

# Archaeological Survey—Chignik-Meshik Rivers Region, Alaska

A Report on a 2011 NPS CESU Agreement

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## Project Description

During 2011 the University of Alaska Museum of the North (UAMN) continued a partnership (established in 2010) with the National Park Service (NPS) to implement an archaeological research project on the Alaska Peninsula. The boundaries for this project include areas within Aniakchak National Monument and Preserve (ANIA) and the Alaska Peninsula National Wildlife Refuge with a specific focus on the Chignik and Meshik River valleys (Figure 1). A research design was written prior to the 2010 field season and is included in the first year field report. For more complete background information including a regional review, basic project information, the survey plan, and research design see the 2010 field report, but also the final project report expected to be written during 2013 (Shirar and Rasic 2010, 2011; Shirar et al. 2010).

This report just deals with information collected during the 2011 field season. Extensive preparations were made during March, April, and May 2011 and fieldwork was carried out on the Alaska Peninsula during June of 2011. The field crew stayed the same size (six people) throughout the project but we did change out one crew member for another (Loukas Barton for Jim Jordan) roughly halfway through the field season. We spent June 10<sup>th</sup> through the 20<sup>th</sup> in the southwest portion of Aniakchak National Monument and Preserve during which time we conducted pedestrian reconnaissance for new sites, tested new sites that were found, and tested known sites previously recorded in the vicinity. On June 21<sup>st</sup> we relocated to a field camp east of Black Lake in the Alec River drainage and remained there until June 28<sup>th</sup>. While at this second camp we conducted pedestrian survey, tested at new sites found during 2011, and also tested at known sites previously recorded in the vicinity.

The following report details the results of the 2011 field session. This includes a project timeline (Appendix 1) basic site type and distribution information, AHRs cards for each new site recorded, lists of artifacts and charcoal identifications, lists of negative test locations, and new radiocarbon dates obtained from collections made during 2011. The 2011 field crew included: Loukas Barton (NPS), Jim Jordon (Antioch University), Sam Coffman (UAMN), Fawn Carter (UAMN), Jillian Richie (NPS) and Scott Shirar (UAMN).

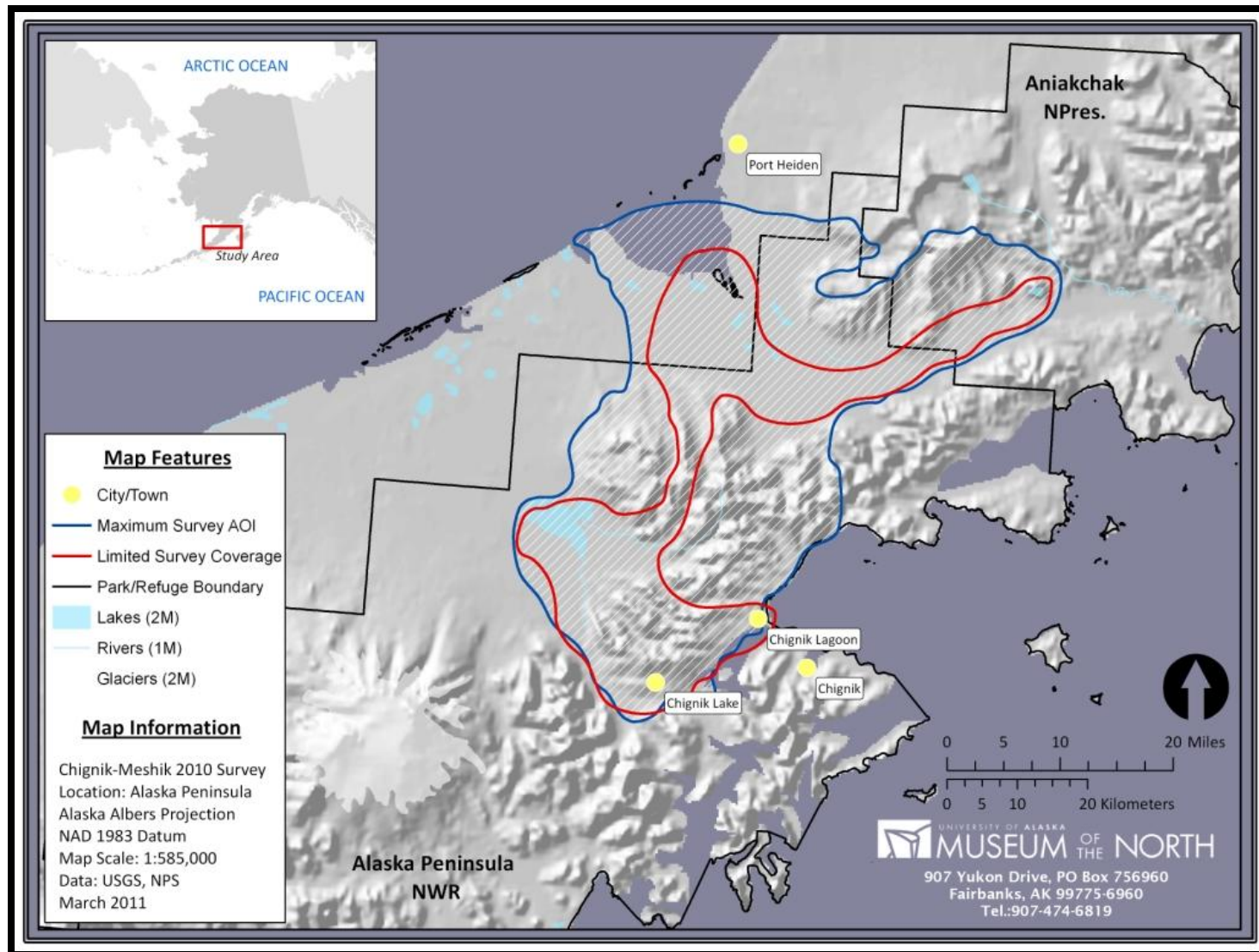


Figure 1: Map showing the entire project area on the central Alaska Peninsula



## Field Methods

Our field methods for 2011 followed the same protocols that were set up in 2010 (Shirar and Rasic 2010; Shirar et al. 2010). An important aspect of the first year of this three year project was aerial reconnaissance and survey in order familiarize ourselves with the project area and to look for sites and high priority areas to visit on the ground. Field work conducted in 2011 did not include any extensive aerial reconnaissance other than what could be accomplished during the course of setting up and moving our field camps. The two 2011 field camp locations were based entirely on information gathered during the aerial reconnaissance flights of 2010.

We decided Field Camp 1 would be along the northern edge of the Meshik River valley in Aniakchak National Monument and Preserve because there were already a handful of known sites in that area, including CHK-00113 which was recorded during aerial reconnaissance last year (Figure 2). We also felt that there was a good potential to find additional sites in this area of the park which turned out to be true as we recorded four more new sites in this area. Field Camp 2 in the Alec River valley was chosen for similar reasons. There were two known sites in the area which were recorded in 2010 (CHK-00104 and CHK-00111) and there were landforms with high archaeological potential (e.g. promontories and river confluences) where we might be able to find and record additional sites (Figure 3). Both of the areas where we decided to conduct field operations also had ideal spots for landing a helicopter with fresh water located nearby, both of which were necessary conditions.

Once on the ground our survey methods were essentially the same in each valley. In each area there were known sites that we wanted to test but we also needed to conduct pedestrian survey and subsurface testing in order to try and find new sites and to characterize the soils and tephra deposits in each valley. All excavations at known sites consisted of controlled 50x50cm square test units that were dug in 10cm arbitrary levels with all soil screened through ¼" mesh. An Oakfield brand, tube style soil probe was also employed at some of the known sites in order to explore feature deposits and to get a quick glimpse into site stratigraphy (Figure 4). We spent between one and three days testing at known sites and the number of test units excavated at each depended on site size and crew size and ranged anywhere from one to seven test units.

A major goal of our 2011 field season was to focus effort on finding and recording older, pre-eruption sites within the study area (i.e. sites older than ~4000 BP). In order to try and accomplish this goal we spent a significant amount of the 2011 field season intensively testing old landforms like ancient coastlines and glacial uplands. We utilized two subsurface testing methods while looking for buried pre-eruption sites. The first method consisted of excavating 30x30cm circular shovel tests on prominent

landforms as deep as possible and screening all of the soil through ¼ inch mesh. The second method of looking for deeply buried sites consisted of employing a four inch bucket augur with two four foot extensions. This method allowed us to penetrate much deeper than with just a shovel to try and test below some of the extremely deep tephra deposits that exist in the project area. We placed many augur holes on landforms where there were no identified sites, but we also augured into the bottom of several of the 50x50cm test units that were excavated at known sites (Figure 5) (Shirar and Rasic 2011).

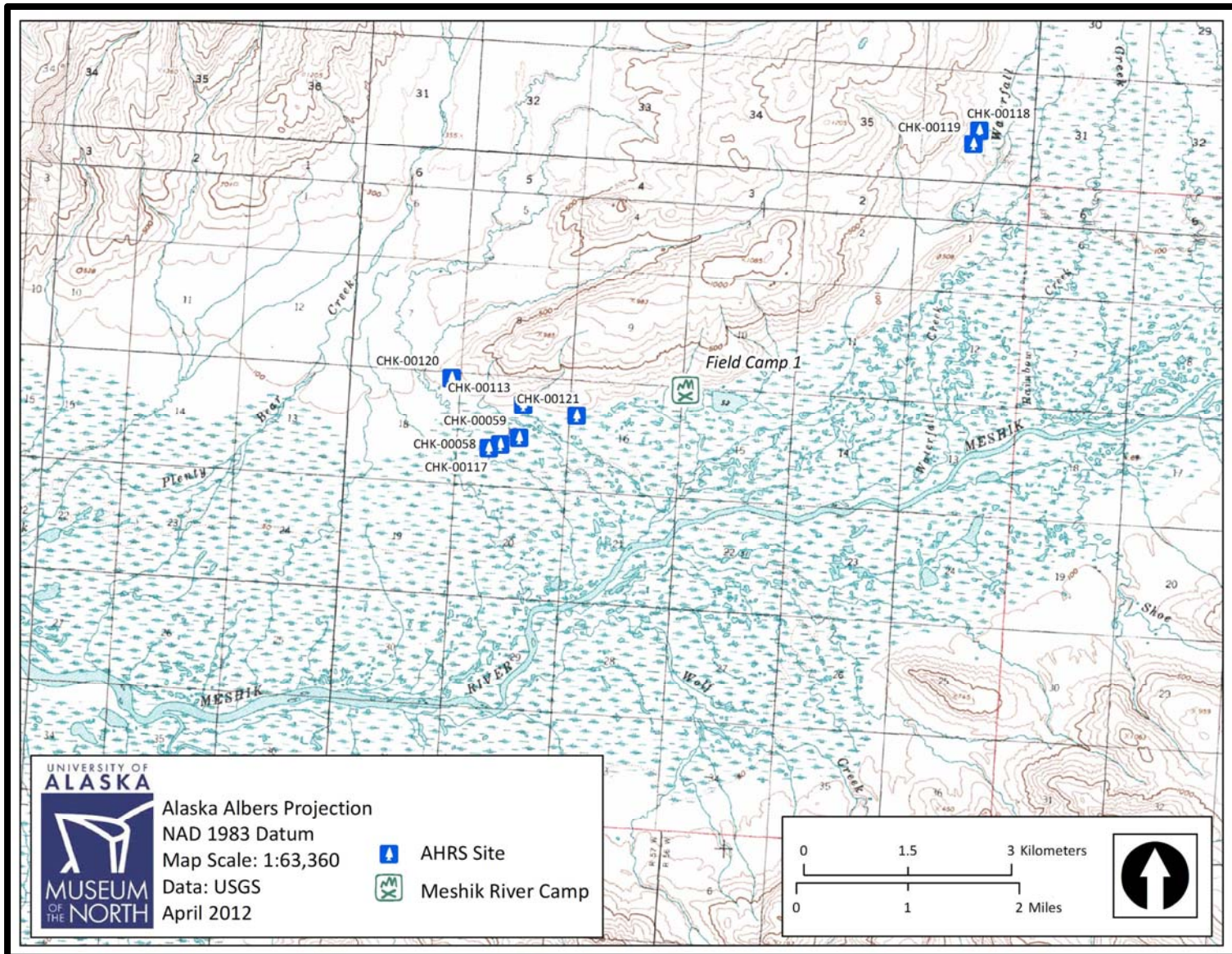


Figure 2: Map showing field camp and sites visited in the Meshik River valley during 2011

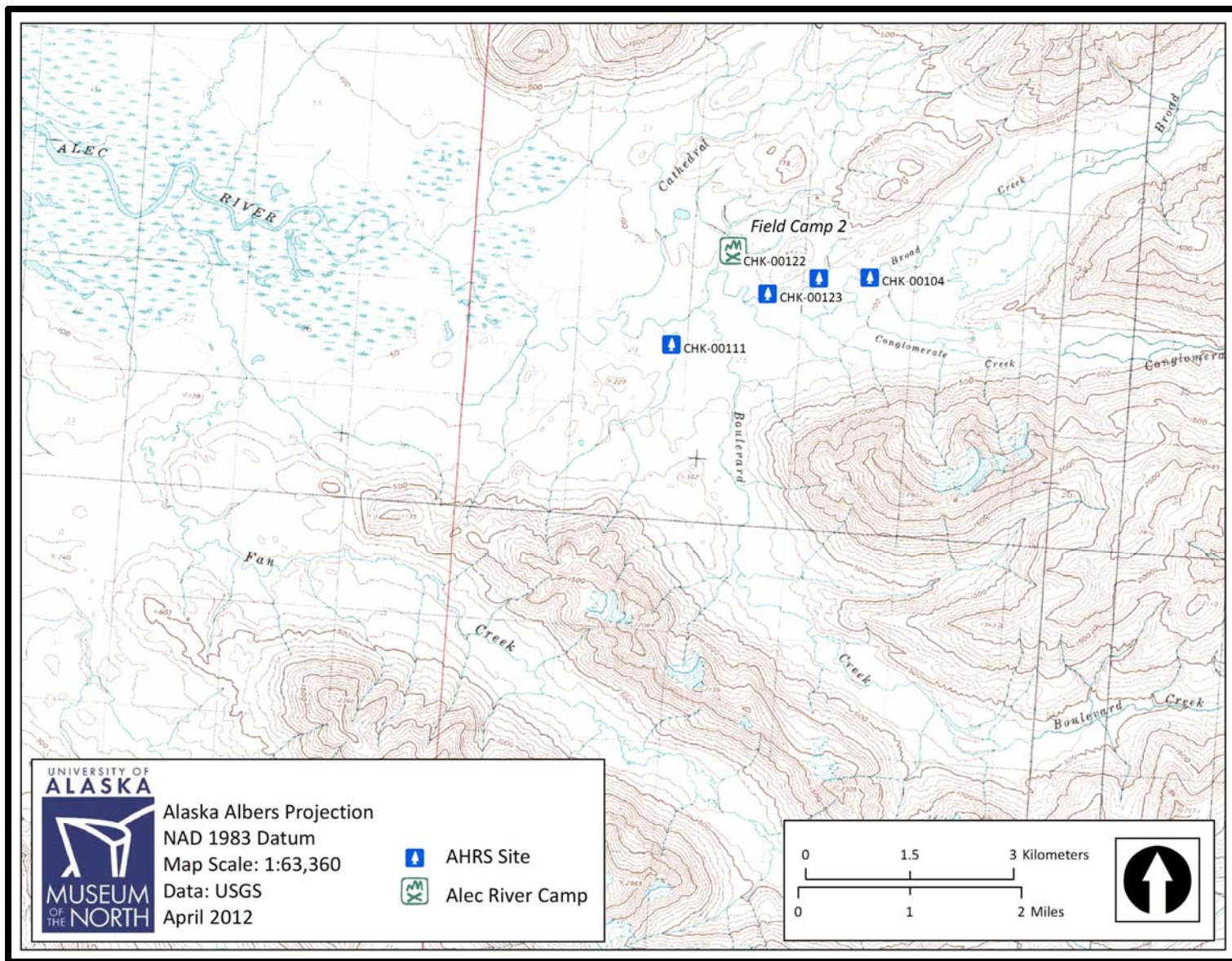


Figure 3: Map showing field camp and sites visited in the Alec River valley during 2011



Figure 4: A feature being documented with the Oakfield soil probe



Figure 5: A four inch bucket auger hole in the base of a 50x50cm test unit

## 2011 Results

We split the 2011 field season in two parts. First we spent eleven days in Aniakchak National Monument and Preserve in the Meshik River valley and then eight days in the Alec River valley, which is part of the Chignik River drainage. This portion of the report documents what we accomplished while stationed at each of these two field camps moving chronologically starting with the Meshik River valley and then followed by the Alec River valley (also see the project timeline in Appendix 1).

### Meshik River Valley

The entire day of June 10<sup>th</sup> was spent getting from King Salmon into our first field camp in the southwest corner of Aniakchak National Monument and Preserve and all of the sites we visited during this portion of field work are on land owned and managed by the National Park Service (see Figure 2). We flew into Port Heiden to begin with, spent time discussing the project with village leaders, and then met up with our helicopter pilot from Egli Air Haul who dropped us at our remote camp during the late afternoon and evening. The Meshik River is a main tributary of the central Alaska Peninsula and drains a large portion of the Aleutian Range. The valley is wide, flat, and swampy and the river eventually dumps into Bristol Bay. The valley is surrounded by mountains and Aniakchak Peak and Aniakchak Crater are located to the north and west of the river.

**CHK-00113** is located west of field camp 1 and was the first site visited during the 2011 field season. This site was recorded from the air in 2010 and we wanted to get to CHK-00113 on the ground in order to map, test, and fully evaluate this site, which is located on a low terrace just above the Meshik valley floor (see Figure 2) (Figure 6). This terrace gently slopes and there are features situated at different elevations all across the landform. Cultural features on the upper portions of this terrace are 5-10 meters above the features on the lower parts. We relocated the site relatively easily and it is larger than was originally estimated. The site consists of approximately 85 cultural depressions, roughly 25 supposed houses along with several dozen cache pit sized features (Figure 7) (Figure 8). All of the house features at CHK-00113 are single room with no multi-room “Koniag” style structures here. Several other village sites (CHK-00058, CHK-00059, CHK-00117, and CHK-00120) are located in the same general vicinity but CHK-00113 is by far the largest of these five sites (see Figure 2).



Figure 6: Overview of CHK-00113, site circled in red, photo taken from CHK-00059



Figure 7: Overview of the lower, eastern portion of CHK-00113 in foreground



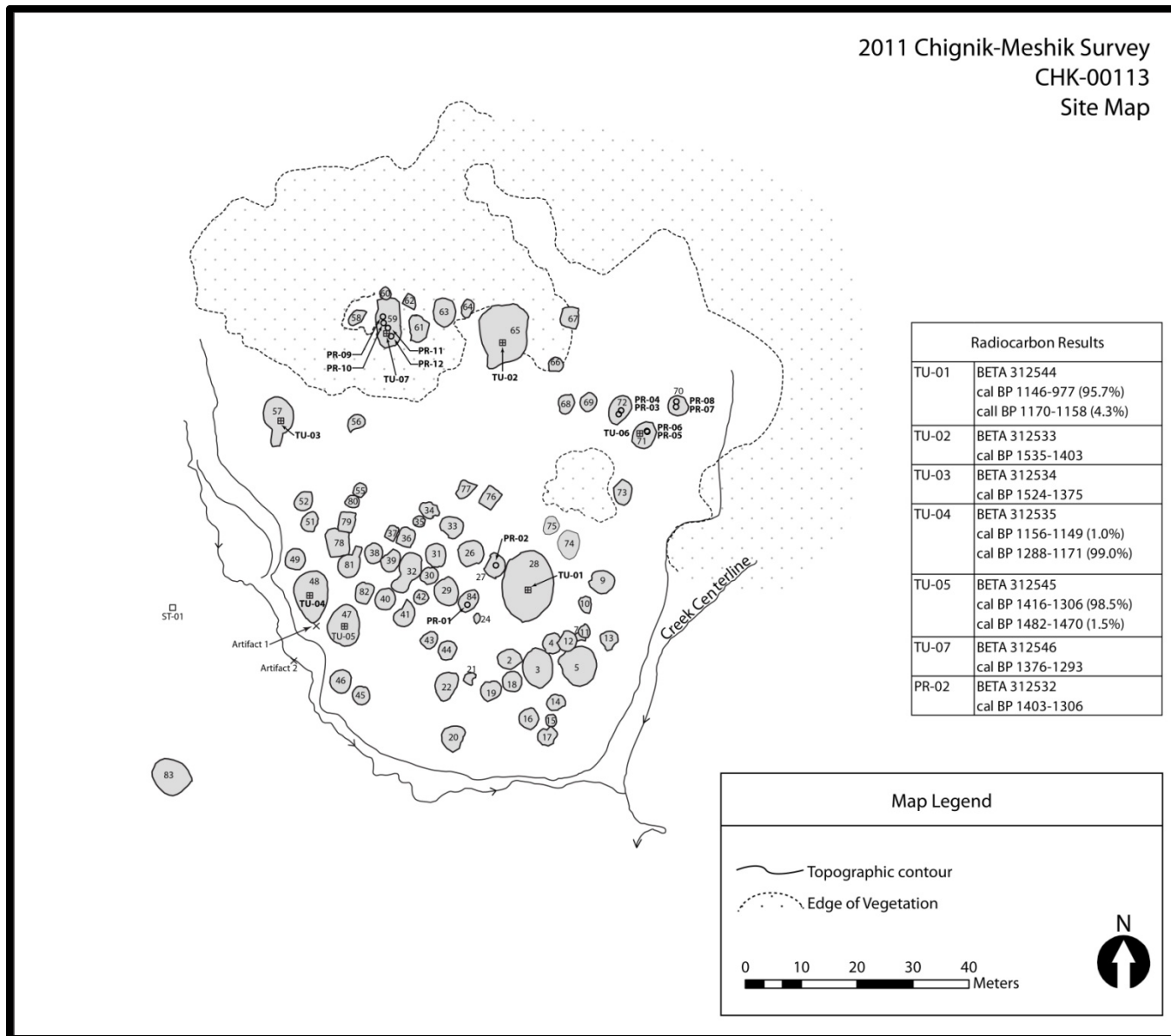


Figure 8: CHK-00113 Site Map

A total of seven 50x50cm square test units were excavated at this site. Each one was placed within a cultural depression and six of these test units produced cultural material. TU-01 was placed in the center of a large single room house depression on the lower east side of the site (Feature #28) (see Figure 8). This unit was positive for cultural material but only ten basalt flakes were recovered and all of these were situated between 25 and 50cmbs. No tools were found in this test unit. A single charcoal sample was collected from 25cmbs and was identified as alder. This sample was submitted for C<sup>14</sup> analysis and dates this house feature to about 1100 years ago (Figures 8 and 9, Beta-312544).

The soil profile in this unit shows several layers of tephra and silt down to 55cmbs but a house floor was not clearly identified (Figure 9). In order to test for cultural material in the deeper deposits at this site, a four inch bucket auger was used to excavate into the bottom of TU-01. This augur test was labeled AH-01 and extended down to a final depth of 360cmbs (Figure 10). The pattern of layered tephra and silt continued but no cultural material or charcoal was encountered.

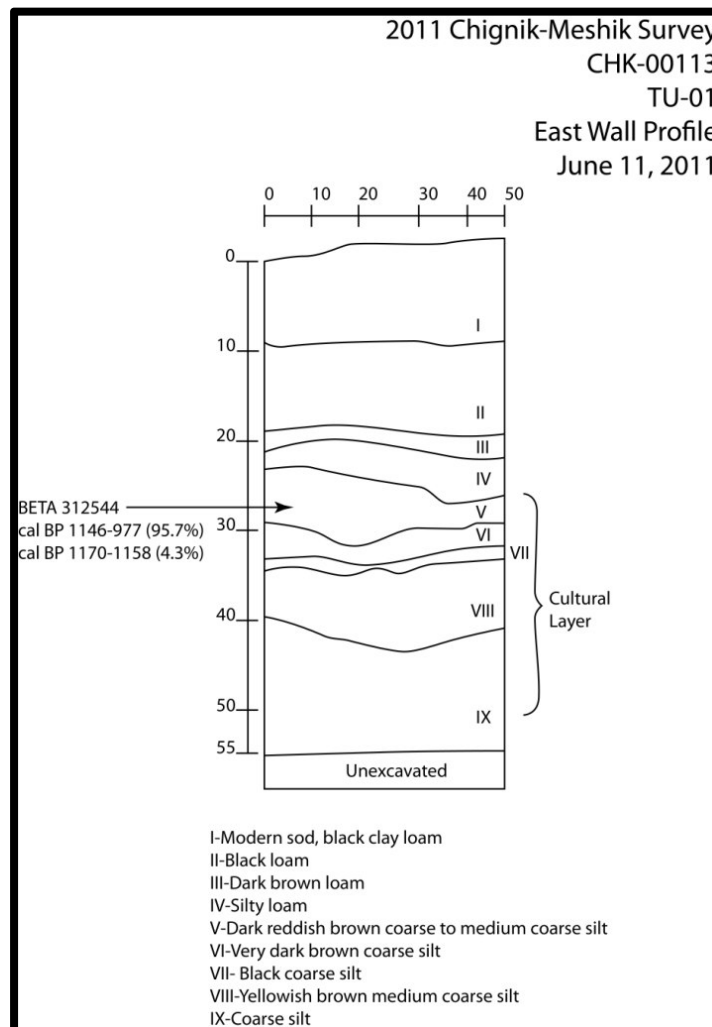


Figure 9: CHK-00113, TU-01, East Wall Soil Profile

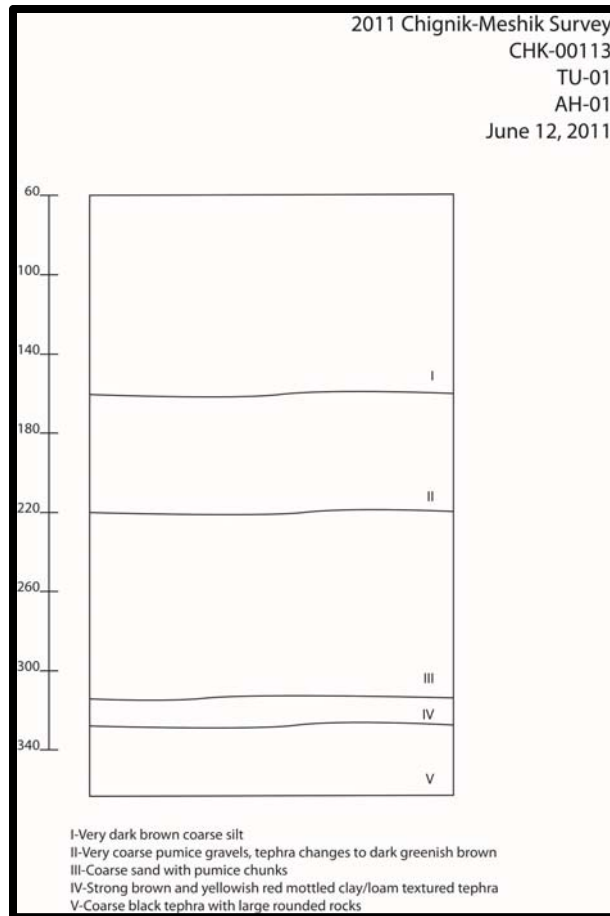


Figure 10: CHK-00113, TU-01, AH-01, Soil Profile

TU-02 was excavated in a large single room house depression on the upper, east side of the site (Feature #65) (see Figure 8). Altogether just five flakes were recovered from this test unit. Three basalt flakes were found between 25 and 30cmbs and one basalt flake and one obsidian flake were collected between 30 and 35cmbs. No tools were found in this test unit. A total of five charcoal samples were collected between 29 and 38cmbs. One of these samples, identified as alder and collected from 29cmbs, was submitted for C<sup>14</sup> analysis and dates this house feature to about 1500 years ago (Figures 8 and 11, BETA-312533). The soil profile in TU-02 consists of several bands of tephra and silt down to 70cmbs with what appears to be a house floor between 30 and 35cmbs (Figure 11). A four inch bucket auger hole (AH-02) was excavated into the base of the test unit down to a total depth 235cmbs but no additional artifacts were recovered beyond 35cmbs (Figure 12).

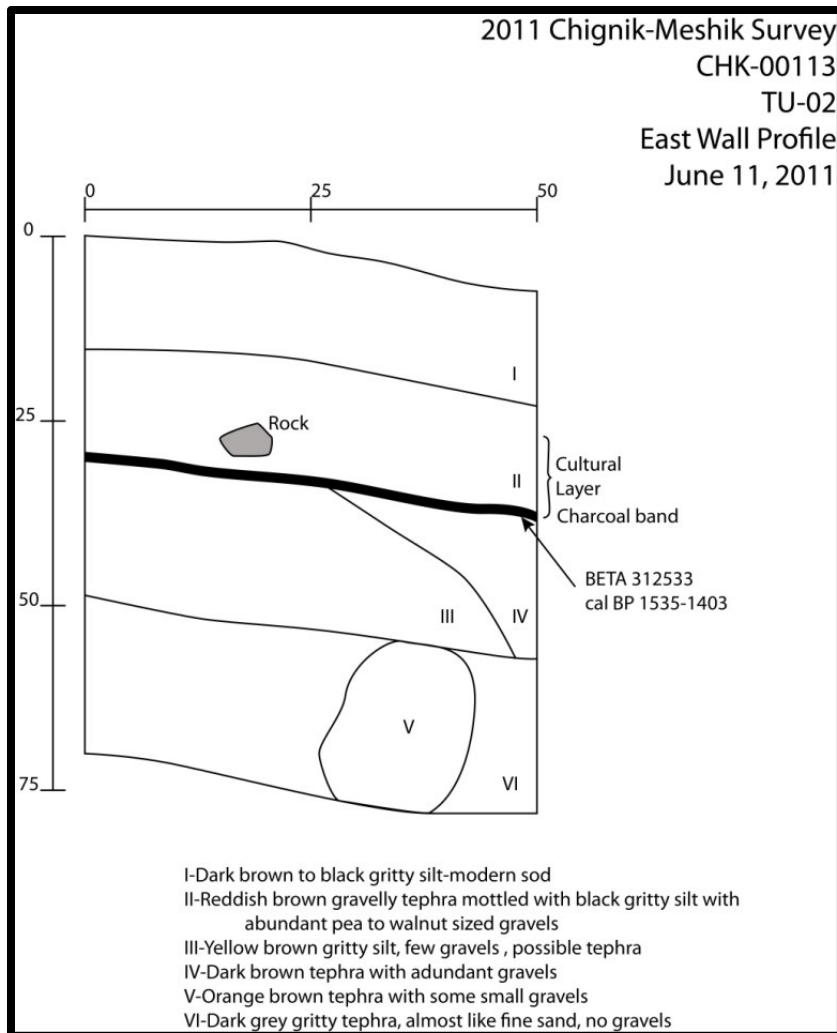


Figure 11: CHK-00113, TU-02, East Wall Soil Profile

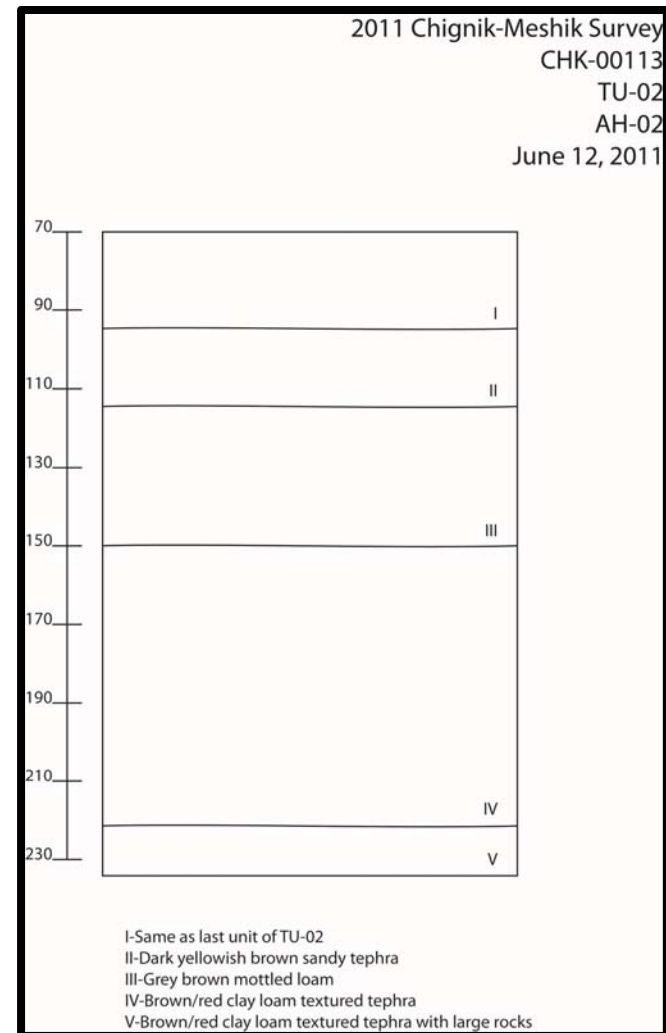


Figure 12: CHK-00113, TU-02, AH-02, Soil Profile

TU-03 was excavated in a large single room house depression on the upper, west side of the site (Feature #57) (see Figure 8). This test unit was positive for cultural material and a total of twenty-five basalt and chalcedony flakes were collected. Two chalcedony flakes and one basalt flake were found between 10 and 20cmbs. Four chalcedony and eighteen basalt flakes were found between 35 and 60cmbs. Four charcoal samples were collected between 50 and 52cmbs in TU-03. A sample of alder charcoal collected at 50cmbs and associated with the cultural deposit was submitted for radiocarbon analysis and dates this feature to approximately 1500 years ago (Figures 8 and 13, Beta-312534). The soil profile for TU-03 consists of several bands of silt and tephra with two distinct cultural layers with one between 10 and 20cmbs and the other between 35 and 60cmbs (Figure 13). A distinctive house floor is apparent in the west wall profile of TU-03 at 55cmbs. A bucket auger was used to excavate through the base of TU-03. This auger hole was labeled as AH-03 and reached final depth of just 135cmbs. A sample of natural charcoal was collected in AH-03 from a depth between 80 and 95cmbs but was neither identified nor dated (Figure 14).

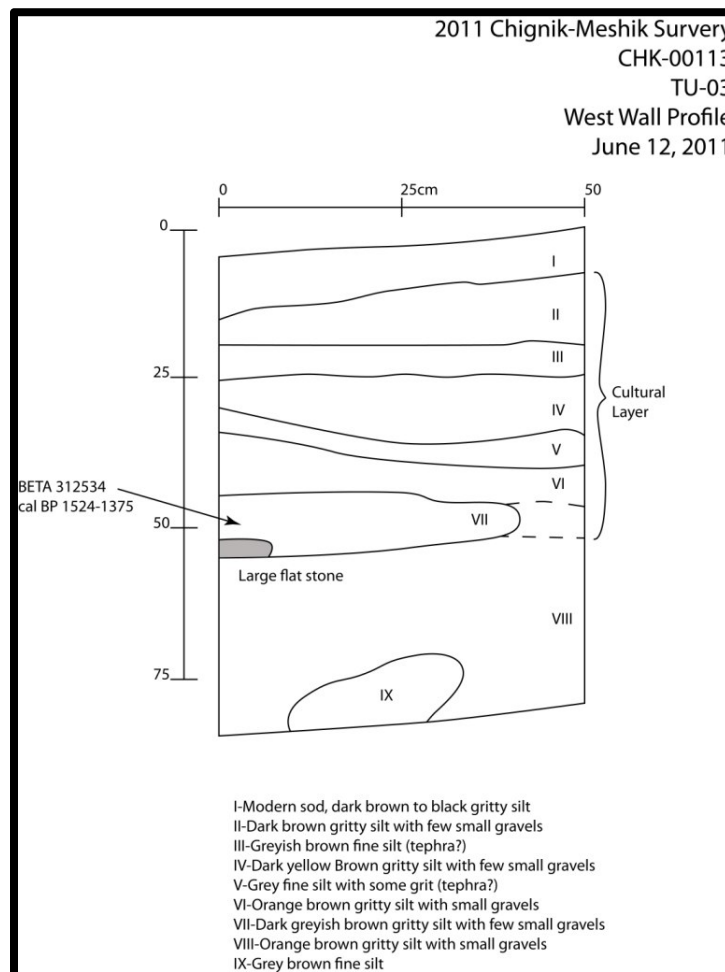


Figure 13: CHK-00113, TU-03, West Wall Soil Profile

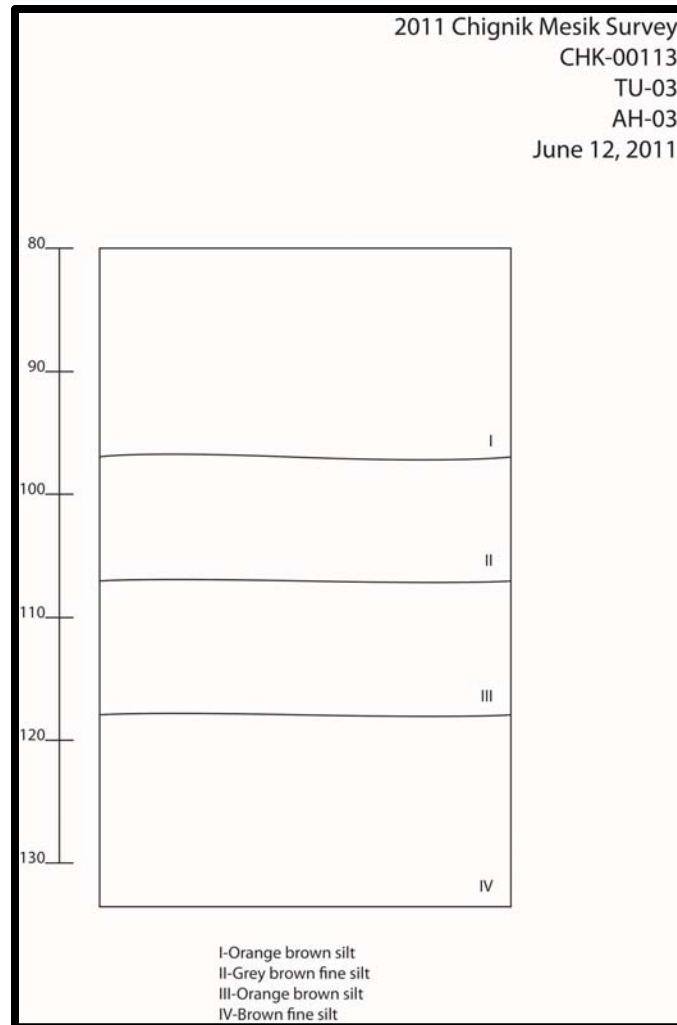


Figure 14: CHK-00113, TU-03, AH-03, Soil Profile

TU-04 was excavated in a single room house depression on the lower, west side of CHK-00113 (Feature #48) (see Figure 8). TU-04 was positive for cultural material and exhibited the densest artifact deposit at this site with a total of 253 basalt and chalcedony flakes recovered between 10 and 50cmts. Three bifaces were also found in TU-04. A thick, 5cm long complete basalt biface and a small, 1.75cm long complete chalcedony biface were collected in the 10-20cmts level. A broken, 2cm long triangular shaped basalt biface was collected between 30 and 40cmts. Six charcoal samples were collected from TU-04 between 18 and 31cmts. The sample from 31cmts was identified as alder and was radiocarbon dated to a calibrated age of about 1200 years ago (Figures 8, 15, and 16, Beta-312535).

The soil profile for TU-04 consists of silt and tephra layers but also illustrates two potentially distinct cultural layers present (Figures 15 and 16). The shallow cultural zone is situated around a charcoal band at 20cmts and the lower cultural zone is more distinct with alternating bands of dense

charcoal between 30 and 45cmb. Both of these layers are associated with abundant artifacts. The lower cultural zone exhibits a clear house floor between 40 and 45cmb. The entire cultural deposit in this house spans 40cm and with just one radiocarbon date the potential age difference (if any exists) between these cultural layers is unknown. A four inch auger hole labeled AH-04 was excavated into the base of TU-04 down to a total depth of 320cmb but no cultural material was recovered (Figure 17).

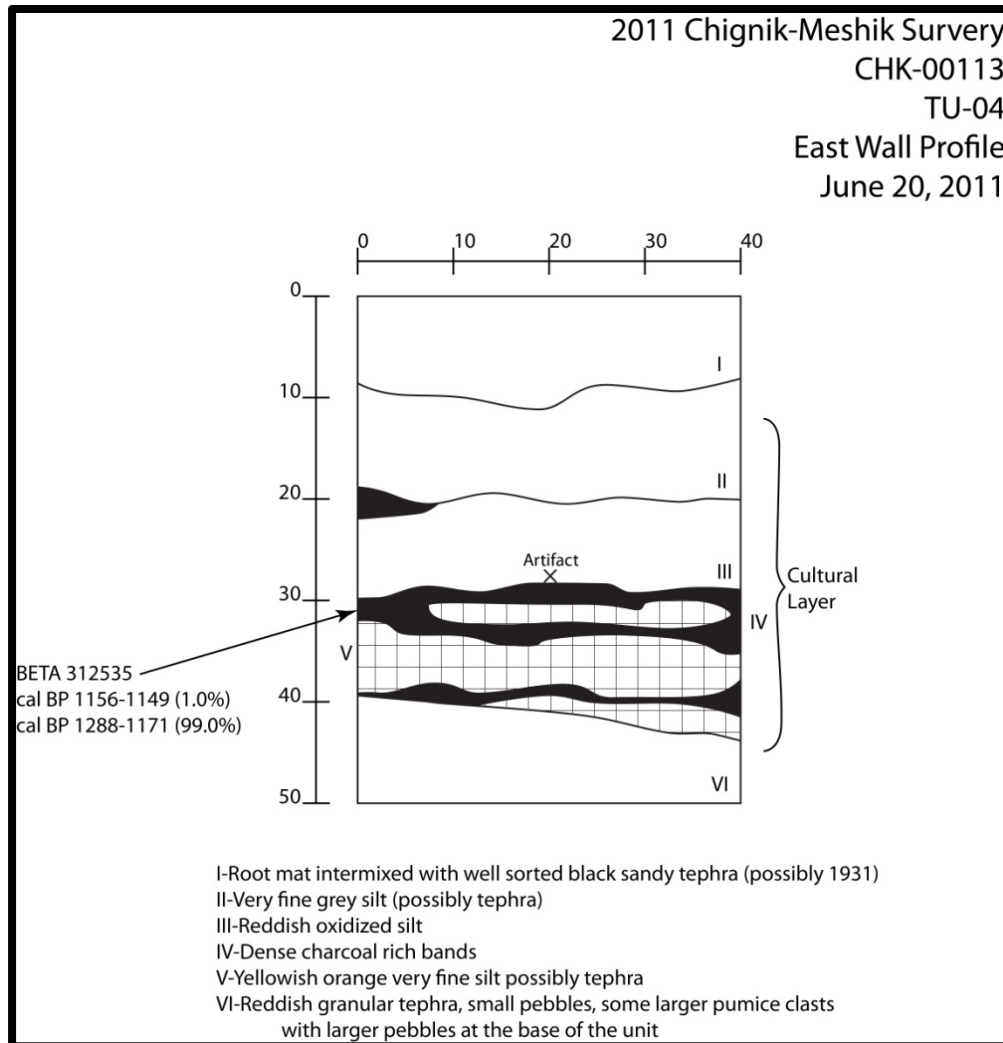


Figure 15: CHK-00113, TU-04, East Wall Soil Profile

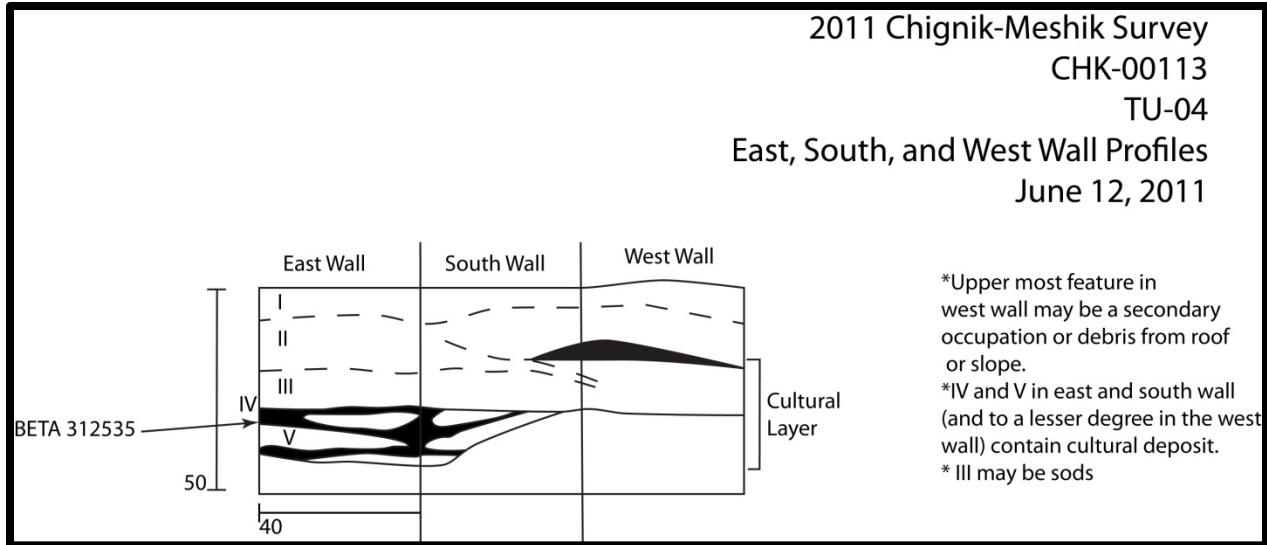


Figure 16: CHK-00113, TU-04, East, South, and West Wall Soil Profile

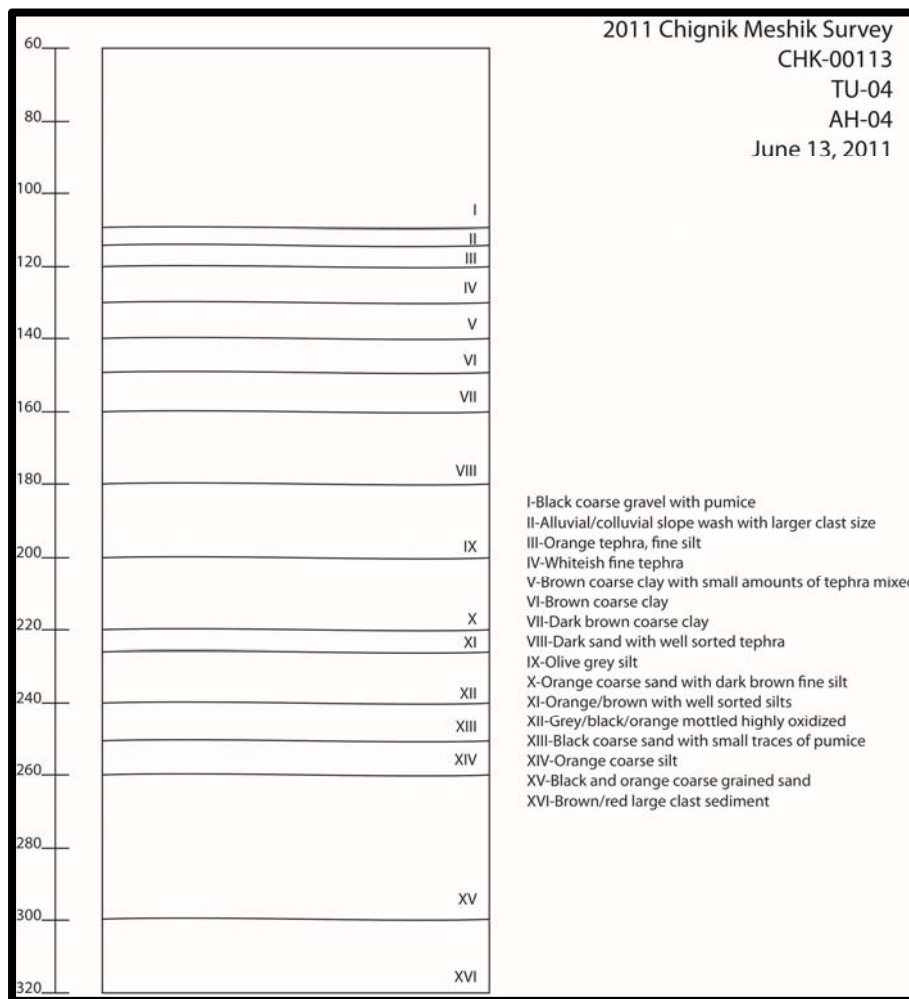


Figure 17: CHK-00113, TU-04, AH-04, Soil Profile



TU-05 was excavated in the center a single-room house depression on the lower, west side of CHK-00113 near TU-04 (Feature #47) (see Figure 8). This test unit was positive and 80 basalt and chalcedony flakes were recovered between 26 and 50cmbs. No tools were found in TU-05. Four charcoal samples were collected from this test unit between 26 and 37cmbs. A sample of willow charcoal associated with a possible hearth feature at 34cmbs was submitted for C<sup>14</sup> analysis and dates this house to approximately 1400 years ago (Figures 8 and 18, Beta-312545). The soil profile for TU-05 consists of several layers of silt and tephra that continue down to 60cmbs (Figure 18). There are two charcoal rich house floor layers visible in the east wall soil profile between 25 and 45cmbs which appear to be sloping down toward the south corner of the test unit. An auger hole was not excavated in this test unit.

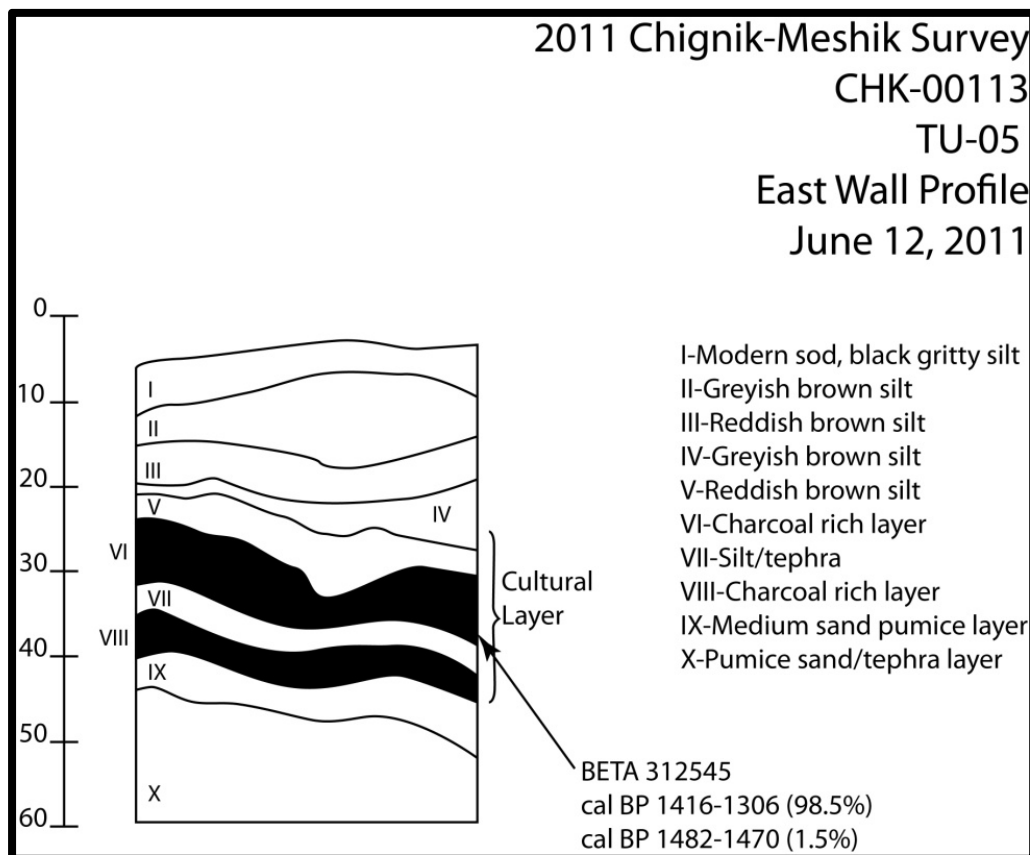


Figure 18: CHK-00113, TU-05, East Wall Soil Profile

TU-06 was excavated in a possible satellite room to one of the larger houses (Feature #71) (see Figure 8). This test unit did not produce any lithic or charcoal remains and the stratigraphy of this unit did not show any layers that would indicate that this depression is cultural (Figure 19). TU-06 was terminated at 70cmbs and a soil probe was excavated into the base of the unit but also showed no signs of a cultural deposit. An auger hole was not excavated in this test unit.

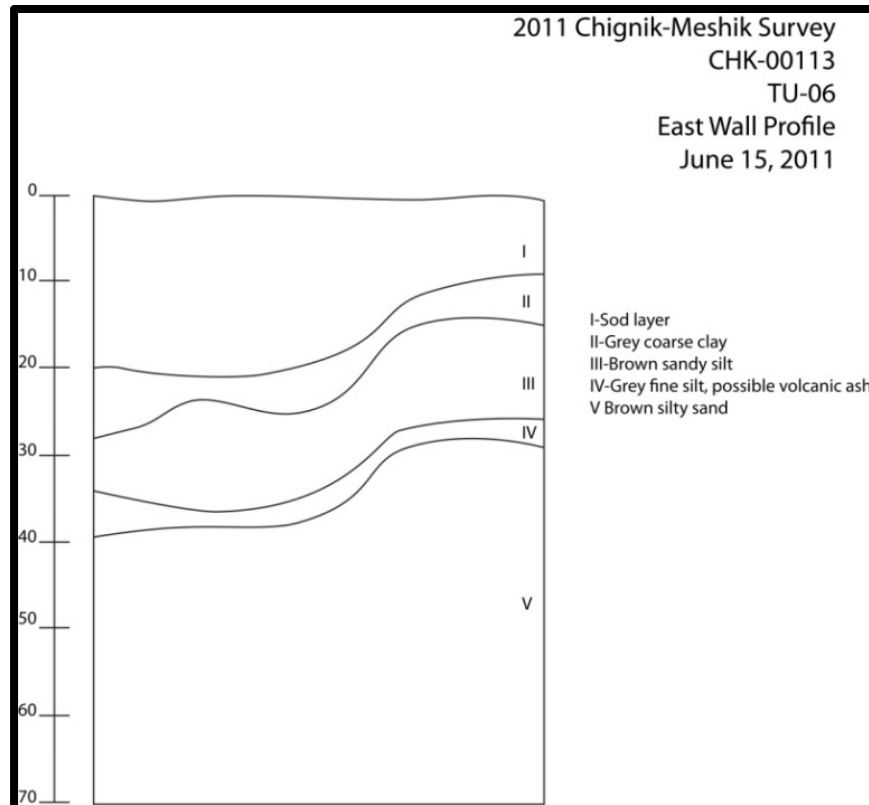


Figure 19: CHK-00113, TU-06, East Wall Soil Profile

TU-07 was placed in a single room house depression on the upper portion of the site (Feature #59) (See Figure 8). A relatively dense cultural layer including a hearth was encountered between 20 and 30cmbs. A total of 63 basalt and chert flakes were recovered from this test unit along with two basalt biface fragments. Three charcoal samples were collected between 16 and 25cmbs. A sample of alder charcoal collected at 25cmbs was submitted for C<sup>14</sup> analysis and dates this feature to about 1300 years ago (Figures 8 and 20, Beta-312546). The soil profile for this feature shows a clear house floor between 20 and 25cmbs and it is from this layer that radiocarbon date is derived. An auger hole was not excavated into the floor of this unit.

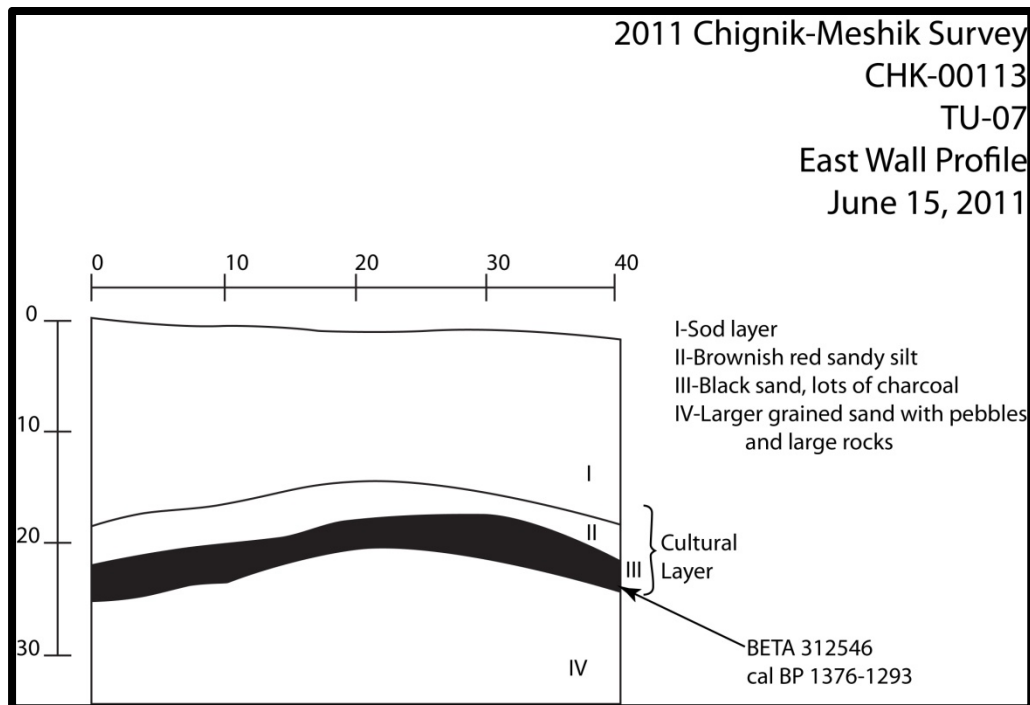


Figure 20: CHK-00113, TU-07, East Wall Soil Profile

A total of 12 soil probes were also performed at CHK-00113 and these are labeled as Pr01 through Pr12. Pr01 was placed in the center of a single room house feature (Feature #84) (see Figure 8) but produced negative results. Pr02 was also placed in the center of a single room house depression (Feature #27) (see Figure 8) and a cultural deposit was encountered. Five basalt flakes and a charcoal sample identified as alder were collected between 17 and 21 cmbs of Pr02. A sample of the alder charcoal radiocarbon dates this house feature to approximately 1300 years ago (Beta-312532). Pr03, Pr04, Pr05, Pr06, Pr07, and Pr08 were all placed in three similarly sized depressions on the northeast portion of CHK-00113 in Feature #'s 70, 71, and 72 (see Figure 8). Pr05 and Pr06 are in the same feature as TU-06 which did not produce cultural material. None of these six soil probes (Pr03—Pr08) produced any sign of cultural activity but these features are still hypothesized as cache features because the depressions and berms are so distinctive. Pr09, Pr10, Pr11, and Pr12 were all placed in the same house depression where TU-07 was excavated (Feature #59) (see Figure 8). Of these four probes only Pr11 produced any cultural material (charcoal that was not collected) which is surprising given the density of artifacts recovered from TU-07. This illustrates the incongruous nature of the cultural deposits in these types of features and why soil probing only would not be a suitable method for assessing sites in the study region.

**CHK-00059** is located on an isolated ridge-like landform rising 10-15 meters above the bottom of the Meshik River valley. This is the same 500 meter long landform where sites **CHK-00058** and **CHK-00117** are also located (see Figure 2) (Figure 21). **CHK-00059** was first recorded by National Park Service archaeologists conducting surveys here during the 1990s (VanderHoek and Myron 2004:116-119). The original investigators recorded 14 oval surface features on the east end of this high, isolated, “island” type landform. These surface depressions start on the far eastern edge of the landform where they are just two meters above the valley floor and extend 100 meters to the west in a nearly straight line all the way to the top of the ridge (Figure 22). One of these surface features (Feature #12) was tested when the site was originally recorded. Cultural material recovered from Feature #12 includes charcoal, flakes, and notched stones. A sample of charcoal from this house feature yielded a conventional radiocarbon age of  $1190 \pm 70$ BP which calibrates to approximately 1100 years ago (VanderHoek and Myron 2004:119).



Figure 21: Photograph showing landform with **CHK-00059**, **CHK-00117**, and **CHK-00058**

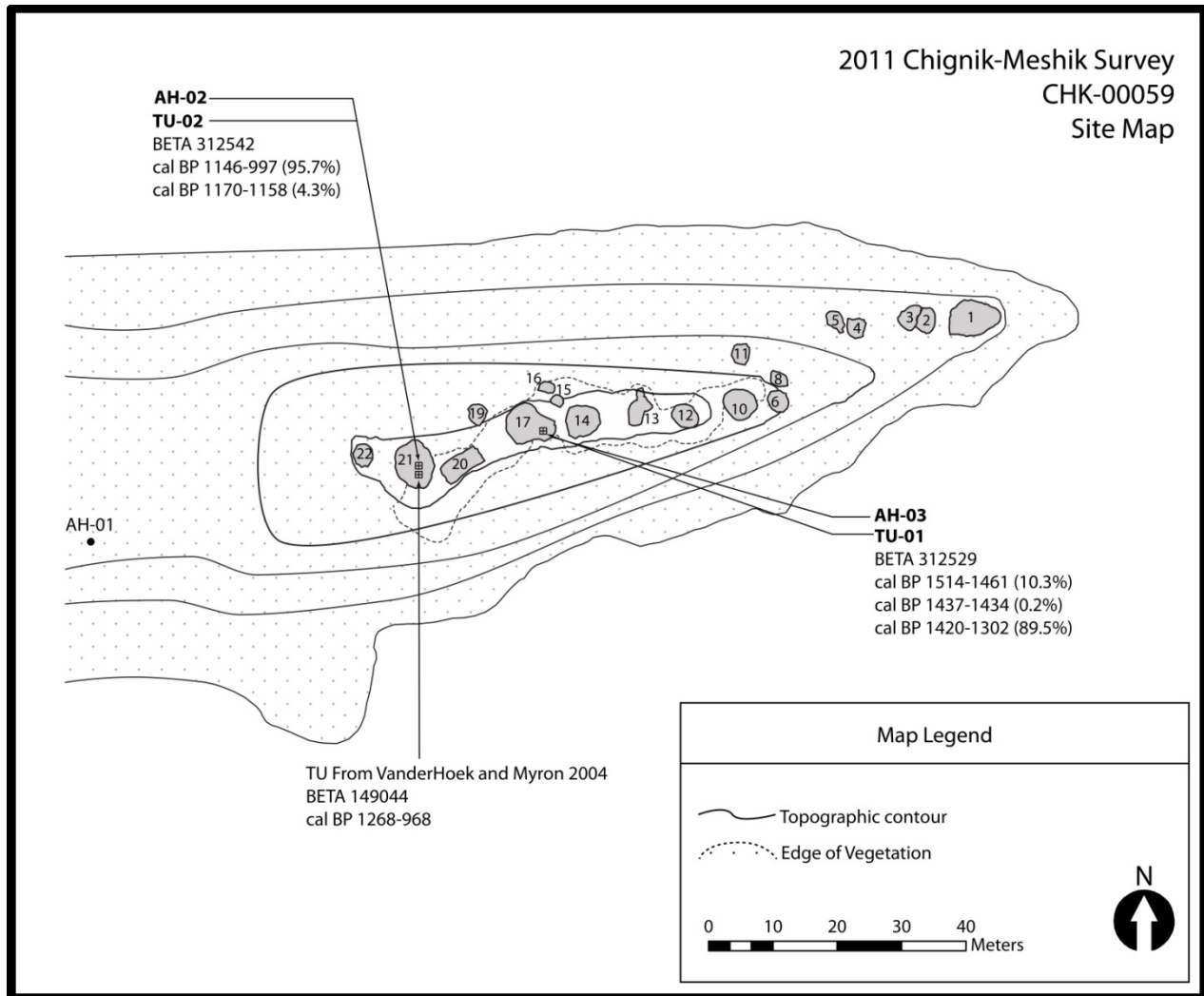


Figure 22: CHK-00059 Site Map

CHK-00059 was revisited in 2011 in order to complete a condition assessment and to map the site using a Trimble GPS unit. Additional small-scale testing was also completed at the site during 2011 resulting in the excavation of two 50x50cm test units. Each of these test units was placed within a cultural depression at the site. TU-01 was placed in the center of a large house depression near the top of the landform (Feature #17) (Vanderhoek and Myron's FT8 2004:118) (see Figure 22). This test unit was positive for cultural material and contained fourteen basalt flakes and pieces of basalt shatter that were recovered between 10 and 70cmbs. No tools were recovered from TU-01. Two charcoal samples were collected from this test unit, one from 56cmbs and a second at 70cmbs. A portion of the sample from 56cmbs was identified as alder and then submitted for radiocarbon analysis which dates this house feature to approximately 1400 years ago (Figures 22 and 23, Beta-312529). The soil profile for TU-01

shows multiple layers of silt and tephra with no distinct house floor or cultural zone present (Figure 23). A four inch auger hole (AH-03) was excavated into the base of TU-01 and extended down to a depth of 215cmbs but no cultural material was found (Figure 24).

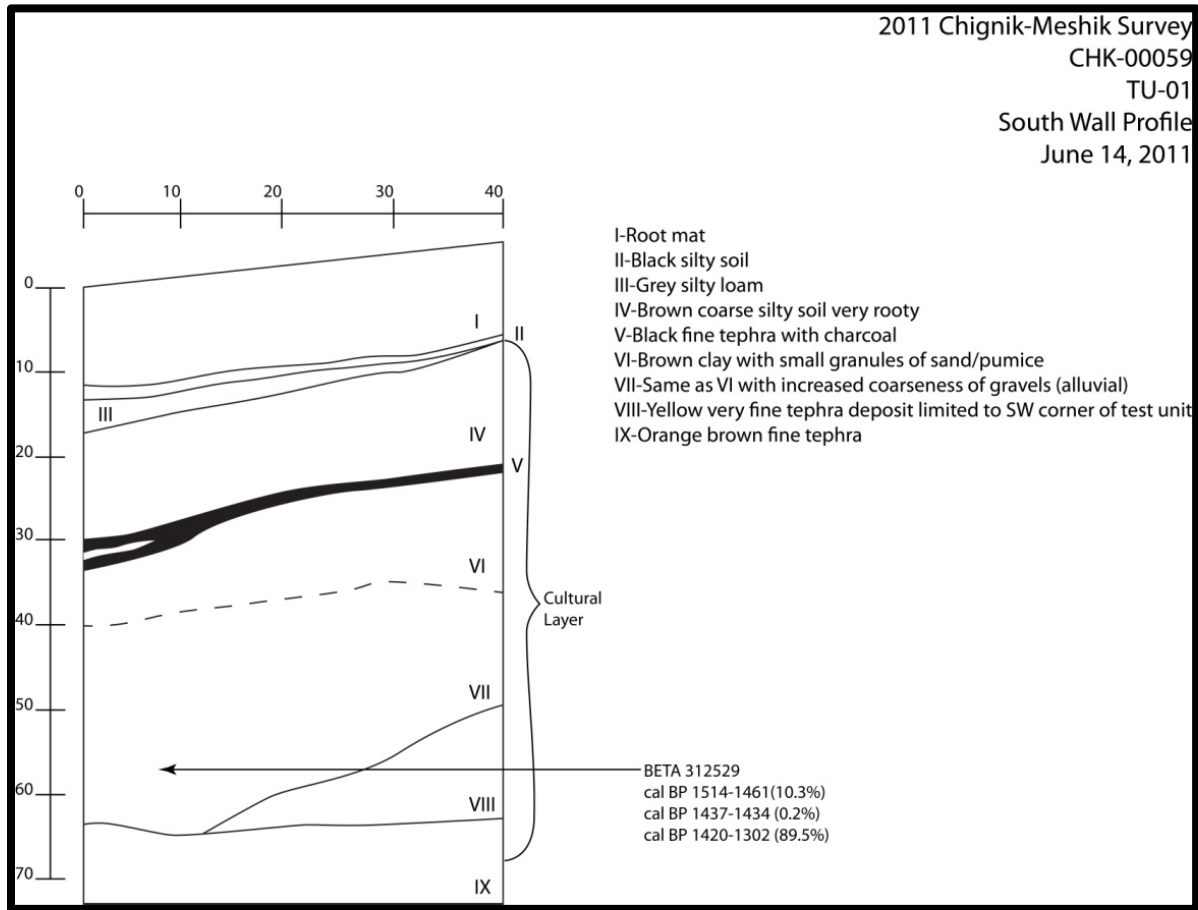


Figure 23: CHK-00059, TU-01, South Wall Soil Profile

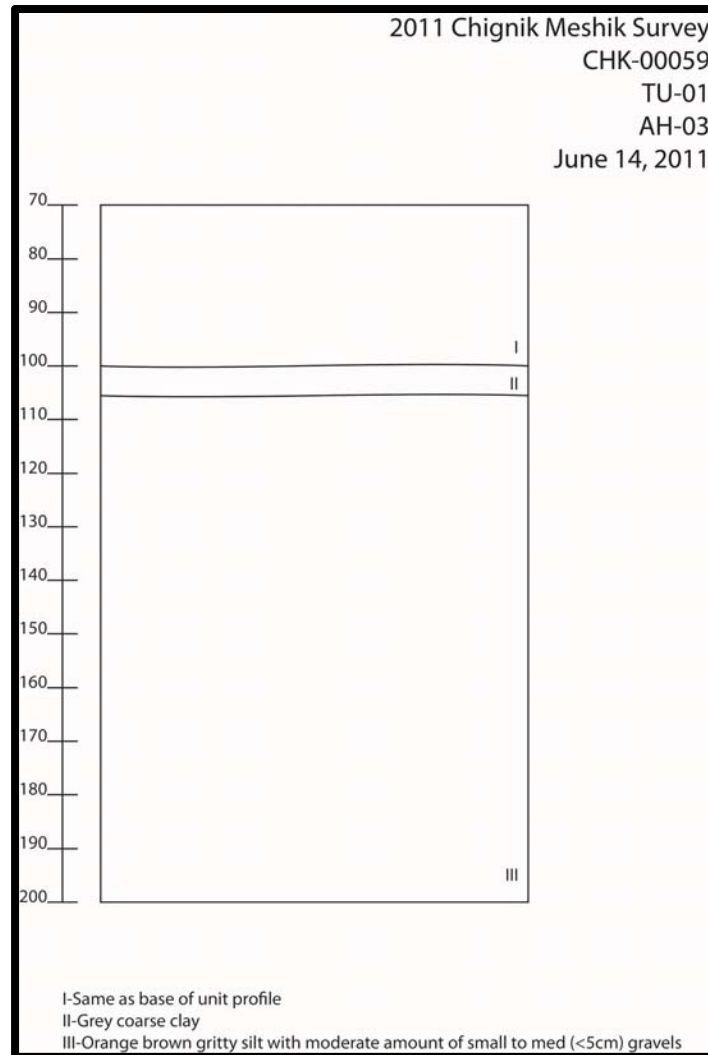


Figure 24: CHK-00059, TU-01, AH-03, Soil Profile

TU-02 was placed in the same large house depression that was previously tested during the original recordation of the site (Feature #21) (Vanderhoek and Myron's FT#12) (Figure 22). This test unit was positive for cultural material and a total of 31 flakes and pieces of angular shatter were recovered between 20 and 50cmbs. A majority of these artifacts were found in the 20 to 30cmbs level and lithic raw materials include chert and basalt. Four small, unidentifiable calcined bone fragments were also collected from the 20 to 30cmbs level and these represent the entire faunal assemblage from the 2011 field season. Five samples of charcoal were collected between 20 and 44cmbs in TU-02. A piece of willow charcoal from 30cmbs was submitted for C14 analysis and returned a conventional radiocarbon age of  $1150 \pm 30$ BP (Figures 22 and 25, Beta-312542). This date calibrates to about 1100 years ago which significantly overlaps with the original date for this feature ( $1190 \pm 70$ BP) and confirms the period this house was occupied. The soil profile for this test unit shows multiple silt and tephra layers with the

primary cultural zone between 20 and 30cmbms (Figure 25). An auger hole (AH-02) was excavated into the base of this test unit and reached a total depth of 200cmbms but no additional cultural material was recovered (Figure 26). A sample of non-cultural charcoal was collected in AH-02 from 70-80cmbms.

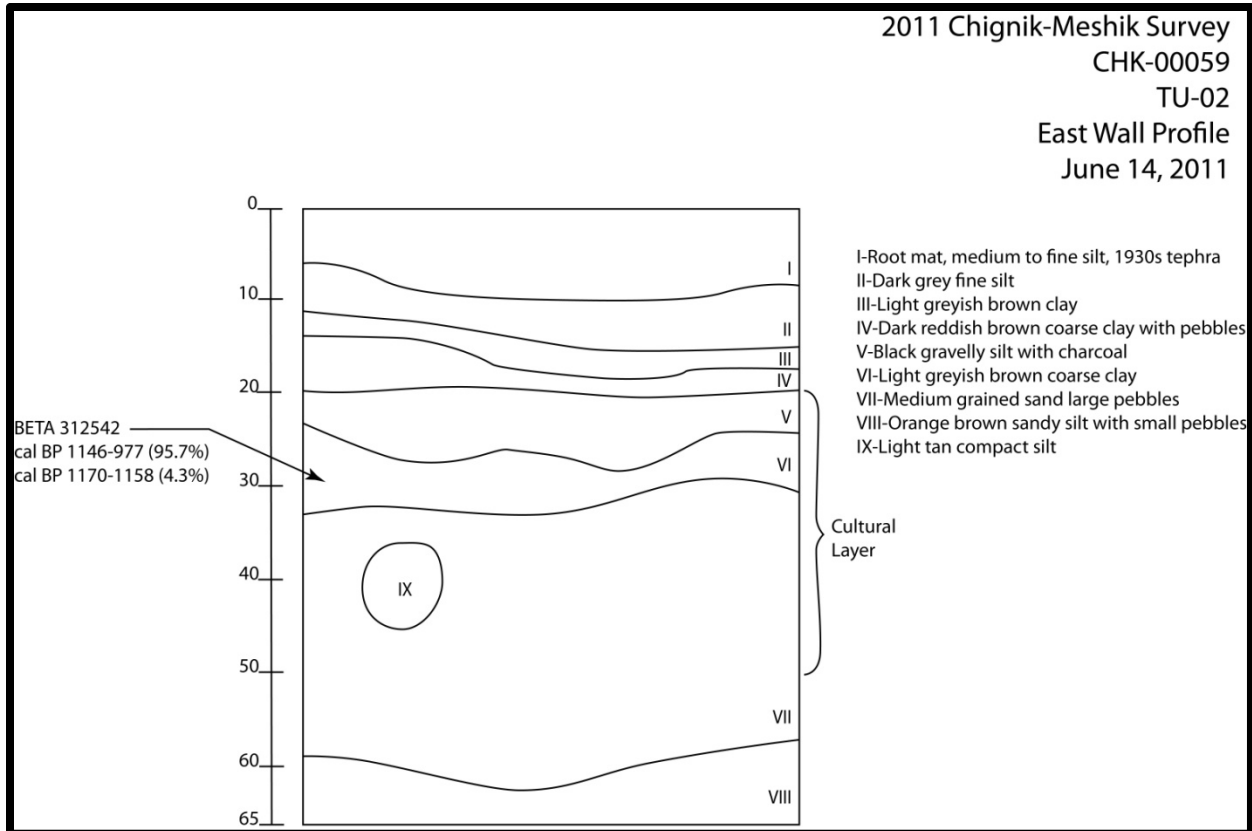


Figure 25: CHK-00059, TU-02, East Wall Soil Profile



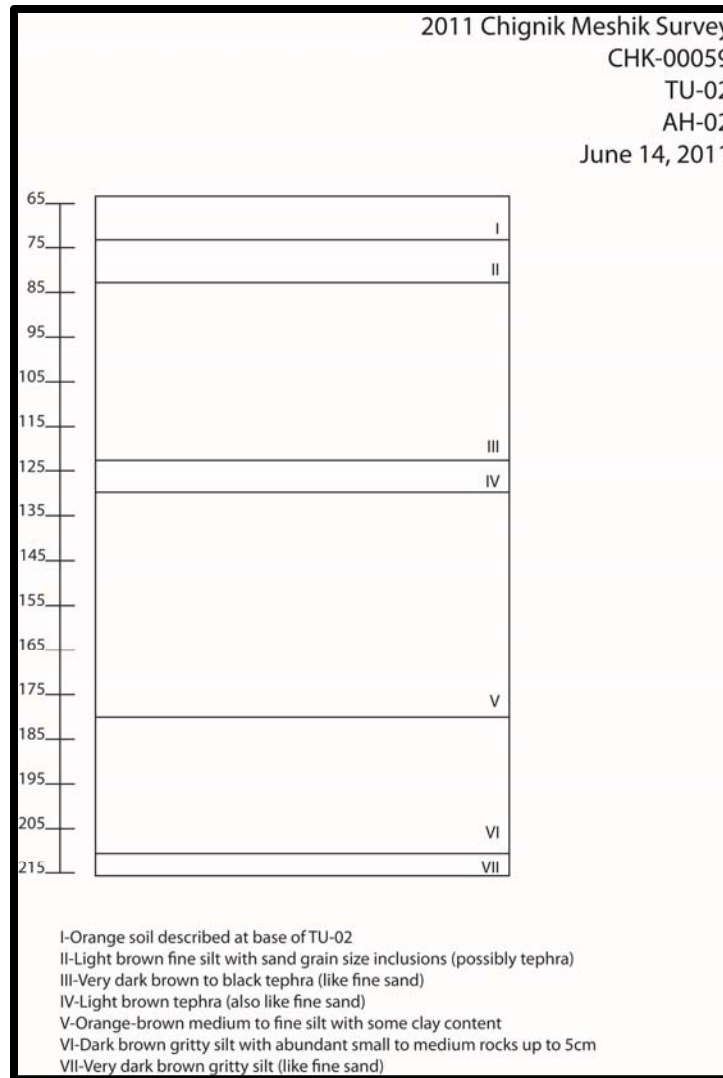


Figure 26: CHK-00059, TU-02, AH-02, Soil Profile

**CHK-00058** is located on the far western end of the same “island” landform as CHK-00059 and CHK-00117 (see Figure 2) (see Figure 21). This site was first recorded by National Park Service archaeologists during the 1990s at the same time CHK-00059 was first documented. The original investigators noted just three surface depressions at this site but a site map was not drawn, or at least not published. Two of the three were tested but only one produced cultural material and no charcoal was recovered for dating (VanderHoek and Myron 2004:117-118). This site was revisited during 2011 in order to complete a condition assessment but also to map the site using a Trimble GPS unit. CHK-00058 was tested during 2011 and a single 50x50cm test unit (TU-01) was excavated in the center of a large oval surface depression (Feature #28) (Figure 27). TU-01 did contain cultural material. A total of 37 basalt, chert, and chalcedony flakes were recovered between 20 and 50cmb. A large cobble tool, which

can be seen in the east wall soil profile, was collected at 40 to 45cmbs and this artifact appears to be either a hammerstone or net sinker (ANIA 19336). A majority of the lithic artifacts found in TU-01 came from between 40 and 45cmbs. Two charcoal samples were collected in association with these artifacts. A sample of alder charcoal from 43cmbs was submitted for radiocarbon analysis and dates this house feature to approximately 1500 years old (Figures 27 and 28, Beta-312528). The soil profile for this test unit shows several silt and tephra layers with a distinct cultural zone between 25 and 45cmbs. A four inch auger hole (AH-01) was placed in the base of this unit and went down to a total depth of 146cmbs before encountering bedrock. No additional artifacts were recovered from AH-01 (Figure 29).

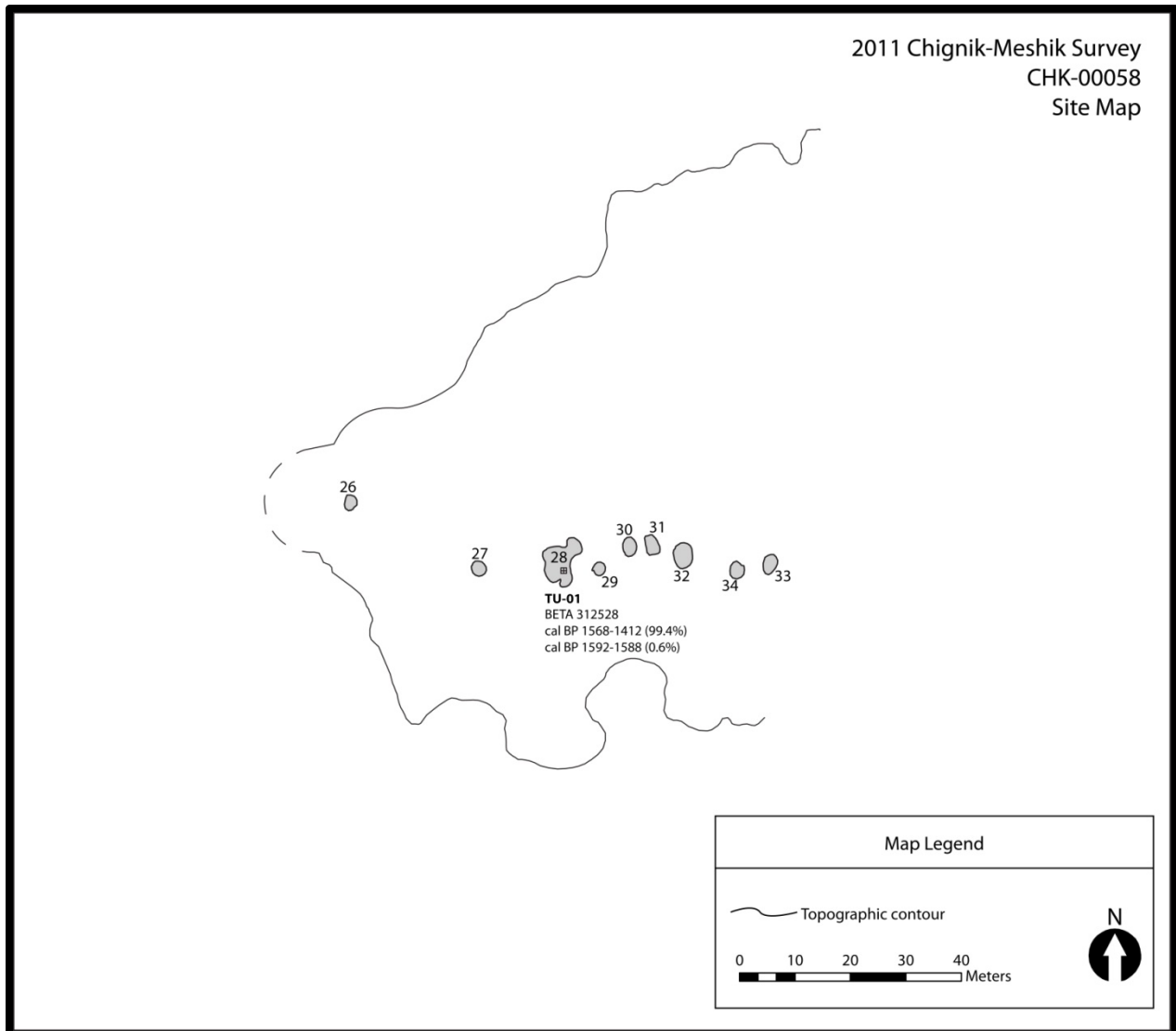


Figure 27: CHK-00058 Site Map

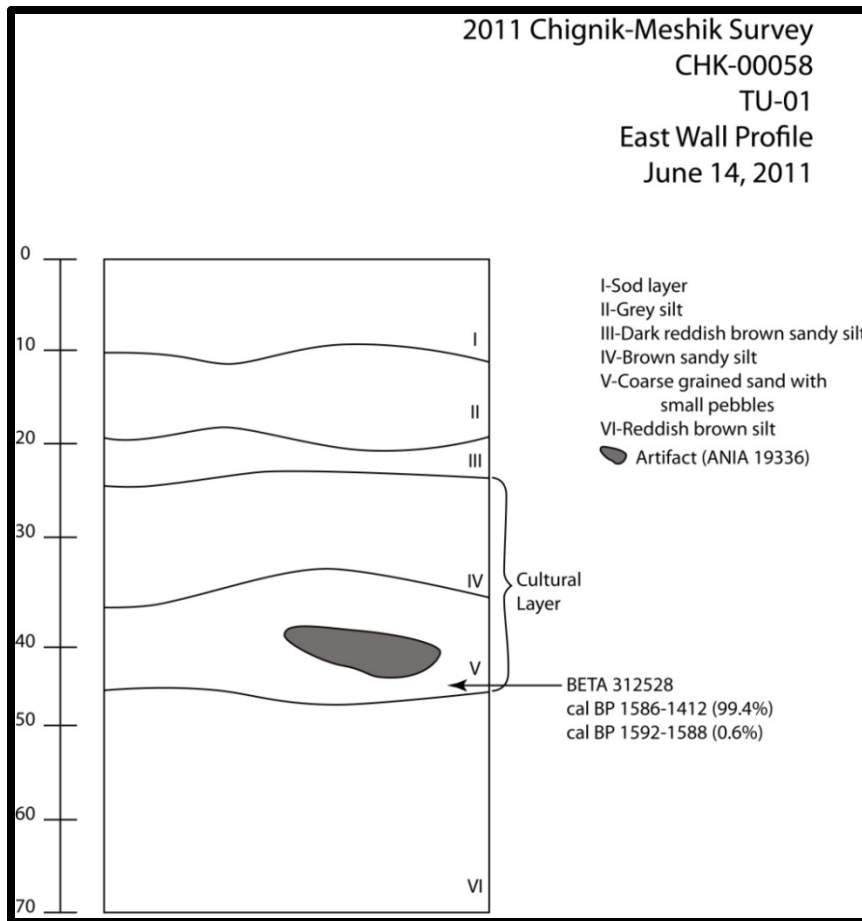


Figure 28: CHK-00058, TU-01, East Wall Soil Profile

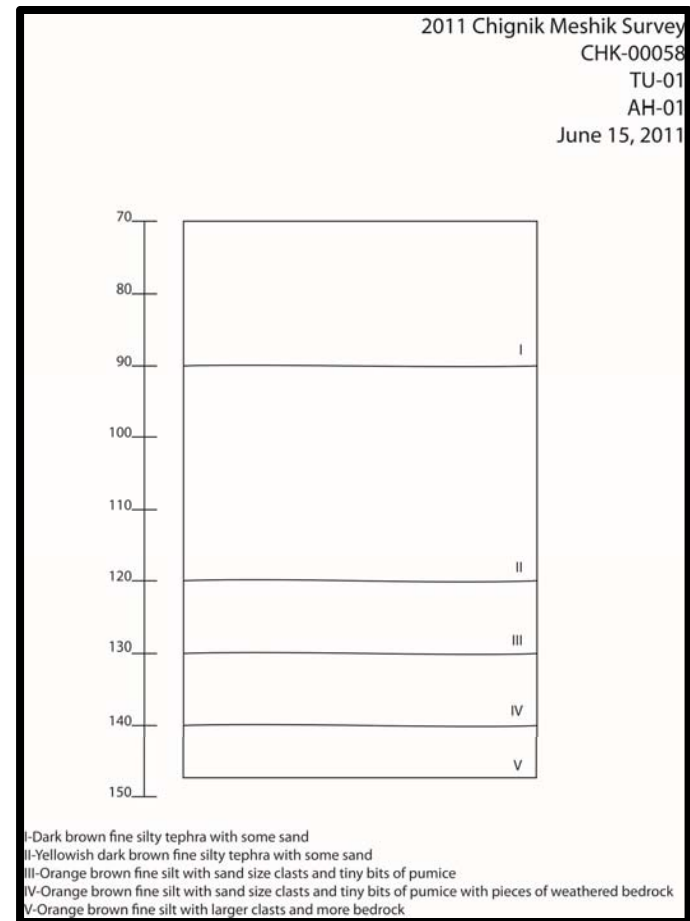


Figure 29: CHK-00058, TU-01, AH-01, Soil Profile

**CHK-00117** is a new site that was first recorded during 2011. This site is located on the same isolated landform as CHK-00058 and CHK-00059 and consists of a single cultural depression situated roughly halfway between the two (see Figure 2) (see Figure 21). This solitary, single room house depression (Feature #23) (Figure 30) is too far away to be directly associated with either CHK-00058 or CHK-00059. This site was mapped using a Trimble GPS unit and one 50x50cm test unit (TU-01) was excavated inside of the house depression.

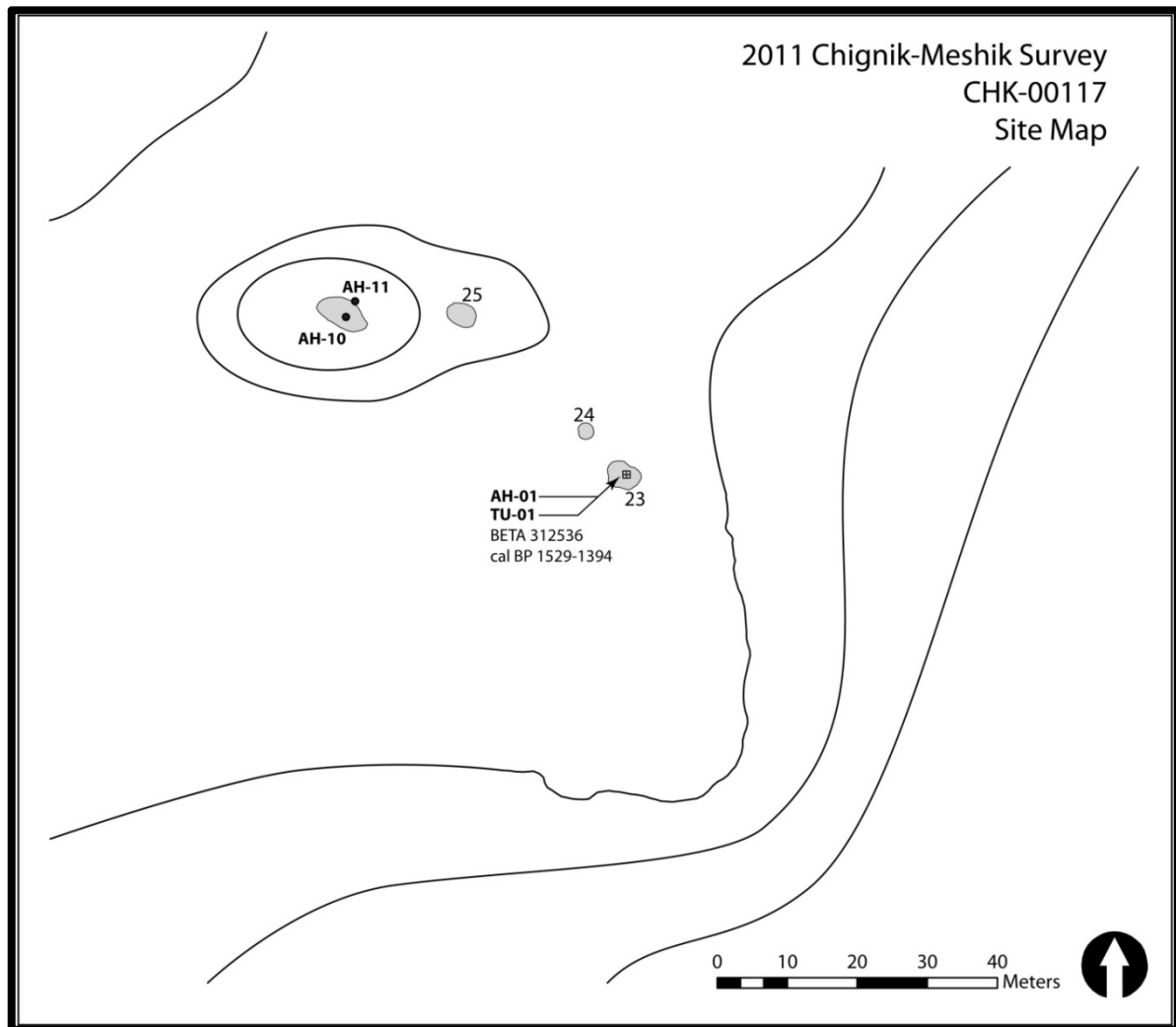


Figure 30: CHK-00117 Site Map

TU-01 was positive for cultural material. Three basalt flakes were recovered between 10 and 20cmbs and two basalt flakes and a single chert flake were recovered between 30 and 50cmbs. Only one charcoal sample was collected from this house feature and it came from a depth of 33cmbs. This sample was identified as alder and then submitted for C<sup>14</sup> analysis, dating this feature to approximately 1500 years ago (Figures 30 and 31, Beta-312536). The soil profile for this test unit illustrates nine different layers of silt and tephra with a distinct house floor between 30 and 50cmbs (Figure 31). An auger hole

(AH-01) was placed in the base of the test unit but only continued down another 28cm through strat "IX" before hitting bedrock at a final depth of 90cmbs. No additional cultural material was recovered from AH-01.

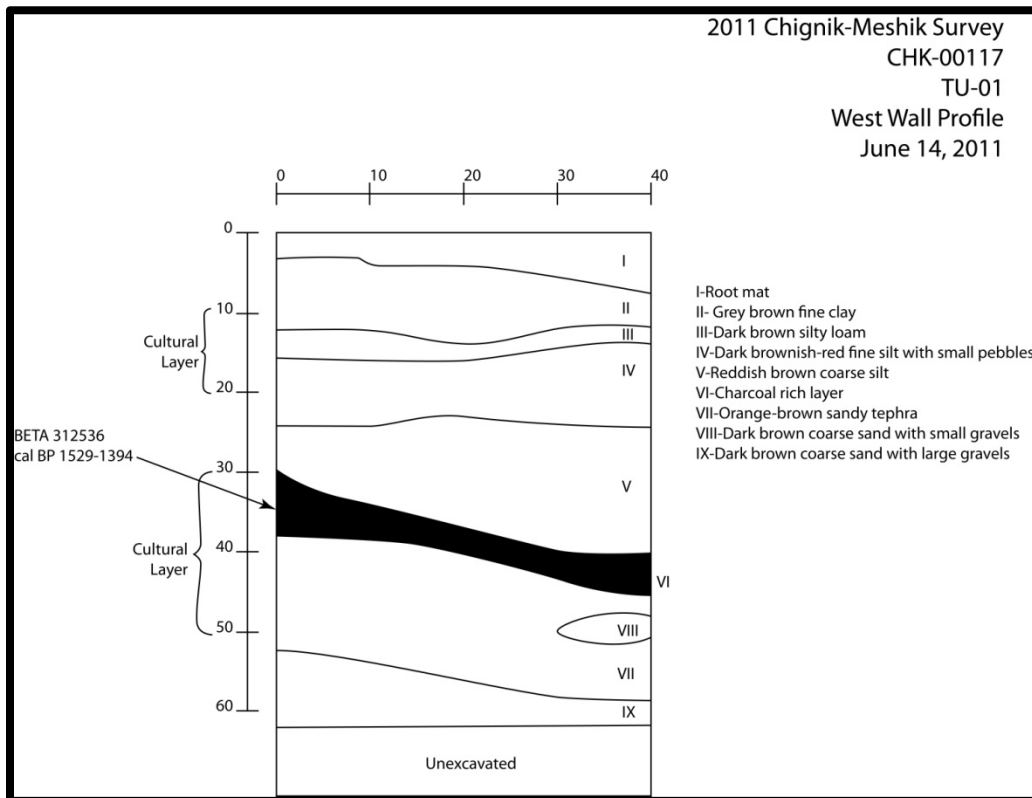


Figure 31: CHK-00117, TU-01, West Wall Soil Profile

**CHK-00120** is a new site that was found and recorded during 2011. This site is located on a relatively low southwest facing terrace 10-15 meters above the Meshik River valley floor in Aniakchak National Monument and Preserve (see Figure 2). A small unnamed creek which drains the eastern portion of Plenty Bear Creek valley flows along the edge of this terrace approximately 100 meters from the site. A total of 21 cultural features were mapped at this site (Figure 32). Three of these are large eight meter in diameter one and a half meter deep oval house depressions. There are two amorphous looking cultural depressions associated with several smaller cache sized depressions (Feature #'s 1-6) along the eastern edge of the site which could represent a multi-room, Koniag style house. The 12 remaining features are small, circular cache pit-sized features scattered across the site. Curiously there are no cache pit features associated with the large circular house feature located in the center of the site. The Trimble GPS unit was not available when this site was recorded so a scaled sketch map was drawn on paper.

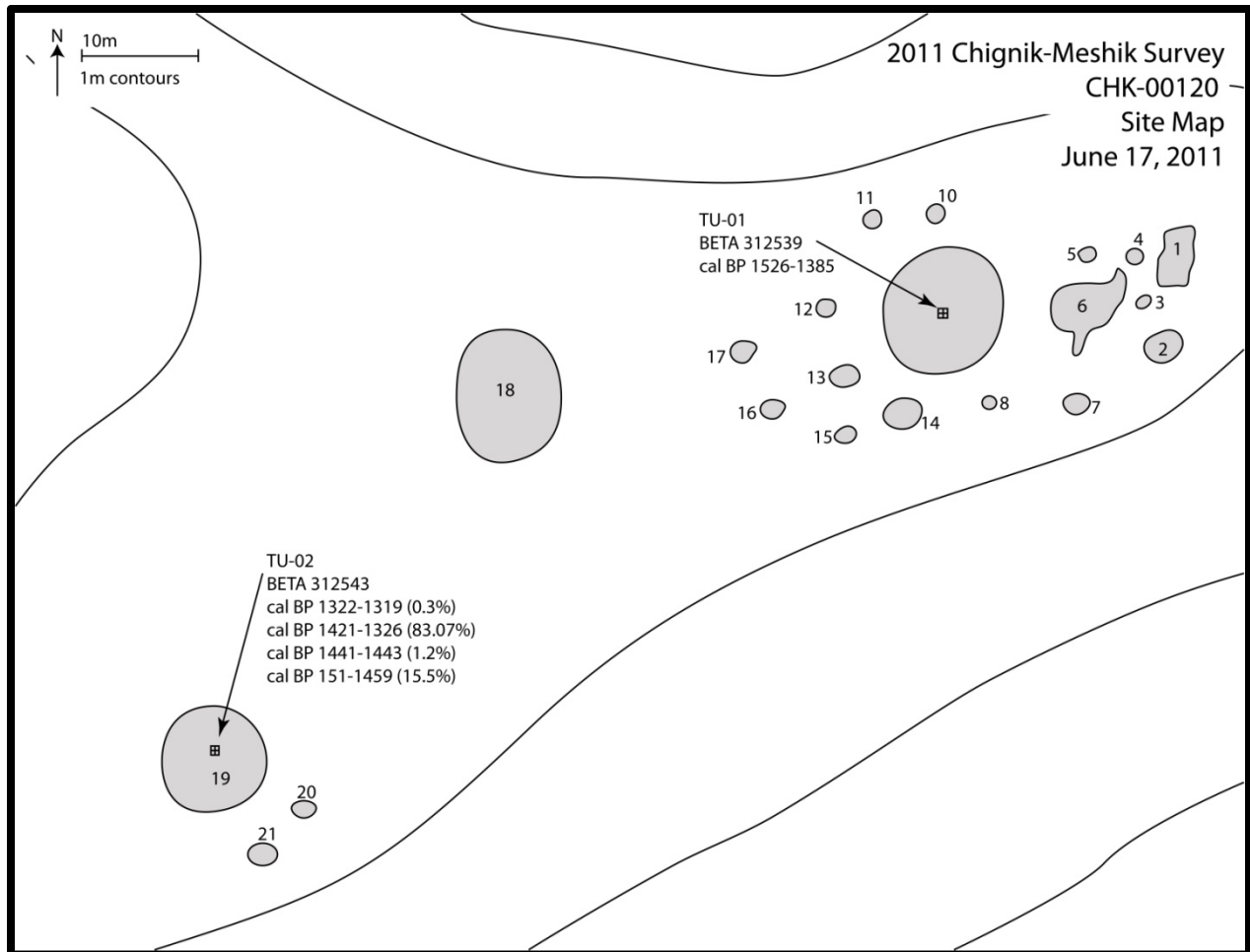


Figure 32: CHK-00120 Site Map (hand drawn sketch map)

Two 50x50cm test units were excavated at CHK-00120 and each was placed in the center of a large circular house feature. TU-01 was centered in the house feature on the eastern edge of the site (Feature #9) (see Figure 32) and four basalt flakes were recovered from between 30 and 40cmbs in this test unit. Two charcoal samples were collected in TU-01 from 33 and 35cmbs. The sample from 33cmbs was identified as alder and submitted for  $C^{14}$  analysis and dates this house feature to approximately 1500 years ago (Figure 32 and 33, Beta-312539). The soil profile for this unit illustrates six silt and tephra layers with a clear house floor between 30 and 35cmbs. A four inch auger hole (AH-01) was placed into the base of this test unit and was excavated down to a total depth of 220cmbs but no additional cultural material was found (Figure 34).

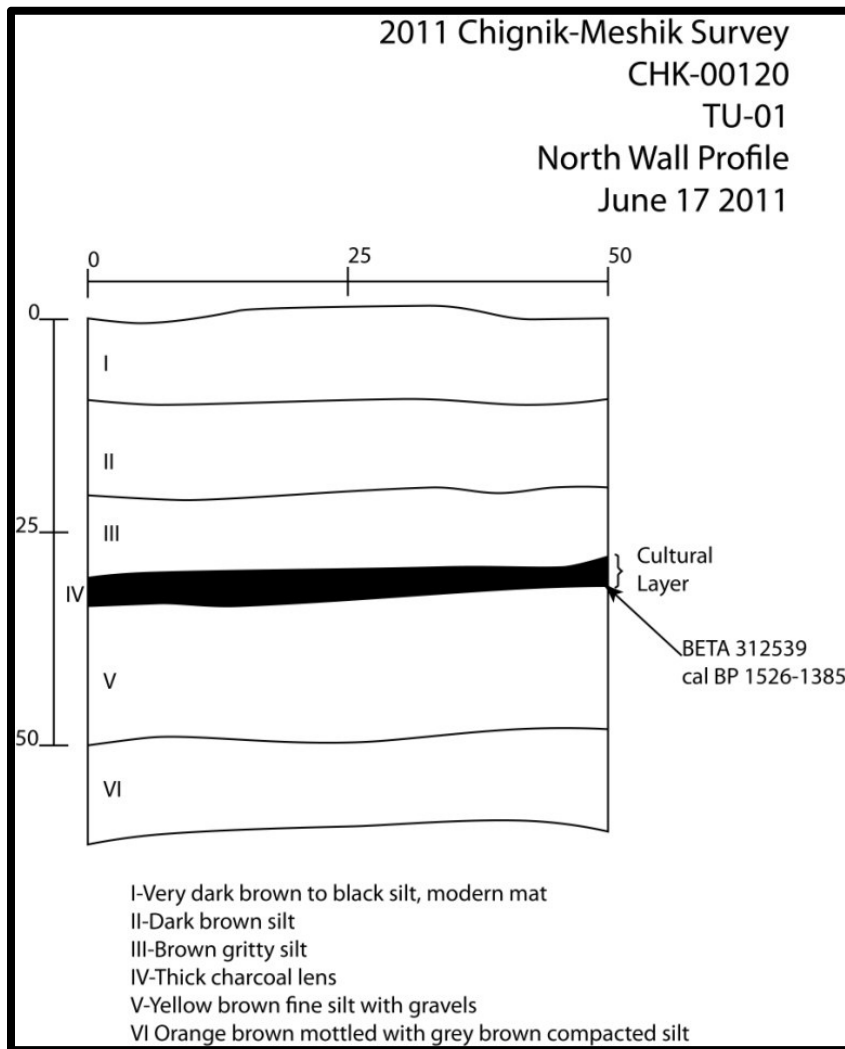


Figure 33: CHK-00120, TU-01, North Wall Soil Profile

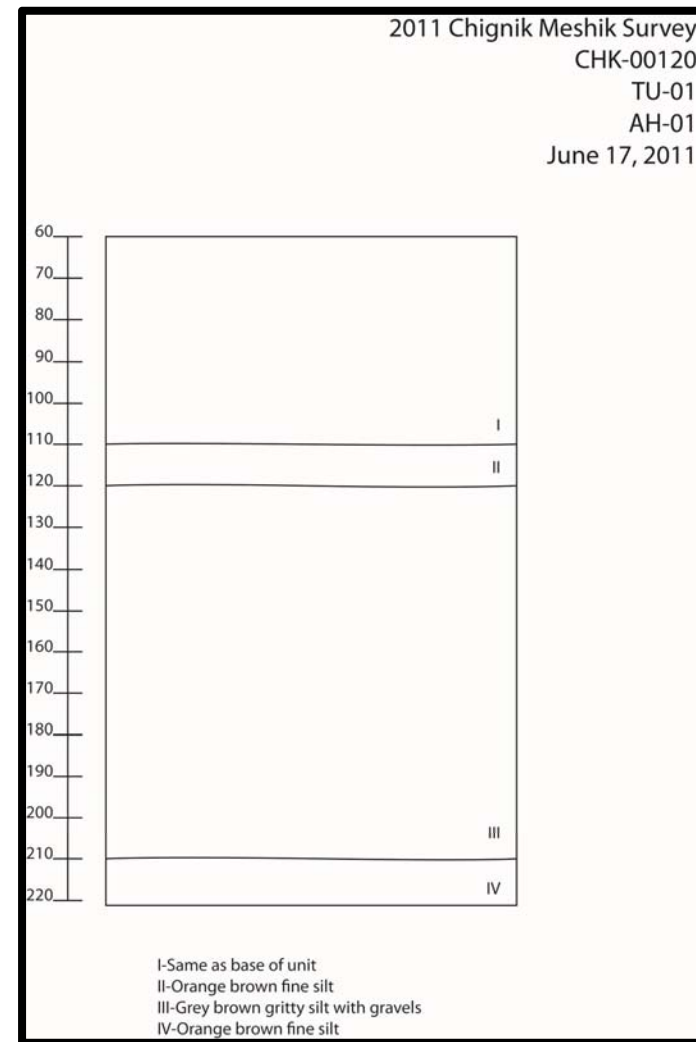


Figure 34: CHK-00120, TU-01, AH-01, Soil Profile

TU-02 at CHK-00120 was placed in the center of house feature along the western edge of the site (Feature #19) (see Figure 32) and was positive for cultural material. Three flakes were recovered between 15 and 25cmbs and another 12 flakes were found between 30 and 40cmbs. Material types include basalt, chert, and chalcedony. Two samples of charcoal were collected from this test unit at 35 and 36cmbs. A piece of alder charcoal from 36cmbs was submitted for radiocarbon analysis and a date of approximately 1400 years old for this house feature (Figures 32 and 35, Beta-312543). The soil profile shows several layers of silt and tephra with a clear house floor located around 43cmbs. An auger hole was not excavated into the base of this test unit.

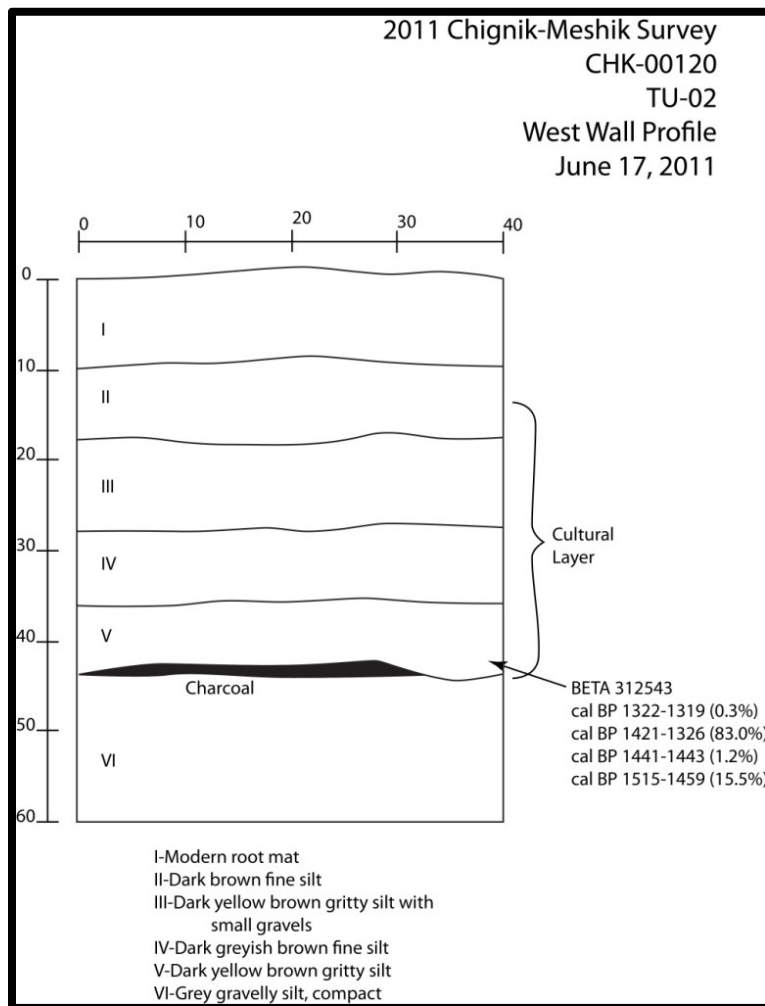


Figure 35: CHK-00120, TU-02, West Wall Soil Profile

**CHK-00118** is located along the eastern edge of the foothills extending south from Vent Mountain, Aniakchak Peak, and Aniakchak Crater (see Figure 2). The site is situated on a low terrace just 5-10 meters above the swampy Meshik River valley floor approximately 11.3 kilometers south of Aniakchak Peak (Figure 36). Waterfall Creek flows 400 meters to the east of the site and the low isolated



moraine feature where CHK-00114 and CHK-00115 (Shirar et al. 2010) are situated is visible to the northeast. CHK-00119 is located approximately 220 meters to the south and can also be seen from the site. CHK-00118 consists of eight house-sized depressions along with a twelve smaller cultural features that most likely represent cache pits. Two 50x50cm test units (TU-01 and TU-02) were excavated within cultural features at this site (Figure 37).



Figure 36: Overview of CHK-00118, site circled in red, photo taken from CHK-00119

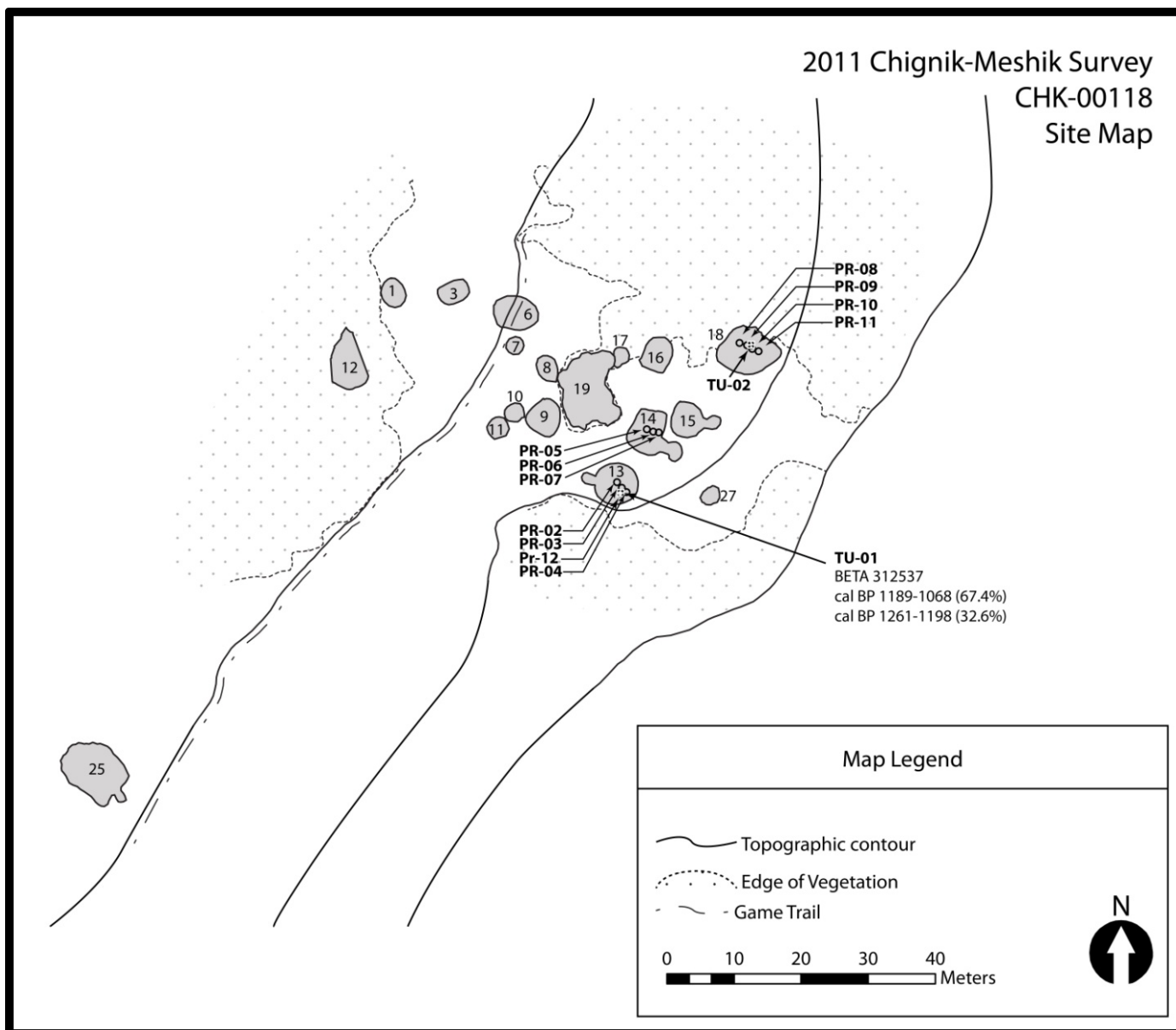


Figure 37: CHK-00118 Site Map

TU-01 was placed in the center of a large circular single room house depression (Feature #13) (see Figure 37) and was positive for cultural material. A total of 104 basalt, chert, and chalcedony flakes were recovered between 20 and 50cmbs. Ninety-one of these flakes were found in the 30 to 40cmbs level. Two basalt biface fragments were found between 30 and 40cmbs and a complete bifacially worked basalt scraper was collected at 35cmbs (Figure 38). Three charcoal samples were collected between 25 and 35cmbs in this test unit. A piece of alder charcoal collected from 35cmbs and directly associated with the bifacial scraper was submitted for C<sup>14</sup> analysis and dates this house feature to about 1100 year ago (Figures 37 and 39, Beta-312537).

The soil profile in TU-01 illustrates several layers of silt and tephra with a cultural zone between 25 and 50cmbs (Figure 39). A charcoal rich layer associated with most of the artifacts found in this test unit likely represents the living surface of this house feature. An Oakfield soil probe was placed into the base of TU-01 to check for deeper cultural zones. This probe only went down another 15cm because of dense gravel and the compactness of the soil. These 15cm were a continuation of the layer labeled as “V” in the TU-01 west wall soil profile.



Figure 38: Photograph of bifacial scraper in-situ within charcoal matrix

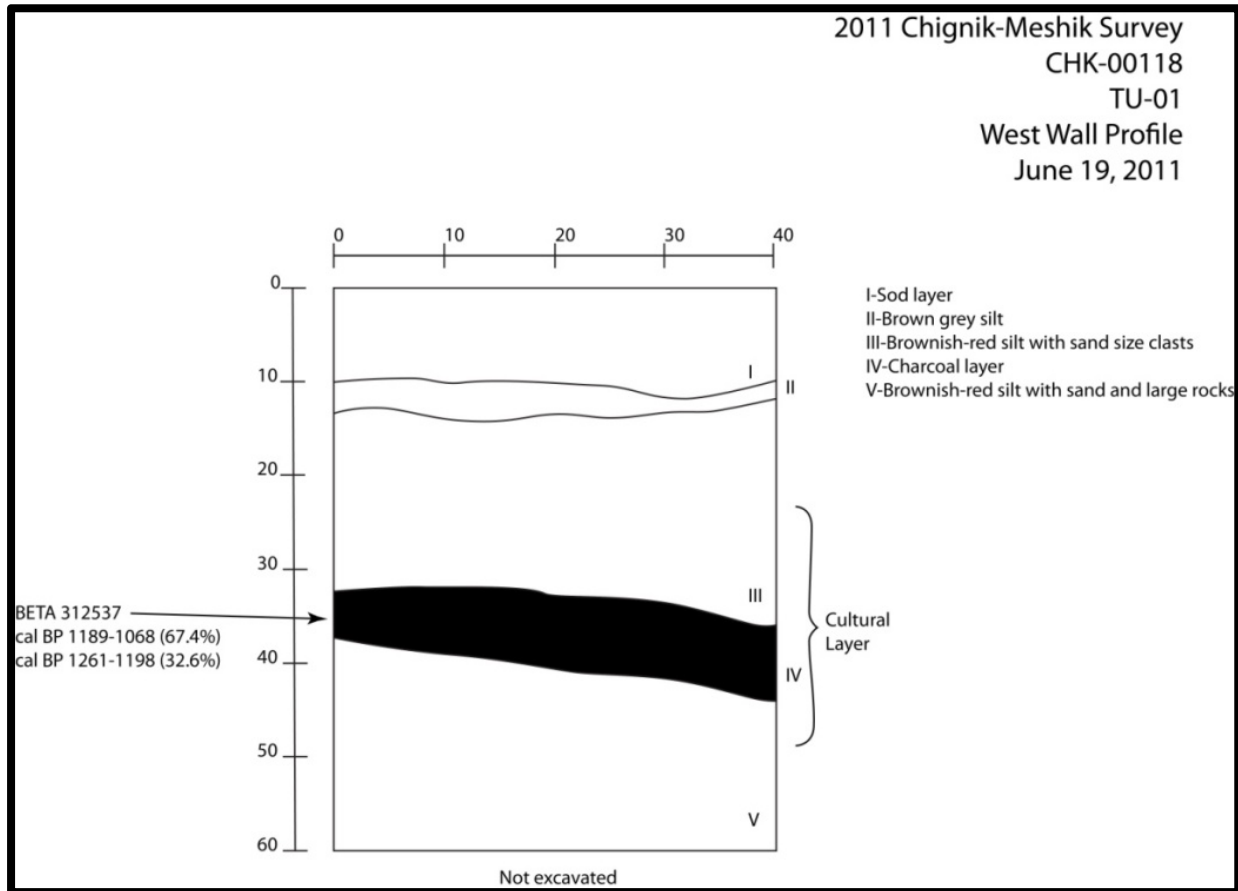


Figure 39: CHK-00118, TU-01, West Wall Soil Profile

TU-02 was excavated in the center of a second large circular house feature (Feature #18) (Figure 37) and a single basalt flake was recovered between 30 and 40cmbs. No charcoal was recovered from this feature and therefore C<sup>14</sup> analysis was not possible for this house. The soil profile for this feature shows several bands of silt and tephra but there is not a well-defined floor or obvious living surface in this house (Figure 40). An Oakfield soil probe was placed into the base of this test unit but only made it down another 12cm. No additional cultural deposits were found in this probe which revealed a continuation of the "VII" soil layer seen in the test unit profile in Figure 40.

In addition to the soil probes that were placed in the bottom of the two 50x50cm test units, eleven more soil probes were placed within three of the cultural depressions at CHK-00118 (Features 13, 14, and 18) (see Figure 37) None of these eleven probes produced any artifacts but most of them showed a charcoal rich layer of brown silt that marks the presumed cultural layer within each probed feature. No charcoal samples were collected from any of these eleven probes.

**CHK-00119** is located just 220 meters south-southwest of CHK-00118 and is also situated along the eastern edge of the foothills that extend south from Vent Mountain, Aniakchak Peak, and Aniakchak Crater (see Figure 2). This site is on the same 5-10 meter high river terrace as CHK-00118 and also shares a similar view shed (Figure 41). Waterfall Creek, CHK-00114, CHK-00115, and CHK-00118 can all be seen from this site. CHK-00119 consists of five house-sized cultural depressions and approximately six smaller depressions that likely represent cache pit features. Only one 50x50cm test unit (TU-01) was excavated at this site (Figure 42).



Figure 41: Photograph showing an overview of CHK-00119

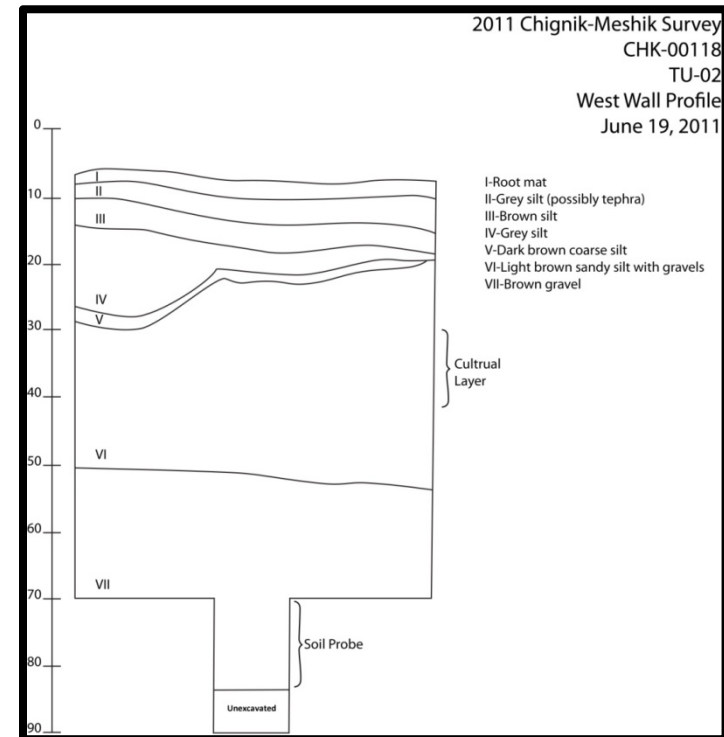


Figure 40: CHK-00118, TU-02, West Wall Soil Profile

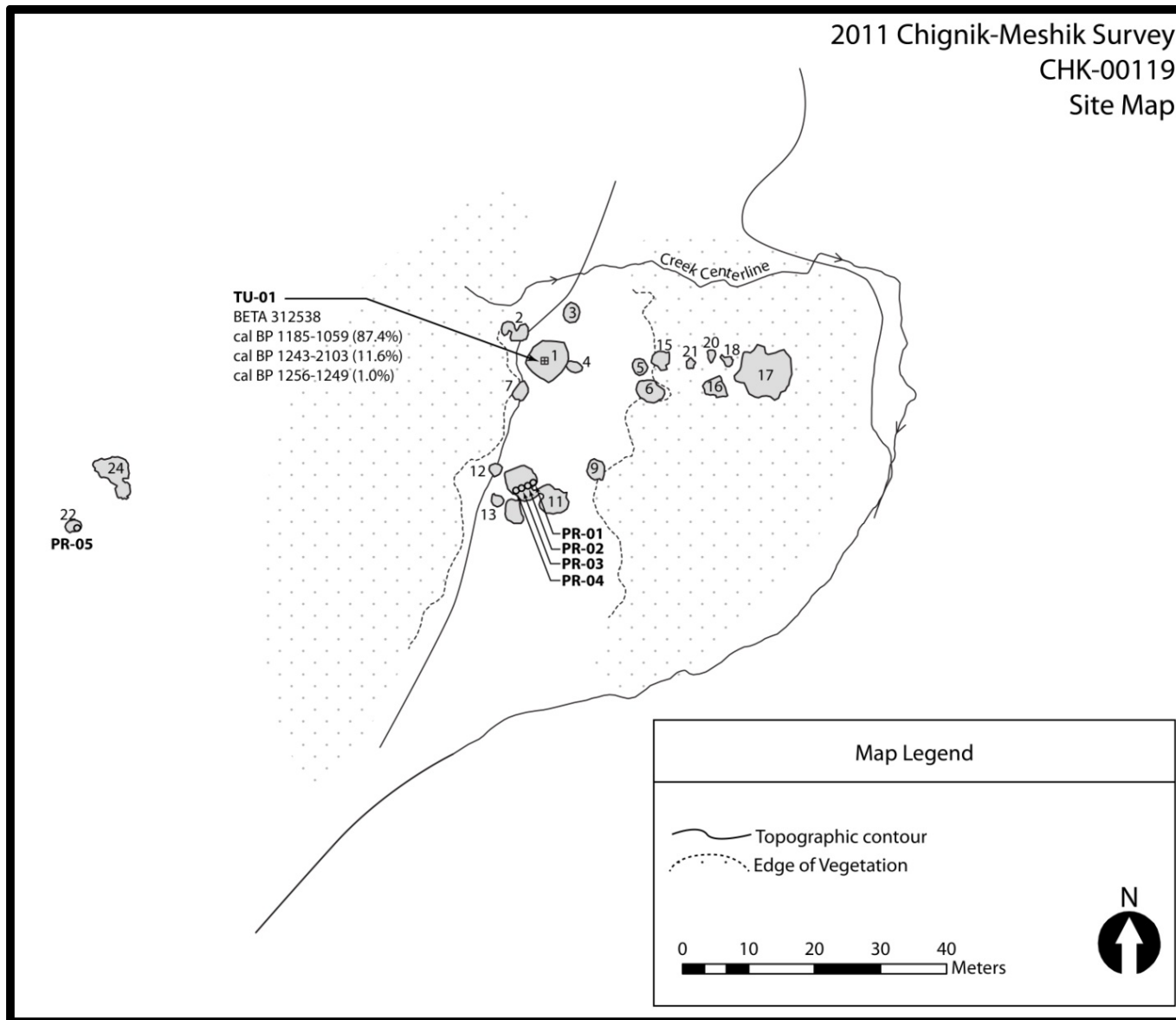


Figure 42: CHK-00119 Site Map

TU-01 was placed in the center of one of the larger single room house features located at this site (Feature #1) (Figure 42) and this unit contained cultural material. Forty-two basalt and chert flakes were collected between 10 and 60cmbs but 29 were found in the 40 to 50cmbs level. A 7.5cm long retouched flaked made from chalcedony and resembling an ulu blade was collected from 50cmbs. Three small (3cm) notched net sinkers were collected from the 40 to 50cmbs level. Two of these sinkers are basalt while the third resembles sandstone. Three charcoal samples were collected in TU-01 between 30 and 45cmbs. A sample of alder charcoal from 45cmbs was submitted for C<sup>14</sup> analysis and reveals that this feature dates to approximately 1100 years ago (Figures 42 and 43, Beta-312538). The densest portion of the cultural zone in this feature is situated between 40 and 50cmbs and the soil profile drawing in Figure 43 shows a 2-3cm thick charcoal lens at 50cmbs that likely represents the floor of this house. The TU-01 soil profile also reveals several other layers of silt and tephra, several of which contain cultural material.

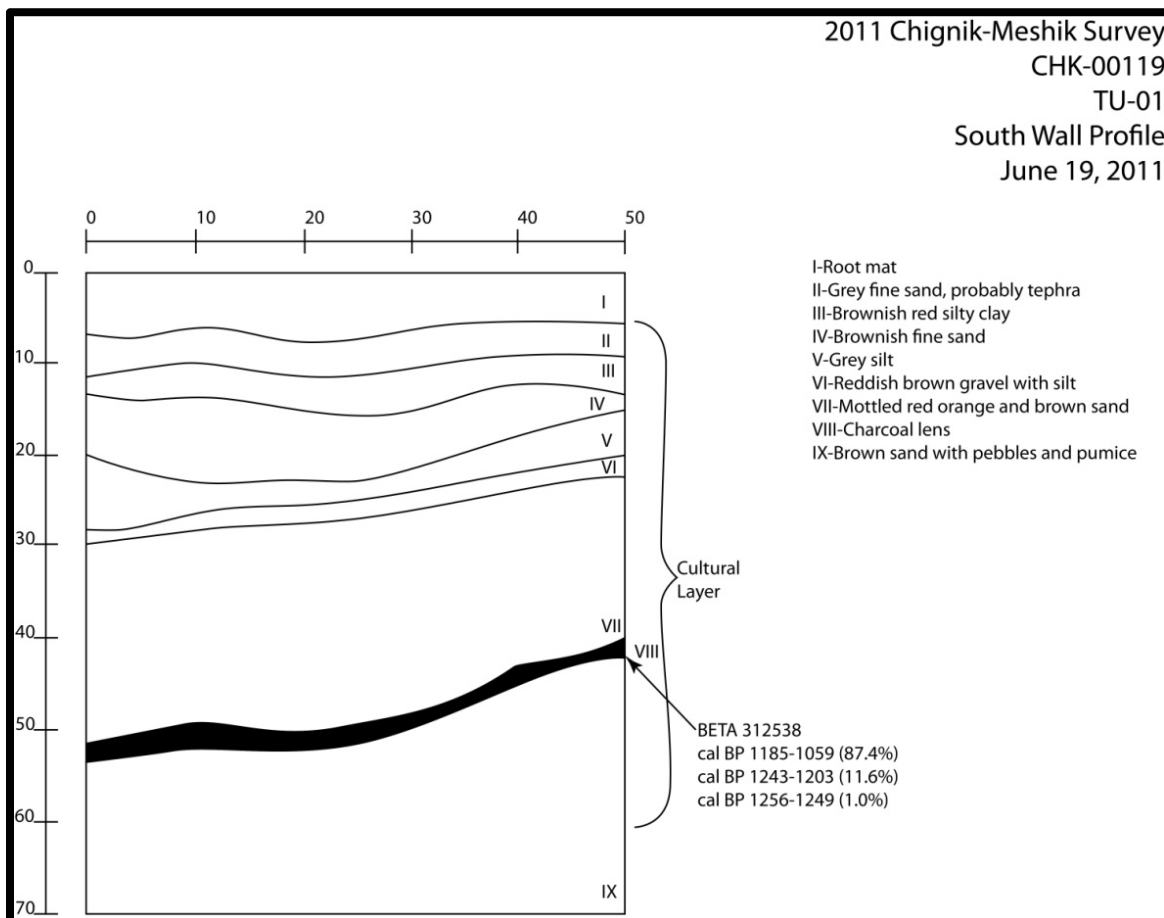


Figure 43: CHK-00119, TU-01, South Wall Soil Profile



Feature #11 at CHK-00119 is possibly a multi-room house feature but the surface expression is ambiguous (see Figure 42). Four Oakfield soil probes labeled as Pr01 through Pr04 were placed in what would be the main room of this feature. The soil profile from each of these four probes did not provide any indication that this depression is even culturally related. No artifacts were recovered and a charcoal rich stratigraphic layer was not encountered.

**CHK-00121** is located along the edge of the north side of the Meshik River valley in Aniakchak National Monument and Preserve near sites CHK-00058, CHK-00059, CHK-00113, and CHK-00120 (see Figure 2). This site is situated on a bedrock outcrop that rises approximately 5-10 meters above the valley floor and consists of a single historic trap that was found on the ground surface and collected (Figures 44 and 45). The trap was mostly buried by vegetation and was only found because a random four inch augur hole (AUG-011) was excavated close by. This trap is complete and appears to be diagnostic and is important because it documents historic use of the river valley which is a time period that is not well represented within the National Monument and Preserve.



Figure 44: Photograph showing an overview of CHK-00121



Figure 45: Photograph showing the historic trap that was found and collected at CHK-00121

## Alec River Valley

On June 21<sup>st</sup> we spent the day breaking Field Camp 1 in the Meshik River valley and setting up Field Camp 2 in the Alec River valley. We made this transition with helicopter support from Pollux Aviation with pilot Larry Larrivee. There are several creeks in this valley (Broad, Conglomerate, Cathedral, and Boulevard) that run into the Alec River which flows into Black Lake and feeds the Chignik River system. Ultimately the Chignik River flows into Chignik Bay on the Pacific Ocean side of the Alaska Peninsula. The Alec River valley is surrounded on three sides by rugged mountains that make up part of the Aleutian Range. Black Peak is directly north of this valley and Black Lake is to the west which opens up into a broad tundra plain that leads across the Peninsula to Bristol Bay. Mount Veniaminof is located to the southwest and can be seen from most parts in the Alec River valley on clear days. Field Camp 2 was placed in the upper portion of the valley near a small creek and pond (see Figure 3).

**CHK-00104** was the first site we visited in this area which is located on the right bank of Broad Creek approximately one kilometer above the confluence with Conglomerate Creek (see Figure 3). The site sits on a low river terrace just a few meters above Broad Creek approximately 14 kilometers due east of Black Lake (Figures 46 and 47). CHK-00104 was first recognized during fixed-wing aerial reconnaissance during the 2010 field season and one of the primary goals of placing Field Camp 2 in the Alec River valley was to visit this site on the ground in order to fully evaluate it (Shirar et al. 2010:49). There are 33 cultural depressions at this site and these represent a mix of cache pit and house features. There are two large house depressions, several smaller house depressions, and many cache pit-sized surface features (Figure 48). One interesting note about this site is the presence of dandelions (*Taraxacum* sp.), which we have not seen anywhere else in the project area (Figure 49). This is intriguing given that this site is far removed from any of the villages in the region. A total of two 50x50cm test units (TU-01 and TU-02) were excavated at this site.



Figure 46: Overview of CHK-00104, site circled in red, photo taken from ridge above the site



Figure 47: Overview of CHK-00104 facing west

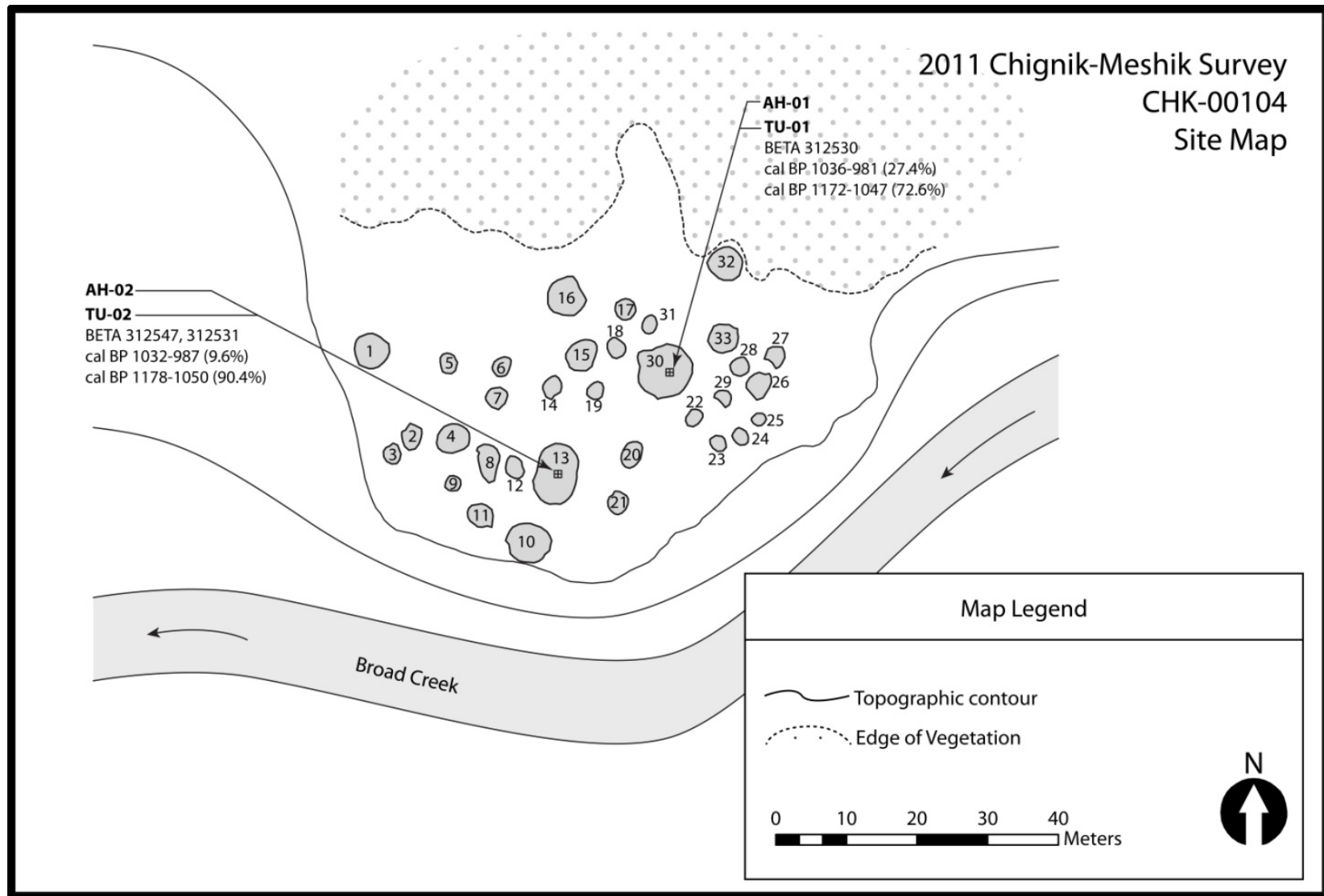


Figure 48: CHK-00104 Site Map

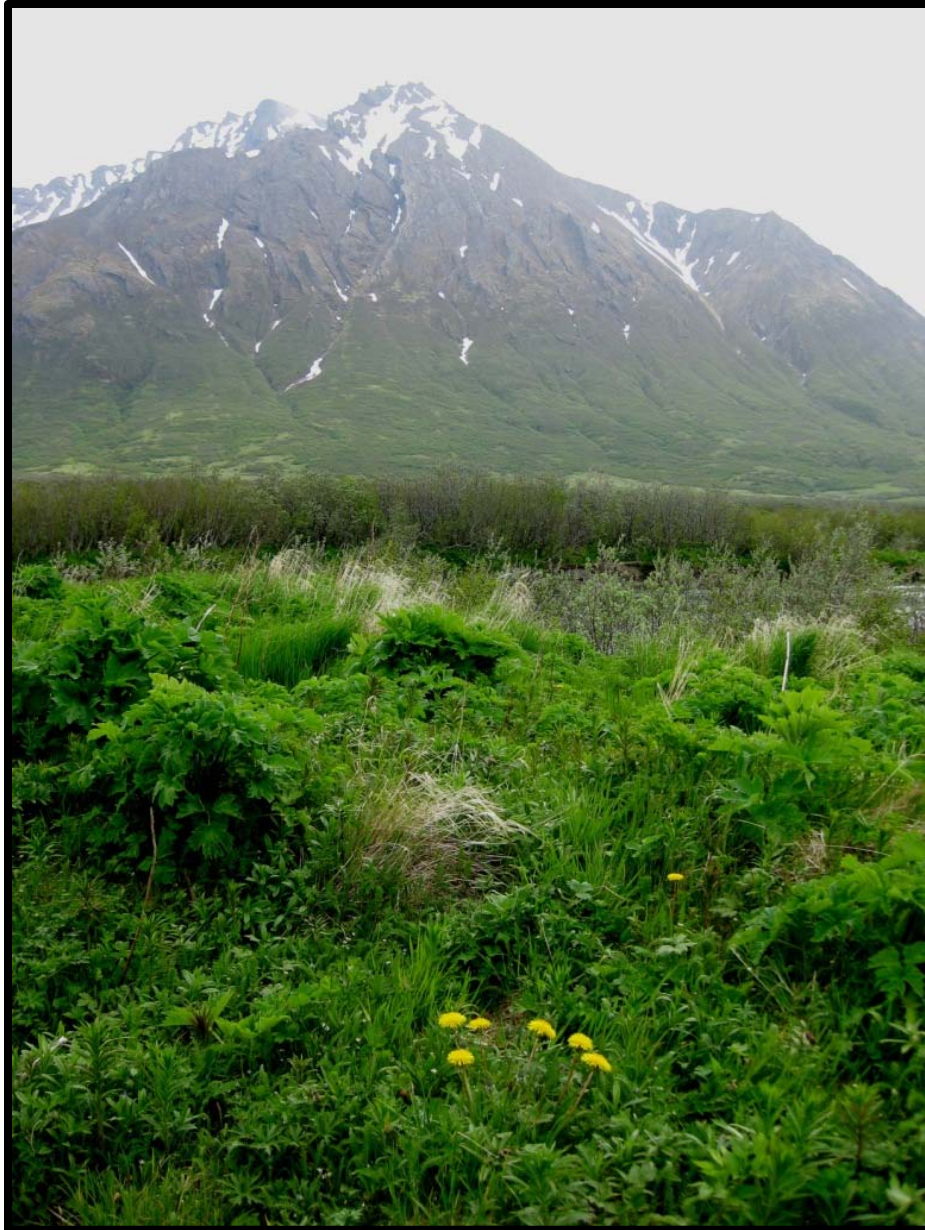


Figure 49: Photograph showing dandelions at CHK-00104

TU-01 was placed in the center of one of the large single room house depressions (Feature #13) (see Figure 48) and was positive for cultural material. Thirty-two basalt flakes were found between 10 and 40cmbs and a bifacially retouched basalt flake was collected at 28cmbs. Three charcoal samples were collected in TU-01 between 21 and 30cmbs. A piece of willow charcoal from 30cmbs was submitted for radiocarbon analysis and dates this feature to approximately 1100 years ago (Figures 48 and 50, Beta-312530).

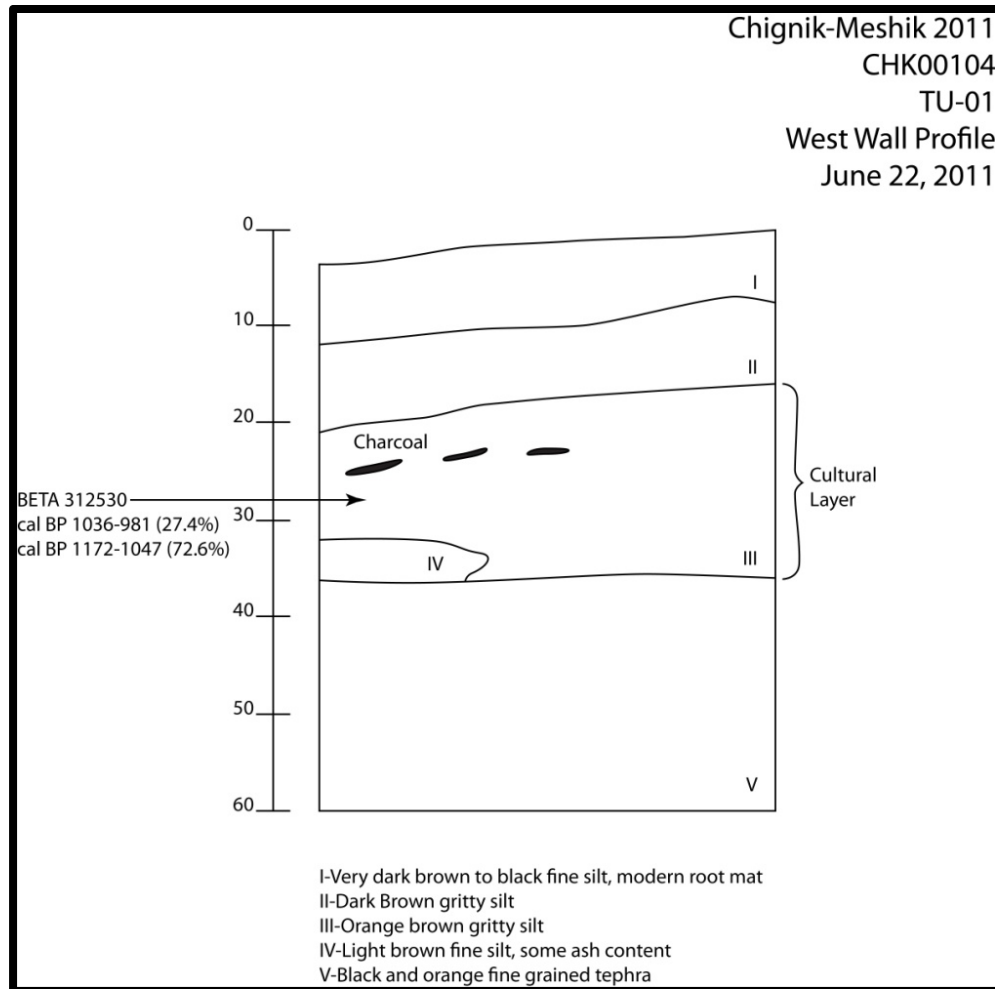


Figure 50: CHK-00104, TU-01, West Wall Soil Profile

The soil profile for this test unit shows several layers of silt and tephra down to a total depth of 60cmbs. An obvious house floor cannot be discerned in the TU-01 profile but there is a clear cultural zone between 15 and 35cmbs. A four inch bucket auger hole (AH-01) was excavated into the base of TU-01 down to 172cmbs and was simply a continuation of the “V” layer seen in the stratigraphic profile in Figure 50. No cultural material was recovered from this auger hole which was terminated after the water table was encountered.

TU-02 was placed in the center of the second large single room house depression (Feature #13) (see Figure 48) and was also positive for cultural material. A total of 122 basalt and chert flakes were recovered from this unit and a single basalt biface fragment collected between 40 and 50cmbs was the only tool found. Artifacts were found in every 10cm level between 20cmbs and 100cmbs. A majority of the cultural material (100 of the 122 flakes) was recovered between 50cmbs and 90cmbs. A total of ten charcoal samples were collected between 28 and 95cmbs in this test unit.

Given the depth of the cultural zone in this house feature two charcoal samples were submitted for C<sup>14</sup> analysis in order to test for multiple occupations. A piece of alder charcoal collected at 41cmbs (Beta-312547) and a piece of alder charcoal recovered from 95cmbs (Figures 48 and 51, Beta-312531) returned the exact same conventional radiocarbon age of 1180±30. The soil profile in TU-02 shows multiple layers of silt and tephra down to a total depth of 100cmbs. The stratigraphy in this unit differs greatly from what is seen in the TU-01 profile just 20 meters away. TU-02 does not illustrate a distinct house floor but artifacts are the densest between 50 and 90cmbs which corresponds with a jumbled section in the profile wall that likely represents the main cultural occupation of this house feature (Figures 51 and 52). A four inch auger hole (AH-02) was excavated into the base of TU-02 and extended down to a total depth of 196cmbs. No cultural material was recovered from this auger hole which was terminated when bedrock was encountered (Figure 53).

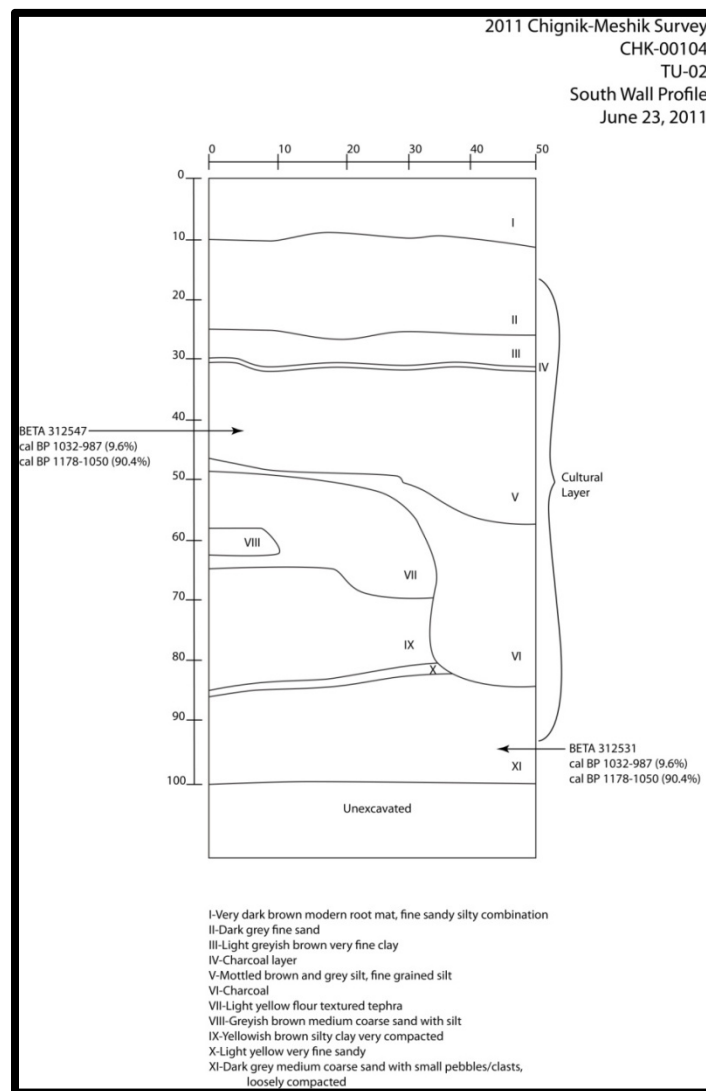


Figure 51: CHK-00104, TU-02, South Wall Soil Profile





Figure 52: Photograph of TU-02, South Wall Soil Profile

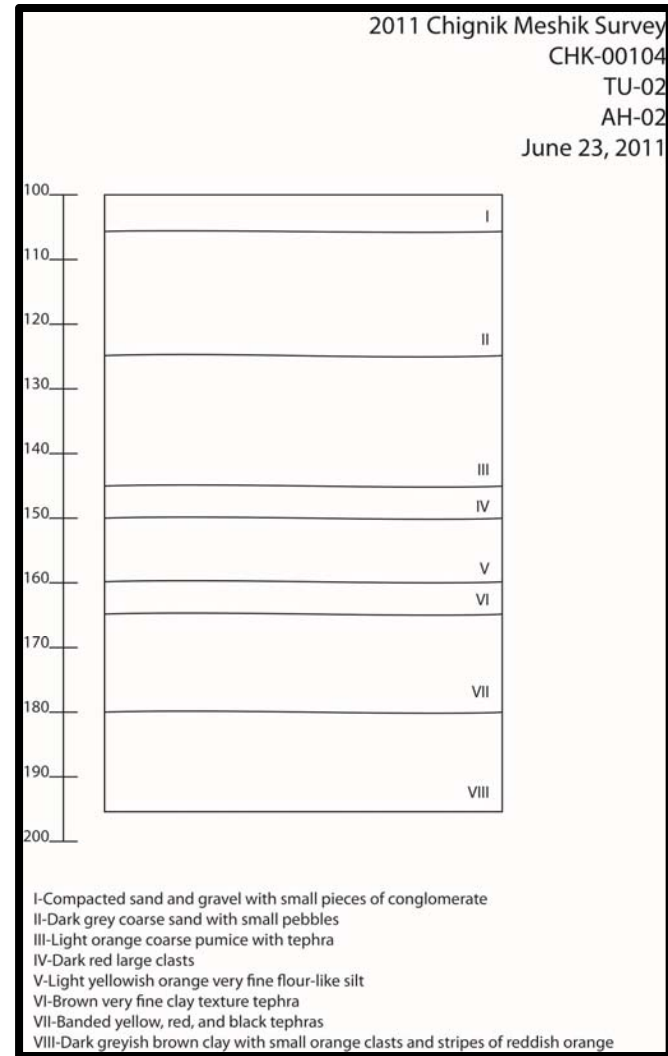


Figure 53: CHK-00104, TU-02, AH-02, Soil Profile

**CHK-00122** was first located and recorded during the 2011 field season and is situated in between CHK-00104 and CHK-00123 on a narrow river terrace that sits just three meters above the right bank of an unnamed creek (see Figure 3). This creek feeds into Broad Creek and drains a portion of the hills that make up the north side of the valley. This site consists of just four circular house depressions situated on a terrace that is 50 meters long and but only six to seven meters wide. A steep, prominent ridge rises up approximately 20 meters directly behind the site (Figure 54). Three of the four house depressions here are intact but one (Feature #7) has sustained erosion and only half of this house remains (Figure 55). The portion of Feature #7 that remains is currently in stable condition and there is no active erosion occurring at this site. A single 50x50cm test unit (TU-01) was excavated at CHK-00122.



Figure 54: Overview of CHK-00122, low terrace with house features is circled in red

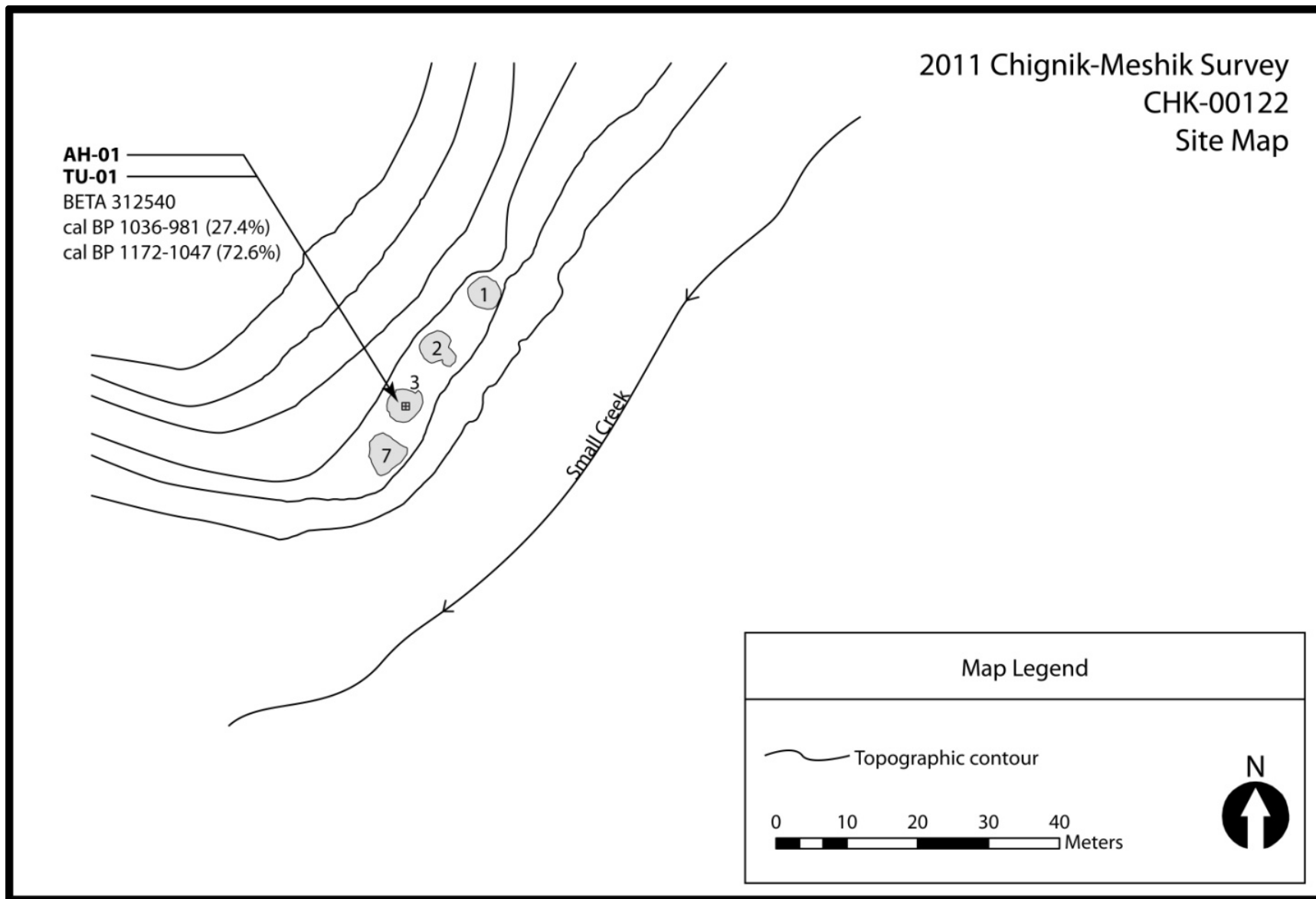


Figure 55: CHK-00122 Site Map

TU-01 was placed in the center of an intact house depression (Feature #3) (see Figure 55) and was positive for cultural material. A total of 147 basalt and chert flakes were recovered from this test unit along with two nearly complete basalt bifaces and a basalt biface fragment. A substantial pit shaped feature and a distinct house floor was encountered while excavating TU-01 and both are clearly visible in the west wall of the unit (Figures 56, 57, and 58). The charcoal rich matrix of this pit feature found between 37 and 62cmbs was excavated and screened separately, and a majority of the artifacts were found within this feature fill, although artifacts began showing up at 20cmbs. All three bifaces and 124 of the 147 flakes were recovered from the house floor and pit feature. A total of eight charcoal samples were collected between 30 and 48cmbs in this test unit. A piece of alder charcoal collected at 48cmbs was submitted for C<sup>14</sup> analysis and dates this house feature to about 1100 years ago (Figures 55 and 58, Beta-312540). A four inch auger hole (AH-01) was excavated into the base of TU-01 and extended down to a total depth of 175cmbs. Additional silt and tephra layers were recorded in this auger hole but no cultural material was recovered (Figure 59). AH-01 at CHK-00122 was terminated due to large rocks.



Figure 56: Top of pit feature/house floor in TU-01 (large basalt flake in-situ)



Figure 57: Pit feature as seen in west wall profile of TU-01

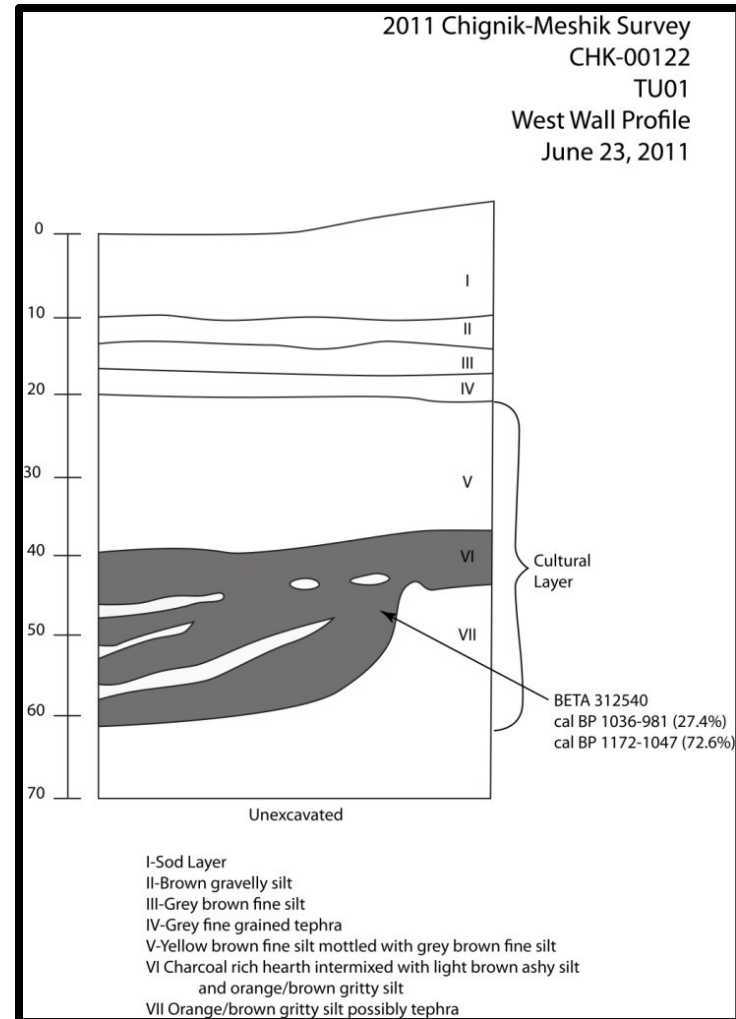


Figure 58: CHK-00122, TU-01, West Wall Soil Profile

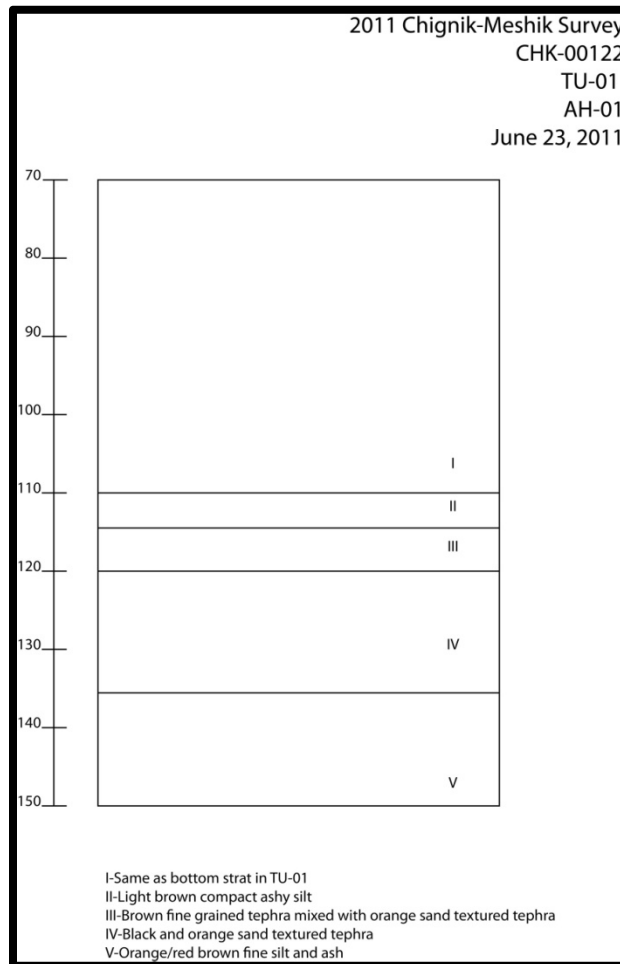


Figure 59: CHK-00122, TU-01, AH-01, Soil Profile

**CHK-00123** was first identified and recorded in 2011 and is approximately 750 meters west-southwest of CHK-00122 (see Figure 3). This site sits on a low terrace just two meters above the right bank of Broad Creek which flows right next to the site. CHK-00123 lies at the southwest point of a prominent southwest/northeast trending finger ridge which rises to an elevation of over 100 meters at its tallest point (Figure 60). There are a total of thirteen surface depressions here that represent a mix of cache pit and house features (Figure 61). Currently all of these features are intact but given the low setting of this site and its proximity to Broad Creek, erosion is likely going to affect this site sometime in the future. Two 50x50cm test units (TU-01 and TU-02) were excavated in two separate features at CHK-00123.



Figure 60: Overview of CHK-00123, low terrace with house features is circled in red

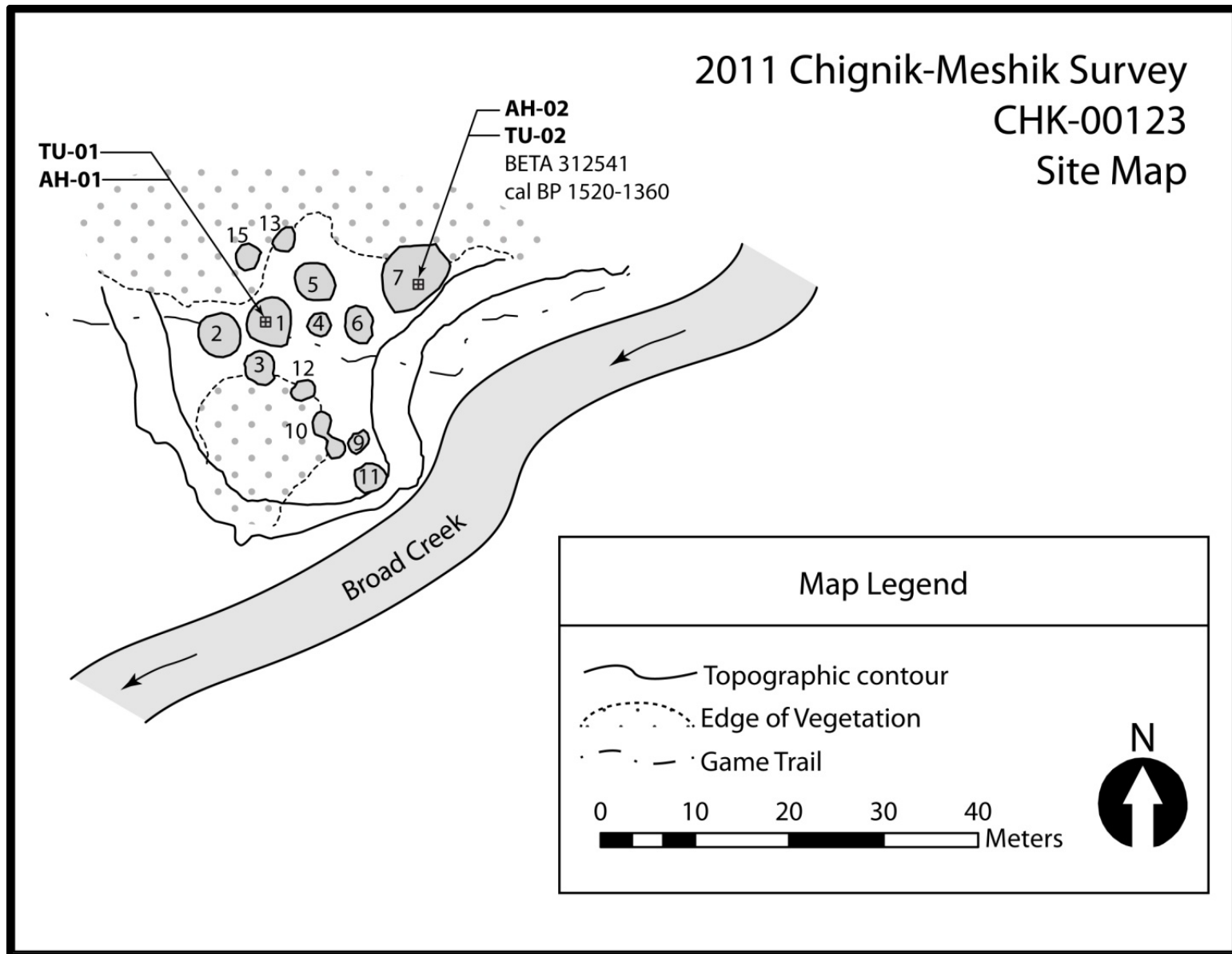


Figure 61: CHK-00123 Site Map



TU-01 was placed in the center of a depression thought to represent a house (Feature #1) (see see Figure 61) and was positive for cultural material. A single basalt flake was recovered between 50 and 60cmbs. A charcoal sample, identified as alder, was collected from 52cmbs and is associated with the cultural layer of this feature. This charcoal sample was not submitted for radiocarbon dating. The soil profile for this test unit shows several layers of silt and tephra down to a total depth of 68cmbs (Figure 62). The cultural layer in the south wall profile drawing is situated between 40 and 50cmbs but the charcoal and flake were collected between 50 and 60cmbs, indicating that the cultural layer in this feature is moderately sloped. The south wall profile also illustrates two thin layers of charcoal separated by a thin layer of coarse sand, a series that could represent two occupational episodes for this house. A four inch auger hole (AH-01) was excavated into the base of TU-01 revealing several more stratigraphic layers of silt, sand, and tephra (Figure 63). No additional cultural material was recovered from AH-01 which was terminated at 200cmbs when the water table was reached.

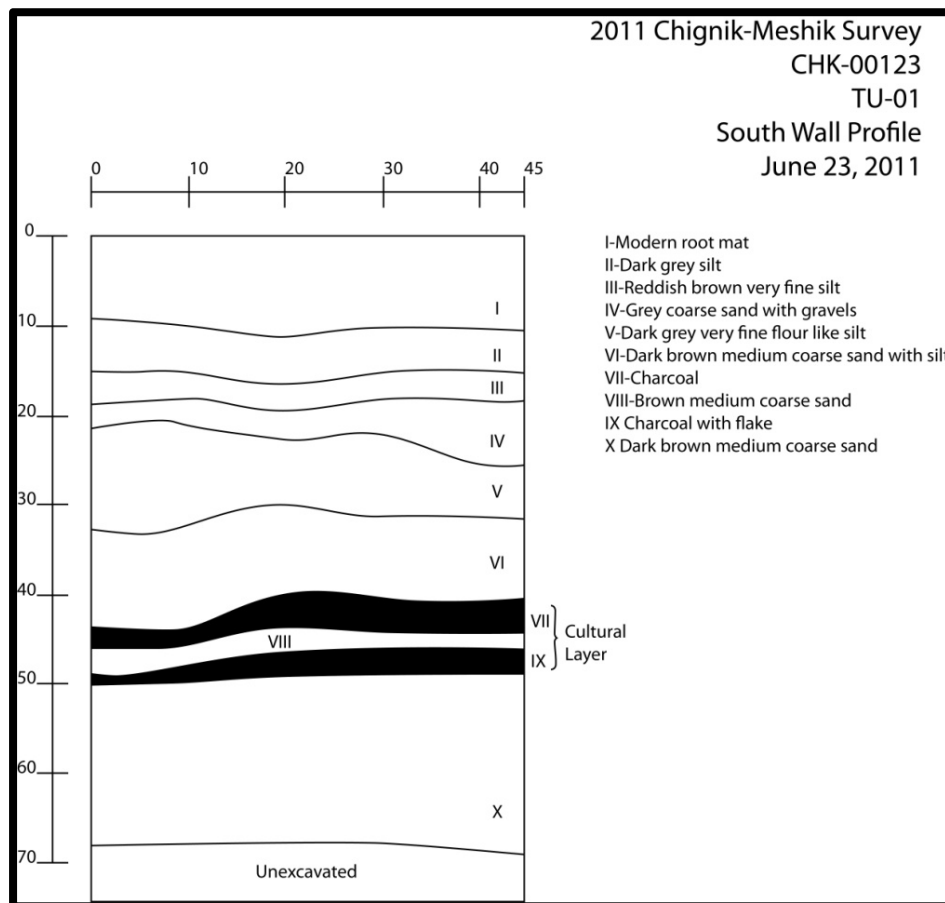


Figure 62: CHK-00123, TU-01, South Wall Profile

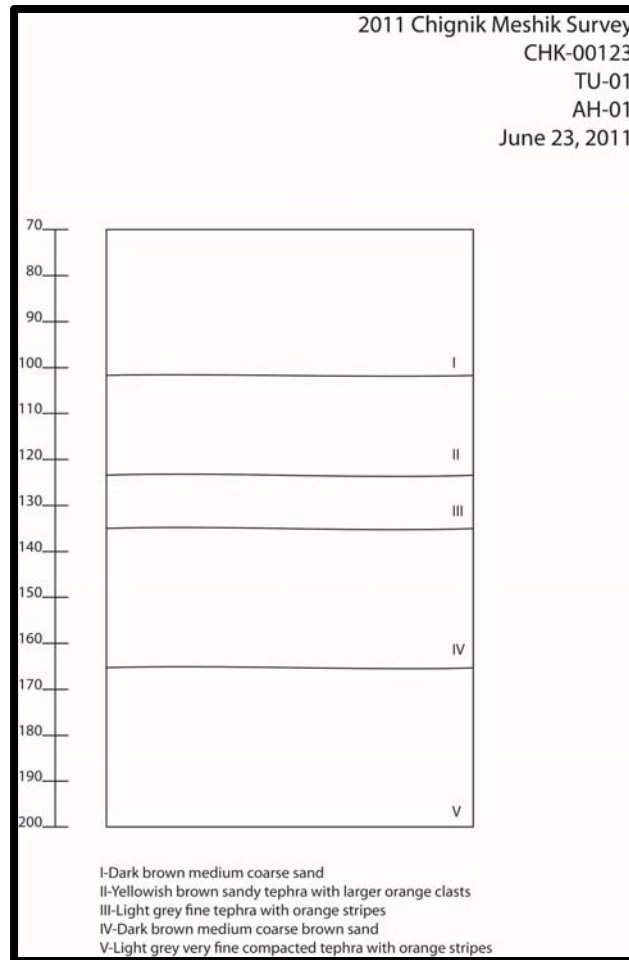


Figure 63: CHK-00123, TU-01, AH-01, Soil Profile

TU-02 was placed in the center of a large house depression (Feature #7) (see Figure 61) and was positive for cultural material. Eight chert and basalt flakes were found between 35 and 50cmb and were associated with a charcoal rich soil layer, which is the presumed house floor (Figure 64). Four charcoal samples were collected between 35 and 45cmb in this test unit. A piece of alder charcoal from 45cmb was submitted for radiocarbon analysis and dates this house feature to approximately 1500 years ago (Figures 61 and 65, Beta-312541). The soil profile for this test unit shows six different stratigraphic layers of silt and tephra down to a total depth of 65cmb (Figure 65). A four inch auger hole (AH-02) was excavated into the base of this test unit which showed several more layers of silt and tephra extending down to 190cmb (Figure 66). No cultural material was recovered from AH-02 which was terminated once the water table was encountered.



Figure 64: Top of charcoal rich cultural layer in TU-02

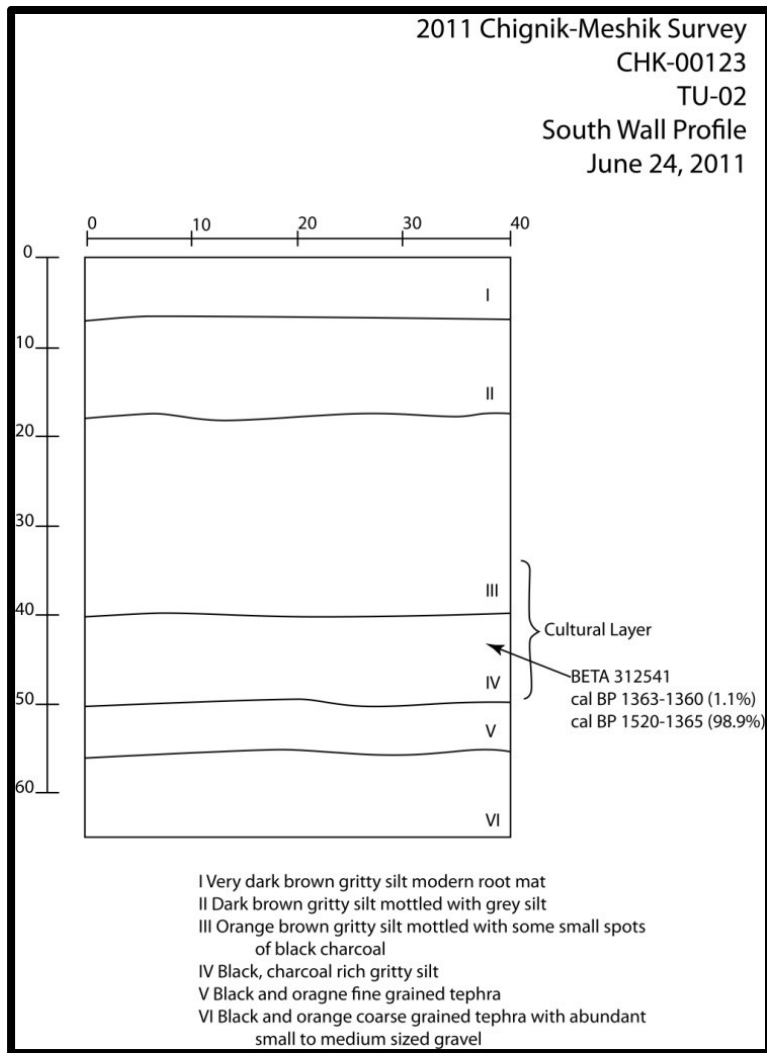


Figure 65: CHK-00123, TU-02, South Wall Soil Profile

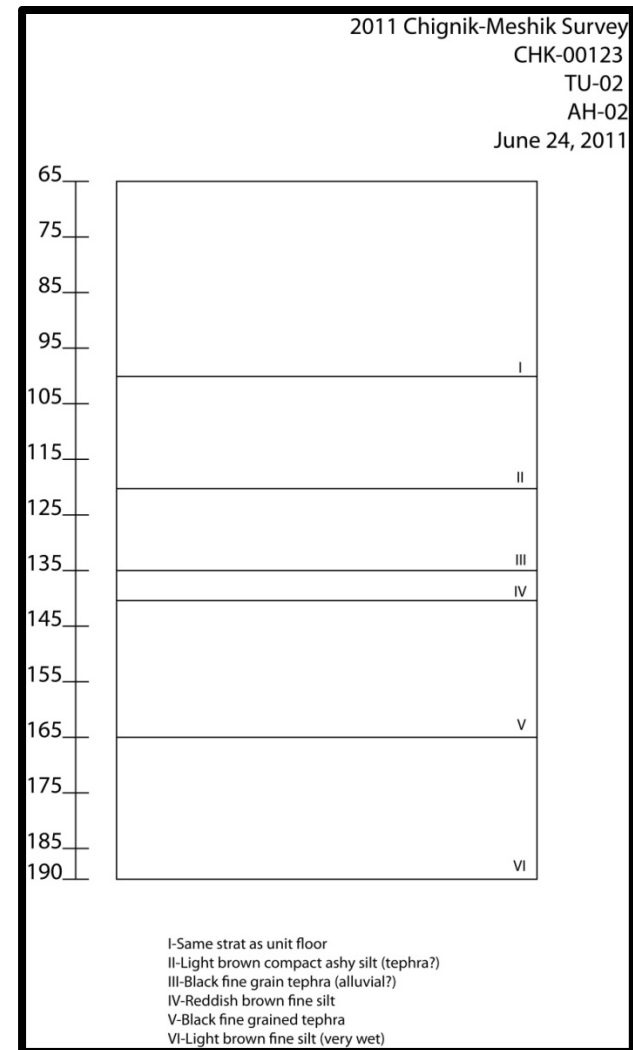


Figure 66: CHK-00123, TU-02, AH-02, Soil Profile

## Summary and Discussion

A total of 11 sites were visited and documented in the Chignik-Meshik Rivers region during the 2011 field season (Tables 1 and 2). Ten of these are village sites with cultural depressions visible on the surface and the eleventh is a newly discovered historic aged site (CHK-00121) in the Meshik River valley. Seven of these sites were first located and recorded during 2011 and the other four are sites that were known previously. Two of these were recorded in 2010 and the other two were recorded during the 1990s (Shirar et al. 2010; VanderHoek and Myron 2004). Collections were made from all eleven of these sites during the 2011 field season.

Of the eleven sites visited in 2011, CHK-00121 (the historic site) was the only one that was not tested. Twenty-one 50x50cm square test units were excavated during 2011 and each one was placed in a separate feature and ten different sites were tested (Table 3). All of the tested features are presumed to be single room houses and no obvious multi-room or “keyhole” style house features were recorded in 2011. There are ambiguous surface features at CHK-00120 and CHK-00119 that could be multi-room houses (see Figures 32 and 42) but these were not recognized as such when recorded on the ground. Artifacts were found and collected from 20 of the 21 features tested and charcoal was collected from 19 of the 21 features (Appendices 2 and 3) (Table 3).

A total of 74 charcoal samples were collected in 2011 (Appendix 3). Seventy of these were collected from features and are generally associated with the cultural occupation(s) of a site. The other four samples consist of natural charcoal collected from auger tests or charcoal that was found in test units clearly below the cultural layer. Thirty of these samples were submitted to Laura Crawford for identification at the University of Alaska Fairbanks and the results of this analysis are presented in Appendix 4. Each submitted sample consisted of a single piece of charcoal and all of the samples were successfully identified. The species of wood present include: alder (*Alnus*), birch (*Betula*), willow (*Salix*), cottonwood (*Populus*), and an unidentified angiosperm.

All ten of the village sites that were visited and tested during 2011 are currently stable and in generally good condition. CHK-00122 along Broad Creek has suffered from erosion, likely from the creek, during some period in the past which has since stabilized meaning the site is in no immediate danger. CHK-00123, also along Broad Creek, is located very close to the creek and several basalt flakes were found eroding out of the bank. None of the features at this site are currently washing away but the threat of erosion appears most immediate at this site. All of the sites in the Meshik River valley appear to be completely intact and are in no direct threat of natural or human-made disturbance.

Table 1: List of new sites recorded during the 2011 field season

AHRS #	Site Name	Location	Latitude	Longitude	GPS Datum	Description
CHK-00117	FC1101	Meshik River Valley	removed	removed	WGS 84	House depression
CHK-00118	LB1101-N	Meshik River Valley	removed	removed	WGS 84	House depressions
CHK-00119	LB1101-S	Meshik River Valley	removed	removed	WGS 84	House depressions
CHK-00120	JR1101	Meshik River Valley	removed	removed	WGS 84	House depressions
CHK-00121	SS1101	Meshik River Valley	removed	removed	WGS 84	Historic trap
CHK-00122	SS1102	Broad Creek	removed	removed	WGS 84	House depressions
CHK-00123	SS1103	Broad Creek	removed	removed	WGS 84	House depressions

Table 2: List of previously known sites that were tested during the 2011 field season

AHRS #	Site Name	Location	Latitude	Longitude	GPS Datum	Description
CHK-00058	CHK-00058	Meshik River Valley	removed	removed	WGS 84	House depressions
CHK-00059	CHK-00059	Meshik River Valley	removed	removed	WGS 84	House depressions
CHK-00104	D3	Broad Creek	removed	removed	WGS 84	House depressions
CHK-00113	D6	Meshik River Valley	removed	removed	WGS 84	House depressions

Table 3: Village sites and features tested and if artifacts and charcoal were found in each

<b>CHK-00058</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	28	Yes	Yes (n=2)
<b>CHK-00059</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	17*	Yes	Yes (n=2)
TU-02	Single room house	21**	Yes	Yes (n=5)
<b>CHK-00104</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	30	Yes	Yes (n=3)
TU-02	Single room house	13	Yes	Yes (n=10)
<b>CHK-00113</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	28	Yes	Yes (n=1)
TU-02	Single room house	65	Yes	Yes (n=5)
TU-03	Single room house	57	Yes	Yes (n=4)
TU-04	Single room house	48	Yes	Yes (n=6)
TU-05	Single room house	47	Yes	Yes (n=4)
TU-06	Single room house	72	No	No
TU-07	Single room house	59	Yes	Yes (n=3)
<b>CHK-00117</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	23	Yes	Yes (n=1)
<b>CHK-00118</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	13	Yes	Yes (n=3)
TU-02	Single room house	18	Yes	No
<b>CHK-00119</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	1	Yes	Yes (n=3)
<b>CHK-00120</b>				
Test Unit	Feature Type	Feature #	Artifacts	Charcoal
TU-01	Single room house	9	Yes	Yes (n=2)
TU-02	Single room house	19	Yes	Yes (n=2)
<b>CHK-00122</b>				
TU-01	Single room house	3	Yes	Yes (n=8)
<b>CHK-00123</b>				
TU-01	Single room house	1	Yes	Yes (n=1)
TU-02	Single room house	7	Yes	Yes (n=4)

\* VanderHoek and Myron's FT8 (2004:118)

\*\* VanderHoek and Myron's FT12 (2004:118)

The fact that these ten village sites are buried and intact indicates that additional testing in the future would be productive. Organic preservation is not great in the study region, illustrated by the fact that only six small, unidentifiable bone fragments were found in the 48 50x50cm test units excavated during the 2010 and 2011 fields seasons. Lithic artifacts were recovered from 20 of 21 test units (95%) and charcoal was found in 19 of the 21 units (90%) excavated during 2011. Further testing at these village sites would add to the lithic assemblage available for analysis and would also provide additional dateable material. No midden deposits were encountered at any of these villages but few test excavations were conducted outside of house features. Future work could focus more on testing outside of features in order to locate midden deposits but given the lack of organic preservation this would likely be unproductive. The artifact assemblage collected during 2011 is similar to what was collected in 2010 and consists of stone tools and debitage, charcoal samples, soil samples, and a single historic artifact. A complete catalog can be found in Appendix 2 at the end of this report.

The primary difference between these sites is size as opposed to feature types, artifact types, or artifact density. The ten villages that were visited in 2011 all contained similar looking single-room house features and cache pits which all date to the same 500 year period between 1500 and 1000 calBP. The assemblages collected from these sites are also comparable in that they consist mainly of basalt tools, basalt debitage, and charcoal samples. The densities of artifacts found are also roughly comparable and the site with the most artifacts is also the site where the most test units were excavated (CHK-00113). The main difference between these sites, at least on a superficial level, is size. CHK-00113 contains a total of 83 surface features, whereas the other nine sites have between three and 33 surface features. Of course this only includes sites visited during 2011. There is a site along the upper Chignik River (CHK-00105) recorded in 2010 which is of a comparable size to CHK-00113.

Feature #13 at CHK-00104 stands out from the other houses tested during 2011 due to the depth of the cultural deposit. Artifacts were found in this feature down to a depth of 100cm below the ground surface. The deepest cultural deposit out of all of the other features tested during 2011 was only 70cm below surface and in most instances much shallower. Initially it was believed there would be at least two components in this feature but two charcoal samples, separated stratigraphically by over a half a meter, returned the exact same radiocarbon age. More testing would need to happen in this feature before a thorough interpretation can be made as to why the cultural layer is so deep here.

A total of 21 radiocarbon dates were run on charcoal samples collected during the 2011 field season. Twenty of these dates were run on samples collected from nineteen different house features from ten different village sites (Table 4). Every feature that produced a charcoal sample in 2011 was



Table 4: A list of radiocarbon results for features tested during 2011

Site #	TU #	Feature #/Type	Depth	BETA #	Sample #	Species ID	13C/12C Ratio	Conventional Age	Calibrated Age
CHK-00058	TU-01	#28/single-room	43cmbs	312528	CS-003	alnus	-23.4‰	1620±30	BP 1568-1412 (99.4%) BP 1592-1588 (0.6%)
CHK-00059	TU-01	#17/single-room	56cmbs	312529	CS-004	alnus	-25.2‰	1490±40	BP 1514-1461 (10.3%) BP 1437-1434 (0.2%) BP 1420-1302 (89.5%)
CHK-00059	TU-02	#21/single-room	30cmbs	312542	CS-023	salix/populus	-25.5‰	1150±30	BP 1146-977 (95.7%) BP 1170-1158 (4.3%)
CHK-00104	TU-01	#30/single-room	30cmbs	312530	CS-005	salix/populus	-27.1‰	1160±30	BP 1036-981 (27.4%) BP 1172-1047 (72.6%)
CHK-00104	TU-02	#13/single-room	41cmbs	312547	CS-030	alnus	-25.2‰	1180±30	BP 1032-987 (9.6%) BP 1178-1050 (90.4%)
CHK-00104	TU-02	#13/single-room	95cmbs	312531	CS-009	alnus	-25.3‰	1180±30	BP 1032-987 (9.6%) BP 1178-1050 (90.4%)
CHK-00113	TU-01	#28/single-room	25cmbs	312544	CS-026	alnus	-25.8‰	1150±30	BP 1146-977 (95.7%) BP 1170-1158 (4.3%)
CHK-00113	TU-02	#65/single-room	29cmbs	312533	CS-011	alnus	-26.0‰	1580±30	BP 1535-1403
CHK-00113	TU-03	#57/single-room	50cmbs	312534	CS-012	alnus	-25.2‰	1550±30	BP 1524-1375
CHK-00113	TU-04	#48/single-room	31cmbs	312535	CS-013	alnus	-25.0‰	1280±30	BP 1156-1149 (1.0%) BP 1288-1171 (99.0%)
CHK-00113	TU-05	#47/single-room	34cmbs	312545	CS-027	salix/populus	-24.2‰	1490±30	BP 1416-1306 (98.5%) BP 1482-1470 (1.5%)
CHK-00113	TU-07	#59/single-room	25cmbs	312546	CS-028	alnus	-25.7‰	1430±30	BP 1376-1293
CHK-00113	Pr02	#27/single-room	17-21cmbs	312532	CS-010	alnus	-26.1‰	1470±30	BP 1403-1306
CHK-00117	TU-01	#23/single-room	33cmbs	312536	CS-014	alnus	-24.5‰	1570±30	BP 1529-1394
CHK-00118	TU-01	#13/single-room	35cmbs	312537	CS-015	alnus	-26.3‰	1230±30	BP 1189-1068 (67.4%) BP 1261-1198 (32.6%)
CHK-00119	TU-01	#1/single-room	45cmbs	312538	CS-016	alnus	-25.8‰	1210±30	BP 1185-1059 (87.4%) BP 1243-2103 (11.6%) BP 1256-1249 (1.0%)
CHK-00120	TU-01	#9/single-room	33cmbs	312539	CS-017	alnus	-25.3‰	1560±30	BP 1526-1385
CHK-00120	TU-02	#19/single-room	36cmbs	312543	CS-024	alnus	-23.7‰	1510±30	BP 1322-1319 (0.3%) BP 1421-1326 (83.0%) BP 1441-1433 (1.2%) BP 1515-1459 (15.5%)
CHK-00122	TU-01	#3/single-room	48cmbs	312540	CS-019	alnus	-25.6‰	1160±30	BP 1036-981 (27.4%) BP 1172-1047 (72.6%)
CHK-00123	TU-02	#7/single-room	45cmbs	312541	CS-021	alnus	-24.9‰	1540±30	BP 1363-1360 (1.1%) BP 1520-1365 (98.9%)
n/a	AUG-016	natural	170cmbs	312527	CS-001	alnus	-26.3‰	3590±30	BP 3977-3832

dated and only Feature #13 at CHK-00104 was dated twice. All 20 of these dates fall between 1500 and 1000 calBP which shows that these single room houses were built and occupied during the same 500 year time period. These single room houses, at least from a dating standpoint, relate to other sites on the central Alaska Peninsula defined as the “Norton” cultural group. Analyses still need to be conducted to see whether the artifact assemblages from these features back this up this cultural affiliation.

Between 2010 and 2011 a total of 36 radiocarbon dates have been run on 32 separate features from 18 different sites in the Chignik and Meshik River valleys (Figure 67). Looking at these 36 dates together with all of the other dated cultural components from the central Alaska Peninsula, a general pattern of land use in the region is beginning to emerge. The pattern is characterized by periods of occupation followed by periods of abandonment followed again by periods of human re-colonization and occupation. The extent to which the periods of abandonment are the result of volcanic activity is the subject of ongoing research, the results of which will be presented in future reports.

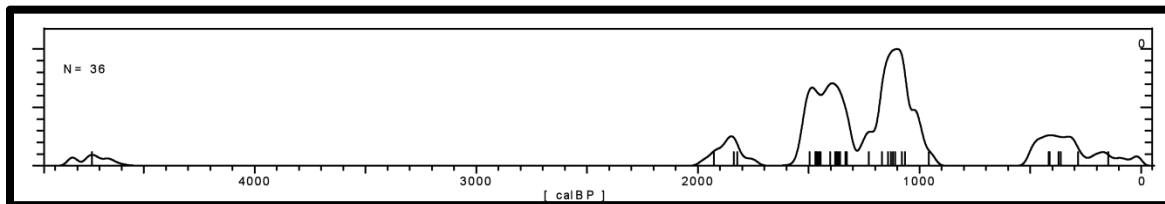


Figure 67: Summed probability distribution of all calibrated radiocarbon age estimates made on archaeological charcoal recovered from the project area in 2010 and 2011. Calibrations here were compiled with the CalPal software package (Weninger et al. 2007 ) and the INTCAL09 calibration curve (Reimer et al. 2009).

Summed probability distributions of calibrated radiocarbon dates illustrate periods of occupation and abandonment of both specific sites and entire regions (e.g. Weninger, et al. 2006). Because these probability distributions illustrate the shape of a tree-ring calibrated measurement (or compilation of measurements) they are preferable to binned histograms of radiocarbon ages, which impose potentially misleading statements about the priority of estimates within a distribution (Weninger 1986; Weninger et al. 2011). The most important features of a summed probability distribution are the valleys, which illustrate the limited probability that any samples date within the range of the valley. By extension, if valleys appear in the summed probability distribution of radiocarbon estimates from the study region, it follows that the probability is low to nil that any one of the sites or features sampled herein was occupied during those intervals.

Eight key insights emerge from the distribution presented in Figure 67: 1) Chignik Lake was occupied somewhere from 4850 to 4600 calBP; this is the only evidence for human occupation of the study region prior to the massive eruptions of the Veniaminof and Aniakchak volcanoes. 2) The study

region was unoccupied for more than 2000 years, presumably in the wake of these eruptions. 3) The region was re-colonized soon after 2000 calBP, and occupied for perhaps 300 years. 4) There is a gap in the record from 1700-1600 calBP. 5) Whether or not this brief gap in the record is a function of sampling, the evidence for human activity increases dramatically after 1600 calBP and remains stable until ~1300 calBP when there is a minor anomaly in the curve. 6) Evidence for human activity in the region is abundant until 900 calBP, but then disappears completely. 7) Another significant gap in the record occurs from 900-550 calBP. The duration and severity of this hiatus suggests another period of ecological disturbance, possibly linked to Late Holocene volcanism. 8) The region is once again colonized, after 500 calBP.

To evaluate the spatial variation in occupation, abandonment, and re-occupation we divide the Central Alaska Peninsula into discreet analysis areas corresponding to major drainages (King Salmon and Dog Salmon Rivers, Meshik River, Chignik River) and the Pacific Coast (Figure 68). A compilation of all

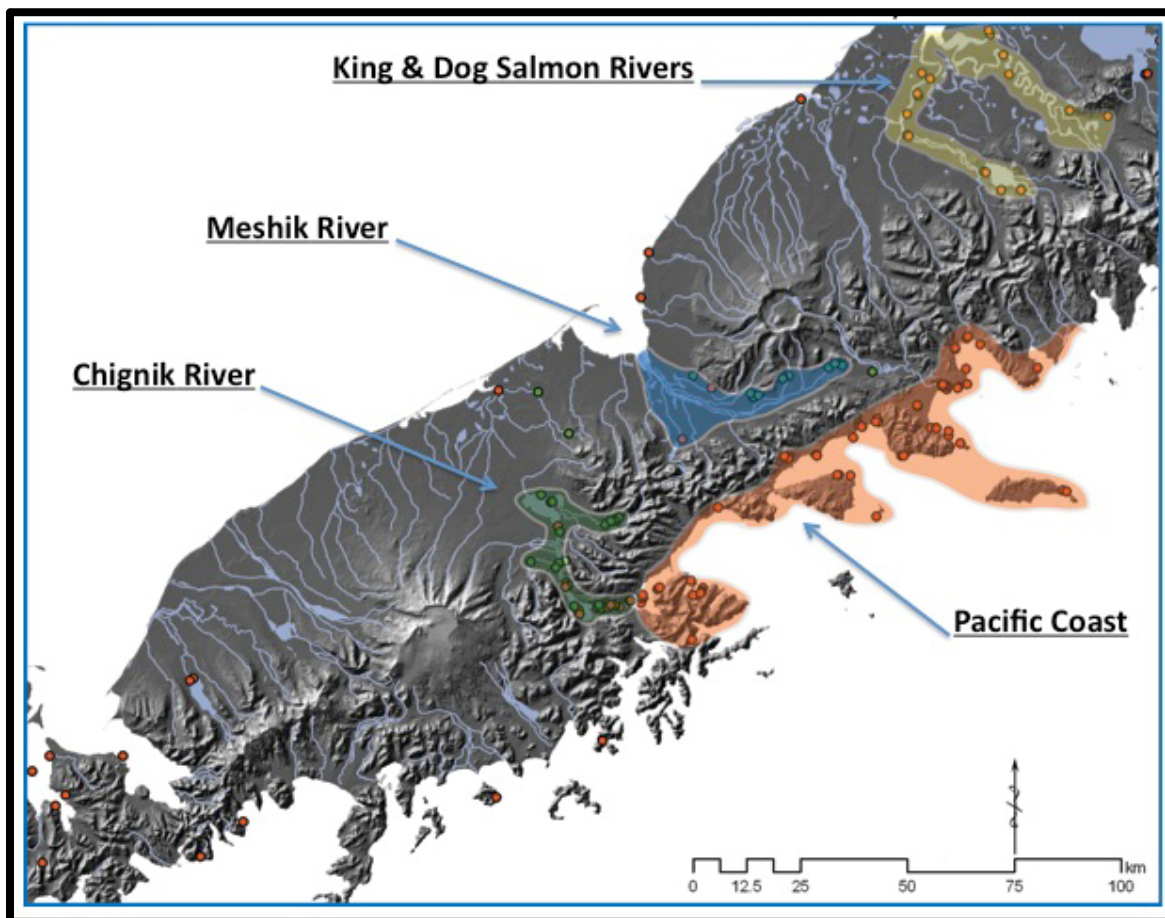


Figure 68: Analysis areas for the evaluation of spatial and temporal patterns.

published or otherwise available radiocarbon age estimates from archaeological sites throughout the region (this project included) was then parsed into different analysis areas, calibrated, and compared graphically (Figure 69). This expands the sample size for evaluating the history of human settlement, and eliminates sampling bias unique to this project. The total aggregate of radiocarbon age estimates (“All Central Pen” in Figure 69) reiterates much of the pattern illustrated by the 36 samples provided by this project, with a few notable and important exceptions best illustrated by a closer look at spatial variation.

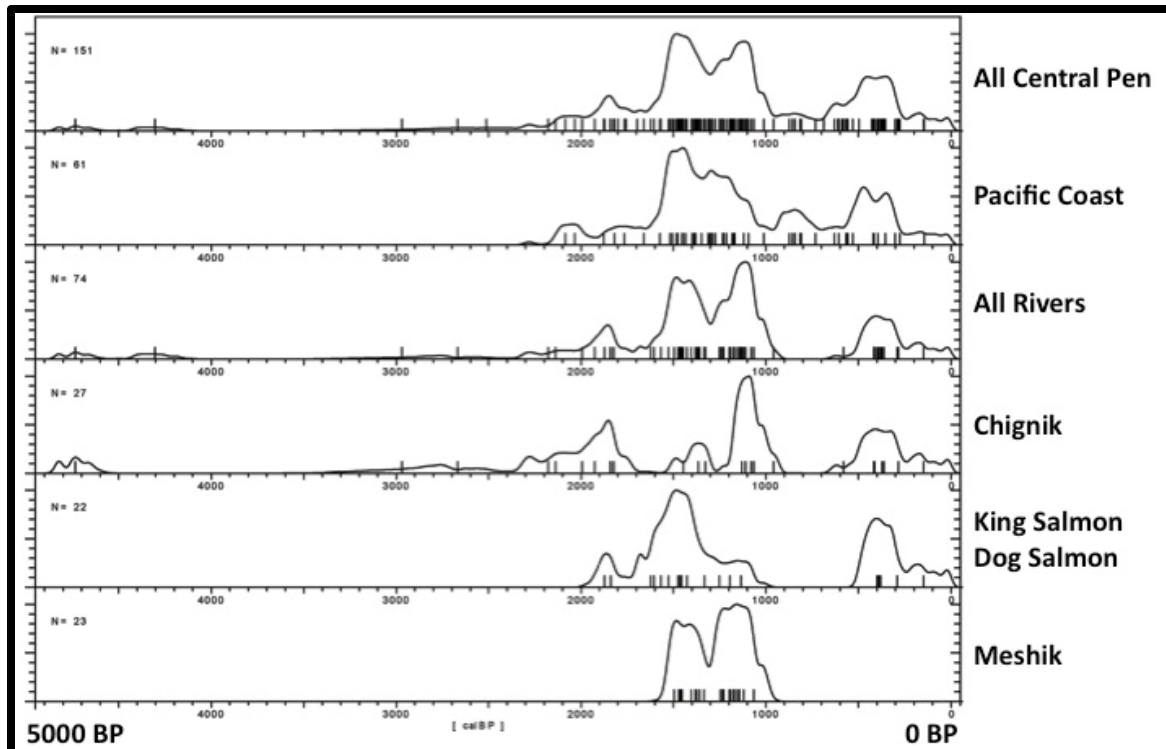


Figure 69: Summed probability distributions of calibrated radiocarbon age estimates from different analysis areas, and aggregated analysis areas, compiled from the current and pre-existing studies (Corbett 1995; Dumond 1987, 1992; Hoffman 2009; Hoffman and Smith 2007a, b; Saltonstall and Steffian 2009; Saltonstall, et al. 2011; VanderHoek and Myron 2004; and various unpublished dates reported to the Alaska Historic Resource Survey).

First, pre-eruption occupation of the region is exceedingly rare, the nearest non-project example coming from the Ugashik region, nearly 100 km northeast of the project area. Second, there is no evidence anywhere of human activity amidst the main interval of mid-Holocene volcanism, and the earliest evidence of re-colonization anywhere is at ~3000 calBP at Chignik Lake, some 700-1000 years afterwards. Even this seems fleeting however as no evidence for significant activity registers in the Chignik River valley until 2350 calBP, 2200 calBP on the Pacific Coast, 2000 calBP in the Dog and King Salmon River drainage, and finally after 1600 calBP in the Meshik system. In each of the analysis areas,

the most significant pulse in activity begins after 2000 calBP, but the shape of the curve from 2000-1000 calBP varies from place to place. Perhaps the most informative disparity in regional settlement patterns appears in a comparison of the coastal and riverine data (“Pacific Coast” versus “All Rivers” in Figure 69). Both regions are effectively recolonized at about the same time, well after the major eruptions, and both experience a significant peak in activity in the millennium after 2000 calBP. However, only the river systems are abandoned after 1000 calBP. That human activity persists along the Pacific Coast (albeit in lower frequency than during the preceding millennium) but desists along the rivers likely illustrates an important point about the difference between coastal and riverine habitats and the resilience of their biotic resources. If indeed there was a period of volcanic activity ca. 1000 years BP, the bioproductivity of these peninsular rivers may have dwindled, perhaps as a function of volcanic fall-out, whereas coastal ecosystems (characterized by a greater diversity and variability of seasonal and migratory taxa) retained a level of productivity suitable for human survival. Lastly, both of these disparate habitats experienced a pulse of occupation after 500 calBP. The uniform increase in activity in both regions at this time may point to an influx of people from further afield, rather than a uniform rebound of ecosystem function, precisely because the characteristics of coastal and riverine environments are so different. Further evaluation of these propositions will be the subject of further data collection, analysis, and interpretation in the coming years.

A major effort of the 2011 field season was to focus on trying to locate pre-eruption sites within the study area (i.e. sites older than ~4000 BP) (Shirar and Rasic 2011). The strategy for accomplishing this goal was to test old landforms including ancient coastlines and glacial uplands located within walking distance of the two field camps. Testing in these types of locations was completed using two different methods. One method was to excavate an approximately 30x30cm shovel test pit as deep as possible and screen all of the soil through ¼” mesh. The second method was to excavate a four inch bucket auger hole as deep as possible into promising landforms. Two four foot extensions allowed the bucket auger to extend much deeper than the shovel test pits. In order to test for deeper cultural deposits, bucket auger holes were also placed into the base of several of the test units excavated at the village sites during 2011.

Altogether a total of 31 30x30cm shovel test pits were excavated (Appendix 5), 19 four inch bucket auger holes were excavated into promising landforms (Appendix 6), and 14 four inch bucket auger holes were excavated into the base of test units (Appendix 7). Unfortunately no cultural material was recovered from any of these shovel test pits or bucket augers. All of the soil profiles associated with

test unit bucket augers are presented in the body of this report. Soil profiles for the other 19 auger holes and all of the 31 shovel test pits were also digitized and are presented in Appendix 8.

Although no artifacts were found in any of these tests, three pieces of non-cultural charcoal were recovered from bucket augers. One of these three samples was recovered from bucket auger AUG-016 on an ancient shoreline near field camp 1 from a depth of 170cm below ground surface at a contact between two stratigraphic layers. This sample was identified as alder and was radiocarbon dated to 3977-3832 calBP. This date falls in between the major Aniakchak (3700 calBP) and Veniaminof (4000 calBP) volcanic events.

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## **Appendix 1: 2011 Project Timeline**

Table 5: 2011 Chignik-Meshik field work timeline

Date	Valley	Site Visited	Test Units	Crew Members	Activities
June 10 <sup>th</sup>	Meshik	None	None	LB, SS, SC, FC, JR	Field Camp 1 setup
June 11 <sup>th</sup>	Meshik	CHK-00113	TU-01, TU-02	LB, SS, SC, FC, JR	Site relocation, testing, and mapping
June 12 <sup>th</sup>	Meshik	CHK-00113	TU-03, TU-04	LB, SS, SC, FC, JR	Site testing and auguring
June 13 <sup>th</sup>	Meshik	CHK-00113	TU-04, TU-05	LB, SS, SC, FC, JR	Site testing and auguring
June 13 <sup>th</sup>	Meshik	CHK-00059	TU-01, TU-02	LB, SS, SC, FC, JR	Site relocation, testing, and mapping
June 14 <sup>th</sup>	Meshik	CHK-00059	TU-01, TU-02	LB, SS, SC, FC, JR	Site testing and auguring
June 14 <sup>th</sup>	Meshik	CHK-00058	TU-01	SS, SC	Site relocation, testing, and mapping
June 14 <sup>th</sup>	Meshik	CHK-00117	TU-01	LB, FC, JR	Site testing, auguring, and mapping
June 15 <sup>th</sup>	Meshik	CHK-00058	TU-01	LB, SC, FC	Site testing, auguring, and mapping
June 15 <sup>th</sup>	Meshik	CHK-00120	None	SS, JR	Spike Camp 1 setup, auguring, pedestrian survey
June 15 <sup>th</sup>	Meshik	CHK-00113	TU-06, TU-07	LB, SC, FC	Site testing, auguring, and probing
June 16 <sup>th</sup>	Meshik	None	None	SS, JR	Auguring, weather day
June 16 <sup>th</sup>	Meshik	None	None	LB, SC, FC	Weather day
June 17 <sup>th</sup>	Meshik	CHK-00120	TU-01, TU-02	SS, JR	Site testing, auguring, and mapping
June 17 <sup>th</sup>	Meshik	CHK-00118 CHK-00119	None	LB, SC, FC	Site relocation, mapping, and probing
June 18 <sup>th</sup>	Meshik	None	None	LB, SS, JR	Pedestrian survey and auguring
June 18 <sup>th</sup>	Meshik	CHK-00118	TU-01	SC, FC	Spike Camp 2 setup, site testing and mapping
June 19 <sup>th</sup>	Meshik	CHK-00121	None	LB, SS, JR	Site mapping, auguring, pedestrian survey
June 19 <sup>th</sup>	Meshik	CHK-00118	TU-01, TU-02	SC, FC	Site testing and auguring
June 19 <sup>th</sup>	Meshik	CHK-00119	TU-01	SC, FC	Site mapping, testing, auguring, and probing
June 20 <sup>th</sup>	Meshik	None	None	LB, SS, JR	Field collection inventory, logistics
June 20 <sup>th</sup>	Meshik	CHK-00119	TU-01	SC, FC	Site mapping and testing
June 21 <sup>st</sup>	Meshik/Alec	None	None	LB, SS, SC, FC, JR, JJ	Field Camp 1 breakdown, Field Camp 2 setup
June 22 <sup>nd</sup>	Alec	CHK-00104	TU-01, TU-02	JJ, SS, SC, FC, JR	Site mapping, testing, auguring, and pedestrian survey
June 23 <sup>rd</sup>	Alec	CHK-00104	TU-02	JJ, SC, JR	Site testing, auguring, and pedestrian survey
June 23 <sup>rd</sup>	Alec	CHK-00122	TU-01	SS, FC	Site mapping, testing, auguring, and pedestrian survey
June 23 <sup>rd</sup>	Alec	CHK-00123	TU-01	JJ, SC, JR	Site mapping, testing, auguring, and pedestrian survey
June 23 <sup>rd</sup>	Alec	CHK-00123	TU-02	SS, FC	Site testing and auguring
June 24 <sup>th</sup>	Alec	None	None	JJ, SC, JR	Pedestrian Survey
June 24 <sup>th</sup>	Alec	CHK-00123	TU-02	SS, FC	Site testing, auguring, and pedestrian survey
June 25 <sup>th</sup>	Alec	None	None	JJ, SS, SC, FC, JR	Pedestrian survey
June 26 <sup>th</sup>	Alec	None	None	JJ, SS, SC, FC, JR	Pedestrian survey
June 27 <sup>th</sup>	Alec	None	None	JJ, SS, SC, FC, JR	Pedestrian survey
June 28 <sup>th</sup>	Alec	None	None	JJ, SS, SC, FC, JR	Break Field Camp 2

## **Appendix 2: List of artifact collections made in 2011**

Table 6: List of artifacts collected during 2011

AHRS #	Common Name	TU	Feature #	Date	Collector	Depth	Description
CHK-00058	Flake Lot	TU-01	28	6/14/11	SC/SS	20-25cmbs	3 Flakes
CHK-00058	Flake Lot	TU-01	28	6/14/11	SC/SS	25-30cmbs	3 Flakes
CHK-00058	Flake	TU-01	28	6/14/11	SC/SS	30-35cmbs	1 Flake
CHK-00058	Flake Lot	TU-01	28	6/14/11	SC/SS	35-40cmbs	2 Flakes
CHK-00058	Hammerstone	TU-01	28	6/14/11	SC/SS	40-45cmbs	Hammerstone
CHK-00058	Flake Lot	TU-01	28	6/14/11	SC/SS	40-45cmbs	23 Flakes
CHK-00058	Flake	TU-01	28	6/14/11	SC/SS	40cmbs	1 Flake
CHK-00058	Flake	TU-01	28	6/14/11	SC/SS	40cmbs	1 Flake
CHK-00058	Flake	TU-01	28	6/14/11	SC/SS	42cmbs	1 Chalcedony Flake
CHK-00058	Flake	TU-01	28	6/14/11	SC/SS	45-50cmbs	1 Flake
CHK-00059	Flake Lot	TU-01	17	6/13/11	LB/JR	10-20cmbs	5 Flakes
CHK-00059	Flake Lot	TU-01	17	6/13/11	LB/JR	30-40cmbs	2 Flakes
CHK-00059	Flake	TU-01	17	6/13/11	LB/JR	50-60cmbs	1 Flake
CHK-00059	Flake Lot	TU-01	17	6/13/11	LB/JR	60-70cmbs	6 Flakes
CHK-00059	Flake Lot	TU-02	21	6/13/11	FC/SC	20-30cmbs	3 Flakes
CHK-00059	Flake Lot	TU-02	21	6/13/11	FC/SC	27cmbs	3 Pieces of Angular Shatter
CHK-00059	Flake Lot	TU-02	21	6/13/11	FC/SC	30-40cmbs	23 Flakes
CHK-00059	Bone Lot	TU-02	21	6/13/11	FC/SC	30-40cmbs	4 Bone Fragments
CHK-00059	Flake Lot	TU-02	21	6/13/11	FC/SC	30cmbs	2 Pieces of Angular Shatter
CHK-00059	Flake Lot	TU-02	21	6/13/11	FC/SC	40-50cmbs	3 Flakes
CHK-00104	Flake Lot	TU-01	30	6/22/11	SC/SS	10-20cmbs	5 Flakes
CHK-00104	Flake Lot	TU-01	30	6/22/11	SC/SS	20-30cmbs	11 Flakes
CHK-00104	Retouched Flake	TU-01	30	6/22/11	SC/SS	28cmbs	1 Retouched Flake
CHK-00104	Flake Lot	TU-01	30	6/22/11	SC/SS	30-40cmbs	16 Flakes
CHK-00104	Flake	TU-02	13	6/22/11	JR/FC	20-30cmbs	1 Flake
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	30-40cmbs	4 Flakes
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	40-50cmbs	5 Flakes
CHK-00104	Biface Fragment	TU-02	13	6/22/11	JR/FC	40-50cmbs	1 Biface Fragment
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	50-60cmbs	19 Flakes
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	60-70cmbs	19 Flakes
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	70-80cmbs	40 Flakes
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	80-90cmbs	22 Flakes
CHK-00104	Flake Lot	TU-02	13	6/22/11	JR/FC	90-100cmbs	2 Flakes
CHK-00113	Flake Lot	NA	NA	6/12/11	FC/SS	Surface	4 Flakes from Squirrel Backdirt

AHRS #	Common Name	TU	Feature #	Date	Collector	Depth	Description
CHK-00113	Flake Lot	Pr02	27	6/15/11	LB	17-21cmbs	5 Flakes
CHK-00113	Flake	TU-01	28	6/11/11	JR/SC	25cmbs	1 Flake Associated with Charcoal
CHK-00113	Flake Lot	TU-01	28	6/12/11	JR/SC	30-40cmbs	4 Flakes
CHK-00113	Flake Lot	TU-01	28	6/11/11	JR/SC	30cmbs	4 Flakes
CHK-00113	Flake	TU-01	28	6/12/11	JR/SC	40-50cmbs	1 Flake
CHK-00113	Flake Lot	TU-02	65	6/11/11	FC/SS	25-30cmbs	2 Flakes
CHK-00113	Flake	TU-02	65	6/11/11	FC/SS	25cmbs	1 Flake
CHK-00113	Flake Lot	TU-02	65	6/11/11	FC/SS	30-35cmbs	1 Basalt Flake and 1 Obsidian Flake
CHK-00113	Flake Lot	TU-03	57	6/12/11	FC/SS	10-15cmbs	2 Flakes
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	15-20cmbs	1 Flake
CHK-00113	Flake Lot	TU-03	57	6/12/11	FC/SS	35-40cmbs	5 Flakes
CHK-00113	Flake Lot	TU-03	57	6/12/11	FC/SS	40-45cmbs	5 Flakes
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	43cmbs	1 Flake
CHK-00113	Flake Lot	TU-03	57	6/12/11	FC/SS	45-50cmbs	2 Flakes
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	48-60cmbs	1 Flake
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	48cmbs	1 Flake
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	48cmbs	1 Flake
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	49cmbs	1 Chalcedony Flake
CHK-00113	Flake Lot	TU-03	57	6/12/11	FC/SS	50-55cmbs	3 Flakes
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	50cmbs	1 Flake
CHK-00113	Flake	TU-03	57	6/12/11	FC/SS	54cmbs	1 Flake
CHK-00113	Biface	TU-04	48	6/12/11	LB	10-20cmbs	1 Biface
CHK-00113	Biface	TU-04	48	6/12/11	LB	10-20cmbs	1 Biface
CHK-00113	Flake Lot	TU-04	48	6/12/11	LB	10-20cmbs	41 Basalt and Chalcedony Flakes
CHK-00113	Flake Lot	TU-04	48	6/12/11	LB	20-30cmbs	138 Basalt and Chalcedony Flakes
CHK-00113	Flake Lot	TU-04	48	6/12/11	LB	27-30cmbs	19 Basalt Flakes from Feature in West Wall
CHK-00113	Flake Lot	TU-04	48	6/12/11	LB	30-40cmbs	52 Basalt and Chalcedony Flakes
CHK-00113	Biface	TU-04	48	6/12/11	LB	30-40cmbs	1 Basalt Biface
CHK-00113	Flake Lot	TU-04	48	6/12/11	LB	40-50cmbs	3 Flakes
CHK-00113	Flake Lot	TU-05	47	6/12/11	JR/SC	26cmbs	2 Flakes
CHK-00113	Flake	TU-05	47	6/12/11	JR/SC	34cmbs	1 Flake Associated with Charcoal
CHK-00113	Flake Lot	TU-05	47	6/12/11	JR/SC	30-40cmbs	72 Flakes
CHK-00113	Flake Lot	TU-05	47	6/12/11	JR/SC	40-50cmbs	5 Flakes
CHK-00113	Flake Lot	TU-07	59	6/15/11	FC/SC/LB	10-20cmbs	8 Flakes
CHK-00113	Flake Lot	TU-07	59	6/15/11	FC/SC/LB	20-30cmbs	52 Flakes

AHRS #	Common Name	TU	Feature #	Date	Collector	Depth	Description
CHK-00113	Biface Fragment	TU-07	59	6/15/11	FC/SC/LB	20-30cmbs	1 Biface Fragment
CHK-00113	Biface	TU-07	59	6/15/11	FC/SC/LB	20-30cmbs	1 Biface
CHK-00113	Flake Lot	TU-07	59	6/15/11	FC/SC/LB	30-40cmbs	3 Flakes
CHK-00117	Flake Lot	TU-01	23	6/14/11	JR/FC	10-20cmbs	3 Flakes
CHK-00117	Flake	TU-01	23	6/14/11	JR/FC	30-40cmbs	1 Flake
CHK-00117	Flake Lot	TU-01	23	6/14/11	JR/FC	40-50cmbs	2 Flakes
CHK-00118	Flake Lot	TU-01	13	6/18/11	SC/FC	20-30cmbs	9 Flakes
CHK-00118	Flake Lot	TU-01	13	6/18/11	SC/FC	30-40cmbs	91 Flakes
CHK-00118	Biface Fragment	TU-01	13	6/18/11	SC/FC	30-40cmbs	1 Biface Fragment
CHK-00118	Biface Fragment	TU-01	13	6/18/11	SC/FC	31cmbs	1 Biface Fragment
CHK-00118	Scraper	TU-01	13	6/18/11	SC/FC	35cmbs	1 Scraper
CHK-00118	Flake Lot	TU-01	13	6/18/11	SC/FC	40-50cmbs	4 Flakes
CHK-00118	Flake	TU-02	18	6/19/11	SC/FC	30-40cmbs	1 Flake
CHK-00119	Flake	TU-01	1	6/19/11	SC/FC	10-20cmbs	1 Flake
CHK-00119	Flake Lot	TU-01	1	6/19/11	SC/FC	20-30cmbs	3 Flakes
CHK-00119	Flake Lot	TU-01	1	6/19/11	SC/FC	30-40cmbs	7 Flakes
CHK-00119	Flake Lot	TU-01	1	6/19/11	SC/FC	40-50cmbs	29 Flakes
CHK-00119	Net Sinker	TU-01	1	6/19/11	SC/FC	40-50cmbs	1 Net Sinker
CHK-00119	Net Sinker	TU-01	1	6/19/11	SC/FC	40cmbs	1 Net Sinker
CHK-00119	Net Sinker	TU-01	1	6/19/11	SC/FC	45cmbs	1 Net Sinker
CHK-00119	Flake Lot	TU-01	1	6/19/11	SC/FC	50-60cmbs	2 Flakes
CHK-00119	Retouched Flake	TU-01	1	6/19/11	SC/FC	50cmbs	1 Retouched Flake
CHK-00120	Flake Lot	TU-01	9	6/17/11	JR/SS	30-35cmbs	2 Flakes
CHK-00120	Flake Lot	TU-01	9	6/17/11	JR/SS	35-40cmbs	2 Flakes
CHK-00120	Flake Lot	TU-02	20	6/17/11	JR/SS	15-20cmbs	2 Flakes
CHK-00120	Flake	TU-02	20	6/17/11	JR/SS	20-25cmbs	1 Flake
CHK-00120	Flake	TU-02	20	6/17/11	JR/SS	30-35cmbs	1 Flake
CHK-00120	Flake Lot	TU-02	20	6/17/11	JR/SS	35-40cmbs	11 Flakes
CHK-00121	Historic Trap	NA	NA	6/19/11	SS/JR/LB	Surface	1 Historic Trap
CHK-00122	Flake Lot	TU-01	3	6/23/11	SS/FC	20-30cmbs	6 Flakes
CHK-00122	Flake Lot	TU-01	3	6/23/11	SS/FC	30-40cmbs	12 Flakes
CHK-00122	Flake	TU-01	3	6/23/11	SS/FC	34cmbs	1 Flake
CHK-00122	Flake Lot	TU-01	3	6/23/11	SS/FC	38-62cmbs	123 Flakes (all from feature fill)
CHK-00122	Biface	TU-01	3	6/23/11	SS/FC	41cmbs	1 Biface
CHK-00122	Biface	TU-01	3	6/23/11	SS/FC	44cmbs	1 Biface

<b>AHRS #</b>	<b>Common Name</b>	<b>TU</b>	<b>Feature #</b>	<b>Date</b>	<b>Collector</b>	<b>Depth</b>	<b>Description</b>
CHK-00122	Biface Fragment	TU-01	3	6/23/11	SS/FC	Feature Fill	1 Biface Fragment
CHK-00122	Flake Lot	TU-01	3	6/23/11	SS/FC	Below Feature	3 Flakes
CHK-00123	Flake	TU-01	1	6/23/11	JR/SC	50-60cmts	1 Flake
CHK-00123	Flake Lot	TU-02	7	6/23/11	SS/FC	35cmts	8 Flakes from Charcoal-Rich Layer



## **Appendix 3: List of charcoal samples collected in 2011**

Table 7: List of charcoal samples collected in 2011

AHRS #	TU	Feature #	Date	Collector	Depth	Description
CHK-00058	TU-01	28	6/14/11	SC/SS	36cmbs	All one piece, good cultural association
CHK-00058	TU-01	28	6/14/11	SC/SS	43cmbs	One piece, associated with the cultural layer, charcoal sample ID CS-003
CHK-00059	TU-01 AH-03	17	6/14/11	SS/SC	70-80cmbs	Non-cultural
CHK-00059	TU-01	17	6/13/11	LB/JR	56cmbs	SW corner, charcoal sample ID CS-004 (3 pieces)
CHK-00059	TU-01	17	6/13/11	LB/JR	70cmbs	North wall
CHK-00059	TU-02	21	6/13/11	FC/SC	17cmbs	From NE corner in dark sediment
CHK-00059	TU-02	21	6/13/11	FC/SC	20cmbs	Associated with large rocks
CHK-00059	TU-02	21	6/13/11	FC/SC	20cmbs	From possible hearth feature within red soil
CHK-00059	TU-02	21	6/13/11	FC/SC	21cmbs	From large piece NE ¼, possible hearth feature
CHK-00059	TU-02	21	6/13/11	FC/SC	30cmbs	From charcoal layer at bottom, charcoal sample ID CS-022 and CS-023
CHK-00059	TU-02	21	6/13/11	FC/SC	44cmbs	Down deep below cultural material
CHK-00104	TU-01	30	6/22/11	SC/SS	21cmbs	
CHK-00104	TU-01	30	6/22/11	SC/SS	22cmbs	Good association with cultural layer, charcoal sample ID CS-007
CHK-00104	TU-01	30	6/22/11	SC/SS	30cmbs	Good association with cultural layer, charcoal sample ID CS-005 and CS-006
CHK-00104	TU-02	13	6/22/11	FC/JR	28cmbs	Good association with cultural layer, charcoal sample ID CS-029
CHK-00104	TU-02	13	6/22/11	FC/JR	30cmbs	From SE corner of unit
CHK-00104	TU-02	13	6/22/11	FC/JR	41cmbs	Charcoal sample ID CS-030
CHK-00104	TU-02	13	6/22/11	FC/JR	50cmbs	Charcoal sample ID CS-008
CHK-00104	TU-02	13	6/22/11	FC/JR	57cmbs	
CHK-00104	TU-02	13	6/22/11	FC/JR	69cmbs	
CHK-00104	TU-02	13	6/22/11	FC/JR	80cmbs	
CHK-00104	TU-02	13	6/23/11	FC/JR	91cmbs	
CHK-00104	TU-02	13	6/23/11	FC/JR	93cmbs	
CHK-00104	TU-02	13	6/23/11	FC/JR	95cmbs	Charcoal sample ID CS-009
CHK-00113	Pr02	27	6/15/11	LB	17-21cmbs	Charcoal sample ID CS-010
CHK-00113	TU-01	28	6/11/11	JR/SC	25cmbs	Associated with flake from same depth, charcoal sample ID CS-026
CHK-00113	TU-02	65	6/11/11	FC/SS	29cmbs	Nice cultural association, near other samples from same depth
CHK-00113	TU-02	65	6/11/11	FC/SS	29cmbs	Near charcoal cluster
CHK-00113	TU-02	65	6/11/11	FC/SS	29cmbs	All same piece, nice association, NE portion of unit, charcoal sample ID CS-011
CHK-00113	TU-02	65	6/11/11	FC/SS	33cmbs	Piece collected from SE wall
CHK-00113	TU-02	65	6/11/11	FC/SS	38cmbs	Charcoal near bottom of mottled layer, all one piece
CHK-00113	TU-03	57	6/12/11	SS/FC	50cmbs	Associated with cultural layer, large flakes, and stone, charcoal sample ID CS-012
CHK-00113	TU-03	57	6/12/11	SS/FC	50cmbs	

AHRS #	TU	Feature #	Date	Collector	Depth	Description
CHK-00113	TU-03	57	6/12/11	SS/FC	50cmbs	One piece, from yellow brown/brown mottled layer
CHK-00113	TU-03	57	6/12/11	SS/FC	52cmbs	
CHK-00113	TU-03 AH-03	57	6/12/11	SS/FC	80-95cmbs	Collected from auger hole, not associated with cultural deposit
CHK-00113	TU-04	48	6/12/11	LB	18cmbs	
CHK-00113	TU-04	48	6/12/11	LB	20cmbs	
CHK-00113	TU-04	48	6/12/11	LB	26cmbs	Feature at west wall
CHK-00113	TU-04	48	6/12/11	LB	27cmbs	
CHK-00113	TU-04	48	6/12/11	LB	30cmbs	
CHK-00113	TU-04	48	6/12/11	LB	31cmbs	Charcoal sample ID CS-013
CHK-00113	TU-05	47	6/12/11	JR/SC	26cmbs	Associated with flakes
CHK-00113	TU-05	47	6/12/11	JR/SC	27cmbs	
CHK-00113	TU-05	47	6/12/11	JR/SC	34cmbs	Possible hearth feature, charcoal sample ID CS-027
CHK-00113	TU-05	47	6/12/11	JR/SC	37cmbs	
CHK-00113	TU-07	59	6/15/11	FC/SC/LB	16cmbs	2 vials
CHK-00113	TU-07	59	6/15/11	FC/SC/LB	20cmbs	Center of unit
CHK-00113	TU-07	59	6/15/11	FC/SC/LB	25cmbs	North side, charcoal sample ID CS-028
NA	AUG016	NA	6/19/11	JR/LB/SS	170cmbs	Organic remains between two layers, charcoal sample ID CS-001 and CS-002
CHK-00117	TU-01	23	6/14/11	JR/FC	33cmbs	Charcoal sample ID CS-014
CHK-00118	TU-01	13	6/18/11	FC/SC	25cmbs	
CHK-00118	TU-01	13	6/18/11	FC/SC	29cmbs	
CHK-00118	TU-01	13	6/18/11	FC/SC	35cmbs	Associated with scraper, excellent association, charcoal sample ID CS-015
CHK-00119	TU-01	1	6/19/11	FC/SC	30cmbs	
CHK-00119	TU-01	1	6/19/11	FC/SC	41cmbs	Associated with flake
CHK-00119	TU-01	1	6/19/11	FC/SC	45cmbs	Associated with flake, charcoal sample ID CS-016
CHK-00120	TU-01	9	6/17/11	JR/SS	33cmbs	From thin dense layer, good association, charcoal sample ID CS-017
CHK-00120	TU-01	9	6/17/11	JR/SS	35cmbs	From thin dense layer, good association
CHK-00120	TU-02	19	6/17/11	JR/SS	35cmbs	Charcoal sample ID CS-025
CHK-00120	TU-02	19	6/17/11	JR/SS	36cmbs	Charcoal sample ID CS-018 and CS-024
CHK-00122	TU-01	3	6/23/11	FC/SS	30cmbs	Good association with the cultural layer
CHK-00122	TU-01	3	6/23/11	FC/SS	33cmbs	Good cultural association
CHK-00122	TU-01	3	6/23/11	FC/SS	38cmbs	From dense layer in NW corner
CHK-00122	TU-01	3	6/23/11	FC/SS	38cmbs	From top of charcoal rich floor layer, photo in-situ with large flake
CHK-00122	TU-01	3	6/23/11	FC/SS	39cmbs	Charcoal rich layer
CHK-00122	TU-01	3	6/23/11	FC/SS	40cmbs	From charcoal rich layer

AHRS #	TU	Feature #	Date	Collector	Depth	Description
CHK-00122	TU-01	3	6/23/11	SS/FC	42cmbs	Charcoal rich layer
CHK-00122	TU-01	3	6/23/11	SS/FC	48cmbs	From hearth/pit deep in SW corner, charcoal sample ID CS-019
CHK-00123	TU-01	1	6/23/11	JR	52cmbs	Charcoal sample ID CS-020
CHK-00123	TU-02	7	6/23/11	FC/SS	35cmbs	
CHK-00123	TU-02	7	6/23/11	FC/SS	36cmbs	
CHK-00123	TU-02	7	6/23/11	FC/SS	37cmbs	
CHK-00123	TU-02	7	6/23/11	FC/SS	45cmbs	Charcoal sample ID CS-021

## **Appendix 4: Charcoal identifications from 2011**

Table 8: Charcoal and wood identifications for 2011 collections\*

AHRS #	Sample #	Test Unit	Feature #	Depth	Identification
NA	CS-001, CS-002	AUG-016	NA	170cmbs	both Alnus sp.
CHK-00058	CS-003	TU-01	28	43cmbs	Alnus sp.
CHK-00059	CS-004	TU-01	17	56cmbs	Alnus sp.
CHK-00104	CS-005, CS-006	TU-01	30	30cmbs	both Salix sp.
CHK-00104	CS-007	TU-01	30	22cmbs	Populus sp.
CHK-00104	CS-008	TU-02	13	50cmbs	Betula sp.
CHK-00104	CS-009	TU-02	13	95cmbs	Alnus sp.
CHK-00113	CS-010	Pr02	27	17-21cmbs	Alnus sp.
CHK-00113	CS-011	TU-02	65	29cmbs	Alnus sp.
CHK-00113	CS-012	TU-03	57	50cmbs	Alnus sp.
CHK-00113	CS-013	TU-04	48	31cmbs	Alnus sp.
CHK-00117	CS-014	TU-01	23	33cmbs	Alnus sp.
CHK-00118	CS-015	TU-01	13	35cmbs	Alnus sp.
CHK-00119	CS-016	TU-01	1	45cmbs	Alnus sp.
CHK-00120	CS-017	TU-01	9	33cmbs	Alnus sp.
CHK-00120	CS-018	TU-02	19	36cmbs	angiosperm
CHK-00122	CS-019	TU-01	3	48cmbs	Alnus sp.
CHK-00123	CS-020	TU-01	1	52cmbs	Alnus sp.
CHK-00123	CS-021	TU-02	7	45cmbs	Alnus sp.
CHK-00059	CS-022	TU-02	21	30cmbs	Salix sp.
CHK-00059	CS-023	TU-02	21	30cmbs	Salix sp.
CHK-00120	CS-024	TU-02	19	36cmbs	Alnus sp.
CHK-00120	CS-025	TU-02	19	35cmbs	Salix sp.
CHK-00113	CS-026	TU-01	28	25cmbs	Alnus sp.
CHK-00113	CS-027	TU-05	47	34cmbs	Salix sp.
CHK-00113	CS-028	TU-07	59	25cmbs	Alnus sp.
CHK-00104	CS-029	TU-02	13	28cmbs	Salix sp.
CHK-00104	CS-030	TU-02	13	41cmbs	Alnus sp.

\*identifications complete by Laura Crawford

## **Appendix 5: List of negative shovel test pits excavated in 2011**

Table 9: Negative shovel test locations from the 2011 field season

Test ID	General Location	Recorder	Date	Lat	Long
ST01	Meshik River Valley	SS	13-JUN-11	removed	removed
ST02	Alec River Valley	SS	21-JUN-11	removed	removed
ST03	Alec River Valley	SS	21-JUN-11	removed	removed
ST04	Alec River Valley	JR	24-JUN-11	removed	removed
ST05	Alec River Valley	JR	24-JUN-11	removed	removed
ST06	Alec River Valley	JR	24-JUN-11	removed	removed
ST07	Alec River Valley	SS	24-JUN-11	removed	removed
ST08	Alec River Valley	JR	24-JUN-11	removed	removed
ST09	Alec River Valley	SS	24-JUN-11	removed	removed
ST10	Alec River Valley	SS	24-JUN-11	removed	removed
ST11	Alec River Valley	SC	24-JUN-11	removed	removed
ST12	Alec River Valley	FC	24-JUN-11	removed	removed
ST13	Alec River Valley	SS	24-JUN-11	removed	removed
ST14	Alec River Valley	SS	24-JUN-11	removed	removed
ST15	Alec River Valley	SS	25-JUN-11	removed	removed
ST16	Alec River Valley	SS	25-JUN-11	removed	removed
ST17	Alec River Valley	FC	25-JUN-11	removed	removed
ST18	Alec River Valley	JR	25-JUN-11	removed	removed
ST19	Alec River Valley	JR	25-JUN-11	removed	removed
ST20	Alec River Valley	SS	25-JUN-11	removed	removed
ST21	Alec River Valley	SS	25-JUN-11	removed	removed
ST22	Alec River Valley	JR	26-JUN-11	removed	removed
ST23	Alec River Valley	SS	26-JUN-11	removed	removed
ST24	Alec River Valley	JR	26-JUN-11	removed	removed
ST25	Alec River Valley	JR	26-JUN-11	removed	removed
ST26	Alec River Valley	SS	26-JUN-11	removed	removed
ST27	Alec River Valley	SS	27-JUN-11	removed	removed
ST28	Alec River Valley	SC	27-JUN-11	removed	removed
ST29	Alec River Valley	FC	27-JUN-11	removed	removed
ST30	Alec River Valley	SS	27-JUN-11	removed	removed
ST31	Alec River Valley	JR	27-JUN-11	removed	removed



## **Appendix 6: Auger tests placed on prominent landforms**

Table 10: Negative augur test locations from the 2011 field season

Test ID	General Location	Recorders	Date	Lat	Long
AUG001	Meshik River Valley	SS	15-JUN-11	removed	removed
AUG002	Meshik River Valley	SS	15-JUN-11	removed	removed
AUG003	Meshik River Valley	JR	16-JUN-11	removed	removed
AUG004	Meshik River Valley	SS	16-JUN-11	removed	removed
AUG005	Meshik River Valley	SS	18-JUN-11	removed	removed
AUG006	Meshik River Valley	SS	18-JUN-11	removed	removed
AUG007	Meshik River Valley	SS	18-JUN-11	removed	removed
AUG008	Meshik River Valley	SS	18-JUN-11	removed	removed
AUG009	Meshik River Valley	JR	19-JUN-11	removed	removed
AUG010	Meshik River Valley	JR	19-JUN-11	removed	removed
AUG011	Meshik River Valley	JR	19-JUN-11	removed	removed
AUG012	Meshik River Valley	SS	19-JUN-11	removed	removed
AUG013	Meshik River Valley	SS	19-JUN-11	removed	removed
AUG014	Meshik River Valley	SS	19-JUN-11	removed	removed
AUG015	Meshik River Valley	SS	19-JUN-11	removed	removed
AUG016	Meshik River Valley	JR	19-JUN-11	removed	removed
AH10	Meshik River Valley	LB	14-JUN-11	removed	removed
AH11	Meshik River Valley	LB	14-JUN-11	removed	removed
AH01 at CHK-00059	Meshik River Valley	SS	14-JUN-11	removed	removed

## **Appendix 7: Auger tests placed in the base of 50x50cm test units**

Table 11: Augur tests placed in the bottom of test units at known archaeological sites

<b>Augur ID</b>	<b>Site</b>	<b>TU</b>	<b>Recorder</b>	<b>Date</b>	<b>Final Depth</b>
AH01	CHK-00113	TU01	JR	6/12/2011	360cmbs
AH02	CHK-00113	TU02	JR	6/12/2011	235cmbs
AH03	CHK-00113	TU03	SS	6/12/2011	135cmbs
AH04	CHK-00113	TU04	JR	6/13/2011	320cmbs
AH02	CHK-00059	TU02	SS	6/14/2011	215cmbs
AH03	CHK-00059	TU01	SS	6/14/2011	200cmbs
AH01	CHK-00058	TU01	FC	6/15/2011	146cmbs
AH01	CHK-00117	TU01	FC	6/14/2011	90cmbs
AH01	CHK-00120	TU01	SS	6/17/2011	220cmbs
AH01	CHK-00104	TU01	SC	6/22/2011	172cmbs
AH02	CHK-00104	TU02	JR	6/23/2011	196cmbs
AH01	CHK-00123	TU01	JR	6/23/2011	200cmbs
AH02	CHK-00123	TU02	SS	6/24/2011	190cmbs
AH01	CHK-00122	TU01	SS	6/23/2011	175cmbs

## **Appendix 8: Profile drawings for negative STPs and Auger Holes**

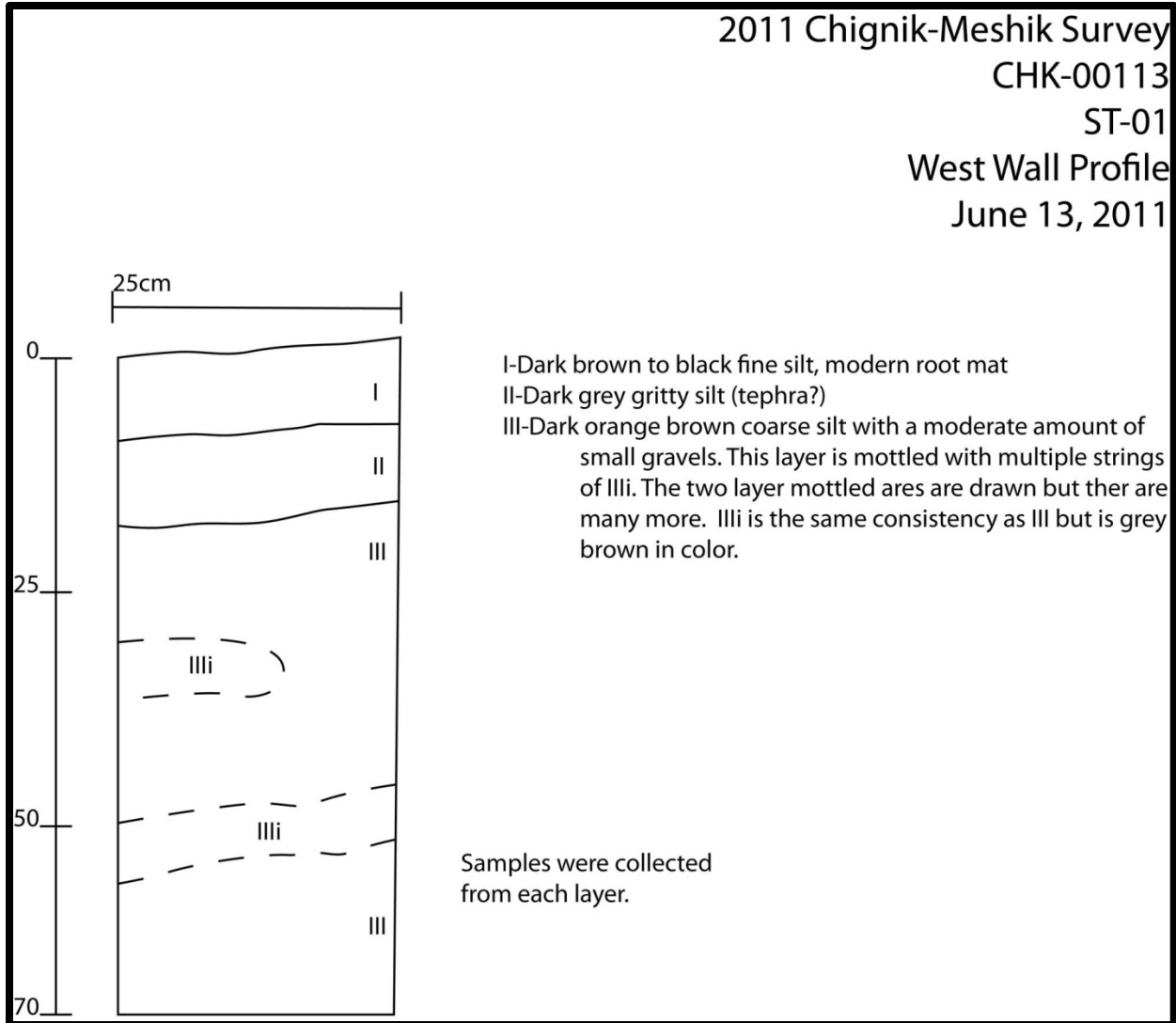


Figure 70: Soil profile of ST-01

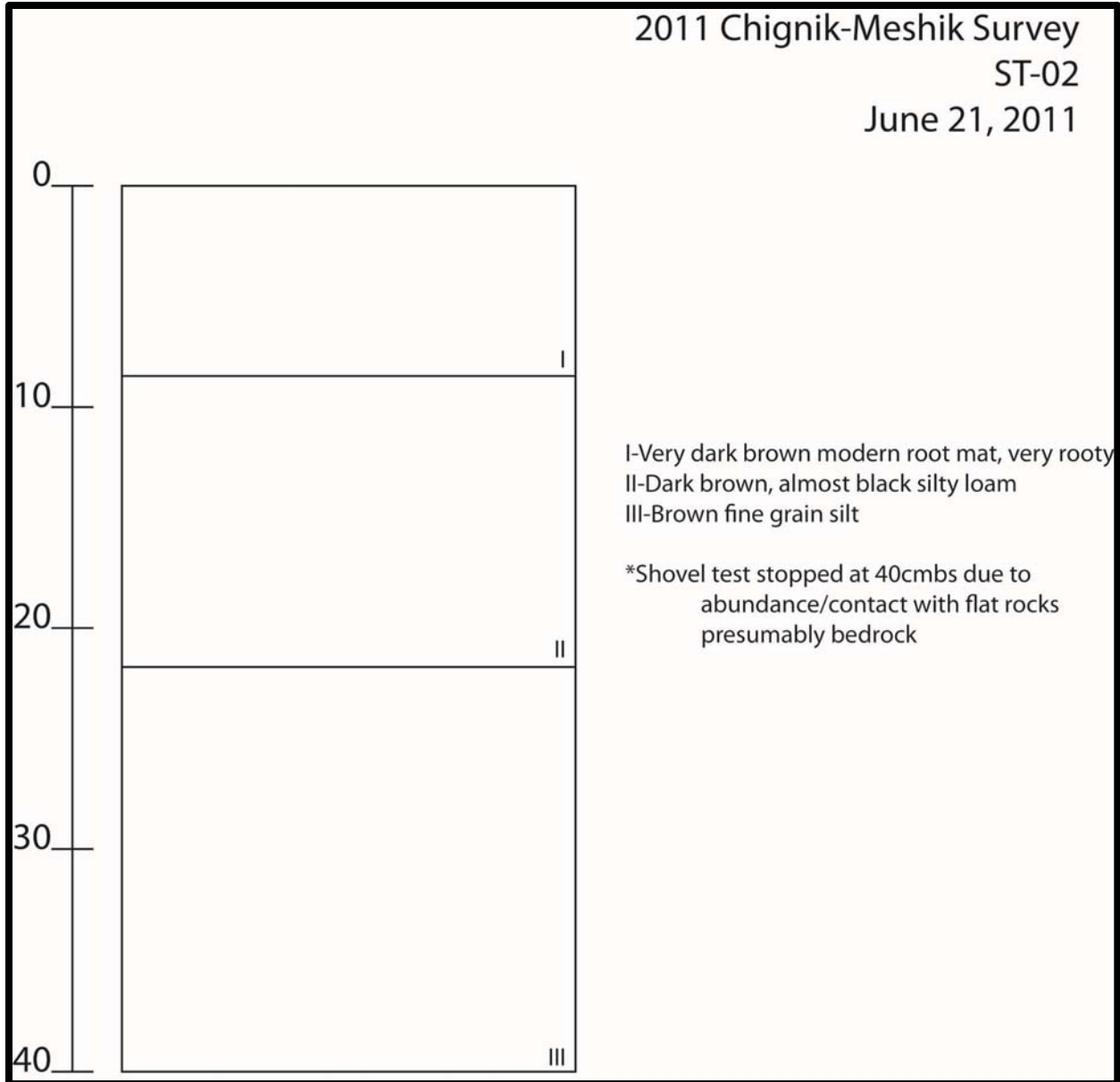


Figure 71: Soil Profile of ST-02

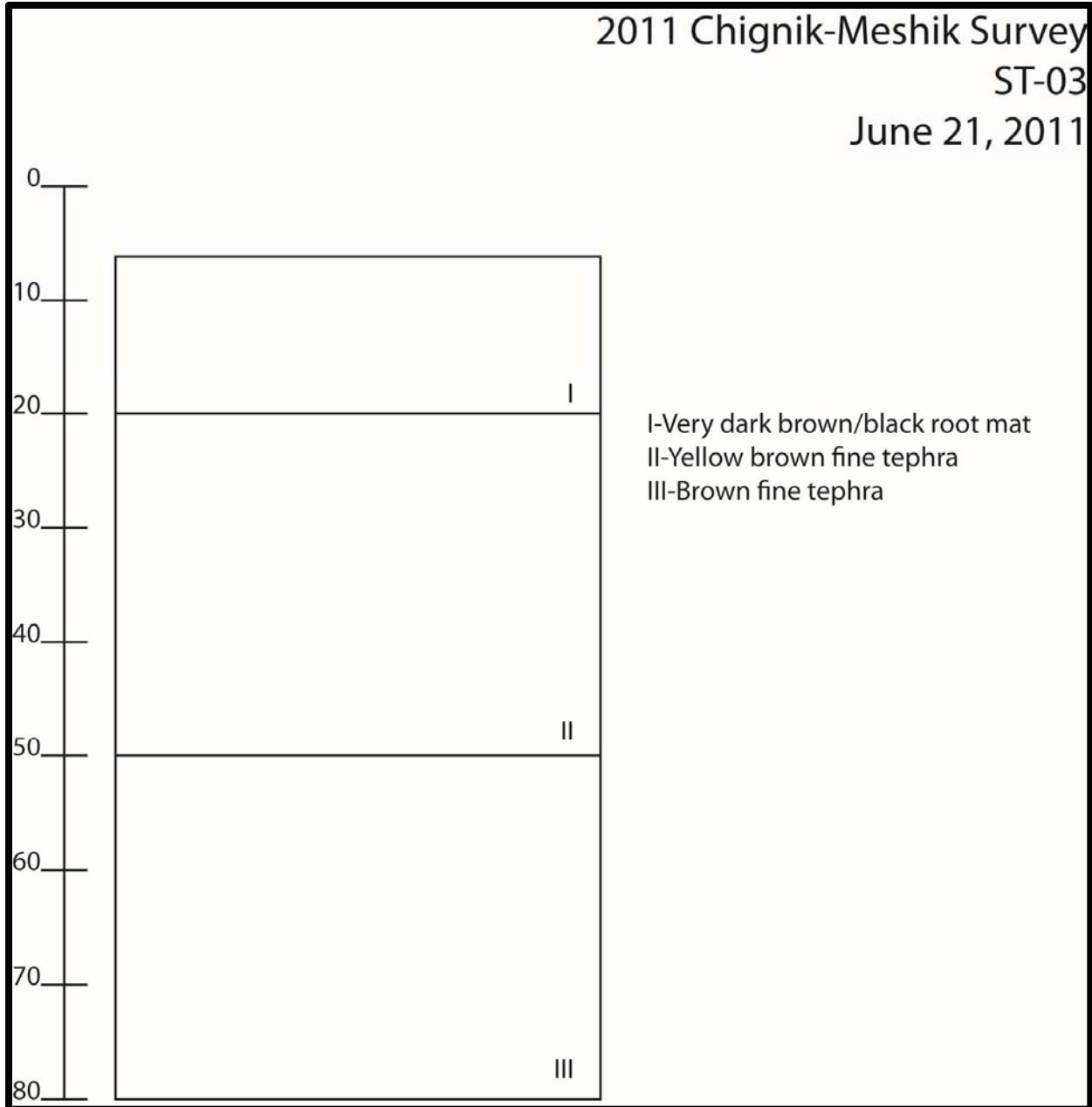


Figure 72: Soil Profile of ST-03



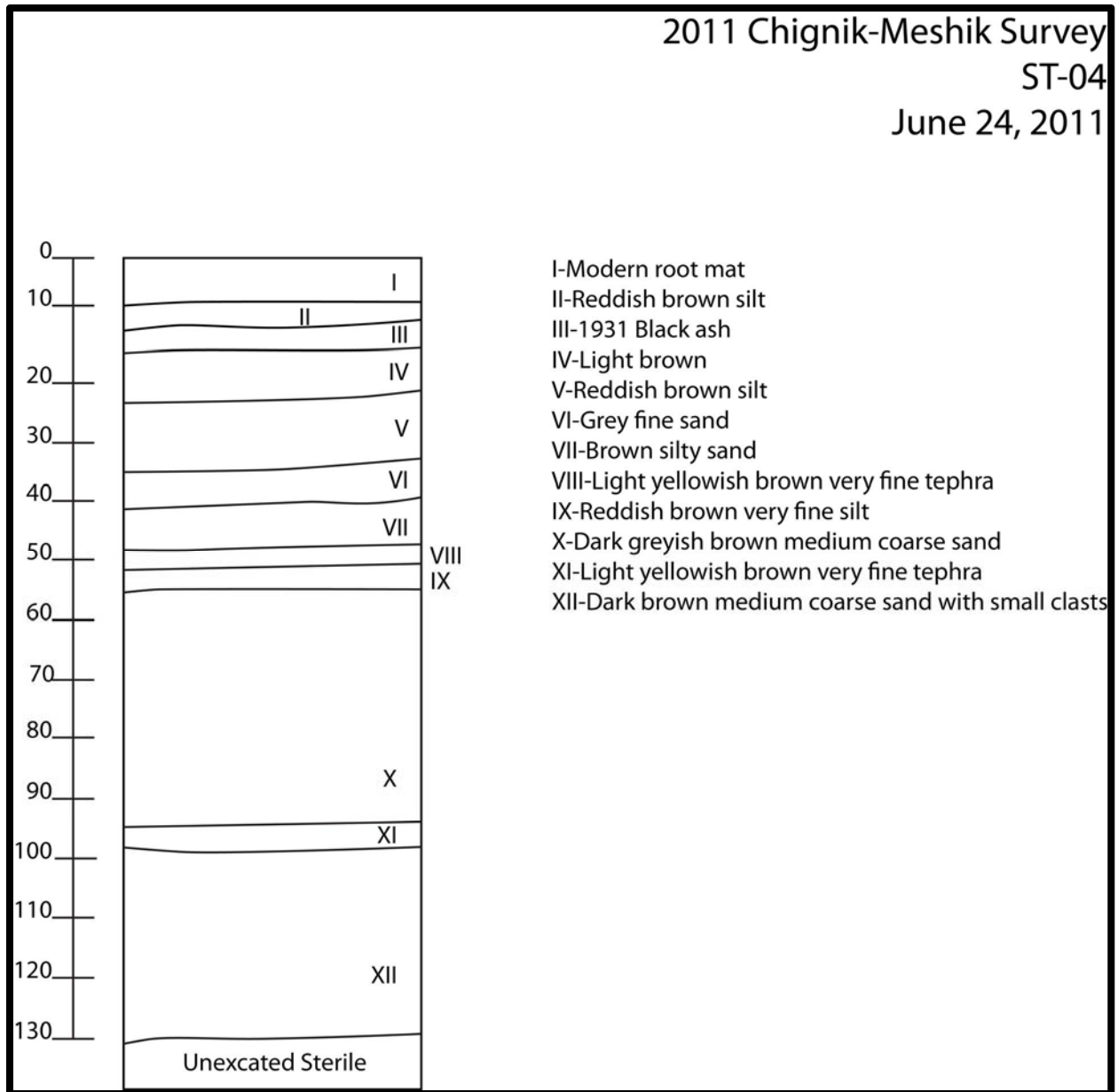


Figure 73: Soil Profile for ST-04

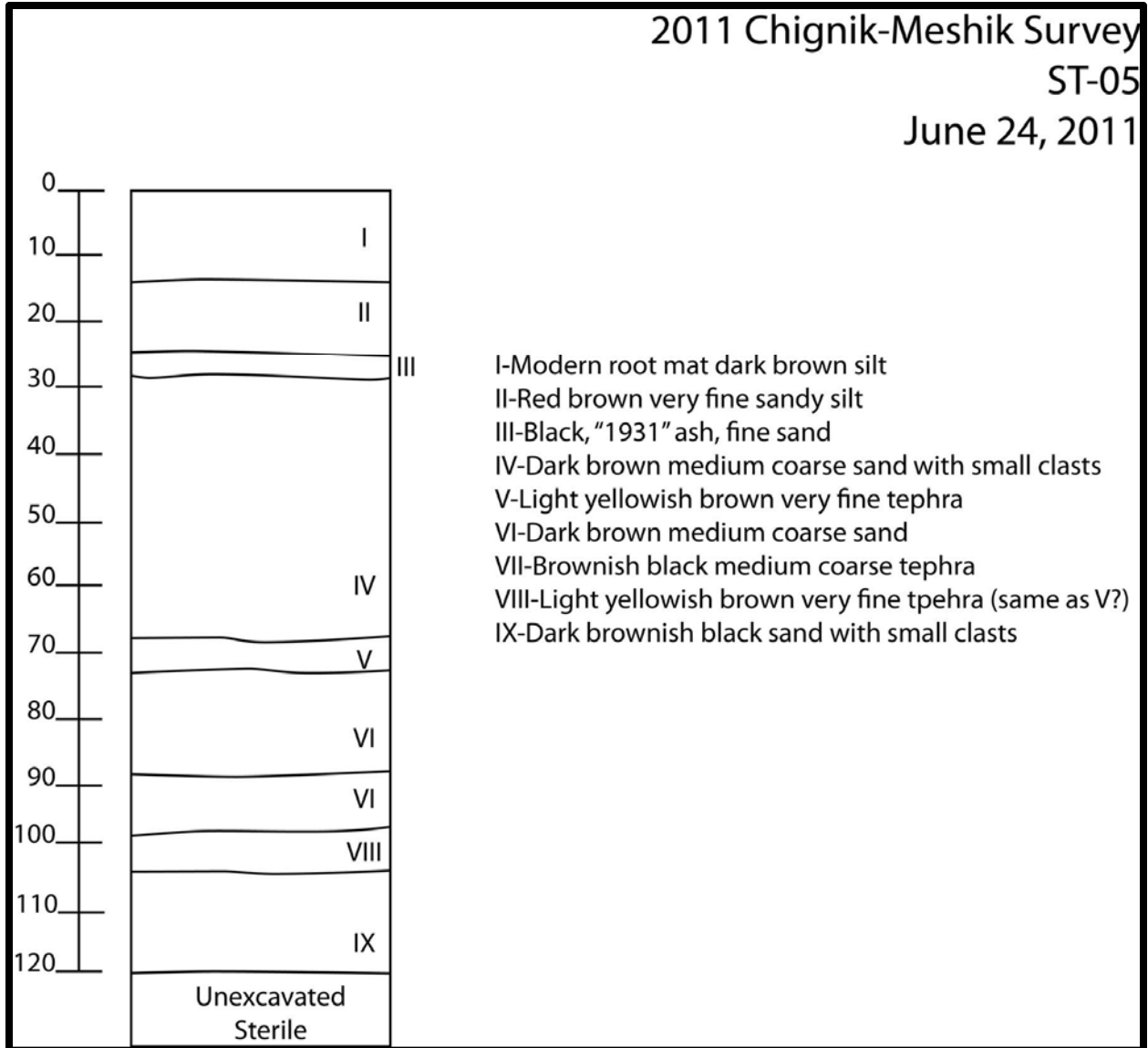


Figure 74: Soil Profile for ST-05

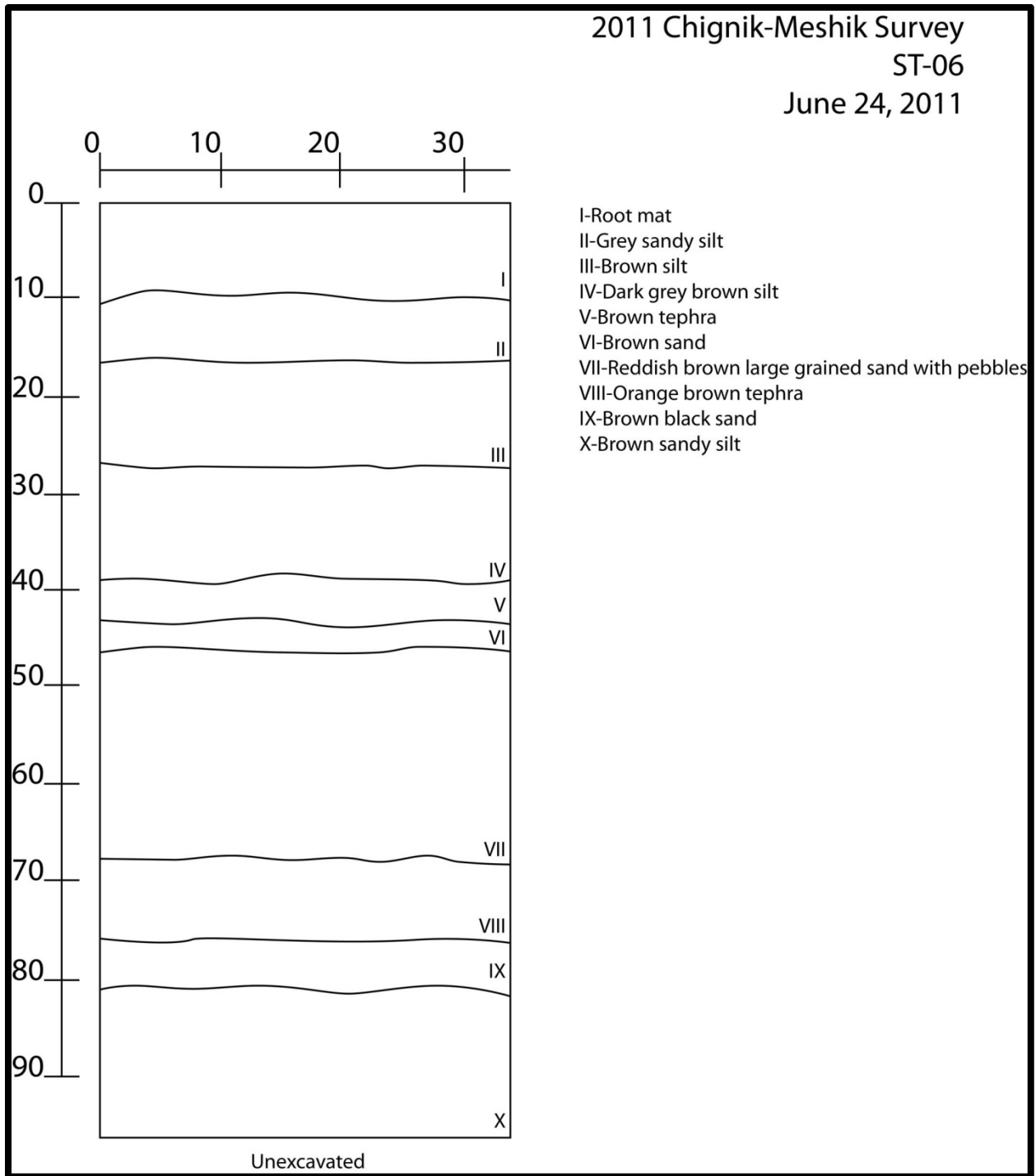


Figure 75: Soil Profile for ST-06

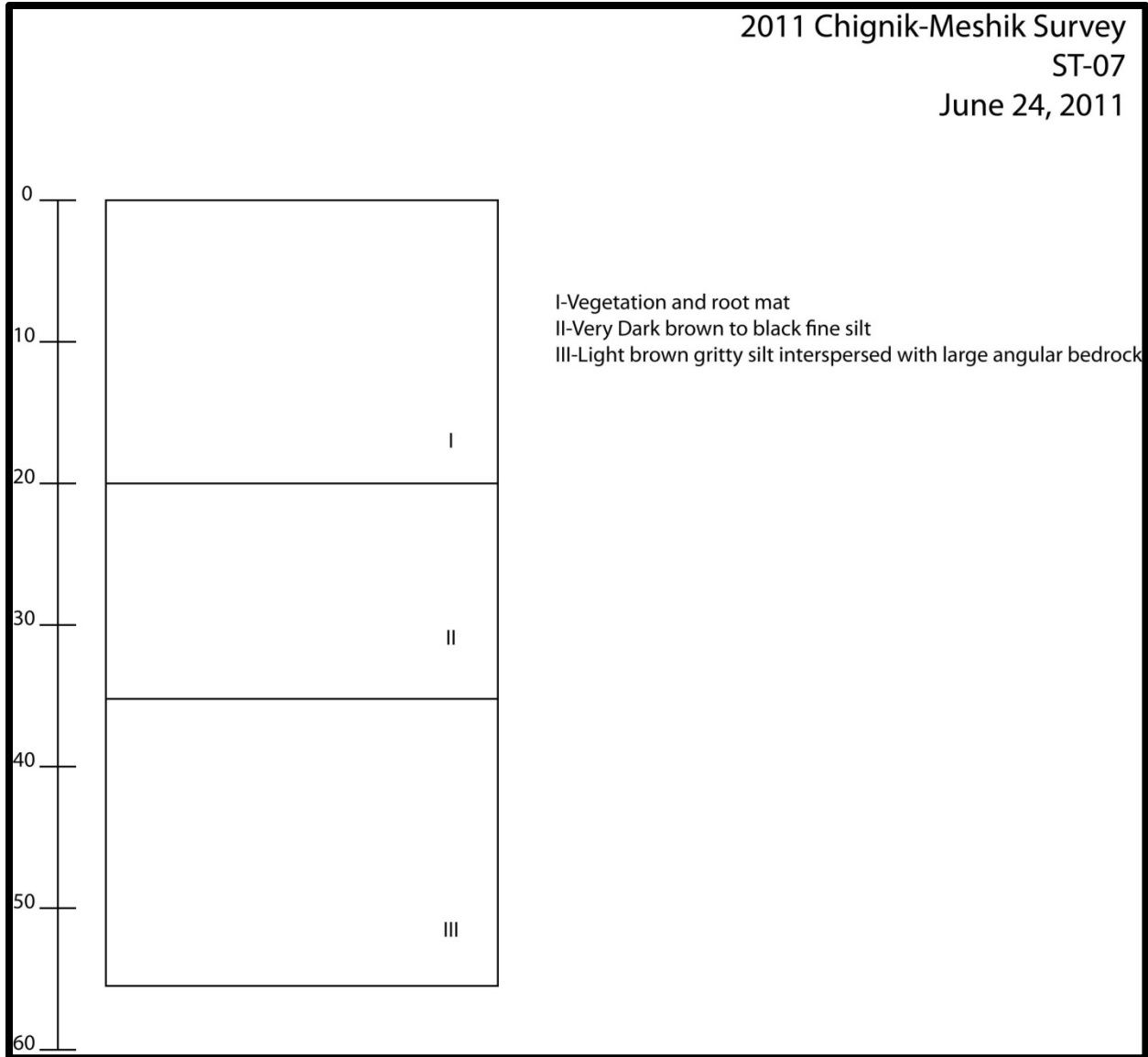


Figure 76: Soil Profile for ST-07

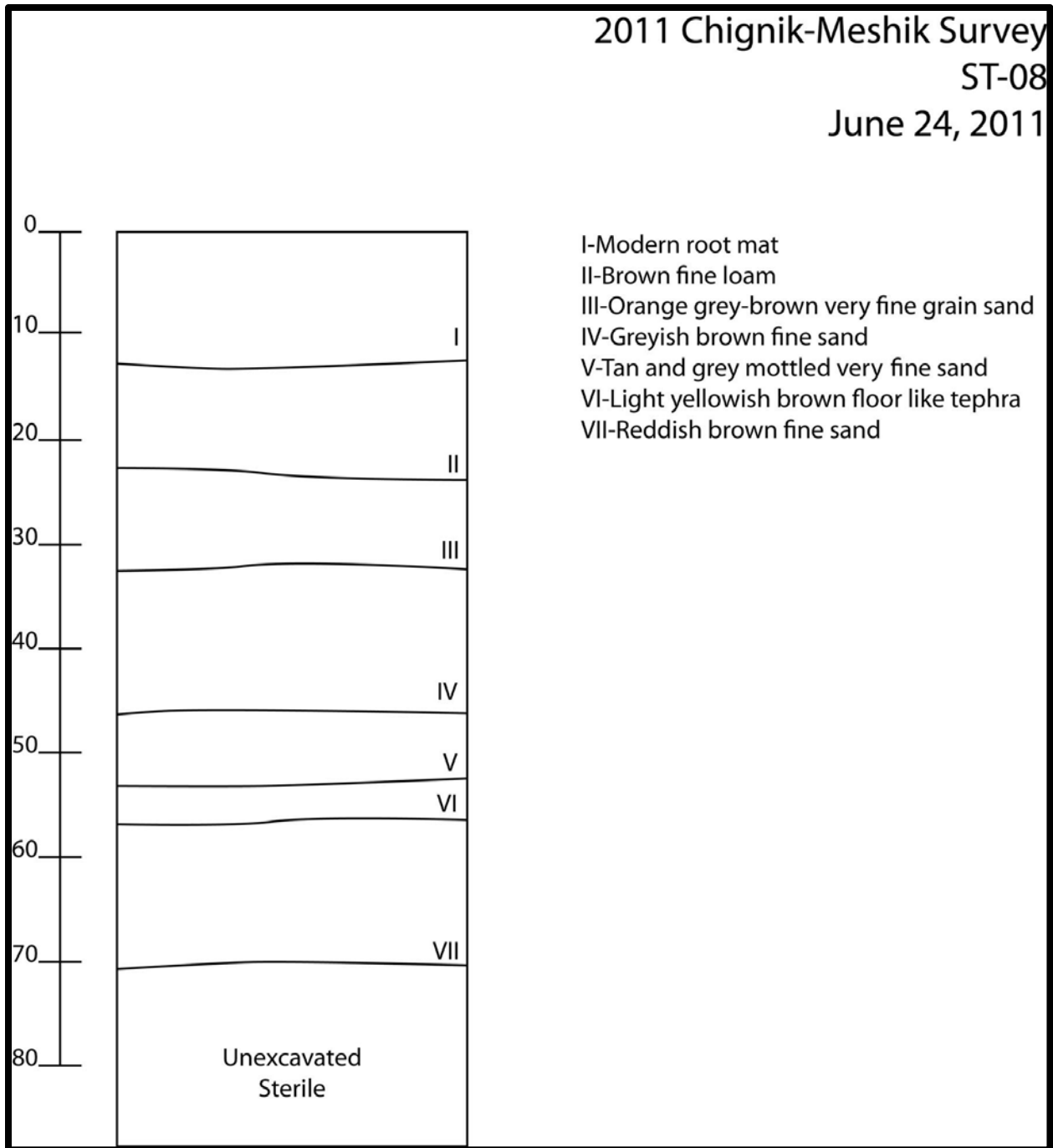


Figure 77: Soil Profile for ST-08

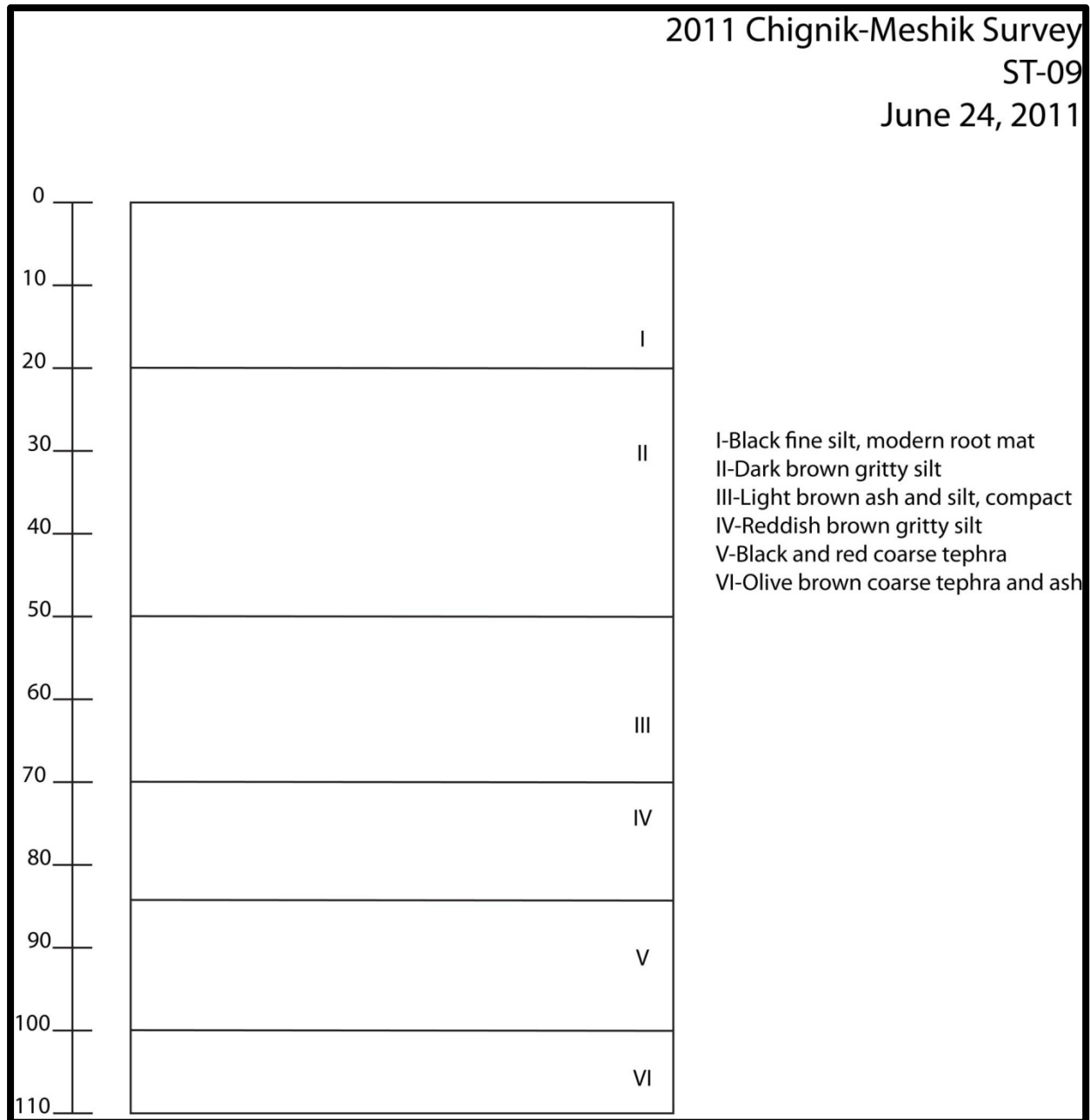


Figure 78: Soil Profile for ST-09

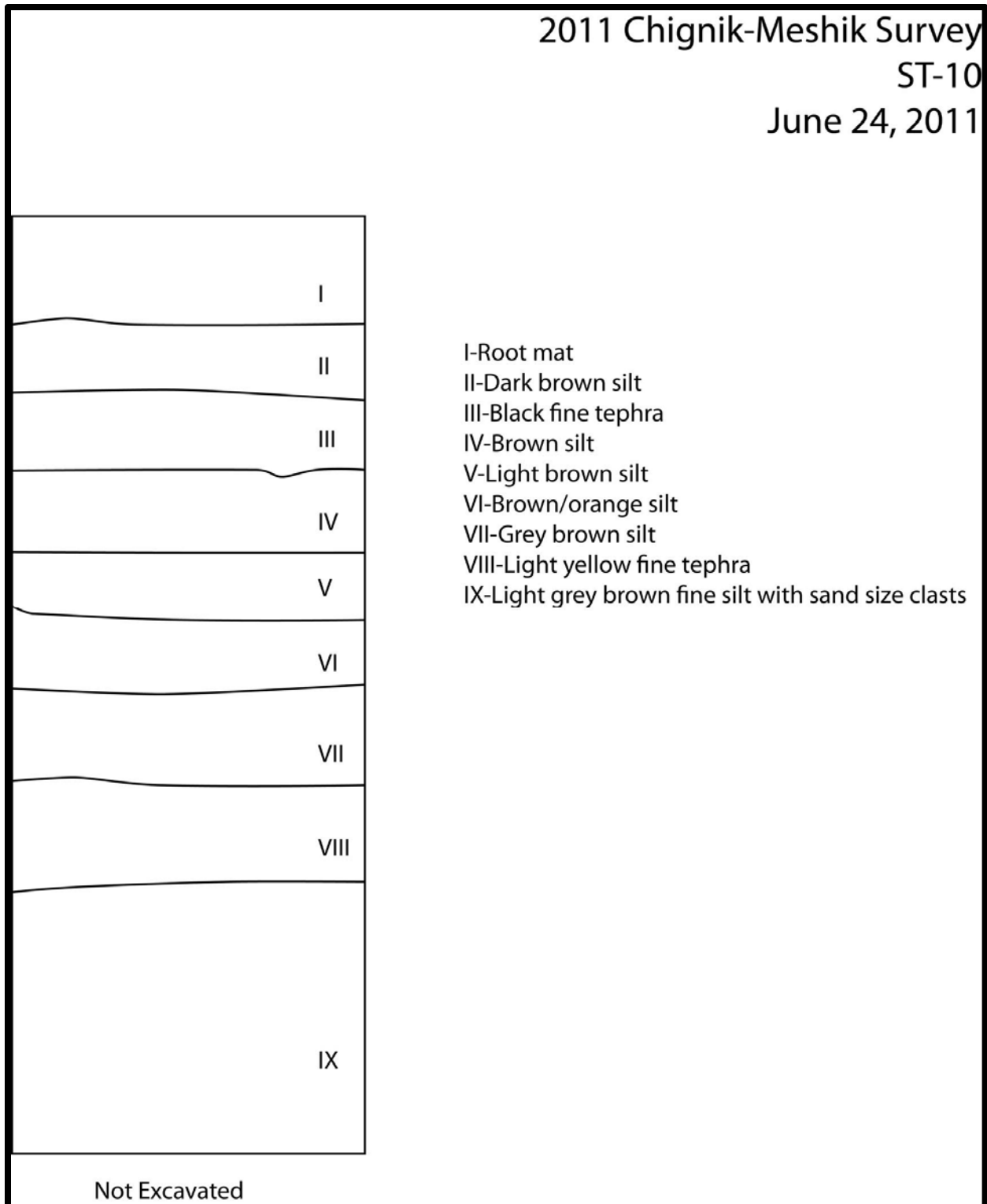


Figure 79: Soil Profile for ST-10

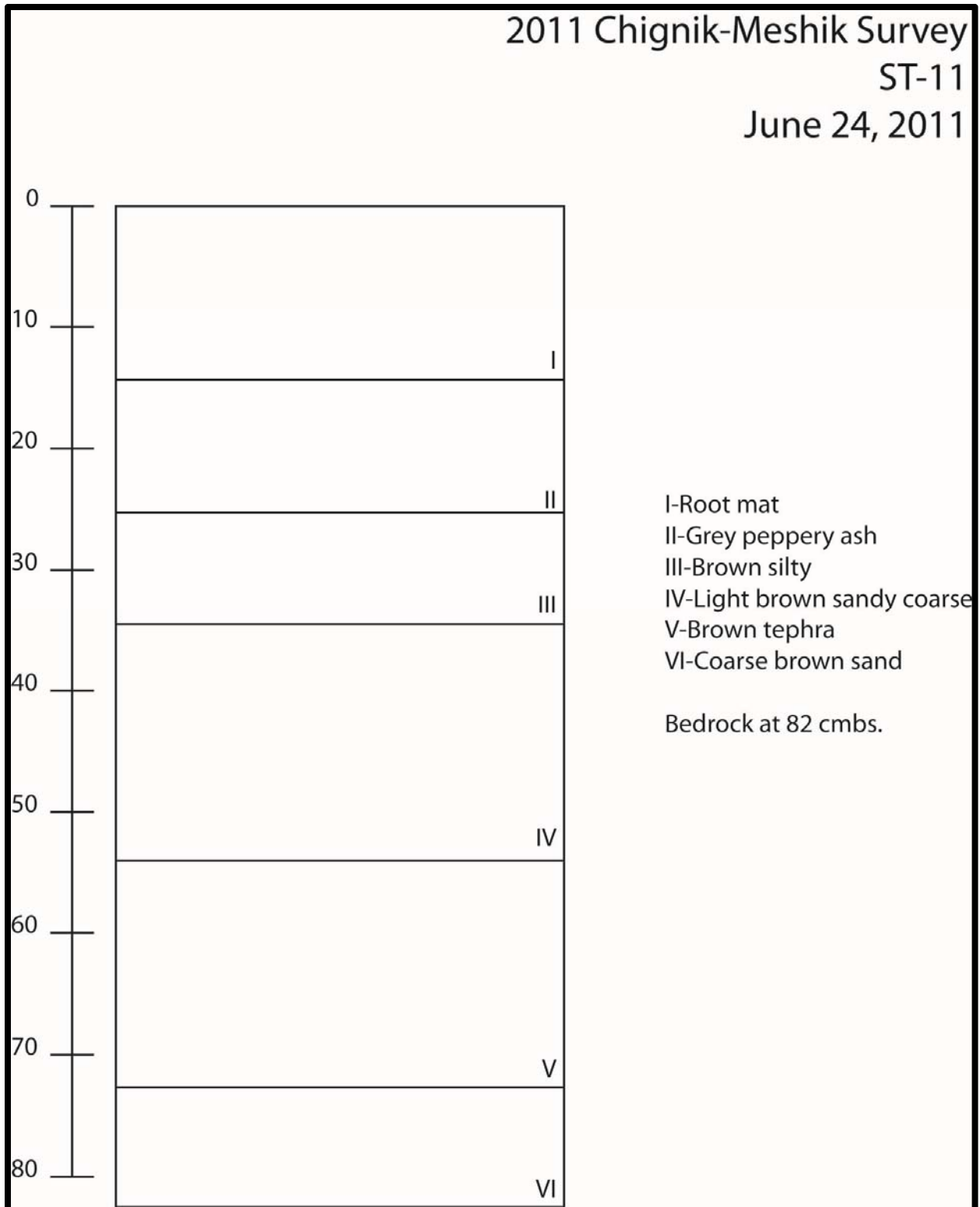


Figure 80: Soil Profile for ST-11



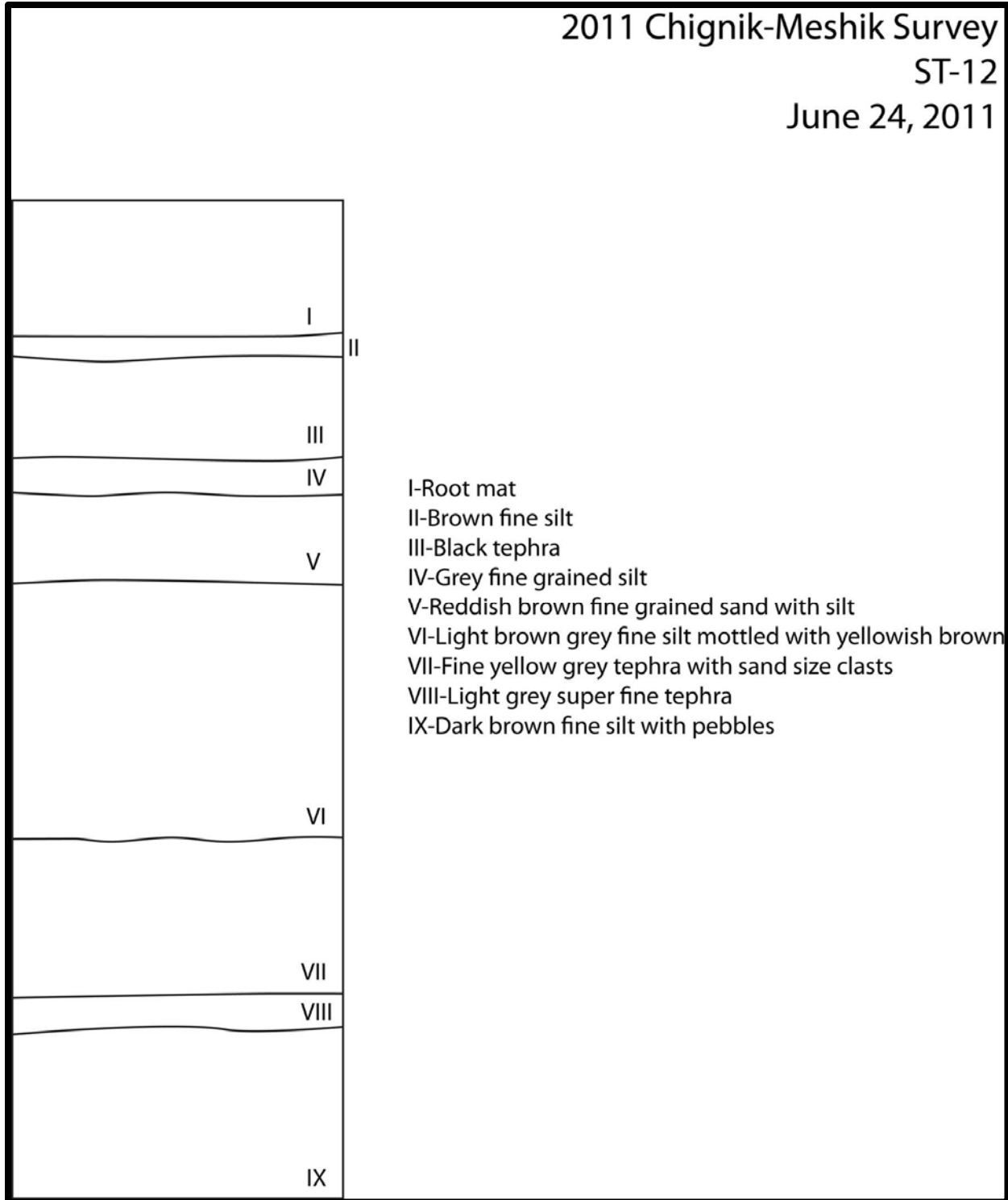


Figure 81: Soil Profile for ST-12

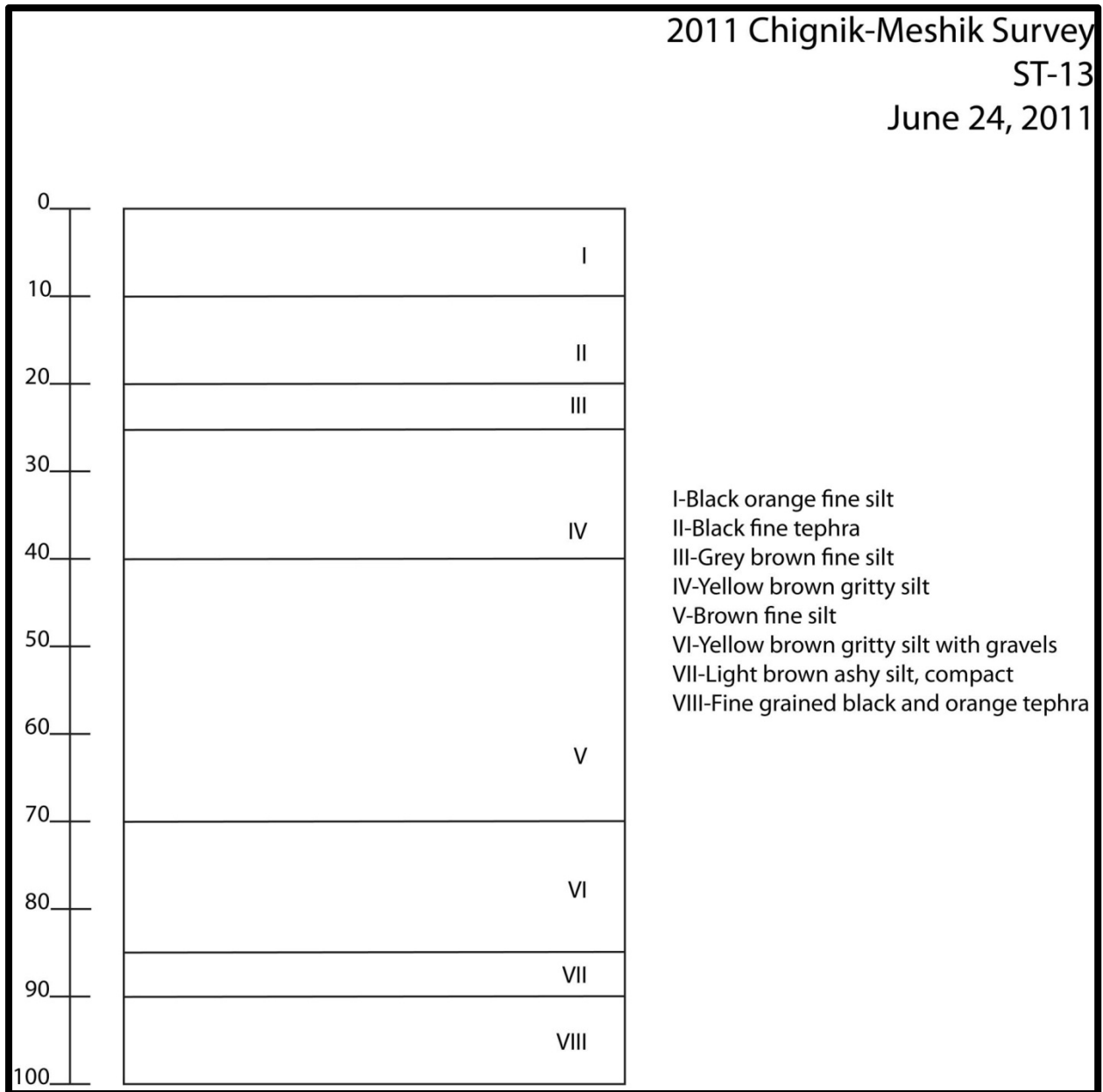


Figure 82: Soil Profile for ST-13

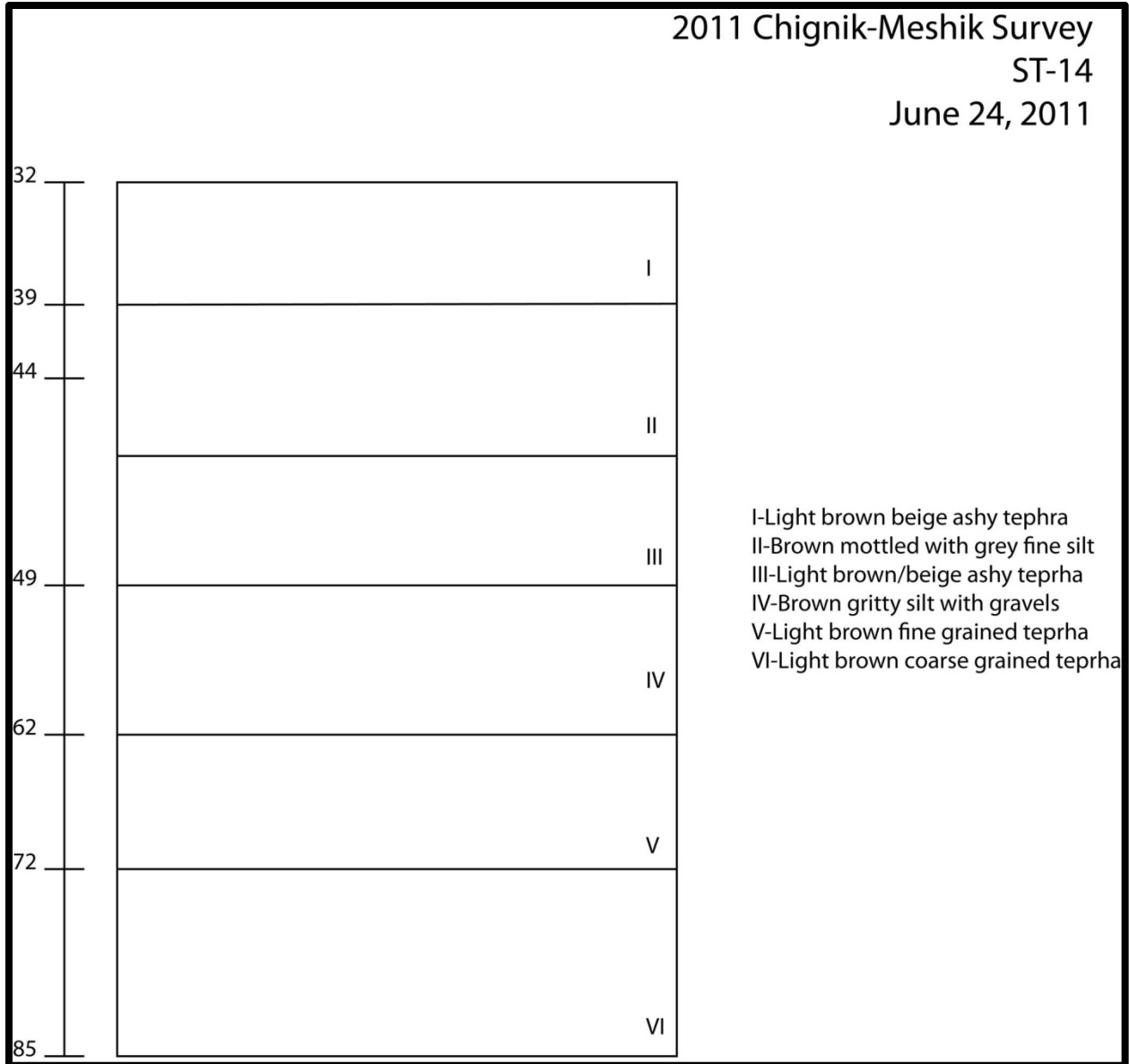


Figure 83: Soil Profile for ST-14

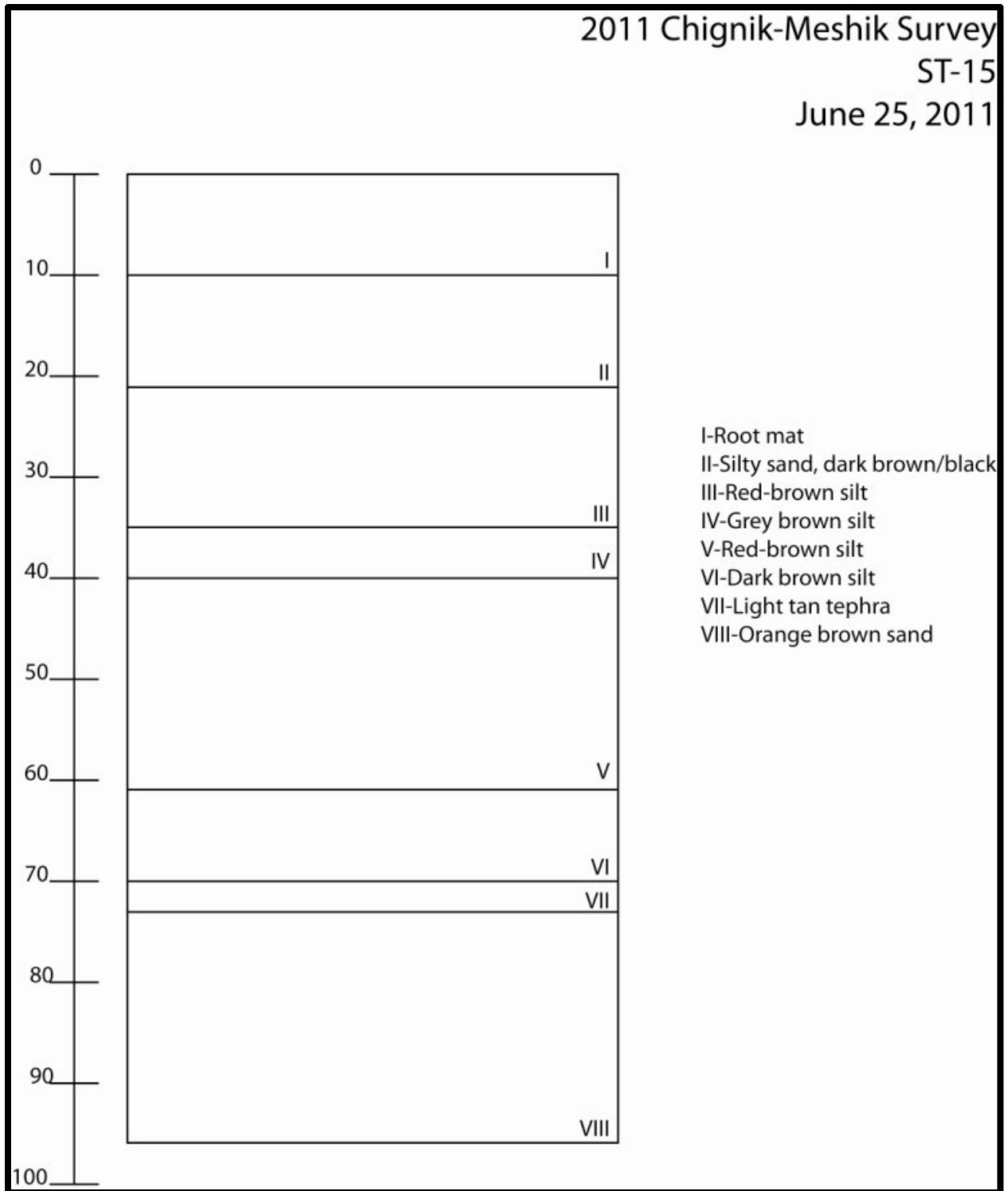


Figure 84: Soil Profile for ST-15

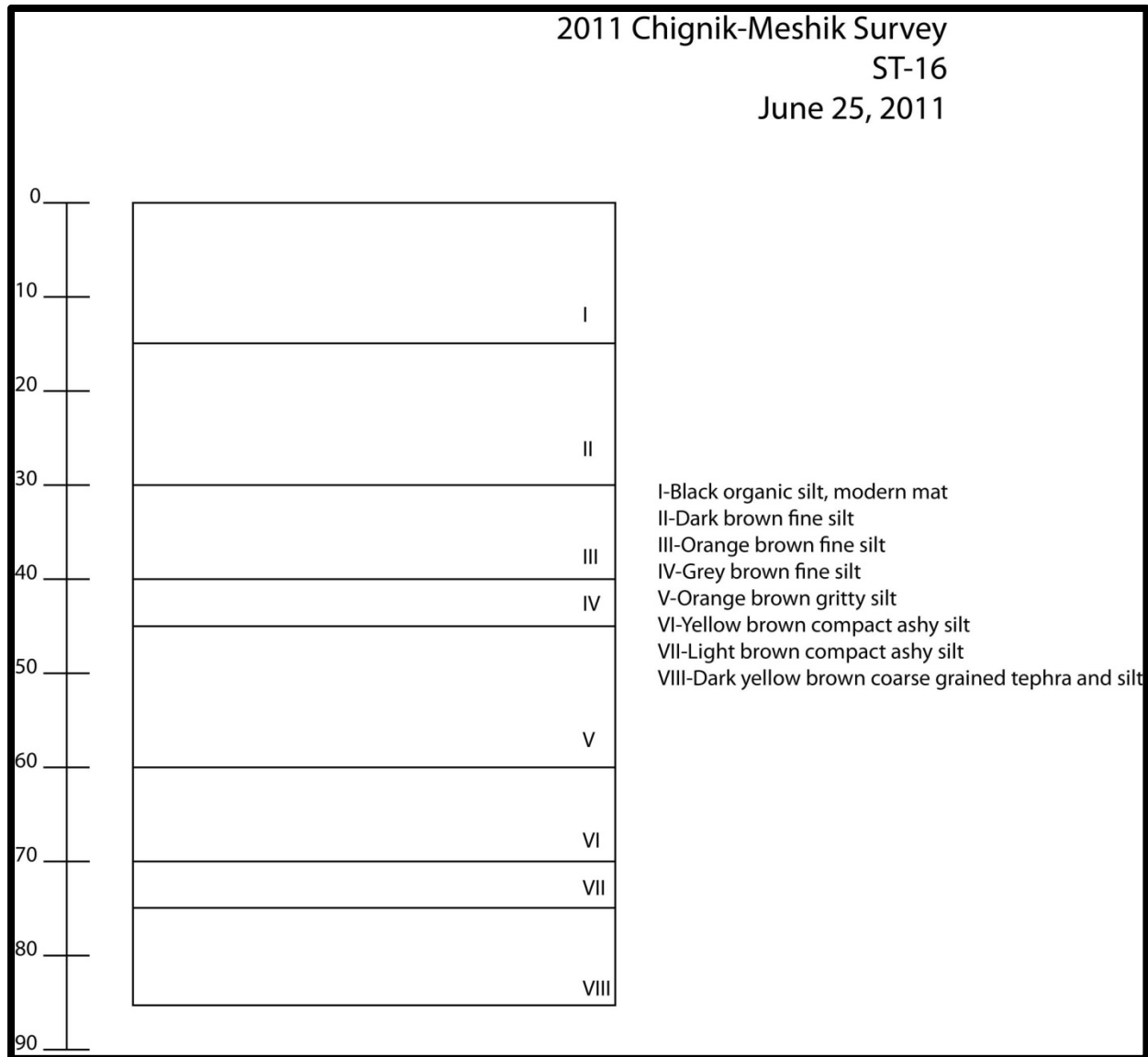


Figure 85: Soil Profile for ST-16

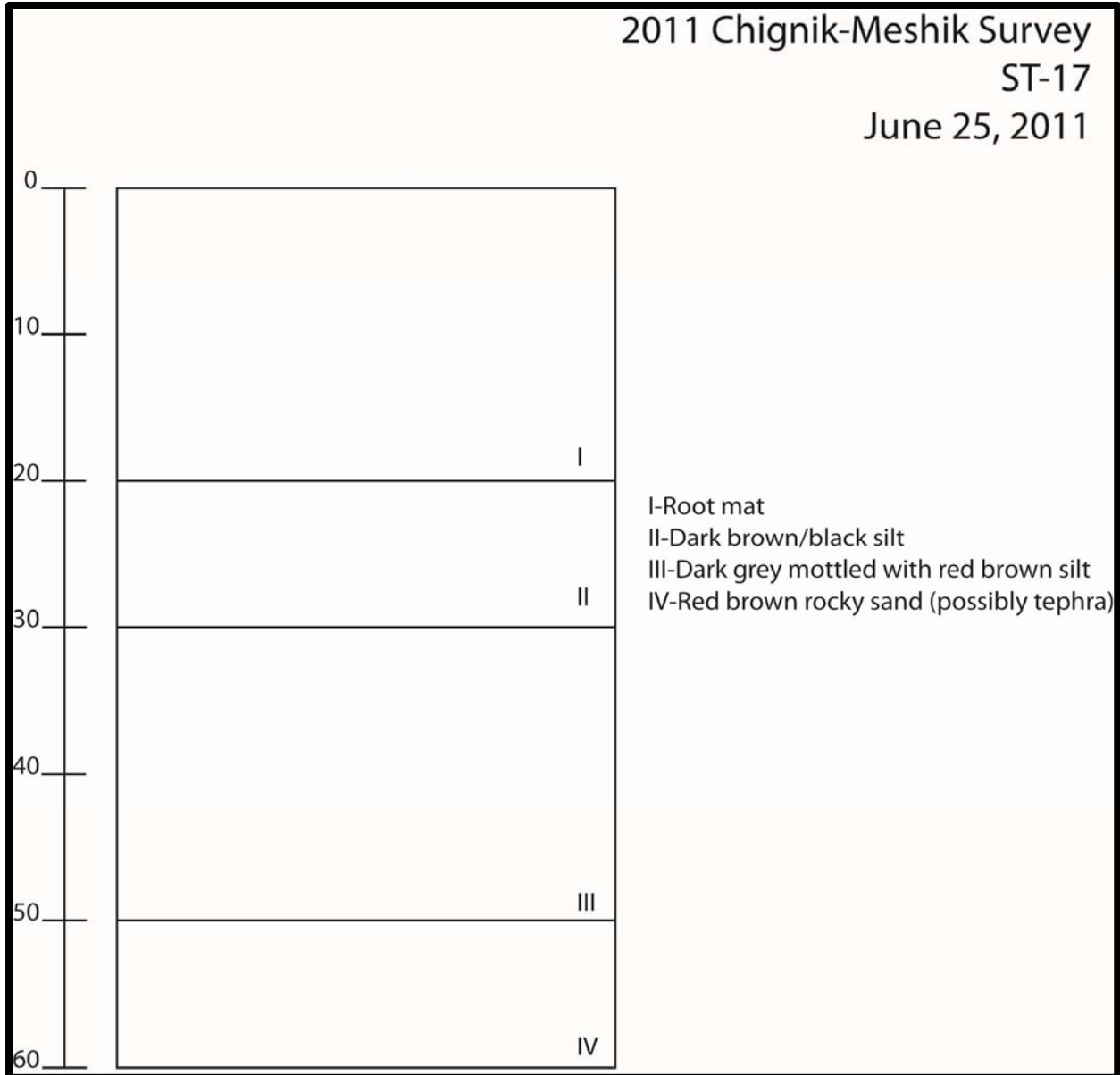


Figure 86: Soil Profile for ST-17

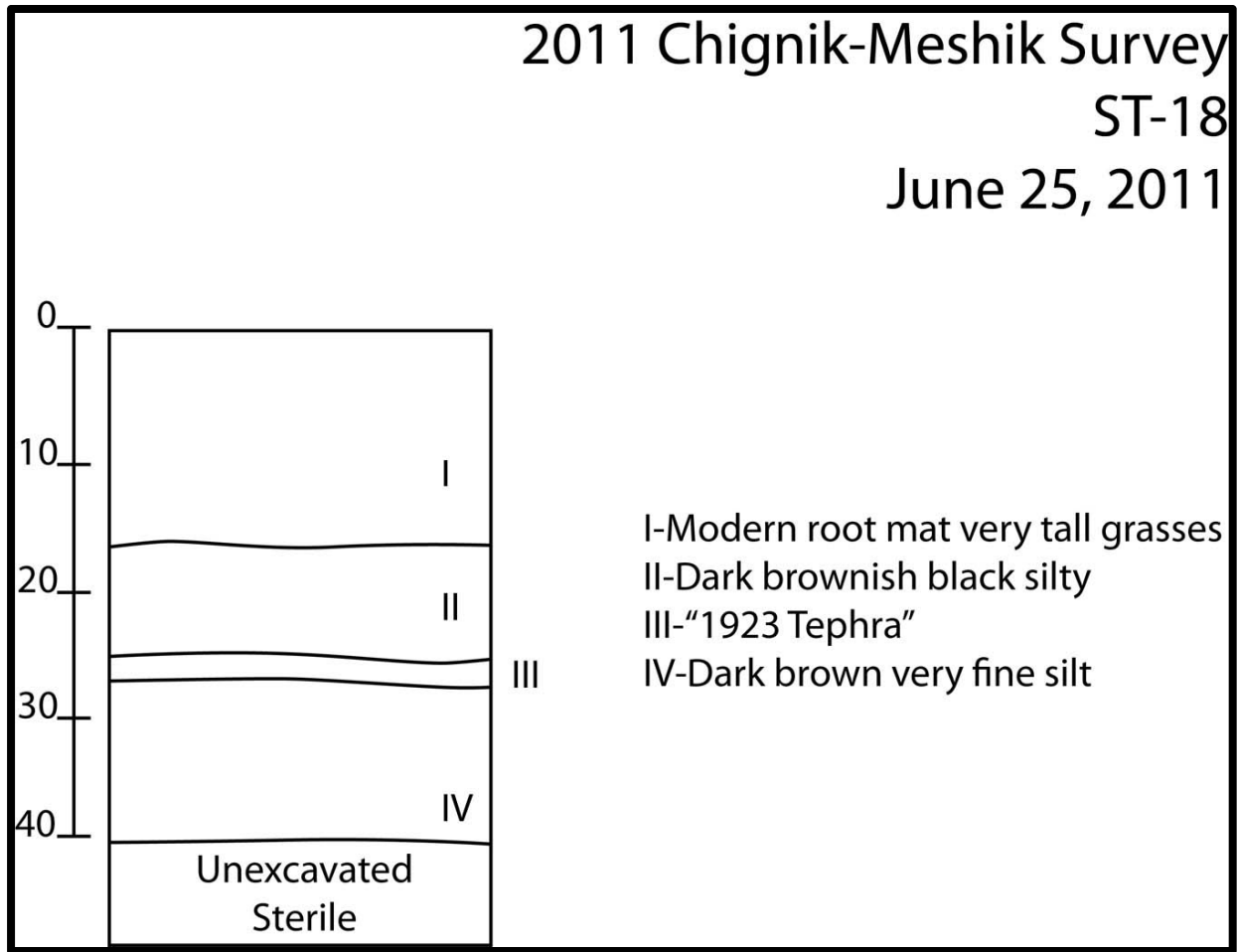


Figure 87: Soil Profile for ST-18

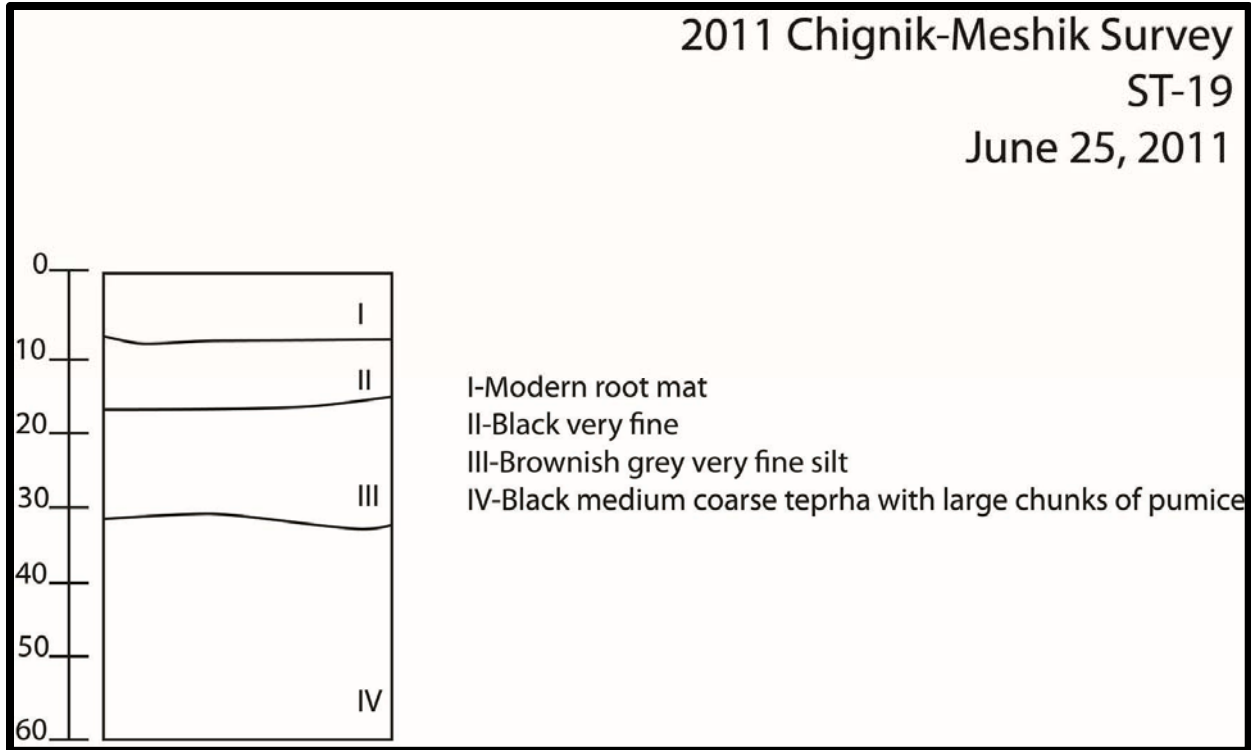


Figure 88: Soil Profile for ST-19



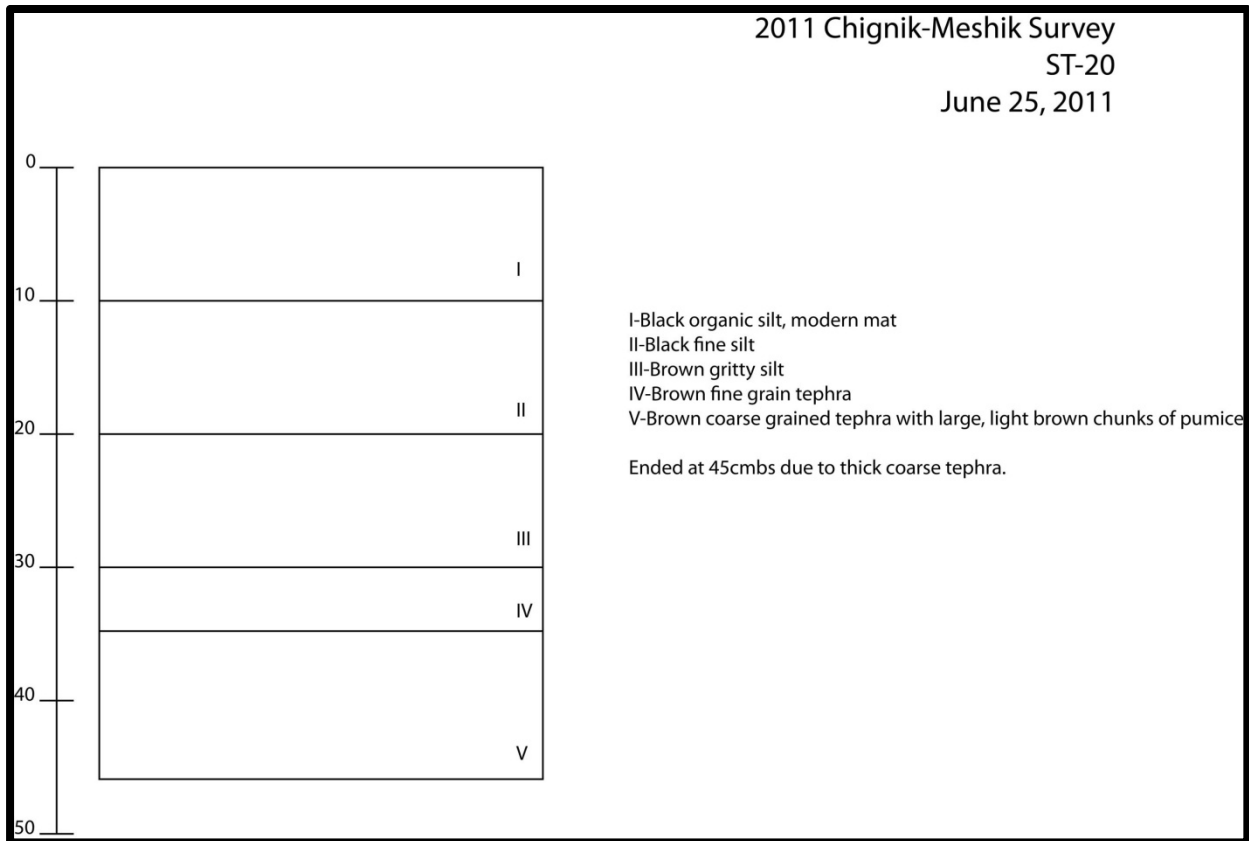


Figure 89: Soil Profile for ST-20

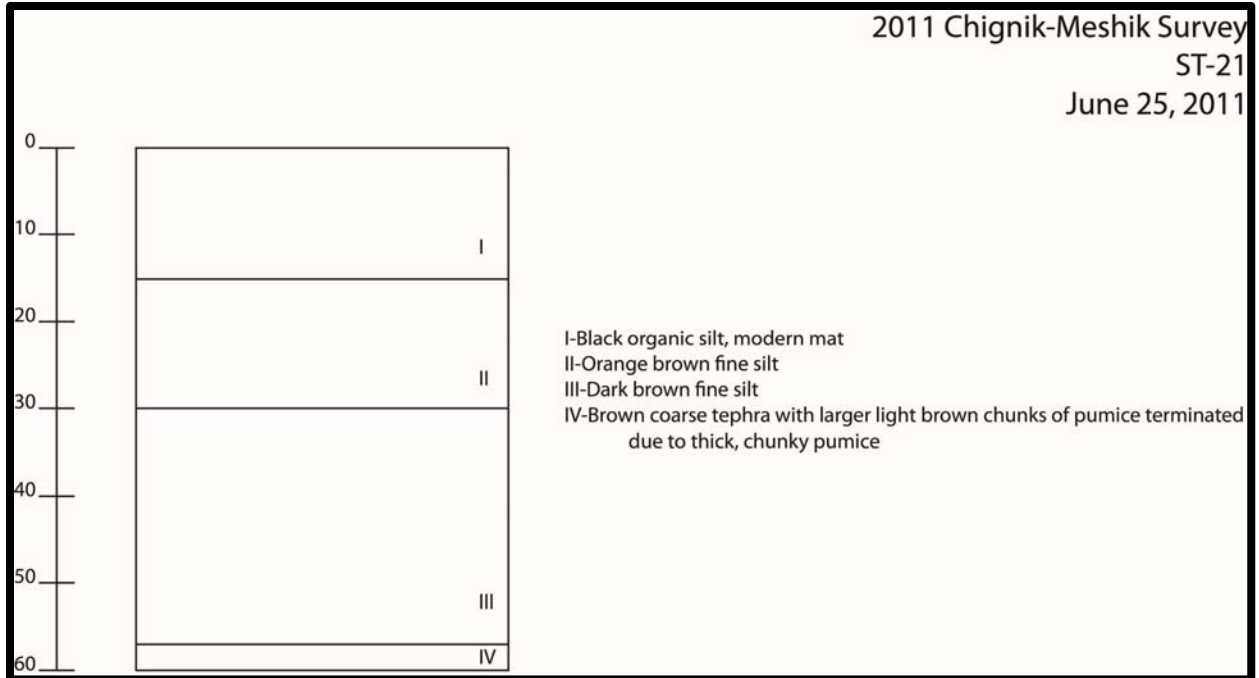


Figure 90: Soil Profile for ST-21

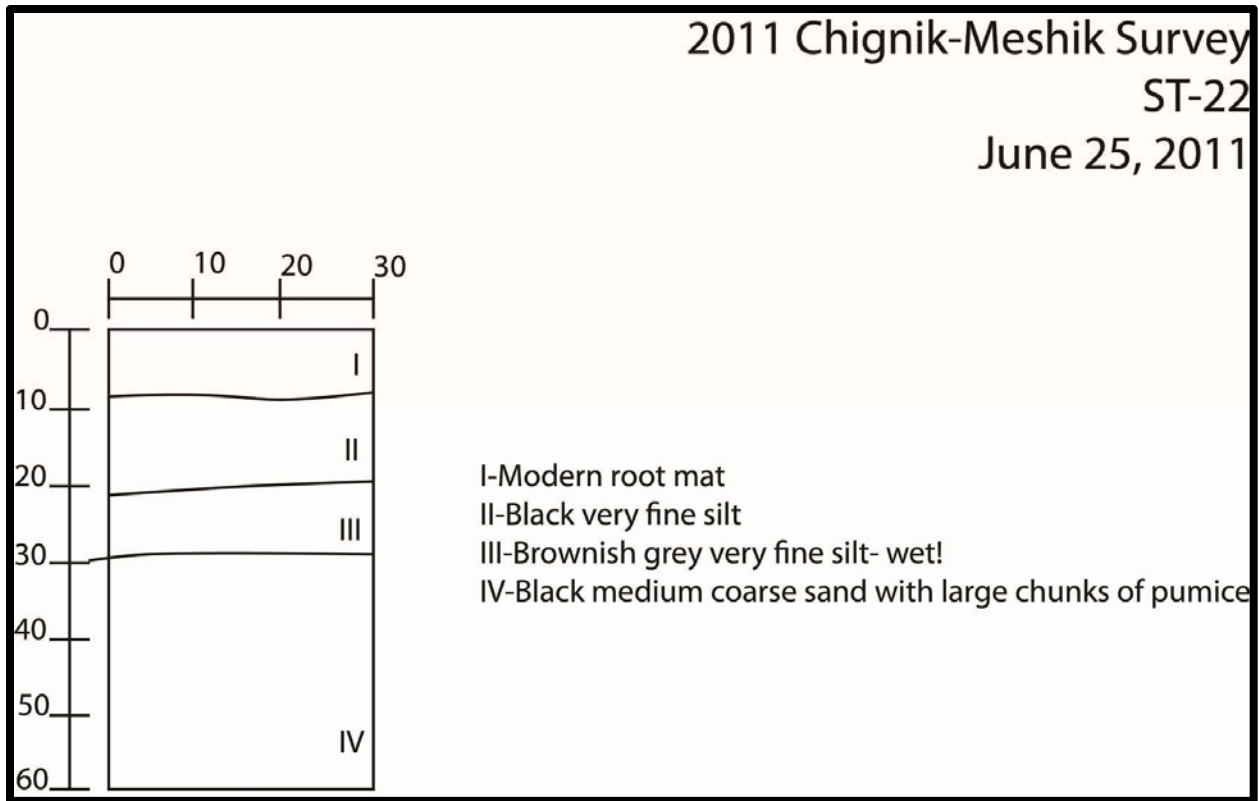


Figure 91: Soil Profile for ST-22

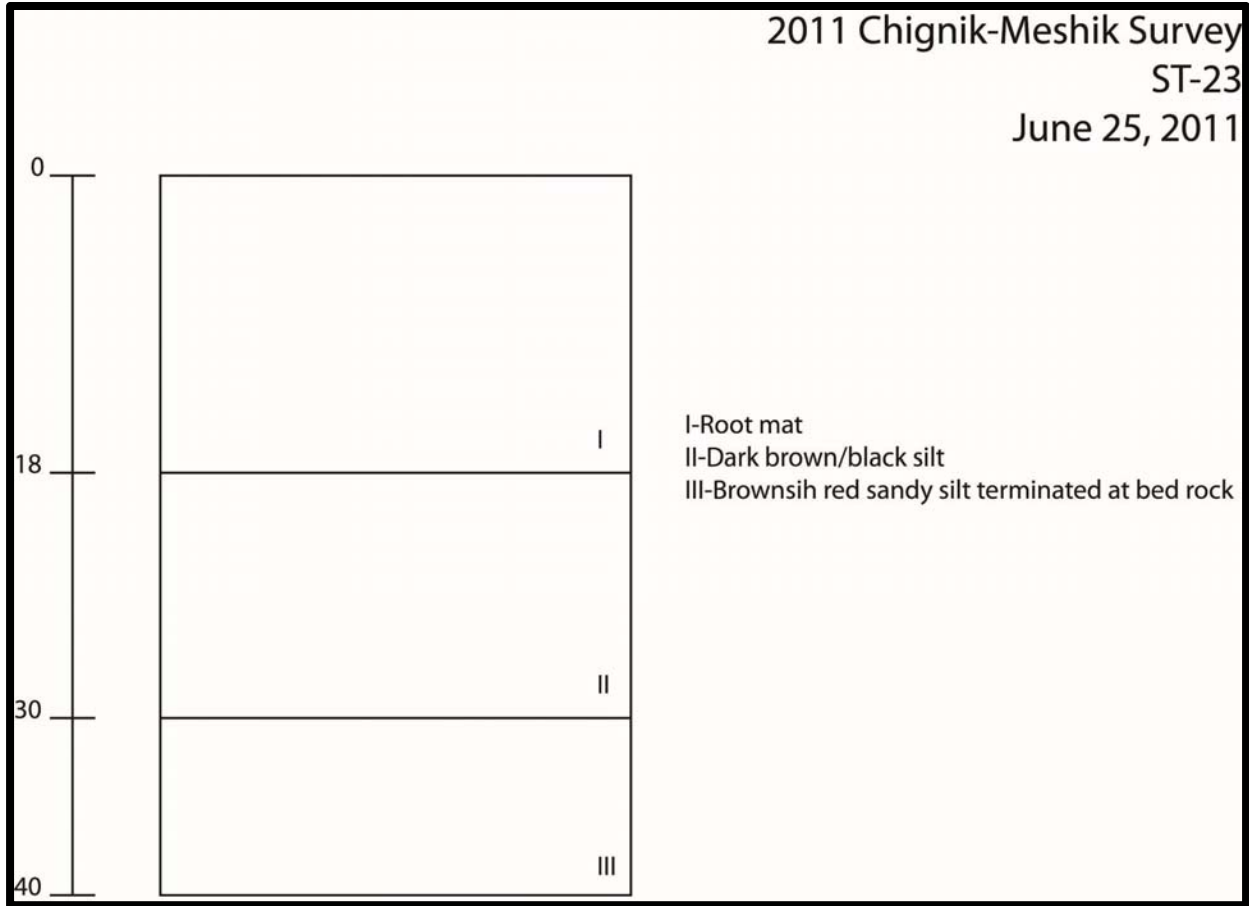


Figure 92: Soil Profile for ST-23

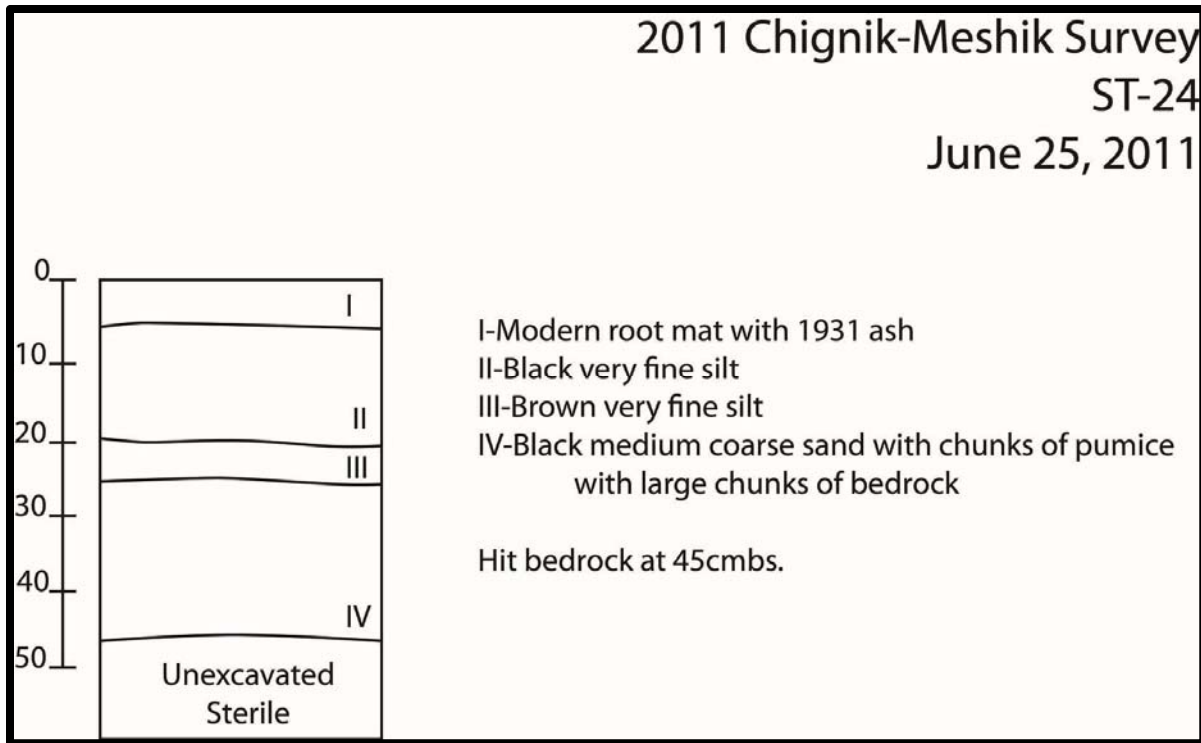


Figure 93: Soil Profile for ST-24

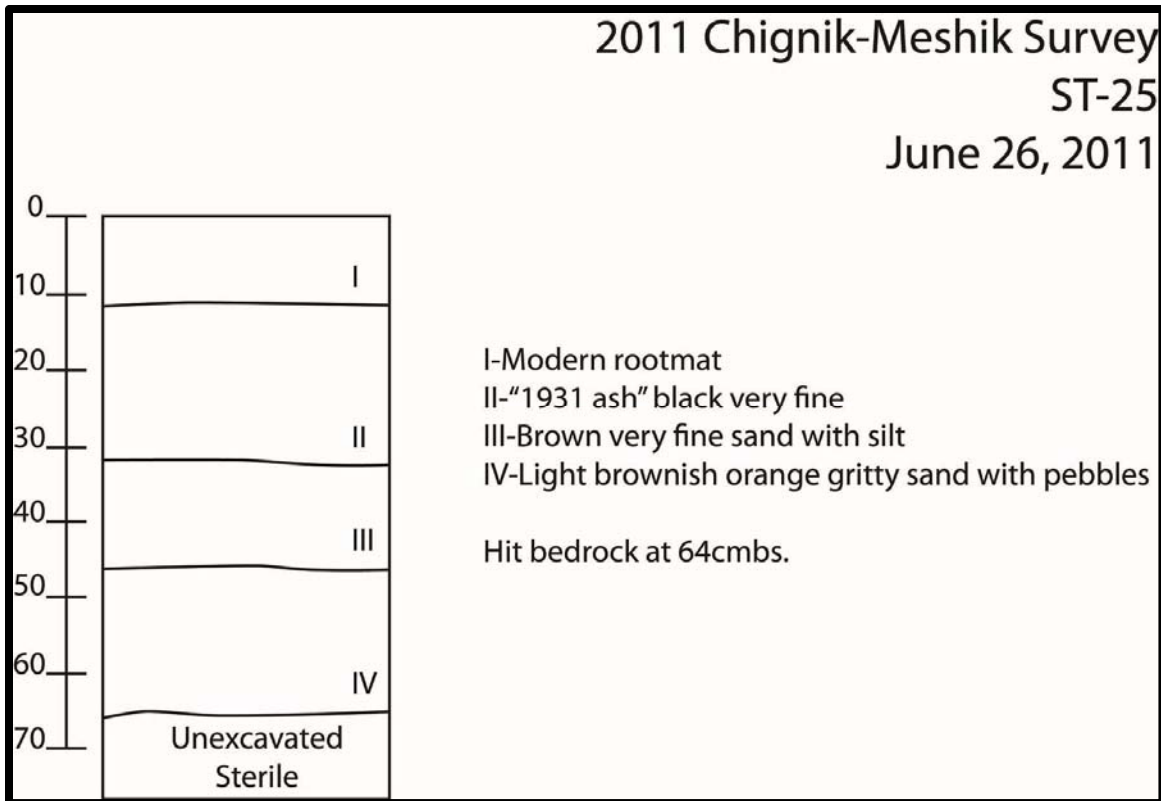


Figure 94: Soil Profile for ST-25

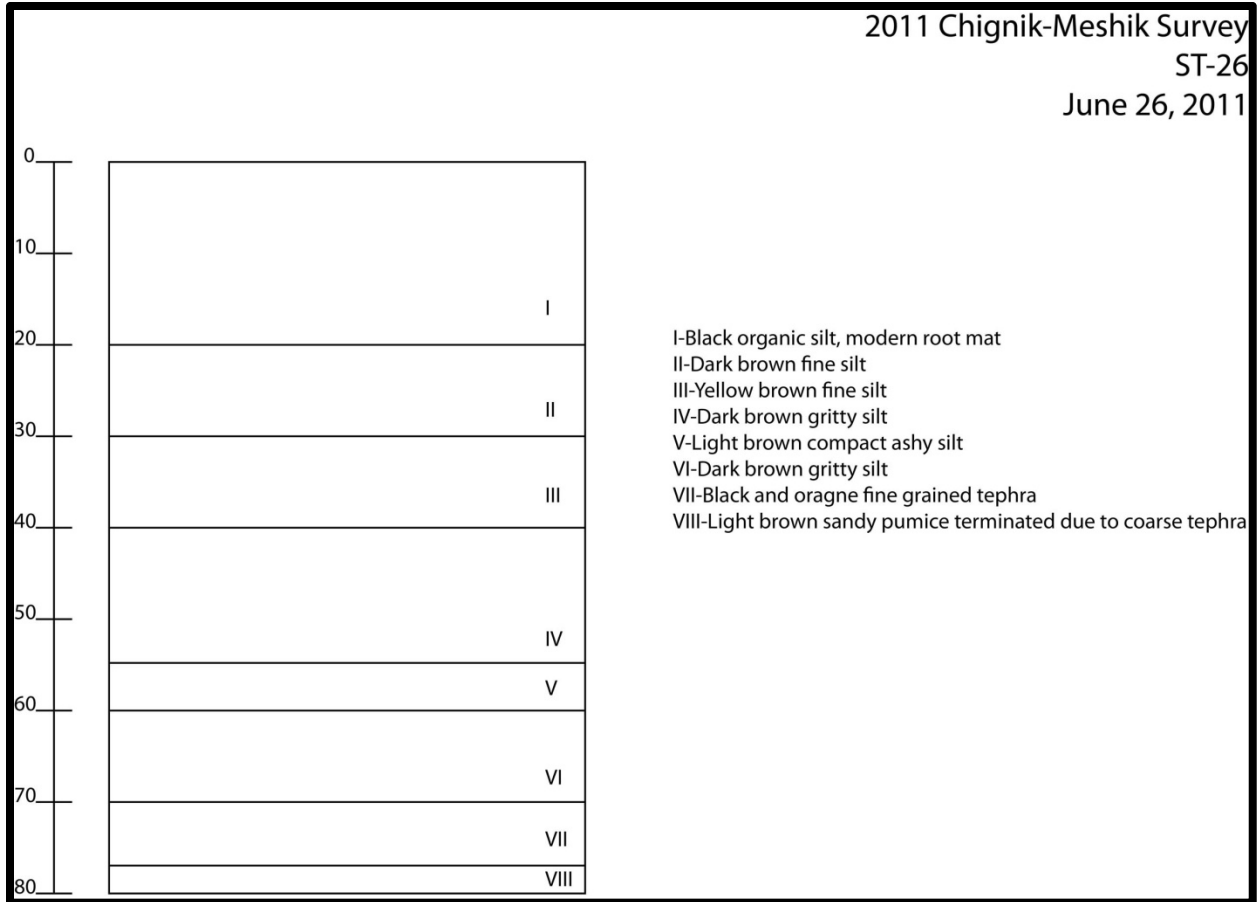


Figure 95: Soil Profile for ST-26

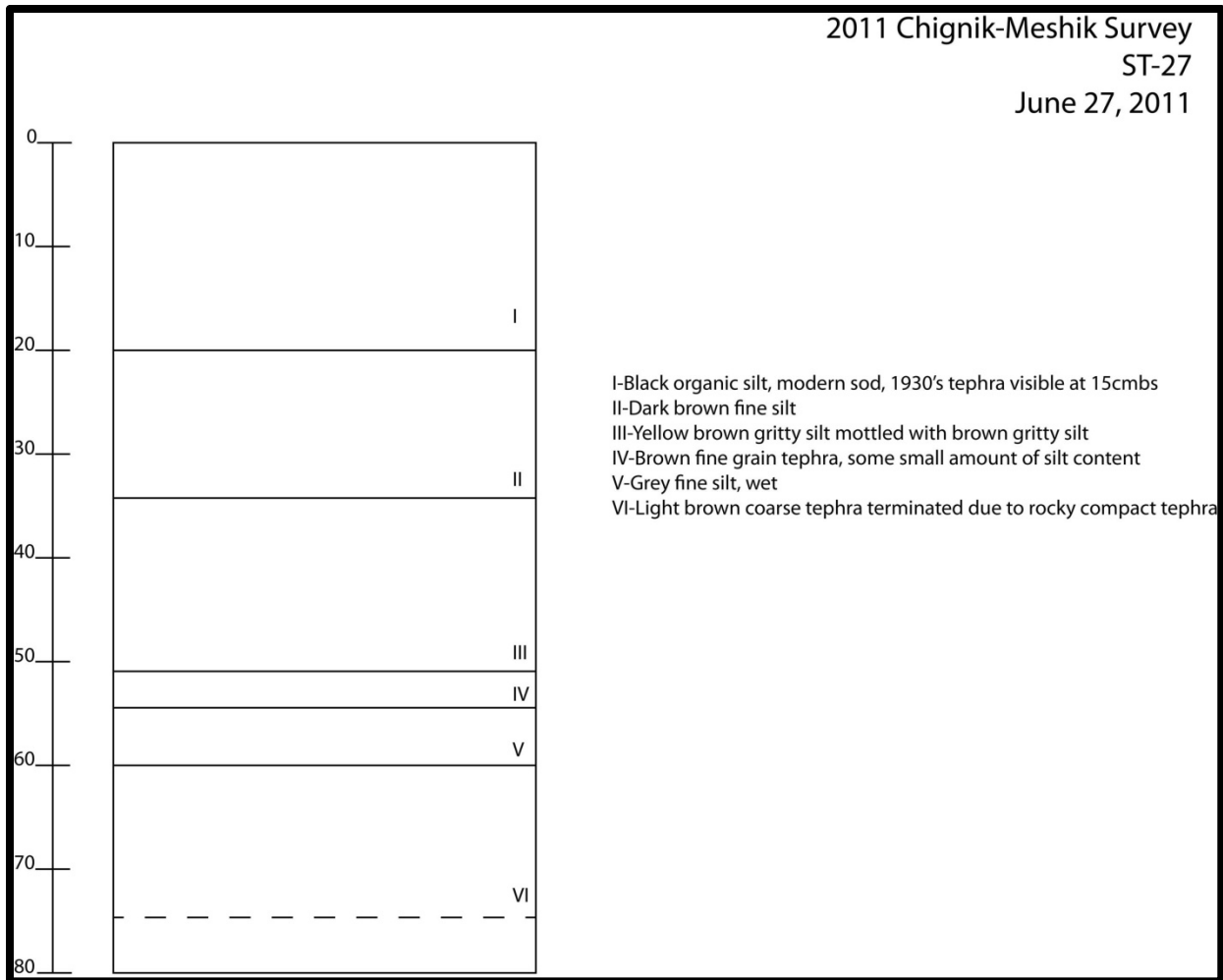


Figure 96: Soil Profile for ST-27



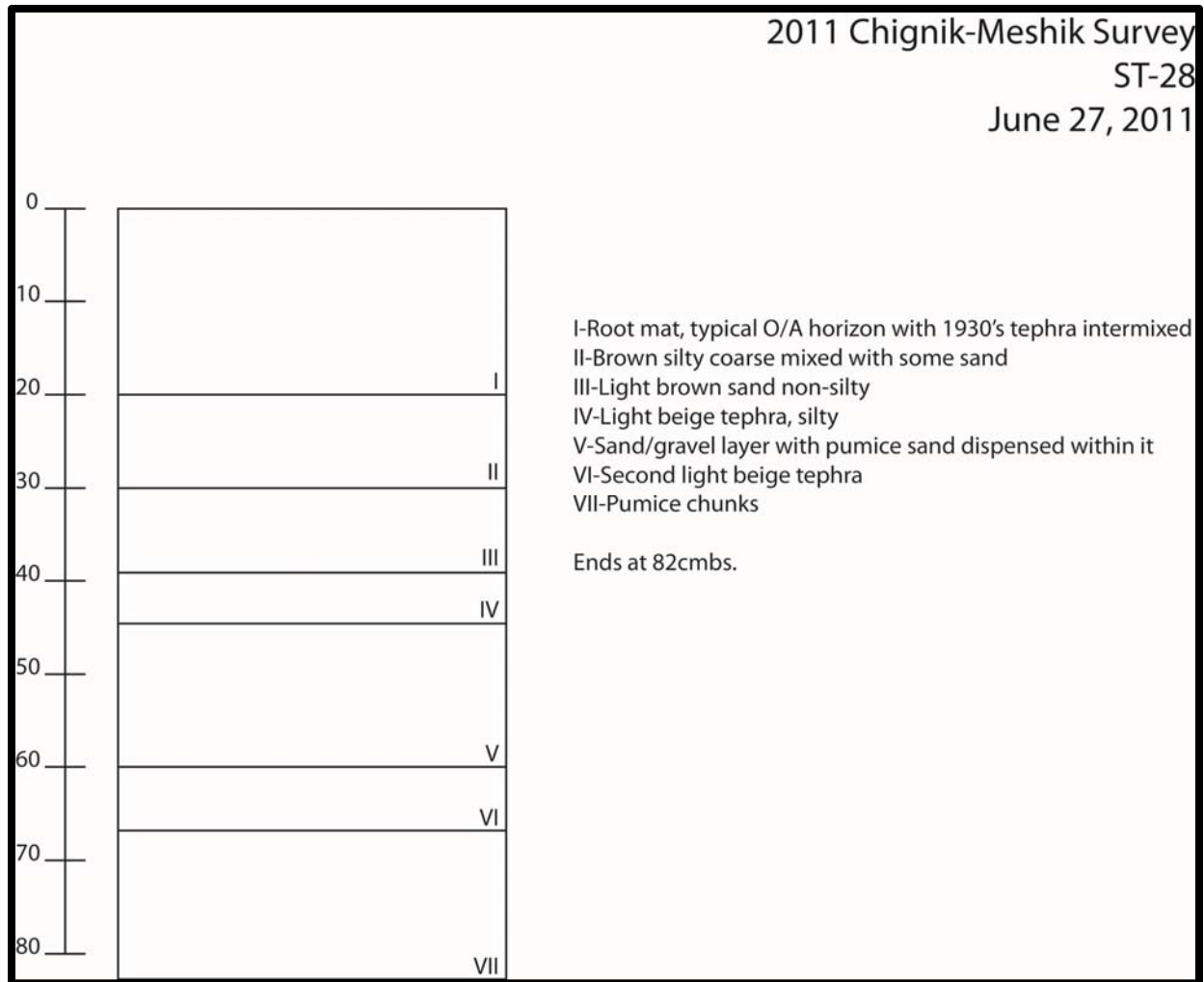


Figure 97: Soil Profile for ST-28

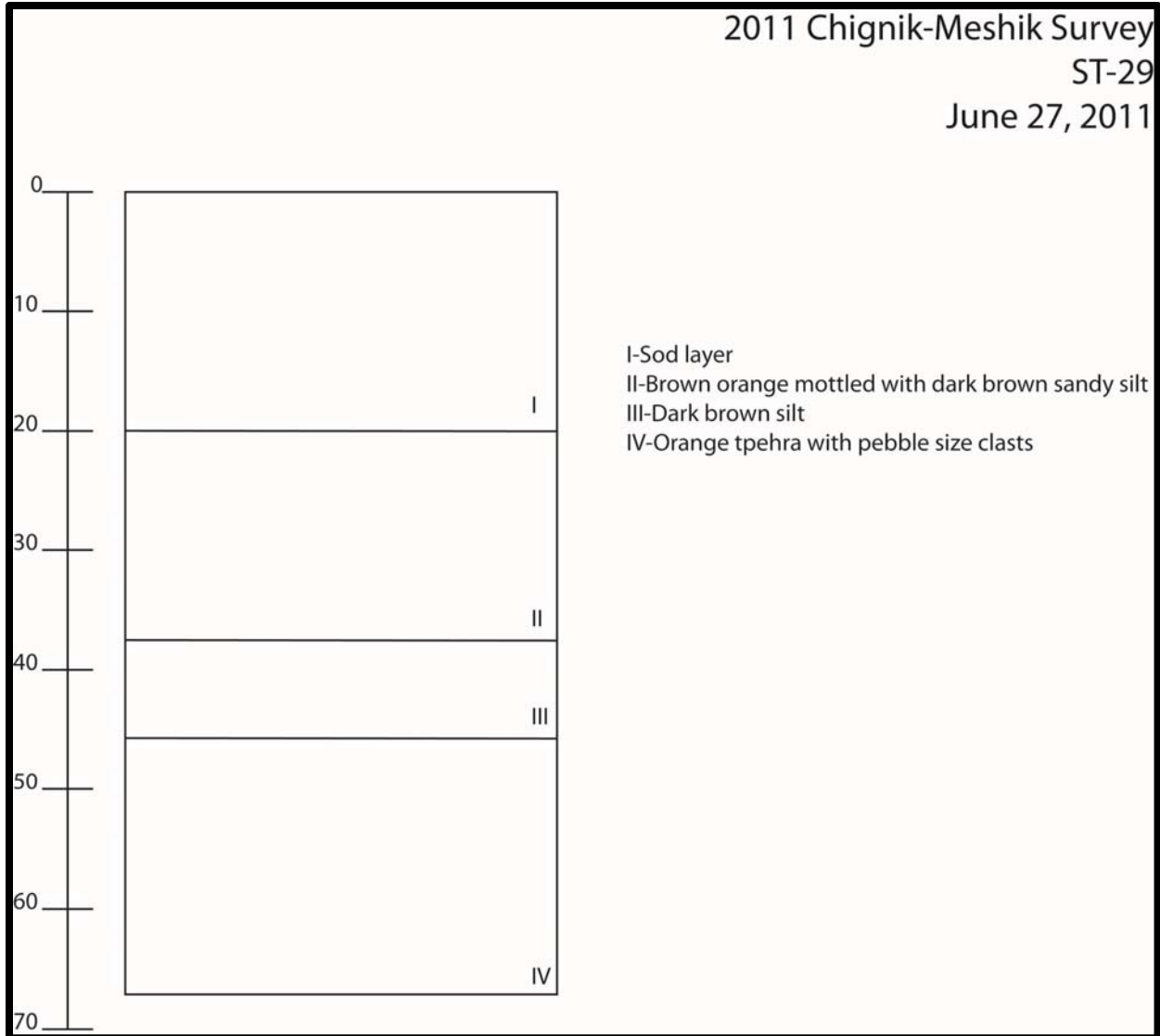


Figure 98: Soil Profile for ST-29

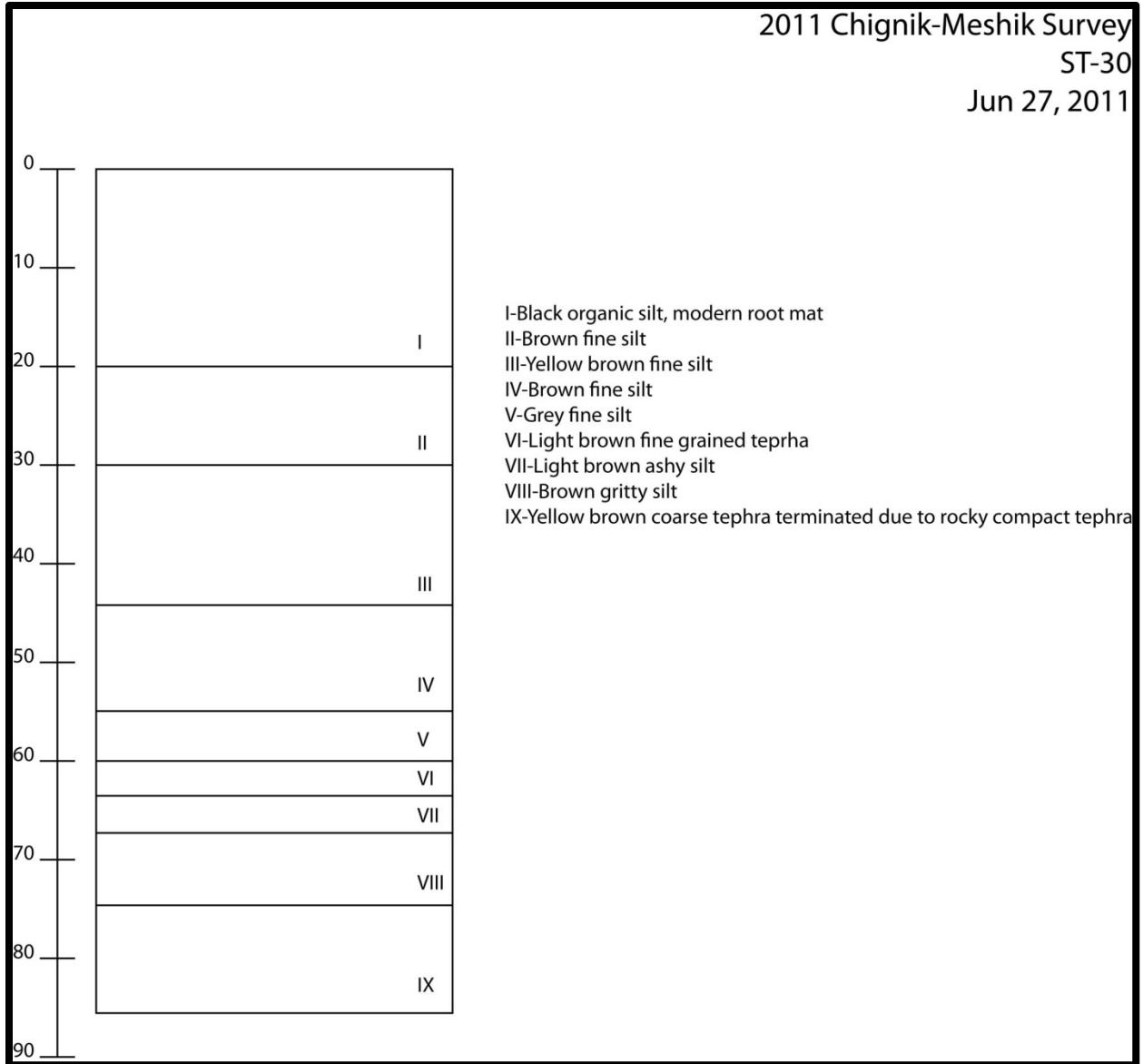


Figure 99: Soil Profile for ST-30

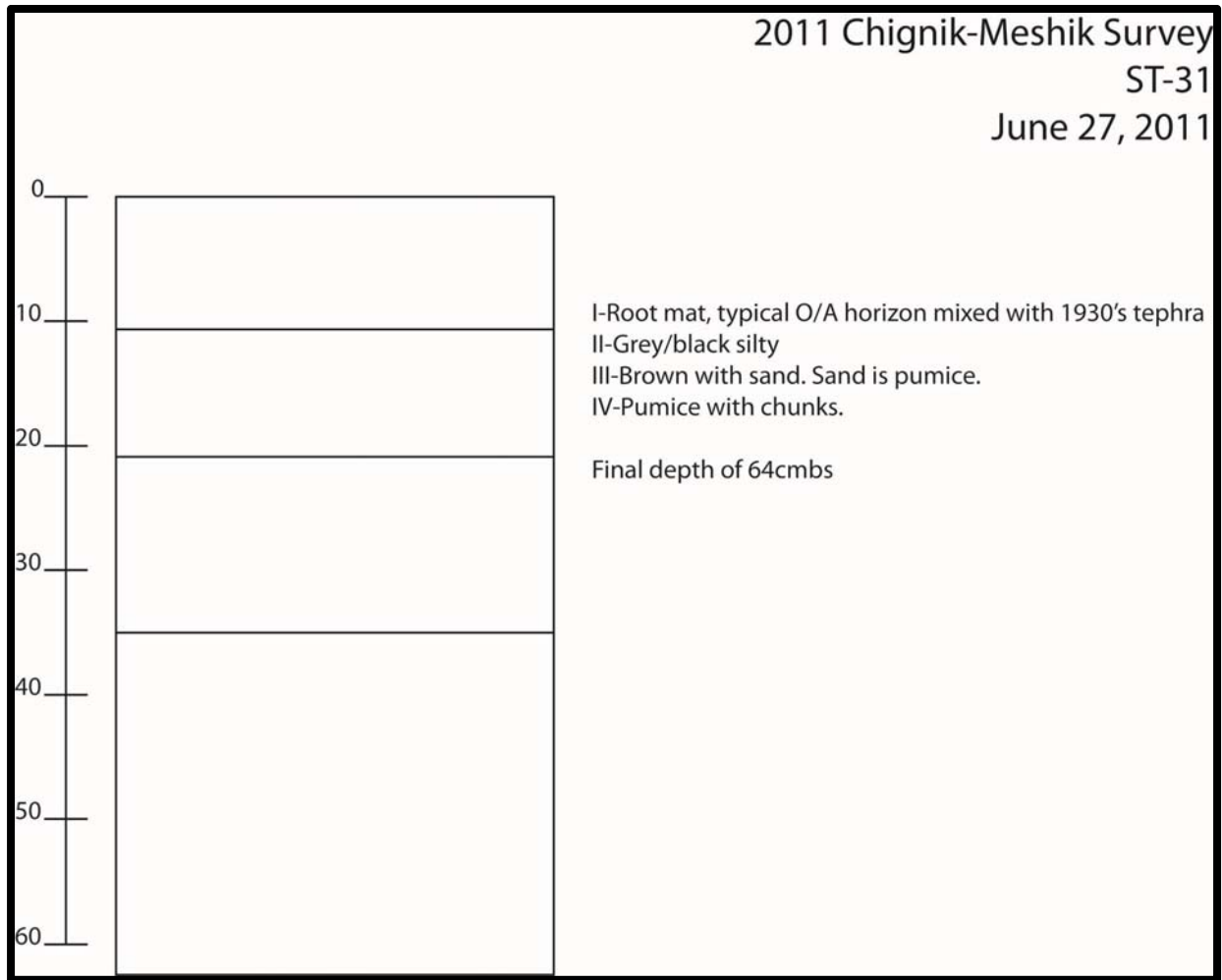


Figure 100: Soil Profile for ST-31

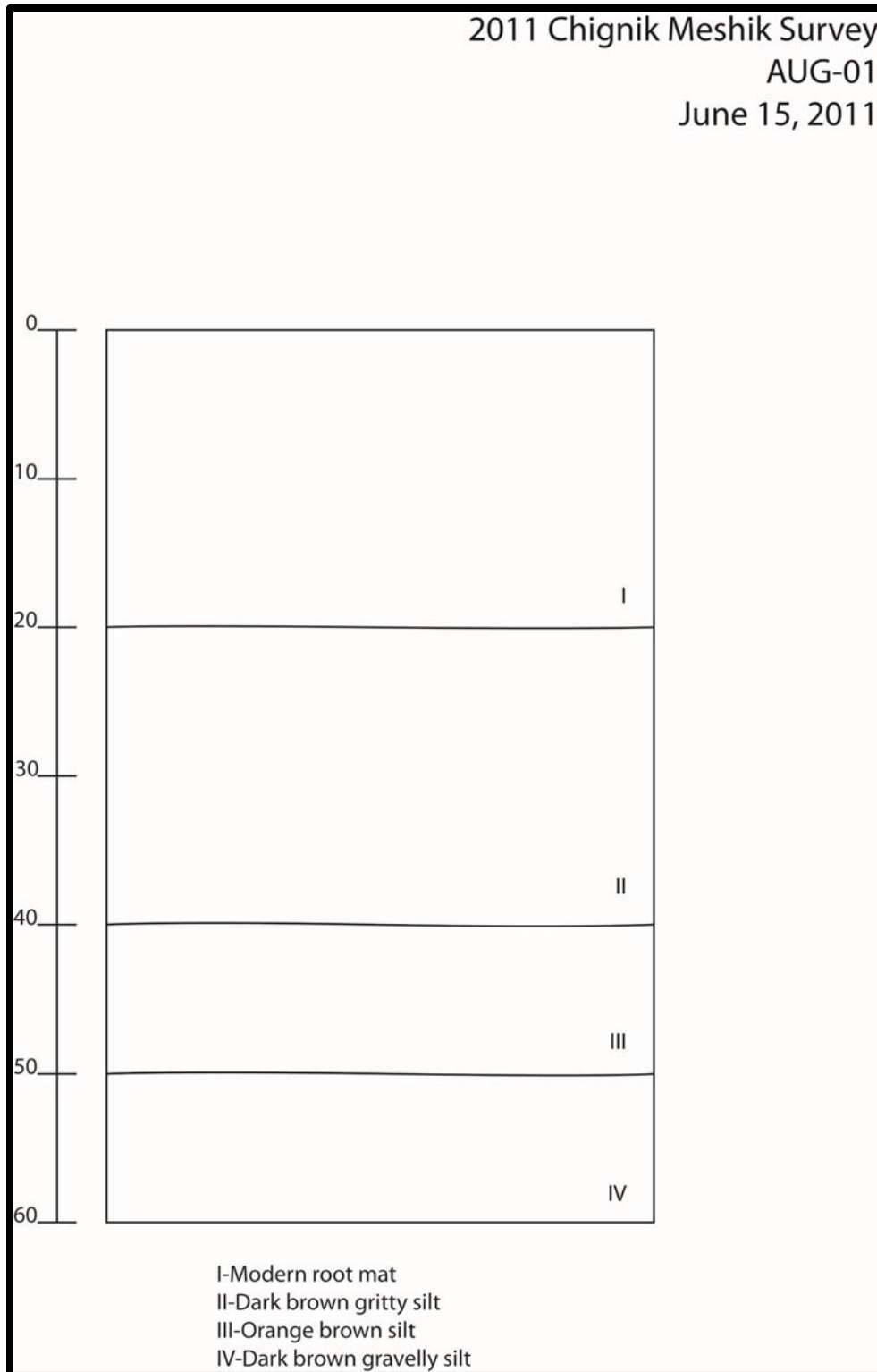


Figure 101: Soil Profile for AUG-001

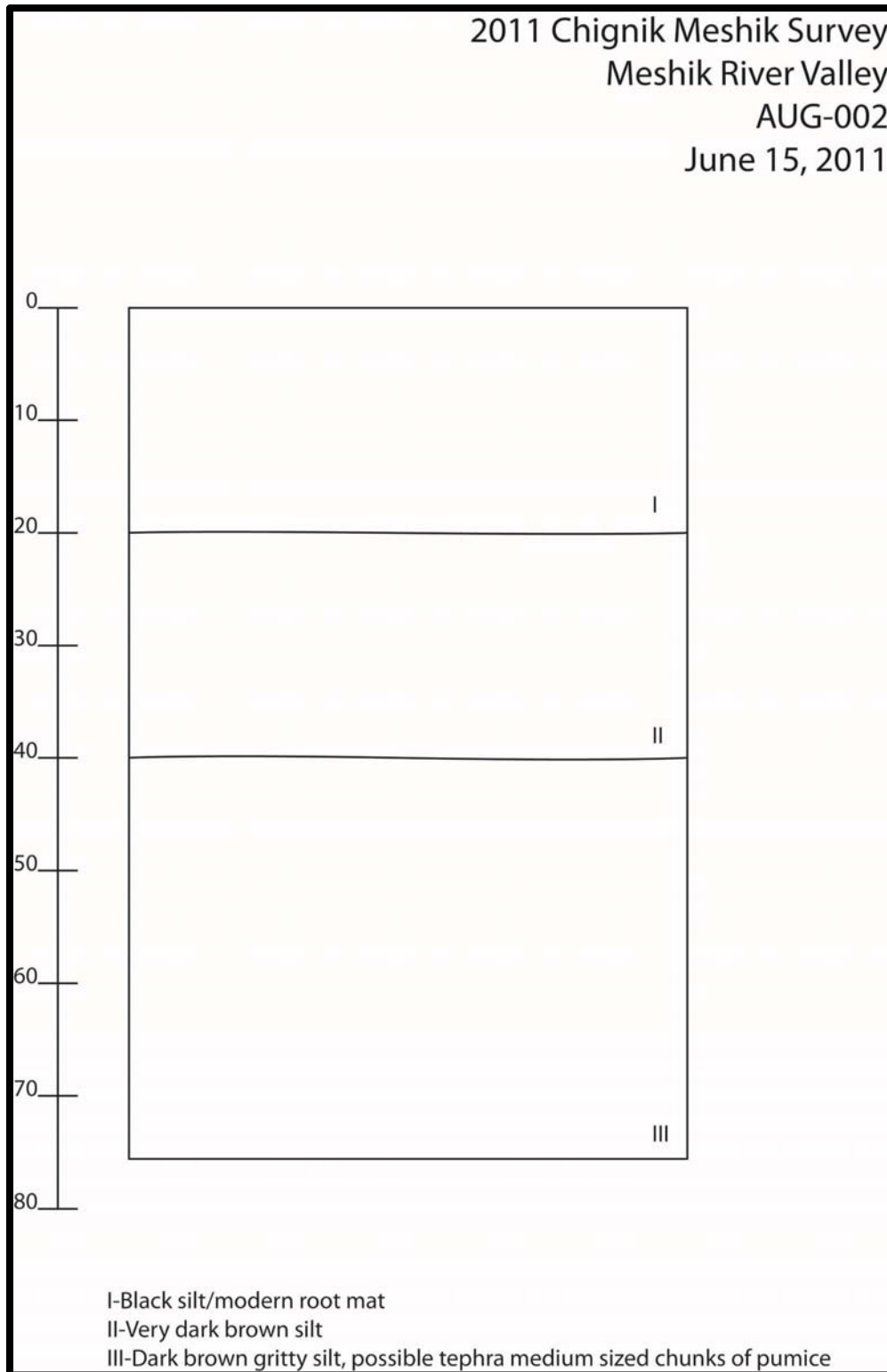


Figure 102: Soil Profile for AUG-002

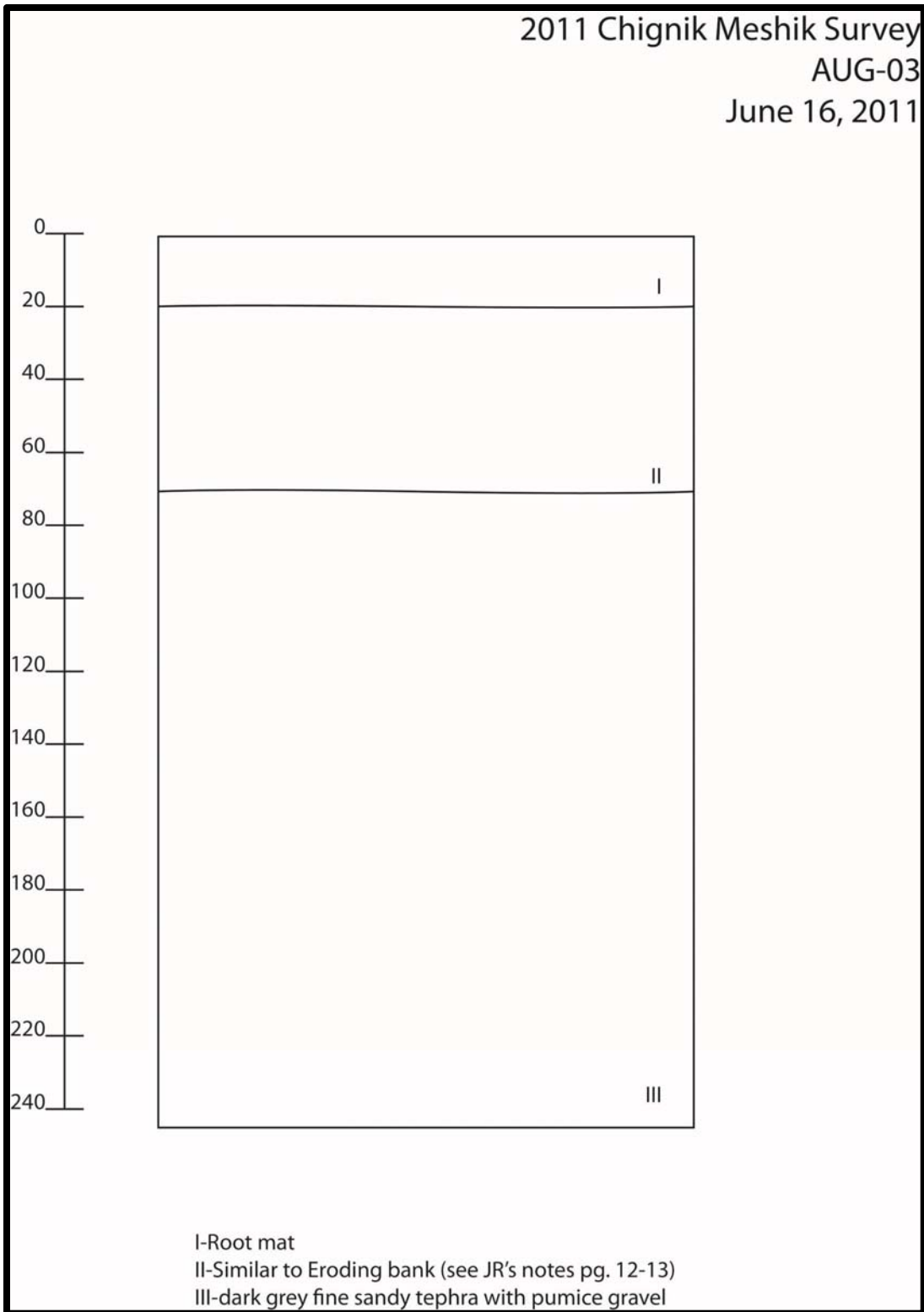


Figure 103: Soil Profile for AUG-003

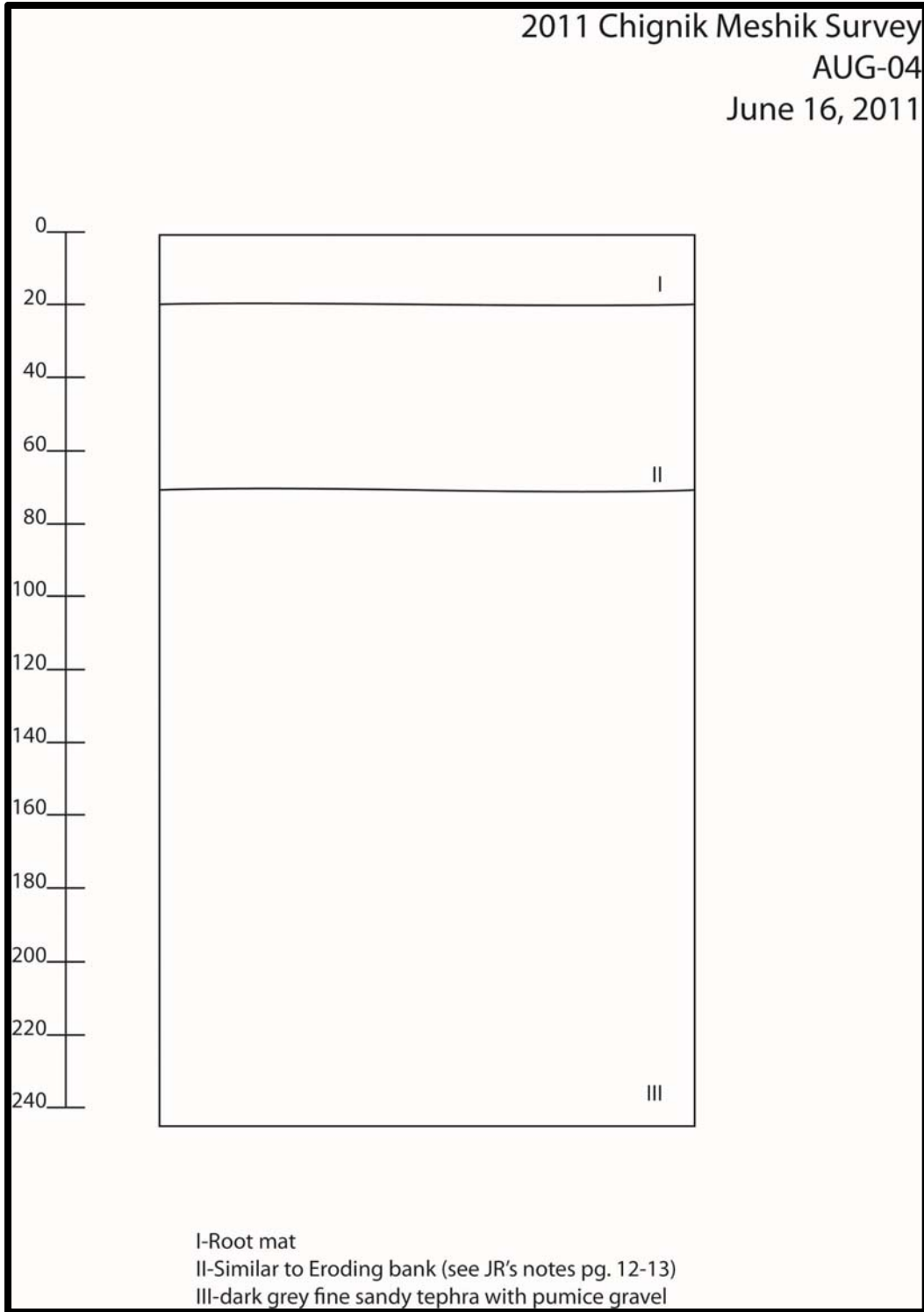


Figure 104: Soil Profile for AUG-004



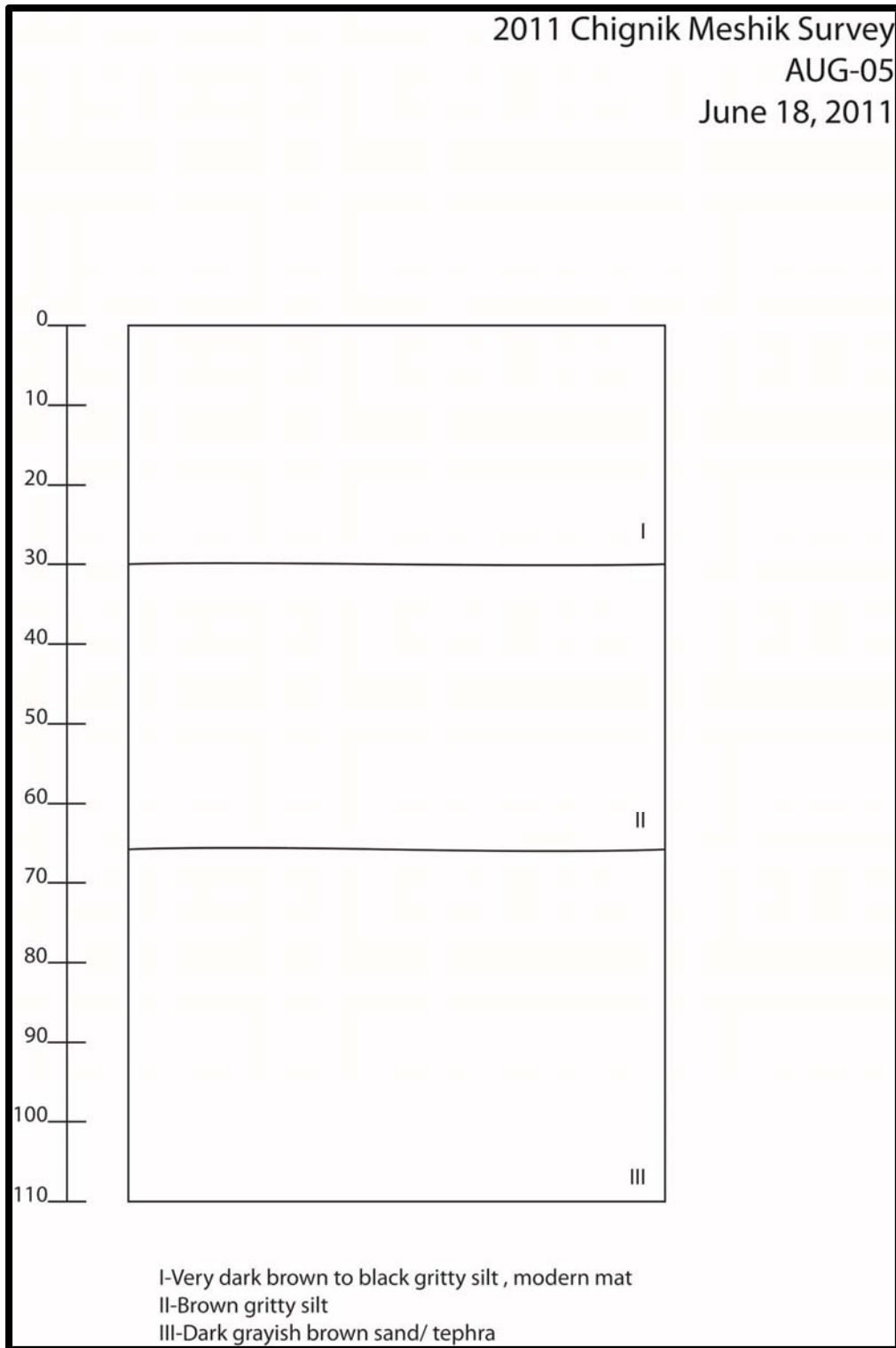


Figure 105: Soil Profile for AUG-005

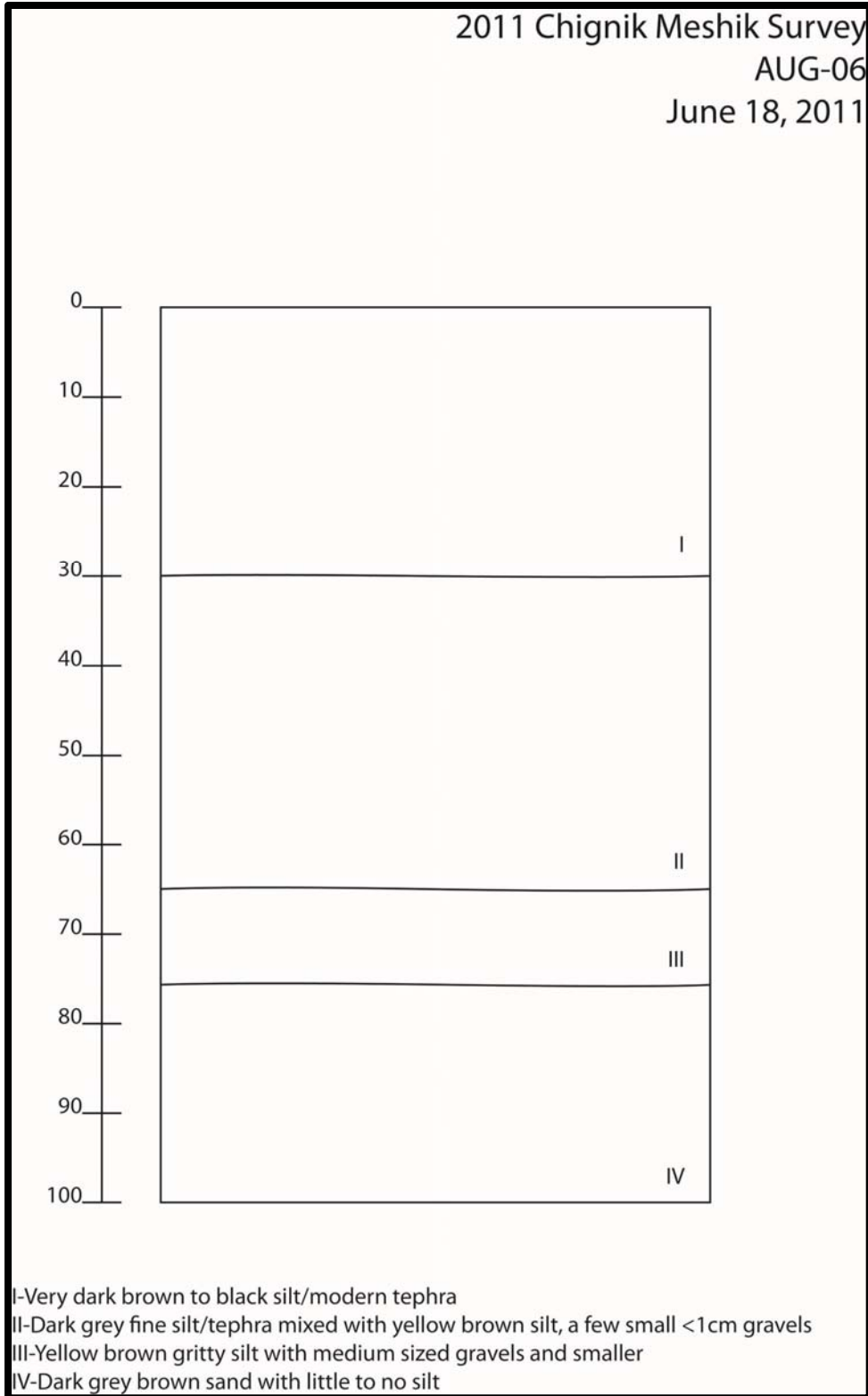


Figure 106: Soil Profile for AUG-006

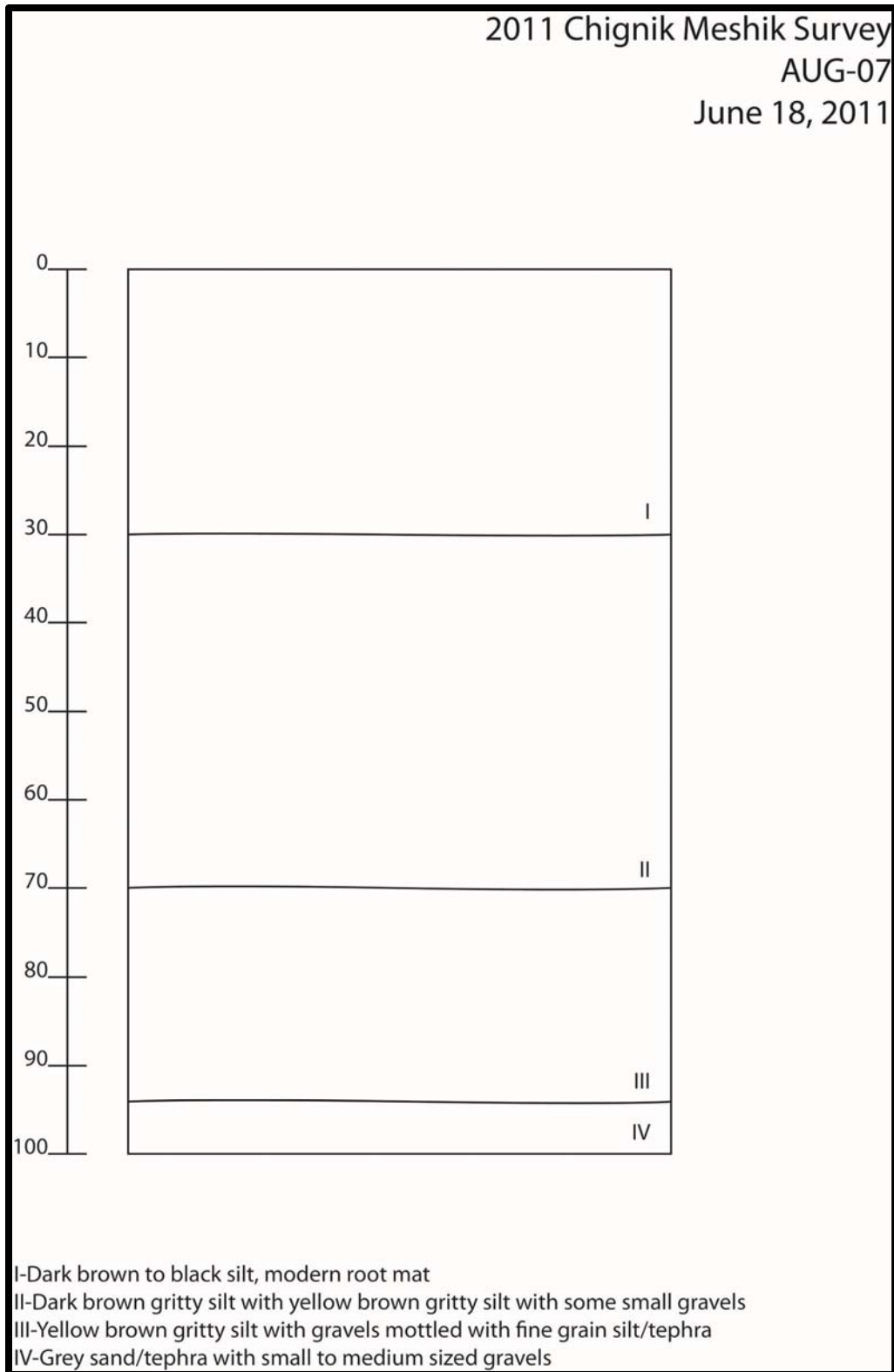


Figure 107: Soil Profile for AUG-007

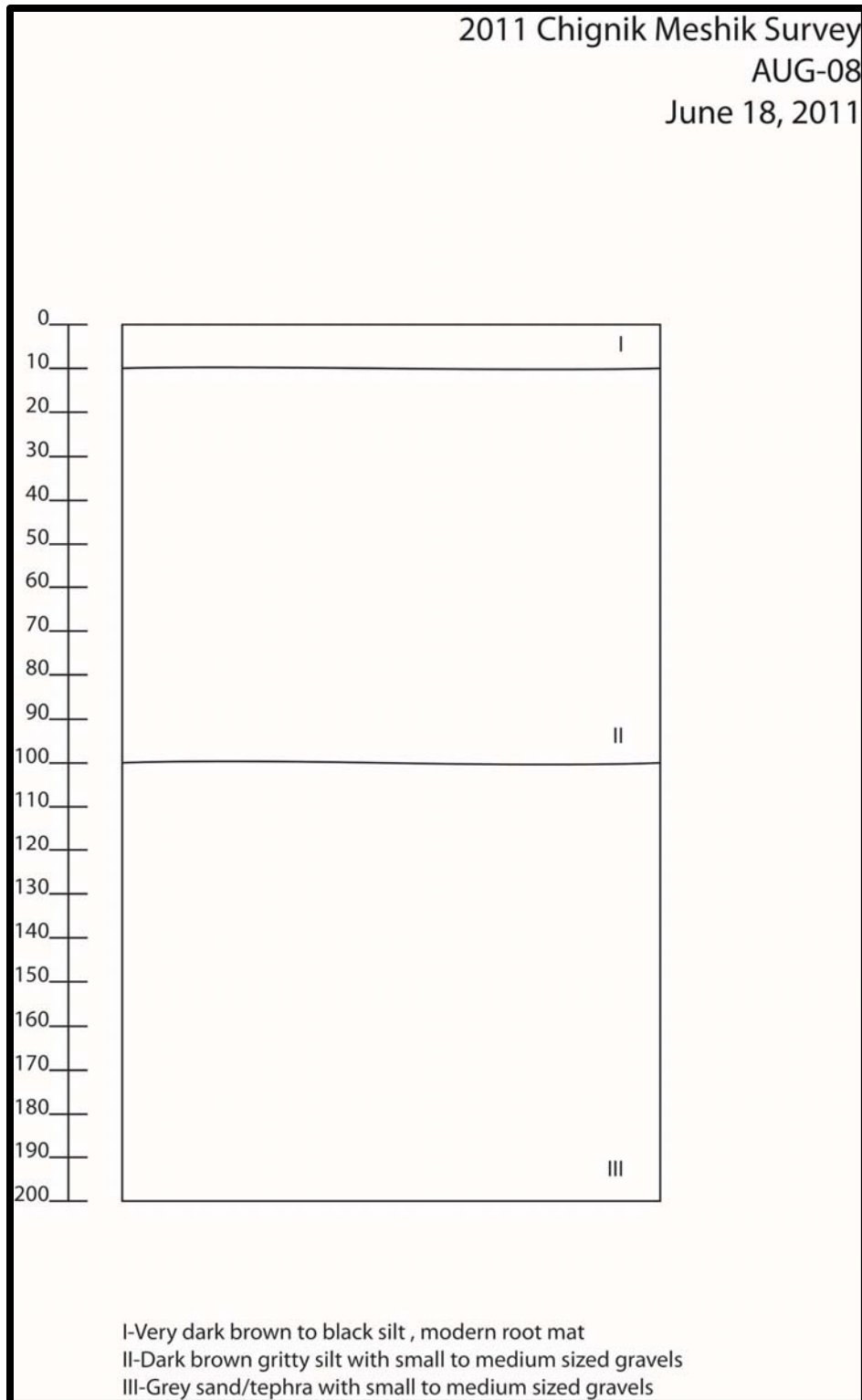


Figure 108: Soil Profile for AUG-008

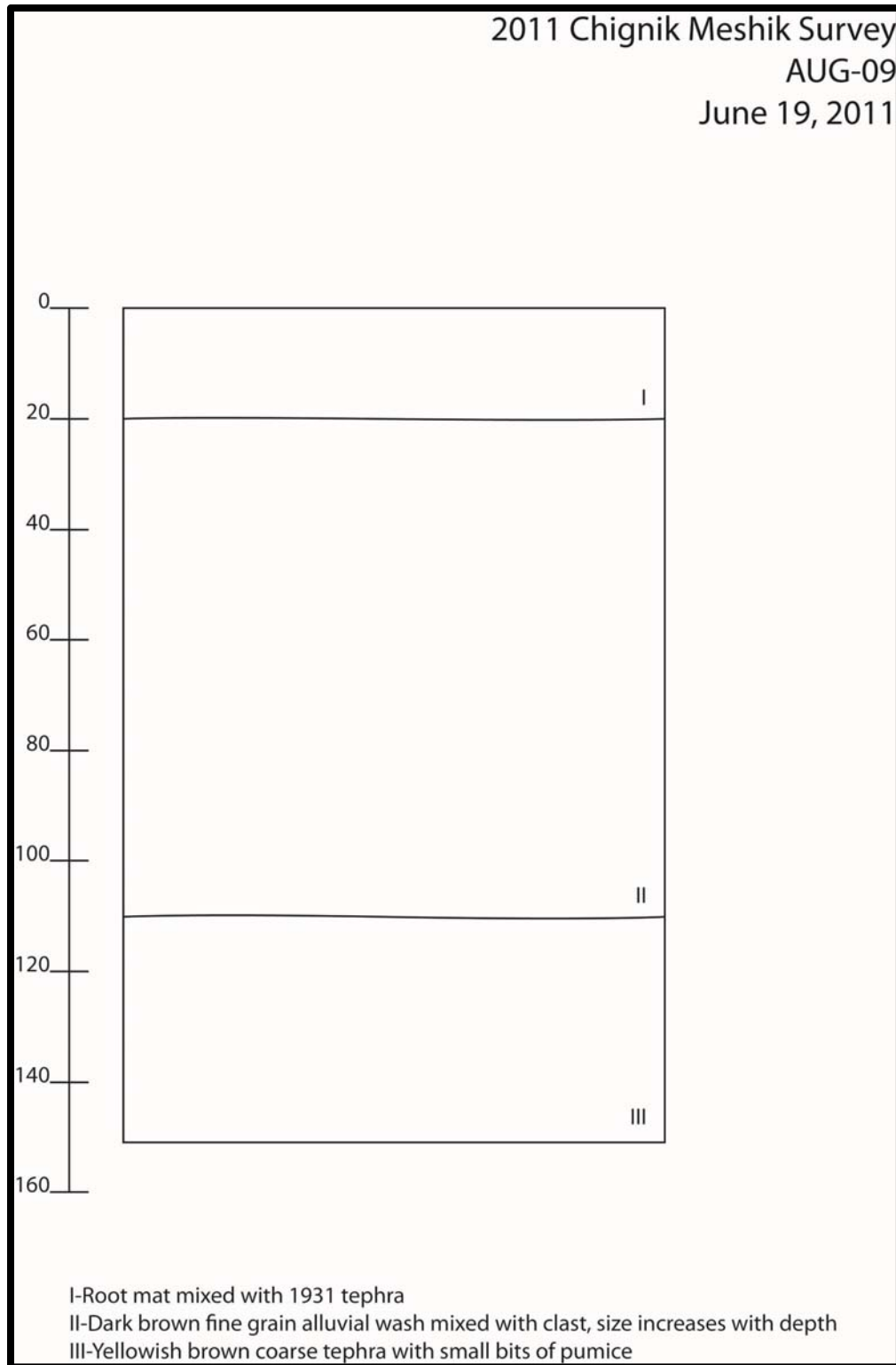


Figure 109: Soil Profile for AUG-009

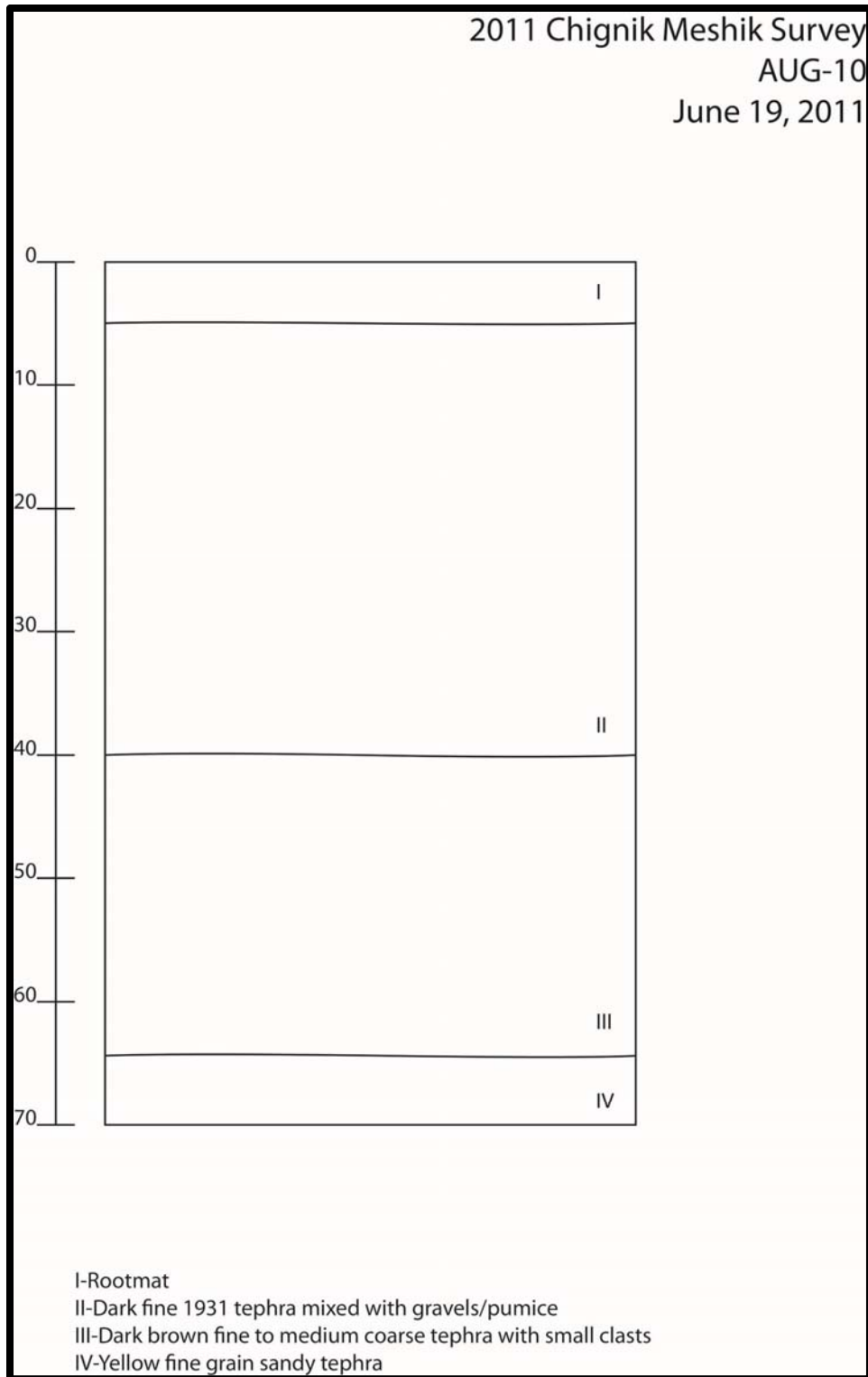


Figure 110: Soil Profile for AUG-010

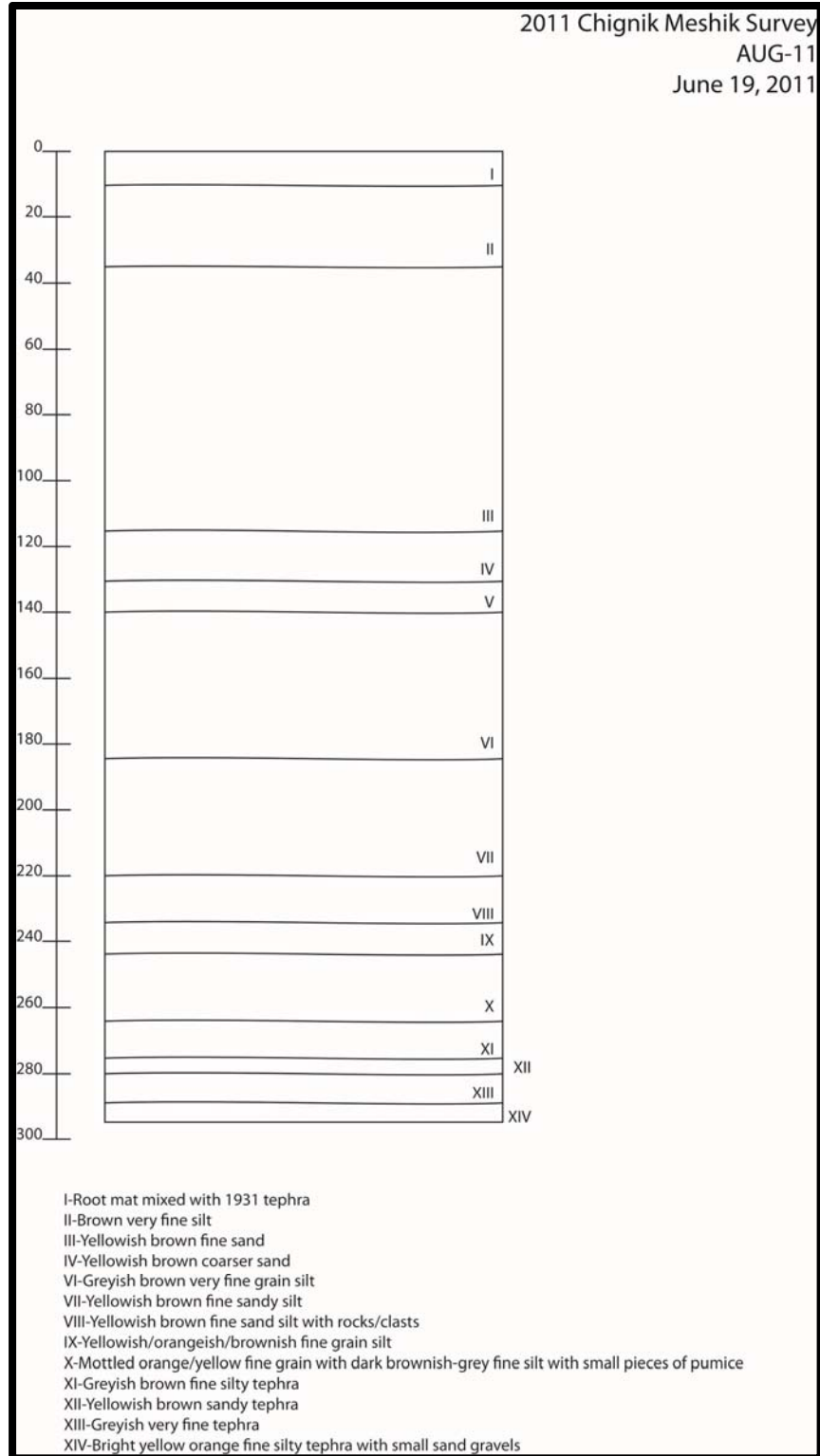


Figure 111: Soil Profile for AUG-011

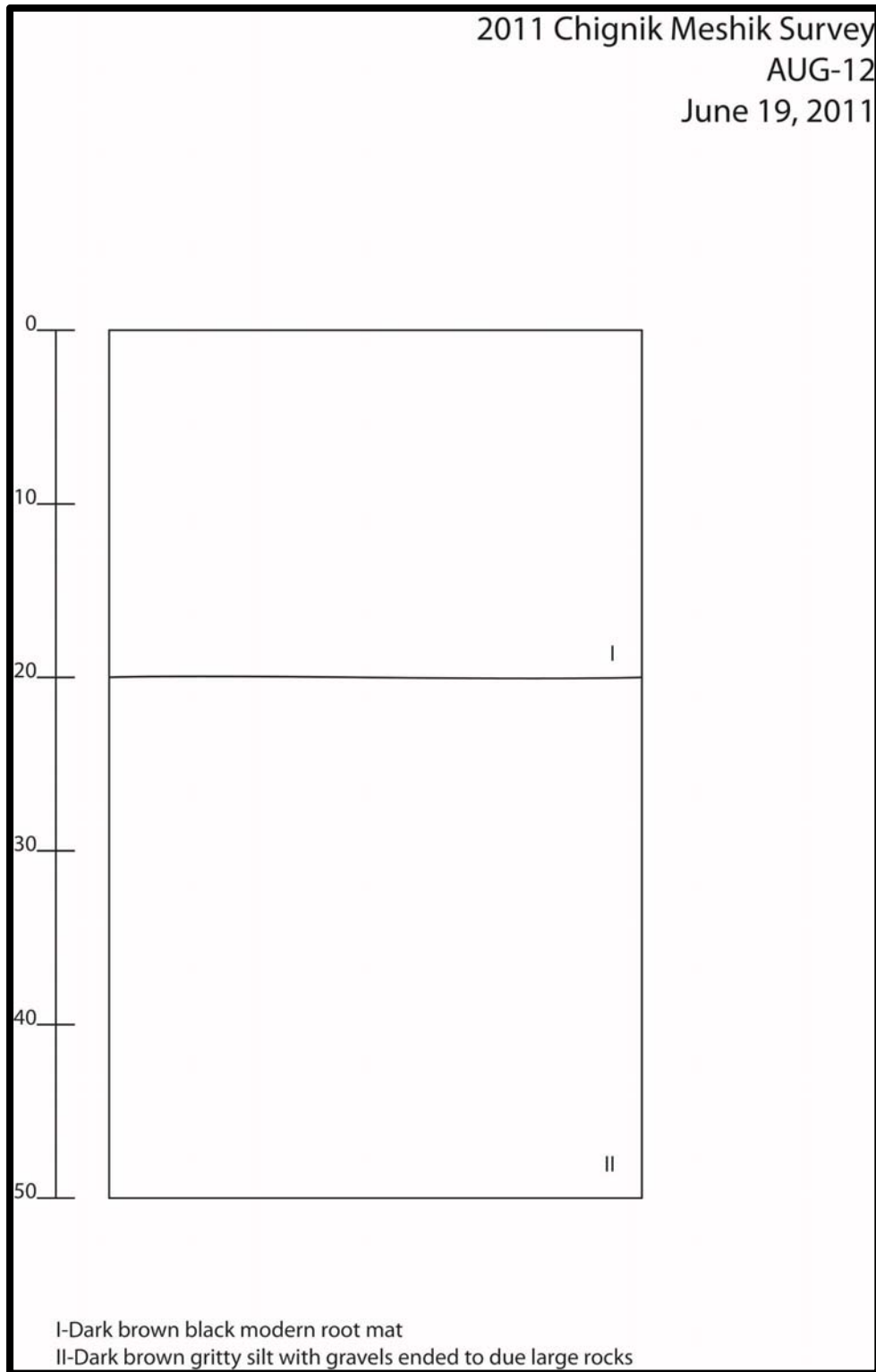


Figure 112: Soil Profile for AUG-012



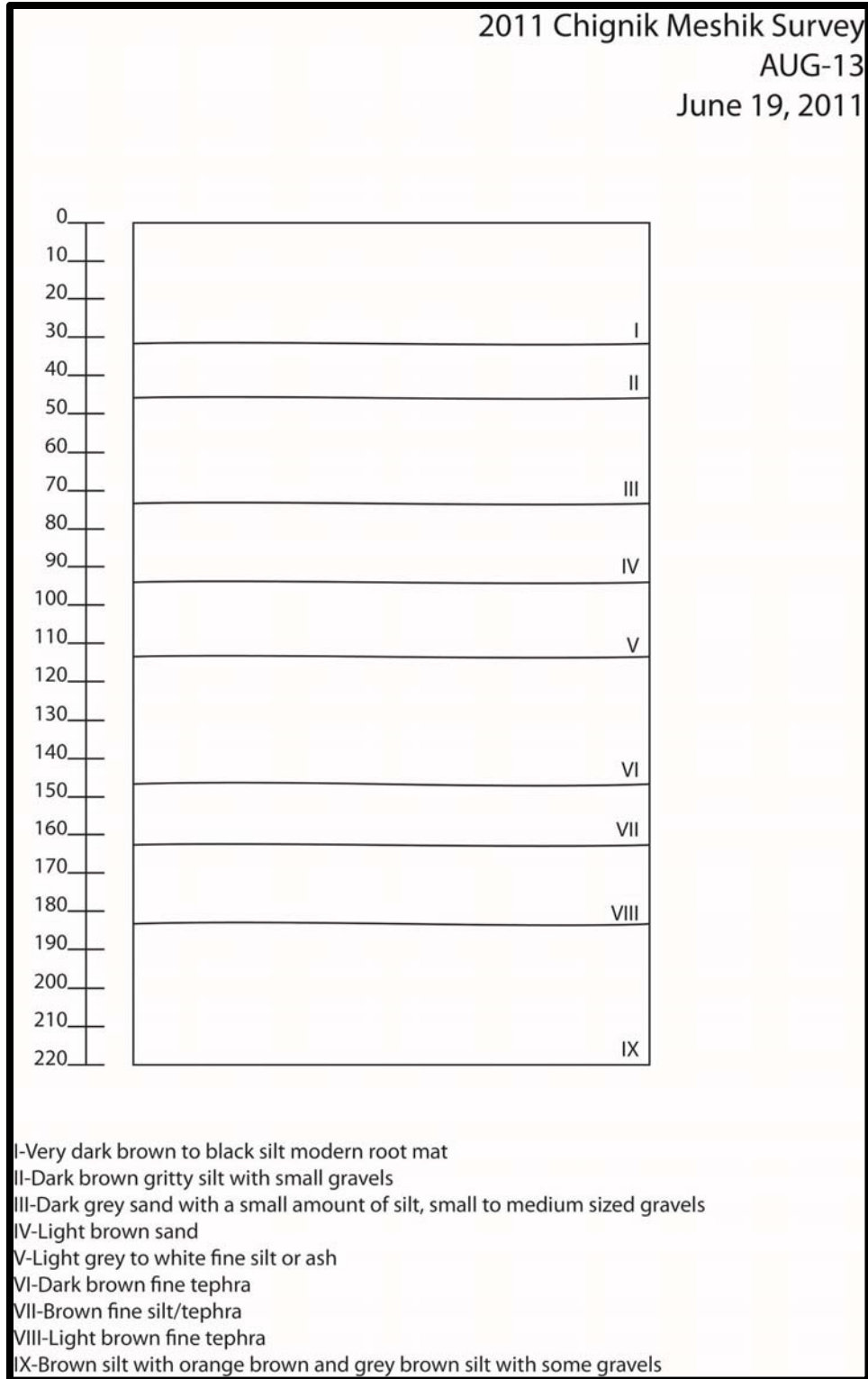


Figure 113: Soil Profile for AUG-013

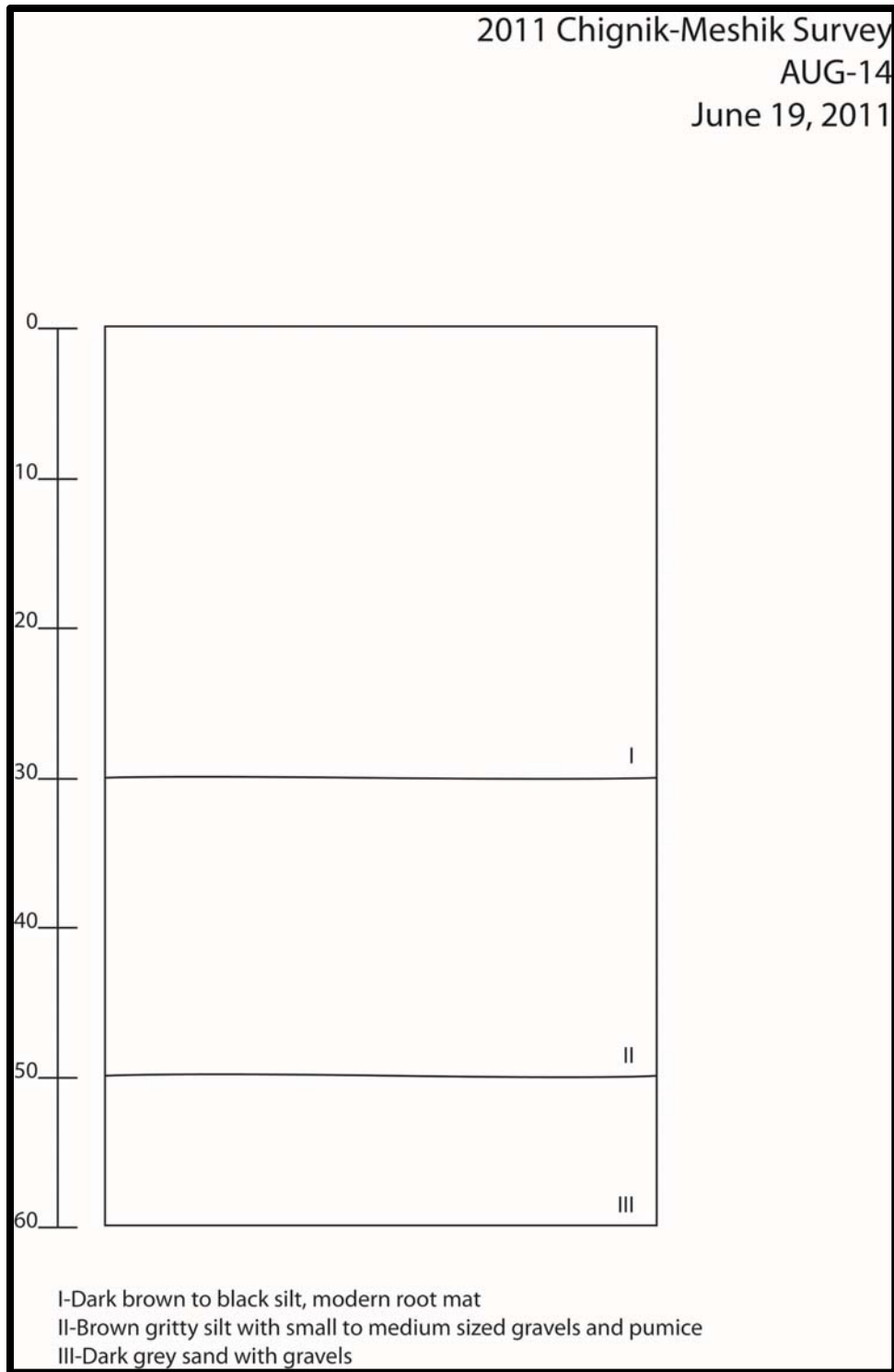


Figure 114: Soil Profile for AUG-014

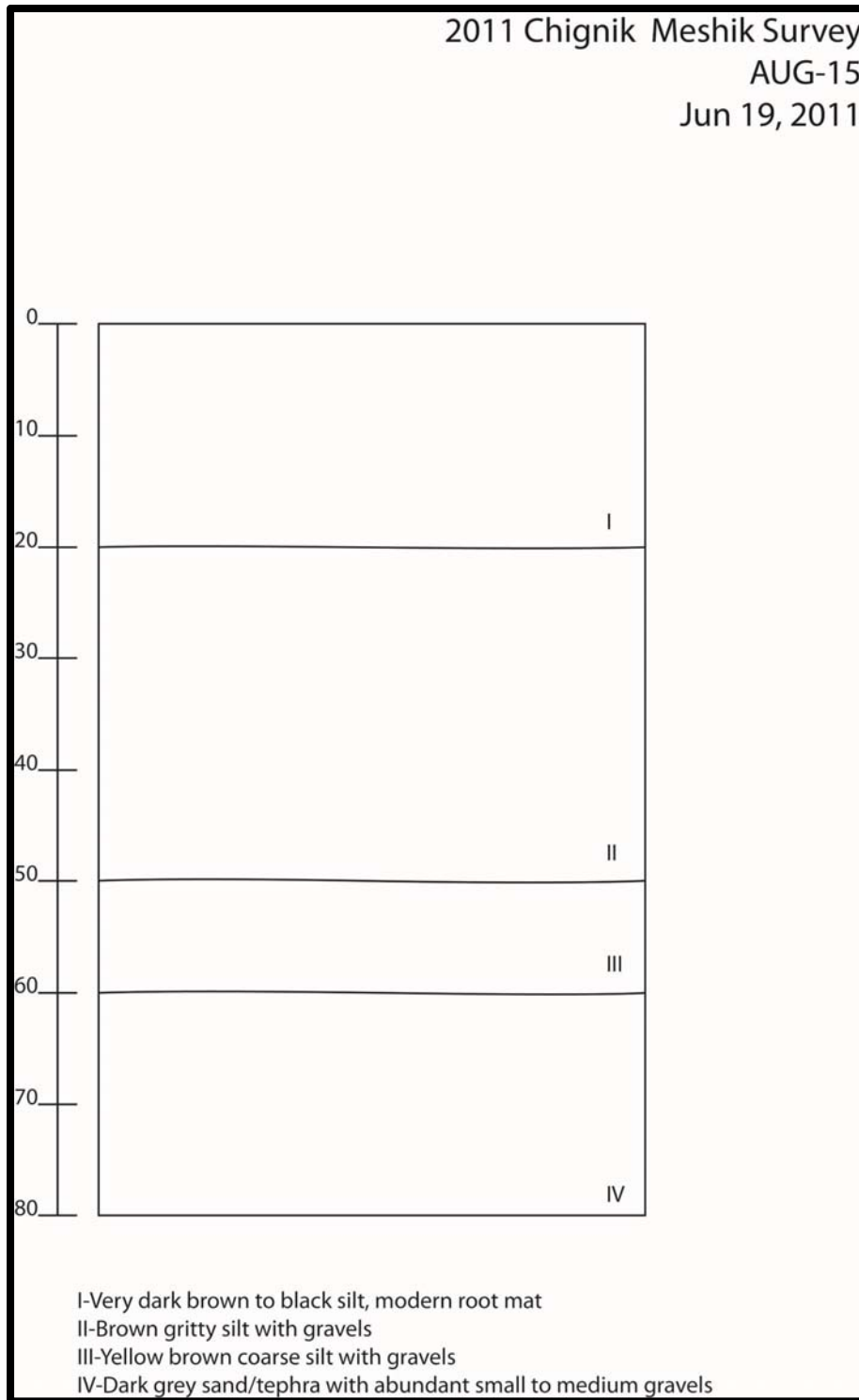


Figure 115: Soil Profile for AUG-015

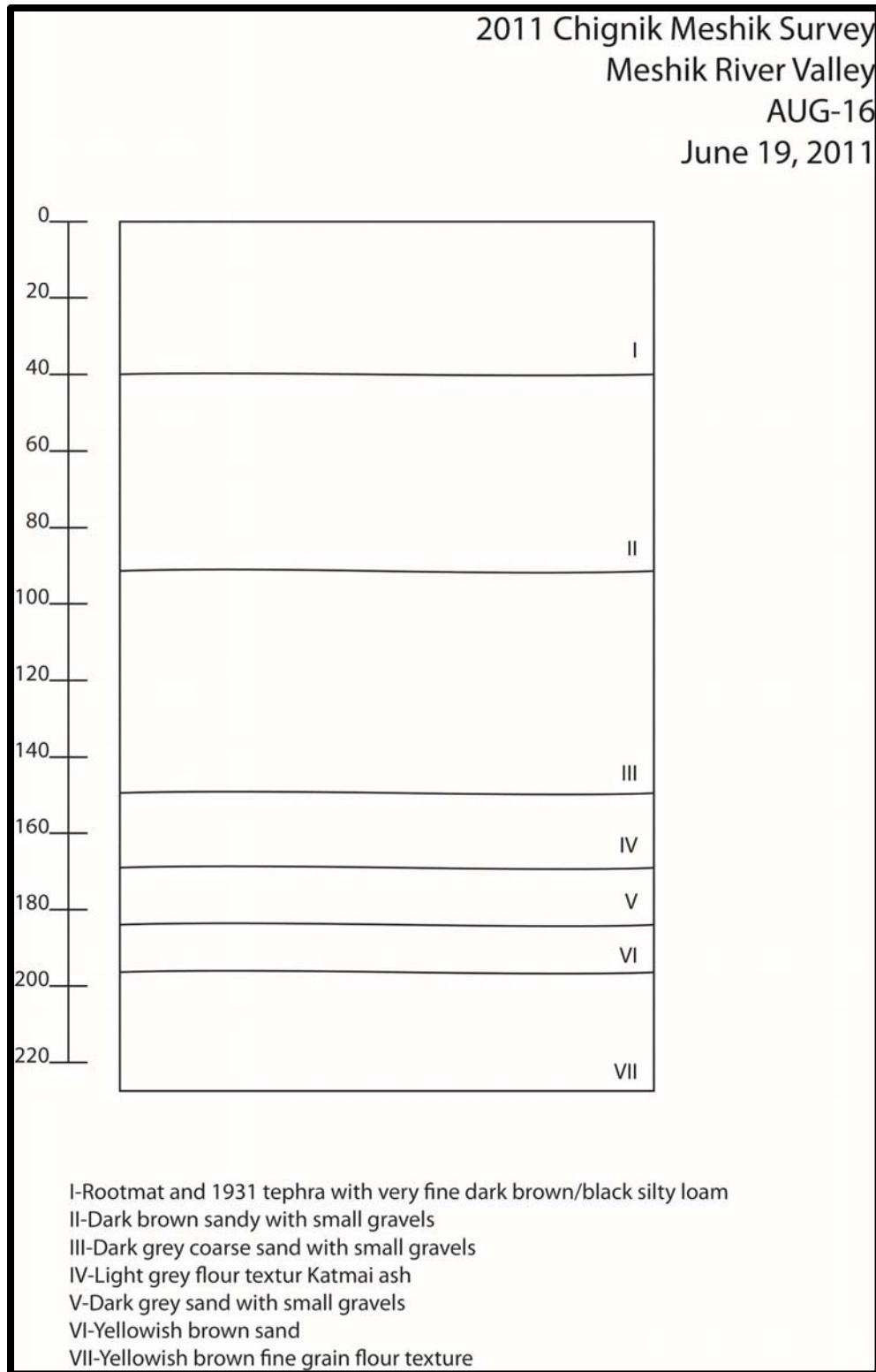


Figure 116: Soil Profile for AUG-016

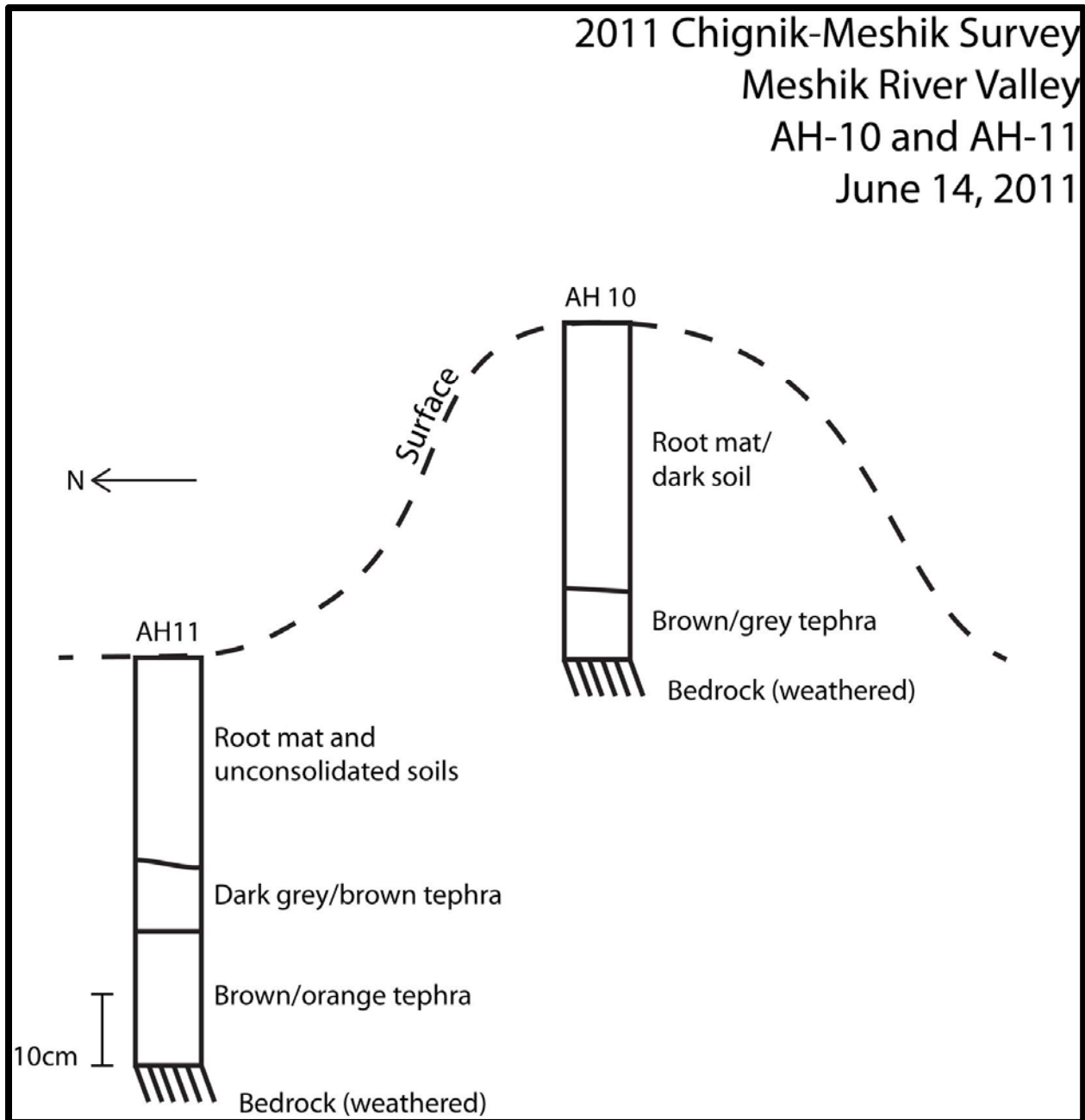


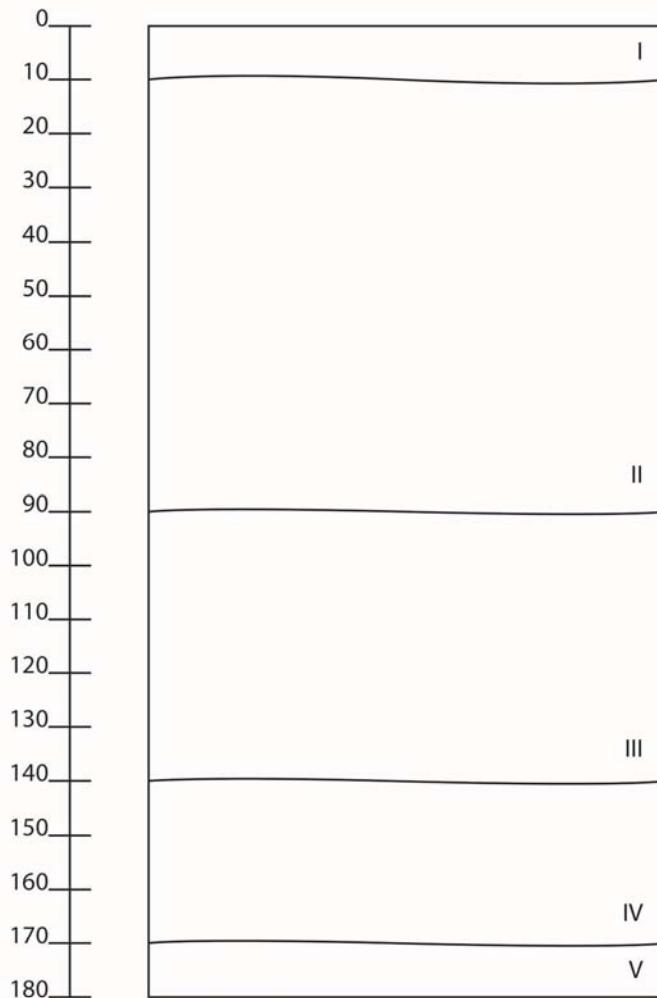
Figure 117: Soil Profiles for AH10 and AH11

2011 Chignik Meshik Survey

CHK-00059

AH-01

June 14, 2011



- I-Dark brown to black fine silt mixed with fine tephra, modern root mat
- II-Dark brown gritty silt with abundant angular gravels from sand grain size to 5cm
- III-Orange brown gritty silt with abundant small gravels (<1cm)
- IV-Dark brown gritty silt with small gravels
- V-Orange brown sandy silt with small gravels terminated at 180cmbs due to large stone

Figure 118: Soil Profile for AH01 at CHK-00059

## **Appendix 9: AHRs cards for sites found and visited during 2011**

NOTE: all records from the Alaska Heritage Resources Survey (AHRs) have been removed from this publicly accessible document. To access this information, please contact the Alaska State Office of History & Archaeology, or visit <http://dnr.alaska.gov/parks/oha/ahrs/ahrs.htm>