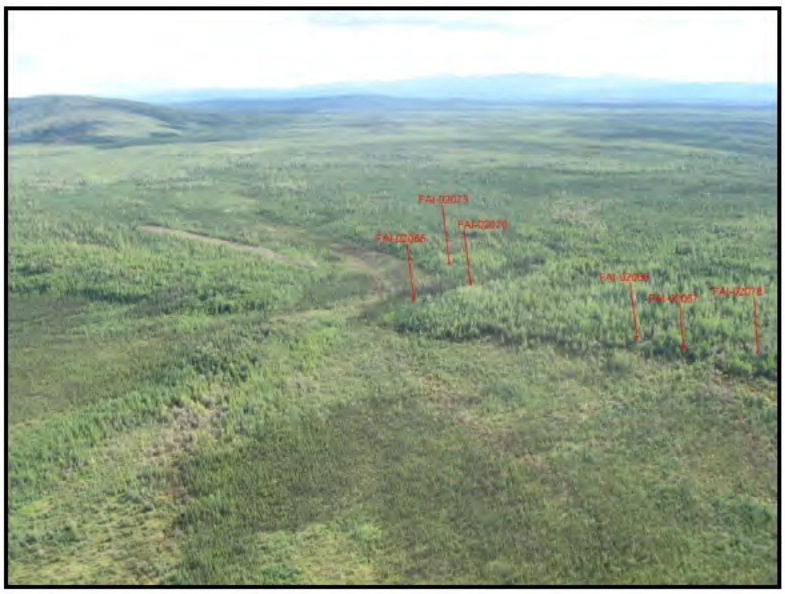


Figure 190. FAI-02066 aerial overview (view to south)

Figure 191. FAI-02066 aerial overview (view to northwest)

Table 32. FAI-02066 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-208-0001	1	0-33	flake and flake fragment	70	chert	various
UA2010-208-0002	2	0-33	flake fragment	1	chert	dark reddish gray
UA2010-208-0003	3	6	flake fragment	1	chert	dark gray
UA2010-208-0004	4	9	flake fragment	2	chert	dark gray
UA2010-208-0006	6	10	flake and flake fragment	3	chert	very dark gray and dark gray
UA2010-208-0007	7	11	flake fragment	1	chert	dark gray
UA2010-208-0008	8	11.5	charcoal			
UA2010-208-0009	9	15	flake	1	chert	dark gray
UA2010-208-0010	10	33	flake fragment	1	chert	dark gray
UA2010-208-0011	11	0-10	flake and flake fragment	4	chert	dark gray
UA2010-208-0012	12	10-20	flake	2	chert	dark gray
UA2010-208-0013	13	20-30	flake	1	chert	dark gray
UA2010-208-0014	14	0-20	flake fragment	1	chert	dark gray

Table 33. FAI-02066 biface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)
UA2010-208-0005 (1 of 2)*	5A	9-33	chert	grayish brown	31.9	27.1	11.6
UA2010-208-0005 (2 0f 2)	5B	0-33					

*2 heat fractured fragments refit and analyzed as one artifact (originally recovered separately)

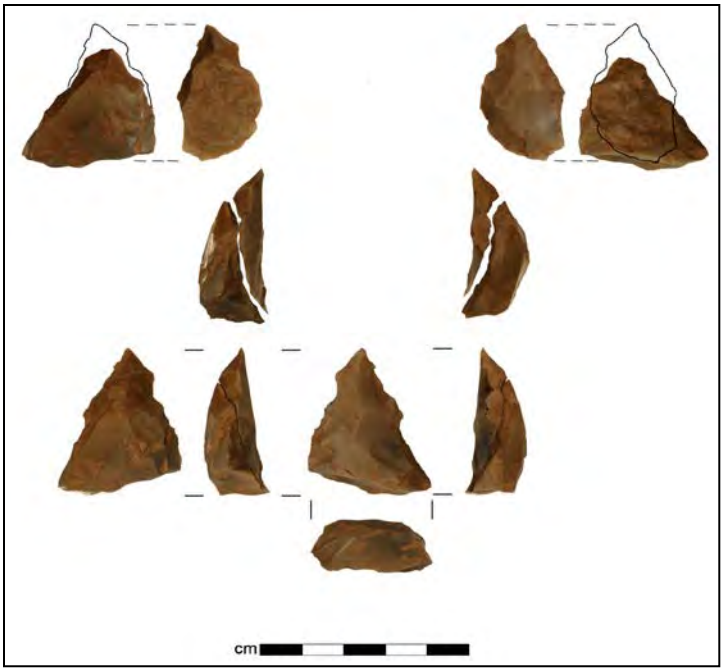


Figure 192. FAI-02066 biface

Table 34. FAI-02066 microblade attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of Arises	Segment
UA2010-208-0015	15	0-33	chert	black	11	7	1.8	1	proximal

Figure 193. FAI-02066 microblade

Figure 194. FAI-02066 test pit stratigraphy

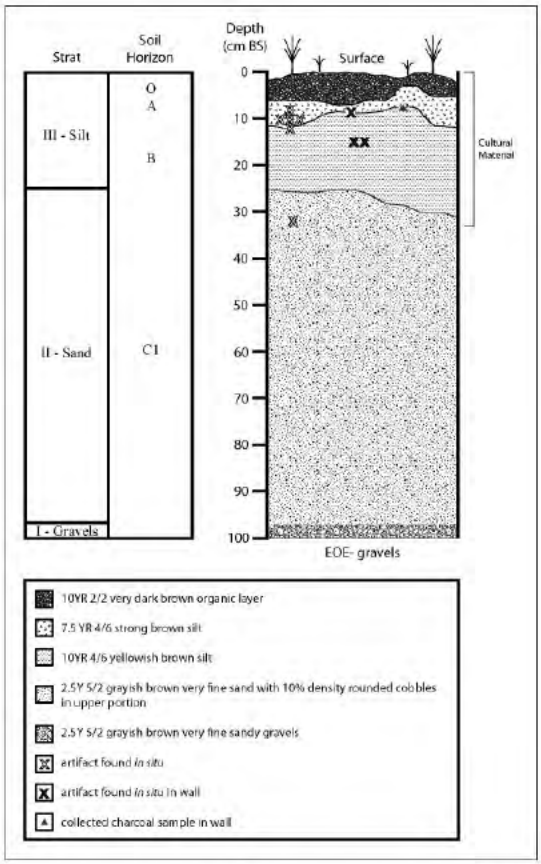


Figure 195. FAI-02066 stratigraphy

FAI-02067
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02067 is located on a finger on a north-facing terrace edge (Figure 197, Figure 198). UTM coordinates are [redacted]. Site elevation is 212 masl. The local landform protrudes to the northeast approximately 15 m above the Tanana Flats. The landform extends at least 60 m to the south. The northeast corner offers a 270° viewshed. The Fairbanks hills can easily be seen to the northeast. Clear Creek Buttes can be seen roughly 25 km to the northwest at 325°. The outline of Dry Creek can be seen approximately 3 km to the north. FAI-02066 is located roughly 45 m to the east on the opposite side of an unnamed adjacent drainage channel. FAI-02078 is located roughly 45 m to the west on the opposite side of an unnamed adjacent drainage channel.

The ecotype is characterized as upland broadleaf/needleleaf forest (Figure 199). Vegetation consists of spruce, birch, aspen, and tamarack, with an understory of alder, grass, forbs, and moss. No disturbances were observed. Surface exposure is 5%.

Site FAI-02067 was found through subsurface testing. One 50 cm x 50 cm test pit was excavated and produced cultural material. Seven flakes (Table 35) were recovered from 0-40 cm BS.

Site stratigraphy consists of aeolian silts 69 cm thick overlying basal poorly sorted silty gravels (Figure 200, Figure 201).

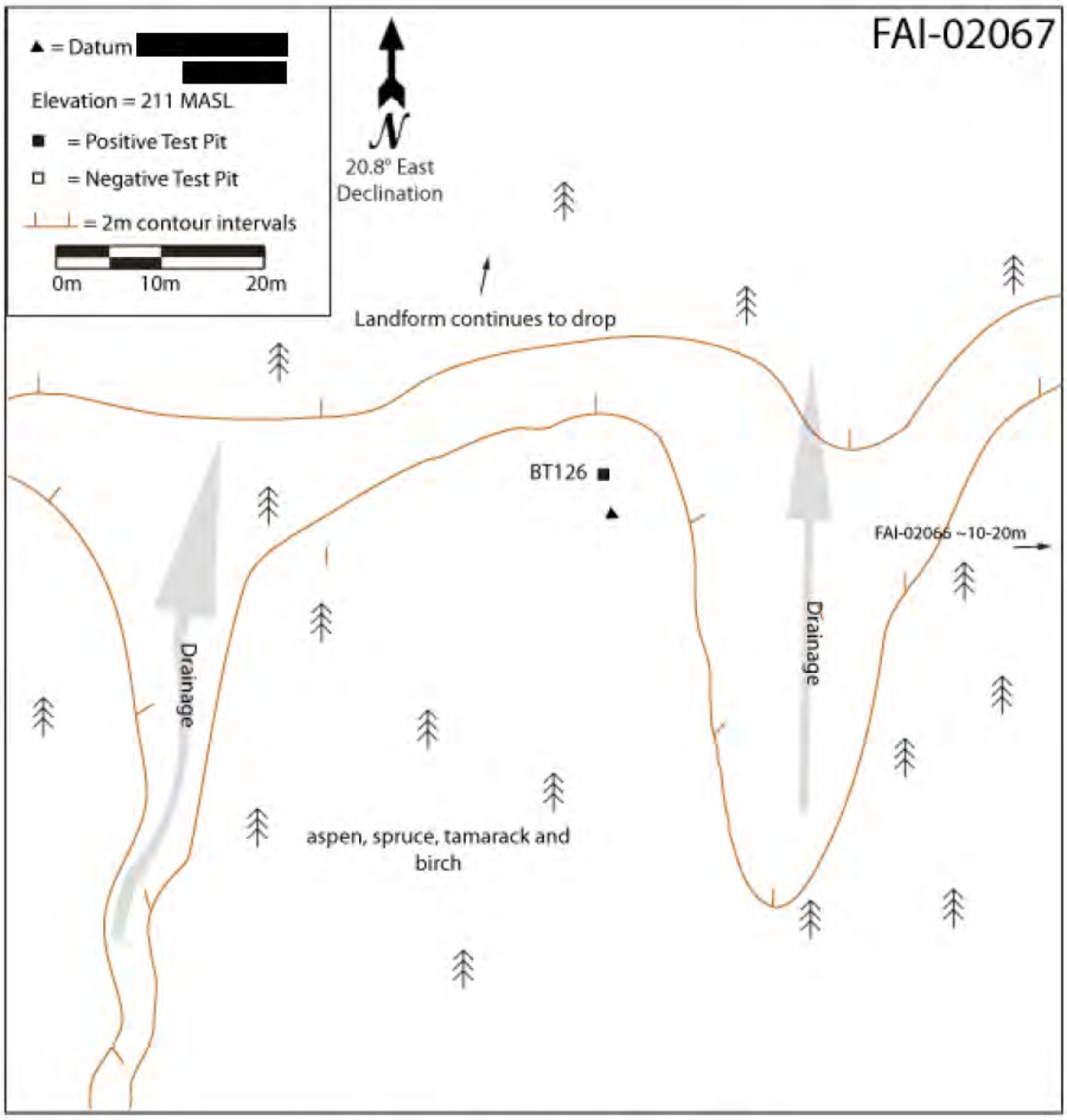


Figure 196. FAI-02067 sketch map

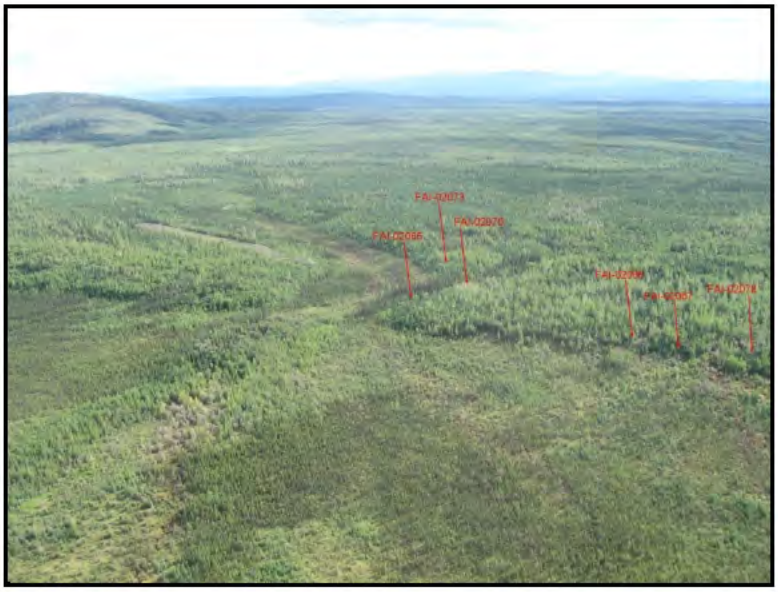


Figure 197. FAI-02067 aerial overview (view to south)

Figure 198. FAI-02067 overview (view to south)

Table 35. FAI-02067 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-209-0001	1	0-10	flake and flake fragment	5	rhyolite and chert	various
UA2010-209-0002	2	10-20	flake fragment	1	basalt	dark gray
UA2010-209-0003	3	30-40	flake fragment	1	basalt	dark gray

Figure 199. FAI-02067 test pit stratigraphy

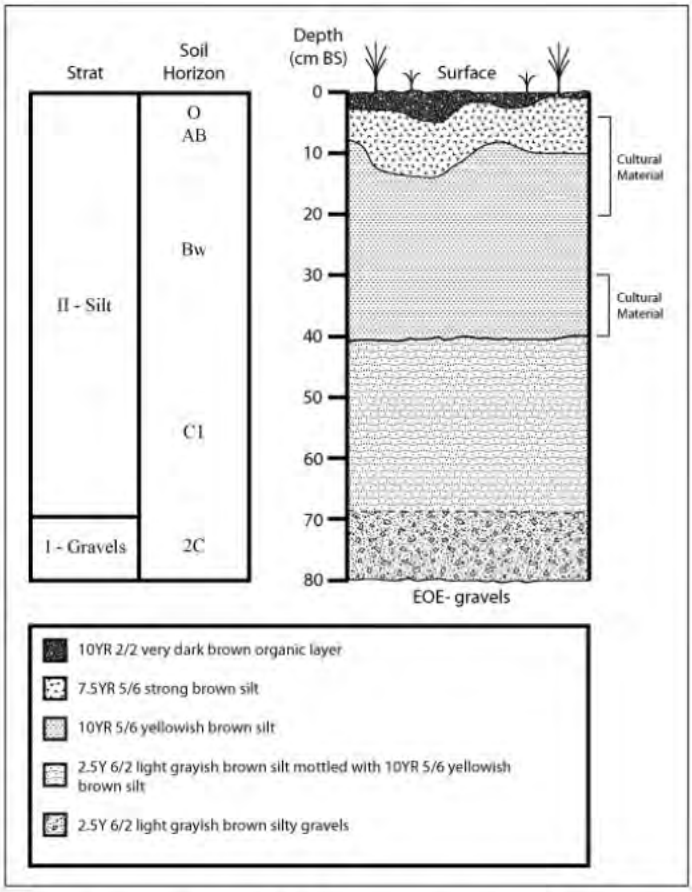


Figure 200. FAI-02067 stratigraphy

FAI-02068
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not determined

Site FAI-02068 is located on the edge of a north-facing terrace (Figure 202, 203). UTM coordinates are [redacted]. Site elevation is 200 masl. The terrace is elevated approximately 15 m above the tussocks below. The landform slopes down at roughly 40° the west, north and east sides. The location provides commanding views of Clear Creak Buttes to the northwest at 327°, the hills of Fairbanks to the northeast, and the outline of Dry Creek approximately 3 km to the north. The northwest and northeast corners of the landform offer 270° views of the Tanana Flats. An elevated knob on the southeast side of the landform offers a 300° view of the Tanana Flats and the drainage channel to the east. The closest water source is a drainage creek that flows north-south through the wide drainage channel roughly 75 m to the east.

The surrounding ecotype is characterized as upland low and tall scrub (Figure 204). Vegetation in the area consists of immature spruce, alder, aspen, and birch with an understory of moss and lichen. Surface exposure on the edge of the landform is 100% due to wind and water erosion and bioturbation (animal burrows). Site disturbance is moderate, but all disturbances are natural.

Site FAI-02068 was found through subsurface testing. Eight 50 cm x 50 cm test pits were excavated. Two test pits contained cultural material. Thirty-four chert flakes were dispersed from 0-30 cm BS (Table 36). One unidentifiable bone fragment was collected from 100-110 cm BS.

Site stratigraphy consists of aeolian silts at least 58 cm thick overlying poorly sorted basal silty gravels (Figure 205, Figure 206).

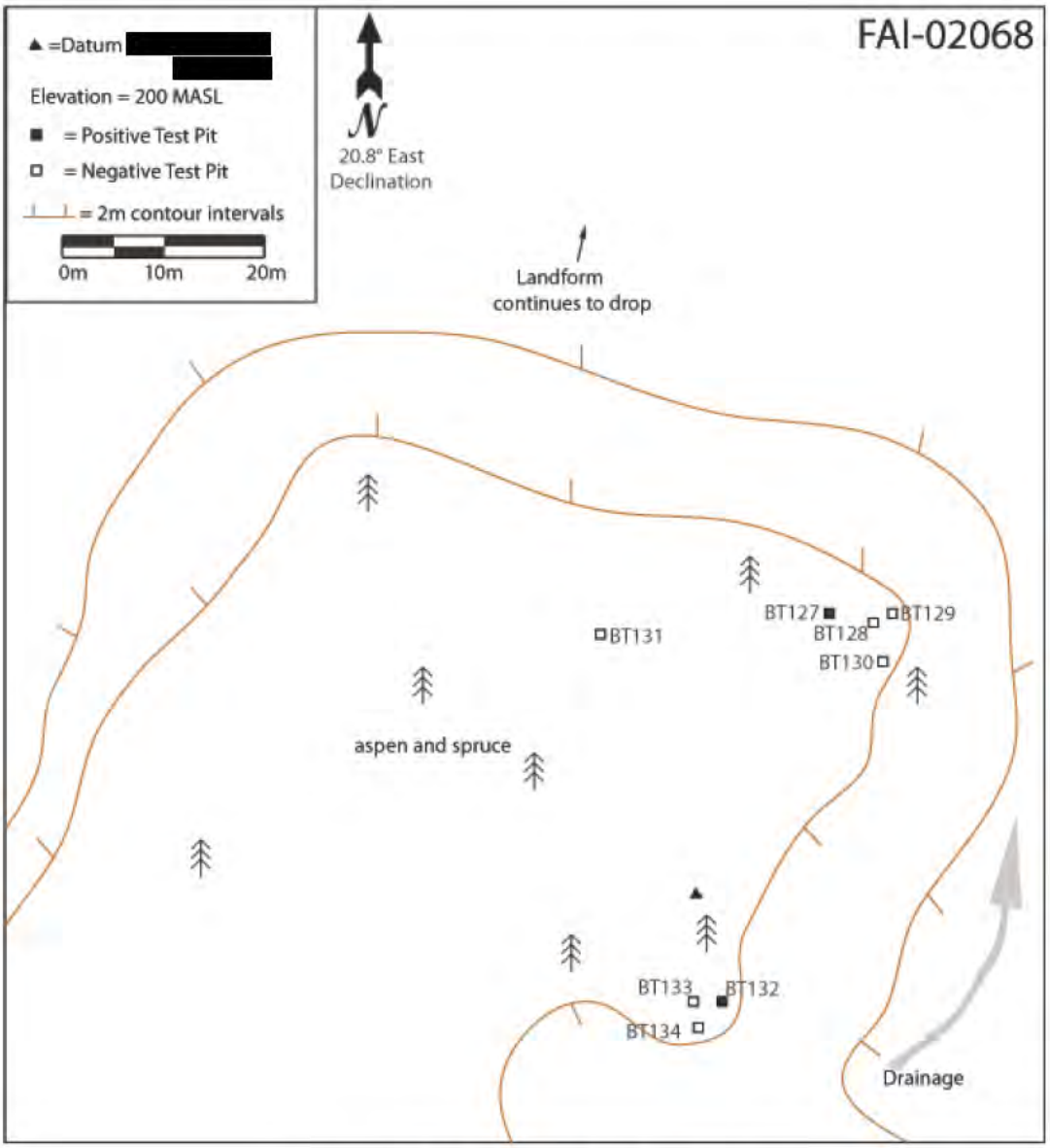


Figure 201. FAI-02068 sketch map

Figure 202. FAI-02068 aerial overview (view to south)

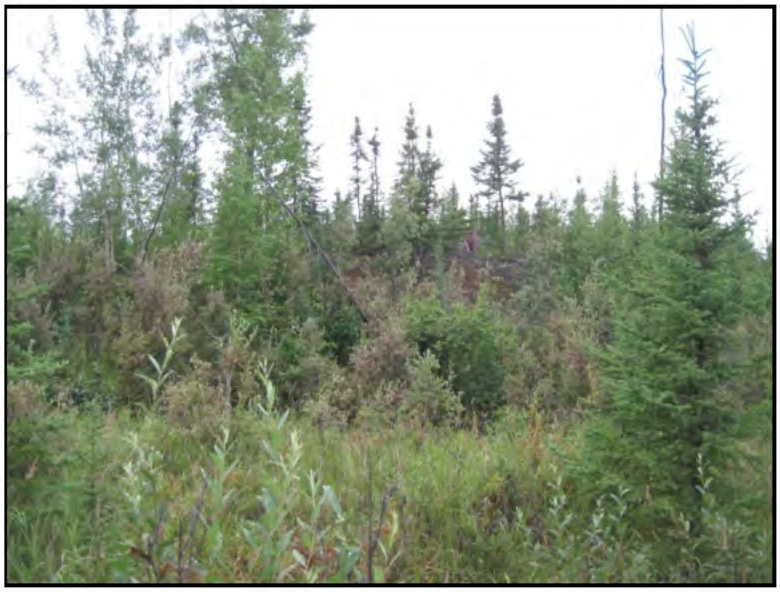


Figure 203. FAI-02068 overview (view to west-northwest)

Table 36. FAI-0268 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-210-0001	1	100-110	bone			
UA2010-210-0002	2	0-24	flake and flake fragment	28	chert	various
UA2010-210-0003	3	24	flake fragment	1	chert	pale brown
UA2010-210-0004	4	24-30	flake and flake fragment	7	chert	various

Figure 204. FAI-02068 test pit stratigraphy

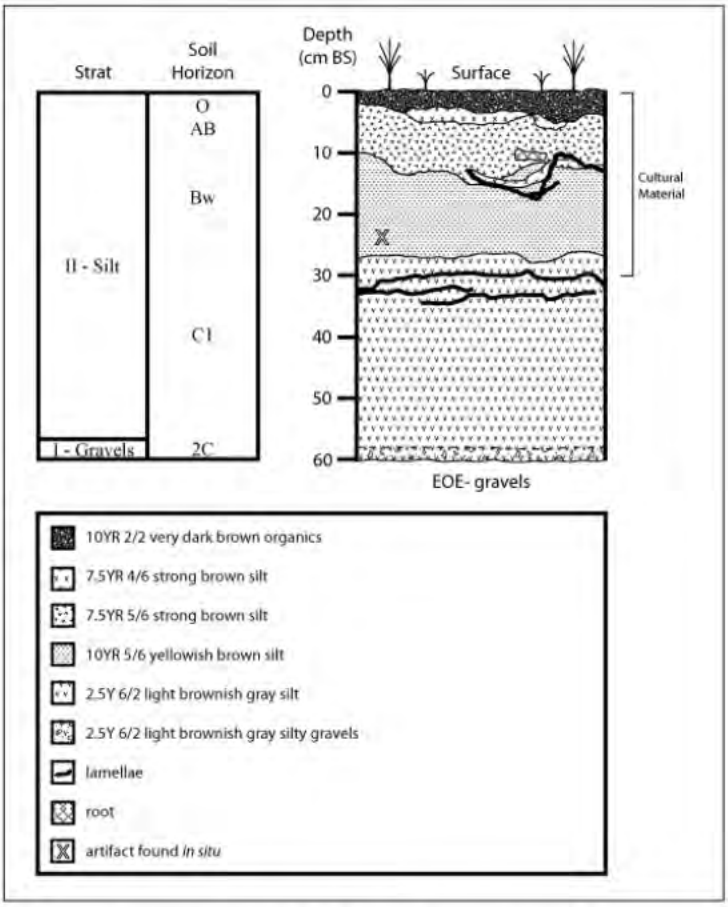


Figure 205. FAI-02068 stratigraphy

FAI-02069
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02069 is located on the northeast corner of a point formed where an unnamed drainage dissects a north-facing terrace edge (Figure 207, Figure 208). UTM coordinates are [redacted]. Site elevation is 209 masl. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below and approximately 45° to the east into the drainage channel 10-15 m below. FAI-02078 is located roughly 40 m to the east on the opposite side of the drainage channel. Without foliage present, the viewshed offers roughly 270° of unobstructed sight. The hills of Fairbanks can be seen to the northeast, Clear Creak Buttes are approximately 25 km away to the northwest at 325°, and the outline of Dry Creek is approximately 3 km to the north. The nearest water source is a drainage creek that runs north-south approximately 300 m east of the site.

The ecotype is characterized as an upland mixed broadleaf/needleleaf forest (Figure 209). The vegetation is comprised of spruce, aspen, tamarack, and birch with an understory of forbs, grasses, fireweed, low bush cranberries, moss, and lichen. Minimal to no disturbances were observed. Surface exposure is 5%.

Site FAI-02069 was found through subsurface testing. Five 50 cm by 50 cm test pits were excavated. One test pit contained cultural material, including one brown (7.5YR 5/4) 7.5-10 mm chert flake fragment (UA2010-211) collected from 0-30 cm BS.

Site stratigraphy consists of aeolian silts at least 68 cm thick overlying poorly sorted silty gravels (Figure 210, Figure 211).

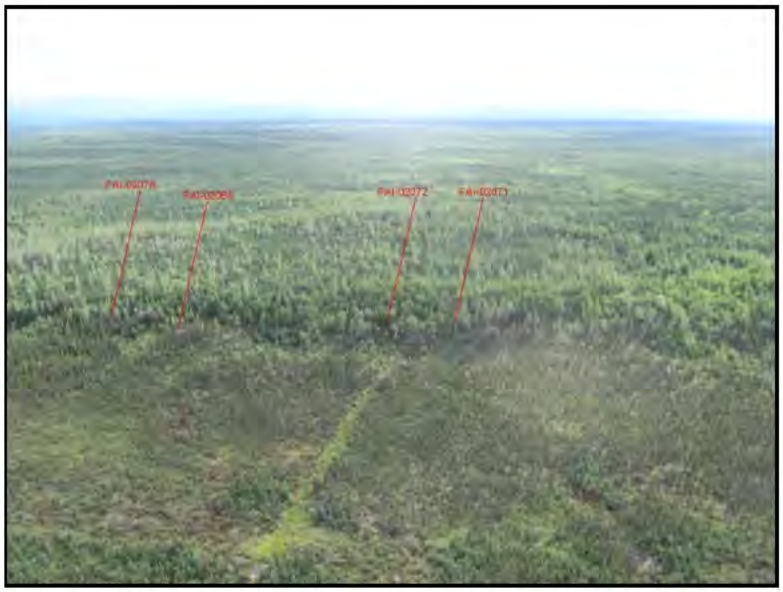


Figure 206. FAI-02069 aerial overview (view to south)

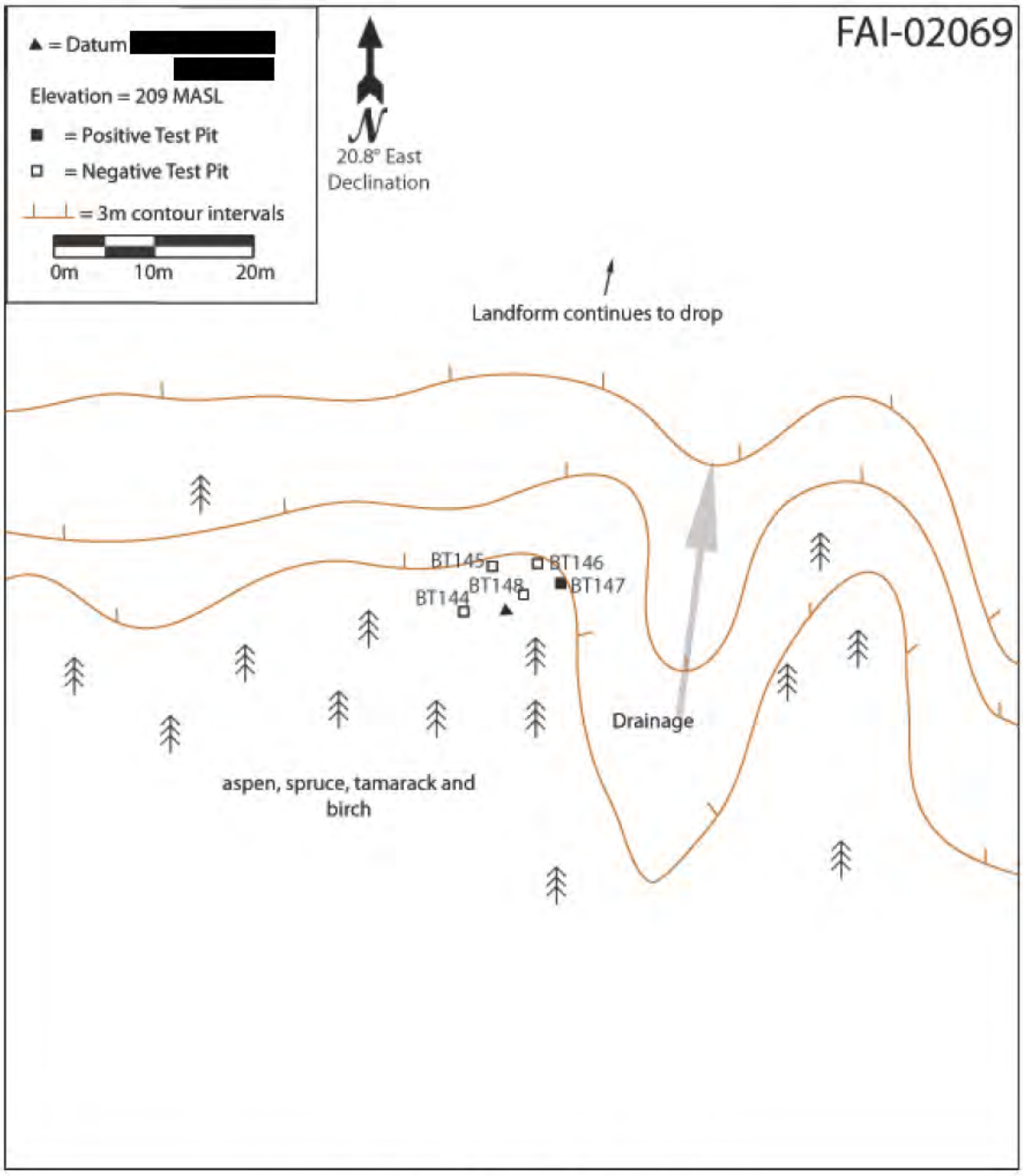


Figure 207. FAI-02069 sketch map

Figure 208. FAI-02069 overview (view to northeast)

Figure 209. FAI-02069 test pit stratigraphy

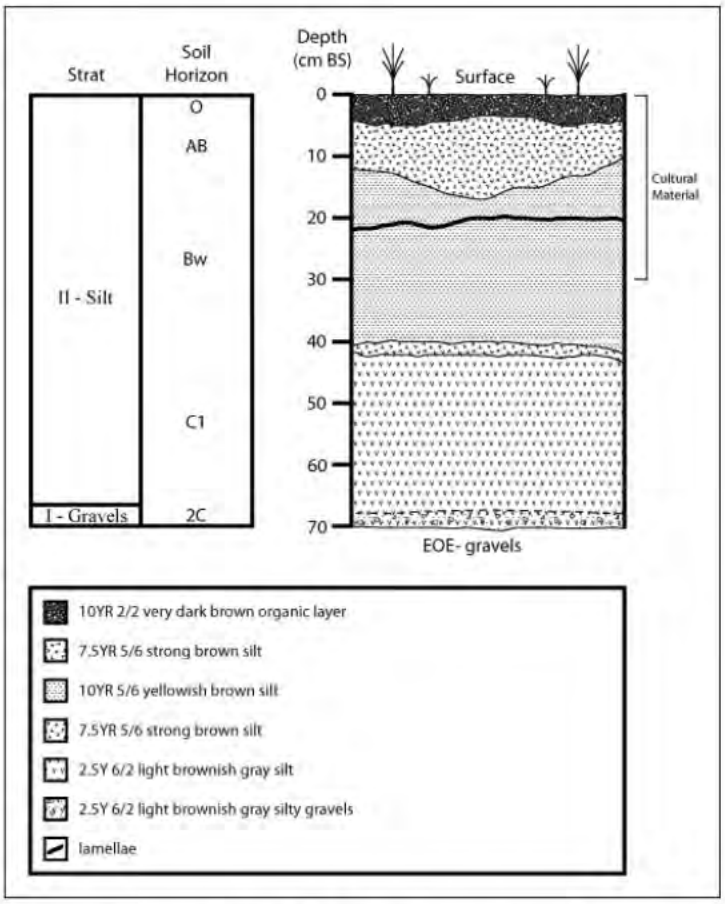


Figure 210. FAI-02069 stratigraphy

FAI-02070
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Determined

Site FAI-02070 is located on a point on a north-facing terrace edge (Figure 212, Figure 213). UTM coordinates are [redacted]. Site elevation is 212 masl. The eastern edge of the landform slopes down at roughly 50° to tussocks below. The southern point site area offers a 270° view of the surrounding terrain. FAI-02073 can be seen to the southeast at 168°. FAI-02065 is located approximately 50 m north of FAI-02070 on the same landform.

The ecotype is characterized as upland moist low and tall scrub. Vegetation consists of immature and mature spruce with an understory of tall grasses, fireweed, moss, and lichen (Figure 214). Surface visibility is 98% on the slopes and approximately 50% on the level crest. Disturbance is heavy due to wind and water erosion.

Site FAI-02070 was identified on the basis of nine pieces of lithic debitage (Table 37) and one uniface (Table 38, Figure 215) found on the surface.

Site stratigraphy is unknown due to lack of subsurface testing; however, FAI-02066 exists on the same landform approximately 175 m to the northwest. The two sites likely share similar stratigraphy.

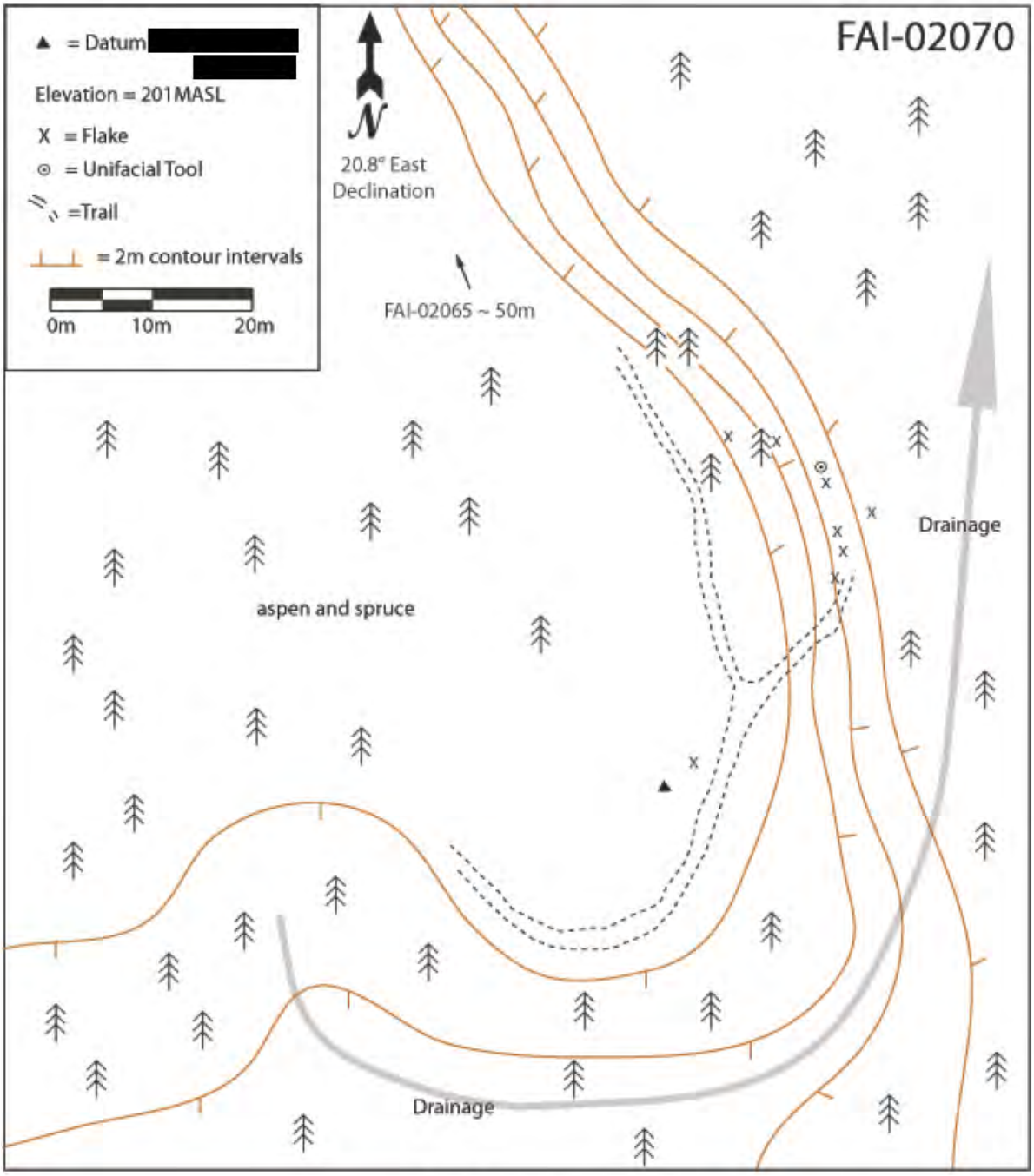


Figure 211. FAI-02070 sketch map

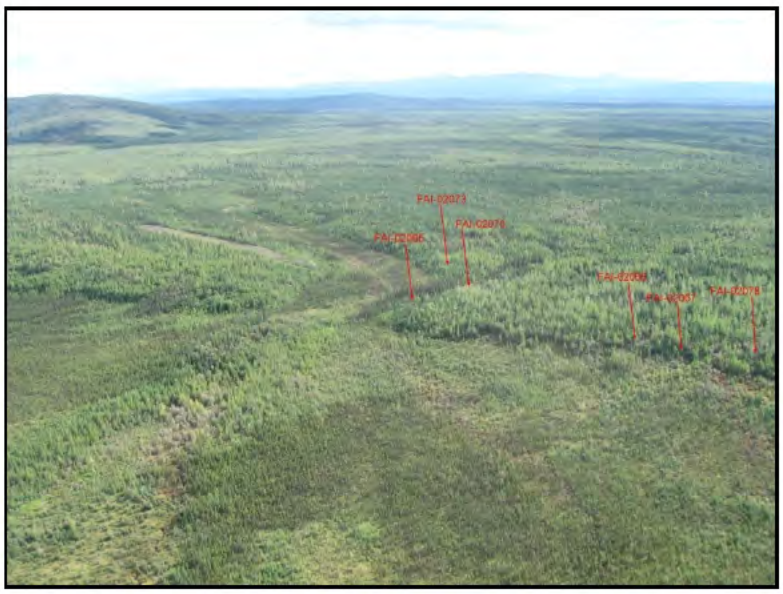


Figure 212. FAI-02070 aerial overview (view to south)

Figure 213. FAI-02070 overview (view to northeast)

Table 37. FAI-02070 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-212-0001	1	Surface	flake fragment	1	chert	light brownish gray
UA2010-212-0003	3	Surface	flake fragment	1	rhyolite	light brownish gray
UA2010-212-0004	4	Surface	flake fragment	1	chert	translucent gray with very dark gray
UA2010-212-0005	5	Surface	flake fragment	1	basalt	very dark gray
UA2010-212-0006	6	Surface	flake fragment	1	basalt	very dark gray
UA2010-212-0007	7	Surface	flake fragment	1	rhyolite	grayish brown
UA2010-212-0008	8	Surface	flake fragment	1	chert	light gray with gray bands
UA2010-212-0009	9	Surface	debris	1	chert	very dark gray
UA2010-212-0010	10	Surface	flake	1	chert	very dark gray

Table 38. FAI-02070 uniface attributes

								Retouch Length (mm)			
UA Accession #	FS #	Depth (cm BS)	Material	Color	L (mm)	W (mm)	T (mm)	A (left lat.)	B (dist.)	C (right lat.)	D (prox.)
UA2010-212-0002	2	surface	rhyolite	Mottled	49.5	30.5	13.3	28.1	0	0	0

Figure 214. FAI-02070 uniface

FAI- 02071
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02071 is located on a point on a north-facing terrace edge (Figure 216, Figure 217). UTM coordinates are [redacted]. Site elevation is 209 masl. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below and approximately 45° to the east into the drainage channel 10-15 m below. The landform extends to the south for at least 50 m. FAI-02072 is located roughly 40 m to the east on the opposite side of the drainage channel. The nearest water source is a north-south flowing drainage creek approximately 300 m to the east of the site.

The location would offer roughly a 250° view; however, thick vegetation in the form of upland moist mixed broadleaf/needleleaf forest obscures the viewshed (Figure 218). The vegetation is comprised of spruce, aspen, tamarack, and birch with an understory of forbs, grasses, fireweed, low bush cranberries, moss, and lichen. Surface exposure is roughly 10%.

Site FAI-2071 was found through subsurface testing. Three 50 m x 50 m test pits were excavated. One test pit contained cultural material, including three pieces of lithic debitage: one from 0-10 cm BS, one from 20-30 cm BS, and one from 30-40 cm BS (Table 39).

Site stratigraphy consists of aeolian silts at least 56 cm thick overlying poorly sorted basal silty gravels (Figure 219, Figure 220).

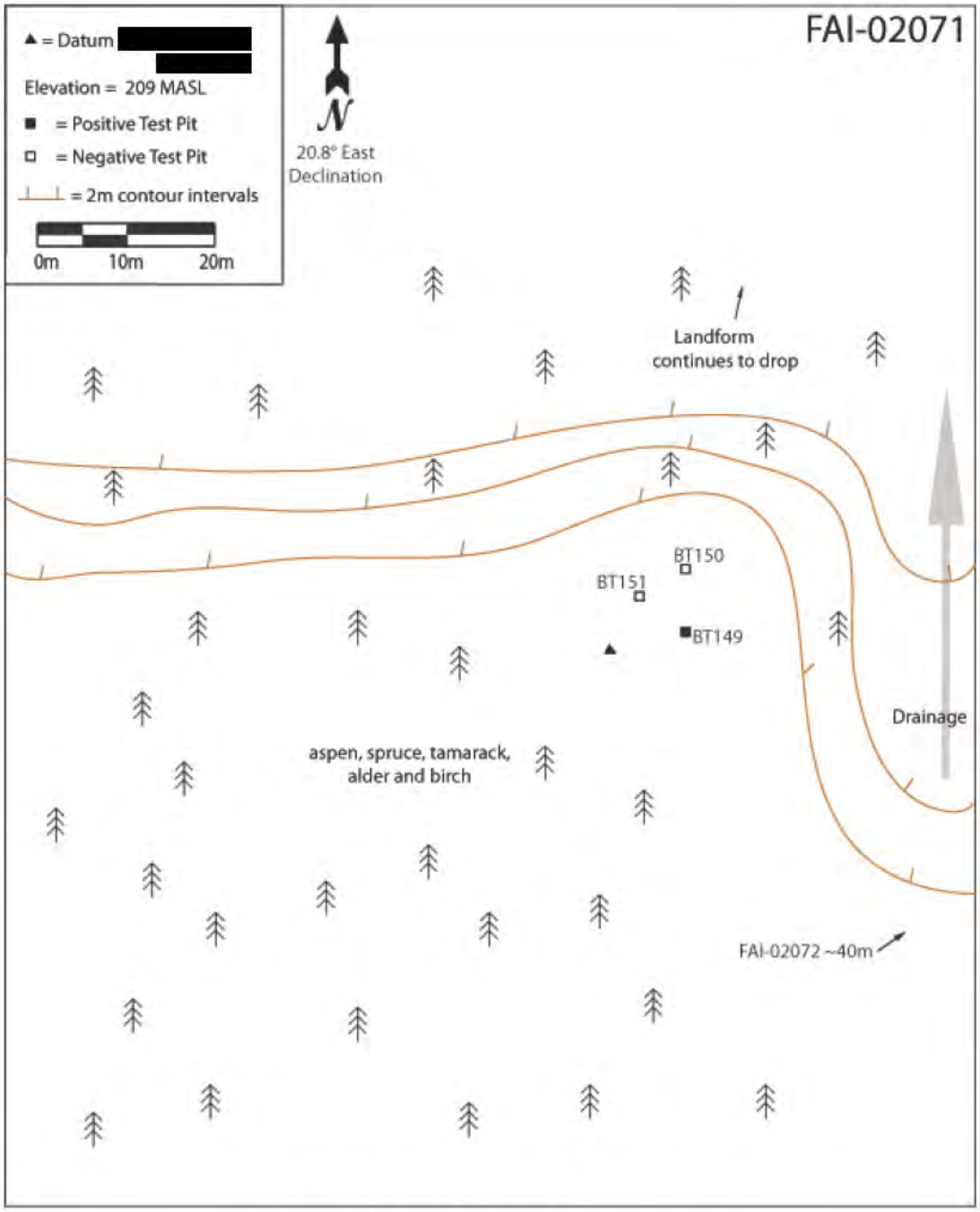


Figure 215. FAI-02071 sketch map

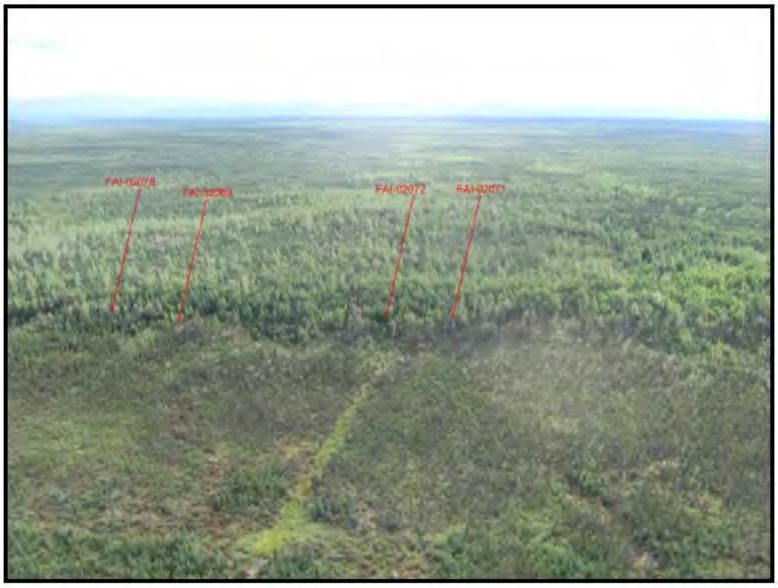


Figure 216. FAI-02071 aerial overview (view to south)

Figure 217. FAI-02071 overview (view to east-northeast)

Table 39. FAI-02071 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-213-0001	1	0-10	flake	1	rhyolite	brown
UA2010-213-0002	2	20-30	flake fragment	1	basalt	dark gray
UA2010-213-0003	3	30-40	flake	1	basalt	dark gray

Figure 218. FAI-02071 test pit stratigraphy

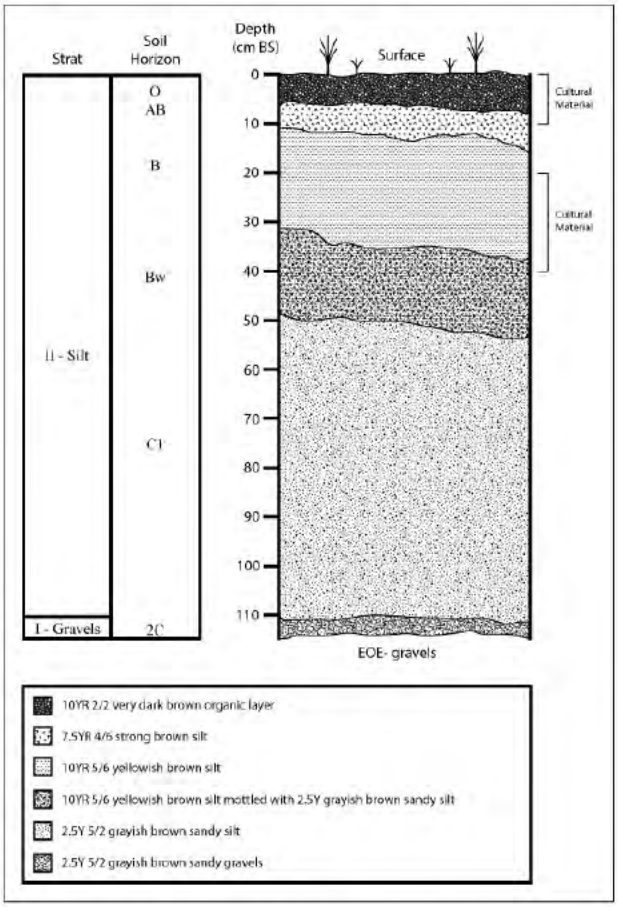


Figure 219. FAI-02071 stratigraphy

FAI-02072
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02072 is located on a point formed where a small unnamed drainage intersects a north-facing terrace edge (Figure 221, Figure 222). UTM coordinates are [redacted]. Site elevation is 210 masl. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below. The landform slopes approximately 45° to the northwest into the drainage channel 10-15 m below. FAI-02071 is located approximately 40 m to the west on the opposite side of the unnamed drainage channel. The nearest water source is a drainage creek that flows north-south approximately 300 m east of the site.

The ecotype is characterized as mixed broadleaf/needleleaf forest (Figure 223). Vegetation is thick and consists of spruce, aspen, tamarack, alder, and birch with an understory of forbs, grasses, fireweed, low bush cranberries, moss, and lichen. No disturbances were observed. Surface exposure is roughly 5%.

Site FAI-02072 was found through subsurface testing. Three 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including two pieces of debitage dispersed from 0-20 cm BS (Table 40).

Site stratigraphy consists of aeolian silts at least 93 cm thick overlying poorly sorted basal sandy gravel (Figure 224, Figure 225).

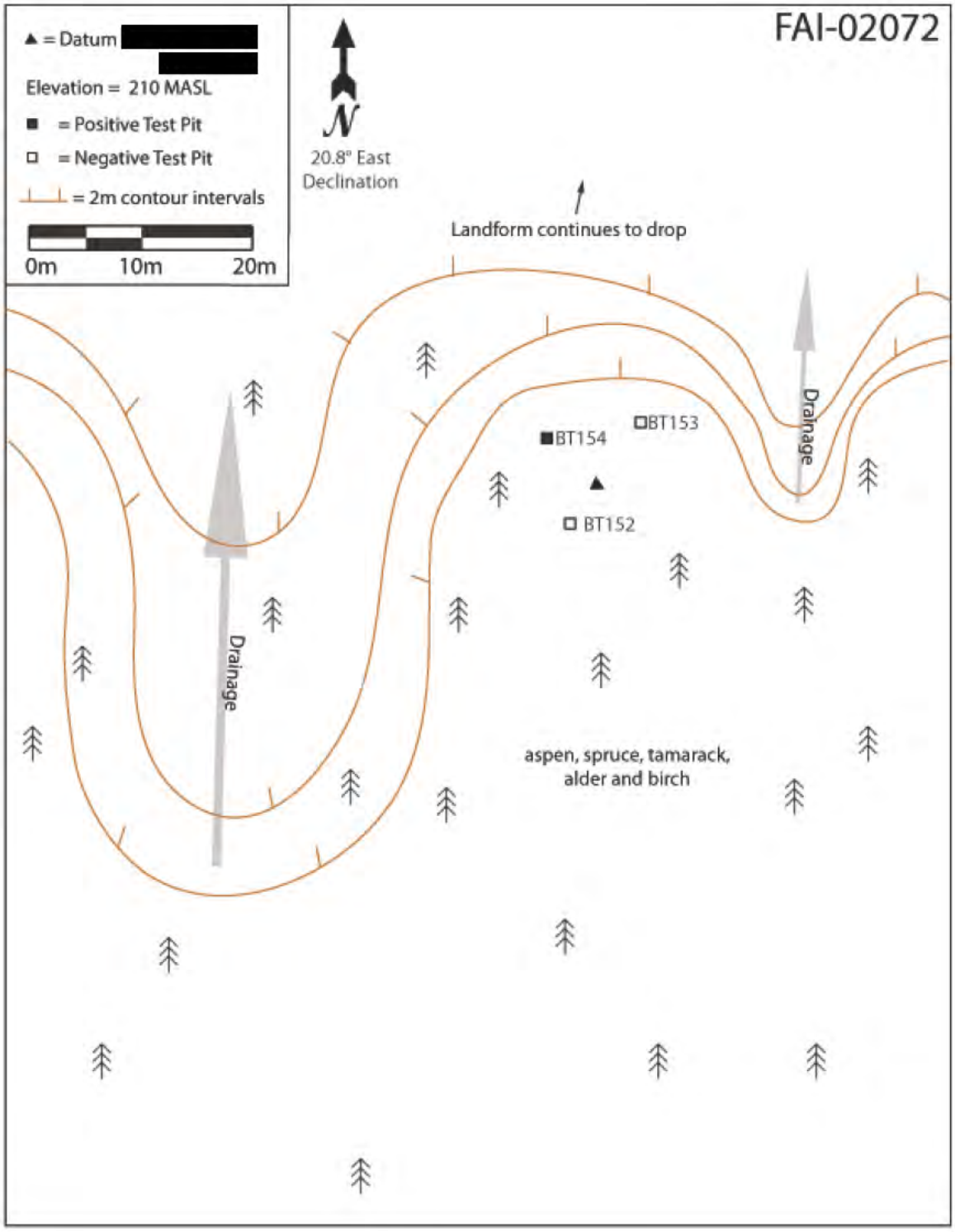


Figure 220. FAI-02072 sketch map

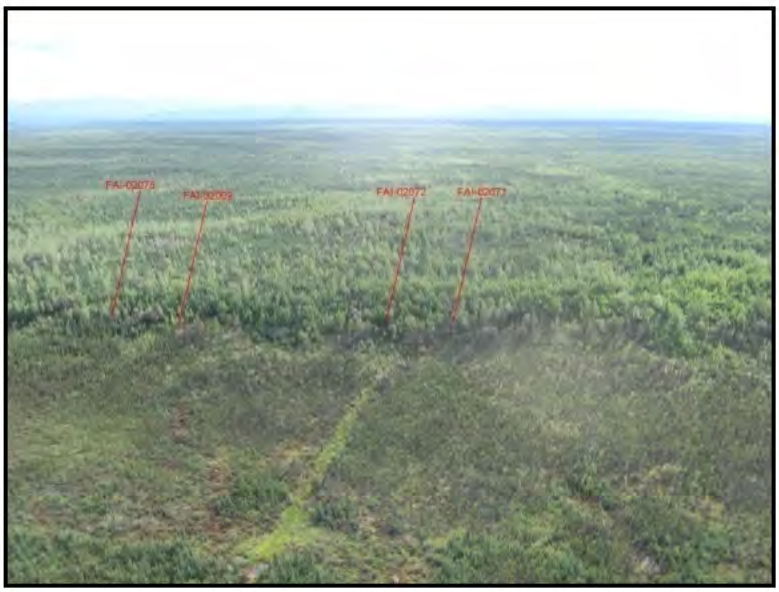


Figure 221. FAI-02072 aerial overview (view to south)

Figure 222. FAI-02072 overview (view to south)

Table 40. FAI-02072 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-214-0001	1	0-10	flake	1	rhyolite	light brown
UA2010-214-0002	2	10-20	flake fragment	1	chert	reddish brown

Figure 223. FAI-02072 test pit stratigraphy

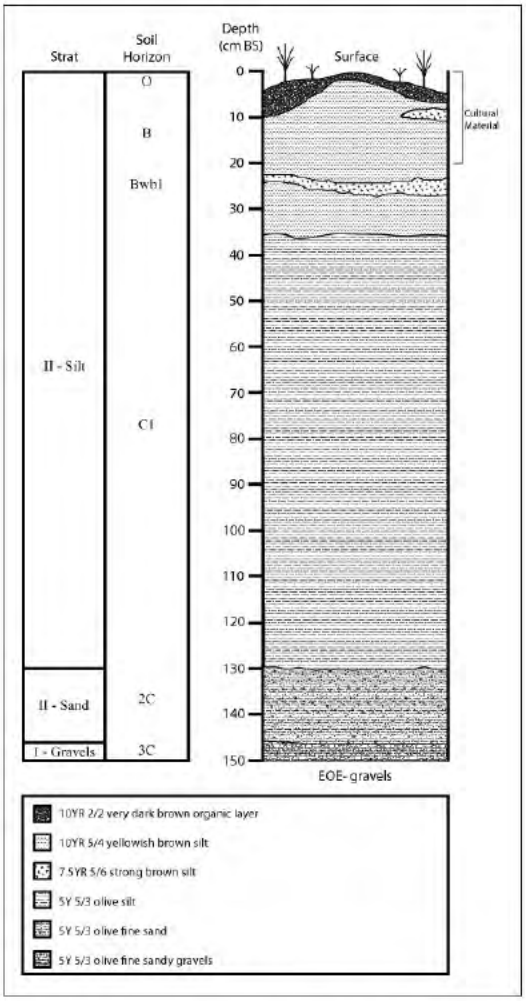


Figure 224. FAI-02072 stratigraphy

FAI-02073
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Eligible (See DOE form in Appendix 1)

Site FAI-02073 is located on the edge of a north-facing alluvial terrace elevated approximately 15 m above the tussocks and valley floor below (Figure 226, Figure 227). UTM coordinates are [redacted]. Site elevation is 213 masl. The highest point of the terrace is approximately 80 m north-south and 40 m east-west. Two unnamed drainage channels converge 20 m directly north of FAI-02073 to become the main water source in the area which flows northeast to the Tanana Flats. The viewshed from the northern tip of the landform is roughly 270°.

The ecosystem is characterized as upland moist needleleaf forest (Figure 228). Vegetation consists mainly of young spruce, tamarack, and willow with an understory of moss and lichen. Surface visibility is less than 5%.

Site FAI-02073 was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated. Two test pits contained cultural material, including 30 pieces of lithic debitage recovered from 0-45 cm BS (Table 41). Two microblades (Table 42, Figure 229) and one microblade core (Table 43, Figure 230) were found in situ at 45 cm BS, and one microblade core tablet was recovered from 0-40 cm BS (Table 44, Figure 231). Site stratigraphy consists of aeolian silts at least 46 cm deep overlying poorly sorted basal sandy gravels (Figure 232, Figure 233).

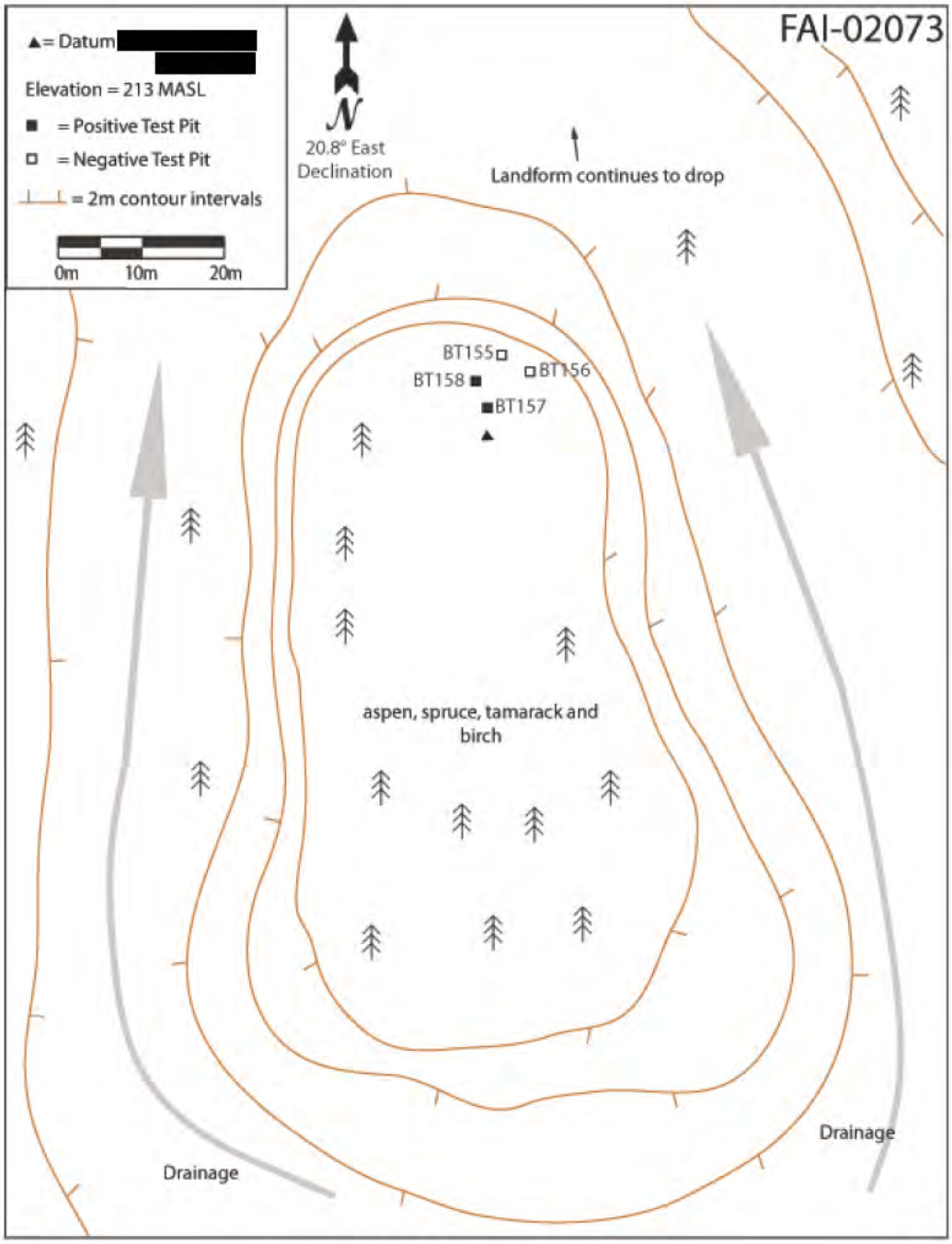


Figure 225. FAI-02073 sketch map

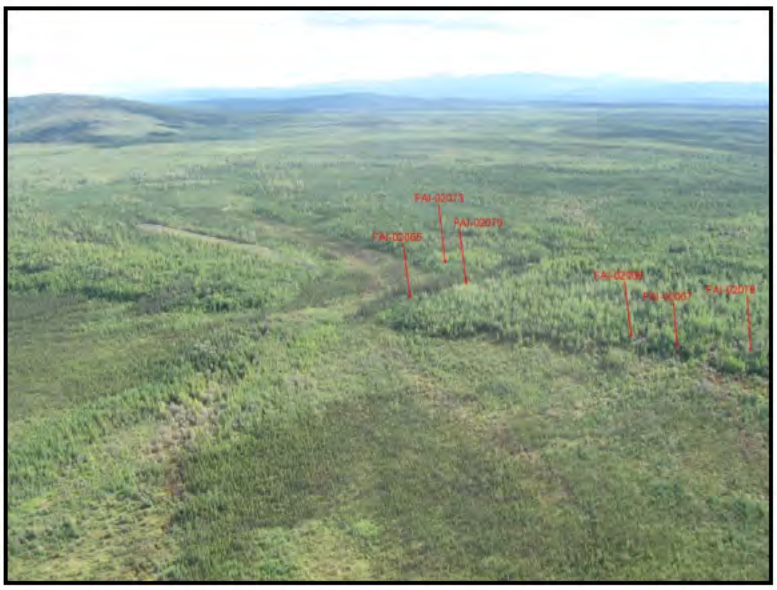


Figure 226. FAI-02073 aerial overview (view to south)

Figure 227. FAI-02073 overview (view to southwest)

Table 41. FAI-02073 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-215-0001	1	30-40	flake	1	chert	black
UA2010-215-0004	4A	0-40	flake and flake fragment	26	chert	various
UA2010-215-0008	6	45	flake fragment	2	chert	black

Table 42. FAI-02073 microblade attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of Arises	Segment
UA2010-215-0003	3	0-40	chert	very dark gray	10	3.2	1.2	1	distal
UA2010-215-0006	4C	0-40	chert	black	12.9	6.4	2.1	2	proximal

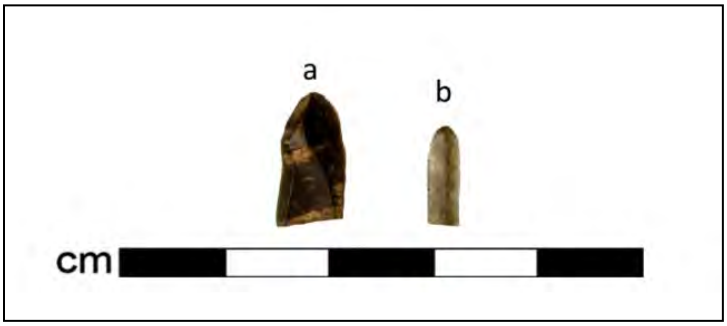


Figure 228. FAI-02073 microblades

Table 43. FAI-02073 microblade core attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of flutes	Avg. flute width	keel shape
UA2010-215-0007	5	45	chert	very dark gray	24.5	27.8	8.2	3	3.6	wedge

Figure 229. FAI-02073 microblade core

Table 44. FAI-02073 microblade core tablet attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of flutes	Avg. flute width
UA2010-215-0002	2	0-40	chert	very dark gray	27.4	10.6	4.6	6	2.5

Figure 230. FAI-02073 microblade core tablet

Figure 231. FAI-02073 test pit stratigraphy

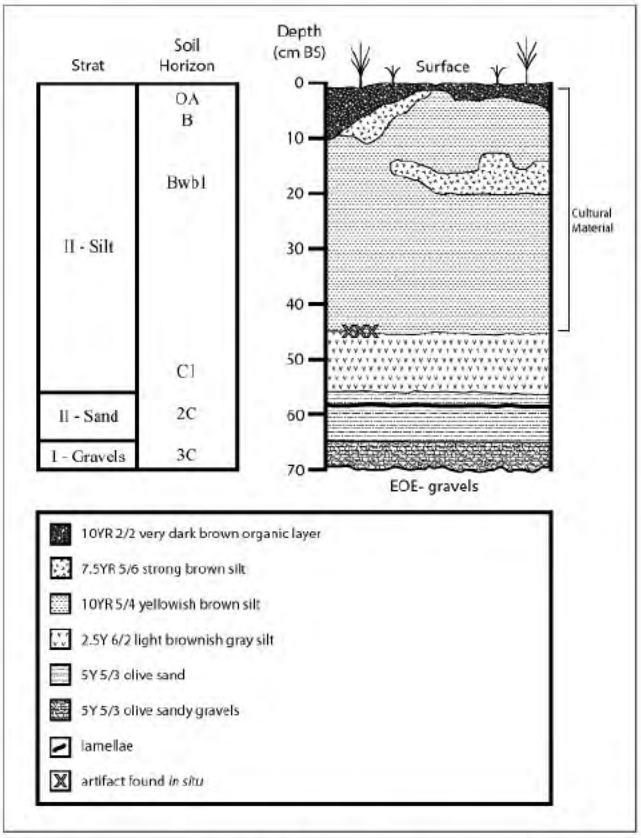


Figure 232. FAI-02073 stratigraphy

FAI-02074
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02074 is located on a point formed where a large drainage bisects a roughly east-west trending terrace edge (Figure 234, Figure 235). UTM coordinates are [redacted]. Site elevation is 214 masl. The landform is approximately 70 m north-south and 20 m east-west. The eastern edge slopes steeply at about 55° into a drainage channel roughly 15 m below; while the northern edge slopes at 45° dropping 15 m to the flats below. There is a clear view of FAI-02050 to the northwest on the opposite side of the drainage channel. The closest water source is a stream in the drainage channel which flows north-south approximately 65 m to the east.

The location would offer a 300° view of the Tanana Flats, and the drainage to the east would be clear from the northern tip of the crest; however, vegetation in the form of upland broadleaf forest obscures the view (Figure 236). The vegetation is dominated by mature aspen with an understory of low scrub, immature alder, moss, and lichen. The surface visibility is approximately 60%. No disturbances were observed.

Site FAI-02074 was found through subsurface testing. Three 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one translucent black (2.5/N) broken 10-20 mm obsidian flake (UA2010-216) collected from 0-10 cm BS.

Site stratigraphy consists of aeolian silts at least 40 cm thick overlying poorly sorted basal gravels (Figure 237, Figure 238).

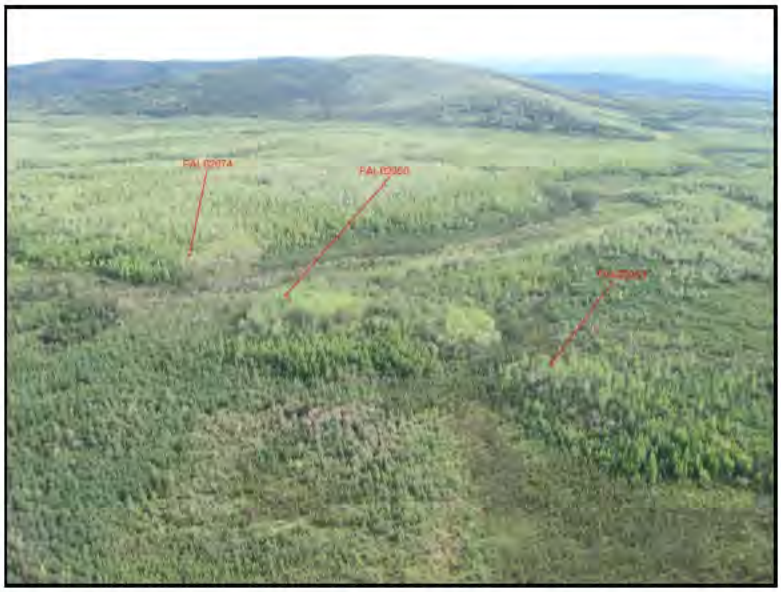


Figure 233. FAI-02074 aerial overview (view to south)

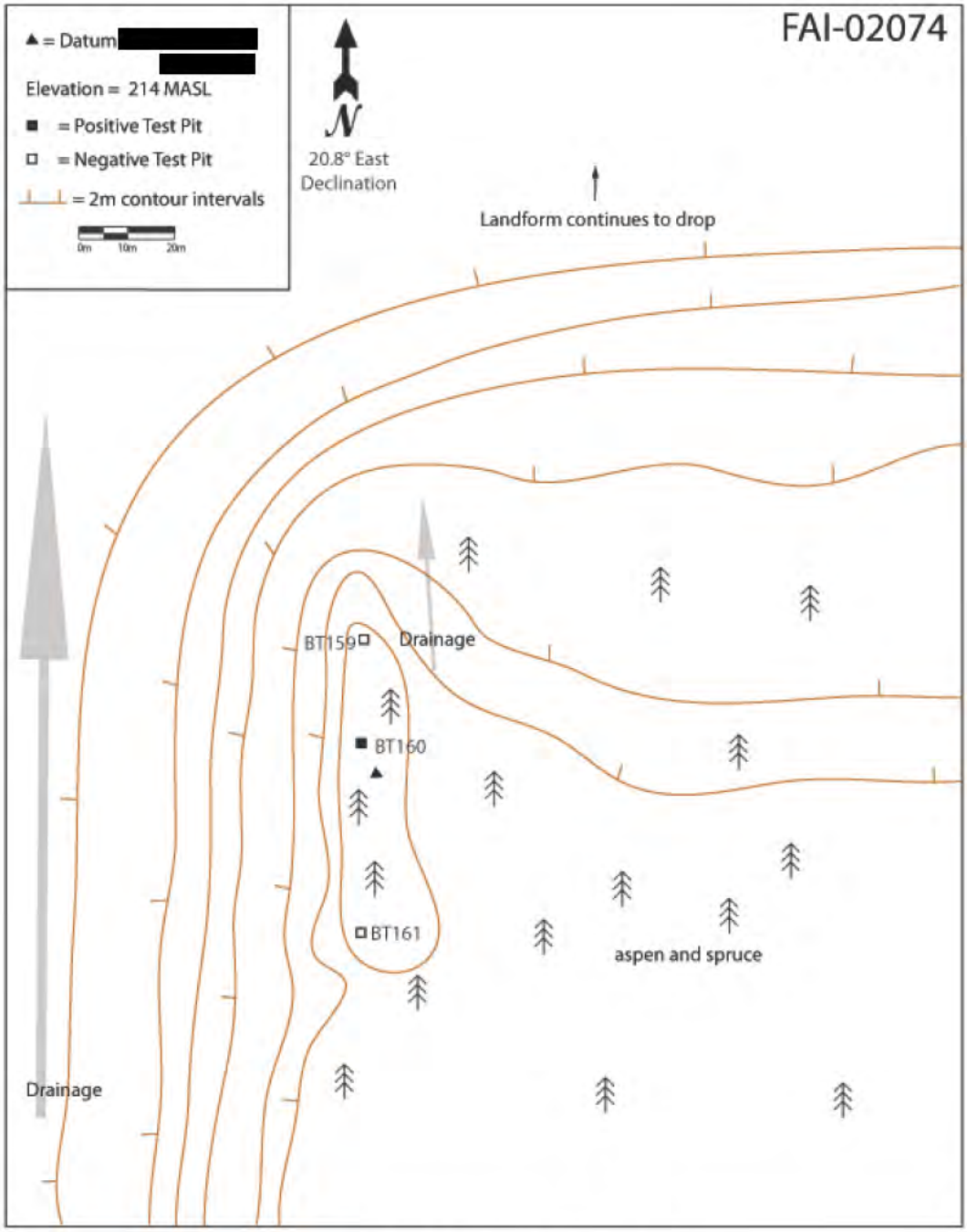


Figure 234. FAI-02074 sketch map

Figure 235. FAI-02074 overview (view to north)

Figure 236. FAI-02074 test pit stratigraphy

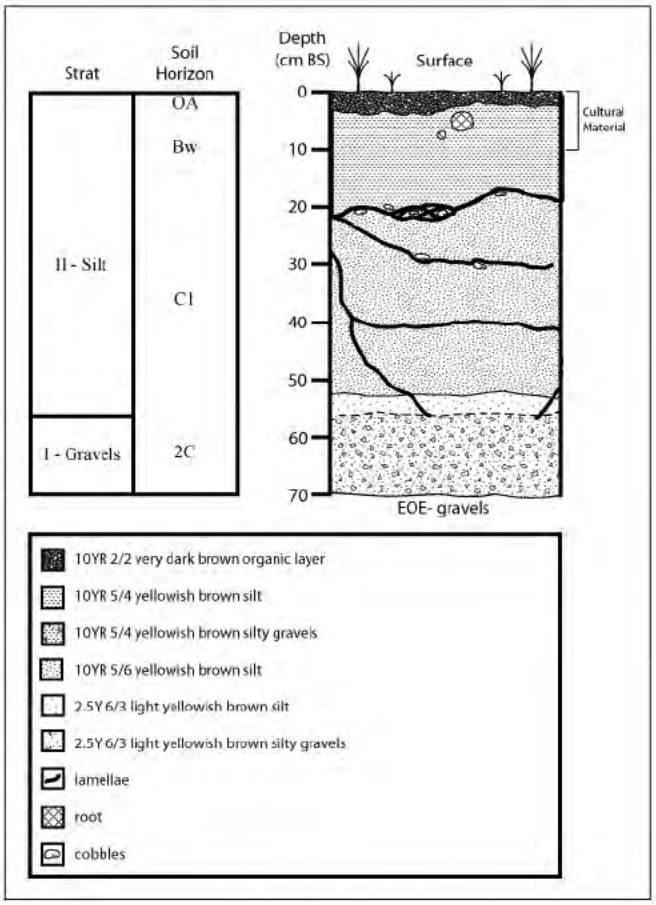


Figure 237. FAI-02074 stratigraphy

FAI-02075
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02075 is located on the northwest corner of a point formed where a channel bisects a north-facing terrace edge (Figure 239, Figure 240). UTM coordinates are [redacted]. Site elevation is 210 masl. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below, and approximately 45° to the east into the drainage channel 10-15 m below. No flowing creeks or ponds were observed in the immediate area. Without foliage present, the viewshed offers roughly 270°. The hills of Fairbanks can be seen to the northeast, Clear Creak Buttes are approximately 25 km away to the northwest at roughly 326°, and the outline of Dry Creek can be seen approximately 3 km to the north.

The ecotype is characterized as upland mixed broadleaf/needleleaf forest (Figure 241). The vegetation consists of spruce and dwarf birch with an understory of high-bush cranberry, fireweed, moss, and lichen. Surface visibility is approximately 20-50%. No disturbance was observed.

Site FAI-02075 was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one 7.5-10 mm reddish gray (5YR 5/2) complete chert flake recovered from 10-20 cm BS and one dark gray (10YR 4/1) bifacially flaked cobble recovered from 8-14 cm BS (Table 45, Table 46, Figure 242).

Site stratigraphy consists of aeolian silts at least 60 cm thick overlying poorly sorted basal sandy gravels (Figure 243, Figure 244).

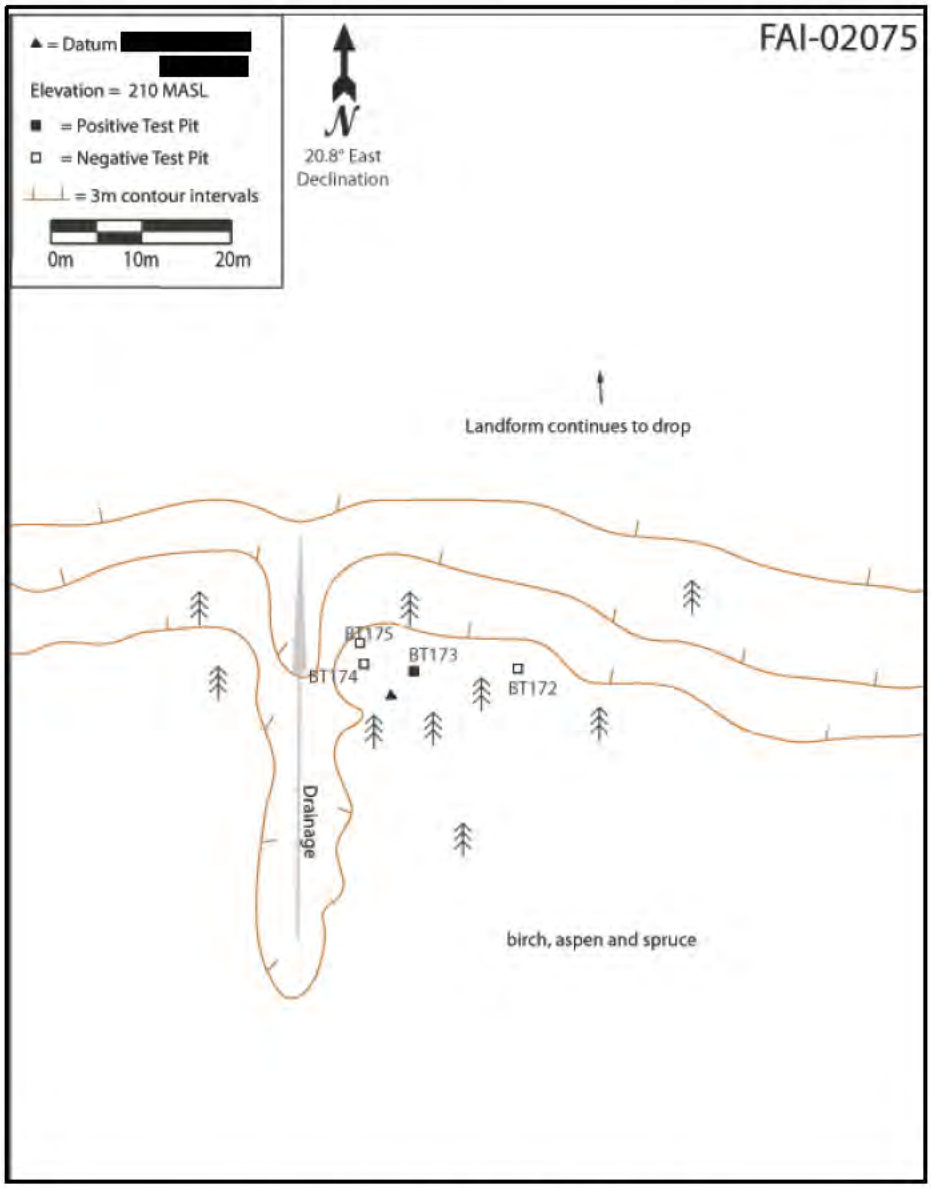


Figure 238. FAI-02075 sketch map

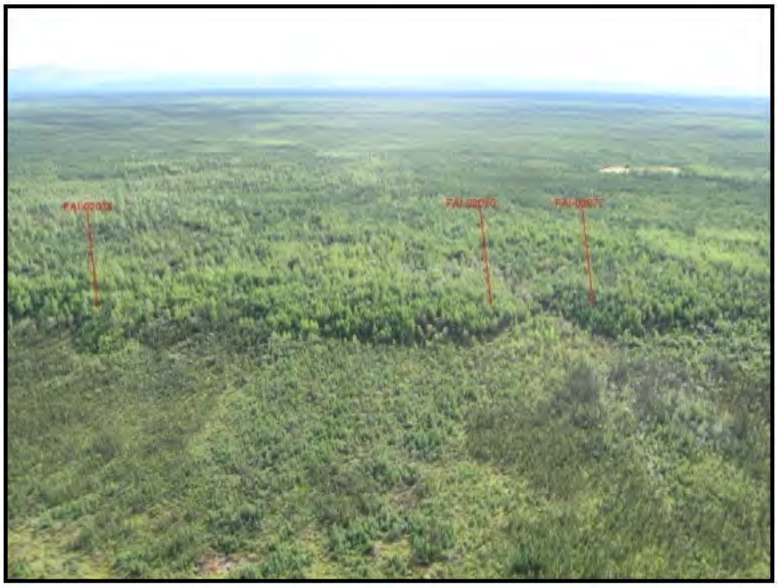


Figure 239. FAI-02075 aerial overview (view to south)

Figure 240. FAI-02075 overview (view to northwest)

Table 45. FAI-02075 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-217-0002	2	10-20	flake	1	chert	reddish gray

Table 46. FAI-02075 biface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L (mm)	W (mm)	T (mm)
UA2010-217-0001	1	8-14	basalt	dark gray	105.6	60.8	14.4

Figure 241. FAI-02075 bifacially flaked cobble

Figure 242. FAI-02075 test pit stratigraphy

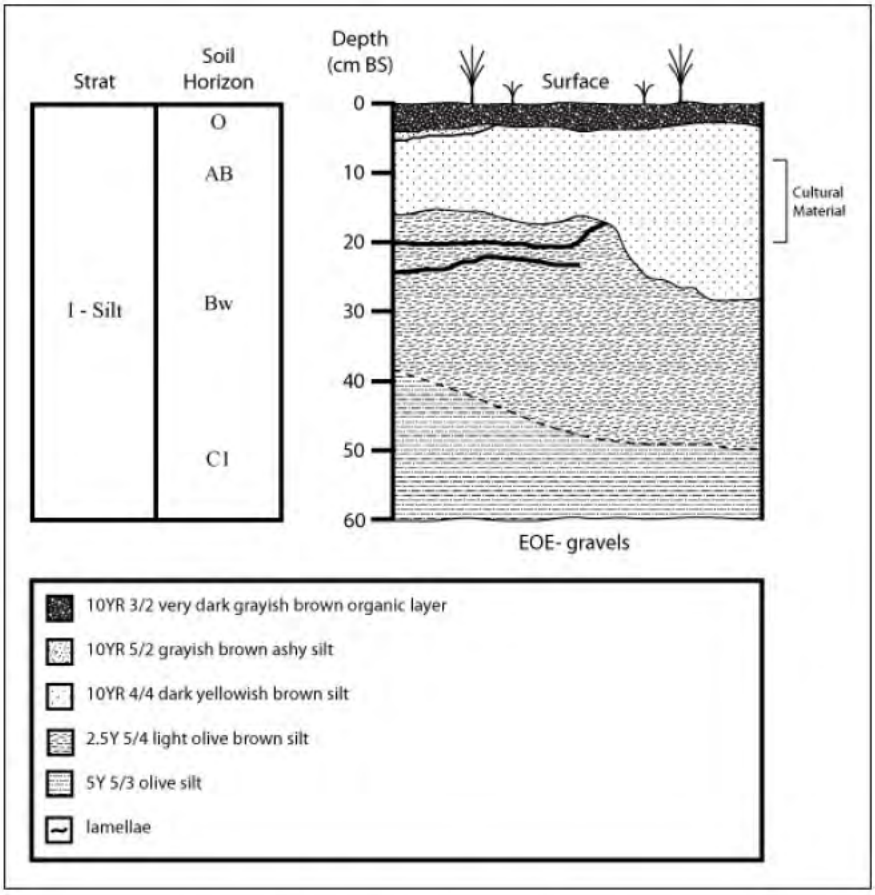


Figure 243. FAI-02075 stratigraphy

FAI-02076
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not determined

Site FAI-02076 is located on the edge of a north-facing terrace (Figure 245, Figure 246). UTM coordinates are [redacted]. Site elevation is 209 masl. The site is located to the west of a narrow unnamed drainage channel that creates a point where it intersects the terrace. The landform slopes approximately 45° to the northeast into the Tanana Flats roughly 15 m below and 50° to the east into the drainage channel 10-15 m below. FAI-02077 is located roughly 50 m to the west on the opposite side of the drainage channel.

The location would offer roughly 270° of view; however, vegetation in the form of upland moist mixed broadleaf/needleleaf forest obscures the view (Figure 247). The vegetation consists of birch, tamarack, and spruce with an understory of moss and lichen. Surface visibility is 10-20%. No disturbances were observed.

Site FAI-02076 was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one 10-20 mm, dark gray (4/N) broken basalt flake (UA2010-218) collected from 10-20 cm BS.

Site stratigraphy consists of aeolian silts at least 58 cm thick overlying poorly sorted sandy gravels (Figure 248, Figure 249).

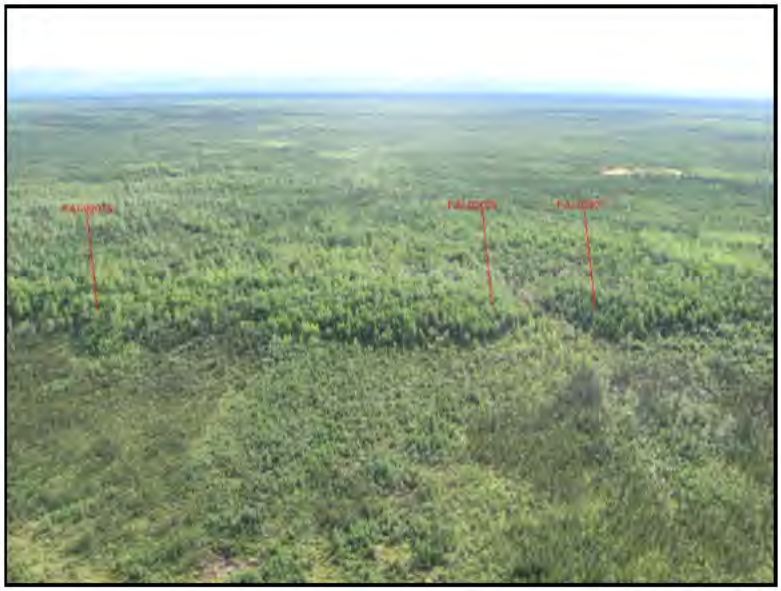


Figure 244. FAI-02076 aerial overview (view to south)

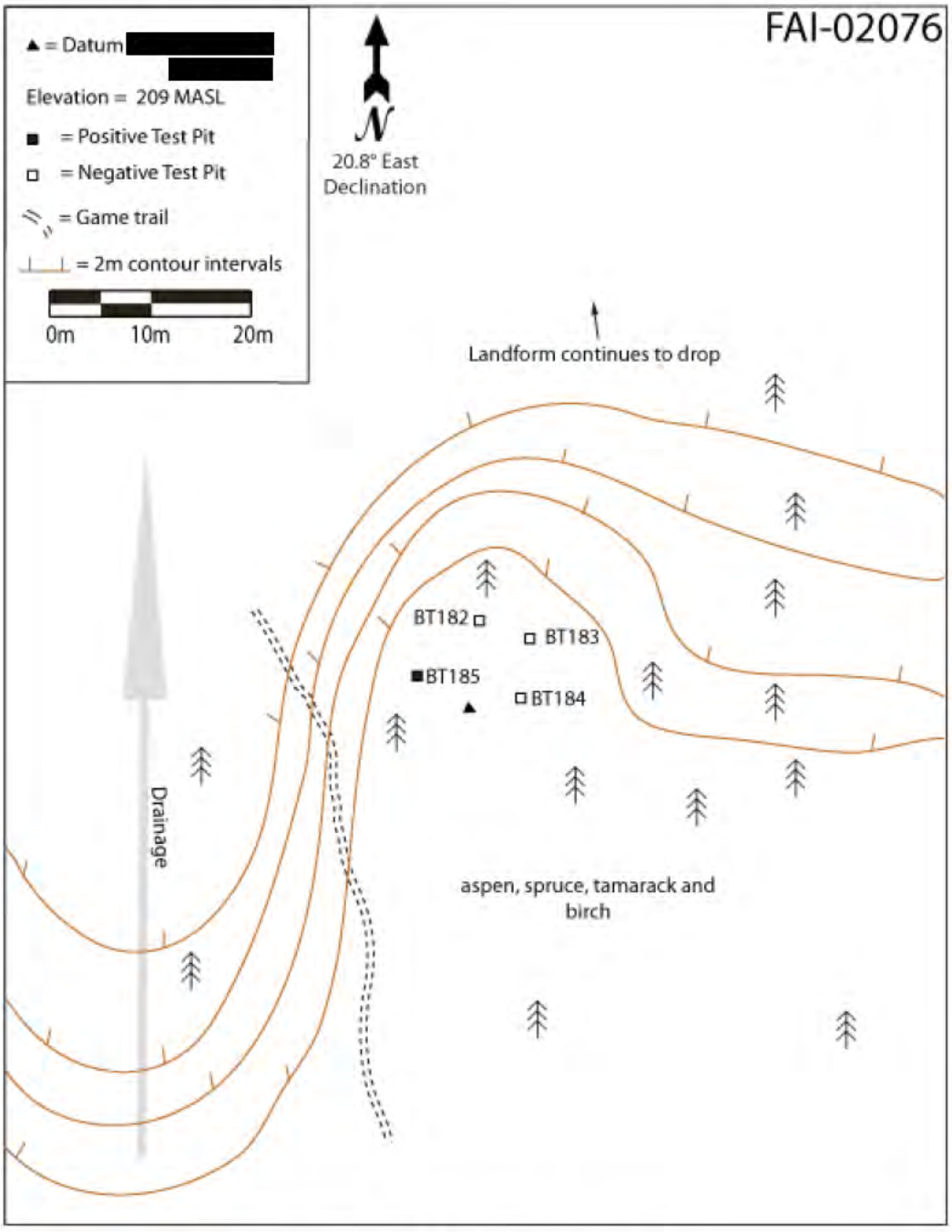


Figure 245. FAI-02076 sketch map

Figure 246. FAI-02076 overview (view to east)

Figure 247. FAI-02076 test pit stratigraphy

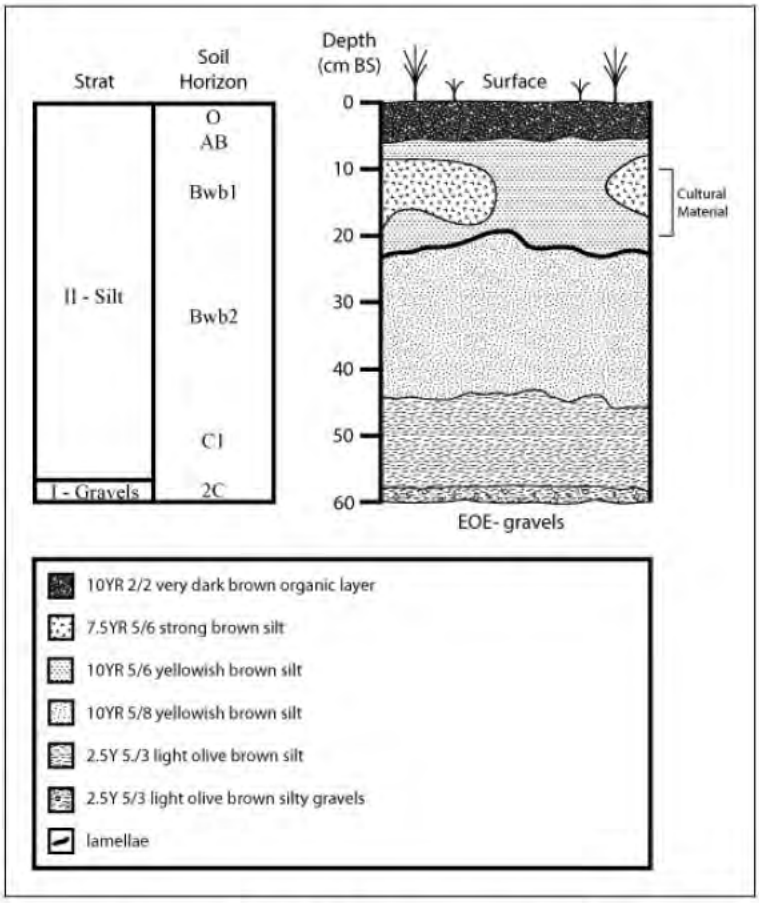


Figure 248. FAI-02076 stratigraphy

FAI-02077
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Eligible (See DOE form in Appendix 1)

Site FAI-02077 is located on a north-facing terrace edge (Figure 250, Figure 251). UTM coordinates are [redacted]. Site elevation is 213 masl. The site is located to the west of a narrow unnamed drainage channel that runs into the flats below. The landform slopes approximately 45° to the northeast into the flats roughly 15 m below. Site elevation is 213 masl. FAI-02076 is located roughly 50 m to the east on the opposite side of the drainage channel. Without foliage present, the viewshed offers roughly 270° of unobstructed sight. The hills of Fairbanks can be seen to the northeast, Clear Creak Buttes can be seen approximately 25 km away to the northwest at 326°, and the outline of Dry Creek can be seen approximately 3 km to the north.

The ecotype is described as upland moist mixed broadleaf/needleleaf forest (Figure 252). Vegetation consists of birch, tamarack, and spruce with an understory of moss, mushrooms, and lichen. Surface visibility is 10-20%. Moderate bioturbation (animal dens) was located in the northeast corner.

Site FAI-02077 was found through subsurface testing. Seven 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one 10-20 mm dark gray (7.5YR 4/1) chert flake fragment (Table 47), one rhyolite biface (Table 48, Figure 253), and one chert microblade (Table 49, Figure 254) recovered from 20-30 cm BS.

Dispersed charcoal associated with cultural material at a depth of 31 cm BS produced an AMS ^{14}C date of 10130 ± 50 (Beta-283435).

Site stratigraphy consists of aeolian silts at least 145 cm thick. No underlying basal stratigraphy was encountered (Figure 255, Figure 256).

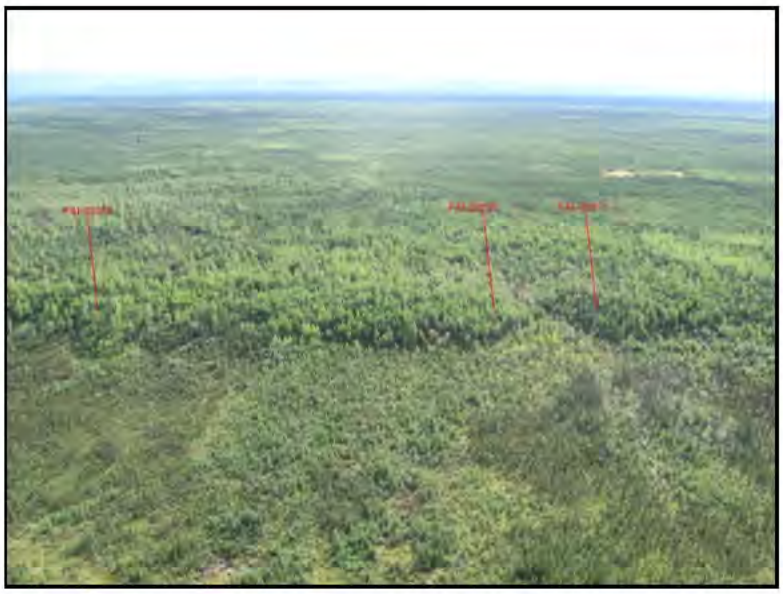


Figure 249. FAI-02077 aerial overview (view to south)

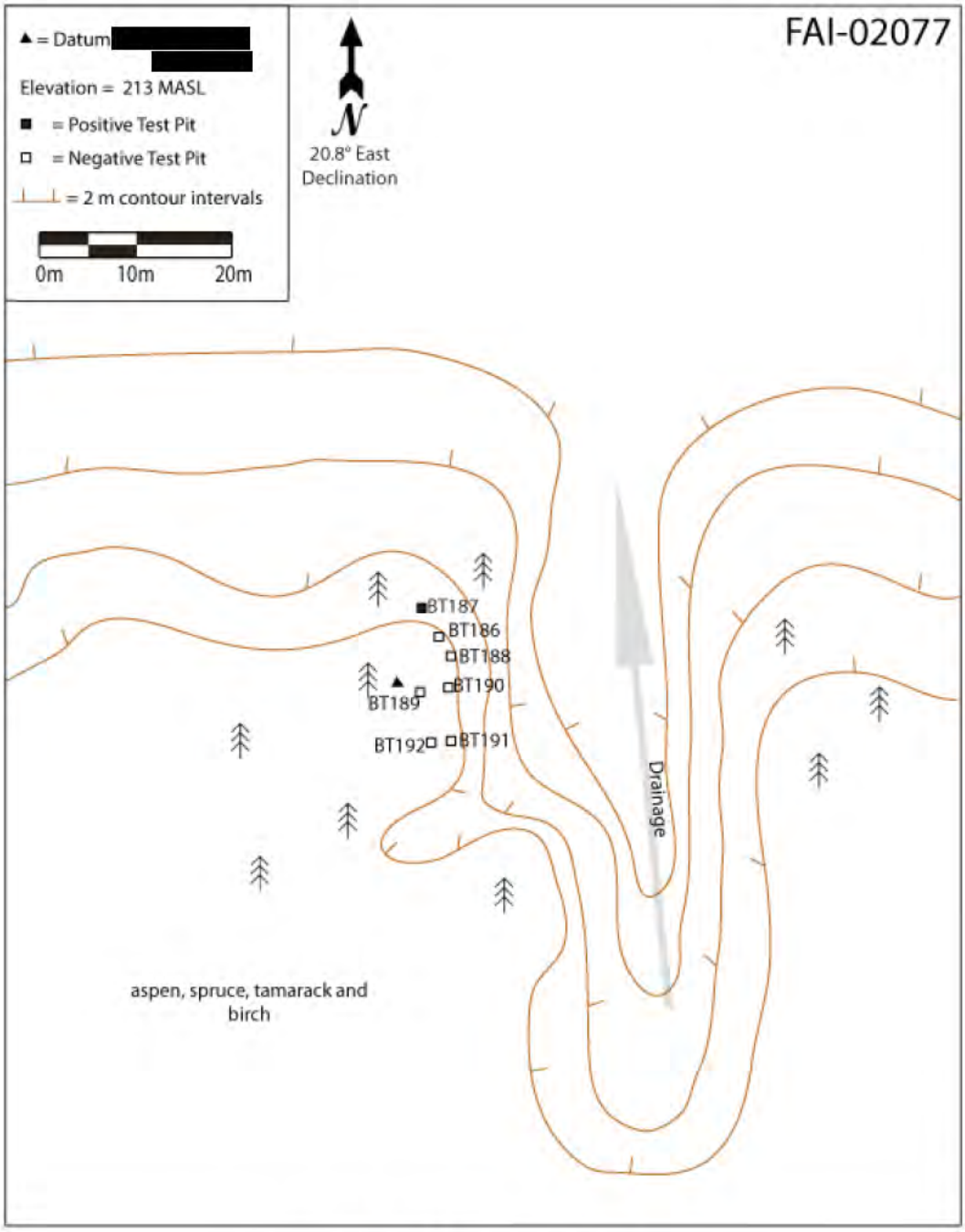


Figure 250. FAI-02077 sketch map

Figure 251. FAI-02077 overview (view to southeast)

Table 47. FAI-02077 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-219-0001	1A	20-30	flake fragment	1	chert	dark gray
UA2010-219-0004	2	28	charcoal			
UA2010-219-0005	3	31	charcoal			
UA2010-219-0006	4	33	charcoal			
UA2010-219-0007	5	33	charcoal			
UA2010-219-0008	6	51-62	charcoal			

Table 48. FAI-02077 biface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L (mm)	W (mm)	T (mm)
UA2010-219-0002	1B	20-30	rhyolite	light brown	15.1	9.5	5.5

Figure 252. FAI-02077 biface

Figure 253. FAI-02077 microblade

Table 49. FAI-02077 microblade attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of Arises	Segment
UA2010-219-0003	1C	20-30	chert	dark gray	12.7	9	1.9	2	medial

Figure 254. FAI-02077 test pit stratigraphy

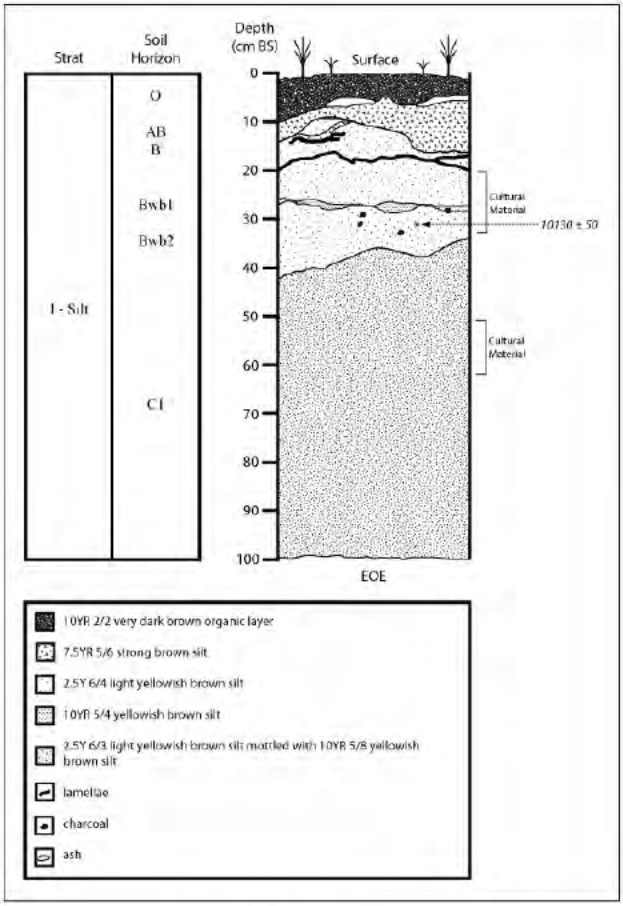


Figure 255. FAI-02077 stratigraphy

FAI-02078
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02078 is located on a finger that extends from a north-facing terrace edge (Figure 257, Figure 258). UTM coordinates are [redacted]. Site elevation is 208 masl. The finger on which the site is located protrudes to the northwest approximately 15 m above the flats below. The estimated size of the site is roughly 30 m east-west by 50 m north-south. Narrow drainage channels border the finger to the east and west of the site. The hills of Fairbanks can easily be seen to the northeast, Clear Creek Buttes are roughly 25 km away to the northwest at 325°, and the outline of Dry Creek is approximately 3 km to the north. FAI-02067 is located roughly 45 m to the east on the opposite side of a drainage channel. FAI-02069 is located roughly 40 m to the west on the opposite side of another drainage channel. The nearest source of water is a north-south flowing drainage creek approximately 250 m east of the site.

The ecotype is characterized as upland mixed broadleaf/needleleaf forest (Figure 259). The vegetation consists of spruce, birch, aspen, and tamarack, with an understory of alder, grass, forbs, and moss. No disturbances were observed. Surface exposure is roughly 5%.

Site FAI-02078 was found through subsurface testing. Nine 50 cm by 50 cm test pits were excavated. One test pit contained cultural material, including one 10-20 mm, very dark gray (10YR 3/1) chert flake fragment (UA2010-220) recovered from 30-40 cm BS.

Site stratigraphy consists of aeolian silt at least 74 cm thick overlying poorly sorted silty gravels (Figure 260, Figure 261).

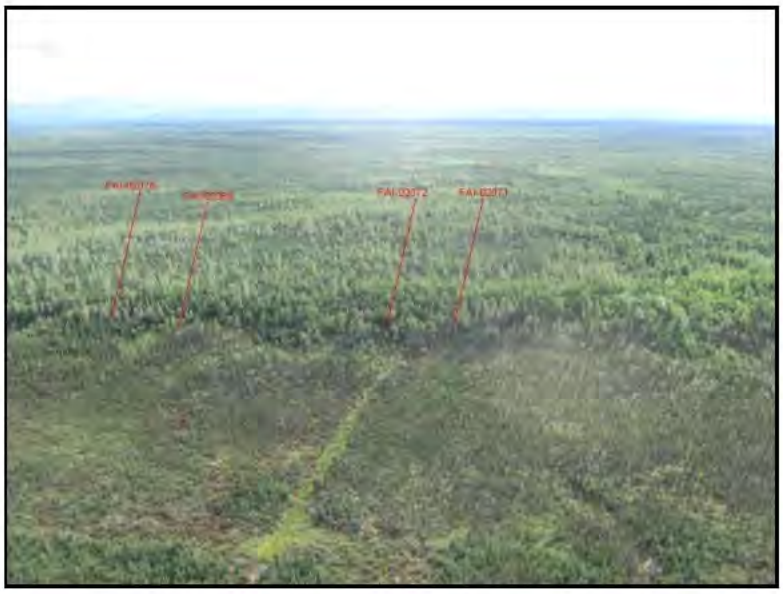


Figure 256. FAI-02078 aerial overview (view to south)

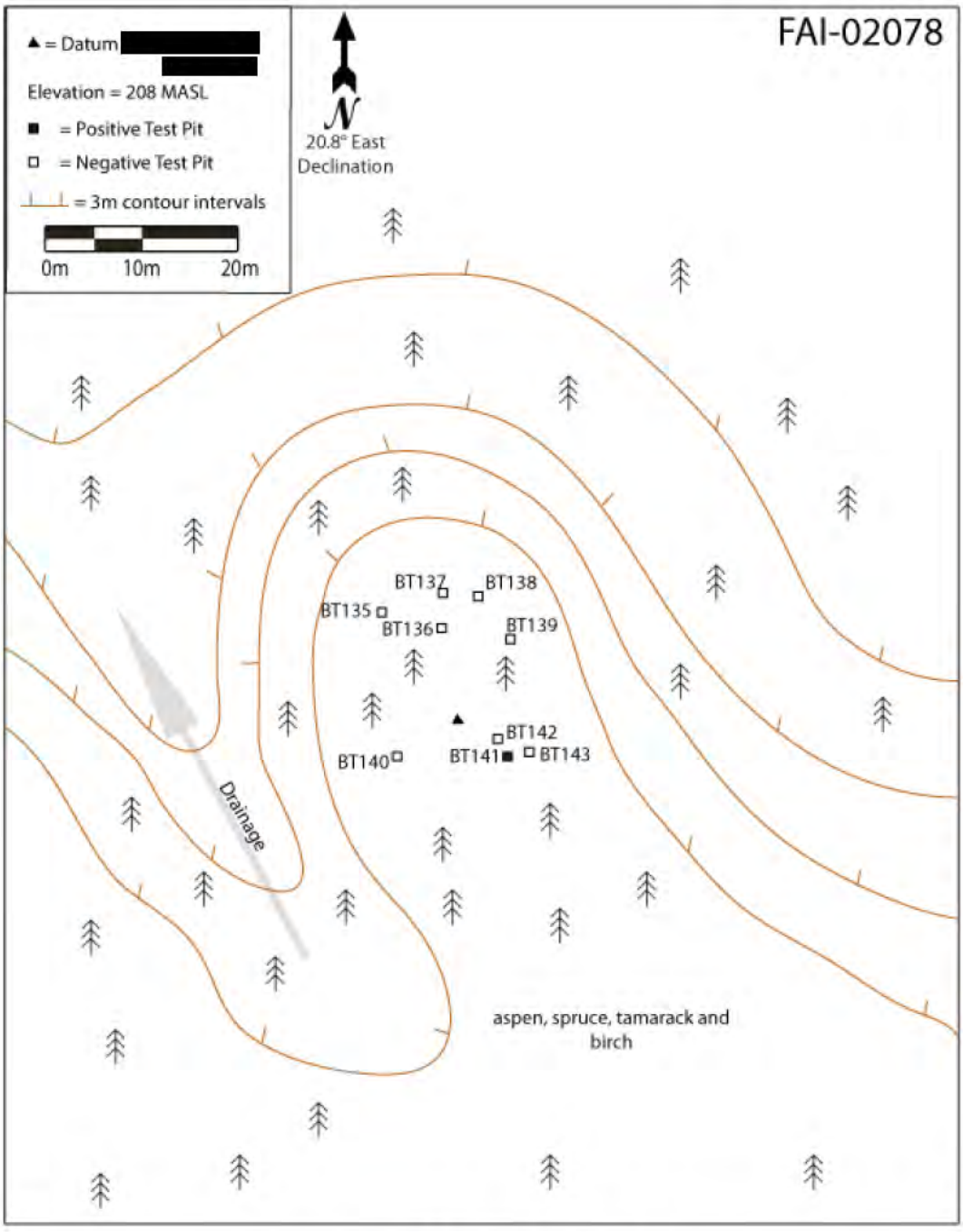


Figure 257. FAI-02078 sketch map

Figure 258. FAI-02078 overview (view to northeast)

Figure 259. FAI-02078 test pit stratigraphy

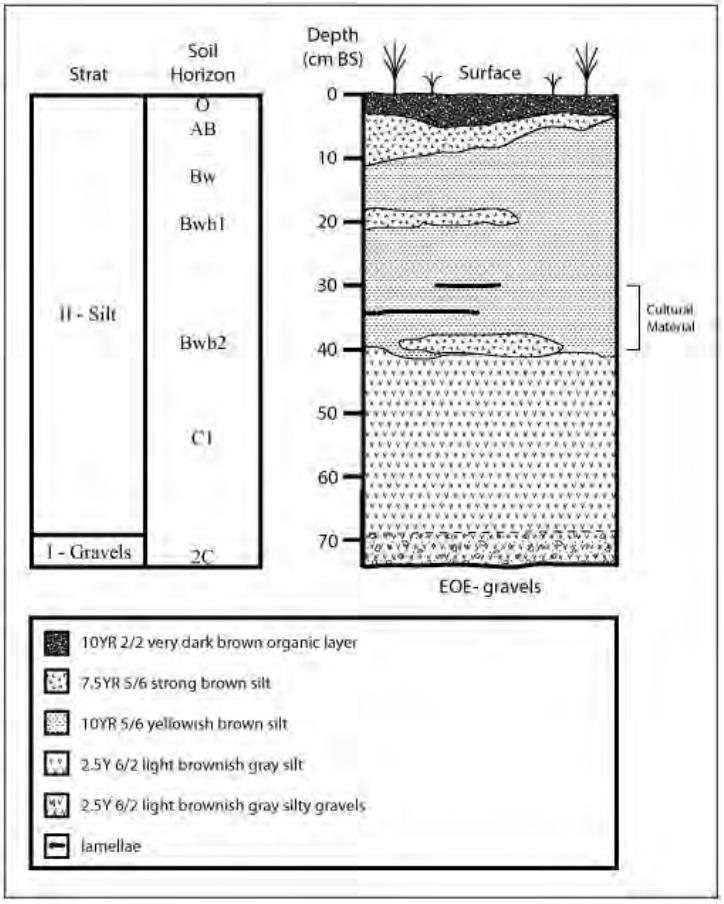


Figure 260. FAI-02078 stratigraphy

4.3.2 Dune Field

Sixteen locations were positive for cultural remains, resulting in the identification of 17 prehistoric archaeological sites (Figure 262). All of these contained buried remains and were discovered through subsurface testing. The following paragraphs describe these 17 sites.

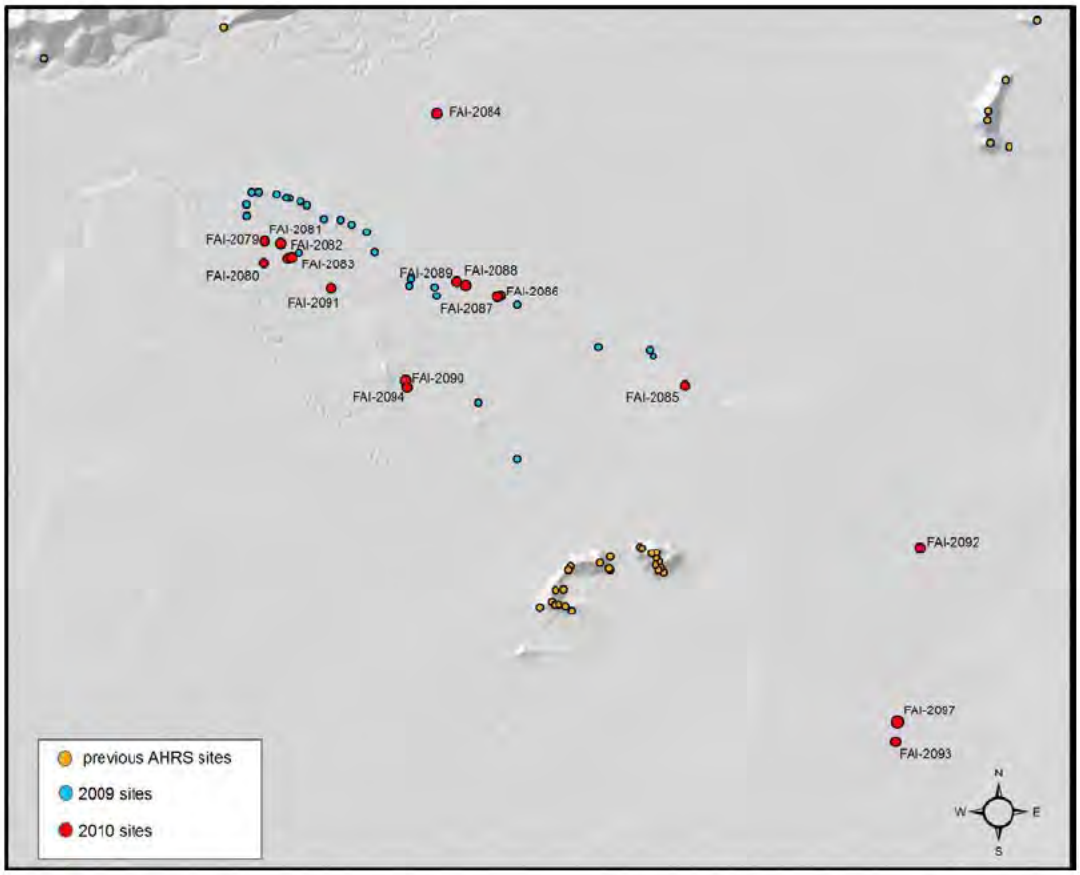


Figure 261. Prehistoric sites discovered in dune field in 2009 and 2010

FAI-02079
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not determined

Site FAI-02079 is located on an ovate east-west trending vegetated sand dune (Figure 263, Figure 264). UTM coordinates are [redacted]. Site elevation is 139 masl. The crest of the dune is approximately 40-50 m in diameter. The crest is offset approximately 20 m west from the center of the dune. The north, west and south sides of the dune slope down at approximately 15° to the tussocks below. The east side of the dune slopes

more gradually at 10°. The viewshed would be 360° without vegetation. The hills of Fairbanks can be seen to the northwest. The outline of the Wood River is approximately 600 m to the west. The Wood River is the closest source of water other than the saturated tussocks that surround the site.

The ecosystem is characterized as upland low and tall scrub (Figure 265). Burned spruce lay scattered across the dune. The live vegetation consists of young spruce, young alder, rose, low grasses, forbs, and moss. Surface visibility is approximately 20%. Moderate tree throw disturbance is present due to forest fire. All observed disturbances are natural.

Site FAI-02079 was found through subsurface testing. Five 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including two rhyolite flakes (Table 50) recovered from 20-44 cm BS.

Site stratigraphy consists of aeolian silts and sands at least 120 cm overlying aeolian dune sands (Figure 266, Figure 267).

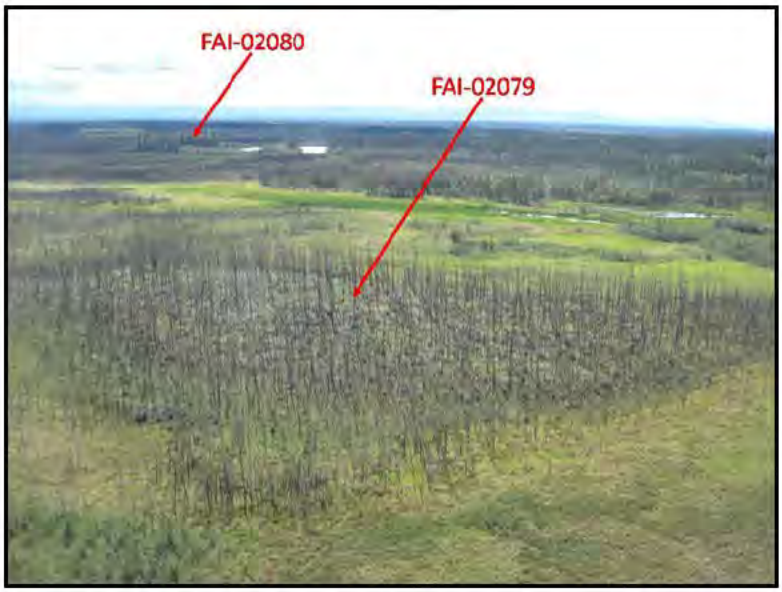


Figure 262. FAI-02079 aerial overview (view to west)

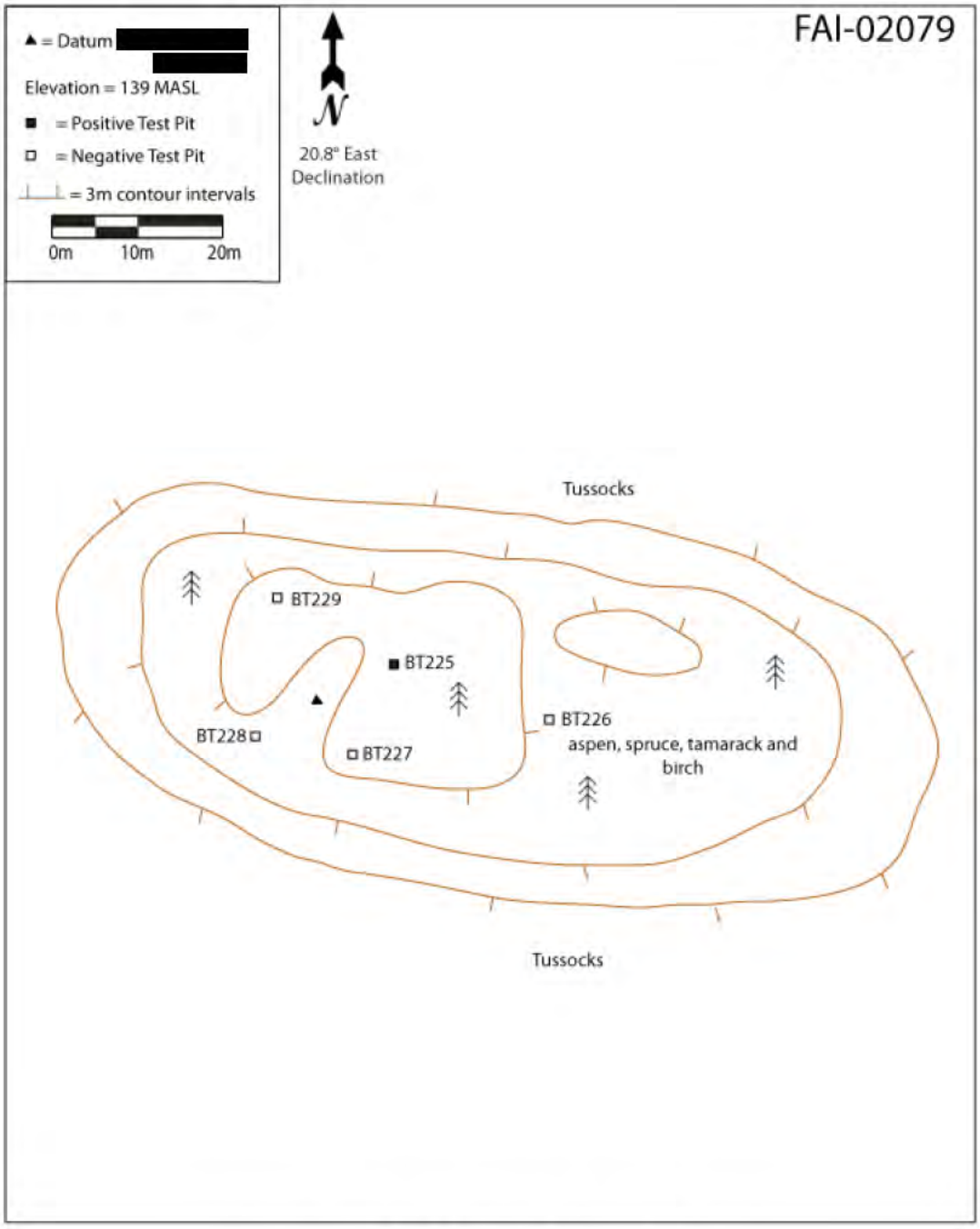


Figure 263. FAI-02079 sketch map

Figure 264. FAI-02079 overview (view to south)

Table 50. FAI-02079 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-221-0001	1	20-44	flake and flake fragment	2	rhyolite	pale brown

Figure 265. FAI-02079 test pit stratigraphy

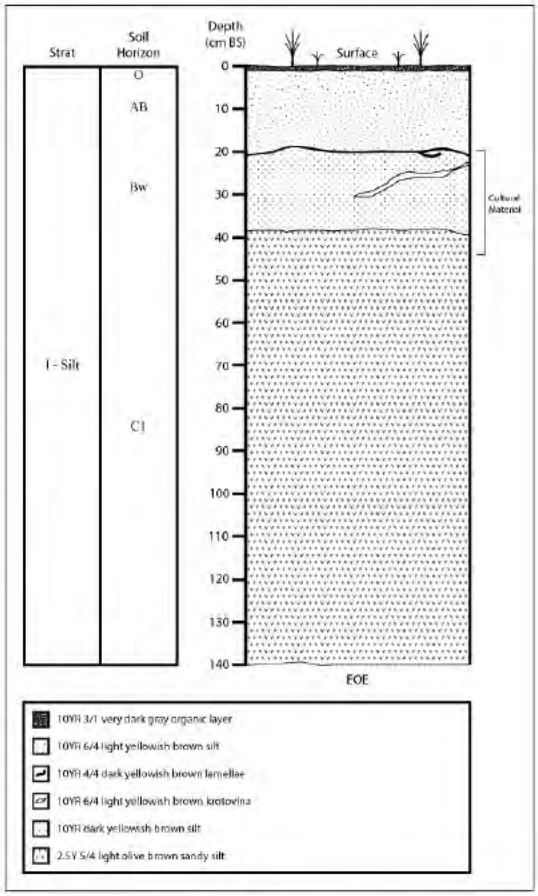


Figure 266. FAI-02079 stratigraphy

FAI-02080
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02080 is located on the crest of an incised vegetated sand dune (Figure 268, Figure 269) located on the right hand bank of the Wood River. UTM coordinates are [redacted]. Site elevation is 144 masl. The site is located on the northern corner of the crest of the landform. The landform is elevated approximately 20 m above the river. The landform is approximately 250 m long north-south and 80 m wide east-west. The landform is crescent-shaped. The slope of the site is approximately 0°-10°. The areas to the north, east, and south of the site slope at roughly 10-20°. The slope to the west into the river is approximately 75°. Murphy Dome can be seen to the north at 6°. The Wood River is directly below the site and is the closest source of water. Surface visibility is approximately 90% in the northern quarter, 20% in the southern three-quarters, and 100% in the eroded face that slopes down to the river.

The location would offer a 360° view; however, thick vegetation in the form of upland moist mixed broadleaf/needleleaf forest obscures the view to the west (Figure 270). The vegetation consists of mature spruce and aspen with an understory of short scrub, alder, rose, fireweed, high-bush cranberry, and moss. The northern quarter of the landform is thinly vegetated and has been used recently as a hunting camp. The vegetation on the southern three-quarters of the landform is much thicker. The same types of flora can be found over the entire landform.

Site FAI-02080 was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one 10-20 mm, dark gray (10YR 4/1) basalt flake fragment (UA2010-222) recovered from 20-30 cm BS.

Site stratigraphy consists of aeolian silts at least 120 cm thick overlying aeolian dune sands (Figure 271, Figure 272).

Figure 267. FAI-02080 aerial overview (view to east)

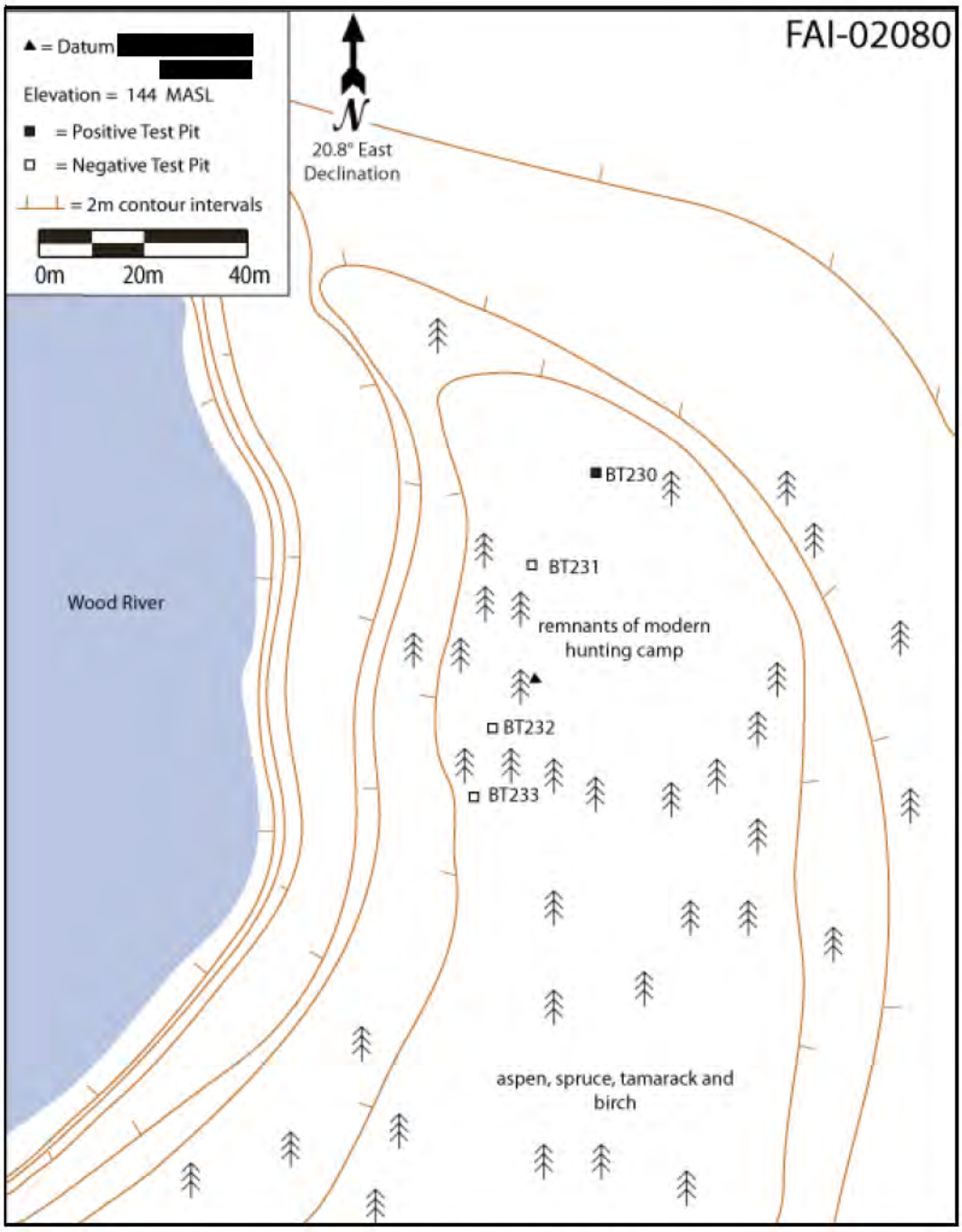


Figure 268. FAI-02080 sketch map

Figure 269. FAI-02080 overview (view to north)

Figure 270. FAI-02080 test pit stratigraphy

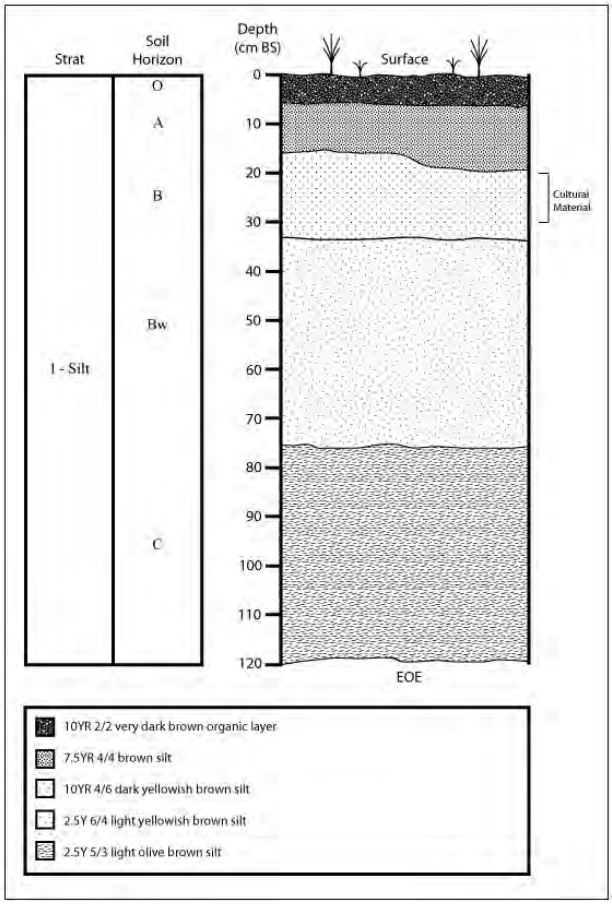


Figure 271. FAI-02080 stratigraphy

FAI-02081
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02081 is located on an east-west trending, ovate vegetated sand dune (Figure 273, Figure 274). UTM coordinates are [redacted]. Site elevation is 142 masl. The estimated size of the site is based on the dune size at 120 m by 60 m. The site area has 0-10° slope. The north/northeast edge of the dune slopes at approximately 10-20°, and the dune slopes roughly 10° to the south, east, and west. The landform drops in elevation approximately 10 m to the tussocks of the Tanana Flats. The landform has a 180° viewshed to the north/northwest.

The ecosystem is characterized as upland mixed needleleaf/broadleaf forest (Figure 275). Site vegetation primarily consists of young spruce, aspen, mosses, wild roses, alder, high/low-bush

cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface exposure is 5%. No unnatural disturbances were observed.

Site FAI-02081 was identified through subsurface testing. Cultural material was recovered from one of four 50 cm by 50 cm test pits excavated. In total, 10 flakes (Table 51) and one microblade fragment (Table 52, Figure 276) were recovered from one test pit at 0-40 cm BS. An additional piece of flaked stone debitage was found at a depth of 80-90 cm BS.

Site stratigraphy consists of aeolian silts at least 40 cm thick overlying aeolian dune sands (Figure 277, Figure 278).

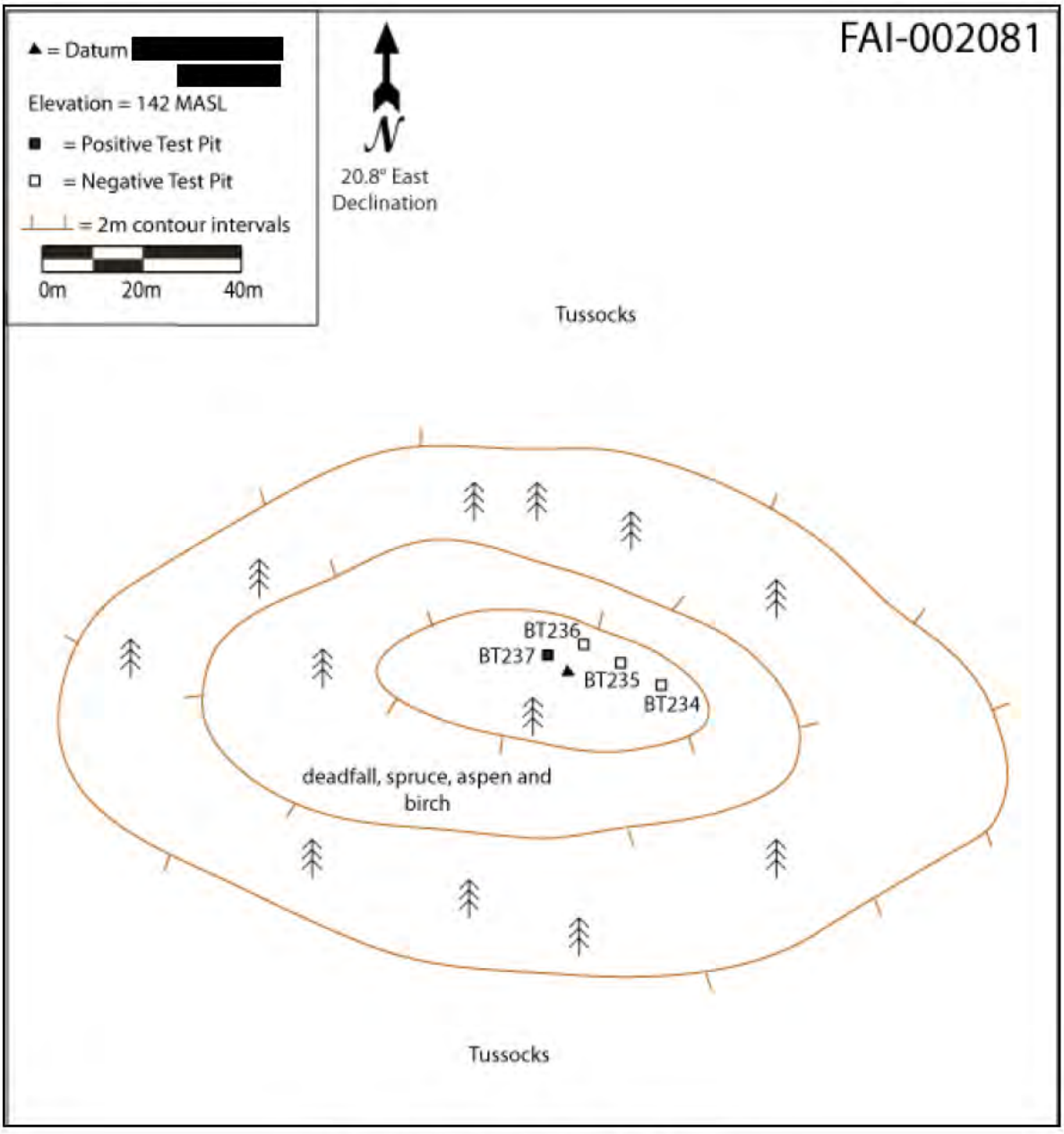


Figure 272. FAI-02081 sketch map

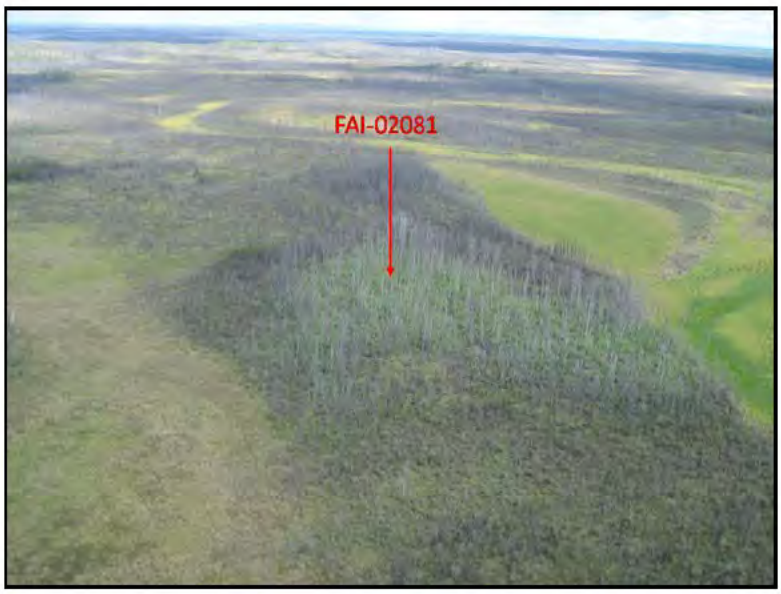


Figure 273. FAI-02081 aerial overview (view to east)

Figure 274. FAI-02081 overview (view to southeast)

Table 51. FAI-02081 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-223-0001	1	0-10	flake and flake fragment	2	rhyolite and chert	various
UA2010-223-0002	2	10-20	flake and flake fragment	7	chert	various
UA2010-223-0004	4	30-40	flake fragment	1	chert	weak red
UA2010-223-0005	5	80-90	flake fragment	1	chert	reddish brown

Table 52. FAI-02081 microblade attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)	# of Arises	Segment
UA2010-223-0003	3	10-20	chert	reddish brown	7	6.1	1.2	2	proximal

Figure 275. FAI-02081 microblade

Figure 276. FAI-02081 test pit stratigraphy

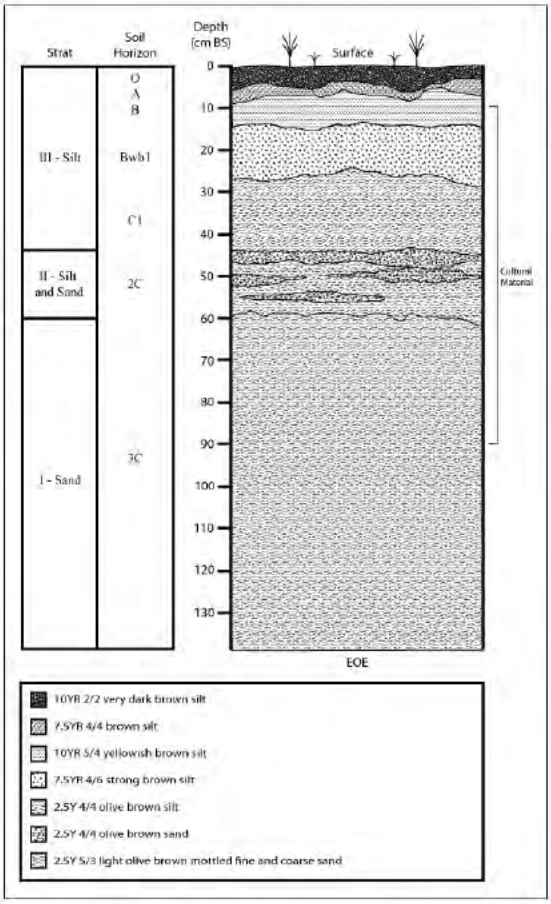


Figure 277. FAI-02081 stratigraphy

FAI-02082
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02082 is located at the western tip of a narrow peninsular sand dune lobe that protrudes to the west from a higher sand dune (Figure 279, Figure 280). UTM coordinates are [redacted]. Site elevation is 141 masl. The site is elevated approximately 15 m above the tussocks below. The crest of the finger is approximately 20 m north-south and 120 m east-west. The slope drops to the north, west and south at approximately 10-20°. The slope of the site is 0-10%. Site FAI-02083 is located approximately 150 m away to the northeast at 68°. No bodies of water can be seen from the landform. The tussocks surrounding the site, however, are saturated.

The ecosystem is described as upland moist mixed broadleaf/needleleaf forest (Figure 281). Burned spruce and aspen lay scattered across the landform. Live vegetation consists of alder, fireweed, tall grass, moss and lichen. Surface visibility is approximately 40%. No unnatural disturbances were observed.

Site FAI-02082 was found through subsurface testing. Three 50 cm x 50 cm test pits were excavated. One test pit contained cultural material, including one retouched flake recovered from 20-30 cm BS (Table 53, Figure 282).

Site stratigraphy consists of aeolian silts and sands at least 120 cm thick overlying aeolian dune sands (Figure 283, Figure 284).

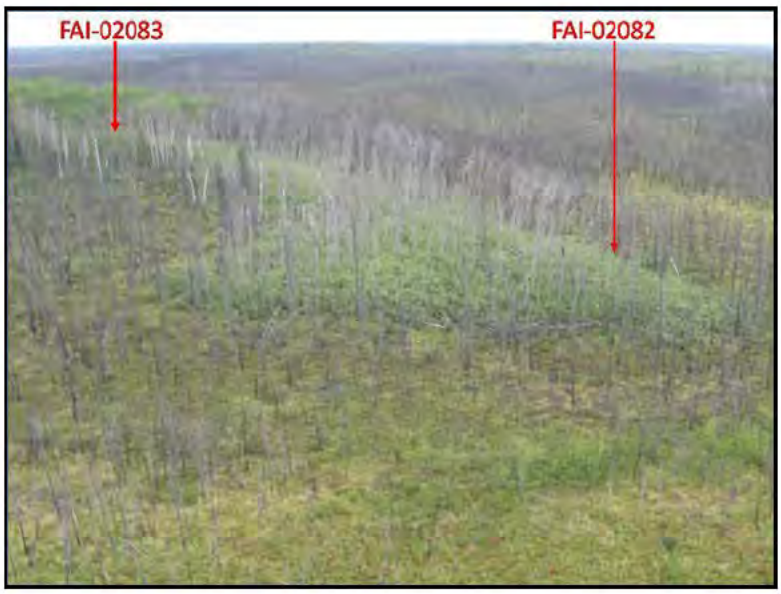


Figure 278. FAI-02082 aerial overview (view to south)

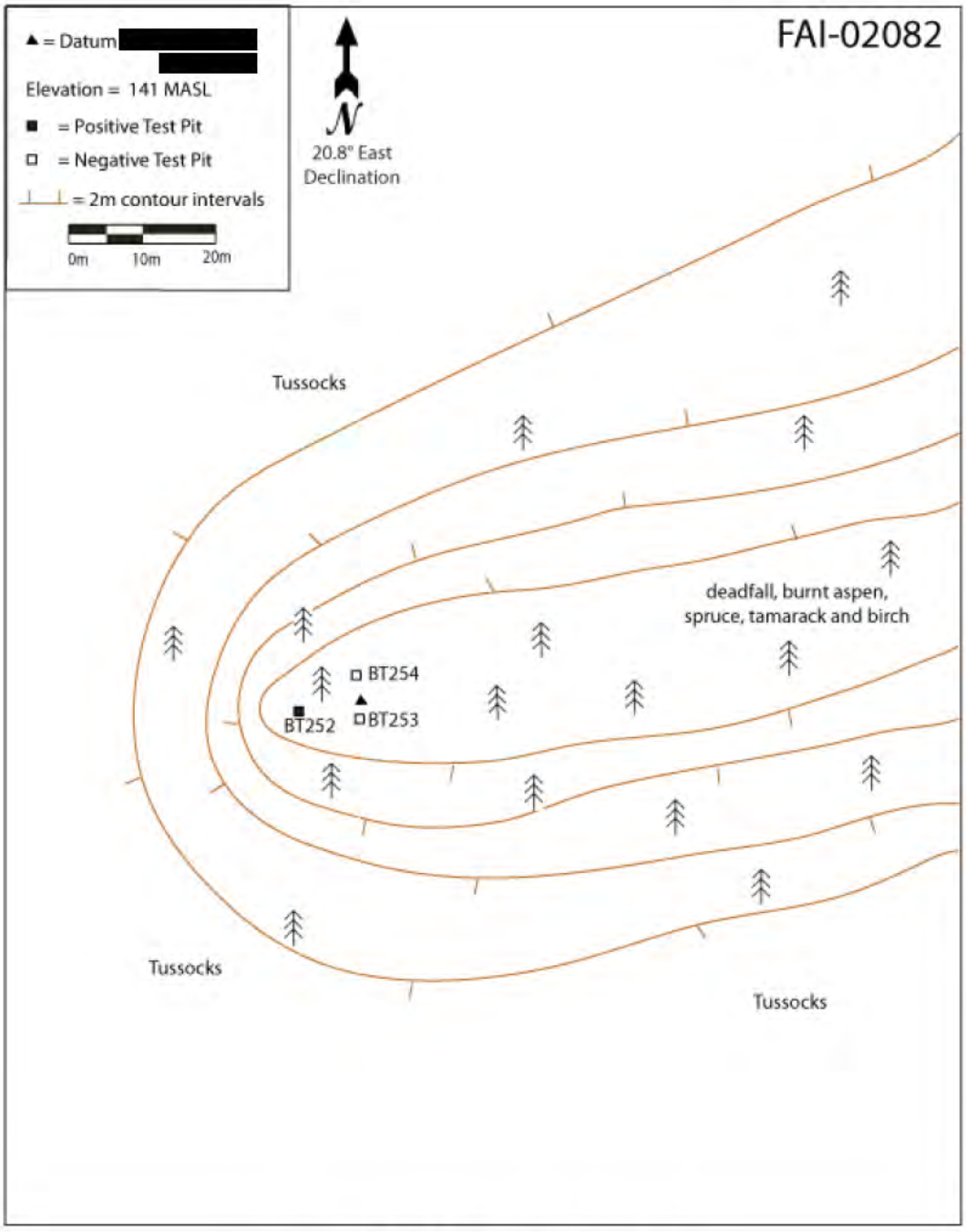


Figure 279. FAI-02082 sketch map

Figure 280. FAI-02082 overview (view to southwest)

Table 53. FAI-02082 uniface attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L (mm)	W (mm)	T (mm)	Retouch length (mm) A (left lat.)	B (dist.)	C (right lat.)	D (prox.)
UA2010-224-0001	1	20-30	rhyolite	gray	65.2	58.8	5.6	33.1	0	42	0

Figure 281. FAI-02082 retouched flake

Figure 282. FAI-02082 test pit stratigraphy

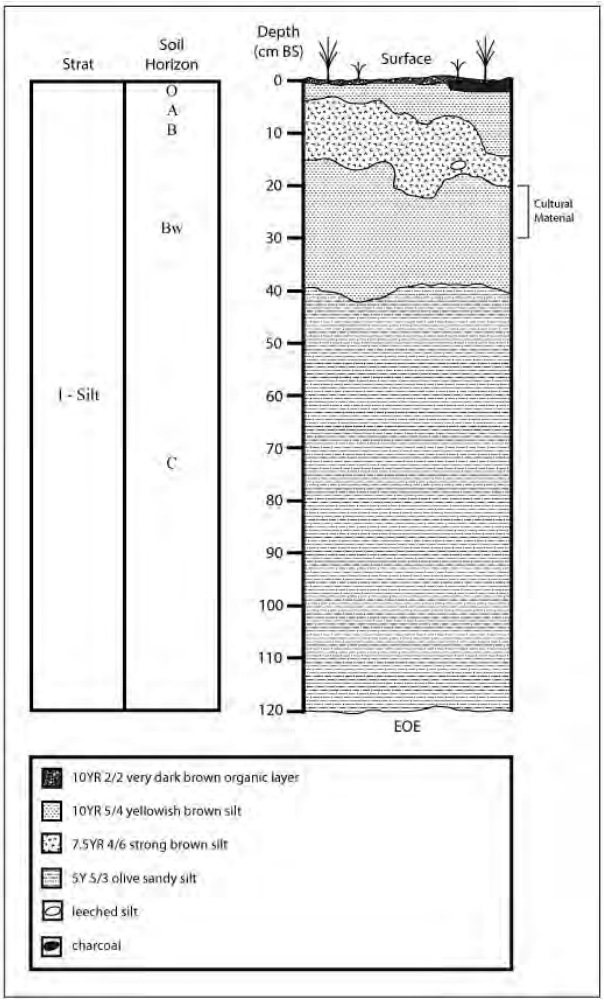


Figure 283. FAI-02082 stratigraphy

FAI-02083
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02083 is located on the crest of a large parabolic sand dune (Figure 285, Figure 286). UTM coordinates are [redacted]. Site elevation is 148 masl. The landform on which the site is located is approximately 400 m long northeast-northwest and 50 m wide north-south. The landform is elevated 20-25 m above the tussocks which surround it. The slope of the site is roughly 0-10°, and the ground slopes in all directions roughly 10-20°. The Wood River can be seen approximately 1.5 km to the west, and Denali is visible to the southeast at 160°. FAI-02082 is located approximately 150 m away to the southwest at 248°. An unnamed creek flows east-west approximately 300 m north of FAI-02083 and is the closest source of water.

The location would offer a 360° viewshed if not for thick vegetation in the form of upland mixed broadleaf/needleleaf forest obscuring the view (Figure 287). Vegetation consists of mature aspen with an understory of young alder, fireweed, rose, high-bush cranberry, and moss. Many of the aspen are burned, and deadfall is present but minimal. Surface visibility is roughly 10%.

Site FAI-02083 was found through subsurface testing. Five 50 cm by 50 cm test pits were excavated. One test pit contained cultural material, including 46 chert and rhyolite flakes recovered from 0-20 cm BS (Table 54).

Site stratigraphy consists of aeolian silts at least 120 cm thick overlying aeolian dune sands (Figure 288, Figure 289).

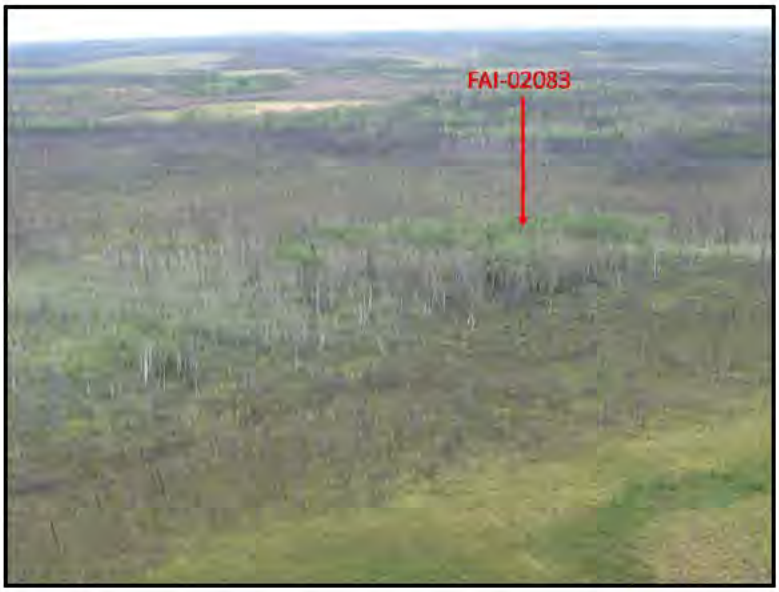


Figure 284. FAI-02083 aerial overview (view to southeast)

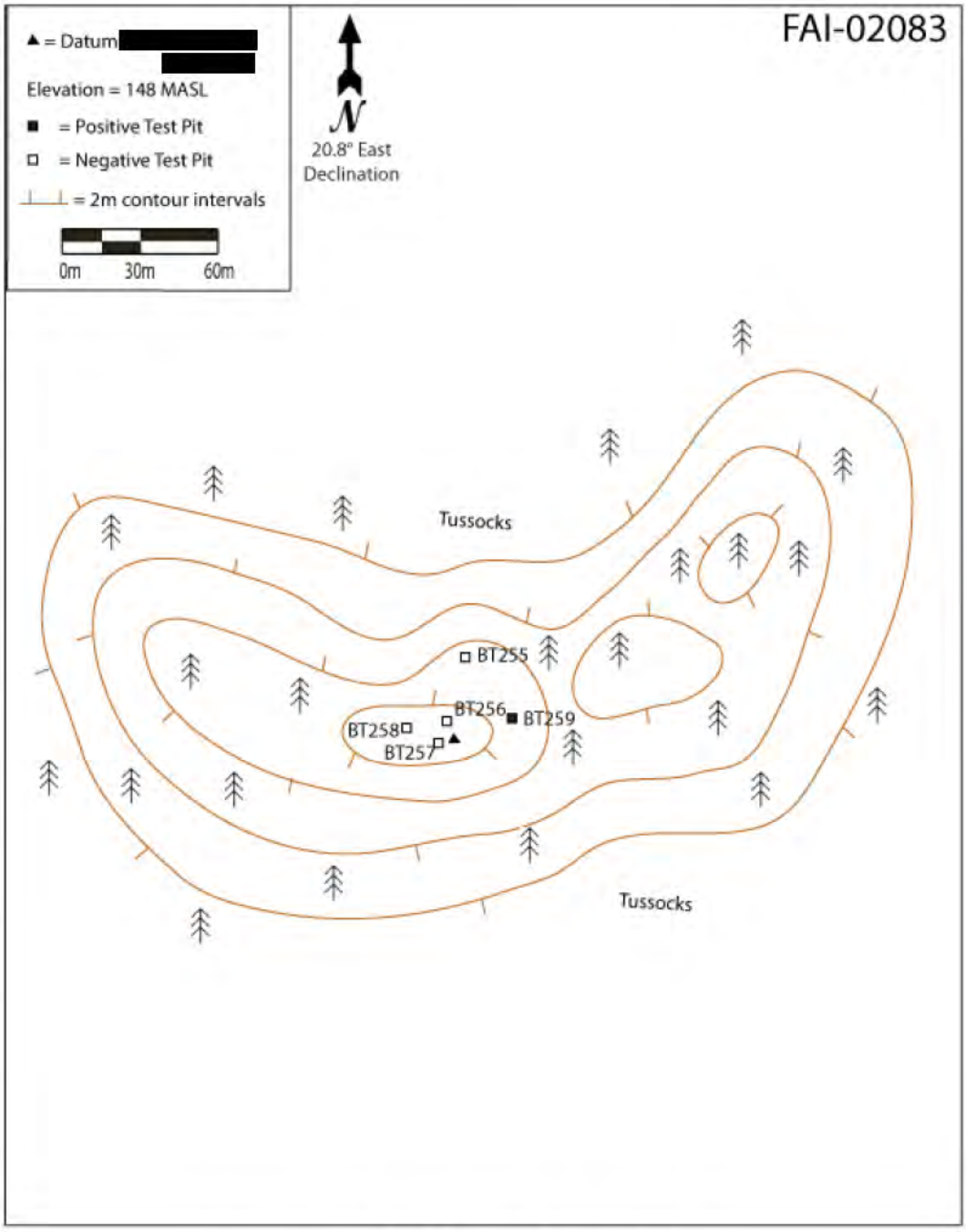


Figure 285. FAI-02083 sketch map

Figure 286. FAI-02083 overview (view to northeast)

Figure 287. FAI-02083 test pit stratigraphy

Table 54. FAI-02083 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-225-0001	1	0-20	flake and flake fragment	46	chert, rhyolite, and basalt	various

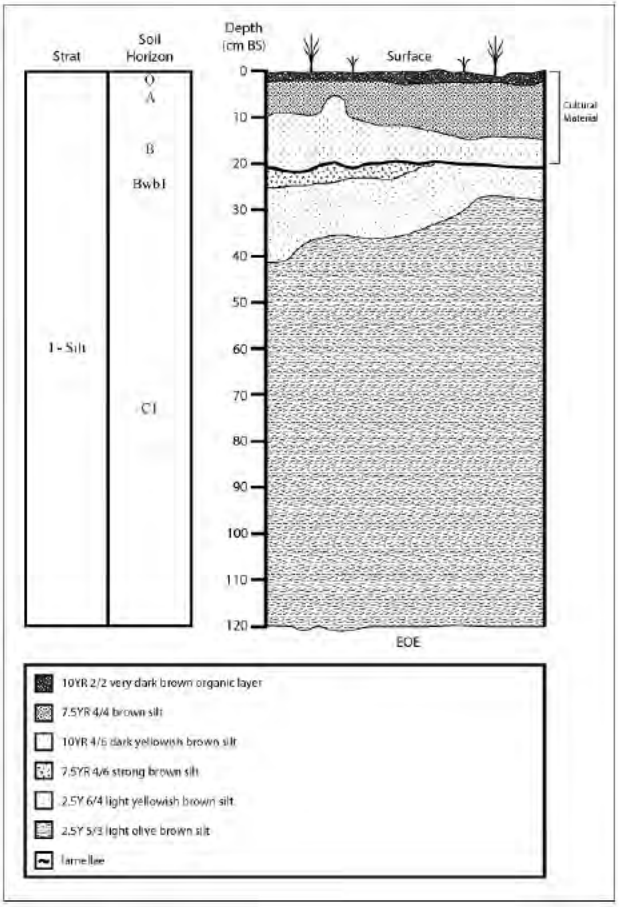


Figure 288. FAI-02083 stratigraphy

FAI-02084
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02084 is located on a low ovate vegetated sand dune in the Tanana Flats (Figure 290, Figure 291). UTM coordinates are [redacted]. Site elevation is 134 masl. The dune is oriented roughly west-southeast. The crest of the dune is located

approximately 5 m above the surrounding tussocks and is approximately 50 m long east-west and 30 m wide north-south. The slope of the site is approximately 0°-10°, and the slope of the area surrounding the site is approximately 10-13°. The landform on which FAI-02084 is located is the central dune in a small complex of three dunes: one low dune is approximately 80 m west at 270°, the other dune is approximately 80 m to the southeast at 142°.

The location would offer a 360° view; however, thick vegetation in the form of thick young aspen and burned stumps obscures the view (Figure 292). No large water sources are visible; however, the surrounding tussocks are saturated. Vegetation consists of standing burned mature spruce and aspen with an understory of high-bush cranberry, rose, low alder, horsetail, and moss. Surface visibility is approximately 30%.

Site FAI-02084 was identified on the basis of one lithic flake fragment found on the surface in a tree throw. One 50 cm x 50 cm test pit was excavated and contained cultural material, including two pieces of lithic debitage collected from 0-25 cm BS (Table 55).

Site stratigraphy consists of aeolian silts at least 54 cm thick overlying basal aeolian dune sands (Figure 293, Figure 294).

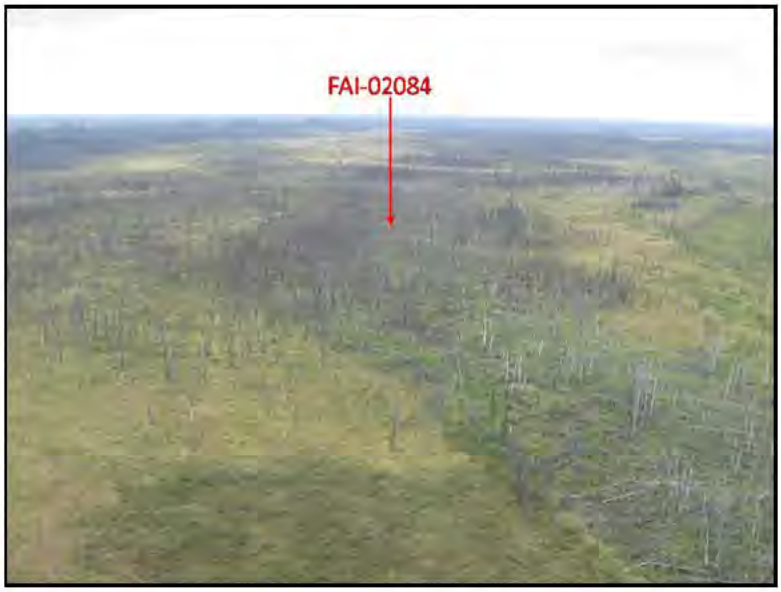


Figure 289. FAI-02084 aerial overview (view to east)

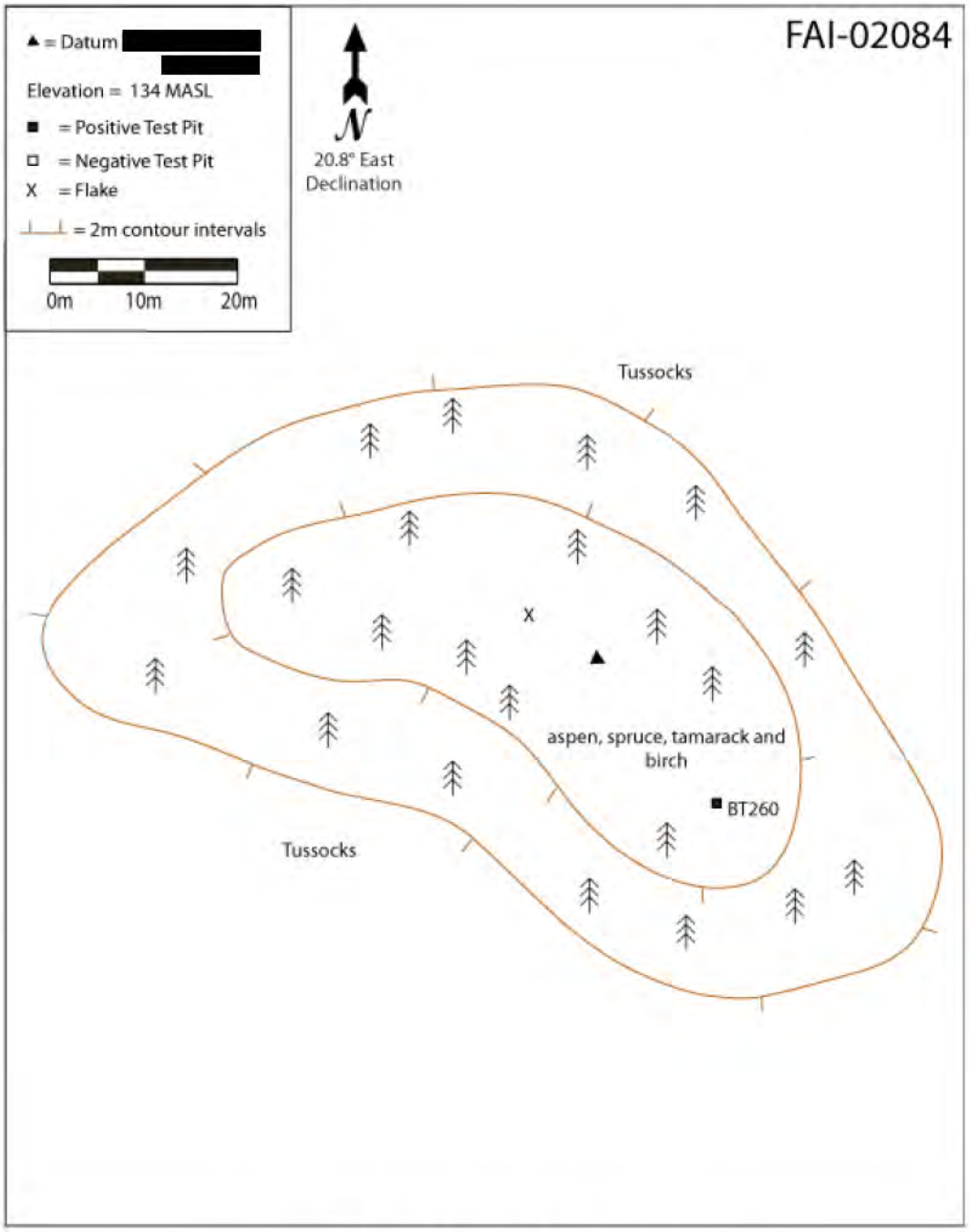


Figure 290. FAI-02084 sketch map

Figure 291. FAI-02084 overview (view to south)

Table 55. FAI-02084 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-226-0001	1	surface	flake fragment	1	chert	black
UA2010-226-0002	2	0-10	flake fragment	1	basalt	gray
UA2010-226-0003	3	20-25	flake fragment	1	rhyolite	light brown

Figure 292. FAI-02084 test pit stratigraphy

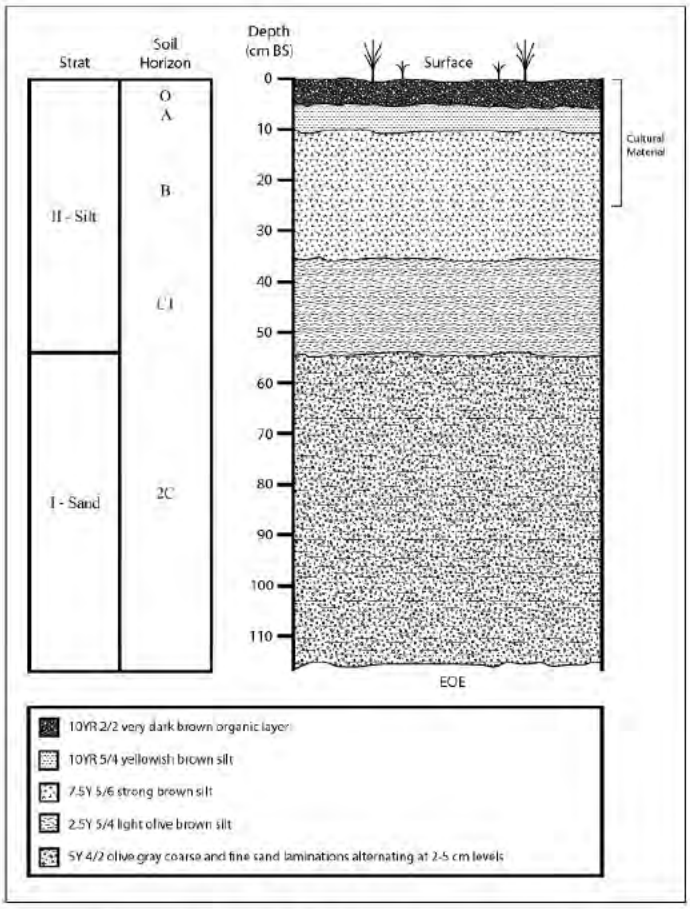


Figure 293. FAI-02084 stratigraphy

FAI-02085
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02085 is located on a large vegetated sand dune in the Tanana Flats (Figure 295, Figure 296). UTM coordinates are [redacted]. Site elevation is 169 masl. This compound dune is irregular in shape with multiple fingers protruding in different directions. The site is located on the northeastern corner of the dune. The site is elevated approximately 20-25 m above the tussocks below. A narrow drainage channel skirts the landform to the northeast where it drops into the tussocks at approximately 25°. The rounded northern and western sides of the landform drop steeply at 30° into the tussocks. The landform extends without an elevation change for at least 80 m to the south. The slope of the site is

approximately 0-8°. An unnamed creek can be seen approximately 150 m to the north. A large pond is located approximately 500 m to the northwest of the site

The location would offer approximately a 240-270° view if not obscured by vegetation (Figure 297). Vegetation on the site consists of mature aspen with an understory of low alder, low-bush cranberry, young spruce, rose, willow, and moss. The surrounding slopes are dominated by mature spruce with an understory of moss. Surface visibility is approximately 10%.

Site FAI-02085 was located through subsurface testing. Three 50 cm by 50 cm test pits were excavated. One test pit contained cultural material, including one 7.5-10 mm, pale brown (10YR 6/3) broken rhyolite flake (UA2010-227) recovered from 0-27 cm BS.

The stratigraphy consists of aeolian silts at least 120 cm thick overlying aeolian dune sands (Figure 298, Figure 299).

Figure 294. FAI-02085 aerial overview (view to north)

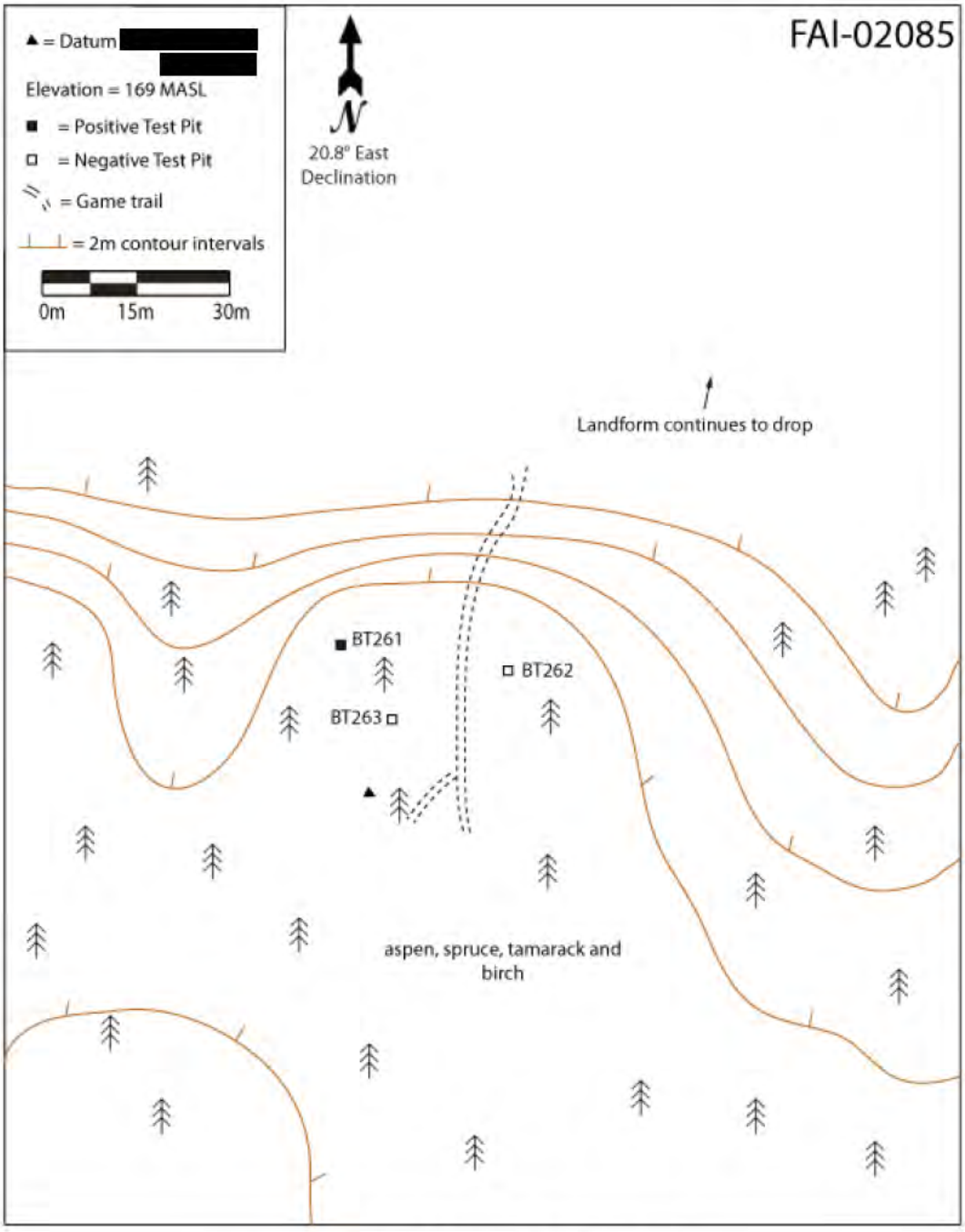


Figure 295. FAI-02085 sketch map

Figure 296. FAI-02085 overview (view to west)

Figure 297. FAI-02085 test pit stratigraphy

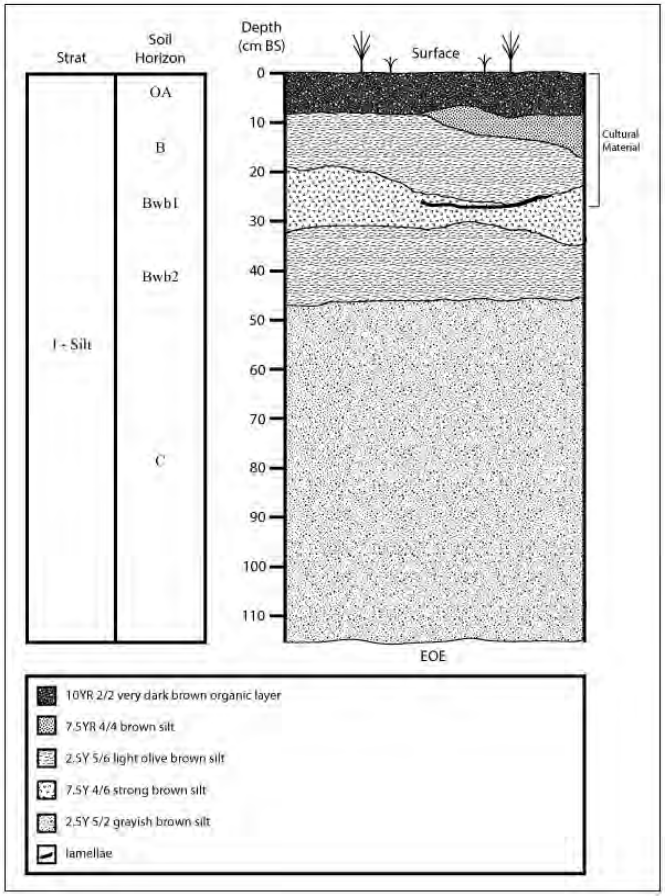


Figure 298. FAI-02085 stratigraphy

FAI-02086
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02086 is located on the eastern half of a large east-west trending, ovate vegetated sand dune (Figure 300, Figure 301). UTM coordinates are [redacted]. Site elevation is 158 masl. The estimated size of the landform is 130 m by 50 m. A saddle that drops 2-3 m to the west separates the western and eastern crests of the dune. The eastern crest of the dune is roughly 60 m by 45 m with a 0°-10° slope. The northern edge of the dune slopes at roughly 30-40°. The dune slopes roughly 10° to the south, east, and west. The landform drops approximately 10 m to the tussocks below. The viewshed is 180° to the north. FAI-02087 is located approximately 130 m west of FAI-02086.

The ecosystem is characterized as upland mixed needleleaf/broadleaf forest (Figure 301). Site vegetation consists primarily of spruce and aspen with an understory of mosses, wild roses, high/low-bush cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. No water sources are visible; however, the surrounding tussocks are saturated. Surface exposure is 5%. No disturbances were observed.

Site FAI-02086 was identified through subsurface testing. One 50 cm by 50 cm test pit was excavated and contained cultural material, including one burin spall recovered from 5-20 cm BS (Table 56, Figure 303).

Site stratigraphy consists of aeolian silts at least 43 cm thick overlying basal aeolian dune sands (Figure 304, Figure 305).

Figure 299. FAI-02086 aerial overview (view to south)

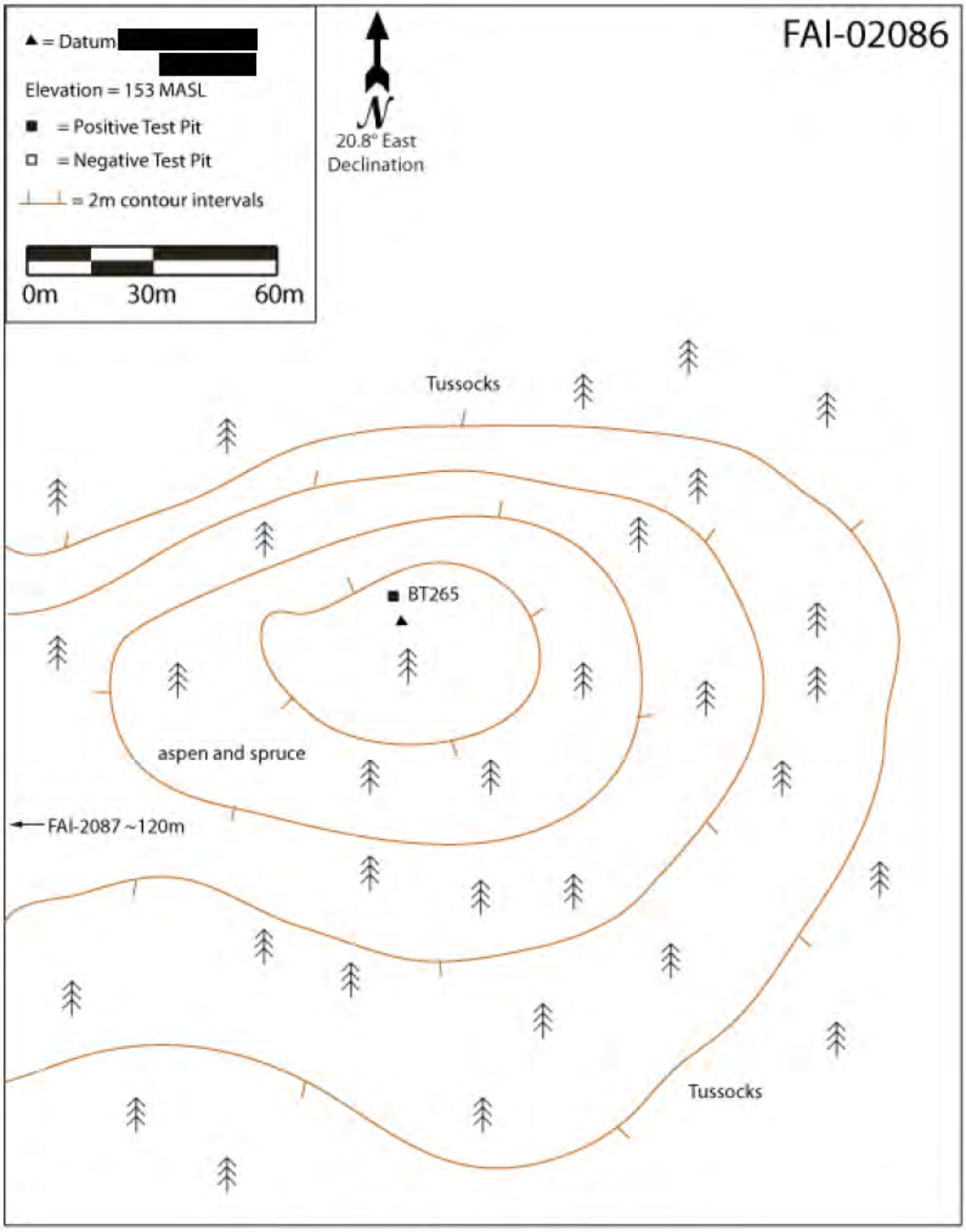


Figure 300. FAI-02086 sketch map

Figure 301. FAI-02086 overview (view to southwest)

Table 56. FAI-02086 burin attributes

UA Accession #	FS #	Depth (cm BS)	Material	Color	L(mm)	W(mm)	T(mm)
UA2010-228-0001	1	5-20	chert	brown	21.1	6.2	5.6

Figure 302. FAI-02086 burin spall

Figure 303. FAI-02086 test pit stratigraphy

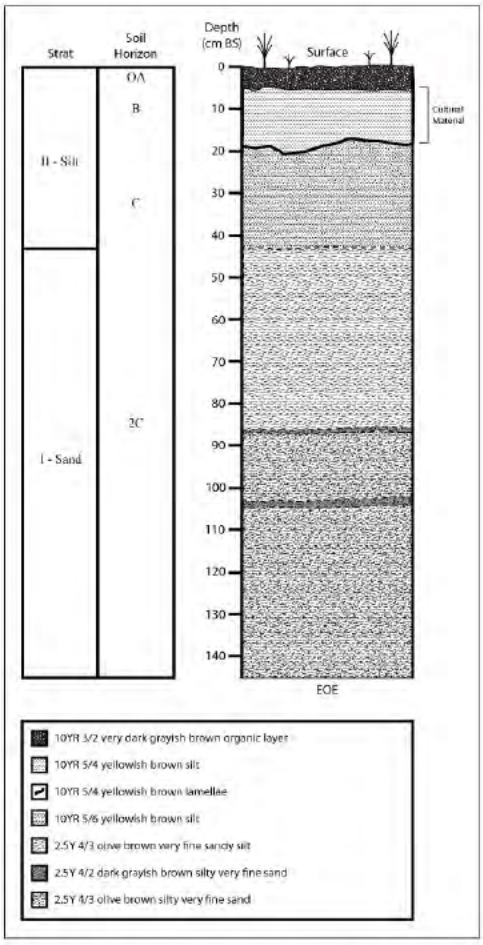


Figure 304. FAI-02086 stratigraphy

FAI-02087
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02087 is located on the western half of a large east-west trending, ovate vegetated sand dune (Figure 306, Figure 307). UTM coordinates are [redacted]. Site elevation is 158 masl. The landform is roughly 130 m by 50 m. A saddle which drops 2-3 m in elevation separates the western and eastern crests of the dune. FAI-02086 is located approximately 130 m east of FAI-02087. The western crest of the dune is roughly 30 m by 45 m with a 0-10° slope. The northern edge of the dune slopes at about 25-30°. The dune slopes roughly 10° to the south, east, and west. The landform drops approximately 10 m to the flats below. The landform has a 180° viewshed to the north.

The ecosystem is characterized as upland mixed needleleaf/broadleaf forest (Figure 308). Site vegetation consists primarily of aspen with an understory of mosses, wild roses, high/low-bush cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface exposure is 0%. No disturbances were observed.

Site FAI-02087 was identified through subsurface testing. One 50 cm by 50 cm test pit was excavated and contained cultural material, including 14 flakes recovered from 0-30 cm BS (Table 57). No tools were recovered.

Site stratigraphy consists of aeolian silts at least 40 cm thick overlying aeolian basal dune sands (Figure 309, Figure 310).

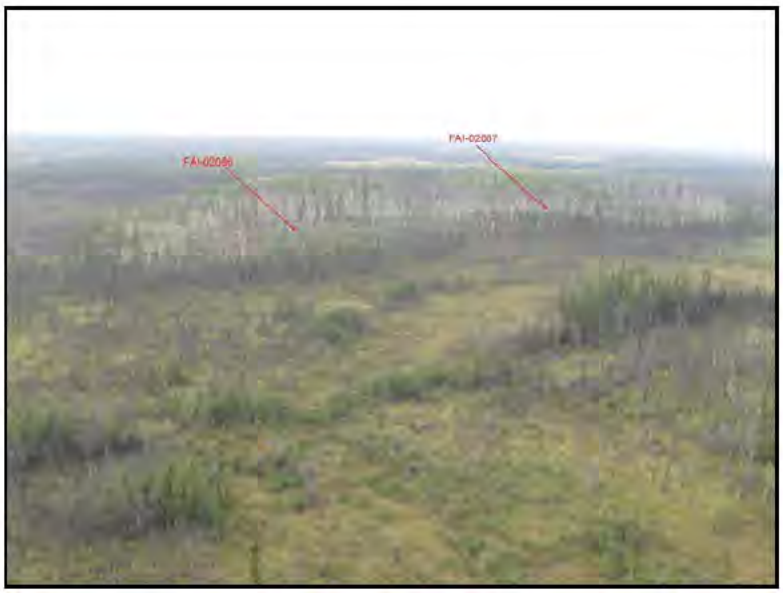


Figure 305. FAI-02087 aerial overview (view to south)

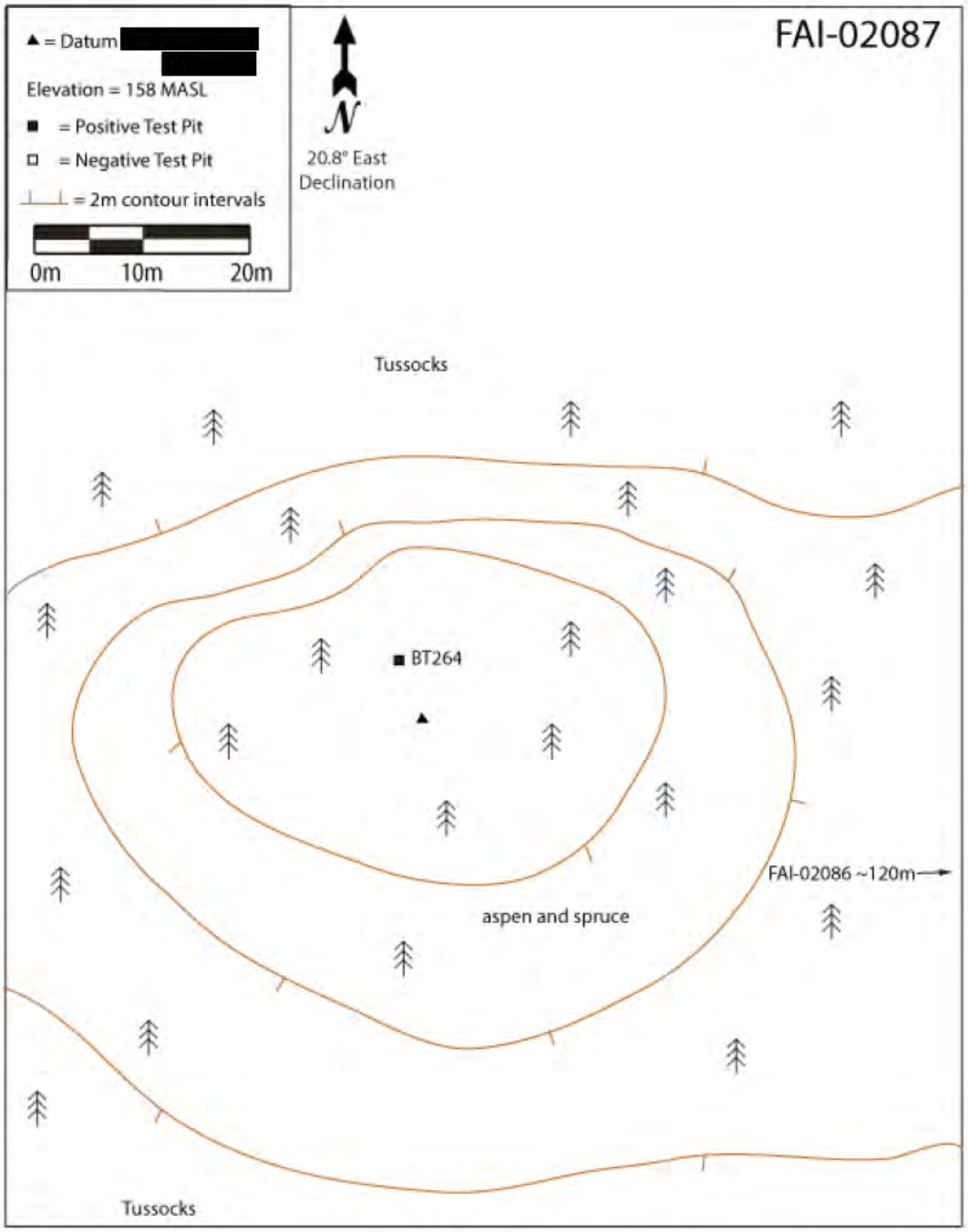


Figure 306. FAI-02087 sketch map

Figure 307. FAI-02087 overview (view to west)

Table 57. FAI-02087 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-229-0001	1	0-15	flake and flake fragment	2	rhyolite	various
UA2010-229-0002	2	15-20	flake and flake fragment	10	chert, rhyolite and basalt	various
UA2010-229-0003	3	20	flake and flake fragment	4	rhyolite	pale brown
UA2010-229-0004	4	24	flake	1	rhyolite	pale brown
UA2010-229-0005	5	25-30	flake fragment	1	chert	dark gray

Figure 308. FAI-02087 test pit stratigraphy

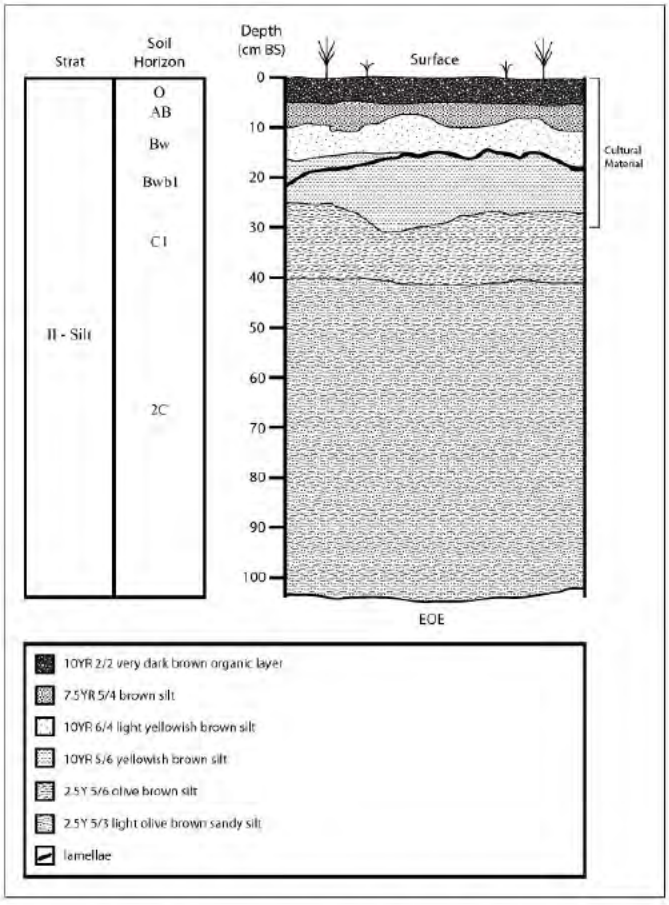


Figure 309. FAI-02087 stratigraphy

FAI-02088
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02088 is located on the crest of an ovate vegetated sand dune (Figure 311, Figure 312). UTM coordinates are [redacted]. Site elevation is 153 masl. The crest of the dune is roughly 40 m x 50 m with a 0-10° slope. The dune slopes down on the northern half roughly 22°, dropping approximately 8-10 m in elevation to the tussocks below. The southern half of the dune landform slopes more gradually at approximately 15°. The crest of the dune is cut by a north-south oriented drainage channel, which descends 1-2 m below the crest. The crest of the landform provides a 360° viewshed with a clear view of site FAI-02089 approximately 400 m to the southwest at 255°.

The ecosystem is characterized as upland broadleaf forest (Figure 313). Site vegetation consists primarily of aspen with an understory of moss, wild rose, high/low-bush cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface exposure is less than 5%. No disturbance was observed.

Site FAI-02088 was identified through subsurface testing. Cultural material was recovered from two of the three 50 cm x 50 cm test pits excavated, including 11 flakes recovered from 15-60 cm BS (Table 58). No tools were recovered.

Site stratigraphy consists of aeolian silts at least 42 cm thick overlying aeolian dune sands (Figure 314, Figure 315).

Figure 310. FAI-02088 aerial overview (view to northwest)

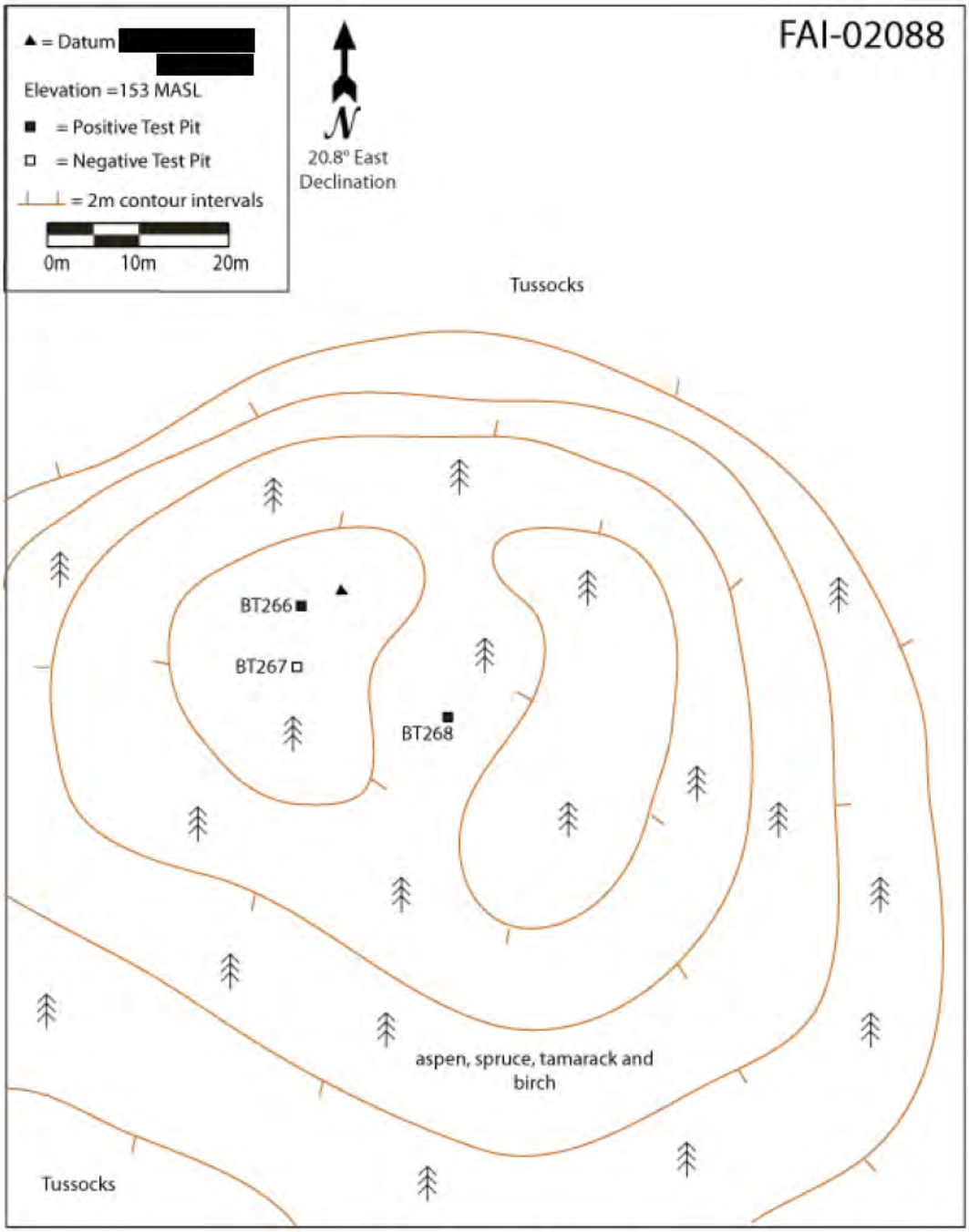


Figure 311. FAI-02088 sketch map

Figure 312. FAI-02088 overview (view to southeast)

Table 58. FAI-02088 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-230-0001	1	40-60	flake fragment	1	chert	very dark gray
UA2010-230-0002	2	(removed from collection)				
UA2010-230-0003	3	0-20	flake and flake fragment	8	chert	various
UA2010-230-0004	4	20	flake fragment	1	chert	dark gray
UA2010-230-0005	5	30-60	flake fragment	1	chert	dark gray

Figure 313. FAI-02088 test pit stratigraphy

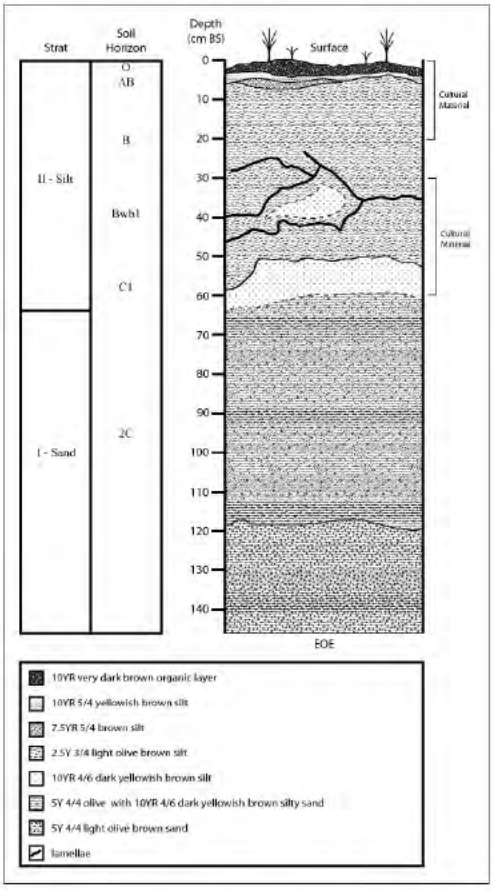


Figure 314. FAI-02088 stratigraphy

FAI-02089
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02089 is located on the crest of the northern tip of a triangular-shaped vegetated sand dune (Figure 316, Figure 317). UTM coordinates are [redacted]. Site elevation is 149 masl. The crest of the dune is roughly 60 m in diameter with a 0-10° slope. The dune descends to the north at roughly 28°. The landform drops approximately 15-20 m in elevation to the tussocks below. The southern half of the landform slopes more gradually at about 10°. The crest of the landform would provide a 360° view; however, dense vegetation restricts the current viewshed. FAI-02088 can be seen approximately 400 m to the northeast at 75°.

The ecosystem is characterized as upland broadleaf forest (Figure 318). Site vegetation consists primarily of aspen with an understory of moss, wild rose, high/low-bush cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface exposure is less than 5%. No disturbances were observed.

Site FAI-02089 was identified through subsurface testing. Cultural material was collected from one of two 50 cm x 50 cm test pits excavated. A single pale brown (10YR 6/3) rhyolite flake fragment (UA2010-231), size class 10-20 mm, was recovered from one test pit at a depth of 10-20 cm BS. No tools were recovered.

Site stratigraphy consists of aeolian silts at least 69 cm thick overlying aeolian dune sands (Figure 319, Figure 320).

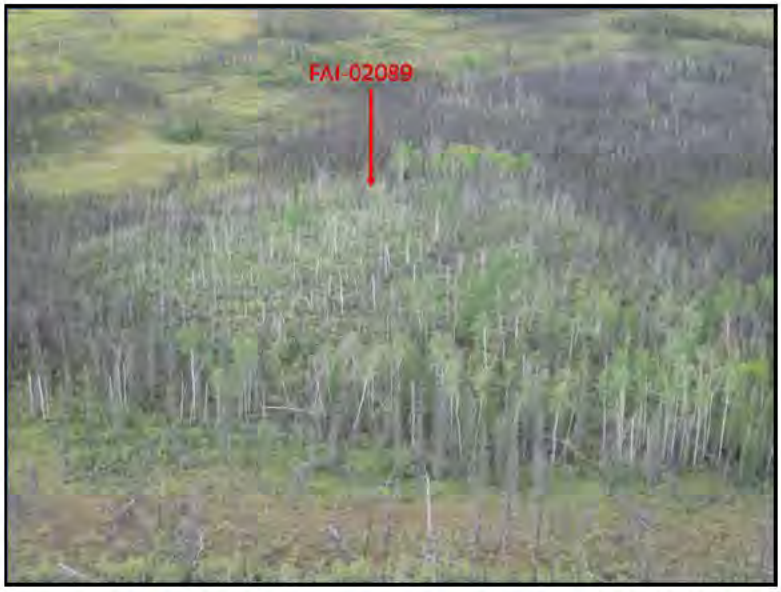


Figure 315. FAI-02089 aerial overview (view to west)

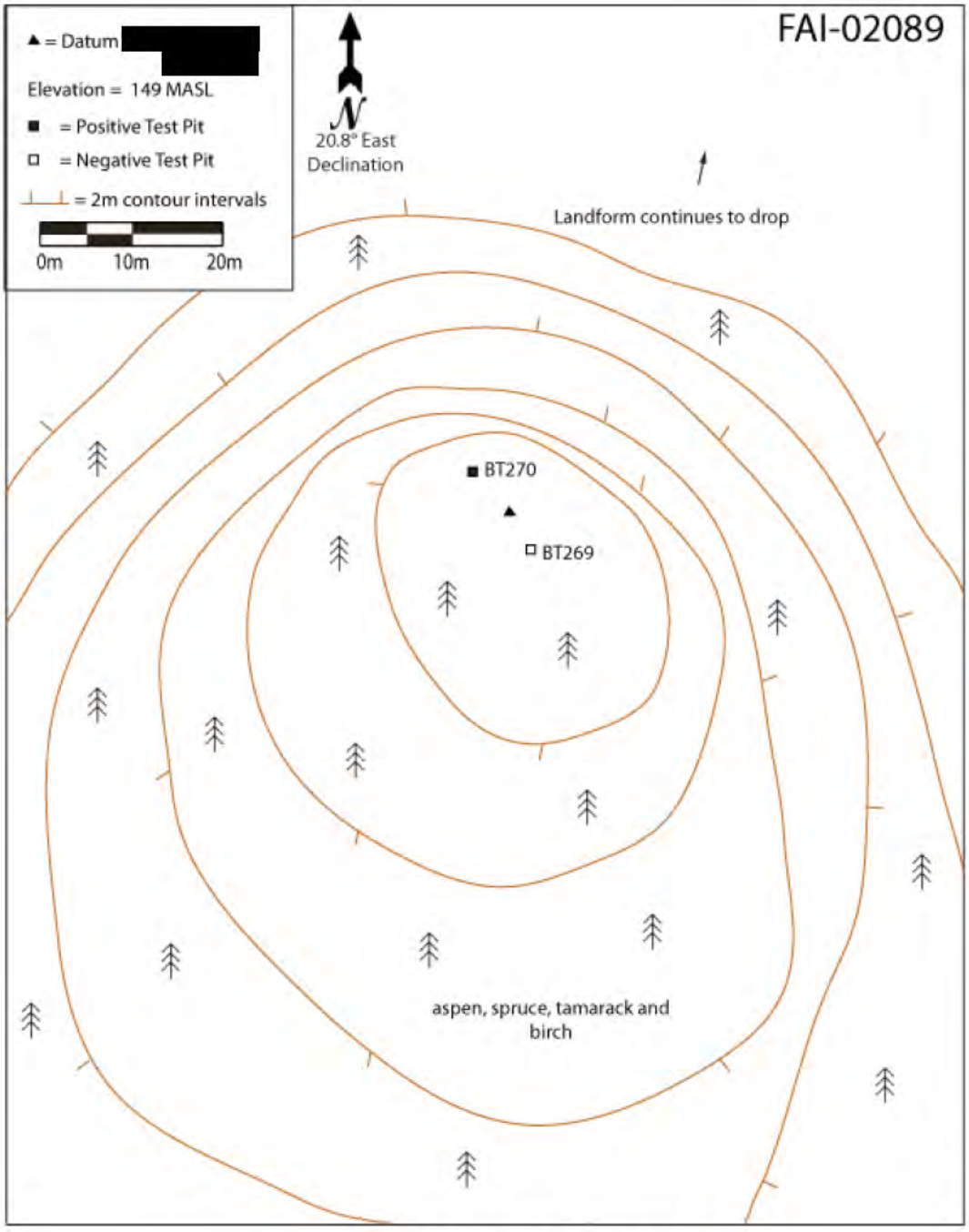


Figure 316. FAI-02089 sketch map

Figure 317. FAI-02089 overview (view to southeast)

Figure 318. FAI-02089 test pit stratigraphy

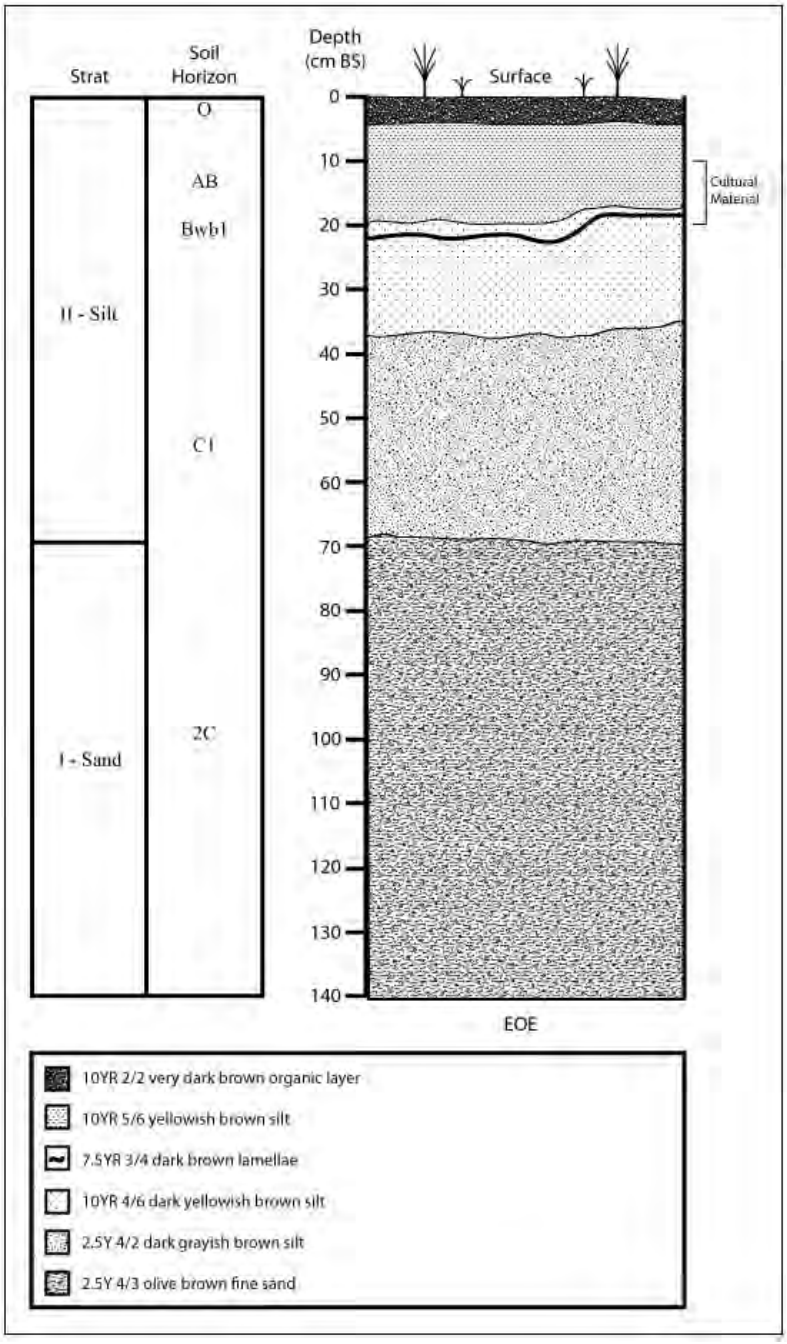


Figure 319. FAI-02089 stratigraphy

FAI-02090
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02090 is located on the crest of low southeast-northwest trending, irregularly shaped vegetated sand dune (Figure 321, Figure 322). UTM coordinates are [redacted]. Site elevation is 147 masl. The crest of the dune is roughly 250 m x 300 m with a 0°-5° slope. The dune gradually slopes on the northern half at approximately 5-10°. The southern half of the dune slopes about 10°-15°. The landform drops approximately 5-10 m in all directions. The site area has a limited viewshed due to vegetation and low elevation. A large pond is approximately 50 m southeast of the landform is the closest source of water.

The ecosystem is characterized as upland moist mixed needleleaf/broadleaf forest (Figure 323). Site vegetation consists primarily of spruce and aspen with and understory of moss, wild rose, high/low bush-cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface visibility is less than 5%. No disturbances were observed.

Site FAI-02090 was identified through subsurface testing. Cultural material was recovered from one of six test pits excavated. A single dark gray (4/N) chert flake fragment (UA2010-232), size class 10-20 mm, was recovered from one test pit at a depth of 10-25 cm BS. No tools were recovered.

Site stratigraphy consists of aeolian silts at least 42 cm thick overlying aeolian dune sands (Figure 324, Figure 325).

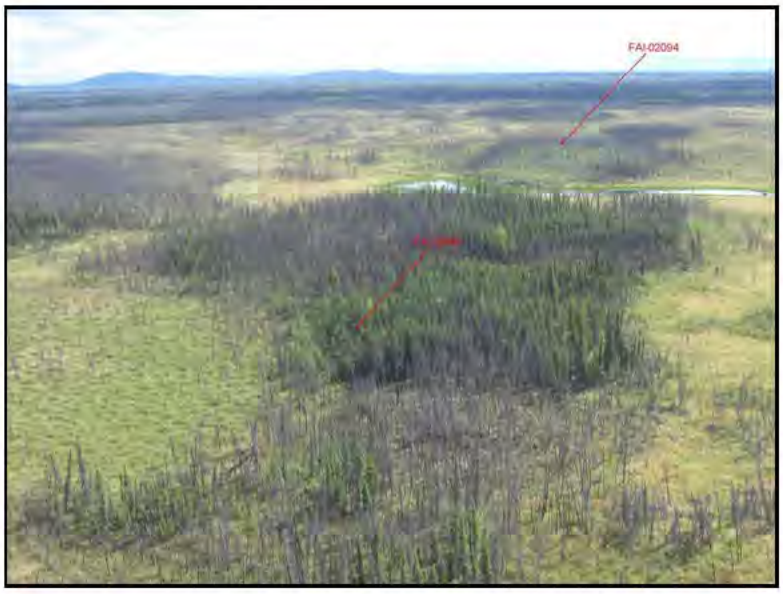


Figure 320. FAI-02090 aerial overview (view to east)

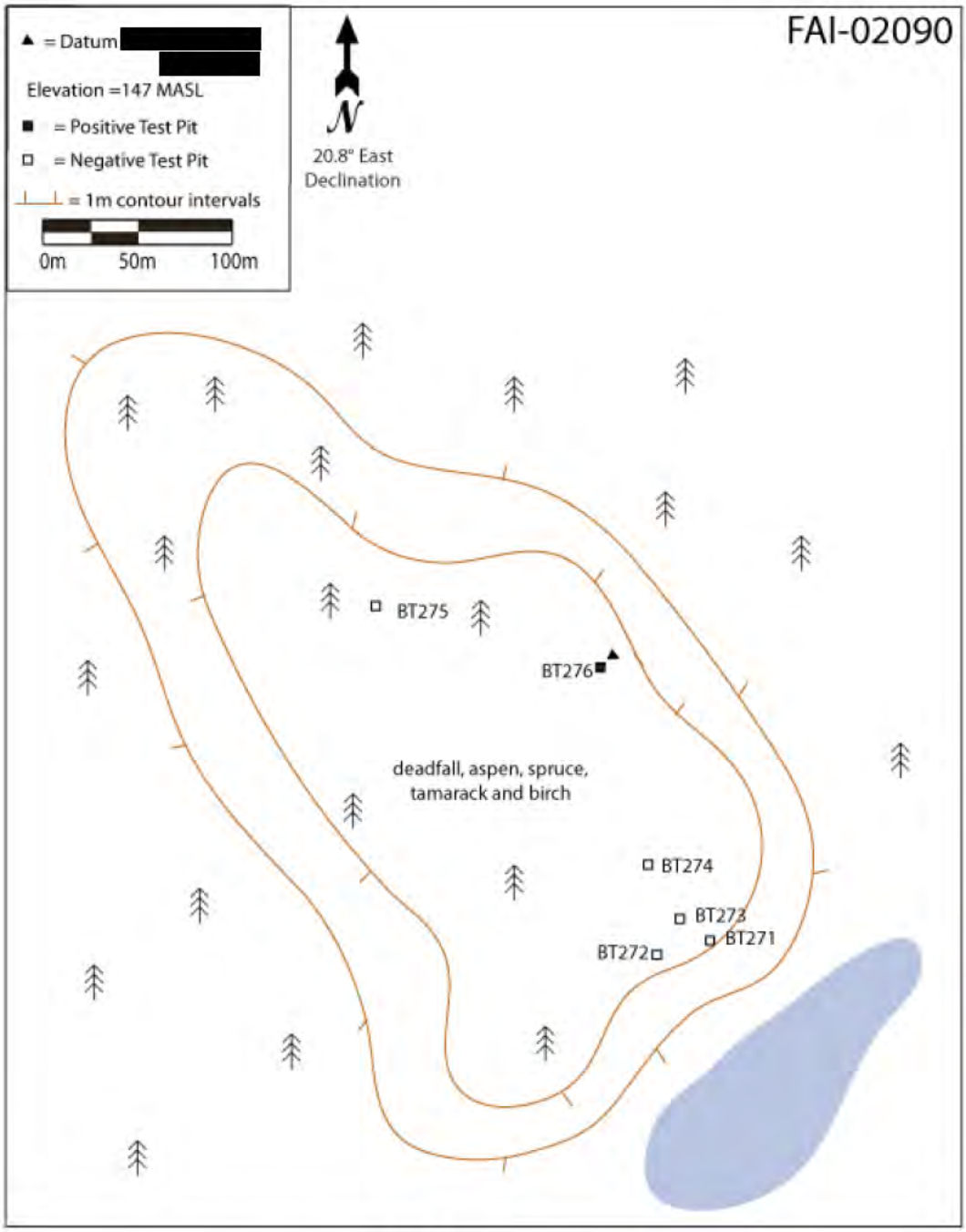


Figure 321. FAI-02090 sketch map

Figure 322. FAI-02090 overview (view to west)

Figure 323. FAI-02090 test pit stratigraphy

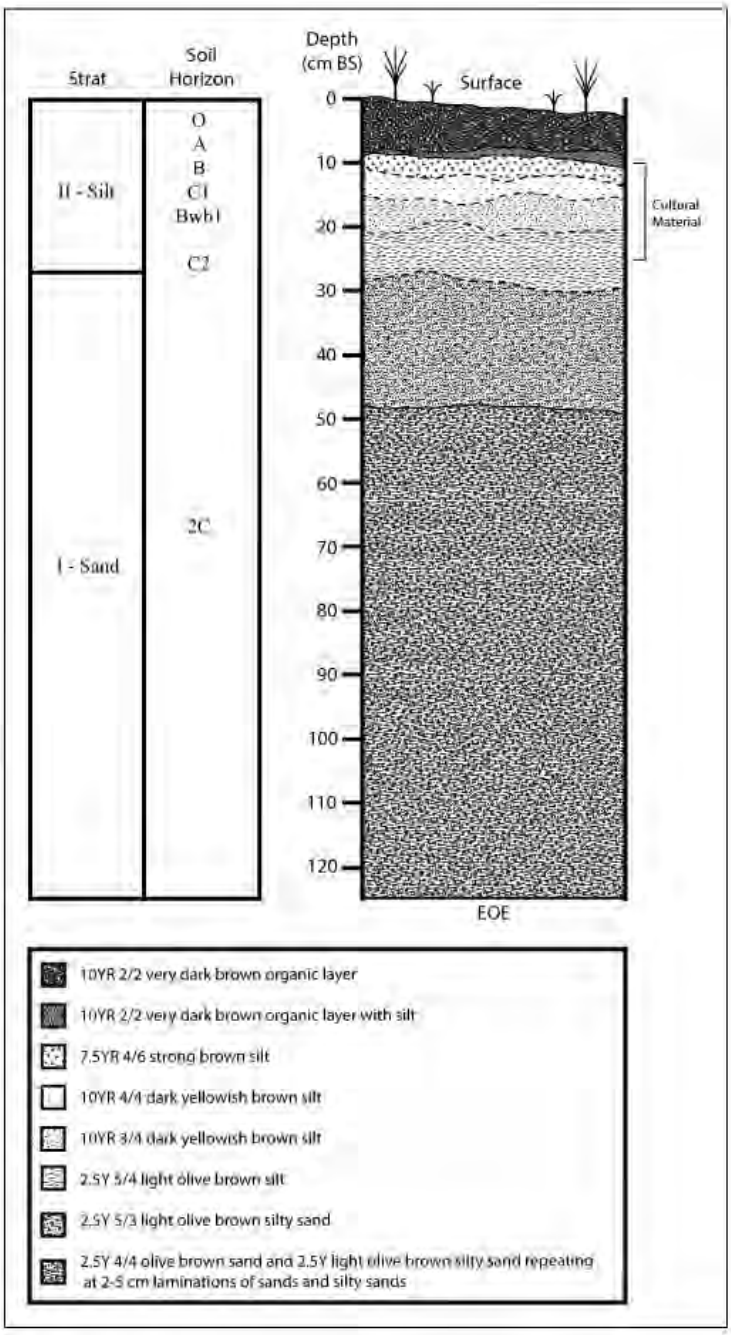


Figure 324. FAI-02090 stratigraphy

FAI-02091
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site FAI-02091 is located at the top of a southwest-northeast trending, irregularly shaped vegetated sand dune (Figure 326, Figure 327). UTM coordinates are [redacted]. Site elevation is 158 masl. The site is roughly 80 m x 50 m. The broad top of the dune is roughly 50 m x 80 m with a 0°-5° slope. A narrow crest, roughly 15 m x 30 m, is located on the northeast edge of the top surface of the dune and rises approximately 2 m above the rest of the dune top. The landform drops approximately 10 m in all directions and has an excellent 360° viewshed. Mount Hayes and the Alaska Range can be seen to the south with the Wood River Buttes in the foreground of the Alaska Range.

The ecosystem is characterized as upland moist mixed needleleaf/broadleaf forest (Figure 328). Site vegetation consists primarily of spruce and aspen with an understory of moss, wild rose, high/low-bush cranberry, and other low shrubs. Burned deadfall lay scattered across the dune. Surface visibility was less than 5%. No disturbances were observed.

Site FAI-02091 was identified through subsurface testing. Cultural material was recovered from two of two test pits excavated. A total of 17 flakes were recovered from depths of 0-35 cm BS (Table 59). No tools were recovered.

Site stratigraphy consists of aeolian silts at least 37 cm thick overlying aeolian dune sands (Figure 329, Figure 330).

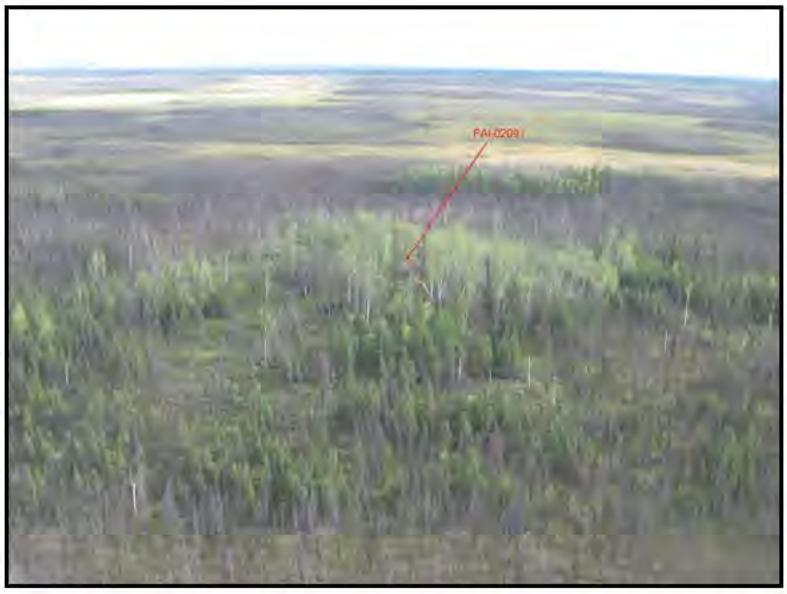


Figure 325. FAI-02091 aerial overview (view to south)

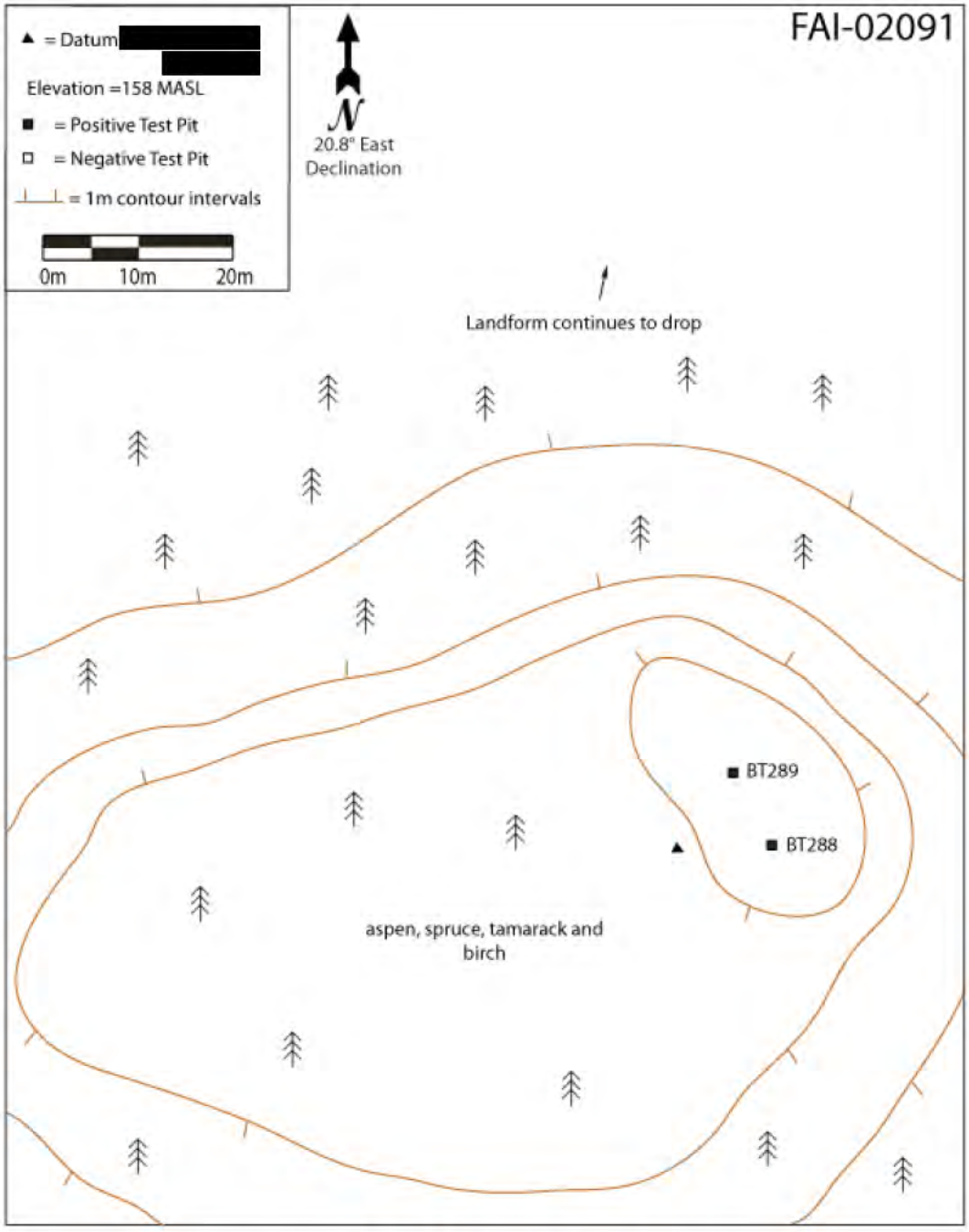


Figure 326. FAI-02091 sketch map

Figure 327. FAI-02091 overview (view to northwest)

Table 59. FAI-02091 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Raw Material	Color
UA2010-233-0001	1	0-10	flake fragment	1	rhyolite	dark gray
UA2010-233-0002	2	15-25	flake fragment	1	chert	gray
UA2010-233-0003	3	0-5	flake and flake fragment	2	chert and rhyolite	various
UA2010-233-0004	4	0-10	flake	1	rhyolite	light brown
UA2010-233-0005	5	10-25	flake and flake fragment	5	rhyolite	light brown
UA2010-233-0006	6	25-35	flake and flake fragment	7	rhyolite, basalt and chert	various

Figure 328. FAI-02091 test pit stratigraphy

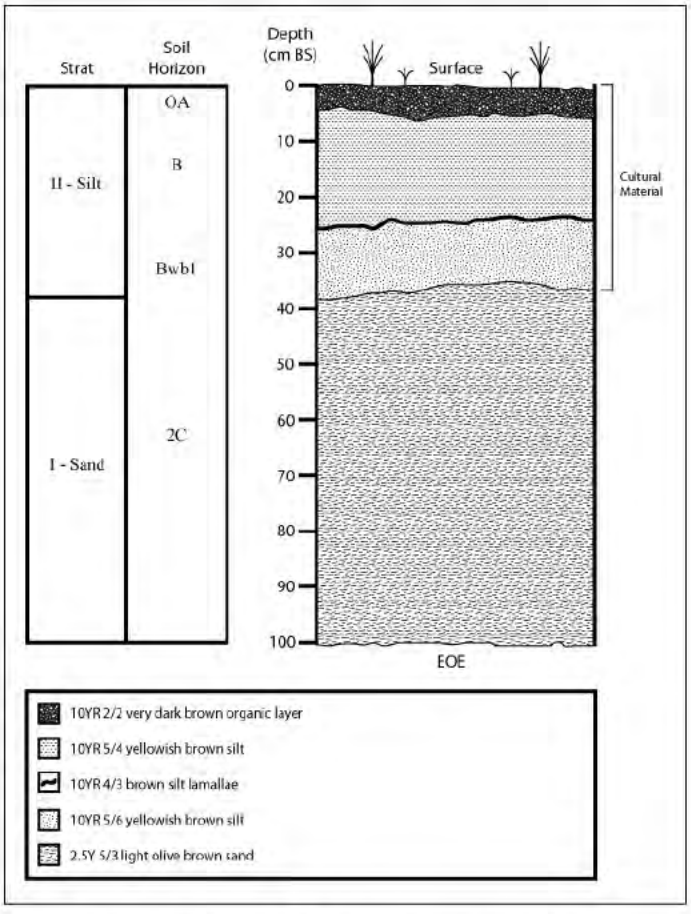


Figure 329. FAI-02091 stratigraphy

FAI-02092
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02092 is a multi-component site, with evidence of prehistoric and mid-20th century occupations, located at UTM coordinates [redacted] (Figure 331, Figure 332). Site elevation is 179 masl. The site is situated on an isolated vegetated sand dune, roughly 40 m x 15 m in size, trending at a 135°. The sides of the dune slope at 15-20° on all sides, dropping 2-3 m to the flats below. The prehistoric component is located on the crest of the rise, while the historic component is found on the slopes and adjacent flats.

The ecosystem is characterized as a disturbed, lowland wet needleleaf-broadleaf forest. Vegetation on the landform at the time of discovery consists of burnt spruce and aspen stumps, the result of a recent wildfire, with an understory of heavy deadfall (Figure 333). The surrounding area is a lowland wet meadow and tussock swamp with mixed burnt white and black spruce sedges, muskeg, and low shrubs.

Site FAI-02092 was found through pedestrian survey and subsurface testing. Flake stone artifacts diagnostic of a prehistoric occupation were recovered from two of two test pits excavated on the top of the dune. Nineteen flakes were recovered from depths of 0-48 cm BS (Table 60). All of these are characterized as lithic debitage made of basalt and black chert. One flake was found from an apparent depth range of 90-100 cm BS; however, at the time of discovery, it was uncertain if the artifact actually came from this or sloughed into the test pit while facing and cleaning the upper test walls.

Test pit stratigraphy consists of aeolian silts at least 75 cm thick overlying aeolian sands (Figure 334, Figure 335). Soil development consists of dark brown, very charcoal-rich burnt organic mat at 0-2 cm BS, with an underlying strong brown silt AB horizon at 2-8 cm BS, underneath which is a reddish and yellowish silt Bw horizon from 8-24 cm BS. A strong brown silt Ab horizon extends from 23-25 cm BS, underneath which is light brown silt C horizon from 24-75 cm BS. Unaltered light brown silty very fine sands (C horizon) were encountered from 75 cm BS to the end of excavation at120 cm BS.

The historic component of the site is represented by cans and bottles indicative of a mid-20th century occupation. These were found in three distinct concentrations ("dumps" or scatters) located adjacent to the dune on its north and east sides (Figure 331). A few additional isolated cans are scattered in the vicinity. The observed cans are c-ration cans, meat cans, sanitary cans and key-open sardine cans. The bottles exhibit embossed base marks and brand marks that indicate that they date to the early 1960s. Two of the bottles are cork-stopped 750 ml liquor bottles that exhibit distinctive Owens-Illinois™ base marks that began use in 1960. These also have a mark indicating a manufacture date of 1960. The "Federal Law Prohibits Reuse of Resale" embossed lettering evident on the bases of all three recovered bottles ceased in 1964, providing a terminus ante quem date for these artifacts. The third bottle is a rectangular 750 ml bottle with embossed lettering that reads "Old Taylor." The Old Taylor distillery ceased production in 1972, further supporting the notion of an early 1960s date. There was no evidence of features or structures found.

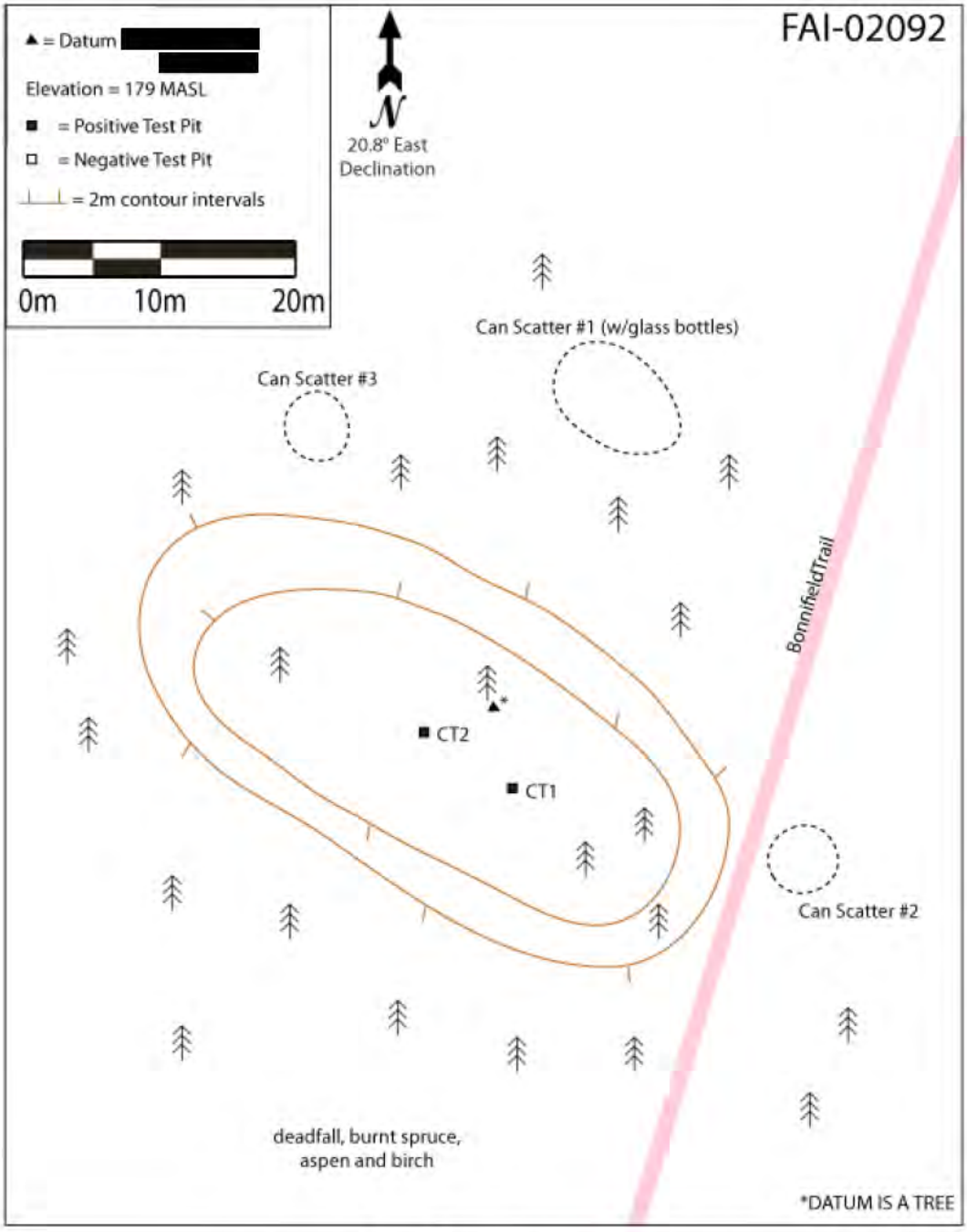


Figure 330. FAI-02092 sketch map

Figure 331. FAI-02092 aerial overview (view to northeast)

Figure 332. FAI-02092 site overview (view to west)

Table 60. FAI-02092 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-234-0001	1	0-8	flake fragment	1	basalt	dark gray
UA2010-234-0002	2	5	flake fragment	1	basalt	dark gray
UA2010-234-0003	3	8-13	flake and flake fragment	6	basalt	dark gray
UA2010-234-0004	4	13-28	flake and flake fragment	9	basalt and chert	various
UA2010-234-0005	5	38-48	flake fragment	1	basalt	dark gray
UA2010-234-0006	6	90-100 or wall	flake fragment	1	basalt	dark gray
UA2010-234-0007	7	0-22	flake fragment	1	basalt	dark gray
UA2010-234-0008	8	surface	can			
UA2010-234-0009	9	surface	bottle			

Figure 333. FAI-02092 test pit stratigraphy (view to southeast)

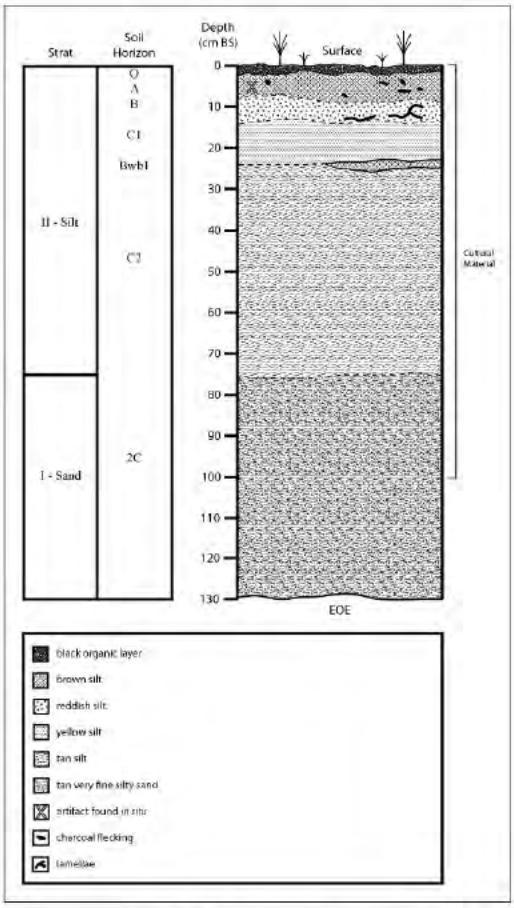


Figure 334. FAI-02092 stratigraphy

FAI-02093
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02093 is located on an isolated vegetated sand dune at UTM coordinates [redacted] (Figure 336, Figure 337). Site elevation is 200 masl. The landform is ovate in shape, extending roughly 40 m in a north-south direction and 15-20 m in an east-west direction. The sides of the dune slope at 15-20° on all sides, dropping 4-5 m to the flats below. The site is located on the crest of the dune, which exhibits a slope of 0-3°.

The ecosystem is characterized as a disturbed, lowland wet needleleaf-broadleaf forest (Figure 338). Vegetation on the landform at the time of discovery consists of burnt spruce and aspen stumps, the result of a recent wildfire, with an understory of heavy deadfall. The surrounding area is a lowland wet meadow and tussock swamp with mixed burnt white and black spruce sedges, muskeg, and low shrubs.

Site FAI-02093 was found through subsurface testing. Flake stone artifacts were recovered from two of three test pits excavated on the top of the dune. Six flakes were recovered from depths of 10-50 cm BS. All of these are characterized as lithic debitage made of basalt and chert (Table 61).

Test pit stratigraphy consists of aeolian silts at least 50 cm thick overlying aeolian sands (Figure 339, Figure 340). Soil development consists of a dark brown, very charcoal-rich burnt organic mat at 0-4 cm BS, with an underlying strong brown silt AB horizon at 4-18 cm BS, underneath which is a light brown silt C1 horizon from18-24 cm BS. A reddish silt Bwb horizon extends from 24-30 cm BS. Many of the recovered artifacts seem to be associated with this Bwb horizon. An underlying yellow silt C2 horizon extends from 30-50 cm BS. Light brown, very silty fine sands are encountered from 50-70 cm BS, which in turn are underlain by light brown, very well-sorted, very fine sands encountered to the end of excavation at 120 cm BS.

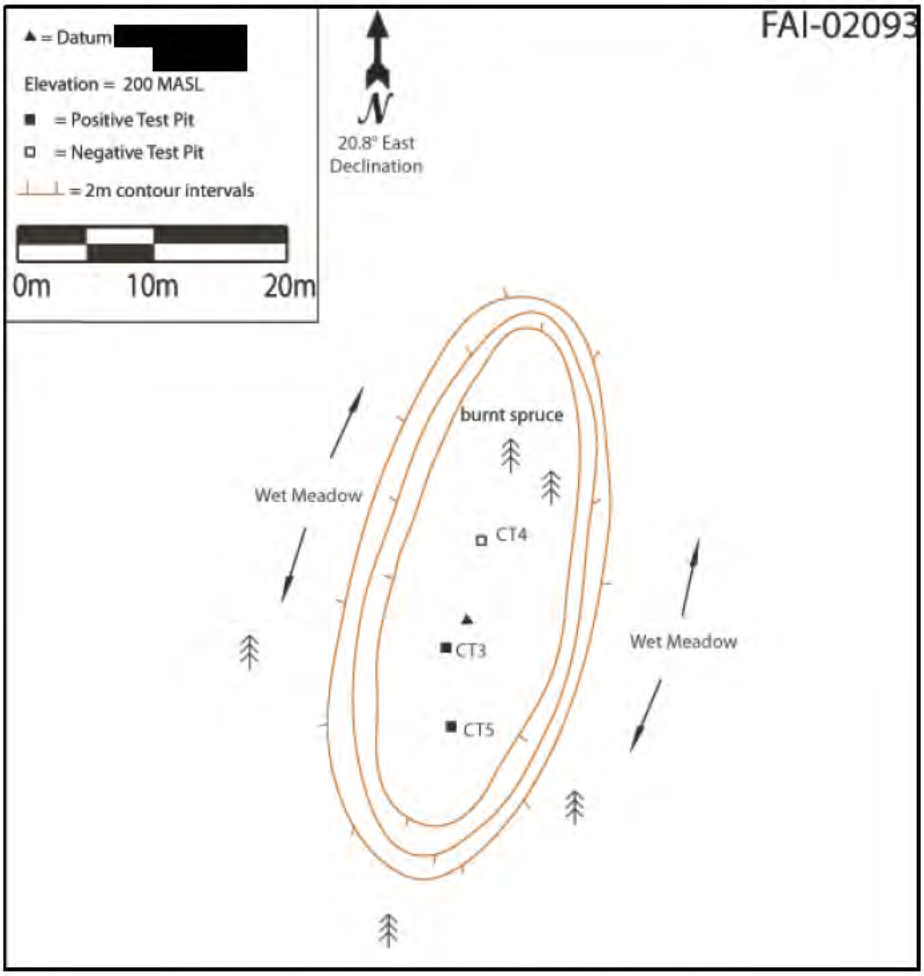


Figure 335. FAI-02093 sketch map

Figure 336. FAI-02093 aerial overview (view to west)

Figure 337. FAI-02093 site overview (view to north)

Table 61. FAI-02093 accession log

UA Accession #	FS#	Depth (cm BS)	Artifact Type	n=	Material	Color
UA2010-235-001	1	10-20	flake fragment	1	basalt	very dark gray
UA2010-235-002	2	20-30	flake fragment	1	chert	pale brown
UA2010-235-003	3	30-40	flake fragment	1	chert	light olive brown
UA2010-235-004	4	30-40	flake fragment	1	chert	light brown
UA2010-235-005	5	40-50	flake fragment	1	chert	very dark gray
UA2010-235-006	6	15-35	flake fragment	1	basalt	dark gray

Figure 338. FAI-02093 test pit stratigraphy (view to northwest)

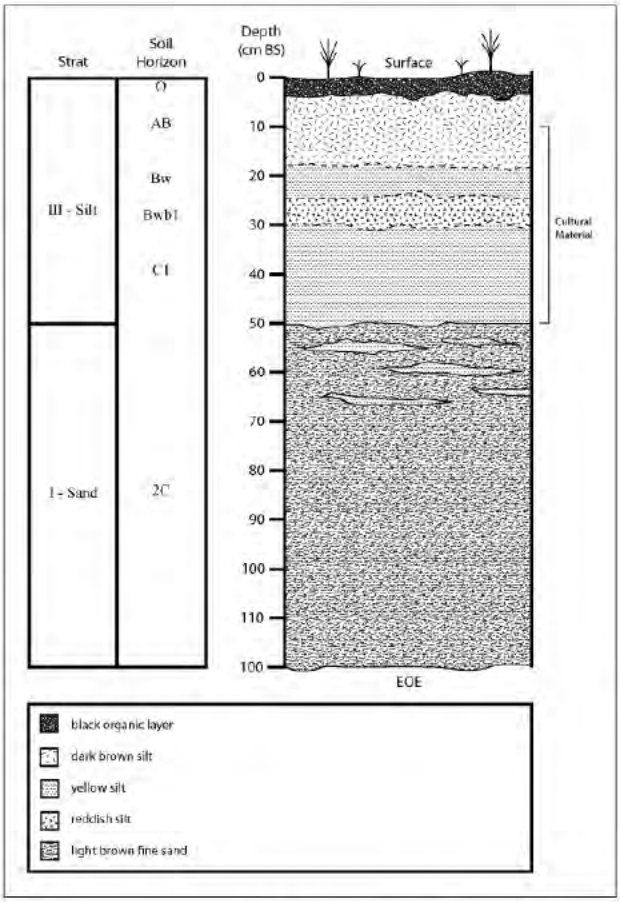


Figure 339. FAI-02093 stratigraphy

FAI-02094
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02094 is located on the northern crest of a vegetated sand dune at UTM coordinates [redacted] (Figure 341). The dune is ovate, trending at 340°, extending roughly 300 m by 90 m, and rising 3-5 m above the surrounding terrain. Site elevation is 158 masl.

The site ecosystem is characterized as dry mixed broadleaf-needleleaf forest, while the surrounding area is characterized as a moist meadow/tussock scrub bog (Figure 342). Site vegetation consists of burnt spruce with an understory of young aspen, Labrador tea and other low scrub.

Site FAI-02094 was found through subsurface testing. A single flaked stone artifact was found at a depth of 20-30 cm BS in one of three test pits excavated. The artifact is a broken flake made of pale brown (10YR 6/3) rhyolite (UA2010-236). It is between 7.5-10 mm in size.

Site stratigraphy consists of aeolian silts 30-50 cm thick overlying very well-sorted aeolian dune sands (Figure 343, Figure 344). Soil development is characterized by typical modern O/AB horizons, with a buried Bwb horizon and clay and iron rich lamellae within the silts at 20-30 cm BS. The recovered cultural material is associated with the Bwb horizon. AMS radiocarbon dating of charcoal associated with the flaked stone artifact within the Bwb horizon yielded a date of 5620 +/-40 YBP (Beta-283347).

Figure 340. FAI-02094 aerial overview (view to northwest)

Figure 341. FAI-02094 site overview (view to southwest)

Figure 342. FAI-02094 test pit stratigraphy

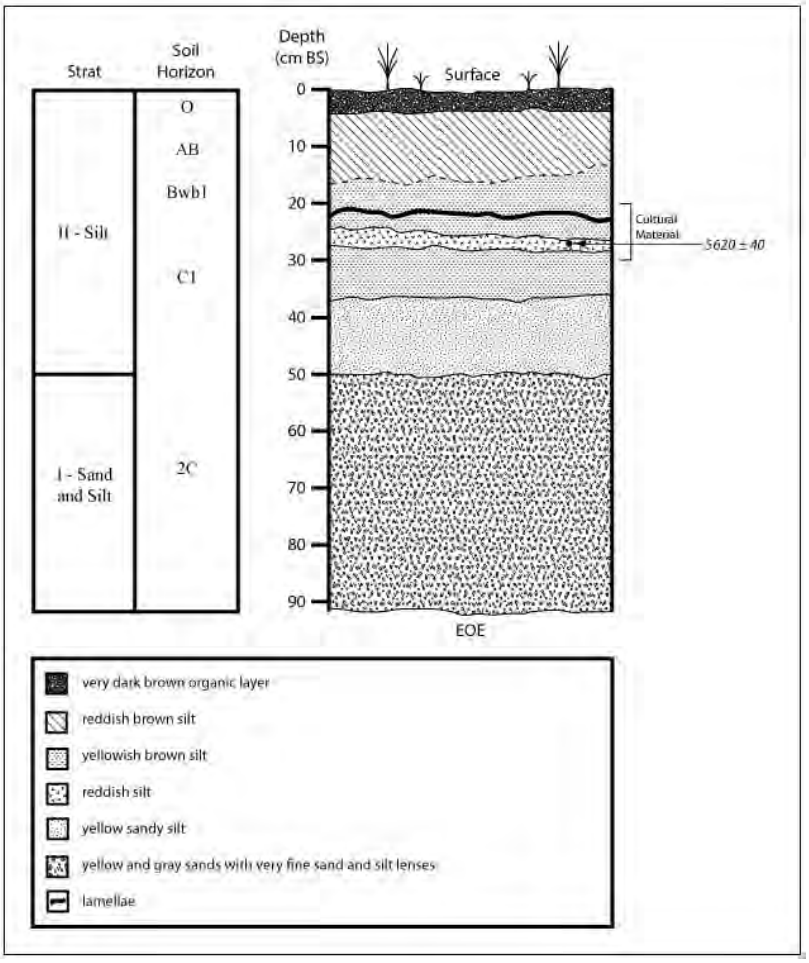


Figure 343. FAI-02094 stratigraphy

FAI-02097
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: not evaluated

Site FAI-02097 is located on a low stabilized dune in the relatively featureless expanse of the Tanana Flats roughly 13 km southeast of the Wood River Buttes, 30 km west of the Blair Lakes, and 150 m east of the Bonnifield Trail. UTM coordinates are [redacted]. Site elevation is 211 masl. The dune is linear in shape, extending more than 250 m north-south, and more than 60 m east-west. It rises roughly 1 m from the surrounding flat landscape. The area was burned in a forest fire during 2009.

Site ecosystem is characterized a lowland disturbed (burnt) needleleaf forest with vegetation consisting of burnt black spruce and scattered shrubs and grasses. The surrounding area is a

muskeg bog. Discontinuous patches of bare sand and silt—the results of devegetation due to fire disturbance—are common, comprising roughly 25% of the overall landform surface. A single flake fragment, 20-30 mm in diameter, made of pale brown (10YR 6/3) rhyolite (UA2010-238), was found on the surface of one of these areas of surface exposure roughly in the middle of the dune. The flake is blackened at one end, oxidized and burnt, likely from the recent wildfire.

The site was discovered in late autumn by an off-duty seasonal archaeological technician. As such, no photos were taken, no test pits were excavated, and no site map was drawn. Site location and provenience, however, are reliable as a Garmin handheld GPS was available at the time of artifact discovery. The data adds to the growing body of evidence of prehistoric land use of stabilized dune features in the Tanana Flats. Unfortunately, these are the limits of our current knowledge about this particular site.

4.3.3 Bedrock Knolls

These efforts resulted in the identification of one new prehistoric archaeological site in 2010 (Figure 345).

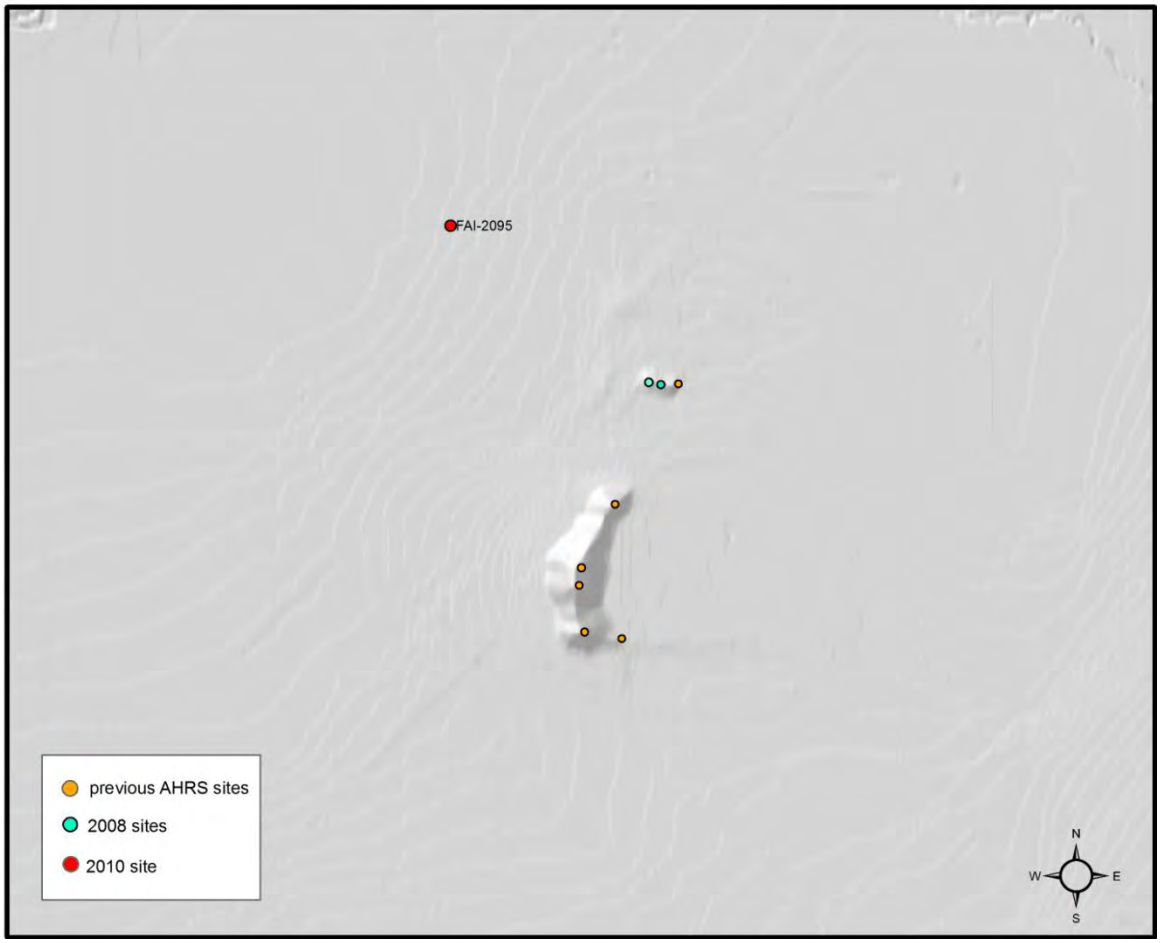


Figure 344. Bedrock knolls and site FAI-02095

FAI-02095
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not evaluated

Site FAI-02095 is located on the crest of a low hill at UTM coordinates [redacted] (Figure 346, Figure 347). The landform is a bedrock knoll that extends roughly 400 m x 110 m at a 300° bearing. The positive test pits leading to site discovery are located on the northeastern edge of the hill in an area with a 0-3° slope. The edge of the landform drops steeply, roughly 20-25 m to the flats below. A modern hunting camp with meat poles and lumber frame for a wall tent sits on the site area, but with the exception of a modern privy, there is minimal ground disturbance or associated surface visibility.

The ecotype is characterized as a dry needleleaf forest (Figure 348). Vegetation primarily consists of large white spruce with some scattered birch and an understory of rosehips and other forbs.

Site FAI-02095 was found through subsurface testing. Cultural material was found in three of three test pits excavated. Sixty lithics artifacts, all of which are characterized as lithic debitage were recovered from depths of 0-35 cm BS. An additional piece of flaked stone debitage was found at a depth range of 45-55 cm BS (Table 62). Four pieces of calcined bone were recovered from depths of 18-25 cm BS. These are very small fragments, between 5-12 mm in diameter, unidentifiable to species or element, although they do resemble fragmented medium to large mammal bones. Their entirely calcined nature and association with flaked stone artifacts supports the idea that they are of cultural origin and possibly suggest the presence of a hearth feature in the vicinity.

Stratigraphy consists of very compacted aeolian silts, more than a meter thick, overlying Birch Creek schist bedrock (Figure 349, Figure 350). Soil development is characterized by typical surface O/AB horizons, with a buried Bwb horizon and associated clay and iron rich lamellae at 15-25 cm BS. The silts from 25-100 cm BS are an unaltered C horizon.

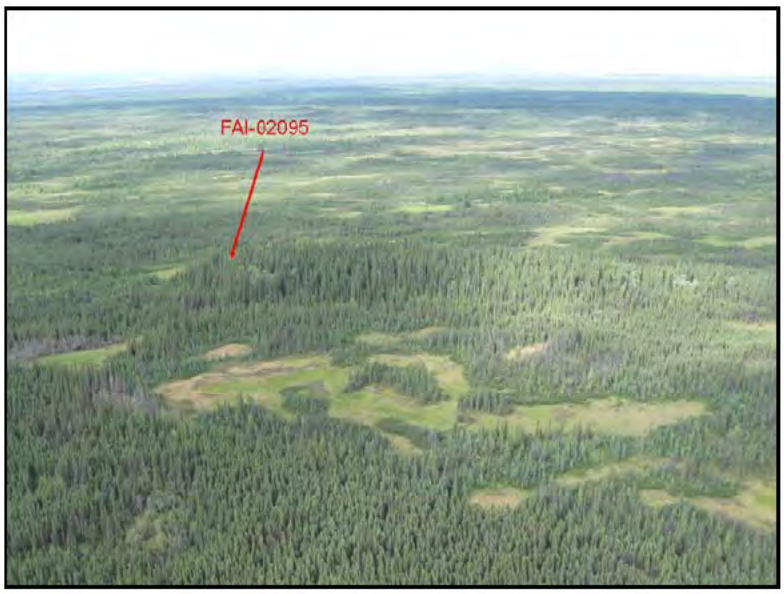


Figure 345. FAI-02095 aerial overview (view to west)

Figure 346. FAI-02095 site overview (view to east)

Figure 347. FAI-02095 site overview (view to south)

Table 62. FAI-02095 accession log

UA Accession #	FS#	Depth (cm BS)	Artifact Type	Material	Color
UA2010-237-0001	1	10-20	flake	chert	olive gray
UA2010-237-0002	2	20-30	flake	chert	dark gray
UA2010-237-0003	3	0-18	flake fragment	rhyolite	very pale brown
UA2010-237-0004	4	0-18	flake fragment	rhyolite	very pale brown
UA2010-237-0005	5	0-18	flake	rhyolite	gray
UA2010-237-0006	6	0-18	flake	chert	very dark gray
UA2010-237-0007	7	0-18	flake fragment	basalt	dark brown
UA2010-237-0008	8	0-18	flake fragment	rhyolite	light brownish gray
UA2010-237-0009	9	0-18	flake	rhyolite	pale brown
UA2010-237-0010	10	0-18	flake fragment	rhyolite	pale brown
UA2010-237-0011	11	0-18	flake fragment	chert	dark gray
UA2010-237-0012	12	0-18	flake fragment	rhyolite	very pale brown
UA2010-237-0013	13	0-18	flake	chert	gray
UA2010-237-0014	14	0-18	flake	rhyolite	very pale brown
UA2010-237-0015	15	0-18	flake fragment	rhyolite	pale brown
UA2010-237-0016	16	0-18	flake fragment	chert	brown
UA2010-237-0017	17	0-18	flake fragment	chert	(transl.) light olive gray
UA2010-237-0018	18	14	flake fragment	chert	gray
UA2010-237-0019	19	14	flake fragment	rhyolite	light brown

UA2010-237-0020	20	16	flake	rhyolite	(transl.) white
UA2010-237-0021	21	18	flake	chert	very dark gray
UA2010-237-0022	22	18	flake	chert	very dark gray
UA2010-237-0023	23	18-25	flake	rhyolite	very pale brown
UA2010-237-0024	24	18-25	flake fragment	rhyolite	light brownish gray
UA2010-237-0025	25	18-25	flake fragment	rhyolite	light brownish gray
UA2010-237-0026	26	18-25	flake fragment	rhyolite	grayish brown
UA2010-237-0027	27	18-25	flake	rhyolite	very pale brown
UA2010-237-0028	28	18-25	flake fragment	basalt	brown
UA2010-237-0029	29	18-25	flake	rhyolite	very pale brown
UA2010-237-0030	30	18-25	flake fragment	rhyolite	very pale brown
UA2010-237-0031	31	18-25	flake fragment	rhyolite	pale brown
UA2010-237-0032	32	18-25	flake fragment	chert	very dark gray
UA2010-237-0033	33	18-25	flake fragment	rhyolite	gray
UA2010-237-0034	34	21	flake fragment	rhyolite	light brownish gray
UA2010-237-0035	35	25	flake fragment	rhyolite	very pale brown
UA2010-237-0036	36	25	flake fragment	rhyolite	light yellowish brown
UA2010-237-0037	37	0-5	flake	chert	gray
UA2010-237-0038	38	0-5	flake	rhyolite	light brown
UA2010-237-0039	39	0-5	flake	rhyolite	light brownish gray
UA2010-237-0040	40	0-5	flake fragment	chert	very pale brown
UA2010-237-0041	41	0-5	flake fragment	chert	black
UA2010-237-0042	42	0-5	flake fragment	chert	black
UA2010-237-0043	43	5-15	flake fragment	chert	black
UA2010-237-0044	44	5-15	flake fragment	chert	black
UA2010-237-0045	45	5-15	flake fragment	chert	black
UA2010-237-0046	46	5-15	flake fragment	chert	black
UA2010-237-0047	47	5-15	flake	chert	very dark gray
UA2010-237-0048	48	5-15	flake	chert	dark gray
UA2010-237-0049	49	5-15	flake fragment	chert	dark greenish gray
UA2010-237-0050	50	5-15	flake fragment	chert	(transl.) very dark gray
UA2010-237-0051	51	5-15	flake	rhyolite	very pale brown
UA2010-237-0052	52	5-15	flake fragment	chert	(transl.) grayish brown
UA2010-237-0053	53	5-15	flake fragment	grano-	yellowish brown
UA2010-237-0054	54	15-20	flake	chert	very dark gray
UA2010-237-0055	55	15-20	flake	rhyolite	light brownish gray
UA2010-237-0056	56	15-20	flake	chert	dark greenish gray
UA2010-237-0057	57	15-20	flake fragment	basalt	very dark gray
UA2010-237-0058	58	16-18	flake fragment	rhyolite	very pale brown
UA2010-237-0059	59	25-35	flake	chert	very dark gray
UA2010-237-0060	60	45-55	flake fragment	chert	very dark gray

Figure 348. FAI-02095 test pit stratigraphy (flake in situ)

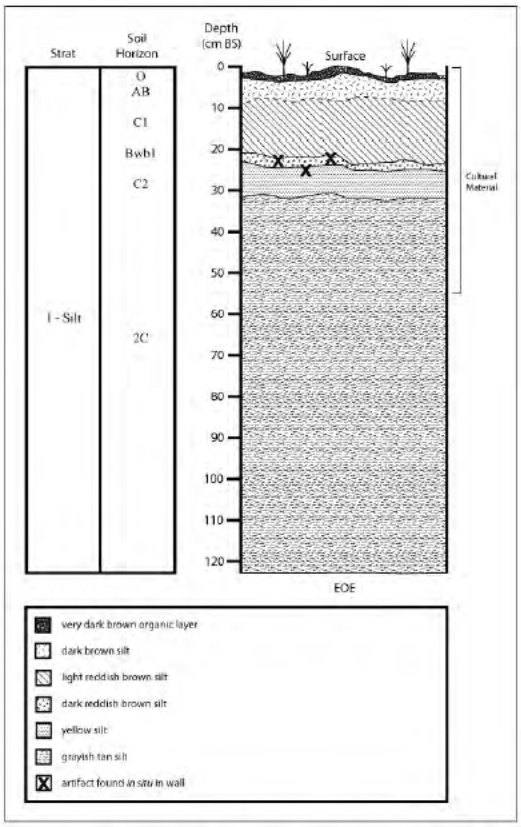


Figure 349. FAI-02095 stratigraphy

5.0 DYKE RANGE

5.1 Introduction

The FWA Dyke Range consists of approximately 3,375 acres of land (Figure 351) located on the northeast side of TFTA, south of the city of North Pole. The majority of the training area lies in the Tanana River floodplain, but a small portion of the range is located on a terrace to the northeast. The area is located in the Tanana-Kuskokwim lowlands (Wahrhaftig 1965) and is mainly composed of recent alluvium. Higher landforms are capped by a thin mantle of aeolian silt (loess).

The area contains three main vegetation types: treeless bogs, open low-growing spruce forests, and closed spruce-hardwood forests. Forests in the Dyke Range include black spruce in low, poorly-drained areas and spruce and mixed hardwood (poplar, birch, and aspen) in upland areas.

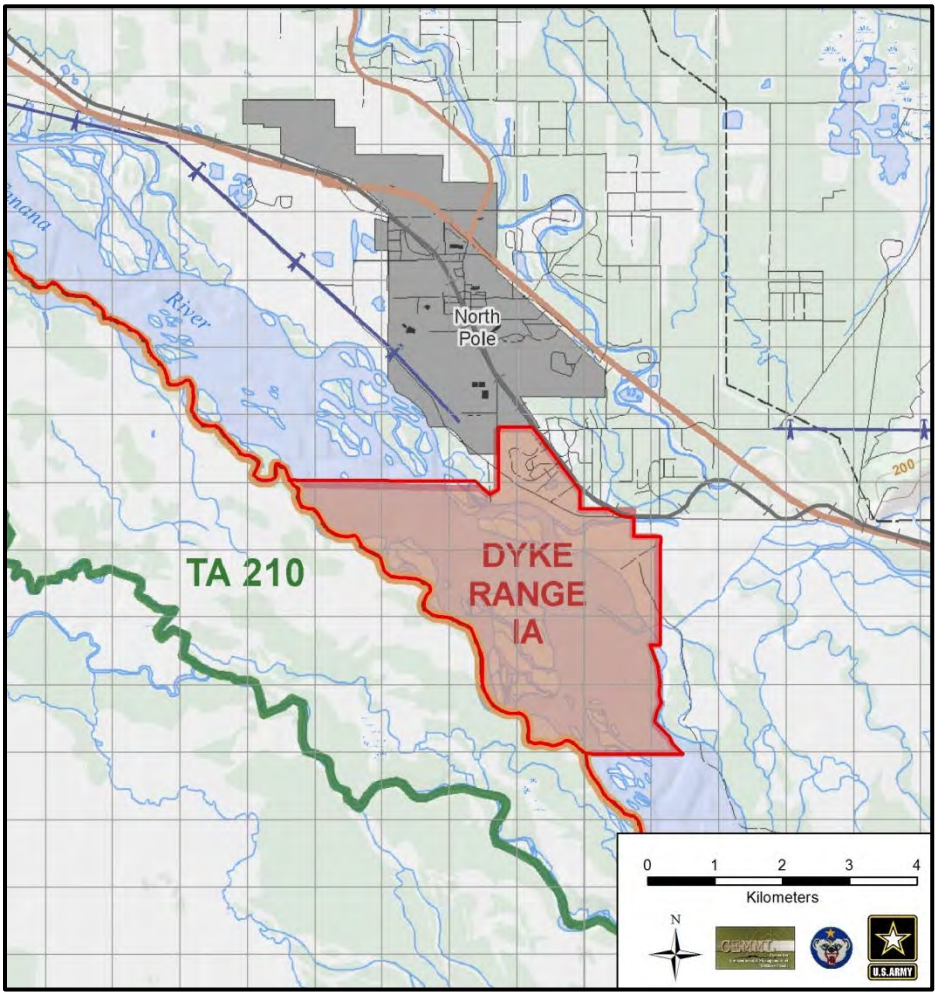


Figure 350. Dyke Range

5.2 Dyke Range Surveys

Twenty acres of land in the Dyke Range were surveyed in 2011 for a Section 106 project (Figure 352). Pedestrian surveys at 20-m intervals covered the entire area intended to be open for a public timber sale. No archaeological sites were discovered during the survey. The Dyke Range has not been surveyed by CEMML in the past, and the area within the active floodplain will not be surveyed for archaeological sites.

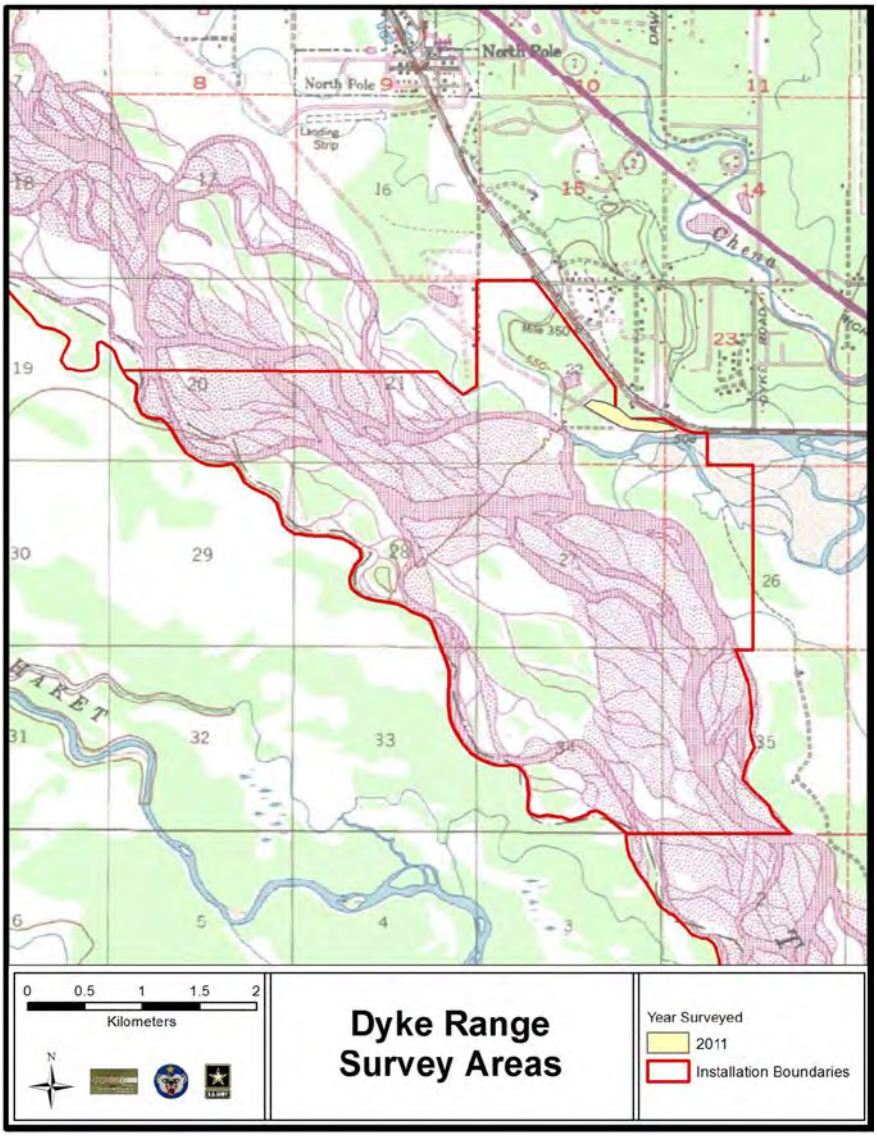


Figure 351. Dyke Range survey areas by year

5.3 Dyke Range Archaeological Sites

No archaeological sites are known from the Dyke Range.

6.0 DONNELLY TRAINING AREA (DTA)

6.1 Introduction

DTA encompasses approximately 634,530 acres of land north of the Alaska Range, in the Tanana River watershed (Figure 353). It is part of the Intermontane Plateaus physiographic region of Alaska. The terrain is characterized by round, even-topped, west to east oriented ridges that rise above adjacent valley floors to an elevation of 600-1500 m above sea level (masl). The surface topography has been carved by multiple glacial events and subdued further by the addition of moraine and outwash (Pink 2005). The southern half of the West Training Area primarily lies within the Northern Foothills of the Alaska Range. The foothills are largely unglaciated, but past glaciations widened valleys, and valley glaciers extend onto the installation in the southwestern portion of the training area.

Bedrock is primarily composed of Precambrian schist overlain by Cretaceous granites and Tertiary volcanic rocks. The volcanic rocks were an important raw material source for prehistoric peoples living in this area. Glacial moraine and alluvial outwash fans are among the most common surface sediments (Holmes 1965). The parent materials for soils in DTA are glacial in origin, so profiles typically contain an organic layer above loess above till (Natural Resource Conservation Service 2010).

DTA lies within the Tanana River drainage basin. Surface waters from DTA East drain into the Delta River and Jarvis, Granite, and Ober creeks. DTA West drains into the Delta River, Little Delta River, and Buchanan Creek, which all drain into the Tanana River. Streams are fed by glacial meltwater from the Alaska Range. Water flow is greatest during June and July when snow and glacial melt has passed its peak. The numerous rivers, streams, ponds, and lakes in DTA attract animals today and attracted people in the past. Archaeological sites are numerous around ponds and on river bluffs.

Five vegetation types are found in DTA: moist tundra; treeless bogs and fens; open, low growing spruce forests; closed hardwood spruce forests; and the white spruce-paper birch forest of Interior Alaska, called the boreal forest or taiga. Vegetation types of Interior Alaska form a mosaic and reflect fire history, slope, aspect, and presence or absence of permafrost (Viereck and Little 1972). A floristic study of Donnelly Training Area conducted in 1997 identified 497 plant species, 17 of which were considered rare (Racine et al. 1997). Almost 21,000 acres of spruce-poplar forest exist in DTA (Tanana Chiefs Conference 1993). Local floral species traditionally used by Athabascan people for food include bog blueberry and cranberry, currant, birch mushroom, Hudson Bay tea, lambsquarter, pea-vine root, raspberry, rosehips, salmonberry and wild rhubarb (Haynes and Simone 2007).

Wildlife in the area is significant for both modern and prehistoric hunters. The large game species found in DTA include moose, caribou (in DTA West), bison, and Dall sheep (Molybdenum Ridge area of DTA West). Caribou calving grounds are located in DTA West, and bison were introduced to the region in 1928 after being eradicated from the area approximately 450-500 years ago. Small game species in the area that would have attracted people include ptarmigan, grouse, swans, ducks, geese, cranes, coyote, wolf, lynx, red squirrel, snowshoe hare, marten, beaver, otter, wolverine, red fox, porcupine and mink (INRMP 2007).

The Delta River is an important fall chum salmon and Coho spawning habitat, and all major streams support Arctic grayling (Bureau of Land Management and U.S. Army 1994). Ethnographic data from Athabascan subsistence patterns suggests that many key seasonal resources were utilized in the Upper Tanana Basin, and many are currently available in DTA. The Athabascan settlement system included spring and early summer fishing (e.g., grayling, Burbot, Chinook, Coho, lake trout, Sockeye salmon), summer caribou and moose hunting, autumn caribou hunting, and winter trapping (beaver, ermine, lynx, marten, mink, muskrat, porcupine, and hare) (Haynes and Simeone 2007).

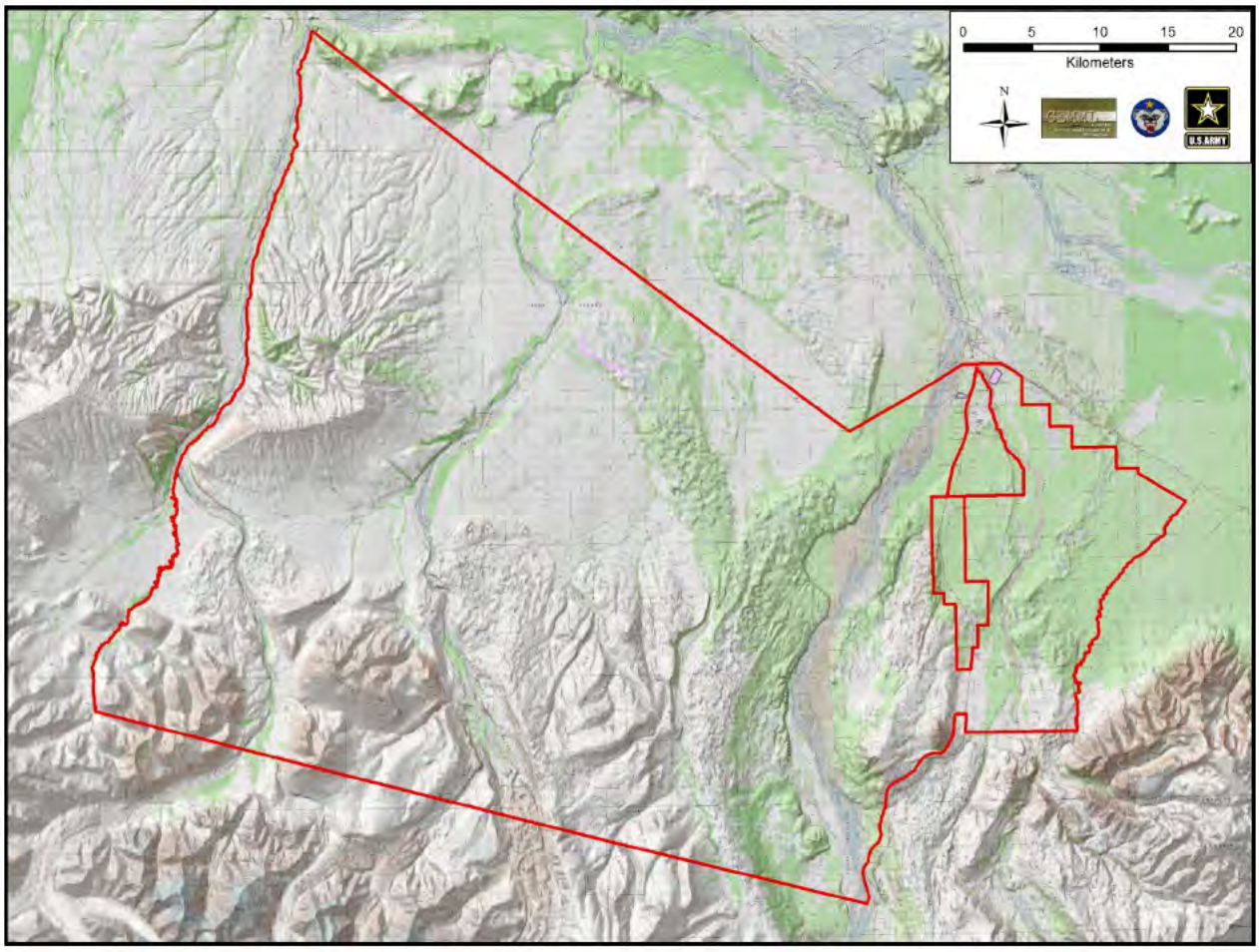


Figure 352. DTA

6.2 DTA Surveys

Archaeological surveys in DTA have generally been guided by Section 106 undertaking (Figure 354, Figure 355). Road and trail maintenance and expansion and the development of timber sales areas were the most common projects in 2011. Large areas of the eastern area of DTA were also surveyed for the Cold Regions Test Center (CRTC), a tenant of FWA (Esdale et al. 2012). Section 110 survey of portions of the Molybdenum Ridge area of DTA West also took place in 2011.

Survey areas for Section 106 undertakings in 2011 included: Buffalo Drop Zone expansion and timber sales, Lampkin Range expansion, and 33-Mile Loop connector trail development (also called Granite Creek Trail) (all SHPO letter 8/30/11); 33-Mile Loop trail maintenance and FGA Airport Approach timber sales areas (SHPO letter 11/22/11); and Washington Range, OP Road from 4-6a, the Direct Fire Line, and the OP 12 Access Road for CRTC (Esdale et al. 2012).

Survey areas for Section 110 inventory in 2010 were restricted to Hillbilly Hill in DTA West and the Excalibur target location on a hill top west of the Delta River (Espenshade 2010). In 2011, CEMML crews, under the direction of Julie Esdale, investigated over 2,000 acres in upland areas in the Molybdenum Ridge area of DTA West, 120 acres along OPs 1-12 in DTA East, and 303 acres along portions of the trail leading from the OP Road in DTA East to OP 26 in DTA West (see Figure 354).

Future research in DTA will be concentrated on filling in areas of DTA East that have not yet been surveyed and on a road corridor in DTA West leading from OP 26 to Molybdenum Ridge.

6.3 DTA Sites

At present, 455 archaeological sites are known from DTA (Table 63, Table 64, Figure 356, Figure 357). Six of these sites are historic and 449 are prehistoric. Forty-nine sites are eligible for the NRHP. Fifty sites have been determined not eligible, and 356 sites have yet to be evaluated. Twenty-seven sites were discovered during 2011 surveys in the training area. Six sites were found during the CRTC surveys of DTA East and 21 new sites were located during the Molybdenum Ridge survey. All of these sites are described in this document, although the sites found during the CRTC survey are also described in the 2012 report titled “2011 Archaeological Survey and Report of CRTC Project Areas in Donnelly Training Area for the Cold Regions Test Center” by Julie Esdale, James Quinn, Kate Yeske, and Whitney McLaren.

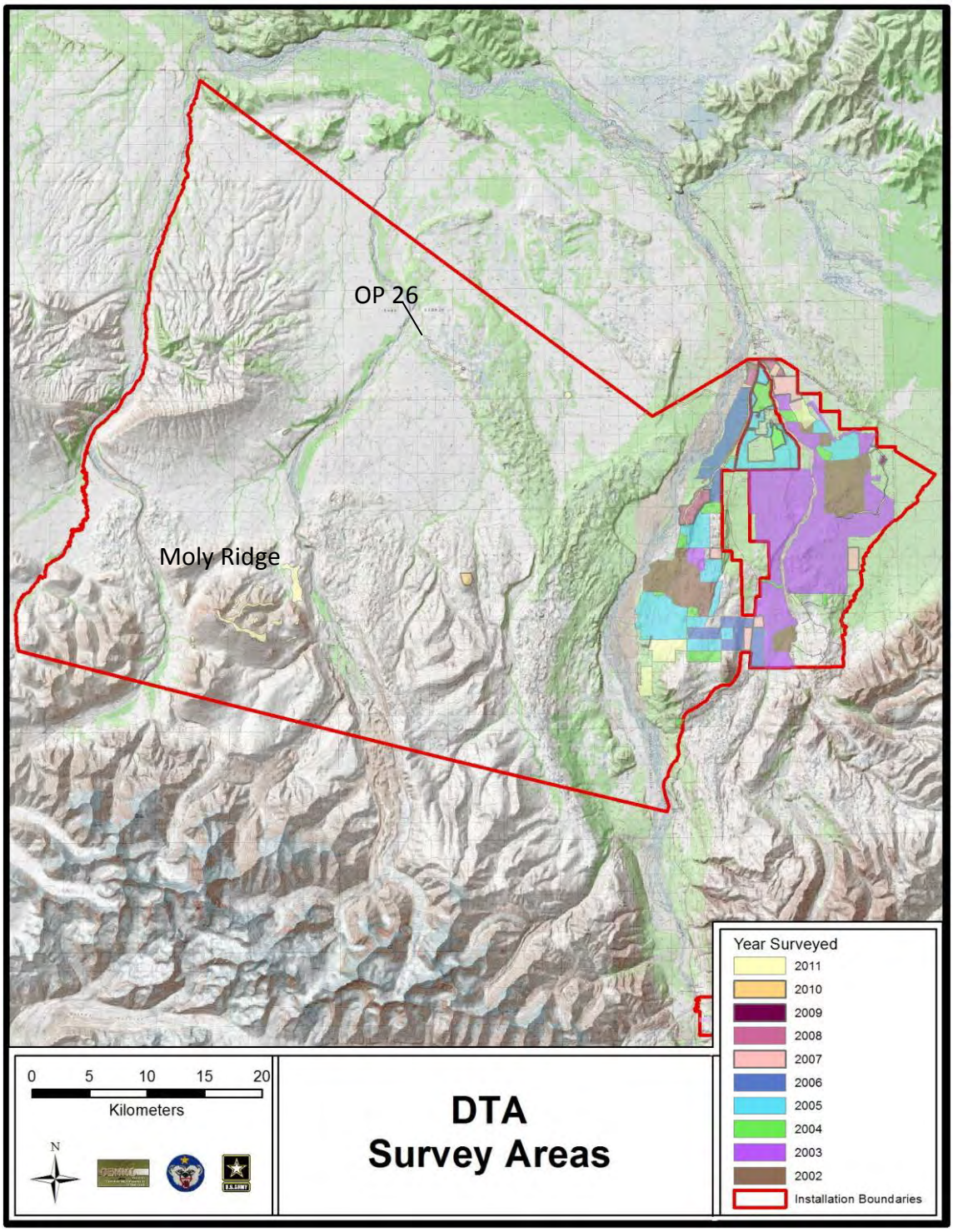


Figure 353. DTA surveys by year

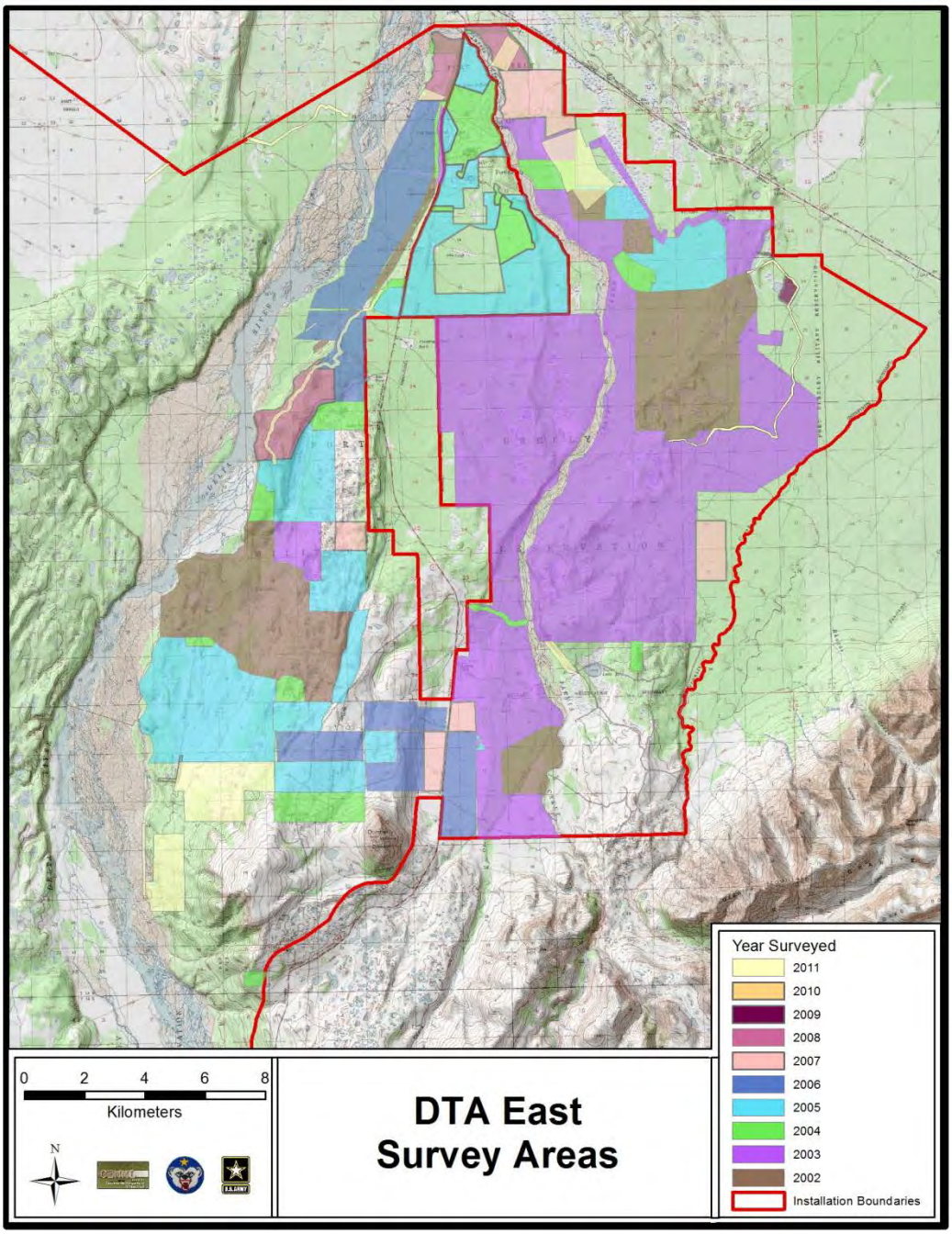


Figure 354. Close-up of DTA East surveys by year

Table 63. Archaeological sites in DTA West

#	AHRS #	Period	DOE Status	#	AHRS #	Period	DOE Status
1	XBD-0033	Prehistoric	not evaluated	**39**	XMH-0314	Prehistoric	not evaluated
2	XBD-0061	Historic	not evaluated	**40**	XMH-0365	Prehistoric	not evaluated
3	XBD-0106	Prehistoric	eligible	**41**	XMH-0575	Historic	ineligible
4	XBD-0107	Prehistoric	ineligible	**42**	XMH-0829	Prehistoric	not evaluated
5	XBD-0108	Prehistoric	not evaluated	**43**	XMH-0830	Prehistoric	not evaluated
6	XBD-0109	Prehistoric	not evaluated	**44**	XMH-0831	Prehistoric	not evaluated
7	XBD-0110	Prehistoric	eligible	**45**	XMH-0832	Prehistoric	not evaluated
8	XBD-0165	Prehistoric	not evaluated	**46**	XMH-0833	Prehistoric	not evaluated
9	XBD-0166	Prehistoric	not evaluated	**47**	XMH-0834	Prehistoric	not evaluated
10	XBD-0167	Prehistoric	not evaluated	**48**	XMH-0835	Prehistoric	not evaluated
11	XBD-0187	Prehistoric	not evaluated	**49**	XMH-0836	Prehistoric	not evaluated
12	XBD-0188	Prehistoric	not evaluated	**50**	XMH-0837	Prehistoric	not evaluated
13	XBD-0189	Prehistoric	not evaluated	**51**	XMH-0839	Prehistoric	not evaluated
14	XBD-0311	Prehistoric	not evaluated	**52**	XMH-0840	Prehistoric	not evaluated
15	XBD-0330	Historic	not evaluated	**53**	XMH-0841	Prehistoric	not evaluated
16	XBD-0335	Prehistoric	eligible	**54**	XMH-1414	Prehistoric	not evaluated
17	XMH-0226	Historic	not evaluated	**55**	XMH-1415	Prehistoric	not evaluated
18	XMH-0232	Prehistoric	not evaluated	**56**	XMH-1434	Prehistoric	not evaluated
19	XMH-0233	Prehistoric	not evaluated	**57**	XMH-1435	Prehistoric	not evaluated
20	XMH-0234	Prehistoric	not evaluated	**58**	XMH-1436	Prehistoric	not evaluated
21	XMH-0235	Prehistoric	not evaluated	**59**	XMH-1437	Prehistoric	not evaluated
22	XMH-0236	Prehistoric	not evaluated	**60**	XMH-1438	Prehistoric	not evaluated
23	XMH-0237	Prehistoric	not evaluated	**61**	XMH-1439	Prehistoric	not evaluated
24	XMH-0238	Prehistoric	not evaluated	**62**	XMH-1440	Prehistoric	not evaluated
25	XMH-0298	Prehistoric	not evaluated	**63**	XMH-1441	Prehistoric	not evaluated
26	XMH-0299	Prehistoric	not evaluated	**64**	XMH-1442	Prehistoric	not evaluated
27	XMH-0300	Prehistoric	not evaluated	**65**	XMH-1443	Prehistoric	not evaluated
28	XMH-0301	Prehistoric	not evaluated	**66**	XMH-1444	Prehistoric	not evaluated
29	XMH-0302	Prehistoric	not evaluated	**67**	XMH-1445	Prehistoric	not evaluated
30	XMH-0303	Prehistoric	not evaluated	**68**	XMH-1446	Prehistoric	not evaluated
31	XMH-0304	Prehistoric	not evaluated	**69**	XMH-1447	Prehistoric	not evaluated
32	XMH-0305	Prehistoric	not evaluated	**70**	XMH-1448	Prehistoric	not evaluated
33	XMH-0306	Prehistoric	not evaluated	**71**	XMH-1449	Prehistoric	not evaluated
34	XMH-0307	Prehistoric	not evaluated	**72**	XMH-1450	Prehistoric	not evaluated
35	XMH-0309	Prehistoric	not evaluated	**73**	XMH-1451	Prehistoric	not evaluated
36	XMH-0310	Prehistoric	not evaluated	**74**	XMH-1452	Prehistoric	not evaluated
37	XMH-0311	Prehistoric	not evaluated	**75**	XMH-1453	Prehistoric	not evaluated
38	XMH-0313	Prehistoric	not evaluated	**76**	XMH-1454	Prehistoric	not evaluated

Table 64. Archaeological sites in DTA East

#	AHRS #	Period	DOE Status	#	AHRS #	Period	DOE Status
1	XBD-0091	Prehistoric	not evaluated	**191**	XMH-1074	Prehistoric	not evaluated
2	XBD-0271	Prehistoric	not evaluated	**192**	XMH-1075	Prehistoric	not evaluated
3	XBD-0272	Prehistoric	not evaluated	**193**	XMH-1076	Prehistoric	not evaluated
4	XBD-0273	Prehistoric	not evaluated	**194**	XMH-1077	Prehistoric	not evaluated
5	XBD-0333	Prehistoric	not evaluated	**195**	XMH-1078	Prehistoric	not evaluated
6	XMH-0001	Prehistoric	not evaluated	**196**	XMH-1084	Prehistoric	not evaluated
7	XMH-0004	Prehistoric	eligible	**197**	XMH-1085	Prehistoric	not evaluated
8	XMH-0005	Prehistoric	eligible	**198**	XMH-1086	Prehistoric	not evaluated
9	XMH-0006	Prehistoric	eligible	**199**	XMH-1087	Prehistoric	not evaluated
10	XMH-0007	Prehistoric	eligible	**200**	XMH-1088	Prehistoric	not evaluated
11	XMH-0008	Prehistoric	eligible	**201**	XMH-1089	Prehistoric	not evaluated
12	XMH-0009	Prehistoric	eligible	**202**	XMH-1090	Prehistoric	not evaluated
13	XMH-0010	Prehistoric	eligible	**203**	XMH-1091	Prehistoric	not evaluated
14	XMH-0011	Prehistoric	eligible	**204**	XMH-1092	Prehistoric	eligible
15	XMH-0012	Prehistoric	not evaluated	**205**	XMH-1093	Prehistoric	eligible
16	XMH-0016	Prehistoric	not evaluated	**206**	XMH-1094	Prehistoric	ineligible
17	XMH-0019	Prehistoric	eligible	**207**	XMH-1095	Prehistoric	not evaluated
18	XMH-0020	Prehistoric	eligible	**208**	XMH-1096	Prehistoric	not evaluated
19	XMH-0021	Prehistoric	not evaluated	**209**	XMH-1097	Prehistoric	not evaluated
20	XMH-0022	Prehistoric	not evaluated	**210**	XMH-1098	Prehistoric	not evaluated
21	XMH-0023	Prehistoric	not evaluated	**211**	XMH-1099	Prehistoric	not evaluated
22	XMH-0253	Prehistoric	not evaluated	**212**	XMH-1100	Prehistoric	not evaluated
23	XMH-0265	Prehistoric	eligible	**213**	XMH-1101	Prehistoric	ineligible
24	XMH-0266	Prehistoric	eligible	**214**	XMH-1102	Prehistoric	ineligible
25	XMH-0267	Prehistoric	not evaluated	**215**	XMH-1103	Prehistoric	ineligible
26	XMH-0268	Prehistoric	not evaluated	**216**	XMH-1104	Prehistoric	not evaluated
27	XMH-0269	Prehistoric	not evaluated	**217**	XMH-1105	Prehistoric	not evaluated
28	XMH-0270	Prehistoric	not evaluated	**218**	XMH-1106	Prehistoric	not evaluated
29	XMH-0271	Prehistoric	not evaluated	**219**	XMH-1107	Prehistoric	eligible
30	XMH-0272	Prehistoric	not evaluated	**220**	XMH-1108	Prehistoric	not evaluated
31	XMH-0273	Prehistoric	ineligible	**221**	XMH-1109	Prehistoric	eligible
32	XMH-0274	Prehistoric	not evaluated	**222**	XMH-1110	Prehistoric	eligible
33	XMH-277	Prehistoric	eligible	**223**	XMH-1111	Prehistoric	not evaluated
34	XMH-0278	Prehistoric	not evaluated	**224**	XMH-1112	Prehistoric	ineligible
35	XMH-0279	Prehistoric	eligible	**225**	XMH-1113	Prehistoric	ineligible
36	XMH-0281	Prehistoric	not evaluated	**226**	XMH-1114	Prehistoric	not evaluated
37	XMH-0282	Prehistoric	not evaluated	**227**	XMH-1115	Prehistoric	eligible
38	XMH-0283	Prehistoric	not evaluated	**228**	XMH-1116	Prehistoric	eligible
39	XMH-0284	Prehistoric	eligible	**229**	XMH-1118	Prehistoric	not evaluated
40	XMH-0285	Prehistoric	not evaluated	**230**	XMH-1119	Prehistoric	not evaluated
41	XMH-0286	Prehistoric	not evaluated	**231**	XMH-1120	Prehistoric	not evaluated

42	XMH-0287	Prehistoric	ineligible	**232**	XMH-1121	Prehistoric	not evaluated
43	XMH-0288	Prehistoric	not evaluated	**233**	XMH-1122	Prehistoric	not evaluated
44	XMH-0290	Prehistoric	ineligible	**234**	XMH-1123	Prehistoric	not evaluated
45	XMH-0291	Prehistoric	not evaluated	**235**	XMH-1124	Prehistoric	not evaluated
46	XMH-0291	Prehistoric	eligible	**236**	XMH-1125	Prehistoric	not evaluated
47	XMH-0293	Prehistoric	not evaluated	**237**	XMH-1126	Prehistoric	not evaluated
48	XMH-0294	Prehistoric	eligible	**238**	XMH-1127	Prehistoric	ineligible
49	XMH-0295	Prehistoric	eligible	**239**	XMH-1128	Prehistoric	not evaluated
50	XMH-0296	Prehistoric	not evaluated	**240**	XMH-1129	Prehistoric	not evaluated
51	XMH-0297	Prehistoric	eligible	**241**	XMH-1130	Prehistoric	not evaluated
52	XMH-0308	Prehistoric	not evaluated	**242**	XMH-1131	Prehistoric	not evaluated
53	XMH-0322	Prehistoric	not evaluated	**243**	XMH-1132	Prehistoric	not evaluated
54	XMH-0323	Prehistoric	not evaluated	**244**	XMH-1133	Prehistoric	not evaluated
55	XMH-0325	Prehistoric	ineligible	**245**	XMH-1134	Prehistoric	not evaluated
56	XMH-0388	Prehistoric	eligible	**246**	XMH-1135	Prehistoric	not evaluated
57	XMH-0391	Historic	eligible	**247**	XMH-1136	Prehistoric	not evaluated
58	XMH-0838	Prehistoric	not evaluated	**248**	XMH-1137	Prehistoric	not evaluated
59	XMH-0842	Prehistoric	ineligible	**249**	XMH-1138	Prehistoric	not evaluated
60	XMH-0843	Prehistoric	not evaluated	**250**	XMH-1139	Prehistoric	not evaluated
61	XMH-0873	Prehistoric	ineligible	**251**	XMH-1140	Prehistoric	not evaluated
62	XMH-0874	Prehistoric	eligible	**252**	XMH-1141	Prehistoric	not evaluated
63	XMH-0875	Prehistoric	ineligible	**253**	XMH-1143	Prehistoric	not evaluated
64	XMH-0876	Prehistoric	ineligible	**254**	XMH-1144	Prehistoric	not evaluated
65	XMH-0877	Prehistoric	ineligible	**255**	XMH-1145	Prehistoric	eligible
66	XMH-0878	Prehistoric	eligible	**256**	XMH-1146	Prehistoric	eligible
67	XMH-0880	Prehistoric	ineligible	**257**	XMH-1147	Prehistoric	not evaluated
68	XMH-0881	Prehistoric	eligible	**258**	XMH-1148	Prehistoric	not evaluated
69	XMH-0883	Prehistoric	ineligible	**259**	XMH-1149	Prehistoric	not evaluated
70	XMH-0884	Prehistoric	ineligible	**260**	XMH-1150	Prehistoric	not evaluated
71	XMH-0886	Prehistoric	not evaluated	**261**	XMH-1151	Prehistoric	not evaluated
72	XMH-0887	Prehistoric	eligible	**262**	XMH-1152	Prehistoric	not evaluated
73	XMH-0888	Prehistoric	ineligible	**263**	XMH-1153	Prehistoric	not evaluated
74	XMH-0889	Prehistoric	ineligible	**264**	XMH-1154	Prehistoric	not evaluated
75	XMH-0890	Prehistoric	eligible	**265**	XMH-1155	Prehistoric	not evaluated
76	XMH-0891	Prehistoric	eligible	**266**	XMH-1156	Prehistoric	not evaluated
77	XMH-0892	Prehistoric	ineligible	**267**	XMH-1157	Prehistoric	not evaluated
78	XMH-0894	Prehistoric	not evaluated	**268**	XMH-1158	Prehistoric	not evaluated
79	XMH-0895	Prehistoric	eligible	**269**	XMH-1159	Prehistoric	not evaluated
80	XMH-0896	Prehistoric	not evaluated	**270**	XMH-1160	Prehistoric	ineligible
81	XMH-0897	Prehistoric	not evaluated	**271**	XMH-1161	Prehistoric	not evaluated
82	XMH-0898	Prehistoric	not evaluated	**272**	XMH-1162	Prehistoric	not evaluated
83	XMH-0899	Prehistoric	not evaluated	**273**	XMH-1163	Prehistoric	not evaluated
84	XMH-0900	Prehistoric	not evaluated	**274**	XMH-1169	Prehistoric	not evaluated
85	XMH-0901	Prehistoric	not evaluated	**275**	XMH-1170	Prehistoric	not evaluated

86	XMH-0902	Prehistoric	not evaluated	**276**	XMH-1171	Prehistoric	eligible
87	XMH-0903	Prehistoric	not evaluated	**277**	XMH-1172	Prehistoric	ineligible
88	XMH-0904	Prehistoric	eligible	**278**	XMH-1173	Prehistoric	ineligible
89	XMH-0905	Prehistoric	not evaluated	**279**	XMH-1174	Prehistoric	ineligible
90	XMH-0906	Prehistoric	not evaluated	**280**	XMH-1175	Prehistoric	not evaluated
91	XMH-0907	Prehistoric	not evaluated	**281**	XMH-1176	Prehistoric	not evaluated
92	XMH-0909	Prehistoric	not evaluated	**282**	XMH-1177	Historic	not evaluated
93	XMH-0910	Prehistoric	not evaluated	**283**	XMH-1193	Prehistoric	ineligible
94	XMH-0912	Prehistoric	ineligible	**284**	XMH-1194	Prehistoric	not evaluated
95	XMH-0913	Prehistoric	not evaluated	**285**	XMH-1195	Prehistoric	not evaluated
96	XMH-0914	Prehistoric	not evaluated	**286**	XMH-1196	Prehistoric	not evaluated
97	XMH-0915	Prehistoric	not evaluated	**287**	XMH-1197	Prehistoric	not evaluated
98	XMH-0916	Prehistoric	ineligible	**288**	XMH-1198	Prehistoric	not evaluated
99	XMH-0917	Prehistoric	not evaluated	**289**	XMH-1199	Prehistoric	not evaluated
100	XMH-0919	Prehistoric	not evaluated	**290**	XMH-1200	Prehistoric	not evaluated
101	XMH-0920	Prehistoric	eligible	**291**	XMH-1201	Prehistoric	not evaluated
102	XMH-0921	Prehistoric	not evaluated	**292**	XMH-1202	Prehistoric	not evaluated
103	XMH-0923	Prehistoric	not evaluated	**293**	XMH-1203	Prehistoric	not evaluated
104	XMH-0924	Prehistoric	not evaluated	**294**	XMH-1204	Prehistoric	not evaluated
105	XMH-0925	Prehistoric	not evaluated	**295**	XMH-1205	Prehistoric	not evaluated
106	XMH-0926	Prehistoric	not evaluated	**296**	XMH-1206	Prehistoric	not evaluated
107	XMH-0927	Prehistoric	not evaluated	**297**	XMH-1207	Prehistoric	not evaluated
108	XMH-0928	Prehistoric	not evaluated	**298**	XMH-1208	Prehistoric	not evaluated
109	XMH-0929	Prehistoric	not evaluated	**299**	XMH-1209	Prehistoric	not evaluated
110	XMH-0930	Prehistoric	eligible	**300**	XMH-1210	Prehistoric	not evaluated
111	XMH-0931	Prehistoric	eligible	**301**	XMH-1211	Prehistoric	not evaluated
112	XMH-0932	Prehistoric	not evaluated	**302**	XMH-1213	Prehistoric	not evaluated
113	XMH-0933	Prehistoric	eligible	**303**	XMH-1214	Prehistoric	not evaluated
114	XMH-0934	Prehistoric	not evaluated	**304**	XMH-1215	Prehistoric	not evaluated
115	XMH-0935	Prehistoric	ineligible	**305**	XMH-1216	Prehistoric	not evaluated
116	XMH-0936	Prehistoric	ineligible	**306**	XMH-1217	Prehistoric	not evaluated
117	XMH-0937	Prehistoric	ineligible	**307**	XMH-1218	Prehistoric	not evaluated
118	XMH-0938	Prehistoric	ineligible	**308**	XMH-1219	Prehistoric	not evaluated
119	XMH-0939	Prehistoric	not evaluated	**309**	XMH-1220	Prehistoric	not evaluated
123	XMH-0940	Prehistoric	not evaluated	**310**	XMH-1221	Prehistoric	not evaluated
121	XMH-0941	Prehistoric	not evaluated	**311**	XMH-1222	Prehistoric	not evaluated
122	XMH-0942	Prehistoric	not evaluated	**312**	XMH-1270	Prehistoric	ineligible
123	XMH-0943	Prehistoric	ineligible	**313**	XMH-1271	Prehistoric	ineligible
124	XMH-0944	Prehistoric	not evaluated	**314**	XMH-1278	Prehistoric	not evaluated
125	XMH-0945	Prehistoric	eligible	**315**	XMH-1279	Prehistoric	not evaluated
126	XMH-0946	Prehistoric	not evaluated	**316**	XMH-1280	Prehistoric	not evaluated
127	XMH-0947	Prehistoric	not evaluated	**317**	XMH-1281	Prehistoric	not evaluated
128	XMH-0948	Prehistoric	not evaluated	**318**	XMH-1282	Prehistoric	not evaluated
129	XMH-0949	Prehistoric	not evaluated	**319**	XMH-1283	Prehistoric	not evaluated

130	XMH-0950	Prehistoric	not evaluated	**320**	XMH-1285	Prehistoric	not evaluated
131	XMH-0951	Prehistoric	not evaluated	**321**	XMH-1286	Prehistoric	not evaluated
132	XMH-0952	Prehistoric	ineligible	**322**	XMH-1287	Prehistoric	not evaluated
133	XMH-0953	Prehistoric	eligible	**323**	XMH-1288	Prehistoric	not evaluated
134	XMH-0954	Prehistoric	ineligible	**324**	XMH-1289	Prehistoric	not evaluated
135	XMH-0955	Prehistoric	not evaluated	**325**	XMH-1290	Prehistoric	not evaluated
136	XMH-0956	Prehistoric	not evaluated	**326**	XMH-1291	Prehistoric	not evaluated
137	XMH-0957	Prehistoric	not evaluated	**327**	XMH-1292	Prehistoric	not evaluated
138	XMH-0958	Prehistoric	not evaluated	**328**	XMH-1293	Prehistoric	not evaluated
139	XMH-0959	Prehistoric	not evaluated	**329**	XMH-1294	Prehistoric	not evaluated
140	XMH-0960	Prehistoric	not evaluated	**330**	XMH-1295	Prehistoric	not evaluated
141	XMH-0961	Prehistoric	not evaluated	**331**	XMH-1296	Prehistoric	not evaluated
142	XMH-0962	Prehistoric	not evaluated	**332**	XMH-1297	Prehistoric	not evaluated
143	XMH-0963	Prehistoric	not evaluated	**333**	XMH-1298	Prehistoric	not evaluated
144	XMH-0964	Prehistoric	not evaluated	**334**	XMH-1299	Prehistoric	not evaluated
145	XMH-0965	Prehistoric	ineligible	**335**	XMH-1300	Prehistoric	not evaluated
146	XMH-0966	Prehistoric	not evaluated	**336**	XMH-1301	Prehistoric	not evaluated
147	XMH-0967	Prehistoric	not evaluated	**337**	XMH-1302	Prehistoric	not evaluated
148	XMH-0968	Prehistoric	not evaluated	**338**	XMH-1303	Prehistoric	eligible
149	XMH-0969	Prehistoric	not evaluated	**339**	XMH-1332	Prehistoric	not evaluated
150	XMH-0971	Prehistoric	not evaluated	**340**	XMH-1333	Prehistoric	not evaluated
151	XMH-0973	Prehistoric	not evaluated	**341**	XMH-1334	Prehistoric	not evaluated
152	XMH-0974	Prehistoric	ineligible	**342**	XMH-1335	Prehistoric	not evaluated
153	XMH-0975	Prehistoric	not evaluated	**343**	XMH-1336	Prehistoric	not evaluated
154	XMH-0976	Prehistoric	not evaluated	**344**	XMH-1355	Prehistoric	not evaluated
155	XMH-0977	Prehistoric	not evaluated	**345**	XMH-1356	Prehistoric	not evaluated
156	XMH-0978	Prehistoric	not evaluated	**346**	XMH-1357	Prehistoric	not evaluated
157	XMH-0979	Prehistoric	not evaluated	**347**	XMH-1358	Prehistoric	not evaluated
158	XMH-0980	Prehistoric	not evaluated	**348**	XMH-1360	Prehistoric	not evaluated
159	XMH-0982	Prehistoric	ineligible	**349**	XMH-1361	Prehistoric	not evaluated
160	XMH-0983	Prehistoric	not evaluated	**350**	XMH-1362	Prehistoric	not evaluated
161	XMH-0992	Prehistoric	not evaluated	**351**	XMH-1363	Prehistoric	not evaluated
162	XMH-0993	Prehistoric	not evaluated	**352**	XMH-1364	Prehistoric	not evaluated
163	XMH-0994	Prehistoric	not evaluated	**353**	XMH-1365	Prehistoric	not evaluated
164	XMH-0995	Prehistoric	not evaluated	**354**	XMH-1366	Prehistoric	not evaluated
165	XMH-0996	Prehistoric	not evaluated	**355**	XMH-1367	Prehistoric	not evaluated
166	XMH-0997	Prehistoric	not evaluated	**356**	XMH-1368	Prehistoric	not evaluated
167	XMH-0998	Prehistoric	not evaluated	**357**	XMH-1369	Prehistoric	not evaluated
168	XMH-0999	Prehistoric	not evaluated	**358**	XMH-1370	Prehistoric	not evaluated
169	XMH-1051	Prehistoric	not evaluated	**359**	XMH-1371	Prehistoric	not evaluated
170	XMH-1052	Prehistoric	not evaluated	**360**	XMH-1372	Prehistoric	not evaluated
171	XMH-1053	Prehistoric	not evaluated	**361**	XMH-1373	Prehistoric	not evaluated
172	XMH-1054	Prehistoric	not evaluated	**362**	XMH-1374	Prehistoric	not evaluated
173	XMH-1055	Prehistoric	not evaluated	**363**	XMH-1375	Prehistoric	not evaluated

174	XMH-1056	Prehistoric	not evaluated	**364**	XMH-1376	Prehistoric	not evaluated
175	XMH-1057	Prehistoric	not evaluated	**365**	XMH-1377	Prehistoric	not evaluated
176	XMH-1058	Prehistoric	not evaluated	**366**	XMH-1378	Prehistoric	not evaluated
177	XMH-1059	Prehistoric	ineligible	**367**	XMH-1379	Prehistoric	not evaluated
178	XMH-1060	Prehistoric	ineligible	**368**	XMH-1380	Prehistoric	not evaluated
179	XMH-1061	Prehistoric	eligible	**369**	XMH-1381	Prehistoric	not evaluated
180	XMH-1062	Prehistoric	not evaluated	**370**	XMH-1382	Prehistoric	not evaluated
181	XMH-1064	Prehistoric	ineligible	**371**	XMH-1383	Prehistoric	not evaluated
182	XMH-1065	Prehistoric	ineligible	**372**	XMH-1384	Prehistoric	not evaluated
183	XMH-1066	Prehistoric	ineligible	**373**	XMH-1455	Prehistoric	not evaluated
184	XMH-1067	Prehistoric	not evaluated	**374**	XMH-1456	Prehistoric	not evaluated
185	XMH-1068	Prehistoric	not evaluated	**375**	XMH-1457	Prehistoric	not evaluated
186	XMH-1069	Prehistoric	not evaluated	**376**	XMH-1458	Prehistoric	not evaluated
187	XMH-1070	Prehistoric	not evaluated	**377**	XMH-1459	Prehistoric	not evaluated
188	XMH-1071	Prehistoric	not evaluated	**378**	XMH-1460	Prehistoric	not evaluated
189	XMH-1072	Prehistoric	ineligible	**379**	XMH-1487	Prehistoric	not evaluated
190	XMH-1073	Prehistoric	ineligible				

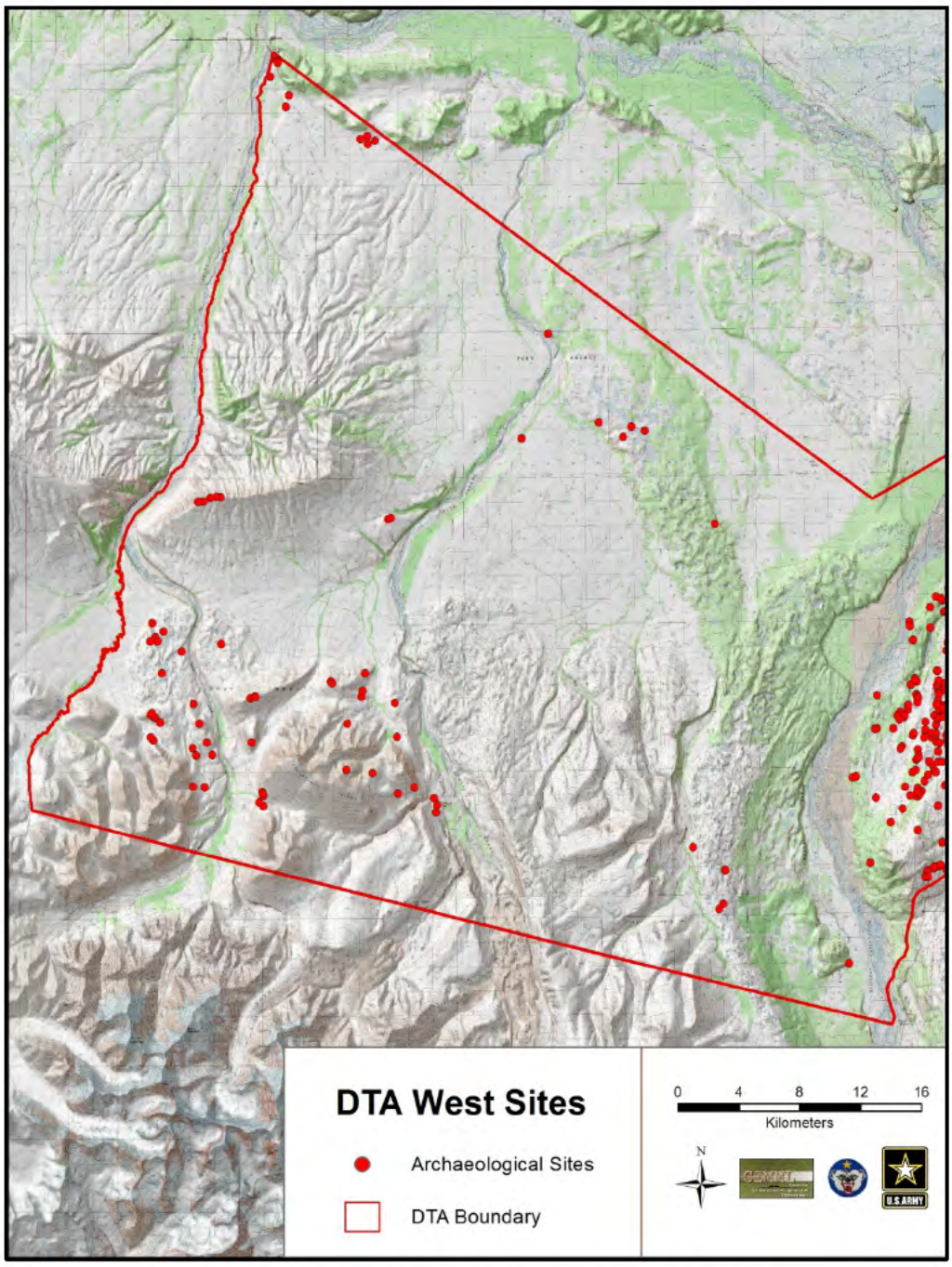


Figure 355. Location of sites within DTA West

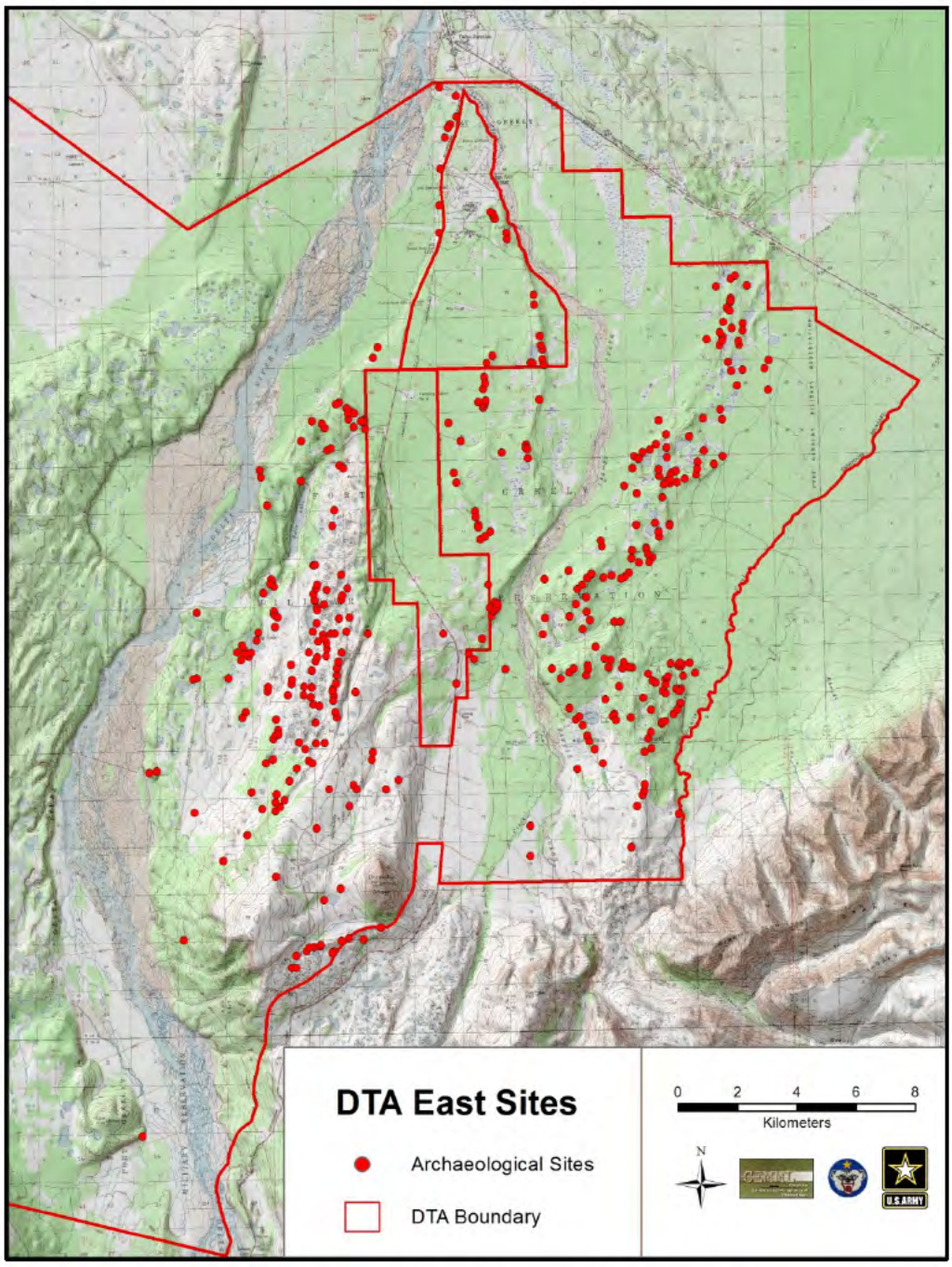


Figure 356. Location of sites within DTA East

6.3.1 DTA East Sites

Six sites were found in DTA East during the 2011 field season (Figure 358).

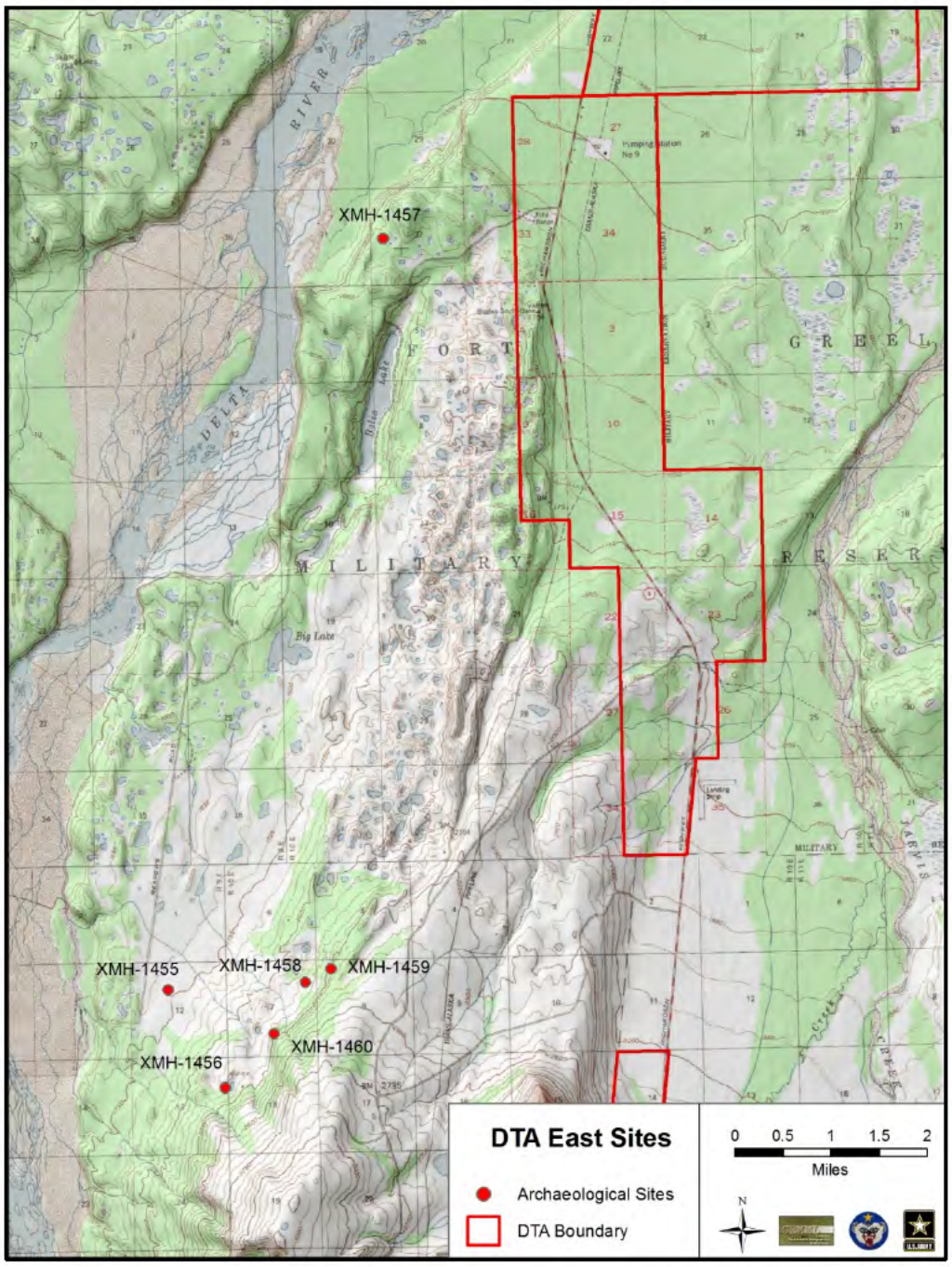


Figure 357. Location of 2011 sites in DTA East

XMH-01455
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-1455 is located on an east-west trending knoll that overlooks the Delta River 1.5 km to the west (Figure 359, Figure 360). UTM Coordinates are [redacted], 543 masl. The site is approximately 7 km northwest of the summit of Donnelly Dome. The nearest water source is a small unnamed lake 0.5km to the west. The viewshed at the site is 180° to the west.

The vegetation ecotype can be characterized as upland moist, low and tall scrub (Figure 361). It consists of an over-story dominated by spruce, aspen, birch, and tamarack. Understory vegetation includes low and tall scrub. Ground cover is dense in areas not exhibiting erosional exposures. Surface visibility at the site is estimated to be 5%. The topsoil at this site was thin (3 cm) due to erosion, and sediments consisted of unstratified aeolian silts above glacial till at 46 cm BS (Figure 362).

Six gray chert flake fragments, including three linear flakes, and one basalt flake were found at this site. Two gray chert fragments and one basalt flake were recorded on the surface, and four gray chert flake fragments were recovered in one of three shovel test excavations (AT-1), 5-20 cm below surface (Table 65, Figure 363). The linear flakes may be indicative of early stage microblade core reduction. The forms are general, however, and cannot be attributed to any specific archaeological culture. No organic remains were found with the artifacts for radiocarbon dating, and the shallow glacial debris and compressed stratigraphy prevent dating of this site at this time.

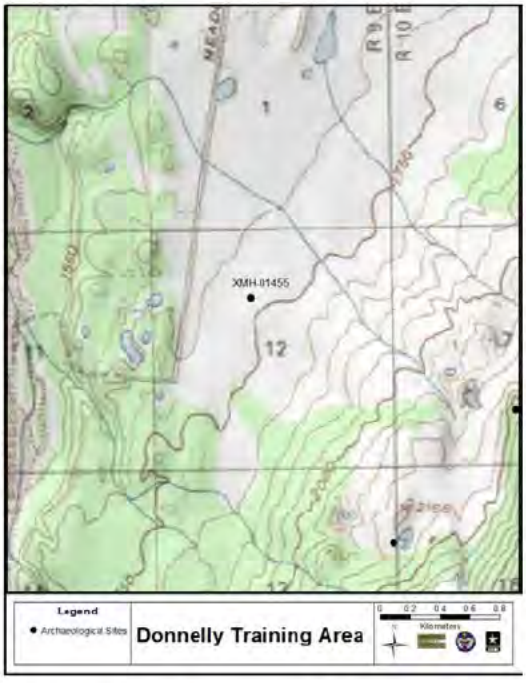


Figure 358. Location of XMH-01455

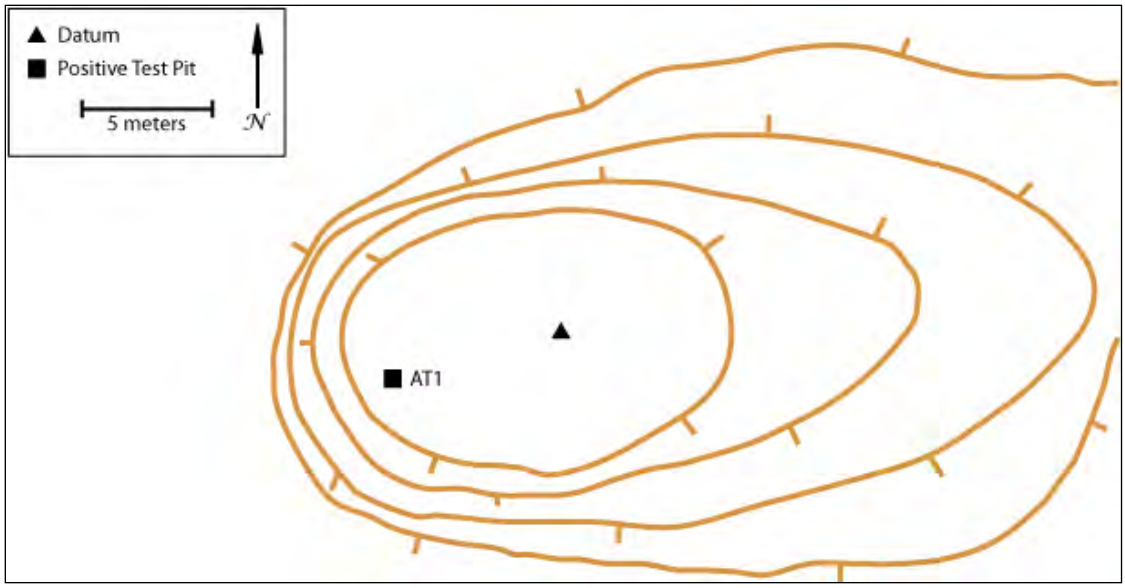


Figure 359. Map of XMH-01455

Figure 360. XMH-01455 site vegetation

Figure 361. Test pit AT-1

Table 65. XMH-01455 accession log

Accession #	FS#	Depth (cm BS)	Artifact Type	n=	Material	Color	Collected
UA2011-373-0001	1	surface	flake	2	chert	gray	yes
UA2011-373-0002	2	0-10	flakes	4	chert	gray	yes
N/A	1	surface	flake fragment	1	basalt	black	no

Figure 362. XMH-01455 flakes

XMH-01456
Latitude: [redacted]
Longitude: [redacted] (NAD 83)
Determination of Eligibility: Not Evaluated

Site XMH-1456 is located on an east-west trending knoll that overlooks the Delta River 2.5 km to the west (Figure 364, Figure 365). UTM coordinates are [redacted], 689 masl. The site is approximately 5.5 km west of the summit of Donnelly Dome. The nearest water source is a small unnamed lake 50 m to east. The viewshed at the site is 180° to the west. Visible landmarks include the Alaska Range to the southwest and Bolio Lake to the northwest.

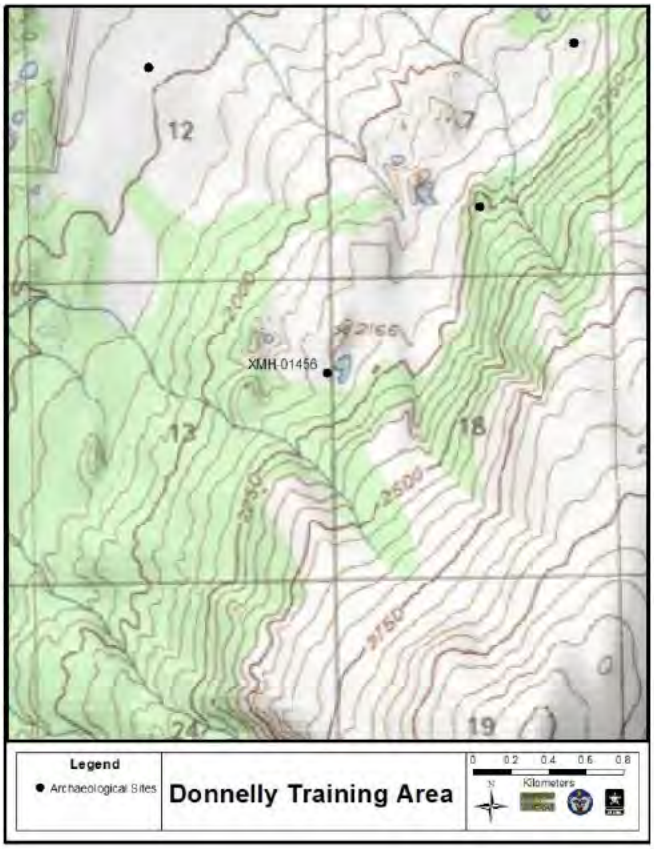


Figure 363. Location of XMH-10456

The vegetation at the site can be characterized as upland moist low and tall scrub. It consists of an over-story dominated by spruce, aspen, birch, and tamarack (Figure 366). Understory vegetation includes low and tall scrub. Ground cover is dense in areas not exhibiting erosional exposures. Surface visibility at the site is estimated to be 25%. A deep (20 cm) root mat at the site overlies 20 cm of dark brown, mixed silt and gravels, which overlie coarser gravels and rocks (glacial deposits) (Figure 367, Figure 368).

One black chert uniface fragment was discovered in the upper 20 cm of one of three shovel tests (AT-59) (Table 66, Figure 369). The artifact found in this test pit was a small, black chert scraper fragment. The endscraper was made on a flake and had measurements of 22.1 mm long, 21.7 mm wide, and 8.7 mm thick. The form is generic and cannot be attributed to any particular archaeological time period based on morphological data. No organic remains were found with the artifacts for radiocarbon dating, and the shallow glacial debris and compressed stratigraphy prevent dating of this site at this time.

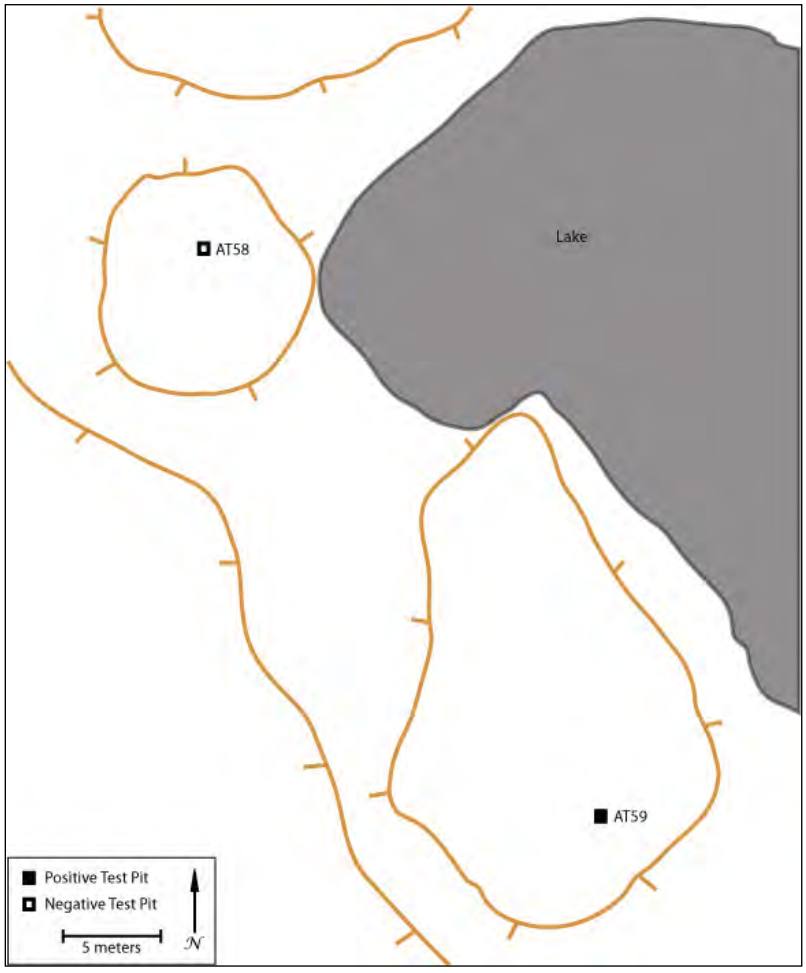


Figure 364. Map of XMH-01456

Figure 365. Vegetation at XMH-01456

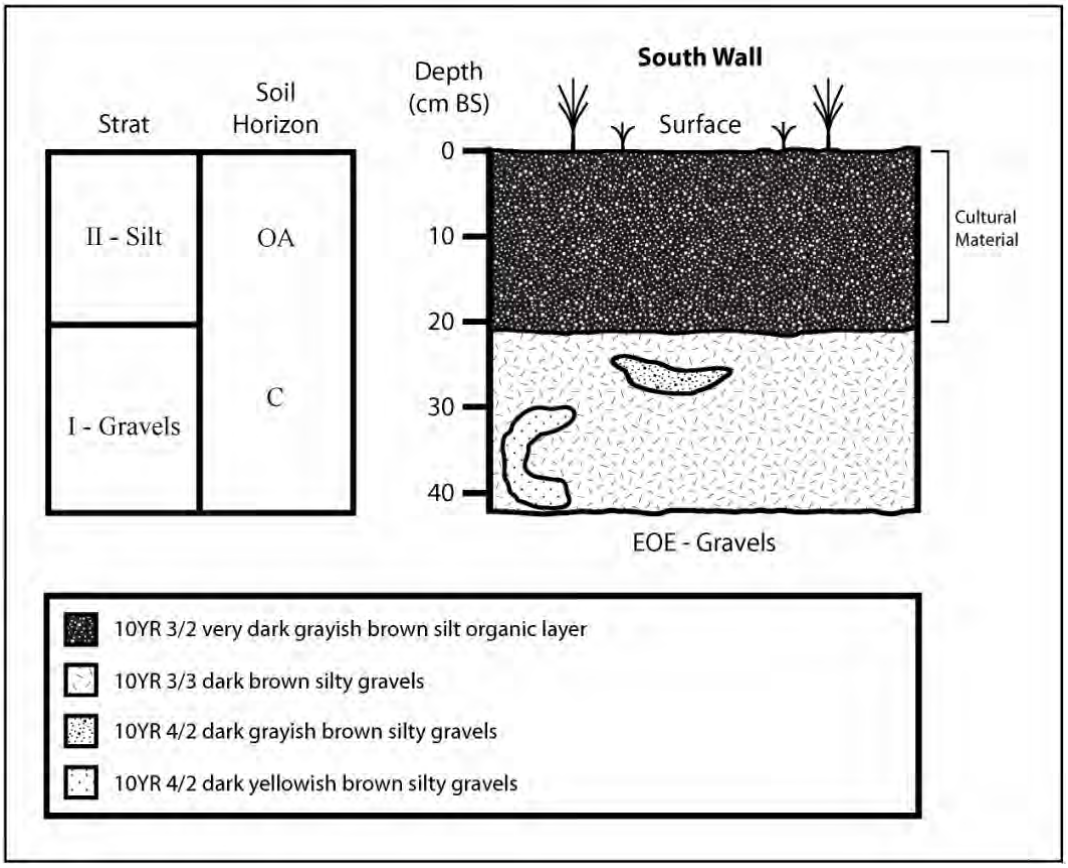


Figure 366. Stratigraphic profile of test pit AT-59

Figure 367. Test pit AT-59

Table 66. XMH-01456 accession log

UA Accession #	FS#	n=	Depth (cm BS)	Material	Color	Artifact Type	Collected
UA2011-374-0001	1	1	0-20	chert	black	uniface	yes

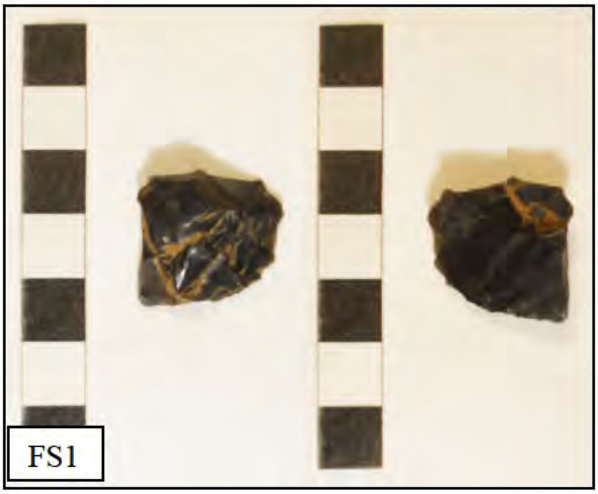


Figure 368. Scraper from XMH-01456

XMH-01457
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-1457 is located on a high knoll on the west side of OP Road, 1 km east of the Delta River and 1 km west of Meadows Road (Figure 370, Figure 371). UTM coordinates are [redacted], 499 masl. The nearest water source is an unnamed lake 500 m to the southeast. The viewshed at the site is 360°. Visible landmarks include the Delta River to the north and west, the Granite Mountains to the southeast, and the Alaska Range to the southwest. Surface visibility is estimated to be 95%.

The vegetation surrounding the site can be characterized as upland dry broadleaf forest, although much of the vegetation right on site has been disturbed by military activity (Figure 372). Small birch, alder, and dead spruce are found around the site. Patchy moss is found across the site.

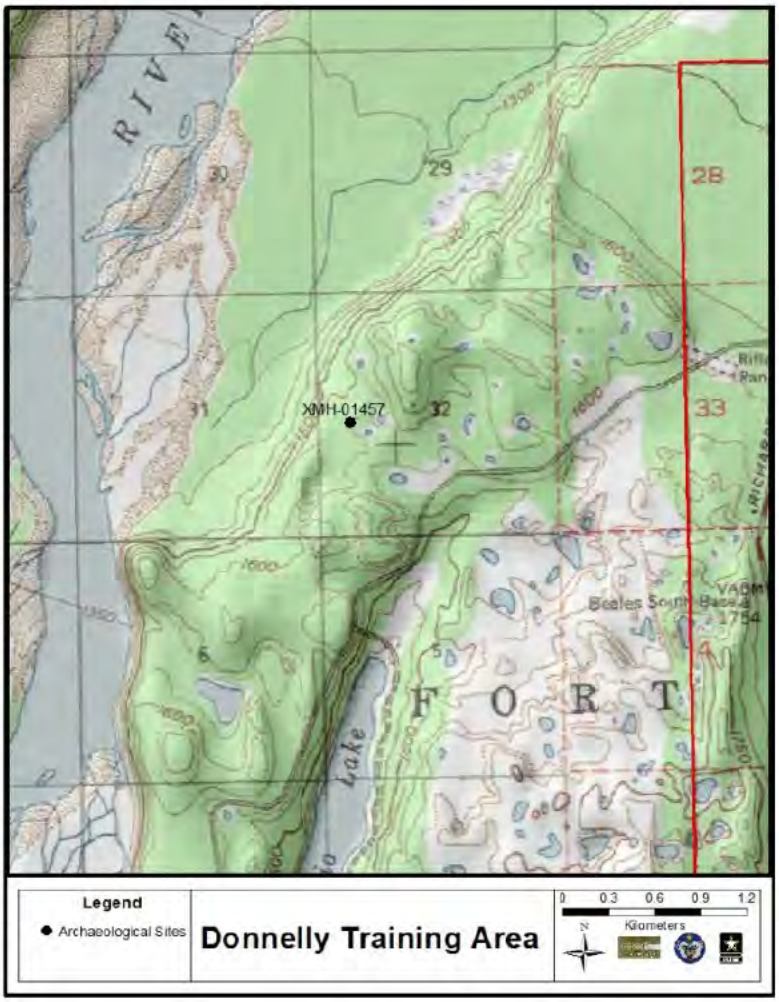


Figure 369. Location of XMH-01457

No shovel tests were excavated at this location. Two bifaces were found adjacent to each other on the surface of the site. Both bifaces were fragmentary. The first was an early-stage blank fragment made from gray chert (40.6 mm long, 32.9 mm wide, and 11.4 mm thick) and the second is a beige argillite projectile point fragment (29.2 mm long, 25.4 mm wide, and 8.1 mm thick) (Table 67, Figure 373). Both bifaces have a generalized lanceolate morphology and cannot be attributed to any particular archaeological time period based on formal data. No organic remains were found with the artifacts for radiocarbon dating, and the site age cannot be established at this time.

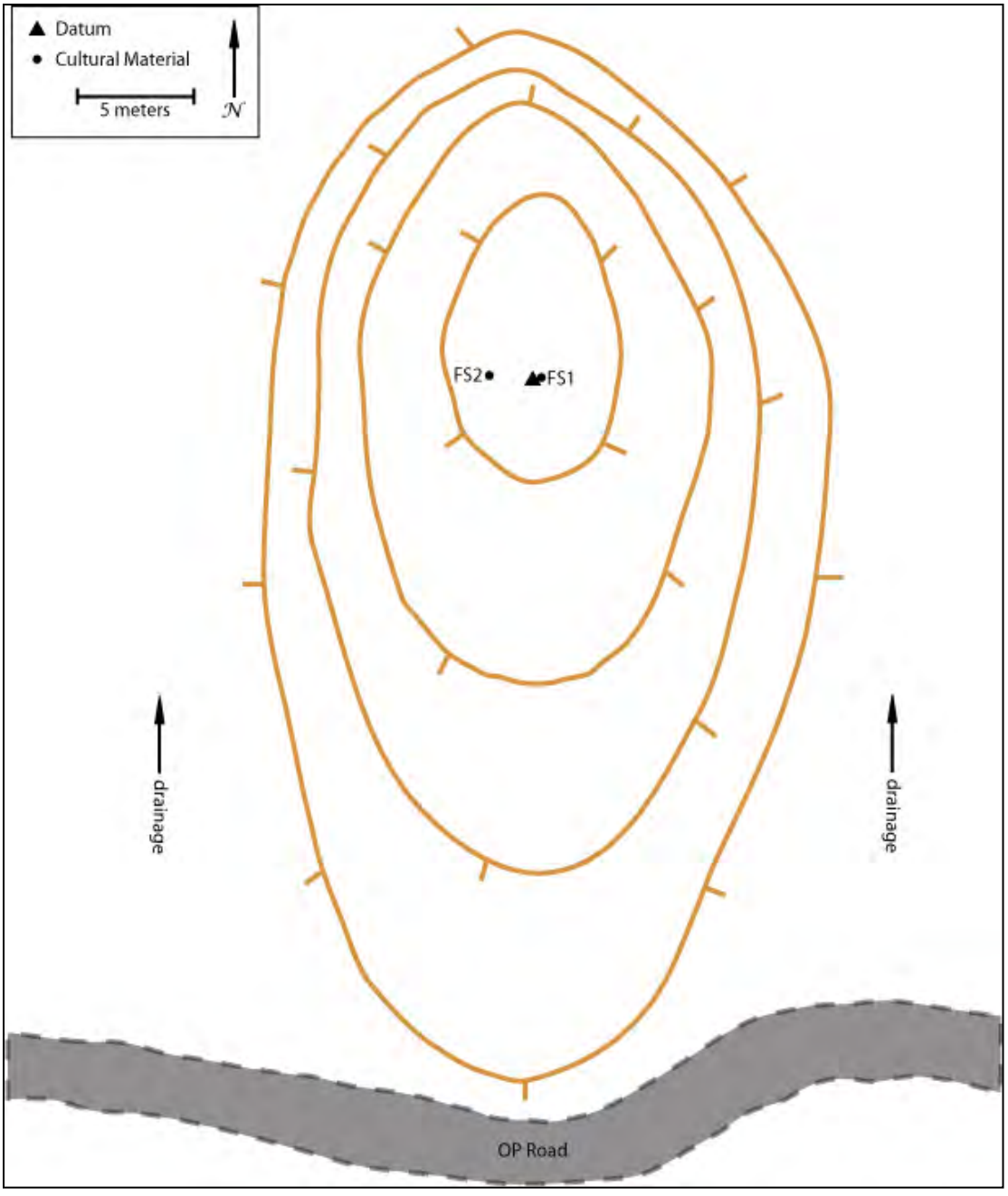


Figure 370. Map of XMH-01457

Figure 371. Vegetation at XMH-01457

Table 67. XMH-01457 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Artifact Type	Collected
UA2011-375-0001	1	1	surface	chert	gray	early blank fragment	yes
UA2011-375-0002	1	1	surface	argillite	beige	projectile point fragment	yes

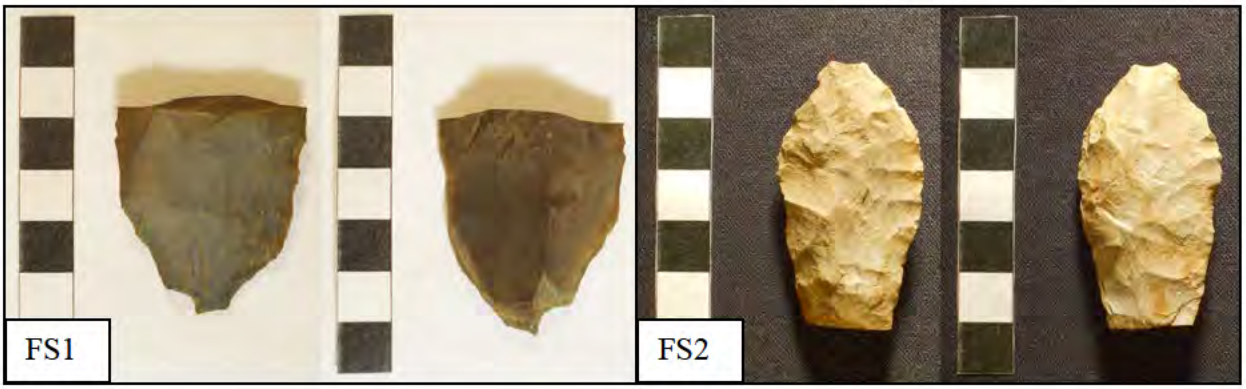


Figure 372. Bifaces from XMH-01457

XMH-01458
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-1458 is located at the base of a small knoll with a long north-south trending ridge, 3.5 km east of the Delta River and 4.5 km west of the summit of Donnelly Dome (Figure 374, Figure 375). UTM coordinates are [redacted], 689 masl. The nearest water source is a small unnamed lake 120 m to the west. The viewshed at the site is 360°.

Vegetation at the site can be characterized as alpine wet-low scrub consisting of small willows, moss, lichen, and grass (Figure 376). Ground cover is dense in areas not exhibiting erosional exposures. Surface visibility at the site is estimated to be 25%. Two test pits excavated at the site show a root mat covering 5-10 cm of wind-blown dark grayish brown silt, over 25-40 cm of additional dark yellowish brown silt, over glacial till. The silt gets sandier deeper in the profile.

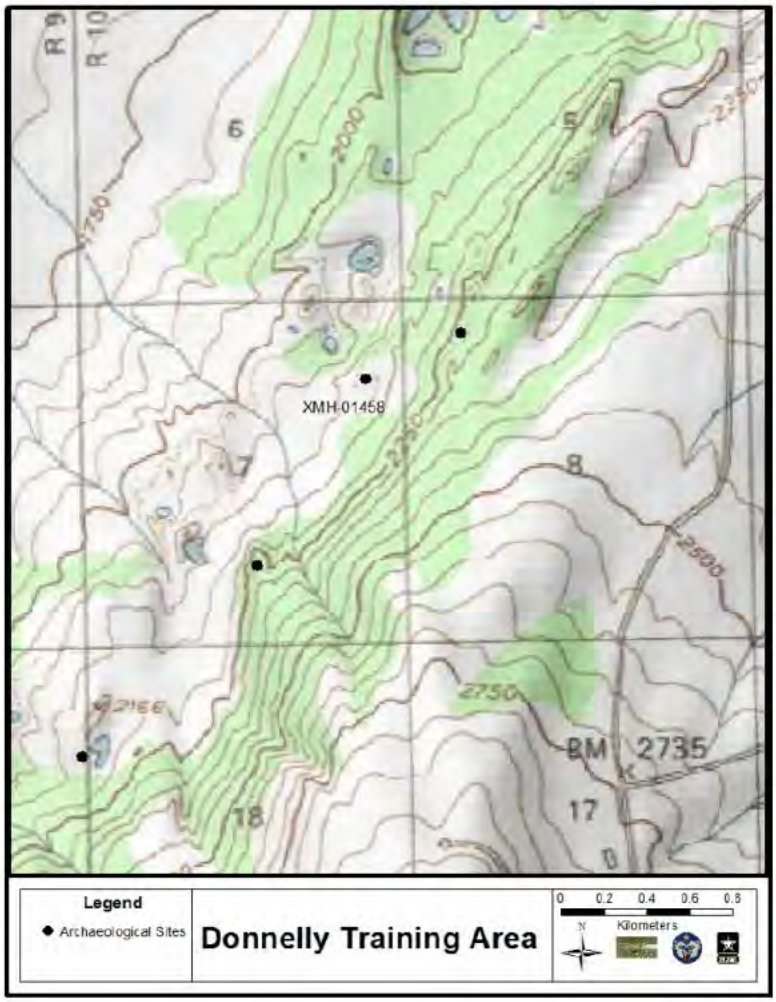


Figure 373. Location of XMH-01458

One black chert flake fragment was found in an exposed area on the surface of the site (Table 68, Figure 377). No other flakes were discovered on the surface or in any of the seven test pits excavated in the area. The form is generic and cannot be attributed to any particular archaeological time period based on morphological data. No organic remains were found with the artifacts for radiocarbon dating, and the shallow glacial debris and compressed stratigraphy prevent dating of this site at this time.

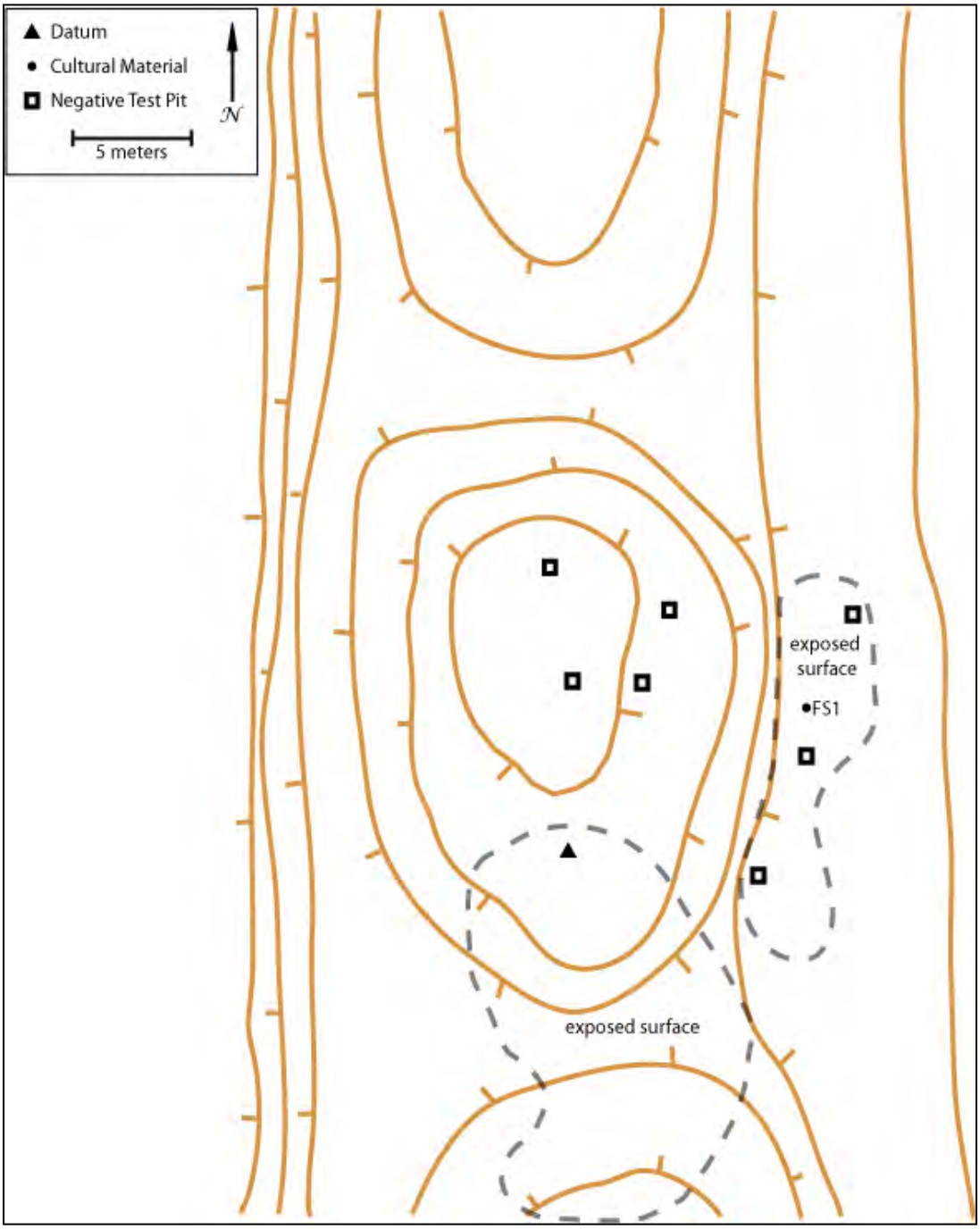


Figure 374. Map of XMH-01458

Figure 375. Vegetation at XMH-01458

Table 68. XMH-01458 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Flake Type	Collected
UA2011-376-0001	1	1	surface	chert	black	fragment	yes

Figure 376. Flake from XMH-01458

XMH-01459
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-1459 is located on a small knoll surrounded on the north, east, and south by larger knolls and ridges (Figure 378, Figure 379). UTM coordinates are [redacted], 707 masl. The Delta River is 4 km to the west and the summit of Donnelly Dome is 4.5 km to the east of the site. The nearest water source is a small unnamed lake at a higher elevation, 650 m to the west. The viewshed at the site is 360° but blocked in places by surrounding landforms. Visible landmarks include two small lakes to the west and northwest and Donnelly Ridge to the east.

Vegetation at the site can be characterized as alpine low scrub, consisting of small willows, moss, lichen and grass (Figure 380). Ground covering is dense and surface visibility is only 2%. Test pits show a stratigraphy composed of a thick root mat overlying 6 cm of dark gray silt loam over 20 cm of dark yellowish gray (Figure 381, Figure 382). The silt tops glacial gravels at approximately 27 cm below surface.

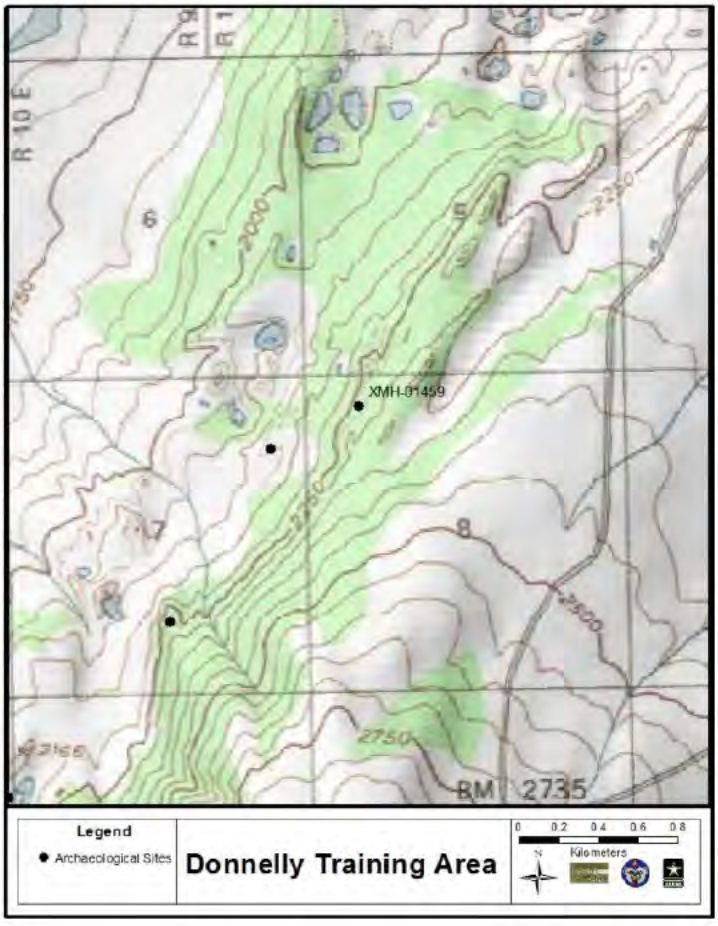


Figure 377. Location of XMH-01459

One broken black basalt flake fragment was found shallowly buried in test pit BT-383 (Table 69, Figure 383). No other flakes were discovered on the surface or in either of the two test pits excavated in the area. The form is generic and cannot be attributed to any particular archaeological time period based on morphological data. No organic remains were found with the artifacts for radiocarbon dating, and the shallow glacial debris and compressed stratigraphy prevent dating of this site at this time.

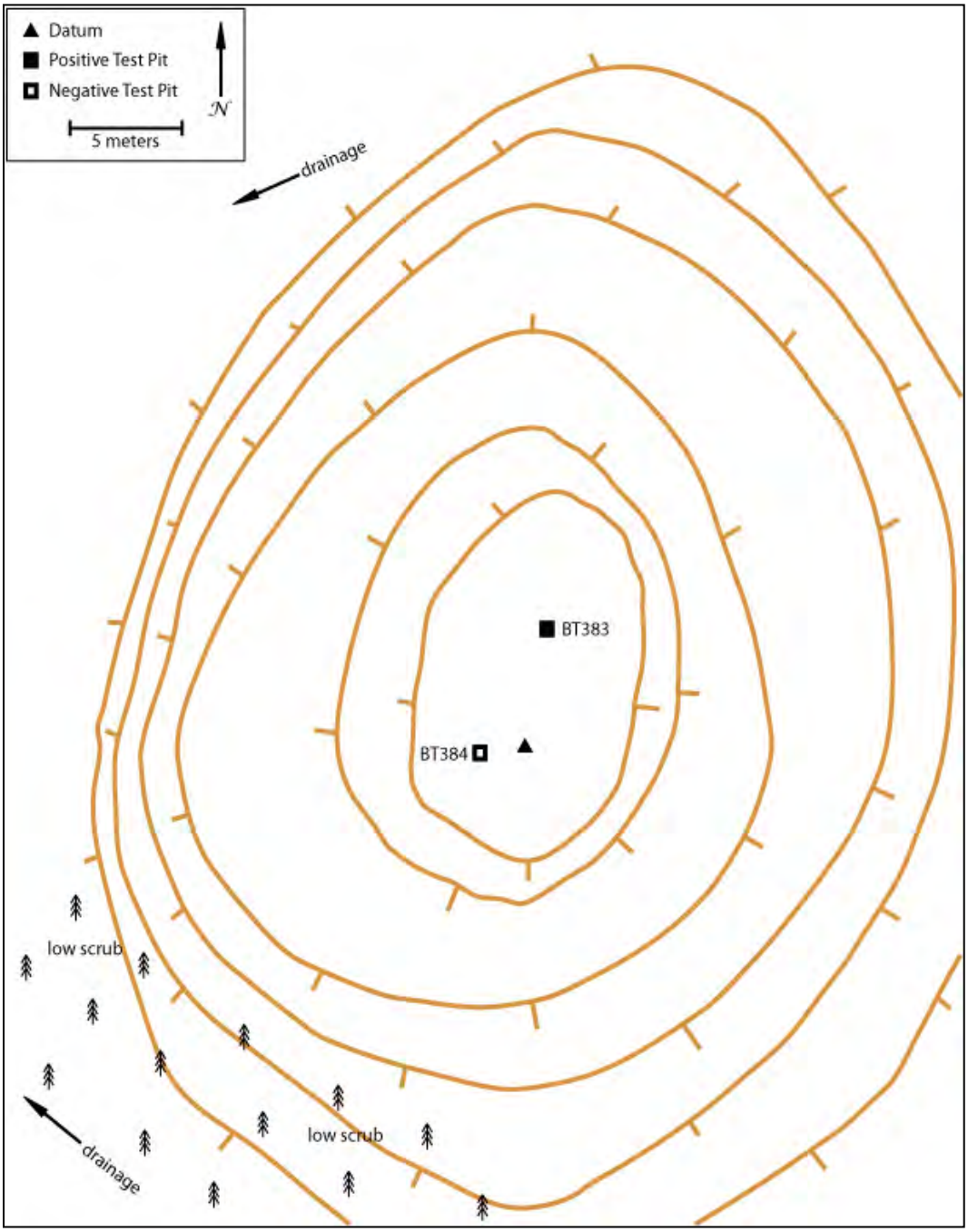


Figure 378. Map of XMH-01459

Figure 379. Vegetation at XMH-01459

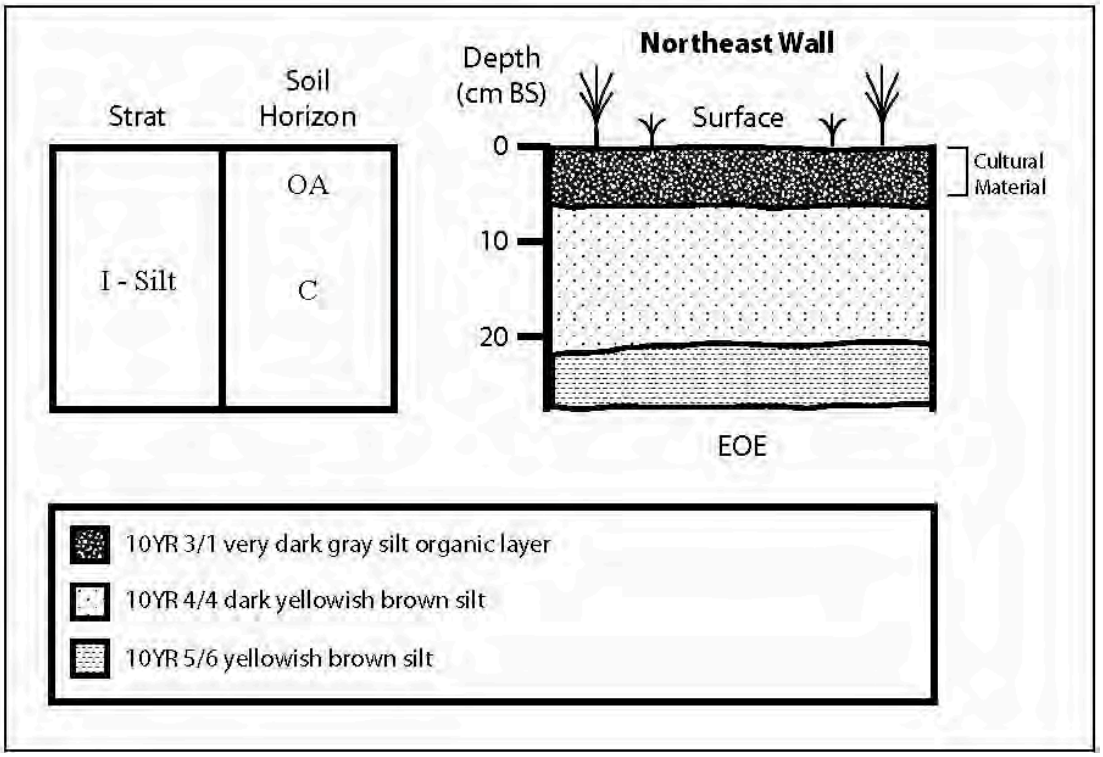


Figure 380. Stratigraphy of test pit BT-383

Figure 381. Test pit BT-383

Table 69. XMH-01459 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Flake Type	Collected
UA2011-377-0001	1	2	0-5	basalt	black	late bifacial thinning	yes

Figure 382. Flake from XMH-01459

XMH-01460
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-1460 is located on a high knoll 3 km east of the Delta River and 5 km west of the summit of Donnelly Dome (Figure 384). UTM coordinates are [redacted], 717 masl. The nearest water source is a small unnamed lake approximately 250 m down slope to the west. The viewshed at the site is 360°. Visible landmarks include two small lakes to the west and a north-south trending ridge to the east.

Vegetation can be characterized as alpine wet low-scrub and consists of small willows, moss, lichen, and grass (Figure 385). Ground cover is dense where no erosion has occurred. Surface visibility at the site is approximately 30%. Shrapnel and other debris were evident from past military use of the landform.

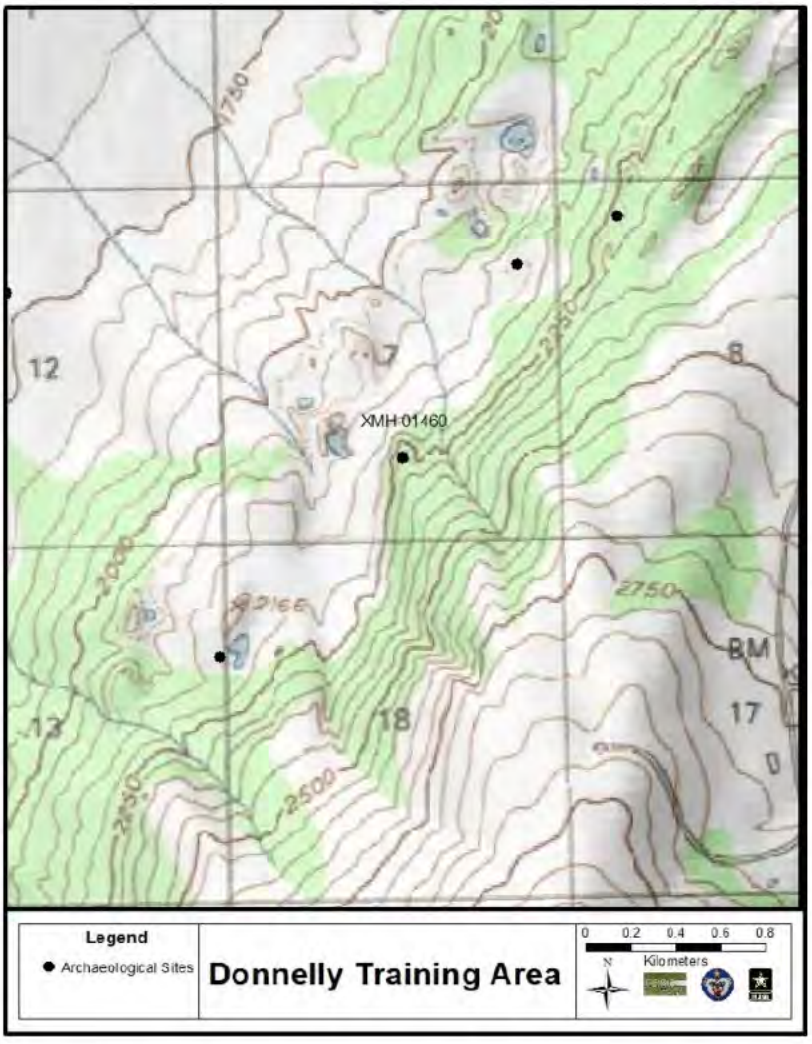


Figure 383. Location of XMH-01460

Figure 384. Vegetation at XMH-01460

One artifact, a beige chert endscraper, was found on the surface of the landform (Table 70, Figure 386). The scraper was made on the proximal end of a broken flake and measured 25.6 mm long, 22.4 mm wide, and 8.3 mm thick. No other flakes were discovered on the surface or in any of the 19 test pits excavated in the area. The scraper form is generic and cannot be attributed to any particular archaeological time period based on morphological data. No organic remains were found with the artifacts for radiocarbon dating, and the site age cannot be established at this time.

Table 70. XMH-01460 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Artifact Type	Collected
UA2011-378-0001	1	1	surface	chert	beige	endscraper	yes

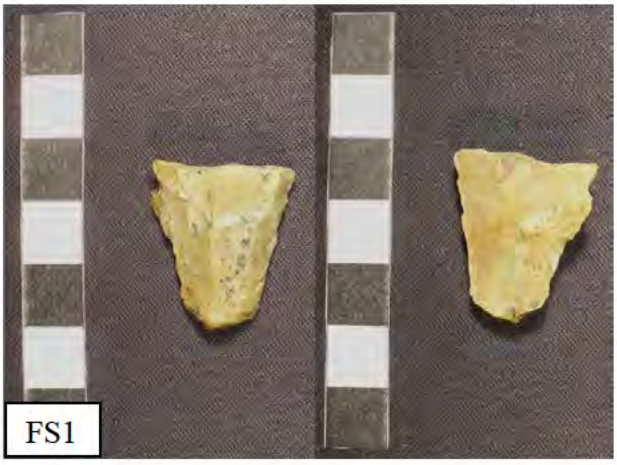


Figure 385. Photo of scraper from XMH-01460

6.3.2 Molybdenum Ridge Sites

Twenty-one sites were discovered during the 2011 survey in the Molybdenum Ridge Area (Figure 387).

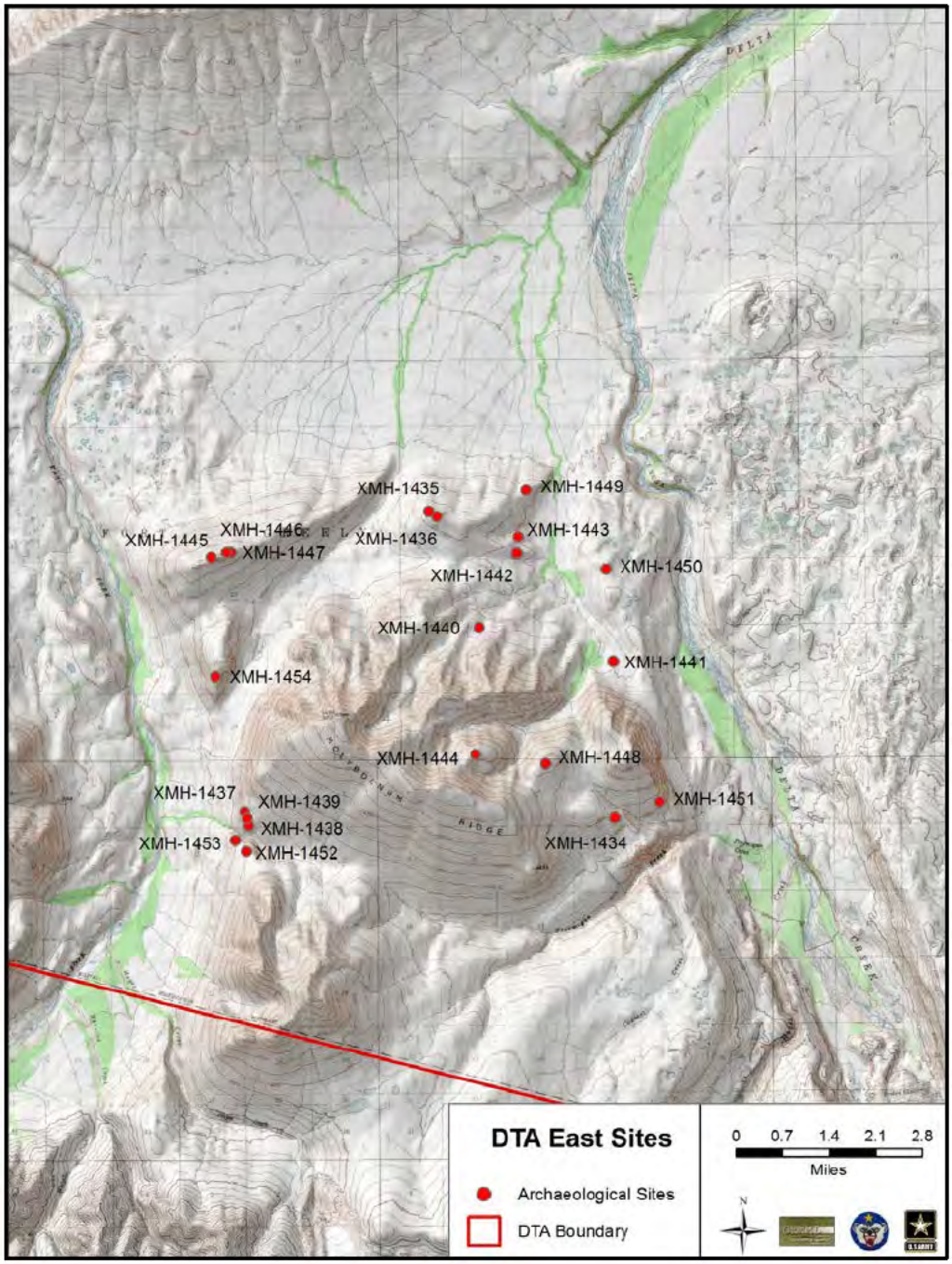


Figure 386. Location of 2011 sites in DTA West, Molybdenum Ridge Area

XMH-01434
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01434 is situated on an east-west trending glacial moraine in the eastern foothills of Molybdenum Ridge, Donnelly Training West, Ft. Wainwright (Figure 387, Figure 388). UTM coordinates are [redacted]. Water sources include Delta Creek 4 km to the east, Ptarmigan Creek 1.5 km to the southeast, and a stream 300 m to the northeast flowing from a saddle of Molybdenum Ridge. The viewshed is 360°.

Figure 387. XMH-01434 sketch map

Vegetation consists of moss, lichen, fireweed, grasses, dwarf birch, and other low scrub. Surface exposure is approximately 70% (Figure 389).

The site consists of a surface scatter of 36 lithic flakes, including a concentration of 21 flakes, with 15 additional flakes surrounding the concentration in a 10 meter radius. The surface lithic concentration is contained in a 120x120 cm area. No artifacts were collected and no subsurface testing has been done.

Figure 388. XMH-01434 overview

XMH-01435
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01435 is situated on a northwest- southeast trending glacial moraine in the northern foothills of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 390). UTM coordinates are [redacted]. Site XMH-01436 is approximately 150 m to the southeast. Water sources include Delta Creek 4 km to the east, a stream aprroximatly1 km to the southwest running west-northeast. The viewshed is 360°.

Vegetation consists of moss, lichen, fireweed, grasses, dwarf birch, and other low scrub. Surface exposure is approximately 70% (Figure 391).

The site consists of a surface scatter of four lithic flakes, and one gray spall. One basalt biface, one rhyolite flake and three chert flakes were found from subsurface testing at depths of 0-29 cm BS (Table 71, Figure 392).

Cultural material was buried in the top 30 cm of sediment at the site. Well-sorted silts over bedrock were overlain by sandy silts (Figure 393).

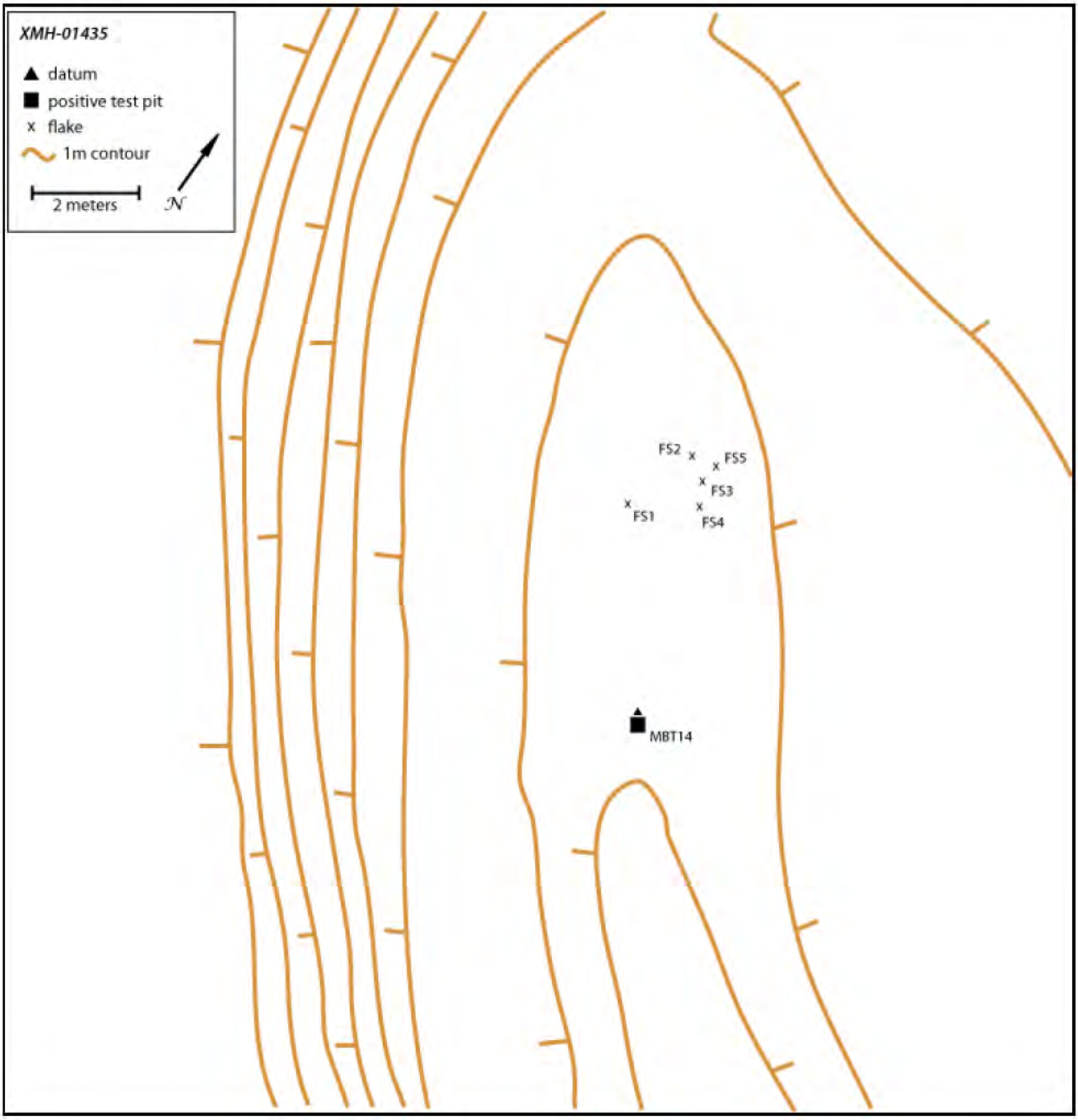


Figure 389. XMH-01435 sketch map

Figure 390. XMH-01435 overview

Table 71. XMH-01435 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Artifact Type	Collected
UA2011-420-0001	6	3	0-29	chert	gray	flake fragment	yes
UA2011-420-0002	7	1	0-29	basalt	beige	preform fragment	yes

Figure 391. Preform from XMH-01435

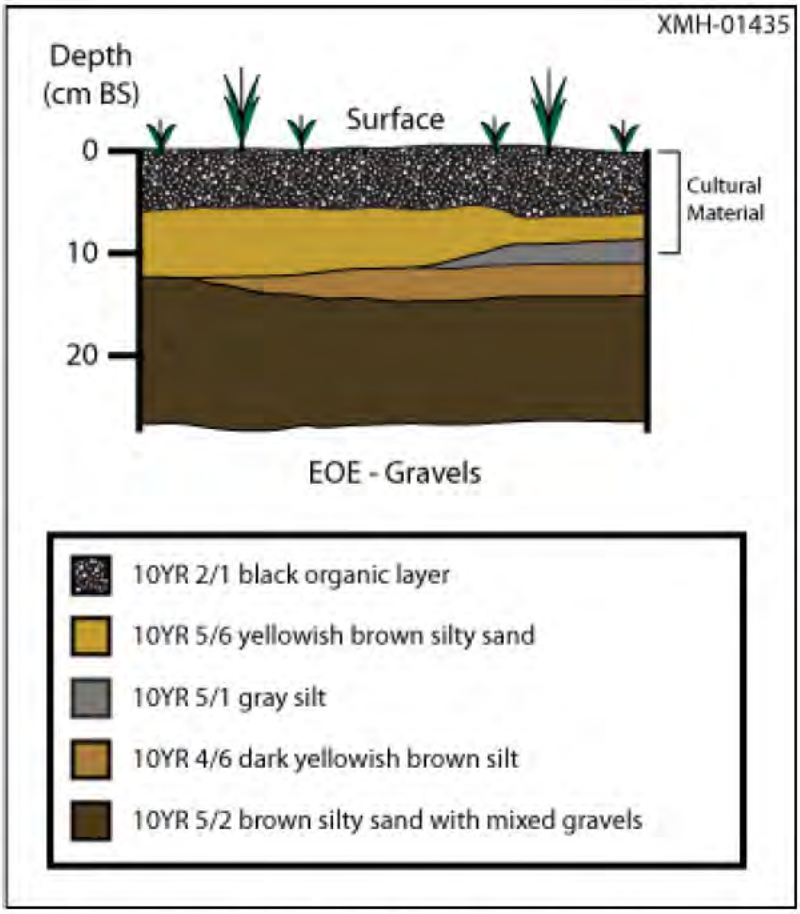


Figure 392. XMH-01435 stratigraphy

XMH-01436
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01436 is situated on a northwest- southeast trending glacial moraine in the northern foothills of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 394). UTM coordinates are [redacted]. Site XMH-01435 is approximately 150 m to the northwest. Water sources include Delta Creek 4 km to the east and a stream 1 km to the southwest that runs west-northeast. The viewshed is 360°.

Vegetation consists of moss, lichen, fireweed, grasses, dwarf birch, and other low scrub. Surface exposure is approximately 70% (Figure 395).

The site consists of a surface scatter of 21 chert flakes, 19 of which are in a 160x160 cm concentration. No artifacts were collected. No subsurface testing was conducted.

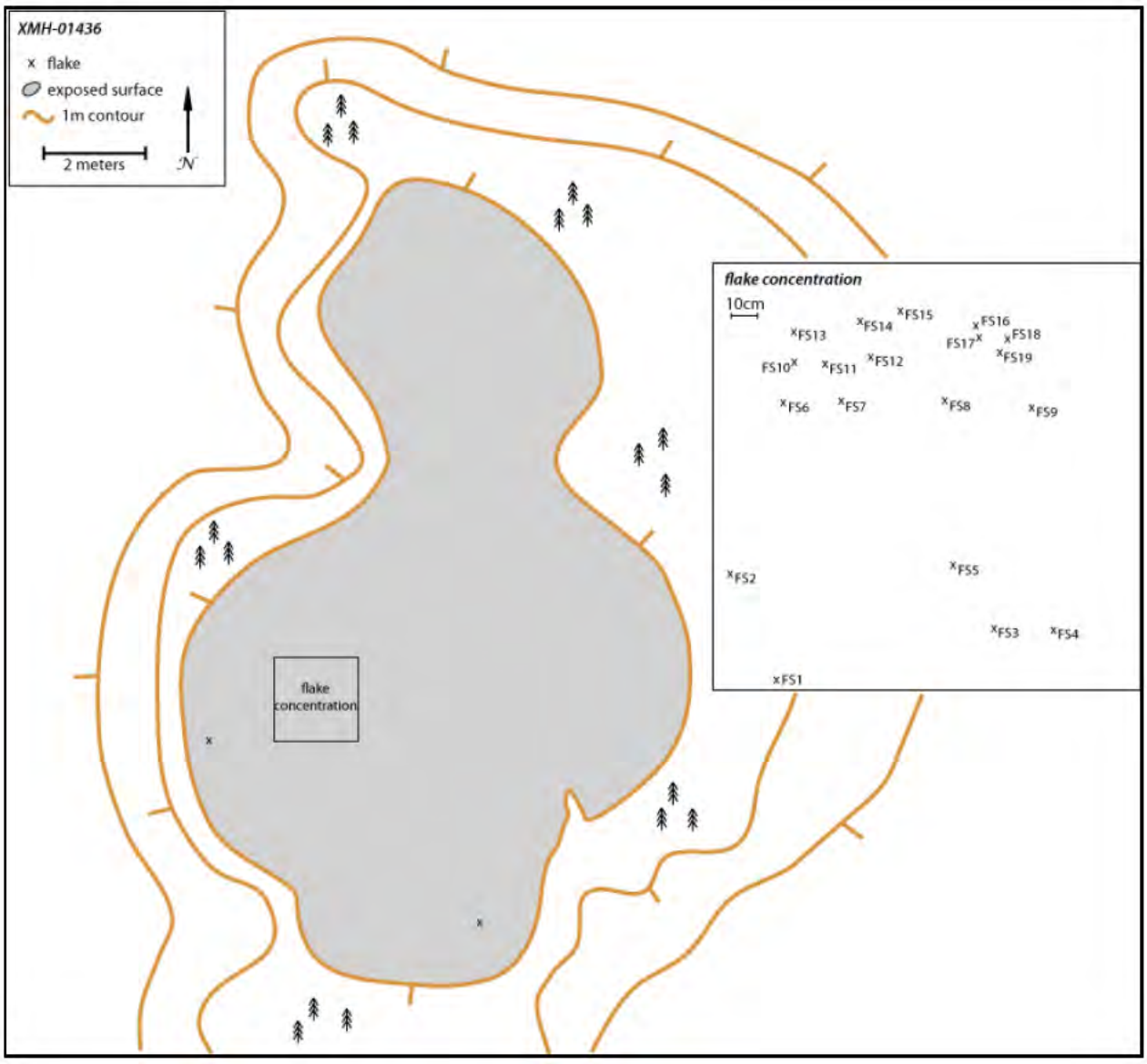


Figure 393. XMH-01436 sketch map

Figure 394. XMH-01436 overview

XMH-01437
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01437 is situated on the western end of a knoll at the southwestern base of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 396). UTM coordinates are [redacted]. The site overlooks the East Fork of the Little Delta River, approximately 2 km to the west. Another stream 500 m south flows east to west at the base of the knoll into the river. The viewshed is 180°.

Vegetation consists of scattered spruce, moss, lichen, dwarf birch, and other low scrub. Surface exposure is approximately 20%. Site slope is 20°, and the surrounding area slopes 10-20° (Figure 397).

The site consists of a surface scatter of four gray chert flakes and one dark gray chert flake in a 50 x 50 cm area (Table 72). No subsurface testing was conducted.

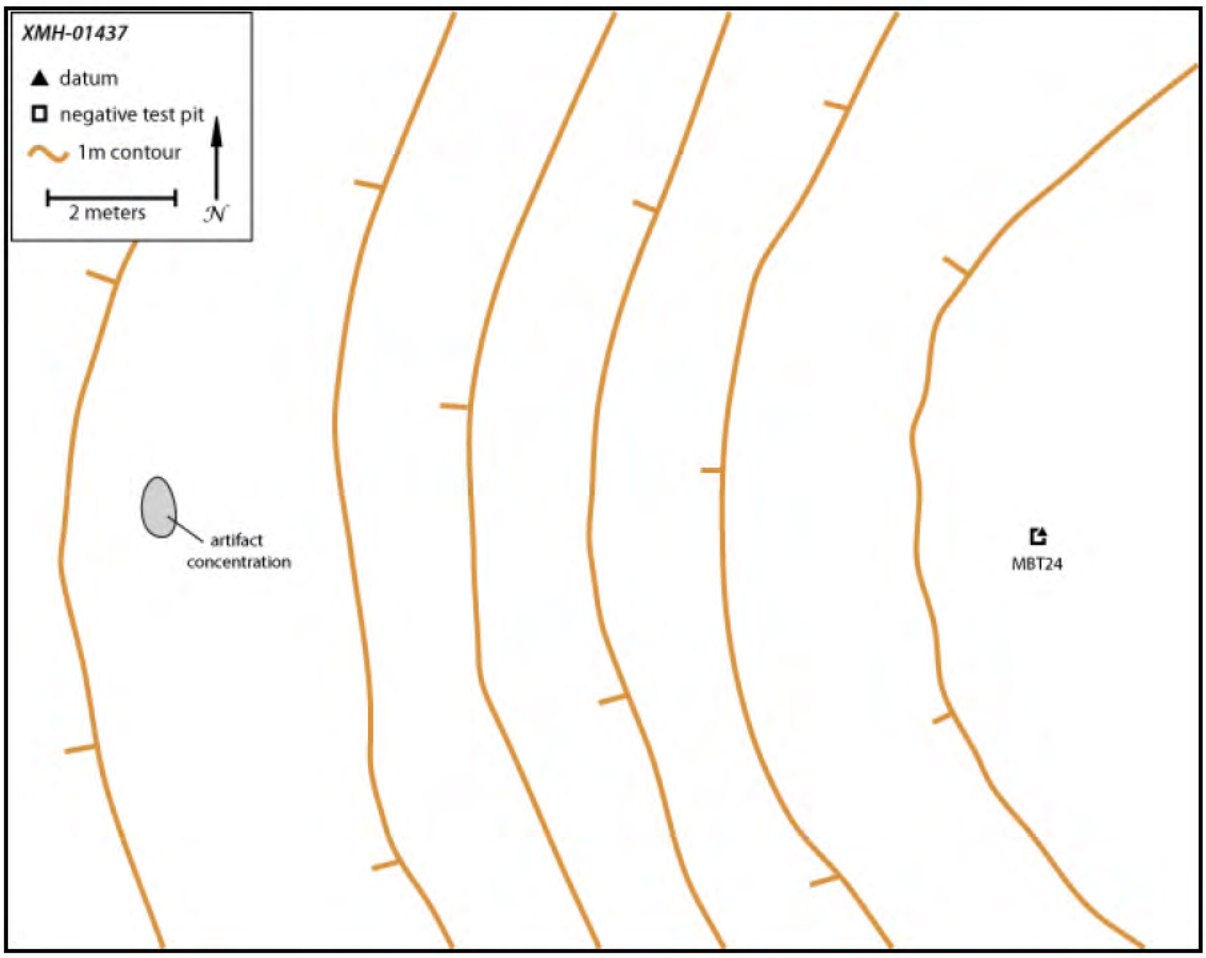


Figure 395. XMH-01437 sketch map

Figure 396. XMH-01437 overview

Table 72. XMH-01437 accession log

Accession #	FS#	n=	Depth (cm BS)	Material	Color	Artifact Type	Collected
UA2011-421-0001	1	1	surface	chert	black	flake	yes

XMH-01438
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01438 is situated on the southwestern end of a knoll at the southwestern base of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 398, Figures 399-403). UTM coordinates are [redacted]. The site overlooks the East Fork of the Little Delta River, approximately 2 km to the west. Another stream, 500 m to the south, flows east to west at the base of the knoll into the river. The viewshed is 270°.

Vegetation consists of scattered spruce, moss, lichen, dwarf birch, and other scrub. A large eroded area of the site provides 100% surface exposure where a majority of the artifacts were found, while the surrounding areas were 85% exposed (Figure 404).

This is a large lithic reduction site consisting of over 350 surface and subsurface artifacts (Figure 405). Artifacts found on the surface include flakes, core fragments, biface fragments, unifaces, shatter, utilized flakes, and projectile points, including one small triangular point and a lanceolate point (Table 73, Figure 406). Material types found include chert and rhyolite. Four shovel tests were excavated and only one contained cultural material.

Figure 397. Aerial view of XMH-01438

One subsurface flake was recovered between 0-10 cm BS (MBT25). Shallow, organic rich silts overlie gravel (Figure 407, Figure 408). Artifacts were found within and directly beneath the root mat.

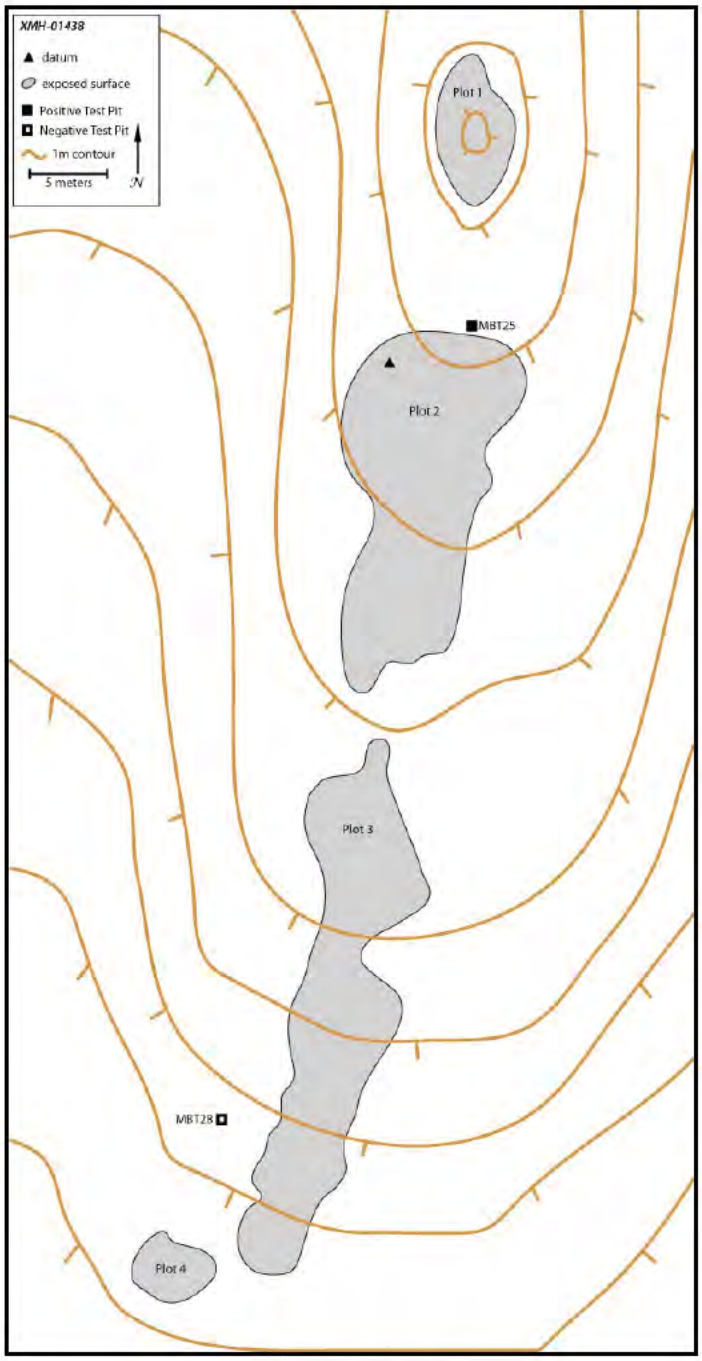


Figure 398. XMH-01438 sketch map

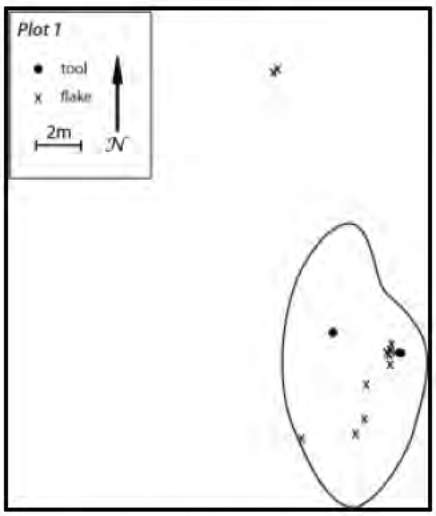


Figure 399. Plot 1 inset of Figure 399

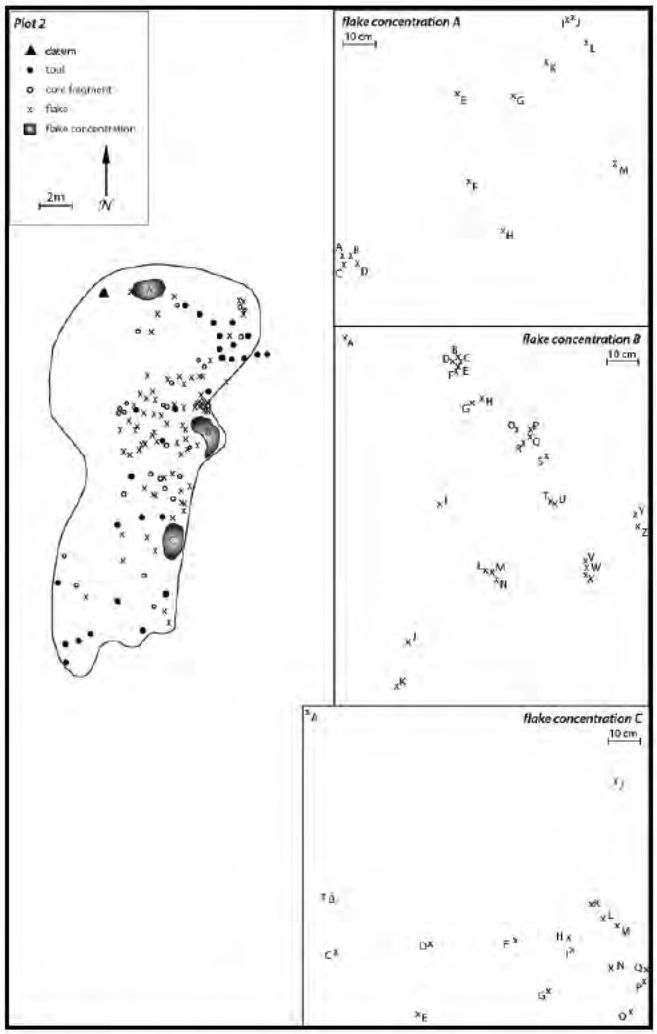


Figure 400. Plot 2 inset of Figure 399

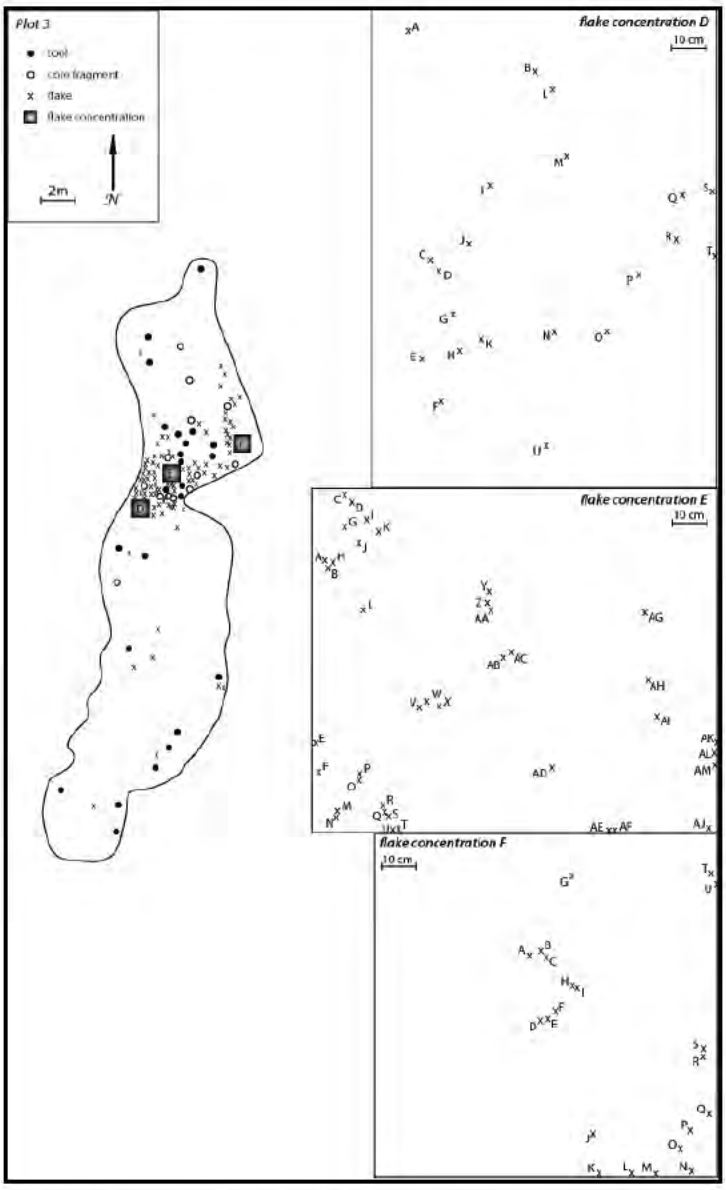


Figure 401. Plot 3 inset of Figure 399

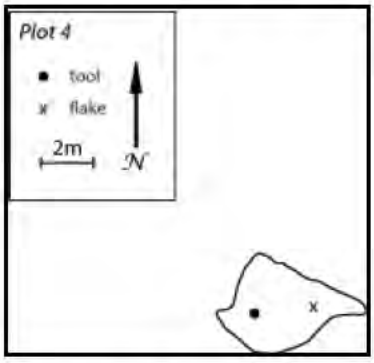


Figure 402. Plot 4 inset of Figure 399

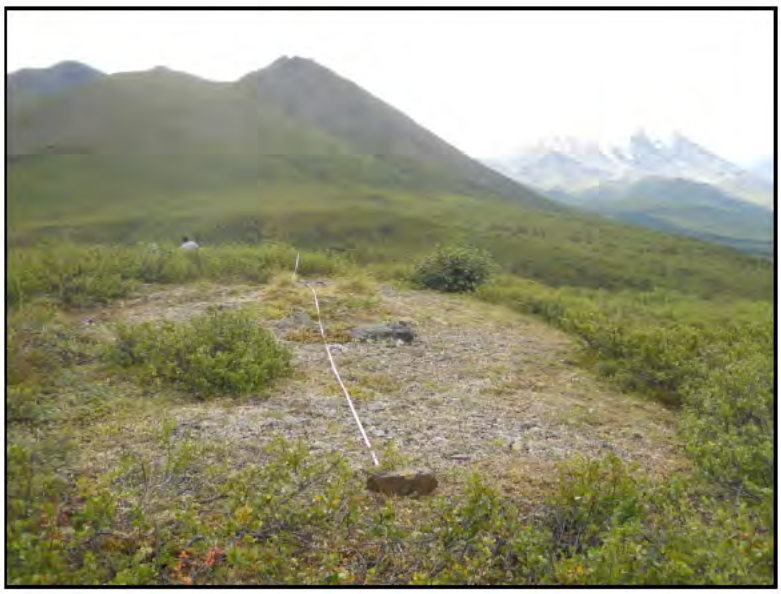


Figure 403. XMH-01438 overview

Figure 404. Example of XMH-01438 surface flakes

Table 73. XMH-01438 accession log

UA Accession #	FS#	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-422-0001	1	surface	biface preform frag		black chert
UA2011-422-0002	2	surface	biface blank frag		black chert
UA2011-422-0003	3	surface	biface preform frag		rhyolite
UA2011-422-0004	4	surface	biface blank frag		rhyolite
UA2011-422-0005	5	surface	biface blank		gray chert
UA2011-422-0006	6	surface	biface blank frag		gray chert
UA2011-422-0007	7	surface	core frag		rhyolite
UA2011-422-0008	8	surface	biface blank frag		black chert
UA2011-422-0009	9	surface	biface blank frag		black chert
UA2011-422-0010	10	surface	biface blank frag		gray chert
UA2011-422-0011	11	surface	flake	secondary decortication	black chert
UA2011-422-0012	12	surface	flake	secondary decortication	gray chert
UA2011-422-0013	13	surface	projectile point preform frag		gray chert
UA2011-422-0014	14	surface	uniface		gray chert
UA2011-422-0015	15	surface	biface blank		dark gray chert
UA2011-422-0016	16	surface	uniface		gray chert
UA2011-422-0017	17	surface	tested raw material		gray chert
UA2011-422-0018	18	surface	biface blank frag		gray chert
UA2011-422-0019	19	surface	biface blank frag		black chert
UA2011-422-0020	20	surface	uniface		gray chert
UA2011-422-0021	21	surface	uniface frag		gray chert
UA2011-422-0022	22	surface	projectile point		purple chert
UA2011-422-0023	23	surface	projectile point preform frag		gray chert
UA2011-422-0024	24	surface	biface		brown chert
UA2011-422-0025	25	surface	projectile point frag		gray chert
UA2011-422-0026	26	surface	uniface frag		rhyolite
UA2011-422-0027	28	surface	tested raw material		gray chert
UA2011-422-0028	29	surface	flake	frag	gray chert
UA2011-422-0029	30	surface	flake	frag	black chert
UA2011-422-0030	31	surface	flake	interior	gray chert
UA2011-422-0031	32	surface	biface blank frag		light gray chert
UA2011-422-0032	33	surface	flake	interior	gray chert
UA2011-422-0033	34	surface	biface blank frag		gray chert
UA2011-422-0034	35	surface	biface blank frag		gray chert
UA2011-422-0035	36	surface	flake	interior	gray chert
UA2011-422-0036	37	surface	flake	interior	gray chert
UA2011-422-0037	38	surface	flake	late bifacial thinning	light gray chert
UA2011-422-0038	39	surface	flake	frag	gray chert
UA2011-422-0039	40	surface	biface blank		black chert
UA2011-422-0040	42	surface	flake	interior	black chert
UA2011-422-0041	43	surface	flake	interior	black chert

UA2011-422-0042	44	surface	biface blank frag		dark gray chert
UA2011-422-0043	45	surface	flake	secondary decortication	dark red chert
UA2011-422-0044	46	surface	flake	early bifacial thinning	gray chert
UA2011-422-0045	47	surface	flake	interior	gray chert
UA2011-422-0046	48	surface	flake	interior	gray chert
UA2011-422-0047	49	surface	biface blank frag		black chert
UA2011-422-0048	50	surface	flake	interior	black chert
UA2011-422-0049	51	surface	flake	early bifacial thinning	black chert
UA2011-422-0050	52	surface	flake	interior	gray chert
UA2011-422-0051	53	surface	flake	secondary decortication	black chert
UA2011-422-0052	54	surface	flake	primary decortication	black chert
UA2011-422-0053	55	surface	biface blank frag		gray chert
UA2011-422-0054	56	surface	flake	interior	black chert
UA2011-422-0055	57	surface	flake	frag	gray chert
UA2011-422-0056	58	surface	flake	pressure	dark gray chert
UA2011-422-0057	59	surface	projectile point preform frag		gray chert
UA2011-422-0058	60	surface	flake	interior	gray chert
UA2011-422-0059	61	surface	flake	frag	gray chert
UA2011-422-0060	64	surface	flake	primary decortication	black chert
UA2011-422-0061	66	surface	flake	primary decortication	gray chert
UA2011-422-0062	67	surface	flake	frag	gray chert
UA2011-422-0063	68	surface	tested raw material		gray chert
UA2011-422-0065	69	surface	flake	interior	gray chert
UA2011-422-0067	71	0-10	flake	edge preperation	rhyolite

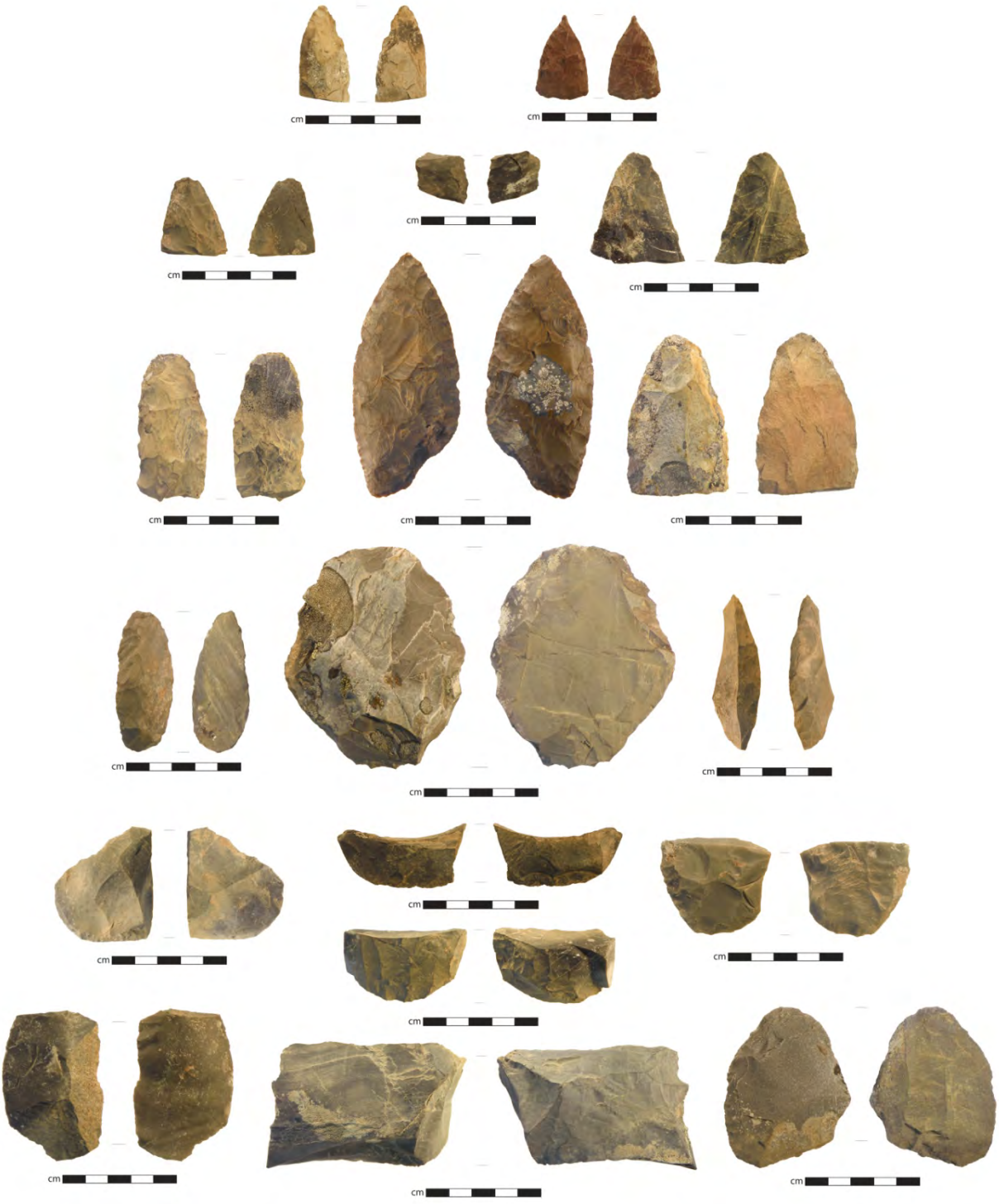


Figure 405. Bifaces and unifaces from XMH-01438

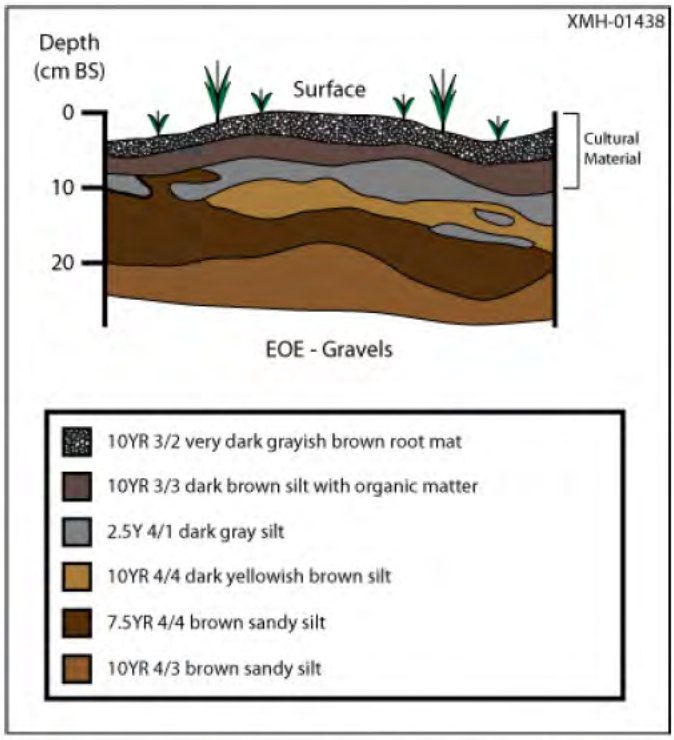


Figure 406. XMH-01438 stratigraphy

Figure 407. XMH-01438 test pit

XMH-01439
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01439 is situated on the western end of a knoll at the southwestern base of Molybdenum Ridge (between XMH-01437 and XMH-01438), Donnelly Training Area West (Figure 387, Figure 409). UTM coordinates are [redacted]. The site overlooks the East Fork of the Little Delta River, approximately 2 km to the west. Another stream, 500 m south, flows east to west at the base of the knoll into the river. The viewshed is 180°.

Vegetation consists of scattered spruce, dwarf birch, and other scrub. The area is exposed due to runoff water, and the surrounding area is wet with muskeg and tussocks. Surface exposure is 0-5% and the site slope is 20°.

The site consists of one rhyolite core fragment and one tested cobble. These surface artifacts were not collected and no test pits were excavated.

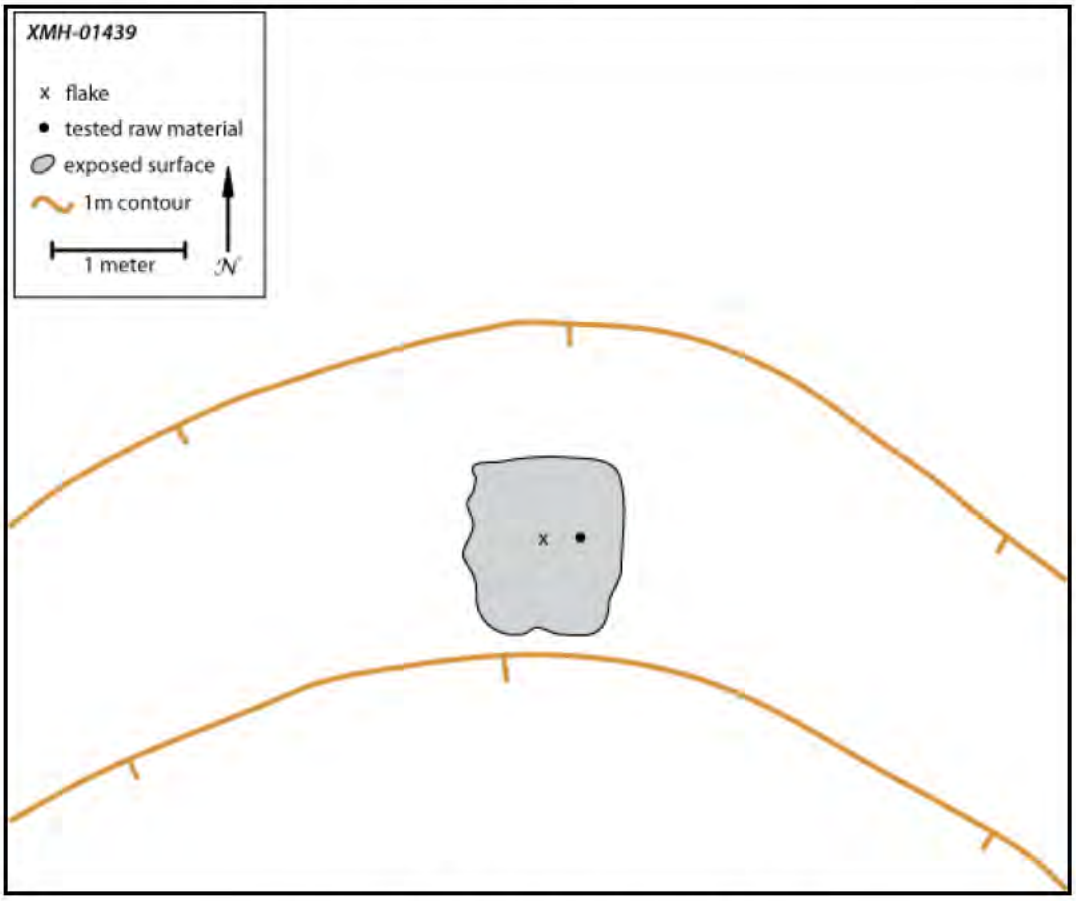


Figure 408. XMH-01439 sketch map

XMH-01440
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01440 is situated on a small rise on a northwest-southeast trending ridge in the northern foothills of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 410). UTM coordinates are [redacted]. Nearby water sources include a stream approximately 500 m to the north, which flows northeast into Gold Pan Creek. The viewshed is 270°.

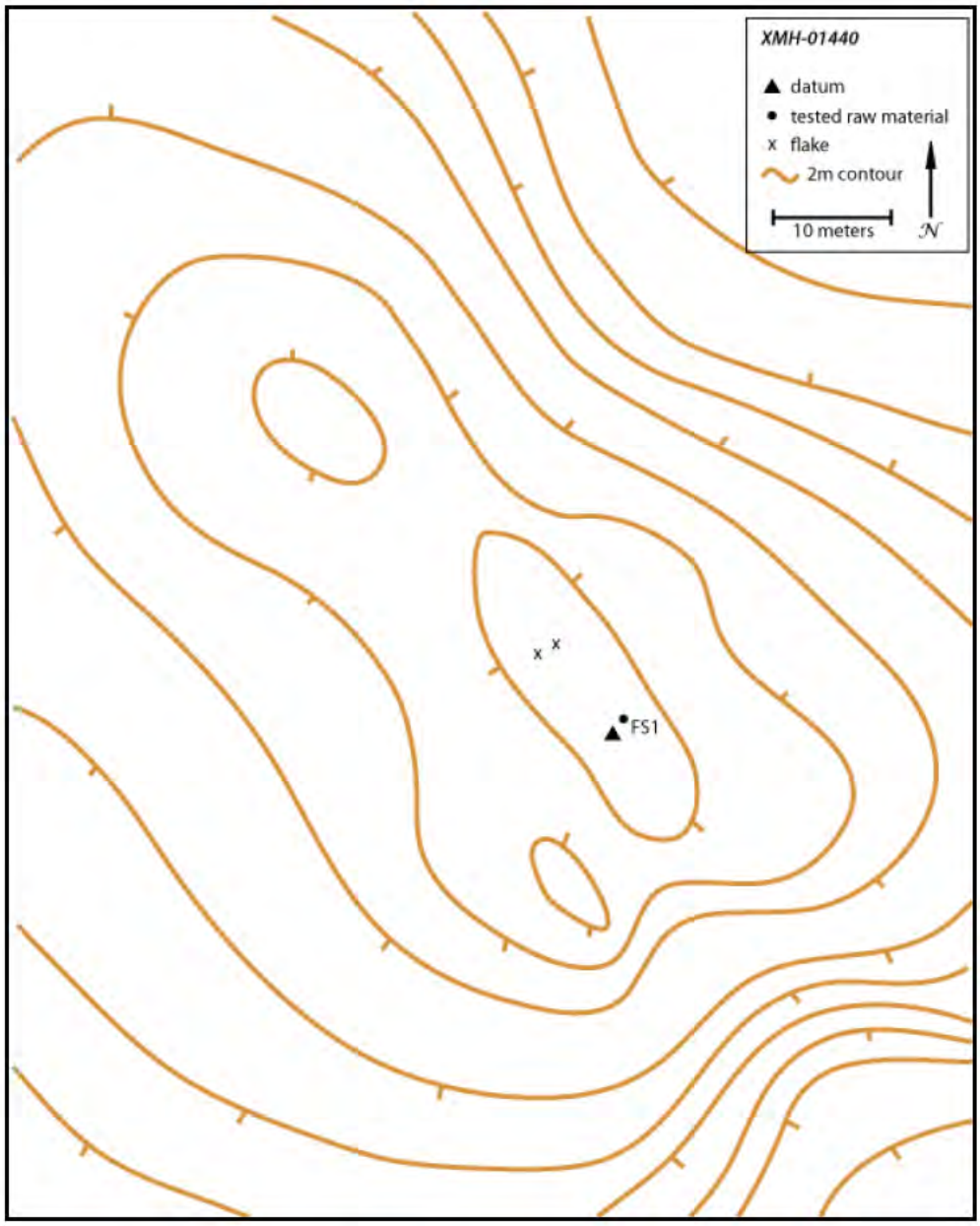


Figure 409. XMH-01440 sketch map

Vegetation consists of low scrub, moss, and lichen. Surface exposure is approximately 10-15%. The site slopes 0-4° (Figure 411).

The site consists of three surface artifacts: two dark gray chert core fragments and one dark gray chert biface perform. Artifacts were located within a 5 m radius. Only the biface was collected (Table 74).

Figure 410. XMH-01440 site overview

Table 74. XMH-01440 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-423-001	1	surface	biface preform frag		basalt

XMH-01441
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01441 is situated on a north-south trending glacial moraine in the northern foothills of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 412). UTM coordinates are [redacted]. Water sources include two small lakes

approximately 200 m to the north-northwest, and a stream, approximately 200 m to the west, flowing from a saddle of Molybdenum Ridge. The viewshed is 360°. Vegetation consists of spruce and scrub birch, mosses, and bearberries. Surface exposure is approximately 10% (Figure 413).

The site consists of a surface scatter of 10 lithic flakes, including a concentration of 8 chert flakes with 2 additional chert flakes approximately 75 meters to the south on the same landform. The surface lithic concentration is contained in a 70 x 70 cm area. No artifacts were collected and no test pits were excavated.

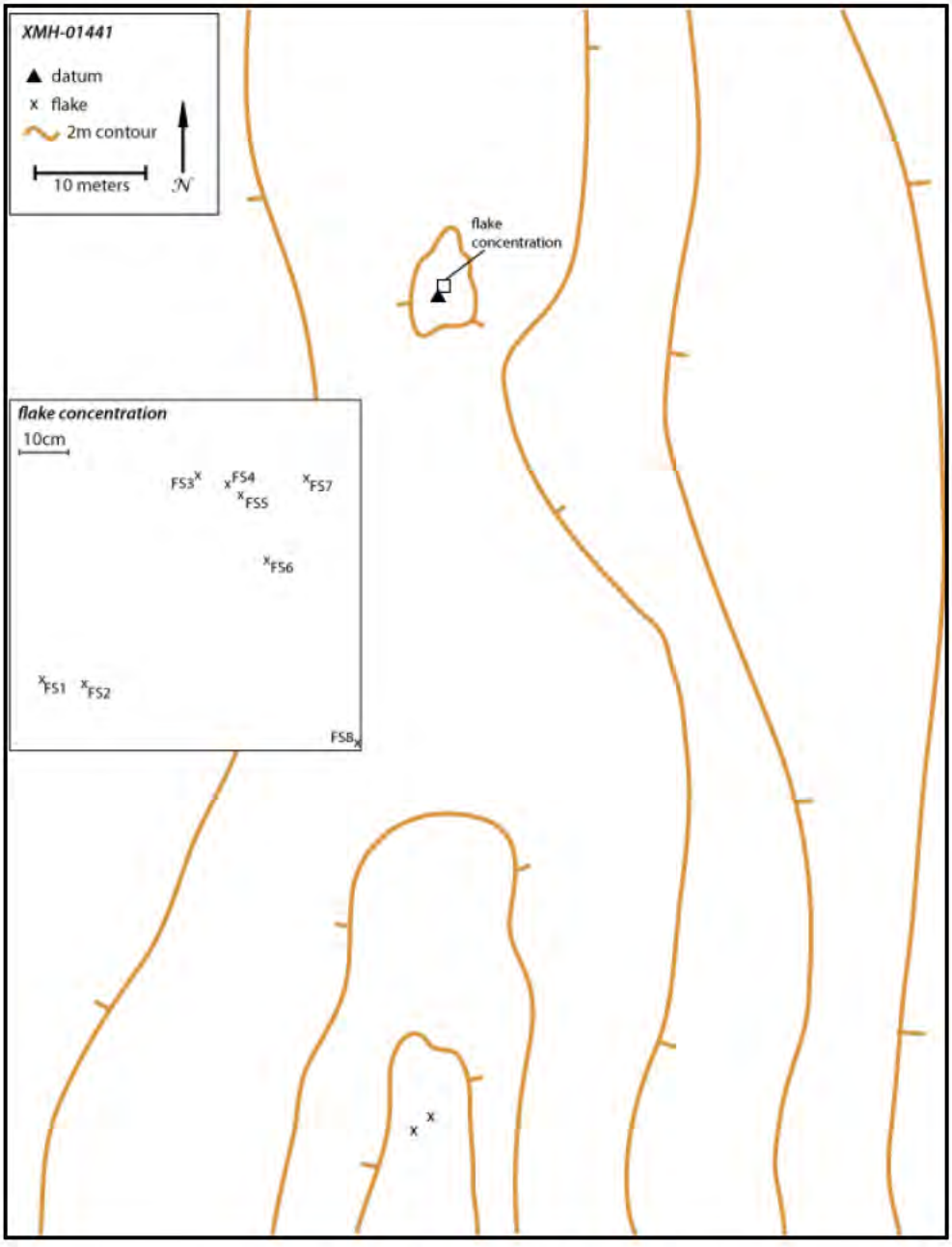


Figure 411. XMH-01441 sketch map

Figure 412. XMH-01441 site overview

XMH-01442
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01442 is located on a linear east-west trending glacial moraine approximately 5 km north of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 414). UTM coordinates are [redacted]. Four ridges parallel the site from the foothills of Molybdenum Ridge. Water sources include Gold Pan Creek, 200 m south of the site. The site has an excellent view of Delta Creek approximately 4 km to the east. Site slope is 0-3°, and it descends from a larger ridge and to the valley below at 25°. The site is approximately 20 m above the valley. The viewshed is 360°.

Vegetation consists of bearberry, dwarf birch, low bush cranberry, dwarf alder, and a single spruce tree. Surface exposure is 10-15%, primarily on the crest of the ridge (Figure 415).

The site consists of one flake fragment of light gray chert found on the surface. One shovel test was excavated and found negative for cultural material.

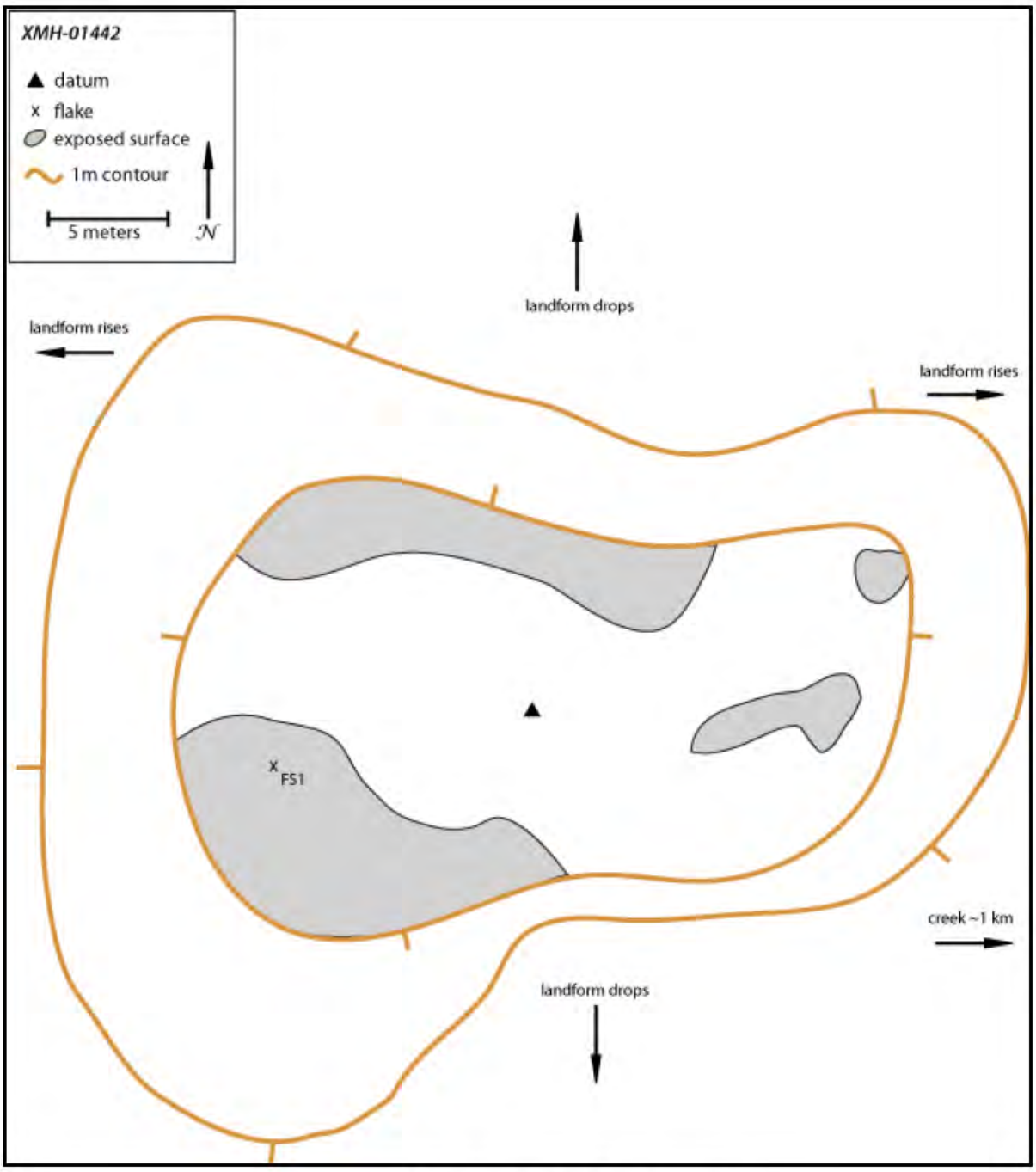


Figure 413. XMH-01442 sketch map

Figure 414. XMH-01442 site overview

XMH-01443
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01443 is situated on a linear east-west trending glacial moraine approximately 5 km north of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 416). UTM coordinates are [redacted]. The ridge is about 500 m long east-west. Water sources include Gold Pan Creek, 600 m south and east of the site. The site has an excellent view of Delta Creek approximately 4 km to the east. Site slope is 5°, and it descends from a larger ridge and to the valley below at 25°. The site is approximately 25 m above the valley. The viewshed is 360°.

Vegetation consists of scattered spruce, dwarf aspen, dwarf birch, moss, lichen, crowberry, and bearberry. Surface exposure is 30% in the immediate area (Figure 417)

The site consists of two chert flakes found on the surface (Table 75). No test pits were excavated.

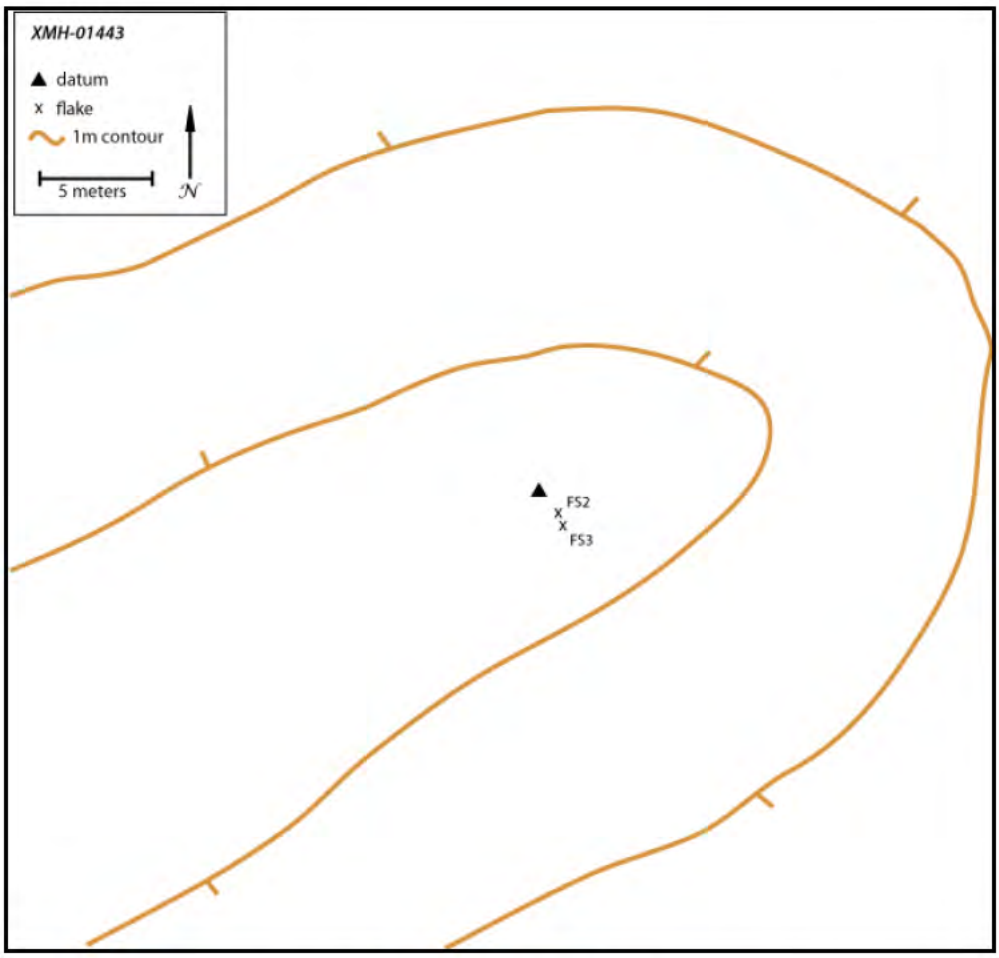


Figure 415. XMH-01443 sketch map

Figure 416. XMH-01442 overview

Table 75. XMH-01443 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-424-0001	2	surface	flake	fragment	gray chert
UA2011-424-0002	3	surface	flake	secondary decortication	gray chert

XMH-01444
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01444 is situated atop a knob on a northeast-southwest trending ridge, which extends from Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 418). UTM coordinates are [redacted]. Water sources nearby are scarce, but small streams and wetlands exist on the north slope of Molybdenum Ridge approximately 1 km to the northwest and east. The viewshed is 360°, with views of Molybdenum Ridge and the valleys separating the site and foothills. Site slope is 5-15°, and the surrounding area slopes 25-30°. The site is 15-20 m above the surrounding ridge. There are many large, angular granite boulders throughout the site (Figure 419).

The site consists of subsurface lithics found in a shovel test just below the surface in the organic layer (root mat). A chert expanded stem-point base fragment and two chert tertiary flakes (refit) were recovered from 0-10 cm BS (Table 76, Figure 420).

One shovel test (MKT21) was excavated, which was positive for cultural material. Site stratigraphy consists of a dark brown organic layer (0-3cm BS) over a very dark brown silt (3-6 cm BS) and dark brown silt (6-8 cm BS), over dark brown sandy silt (8-30 cm BS). The shovel test was terminated at 30 cm BS (Figure 421, Figure 422).

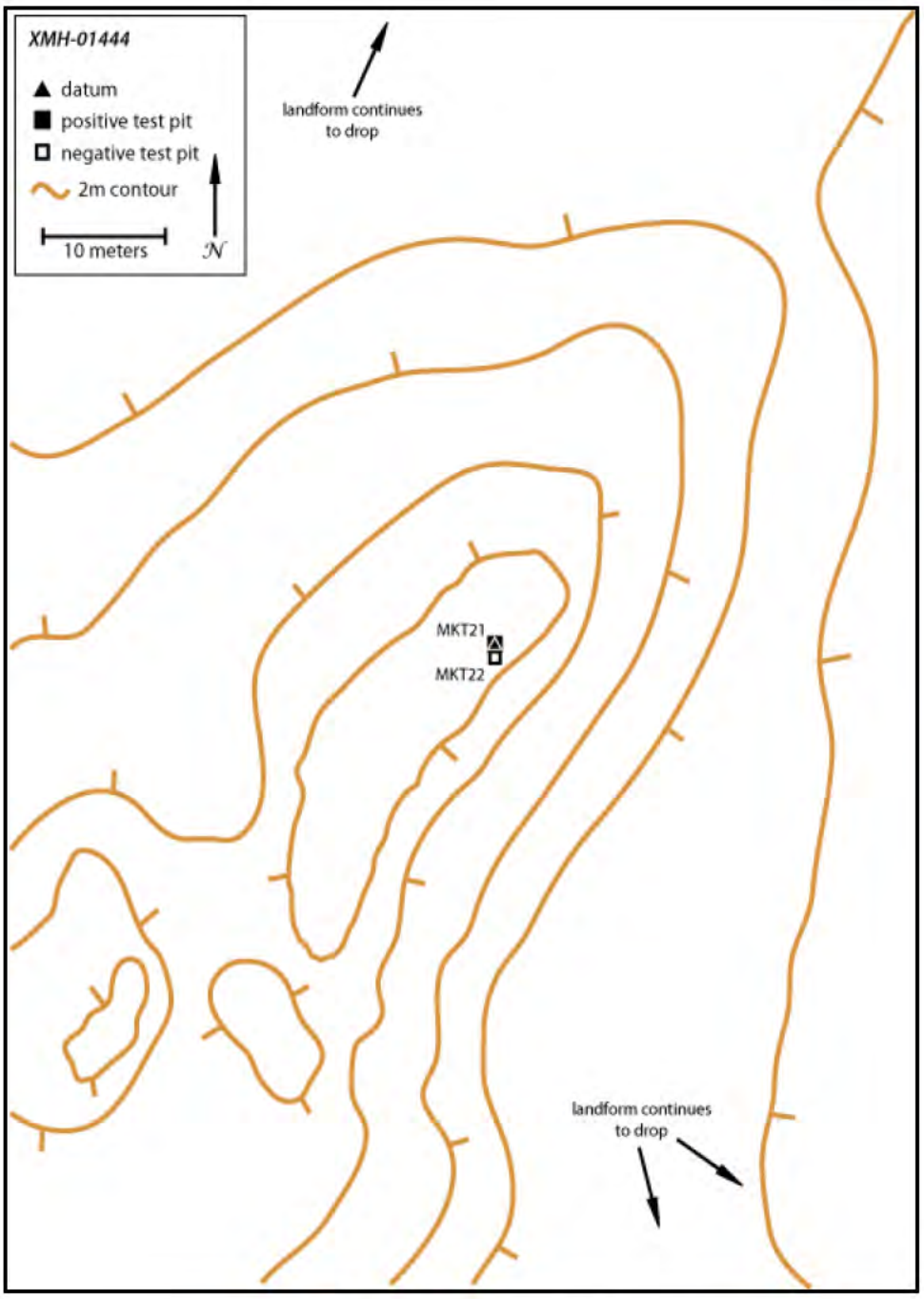


Figure 417. XMH-01444 sketch map

Figure 418. XMH-01444 overview

Table 76. XMH-01444 accession log.

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-425-001	1	0-10	notched projectile point		black chert
UA2011-425-002	2	0-10	flake	fragment	gray chert
UA2011-425-003	4	0-10	bone frags		bone

Figure 419. Notched projectile point base from XMH-01444

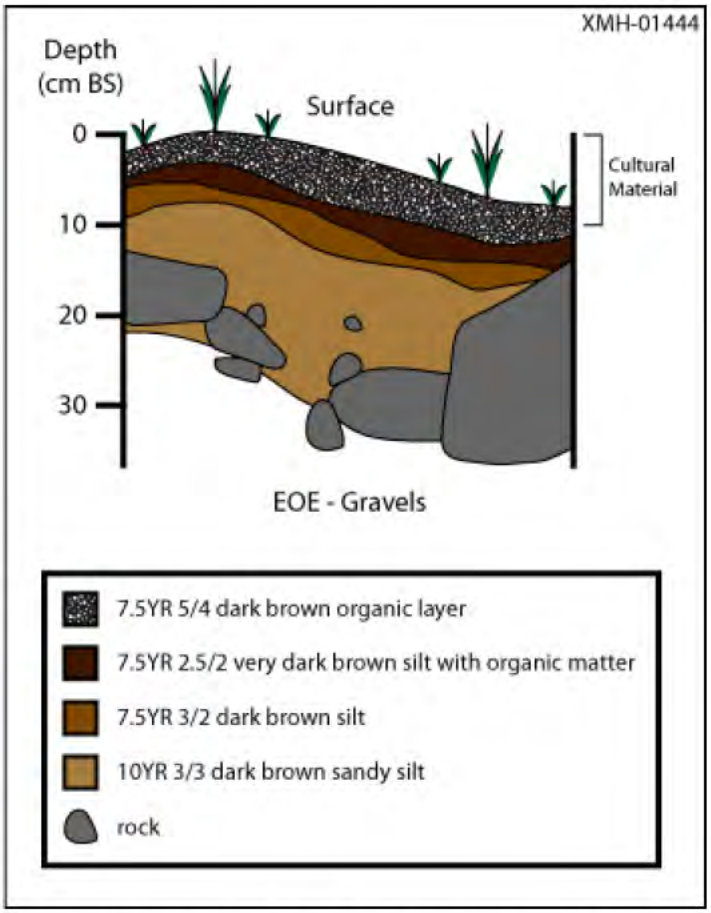


Figure 420. XMH-01444 stratigraphy

Figure 421. XMH-01444 test pit

XMH-01445
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01445 is situated on a northeast-southwest trending glacial moraine northwest of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 423). UTM coordinates are [redacted]. Site XMH-01446 (approximately 260 m NE) and XMH-01447 (approximately 340 m NE) are on the same ridgeline. Nearby water sources include Snow Creek, 2 km to the southeast, and the East Fork of the Little Delta River, 2.5 km to the west. There is an expansive valley between the site and Dead Horse Creek 6 km to the north. Site slope is 8-12°, and the surrounding area slopes 12° to the north and 22° to the south. The viewshed is 360°.

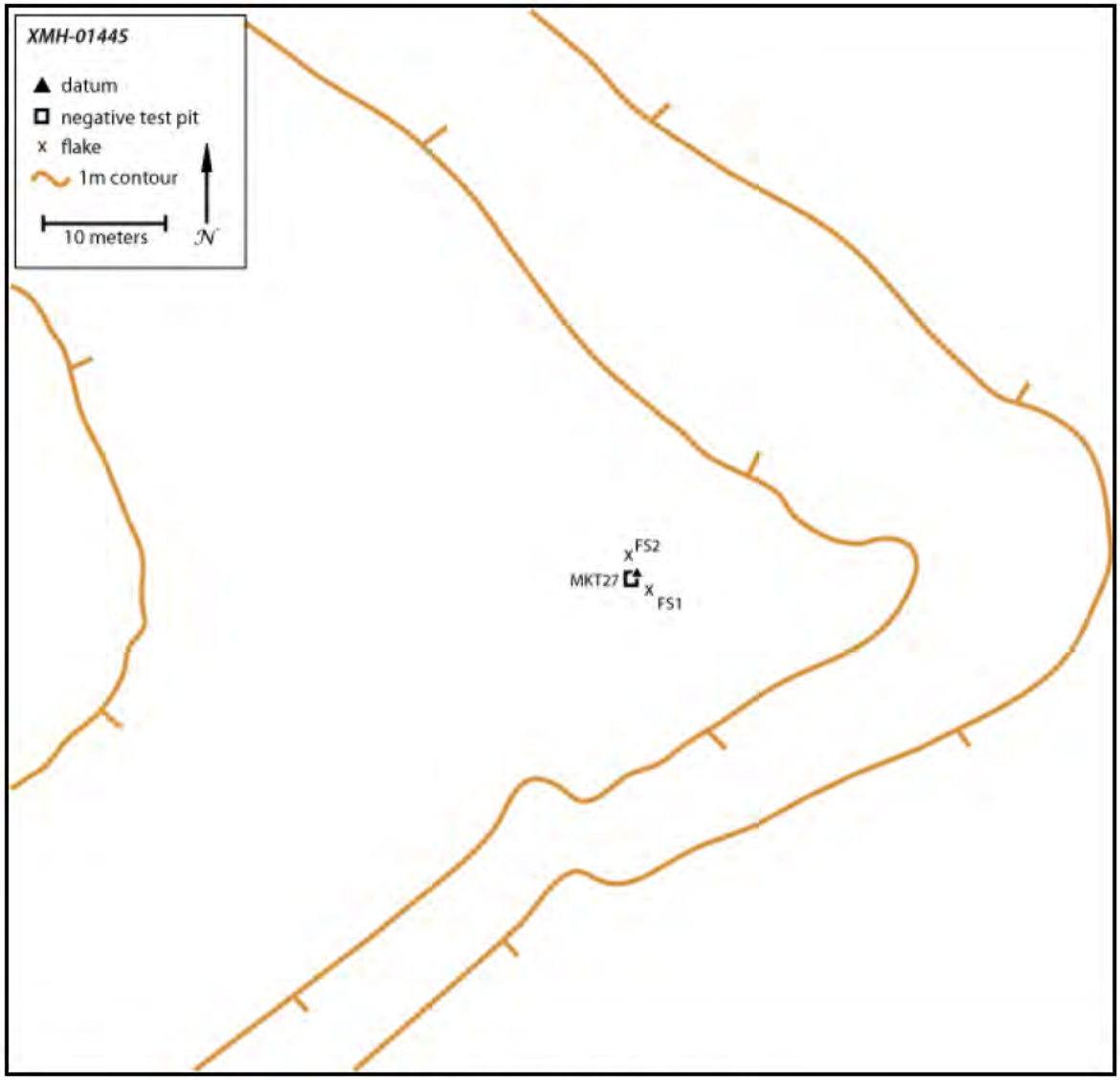


Figure 422. XMH-01445 sketch map

Vegetation consists of grasses, moss, lichen, dwarf birch, and bearberry. Surface exposure is 15-20% (Figure 424).

The site consists of two very dark gray chert flakes recovered from the surface. They were not collected. A test pit (MKT27) placed between the flakes yielded no cultural material. Stratigraphy consists of an organic layer (0-5 cm BS), dark yellowish brown silt (5-15 cm BS), and dark olive brown silty gravels (15-30 cm BS). The shovel test was terminated at 30 cm BS (Figure 425, Figure 426).

Figure 423. XMH-01445 overview

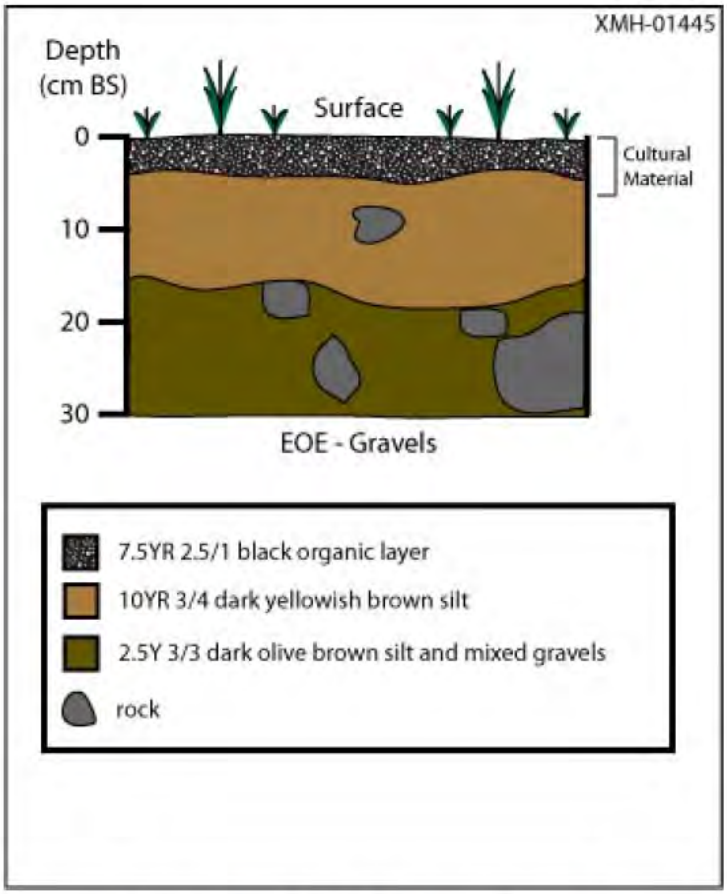


Figure 424. XMH-01445 stratigraphy

Figure 425. XMH-01445 test pit MKT27

XMH-01446
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01446 is situated on a northeast-southwest trending glacial moraine northwest of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 427). UTM coordinates are [redacted]. Site XMH-01445 (approximately 260 m SW) and XMH-01447 (approximately 70 m E) are on the same ridgeline. Nearby water sources include Snow Creek, 2 km to the southeast, and the East Fork of the Little Delta River, 2.5 km to the west. There is an expansive valley between the site and Dead Horse Creek 6 km to the north. Site slope is 8-12°, and the surrounding area slopes 12° to the north and 22° to the south. The view shed is 360°.

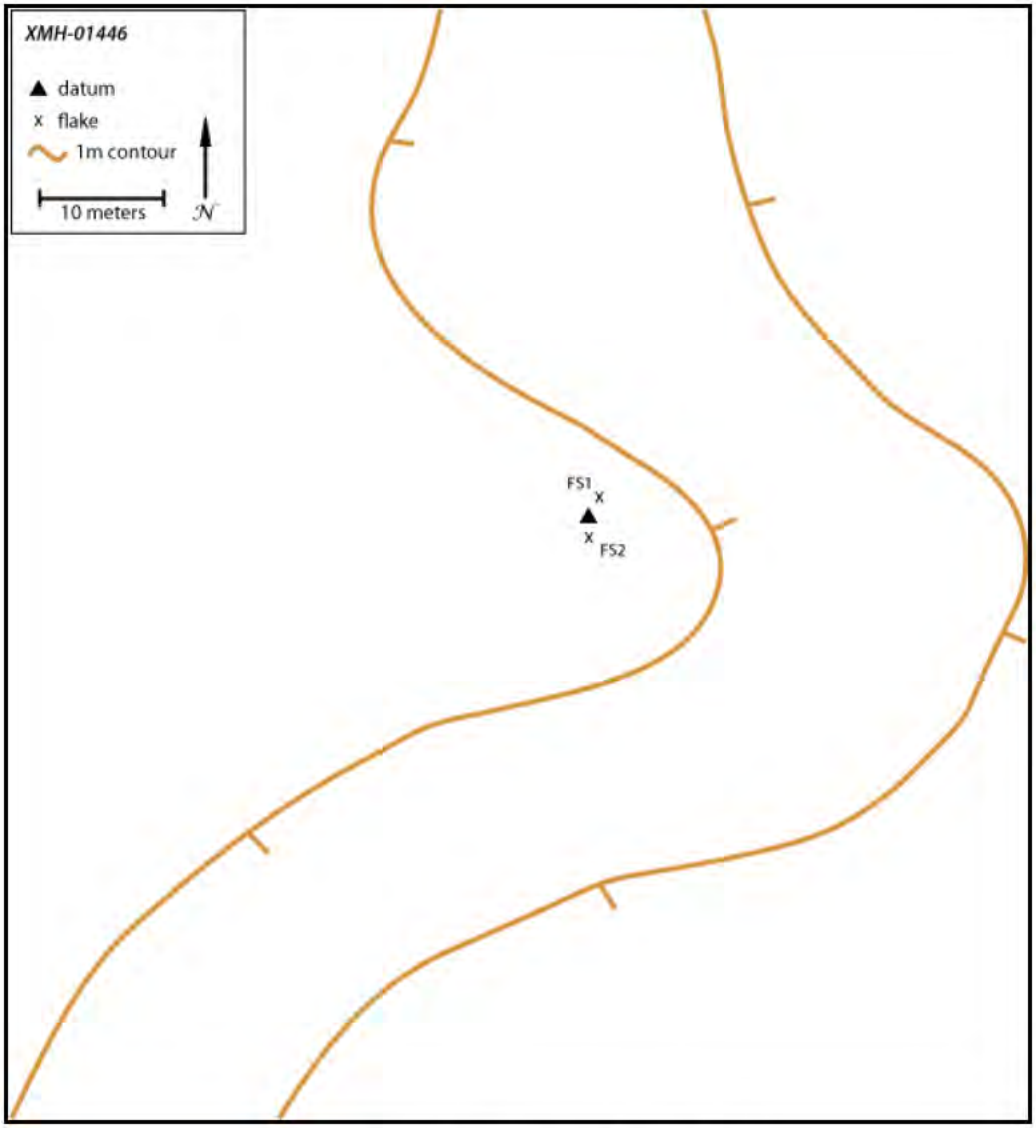


Figure 426. XMH-01446 sketch map

Vegetation consists of grasses, moss, lichen, dwarf birch, and bearberry. Surface exposure is 15-20% (Figure 428).

The site consists of two tertiary chert flakes recovered from the surface, which were collected (Table 77). No subsurface testing was conducted.

Figure 427. XMH-01446 overview

Table 77. XMH-01446 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-426-0001	1	surface	flake	interior	gray chert
UA2011-426-0002	2	surface	flake	edge preparation	gray chert

XMH-01447
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

Site XMH-01447 is situated on a northeast-southwest trending glacial moraine northwest of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 429). UTM coordinates are [redacted]. Site XMH-01445 (approximately 340 SW) and XMH-01446 (approximately 70 m W) are on the same ridgeline. Nearby water sources include Snow Creek, 2 km to the southeast, and the East Fork of the Little Delta River, 2.5 km to the west. There is an expansive valley between the site and Dead Horse Creek 6 km to the north.

Site slope is 8-12°, and the surrounding area slopes 12° to the north and 22° to the south. The viewshed is 360°.

Vegetation consists of scattered small spruce trees, grasses, moss, lichen, dwarf birch, and bearberry. Surface exposure is 10-15% (Figure 430).

The site consists of one coarse gray banded chert flakes recovered from the surface (Table 78). A test pit (MKT28) placed near the flake yielded no cultural material. Stratigraphy consists of an organic layer (0-5 cm BS) over dark yellowish brown silt (5-15 cm BS) over dark olive brown silty gravels (15-30 cm BS). The test pit was terminated at 30 cm BS (Figure 431, Figure 432).

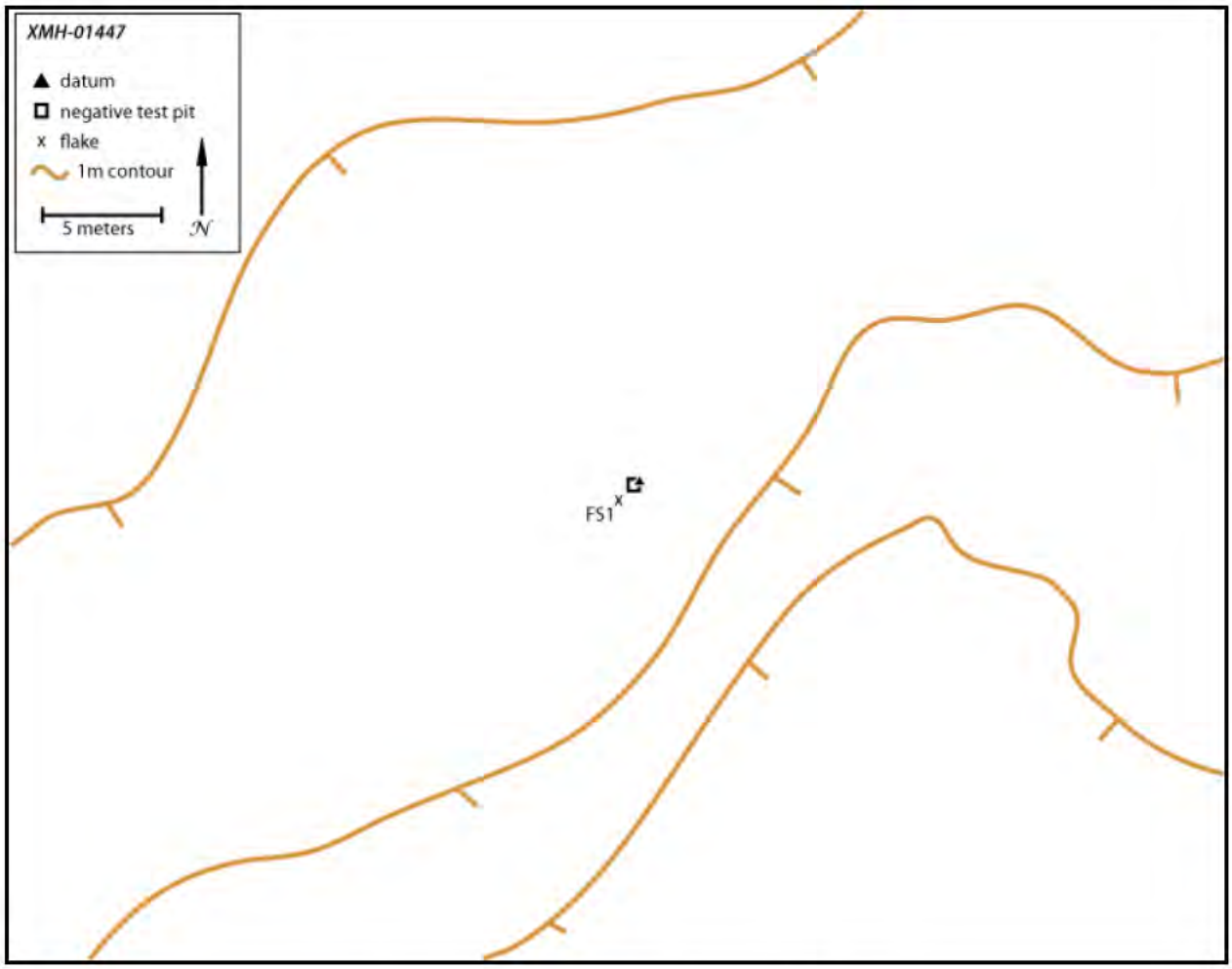


Figure 428. XMH-01447 sketch map

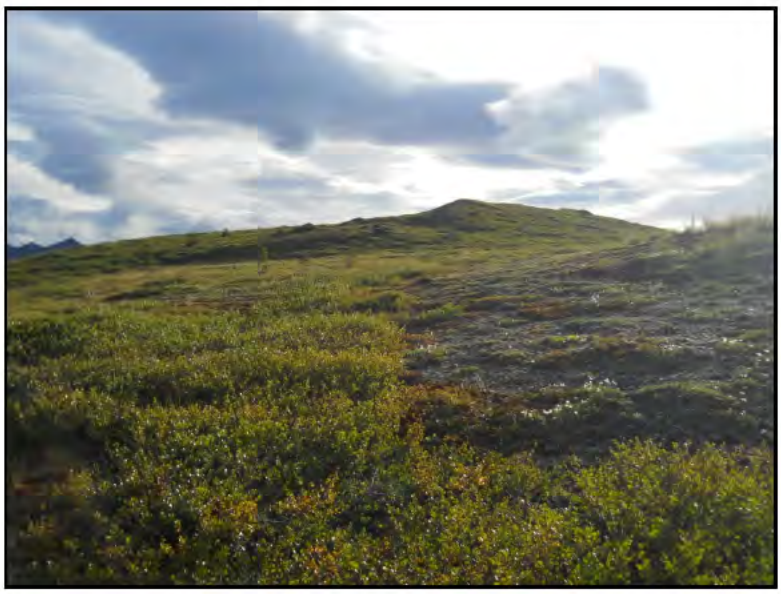


Figure 429. XMH-01447 overview

Table 78. XMH-01447 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-427-001	1	surface	flake	primary decortication	black chert

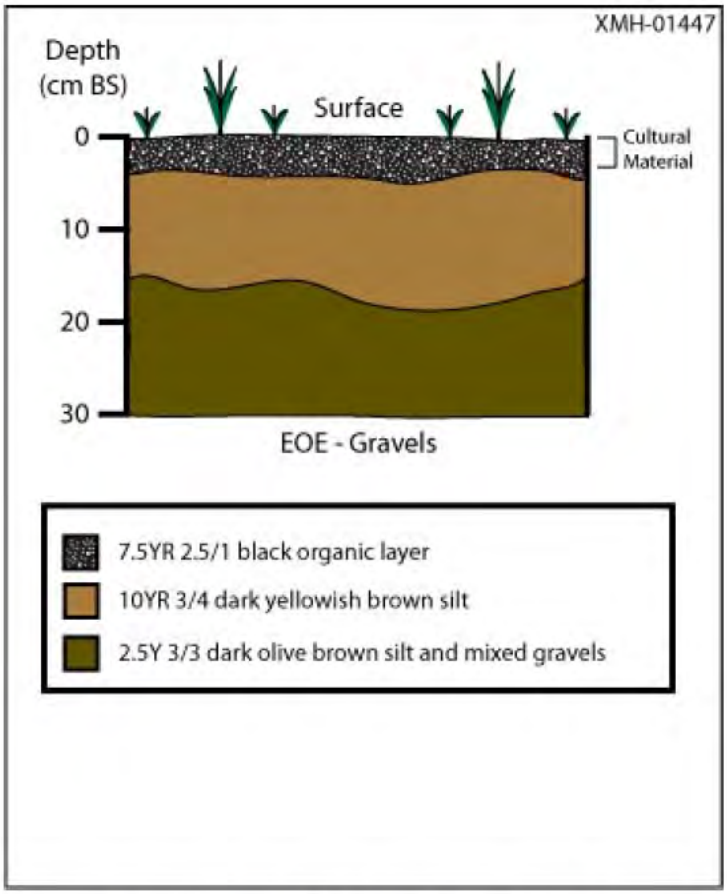


Figure 430. XMH-01447 stratigraphy

Figure 431. XMH-01447 test pit MKT-28

XMH-01448
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01448 is situated on the crest of a hill east of Molybdenum Ridge, Donnelly Training Area West (Figure 387, Figure 433). UTM coordinates are [redacted]. The site is located on a small rock formation that rises above the surrounding area approximately 30 m, spanning a 20 x 40 m area. The landform has a 360° viewshed, which includes Molybdenum Ridge to the west and large valleys to the north and west that contain streams that flow into Gold Pan Creek, Delta Creek to the northeast, and Ptarmigan Creek to the southeast. No water is in the immediate area, although small drainages are nearby. There is 0% surface visibility due to the vegetation and massive rocks that cover the site.

Figure 432. XMH-01448 sketch map

Vegetation consists of moss, lichen, grasses and other low scrub (Figure 434).

Three subsurface flakes found in a single shovel test pit (MWT2), which was excavated in the center of the small rise. Two light brown chert flakes and one third dark gray chert flake were recovered and collected from 0-20 cm BS (Table 79). The test pit was terminated at 28 cm BS (Figure 435, Figure 436).

Figure 433. XMH-01448 overview

Table 79. XMH-01448 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Flake type	Material
UA2011-428-0001		0-20	flake	3	bifacial thinning	rhyolite and black chert

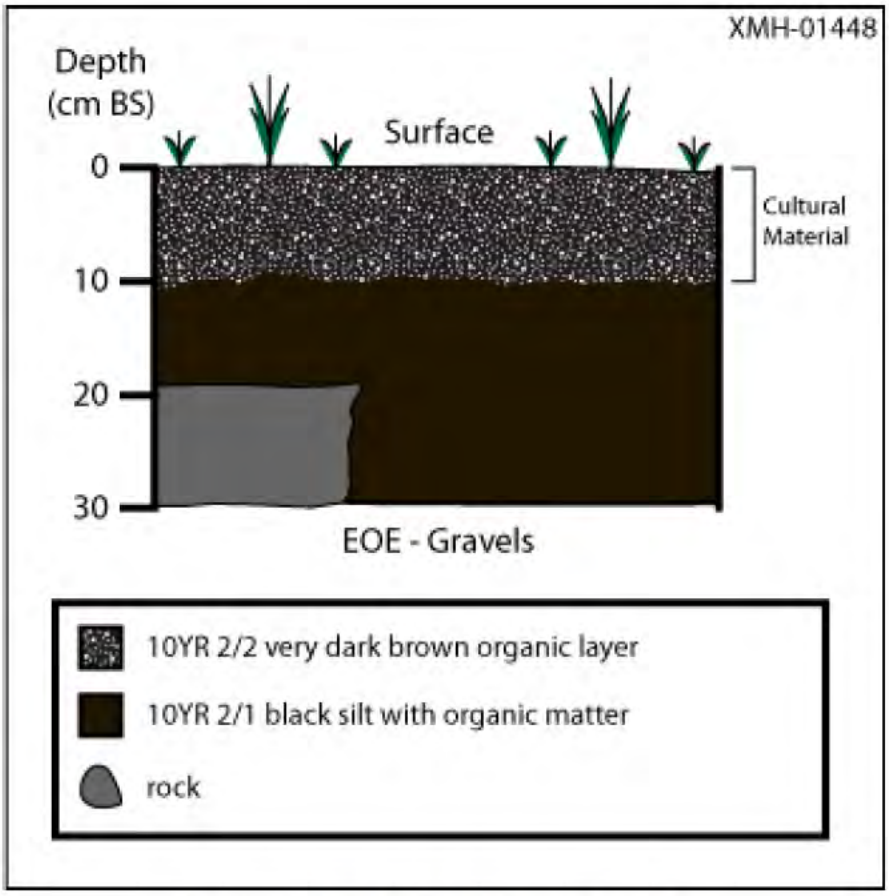


Figure 434. XMH-01448 stratigraphy

Figure 435. XMH-01448 test pit

XMH-01449
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01449 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, Figure 437). UTM coordinates are [redacted]. The site is on a prominent knoll 20 x 200 m that extends to the northeast, overlooking large valleys to the east and west as well as the Delta Creek to the east, Dinosaur Ridge to the west, Gold Pan Creek to the east, and Molybdenum Ridge to the south. Vegetation and the continued rise to the southwest obstruct the view from being 360°, but much of the surrounding area is visible from the site. Surface visibility is less than 10% due to vegetation.

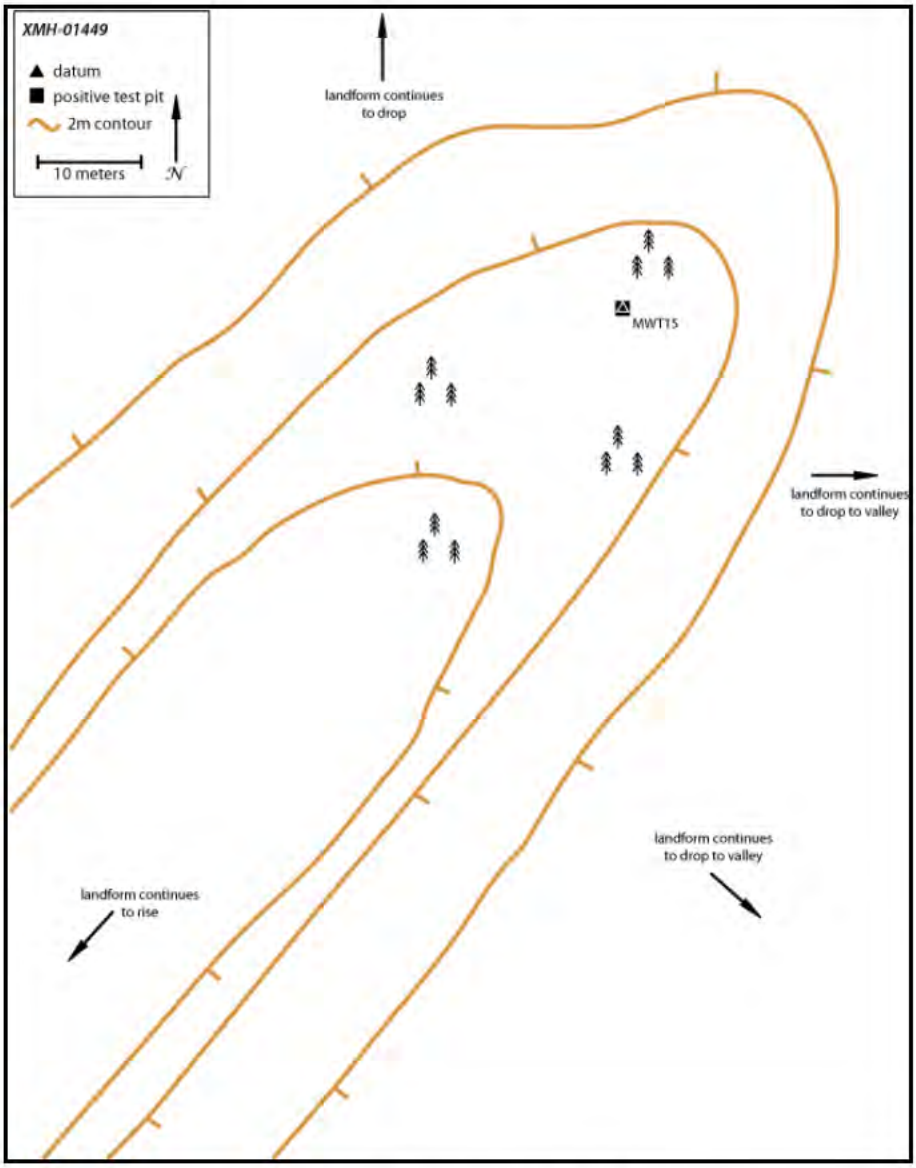


Figure 436. XMH-01449 sketch map

Vegetation consists of grasses, moss, lichen, low scrub, dwarf birch, spruce and birch (Figure 438).

One shovel test (MWT15) yielded two small black chert flakes found 0-10 cm BS (Table 80). The test pit was terminated at 30 cm BS (Figure 439, Figure 440).

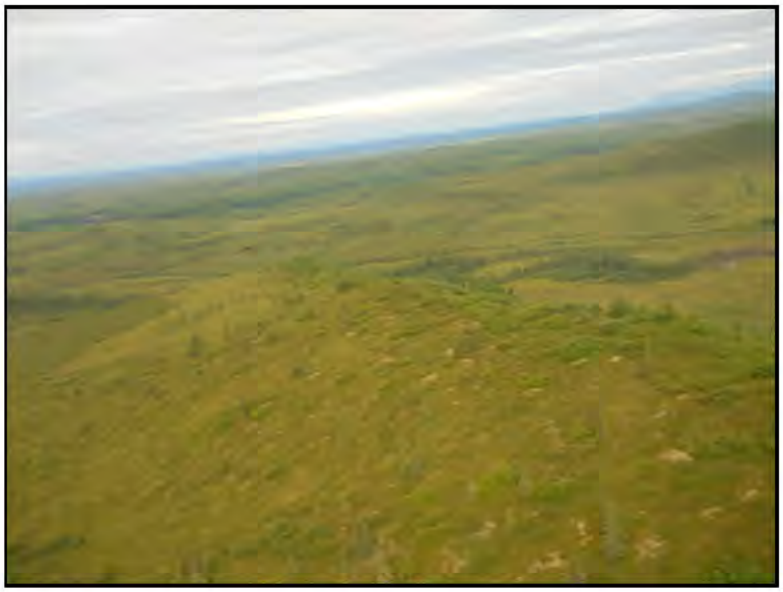


Figure 437. XMH-01449 overview

Table 80. XMH-01449 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	n=	Flake Type	Material
UA2011-429-0001	1	0-10	flake	2	frag and alternate	gray chert

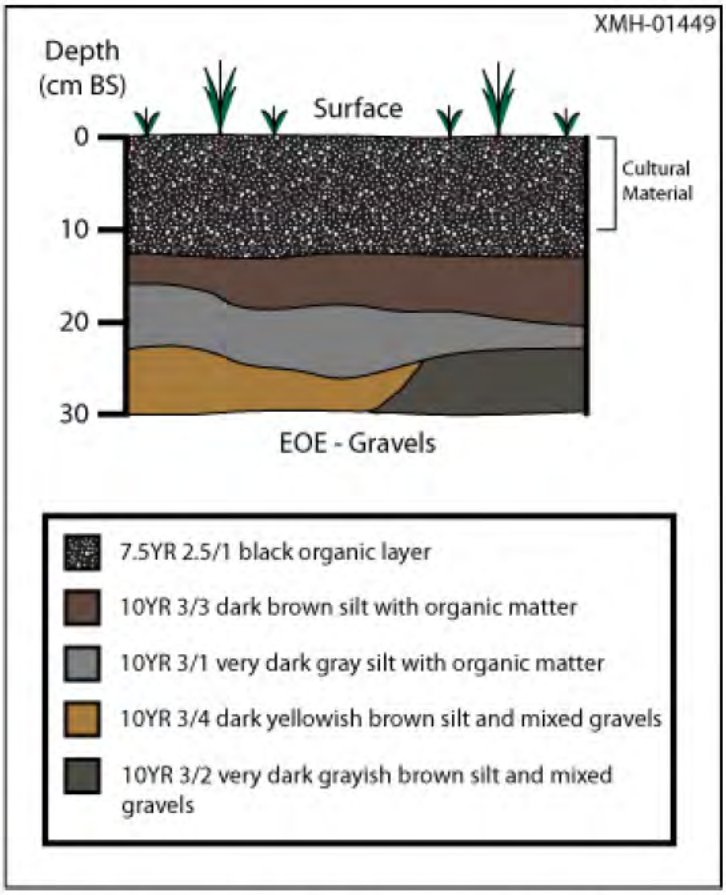


Figure 438. XMH-01449 stratigraphy

Figure 439. XMH-01449 test pit MWT15

XMH-01450
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01450 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, Figure 441, Figure 442). UTM coordinates are [redacted]. The site is on a small, rock-covered and vegetated rise on a landform that extends northwest-southeast west of Delta Creek and east of Gold Pan Creek. The rise is approximately 30 x 50 m and less than 10 m above its surrounding area. The adjacent landscape is covered in tussocks and rises >50 m above the surrounding valleys. Molybdenum Ridge is visible to the southwest, Dinosaur Ridge is to the northwest, and small lakes are visible to the northeast. There is 20-30% surface visibility, which consists of gravels and large rocks with some silt.

Vegetation includes low scrub, moss, lichen, dwarf birch, alder, low bush cranberry and blueberry, and scattered spruce (Figure 443).

Fourteen flakes made from a variety of cherts and rhyolite were found on the surface with sizes ranging from 0.5 cm to 2 cm. No artifacts were collected and no subsurface testing was conducted.

Figure 440. Aerial view of XMH-01450

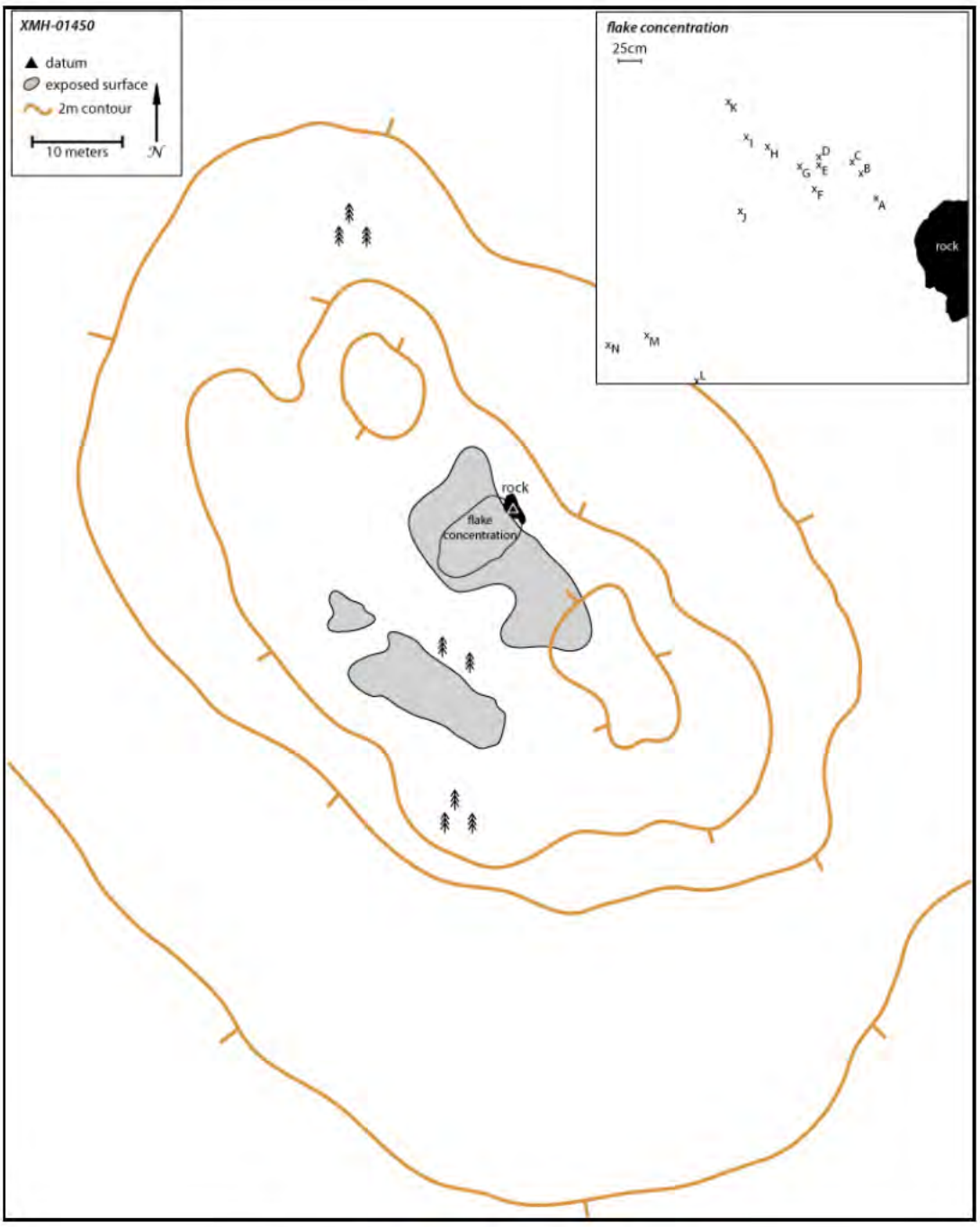


Figure 441. XMH-01450 sketch map

Figure 442. XMH-1450 overview

XMH-01451
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01451 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, Figure 444). UTM coordinates are [redacted]. The site is situated on the southeastern base of a mountain 3 km east of Molybdenum Ridge. It overlooks Ptarmigan Creek 1.5 km to the south and Delta Creek 2.5 km to the east. A stream 600 m to the south flows from a saddle of Molybdenum Ridge. Site XMH-01434 is located across this stream 1 km to the southwest. Bennet Airstrip is 3.5 km to the southeast. Site slope is 10-15°, and two large rock formations at the southernmost portion of the landform slope nearly 90°. The viewshed is 270° and includes the Alaska Range to the southeast, Dinosaur Ridge to the northeast, and Molybdenum Ridge to the west. The site has 20-30% surface visibility consisting of large rocks, gravels, and silt. Surface exposure and site erosion are due to wind, water, and high relief of this location relative to adjacent low lying areas.

Vegetation consists of grasses, moss, lichen, low bush cranberry, blueberry, bearberry, other low scrub, dwarf birch, and alder (Figure 445).

One 3 x 2 cm dark reddish brown chert uniface was recovered from the surface of the site (Table 81). No subsurface testing took place at the site.

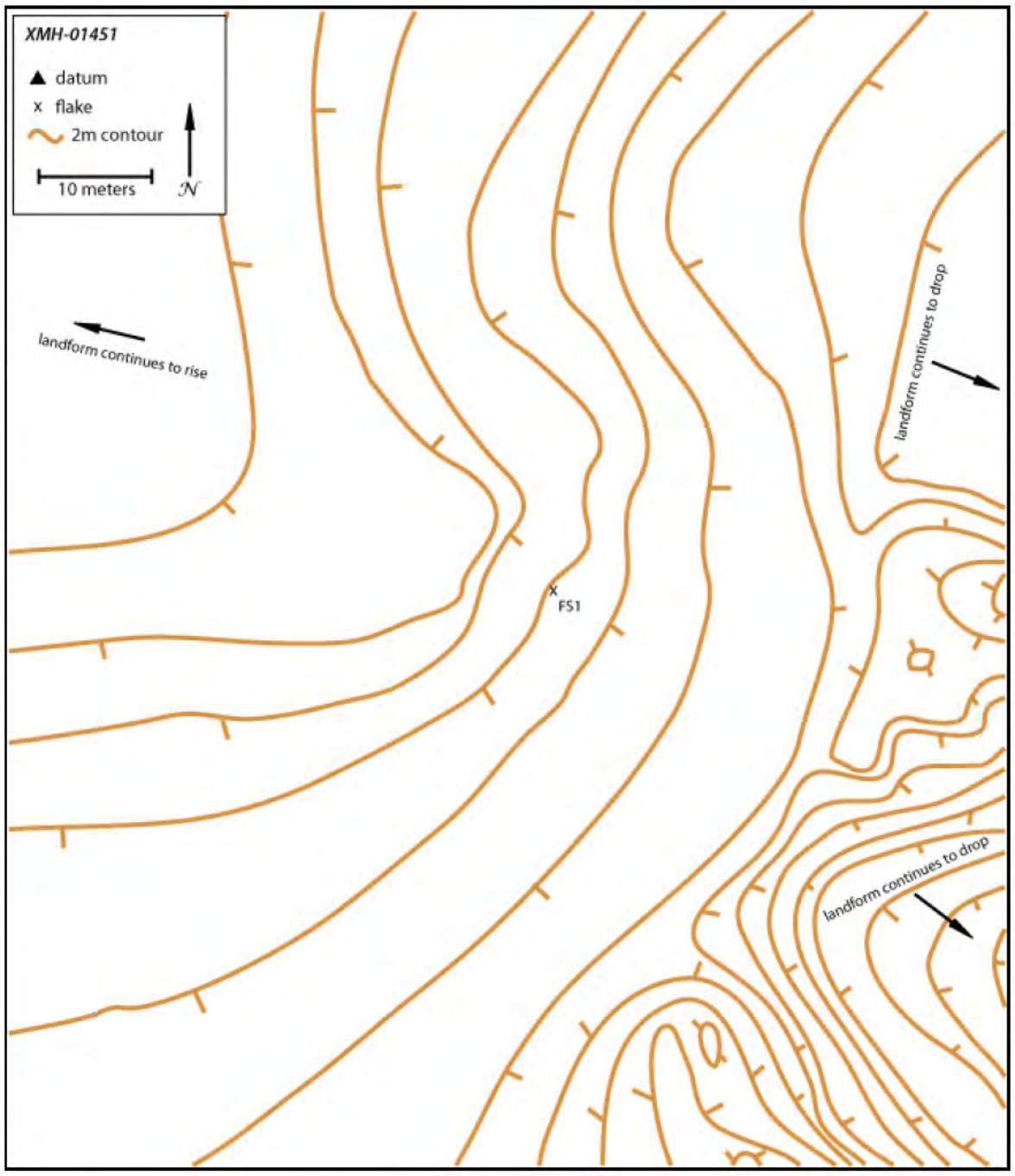


Figure 443. XMH-01451 sketch map

Figure 444. XMH-01451 overview

Table 81. XMH-01451 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-430-0001	1	surface	uniface		red chert

XMH-01452
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01452 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, Figure 446). UTM coordinates are [redacted]. The site is situated on the northwestern base of Patton Mountain overlooking the East Fork of the Little Delta River, 2.5 km to the west. The site overlooks a creek that separates Patton Mountain and Molybdenum Ridge, which runs east-west approximately 300 m to the north and drains into the East Fork. Sites XMH-01437, XMH-01438, and XMH-01439 are located across this drainage, 700-900 m to the north. XMH-01453 is 350 m to the northwest. XMH-01452 spans approximately 40 x 70 m. The site has a 180° viewshed, which includes the Alaska Range to the southwest. Surface visibility of the site is 15-20% with exposed silts, small gravels and scattered large rocks due to wind and water erosion.

Vegetation consists of grasses, low scrub, moss, lichen, low bush cranberry, blueberry, bearberry, dwarf birch, alder, and spruce (Figure 447).

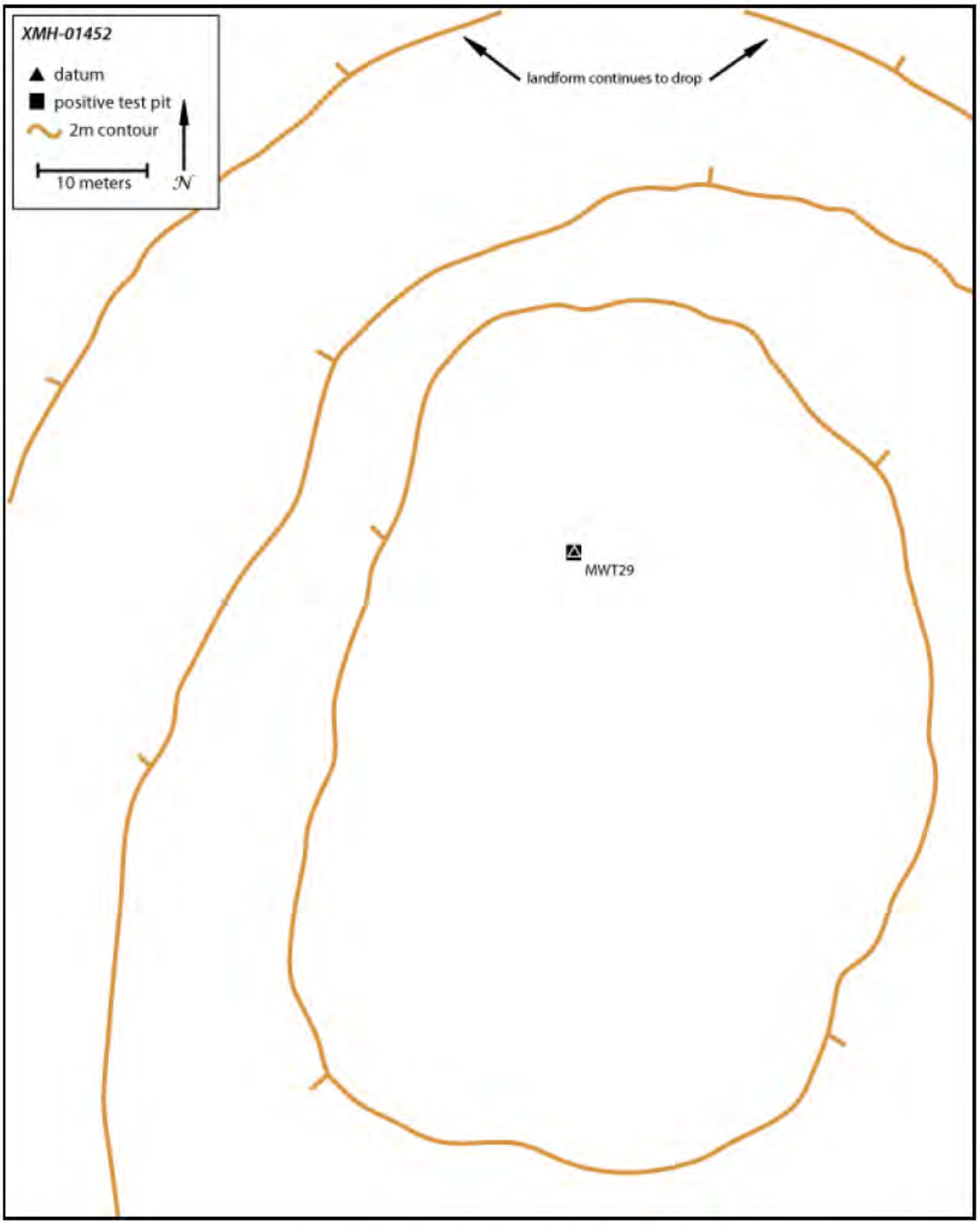


Figure 445. XMH-01452 sketch map

MW-11-5 was found on the basis of subsurface testing. One shovel test pit (MWT29) was excavated and yielded two dark gray chert flakes from 0-10 cm BS (Table 82).

Stratigraphy from the test pit demonstrates a shallow root mat, 0-3 cm BS (10 YR 3/1 very dark gray), overlying a thin layer of silt and mixed gravels, 3-7 cm BS (10 YR 4/2 dark grayish brown), over several other layers of poorly sorted silt with gravels: 7-15 cm BS (2.5 Y 3/3 dark olive brown), 10-15 cm BS (10 YR 3.2 very dark grayish brown), and 15-20 cm BS (2.5 Y 4/2 dark grayish brown) (Figure 448, Figure 449).

Figure 446. XMH-01452 overview

Table 82. XMH-01452 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-431-0001	1	0-10	flake (2)	fragment	dark gray chert

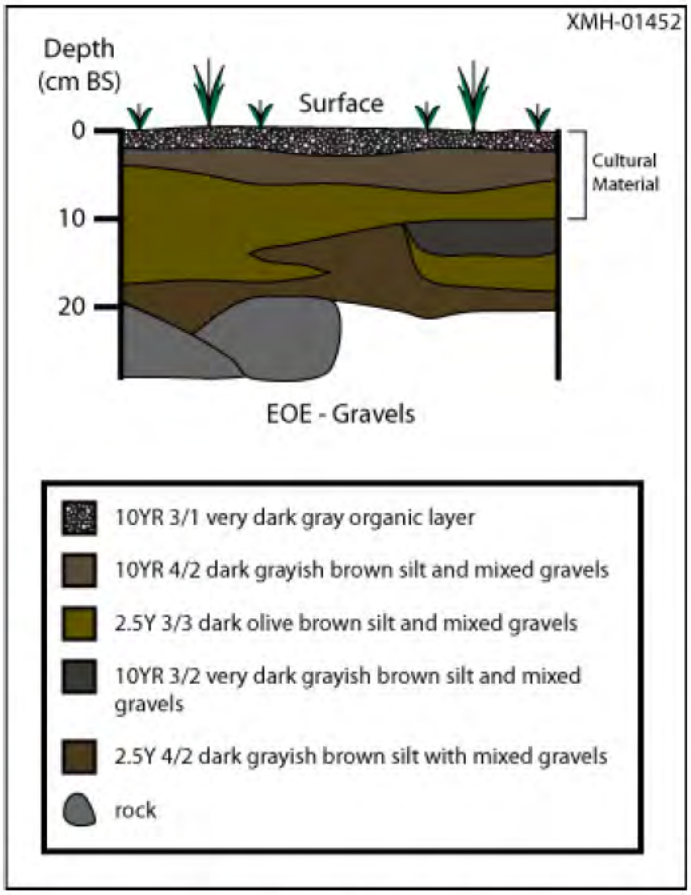


Figure 447. Stratigraphy from XMH-01452

Figure 448. Test pit MWT29

XMH-01453
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01453 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, 450). UTM coordinates are [redacted]. The site is situated on the northwestern base of Patton Mountain overlooking the East Fork of the Little Delta River, 2 km to the west. XMH-01453 overlooks a creek that separates Patton Mountain and Molybdenum Ridge, which runs east-west approximately 200 m to the north and drains into the East Fork of the Little Delta River. XMH-01451, XMH-01452, and XMH-01453 are located across this drainage, 500-700 m to the north. XMH-01452 is 350 m to the southeast. XMH-01453 spans an area of approximately 20 x 40 m. The site has a 180° viewshed, which includes the Alaska Range to the southwest. Surface visibility of the site is 15-20% with exposed silts, small gravels and scattered large rocks due to wind and water erosion.

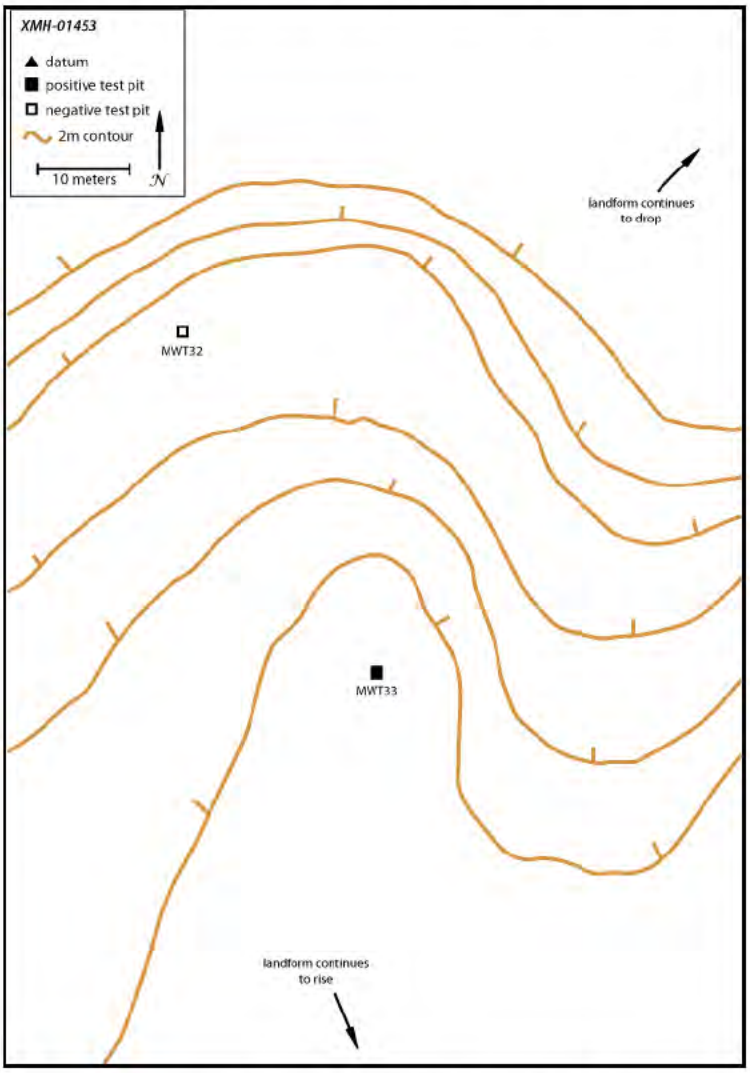


Figure 449. XMH-01453 sketch map

Vegetation consists of grasses, low scrub, moss, lichen, low bush cranberry, blueberry, bearberry, dwarf birch, alder, and spruce (Figure 451).

XMH-01453 was found on the basis of subsurface testing. Two shovel test pits were excavated, one of which (MWT33) yielded cultural material. One light gray chert flake was recovered from 0-10 cm BS (Table 83).

The stratigraphy from the test pit (MWT33) shows that a shallow root mat, 0-3 cm BS (10 YR 3/1, very dark gray), overlies organic-rich silt with gravel inclusions, 3-14 cm BS (10 YR 4/2, dark grayish brown), over a more poorly sorted organic-rich silt with gravel, 14+ cm BS (2.5 Y 3/3, dark olive brown) (Figure 452, Figure 453).

Figure 450. XMH-01453 overview

Table 83. XMH-01453 accession log

UA Accession #	FS #	Depth (cm BS)	Artifact Type	Flake Type	Material
UA2011-432-0001	1	0-10	flake	fragment	rhyolite

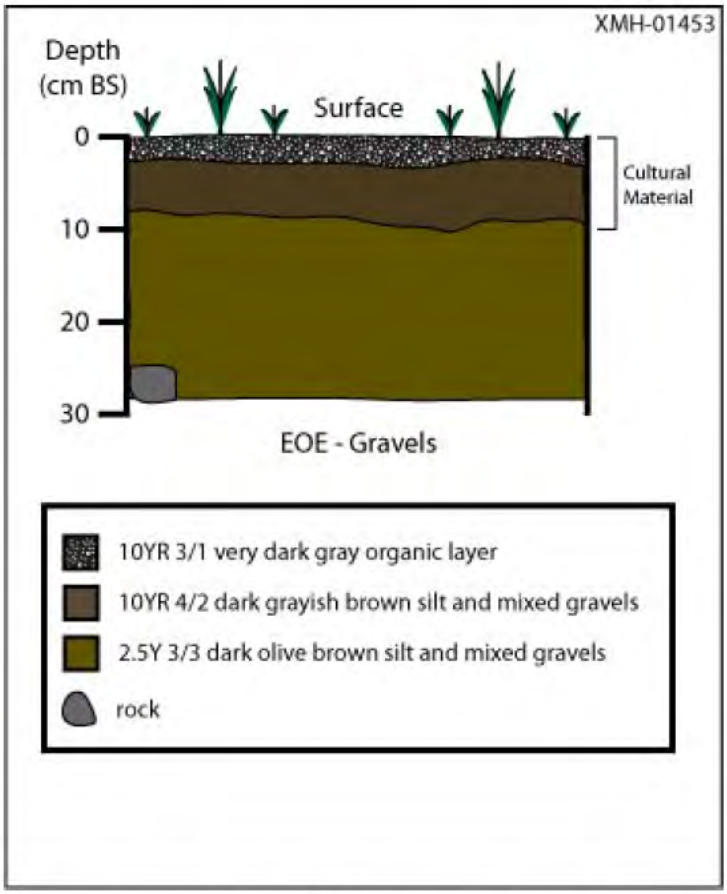


Figure 451. XMH-01453 stratigraphy

Figure 452. Test pit MWT33

XMH-01454
Latitude: [redacted]
Longitude: [redacted]
Determination of Eligibility: Not Evaluated

XMH-01454 is located in the Molybdenum Ridge area of Donnelly Training Area West (Figure 387, Figure 454). UTM coordinates are [redacted]. The site is situated on the southern portion of a landform that trends north-south, with a valley on each side. The Alaska Range is visible to the southwest and south, and Molybdenum Ridge is to the east. Delta Creek is visible to the northeast, and a glacial drainage runs parallel to the landform to the west. The East Fork of the Little Delta River is approximately 1.5 km to the west. The site spans a 20 x 20 m area. Surface visibility is close to 15% due to wind and water erosion.

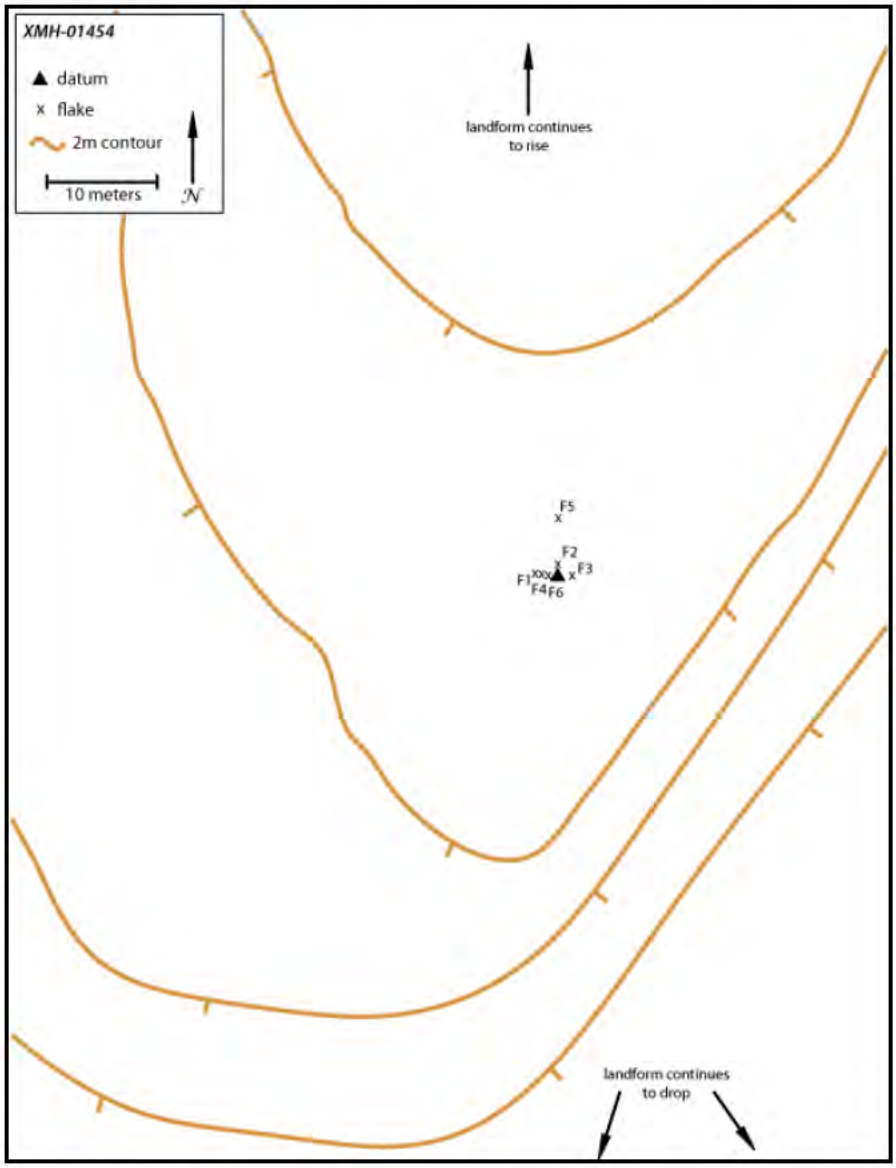


Figure 453. XMH-1454 sketch map

Vegetation consists of moss, lichen, low scrub, low bush cranberry and blueberry, as well as dwarf birch, alder, spruce, and grasses (Figure 455).

The site consists of 4 surface flakes including two tan rhyolite flakes, one dark gray broken basalt flake, and one tan rhyolite flake fragment. No artifacts were collected. No subsurface testing was conducted.

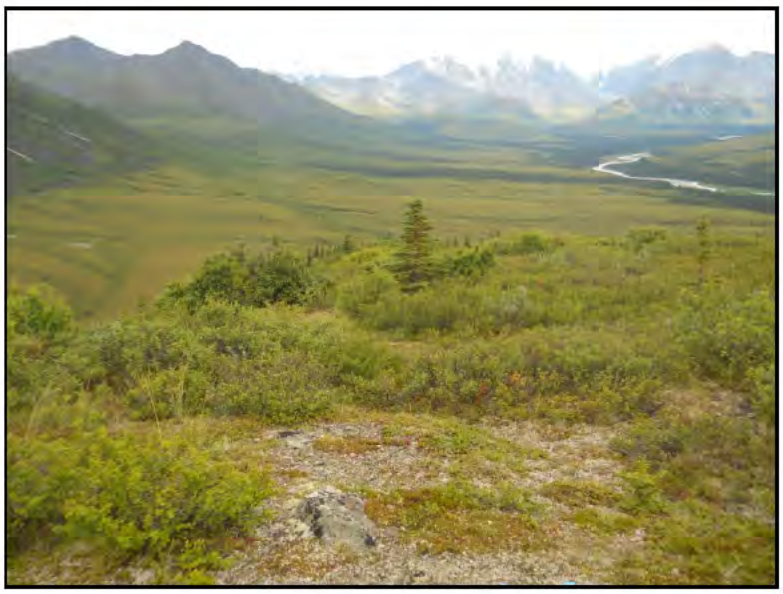


Figure 454. XMH-01454 overview

7.0 GERSTLE RIVER TRAINING AREA (GRTA)

7.1 Introduction

GRTA (Figure 456) consists of a rectangular area over 20,500 acres in size, located 20 miles southeast of DTA. GRTA lies between Granite Mountain and Gerstle River, about 3 miles south of the Alaska Highway. The entire training area is located within the Tanana drainage basin. Topographic features are related to the glacial and alluvial histories of the area and include terminal moraines, outwash fans, braided streams, kettle lakes, and loess deposits.

There are two main vegetation types in GRTA: open low growing spruce forests and closed spruce-hardwood forests. Low lying areas are dominated by shrub wetlands or bogs.

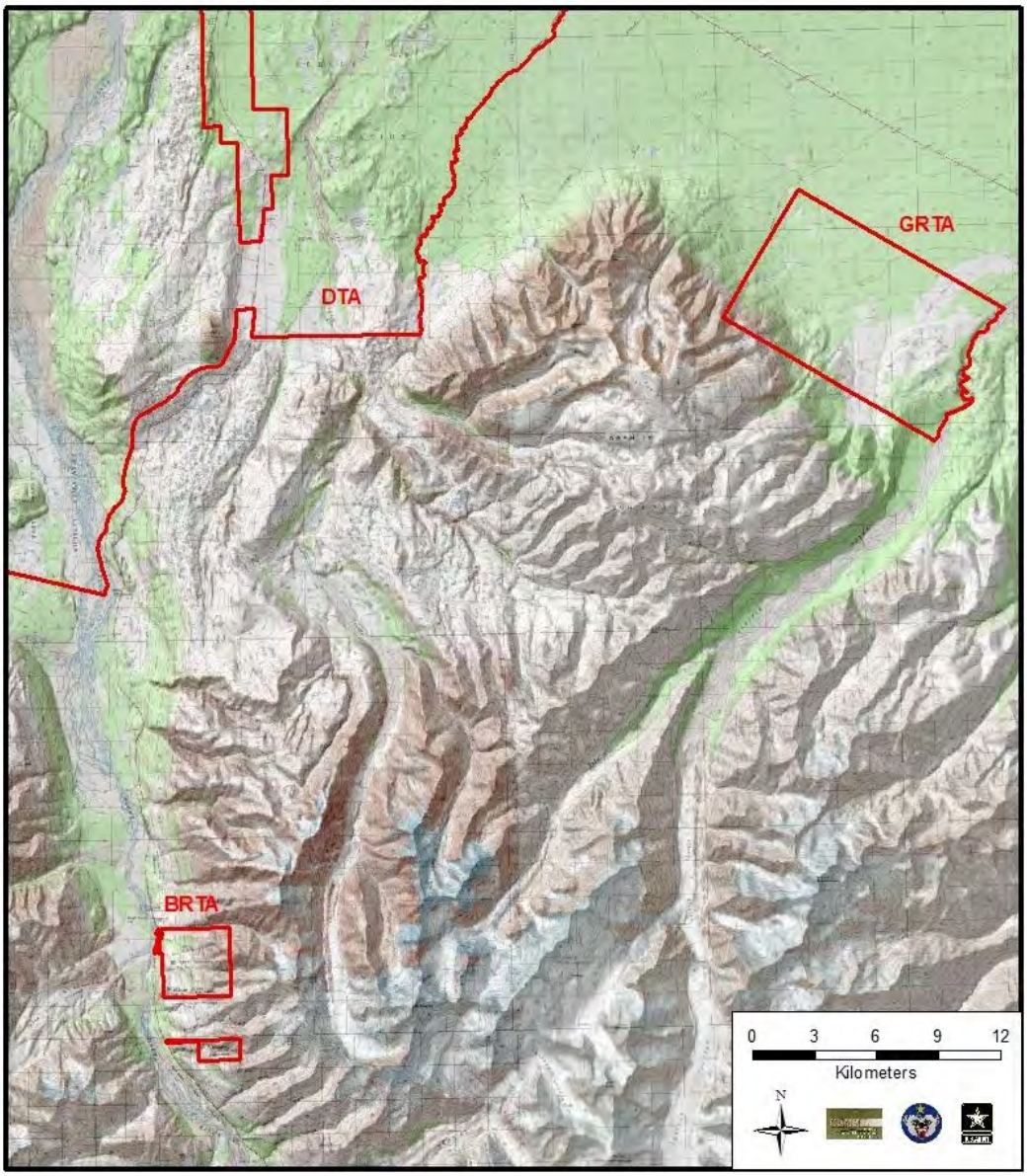


Figure 455. GRTA and BRTA in relation to DTA

7.2 GRTA Surveys

Very little development has been undertaken in GRTA in the last decade and so very little is known about the cultural resources in the area. Two small surveys took place in 2011 for the purpose of opening up areas to public timber sales (Figure 457).

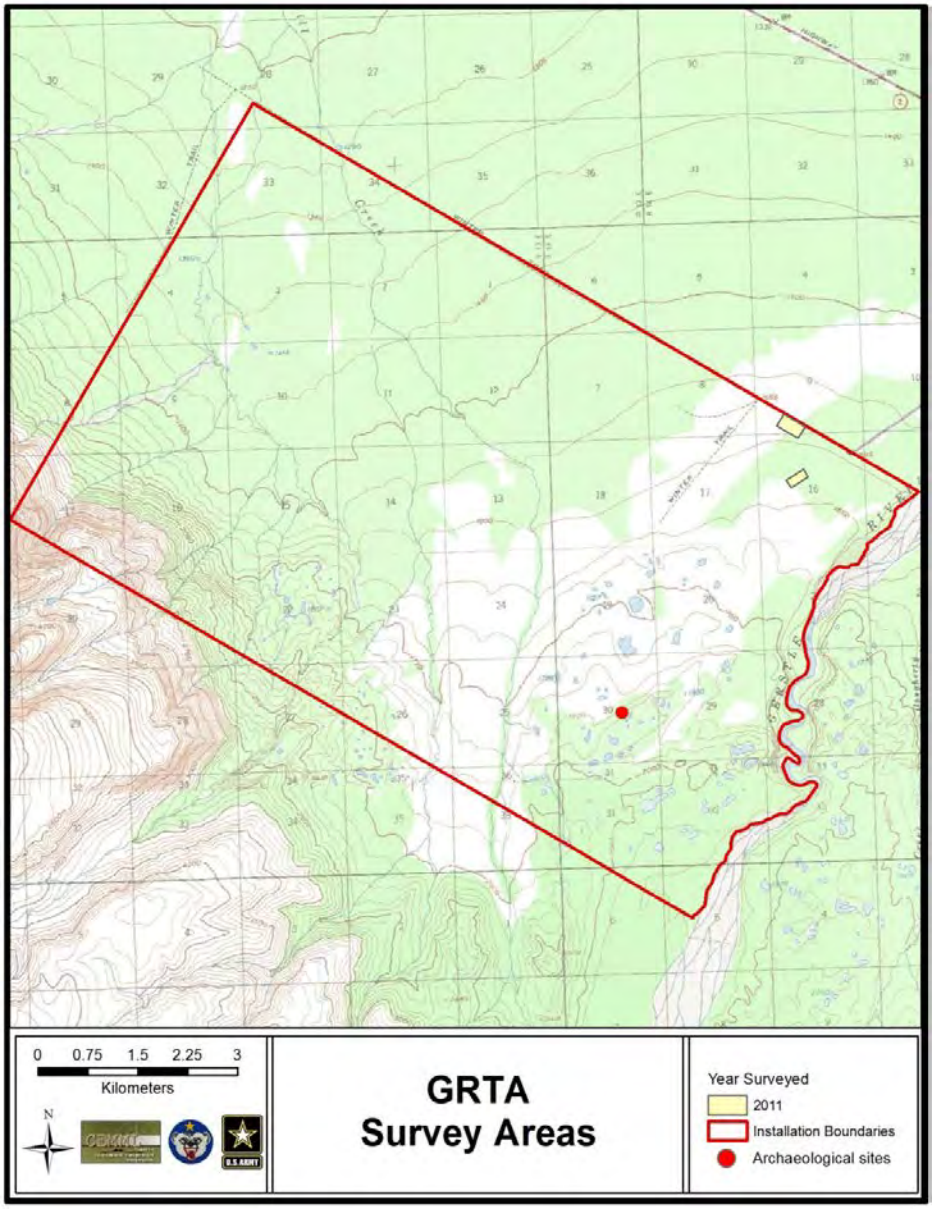


Figure 456. GRTA survey areas by year and location of archaeological sites

7.3 GRTA Sites

Only one archaeological site is known from GRTA. XMH-01359 is a prehistoric site that has not been evaluated for the NRHP (Figure 457).

8.0 BLACK RAPIDS (BRTA) AND WHISTLER CREEK TRAINING AREAS

8.1 Introduction

BRTA and Whistler Creek Training Area encompass 2,300 and 530 acres of land, respectively, southeast of Fort Greely and DTA along the east side of the Richardson Highway (Figure 456). Rugged mountain terrain in the eastern portion of the training areas slopes down to valley floors along the western border of each unit. White spruce forest covers the valley floors. The vegetation in the majority of both areas is above treeline.

8.2 BRTA and Whistler Creek Surveys

Approximately 250 acres of BRTA have been surveyed by CEMML for archaeological sites (Figure 458). Future plans by the Army to put a range in the eastern portion of the training area will require additional survey in 2012. No surveys have taken place in the Whistler Creek area.

8.3 BRTA and Whistler Creek Sites

Two archaeological sites are known from BRTA. XMH-00317 and XMH-00318 are both prehistoric lithic scatters that have not been evaluated for the NRHP (Figure 458).

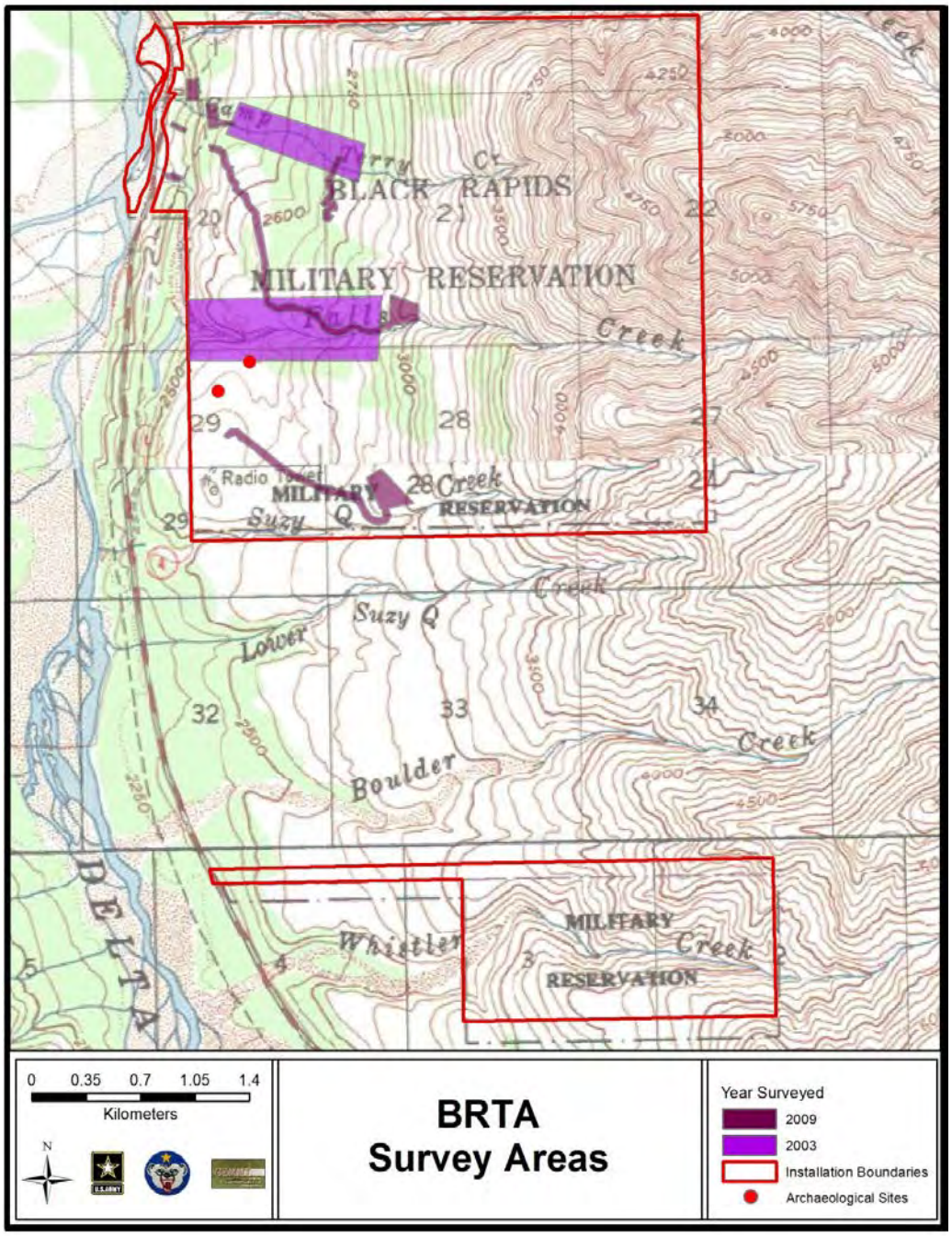


Figure 457. BRTA survey areas by year and location of archaeological sites

9.0 SUMMARY AND RECOMMENDATIONS

9.1 Summary

9.1.1 Cantonment

One new site was located in the cantonment during the 2011 field season. The cantonment has now had a 100% survey of all areas not considered previously disturbed (24% of the cantonment– the developed town of Fort Wainwright).

9.1.2 YTA

Four new archaeological sites were located in YTA during the 2010 and 2011 field seasons. Two of these sites are located under collapsed rockshelters. Nearly 15% of land in the training area has now been systematically surveyed.

9.1.3 TFTA

Fifty-five new archaeological sites (described above) were located during the 2010 field season, bringing the total to 87 prehistoric archaeological sites identified in TFTA during 2009 and 2010. This research more than doubled the number of known sites from TFTA and underscores the importance of cultural resources in this relatively unstudied terrain. Nearly all of these are intact buried sites, with demonstrated integrity, and undisturbed stratigraphy. These sites span the timeframe of human occupation in Alaska from the earliest peoples to the late prehistoric occupation. As such, all of these can yield data for addressing a number of important regional questions and can provide significant information pertaining to the prehistory of Interior Alaska. They are all potentially eligible for inclusion in the NRHP. Despite recent projects, only 0.1% of land in the training area has had systematic survey.

9.1.4 Dyke

No new archaeological sites were discovered in the Dyke Range in 2010 or 2011. Much of the range is in the active floodplain, and only 0.5% of the total area has been surveyed.

9.1.5 DTA

Twenty-seven new archaeological sites were located in DTA in 2011. Of these sites, 21 were located in the Molybdenum Ridge area that had never previously been investigated. CEMML survey efforts have concentrated on DTA East. Nearly 70,000 acres in DTA have now been surveyed, accounting for 11% of the entire area.

9.1.6 GRTA

Only 0.1% of land in GRTA has been surveyed. No new archaeological sites were found in 2010 or 2011.

9.1.7 BRTA and Whistler Creek

No surveys took place in BRTA or Whistler Creek during the 2010 or 2011 seasons. Approximately 11% of BRTA had been previously surveyed, while none of Whistler Creek has been surveyed.

9.2 DOEs

Eight sites from the Tanana Flats, described above, have been determined eligible for the NRHP based on preliminary investigations (Table 84). This document will serve as a request for concurrence from the SHPO for these eight determinations (see Appendix 1 for DOE forms).

Table 84. Sites described as eligible for the NRHP

AHRS Number	Description	Integrity	Criteria Met	Period of Significance	Areas of Significance	Level of Significance
FAI-02043	lithic and faunal scatter	intact buried site	C, D	10,730 C14 years BP, Palaeoarctic	Archaeology: prehistoric	regional, national
FAI-02047	lithic and faunal scatter	intact buried site	D	1,430 C14 years BP, Athabaskan	Archaeology: prehistoric	regional, state
FAI-02060	lithic scatter	intact buried site	D	8,130 C14 years BP, Palaeoarctic	Archaeology: prehistoric	regional, state
FAI-02063	lithic scatter	intact buried site	D	unknown	Archaeology: prehistoric	regional, state
FAI-02064	lithic scatter	intact buried site	D	2,170 C14 years BP, Athabaskan	Archaeology: prehistoric	regional, state
FAI-02066	lithic scatter	intact buried site	D	unknown	Archaeology: prehistoric	regional, state
FAI-02073	lithic scatter	intact buried site	D	possibly Palaeoarctic	Archaeology: prehistoric	regional, national
FAI-02077	lithic scatter	intact buried site	C, D	10,130 C14 years BP, Palaeoarctic	Archaeology: prehistoric	regional, national

9.3 Future Plans

9.3.1 Cantonment

In order to best protect cultural resources in locations with potential to be disturbed by recreation and military activities, DOEs for all archaeological sites in the cantonment are planned for the 2012-2015 field seasons. Once these determinations have been made, efforts can be concentrated on stabilizing eligible sites and promoting public education.

9.3.2 YTA

YTA has not proven to be rich in archaeological resources. Surveys will continue to be closely tied to Army undertakings. DOEs of sites along the road system in YTA are planned for the 2012-2015 field seasons. Once these determinations have been made, efforts can be concentrated on protecting eligible sites.

9.3.3 TFTA

TFTA is a vast area, but the majority of the research potential is limited to the upland areas including buttes, dunes, lake margins, and terrace edges. Recent research and discovery of deeply buried archaeological sites with terminal Pleistocene dates are extremely important. They may all yield data for addressing a number of important regional questions and will provide significant information pertaining to the prehistory of Interior Alaska.

A total of 36 prehistoric archaeological sites were identified in the landforms surrounding Blair Lakes during 2010. All except two of these are intact buried sites, with demonstrated integrity, and undisturbed stratigraphy. Six sites on the terrace edge are confidently assigned as belonging to the terminal Pleistocene. As such, they are among the oldest sites on the continent and likely represent the traces of the first peoples to migrate to North America from northeast Asia. Testing at FAI-02043 identified at least two components, the earliest of which occurs in the upper portion of the sands at 95-110 cm BS. The recovered assemblage consists of lithics and fauna including Alaskan hare (*Lepus othus*), large waterfowl (*Anatidae*; goose/swan/large mallard-sized fowl) and bison (*Bison* sp.) associated with a charcoal age of 11,600 ± 50 ^{14}C years BP. The later component consists of lithic debitage in the lowest portions of the loess at 80-90 cm BS and produced a charcoal date of 10,730 ± 50 ^{14}C years BP. FAI-02077 produced debitage, microblades, and a biface from the lower loess near the sand contact at 35 cm BS with a charcoal date of 10,130±50 ^{14}C years BP. Other sites on the landform—FAI-02050, FAI-02051, and FAI-02066—remain undated; however, artifacts deeply buried in the lower sands indicate terminal Pleistocene ages.

Future work in this area is tied to proposed joint Army-Air Force projects that include potentially putting a road through the Tanana Flats to the Blair Lakes Impact Area. This would require archaeological survey of the proposed roadway, DOEs of newly discovered sites in the Blair Lakes region and evaluation of their potential for inclusion in the Blair Lakes Archaeological District, and systematic pedestrian surveys along the proposed road route through the Blair Lakes area. The Army and CEMML are working closely together to plan budgets and funding to support these cultural research projects in event that the Tanana Flats roadway project is funded.

9.3.4 Dyke

No surveys are planned for the Dyke Range in the immediate future as no other Army projects are planned for the area.

9.3.5 DTA

Archaeological sites are found in high density in DTA. Military undertakings are planned in close association with CEMML to ensure that cultural resources are not adversely affected. DOEs of sites along the OP Road and in other high traffic areas are planned for the 2012-2015 field seasons so that eligible sites can be protected from unintentional adverse effects of recreation and maintenance. Pedestrian surveys of the remaining unsurveyed portions of DTA East are also planned for the upcoming field seasons. Molybdenum Ridge continues to be an area of interest for range development. Systematic pedestrian survey of the range footprint and winter road footprint to Molybdenum Ridge will take place in 2012. Any sites found within the footprint will be evaluated for NRHP eligibility. Further mitigation will depend on site eligibility and the possibility of avoiding sites by adjusting the boundaries of the planned undertakings.

9.3.6 GRTA

No future surveys or investigations are planned for GRTA. Any survey there will be closely tied to military undertakings.

9.3.7 BRTA and Whistler Creek

Surveys in BRTA are planned for the 2012 field season because of the possibility of range development in the eastern mountainous region. Any sites found within the footprint during systematic pedestrian surveys will be evaluated for NRHP eligibility. Further mitigation will depend on site eligibility and the possibility of avoiding sites by adjusting the boundaries of the planned undertaking.

10.0 REFERENCES

Anderson, D.D. "A Stone Age Campsite at the Gateway to America." *Scientific American 218(6)*, 1968: 24-33.

Anderson, D.D. "Microblade Traditions in Northwestern Alaska." *Arctic Anthropology 7(2)*, 1970: 2-16.

Andrews, E.F. "Archaeological Evidence of European Contact: The Han Athabascans near Eagle, Alaska." *High Plains Applied Anthropologist 7(2)*, 1987: 51-64.

Andrews, E.F. *Report on the Cultural Resources of the Doyon Region, Central Alaska: Volumes I and II.* Fairbanks: Anthropology and Historic Preservation, Cooperative Park Studies Unit, University of Alaska Occasional Paper No. 5, 1977.

Andrews, E.F. *Salcha: an Athabaskan Band of the Tanana River and its Culture.* M.A. Thesis, Fairbanks: Department of Anthropology, University of Alaska, 1975.

Bacon, G.H. *Final Report on the Archeological Survey of the XM-1 Tank Range, Fort Greely, Alaska.* Fairbanks: Prepared for the U.S. Army Corps of Engineers, Alaska District, by Alaskaarctic, 1978.

Bacon, G.H., and C.E. Holmes. *Archaeological Survey and Inventory of Cultural Resources at Fort Greely.* Fairbanks: Prepared by Alaskaarctic, 1979.

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Perspectives." *Journal of World Prehistory 15(2)*, 2001: 125-191.

Bever, M.R. "Stone Tool Technology and the Mesa Complex: Developing a Framework of Alaska Paleoindian Prehistory." *Arctic Anthropology 38(2)*, 2001: 98-118.

Bever, M.R. "Too Little, Too Late? The Radiocarbon Chronology of Alaska and the Peopling of the New World." *American Antiquity 71(4)*, 2006: 595-620.

Bigelow, N.H., J. Begét, and R. Powers. “Latest Pleistocene Increase in Wind Intensity Recorded in Eolian Sediments from Central Alaska”. *Quaternary Research* 34:160-168.

Bigelow, N.H., and R.W.M. Powers. "Climate, Vegetation, and Archaeology 14,000-9000 Cal Yr B.P. in Central Alaska." *Arctic Anthropology 38(2)*, 2001: 171-195.

Bonito, L.J. *Final Environmental Impact Statement Concerning Proposed Land Withdrawal for the 172nd Infantry Brigade (Alaska) at Fort Wainwright*. Fort Wainwright, AK. 112 pp. + appendices, 1980.

Bradley, Z., J. Cook, and A. Frizzera. *Preliminary Survey Report, Blair Lakes Alaska.* Fairbanks: University of Alaska Fairbanks, Anthropology Department, 1973.

Buchanan, B., and M. Collard. "Phenetics, Cladistics, and the Search for the Alaskan Ancestors of the Paleoindians: a Reassessment of Relationships Among the Clovis, Nenana, and Denali Archaeological Complexes." *Journal of Archaeological Science 35*, 2008: 1683-1694.

Bureau of Land Management and U.S. Army. *Fort Wainwright Fort Greely: Resource Management Plan, Final Environmental Impact Statement.* Anchorage: Bureau of Land Management, Steese/White Mountains District and U.S. Army, 6th Infantry Division, 1994.

Clark, D.W. "Microblade-Culture Systematics in the Far Interior Northwest." *Arctic Anthropology 38(2)*, 2001: 64-80.

Clark, D.W. "Prehistory of the Western Subarctic." In *The Handbook of North American Indian: Subarctic, Volume 6*, by J. Helm, 120. Washington, D.C.: Smithsonian Institution, 1981.

Clark, D.W. "The Archaic in the Extreme Northwest of North America." *Revista de Arqueologia Americana 5*, 1992: 71-99.

Collins, F.R. *A Map Showing a Vegetated Dune Field in Central Alaska.* U.S. Geological Survey Miscellaneous Field Studies Map MF-1708, 1985.

Cook, J.P. "Archaeology of Interior Alaska." *Western Canadian Journal of Anthropology 3*, 1975: 125-133.

Cook, J.P. "Healy Lake." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 323-327. Chicago: University of Chicago Press, 1996.

Cook, J.P. "Historic Archeology and Ethnohistory at Healy Lake, Alaska." *Arctic 42(3)*, 1989: 109-118.

Cook, J.P. *Site XBD-094: Aircraft Assault Strip Fort Wainwright, Alaska.* Fairbanks: Final Report to U.S. Army Corps of Engineers, 1979.

Cook, J.P. *The Early Prehistory of Healy Lake, Alaska.* Ph.D. Dissertation, Madison: Department of Anthropology, University of Wisconsin, 1969.

Cook, J.P., and T.E. and Gillespie. "Notched Points and Microblades." 13th Annual Meeting of the Alaska Anthropological Association. Fairbanks: Alaska, 1986.

Dixon, E.J. "Cultural Chronology of Central Interior Alaska." *Arctic Anthropology 22*, 1985: 47-66.

Dixon, E.J. “The Moose River Site, 1978.” In *Archaeological Survey Projects, 1978*. Edited by T.L. Dilliplane. Miscellaneous Publications, History and Archaeology Series, No. 22. Alaka Division of Parks, Department of Natural Resources, Anchorage, 1980:32-48.

Dixon, E.J., G.S. Smith, and D. Plaskett. *Archeological Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska.* Prepared for the U.S. Army Corps of Engineers, Alaska District, 1980.

Dumond, D.E. "The Archaeology of Eastern Beringia: Some Contrasts and Connections." *Arctic Anthropology 38(2)*, 2001: 196-2005.

Esdale, J.A. "A Current Synthesis of the Northern Archaic." *Arctic Anthropology 45(2)*, 2008: 3-38.

Esdale, J.A., J. Quinn, K.S. Yeske, and W.E. McLaren. *2011 Archaeological Survey and Report of CRTC Project Areas in Donnelly Training Area for the Cold Regions Test Center.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2012.

Esdale, J.A., and A.C. Robertson. *Final Report: Archaeological Data Recovery for Sites XMH-00284 and XMH-00881, 33-Mile Loop Road Gravel Source Mitigation: Donnelly Training Area, Fort Wainwright, Alaska 2007.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2007.

Eshleman, J.A., R.S. Malhi, and D.G. Smith. "Mitochondrial DNA Studies of Native Americans: Conceptions and Misconceptions of the Population Prehistory of the Americas." *Evolutionary Anthropology 12*, 2003: 7-18.

Espenshade, C.T. *Archaeological Investigations, Donnelly Training Area near Delta Junction, Alaska.* Greensboro: Prepared by New South Associates. Technical Report 1922, 2010.

Gaines, E.P. *Report: Archaeological Survey and Evaluation Fort Wainwright and Fort Richardson, Alaska 2008.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2009.

Gaines, E.P., H. Hardy, and H. Brown. *Final Report: Determination of National Register Eligibility for Eleven Archaeological Sites at Fort Greely, Alaska 2010.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2010.

Gaines, E.P., K.S. Yeske, and S.J. McGowan. *Annual Report: Cultural Resources Survey and Evaluation, Fort Wainwright, Alaska 2009.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2010.

Gamza, T. *Excavation and Evaluation of Sullivan's Roadhouse (XBD-061), Fort Greely, Alaska 1994.* Anchorage: Final Report, Prepared for the Office of History and Archaeology, Division of Parks and Recreation, Alaska Department of Natural Resources, 1995.

Goebel, T., W.R. Powers, N.H. Bigelow, and A.S. Higgs. "Walker Road." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by Frederick H. West, 356-363. Chicago: University of Chicago Press, 1996.

Goebel, T., and N.H. Bigelow. "Panguingue Creek." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by Frederick H. West, 366-371. Chicago: University of Chicago Press, 1996.

Haynes, T.L., and W.E. Simeone. *Upper Tanana Ethnographic Overview and Assessment, Wrangell St. Elias National Park and Preserve.* Juneau: Alaska Department of Fish and Game, Division of Subsistence, 2007.

Hedman, W., A. Robertson, N. Fichter, and K. Anderson. *Report: Archaeological Survey and Evaluation, Fort Richardson and Fort Wainwright, 2002.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2003.

Higgs, A.S., B.A. Potter, P.M. Bowers, and O.K. Mason. *Cultural Resource Survey Report of the Yukon Training Area and Fort Greely Army Lands Withdrawal, Alaska. Vol. 2.* Fairbanks: Prepared by Northern Land Use Research, Inc., 1999.

Hoffecker, J.F. “Introduction to the Archaeology of Beringia.” In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 149-153. Chicago: University of Chicago Press, 1996.

Holmes, C.E. *Archaeological Reconnaissance Report for Fort Wainwright, Fort Greely, and Fort Richardson Withdrawal Lands, Alaska.* Fairbanks: Prepared for the 172nd Infantry Brigade, 1979.

Holmes, C.E. "Broken Mammoth." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 312-318. Chicago: University of Chicago Press, 1996.

Holmes, C.E. "New Data Pertaining to Swan Point, the Oldest Micoblade Site Known in Alaska." *Current Research in the Pleistocene 15*, 1998: 21-22.

Holmes, C.E. "Tanana River Valley Archaeology Circa 14,000 to 9,000 B.P." *Arctic Anthropology 38(2)*, 2001: 154-170.

Holmes, C.E. "The East Beringian Tradition and the Transitional Period: New Data from Swan Point." 34th Annual Meeting of the Alaskan Anthropological Association. Fairbanks, 2007.

Holmes, C.E., and J. Anderson. *Archaeology and Paleoecology of the Delta River Area, Interior Alaska.* . Anchorage: National Science Foundation Project Summary Manuscript on file at the State Historic Preservation Office, 1986.

Holmes, C.E., R. VanderHoek, and T.E. Dilley. "Swan Point." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 319-323. Chicago: University of Chicago Press, 1996.

Holmes, G.W. *Geologic Reconnaissance Along the Alaska Highway, Delta River to Tok Junction, Alaska. Bulletin B 1181-H.* Anchorage: U.S. Geological Survey, 1965.

Hopkins, D.M. “Aspect of the Paleogeography of Beringia During the Late Pleistocene.” In *Paleoecology of Beringia*, edited by D.M. Hopkins, J.V. Matthews, Jr., C.E. Schweger, and S.B. Young, 3-28. Academic Press, New York, 1982.

Johnson, W.C., and S.R. Bozarth. *Geoarchaeology and Environmental Reconstruction at XMH-874, Fort Wainwright Donnelly Training Area.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2008.

Lea, P.D. and C.F. Waythomas. “Late-Pleistocene Sand Sheets in Alaska.” *Quaternary Research* 34, 1990:269-281.

Lively, R.A. "Chugwater." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 308-311. Chicago: University of Chicago Press, 1996.

Marshall, T. *Archaeological Survey and Evaluation: Fort Wainwright, 2006.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2007.

McFadyen Clark, A. "Koyukon." In *Handbook of North American Indians, Volume 6: Subarctic*, by J. Helm, 582-601. Washington, D.C.: Smithsonian Institution, 1981.

McFadyen Clark, A. *Who Lived in This House? A Study of Koyukuk River Semi Subterranean Houses.* Hull: Mercury Series Archaeological Survey of Canada Paper 153. Canadian Museum of Civilization, 1996.

McKennan, R.A. "Tanana." In *Handbook of North American Indians, Volume 6: Subarctic*, by J. Helm. Washington, D.C.: Smithsonian Institution, 1981.

Meltzer, D.J. "Late Pleistocene Cultural and Technological Diversity of Beringia: A View from Down Under." *Arctic Anthropology 38(2)*, 2001: 206-213.

Mishler, C.W. *Born With the River: An Ethnographic History of Alaska's Goodpaster and Big Delta Indians.* Fairbanks: Alaska Departmet of Natural Resources, Division of Geological and Geophysical Surveys Reports, Public Data File 68-14, 1986.

Muhs, D.R. and J.R. Budahn. “Geochemical evidence for the origin of late Quaternary loess in central Alaska.” *Canadian Journal of Earth Science* 43, 2006:323-337.

Nakata Planning Group. *Master Plan Report*. Prepared for U.S. Army Corps of Engineers, Alaska District. Anchorage, 1987.

Natural Cooperative Soil Survey. *Soil Survey of Fort Wainwright Area, Alaska.* Report prepared by the United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with Department of the Army, FWA, Alaska Agricultural and Forestry Experiment Station, Fairbanks Soil and Water Conservation District and the Alaska Soil and Water Conservation Distrcict. Palmer, 1999.

Natural Resource Conservation Service. *Soil Survey for Alaska: Fort Greely and Donnelly Training Area.* Palmer: Natural Resource Conservation Service, 2010.

Odess, D. *Preliminary Report of Archaeological Investigations on Military Lands in the Vicinity of Donnelly Dome, Alaska, Under TCC Contract #DAPC49=01-D-0004.* Fairbanks: Report on file with the Tanana Chiefs Conference, 2002.

Odess, D., and J.T. Rasic. "Toolkit Composition and Assemblage Variability: The Implications of Nogahabara I, Northern Alaska." *American Antiquity 72(4),* 2007: 691-717.

Pearson, G.A. “New Evidence for a Nenana-Complex Occupation at the Moose Creek Site, Central Alaska: Preliminary Results of the 1996 Re-excavation.” *Current Research in the Pleistocene* 14, 1997:72-74.

Pearson, G.A., and W.R. Powers. "The Campus Site Re-Excavation: New Efforts to Unravel Its Ancient and Recent Past." *Arctic Anthropology 38(1),* 2001: 100-119.

Péwé, T.L. “Quaternary Geology of Alaska.” *U.S. Geological Survey Professional Paper 835,* 1975.

Péwé, T.L., C. Wahrhaftig, and F. Weber. “Geologic Map of the Fairbanks Quadrangle, Alaska.” *U.S. Geological Society Survey Map I-455,* 1966.

Phillips, W.T., Sr. *Roadhouses of the Richarson Highway, the First Quarter Century: 1898-1923.* Anchorage: State of Alaska, Alaska Historical Commission, 1984.

Pink, T. *Soil Survey of Fort Greely and Donnelly Training Area, Alaska.* Washington D.C.: USDA-Natural Resources Conservaiton Service, 2005.

Potter, B.A. "Exploratory Models of Intersite Variability in Mid to Late Holocene Central Alaska." *Arctic 61(4),* 2008: 407-425.

Potter, B.A. "Modeling Intersite Variability in Interior Alaska: Overcoming Conceptual Ambiguity Through Pattern Recognition." 60th Annual Meeting of the Society for American Archaeology. Montreal, 2004.

Potter, B.A. "Models of Faunal Processing and Economy in Early Holocene Interior Alaska." *Environmental Archaeology 12(1)*, 2007: 3-23.

Potter, B.A. "Radiocarbon Chronology of Central Alaska: Technological Continuity and Economic Change." *Radiocarbon 50(2)*, 2008: 181-204.

Potter, B.A. "Recent Investigations at the Gerstle River Site, a Multicomponent Site in Central Alaska." *Current Research in the Pleistocene 18*, 2001: 52-54.

Potter, B.A. *Site Location Model and Survey Strategy for Cultural Resources in the Alaska Railroad Northern Rail Extension Project Area.* Fairbanks: Report submitted by Northern Land Use Research, Inc. andCF Consulting Services, LLC, 2005.

Potter, B.A., J.D. Irish, J.D. Reuther, C.l Gelvin-Reymiller, and V.T. Holliday. "A Terminal Pleistocene Child Cremation and Residential Structure from Eastern Beringia." *Science 331*, 2011: 1058-1062.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. "Little Delta Dune Site: A Late-Pleistocene Multicomponent Site in Central Alaska." *Current Research in the Pleistocene 25*, 2008: 132-135.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. *Results of the 2007 Cultural Resource Survey of Proposed Alaska Railroad Northern Rail Extension Routes, Alaska.* Fairbanks: Report submitted by Northern Land Use Research, Inc., 2007.

Potter, B.A., P.M. Bowers, J.D. Reuther, and O.K. Mason. "Holocene Assemblage Variability in the Tanana Basin: NLUR Archaeological Research, 1994-2004." *Alaska Journal of Anthropology 5(1)*, 2007: 23-42.

Potter, B.A., S.C. Gerlach, A.S. Higgs, and P.M. Bowers. *Final Cultural Resources Survey: Fort Greely, Yukon Training Area (Fort Wainwright), Alaska for the National Missile Defense Program, for USAR Space and Missile Defense Command.* Fairbanks: Report prepared by Northern Land Use Research, Inc., 2000.

Powers, W.R., and J.F. Hoffecker. "Late Pleistocene Settlement in the Nenana Valley, Central Alaska." *American Antiquity 54(2)*, 1989: 263-287.

Price, K. *Homesteads on Fort Wainwright, Alaska.* Fort Collins: Center for Environmental Management of Military Lands, Colorado State University, 2002.

Rabich, J.C., and D.R. Reger. *Archaeological Excavations at the Gerstle River Quarry Site. In, Archaeological Survey Projects 1977.* Anchorage: OHA Miscellaneous Publications 18, Office of History and Archaeology, 1977.

Racine, C.H., R. Lichvar, B. Murray, G. Tande, R. Lipkin, and M. Duffy. *A Floristic Inventory and Spatial Database for Fort Wainwright, Interior Alaska.* Fairbanks: U.S. Army Cold Regions Research and Engineering Laboratory, Special Report 97-23, 1997.

Raymond-Yakoubian, J., and A. Robertson. *Annual Report: Archaeological Survey and Evaluation, Fort Richardson and Fort Wainwright, 2004.* Annual Report, Fort Collins: Center for Environmental Management of Military Lands (CEMML), 2005.

Raymond-Yakoubian, J., and A. Robertson. *Annual Report: Archaeological Survey and Evaluation, Fort Richardson and Fort Wainwright, 2005.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2006.

Ream, B.A. *Old Fish Camp: an Ethnohistoric and Archeological Analysis of a Lower Yukon Koyukon Athapaskan Winter Village, Khotol River, Alaska.* M.A. Thesis, Department of Anthropology, Western Washington University, 1986.

Reynolds, G.L. *Archaeological Reconnaissance of Four Borrow Pits, Fort Wainwright, Alaska.* Anchorage: Submitted to the U.S. Army Corps of Engineers, 1983.

Reynolds, G.L. *Archaeological Site Report Fort Greely Cantonment Area.* Anchorage: Manuscript on file at the Office of History and Archaeology, 1998.

Reynolds, G.L. *Inventory of Cultural Resources and Overview, Phase I.* Prepared for the 172nd Infantry Brigade by Georgeanne Reynolds, Fairbanks: Alaska Heritage Group, Inc., 1986.

Reynolds, G.L. *Survey of Construction Projects, Fort Wainwright Cantonment.* Anchorage: Manuscript onfile at the Office of History and Archaeology, 1985.

Robertson, A.C., J. Esdale, W.C. Johnson, S.R. Bozarth, S. McGowan, M. Proue, C.K. Paraso, S. Shirar, and P. Gilbert. *Final Report: 2006-2007 Archaeological Data Recovery for Site XMH-00874 Battle Area Complex (BAX) Mitigation, Donnelly Training Area, Fort Wainwright, Alaska.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2009.

Robertson, A.C., M. Proue, C.K. Paraso, S. Shirar, and P. Gilbert. *Archaeological Data Recovery for Site XMH-00874, Battle Area Complex (BAX) Mitigation, Donnelly Training Area, Fort Wainwright, Alaska, 2007.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2008.

Robertson, A.C., M. Proue, P. Hall, S. Shirar, and C.K. Paraso. *Archaeological Survey, Evaluation, and Mitigation: Donnelly Training Area, Fort Wainwright, Alaska 2006.* Fort Collins: Prepared by the Center for Environmental Management of Military Lands, 2007.

Robertson, A.C., N. Fichter, and K. Anderson. *Annual Report: Archaeological Survey and Evaluation, Fort Richardson and Fort Wainwright 2003.* Ft. Collins: Prepared by the Center for Environmental Management of Military Lands, 2004.

Robertson, A.C., S.J. Meitl, D. White, P. Gilbert, and C. Ciancibelli. *Archaeological Survey and Evaluation: Donnelly Training Area, Fort Wainwright.* Ft. Collins: Prepared by the Center for Environmental Management of Military Lands, 2009.

Sheppard, W., A.F. Seffian, D.P. Staley, and N.H. Bigelow. *Late Holocene Occupations at the Terrace Site, Tok, Alaska.* Final Report, Fairbanks: Prepared for U.S. Air Force Over-the-Horizon Backscatter Radar Program, 1991.

Shinkwin, A.D. *Dakah De'nin's Village and the Dixthada Site: a Contribution to Northern Alaskan Prehistory.* National Museum of Man Mercury Series NO. 91, 1979.

Staley, D.P. *A Phase 1 Cultural Resources Survey of 19 Locations for the Proposed Yukon Measurement and Debriefing System in Interior Alaska.* Albuquerque: Mariah and Associates, 1993.

Steele, J.L. *Archaeological Assessment of Proposed Range Control Headquarters Building, Fort Wainwright, Alaska.* Anchorage: Alaska District, U.S. Army Corps of Engineers, 1982.

Steele, J.L. *Archaeological Assessment of Squad Assault Range, Powerline Extension, and M-16 Record Fire Range, Fort Greely, Alaska.* Anchorage: Alaska District, U.S. Army Corps of Engineers, 1980.

Steele, J.L. *Cultural Resource Assessment for a Quarry Site at Donnelly Dome, Fort Greely, Alaska.* Anchorage: Alaska District, U.S. Army Corps of Engineers, 1982.

Steele, J.L. *Cultural Resource Assessment of a Powerline Extension: Fort Greely, Alaska.* Anchorage: Alaska District, U.S. Army Corps of Engineers, 1983.

Steele, J.L. *Cultural Resources Assesment of Proposed Borrow Area, Fort Wainwright, Alaska.* Anchorage: Report on file at the Office of History and Archaeology, 1983.

Steele, J.L. *Fort Greely Bison Trail Archaeological Survey, Fort Greely, Alaska.* Anchorage: Alaska District, U.S. Army Corps of Engineers, 1980.

Tanana Chiefs Conference, Inc. *Forest Resources of Bureau of Land Management and Military Lands Within a 100 Mile Radius of Fairbanks, Alaska.* Fairbanks: Prepared for the Bureau of Land Management, 1993.

U.S. Army Garrison, Alaska (USARAK). *Integrated Natural Resources Management Plan 2007-2012, Volume 1.* Fort Wainwright: Environmental Office, Directorate of Public Works, 2007.

U.S. Army Garrison, Alaska (USARAK). *Integrated Natural Resources Management Plan 2002-2006, Volume 1: Fort Greely and Donnelly Training Area.* Fort Wainwright: Environmental Division, Directorate of Public Works, 2002.

VanStone, J.W., and I. Goddard. "Territorial Groups of West-Central Alaska Before 1898." In *Handbook of North American Indians, Volume 6: Subarctic*, by J. Helm, 556-561. Washington D.C.: Smithsonian Institution, 1981.

Viereck, L.A., and E.L., Jr. Little. *Alaska Trees and Shrubs.* Washington, D.C.: Agricultural Handbook 410. U.S. Forest Service, 1972.

Wahrhaftig, C. "Physiographic Divisions of Alaska." *Geological Survey Professional Paper* 482. Washington D.C., 1965.

West, F.H. "Dating the Denali Complex." *Arctic Anthropology 12*, 1975: 76-81.

West, F.H. "Donnelly Ridge." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 302-307. Chicago: University of Chicago Press, 1996.

West, F.H. "Other Sites in the Tangle Lakes." In *American Beginnings: The Prehistory and Palaeoecology of Beringia*, by F.H. West, 403-408. Chicago: University of Chicago Press, 1996.

West, F.H.. *The Archaeology of Beringia.* New York: Columbia Press, 1981.

West, F.H. "The Donnelly Ridge Site and the Definition of an Early Core and Blade Complex in Central Alaska." *American Antiquity 32(2)*, 1967: 360-382.

Yarborough, L.F. *Chena River Lakes Project Cultural Resource Investigation.* Final Report, Fairbanks: Prepared for the U.S. Army Corps of Engineers, Alaska District, 1978.

Yesner, D.R. "Human Dispersal into Interior Alaska: Antecedent Conditions, Mode of Colonization, and Adaptations." *Quaternary Science Reviews*, 2001: 315-327.

Yesner, D.R., and G.A. Pearson. "Microblades and Migrations: Ethnic and Economic Models in the poepling of the Americas." In *Thinking Small: Global Perspectives on Microlithization*, by R.G. Elston and S.L. Kuhn, 133-161. Arlington: Archaeological Papers of the American Anthropological Association Number 12, 2002.

Yesner, D.R., C.E. Holmes, and G. Pearson. "Recent Excavations at the Broken Mammoth Site, Big Delta, Alaska: Reflections on Activity Patterning and Artifact Assemblages." 64th Annual Meeting of the Society of American Archaeology. Chicago, 1999.

APPENDIX 1: Determinations of Eligibility for Seven Sites

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02043 Date 04/10/2012 [redacted]

Site Name Blair Lakes A-10-4 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02043 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. Two separate components produced radiocarbon dates indicating late Pleistocene and middle Holocene occupations. Charcoal was found in association with lithic debitage in both components. Mammal bone fragments, including bison, occurred in the lower component.

Description and Historic Context

Site FAI-02043 is located at the foot of a large bedrock knoll, roughly seven kilometers east of the Blair Lakes (Figure 1). Site elevation is 260 masl. The vantage point provides a commanding view to the east of the flats below, the Tanana River valley and Flag Hill. The ecosystem is characterized as mixed needleleaf-broadleaf forest with an understory of young birch, some alder, shrubs and forbs. This site was identified through subsurface testing. At the time of discovery, 94 flakes were recovered from four of four test pits excavated. Two of these tests also yielded unidentifiable large mammal faunal fragments. Shovel testing suggested that the site contained at least two components: one at ~0-45 cm BS, and another deeply buried in the lower loess and basal sands at 90-120 cm BS. Three of the four test pits, those nearest the edge of the landform, reached basal gravels at 100-130 cm BS, while one test pit (AT 50) was excavated to the depth possible with a shovel, terminating at 140 cm BS without finding the bottom of the basal sands.

To understand the significance of the site, 2 square meters was excavated to a depth of about 135 cm BS. A total of 14 levels were excavated, extending the excavation roughly 35 cm into the basal sands and at least 15 cm deeper than the lowest recovered artifact. Levels 1-5 of the excavation unit produced no cultural remains. Artifacts were recovered from Levels 6-13. The basal level, Level 14, was 25 cm thick and excavated into entirely sterile deposits. Figures 2 shows the location of lithics and bone in each excavation level. A total of 1106 pieces of lithic debitage and 538 faunal fragments were recovered from the excavation unit. In addition, two cobble hammerstones, and at least four enigmatic angular rocks, likely manuports, were recovered from the lower zone of cultural material. Lithic and faunal material was recovered from depths of 10-30 cm BS and 75 to125 cm BS (Figure 3).

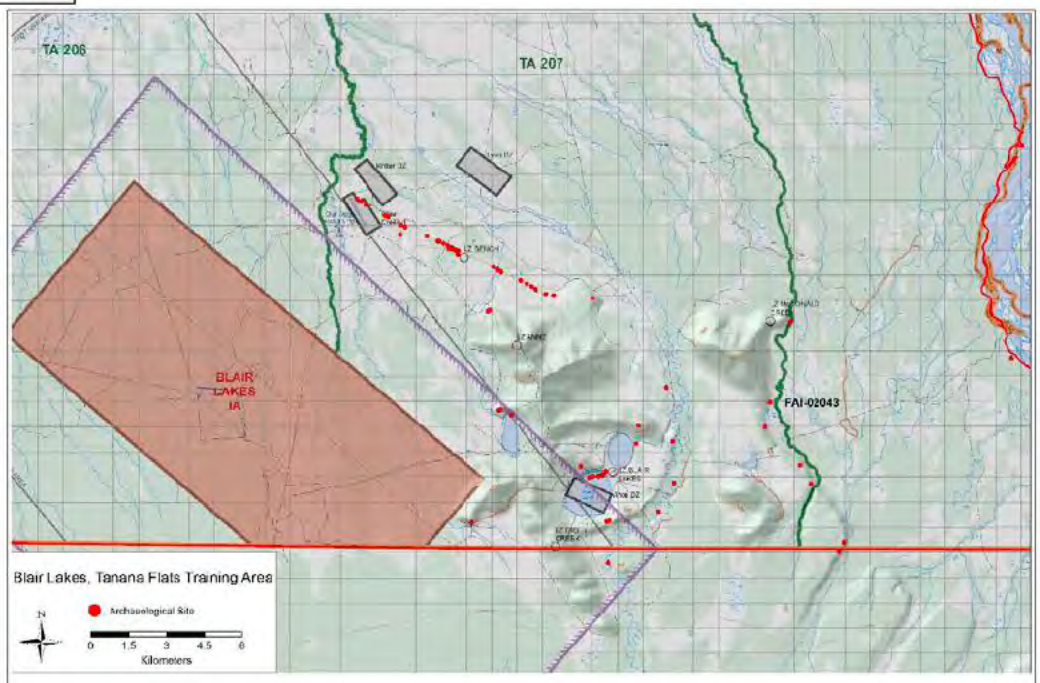
No diagnostic artifacts were found at the site, but stone tool making debris was found with charcoal and large mammal remains including bison (Figure 4). Test pit AT 50 provided a piece of charcoal associated with flaked stone roughly 2 cm above the loess/ sand contact that dated to 10,730 ± 50 14C Years BP (Beta-281235), demonstrating the antiquity of the lower component. Dispersed charcoal found in association with flakes in the upper component at 22 cm BS produced a date of 6460 ± 40 (Beta-283427) revealing the presence of a middle-Holocene occupation.

While the sample from FAI-02043 is limited thus far, several robust inferences are possible. Cultural zone (CZ) 2 is coeval with Upward Sun River component C1, Broken Mammoth component CZ 4, the lowest Mead components, Swan Point CZ4, and four components in the Nenana Basin (Goebel et al. 1996; Goebel and Bigelow 1996; Hoffecker 1996; Holmes 1996; Pearson 1997; Potter et al 2008; 2011). The character of the lithic and faunal assemblages from this site is most similar to Broken Mammoth CZ 4 and Upward Sun River C1 with abundant lithic debitage and few formal tools. The presence of large and small game and waterfowl is also very similar to the Upward Sun River C1 and Broken Mammoth CZ 4 faunal assemblages and provides further evidence of broad-spectrum hunting strategies in late Pleistocene Eastern Beringia. The long bone breakage patterns and associated cobbles indicate marrow extraction. The presence of waterfowl suggests an early summer to fall occupation.

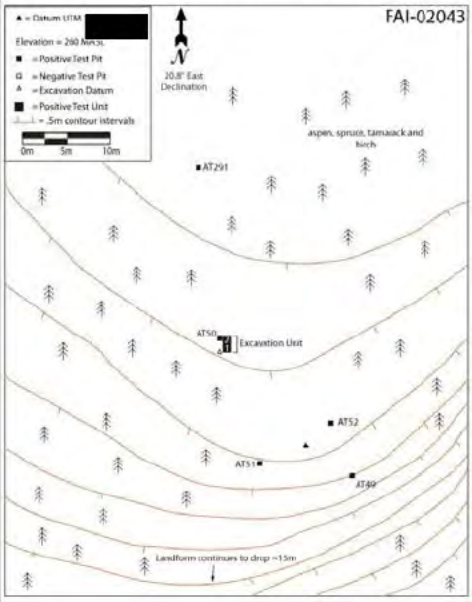
1

AHRS # FAI-02043

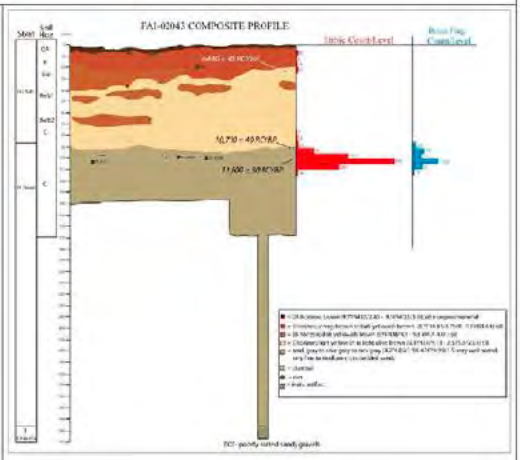
Maps and Photos



CaptionFigure 1. Map of FAI-02043 near Blair Lakes



CaptionFigure 2. FAI-02043 site map



CaptionFigure 3. FAI-02043 Composite stratigraphy

2

AHRS # FAI-02043

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Two occupations: Late Pleistocene: 10,730 ± 50 14C Years BP (Beta-281235) Middle Holocene: 6460 ± 40 (Beta-283427)
Cultural Affiliation	American Palaeoarctic, Northern Archaic
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located on a terrace edge to the northeast of the Blair Lakes Archaeological District. Artifacts, faunal material, and charcoal are buried in stratigraphic context and there is no evidence that their spatial organization has been disturbed since deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far are not diagnostic in themselves but are significant when associated with faunal material and charcoal. Moreover, artifacts are found in good association with datable material and cultural layers were found separated by several centimeters of sterile sediments.
Research Potential	FAI-02043 has a high research potential. Humans began to populated North America in the late Pleistocene, likely not much earlier than 14,000 calendar years BP (Goebel et. al 2008). The earliest sites in Alaska (Swan Point and Mead; Holmes 1996) are found in the Tanana Valley between the Blair Lakes region and Delta Junction. There is tremendous variability in projectile point style and lithic assemblage composition in sites dating to this period across Alaska (Bever 2001). The radiocarbon date from the lower component at FAI-02043 places this site within the time period of Nenana Complex sites (12,800 calendar years ago). The deep stratigraphy and association of faunal material, lithic tools, and charcoal at this site suggests a significant potential to play into research problems dealing with the Peopling of the Americas, Alaskan assemblage variability, and early landscape use patterns in the Tanana Valley. The fauna collection is rich and provides evidence for questions about hunting strategies in late Pleistocene Eastern Beringia. Because it is a multi-component site with good stratigraphic separation between occupations, analysis of the cultural materials will also help in defining culture-historical frameworks for Alaska.
Summary	FAI-2043 is eligible under Criterion D in the area of prehistoric archaeology. This site is one in less than a few dozen sites in Alaska dating to the late Pleistocene. It has the potential to provide information regarding early human subsistence, land use, and technological strategies during the earliest human history in North America as well as for the later Northern Archaic period. Deep, stratified, multi-component sites such as FAI-2043 are rare in Alaska and this site has high potential for yielding important information about diet, tool stone procurement, and stone tool production methods.

AHRS # FAI-02043

Selected Resources

Published Sources

Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Perspectives." Journal of World Prehistory 15 (2) 2001:125-191.

Goebel, T., W.R. Powers, N.H. Bigelow, and A.S. Higgs. "Walker Road." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by Frederick H. West, 356-363. Chicago: University of Chicago Press, 1996.

Goebel, T., and N.H. Bigelow. "Panguingue Creek." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by Frederick H. West, 366-371. Chicago: University of Chicago Press, 1996.

Goebel, T., M. R. Waters, and D. H. O'Rourke. "The Late Pleistocene Dispersal of Modern Humans in the Americas.". Science 319, 2008: 1497-1502.

Hoffecker, J.F. "Introduction to the Archaeology of Beringia." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by F.H. West, 149-153. Chicago: University of Chicago Press, 1996.

Holmes, C.E. "Broken Mammoth." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by F.H. West, 312-318. Chicago: University of Chicago Press, 1996.

Pearson, G.A. "New Evidence for a Nenana-Complex Occupation at the Moose Creek Site, Central Alaska: Preliminary Results of the 1996 Re-excavation." Current Research in the Pleistocene 14, 1997:72-74.

Potter, B.A., J.D. Irish, J.D. Reuther, C.J Gelvin-Reymiller, and V.T. Holliday. "A Terminal Pleistocene Child Cremation and Residential Structure from Eastern Beringia." Science 331, 2011: 1058-1062.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. "Little Delta Dune Site: A Late-Pleistocene Multicomponent Site in Central Alaska." Current Research in the Pleistocene 25, 2008: 132-135.

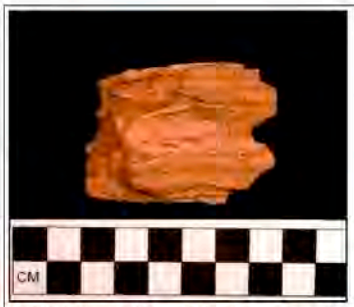
Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined, but are potentially extensive. Cultural deposits could occur across the entire 20,000 square meter flat area on the top of the landform.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.



Caption Figure 4. Bison molar from lower component at FAI-02043.

Name: Julie Esdale | Organization: USAG/FWA, CSU/CEMML | Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil | Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #4500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02047 Date 04/10/2012 [redacted]

Site Name Blair Lakes A-10-8 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02047 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. Charcoal, found in association with lithic debitage and bone fragments, produced radiocarbon dates indicating a late Holocene occupation.

Description and Historic Context

Site FAI-02047 is located on a glacial outwash terraced bench at 212 masl (Figure 1). The site overlooks a substantial drainage to the west and the Tanana River valley to the south and southeast. The terrace slopes gradually north-south and west-east at 0°-5°, with sharper slopes on its southern and western edges (15°-25°). The terrace is elevated approximately 10-12 m above both the drainage and the valley. A dirt two-track rises from the drainage and cuts across the site near the terrace southern terminus (Figure 2).

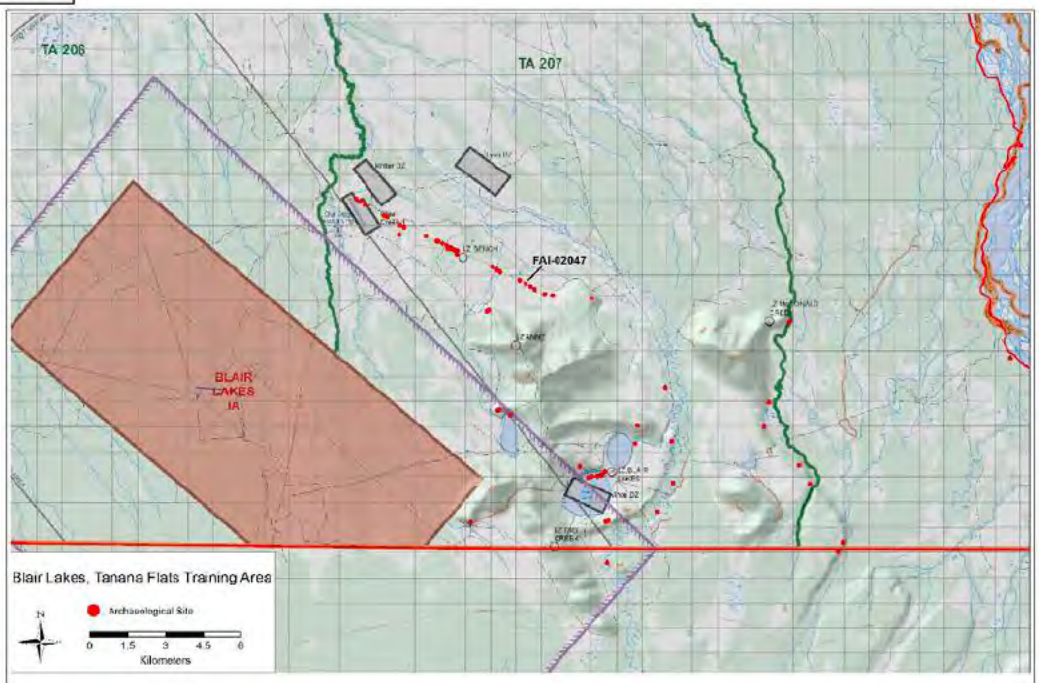
The ecosystem is characterized as upland moist mixed needle/broadleaf forest. Site vegetation consists of mature aspen and mixed aged spruce and birch. The understory is alder, wild rose and low scrub, with a dense moss and lichen ground cover. Surface exposure across the site is generally 0%, with the exception of the two track roadbed and shoulder, where surface visibility is 100%.

Site FAI-02047 was found through subsurface testing. Cultural material was recovered from four of the six 50 cm x 50 cm test pits excavated. A total of 13 lithic artifacts were recovered at depths ranging from surface-65 cm BS. A microblade medial fragment was recovered from one test pit at 60-65 cm BS (Figure 4). Four calcined bone fragments were recovered from a test pit at depths ranging from 0-16 cm BS. All of these were small unidentifiable fragments less than 7 cm in diameter. Stratigraphic charcoal found in association with the cultural material produce an AMS 14C date of 1430 ± 40 B.P. (Beta-283428).

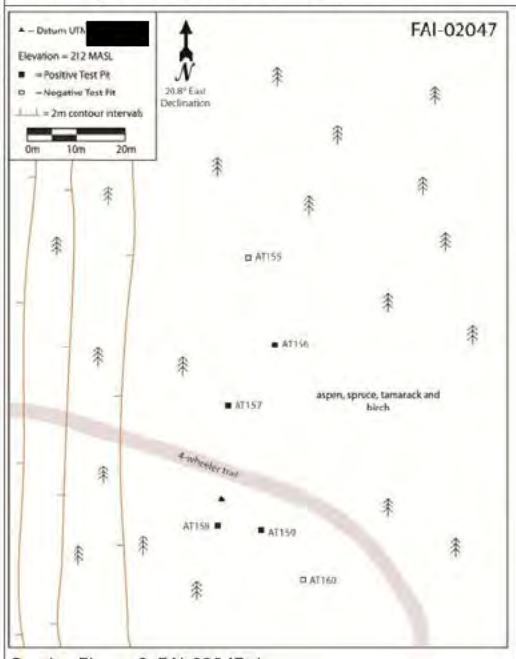
Site stratigraphy consists of aeolian silts at least 50 cm thick overlying poorly sorted sandy gravels extending at least 75 cm BS (Figure 3).

AHRS # FAI-02047

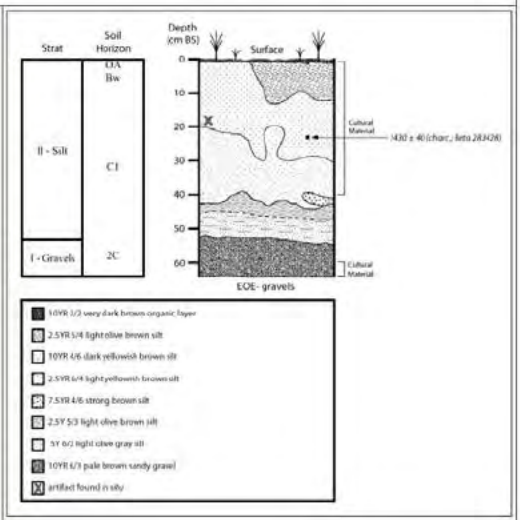
Maps and Photos



CaptionFigure 1. Map of FAI-02047 near Blair Lakes



CaptionFigure 2. FAI-02047 site map



CaptionFigure 3. FAI-02047 stratigraphy

2

AHRS # FAI-02047

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Late Holocene 1430 ± 40 14C Years BP (Beta-283428) One older undated occupation
Cultural Affiliation	Athabaskan
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located near the Blair Lakes Archaeological District, along a terrace edge to the northwest. Artifacts, faunal material, and charcoal are buried in situ in stratigraphic context, and therefore, their spatial organization has not been substantially disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far are not diagnostic in themselves but are significant when associated with faunal material and charcoal. Moreover, artifacts are found in good association with datable material and cultural layers were found separated by several centimeters of sterile sediments.
Research Potential	FAI-02047 has a high research potential. The late Holocene radiocarbon dates and intact stratigraphy make the site integral to discussions of early Athabaskan land use patterns in the Tanana Valley. Recent research in the connections between Athabascan language groups (Na-Dene) and Siberian languages (Ket) (e.g. Kari and Potter 2010) has prompted researchers to attempt to trace Athabascan material culture further back in time. Most of what is known about Athabascan archaeology comes from late Prehistoric village sites dating back only to the last few hundred years. Sites such as Dixthada (Rainey 1939, Shinkwin 1979), Klokut (Morlan 1973), and Ringling (Hansen 2008) demonstrate people were subsisting off of seasonally abundant resources (i.e. caribou and salmon) and that birch bark, cobble spall scrapers, tanged arrow points, and local metals were important toolkit items. Sites in Interior Alaska such as U.S. Creek and Cripple Creek (Esdale and Mills 2010, Smith 2012) have begun to trace these items back into the last millennium before present. Dated sites such as FAI-02047 will be extremely significant for making connections between modern Athabascan people and prehistoric sites.
Summary	FAI-2047 is eligible under Criterion D in the area of prehistoric archaeology. Stratified and dated Athabaskan archaeological sites are rare in Interior Alaska. FAI-02047 contains artifacts, faunal material, and charcoal buried in stratigraphic context. The site has the potential to provide significant information regarding past Athabascan lifeways and material culture, and will provide an important link between a prehistoric archaeological site and historic people living in the region.

3

AHRS # FAI-02047

Selected Resources

Published Sources

Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography

Esdale, J. and R.O. Mills. Lithic procurement and tool production strategies at the Late Prehistoric U.S. Creek Site. Paper presented at the Annual Meeting of the Alaska Anthropological Association, Anchorage, 2010.

Hanson, Diane K. Archaeological investigations in the 1990s at the Ringling Material site, GUL-077, near Gulkana, Alaska. [Festschrift for Dr. William Workman]. Alaska Journal of Anthropology 6(1/2), 2008.

Morlan, R.E. The later prehistory of the middle Porcupine drainage, northern Yukon Territory. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper No. 11. National Museum of Man, Ottawa, 1973.

Rainey, F.G. Archaeology in central Alaska. Anthropological papers of the American Museum of Natural History, Volume 36, 1939.

Shinkwin, A.D. Daka De'nin's village and the Dixthada site. A contribution to Northern Athapaskan Prehistory. National Museum of Man Mercury Series, Archaeological Survey fof Canada Paper No. 91. National Museum of Man, Ottawa, 1979.

Smith, G. Highland Hunters: Prehistoric Land Use in the Yukon-Tanana Uplands. M.A. Thesis, Department of Anthropology, University of Alaska Fairbanks, 2012.

Workman, W.B. Prehistory of the Aishihik-Kluane Area, Southwest Yukon Territory. Archaeological Survey of Canada Mercury Series Paper 74, 1978.

Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.

Caption Figure 4. Microblade from FAI-02047.

Name: Julie Esdale | Organization: USAG/FWA, CSU/CEMML | Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil | Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #1500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02060 Date 04/10/2012 [redacted]

Site Name Blair Lakes A-10-21 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02060 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. This site has two cultural components. Charcoal, found in association with lithic debitage, produced a radiocarbon date for the lower assemblage indicating an early Holocene occupation.

Description and Historic Context

Site FAI-02060 is located on a north-facing terrace edge at an elevation of 198 masl (Figure 1). The site is overlooks a large north-south drainage to the west and the Tanana River valley to the north. The terrace is approximately 10-12 meters above the drainage and the valley; a 15° slope leads down to both. East and southeast of the site, the terrain gradually slopes up to the crest of the landform 45 meters east of the site datum. The terrace provides an excellent viewshed of the Tanana River valley and the Dry Creek drainage to the north. Dry Creek is the nearest water source, and several unnamed, seasonal creeks cut through the outwash bench at closer locations (Figure 2).

The ecosystem is characterized as upland moist needleleaf forest. Site vegetation consists of dense low spruce thickets, mature aspen, and mixed-aged birch. The understory is alder, willow, wild rose, and low scrub, with a dense moss and lichen ground cover. Surface exposure is 0%.

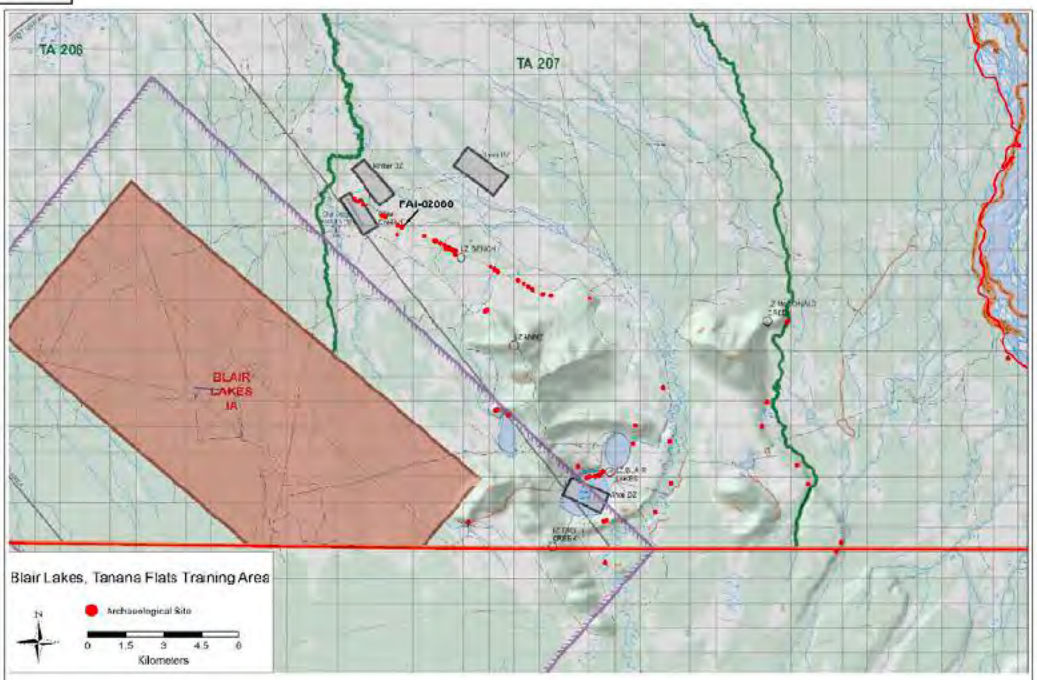
Site FAI-02060 was initially identified by a single retouched flake found on the surface near the western terrace edge (Figure 4). Subsequent subsurface excavations produced cultural material from all four 50 cm x 50 cm test pits excavated. A total of 34 lithic artifacts were recovered from test pits at depths ranging from 0-37 cm BS.

Dispersed charcoal associated with cultural material at 29 cm BS produced an AMS 14C date of 8130 ± 40 (Beta-283429).

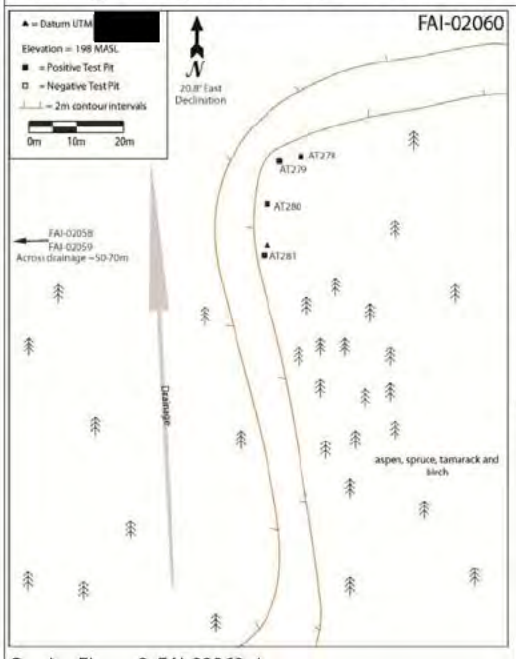
Site stratigraphy consists of aeolian silts 45-55 cm thick overlying a thick gravel layer extending to at least 65 cm BS (Figure 3).

AHRS # FAI-02060

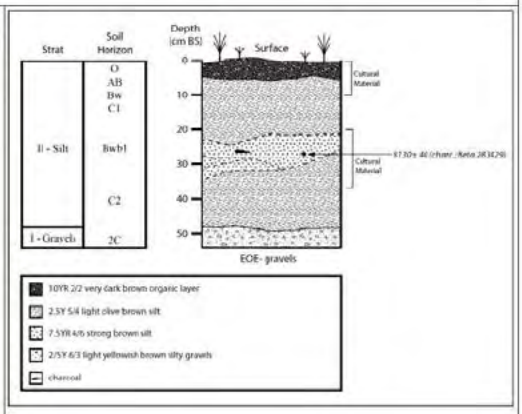
Maps and Photos



CaptionFigure 1. Map of FAI-02060 near Blair Lakes



CaptionFigure 2. FAI-02060 site map



CaptionFigure 3. FAI-02060 stratigraphy

2

AHRS # FAI-02060

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Early Holocene: 8130 ± 40 14C Years BP (Beta-283429)
Cultural Affiliation	American Palaeoarctic/Denali
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located near the Blair Lakes Archaeological District, on a terrace edge to the northwest. Artifacts and charcoal are buried in situ in stratigraphic context, and therefore, their spatial organization has not been substantially disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far are not diagnostic in themselves but are significant when associated with charcoal.
Research Potential	FAI-02060 has a high research potential. Although early Holocene archaeological sites are known from Alaska (e.g. Potter 2008), they are rarely the focus of academic research, being overshadowed by the hunt for the earliest sites in North America on the early end of the spectrum, and the highly visible Northern Archaic during the middle Holocene. Little is known about early Holocene assemblage variability for sites in Interior Alaska. There appears to be significant continuity in stone tool forms throughout the Holocene (Esdale 2008, Potter 2008), and much more variability in the interior in earlier dated assemblages (Bever 2001). Sites dating to this time period are either called "American Palaeoarctic" (in northwest Alaska) or "Denali" (interior Alaska) (Hoffecker 2001), and are characterized in both instances by heavy use of microblade technology. No microblades have been discovered thus far at FAI-02060. The site, with its buried cultural material in stratigraphic context with associated charcoal, has potential to address research questions concerning assemblage variability and site use as well as to contribute to cultural-historical reconstructions.
Summary	FAI-02060 is eligible under Criterion D in the area of prehistoric archaeology. Stratified, multi-component sites, are rare across Alaska. Cultural-historical frameworks depend on repeated associations of toolkit elements in stratified sites. This site has the potential to provide information regarding early Holocene tool production strategies and assemblage compositions as well as yield important information about land and tool use patterns over time.

AHRS # FAI-02060

Selected Resources

Published Sources: Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography:

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Journal of World Prehistory 15 (2) 2001:125-191.

Esdale, J.E. "A Current Synthesis of the Northern Archaic." Arctic Anthropology 45(2), 2008:3-38.

Hoffecker, J.F. "Late Pleistocene and Early Holocene Sites in the Nenana River Valley, Central Alaska." Arctic Anthropology 38(2), 2001:139-153.

Potter, B.A. "A First Approximation of Holocene Inter-Assemblage Variability in Central Alaska". Arctic Anthropology 45(2), 2008:89-113.

Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.

Caption Figure 4. Retouched flake from FAI-02060.

Name: Julie Esdale | Organization: USAG/FWA, CSU/CEMML | Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil | Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #4500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02063 Date 04/10/2012 [redacted]

Site Name Blair Lakes B-10-2 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02063 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. A lanceolate projectile point was found in the lower silt levels that are coeval to similar levels with late Pleistocene dates at other nearby sites.

Description and Historic Context

Site FAI-02063 is located on a north-south trending terrace edge approximately 1.5 km east-northeast of Blair Lake North (Figure 1). Site elevation is 273 masl. The terrace is elevated approximately 25 m above Dry Creek, which is the nearest source of water. The eastern terrace drops down to Dry Creek at approximately 40°. The slope to the west is much more gradual, 5-10°, but continues for at least 60 m. The site sits at a point on the terrace edge which protrudes 2-3 m to the east. This point provides a 180° view of Tanana Flats below. Pork Chop Lake can be seen directly east approximately 2 km away (Figure 2).

The ecosystem is characterized as upland moist mixed broadleaf/needleleaf forest. The vegetation consists of spruce, aspen, rose, bearberry, low scrub, moss and lichen. The surface exposure is on average 50% with visibility higher near the eroding terrace edge.

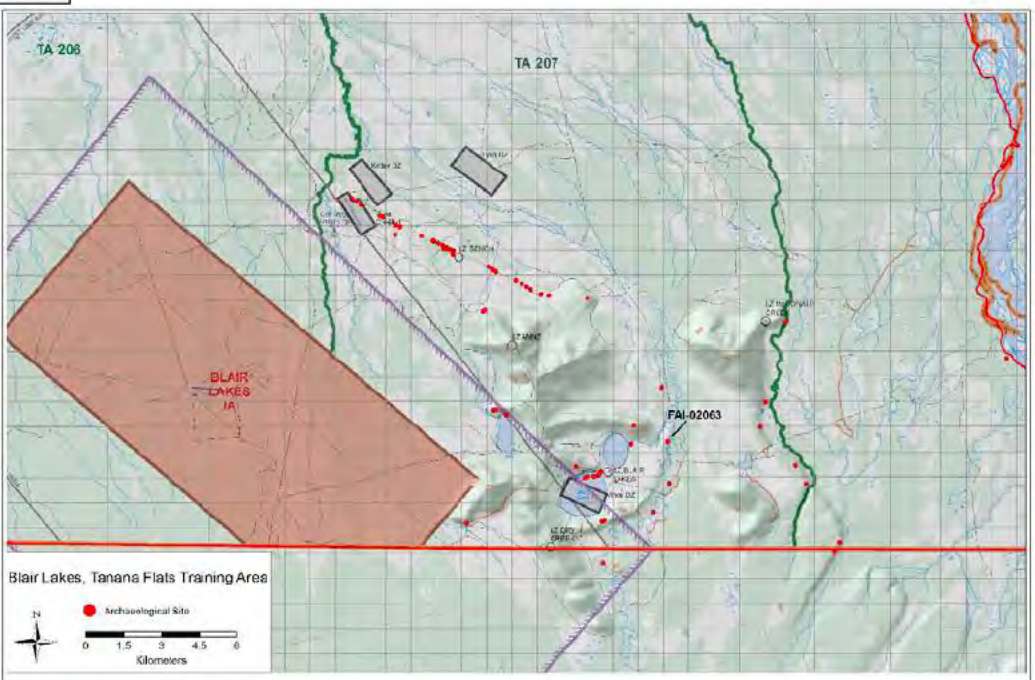
Site FAI-02063 was found through subsurface testing. Three 50 cm x 50 cm shovel tests were excavated, one of which contained cultural material (Figure 3). Cultural material was recovered from 35-60 cm BS. The site consists of 11 chert flakes and one broken chert projectile point (Figure 4). The flakes were dispersed from 35-60 cm BS and the projectile point was recovered from 50-55 cm BS.

Site stratigraphy consists of aeolian silts and sands at least 44 cm thick overlying basal poorly sorted sandy gravels.

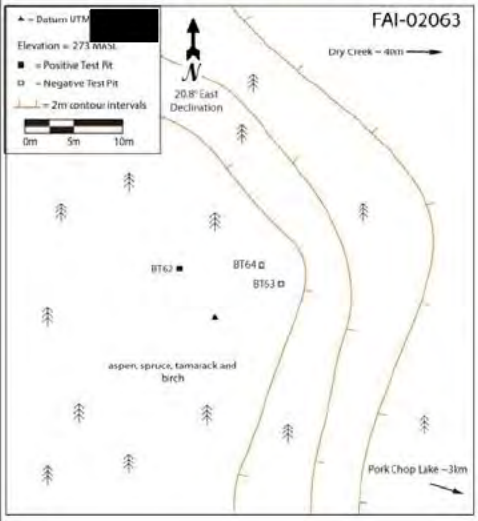
Although no charcoal was found with the artifacts at the site, the location of the artifacts in the stratum indicating a late Pleistocene age elsewhere on the terrace system (FAI- 02043, FAI-02077) suggests that the artifacts, including the lanceolate projectile point fragment, may be of equal antiquity.

AHRS # FAI-02063

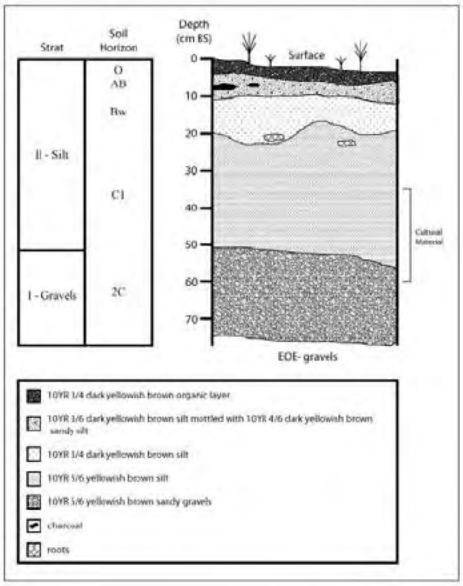
Maps and Photos



CaptionFigure 1. Map of FAI-02063 near Blair Lakes



CaptionFigure 2. FAI-02063 site map



CaptionFigure 3. FAI-02063 stratigraphy

2

AHRS # FAI-02063

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Late Pleistocene
Cultural Affiliation	American Palaeoarctic/Nenana
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located on a terrace edge to the northeast the Blair Lakes Archaeological District. Artifacts are buried in situ in stratigraphic context and their spatial organization does not appear to have been disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. The lanceolate projectile point found is consistent with spear points from other sites in Alaska dating to the late Pleistocene and early Holocene. Though the artifacts excavated thus far may not be diagnostic in themselves, they are significant when considered with their stratigraphic context.
Research Potential	FAI-02063 has a high research potential. Humans began to populated North America in the late Pleistocene, likely not much earlier than 14, 000 calendar years BP (Goebel et. al 2008). The earliest sites in Alaska (Swan Point and Mead; Holmes 1996) are found in the Tanana Valley between the Blair Lakes region and Delta Junction. There is tremendous variability in projectile point style and lithic assemblage composition in sites dating to this period across Alaska (Bever 2001). The stratigraphic position of the lanceolate point and other lithic artifacts at this site compared with nearby terrace sites FAI-02043 and FAI-02077 infers a late Pleistocene age of this site within the time period of other Nenana Complex sites from the Tanana Valley. The deep stratigraphy and associated artifacts at this site have significant potential to play into research problems dealing with the Peopling of the Americas, Alaskan assemblage variability, and early landscape use patterns in the Tanana Valley.
Summary	FAI-02063 is eligible under Criterion D in the area of prehistoric archaeology. The archaeology of the late Pleistocene in Alaska is known from very few sites. Other sites with similar stratigraphic profiles have produced radiocarbon dates older than 10,000 years BP with associated lithic and faunal material. A single test pit at FAI-02063 contained flakes and a broken projectile point in the lowermost terrace silt level and may hold more evidence of early human occupation in the Blair Lakes region. FAI-02063 also has the potential to provide information regarding early human subsistence, land use, and technological strategies during the earliest human history in North America.

AHRS # FAI-02063

Selected Resources

Published Sources

Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Perspectives." Journal of World Prehistory 15 (2) 2001:125-191.

Goebel, T., M. R. Waters, and D. H. O'Rourke. "The Late Pleistocene Dispersal of Modern Humans in the Americas.". Science 319, 2008: 1497-1502.

Holmes, C.E. "Broken Mammoth." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by F.H. West, 312-318. Chicago: University of Chicago Press, 1996.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. "Little Delta Dune Site: A Late-Pleistocene Multicomponent Site in Central Alaska." Current Research in the Pleistocene 25, 2008: 132-135.

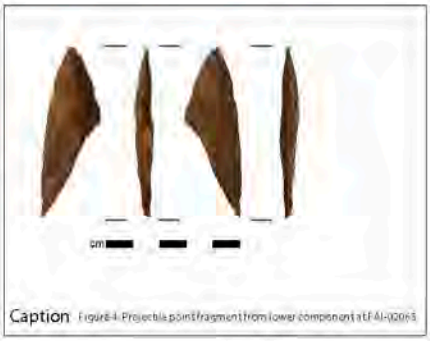
Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.



Caption Figure 4. Projectile point fragment from lower component at FAI-02063

Name: Julie Esdale

Organization: USAG/FWA, CSU/CEMML

Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil

Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #4500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02064 Date 04/10/2012 [redacted]

Site Name Blair Lakes B-10-3 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02064 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. Charcoal, found in association with lithic debitage and bone fragments, produced radiocarbon dates indicating a late Holocene occupation.

Description and Historic Context

Site FAI-02064 is located on the crest of bedrock knoll north of Blair Lakes (Figure 1). Site elevation is 351 masl. The view from the crest is 360°. Blair Lake North, the closest source of water, can be seen approximately 500 m to the southeast. The slopes to the northeast and southwest are approximately 30°, and the slopes to the northwest and southeast are approximately 15°. The highest point of the crest (approximately 40 m northwest-southeast by 15 m northeast-southwest) has been mechanically scraped. Push piles line the southern edge of the disturbance.

The ecosystem is characterized as upland dry needleaf/broadleaf forest. Vegetation consists of mature aspen and spruce with an understory of fireweed, rose, low bush cranberry, moss, and lichen. Surface visibility is 0-10%.

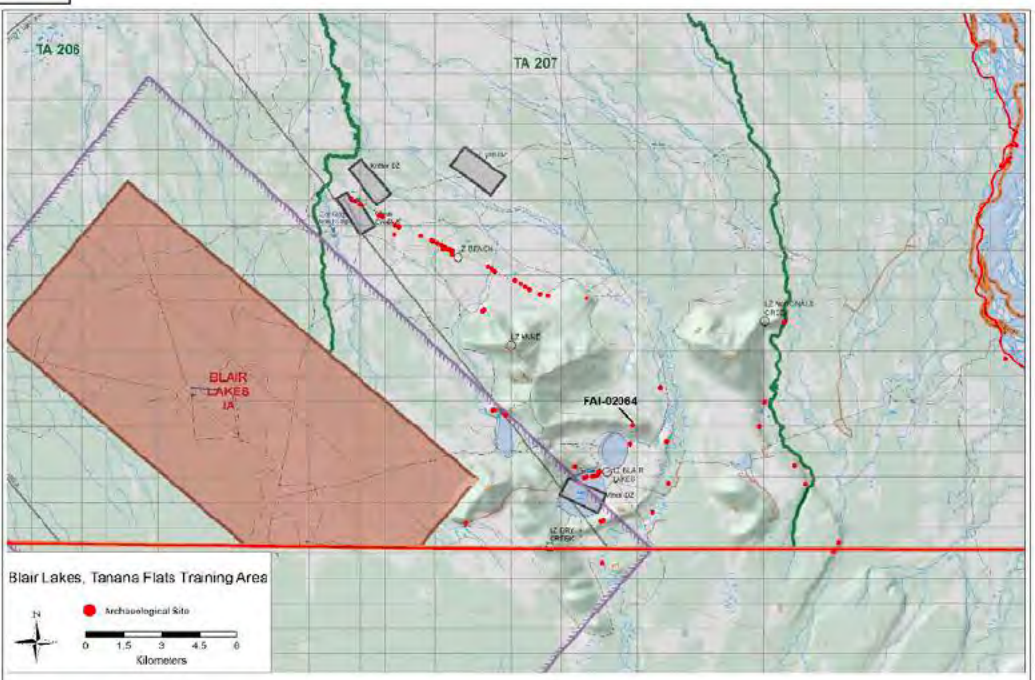
Site FAI-02064 was found through subsurface testing. Five 50 cm by 50 cm test pits were excavated (Figure 2). Two test pits contained cultural material consisting of 70 lithic flakes 0-45 cm BS, two microblades at 10-33 cm BS (Figure 4), and one burin spall at 35 cm BS.

Dispersed charcoal found in association with cultural material at 40 cm BS produce an AMS 14C date of 2170 ± 40 (Beta- 283435).

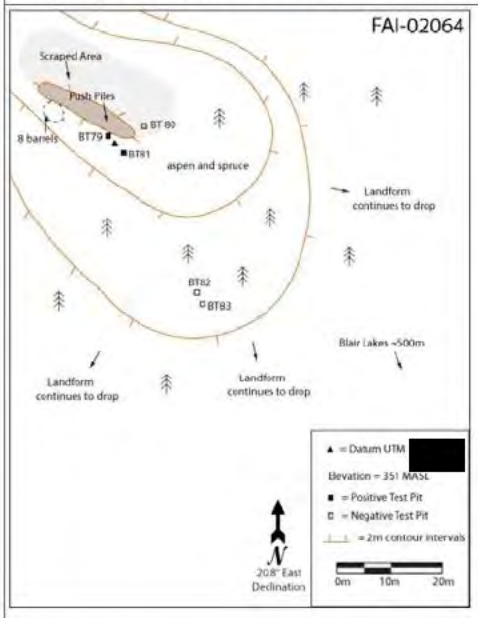
Site stratigraphy consists of aeolian silts at least 38 cm thick overlying decaying schist bedrock (Figure 3).

AHRS # FAI-02064

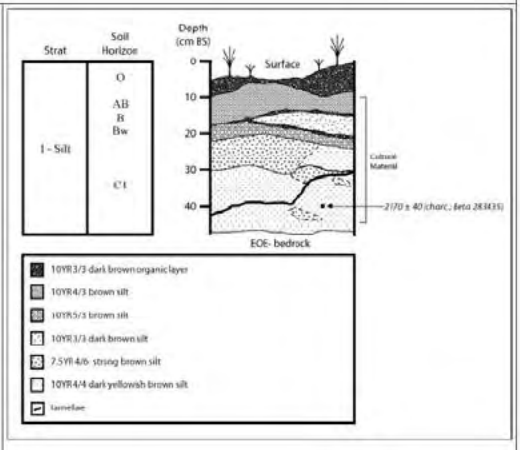
Maps and Photos



CaptionFigure 1. Map of FAI-02064 near Blair Lakes



CaptionFigure 2. FAI-02064 site map



CaptionFigure 3. FAI-02064 stratigraphy

2

AHRS # FAI-02064

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Late Holocene: 2170 ± 40 14C Years BP (Beta- 283435)
Cultural Affiliation	Athabaskan
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located near the Blair Lakes Archaeological District, along a terrace edge to the northwest. Artifacts, faunal material, and charcoal are buried in situ in stratigraphic context, and therefore, their spatial organization has not been substantially disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far, such as the microblades, are not diagnostic for a particular time period in themselves, but are significant when associated with the datable material.
Research Potential	FAI-02064 has a high research potential. The late Holocene radiocarbon dates and intact stratigraphy make the site integral to discussions of early Athabaskan land use patterns in the Tanana Valley. Recent research in the connections between Athabascan language groups (Na-Dene) and Siberian languages (Ket) (e.g. Kari and Potter 2010) has prompted researchers to attempt to trace Athabascan material culture further back in time. Most of what is known about Athabascan archaeology comes from late Prehistoric village sites dating back only to the last few hundred years. Sites such as Dixthada (Rainey 1939, Shinkwin 1979), Klokut (Morlan 1973), and Ringling (Hansen 2008) demonstrate people were subsisting off of seasonally abundant resources (i.e. caribou and salmon) and that birch bark, cobble spall scrapers, tanged arrow points, and local metals were important toolkit items. Sites in Interior Alaska such as U.S. Creek and Cripple Creek (Esdale and Mills 2010, Smith 2012) have begun to trace these items back into the last millennium before present. Dated sites such as FAI-02064 will be extremely significant for making connections between modern Athabascan people and prehistoric sites.
Summary	FAI-2064 is eligible under Criterion D in the area of prehistoric archaeology. Stratified and dated Athabaskan archaeological sites are rare in Interior Alaska. FAI-02064 contains artifacts and charcoal buried in stratigraphic context. The site has the potential to provide significant information regarding past Athabascan lifeways and material culture, and will provide an important link between a prehistoric archaeological site and historic people living in the region.

AHRS # FAI-02064

Selected Resources

Published Sources

Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography

Esdale, J. and R.O. Mills. Lithic procurement and tool production strategies at the Late Prehistoric U.S. Creek Site. Paper presented at the Annual Meeting of the Alaska Anthropological Association, Anchorage, 2010.

Hanson, Diane K. Archaeological investigations in the 1990s at the Ringling Material site, GUL-077, near Gulkana, Alaska. [Festschrift for Dr. William Workman]. Alaska Journal of Anthropology 6(1/2), 2008.

Morlan, R.E. The later prehistory of the middle Porcupine drainage, northern Yukon Territory. National Museum of Man Mercury Series, Archaeological Survey of Canada Paper No. 11. National Museum of Man, Ottawa, 1973.

Rainey, F.G. Archaeology in central Alaska. Anthropological papers of the American Museum of Natural History, Volume 36, 1939.

Shinkwin, A.D. Daka De'nin's village and the Dixthada site. A contribution to Northern Athapaskan Prehistory. National Museum of Man Mercury Series, Archaeological Survey fof Canada Paper No. 91. National Museum of Man, Ottawa, 1979.

Smith, G. Highland Hunters: Prehistoric Land Use in the Yukon-Tanana Uplands. M.A. Thesis, Department of Anthropology, University of Alaska Fairbanks, 2012.

Workman, W.B. Prehistory of the Aishihik-Kluane Area, Southwest Yukon Territory. Archaeological Survey of Canada Mercury Series Paper 74, 1978.

Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.

Caption Figure 4. Microblades from FAI-02064.

Name: Julie Esdale | Organization: USAG/FWA, CSU/CEMML | Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil | Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #1500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02073 Date 04/10/2012 [redacted]

Site Name Blair Lakes B-10-13 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02073 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK.

Description and Historic Context

Site FAI-02073 is located on the edge of a north-facing alluvial terrace that is elevated approximately 15 m above the tussocks and valley floor below (Figure 1). Site elevation is 213 masl. The highest point of the terrace is approximately 80 m north-south and 40 m east-west. Two unnamed drainage channels converge 20 m directly north of FAI-02073 to become the main water source in the area which flows northeast to the Tanana Flats. The viewshed from the northern tip of the landform is roughly 270°.

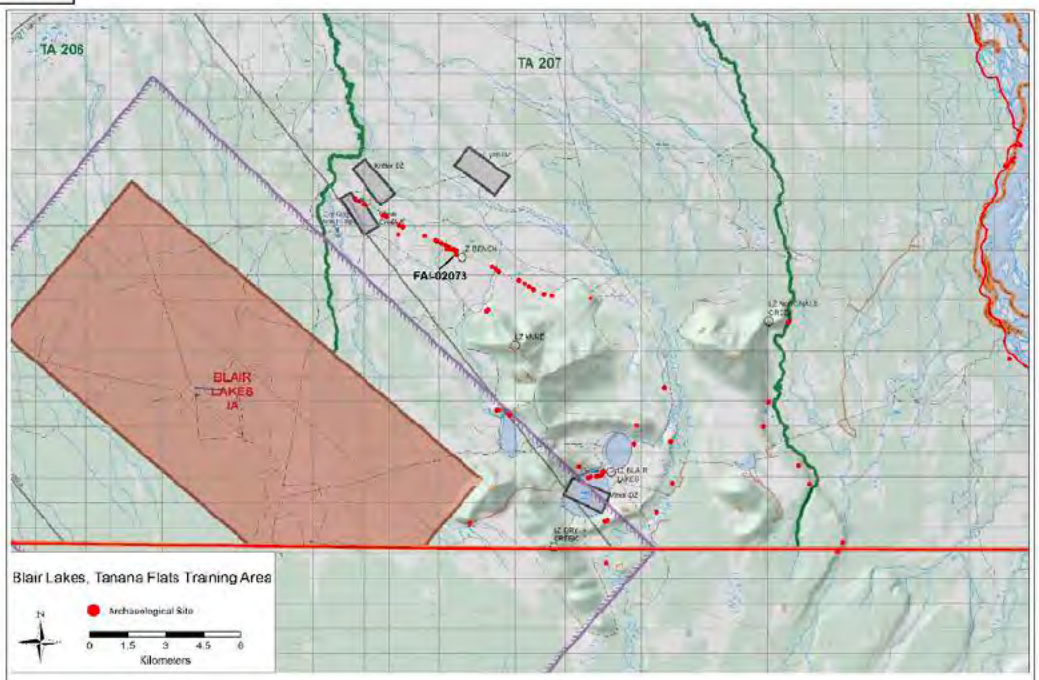
The ecosystem is characterized as upland moist needleleaf forest. Vegetation consists mainly of young spruce, tamarack, and willow with an understory of moss and lichen. Surface visibility is less than 5%.

Site FAI-02073 was found through subsurface testing. Four 50 cm x 50 cm test pits were excavated (Figure 2). Two test pits contained cultural material, including 30 pieces of lithic debitage recovered from 0-45 cm BS (Figure 3). Two microblades , one microblade core (Figure 4) was found in situ at 45 cm BS, and one microblade core tab were recovered from 0-40 cm BS.

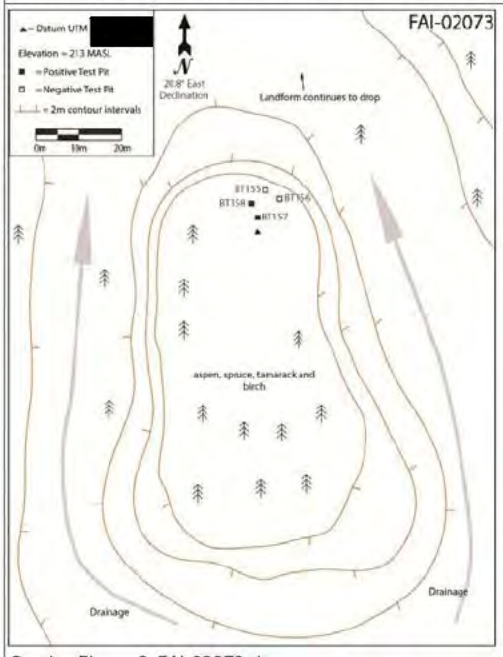
Site stratigraphy consists of aeolian silts at least 46 cm deep overlying poorly sorted basal sandy gravels (Figure 3).

AHRS # FAI-02073

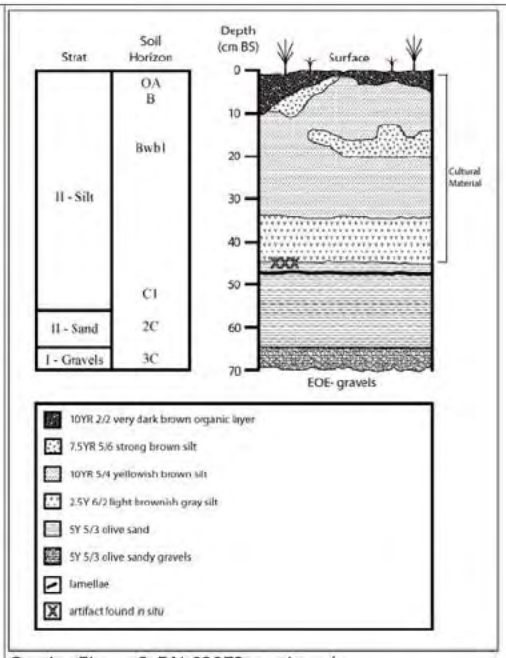
Maps and Photos



CaptionFigure 1. Map of FAI-02073 near Blair Lakes



CaptionFigure 2. FAI-02073 site map



CaptionFigure 3. FAI-02073 stratigraphy

2

AHRS # FAI-02073

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Late Pleistocene
Cultural Affiliation	American Palaeoarctic/Nenana/Denali
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located on a terrace edge to the northeast of the Blair Lakes Archaeological District. Artifacts including microblades and microblade cores are buried in stratigraphic context and their spatial organization does not appear to have been disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far are diagnostic of several time periods in Alaska, but paired with their stratigraphic position in the site, in a similar location to the lowermost cultural layer at FAI-02043 and FAI-02077, they appear to belong to the late Pleistocene.
Research Potential	FAI-02073 has a high research potential. Humans began to populated North America in the late Pleistocene, likely not much earlier than 14, 000 calendar years BP (Goebel et. al 2008). The earliest sites in Alaska (Swan Point and Mead; Holmes 1996) are found in the Tanana Valley between the Blair Lakes region and Delta Junction. There is tremendous variability in projectile point style and lithic assemblage composition in sites dating to this period across Alaska (Bever 2001). The stratigraphic position of the microblade core and associated lithic artifacts at this site compared with nearby terrace sites FAI-02043 and FAI-02077 infers a late Pleistocene age of this site within the time period of other Nenana Complex sites from the Tanana Valley. The deep stratigraphy and associated artifacts at this site have significant potential to play into research problems dealing with the Peopling of the Americas, Alaskan assemblage variability, and early landscape use patterns in the Tanana Valley.
Summary	FAI-02073 is eligible under Criterion D in the area of prehistoric archaeology. The archaeology of the late Pleistocene in Alaska is known from very few sites. Other sites with similar stratigraphic profiles have produced radiocarbon dates older than 10,000 years BP with associated lithic and faunal material. Two test pits at FAI-02073 contained flakes, microblade core related debitage, and a microblade core in the lowermost terrace silt level and may hold more evidence of early human occupation in the Blair Lakes region. FAI-02073 also has the potential to provide information regarding early human subsistence, land use, and technological strategies during the earliest human history in North America.

AHRS # FAI-02073

Selected Resources

Published Sources: Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography:

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Perspectives." Journal of World Prehistory 15 (2) 2001:125-191.

Goebel, T., M. R. Waters, and D. H. O'Rourke. "The Late Pleistocene Dispersal of Modern Humans in the Americas.". Science 319, 2008: 1497-1502.

Holmes, C.E. "Broken Mammoth." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by F.H. West, 312-318. Chicago: University of Chicago Press, 1996.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. "Little Delta Dune Site: A Late-Pleistocene Multicomponent Site in Central Alaska." Current Research in the Pleistocene 25, 2008: 132-135.

Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.

Caption: Figure 4. Microblade core from lower component at FAI-02073.

Name: Julie Esdale | Organization: USAG/FWA, CSU/CEMML | Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil | Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #4500, Ft. Wainwright, AK 99703-4500

4

DETERMINATION OF ELIGIBILITY

AHRS # FAI-02077 Date 04/10/2012 [redacted]

Site Name Blair Lakes B-10-17 UTM

Determination Eligible Location Blair Lakes Region, Tanana Flats Training Area, Fort Wainwright, Alaska

Classification of Property

Ownership USAG FWA Category Site Number of Resources 1

Property Description

Summary

FAI-02077 is a buried, intact, archaeological site located in the Blair Lakes Region of the Tanana Flats Training Area, south of Fairbanks, AK. Charcoal found in deeply stratified deposits with cultural material dated to the late Pleistocene.

Description and Historic Context

Site FAI-02077 is located on a north-facing terrace edge northwest of Blair Lakes (Figure 1). Site elevation is 213 masl. The site is located to the west of a narrow unnamed drainage channel runs into the flats below. The landform slopes approximately 45° to the northeast into the flats roughly 15 m below. The Fairbanks hills can be seen to the northeast, Clear Creak Buttes can be seen approximately 25 km away to the northwest at 326°, and the outline of Dry Creek can be seen approximately 3 km to the north.

The ecotype is described as upland moist mixed broadleaf/needleleaf forest. Vegetation consists of birch, tamarack, and spruce with an understory of moss mushrooms and lichen. Surface visibility is 10-20%. Moderate bioturbation (animal dens) located in the northeast corner.

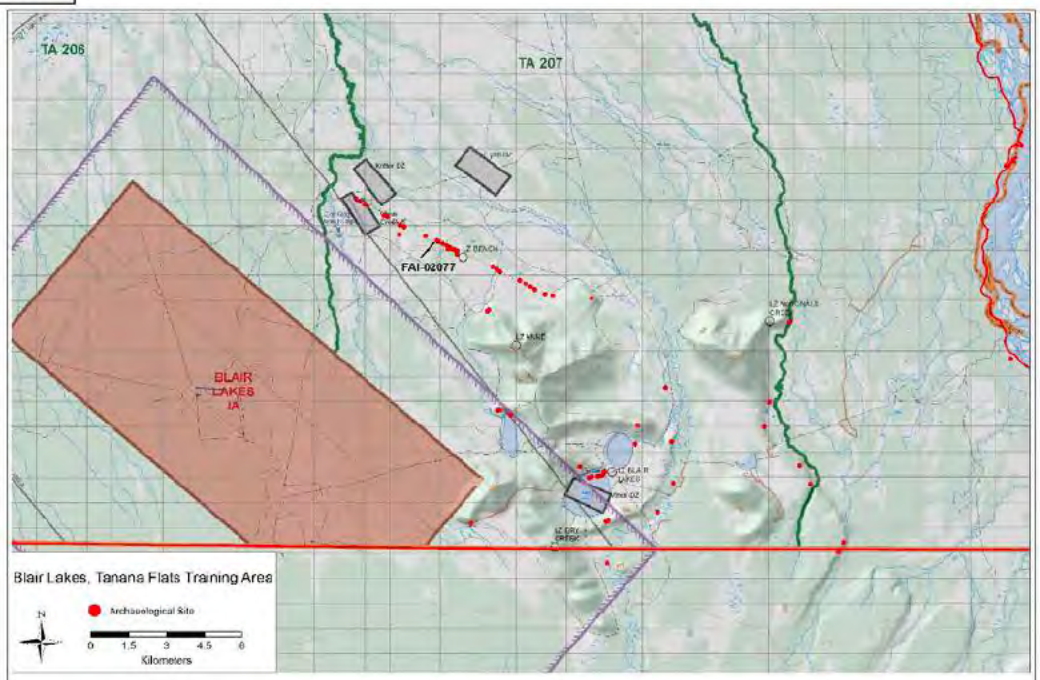
Site FAI-02077 was found through subsurface testing. Seven 50 cm x 50 cm test pits were excavated (Figure 2). One test pit contained cultural material, including one 10-20 mm dark gray (7.5YR 4/1) chert flake fragment, one rhyolite biface, and one chert microblade (Figure 3, Figure 4) recovered from 20-30 cm BS.

Dispersed charcoal associated with cultural material at a depth of 31 cm BS produced an AMS 14C date of 10130 ± 50 (Beta-283435).

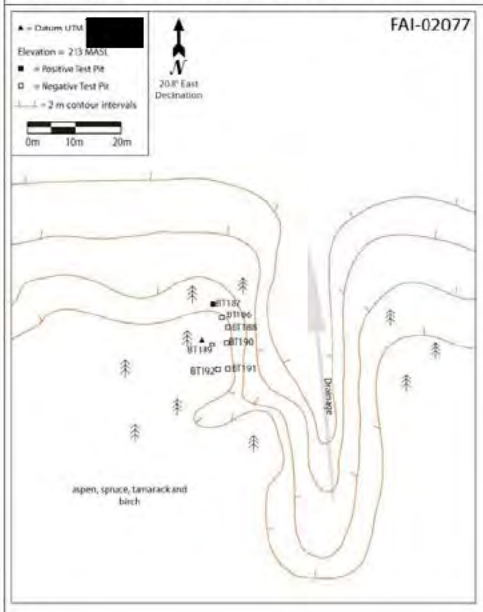
Site stratigraphy consists of aeolian silts at least 145 cm thick. No underlying basal stratigraphy was encountered (Figure 3).

AHRS # FAI-02077

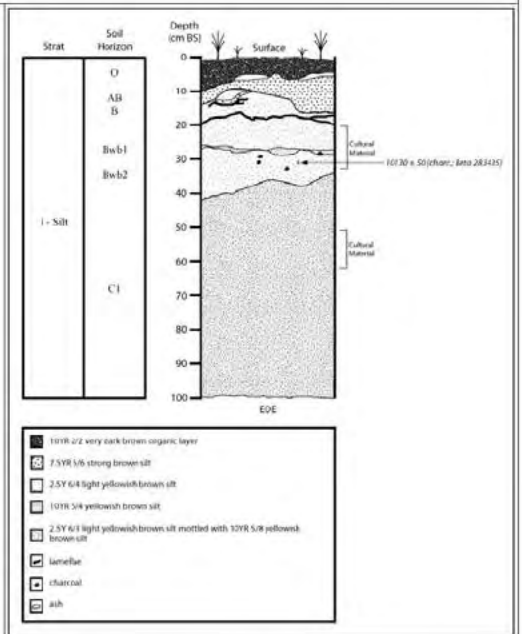
Maps and Photos



CaptionFigure 1. Map of FAI-02077 near Blair Lakes



CaptionFigure 2. FAI-02077 site map



CaptionFigure 3. FAI-02077 stratigraphy

2

AHRS # FAI-02077

Statement of Significance

☐ **A.** Property is associated with events that have made a significant contribution to the broad patterns of our history.

☐ **B.** Property is associated with the lives of persons significant in our past.

☐ **C.** Property embodies the distict characteristics of a type, period, or method of construction.

☒ **D.** Property has yielded, or is likely to yield, information important in prehistory or history.

Areas of Significance	Archaeology: prehistoric
Period of Significance	Late Pleistocene: 10,130 ± 50 14C years BP (Beta-283435).
Cultural Affiliation	American Palaeoarctic
Level of Significance	Regional and state
Criteria Considerations	This property retains high integrity in the areas of location, design, setting, materials, and association. This site is located near the Blair Lakes Archaeological District, on a terrace edge to the northeast. Artifacts, including microblades, and charcoal are buried in situ in stratigraphic context, and therefore, their spatial organization has not been substantially disturbed since original deposition. The site is located in a prominent area with a good view of the surrounding territory, ideal for watching for prey species. Artifacts excavated thus far are not diagnostic in themselves but are significant when associated with charcoal.
Research Potential	FAI-02077 has a high research potential. Humans began to populated North America in the late Pleistocene, likely not much earlier than 14,000 calendar years BP (Goebel et. al 2008). The earliest sites in Alaska (Swan Point and Mead; Holmes 1996) are found in the Tanana Valley between the Blair Lakes region and Delta Junction. There is tremendous variability in projectile point style and lithic assemblage composition in sites dating to this period across Alaska (Bever 2001). The radiocarbon date from the lower component at FAI-02077 places this site within the time period of Nenana Complex sites (12,200 calendar years ago). The deep stratigraphy and association of faunal material, lithic tools, and charcoal at this site suggests a significant potential to play into research problems dealing with the Peopling of the Americas, Alaskan assemblage variability, and early landscape use patterns in the Tanana Valley. The fauna collection is rich and provides evidence for questions about hunting strategies in late Pleistocene Eastern Beringia. Because it is a multi-component site with good stratigraphic separation between occupations, analysis of the cultural materials will also help in defining culture-historical frameworks for Alaska.
Summary	FAI-02073 is eligible under Criterion D in the area of prehistoric archaeology. This site is one in less than a few dozen sites in Alaska dating to the late Pleistocene. It has the potential to provide information regarding early human subsistence, land use, and technological strategies during the earliest human history in North America as well as for the later Northern Archaic period. Deep, stratified, multi-component sites such as FAI-02073 are rare in Alaska and this site has high potential for yielding important information about diet, tool stone procurement, and stone tool production methods.

AHRS # FAI-02077

Selected Resources

Published Sources

Esdale, J.A., Gaines, E.P., Yeske, K.S., McLaren, W.E., Shimel, M., and Kunesh, J.F. 2012. Section 110 Report. Cultural Resource Survey and Evaluation, Fort Wainwright and Training Lands, 2010 & 2011. Report prepared by CEMML, Ft. Collins, CO.

Bibliography

Bever, M.R. "An Overview of Alaskan Late Pleistocene Archaeology: Historical Themes and Current Perspectives." Journal of World Prehistory 15 (2) 2001:125-191.

Goebel, T., M. R. Waters, and D. H. O'Rourke. "The Late Pleistocene Dispersal of Modern Humans in the Americas.". Science 319, 2008: 1497-1502.

Holmes, C.E. "Broken Mammoth." In American Beginnings: The Prehistory and Palaeoecology of Beringia, by F.H. West, 312-318. Chicago: University of Chicago Press, 1996.

Potter, B.A., J.D. Reuther, P.M. Bowers, and C. Gelvin-Reymiller. "Little Delta Dune Site: A Late-Pleistocene Multicomponent Site in Central Alaska." Current Research in the Pleistocene 25, 2008: 132-135.

Geographical Data

Acreage of Property: unknown

Boundary Description: Site boundaries have not been determined.

Other Information

Other Information: This site should be included as a contributing site to the Blair Lakes Archaeological District.

Caption: Figure 4. Biface from lower component at FAI-02077

Name: Julie Esdale

Organization: USAG/FWA, CSU/CEMML

Phone Number: +1 (907) 361-9405

Email: julie.a.esdale.ctr@mail.mil

Address: Directorate of Public Works, Environmental Division, Attn: IMFW-PWE (Esdale), 1060 Gaffney Road, #1500, Ft. Wainwright, AK 99703-4500

4

APPENDIX 2: FAI-02043 Lithic Accession Log

UA Accession Number	EU/Test Pit	Depth (cm BS)	Level	Quantity	Artifact Type
UA2010-185-0001	AT49	0-10		4	flake
UA2010-185-0002	AT49	10-15		15	flake
UA2010-185-0003	AT49	15		1	flake
UA2010-185-0004	AT49	16		1	flake
UA2010-185-0005	AT49	17		1	flake
UA2010-185-0006	AT49	17-22		1	flake
UA2010-185-0007	AT49	18		1	flake
UA2010-185-0008	AT49	20-25		8	flake
UA2010-185-0009	AT49	22		1	flake
UA2010-185-0010	AT49	22		1	flake
UA2010-185-0011	AT49	25-30		10	flake
UA2010-185-0014	AT50	95-105		1	flake
UA2010-185-0015	AT50	99		1	flake
UA2010-185-0017	AT50	100		1	flake
UA2010-185-0019	AT50	100-110		14	flake
UA2010-185-0020	AT50	101		1	flake
UA2010-185-0022	AT51	67		1	flake
UA2010-185-0023	AT51	100		1	flake
UA2010-185-0025	AT51	120		1	flake
UA2010-185-0027	AT52	85-90		1	flake
UA2010-185-0030	AT52	100-110		1	flake
UA2010-185-0032	AT49	25-30		3	flake
UA2010-185-0033	AT49	0-30		3	flake
UA2010-185-0034	AT49	30-35		1	flake
UA2010-185-0035	AT49	37		5	flake
UA2010-185-0036	AT49	37-40		12	flake
UA2010-185-0037	AT49	40-50		1	flake
UA2010-185-0041	AT52	88-120		1	flake
UA2010-185-0044	AUG2	20-40		3	flake
UA2010-185-0045	AUG2	40-60		3	flake
UA2010-185-0046	AUG2	60-80		1	flake
UA2010-185-0047	AUG2	115-130		1	flake
UA2010-185-0049	AT291	11-119		54	flake
UA2010-185-0050	AT291	80		1	flake
UA2010-185-0051	AT291	80-85		1	flake
UA2010-185-0053	AT291	85-90		5	flake
UA2010-185-0054	AT291	91		1	flake
UA2010-185-0055	AT291	92		6	flake
UA2010-185-0056	AT291	92		32	flake
UA2010-185-0057	AT291	93		1	flake
UA2010-185-0058	AT291	93		3	flake
UA2010-185-0059	AT291	90-92		12	flake
UA2010-185-0060	AT291	90-95		3	flake
UA2010-185-0061	AT291	91		3	flake
UA2010-185-0062	AT291	93-95		5	flake

UA2010-185-0063	AT291	94		2	flake
UA2010-185-0064	AT291	93-95		58	flake
UA2010-185-0066	AT291	95.5		1	flake
UA2010-185-0067	AT291	94		1	flake
UA2010-185-0068	AT291	94		1	flake
UA2010-185-0069	AT291	95		1	flake
UA2010-185-0070	AT291	94		1	flake
UA2010-185-0071	AT291	94		1	flake
UA2010-185-0072	AT291	94		1	flake
UA2010-185-0074	AT291	94		2	flake
UA2010-185-0075	AT291	94-95		14	flake
UA2010-185-0076	AT291	96-99		1	flake
UA2010-185-0077	AT291	93-99		3	flake
UA2010-185-0079	AT291	96-99		75	flake
UA2010-185-0080	AT291	99-104		17	flake
UA2010-185-0081	AT291	104-109		12	flake
UA2010-185-0082	AT291	109-114	6	5	flake
UA2010-185-0091	EU2	82	7	1	flake
UA2010-185-0094	EU1	86-89	6	2	flake
UA2010-185-0096	EU1	89	6	1	flake
UA2010-185-0097	EU1	89	6	1	flake
UA2010-185-0098 (not in collection)		85-90	N/A	2	flake
UA2010-185-0102	EU2	85-90	7	2	flake
UA2010-185-0103	EU2	87-89	7	1	flake
UA2010-185-0104	EU2	85-90		3	flake
UA2010-185-0106	AT50		NA	1	flake
UA2010-185-0107	AT50	106	7	1	flake
UA2010-185-0109	EU1	89-94	7	6	flake
UA2010-185-0112	EU1	89	7	1	flake
UA2010-185-0113 (1 of 2)	EU1	89-93	7	1	flake
UA2010-185-0113 (2 of 2)	EU1	89-91	7	1	flake
UA2010-185-0114	EU1	92-94	7	2	flake
UA2010-185-0116	EU1	94	2	1	flake
UA2010-185-0118	EU2	90-95	8	1	flake
UA2010-185-0121	EU2	90-95	8	1	flake
UA2010-185-0122	EU2	90-95	8	15	flake
UA2010-185-0123	EU2	95	8	1	flake
UA2010-185-0124 (removed from collection)			9	2	flake
UA2010-185-0125	EU1	94-99	9	3	flake
UA2010-185-0126	EU1	94	9	1	flake
UA2010-185-0128	EU1	94-99	9	1	flake
UA2010-185-0129	EU1	94-99	9	2	flake
UA2010-185-0130	EU1	96	9	1	flake
UA2010-185-0132	EU1	94-99	9	2	flake
UA2010-185-0133	EU1	94-99	9	1	flake
UA2010-185-0135	EU2	95-100	9	9	flake
UA2010-185-0136	EU2	101	9	1	flake
UA2010-185-0137	EU2	100	9	1	flake
UA2010-185-0138	EU2	100	9	1	flake

UA2010-185-0139 (not in collection)		95-100	9	1	obsidian flake
UA2010-185-0140	EU2	100	9	1	flake
UA2010-185-0148	EU2	102	9	1	flake
UA2010-185-0149	EU2	102	9	1	flake
UA2010-185-0150	EU2	95-100	9	7	flake
UA2010-185-0151	EU2	101	9	1	flake
UA2010-185-0152	EU2	102	9	1	flake
UA2010-185-0153	EU2	102	9	1	flake
UA2010-185-0157 (not in collection)		102	10	1	flake
UA2010-185-0158	EU2	104	10	1	flake
UA2010-185-0160	EU2	100-105	10	5	flake
UA2010-185-0161	EU2	105	10	1	flake
UA2010-185-0162	EU2	105	10	2	flake
UA2010-185-0163	EU2	105	10	1	flake
UA2010-185-0164	EU2	100-105	10	1	microblade
UA2010-185-0165	EU2	102	10	1	flake
UA2010-185-0166	EU2	102	10	1	flake
UA2010-185-0167	EU2	101	10	1	flake
UA2010-185-0168	EU2	103	10	1	flake
UA2010-185-0169	EU2	103	10	1	flake
UA2010-185-0170	EU2	104	10	1	flake
UA2010-185-0173	EU2	100-105	10	9	flake
UA2010-185-0174	EU2	103	10	1	flake
UA2010-185-0175	EU2	102-104	10	5	flake
UA2010-185-0176	EU2	102-105	10	9	flake
UA2010-185-0177 (removed from collection)			10	?	flake
UA2010-185-0180	EU2	100-103		4	flake
UA2010-185-0182	EU2	103-105	10	3	flake
UA2010-185-0184	EU2	104	10	1	flake
UA2010-185-0185	EU2	105-107	10	1	flake
UA2010-185-0186	EU2	103-105	10	8	flake
UA2010-185-0188	EU2	106	10	1	flake
UA2010-185-0189	EU2	100-106	10	3	flake
UA2010-185-0191	EU2	100-105	10	9	flake
UA2010-185-0192	EU2	107	10	1	flake
UA2010-185-0194	EU2	103	10	1	flake
UA2010-185-0195	EU2	104	10	1	flake
UA2010-185-0196	EU2	103	10	1	flake
UA2010-185-0201	EU2	106	10	1	flake
UA2010-185-0202	EU2	100-105	10	18	flake
UA2010-185-0205	EU2	100-105	AT50	13	flake
UA2010-185-0206	AT50	106	10	1	flake
UA2010-185-0207	EU2	100-105	10	7	flake
UA2010-185-0209	EU2	100-105	11	6	flake
UA2010-185-0210	EU2	110	11	1	flake
UA2010-185-0211	EU2	105-108	11	16	flake
UA2010-185-0212	EU2	108-110	11	5	flake
UA2010-185-0213	EU2	105-108	11	1	microblade
UA2010-185-0214	EU2	105-108	11	3	flake

UA2010-185-0215	EU2	108-110	11	3	flake
UA2010-185-0217	EU2	105-108	11	9	flake
UA2010-185-0218	EU2	108-110	11	9	flake
UA2010-185-0220	EU2	108-110	11	4	flake
UA2010-185-0221	EU2	105-108	11	8	flake
UA2010-185-0222	EU2	105-108	11	1	flake
UA2010-185-0223	EU2	108-110	11	7	flake
UA2010-185-0224	EU2	105-108	11	12	flake
UA2010-185-0225	EU2	108-110	11	9	flake
UA2010-185-0228	EU2	109-113	11	1	flake
UA2010-185-0229	EU2	105-112	11	10	flake
UA2010-185-0230	EU2	105-109	11	19	flake
UA2010-185-0233	EU2	109-112	11	21	flake
UA2010-185-0234	EU2	110	11	1	biface fragment
UA2010-185-0237 (not in collection)		109-112	11	1	obsidian flake
UA2010-185-0238	EU2	108-111	11	2	flake
UA2010-185-0239	EU2	111-112	11	3	flake
UA2010-185-0243	EU2	107-110	11	4	flake
UA2010-185-0244	EU2	110-111	11	4	flake
UA2010-185-0247	EU2	107-110	11	7	flake
UA2010-185-0248	EU2	110-112	11	9	flake
UA2010-185-0251	EU2	107-110	11	14	flake
UA2010-185-0252	EU2	110-112		12	flake
UA2010-185-0263	EU2	NA	NA	4	flake
UA2010-185-0267	EU1	NA	11	20	flake
UA2010-185-0268	EU2	107	11	1	flake
UA2010-185-0269	EU2	107	11	1	flake
UA2010-185-0270	EU2	110	11	1	flake
UA2010-185-0271	EU2	111		1	flake
UA2010-185-0273	AT50		11	4	flake
UA2010-185-0274	EU2/AT50	disturbed	13	18	flake
UA2010-185-0276	EU2	106	11	1	flake
UA2010-185-0277	EU2	106	11	1	flake
UA2010-185-0278	EU2	108	11	1	flake
UA2010-185-0279	EU2	106-108	11	4	flake
UA2010-185-0280	EU2	108.5	11	1	flake
UA2010-185-0281	EU2	108.5	11	1	flake
UA2010-185-0284	EU2	108.5	11	1	flake
UA2010-185-0285	EU2	109	11	1	flake
UA2010-185-0286	EU2	109	11	1	flake
UA2010-185-0287	EU2	109	11	1	flake
UA2010-185-0288	EU2	109	11	1	flake
UA2010-185-0289	EU2	110	11	1	flake
UA2010-185-0290	EU2	110	11	1	flake
UA2010-185-0291	EU2	109	11	1	flake
UA2010-185-0292	EU2	110	11	1	flake
UA2010-185-0295	EU2	110	11	1	flake
UA2010-185-0296	EU2	109	11	1	flake
UA2010-185-0297	EU2	112	11	1	flake

UA2010-185-0298	EU2	108-112	11	3	flake
UA2010-185-0299	EU2	112	11	1	flake
UA2010-185-0300	EU2	106	11	1	flake
UA2010-185-0302	EU2	108	11	1	flake
UA2010-185-0304	EU2	108	11	1	flake
UA2010-185-0305 (removed from collection)			11	1	flake
UA2010-185-0306	EU2	108	11	1	flake
UA2010-185-0308	EU2	111	11	1	flake
UA2010-185-0309	EU2	110.5	11	1	flake
UA2010-185-0310	EU2	111	11	1	flake
UA2010-185-0315	EU2	108	11	1	flake
UA2010-185-0317	EU2	106	11	1	flake
UA2010-185-0319	EU2	106.5	11	1	flake
UA2010-185-0320	EU2	107.5	11	1	flake
UA2010-185-0322	EU2	106.5	11	1	flake
UA2010-185-0323	EU2	107.5	11	1	flake
UA2010-185-0324	EU2	112.5	11	1	flake
UA2010-185-0325	EU2	107.5	11	1	flake
UA2010-185-0330	EU2	107.5	11	1	flake
UA2010-185-0334	EU2	108	11	1	flake
UA2010-185-0339	EU2	109.5	11	1	flake
UA2010-185-0343	EU2	112	11	1	flake
UA2010-185-0344	EU2	111	11	1	flake
UA2010-185-0345	EU2	111	11	1	flake
UA2010-185-0346	EU2	112	11	1	flake
UA2010-185-0347	EU2	110	11	1	flake
UA2010-185-0348	EU2	108	11	1	flake
UA2010-185-0349	EU2	112	11	1	flake
UA2010-185-0350	EU2	103-112	11	7	flake
UA2010-185-0352	EU2	110	11	1	flake
UA2010-185-0354	EU2	108	11	1	flake
UA2010-185-0355	EU2	108	11	1	flake
UA2010-185-0356	EU2	110	11	1	flake
UA2010-185-0357	EU2	111	11	1	flake
UA2010-185-0358	EU2	110	11	1	flake
UA2010-185-0359	EU2	110	11	1	flake
UA2010-185-0360	EU2	108.5	11	1	flake
UA2010-185-0361	EU2	110	11	1	flake
UA2010-185-0362	EU2	110	11	1	flake
UA2010-185-0363	EU2	111	11	1	flake
UA2010-185-0364	EU2	110.5	11	1	flake
UA2010-185-0367	EU2	104-112	11	13	flake
UA2010-185-0368	EU2	111	11	1	flake
UA2010-185-0369	EU2	110	11	1	flake
UA2010-185-0370	EU2	110	11	1	flake
UA2010-185-0372	EU2	110-112	11	9	flake
UA2010-185-0378	EU2	112	11	2	flake
UA2010-185-0379	EU2	112	11	1	flake
UA2010-185-0380	EU2	110-112	11B	3	flake

UA2010-185-0381	EU2	110	11B	1	flake
UA2010-185-0382	EU2	107-112	11B	4	flake
UA2010-185-0383	EU2	110	11B	1	flake
UA2010-185-0384	EU2	108-112	11B	4	flake
UA2010-185-0388	EU2	108-112	11B	10	flake
UA2010-185-0389	EU2	110	11B	1	flake
UA2010-185-0390	EU2	111	11B	1	flake
UA2010-185-0392	EU2	110	11B	1	flake
UA2010-185-0393	EU2	111	11B	1	flake
UA2010-185-0394	EU2	111	11B	1	flake
UA2010-185-0396	EU2	112	11B	1	flake
UA2010-185-0397	EU2	109-112	11B	21	microblade
UA2010-185-0400	EU2	110	11B	1	flake
UA2010-185-0401	EU2	107-112	11B	40	flake
UA2010-185-0402	EU2	110.5	11B	1	flake
UA2010-185-0404	EU2	108-110	11B	9	flake
UA2010-185-0405	EU2	111	11B	1	flake
UA2010-185-0406	EU2	111	11B	1	flake
UA2010-185-0407	EU2	111.5	11B	1	flake
UA2010-185-0408	EU2	110	11B	1	flake
UA2010-185-0409	EU2	110	11B	2	flake
UA2010-185-0410	EU2	112	11B	1	flake
UA2010-185-0411	EU2	110-112	11B	9	flake
UA2010-185-0412 (not in collection)		108	11B	1	flake
UA2010-185-0413	EU2	109	11B	1	flake
UA2010-185-0414	EU2	109	11B	1	flake
UA2010-185-0415	EU2	110	11B	1	flake
UA2010-185-0416	EU2	110	11B	1	flake
UA2010-185-0417	EU2	109	11B	1	flake
UA2010-185-0418	EU2	107	11B	1	flake
UA2010-185-0419	EU2	108	11B	1	flake
UA2010-185-0420	EU2	109	11B	1	flake
UA2010-185-0421	EU2	107-110	11B	11	flake
UA2010-185-0422	EU2	111	11B	2	flake
UA2010-185-0423	EU2	110	11B	1	flake
UA2010-185-0424	EU2	110	11B	1	flake
UA2010-185-0425	EU2	110	11B	1	flake
UA2010-185-0426	EU2	111	11B	1	flake
UA2010-185-0428	EU2	111.5	11B	1	flake
UA2010-185-0429	EU2	112	11B	1	flake
UA2010-185-0430	EU2	110-112	12	16	flake
UA2010-185-0431	EU2	110.5	12	1	flake
UA2010-185-0432	EU2	110-112	12	4	flake
UA2010-185-0433	EU2	101	12	1	flake
UA2010-185-0434	EU2	110.5	12	1	flake
UA2010-185-0435	EU2	110-112	12	2	flake
UA2010-185-0436	EU2	112-115	12	1	flake
UA2010-185-0438	EU2	110	12	1	flake
UA2010-185-0439	EU2	110	12	1	flake

UA2010-185-0442	EU2	110	12	2	flake
UA2010-185-0443	EU2	110	12	1	flake
UA2010-185-0444	EU2	110	12	1	flake
UA2010-185-0445	EU2	110-112	12	17	flake
UA2010-185-0448	EU2	113	12	1	flake
UA2010-185-0449	EU2	113	12	1	flake
UA2010-185-0450	EU2	115	12	1	flake
UA2010-185-0451	EU2	112-115	12	9	flake
UA2010-185-0453	EU2	111	12	1	flake
UA2010-185-0454	EU2	110	12	1	flake
UA2010-185-0455	EU2	110.5	12	1	flake
UA2010-185-0456	EU2	112	12	1	flake
UA2010-185-0457	EU2	113	12	1	flake
UA2010-185-0458	EU2	113	12	1	flake
UA2010-185-0459	EU2	110-112	12	8	flake
UA2010-185-0460	EU2	114	12	1	flake
UA2010-185-0462	EU2	112-115	12	6	flake
UA2010-185-0463	EU2	111.5	12	1	flake
UA2010-185-0464	EU2	111.5	12	1	flake
UA2010-185-0465	EU2	112-112.5	12	1	flake
UA2010-185-0466	EU2	112	12	1	flake
UA2010-185-0467	EU2	110-112	12	9	flake
UA2010-185-0468	EU2	112-113	12	1	flake
UA2010-185-0469	EU2	113	12	1	flake
UA2010-185-0470	EU2	113	12	1	flake
UA2010-185-0471	EU2	110-112	12	1	flake
UA2010-185-0472	EU2	115	12	1	flake
UA2010-185-0473	EU2	115	12	1	flake
UA2010-185-0474	EU2	115	12	1	flake
UA2010-185-0475	EU2	112-115	12	21	flake
UA2010-185-0476	EU2	110-112	12	3	flake
UA2010-185-0478	EU2	111	12	1	flake
UA2010-185-0479	EU2	110-112	12	14	flake
UA2010-185-0480	EU2	111	12	1	flake
UA2010-185-0481	EU2	111.5	12	1	flake
UA2010-185-0482	EU2	111.5	12	1	flake
UA2010-185-0484	EU2	111	12	1	flake
UA2010-185-0485	EU2	112	12	2	flake
UA2010-185-0487	EU2	111	12	2	flake
UA2010-185-0489	EU2	111	12	1	flake
UA2010-185-0492	EU1	110-111	6	15	flake
UA2010-185-0495	EU2	112-115	12	4	flake
UA2010-185-0496	EU2	112-115	12	23	flake
UA2010-185-0498	EU2	111	12	1	flake
UA2010-185-0501	EU2	111	12	1	flake
UA2010-185-0502	EU2	110	12	1	flake
UA2010-185-0503	EU2	110	12	1	flake
UA2010-185-0504	EU2	111	12	1	flake
UA2010-185-0506	EU2	110-112	12	18	flake

UA2010-185-0507	EU2	110-112	12	34	microblade
UA2010-185-0510	EU2	113	12	1	flake
UA2010-185-0511	EU2	112-115	12	6	flake
UA2010-185-0513	EU2	113-114	12	1	flake
UA2010-185-0515	EU2	113	12	1	flake
UA2010-185-0516	EU2	114	12	1	flake
UA2010-185-0517	EU2	114	12	1	flake
UA2010-185-0519	EU2	115	13	1	flake
UA2010-185-0520	EU2	112-115	11	23	flake
UA2010-185-0521	EU2	115	13	1	flake
UA2010-185-0522	EU2	115	13	1	flake
UA2010-185-0523	EU2	116	13	1	flake
UA2010-185-0524	EU2	116	13	1	flake
UA2010-185-0525	EU2	116	13	1	flake
UA2010-185-0526	EU2	117	13	1	flake
UA2010-185-0528	EU2	115-117	13	2	flake
UA2010-185-0531	EU2	116	13	1	flake
UA2010-185-0532	EU2	117.5	13	1	flake
UA2010-185-0533	EU2	115-117	13	1	flake
UA2010-185-0534	EU2	115-117	13	4	flake
UA2010-185-0535	EU2	117-120	13	1	flake
UA2010-185-0536	EU2	117-120	10	1	flake
UA2010-185-0537	EU1	99	10	1	flake
UA2010-185-0538	EU1	99	10	1	flake
UA2010-185-0539	EU1	97-100	10	2	flake
UA2010-185-0540	EU1	95-97	10	1	flake
UA2010-185-0541	EU1	98	10	1	flake
UA2010-185-0542	EU1	97-100	10	10	flake
UA2010-185-0543	EU1	95-97	10	2	flake
UA2010-185-0544	EU1	97-100	10	8	flake
UA2010-185-0545	EU1	95-97	10	3	flake
UA2010-185-0546	EU1	97	10	1	flake
UA2010-185-0548	EU1	97-100	?	4	flake
UA2010-185-0549	EU2	103	?	1	flake
UA2010-185-0550	EU2	104	10	1	flake
UA2010-185-0551	EU1	95-97	10	3	flake
UA2010-185-0552	EU1	99	10	1	flake
UA2010-185-0553	EU1	100	10	1	flake
UA2010-185-0554	EU1	97-100	10	4	flake
UA2010-185-0555	EU1	95-97	10	1	flake
UA2010-185-0556	EU1	100	?	1	flake
UA2010-185-0557	EU2	108	10	1	flake
UA2010-185-0558	EU1	97-100	10	5	flake
UA2010-185-0559	EU1	99	10	1	flake
UA2010-185-0560	EU1	100	10	1	flake
UA2010-185-0561	EU1	97-100	?	11	flake
UA2010-185-0562	EU2	113	11	1	flake
UA2010-185-0564	EU1	100.5	11	1	flake
UA2010-185-0565	EU1	103	11	1	flake

UA2010-185-0566	EU1	100-103	11	16	flake
UA2010-185-0568	EU1	103-105	11	4	flake
UA2010-185-0569	EU1	102.5	11	1	flake
UA2010-185-0570	EU1	100-102	11	2	flake
UA2010-185-0571	EU1	102-105	11	11	flake
UA2010-185-0572	EU1	101.5	11	1	flake
UA2010-185-0573	EU1	102	11	1	flake
UA2010-185-0574	EU1	100-102	11	4	flake
UA2010-185-0576	EU1	105	11	1	flake
UA2010-185-0577	EU1	102-105	11	15	flake
UA2010-185-0579	EU1	104	11	1	flake
UA2010-185-0580	EU1	103	11	1	flake
UA2010-185-0581	EU1	103	11	1	flake
UA2010-185-0582	EU1	104	11	1	flake
UA2010-185-0583	EU1	104	11	2	flake
UA2010-185-0584	EU1	102-105	11	13	flake
UA2010-185-0585	EU1	105-107	11	3	flake
UA2010-185-0587	EU1	105	11	1	flake
UA2010-185-0589	EU1	107-110	11	10	flake
UA2010-185-0591	EU1	100-102	11	3	flake
UA2010-185-0592	EU1	102-105	11	5	flake
UA2010-185-0593	EU1	101	11	1	flake
UA2010-185-0594	EU1	102-105	11	4	flake
UA2010-185-0595	EU1	100-102	12	4	flake
UA2010-185-0596	EU1	107	12	1	flake
UA2010-185-0597	EU1	105-107	12	11	flake
UA2010-185-0599	EU1	107-110	12	4	flake
UA2010-185-0600	EU1	105	12	1	flake
UA2010-185-0601	EU1	107.5-109	12	1	flake
UA2010-185-0602	EU1	105-107	12	8	flake
UA2010-185-0606	EU1	109.5	12	1	flake
UA2010-185-0607	EU1	107-110	12	2	flake
UA2010-185-0609	EU1	107-110	12	18	flake
UA2010-185-0611	EU1	105-107	12	9	flake
UA2010-185-0612	EU1	107-110	12	3	flake
UA2010-185-0613 (removed from collection)			12	1	flake
UA2010-185-0614	EU1	105.5	12	1	flake
UA2010-185-0615	EU1	105-107	12	13	flake
UA2010-185-0617	EU1	107-110	12	17	flake
UA2010-185-0618	EU1	106	12	1	flake
UA2010-185-0619	EU1	106	12	1	flake
UA2010-185-0620	EU1	105-107	12	7	flake
UA2010-185-0622	EU1	107-110	12	2	flake
UA2010-185-0624	EU1	105-107	12	3	flake
UA2010-185-0625	EU1	107-110	12	1	flake
UA2010-185-0627	EU1	105-107	12	1	flake
UA2010-185-0628	EU1	107-110	13	1	flake
UA2010-185-0629	EU1	105-107	13	3	flake
UA2010-185-0630	EU1	110-112	13	3	flake

UA2010-185-0631	EU1	114	13	1	flake
UA2010-185-0632	EU1	112-115	13	2	flake
UA2010-185-0633	EU1	110-112	13	1	flake
UA2010-185-0634	EU1	110-112	13	2	flake
UA2010-185-0635	EU1	112	13	1	flake
UA2010-185-0636	EU1	112.5	13	1	flake
UA2010-185-0637	EU1	114	13	1	flake
UA2010-185-0638	EU1	112-115	13	2	flake
UA2010-185-0639	EU1	109.5	13	1	flake
UA2010-185-0641	EU1	110-115	14	3	flake
UA2010-185-0642	EU1	115-120	14	1	flake
UA2010-185-0643	EU1	115-120	15	1	flake
UA2010-185-0644	EU1	125-140	10	1	flake
UA2010-185-0646	EU1	95-96	10	1	flake
UA2010-185-0647	EU1	96-100	10	44	flake
UA2010-185-0648	EU1	96-97	10	2	flake
UA2010-185-0650	EU1	95-100	10	24	flake
UA2010-185-0652	EU1	99	11	1	flake
UA2010-185-0654	EU1	102	11	1	flake
UA2010-185-0658	EU1	103	11	1	flake
UA2010-185-0660	EU1	100-103	11	38	flake
UA2010-185-0671	EU1	100-106	12	37	flake
UA2010-185-0675	EU1	107	12	1	flake
UA2010-185-0676 (removed from collection)			12	1	flake
UA2010-185-0677	EU1	105-107	12	1	flake
UA2010-185-0678 (removed from collection)			12	1	flake
UA2010-185-0679	EU1	106-108	12	51	flake
UA2010-185-0681	EU1	109	12	1	flake
UA2010-185-0683	EU1	108-110	11	25	flake
UA2010-185-0685 (removed from collection)			13	1	flake
UA2010-185-0689	EU1	100-105	12	65	flake
UA2010-185-0693	EU1	105-110	10	130	flake
UA2010-185-0695	EU1	110-115	11	42	flake
UA2010-185-0699	EU1	116	13	1	flake
UA2010-185-0700	EU1	110-115	14	44	flake
UA2010-185-0703	EU1	115-125	14	16	flake
UA2010-185-0704	EU1	115-125	14	8	flake
UA2010-185-0705	EU1	124	15	1	flake
UA2010-185-0706	EU1	125-128	floor	1	flake
UA2010-185-0707	EU1, EU2	0-140	n/a	13	flake
UA2010-185-0708	EU2	106.5	n/a	1	flake
UA2010-185-0710	EU1	110.5	n/a	1	flake
UA2010-185-0711	EU1	108	n/a	1	flake
UA2010-185-0712	EU1	106	n/a	1	flake
UA2010-185-0713	EU1	109	n/a	1	flake
UA2010-185-0715	EU1	110	n/a	1	flake
UA2010-185-0716	EU2	101	n/a	1	flake
UA2010-185-0717	EU2	100	n/a	1	flake
UA2010-185-0718	EU1	0-140	n/a	1	flake

UA2010-185-0719	EU2	103.5	n/a	1	flake
UA2010-185-0720	EU1, EU2	0-140	11	24	flake
UA2010-185-0721	EU2	107-112	11	8	flake
UA2010-185-0725	EU1	100-103	9	2	flake
UA2010-185-0741	EU1	94-99	10	2	flake
UA2010-185-0744	EU2	102-105	12	12	flake

APPENDIX 3: FAI-02043 Bone Accession Log

UA Accession Number	EU/Test Pit	Depth (cm BS)	Level	Quantity
UA2010-185-0016	AT50	99		1
UA2010-185-0019	AT50	100-110		1
UA2010-185-0028	AT52	95-105		2
UA2010-185-0031	AT52	105-110		4
UA2010-185-0040	AT49	80-85		5
UA2010-185-0043	AT52	94		2
UA2010-185-0048	AUG2	100-150		1
UA2010-185-0049	AT291	11-119		
UA2010-185-0064	AT291	93-95		1
UA2010-185-0073	AT291	94.5		1
UA2010-185-0077	AT291	93-99		1
UA2010-185-0082	AT291	109-114		1
UA2010-185-0083	AT291	85		1
UA2010-185-0089	AT291	95		
UA2010-185-0110	EU1	88	7	1
UA2010-185-0131	EU1	97	9	3
UA2010-185-0141	EU2	99-100	9	1
UA2010-185-0142	EU2	95-100	9	
UA2010-185-0159	EU2	103-105	10	1
UA2010-185-0172	EU2	103	10	?
UA2010-185-0177 (removed from collection)		100-103	10	?
UA2010-185-0187	EU2	103-105	10	1
UA2010-185-0199	EU2	104	10	1
UA2010-185-0216	EU2	110-112	11	1
UA2010-185-0230	EU2	105-109	11	1
UA2010-185-0236	EU2	110-111	11	1
UA2010-185-0246	EU2	108-111	11	1
UA2010-185-0249	EU2	110	11	1
UA2010-185-0250	EU2	108-111	11	1
UA2010-185-0253	EU2	109	11	1
UA2010-185-0254	EU2	109	11	1
UA2010-185-0256	EU2	106	11	1
UA2010-185-0257	EU2	111	11	1
UA2010-185-0258	EU2	111	11	1
UA2010-185-0260	EU2	113	11	1
UA2010-185-0262	EU2	107-112	11	1
UA2010-185-0275	EU2/AT50	disturbed	N/A	2
UA2010-185-0311	EU2	111	11	1

UA2010-185-0312	EU2	112	11	3
UA2010-185-0328	EU2	108.5-112	11	3
UA2010-185-0351	EU2	103-112	11	1
UA2010-185-0353	EU2	109-110	11	1
UA2010-185-0386	EU2	104.5-107.5	11B	1
UA2010-185-0441	EU2	110	12	1
UA2010-185-0461	EU2	115	12	1
UA2010-185-0477	EU2	110.5-111.5	12	1
UA2010-185-0494	EU2	113	12	2
UA2010-185-0497	EU2	111-113	12	1 tooth
UA2010-185-0499 (removed from collection)		110	12	1
UA2010-185-0500 (removed from collection)		110-111	12	1
UA2010-185-0508	EU2	113	12	1
UA2010-185-0512	EU2	115	12	1
UA2010-185-0529	EU2	117-120	13	2
UA2010-185-0530	EU2	116	13	1
UA2010-185-0563 (removed from collection)		97-100	10	1
UA2010-185-0622	EU1	107-110	12	3
UA2010-185-0623	EU1	105-107	12	1
UA2010-185-0626	EU1	106	12	1
UA2010-185-0645	EU1	95	10	4
UA2010-185-0668 (not in collection)		104-106.5	11	1
UA2010-185-0672 (not in collection)		100-106	11	1
UA2010-185-0673 (not in collection)		107	12	1
UA2010-185-0682	EU1	108-110	12	5
UA2010-185-0684	EU1	102	11	1
UA2010-185-0692	EU1	108	12	5
UA2010-185-0694	EU1	105-110	12	7
UA2010-185-0696	EU1	110-115	13	2
UA2010-185-0697	EU1	113	13	1
UA2010-185-0698	EU1	114	13	1
UA2010-185-0701	EU1	110-115	13	19
UA2010-185-0704 (removed from collection)		115-125	14	1
UA2010-185-0709	EU1	105	n/a	1
UA2010-185-0714	EU1	95-98	n/a	1
UA2010-185-0722	AT291	93-99		1
UA2010-185-0723	AT291	94.5-99		1
UA2010-185-0724	EU1	105-107	12	9
UA2010-185-0727	EU1	110-112	13	1
UA2010-185-0728	EU1	112-115	13	1
UA2010-185-0729	EU1	95-100	10	3
UA2010-185-0730	EU1	108-110	12	3

UA2010-185-0731	EU1	100-105	11	5
UA2010-185-0732	EU1	105-110	12	4
UA2010-185-0733	EU1	110-115	13	1
UA2010-185-0734	EU1	115-125	14	2
UA2010-185-0735	EU1	96-100	10	6
UA2010-185-0736	EU2	109-113	11	1
UA2010-185-0737	EU2	110	12	1
UA2010-185-0738	EU2	112-115	12	3
UA2010-185-0739	EU2	90-95	8	1
UA2010-185-0740	EU1	94-99	9	1
UA2010-185-0742	EU2	95-100	9	2
UA2010-185-0743	EU2	102-105	10	2
UA2010-185-0745	EU2	100-106	10	10
UA2010-185-0746	EU2	100-105	10	3
UA2010-185-0747	EU2	108-110	11	1
UA2010-185-0748	EU2	105-108	11	4
UA2010-185-0749	EU2	110-112	11	3
UA2010-185-0750	EU2	107-110	11	3
UA2010-185-0751	EU2	110-112	11	6
UA2010-185-0752	EU3	112-116	13	1
UA2010-185-0753	EU2	110-112	11	1
UA2010-185-0754	EU2	110-112	12	16
UA2010-185-0755	EU2	100-103	10	1
UA2010-185-0756	EU1	107-110	12	1
UA2010-185-0760	EU2	111	11	2
UA2010-185-0761	EU1	106-108	12	17

APPENDIX 4: Section 106 Undertakings 2010 and 2011 (*Cold Regions Test Center projects)

Project Name	Undertaking	Location	Survey Date	Acres Surveyed	Sites Found
Golf Course Club House	Ground breaking for building construction	FWA Cantonment	5/2010	20	None
Mountain Bike Trails	Vegetation removal and ground disturbance	FWA Cantonment	5/2010	3	None
TA 113 B Maneuver Trails	Vegetation removal and trail grading	FWA Cantonment	6/2010	67	None
Firing Point 2014 Enhancement	Vegetation thinning and site hardening	Yukon Training Area	6/2010	2.3	None
Skyline-Beaver Maintenance	Vegetation removal and trail grading	Yukon Training Area	5/2010	68	None
TA 108 Soil Stockpile	Soil storage	FWA Cantonment	6/2011	225	FAI-02117
CRREL Power Line Expansion	Excavation for power poles	Farmer's Loop Locality	7/2011	25	None
Birch Hill Ski Trail Development	Trail maintenance and vegetation removal	FWA Cantonment	7/2011	1200	None
IEDD Operations Building	Ground breaking for building construction	FWA Cantonment	7/2011	7	None
Quarry Borrow Pit Expansion	Soil and gravel quarry excavation	Yukon Training Area	7/2011	6	None
Quarry Road Timber Sales	Tree removal	Yukon Training Area	7/2011	178	None
Dyke Range Timber Sales	Tree removal	Dyke Range	7/2011	20	None
Lampkin Range Expansion	Vegetation removal and ground disturbance	Donnelly Training Area	7/2011	4	None
Buffalo Drop Zone Timber Sales	Tree removal	Donnelly Training Area	7/2011	779	None
33 Mile Loop Connector Trail	Vegetation removal and ground disturbance	Donnelly Training Area	7/2011	116	None
Johnson Road Timber Sales	Tree removal	Yukon Training Area	9/2011	64	None
Transmitter Road Timber Sales	Tree removal	Yukon Training Area	9/2011	264	None
South Quarry Road Timber Sales	Tree removal	Yukon Training Area	8/2011	1903	None
Beaver Creek Road Trail Maintenance	Vegetation removal and ground disturbance	Yukon Training Area	8/2011	294	XBD-00387
Greely Approach Timber Sales	Tree removal	Donnelly Training Area	8/2011	66	None
33 Mile Loop Trail Maintenance	Vegetation removal and ground disturbance	Donnelly Training Area	8/2011	75	None
Gerstle River Training Area Timber Sales	Tree removal	Gerstle River Training Area	8/2011	25	None
CRREL Permafrost Facility	Ground disturbance for new tunnel	CRREL Facility, Steese Highway	7/2011	12	None
Washington Range Trail Renovation*	Vegetation removal and ground disturbance	Donnelly Training Area	6-8/2011	1280	XMH-01455, XMH-01456, XMH-01458, XMH-01459, XMH-01460
OP Road Fiber Optic Cable Installation*	Vegetation removal and ground disturbance	Donnelly Training Area	8/2011	132	XMH-01457
OP12 Access Road*	Vegetation removal and ground disturbance	Donnelly Training Area	8-9/2011	700	None
Direct Fire Line*	Vegetation removal and ground disturbance	Donnelly Training Area	8/ 2011	53	None