
Final
Archaeological Inventory Survey Report for the
AES Kuihelani Solar Phase 2 Project,
Waikapū Ahupua‘a, Wailuku District, (Pū‘ali Komohana
Moku), Maui Island,
TMK: [2] 3-8-005:002 por.

Volume III of III

Prepared for
Kuihelani Solar Phase 2, LLC
and
County of Maui, Department of Planning

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September 2025

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Section 1 Results of Fieldwork

Volume III of the AIS report for the AES Kuihelani Solar Phase 2 Project contains the descriptions of Trenches 101 through 230, which were distributed throughout the southern half of the study area (Figure 1 and Figure 2). See Volume I for the ground penetrating radar (GPR) and geotechnical boring results, along with the background research, field methods, laboratory results, historic property descriptions, significance assessments, project effect, and mitigation recommendations. See Volume II for the descriptions of Trenches 1 through 100, which were distributed throughout the northern half of the study area.

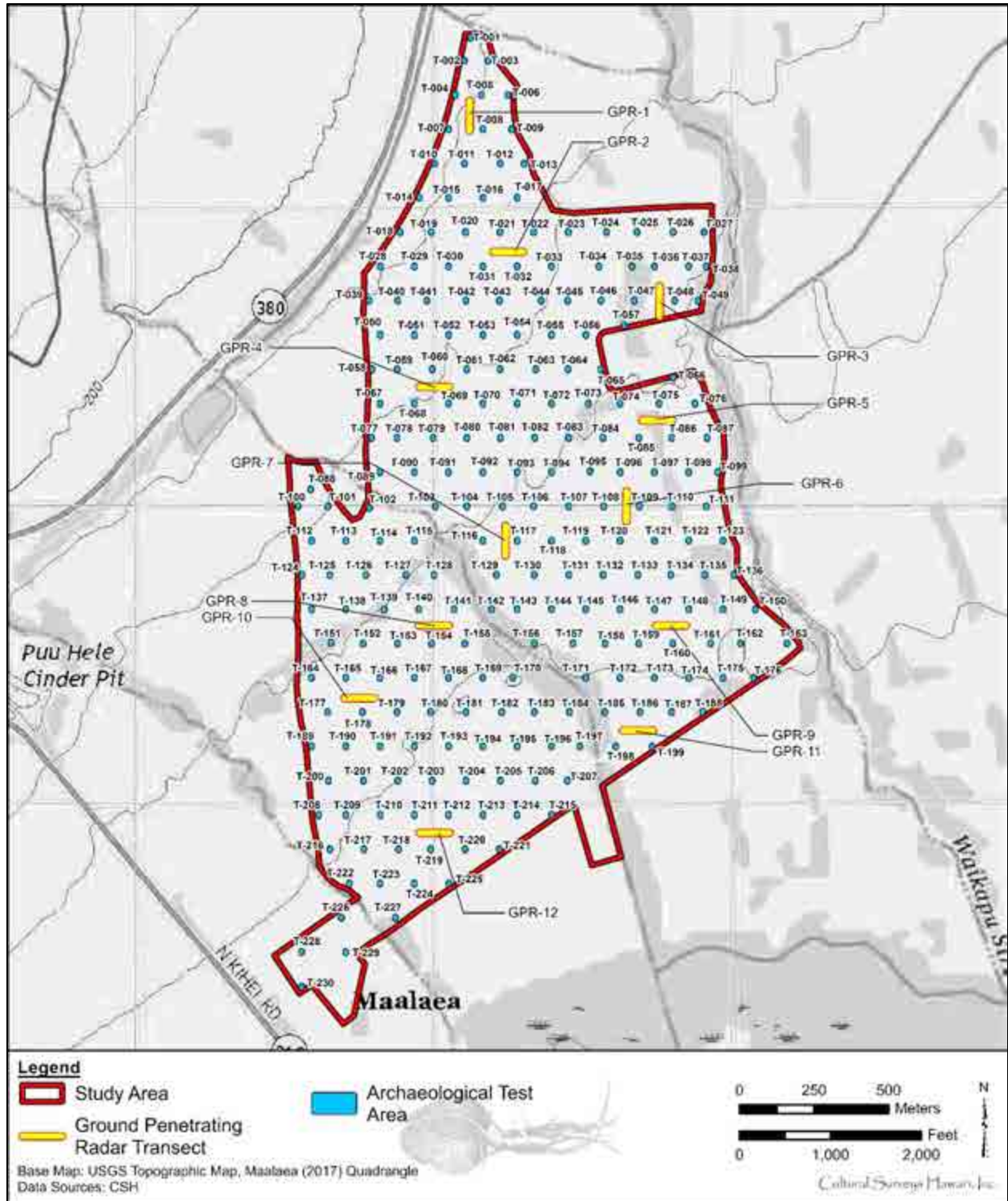


Figure 1. Portion of the 2017 Maalaea USGS 7.5-minute topographic quadrangle showing the location of the AIS test excavations and GPR survey transects within the study area (U.S. Geological Survey 2017)

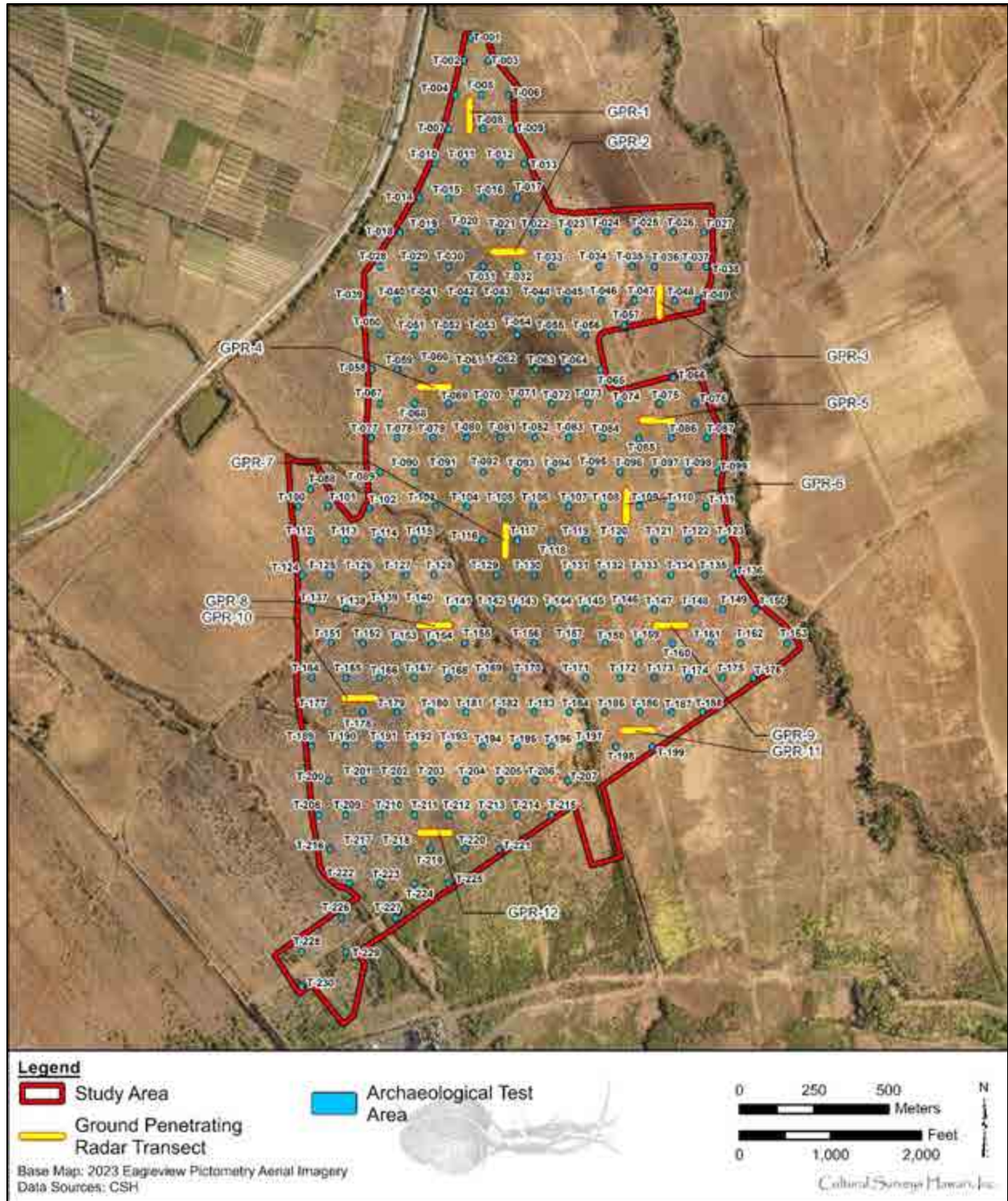


Figure 2. Aerial image showing the location of the AIS test excavations and GPR survey transects within the study area (EagleView Technologies Inc. 2023)

1.1.1 Test Excavation 101 (TE-101)

TE-101 was in the central-western portion of the project area (Figure 3). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.65 mbs. The stratigraphy of TE-101 contained four strata: a very dark brown, sandy loam Ap horizon (Stratum I) overlying dark brown, gravelly sandy loam fill (Stratum II); dark brown, natural gravelly silty clay loam with a thin band of alluvial, dark gray loamy sand (Stratum III); and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 4 through Figure 6 and Table 1). No cultural materials were encountered.



Figure 3. TE-101, overview of the general location, view to south



Figure 4. TE-101, oblique view of the east wall, view to southeast



Figure 5. TE-101, close-up of the east wall, view to east

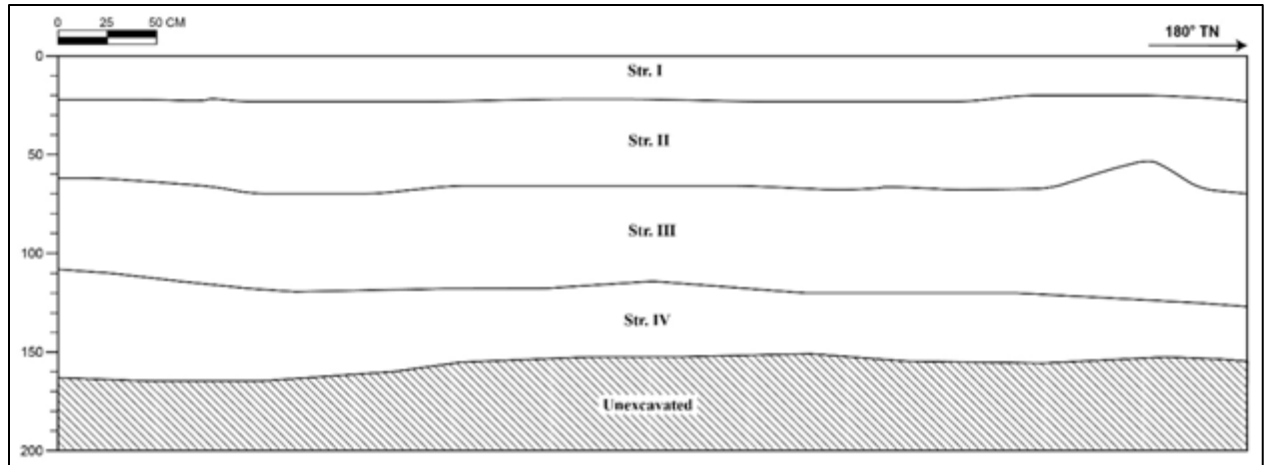


Figure 6. TE-101, stratigraphy of the east wall

Table 1. TE-101 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–24	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	18–70	Fill; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, irregular lower boundary
III	53–126	Natural; 7.5YR 3/4, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained a thin band of 7.5YR 4/1, dark gray, alluvial loamy sand
IV	107–165	Natural; 7.5YR 3/4, dark yellowish brown; gravelly silty loam; weak, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.2 Test Excavation 102 (TE-102)

TE-102 was in the central-western portion of the project area (Figure 7). The excavation was 6.0 m long by 0.8 m wide with a maximum depth of 1.6 mbs. The stratigraphy of TE-102 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I); and dark yellowish brown, gravelly sandy loam fill with a band of dark grayish brown sand and gravels (Stratum II); overlying brown, natural gravelly silty clay loam with a band of dark brown silty clay loam and concentrations of dark grayish brown sand and gravels (Stratum III); brown, natural gravelly silt loam with bands of dark grayish brown sand and gravels (Stratum IV); and dark brown, natural gravelly silt loam (Stratum V) (Figure 8 through Figure 10 and Table 2). No cultural materials were encountered.



Figure 7. TE-102, overview of the general location, view to south



Figure 8. TE-102, oblique view of the east wall, view to southeast



Figure 9. TE-102, close-up of the east wall, view to east

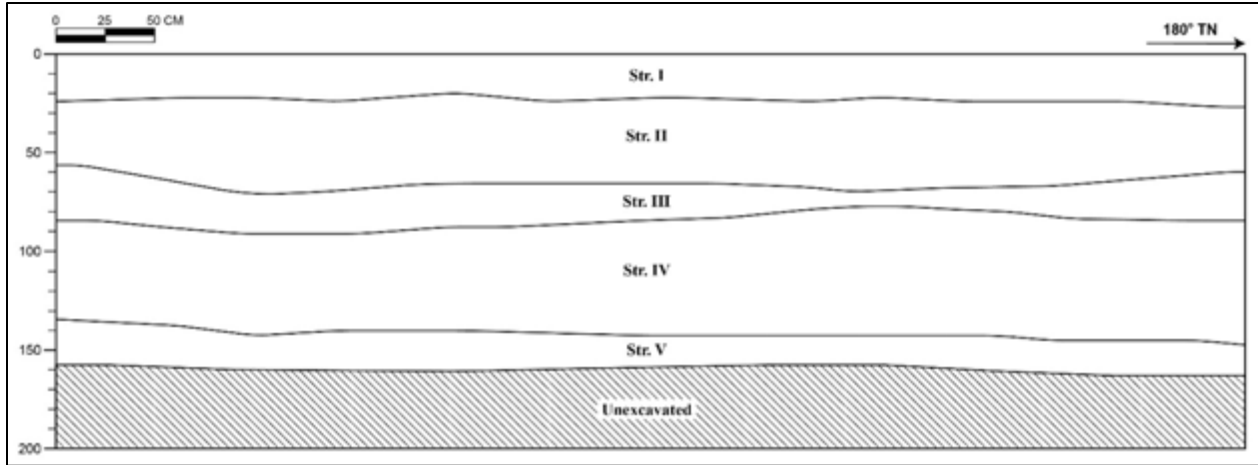


Figure 10. TE-102, stratigraphy of the east wall

Table 2. TE-102 stratigraphic description

I	0–25	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
II	20–72	Fill; 10YR 3/4, dark yellowish brown; gravelly sandy loam; moderate, fine blocky structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary; contained a singular band of 10YR 4/2, dark grayish brown, alluvial sand and gravels
III	57–93	Natural; 10YR 4/3, brown; gravelly silty clay loam; moderate, medium blocky structure; moist, firm consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained a band of 7.5YR 3/3, dark brown, silty clay loam and concentrations of 10YR 4/2, dark grayish brown, alluvial sand and gravels
IV	76–145	Natural; 10YR 5/3, brown; gravelly silt loam; weak, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained a band of 10YR 4/2, dark grayish brown, alluvial sand and gravel
V	136–160	Natural; 7.5YR 3/3, dark brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.3 Test Excavation 103 (TE-103)

TE-103 was in the central-western portion of the project area (Figure 11). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.49 mbs. The stratigraphy of TE-103 consisted of a dark reddish brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark brown, natural gravelly silty clay loam (Stratum II) (Figure 12 through Figure 14 and Table 3). No cultural materials were encountered.



Figure 11. TE-103, overview of the general location, view to south



Figure 12. TE-103, oblique view of the west wall, view to northwest



Figure 13. TE-103, close-up of the west wall, view to west

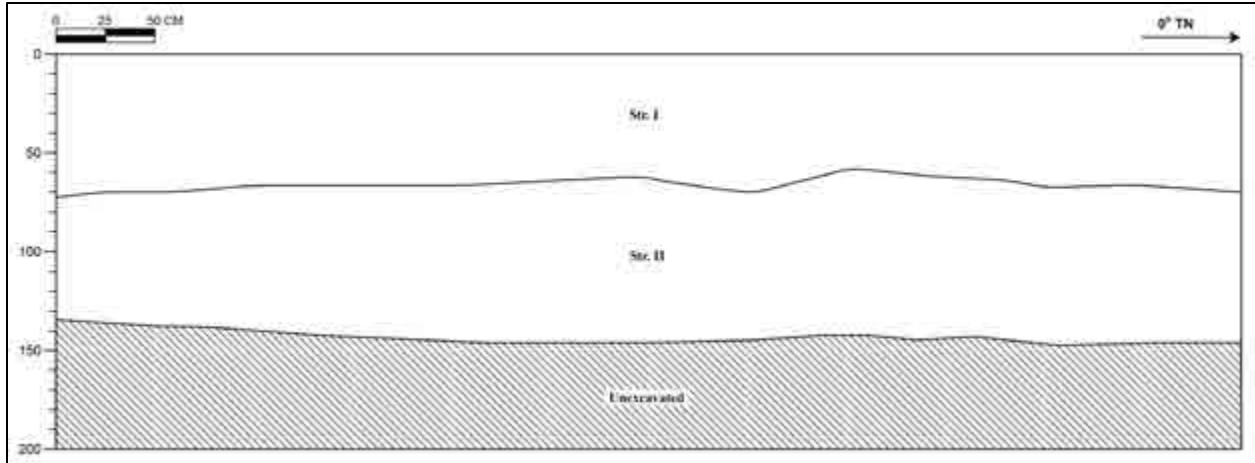


Figure 14. TE-103, stratigraphy of the west wall

Table 3. TE-103 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0-72	Ap horizon; 5YR 2.5/2, dark reddish brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; terrigenous origin; many fine to medium roots; clear, smooth lower boundary
II	57-147	Natural; 7.5YR 3/3, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; lower boundary not observed; contained mottles of 7.5YR 5/3, brown, silt loam

1.1.4 Test Excavation 104 (TE-104)

TE-104 was within the central portion of the project area (Figure 15). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.55 mbs. The stratigraphy of TE-104 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying a dark grayish brown, very gravelly sandy loam buried A horizon (Stratum II); dark yellowish brown, natural very gravelly sandy clay loam (Stratum III); and dark yellowish brown, natural silt loam (Stratum IV) (Figure 15 through Figure 18 and Table 4). No cultural materials were encountered.



Figure 15. TE-104, overview of the general location, view to south



Figure 16. TE-104, oblique view of the east wall, view to southeast



Figure 17. TE-104, close-up of the east wall, view to east

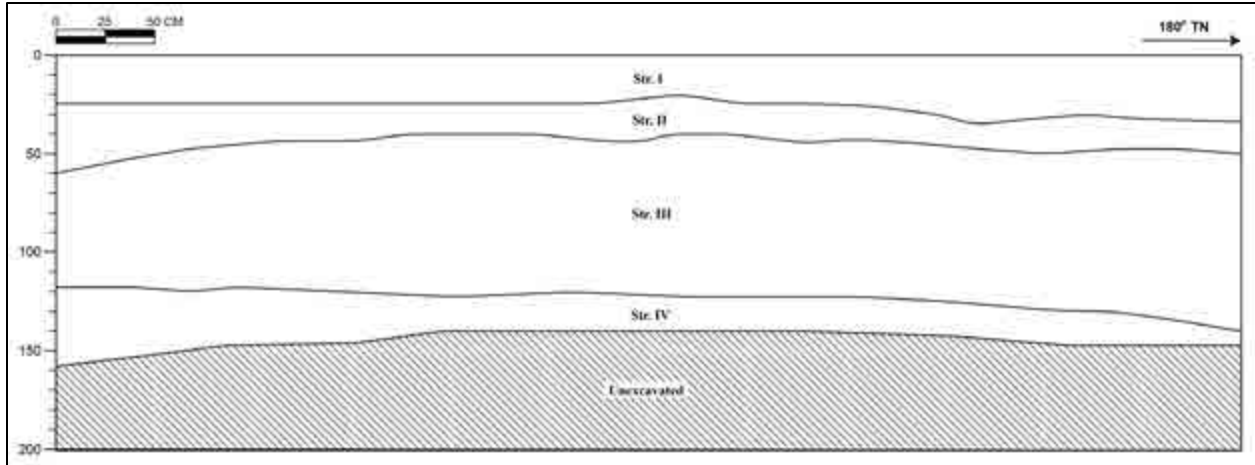


Figure 18. TE-104, stratigraphy of the east wall

Table 4. TE-104 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–30	Ap horizon; 10YR 2/2, very dark brown; gravelly sandy loam; moderate, fine granular structure; moist, friable consistence; no cementation; non-plastic; mixed origin; many fine to medium roots; abrupt, wavy lower boundary
II	23–58	Ap horizon; 10YR 4/2, dark grayish brown; very gravelly sandy loam; moderate, fine granular structure; moist, friable consistence; no cementation; non-plastic; mixed origin; few fine roots; abrupt, smooth lower boundary
III	43–136	Natural; 10YR 3/4, dark yellowish brown; very gravelly sandy clay loam; moderate, fine granular structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; abrupt, smooth lower boundary
IV	117–155	Natural; 10YR 4/4, dark yellowish brown; silt loam; moderate, very fine blocky structure; moist, friable consistence; slightly plastic; terrigenous origin; lower boundary not observed

1.1.5 Test Excavation 105 (TE-105)

TE-105 was in the central portion of the project area (Figure 19). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.56 mbs. The stratigraphy of TE-105 contained a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural very gravelly sandy loam mottled with brown silty clay loam (Stratum II); and brown, natural gravelly silty clay loam (Stratum III) (Figure 20 through Figure 22 and Table 5). No cultural materials were encountered.



Figure 19. TE-105, overview of the general location, view to southeast



Figure 20. TE-105, oblique view of the west wall, view to southwest



Figure 21. TE-105, close-up of the west wall, view to west

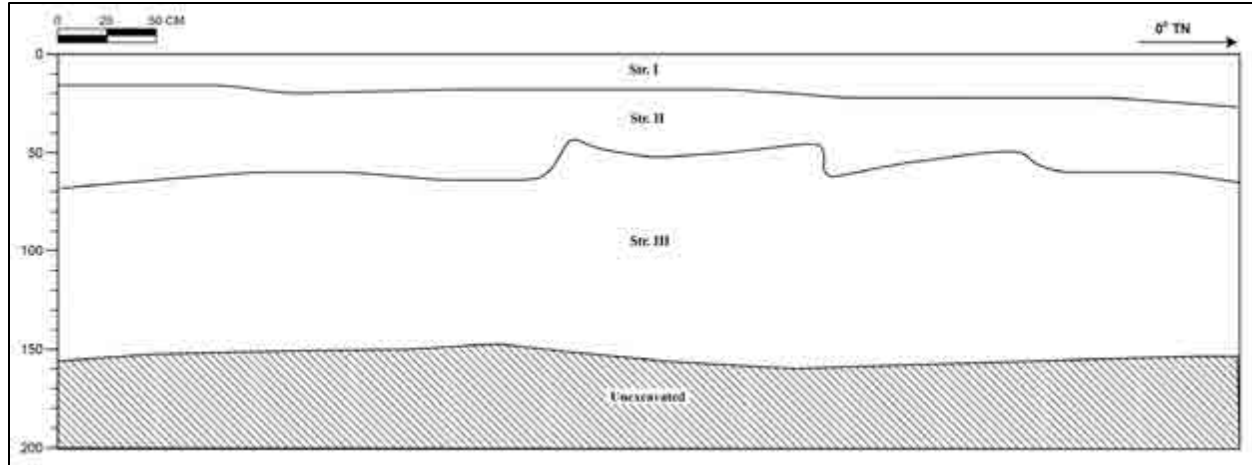


Figure 22. TE-105, stratigraphy of the west wall

Table 5. TE-105 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–25	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; many fine to medium roots; abrupt, smooth lower boundary
II	15–68	Natural; 10YR 4/3, brown; very gravelly sandy loam; moderate, fine granular structure; moist, friable consistence; no cementation; non-plastic; mixed origin; few fine roots; gradual, irregular lower boundary; contained common mottles of 10YR 4/3, brown, very coarse silty clay loam
III	41–156	Natural; 10YR 4/3, brown; gravelly silty clay loam; moderate, very fine blocky structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not observed

1.1.6 Test Excavation 106 (TE-106)

TE-106 was in the central portion of the project area (Figure 23). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.47 mbs. The stratigraphy of TE-106 consisted of a dark yellowish brown gravelly sandy loam Ap horizon (Stratum I) overlying gray, natural gravelly sandy loam with pockets of light reddish brown sand (Stratum II); dark brown, natural very gravelly silt loam (Stratum III); and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 24 through Figure 26 and Table 6). No cultural materials were encountered.



Figure 23. TE-106, overview of the general location, view to southeast



Figure 24. TE-106, oblique view of the east wall, view to northeast



Figure 25. TE-106, close-up of the east wall, view to east

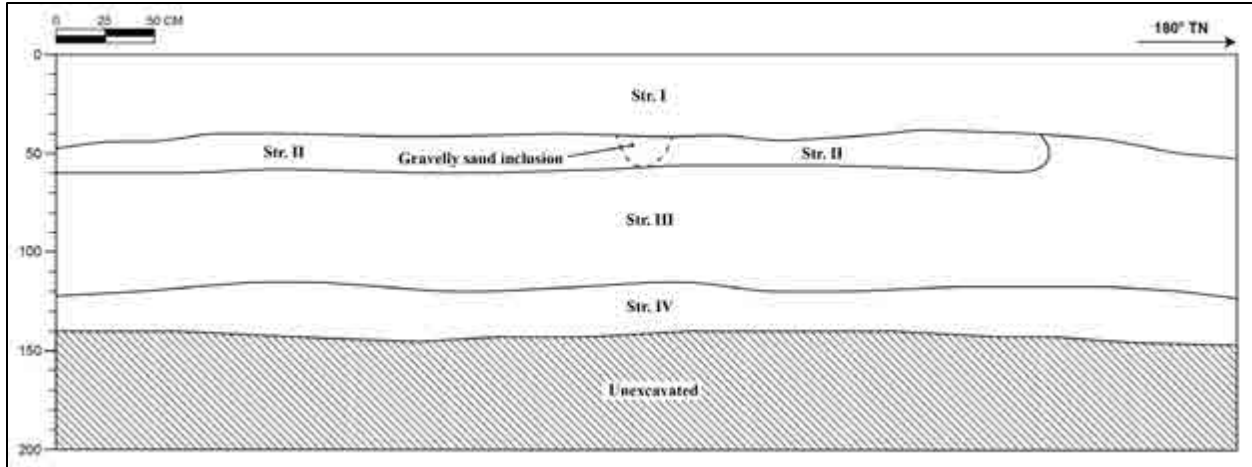


Figure 26. TE-106, stratigraphy of the east wall

Table 6. TE-106 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–60	Ap horizon; 10YR 3/4, dark yellowish brown; gravelly sandy loam; weak, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	40–63	Natural; 5YR 5/1, gray; gravelly sandy loam; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained coarse inclusions of 5YR 6/3, light reddish brown, gravelly sand
III	40–127	Natural; 7.5YR 3/2, dark brown; very gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
IV	116–147	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.7 Test Excavation 107 (TE-107)

TE-107 was in the central portion of the project area (Figure 27). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.73 mbs. The stratigraphy of TE-107 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying reddish gray, natural extremely cobbly sand (Stratum II); brown, natural very gravelly silty clay loam with dark brown sand and gravel inclusions (Stratum III); and brown, natural gravelly silt loam (Stratum IV) (Figure 28 through Figure 30 and Table 7). No cultural materials were encountered.



Figure 27. TE-107, overview of the general location, view to south



Figure 28. TE-107, oblique view of the east wall, view to southeast



Figure 29. TE-107, close-up of the east wall, view to east

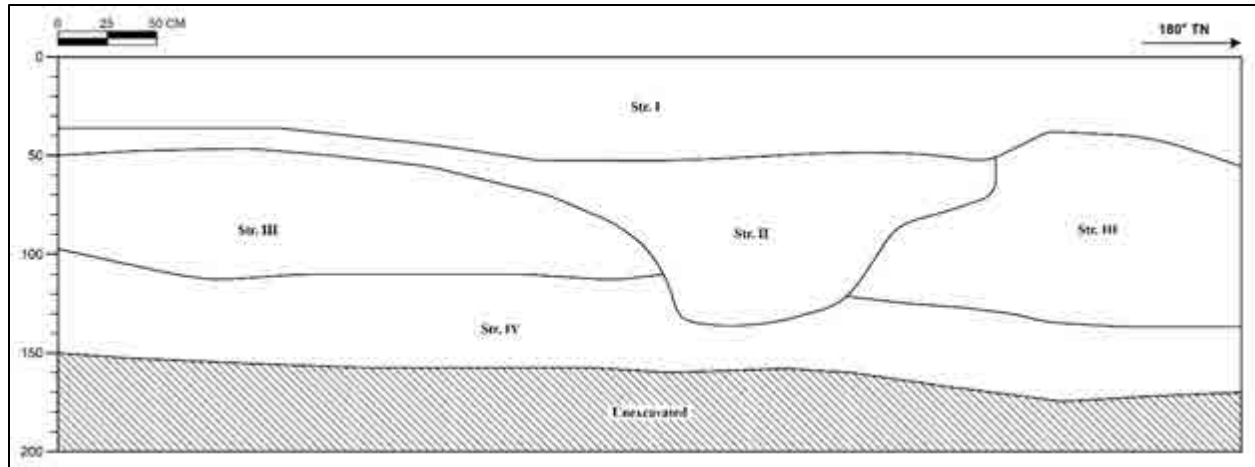


Figure 30. TE-107, stratigraphy of the east wall

Table 7. TE-107 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–54	Ap horizon; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; wavy, gradual lower boundary
II	35–135	Natural; 10R 5/1, reddish gray; extremely cobbly sand; structureless (single grain); no cementation; non-plastic; mixed origin; fine roots common; clear, broken lower boundary; alluvial deposit
III	36–134	Natural; 7.5YR 4/4, brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary; contained inclusions of 7.5YR 3/2, dark brown, alluvial sand and gravel
IV	98–173	Natural; 7.5YR 4/4, brown; gravelly silt loam; weak, fine granular structure; moist, loose consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.8 Test Excavation 108 (TE-108)

TE-108 was in the central-eastern portion of the project area (Figure 31). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.67 mbs. The stratigraphy of TE-108 consisted of five strata: a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural silty clay loam (Stratum II); brown, natural gravelly, silty clay loam (Stratum III); gray, natural extremely gravelly loamy sand with an inclusion of brown silt loam (Stratum IV); and dark yellowish brown, natural gravelly silt loam (Stratum V) (Figure 32 through Figure 34 and Table 8). No cultural materials were encountered.



Figure 31. TE-108, overview of the general location, view to south



Figure 32. TE-108, oblique view of the east wall, view to northeast



Figure 33. TE-108, close-up of the east wall, view to east

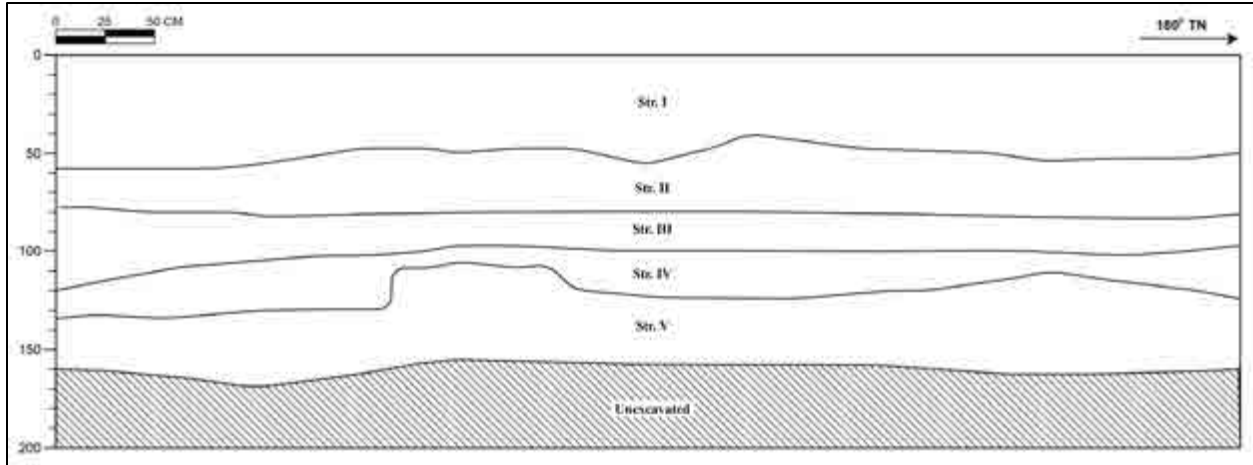


Figure 34. TE-108, stratigraphy of the east wall

Table 8. TE-108 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–57	Ap horizon; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	40–82	Natural; 7.5YR 4/4, brown; silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, smooth lower boundary
III	76–120	Natural; 7.5YR 4/2, brown; gravelly silty clay loam; weak, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous; fine roots common; clear, smooth lower boundary
IV	96–132	Natural; 7.5YR 5/1, gray; extremely gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; terrigenous origin; clear, smooth lower boundary; contained an inclusion of 7.5YR 4/2, brown, silt loam
V	105–167	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.9 Test Excavation 109 (TE-109)

TE-109 was in the central-eastern portion of the project area (Figure 35). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.74 mbs. The stratigraphy of TE-109 consisted of a dark brown, sandy loam Ap horizon with a lighter brown sandy loam variation (Stratum I) overlying pinkish gray, natural loamy sand (Stratum II); and brownish yellow, natural aeolian sand (Stratum III) (Figure 36 through Figure 38 and Table 9). No cultural materials were encountered.



Figure 35. TE-109, overview of the general location, view to north



Figure 36. TE-109, oblique view of the east wall, view to southeast



Figure 37. TE-109, close-up of the east wall, view to east

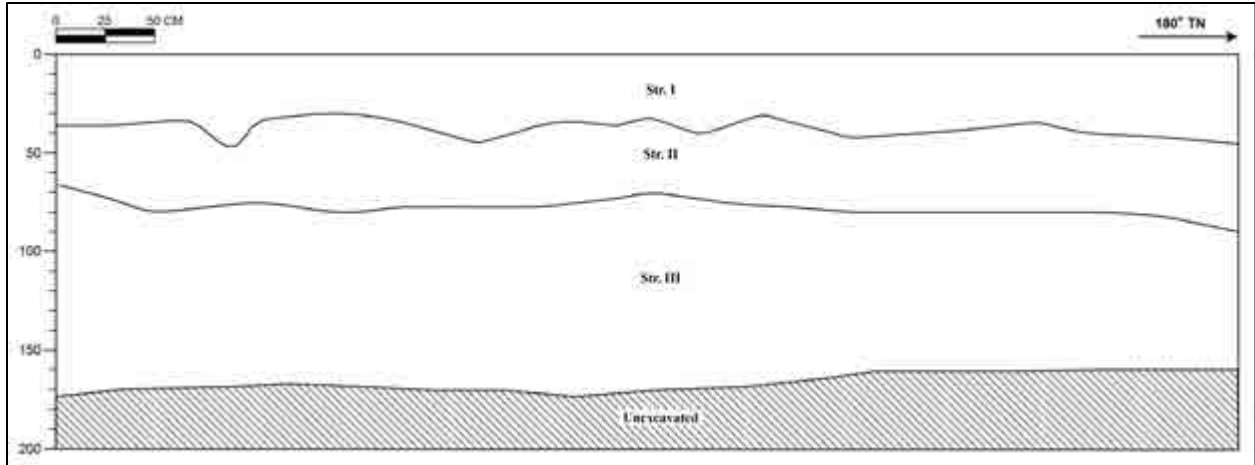


Figure 38. TE-109, stratigraphy of the east wall

Table 9. TE-109 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0-47	Ap horizon; 7.5YR 3/2, dark brown; sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained coarse mottles of 7.5YR 4/2, brown, sandy loam near lower interface
II	30-90	Natural; 7.5YR 6/2, pinkish gray; loamy sand; weak, very fine granular sand; moist, loose consistence; weak cementation; non-plastic; mixed origin; fine roots common; clear, smooth lower boundary
III	68-174	Natural; 10YR 6/6, brownish yellow; sand; structureless (single grain); moist, loose consistence; weak to moderate cementation; non-plastic; mixed origin; lower boundary not observed; aeolian sand

1.1.10 Test Excavation 110 (TE-110)

TE-110 was in the central-eastern portion of the project area (Figure 39). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.72 mbs. The stratigraphy of TE-110 consisted of a brown, gravelly loamy sand Ap horizon (Stratum I) overlying yellowish brown, natural sand (Stratum II); and dark brown, natural gravelly sandy clay loam with inclusions of brown and yellowish brown sand (Stratum III) (Figure 40 through Figure 42 and Table 10). Stratum I contained pieces of black plastic irrigation drip tape that were not collected. No other cultural materials were observed.



Figure 39. TE-110, overview of the general location, view to south



Figure 40. TE-110, oblique view of the west wall, view to northwest



Figure 41. TE-110, close-up of the west wall, view to west

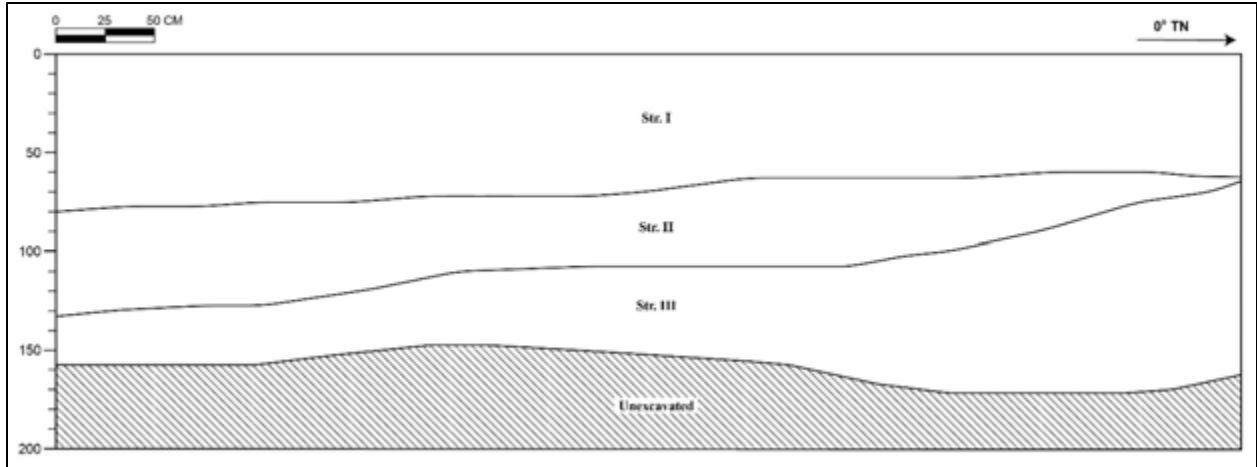


Figure 42. TE-110, stratigraphy of the west wall

Table 10. TE-110 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–79	Ap horizon; 10YR 4/3, brown; gravelly loamy sand; weak, very fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; many fine to medium roots; abrupt, smooth lower boundary
II	57–132	Natural; 10YR 5/4, yellowish brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; marine origin; no roots; very abrupt, smooth lower boundary
III	64–172	Natural; 10YR 3/3, dark brown; gravelly sandy clay loam; moderate, very fine platy structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; lower boundary not observed; contained inclusions of 10YR 5/3, brown, aeolian sand and 10YR 6/4, yellowish brown, coarse sand in the southwestern corner with basalt cobbles and stones

1.1.11 Test Excavation 111 (TE-111)

TE-111 was near the central-eastern boundary of the project area (Figure 43). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.60 mbs. The stratigraphy of TE-111 consisted of a brown, gravelly loamy sand Ap horizon (Stratum I) overlying brown natural sand (Stratum II) and dark brown, natural silty clay loam with a brown silt loam variation (Stratum III) (Figure 44 through Figure 46 and Table 11). No cultural materials were encountered.



Figure 43. TE-111, overview of excavation area, view to south



Figure 44. TE-111, oblique view of the east wall, view to northeast



Figure 45. TE-111, close-up of the east wall, view to east

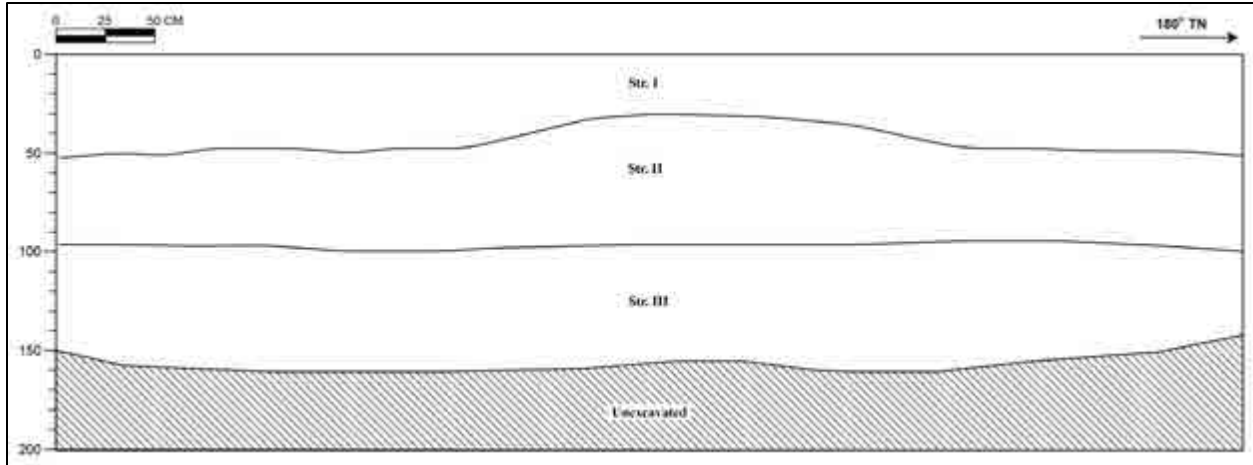


Figure 46. TE-111, stratigraphy of the east wall

Table 11. TE-111 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–52	Ap horizon; 10YR 5/3, brown; gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; many fine to medium roots; abrupt, smooth lower boundary; contained common mottles of 10YR 4/3, brown, sand
II	30–100	Natural; 10YR 5/3, brown; sand; structureless; moist, loose consistence; no cementation; non-plastic; marine origin; no roots; very abrupt, smooth lower boundary
III	94–160	Natural; 10YR 3/3, dark brown; silty clay loam; moderate, very fine platy structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not observed; contained a sediment variation near the base of excavation of 10YR 4/3, brown, silt loam

1.1.12 Test Excavation 112 (TE-112)

TE-112 was near the central-western boundary of the project area (Figure 47). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.75 mbs. The stratigraphy of TE-112 consisted a very dark brown, sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying dark brown, natural gravelly silty clay loam mottled with a lighter brown silty clay loam (Stratum III) (Figure 48 through Figure 50 and Table 12). No cultural materials were encountered.



Figure 47. TE-112, overview of the general location, view to south



Figure 48. TE-112, oblique view of the east wall, view to south



Figure 49. TE-112, close-up of the east wall, view to east

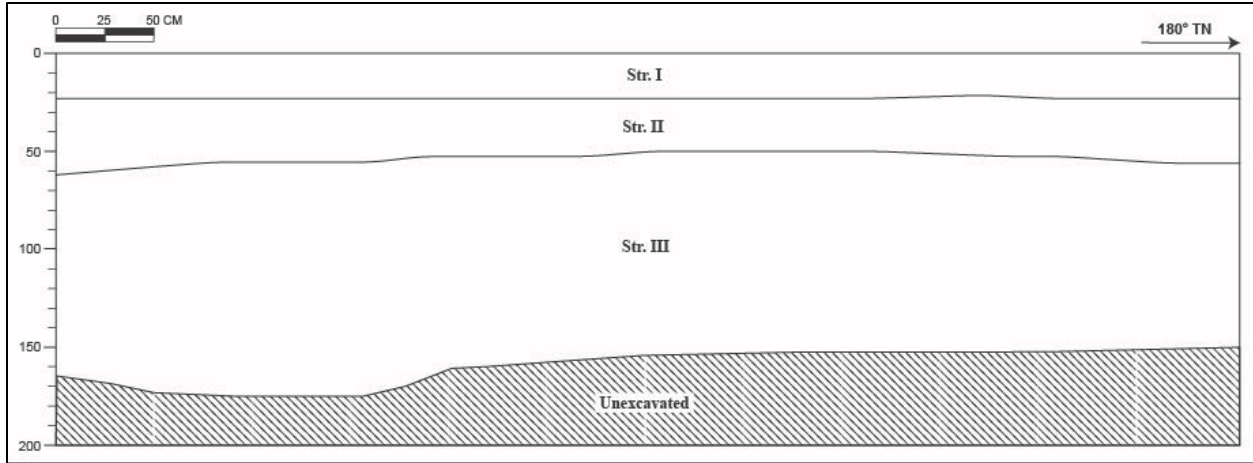


Figure 50. TE-112, stratigraphy of the east wall

Table 12. TE-112 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–23	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; moderate, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	20–61	Fill; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, fine blocky structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, smooth lower boundary; upper boundary was disturbed from plowing
III	48–175	Natural; 7.5YR 3/4, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained common mottles of 7.5YR 4/3, brown, silty clay loam

1.1.13 Test Excavation 113 (TE-113)

TE-113 was in the central-western portion of the project area (Figure 51). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.68 mbs. The stratigraphy of TE-113 consisted of a very dark brown sandy loam Ap horizon (Stratum I) and very dark grayish brown, previously disturbed natural gravelly sandy loam fill (Stratum II) overlying dark yellowish brown, natural very gravelly silty clay loam with small concentrations of brown loam and large concentrations of dark gray cobbly loamy sand (Stratum III) and brown, natural very gravelly silt loam mottled with dark gray gravelly loamy sand (Stratum IV) (Figure 52 through Figure 54 and Table 13). No cultural materials were encountered.



Figure 51. TE-113, overview of the general location, view to southeast



Figure 52. TE-113, oblique view of the east wall, view to south



Figure 53. TE-113, close-up of the east wall, view to east

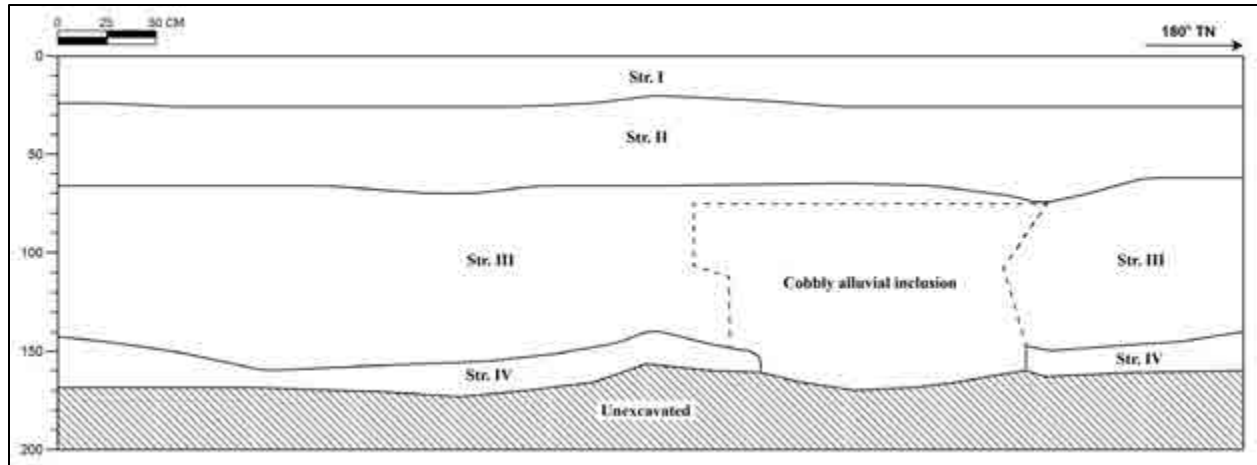


Figure 54. TE-113, stratigraphy of the east wall

Table 13. TE-113 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–25	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	20–74	Previously disturbed natural; 10YR 3/2, very dark grayish brown; gravelly sandy loam; moderate, fine blocky structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, wavy lower boundary; disturbed by the plow zone
III	61–167	Natural; 10YR 4/4 dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, irregular lower boundary; contained small concentrations of 10YR 4/3, brown, loam, and large concentrations of 10YR 4/1, dark gray, cobbly loamy sand alluvial deposits
IV	140–168	Natural; 10YR 5/3, brown; very gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained concentrations of 10YR 4/1, dark gray, gravelly loamy sand alluvial deposits

1.1.14 Test Excavation 114 (TE-114)

TE-114 was in the central-western portion of the project area (Figure 55). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-114 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) and dark brown, previously disturbed natural gravelly sandy loam (Stratum II) overlying brown, natural gravelly loam mottled with grayish brown cobbly loamy sand (Stratum III); dark yellowish brown, natural very cobbly silt loam with a band of dark brown silt loam and a large concentration of gray cobbly loamy sand (Stratum IV); and brown, natural gravelly silt loam with concentrations of gray gravelly loamy sand (Stratum V) (Figure 56 through Figure 58 and Table 14). No cultural materials were encountered.



Figure 55. TE-114, overview of the general location, view to northwest



Figure 56. TE-114, oblique view of the west wall, view to southwest



Figure 57. TE-114, close-up of the west wall, view to west

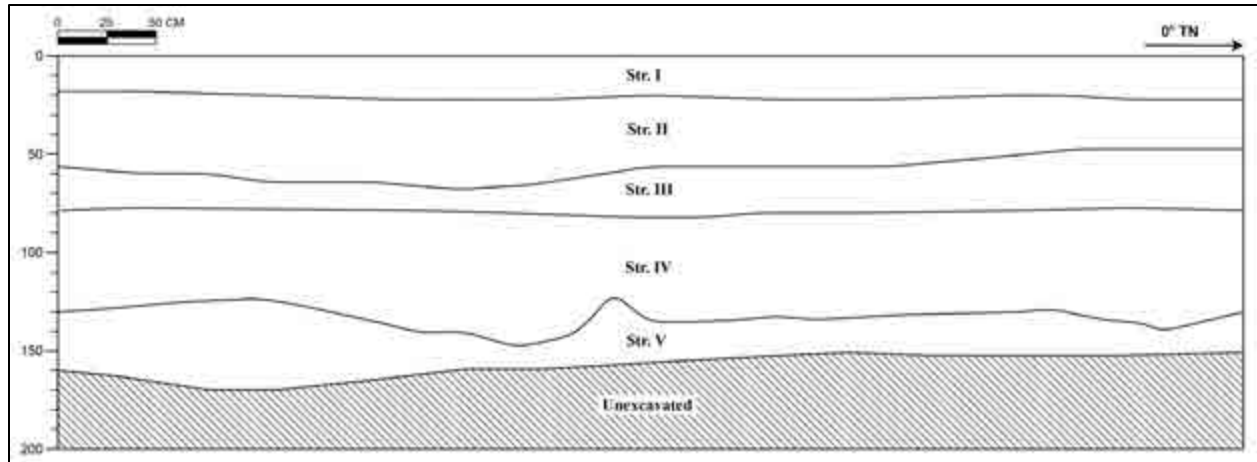


Figure 58. TE-114, stratigraphy of the west wall

Table 14. TE-114 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–23	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; weak, fine granular structure; moist, friable consistence; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	18–67	Previously disturbed natural; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; moist, firm consistence; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
III	48–82	Natural; 10YR 4/3, brown; gravelly loam; moderate, fine granular structure; moist, friable consistence; slightly plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained coarse concentrations of 10YR 5/2, grayish brown, gravelly loamy sand with basalt pebbles and cobbles
IV	77–148	Natural; 10YR 4/4, dark yellowish brown; very cobbly silt loam; moderate, fine platy structure; moist, friable consistence; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary; contained a band of 7.5YR 3/3, dark brown, silt loam and a very coarse concentration of 10YR 5/1, gray, gravelly loamy sand with basalt pebbles and cobbles
V	123–170	Natural; 10YR 5/3, brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; plastic; terrigenous origin; lower boundary not observed; contained concentrations of 10YR 5/1, gray, gravelly loamy sand

1.1.15 Test Excavation 115 (TE-115)

TE-115 was in the central-western portion of the project area (Figure 59). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-115 consisted of a very dark brown sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying brown, natural very cobbly silt loam with concentrations of gray cobbly loamy sand (Stratum III) and brown, natural gravelly silty clay loam (Stratum IV) (Figure 60 through Figure 62 and Table 15). No cultural materials were encountered.



Figure 59. TE-115, overview of the general location, view to south



Figure 60. TE-115, oblique view of the west wall, view to southwest



Figure 61. TE-115, close-up of the west wall, view to west

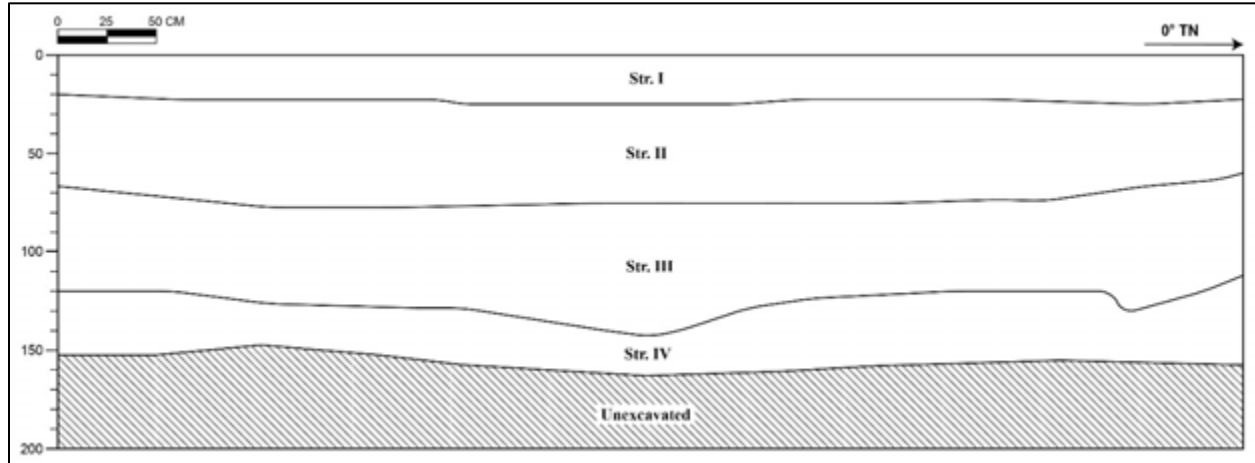


Figure 62. TE-115, stratigraphy of the west wall

Table 15. TE-115 stratigraphic description

I	0–25	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; moderate, fine granular structure; moist, friable consistence; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	20–76	Fill; 10YR 3/3, dark brown; gravelly sandy loam; moderate, medium blocky structure; moist, firm consistence; slightly plastic; mixed origin; fine roots common; clear, smooth lower boundary
III	60–142	Natural; 10YR 4/3, brown; very cobbly silt loam; weak, fine platy structure; moist, friable; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary; contained large bands and concentrations of alluvial deposited, 10YR 5/1, gray, gravelly loamy sand with basalt pebbles and small to medium cobbles
IV	110–162	Natural; 10YR 5/3, brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.16 Test Excavation 116 (TE-116)

TE-116 was in the central portion of the project area (Figure 63). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.72 mbs. The stratigraphy of TE-116 consisted of very dark brown, gravelly sandy loam Ap horizon (Stratum I) and brown, gravelly sandy loam fill (Stratum II) overlying gray, natural extremely gravelly loamy sand (Stratum III), and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 64 through Figure 66 and Table 16). No cultural materials were encountered.



Figure 63. TE-116, overview of the general location, view to northeast



Figure 64. TE-116, oblique view of the east wall, view to northeast



Figure 65. TE-116, close-up of the east wall, view to east

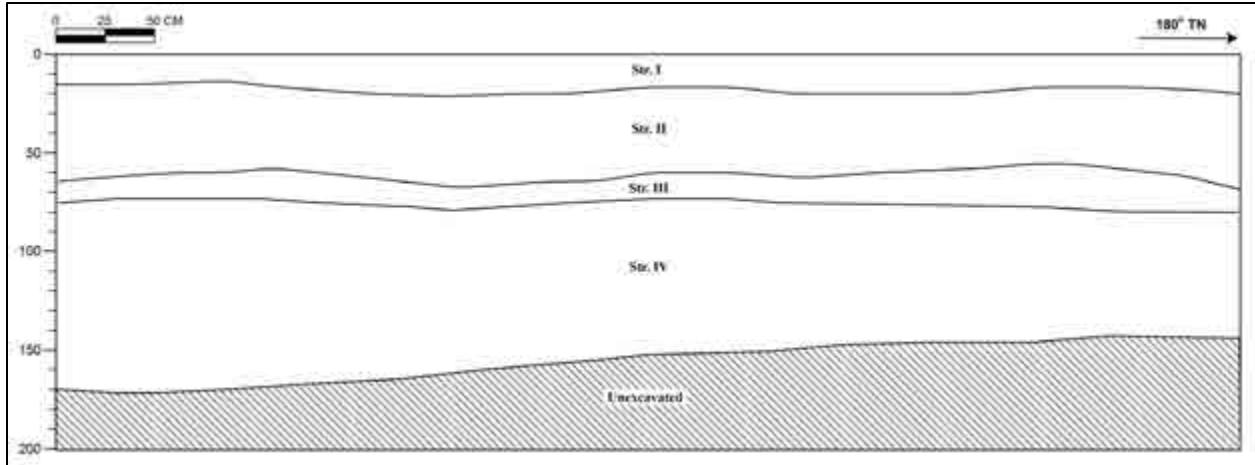


Figure 66. TE-116, stratigraphy of the east wall

Table 16. TE 116 stratigraphic description

I	0–20	Ap horizon; 7.5YR 2.5/3, very dark brown; gravelly sandy loam; moderate, medium granular structure; dry, hard consistence; no cementation; slightly plastic; terrigenous origin; many fine to medium roots; abrupt, smooth lower boundary
II	15–68	Fill; 7.5YR 4/2, brown; sandy loam; weak, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
III	55–80	Natural; 7.5YR 5/1, gray; extremely gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; fine roots common; abrupt, smooth lower boundary
IV	73–172	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained mottles of 7.5YR 5/1, gray, loamy sand

1.1.17 Test Excavation 117 (TE-117)

TE-117 was in the central portion of the project area (Figure 67). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.78 mbs. The stratigraphy of TE- 117 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying yellowish brown, natural very gravelly silty clay loam (Stratum II); gray, natural extremely gravelly loamy sand (Stratum III); dark yellowish brown, natural gravelly silty clay loam (Stratum IV); and brown, natural gravelly silt loam (Stratum V) (Figure 68 through Figure 70 and Table 17). No cultural materials were encountered.



Figure 67. TE-117, overview of the general location, view to northwest



Figure 68. TE-117, oblique view of the west wall, view to northwest



Figure 69. TE-117, close-up of the west wall, view to west

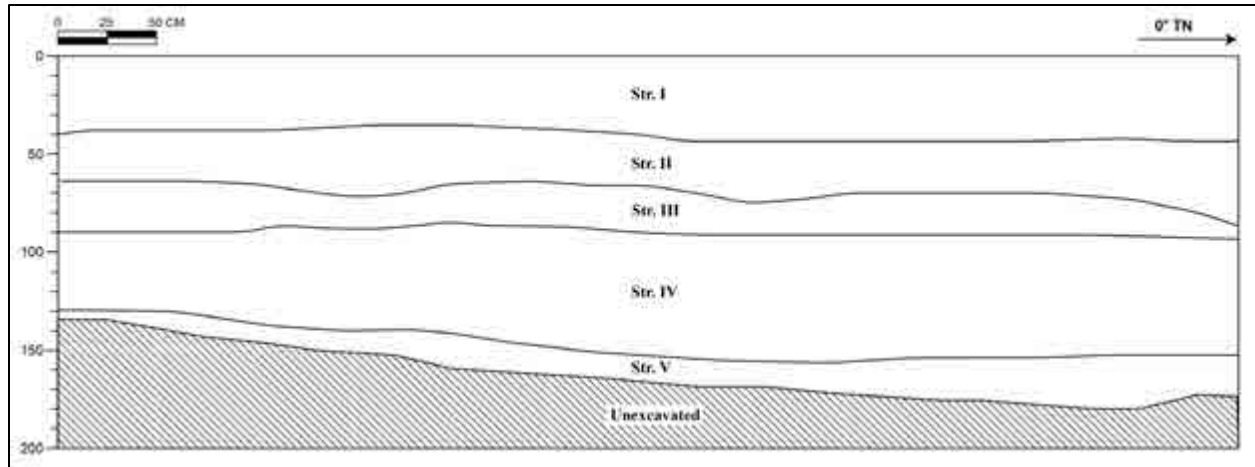


Figure 70. TE-117, stratigraphy of the west wall

Table 17. TE-117 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–43	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary; contained mottles of 5YR 5/1, gray, loamy sand
II	35–87	Natural; 10YR 5/4, yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
III	64–93	Natural; 5YR 5/1, gray; extremely gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
IV	85–153	Natural; 10YR 3/4, dark yellowish brown; gravelly silty clay loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 5/2, grayish brown, loamy sand
V	127–178	Natural; 10YR 4/3, brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.18 Test Excavation 118 (TE-118)

TE-118 was in the central portion of the project area (Figure 71). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.63 mbs. The stratigraphy of TE-118 consisted of dark brown, very gravelly sandy loam Ap horizon (Stratum I) overlying gray, natural extremely cobbly sand (Stratum II) and dark yellowish brown, natural gravelly silt loam (Stratum III) (Figure 72 through Figure 74 and Table 18). No cultural materials were encountered.



Figure 71. TE-118, overview of the general location, view to northeast



Figure 72. TE-118, oblique view of the east wall, view to northeast



Figure 73. TE-118, close-up of the east wall, view to east

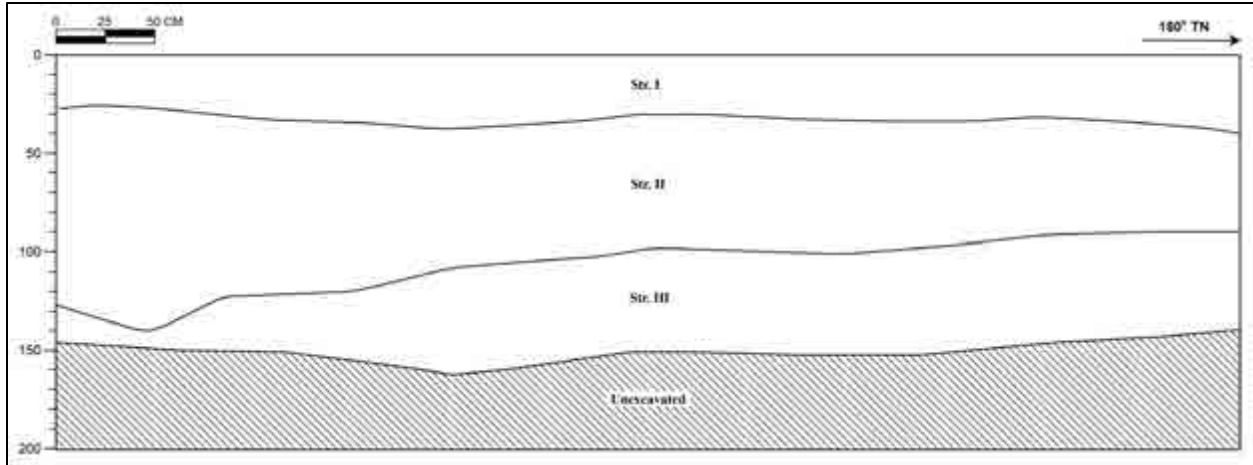


Figure 74. TE-118, stratigraphy of the east wall

Table 18. TE-118 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–39	Ap horizon; 7.5YR 3/2, dark brown; very gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; non-plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	26–142	Natural; 5Y 6/1, gray; extremely cobbly sand; weak, coarse granular structure; dry, loose consistence; weak cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary; contained mottles of 7.5YR 4/4, brown, silt loam
III	87–163	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not observed

1.1.19 Test Excavation 119 (TE-119)

TE-119 was in the central portion of the project area (Figure 75). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.63 mbs. The stratigraphy of TE-119 consisted of dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural loamy sand (Stratum II); dark brown, natural gravelly silty clay loam (Stratum III); dark yellowish brown, natural very gravelly silty clay loam (Stratum IV); gray, natural loamy sand (Stratum V); and brown, natural gravelly silt loam (Stratum VI) (Figure 76 through Figure 78 and Table 19). No cultural materials were encountered.



Figure 75. TE-119, overview of the general location, view to west



Figure 76. TE-119, oblique view of the west wall, view to northwest



Figure 77. TE-119, close-up of the west wall, view to west

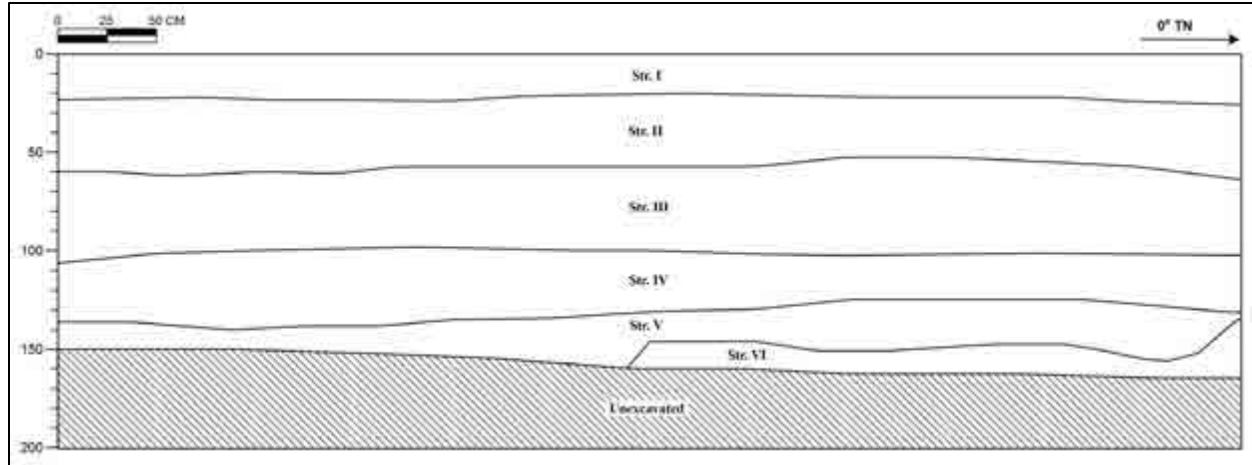


Figure 78. TE-119, stratigraphy of the west wall

Table 19. TE-119 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–24	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
II	20–63	Natural; 10YR 4/3, brown; loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, smooth lower boundary
III	50–105	Natural; 10YR 3/3, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 5/2, grayish brown, silt loam
IV	97–140	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	123–155	Natural; 5YR 5/1, gray; extremely gravelly loamy sand; weak, medium granular structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; lower boundary not observed
VI	133–163	Natural; 10YR 5/3, brown, gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.20 Test Excavation 120 (TE-120)

TE-120 was in the central-eastern portion of the project area (Figure 79). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.76 mbs. The stratigraphy of TE-120 consisted of a dark brown, very gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural sand (Stratum II); dark yellowish brown, natural very gravelly silty clay loam (Stratum III); dark brown, natural gravelly silty clay loam (Stratum IV); pale brown, natural sand (Stratum V); brown, natural extremely gravelly sand (Stratum VI); and dark brown, natural sandy clay loam (Stratum VII) (Figure 80 through Figure 82 and Table 20). No cultural materials were encountered.



Figure 79. TE-120, overview of the general location, view to southwest



Figure 80. TE-120, oblique view of the west wall, view to southwest



Figure 81. TE-120, close-up of the west wall, view to west

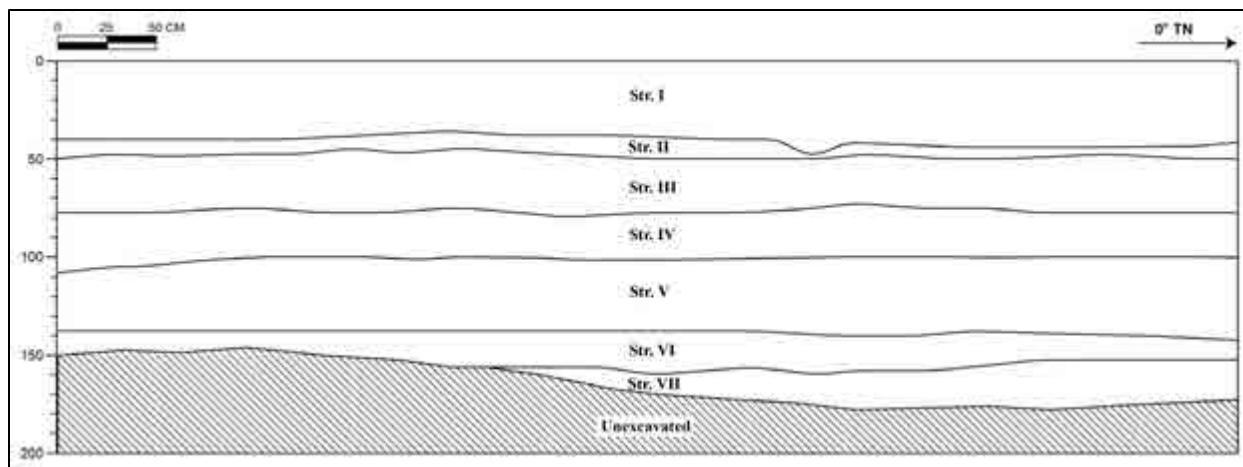


Figure 82. TE-120, stratigraphy of the west wall

Table 20. TE-120 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–46	Ap horizon; 10YR 3/3, dark brown; very gravelly sandy loam; moderate, fine granular structure; moist, friable consistence; no cementation; non-plastic; terrigenous origin; many fine roots; abrupt, irregular lower boundary
II	35–48	Natural; 10YR 4/3, brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; very abrupt, smooth lower boundary
III	44–77	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; abrupt, smooth lower boundary
IV	73–106	Natural; 10YR 3/3, dark brown; gravelly silty clay loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	97–140	Natural; 10YR 6/3, pale brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; marine origin; few fine roots; clear, smooth lower boundary
VI	136–158	Natural; 10YR 5/3, brown; extremely gravelly sand; structureless (single grain); moist, loose consistence; weak cementation; non-plastic; terrigenous origin; clear, smooth lower boundary
VII	150–176	Natural; 10YR 3/3, dark brown; sandy clay loam; moderate, fine structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not observed

1.1.21 Test Excavation 121 (TE-121)

TE-121 was in the central-eastern portion of the project area (Figure 83). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-121 consisted of a brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural gravelly sand (Stratum II); dark grayish brown, natural gravelly sand (Stratum III); brown, natural gravelly silty clay loam (Stratum IV); and grayish brown, natural gravelly sand (Stratum V) (Figure 84 through Figure 86 and Table 21). No cultural materials were encountered.



Figure 83. TE-121, overview of the general location, view to southwest



Figure 84. TE-121, oblique view of the west wall, view to northwest



Figure 85. TE-121, close-up of the west wall, view to west

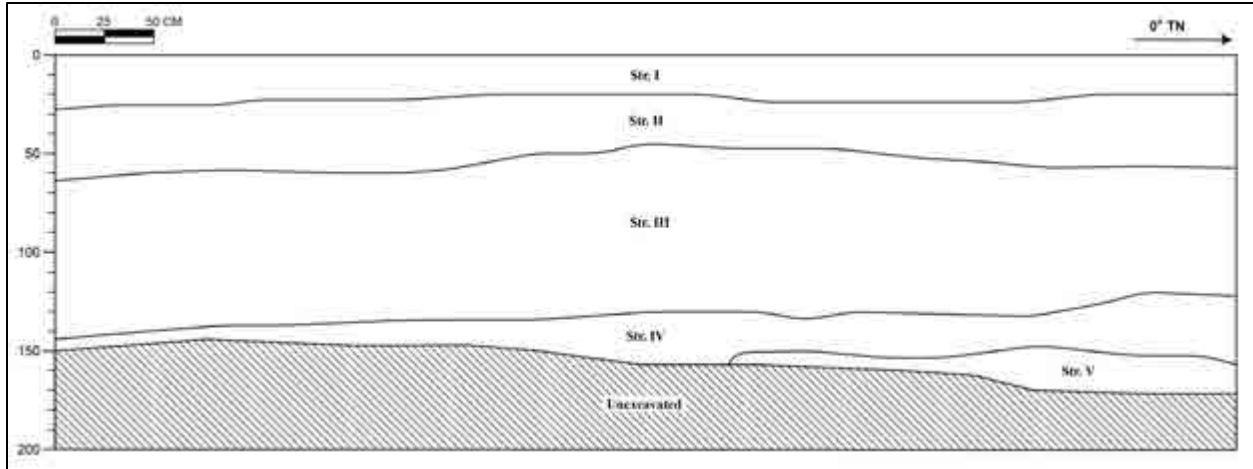


Figure 86. TE-121, stratigraphy of the west wall

Table 21. TE-121 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–27	Ap horizon; 10YR 4/3, brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	18–64	Natural; 10YR 5/3, brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 4/3, brown, loamy sand
III	45–145	Natural; 10YR 4/2, dark grayish brown; gravelly sand; weak, very fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 3/3, dark brown, loamy sand
IV	120–157	Natural; 10YR 4/3, brown; gravelly silty clay loam; moderate, very fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	147–170	Natural; 10YR 6/3, pale brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; marine origin; few fine roots; clear, smooth lower boundary
VI	136–158	Natural; 10YR 5/2, grayish brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; lower boundary not observed

1.1.22 Test Excavation 122 (TE-122)

TE-122 was in the central-eastern portion of the project area (Figure 87). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 2.09 mbs. The stratigraphy of TE-122 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying pinkish gray, natural sand (Stratum II) and yellowish brown, natural gravelly silt loam (Stratum III) (Figure 88 through Figure 90 and Table 22). No cultural materials were encountered.



Figure 87. TE-122, overview of the general location, view to southwest



Figure 88. TE-122, oblique view of the west wall, view to north



Figure 89. TE-122, close-up of the west wall, view to west

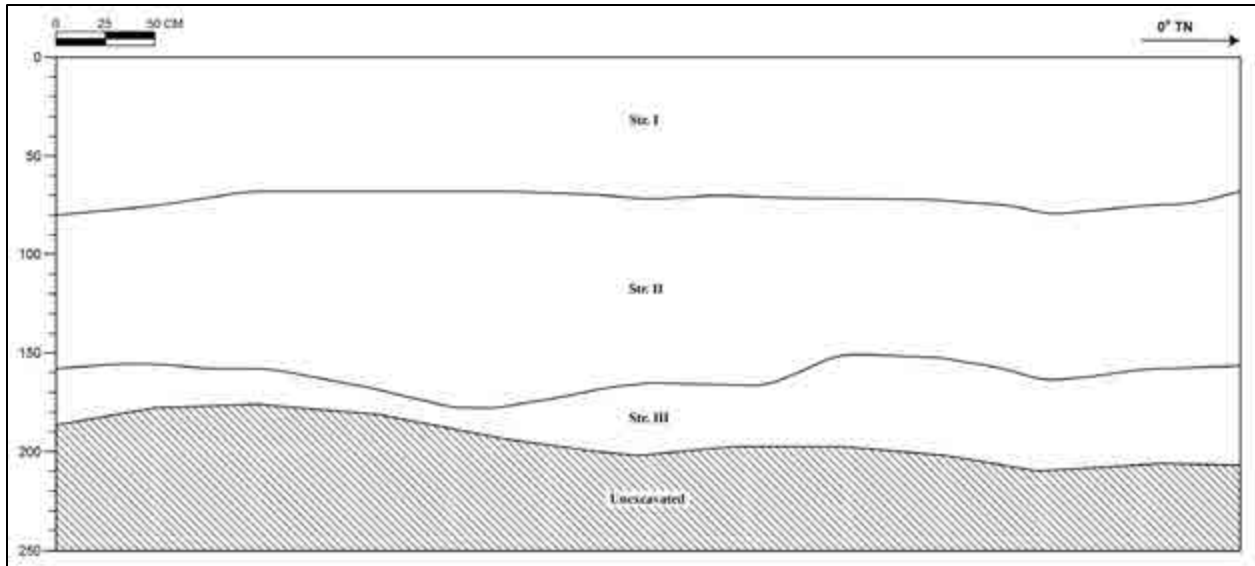


Figure 90. TE-122, stratigraphy of the east wall

Table 22. TE-122 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–80	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; abrupt, smooth lower boundary; contained mottles of 7.5YR 4/4, brown, sandy clay loam
II	67–177	Natural; 7.5YR 6/2, pinkish gray; gravelly sand; structureless (single-grain); moist, loose consistence; weak cementation; non-plastic; mixed origin; clear, wavy lower boundary
III	149–209	Natural; 10YR 5/4, yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not visible; contained mottles of 10YR 7/3, very pale brown, sand and 10YR 4/1, dark gray, sand

1.1.23 Test Excavation 123 (TE-123)

TE-123 was near the eastern boundary of the project area, west of the Waikapu Stream (Figure 91). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-123 consisted of a brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural gravelly silty clay loam (Stratum II) and dark grayish brown, natural very cobbly loamy sand (Stratum III) (Figure 92 through Figure 94 and Table 23). No cultural materials were encountered.



Figure 91. TE-123, overview of the general location, view to northeast



Figure 92. TE-123, oblique view of the east wall, view to northeast



Figure 93. TE-123, close-up of the east wall, view to east

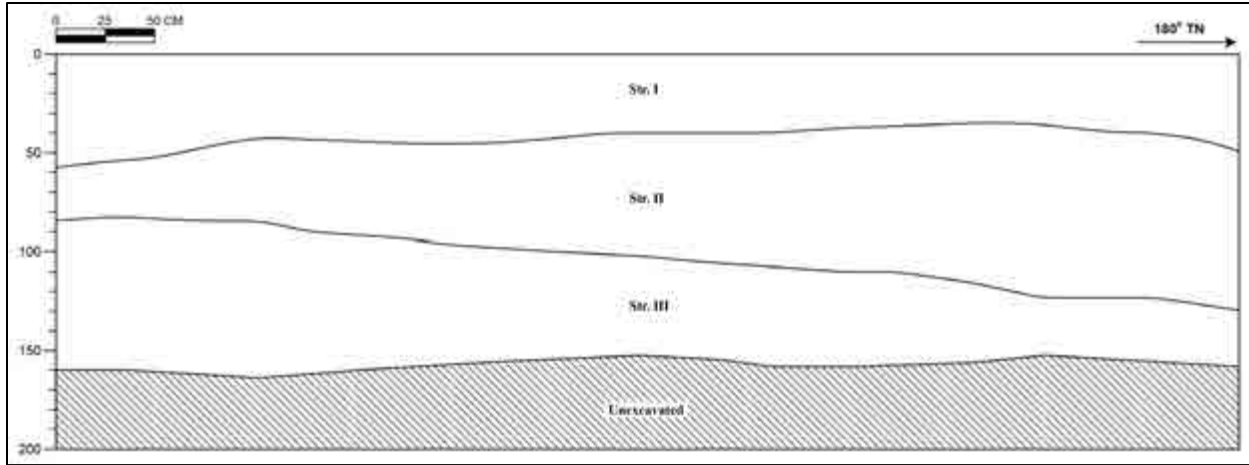


Figure 94. TE-123, stratigraphy of the east wall

Table 23. TE-123 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–58	Ap horizon; 10YR 4/3, brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; non-plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained mottles of 10YR 4/4, dark yellowish brown, sandy clay loam
II	34–128	Natural; 10YR 5/3, brown; silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary
III	83–162	Natural; 10YR 4/2, dark grayish brown; very cobbly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; few fine roots; lower boundary not observed; contained mottles of 10YR 5/2, grayish brown, silt loam

1.1.24 Test Excavation 124 (TE-124)

TE-124 was along the western boundary of the project area (Figure 95). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-124 consisted of very dark brown, sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying brown, natural very cobbly silt loam (Stratum III) and dark brown, natural gravelly clay loam (Stratum IV) (Figure 96 through Figure 98 and Table 24). No cultural materials were encountered.



Figure 95. TE-124, overview of the general location, view to west



Figure 96. TE-124, oblique view of the east wall, view to southeast



Figure 97. TE-124, close-up of the east wall, view to east

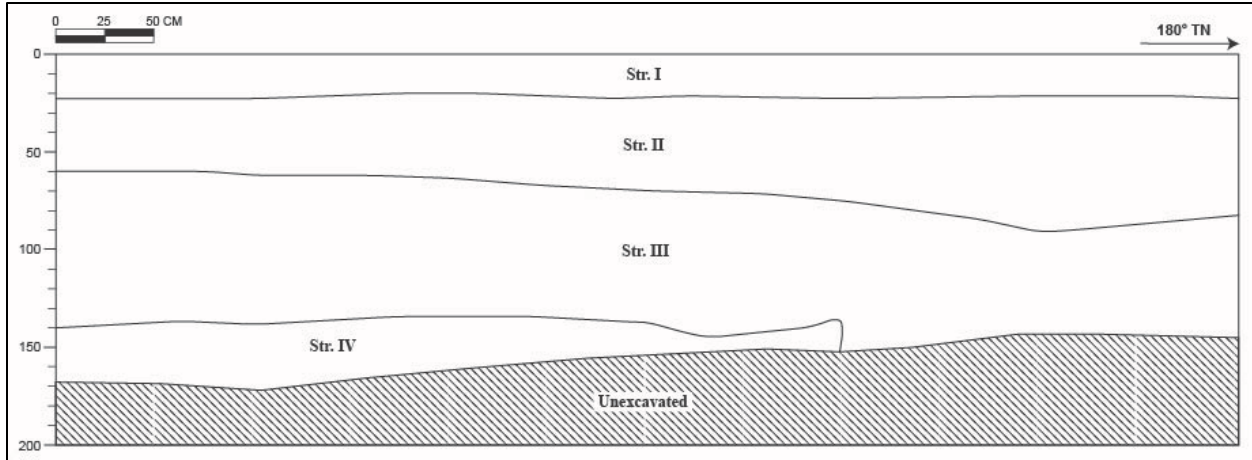


Figure 98. TE-124, stratigraphy of the east wall

Table 24. TE-124 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–21	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	17–80	Fill; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, medium blocky structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; abrupt, smooth lower boundary
III	58–150	Natural; 10YR 4/3, brown; very cobbly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, irregular lower boundary; contained many mottles of 10YR 5/1, gray, loamy sand
IV	133–170	Natural; 7.5YR 3/3, dark brown; gravelly clay loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.25 Test Excavation 125 (TE-125)

TE-125 was near the western boundary of the project area (Figure 99). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.67 mbs. The stratigraphy of TE-125 consisted of a very dark brown, sandy loam Ap horizon (Stratum I) overlying dark brown, gravelly sandy loam fill (Stratum II); dark yellowish brown, natural gravelly silt loam (Stratum III); yellowish brown, natural very gravelly silt loam (Stratum IV); and reddish brown, natural gravelly silt loam (Stratum V) (Figure 100 through Figure 102 and Table 25). No cultural materials were encountered.



Figure 99. TE-125, overview of the general location, view to south



Figure 100. TE-125, oblique view of the east wall, view to southeast



Figure 101. TE-125, close-up of the east wall, view to east

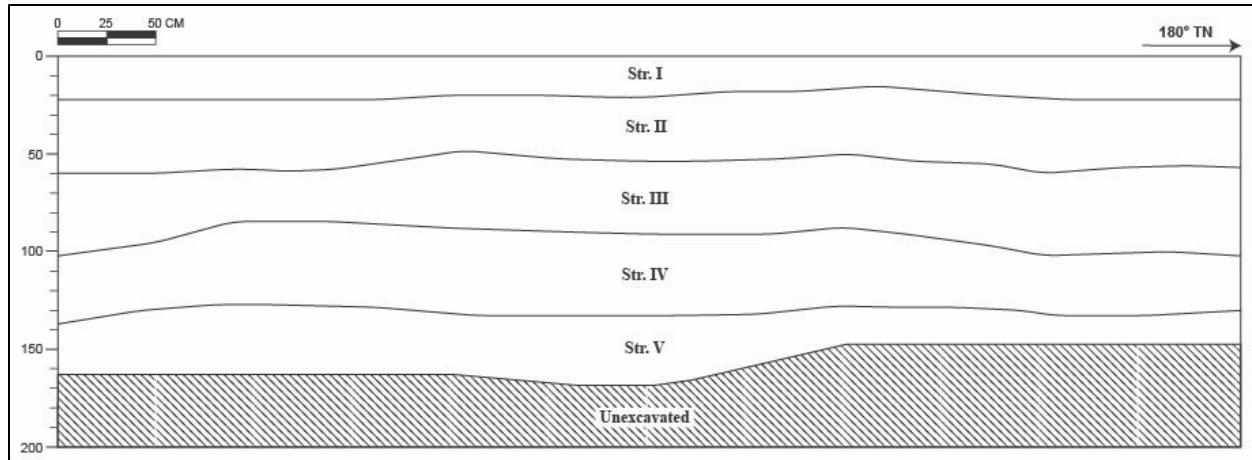


Figure 102. TE-125, stratigraphy of the east wall

Table 25. TE-125 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–22	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	15–60	Fill; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, medium blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
III	50–103	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; terrigenous origin; fine roots common; clear, smooth lower boundary
IV	85–136	Natural; 10YR 5/4, yellowish brown, very gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained common mottles of 10YR 5/2, grayish brown, loamy sand
V	126–167	Natural; 5YR 4/4, reddish brown, gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.26 Test Excavation 126 (TE-126)

TE-126 was located near the central-western boundary of the project area (Figure 103). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.42 mbs. The stratigraphy of TE-126 consisted of very dark brown, sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying dark yellowish brown, natural gravelly silt loam (Stratum III) and dark brown, natural gravelly silt loam (Stratum IV) (Figure 104 through Figure 106 and Table 26). No cultural materials were encountered.



Figure 103. TE-126, overview of the general location, view to west



Figure 104. TE-126, oblique view of the east wall, view to southeast



Figure 105. TE-126, close-up of the east wall, view to east

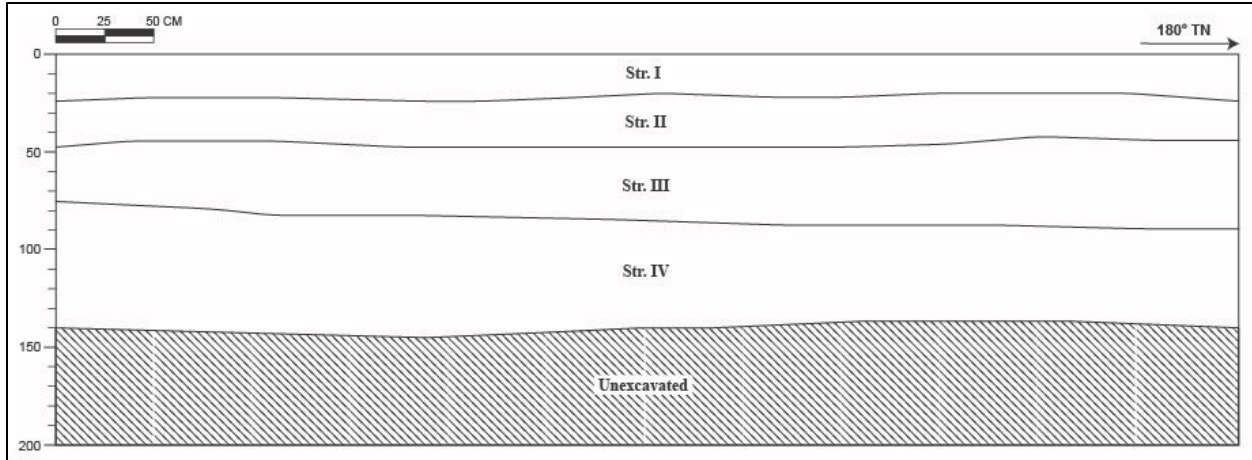


Figure 106. TE-126, stratigraphy of the east wall

Table 26. TE-126 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–49	Ap horizon; 10YR 2/2, very dark brown; sandy loam; weak, fine granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	20–47	Fill; 10YR 3/3, dark brown; gravelly sandy loam; moderate, medium blocky structure; moist, extremely firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
III	43–88	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained common mottles of 10YR 4/2, dark grayish brown, loamy sand
IV	75–142	Natural; 7.5YR 3/3, dark brown; gravelly silt loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained common mottles of 10YR 5/1, gray, loamy sand

1.1.27 Test Excavation 127 (TE-127)

TE-127 was near the central-western boundary of the project area (Figure 107). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.78 mbs. The stratigraphy of TE-127 consisted of a very dark brown, sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying brown, natural cobbly silt loam (Stratum III) and yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 108 through Figure 110 and Table 27). No cultural materials were encountered.



Figure 107. TE-127, overview of the general location, view to west



Figure 108. TE-127, oblique view of the west wall, view to southwest



Figure 109. TE-127, close-up of the west wall, view to west

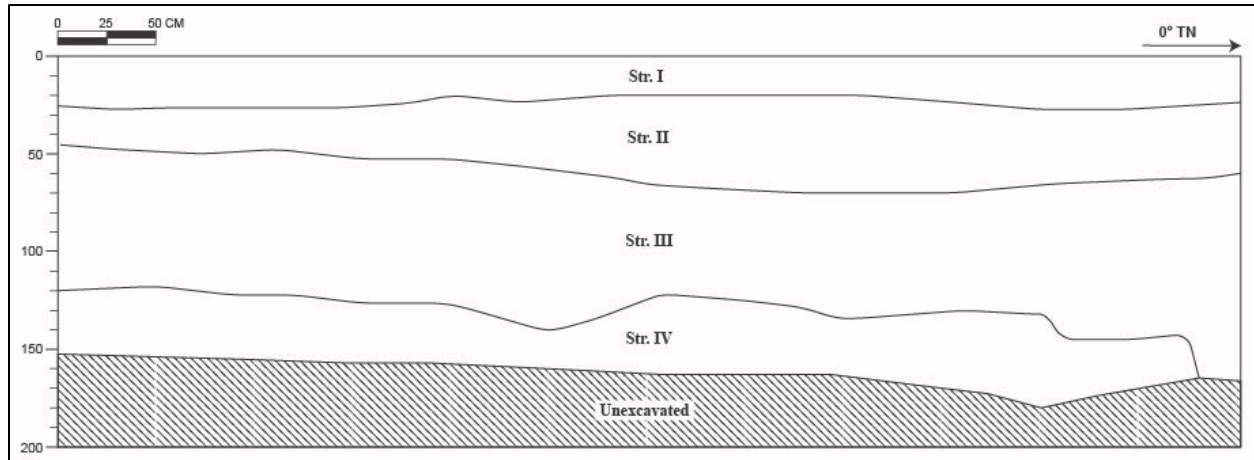


Figure 110. TE-127, stratigraphy of the west wall

Table 27. TE-127 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–28	Ap horizon; 10YR 2/2, very dark brown; sandy loam; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	20–70	Fill; 10YR 3/3, dark brown; gravelly sandy loam; strong, medium blocky structure; moist, extremely firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
III	45–165	Natural; 10YR 4/3, brown; cobbly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, irregular lower boundary; contained many mottles of 10YR 4/2, dark grayish brown, loamy sand
IV	118–178	Natural; 10YR 5/4, yellowish brown, gravelly silt loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained common mottles of 10YR 5/2, grayish brown, loamy sand

1.1.28 Test Excavation 128 (TE-128)

TE-128 was along the central-western portion of the project area (Figure 111). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-128 consisted of very dark brown, sandy loam Ap horizon (Stratum I) and dark grayish brown, gravelly sandy loam fill (Stratum II) overlying dark yellowish brown, natural gravelly silty clay loam (Stratum III) (Figure 112 through Figure 114 and Table 28). No cultural materials were encountered.



Figure 111. TE-128, overview of the general location, view to south



Figure 112. TE-128, oblique view of the west wall, view to southwest



Figure 113. TE-128, close-up of the west wall, view to west

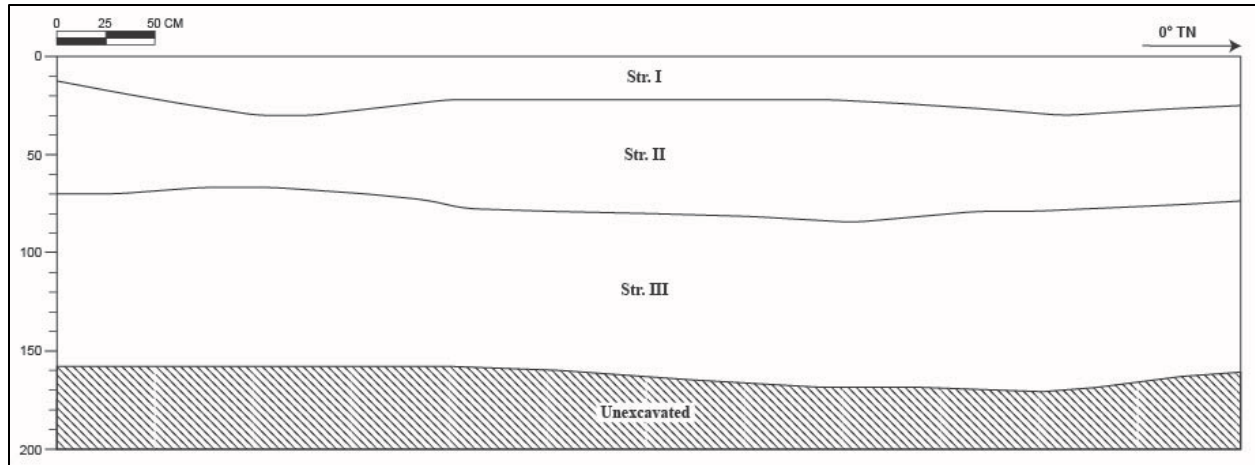


Figure 114. TE-128, stratigraphy of the west wall

Table 28. TE-128 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–28	Ap horizon; 10YR 2/2, very dark brown; sandy loam; weak, medium granular structure; moist, friable consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
II	13–82	Fill; 10YR 4/2, dark grayish brown; gravelly sandy loam; strong, medium granular structure; moist, extremely firm; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary; contained common mottles of 10YR 4/3, brown, silt loam
III	66–170	Natural; 10YR 3/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; very plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.29 Test Excavation 129 (TE-129)

TE-129 was in the central portion of the project area (Figure 115). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.64 mbs. The stratigraphy of TE-129 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, natural very gravelly silty clay loam (Stratum II) and dark yellowish brown, natural gravelly silt loam (Stratum III) (Figure 116 through Figure 118 and Table 29). No cultural materials were encountered.



Figure 115. TE-129, overview of the general location, view to southwest



Figure 116. TE-129, oblique view of the east wall, view to northeast



Figure 117. TE-129, close-up of the east wall, view to east

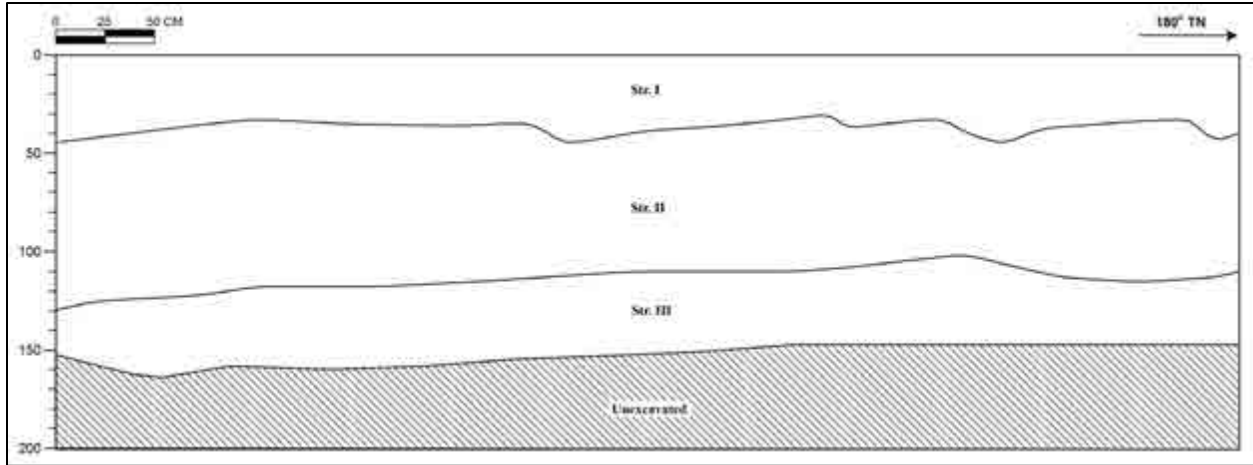


Figure 118. TE-129, stratigraphy of the east wall

Table 29. TE-129 stratigraphic description

I	0–48	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained common mottles of 10YR 4/2, dark grayish brown, loamy sand
II	30–128	Natural; 10YR 3/6, dark yellowish brown; silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained few mottles of 7.5YR 4/2, brown, loamy sand
III	104–164	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; plastic; terrigenous origin; lower boundary not observed

1.1.30 Test Excavation 130 (TE-130)

TE-130 was in the central portion of the project area (Figure 119). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.68 mbs. The stratigraphy of TE-130 consisted of a dark brown, very gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural gravelly silt loam (Stratum II) and brown, natural gravelly silt loam (Stratum III) (Figure 120 through Figure 122 and Table 30). No cultural materials were encountered.



Figure 119. TE-130, overview of the general location, view to south



Figure 120. TE-130, oblique view of the east wall, view to northeast



Figure 121. TE-130, close-up of the east wall, view to east

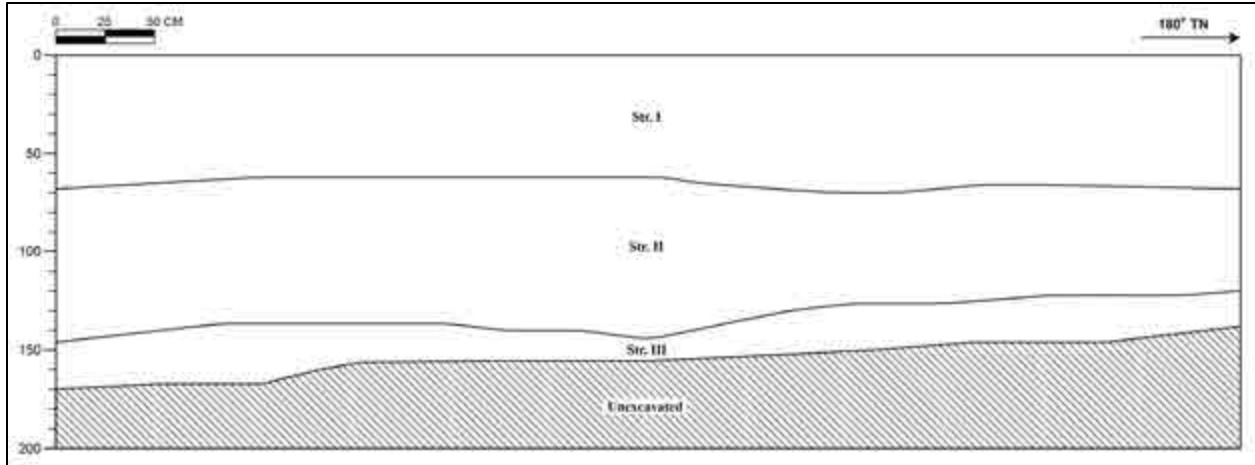


Figure 122. TE-130, stratigraphy of the east wall

Table 30. TE-130 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–30	Ap horizon; 10YR 3/3, dark brown; very gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine to coarse roots; clear, smooth lower boundary
II	62–144	Natural; 10YR 5/3, brown; gravelly silty loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, smooth lower boundary; contained common mottles of 10YR 4/2, dark grayish brown, loamy sand
III	22–168	Natural; 7.5YR 5/4, brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; no roots; lower boundary not visible

1.1.31 Test Excavation 131 (TE-131)

TE-131 was in the central portion of the project area (Figure 123). The excavation was 6.40 m long by 0.80 m wide with a maximum depth of 1.46 mbs. The northern end of the trench was extended by 0.40 m to observe the continuation of Stratum IV. The stratigraphy of TE-131 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying yellowish brown, natural loamy sand (Stratum II); dark yellowish brown, natural very gravelly silty clay loam (Stratum III); pinkish gray, natural sand (Stratum IV); and brown, natural silt loam (Stratum V) (Figure 124 through Figure 126 and Table 31). No cultural materials were encountered.



Figure 123. TE-131, overview of the general location, view to southwest



Figure 124. TE-131, oblique view of the east wall, view to northeast



Figure 125. TE-131, close-up of the east wall, view to east

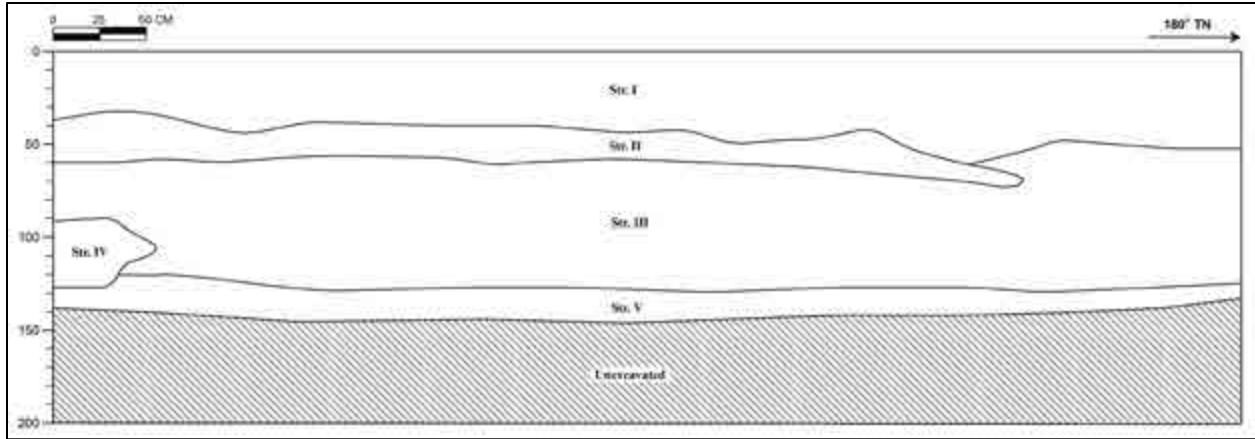


Figure 126. TE-131, stratigraphy of the east wall

Table 31. TE-131 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–59	Ap horizon; 7.5YR 3/2, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
II	33–72	Natural; 10YR 5/4, yellowish brown; loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; fine roots common; clear, smooth lower boundary
III	46–127	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; many fine roots; clear, smooth lower boundary; contained mottles of 5YR 4/1, dark gray, sand
IV	90–127	Natural; 5YR 6/2, pinkish gray; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; clear, wavy lower boundary; contained mottles of 5YR 5/2, reddish gray, sand
V	120–144	Natural; 7.5YR 4/4, brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.32 Test Excavation 132 (TE-132)

TE-132 was in the central-southeastern portion of the project area (Figure 127). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.64 mbs. The stratigraphy of TE-132 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying very dark grayish brown, natural very gravelly sand (Stratum II) and dark yellowish brown, natural gravelly silty clay loam (Stratum III) (Figure 128 through Figure 130 and Table 28). No cultural materials were encountered.



Figure 127. TE-132, overview of the general location, view to northeast



Figure 128. TE-132, oblique view of the east wall, view to northeast



Figure 129. TE-132, close-up of the east wall, view to east

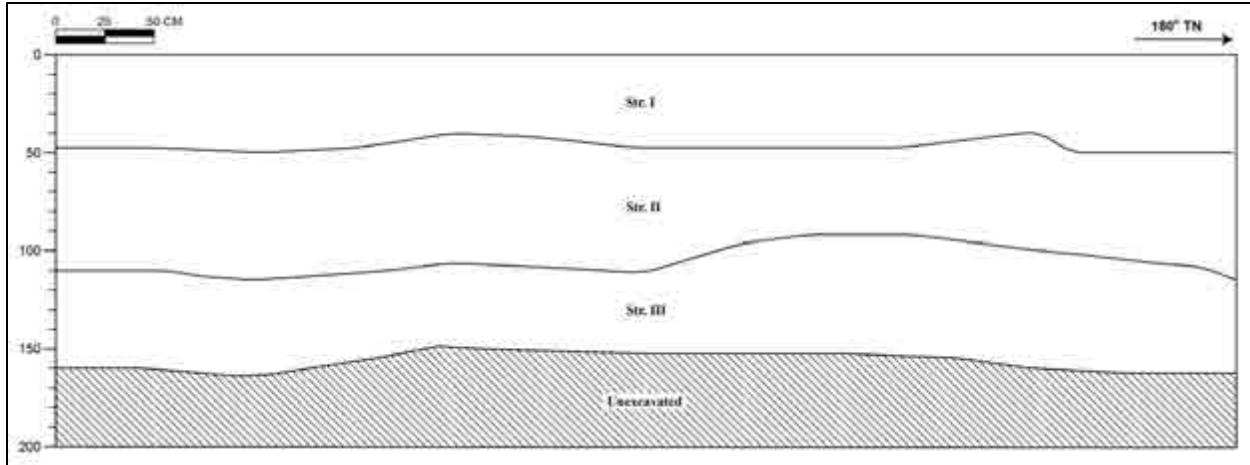


Figure 130. TE-132, stratigraphy of the east wall

Table 32. TE-132 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–50	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation, slightly plastic; mixed origin; many fine roots; abrupt, wavy lower boundary
II	38–115	Natural; 10YR 3/2, very dark grayish brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary; contained mottles of 5YR 3/3, dark reddish brown, silty clay loam
III	90–164	Natural; 10YR 3/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; lower boundary not visible; contained mottles of 7.5YR 4/3, brown, silty clay loam

1.1.33 Test Excavation 133 (TE-133)

TE-133 was in the southeastern portion of the project area (Figure 131). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-133 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying brown, natural gravelly silt loam (Stratum II); dark yellowish brown, natural gravelly silt loam (Stratum III); pinkish gray, natural loamy sand (Stratum IV); and brown, natural loamy sand (Stratum V) (Figure 132 through Figure 134 and Table 33). No cultural materials were encountered.



Figure 131. TE-133, overview of the general location, view to south



Figure 132. TE-133, oblique view of the east wall, view to northeast



Figure 133. TE-133, close-up of the east wall, view to east

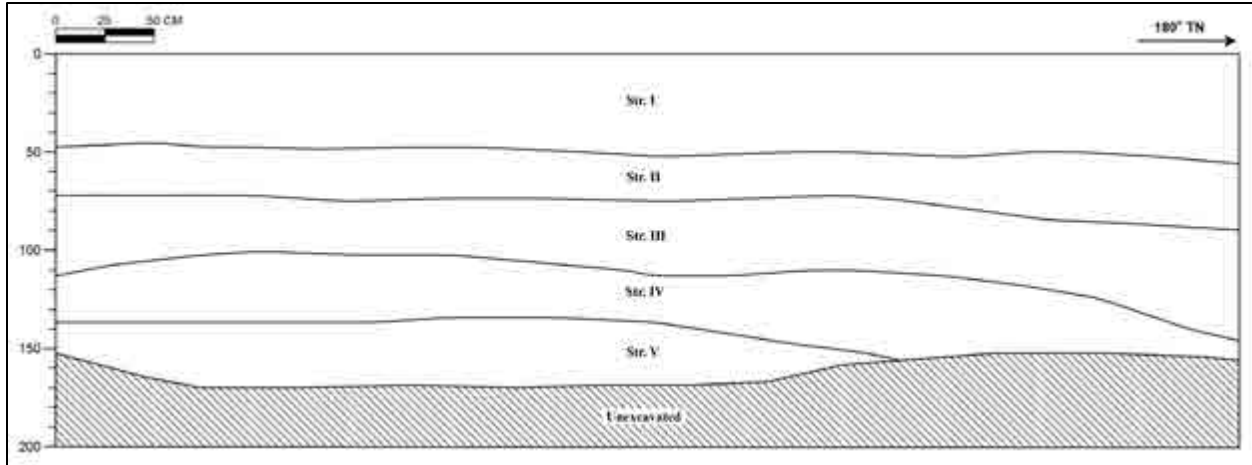


Figure 134. TE-133, stratigraphy of the east wall

Table 33. TE-133 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–53	Ap horizon; 7.5YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary; contained mottles of 7.5 YR 4/2, brown, sand
II	45–86	Natural; 10YR 4/3, brown; gravelly silt loam; weak, very fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
III	70–142	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, very fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
IV	100–164	Natural; 10YR 6/2, pinkish gray; loamy sand; weak, fine granular structure; moist, loose consistence; weak cementation; non-plastic; mixed origin; few fine roots; clear, smooth lower boundary
V	133–170	Natural; 7.5YR 5/2, brown; loamy sand; fine, weak granular structure; moist, loose consistence; weak cementation; non-plastic; mixed origin; lower boundary not visible

1.1.34 Test Excavation 134 (TE-134)

TE-134 was in the southeastern portion of the project area (Figure 135). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.63 mbs. The stratigraphy of TE-134 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying yellowish brown, natural gravelly sand (Stratum II); dark yellowish brown, natural gravelly loamy sand (Stratum III); and brown, natural gravelly sand (Stratum IV) (Figure 136 through Figure 138 and Table 34). No cultural materials were encountered.



Figure 135. TE-134, overview of the general location, view to northeast



Figure 136. TE-134, oblique view of the east wall, view to northeast



Figure 137. TE-134, close-up of the east wall, view to east

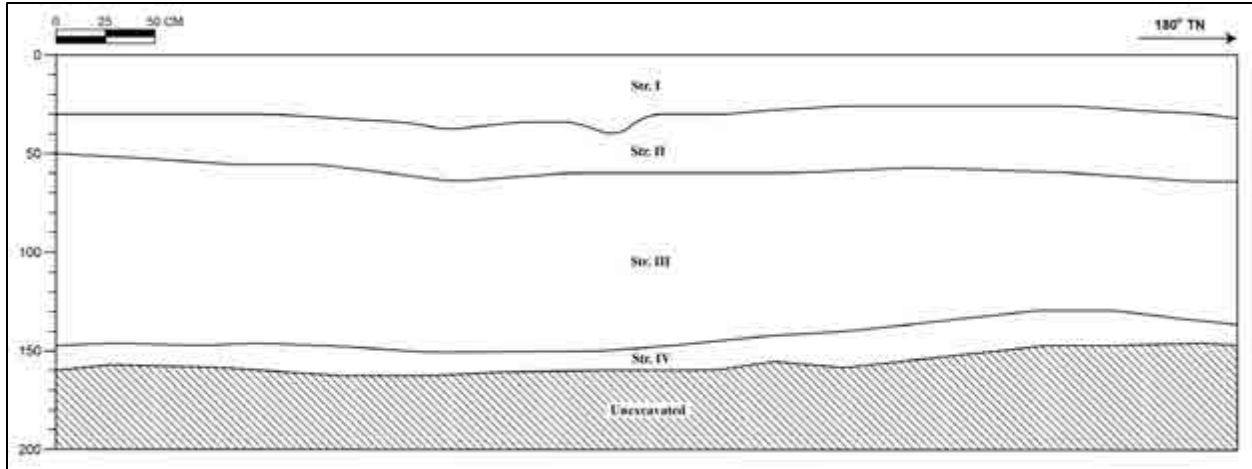


Figure 138. TE-134, stratigraphy of the east wall

Table 34. TE-134 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–40	Ap horizon; 7.5YR 3/2, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained mottles of 7.5 YR 5/1, gray, loamy sand
II	25–64	Natural; 10YR 5/4, yellowish brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; abrupt, smooth lower boundary
III	49–150	Natural; 10YR 4/4, dark yellowish brown; gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; gradual, smooth lower boundary; contained mottles of 10YR 3/3, dark brown, silty clay loam
IV	128–163	Natural; 10YR 5/3, brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; lower boundary not visible

1.1.35 Test Excavation 135 (TE-135)

TE-135 was in the southeastern portion of the project area (Figure 139). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-135 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I); overlying brown, natural gravelly loamy sand (Stratum II); and light brown, natural gravelly silt loam (Stratum III) (Figure 140 through Figure 142 and Table 35). No cultural materials were encountered.



Figure 139. TE-135, overview of the general location, view to northeast



Figure 140. TE-135, oblique view of the east wall, view to northeast



Figure 141. TE-135, close-up of the east wall, view to east

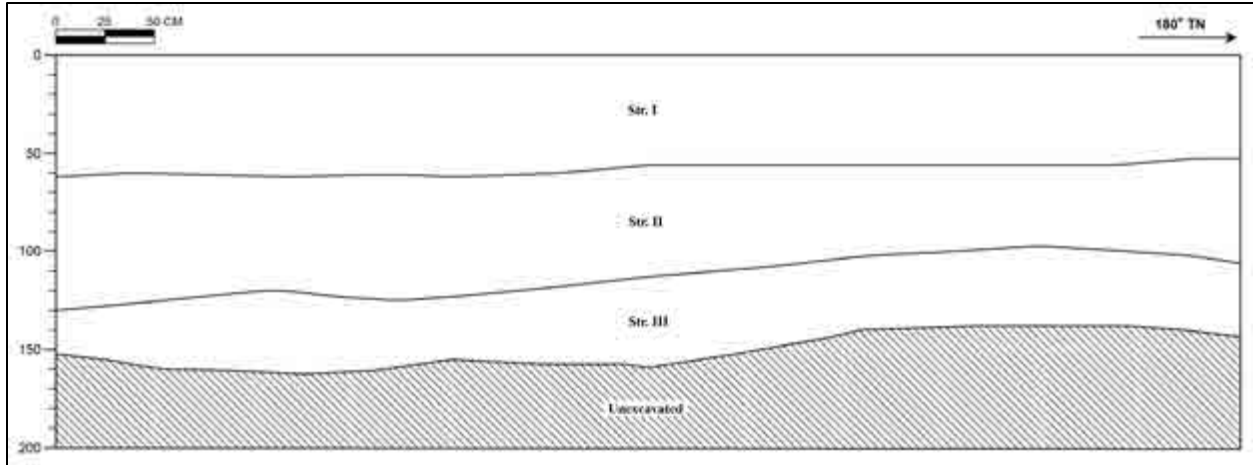


Figure 142. TE-135, stratigraphy of the east wall

Table 35. TE-135 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–60	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	52–128	Natural; 7.5YR 4/3, brown; gravelly loamy sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, smooth lower boundary
III	98–162	Natural; 7.5YR 6/3, light brown; gravelly silt loam; weak, very fine platy structure; moist, loose consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not visible; contained mottles of 10YR 5/2, grayish brown, silt loam

1.1.36 Test Excavation 136 (TE-136)

TE-136 was near the eastern boundary in the southern half of the project area, west of the Waikapu Stream (Figure 143). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.80 mbs. The stratigraphy of TE-136 consisted of a brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, natural sandy clay loam (Stratum II); dark brown, natural very cobbly sand (Stratum III); and yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 144 through Figure 146 and Table 36). No cultural materials were encountered.



Figure 143. TE-136, overview of the general location, view to northeast



Figure 144. TE-136, oblique view of the east wall, view to northeast



Figure 145. TE-136, close-up of the east wall, view to east

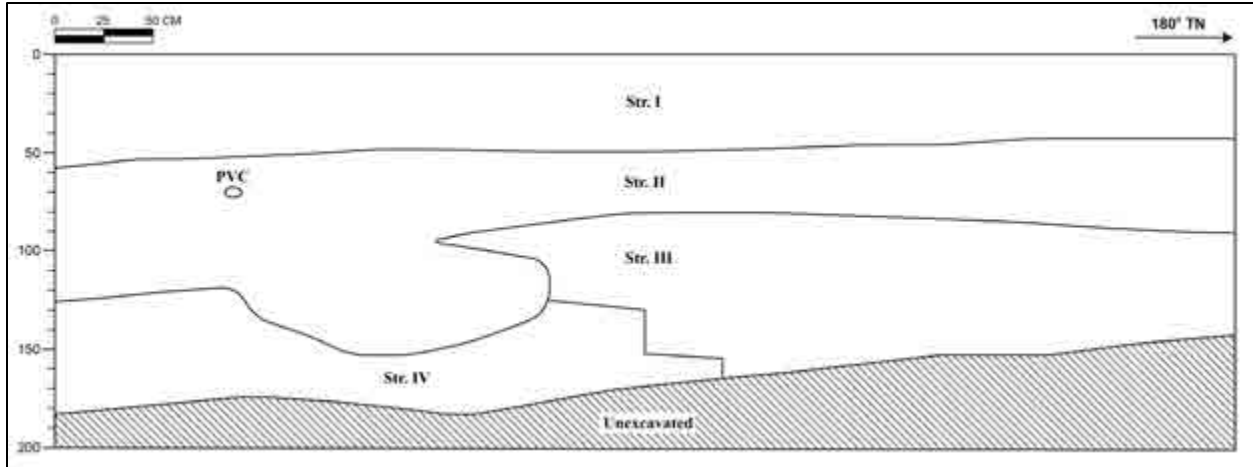


Figure 146. TE-136, stratigraphy of the east wall

Table 36. TE-136 stratigraphic description

Stratum	Depth	Description
I	0–55	Ap horizon; 10YR 4/3, brown; gravelly sandy loam; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; abrupt, broken lower boundary
II	40–152	Natural; 10YR 4/4, dark yellowish brown; sandy clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, irregular lower boundary
III	78–163	Natural; 7.5YR 3/4, dark brown; very cobbly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; terrigenous origin; few fine roots; clear, broken lower boundary; contained mottles of 7.5YR 3/2, dark brown, sand
IV	116–180	Natural; 10YR 5/4, yellowish brown; gravelly silt loam; weak, very fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.37 Test Excavation 137 (TE-137)

TE-137 was near the western boundary in the southern half of the project area (Figure 147). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.66 mbs. The stratigraphy of TE-137 consisted of very dark brown sandy loam Ap horizon (Stratum I) and dark brown, gravelly loam fill with small concentrations of dark yellowish brown gravelly loamy sand (Stratum II) overlying very dark brown, natural gravelly clay loam with concentrations of dark yellowish brown clay loam (Stratum III); brown, natural very cobbly loamy sand (Stratum IV); and dark yellowish brown, natural gravelly silt loam (Stratum V) (Figure 148 through Figure 150 and Table 37). No cultural materials were encountered.



Figure 147. TE-137, overview of the general location, view to south



Figure 148. TE-137, oblique view of the east wall, view to south



Figure 149. TE-137, close-up of the east wall, view to east

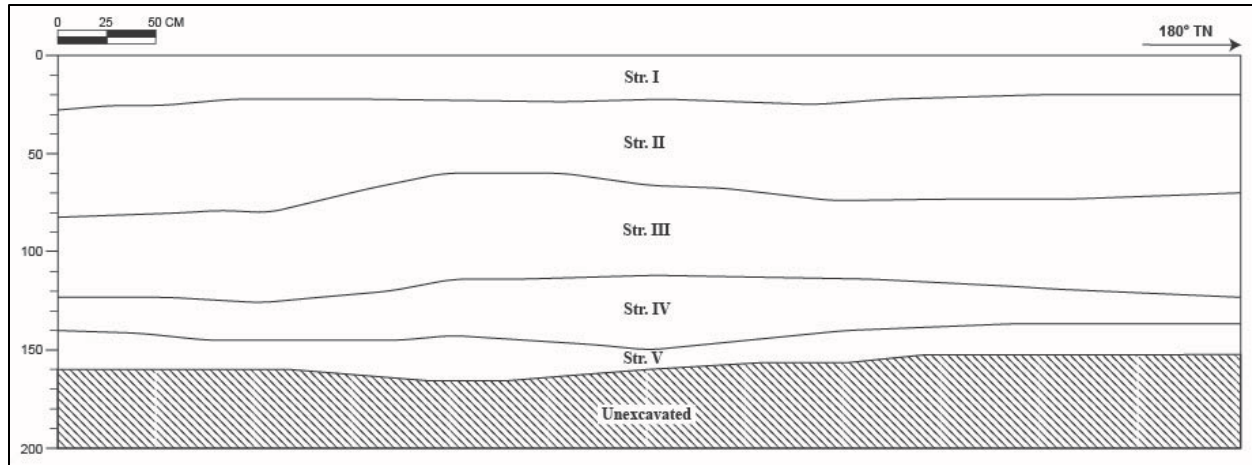


Figure 150. TE-137, stratigraphy of the east wall

Table 37. TE-137 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–36	Ap horizon; 7.5YR 2.5/2, very dark brown; sandy loam; moderate, medium blocky structure; moist, firm consistence; no cementation; plastic; mixed origin; many fine roots; abrupt, smooth lower boundary
II	18–82	Fill; 10YR 3/3, dark brown; gravelly loam; moderate, fine granular structure; moist, firm consistence; no cementation; slightly plastic; terrigenous origin; fine roots common; clear, wavy lower boundary; contained small concentrations of 10YR 4/4, dark yellowish brown, gravelly loamy sand mostly in small root stains
III	58–125	Natural; 7.5YR 2.5/3, very dark brown; gravelly clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; clear, smooth lower boundary; contained concentrations of 10YR 3/4, dark yellowish brown, clay loam
IV	112–147	Natural; 10YR 4/3, brown; very cobbly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; clear, smooth lower boundary; alluvial deposit
V	134–166	Natural; 10YR 3/6, dark yellowish brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.38 Test Excavation 138 (TE-138)

TE-138 was in the western portion of the project area (Figure 151). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-138 consisted of a very dark brown sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill with a small concentration of gray gravelly loamy sand (Stratum II) overlying dark yellowish brown, previously disturbed natural very gravelly loam mottled with gray, gravelly loamy sand alluvial deposits (Stratum III) and brown, natural gravelly silt loam mottled with reddish brown silt loam (Stratum IV) (Figure 152 through Figure 154 and Table 38). No cultural materials were encountered.



Figure 151. TE-138, overview of the general location, view to northwest



Figure 152. TE-138, oblique view of the west wall, view to northwest



Figure 153. TE-138, close-up of the west wall, view to west

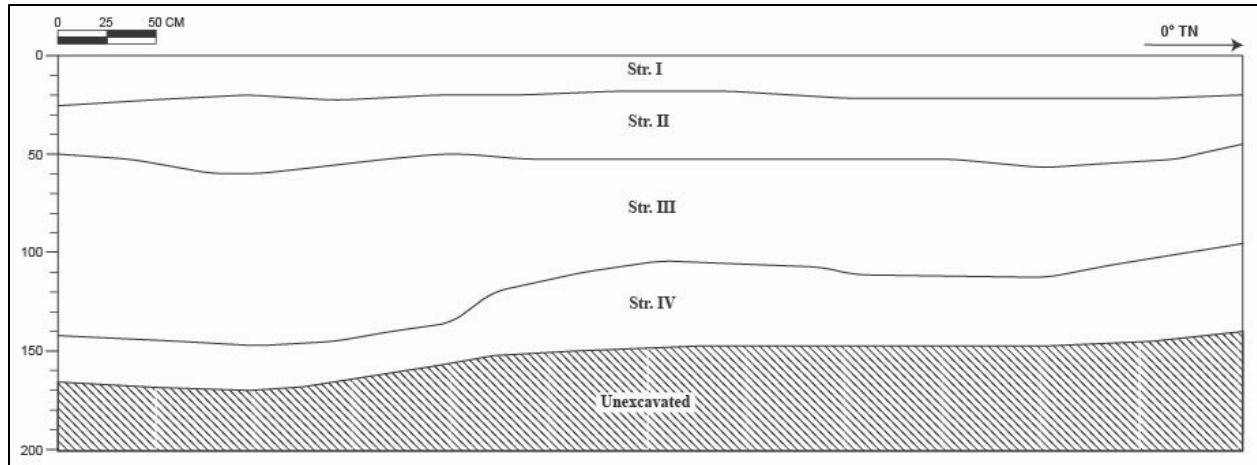


Figure 154. TE-138, stratigraphy of the west wall

Table 38. TE-138 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–25	Ap horizon; 10YR 2/2, very dark brown; sandy loam; moderate, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	18–60	Fill; 7.5YR 3/2, dark brown; gravelly sandy loam; moderate, fine granular structure; moist, firm consistence; no cementation; non-plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained a small concentration of 5YR 5/1, gray, alluvial gravelly loamy sand
III	46–118	Previously disturbed natural; 10YR 4/4, dark yellowish brown; very gravelly loam; weak, fine granular structure; moist, friable consistence; no cementation; non-plastic; terrigenous origin; fine roots common; clear, wavy lower boundary; contained many concentrations of 5YR 5/1, gray, alluvial gravelly loamy sand
IV	94–170	Natural; 10YR 4/3, brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained a 5YR 4/4, reddish brown, silt loam variation near BOE

1.1.39 Test Excavation 139 (TE-139)

TE-139 was in the southwestern portion of the project area (Figure 155). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.66 mbs. The stratigraphy of TE-139 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) and dark brown, gravelly sandy loam fill (Stratum II) overlying dark yellowish brown, natural gravelly silty clay loam with concentrations of dark grayish brown, cobbly loamy sand alluvial deposits (Stratum III) and brown, natural gravelly silt loam with concentrations of dark grayish brown, gravelly loamy sand alluvial deposits (Stratum IV) (Figure 156 through Figure 158 and Table 39). No cultural materials were encountered.



Figure 155. TE-139, overview of the general location, view to northeast



Figure 156. TE-139, oblique view of the west wall, view to north



Figure 157. TE-139, close-up of the west wall, view to west

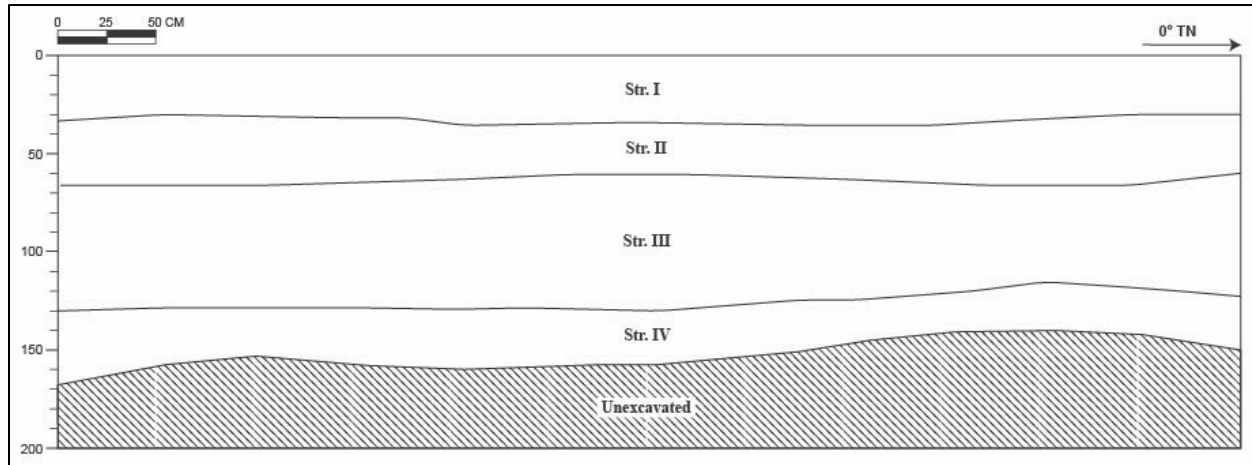


Figure 158. TE-139, stratigraphy of the west wall

Table 39. TE-139 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–35	Ap horizon; 10YR 2/2, very dark brown; gravelly sandy loam; moderate, fine granular structure; moist, friable; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary; contained mottles of 10YR 3/2, very dark grayish brown, hardened sandy loam
II	28–65	Fill; 10YR 3/3, dark brown; gravelly sandy loam; strong, medium blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, smooth lower boundary
III	57–128	Natural; 10YR 4/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained small concentrations of 10YR 4/2, dark grayish brown, alluvial cobbly loamy sand
IV	114–166	Natural; 10YR 5/3, brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained concentrations of 10YR 4/2, dark grayish brown, alluvial gravelly loamy sand

1.1.40 Test Excavation 140 (TE-140)

TE-140 was near the western-central portion of the project area (Figure 159). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.80 mbs. The stratigraphy of TE-140 consisted of a very dark brown, gravelly sandy clay loam Ap horizon (Stratum I) overlying gray, extremely gravelly loamy sand fill with concentrations of dark brown and brown sandy loam (Stratum II); dark brown, natural gravelly silty clay loam (Stratum III); and dark yellowish brown, natural very gravelly silty clay loam with small concentrations of dark gray gravelly sand (Stratum IV) (Figure 160 through Figure 162 and Table 40). Stratum III contained traces of charcoal.



Figure 159. TE-140, overview of the general location, view to northwest



Figure 160. TE-140, oblique view of the east wall, view to north



Figure 161. TE-140, close-up of the east wall, view to east

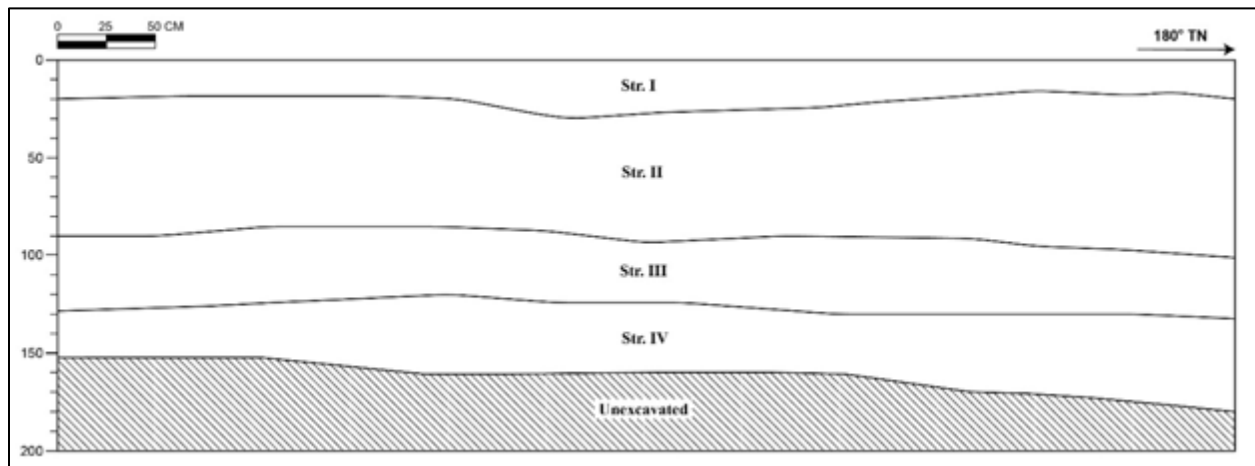


Figure 162. TE-140, stratigraphy of the east wall

Table 40. TE-140 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–28	Ap horizon; 10YR 2/2, very dark brown; gravelly sandy clay loam; moderate, fine granular structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; abrupt, smooth lower boundary
II	15–100	Fill; 10YR 5/1, gray; extremely gravelly loamy sand; weak, fine granular structure; dry, loose consistence; no cementation; non-plastic; terrigenous origin; many fine roots; clear, smooth lower boundary; contained concentrations of 10YR 3/3, dark brown, sandy loam and 10YR 4/3, brown, sandy loam
III	85–130	Natural; 7.5YR 3/4, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; very plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained sparse charcoal flecking
IV	120–180	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained small concentrations of 7.5YR 4/1, dark gray, alluvial gravelly sand

1.1.41 Test Excavation 141 (TE-141)

TE-141 was in the southwestern portion of the project area (Figure 163). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-141 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) and brown, gravelly sandy loam fill with concentrations of dark yellowish brown loamy sand (Stratum II) overlying dark grayish brown, natural gravelly silty clay loam with a lens of dark yellowish brown silty clay loam (Stratum III) and dark brown, natural gravelly silt loam (Stratum IV) (Figure 164 through Figure 166 and Table 41). No cultural materials were encountered.



Figure 163. TE-141, overview of the general location, view to south



Figure 164. TE-141, oblique view of the east wall, view to north



Figure 165. TE-141, close-up of the east wall, view to east

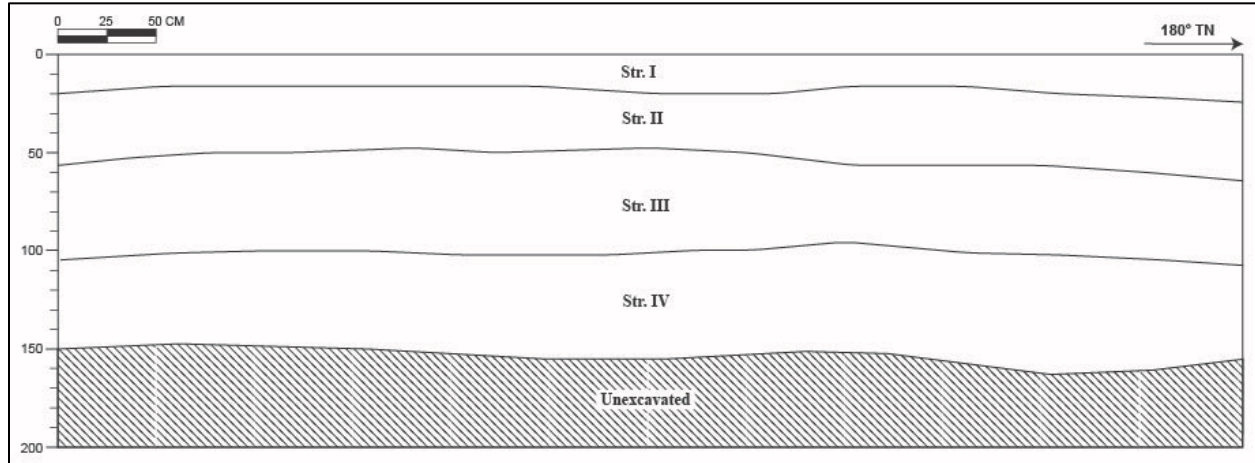


Figure 166. TE-141, stratigraphy of the east wall

Table 41. TE-141 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–22	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, medium granular structure; moist, friable; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	15–63	Fill; 10YR 4/3, brown; gravelly sandy loam; strong, medium blocky structure; no cementation; slightly plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained concentrations of 10YR 4/4, dark yellowish brown, loamy sand
III	47–105	Natural; 10YR 4/2, dark grayish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous; few fine roots; clear, smooth lower boundary; contained a lens of 10YR 4/4, dark yellowish brown, silty clay loam
IV	96–162	Natural; 10YR 3/3, dark brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.42 Test Excavation 142 (TE-142)

TE-142 was in the central-southern half of the project area (Figure 167). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.82 mbs. The stratigraphy of TE-135 consisted of a dark grayish brown, gravelly sandy loam Ap horizon (Stratum I) overlying gray, natural gravelly loamy sand (Stratum II); yellowish brown, natural very gravelly silty clay loam (Stratum III); and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 168 through Figure 170 and Table 42). No cultural materials were encountered.



Figure 167. TE-142, overview of the general location, view to southwest



Figure 168. TE-142, oblique view of the east wall, view to northeast



Figure 169. TE-142, close-up of the east wall, view to east

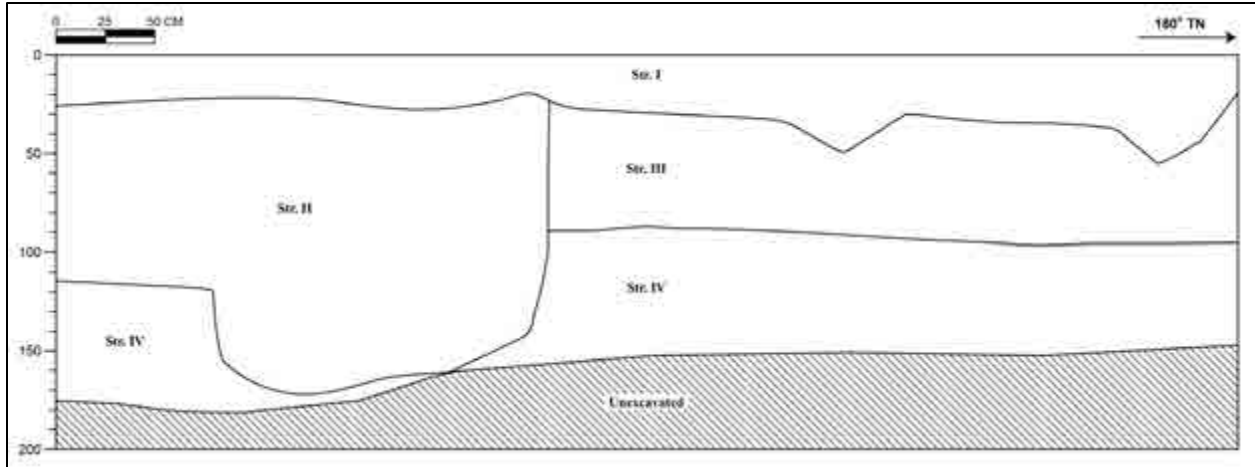


Figure 170. TE-142, stratigraphy of the east wall

Table 42. TE-142 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–56	Ap horizon; 10YR 4/2, dark grayish brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, irregular lower boundary
II	20–164	Natural; 10YR 5/1, gray; loamy sand; weak, fine structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; few fine roots; clear, irregular lower boundary; contained mottles of 10YR 4/3, brown, sandy loam
III	20–96	Natural; 10YR 5/4, yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; very plastic; terrigenous origin; fine roots common; clear, smooth lower boundary
IV	88–182	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained mottles of 10YR 3/4, dark yellowish brown, silty clay loam

1.1.43 Test Excavation 143 (TE-143)

TE-143 was in the central-southern half of the project area (Figure 171). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.74 mbs. The stratigraphy of TE-143 consisted of a dark brown, very gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, natural gravelly silty clay loam (Stratum II); gray, natural very gravelly loamy sand (Stratum III); dark yellowish brown, natural gravelly silty clay loam (Stratum IV); and dark yellowish brown, natural silt loam (Stratum V) (Figure 172 through Figure 174 and Table 43). No cultural materials were encountered.



Figure 171. TE-143, overview of the general location, view to northwest



Figure 172. TE-143, oblique view of the east wall, view to northeast



Figure 173. TE-143, close-up of the east wall, view to east

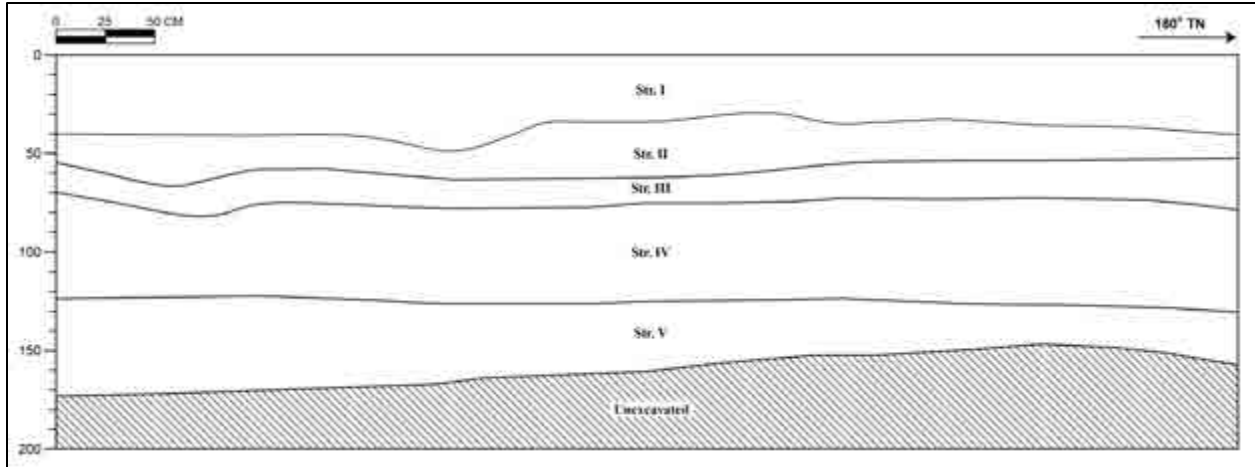


Figure 174. TE-143, stratigraphy of the east wall

Table 43. TE-143 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–50	Ap horizon; 10YR 3/3, dark brown; very gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to coarse roots; clear, wavy lower boundary; contained mottles of 10YR 5/2, grayish brown, loamy sand
II	29–68	Natural; 10YR 3/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy, lower boundary
III	53–83	Natural; 10YR 5/1, gray; very gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; terrigenous origin; few fine roots; clear, wavy lower boundary
IV	70–130	Natural; 10YR 4/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 4/3, brown, sandy loam
V	123–174	Natural; 10YR 3/4, dark yellowish brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.44 Test Excavation 144 (TE-144)

TE-144 was in the central-southern half of the project area (Figure 175). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.65 mbs. The stratigraphy of TE-144 consisted of a dark yellowish brown, gravelly sandy loam Ap horizon (Stratum I) and yellowish brown, gravelly sandy loam fill (Stratum II) overlying dark yellowish brown, natural very gravelly silty clay loam (Stratum III) and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 176 through Figure 178 and Table 44). No cultural materials were encountered.



Figure 175. TE-144, overview of the general location, view to northeast



Figure 176. TE-144, oblique view of the east wall, view to southeast



Figure 177. TE-144, close-up of the east wall, view to east

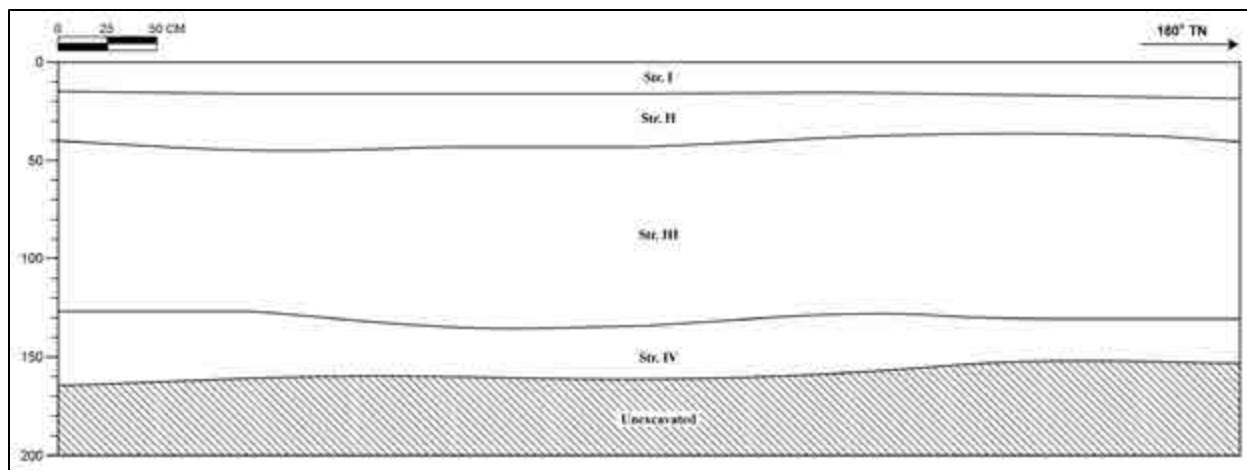


Figure 178. TE-144, stratigraphy of the east wall

Table 44. TE-144 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–18	Ap horizon; 10YR 4/4, dark yellowish brown; gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; non-plastic; mixed origin; many fine roots; gradual, smooth lower boundary
II	18–45	Fill; 10YR 5/4, yellowish brown; gravelly sandy loam; moderate, fine, granular structure; moist, loose consistence; no cementation; slightly plastic; mixed origin; clear, smooth lower boundary; contained mottles of 10YR 7/6, yellow, sand
III	35–136	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 4/2, dark grayish brown, loamy sand
IV	128–165	Natural; 10YR 4/6, dark yellowish brown; gravelly silt loam; weak, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained mottles of 10YR 4/6, dark yellowish brown, sand

1.1.45 Test Excavation 145 (TE-145)

TE-145 was in the central-southern half of the project area (Figure 179). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.70 mbs. The stratigraphy of TE-145 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying grayish brown, natural gravelly loamy sand (Stratum II); dark yellowish brown, natural very gravelly silty clay loam (Stratum III); dark gray, natural very gravelly sandy loam (Stratum IV); dark yellowish brown, natural gravelly silt loam (Stratum V) (Figure 180 through Figure 182 and Table 45). No cultural materials were encountered.



Figure 179. TE-145, overview of the general location, view to southwest



Figure 180. TE-145, oblique view of the east wall, view to northeast



Figure 181. TE-145, close-up of the east wall, view to east

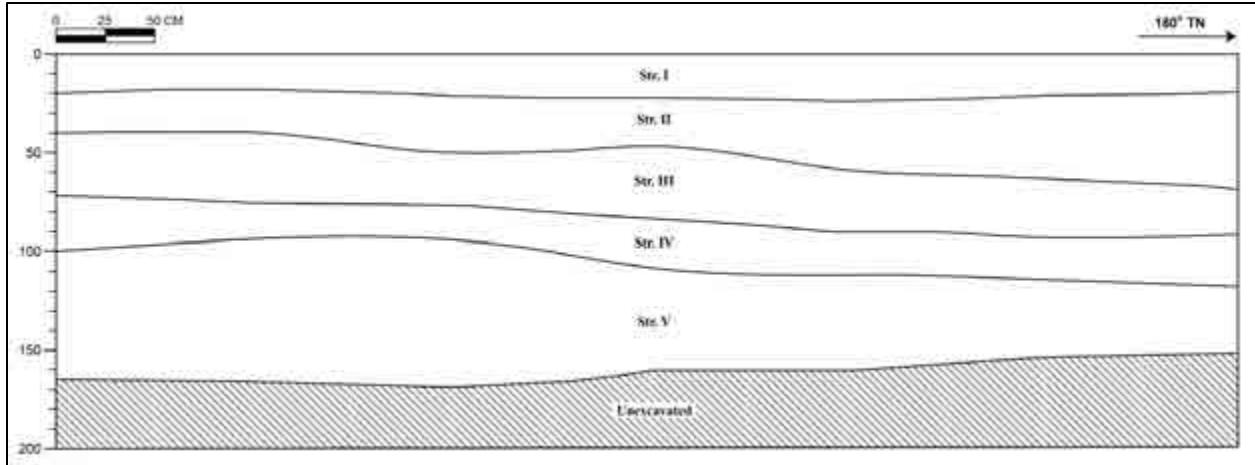


Figure 182. TE-145, stratigraphy of the east wall

Table 45. TE-145 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–25	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	18–70	Previously disturbed natural; 10YR 5/2, grayish brown; gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary; contained mottles of 10YR 3/4, dark yellowish brown, sandy loam; previously disturbed due to agricultural plowing
III	40–94	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; many fine roots; clear, smooth lower boundary
IV	73–118	Natural; 10YR 4/1, dark gray; very gravelly sandy loam; weak, very fine granular structure; moist, loose consistence; weak cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary
V	94–170	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.46 Test Excavation 146 (TE-146)

TE-146 was in the southeastern portion of the project area (Figure 183). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.75 mbs. The stratigraphy of TE-146 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark brown, natural gravelly silty clay loam (Stratum II); grayish brown, natural sandy loam (Stratum III); yellowish brown, natural gravelly silt loam (Stratum IV); and light brown, natural loamy sand (Stratum V) (Figure 184 through Figure 186 and Table 46). No cultural materials were encountered.



Figure 183. TE-146, overview of the general location, view to southwest



Figure 184. TE-146, oblique view of the east wall, view to northeast



Figure 185. TE-146, close-up of the east wall, view to east

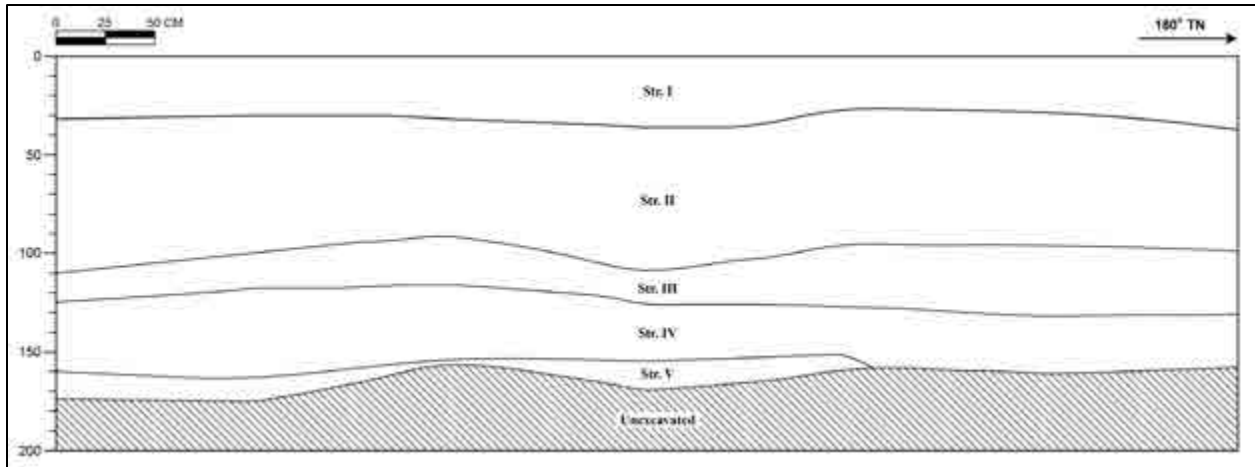


Figure 186. TE-146, stratigraphy of the east wall

Table 46. TE-146 stratigraphic description

I	0–38	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; abrupt, smooth lower boundary; contained mottles of 10YR 4/3, brown, loamy sand
II	38–110	Natural; 10YR 3/3, dark brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary contained mottles of 10YR 6/2, light brownish gray, silty clay loam
III	110–132	Natural; 10YR 5/2, grayish brown; sandy loam; moderate, fine granular structure; moist, loose consistence; weak cementation; slightly plastic; mixed origin; few fine roots; clear, smooth lower boundary
IV	132–164	Natural; 10YR 5/4, yellowish brown; gravelly silt loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	164–175	Natural; 7.5YR 6/3, light brown; loamy sand; weak, very fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; lower boundary not observed

1.1.47 Test Excavation 147 (TE-147)

TE-147 was in the southeastern portion of the project area (Figure 187). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-147 consisted of a dark yellowish brown, loamy sand Ap horizon (Stratum I) overlying brown, natural sand (Stratum II); brown, natural gravelly silty clay loam (Stratum III); light brownish gray, natural gravelly loamy sand (Stratum IV); and dark yellowish brown, natural very gravelly sandy loam (Stratum V) (Figure 188 through Figure 190 and Table 47). No cultural materials were encountered.



Figure 187. TE-147, overview of the general location, view to south



Figure 188. TE-147, oblique view of the east wall, view to northeast



Figure 189. TE-147, close-up of the east wall, view to east

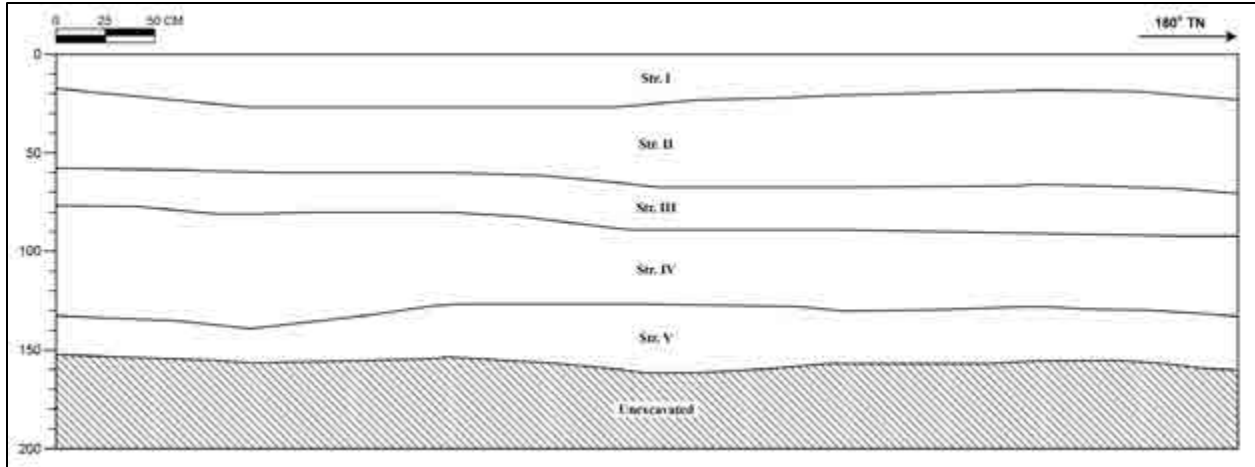


Figure 190. TE-147, stratigraphy of the east wall

Table 47. TE-147 stratigraphic description

I	0–28	Ap horizon; 10YR 3/4, dark yellowish brown; loamy sand; moderate, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	17–70	Natural; 10YR 5/3, brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, smooth lower boundary; contained mottles of 10YR 5/3, brown, sandy loam
III	58–93	Natural; 10YR 4/3, brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, smooth lower boundary
IV	77–140	Natural; 10YR 6/2, light brownish gray; gravelly loamy sand; weak, very fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; clear, smooth lower boundary
V	128–162	Natural; 10YR 4/4, dark yellowish brown; very gravelly sandy loam; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; lower boundary not observed

1.1.48 Test Excavation 148 (TE-148)

TE-148 was in the eastern portion of the project area (Figure 191). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 0.57 mbs. The stratigraphy of TE-148 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, gravelly silty clay loam fill containing SIHP # 50-50-04-09166 (Stratum II) (Figure 192 through Figure 196 and Table 48).

SIHP # 50-50-04-09166 is a buried concrete ditch or flume foundation remnant that was identified during the excavation of TE-148 (see Figure 196). The concrete remnant was observed at 0.42 mbs, underlying the plow zone. No surface remnants of the ditch were identified during an inspection of the area. The remnant is interpreted as a ditch or flume foundation due to its concave surface, indicating that it was either the base of a ditch or the foundation of a surface flume pipe that could have been used to pull water from nearby Waikapū Stream or from the surrounding network of buried irrigation lines. The observed portion of the historic property was 8.0 m long by 0.5 m wide. The remnant does not appear on historic maps or aerial photographs, indicating that it may have been a temporary or expedient structure. The construction style of the remnant, utilizing a thin application of concrete over soil with no compacted base course surface also indicates expedient construction.



Figure 191. TE-148, overview of the general location, view to south



Figure 192. TE-148, oblique view of the east wall, view to north



Figure 193. TE-148, close-up view of the east wall, view to east



Figure 194. TE-148, overview of SIHP # -09166, view to north

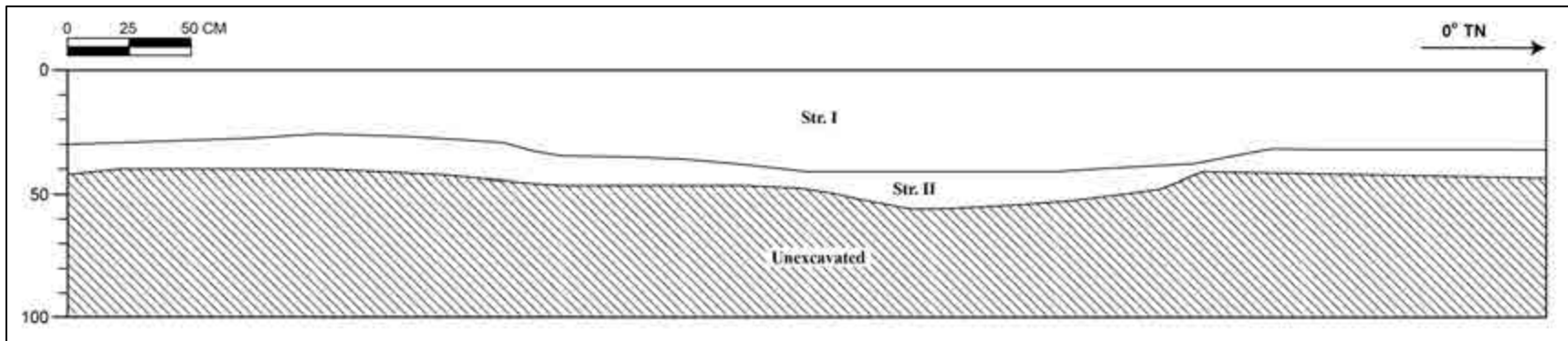


Figure 195. TE-148, stratigraphy of the east wall

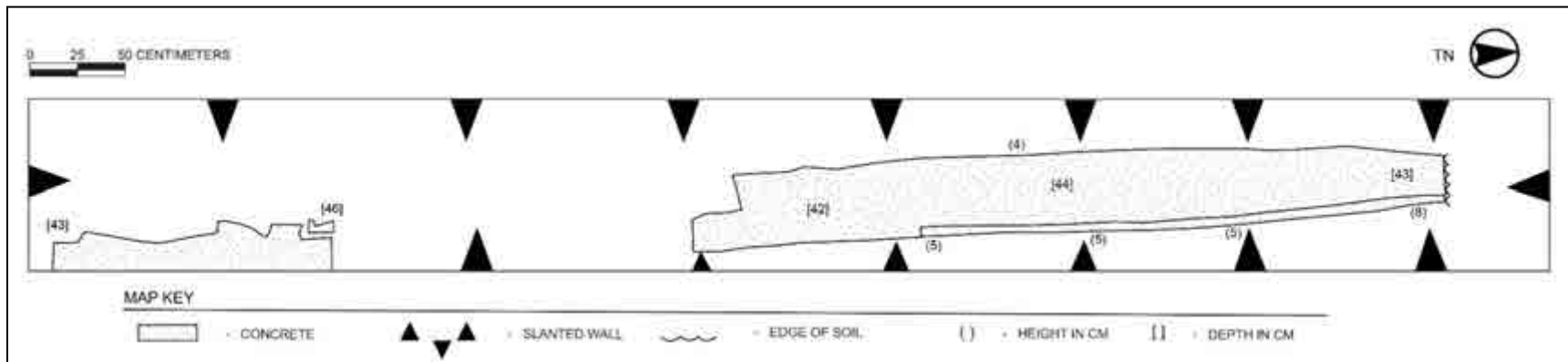


Figure 196. SIHP # 50-50-04-09166 plan map of TE-148

Table 48. TE-148 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–41	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine granular; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, smooth lower boundary
II	26–57	Fill; 10YR 4/4, dark yellowish brown; silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; few fine roots; terrigenous origin; lower boundary not observed; contained SIHP # -09166, a linear, concrete flume with a concave, U-shaped face, water control feature

1.1.49 Test Excavation 149 (TE-149)

TE-149 was near the southeastern corner of the project area (Figure 197). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.68 mbs. The stratigraphy of TE-149 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I); dark yellowish brown, sand fill (Stratum II) and previously disturbed brown, gravelly silt loam (Stratum III) overlying brown, natural gravelly silty clay loam (Stratum IV) and natural light brownish gray, loamy sand (Stratum V) (Figure 198 through Figure 200 and Table 49). No cultural materials were encountered.



Figure 197. TE-149, overview of the general location, view to southwest



Figure 198. TE-149, oblique view of the east wall, view to northeast



Figure 199. TE-149, close-up of the east wall, view to east

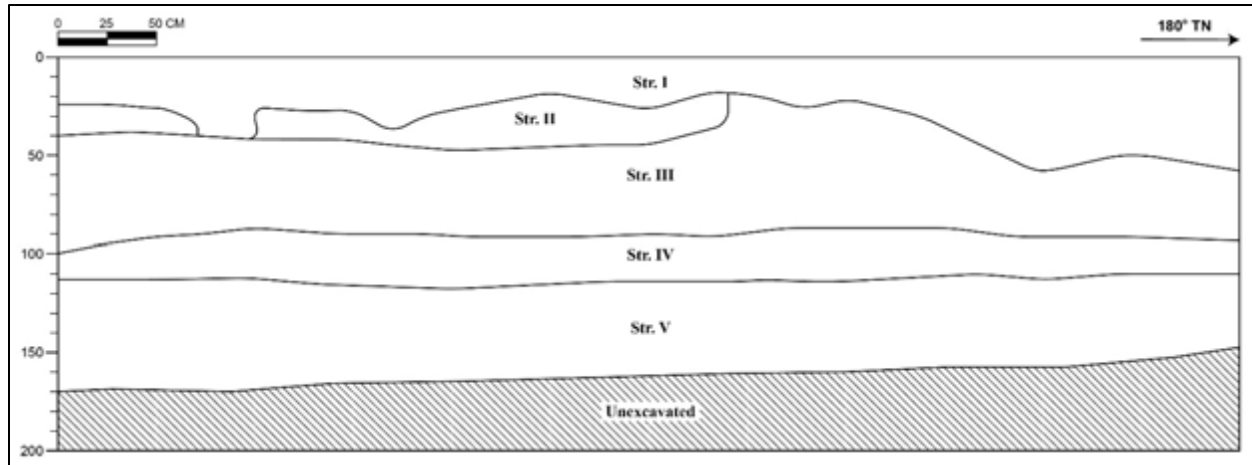


Figure 200. TE-149, stratigraphy of the east wall

Table 49. TE-149 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–58	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, irregular lower boundary
II	17–48	Fill; 10YR 4/4, dark yellowish brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; clear, broken lower boundary
III	18–98	Previously disturbed natural; 10YR 4/3, brown; gravelly silt loam; weak, fine platy structure; moist, loose consistence; no cementation; plastic; terrigenous origin; fine roots common; abrupt, broken lower boundary; contained mottles of 10YR 4/4, dark yellowish brown, loamy sand
IV	87–116	Natural; 10YR 5/3, brown; gravelly silty clay loam; moderate, fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, smooth lower boundary; contained mottles of 10YR 6/3, pale brown, silty clay loam
V	111–168	Natural; 10YR 6/2, light brownish gray; gravelly loamy sand; weak, very fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; lower boundary not observed

1.1.50 Test Excavation 150 (TE-150)

TE-150 was near the eastern boundary in the southeastern portion of the project area, west of the Waikapu Stream (Figure 201). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.75 mbs. The stratigraphy of TE-150 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) and dark grayish brown, gravelly loamy sand fill (Stratum II) overlying pale brown, natural sand (Stratum III); brown, natural loamy sand (Stratum IV); and grayish brown, natural gravelly silt loam (Stratum V) (Figure 202 through Figure 204 and Table 50). No cultural materials were encountered.



Figure 201. TE-150, overview of the general location, view to northeast



Figure 202. TE-150, oblique view of the east wall, view to southeast



Figure 203. TE-150, close-up of the east wall, view to east

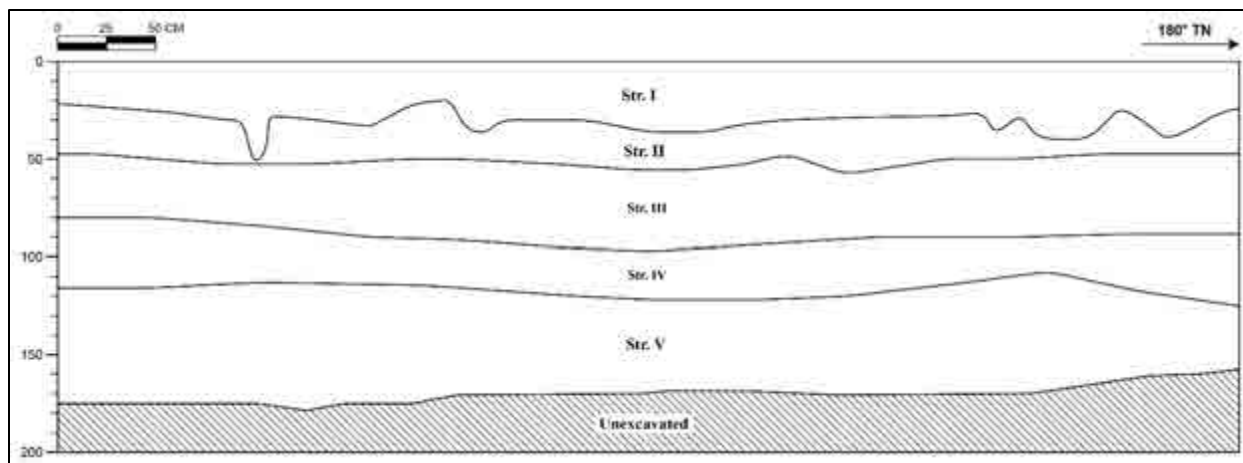


Figure 204. TE-150, stratigraphy of the east wall

Table 50. TE-150 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–47	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, wavy lower boundary
II	18–55	Fill; 10YR 4/2, dark grayish brown; gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; mixed origin; fine roots common; clear, wavy lower boundary
III	45–94	Natural; 10YR 6/3, pale brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; marine origin; fine roots common; clear, smooth lower boundary
IV	80–120	Natural; 10YR 4/3, brown; loamy sand; weak, coarse granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary; contained mottles of 10YR 5/2, grayish brown, silt loam
V	104–175	Natural; 10YR 5/2, grayish brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed; contained mottles of 10YR 4/4, dark yellowish brown, silt loam

1.1.51 Test Excavation 151 (TE-151)

TE-151 was near the western boundary in the southern half of the project area (Figure 205). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.57 mbs. The number of *koa haole* (*Leucaena leucocephala*) present around TE-151 made it difficult for the backhoe to excavate from the northern or southern ends, so the operator excavated from the northeastern side, resulting in uneven trench sidewalls. The stratigraphy of TE-151 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying very dark brown, natural gravelly sandy clay loam with mottles of gray sand (Stratum II); and natural very dark brown, gravelly sandy clay loam with mottles of dark yellowish brown silty clay loam (Stratum III) (Figure 206 through Figure 208 and Table 51). A surface scatter of historic artifacts were collected from within and adjacent to the excavation and attributed to SIHP # 50-50-04-09165 since the excavation is within the footprint of the former Camp 7.



Figure 205. TE-151, overview of the general location, view to south



Figure 206. TE-151, oblique view of the east wall, view to southwest



Figure 207. TE-151, close-up of the east wall, view to east

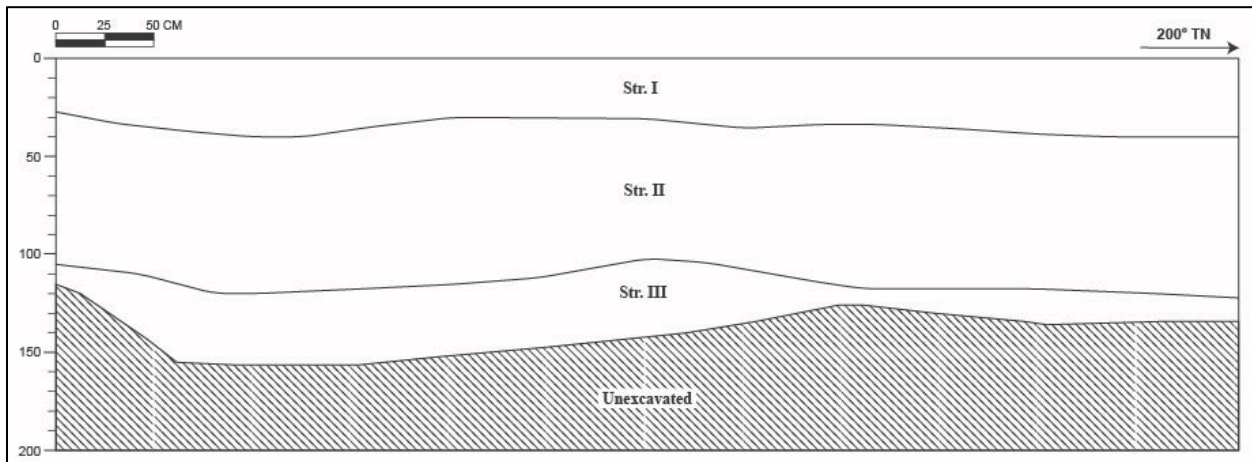


Figure 208. TE-151, stratigraphy of the east wall

Table 51. TE-151 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–40	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; weak, fine granular structure; dry, weakly coherent consistence; no cementation; non-plastic; mixed origin; many fine to coarse roots; clear, smooth lower boundary; contained a surface scatter of historic artifacts (collected)
II	28–120	Natural; 10YR 2/2, very dark brown; gravelly sandy clay loam; moderate, fine granular structure; moist, friable consistence; no cementation; slightly plastic; terrigenous origin; few fine roots; clear, wavy lower boundary; contained mottles of 10YR 5/1, gray, sand
III	100–157	Natural; 7.5YR 2.5/3, very dark brown; gravelly sandy clay loam; weak, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained mottles of 10YR 4/4, dark yellowish brown, silty clay loam

1.1.52 Test Excavation 152 (TE-152)

TE-152 was in the southwestern portion of the project area (Figure 209). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.64 mbs. The stratigraphy of TE-152 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) and brown, very gravelly sandy loam fill (Stratum II) and gray, natural extremely cobbly loamy sand (Stratum III) (Figure 210 through Figure 212 and Table 52). No cultural materials were encountered.



Figure 209. TE-152, overview of the general location, view to north



Figure 210. TE-152, oblique view of the west wall, view to southwest



Figure 211. TE-152, close-up view of the west wall, view to west

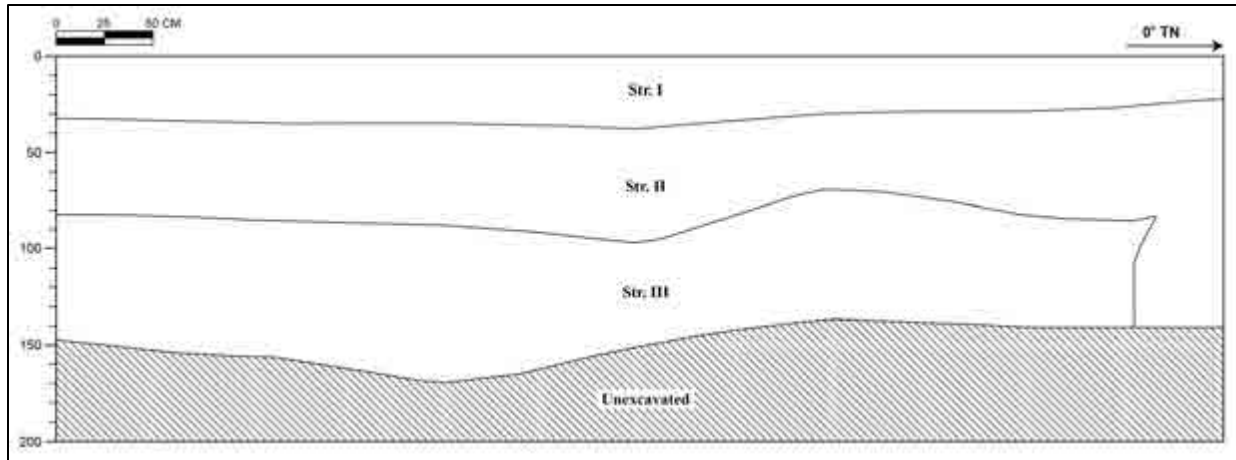


Figure 212. TE-152, stratigraphy of the west wall

Table 52. TE-152 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–38	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, medium granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
II	20–97	Fill; 10YR 4/3, brown; very gravelly sandy loam; weak, fine granular structure; moist, extremely firm consistence; no cementation; slightly plastic; mixed origin; fine roots common; abrupt, irregular lower boundary
III	69–164	Natural; 10YR 5/1, gray; extremely cobbly loamy sand; weak, medium granular structure; dry, loose consistence; no cementation; non-plastic; terrigenous origin; fine roots common; lower boundary not observed; alluvial deposit

1.1.53 Test Excavation 153 (TE-153)

TE-153 was in the southwestern portion of the project area (Figure 213). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.69 mbs. The stratigraphy of TE-153 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark brown, natural very gravelly silty clay loam (Stratum II) and dark reddish brown, natural gravelly silt loam (Stratum III) (Figure 214 through Figure 216 and Table 53). No cultural materials were encountered.



Figure 213. TE-153, overview of the general area, view to south



Figure 214. TE-153, oblique view of the west wall, view to south



Figure 215. TE-153, close-up of the west wall, view to west

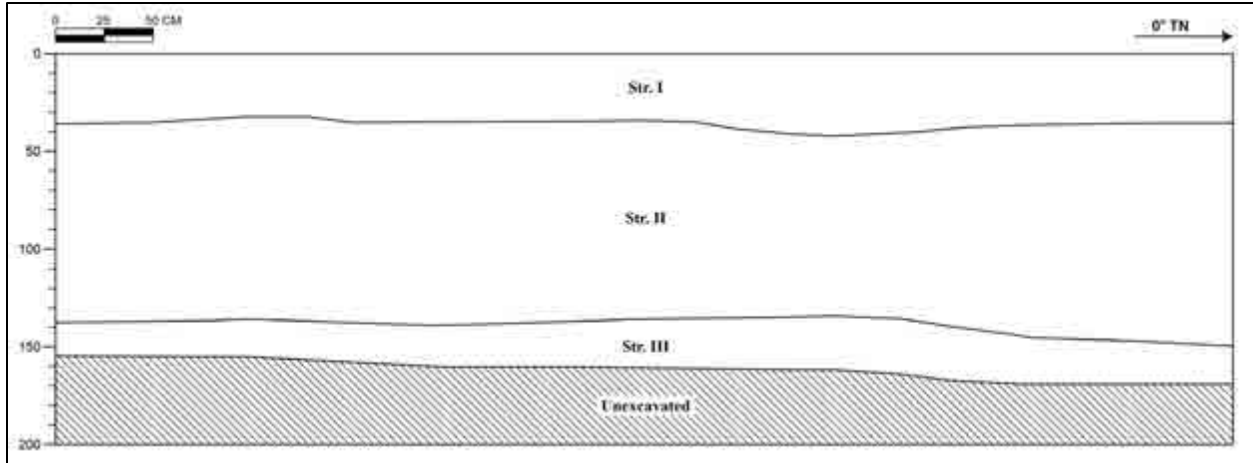


Figure 216. TE-153, stratigraphy of the west wall

Table 53. TE-153 stratigraphic description

I	0–43	Ap horizon; 7.5YR 2.5/3, very dark brown; gravelly sandy loam; moderate, medium granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, wavy lower boundary
II	35–146	Natural; 7.5YR 3/3, dark brown; very gravelly silty clay loam; moderate, medium platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, wavy lower boundary; contained mottles of 5YR 4/2, dark reddish gray, sandy loam
III	136–169	Natural; 5YR 3/3, dark reddish brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; lower boundary not observed

1.1.54 Test Excavation 154 (TE-154)

TE-154 was in the southwestern portion of the project area (Figure 217). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.75 mbs. The stratigraphy of TE-154 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, natural very gravelly silty clay loam (Stratum II); gray, natural extremely cobbly loamy sand (Stratum III); and brown, natural gravelly silt loam (Stratum IV) (Figure 218 through Figure 220 and Table 54). No cultural materials were encountered.



Figure 217. TE-154, overview of the general location, view to south



Figure 218. TE-154, oblique view of the east wall, view to north



Figure 219. TE-154, close-up of the east wall, view to east

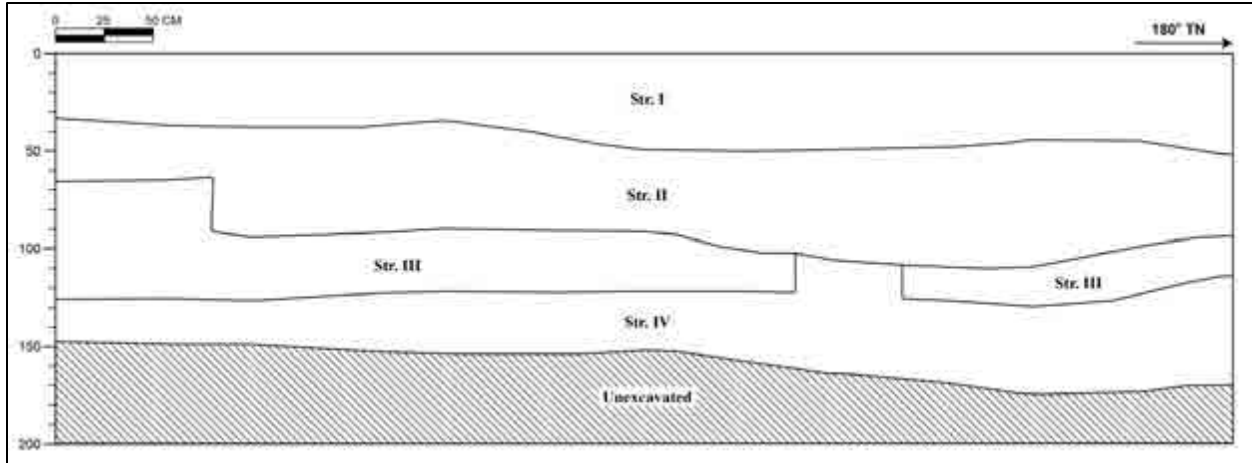


Figure 220. TE-154, stratigraphy of the east wall

Table 54. TE-154 stratigraphic description

Stratum	Depth (cmts)	Description
I	0–53	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, fine granular structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained mottles of 10YR 3/3, dark brown, sandy clay loam
II	34–110	Natural; 10YR 3/4, dark yellowish brown; very gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, irregular lower boundary
III	64–130	Natural; 10YR 6/1, gray; extremely cobbly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; abrupt, smooth lower boundary; alluvial deposit
IV	102–175	Natural; 10YR 4/3, brown; gravelly silt loam; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; terrigenous origin; lower boundary not observed

1.1.55 Test Excavation 155 (TE-155)

TE-155 was in the southwestern portion of the project area (Figure 221). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.62 mbs. The stratigraphy of TE-155 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying gray, natural extremely cobbly loamy sand (Stratum II); dark brown, natural very gravelly silt loam (Stratum III); and dark yellowish brown, natural gravelly silt loam (Stratum IV) (Figure 222 through Figure 224 and Table 55). No cultural materials were encountered.



Figure 221. TE-155, overview of the general location, view to south



Figure 222. TE-155, oblique view of the east wall, view to southeast



Figure 223. TE-155, close-up view of the east wall, view to east

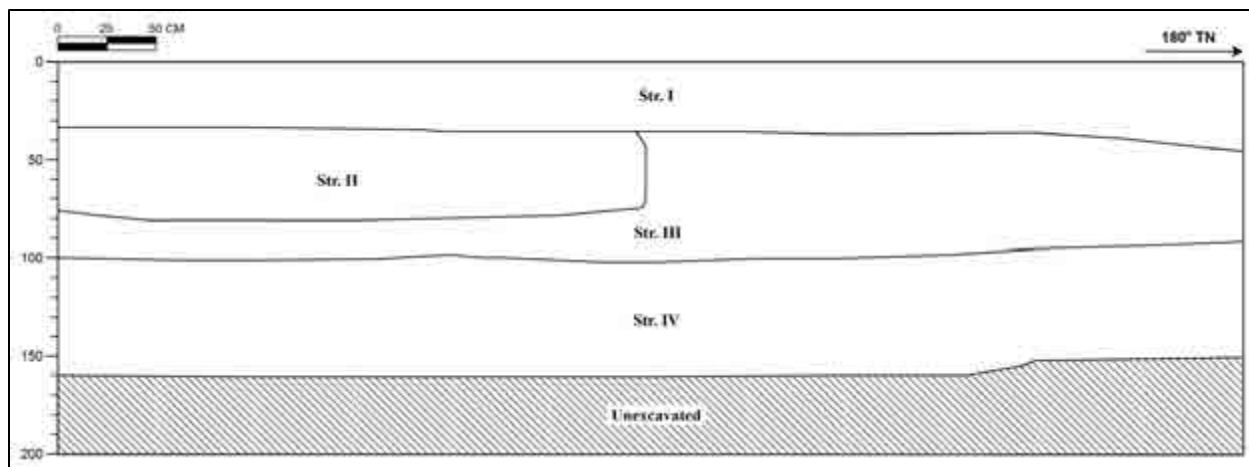


Figure 224. TE-155, stratigraphy of the east wall

Table 55. TE-155 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–45	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, medium granular structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	33–80	Natural; 7.5YR 5/1, gray; extremely cobbly loamy sand; weak, fine granular structure; dry, loose consistence; no cementation; non-plastic; terrigenous origin; fine roots common; clear, irregular lower boundary; alluvial deposit
III	35–102	Natural; 7.5YR 3/3, dark brown; very gravelly silt loam; weak, fine granular structure; dry, weakly coherent consistence; no cementation; slightly plastic; terrigenous origin; few fine roots; clear, smooth lower boundary; contained mottles of 7.5YR 4/2, brown, loamy sand
IV	92–162	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed

1.1.56 Test Excavation 156 (TE-156)

TE-156 was in the central-southern portion of the project area, east of a natural drainage (Figure 225). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.54 mbs. The stratigraphy of TE-156 consisted of a dark brown, very gravelly sandy loam Ap horizon (Stratum I) overlying dark reddish brown, natural very gravelly sandy clay loam with mottles of black, loamy sand and very dark gray gravelly sand (Stratum II); dark yellowish brown, natural sand (Stratum III); dark brown, natural gravelly silty clay loam (Stratum IV); and brown, natural gravelly silt loam with mottles of gray loamy sand (Stratum V) (Figure 226 through Figure 228 and Table 56). No cultural materials were encountered.



Figure 225. TE-156, overview of the general location, view to southwest



Figure 226. TE-156, oblique view of the west wall, view to southwest



Figure 227. TE-156, close-up of the west wall, view to west

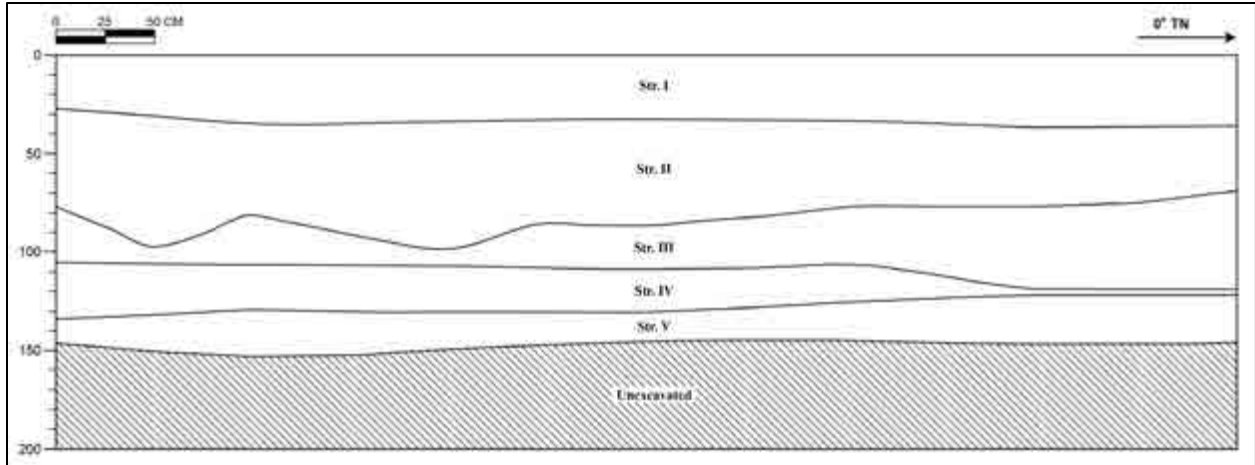


Figure 228. TE-156, stratigraphy of the west wall

Table 56. TE-156 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–32	Ap horizon; 10YR 3/3, dark brown; very gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
II	28–100	Natural; 5YR 3/3, dark reddish brown; very gravelly sandy clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; mixed origin; many fine roots; clear, wavy lower boundary; contained common mottles of 7.5YR 2.5/1, black, loamy sand and 5YR 3/1, very dark gray, gravelly sand
III	70–120	Natural; 10YR 3/4, dark yellowish brown; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; marine origin; fine roots common; clear, smooth lower boundary
IV	100–135	Natural; 10YR 3/3, dark brown; gravelly silty clay loam; moderate, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	122–154	Natural; 10YR 5/3, brown; gravelly silt loam; weak, fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; lower boundary not observed; contained common mottles of 10YR 6/1, gray, loamy sand

1.1.57 Test Excavation 157 (TE-157)

TE-157 was in the central-southern portion of the project area (Figure 229). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.80 mbs. The stratigraphy of TE-157 consisted of a very dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying dark yellowish brown, natural gravelly silty clay loam (Stratum II); brown, natural gravelly silty clay loam (Stratum III); grayish brown, natural gravelly silt loam (Stratum IV); and pinkish gray, natural sand (Stratum V) (Figure 230 through Figure 232 and Table 57). No cultural materials were encountered.



Figure 229. TE-157, overview of the general location, view to northwest



Figure 230. TE-157, oblique view of the west wall, view to southwest



Figure 231. TE-157, close-up of the west wall, view to west

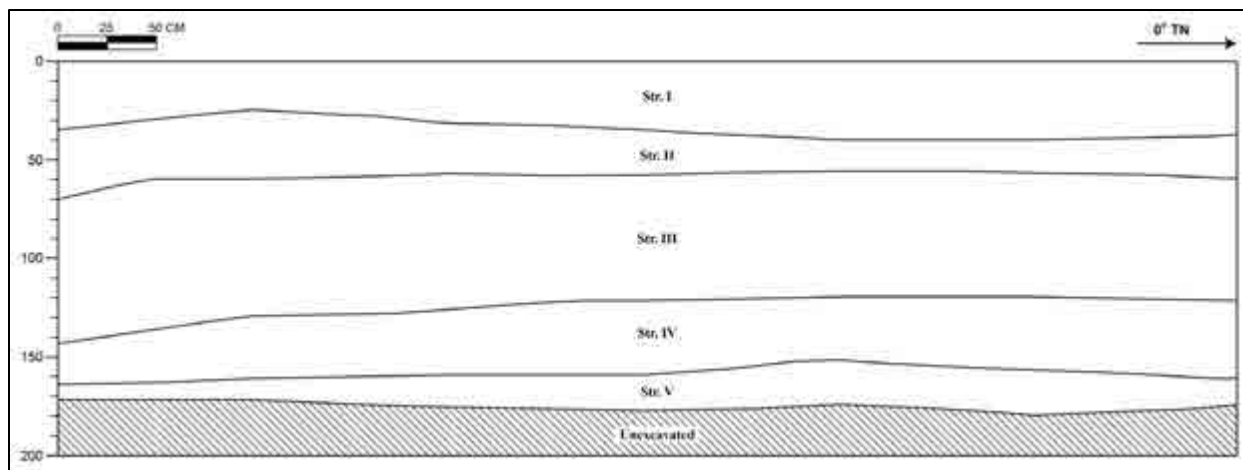


Figure 232. TE-157, stratigraphy of the west wall

Table 57. TE-157 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–40	Ap horizon; 7.5YR 2.5/2, very dark brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, wavy lower boundary
II	25–70	Natural; 10YR 3/4, dark yellowish brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, wavy lower boundary
III	56–144	Natural; 10YR 4/3, brown; gravelly silty clay loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary; contained few mottles of 10YR 5/4, yellowish brown, loamy sand
IV	120–165	Natural; 10YR 5/2, grayish brown; gravelly silt loam; moderate, very fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, wavy lower boundary
V	153–180	Natural; 7.5YR 7/2, pinkish gray; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; lower boundary not observed

1.1.58 Test Excavation 158 (TE-158)

TE-158 was in the central-southern portion of the project area (Figure 233). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.77 mbs. The stratigraphy of TE-158 consisted of a dark yellowish brown, gravelly sandy loam Ap horizon (Stratum I); overlying brown, natural gravelly loamy sand (Stratum II); dark yellowish brown, natural gravelly silt loam (Stratum III); and light brownish gray, natural gravelly sand (Stratum IV) (Figure 234 through Figure 236 and Table 58). No cultural materials were encountered.



Figure 233. TE-158, overview of the general location, view to southwest



Figure 234. TE-158, oblique view of the east wall, view to northeast



Figure 235. TE-158, close-up of the east wall, view to east

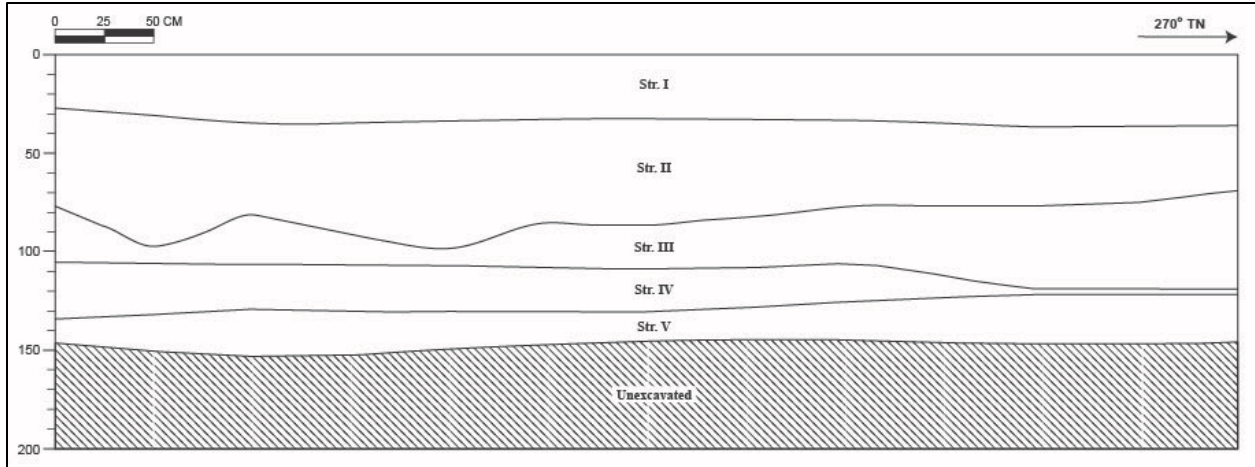


Figure 236. TE-158, stratigraphy of the east wall

Table 58. TE-158 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–56	Ap horizon; 10YR 3/4, dark yellowish brown; gravelly sandy loam; moderate, fine granular structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, smooth lower boundary
II	37–78	Natural; 10YR 4/3, brown; gravelly loamy sand; weak, fine granular structure; moist, loose consistence; no cementation; slightly plastic; mixed origin; fine roots common; abrupt, smooth lower boundary; contained common mottles of 10YR 3/3, dark brown, sandy loam
III	70–142	Natural; 10YR 4/4, dark yellowish brown; gravelly silt loam; moderate, fine platy structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
IV	112–177	Natural; 10YR 6/2, light brownish gray; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; lower boundary not observed; contained common mottles of 10YR 5/1, gray, sand

1.1.59 Test Excavation 159 (TE-159)

TE-159 was in the southeastern portion of the project area (Figure 237). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.68 mbs. The stratigraphy of TE-159 consisted of a dark brown, gravelly sandy loam Ap horizon (Stratum I) overlying yellowish brown, natural cobbly sand (Stratum II); very dark grayish brown, natural sand (Stratum III); and dark gray, natural sand (Stratum IV) (Figure 238 through Figure 240 and Table 59). No cultural materials were encountered.



Figure 237. TE-159, overview of the general location, view to southwest



Figure 238. TE-159, oblique view of the west wall, view to southwest



Figure 239. TE-159, close-up of the west wall, view to west

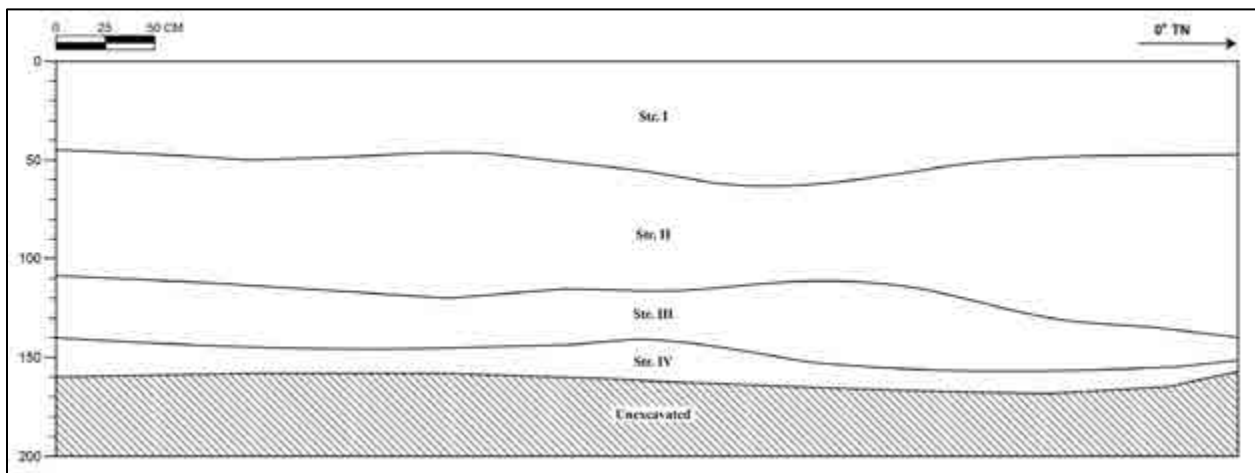


Figure 240. TE-159, stratigraphy of the west wall

Table 59. TE-159 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–65	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
II	45–140	Natural; 10YR 5/4, yellowish brown; cobbly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; fine roots common; clear, wavy lower boundary; contained few mottles of 10YR 2/2, very dark brown, sandy clay loam
III	109–158	Natural; 10YR 3/2, very dark grayish brown; sand; structureless (single grain); moist, loose consistence; weak cementation; non-plastic; few fine roots; clear, wavy lower boundary
IV	140–168	Natural; 10YR 4/1, dark gray; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; lower boundary not observed; contained common mottles 10YR 5/3, brown, silt loam

1.1.60 Test Excavation 160 (TE-160)

TE-160 was in the southeastern portion of the project area (Figure 241). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.54 mbs. The stratigraphy of TE-160 consisted of dark brown, gravelly sandy clay loam Ap horizon (Stratum I) overlying yellowish brown, natural gravelly sand (Stratum II) and yellowish brown, natural gravelly sand (Stratum III) (Figure 242 through Figure 244 and Table 60). No cultural materials were encountered.



Figure 241. TE-160, overview of the general location, view to north



Figure 242. TE-160, oblique view of the west wall, view to southwest



Figure 243. TE-160, close-up of the west wall, view to west

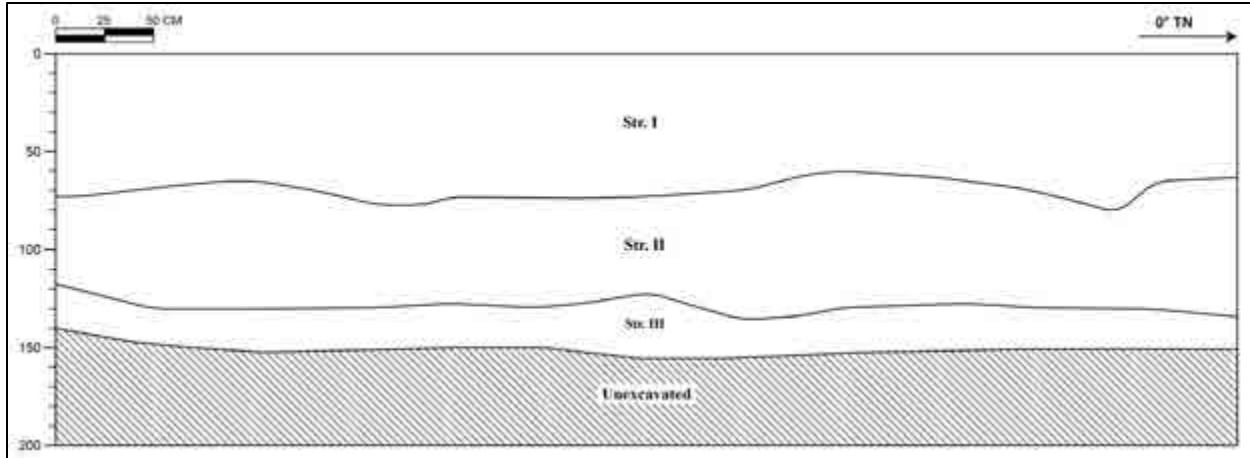


Figure 244. TE-160, stratigraphy of the west wall

Table 60. TE-160 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–80	Ap horizon; 10YR 3/3, dark brown; gravelly sandy clay loam; moderate, fine blocky structure; moist, firm consistence; no cementation; slightly plastic; mixed origin; many fine to medium roots; clear, wavy lower boundary; contained few mottles of 10YR 3/4, dark yellowish brown, loamy sand
II	62–135	Natural; 10YR 5/4, yellowish brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; clear, wavy lower boundary; contained few mottles of 10YR 5/3, brown, gravelly loamy sand
III	118–154	Natural; 10YR 5/6, yellowish brown; gravelly sand; structureless (single grain); moist, loose consistence; weak cementation; non-plastic; mixed origin; lower boundary not observed; contained common mottles of 10YR 6/2, light brownish gray, sand

1.1.61 Test Excavation 161 (TE-161)

TE-161 was near the southeastern corner of the project area (Figure 245). The excavation was 6.00 m long by 0.80 m wide with a maximum depth of 1.67 mbs. The stratigraphy of TE-161 consisted of dark brown, gravelly sandy loam Ap horizon (Stratum I) and dark grayish brown, gravelly sand fill (Stratum II) overlying yellowish brown, natural gravelly silt loam (Stratum III); light yellowish brown, natural gravelly silt loam (Stratum IV); and pinkish gray, natural sand (Stratum V) (Figure 246 through Figure 248 and Table 61). No cultural materials were encountered.



Figure 245. TE-161, overview of the general location, view to southwest



Figure 246. TE-161, oblique view of the west wall, view to southwest



Figure 247. TE-161, close-up of the west wall, view to west

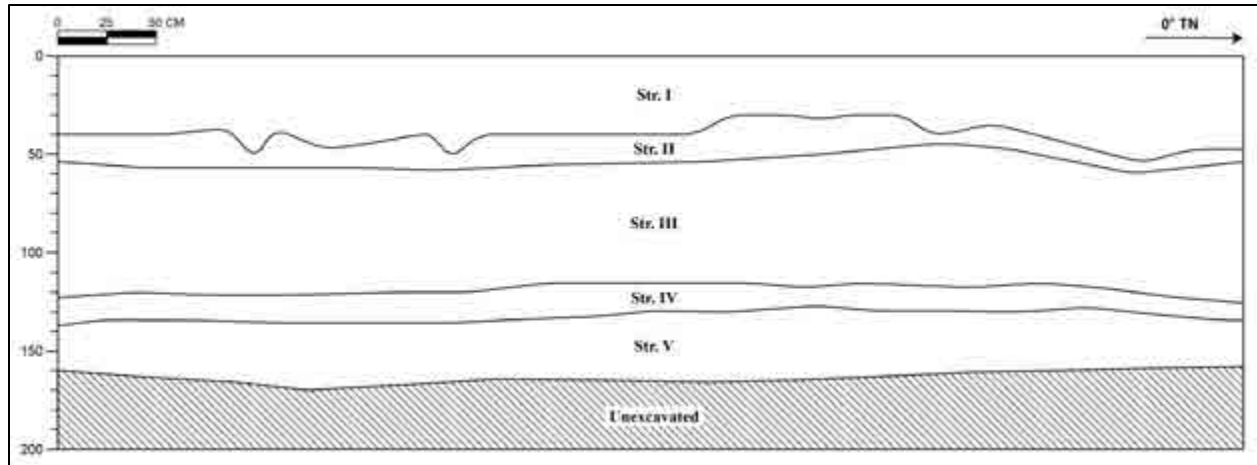


Figure 248. TE-161, stratigraphy of the west wall

Table 61. TE-161 stratigraphic description

Stratum	Depth (cmbs)	Description
I	0–65	Ap horizon; 10YR 3/3, dark brown; gravelly sandy loam; moderate, fine blocky structure; dry, hard consistence; no cementation; slightly plastic; mixed origin; many fine roots; clear, wavy lower boundary
II	30–60	Fill; 10YR 4/2, dark grayish brown; gravelly sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; fine roots common; abrupt, smooth lower boundary
III	45–126	Natural; 10YR 5/4, yellowish brown; gravelly silt loam; moderate, very fine granular structure; moist, friable consistence; no cementation; plastic; terrigenous origin; fine roots common; clear, smooth lower boundary; contained many mottles of 10YR 5/2, grayish brown, silt loam
IV	115–135	Natural; 10YR 6/4, light yellowish brown; gravelly silt loam; moderate, very fine structure; moist, friable consistence; no cementation; plastic; terrigenous origin; few fine roots; clear, smooth lower boundary
V	129–167	Natural; 7.5YR 6/2, pinkish gray; sand; structureless (single grain); moist, loose consistence; no cementation; non-plastic; mixed origin; few fine roots; lower boundary not observed; contained common mottles of 7.5YR 5/3, brown, loamy sand