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**Archaeological Inventory Survey Report for the**  
**Block N East Project, Kaka‘ako, Honolulu Ahupua‘a,**  
**Honolulu (Kona) District, O‘ahu**  
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**Prepared for**  
**Victoria Ward, Limited / Howard Hughes Corporation**

**Prepared by**  
**Ena Sroat, B.A.,**  
**Kelly L. Burke, M.Sc.**  
**Megan T. Hawkins, M.A.,**  
**and**  
**Matt McDermott, M.A.**

**Cultural Surveys Hawai‘i, Inc.**  
**Kailua, Hawai‘i**  
**(Job Code: KAKAAKO 130)**

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**O‘ahu Office**  
**P.O. Box 1114**  
**Kailua, Hawai‘i 96734**  
**Ph.: (808) 262-9972**  
**Fax: (808) 262-4950**

[www.culturalsurveys.com](http://www.culturalsurveys.com)

---

**Maui Office**  
**1860 Main St.**  
**Wailuku, Hawai‘i 96793**  
**Ph.: (808) 242-9882**  
**Fax: (808) 244-1994**

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## Section 1 Results of Fieldwork

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The fieldwork component of this AIS was conducted between 5 May 2014 and 10 October 2015. All fieldwork was conducted under the direction of the principal investigator, Matt McDermott, M.A. CSH archaeological field personnel consisted of Ena Sroat, B.A. (project director), Megan Hawkins, M.A. (project supervisor), Abbey Mierzejewsky, B.A., Amanda Eggers, B.A., Andrew Soltz, B.A., Brittany Beauchan, M.A., Gina Farley, M.A., James Thain, B.A., Karl Van Ryzin, B.A., Laura Vollert, B.A., Jessica Leger, M.Sc., Josie Yucha, M.Sc., Malina Reveal, M.Sc., Mary Tardona, B.A., Nigel Kingsbury, B.A., Pua Guanzon, B.A., Scott Belluomini, B.A., Tara del Fierro, B.A., Tara Seaver, B.A., Tim Zapor, B.A., Tom Martel, B.A., and Tyler Turran, B.A. This work required approximately 137 person-days to complete.

‘Ōiwi Cultural Resources LLC (OCR) was contracted to provide cultural monitoring services for the AIS investigation. The project proceeded through ongoing consultation with these cultural monitors.

Fieldwork consisted of an initial 100% coverage pedestrian survey followed by a subsurface testing program. The pedestrian survey confirmed there were no surface historic properties within the Block N East project area. The pedestrian survey concluded the entire surface of the project area has been modified as a result of modern development. As there were no surface historic properties, the AIS focused on a program of subsurface testing to locate any buried cultural deposits and to facilitate a thorough examination of stratigraphy within the project area.

A total of 35 backhoe-assisted test excavations were completed, including both exterior (parking lot/road) and interior (warehouse space) locations (Figure 1). The test excavations were distributed throughout the project area in order to provide comprehensive testing coverage. The entirety of each test excavation, measuring approximately 2 ft by 20 ft (0.6 m by 6.1 m), was excavated to the upper boundary of the coral shelf or to below the water table. As discussed in Volume I, Section 2, limiting factors that prohibited the complete excavation of each trench to depth included the presence of active utility lines, subsurface structural remnants, human burials, or safety concerns. In most cases, the complete excavation of the sediment underlying these foundations and utilities was not completed due to the potential for damage or collapse during excavation and subsequent backfilling activities. All unexcavated areas beneath utility lines are accurately represented on stratigraphic profiles.

Two historic properties were documented within the Block N East project area, SIHP #s 50-80-14-7429 and 50-80-14-7686 (Figure 2). SIHP # -7429 consists of subsurface, pre- to post-Contact cultural deposits including human burial sites. SIHP # -7429 was initially identified by Hammatt (2013) during the City Center AIS component of the Honolulu Rapid Transit Project (H RTP), near the corner of Ward Avenue and Queen Street. This site was subsequently identified by the Block M AIS (Hawkins et al. 2015) and the Block I AIS (Sroat et al. 2015), as well as by the supplemental H RTP AIS (Humphrey et al. 2015) investigations (see Volume I, Section 3.2). The Block N East project area is located within the center of these previous project areas. Within Block N East, SIHP # -7429 was documented within 25 test excavations. It consists of a series of overlying cultural layers which include in situ A horizon and Jaucas sand deposits, designated SIHP # -7429 Component 2 cultural deposits, and historic fill layers utilized as living surfaces, designated SIHP # -7429 Component 1 cultural deposits.



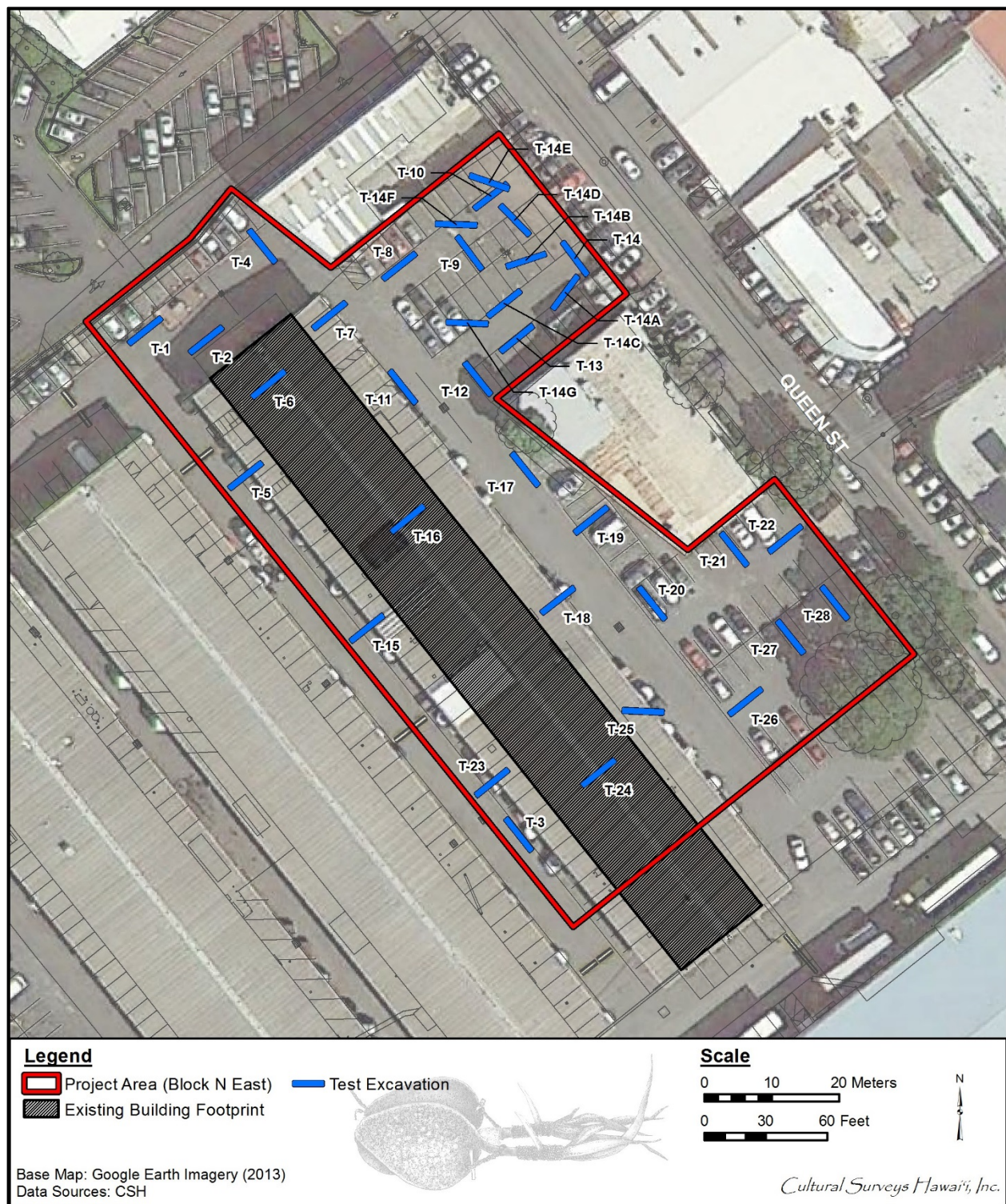


Figure 1. Aerial photograph showing the locations of the 35 AIS test excavations completed within the Block N East project area (Google Earth 2013)



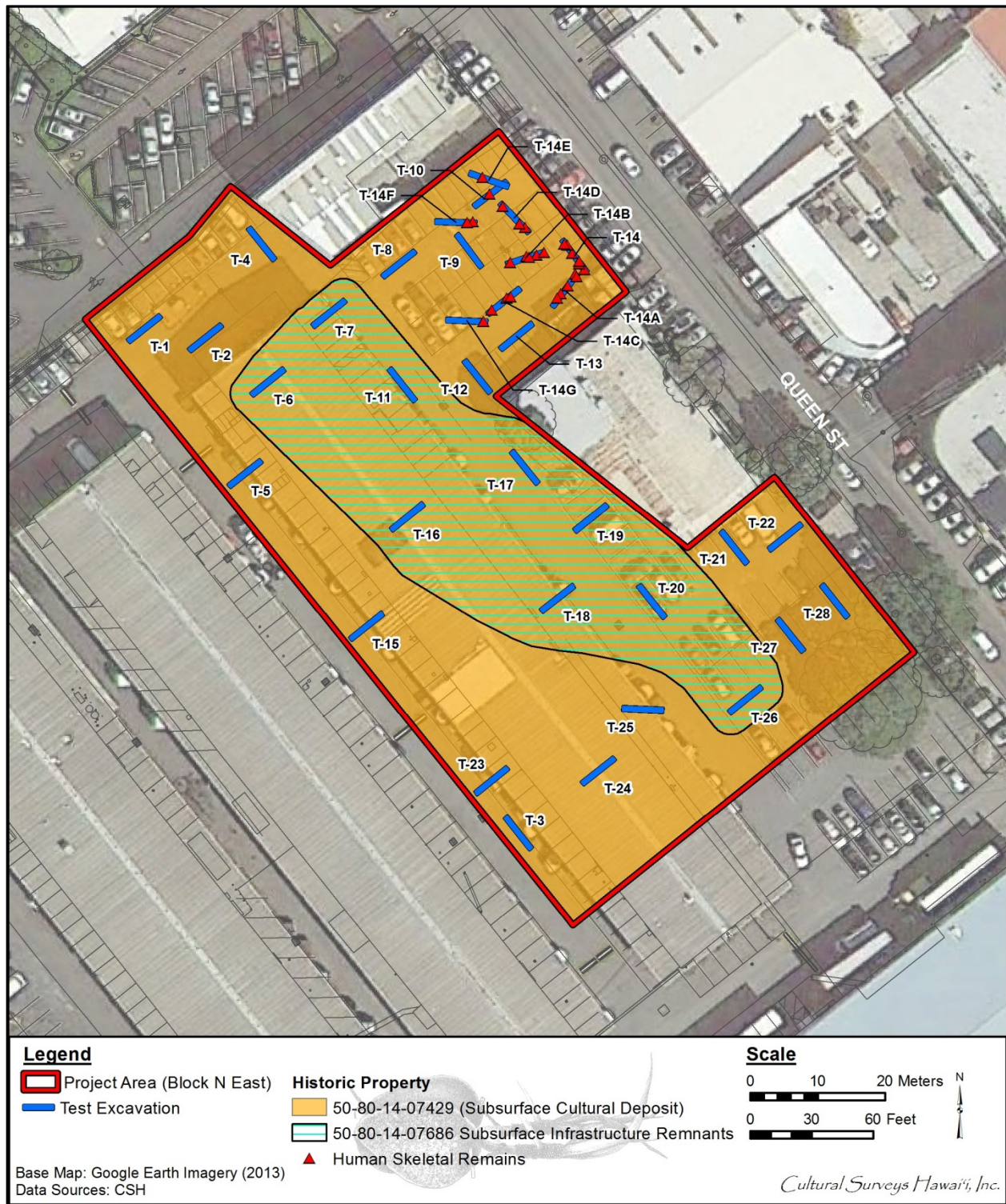


Figure 2. Aerial photograph showing the boundaries of two historic properties documented within Block N East, SIHP # -7429 (subsurface cultural layers) and SIHP # -7686 (subsurface historic infrastructure remnants) (Google Earth Imagery 2013)

In general, the SIHP # -7429 Component 1 cultural deposits are composed of locally procured (loamy sand, sand, and/or clay sand) sediment. Within Block N East, however, an additional, type of culturally enriched, historic fill deposit was documented, composed of intermixed local and non-local material. This mixed fill was observed only within the *mauka* portion of the project area along Queen Street, within two crenelation-shaped areas, and is believed to be associated with a row of twentieth century residences in this area. The SIHP # -7429 Component 1 and 2 cultural deposits contain cultural material and/or associated features, providing evidence of their use as living surfaces. Of particular note within the Block N East project area is the presence of a dense pre- to post-Contact burial ground within the northern “crenelation” adjacent to Queen Street.

SIHP # -7686 consists of subsurface historic infrastructure remnants. SIHP # -7686 was previously identified within the adjacent Block M as subsurface commercial warehouse foundations and surfaces along with associated asphalt road surfaces and parking areas (Hawkins et al. 2015). Within Block N East, an oil-rolled surface and buried asphalt surfaces were documented within a linear alignment extending through the central portion of the project area and may represent historic road remnants and/or commercial paved roadways.

## 1.1 Stratigraphic Overview

The stratigraphy within Block N East consists of the modern surface and associated base course and grading layers, overlying varying layers of historic fill, overlying the buried, natural (pre- to early post-Contact) landscape. In terms of the natural topography of the project area, Block N East is located within the area of a large sand dune that minimally extends from near the corner of Ward Avenue and Queen Street to the corner of Kamake'e and Queen Streets. This sand dune lies directly *mauka* of and abuts a large expanse of coastal wetlands. Block N East is located within the center of this sand dune, and the majority of the 35 test excavations documented buried sand deposits 38–100 cm below the modern surface (Figure 3). The buried natural sand deposits consist of a silty sand or loamy sand A horizon that developed within calcareous Jaucas sand, often overlying a thin layer of indurated sand, over sandy clay and coarser marine sand just above the hard coral shelf. The A horizon often shows evidence of truncation and/or grading by the overlying historic fill layers and in some areas has been completely removed. The buried sand dune appears to rise in elevation in the northeastern portion of Block N East along Queen Street, with depths between 38–40 cmbs (T-14, T-14A, T-14B, and T-14D). Significantly, this is the area of a dense burial ground associated with SIHP # -7429. Other areas of the sand dune undulate and in at least two small, localized areas are low enough to have formed saturated wetland deposits (see Figure 3).

The historic fill deposits overlying the natural stratigraphy are separated into two distinct stratigraphic zones. The two zones are demarcated sharply by a historic boundary line that runs diagonally through the project area and which is visible on historic maps and photographs as early as 1883 (see Volume I, Section 6.1). It is likely the difference in fill sequences reflects this historic boundary and/or property boundaries. The boundary line separates the *mauka* portion of the project area into two crenelation-shaped areas that abut Queen Street. Within the *makai* portion of Block N East, the historic fill layers overlying the natural sand deposits consist of a thin layer of locally procured sediment, generally a mix of A horizon and sand material, overlain by a thick layer of Kaka'ako reclamation fill deposits consisting of hydraulic (dredged) clay/fine sand and crushed coral (Figure 4). Within nine test excavations in this *makai* zone, the Kaka'ako



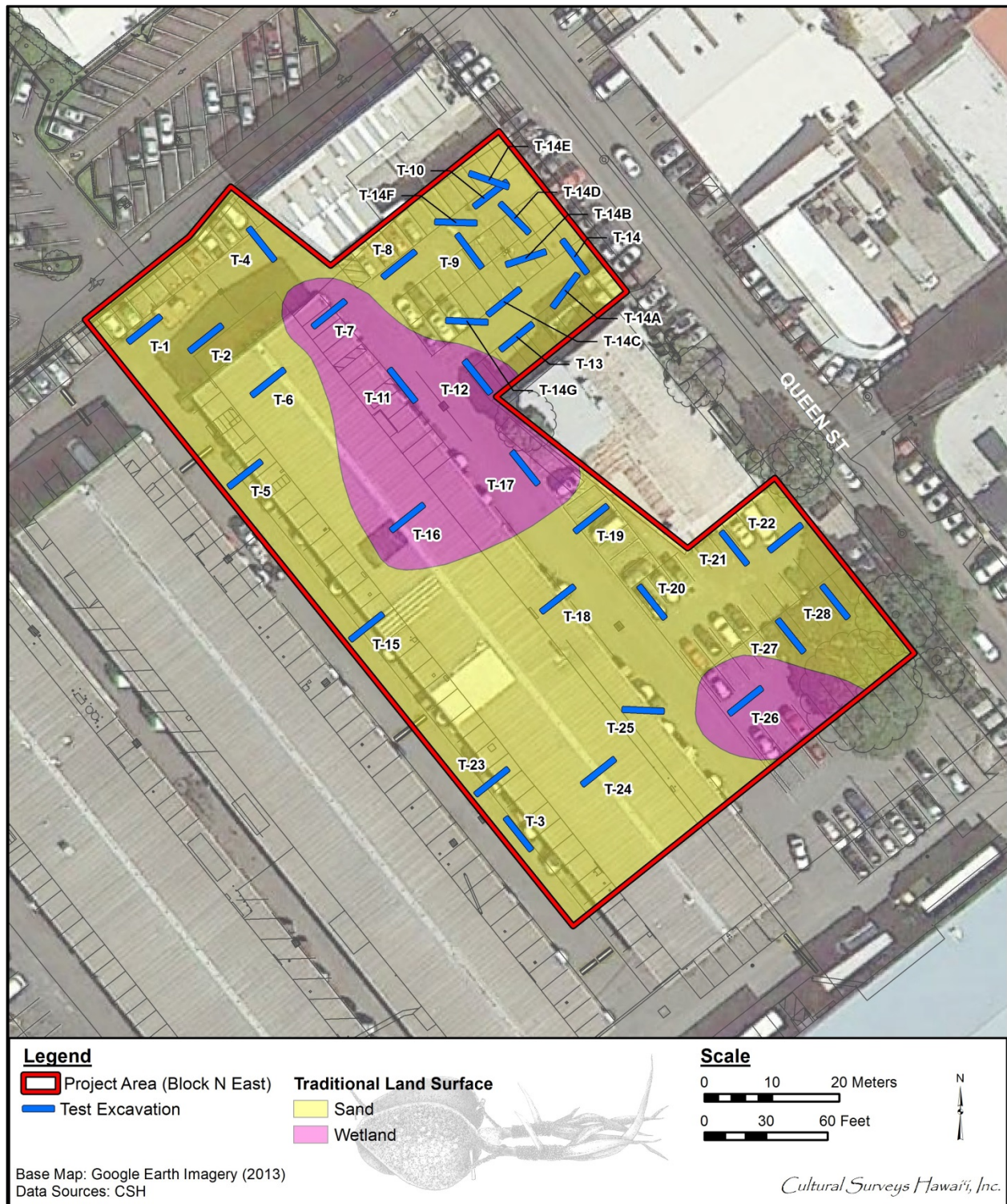


Figure 3. Aerial photograph showing the natural topography of the Block N East project area beneath historic and modern fill deposits. Two localized areas of low-lying, saturated wetland sediments (pink) were documented within the larger sand dune (yellow) that extends through the project area (Google Earth Imagery 2013)



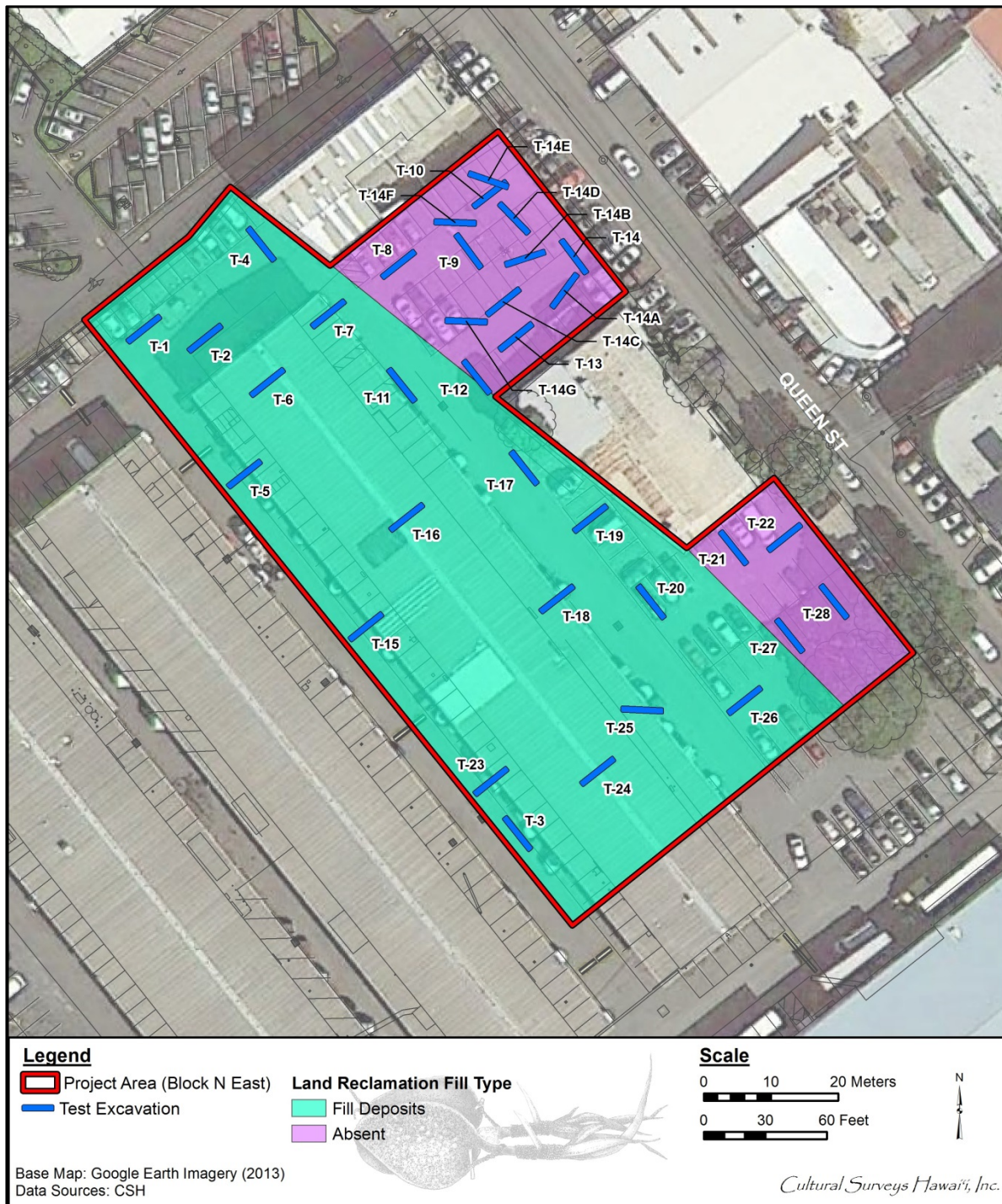


Figure 4. Aerial photograph showing the two stratigraphic zones of historic fill deposits within Block N East. The *makai* portion of Block N East (shaded green) contains Kaka'ako reclamation fill deposits consisting of crushed coral and hydraulic (dredged) clay and fine sand; within the *mauka* portion (shaded purple), these Kaka'ako reclamation fill deposits are absent and instead the historic fill consists of mixed non-local (terrestrial) and local (sandy) sediments (Google Earth Imagery 2013).

reclamation fill is overlain by buried asphalt surfaces (see Figure 2). These asphalt surfaces are located in a linear alignment along the boundary line and may represent a buried road surface and/or later commercial roadways.

Within the *mauka*, crenelation-shaped areas of Block N East, the historic fill layers consist of varying deposits of mixed non-local and locally procured sediment. The Kaka'ako reclamation fill deposits are completely absent within this area, although some of the fill deposits contain coral gravels that may have been incorporated from nearby crushed coral deposits. These mixed fill deposits contain abundant historic artifacts, faunal bone, and numerous associated pit features. As historic maps show this area between the boundary line and Queen Street contained a row of historic residences by at least 1903-1909 (see Volume I, Section 6.1), these culturally enriched, mixed fill deposits are believed to represent buried living surfaces associated with these historic residences.

Overlying both the *mauka* and *makai* historic fill deposits is the Block N East modern commercial infrastructure consisting of a single long warehouse building constructed atop a concrete pad and surrounded by asphalt parking lots and driveways, with associated base course and grading fills.

## 1.2 Subsurface Testing Results

### 1.2.1 Test Excavation 1 (T-1)

T-1, an exterior test excavation located in the northwest portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.34 mbs, and the base of excavation was determined by the hard coral shelf at 1.37 mbs.

The stratigraphy of T-1 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), utility trench fill (Stratum Ic), and gravelly loam fill (Stratum Id), over a Kaka'ako reclamation fill deposit consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) clay (Stratum IIb), over a natural, culturally enriched, loamy sand A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb; SIHP # -7429), over another layer of sand with clay banding (Stratum IIIc) and marine clay sand (Stratum IV) (Figure 5, Figure 6, and Table 1). The utility trench (Stratum Ic) contains an abandoned utility pipe and was encountered in the southwest end of T-1, running perpendicular through the test excavation. The utility trench matrix is composed of Strata Id, IIa, and IIb matrix. It is topped by Stratum Ib and is intrusive through Strata Id, IIa, and IIb. The trench ranges from 16-59 cmbs and is 60 cm wide.

The excavation of T-1 documented modern deposits (Strata Ia–Id) overlying early twentieth century land reclamation fill (Strata IIa and IIb), over an in situ A horizon (Stratum IIIa), and natural sands (Strata IIIb, IIIc, and IV). Stratum IIIa contained a small ceramic fragment and a piece of rusted metal (not collected), as well as faunal bone, including cow rib fragments (cut with a metal saw blade), pig, and dog. The Stratum IIIa A horizon shows evidence of light cultural enrichment and use as a living surface and is considered a component of SIHP # -7429 (Component 2). The Stratum IIIb Jaucas sand contains one associated feature and is also considered a component of SIHP # -7429 (Component 2).



SIHP # -7429 Feature 84 was documented in the northeast end of T-1 (Figure 7). It is 16 cm in diameter. It was first observed within Stratum IIIb at 80 cmbs, and it extended into Stratum IIIc to an unrecorded depth. It is possible the feature extended from the base of the Stratum IIIa cultural layer, located only 2 cm above where this feature was first noted. No cultural material was noted within the feature during excavation.



Figure 5. T-1 southeast sidewall, view to northeast

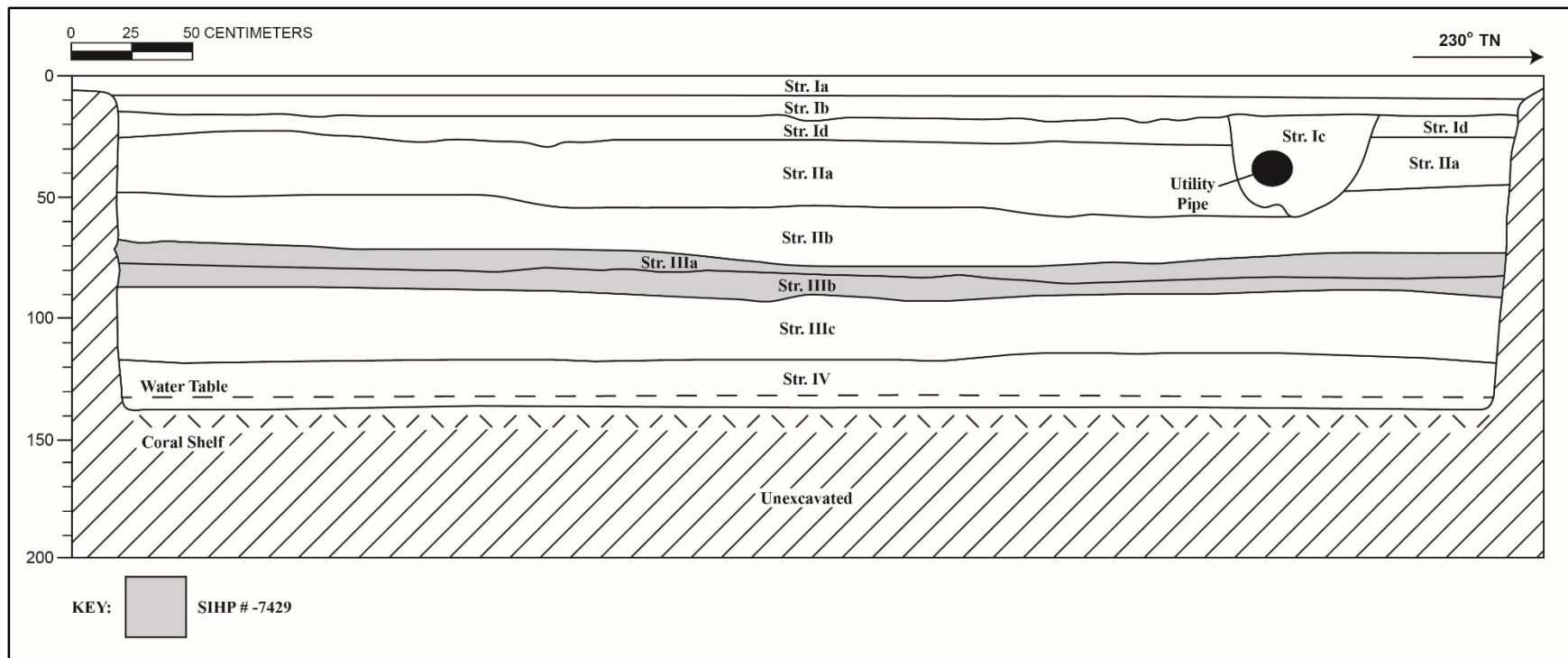


Figure 6. T-1 southeast profile



Table 1. T-1 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–9	Asphalt; road surface
Ib	9–19	Fill; 10YR 3/1, very dark gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; base course for road surface
Ic	15–58	Fill; mixture of Strata Id, Ila, and I Ib; contains an abandoned utility pipe
Id	15–29	Fill; 10YR 5/3, brown; gravelly loam; weak, medium to coarse, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; compacted fill
Ila	23–58	Fill; 10YR 7/2, light gray; cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
I Ib	45–80	Fill; 10YR 7/4, very pale brown; clay sand grading to clay; structureless (massive); moist, very friable consistence; non-plastic; marine origin; abrupt, smooth lower boundary; hydraulic (dredged) fill related to early twentieth century land reclamation
IIla	68–83	Natural; 10YR 4/2, dark grayish brown; loamy sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, lower boundary; contains faunal bone (cow, pig, and dog), and a small ceramic fragment and piece of rusted metal (not collected); in situ, buried A horizon; SIHP # -7429 Component 2
II Ib	78–93	Natural; 2.5Y 7/3, pale yellow; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand; SIHP # -7429 Component 2; contains SIHP # -7429 Feature 84
	80	SIHP # -7429 Feature 84; post mold (may have originated from Stratum IIla)
II Ic	87–120	Natural; 2.5Y 7/3, pale yellow; medium sand; structureless (massive); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; common fine roots; medium sand with a clay band in upper boundary
IV	115–137	Natural; 5Y 6/1, gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine sand
V	137 (BOE)	Natural; coral shelf

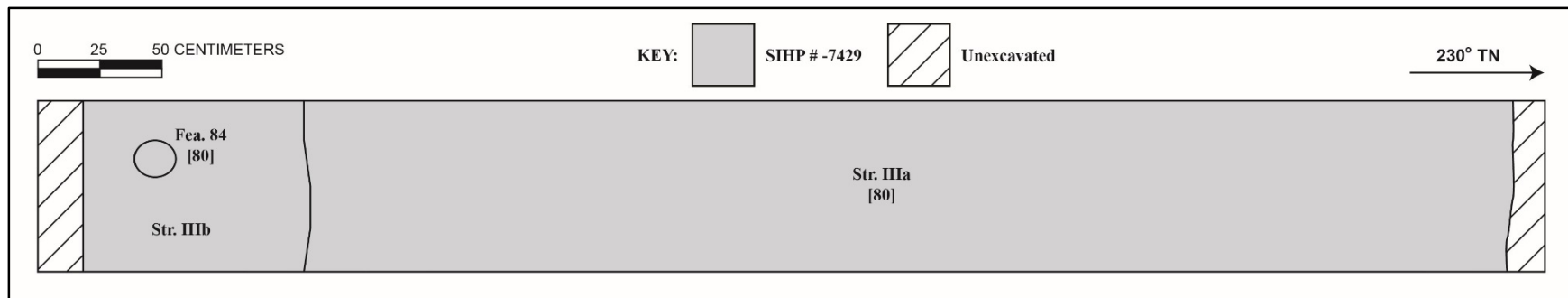


Figure 7. T-1 plan view showing SIHP # -7429 Feature 84 within Stratum IIIb

### 1.2.2 Test Excavation 2 (T-2)

T-2, an exterior test excavation located in the northwest portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.30 mbs, and the base of excavation was determined by the hard coral shelf at 1.35 mbs.

The stratigraphy of T-2 consists of the asphalt surface (Stratum Ia) and associated very gravelly loam base course (Stratum Ib), over a Kaka'ako reclamation fill deposit consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) sandy clay (Stratum IIb), over an in situ, sandy loam A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb), over loamy sand (Stratum IIIc) and marine sand (Stratum IV) (Figure 8, Figure 9, and Table 2). A modern pit (likely construction-related) was encountered in the southwest end of T-2 in the southeast sidewall. The pit was topped by Stratum Ib at 10 cmbs, extended into Stratum Ic to 40 cmbs, and was approximately 70 cm wide. It contained numerous asphalt aggregates.

The excavation of T-2 documented modern deposits (Strata Ia and Ib), over early twentieth century land reclamation fill (Strata IIa and IIb), over a natural A horizon (Stratum IIIa), over natural sands (Strata IIIb, IIIc, and IV). Stratum IIIa is a uniform soil horizon with very little disturbance and a small amount of *Nerita picea* (pipipi) and fire-affected rock (not collected). The Stratum IIIa A horizon shows evidence of cultural enrichment (although minimal) and use as a land surface and is considered a component of SIHP # -7429 (Component 2).



Figure 8. T-2 northwest sidewall, view to northwest

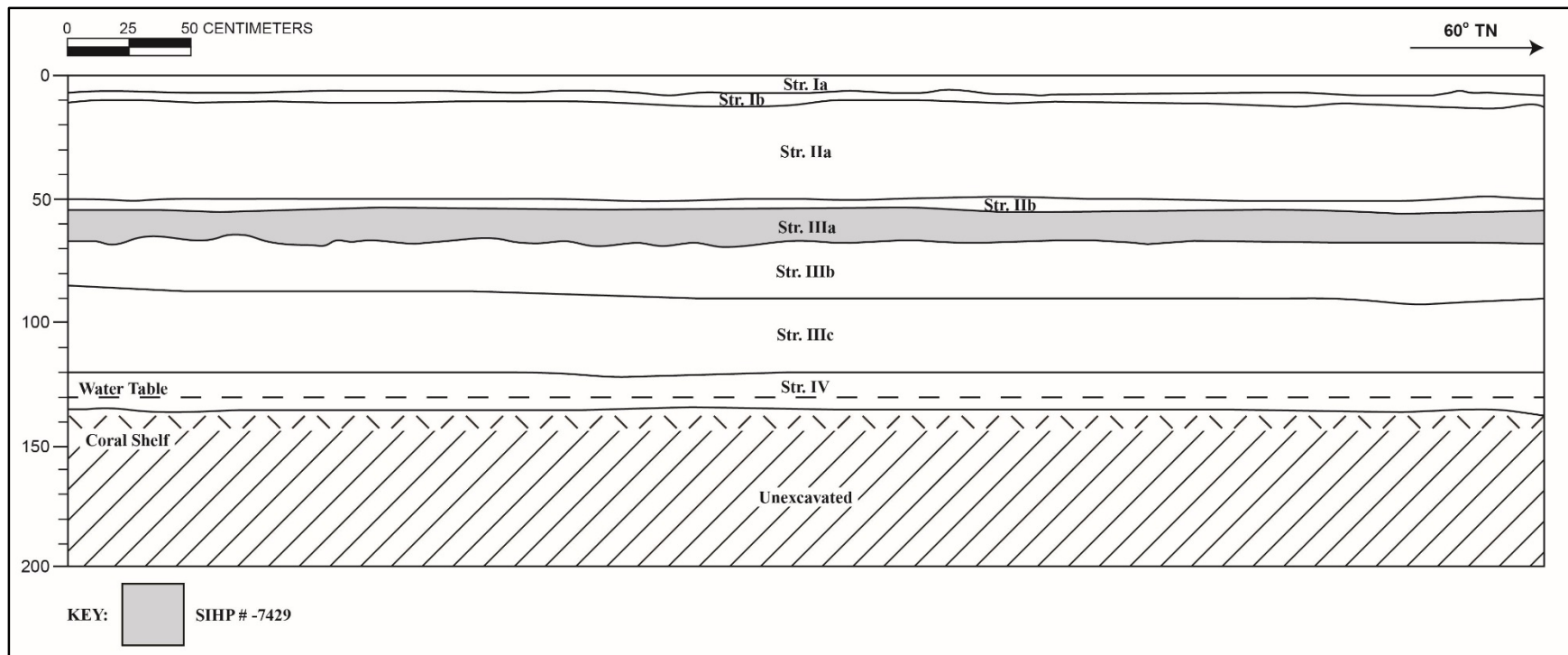


Figure 9. T-2 northwest profile

Table 2. T-2 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–6	Asphalt; road surface
Ib	6–11	Fill; 10YR 4/2, dark grayish brown; very gravelly loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; contained a rusted nail; base course for road surface
IIa	11–50	Fill; 10YR 7/1, light gray, cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIb	50–55	Fill; 10YR 7/2, light gray; sandy clay; structureless (massive); moist, loose consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; hydraulic (dredged) material related to early twentieth century land reclamation
IIIa	55–67	Natural; 10YR 3/3, dark brown; fine sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; contains <i>Nerita picea</i> and fire-affected rock (not collected); in situ, buried A horizon; SIHP # -7429 Component 2
IIIb	65–70	Natural; 10YR 7/3, very pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand
IIIc	85–120	Natural; 10YR 8/3, very pale brown; loamy medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; sand grading to loamy sand; clear, smooth lower boundary; sand
IV	120–135	Natural; 5GY 7/1, light greenish gray; sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; saturated, marine deposit overlying the coral shelf
V	135 (BOE)	Natural; coral shelf

### 1.2.3 Test Excavation 3 (T-3)

T-3, an exterior test excavation located in the south portion of the project area, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.25 mbs, and the base of excavation was determined by the hard coral shelf at 1.28 mbs.

The stratigraphy of T-3 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and cobbly silty clay loam fill (Stratum Ic), over Kaka'ako reclamation fill deposits consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) clay sand (Stratum IIb), over gravelly loamy sand fill (Stratum III), gravelly to cobbly sandy loam fill (Stratum IV), and a sandy loam fill (Stratum V), over natural Jaucas sand (Stratum VIa), a thin layer of indurated sand (Stratum VIb), clay sand (Stratum VIc), and marine clay sand (Stratum VII) (Figure 10, Figure 11, and Table 3).

T-3 is very similar to T-23, which was located approximately 5 m to the northwest. The excavation of T-3 documented modern deposits (Strata Ia–Ic), over early twentieth century land reclamation fill (Strata IIa and IIb), over a burnt loamy sand deposit (Stratum III), a mixed non-local and local fill (Stratum IV), and reworked/redeposited local A horizon material (Stratum V), over natural sand deposits (Strata VIa–VIc and VII). Stratum III is composed of black fine loamy sand with burnt historic material (Figure 12). It is present only within the southern (Diamond Head) portion of the test excavation. Similar lenses of burnt material were observed within T-23, located just 4 m northwest, and within two adjacent Block I AIS test excavations, T-8 and T-71 (Sroat et al. 2015). In each of these instances, the burnt deposits are discontinuous, localized deposits that appear to have been utilized as fill rather than representative of individual combustion events. Stratum IV consists of a mixture of non-local and locally procured sandy loam sediment. This deposit is present within T-3 and T-23 but absent within all surrounding test excavations (i.e., Block I test excavations T-8, T-9, and T-71; Block N East test excavations T-15 and T-24; and Block M test excavations T-67 and T-68). It may have been utilized to infill/grade a low portion of the natural land surface. Stratum IV contains glass bottle fragments, brick fragments, a non-local quartz rock, oxidized metal fragments, and faunal bone (not collected) (Figure 13 and Figure 14). This material is likely in a secondary context.

Underlying Strata III and IV is a thin layer of redeposited local A horizon material (Stratum V). Field screening of this deposit yielded no cultural material. The natural Jaucas sand deposit (Stratum IVa) also appears slightly churned within the upper portion and contains small glass and brick fragments, as well as a dog long bone fragment and two isolated, water-rounded, basalt cobbles (not collected) (Figure 15).





Figure 10. T-3 southwest sidewall, view to south

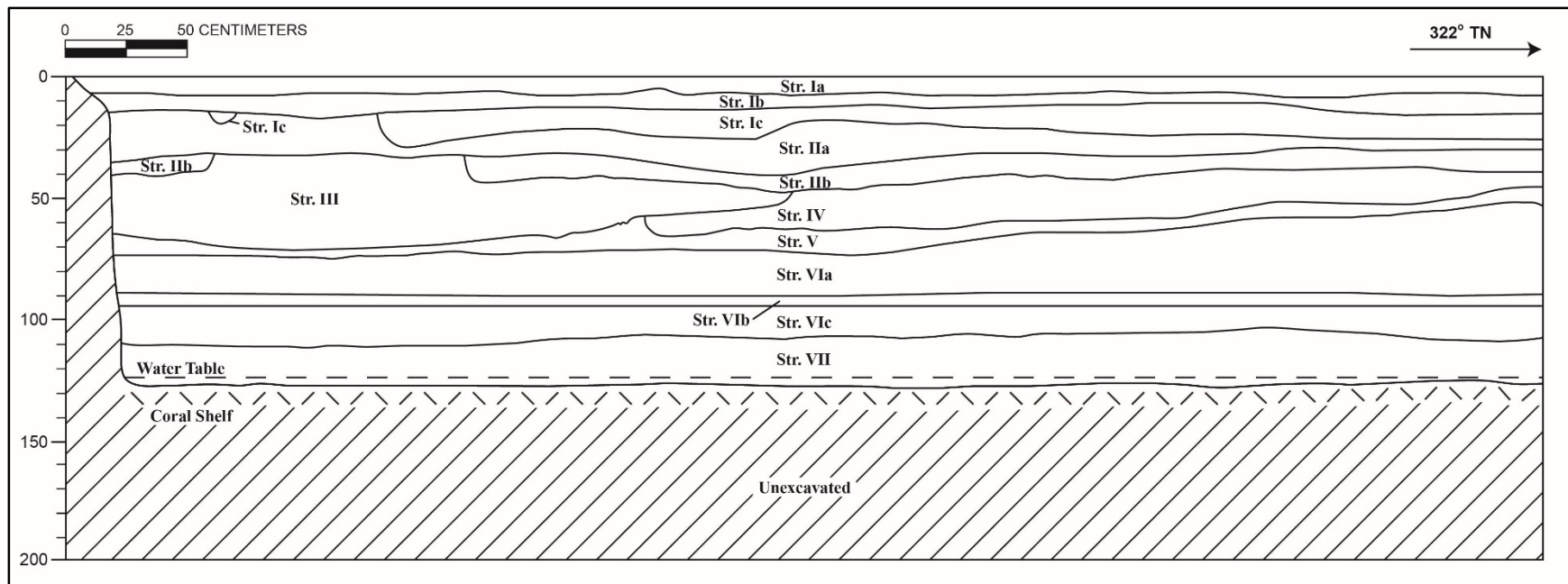


Figure 11. T-3 southwest profile



Table 3. T-3 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–8	Asphalt; road surface
Ib	8–15	Fill; 10YR 4/3, brown; extremely gravelly sandy loam; weak, fine, crumb structure; moist, very friable consistence, weak cementation; non-plastic; mixed origin; clear, smooth lower boundary; base course for road surface
Ic	11–25	Fill; 10YR 5/4, yellowish brown; cobbly silty clay loam; moderate, fine, blocky structure; friable consistence; slightly plastic; mixed origin; clear, smooth lower boundary; fill with coral cobble inclusions
IIa	18–41	Fill; 10YR 7/2, light gray, cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIb	25–45	Fill; 10YR 7/1, light gray; clay sand; structureless (massive); moist, firm consistence; strong cementation; plastic; mixed origin; abrupt, smooth lower boundary; hydraulic (dredged) clay sand related to early twentieth century land reclamation
III	32–71	Fill; 10YR 2.5/1, black; gravelly loamy fine sand; weak, fine, granular structure; moist, loose consistence; non-plastic; mixed origin; clear, discontinuous lower boundary; contains burnt metal, brick fragments, glass fragments, and cinder
IV	41–66	Fill; 2.5Y 6/3, light yellowish brown, mottled with 10YR 3/1, very dark gray; gravelly to cobbly sandy loam; weak, medium, crumb structure; moist, friable consistence; non-plastic; marine origin; clear, discontinuous lower boundary; contains glass bottle fragments, brick fragments, a non-local quartz rock, metal fragments, and faunal bone (not collected); mix of non-local and locally procured sediment
V	45–74	Fill; 10YR 5/2, grayish brown; sandy loam; weak, fine, crumb structure; moist, very friable consistence; non-plastic; marine origin; abrupt, smooth lower boundary; likely locally procured and redeposited A horizon material; no cultural material observed
VIa	53–90	Natural; 2.5Y 7/4, pale yellow; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; contains small glass bottle and brick fragments, two water-rounded basalt cobbles (not collected), and dog bone; calcareous Jaucas sand with historic impact in the upper portion
VIb	90–95	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; abrupt, smooth lower boundary; indurated Jaucas sand

Stratum	Depth (cmbs)	Description
VIc	95–111	Natural; 10YR 7/3, very pale brown; medium clay sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; many, fine roots; calcareous Jaucas sand
VII	105–128	Natural; 2.5Y 7/1, light gray; clay sand; structureless (single-grain); moist, loose consistence, weak cementation; non-plastic; marine origin; clear, smooth lower boundary; few fine to medium roots; natural marine deposit
VIII	128 (BOE)	Natural; coral shelf



Figure 12. Brick and metal fragments observed in Stratum III

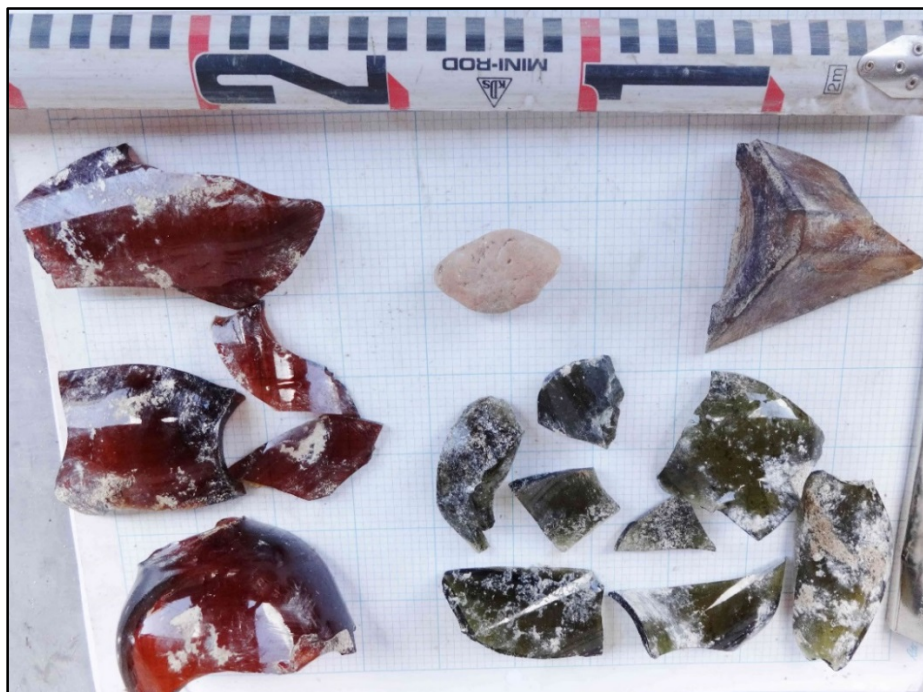


Figure 13. Glass bottle fragments and non-local quartz observed in Stratum IV





Figure 14. Glass bottle fragments, bricks, and oxidized metal observed in Stratum IV



Figure 15. Water worn basalt cobbles observed in Stratum VIa

#### 1.2.4 Test Excavation 4 (T-4)

T-4, an exterior test excavation located in the northwest portion of the project area, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.61 mbs, and the base of excavation was determined by the hard coral shelf at 1.65 mbs.

The stratigraphy of T-4 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and very gravelly loamy sand fill (Stratum Ic), over a disturbed and redeposited Kaka'ako reclamation fill deposit of mixed loam, cobbly sand, and silty clay (Stratum II), overlying a very compact, mixed layer of loamy sand and sand (Stratum III; SIHP # -7429), over an in situ loamy sand A horizon (Stratum IVa) that developed within natural, calcareous Jaucas sand (Stratum IVb), over two deposits of clay sand (Strata IVc–IVd) (Figure 16 through Figure 19 and Table 4).

The excavation of T-4 documented a modern deposit (Stratum Ic) that contains abandoned utilities, ceramic pipe fragments, a metal pipe, glass, a marble, rusted nails (not collected), coral cobbles, and faunal bone, including chicken, dog, and cow rib fragments cut with a metal saw blade. Within discontinuous portions, Stratum Ic also contains broken asphalt pieces which may represent the remnants of a previous surface associated with SIHP # -7686. Underlying this fill deposit is a disturbed layer of early twentieth century land reclamation fill (Stratum II) consisting of churned crushed coral, dredged silty clay, and loam, followed by a very compact fill layer (Stratum III) comprised of locally procured sediment, including black loamy sand and sand. Stratum III contains metal, ceramic, glass, wood, brick (not collected), and faunal remains (cat and pig). It also contains an associated trash pit feature within the southeast end of the test excavation. Based on the presence of historic cultural material as well as an associated pit feature, Stratum III is considered a component of SIHP # -7429 (Component 1). The pit feature is designated SIHP # -7429 Feature 85.

SIHP # -7429 Feature 85, a historic trash pit, extends from the Stratum III fill living surface to the coral shelf, from 64–173 cmbs, and was intrusive through all of the underlying strata (Figure 20 and Figure 21). The feature matrix consists of black loamy sand mixed with calcareous sand and rust-stained sediments. Twenty gallons of feature matrix were screened in the field and yielded glass bottles and bottle fragments (Acc. #s 1, 2, 4, 5), a glass vial (Acc. # 3), a glass medicine/ extract bottle fragment (Acc. # 6), a whiteware tableware fragment (Acc. # 7), a copper teaspoon (Acc. # 8), cow bone cut with a metal saw blade, and pig remains. Accession # 2, an Owens-Illinois Glass Company bottle was manufactured in 1947, indicating a post-1947 date for the trash pit feature.

The Stratum IVa in situ A horizon is truncated by the overlying Strata II and III fill deposits and contained an isolated pig rib fragment.





Figure 16. T-4 northeast sidewall, view to west



Figure 17. T-4 southwest sidewall, view to north

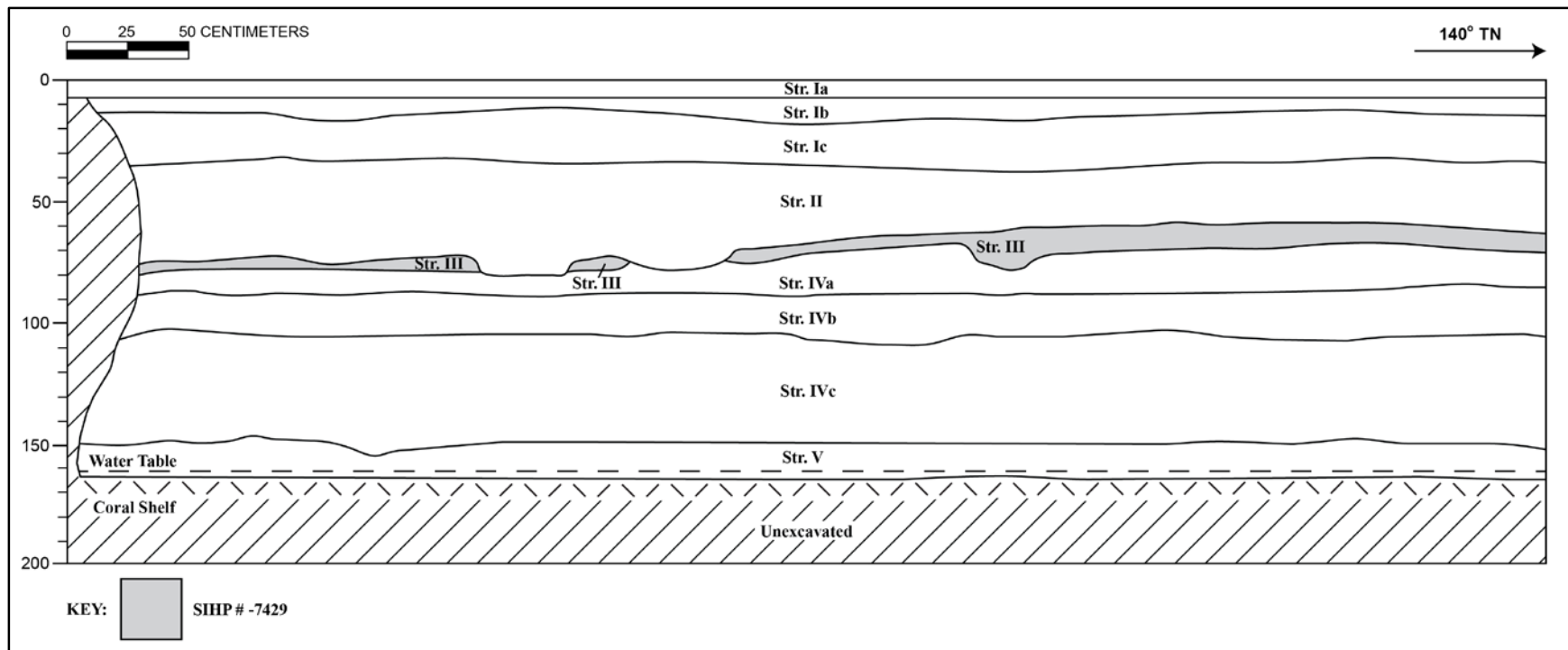


Figure 18. T-4 northeast profile

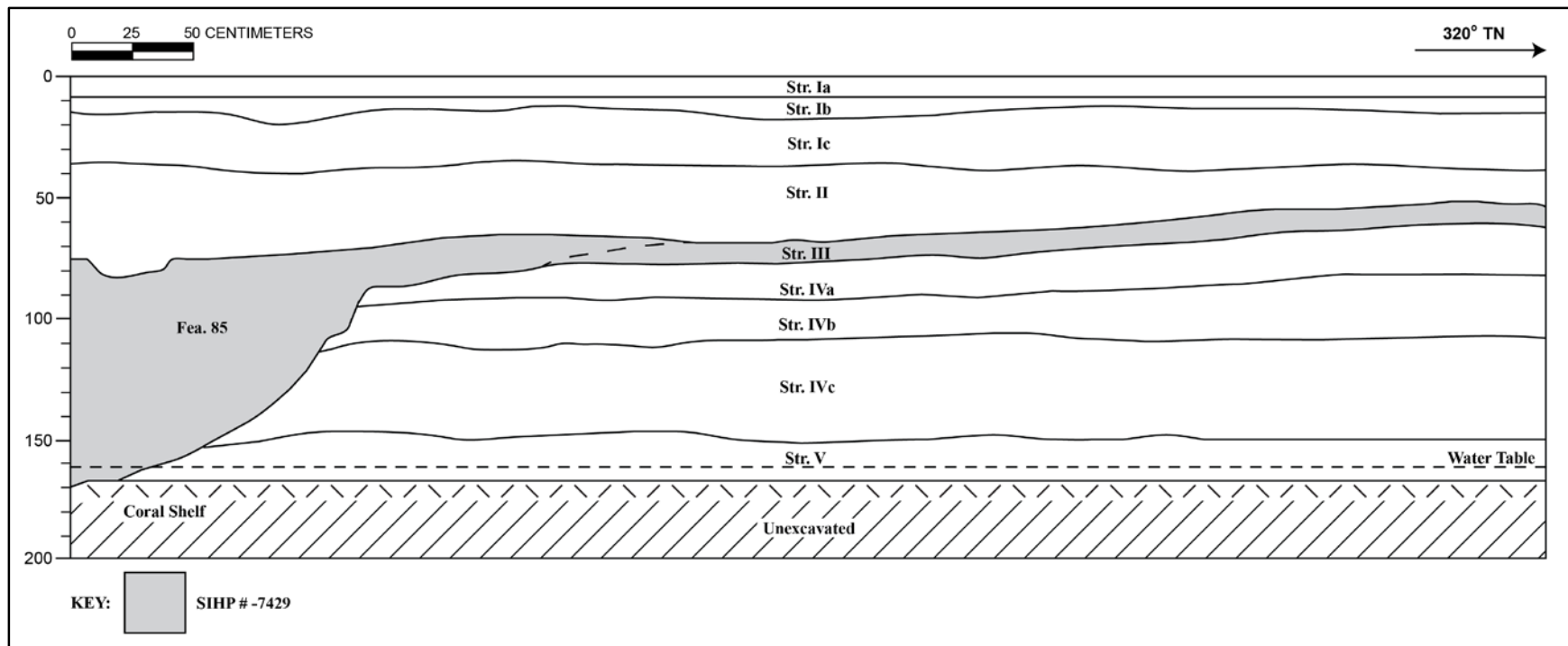


Figure 19. T-4 southwest profile



Table 4. T-4 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–8	Asphalt; road surface
Ib	8–20	Fill; 10YR 4/2, dark grayish brown; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, wavy lower boundary; base course for road surface
Ic	15–30	Fill; 10YR 5/2, grayish brown; very gravelly loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; contains ceramic utility pipe fragments, a metal utility pipe, glass, a marble, rusted nails, and faunal bone (dog, chicken, and butchered cow); also contains several broken asphalt pieces, possibly remnants of SIHP # -7686; mixed fill
II	30–80	Fill; 2.5Y 6/3, light yellowish brown; cobbly loamy sand and silty clay; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; reworked or redeposited Kaka'ako reclamation fill
III	60–80	Fill; 10YR 2/1, black and 10YR 7/6, yellow; loamy fine sand with sand lenses; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, broken lower boundary; contains <i>Nerita picea</i> ( <i>pipipi</i> ), metal, ceramics, glass, wood, and brick (not collected), and faunal bone (cat, pig); compact, locally procured and redeposited sediment; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 85
	64–173	SIHP # -7429 Feature 85; historic trash pit containing glass bottles and bottle fragments (Acc. #s 1, 2, 4, 5), a glass vial (Acc. # 3), a glass medicine/extract bottle fragment (Acc. # 6), a whiteware tableware fragment (Acc. # 7), a copper teaspoon (Acc. # 8), and faunal bone (pig and butchered cow)
IVa	65–95	Natural; 10YR 4/2, dark grayish brown; loamy medium sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; contains a pig rib fragment; in situ A horizon
IVb	83–114	Natural; 2.5Y 8/1, white; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; calcareous Jaucas sand
IVc	103–155	Natural; 2.5Y 8/2, pale yellow, yellow; clay sand; weak, fine, granular structure; moist, very friable consistence; slightly plastic; marine origin; clear, smooth lower boundary; marine sand containing marine shell fragments

Stratum	Depth (cmbs)	Description
IV	147-165 (BOE)	Natural; 5GY 7/1, light greenish gray; clay sand to coarse sand; structureless (single-grain); wet, slightly sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; contains finger coral and naturally occurring marine shell; marine deposit



Figure 20. Plan view of SIHP # -7429 Feature 85, a historic trash pit





Figure 21. T-4 southwest sidewall showing SIHP # -7429 Feature 85, view to southwest

### 1.2.5 Test Excavation 5 (T-5)

T-5, an exterior test excavation located *makai* of the warehouse in the west portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.42 mbs, and the base of excavation was determined by the hard coral shelf at 1.46 mbs.

The stratigraphy of T-5 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly loamy sand base course (Stratum Ib), over a Kaka'ako reclamation fill deposit consisting of extremely cobbly clay sand (crushed coral) (Stratum IIa) and hydraulic (dredged) clay (Stratum IIb), over a locally procured sandy loam fill deposit (Stratum III), over a natural, loamy sand A horizon (Stratum IVa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IVb), over a thin layer of natural indurated sand (Stratum IVc), natural clay sand (Stratum IVd), and saturated clay sand (Stratum V) (Figure 22 through Figure 26 and Table 5).

The excavation of T-5 documented modern deposits (Strata Ia and Ib) over early twentieth century land reclamation fill (Strata IIa and IIb), over a nineteenth to early twentieth century fill deposit that consists of a thin, compact layer of reworked sediment, likely including A horizon material (Stratum III), over an in situ A horizon (Stratum IVa), over natural sands (Strata IVb–IVd and VI). An approximately 17-liter sample of Strata III and IVa was screened in the field, yielding a single pig incisor. The Stratum IVa A horizon also contained five pit features. The A horizon and associated features are considered components of SIHP # -7429 (Component 2) (Figure 27). All five features terminate in Jaucas sand.

SIHP # -7429 Feature 86 is a large, circular pit feature that measures 60 cm long, 70 cm wide, and 8 cm thick (see Figure 22, Figure 28, Figure 25, and Figure 27). It spans the width of the test excavation, extending slightly into the southeast sidewall. The feature extends from 75–83 cmbs. One gallon of feature matrix was screened and yielded charcoal flecks. The function of this feature is indeterminate.

SIHP # -7429 Feature 87 is an oblong pit feature that measures 62 cm long, 30 cm wide, and 11 cm thick (see Figure 28, Figure 26, and Figure 27). It extends into the northwest test excavation sidewall. The feature ranges from 70–81 cmbs. Two gallons of feature matrix were screened and yielded charcoal flecks. The function of this feature is indeterminate.

SIHP # -7429 Feature 88 is an oblong pit feature that measures 52 cm long, 20 cm wide, and 11 cm thick (see Figure 29, Figure 25, and Figure 27). It extends into the southeast test excavation sidewall. The feature ranges from 75–86 cmbs. Charcoal flecks were noted within the feature matrix. The function of this feature is indeterminate.

SIHP # -7429 Feature 89 is a small pit of dark-colored sediment that measures 26 cm wide and 17 cm thick (see Figure 23 and Figure 25). It is located solely within the southeast test excavation sidewall and extends from 75–92 cmbs. No cultural material was observed within the feature. Based on feature morphology (e.g., vertical edges and circular shape), Feature 107 is believed to be a post mold.

SIHP # -7429 Feature 90 is a small pit of dark-colored sediment that measures 15 cm wide and 19 cm thick (see Figure 24 and Figure 26). It is located solely within the northwest test excavation sidewall, within the vicinity of Feature 89, and extends from 75–94 cmbs. No cultural



material was observed within the feature. Based on similar feature morphology, Feature 108 is believed to be a post mold.



Figure 22. T-5, southeast sidewall, southwest half; note SIHP # -7429 Feature 86 within the sidewall, view to south





Figure 23. T-5, southeast sidewall, northeast half; note SIHP # -7429 Feature 89, view to east





Figure 24. T-5, northwest sidewall, northeast end; note SIHP # -7429 Feature 90, view to northwest



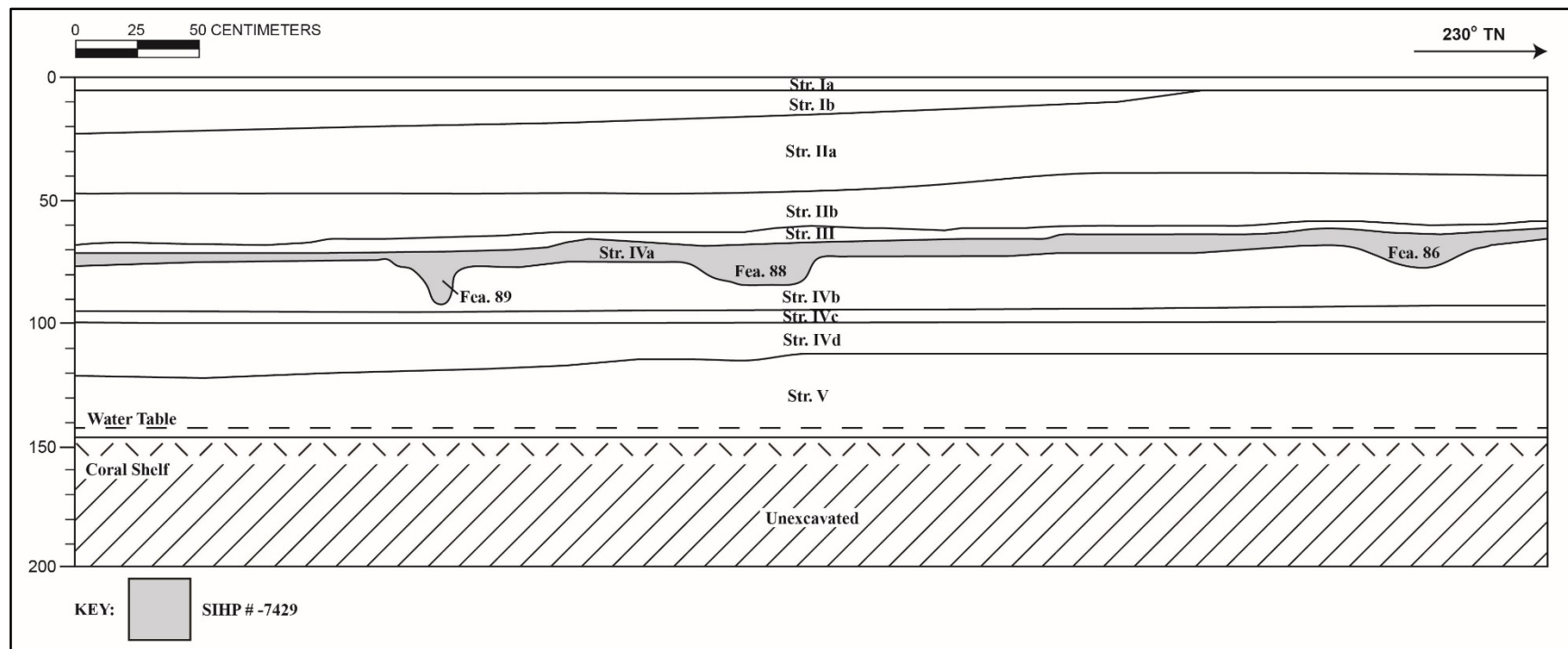


Figure 25. T-5 southeast profile

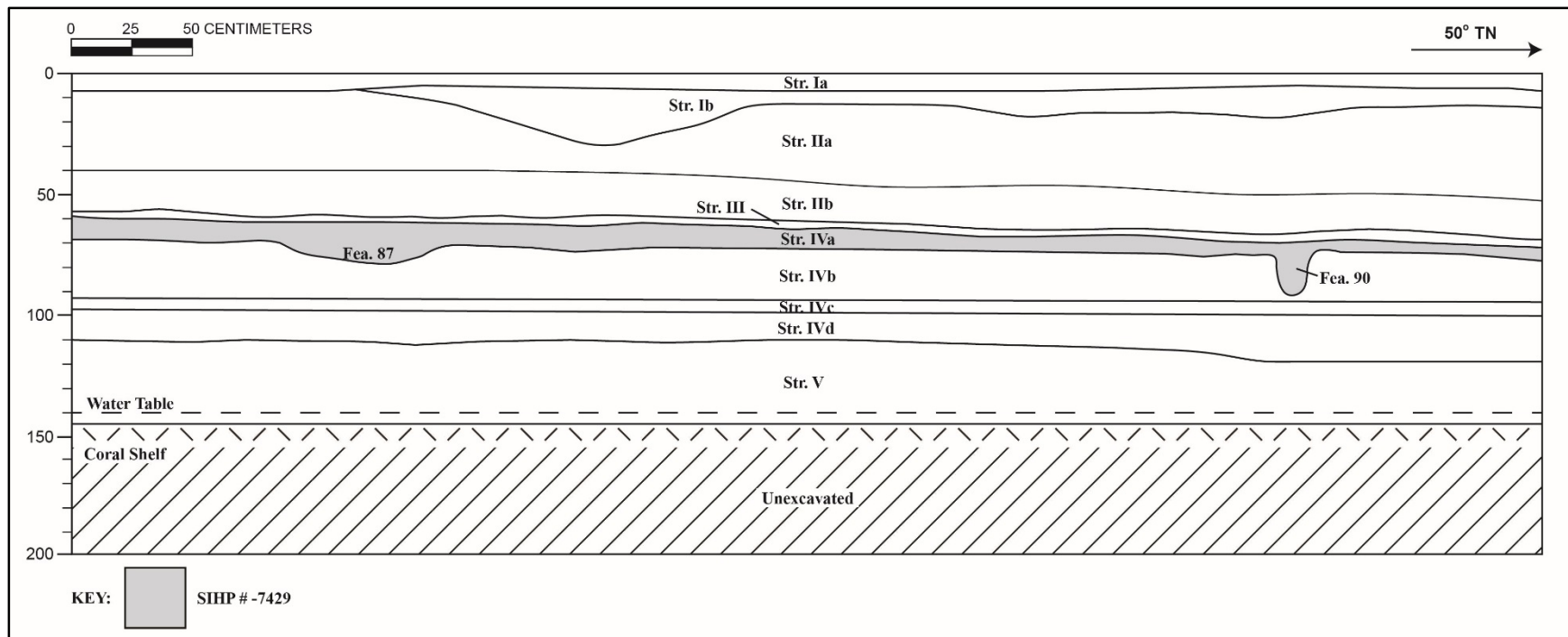


Figure 26. T-5 northwest profile

Table 5. T-5 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–9	Asphalt; road surface
Ib	6–30	Fill; 5YR 4/2, dark reddish gray, mottled with 10YR 4/3, brown; extremely gravelly loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, wavy lower boundary; mixed base course material for overlying road surface
IIa	9–54	Fill; 2.5Y 7/1, light gray; extremely cobbly clay sand; structureless (massive); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIb	40–66	Fill; 5Y 7/4, pale brown; clay; structureless (massive); moist, friable to firm consistence; plastic; marine origin; abrupt, smooth lower boundary; transitions from sand to clay toward lower boundary; hydraulic (dredged) fill related to early twentieth century land reclamation
III	58–72	Fill; 2.5Y 5/3, light olive brown; sandy loam; medium, fine, crumb structure; moist, friable to firm consistence; slightly plastic; mixed origin; clear, smooth lower boundary; compact layer of locally procured, reworked A horizon material
IVa	61–75	Natural; 2.5Y 3/2, very dark grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; slightly plastic; mixed origin; diffuse, smooth lower boundary; contains faunal (pig) remains; in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Features 86–90
	75–83	SIHP # -7429 Feature 86; contains charcoal flecks; indeterminate pit
	70–81	SIHP # -7429 Feature 87; contains charcoal flecks; indeterminate pit
	75–86	SIHP # -7429 Feature 88; contains charcoal flecks; indeterminate pit
	75–92	SIHP # -7429 Feature 89; probable post mold
	75–94	SIHP # -7429 Feature 90; probable post mold
IVb	70–95	Natural; 2.5Y 7/4, pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; calcareous Jaucas sand grading to clay sand
IVc	93–100	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; abrupt, smooth lower boundary; indurated Jaucas sand
IVd	98–120	Natural; 10YR 6/3, pale brown; clay medium sand; moderate, medium to coarse, crumb structure; wet, slightly sticky consistence; slightly plastic; marine origin; diffuse, smooth lower boundary; root staining; Jaucas sand and clay

Stratum	Depth (cmbs)	Description
V	110–146	Natural; Gley 1, 10GY 6/1, greenish gray; coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine deposit
VI	146 (BOE)	Natural; coral shelf



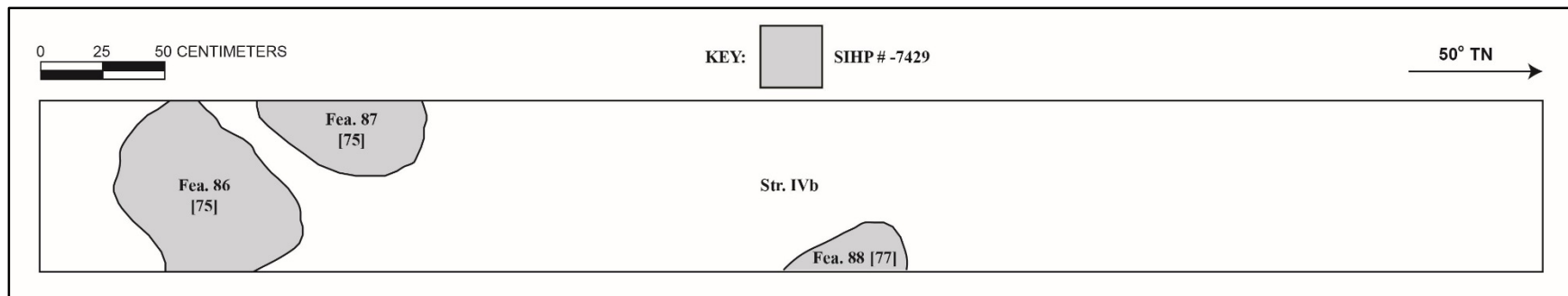


Figure 27. T-5 plan view showing SIHP # -7429 Features 86–88



Figure 28. SIHP # -7429 Features 86 and 87



Figure 29. SIHP # -7429 Feature 88

### 1.2.6 Test Excavation 6 (T-6)

T-6, an interior test excavation located in the northwest portion of the project area, was oriented northeast-southwest and measured 6.0 m long by 0.6 m wide. The water table was encountered at 1.35 mbs, and the base of excavation was determined by the hard coral shelf at 1.47 mbs.

The stratigraphy of T-6 consists of the concrete warehouse floor surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), very gravelly sandy loam grading fill (Stratum Ic), and gravelly loam fill (Stratum Id) over a buried, former asphalt surface (Stratum IIa; SIHP # -7686) and associated extremely gravelly sandy loam base course (Stratum IIb; SIHP # -7686), over a Kaka'ako reclamation fill deposit consisting of cobbly sand (crushed coral) (Stratum IIIa) and hydraulic (dredged) sandy clay (Stratum IIIb), over a locally procured and redeposited sandy clay loam fill (Stratum IV), over an in situ, loamy sand A horizon (Stratum Va) that developed within natural, calcareous Jaucas sand (Stratum Vb), over natural, marine sand (Stratum VI) (Figure 30, Figure 31, and Table 6).

The excavation of T-6 documented modern deposits (Strata Ia–Id), over a buried road surface (Strata IIa and IIb), over an early twentieth century land reclamation fill deposit (Strata IIIa and IIIb), over locally procured and redeposited sediment, largely composed of natural A horizon material (Stratum IV), over a natural A horizon (Stratum Va), over natural sands (Strata IVb and VI). The buried asphalt road surface (Stratum IIa) and associated base course (Stratum IIb) were documented within the southeast (*makai*) portion of the test excavation (see Figure 31). As the asphalt surface was constructed atop Kaka'ako land reclamation fill, the surface was constructed sometime after 1919–1927; however, as it is also located beneath the modern warehouse, which was constructed sometime between 1939 and 1952 (see Volume I, Section 6.1), the buried surface is older than 50 years of age. Strata IIa and IIb are considered components of SIHP # -7686, subsurface historic infrastructure remnants.



Figure 30. T-6 southeast sidewall



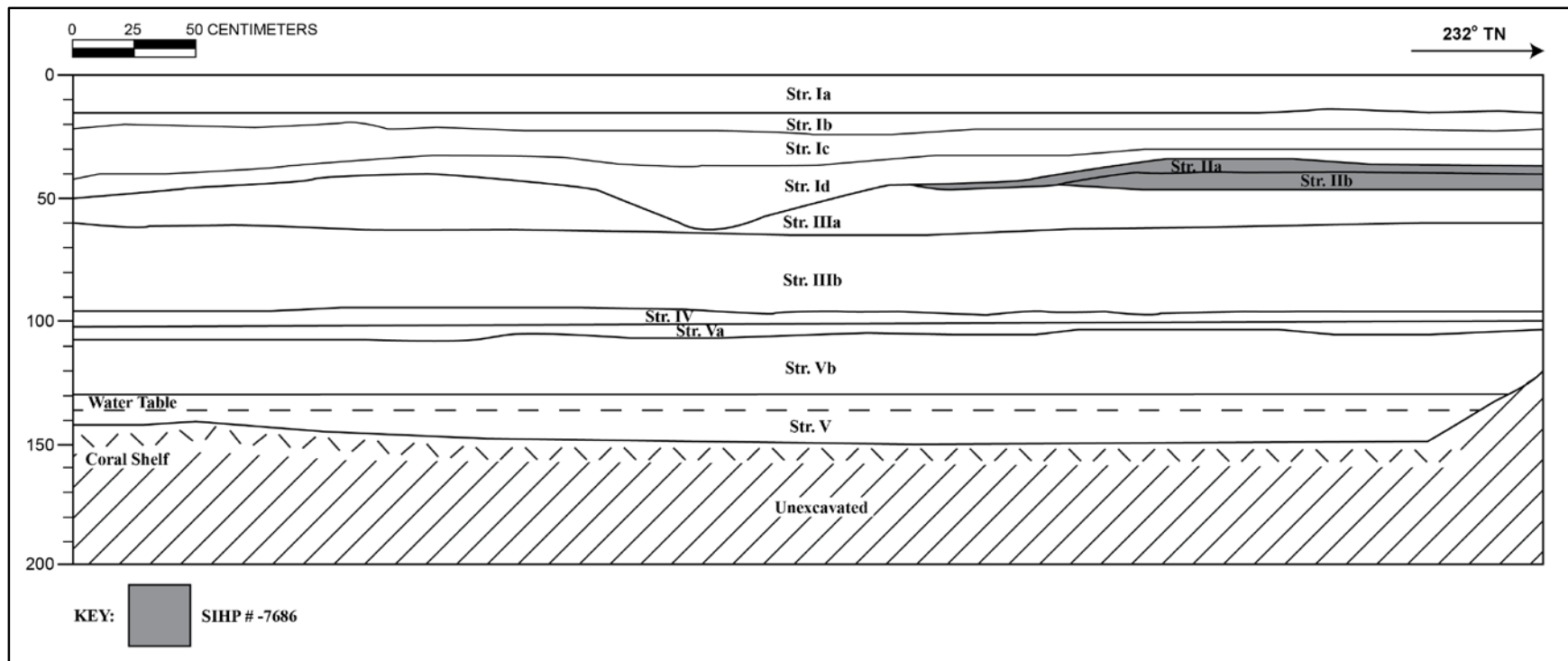


Figure 31. T-6 southeast profile

Table 6. T-6 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–15	Concrete; building floor
Ib	15–23	Fill; 7.5YR 4/2, brown; extremely gravelly sandy loam; weak, fine, granular structure; dry, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; base course for concrete
Ic	20–40	Fill; 10YR 5/3, brown; very gravelly sandy loam; weak, fine, granular structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; contains coral and basalt cobbles
Id	32–63	Fill; 7.5YR 3/2, dark brown; gravelly loam; weak, fine, blocky structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary
Ila	37–45	Asphalt; buried former road surface; SIHP # -7686
Ilb	40–45	Fill; 10YR 6/1, gray; extremely gravelly sandy loam; weak, fine granular structure; moist, loose consistence; non-plastic; mixed origin; abrupt, discontinuous lower boundary; base course for Stratum Ila asphalt; SIHP # -7686
IIla	40–65	Fill; 2.5Y 6/2, light brownish gray; cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIlb	60–97	Fill; 2.5Y 7/2, light gray; sandy clay; fine, moderate, platy structure; moist, friable consistence; slightly plastic; marine origin; abrupt, smooth lower boundary; hydraulic (dredged) fill related to early twentieth century land reclamation
IV	95–102	Fill; 2.5Y 3/1, very dark gray; sandy clay loam; fine, moderate, blocky structure; moist, friable consistence; slightly plastic; mixed origin; very abrupt, smooth lower boundary; largely locally procured and redeposited fill A horizon
Va	100–107	Natural; 10YR 4/2, dark grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; in situ A horizon; no cultural material observed
Vb	103–130	Natural; 10YR 7/3, very pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; Jaucas sand
VI	130–147	Natural; GLEY 1 10Y 6/1, greenish gray; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine sand
VII	147 (BOE)	Natural; coral shelf

### 1.2.7 Test Excavation 7 (T-7)

T-7, an exterior test excavation located in the northwest portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.7 mbs, and the base of excavation was determined by the hard coral shelf at 1.73 mbs.

The stratigraphy of T-7 consists of the asphalt surface (Stratum Ia), associated extremely gravelly loam base course (Stratum Ib), and sandy loam fill (Stratum Ic), over a buried asphalt surface (Stratum II; SIHP # -7686), over a Kaka'ako reclamation fill deposit consisting of cobbly sand (crushed coral) (Stratum IIIa) and hydraulic (dredged) fine sand to clay (Stratum IIIb), over an in situ wetland sandy clay O horizon (Stratum IVa; SIHP # -7429), wetland clay sand (Stratum IVb), and gravelly clay sand (the decomposing coral shelf; Stratum V) (Figure 32 through Figure 33, and Table 7). A large, active, ceramic utility line was encountered extending diagonally through the northeast end of the test excavation within Stratum IIIb at approximately 70 cmbs. As a result, part of the northeast end of the trench was not excavated below this level.

The excavation of T-7 documented modern deposits (Strata Ia–Ic), over a buried asphalt surface (Stratum II), over an early twentieth century land reclamation fill deposit (Strata IIIa and IIIb), over a culturally enriched, natural, wetland O horizon with decomposing organics and humus (Stratum IVa), over natural wetland sediment (Stratum IVb) and the decomposing coral shelf (Stratum V). Stratum Ic is a mixed fill deposit that contains coral cobbles, wood, wire, and asphalt aggregates (not collected). The asphalt aggregates likely derive from disturbance to the Stratum II buried asphalt surface which is intact within the *makai* portion of T-7, but absent within the *mauka* portion. Its absence within the *mauka* portion is likely due to the installation of the large utility line (see Figure 33). Asphalt surfaces were observed within eight additional Block N East test excavations (see Figure 2). Stratum II is considered a component of SIHP # -7686, subsurface historic infrastructure remnants.

The Stratum IVa wetland horizon represents the upper boundary of a small area of wetlands located within the sand dune extending through the project area. Cultural material was observed within this wetland horizon, consisting of a glass inkwell (Acc. # 9), a glass bottle (Acc. # 10), a glass bottle fragment (Acc. # 11), and pressed glass fragments (Acc. #s 12 and 13). These artifacts are possibly associated with the historic residential houses located immediately *mauka* of T-7 and evidence cultural enrichment of this former land surface. Stratum IVa is therefore considered a component of SIHP # -7429 (Component 2).





Figure 32. T-7 southeast sidewall, view to east



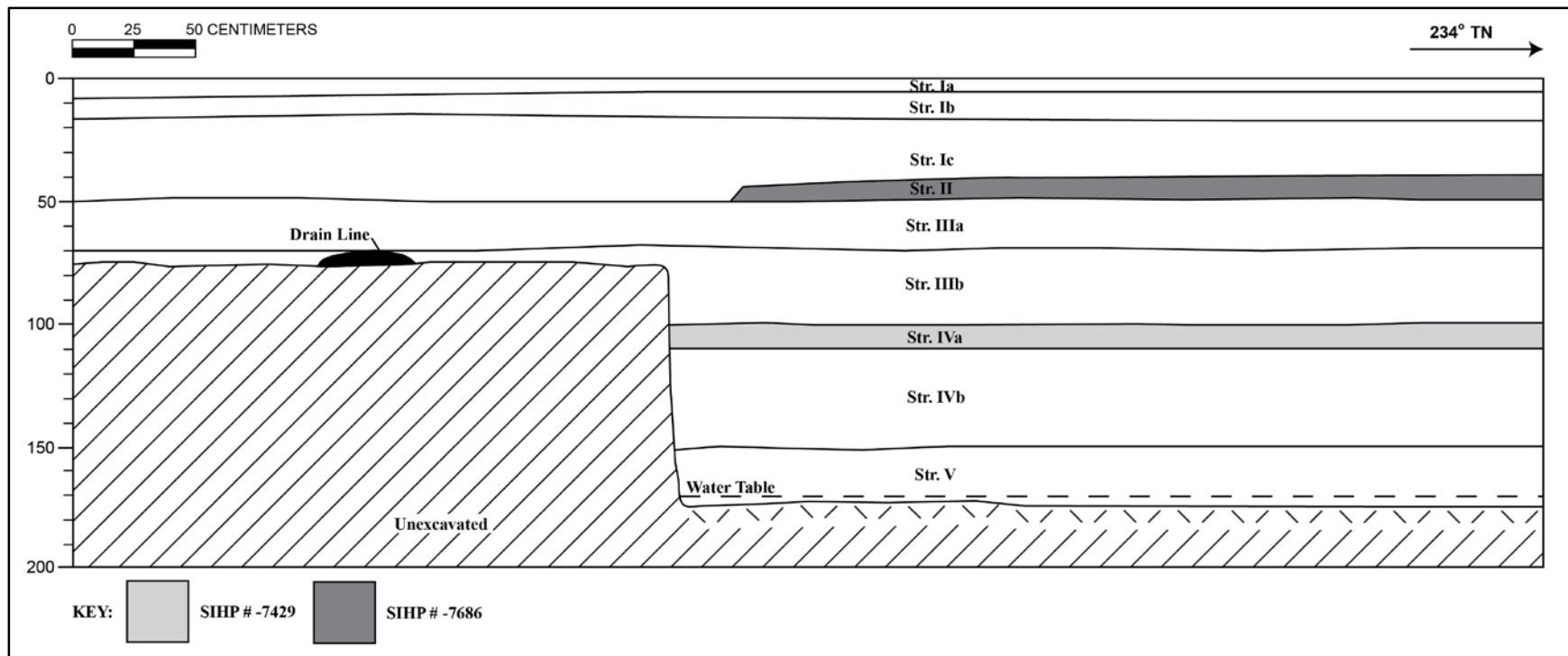


Figure 33. T-7 southeast profile

Table 7. T-7 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–7	Asphalt; road surface
Ib	7–18	Fill; 7.5YR 3/3, dark brown; extremely gravelly loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; base course for road surface
Ic	18–50	Fill; 10YR 4/2, dark grayish brown; sandy loam; weak, fine to very coarse, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; contains wood, wire, miscellaneous trash, coral cobbles, and asphalt chunks; mixed fill
II	40–50	Asphalt; buried former road surface; SIHP # -7686
IIIa	50–70	Fill; 10YR 7/2, light gray; cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIIb	70–100	Fill; 10YR 7/3, very pale brown, mottled with GLEY 1, N 6/, gray; fine sand grading to clay; weak, fine, platy structure; moist, very friable to friable consistence; slightly plastic; marine origin; clear, smooth lower boundary; contains a ceramic utility pipe; hydraulic (dredged) fill related to early twentieth century land reclamation
IVa	95–110	Natural; GLEY 1, 5GY 4/1, dark greenish gray; sandy clay; structureless (massive); moist, firm consistence; plastic; mixed origin; clear, smooth lower boundary; few fine roots; contains a glass inkwell (Acc. # 9), a glass bottle (Acc. # 10), a glass bottle fragment (Acc. # 11), and pressed glass fragments (Acc. #s 12 and 13); wetland O horizon with peat (humus); SIHP # -7429 (Component 2)
IVb	110–150	Natural; GLEY 1, 10Y 6/1, greenish gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; clear, smooth lower boundary; wetland deposit
V	150–173	Natural; GLEY 1, 10Y 6/1, greenish gray; very coarse clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; decomposing coral shelf

### 1.2.8 Test Excavation 8 (T-8)

T-8, an exterior test excavation located in the northern portion of the project area, was oriented northeast-southwest and measured 6.0 m long by 0.7 m wide. The water table was encountered at 1.45 mbs, and the base of excavation was determined by the hard coral shelf at 1.5 mbs.

The stratigraphy of T-8 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and gravelly sand fill (Stratum Ic), over a gravelly silt loam fill living surface (Stratum II; SIHP # -7429), over a natural loamy sand A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb), over a thin layer of indurated sand (Stratum IIIc), sandy clay (Stratum IIId), and saturated sand (decomposing coral shelf) (Stratum IV) (Figure 34 through Figure 36 and Table 8).

The excavation of T-8 documented modern deposits (Strata Ia–Ic), over a historic fill living surface (Stratum II), over an in situ A horizon (Stratum IIIa), over natural sands (Strata IIIb–IIId and IV). Early twentieth century land reclamation fill material is absent in this area. Stratum II consists of a thick layer of mixed sediment, largely comprised of non-local alluvial sediment with a small amount of sand. Stratum II truncates the underlying natural sandy loam A horizon (Stratum IIIa) and likely incorporated some of this material during grading activities. Stratum II contains a small amount of historic material, including a partial door knob, nails, metal fragments, and ceramic fragments (Figure 37). Faunal bone was also observed, consisting of pig, butchered cow, and chicken. Similar culturally enriched, mixed fill deposits, comprised of varying amounts of imported and locally procured sediment, were documented within the area surrounding T-8 (T-9 through T-14G), often containing associated pit features. As this crenelation-shaped area is associated with a row of historic residences (see Volume I), Stratum II is believed to represent a buried historic living surface and is considered a component of SIHP # -7429 (Component 1).

Underlying Stratum II is a truncated, natural loamy sand A horizon (Stratum IIIa). Within the *makai* end of the test excavation, a concentration of *pipipi* was noted, consisting of *Nerita picea* (25.6 g) and *Nerita polita* (2.0 g), likely representing marine midden. Three pit features were also documented originating from the A horizon, indicating use of Stratum IIIa as a living surface (Figure 38). Stratum IIIa is considered a component of SIHP # -7429 (Component 2).

SIHP # -7429 Feature 91 is an amorphous discoloration of sediment that measures 85 cm long, 70 cm wide, and 53 cm thick (see Figure 36 through Figure 38 and Figure 39). The feature spans the width of the test excavation, extending into both sidewalls. It originates within Stratum IIIa at 50 cmbs and terminates in Stratum IIIb at 105 cmbs. Material collected from the feature includes rusted metal vessel fragments (Acc. # 14), metal nails (Acc. # 15), a bone button (Acc. # 16), charcoal (9.6 g collected), marine shell midden (*Theodoxus neglectus*—2.8 g, *Nerita polita*—2.2 g, *Nerita picea*—19.5 g, and a single *Cellana exarata*), and faunal bone, including cow bone cut with a metal saw blade), burnt pig long bone and rib fragments, and a burnt medium mammal long bone fragment. Based on the presence of historic artifacts and cow bone, Feature 91 represents post-Contact cultural activity. The function of Feature 91 is indeterminate.

SIHP # -7429 Feature 92 is a rectangular discoloration of sediment extending into the northwest sidewall. It measures 45 cm long, 21 cm wide, and 55 cm thick (see Figure 36, Figure 38, and Figure 40). It originates within Stratum IIIa at 50 cmbs and terminates within Stratum

IIIb at 100 cmbs. Material collected from the feature includes cow foot bones and rib and long bone fragments (cut with a metal saw blade), four metal nails (Acc. # 23), and charcoal. Based on cultural content, Feature 91 represents post-Contact cultural activity. The function of Feature 92 is indeterminate.

SIHP # -7429 Feature 93 is an oblong discoloration of sediment that measures 75 cm long, 70 cm wide, and 45 cm thick (see Figure 36 through Figure 38 and Figure 41). It spans the width of the test excavation, extending into both sidewalls. The feature originates within Stratum IIIa at 50 cmbs and terminates in Stratum IIIc at 103 cmbs. Material collected from the feature includes a metal nail (Acc. # 17), whiteware tableware fragments (Acc. #s 18 and 20), a porcelain tableware fragment (Acc. # 19), a slate pencil fragment (Acc. # 21), a post-1865 glass insulator fragment (Acc. # 22) (Figure 42), and faunal bone, including burnt cow bone cut with a metal saw blade, numerous pig skeletal fragments (some cut with a metal saw blade), and a chicken long bone fragment. Fire-affected rock was also observed within the feature, but was not collected. Based on cultural content, Feature 91 represents post-Contact cultural activity. The function of Feature 93 is indeterminate.





Figure 34. T-8, southeast sidewall, view to south

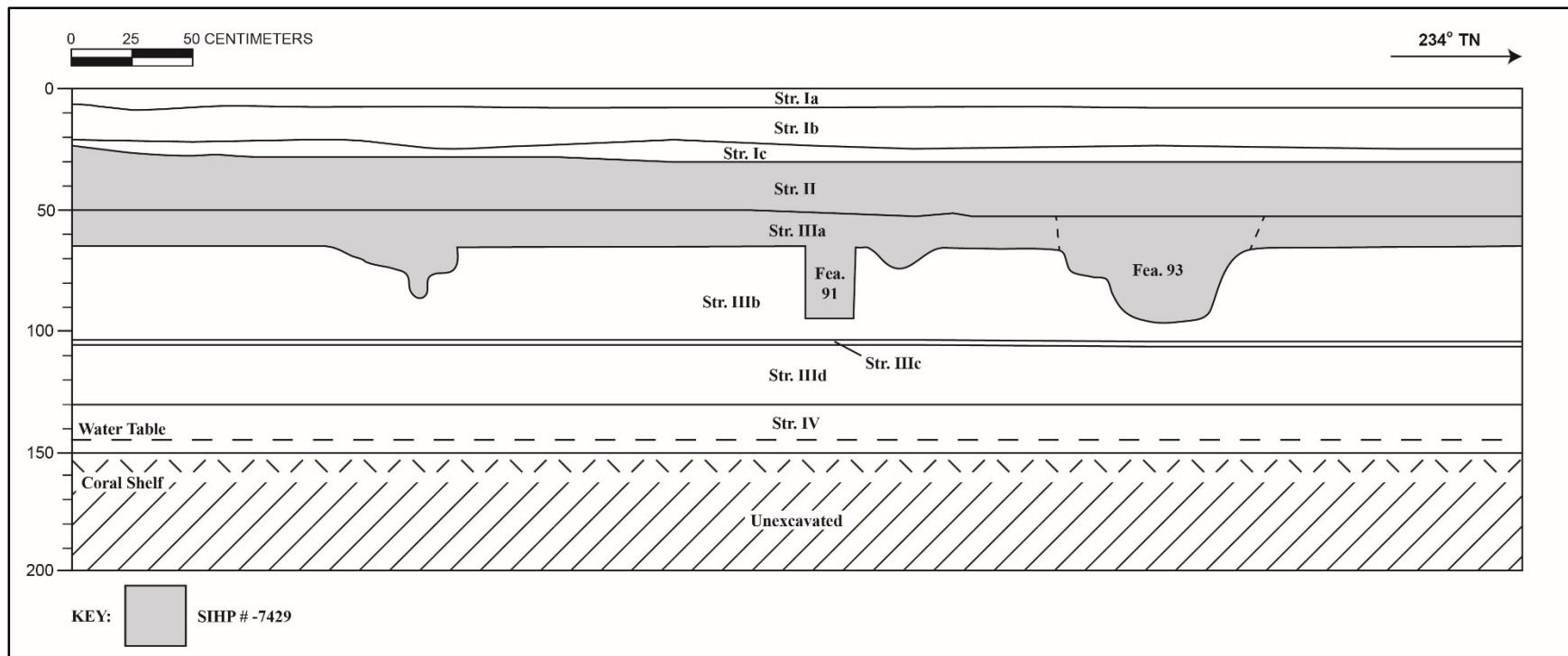


Figure 35. T-8 southeast profile

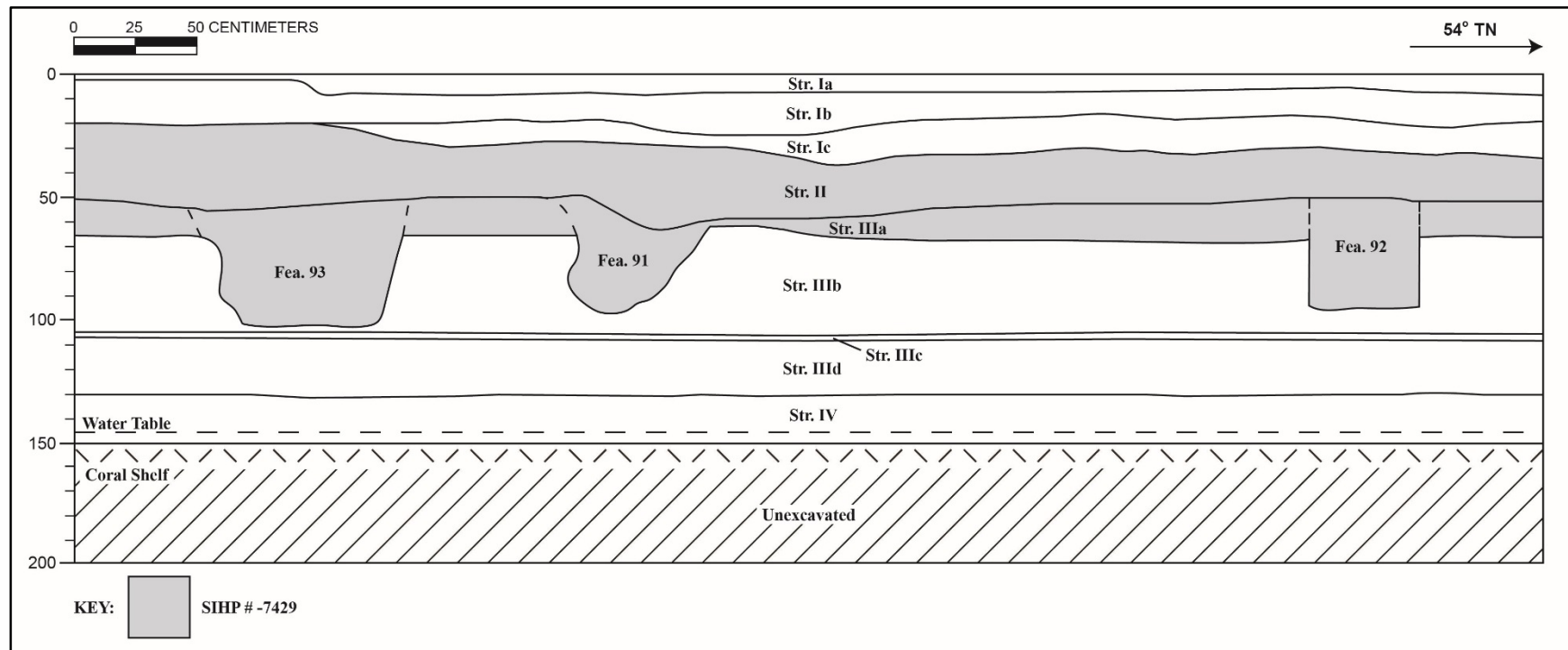


Figure 36. T-8 northwest profile

Table 8. T-8 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–7	Asphalt; road surface
Ib	7–20	Fill; 10YR 3/1, very dark gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for road surface
Ic	20–30	Fill; 10YR 5/3, brown, mottled with 10YR 8/1, white; cobbly loamy sand to clay; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; mixed fill with crushed coral inclusions
II	25–50	Fill; 7.5YR 3/3, dark brown; gravelly silt loam; medium, fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; contains a partial door knob, nails, ceramic and metal fragments (not collected), and faunal bone (pig, cow, chicken); cinder gravel inclusions; mixed fill historic living surface; SIHP # -7429 Component 1
IIIa	50–85	Natural; 10YR 3/2, very dark grayish brown; loamy very fine sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, wavy lower boundary; in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Features 91–93
	44–97	SIHP # -7429 Feature 91; contains metal fragments (Acc. # 14), metal nails (Acc. # 15), a bone button (Acc. # 16), charcoal, marine shell midden, and faunal bone (pig, cow, and medium mammal); indeterminate function
	50–95	SIHP # -7429 Feature 92; contains cow bone and four metal nails (Acc. # 23); indeterminate function
	50–105	SIHP # -7429 Feature 93; contains fire-affected rock, a metal nail (Acc. # 63), whiteware tableware fragments (Acc. #s 18 and 20), a porcelain tableware fragment (Acc. # 19), a slate pencil fragment (Acc. # 21), a glass insulator fragment (Acc. # 22), and faunal bone (cow, pig, chicken); indeterminate function
IIIb	65–104	Natural; 10YR 7/3, very pale brown; very fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; no roots observed; clear, smooth lower boundary; calcareous Jaucas sand
IIIc	104–109	Natural; 10YR 7/3, very pale brown; sand; structureless (massive); indurated; non-plastic; marine origin; clear, smooth lower boundary; indurated Jaucas sand
IIId	109–130	Natural; 10YR 7/3, very pale brown; sandy clay; structureless (single-grain); moist, loose consistence; slightly plastic; marine origin; common fine root stains; clear, smooth lower boundary; Jaucas sand
IV	130–150 (BOE)	Natural; 10Y 6/1, greenish gray; coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; sand and decomposing coral shelf





Figure 37. Historic material observed in Stratum II (SIHP # -7429 Component 1 cultural deposit)

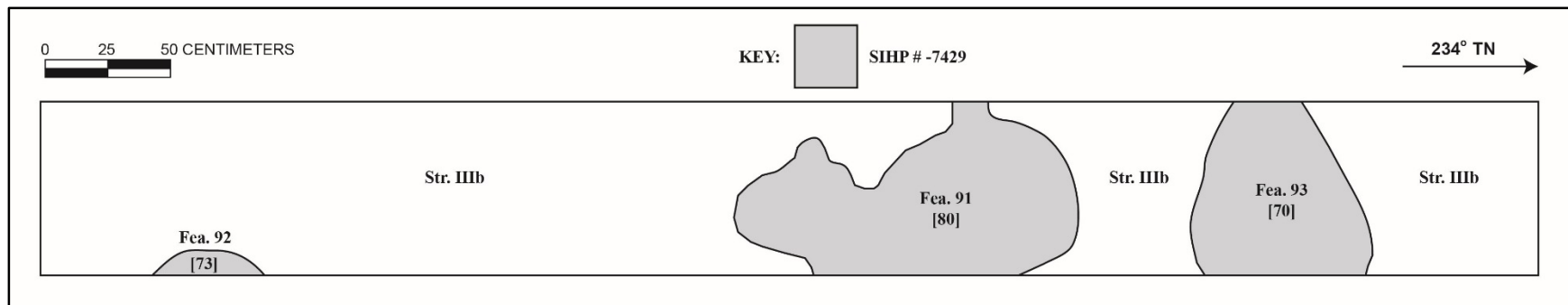


Figure 38. T-8 plan view showing SIHP # -7429 Features 91–93





Figure 39. T-8 northwest sidewall showing SIHP # -7429 Feature 91, view to northwest



Figure 40. T-8 northwest sidewall showing SIHP # -7429 Feature 92, view to northwest





Figure 41. T-8 northwest sidewall showing SIHP # -7429 Feature 93, view to northwest



Figure 42. Historic material observed in SIHP # -7429 Feature 93



### 1.2.9 Test Excavation 9 (T-9)

T-9, an exterior test excavation located in the northern portion of the project area, was oriented northwest-southeast and measured 6.0 m long by 0.7 m wide. The water table was encountered at 1.55 mbs, and the base of excavation was determined by the presence of the decomposing coral shelf at 1.60 mbs.

The stratigraphy of T-9 consists of the asphalt surface (Stratum Ia), associated extremely gravelly silt loam base course (Stratum Ib), and very gravelly sandy loam fill (Stratum Ic), over a gravelly sandy loam fill living surface (Stratum II; SIHP # -7429), over truncated, natural, calcareous Jaucas sand (Stratum IIIa), sandy clay (Stratum IIIb), and saturated, very coarse sand (decomposing coral shelf; Stratum IV) (Figure 43, Figure 44, and Table 9).

The excavation of T-9 documented modern deposits (Strata Ia–Ic), over a historic fill living surface (Stratum II), over natural sands (Strata IIIa, IIIb, and IV). Early twentieth century land reclamation fill material is absent in this area. Stratum II consists of a thick layer of mixed sediment, including non-local alluvial sediment and likely locally procured sandy sediment. As a natural loamy sand A horizon is absent within this test excavation, this material may have been incorporated into Stratum II during grading activities. Stratum II contains historic material including glass fragments, a ceramic insulator, and a copper wire (not collected), as well as an associated pit feature. Based on the presence of light cultural material and an associated feature, Stratum II is believed to represent a buried living surface associated with historic residences in this area. Stratum II is considered a component of SIHP # -7429 (Component 1).

SIHP # -7429 Feature 94 is a rectangular discoloration of soil extending into the southwest sidewall (see Figure 44 and Figure 45 through Figure 47). It measures 45 cm long, 20 cm wide, and 35 cm thick. It originates from the Stratum II layer at 60 cmbs and terminates in Stratum IIIa Jaucas sand at 95 cmbs. The feature matrix is composed of backfilled layers comprised of Strata II and IIIa. Five gallons of feature matrix were screened and yielded metal fragments (Acc. # 24), a glass vial manufactured between 1860–1900 (Acc. # 25), a pre-1920 glass bottle fragment (Acc. # 26), a pre-1910 white earthenware marble (Acc. # 27), whiteware tableware fragments (Acc. # 28), a porcelain tableware fragment (Acc. # 29), and faunal bone, consisting of pig bone cut with a metal saw blade and chicken. The historic artifacts represent domestic material, with manufacture dates ranging from the mid-1800s to the early 1900s. The function of this feature is indeterminate.



Figure 43. T-9 southwest sidewall, view to west

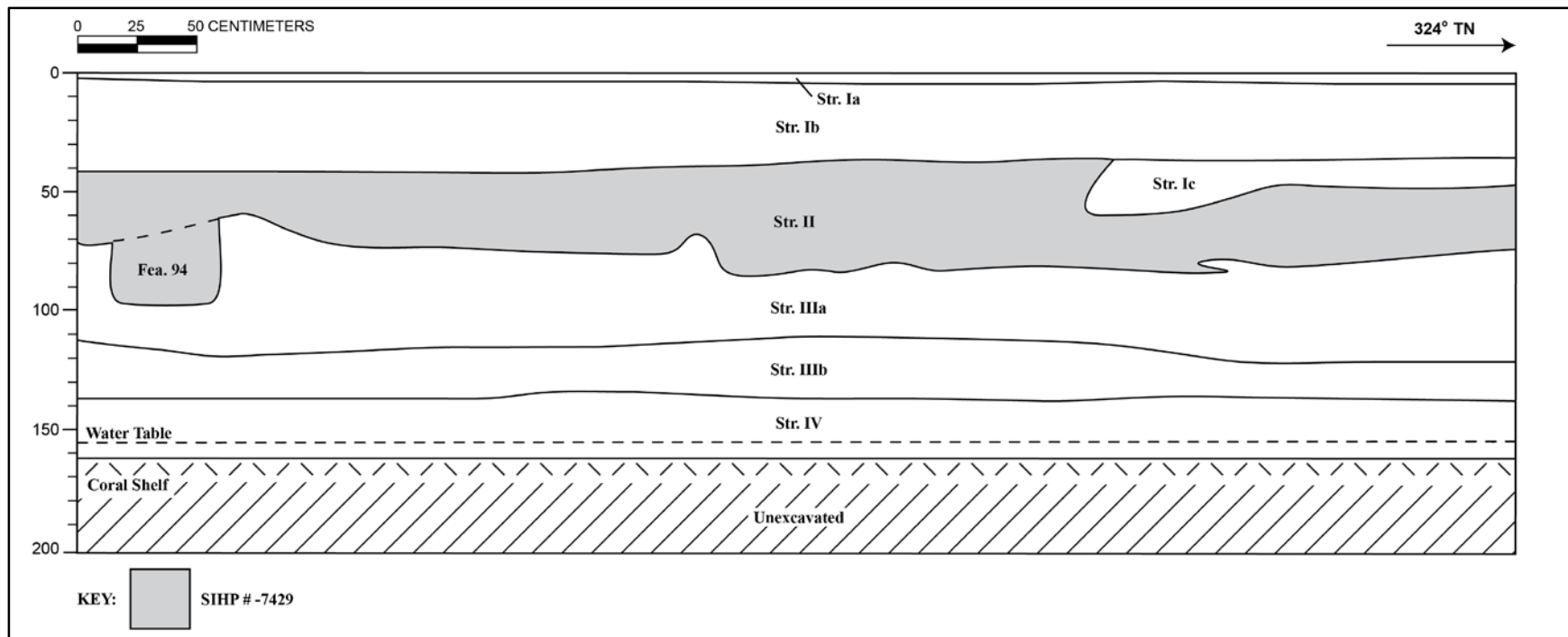


Figure 44. T-9 southwest profile



Table 9. T-9 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–3	Asphalt; road surface
Ib	3–40	Fill; 10YR 8/2, very pale brown; extremely gravelly silt loam; structureless (single-grain); dry, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; imported base course fill for overlying road surface
Ic	34–57	Fill; 10YR 2/1, black; very gravelly, sandy loam; structureless (single-grain); dry, loose consistence; non-plastic; mixed origin; abrupt to clear, smooth, lower boundary; contains fire-affected steel, charcoal, molten glass, rusted metal, wood, and a metal tow hook (not collected); possible open-air burning material; imported fill
II	35–84	Fill; 10YR 4/4, dark yellowish brown; gravelly sandy loam; weak, fine, crumb structure; moist, friable consistence; slightly plastic; very abrupt, smooth lower boundary; few, fine roots observed; contains historic material such as glass fragments, a ceramic insulator, and copper wire (not collected); imported material mixed with locally procured A horizon material; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 94
	60–95	SIHP # -7429 Feature 94; matrix composed of Strata II and IIIa material; contained metal (Acc. # 24), a glass vial (Acc. # 25), a glass bottle fragment (Acc. # 26), a stone marble (Acc. # 27), whiteware tableware fragments (Acc. # 28), a porcelain tableware fragment (Acc. # 29), and faunal bone (pig, chicken); indeterminate function
IIIa	58–128	Natural; 10YR 8/6, yellow; medium sand; structureless (single-grain); dry, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; no roots observed; calcareous Jaucas sand
IIIb	110–135	Natural; 10YR 8/3, very pale brown; sandy clay; structureless (massive); moist, friable consistence; marine origin; clear, smooth lower boundary; no roots observed
IV	135–160	Natural; GLEY 1, 5GY 5/1, light greenish gray; very coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; abrupt, smooth lower boundary; saturated marine sand and decomposing coral shelf
V	160 (BOE)	Natural; coral shelf

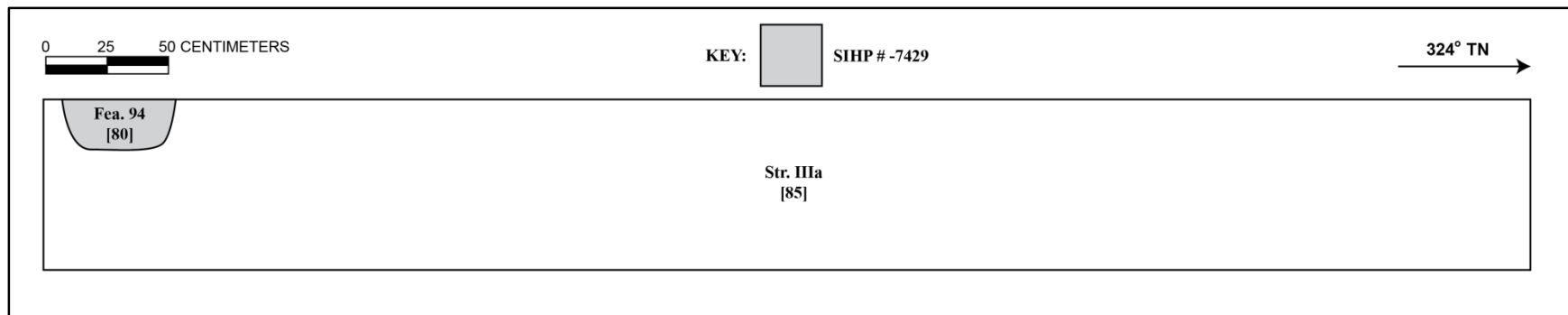


Figure 45. Plan view of T-9 showing SIHP # -7429 Feature 94



Figure 46. SIHP # -7429 Feature 94 in plan view



Figure 47 SIHP # -7429 Feature 94 in the southwest sidewall of T-9, view to southwest



### 1.2.10 Test Excavation 10 (T-10)

T-10, an exterior test excavation located in the northern portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.30 mbs, and the base of excavation was determined by the hard coral shelf at 1.45 mbs.

The stratigraphy of T-10 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and mixed gravelly sand fill (Stratum Ic), over a gravelly sandy loam fill living surface (Stratum II; SIHP # -7429), over locally procured loamy sand fill (Stratum III), over a truncated, natural sandy loam A horizon (Stratum IVa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IVb), over a thin layer of indurated sand (Stratum IVc), sandy clay (IVd), and saturated, coarse sandy clay (Stratum V) (Figure 48 through Figure 52 and Table 10). A utility pipe was present transecting the center of the test excavation at 48 cmbs within Stratum III. A second utility pipe was present in the center of the test excavation extending out of the southeast sidewall only, at 38 cmbs within Stratum II.

Similar to T-8 and T-9, the excavation of T-10 evidenced an absence of early twentieth century land reclamation fill material. Stratum Ic is likely related to modern urbanization and contains modern/historic material such as nails and unidentified metal fragments (not collected). Stratum II consists of a thick layer of mixed sediment, including non-local alluvial sediment, cinder, and locally procured sandy sediment. Stratum II contains charcoal and faunal remains, consisting of a pelagic fish irregular bone fragment, a Polynesian rat long bone fragment, pig (some cut with a metal saw blade), and a cow rib fragment (cut with a metal saw blade). It also contains an associated pit feature. Based on the presence of light cultural material and an associated feature, Stratum II is interpreted as a former living surface associated with historic residences in this area. It is considered a component of SIHP # -7429 (Component 1).

The Stratum II feature, SIHP # -7429 Feature 95, is a circular pit measuring 75 cm long and 20 cm thick (see Figure 51 and Figure 54). It extends into the northwest sidewall and ranges from 45–65 cmbs. Feature 95 was hand excavated; however, no cultural material was observed. The function of Feature 95 is indeterminate.

Stratum II heavily truncates the underlying, in situ A horizon (Stratum IVa). Twenty gallons of A horizon material (which also included some Stratum II material) yielded no cultural material. Three features, however, originated within the A horizon, indicating its use as a living surface. Stratum IVa is designated a component of SIHP # -7429 (Component 2), with the associated features designated SIHP # -7429 Features 96–98.

SIHP # -7429 Feature 96 is an amorphous discoloration of soil within the upper portion of the Stratum IVa A horizon. It measures approximately 115 cm long, 47 cm wide, and 20 cm thick (see Figure 51 and Figure 53 through Figure 56). It extends into the northwest sidewall and northwest end of the test excavation, and it ranges from 47–67 cmbs. In plan view, it consisted of two distinct portions. Feature 96 was hand excavated; it contained charcoal flecks and two small fire-affected rock fragments. The function of Feature 96 is indeterminate.

SIHP # -7429 Feature 97 is an irregularly shaped, light discoloration of soil that measures 47 cm long, 35 cm wide, and 12 cm thick (see Figure 53 and Figure 57). It extends into the

northwest sidewall and ranges from 56–68 cmbs. Feature 97 was hand excavated; no cultural material was noted within the feature. The function of Feature 97 is indeterminate.

SIHP # -7429 Feature 98 is a concentration of disarticulated and heavily fragmented human skeletal remains (n=50–60) that were scattered and found in a disturbed, secondary context at approximately 55 cmbs (see Figure 50 and Figure 52). The disturbance to these remains may be related to the installation of a nearby utility, located about 8 cm above the remains. The Feature 98 skeletal concentration abutted the southeast sidewall and was present in a 140 by 83 cm area. The concentration was pedestalled, with no excavation beneath the remains or into the sidewall; therefore, the extent of this feature is unknown. The primary context of these remains (i.e., whether they belonged to a previously in situ burial located in the area) is unknown.

In consultation with on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources), protective measures for Feature 98 included preservation (non-excavation) of the area in which the remains were located. The observable *iwi kūpuna* were wrapped in muslin, secured in a *lauhala* (pandanus leaf) basket, and placed on the *tī* leaf-lined pedestal by the on-site cultural practitioners. After all cultural protocols were observed, clean sediment was deposited over the basket, followed by a wooden board, and the whole was covered again with clean sediment. The remaining portions of T-10 were then backfilled to the level of the current ground surface.



Figure 48. T-10 northwest sidewall, southwest half, view to northwest





Figure 49. T-10 northwest sidewall, northeast half, view to northwest





Figure 50. T-10 southeast sidewall, view to south; note the pedestal for SIHP # -7429 Feature 98

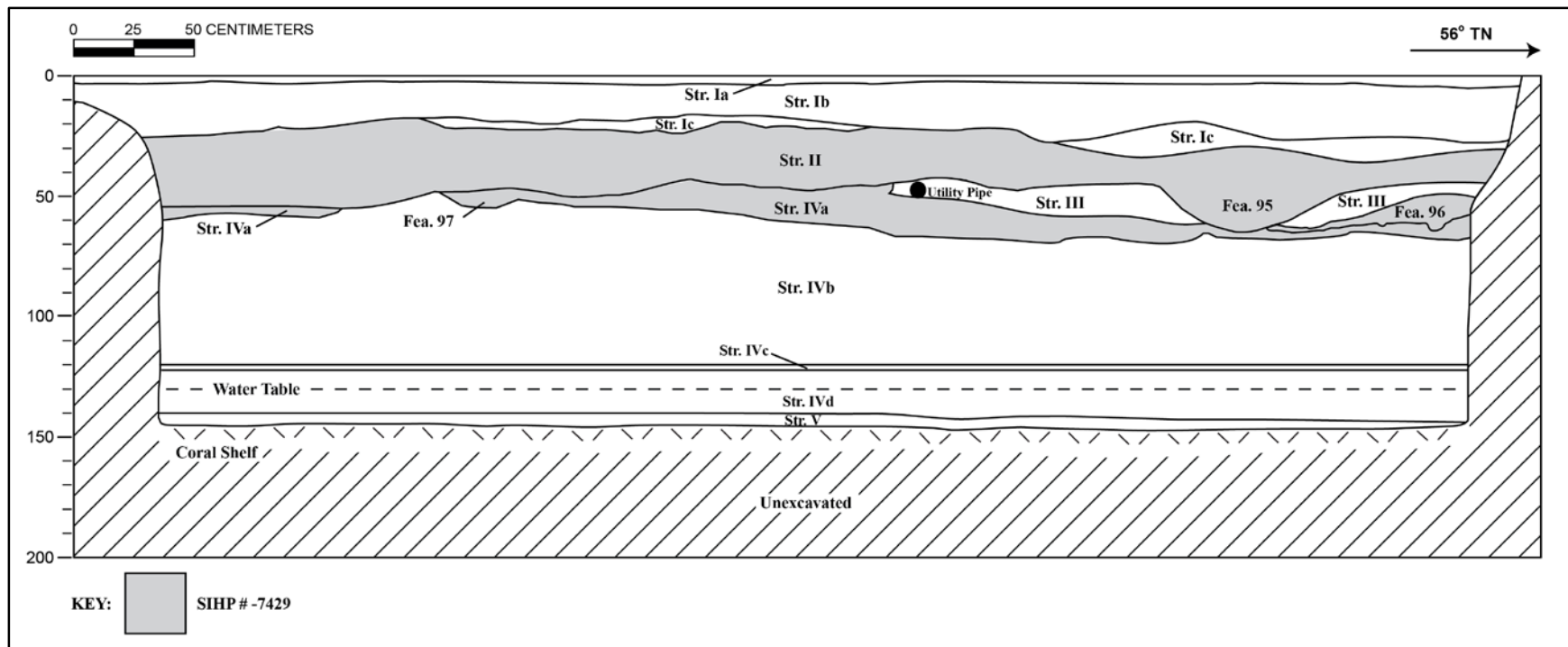


Figure 51. T-10 northwest wall profile

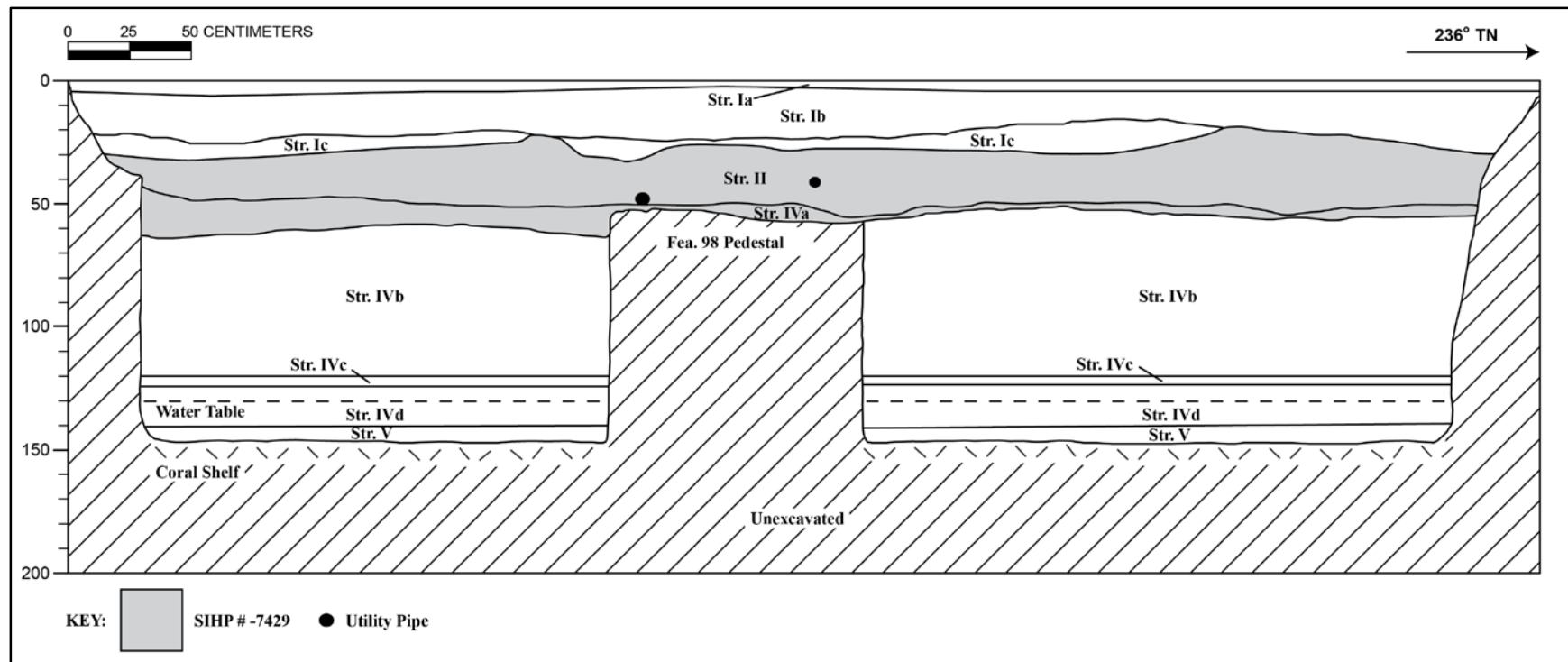


Figure 52. T-10 southeast wall profile



Table 10. T-10 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	4–27	Fill; 5YR 4/2, dark reddish gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose to very friable consistence; non-plastic; terrigenous origin; clear, wavy lower boundary; base course for road surface
Ic	19–36	Fill; 10YR 4/3, brown; gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; contained nails and metal fragments; imported fill
II	17–57	Fill; 2.5Y 3/2, dark grayish brown, with mottles of 2.5Y 4/3, olive brown; gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; mixed origin; clear, wavy lower boundary; contains cinder, asphalt, and small pebble inclusions; contains faunal bone (fish, rat, pig, and cow); fill composed of both locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 95
	45–65	SIHP # -7429 Feature 95; no cultural material observed; indeterminate function
III	47–63	Fill; 10YR 6/3, pale brown; slightly gravelly loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, discontinuous lower boundary; contains charcoal flecks; fill composed of locally procured sediment; present in the northwest sidewall only
IVa	42–68	Natural; 2.5Y 5/3, light olive brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; remnant, in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Features 96–98
	47–67	SIHP # -7429 Feature 96; contains charcoal and two fire-affected rock fragments; indeterminate pit
	56–68	SIHP # -7429 Feature 97; no cultural material observed; indeterminate pit
	55	SIHP # -7429 Feature 98; disarticulated and scattered human skeletal remains in a disturbed context
IVb	49–120	Natural; 10YR 7/6, yellow; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand alternating from fine to medium sand
IVc	120–124	Natural; 10YR 7/3, very pale brown; sand; structureless (massive); moist, firm consistence; non-plastic; marine origin; clear, smooth lower boundary; indurated sand

Stratum	Depth (cmbs)	Description
IVd	124–140	Natural; 10YR 7/3, very pale brown; sandy clay; structureless (massive); moist, friable consistence; non-plastic; marine origin; clear, smooth lower boundary; saturated deposit
V	140–145	Natural; 2.5Y 6/1, gray; coarse sandy clay; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; clear, smooth lower boundary; marine deposit overlying the decomposing coral shelf
VI	145 (BOE)	Natural; decomposing coral shelf

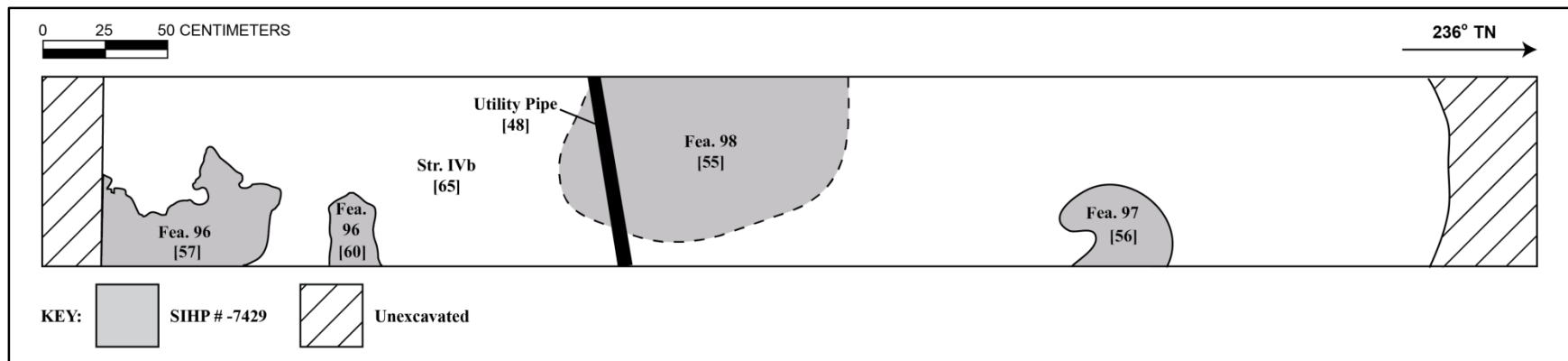


Figure 53. T-10 plan view depicting SIHP # -7429 Features 96–98





Figure 54. SIHP # -7429 Feature 95 within the northwest wall, view to northwest

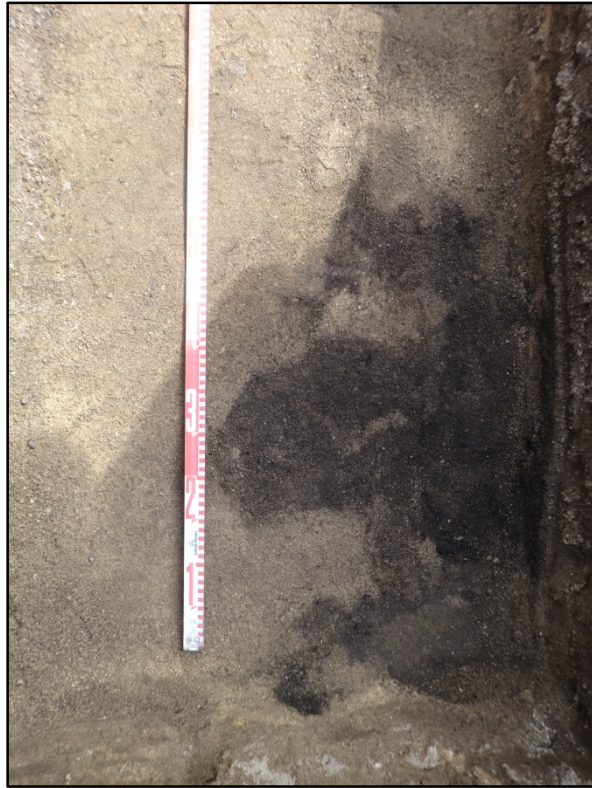


Figure 55. SIHP # -7429 Feature 96 in plan view



Figure 56. SIHP # -7429 Feature 96 within the northwest and northeast sidewalls, view to northwest





Figure 57. SIHP # -7429 Feature 97 in plan view



### 1.2.11 Test Excavation 11 (T-11)

T-11, an exterior test excavation located in the northwest portion of the project area, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.35 mbs, and the base of excavation was determined by the hard coral shelf at 1.38 mbs.

The stratigraphy of T-11 consists of the modern asphalt surface (Stratum Ia) and associated extremely gravelly loam base course (Stratum Ib), over a buried asphalt surface (Stratum IIa; SIHP # -7686) and gravelly sandy loam base course/grading fill (Stratum IIb; SIHP # -7686), over a Kaka'ako reclamation fill deposit consisting of hydraulic (dredged) sand and clay (Stratum III), overlying a sandy clay loam wetland A horizon with an upper O horizon (Stratum IV; SIHP # -7429), and natural marine sand (Stratum V) (Figure 58, Figure 59, and Table 11). A large concrete storm drain was encountered running diagonally through the southeast (Diamond Head) end of T-11 at approximately 45 cmbs within the upper boundary of Stratum III. This concrete storm drain aligns with a concrete storm drain within T-17 and T-19 and is likely the same utility. The presence of the utility line prevented excavation of the southeast end of T-11 below the level of the pipe.

The excavation of T-11 documented modern deposits (Strata Ia–Ib), over a buried asphalt surface (Stratum IIa) and associated base course/grading fill (Stratum IIb), over an early twentieth century land reclamation fill deposit (Stratum III), over an in situ, wetland A horizon (Stratum IV), over marine sand (Stratum V). The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2).

The Stratum IV wetland A horizon contains an upper boundary of decomposing organics (peat/humus) and small, non-diagnostic glass, ceramic, and wood fragments (not collected). These artifacts evidence cultural enrichment of this former land surface, likely in association with the historic residences located immediately *mauka* of T-11. Stratum IV is considered a component of SIHP # -7429 (Component 2).



Figure 58. T-11 northeast sidewall, view southeast

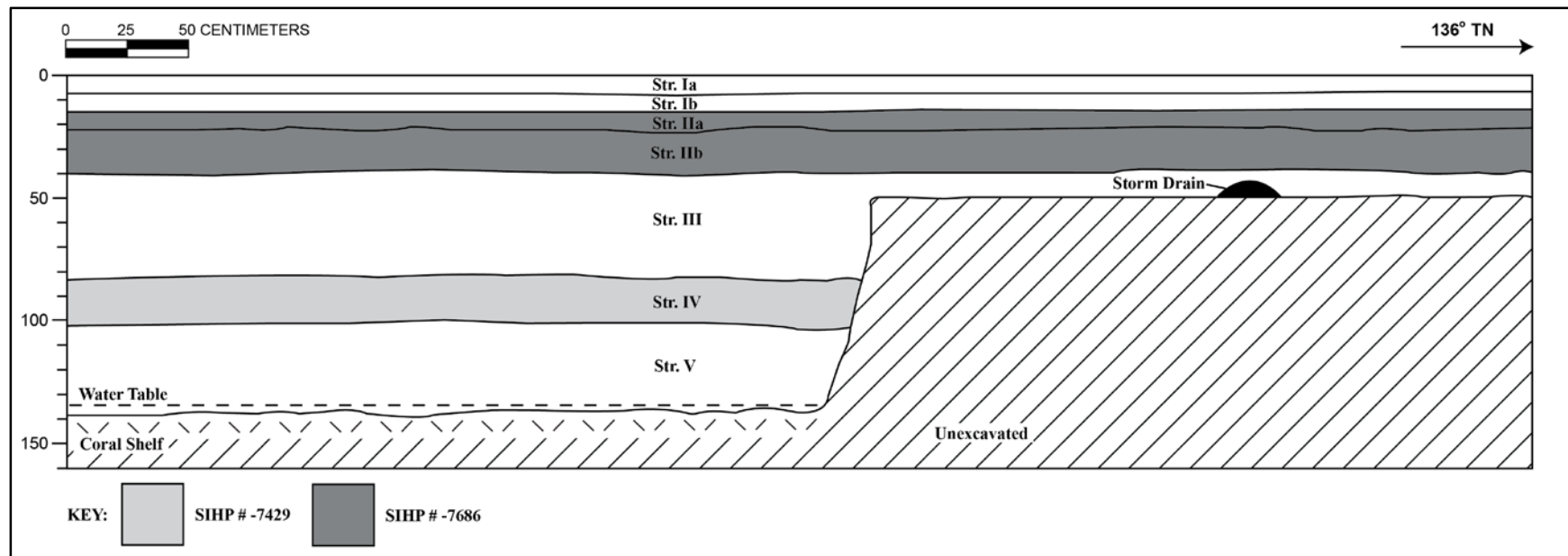


Figure 59. T-11 northeast profile



Table 11. T-11 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–8	Asphalt; road surface
Ib	8–15	Fill; 7.5YR 3/3, dark brown; extremely gravelly loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; base course for road surface
IIa	15–23	Asphalt; buried road surface; SIHP # -7686
IIb	23–40	Fill; 10YR 4/2, dark grayish brown; gravelly sandy loam; weak, fine to course, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; one metal fragment observed (not collected); base course/grading fill associated with SIHP # -7686 asphalt surface
III	40–83	Fill; 10YR 7/3, very pale brown mottled with GLEY 1, N 6/, gray; gravelly sand to clay; structureless (massive); moist, very friable to friable consistence; slightly plastic; marine origin; very abrupt, smooth lower boundary; contains a large, in-use storm drain; hydraulic (dredged) material grading from fine sand to clay with some crushed coral gravel inclusions; related to early twentieth century land reclamation
IV	80–103	Natural; GLEY 1, 5GY 4/1, dark greenish gray; sandy clay loam; structureless (massive); moist, firm consistence; plastic; marine origin; clear, smooth lower boundary; few fine roots; contains small fragments of glass, ceramic, and wood (not collected); wetland O horizon with decomposing organics (peat/humus); SIHP # -7429
V	100–138	Natural; GLEY 1, 10Y 6/1, greenish gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; saturated marine sand
VI	138 (BOE)	Natural; decomposing coral shelf

### 1.2.12 Test Excavation 12 (T-12)

T-12, an exterior test excavation located in the northern portion of the project area, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.35 mbs, and the base of excavation was determined by the hard coral shelf at 1.45 mbs.

The stratigraphy of T-12 consists of the asphalt surface (Stratum Ia), associated extremely gravelly silt loam base course (Stratum Ib), very gravelly sand fill (Stratum Ic), and gravelly clay loam fill (Stratum Id), over heavily mixed, gravelly sandy clay loam fill (Stratum II; SIHP # -7429), a truncated, natural sandy clay wetland deposit (Stratum III), and saturated marine clay sand and sand deposits (Strata IVa and IVb) (Figure 60, Figure 61, and Table 12). A utility trench extended from the base of Stratum II at approximately 90 cmbs to the coral shelf at 145 cmbs within the southeast half of the test excavation. At the northwest end of T-12, Stratum II dipped to the coral shelf at 145 cmbs, possibly representing another utility trench or pit located mostly outside the boundary of T-12. A utility pipe (not within a utility trench) was also located at the base of Stratum II from approximately 87–92 cmbs in the southeast half of the test excavation.

The excavation of T-12 documented modern deposits (Strata Ia–Id), overlying a mixed fill deposit interpreted as a historic living surface (Stratum II), overlying natural sandy wetland and marine deposits (Strata III, IVa, and IVb). Similar to T-8, T-9, and T-10, early twentieth century land reclamation fill deposits were not observed within T-12. Instead, Stratum II was observed directly overlying the natural sediment in this area. Stratum II consists largely of non-local sediment, although it may have a component of locally procured sand material. It contains an appreciable amount of historic residential-type material. Twenty gallons of material were screened from Stratum II from 30–70 cmbs and yielded metal fragments, metal pipes (not collected), a porcelain cup fragment (Acc. # 30), a glass bottle (Acc. # 31), a whiteware flatware fragment (Acc. # 32), a 1902 Arctic Soda Works bottle (Acc. # 33), two whiteware hollowware fragments (Acc. #s 34 and 42), a brick fragment (Acc. # 35), a glass liquor bottle (Acc. # 37), a 1967 glass beer bottle (Acc. # 38), two glass bottle fragments (Acc. #s 39 and 40), a glass bottle (Acc. # 41), and burnt faunal bone. The faunal bone includes cow bone cut with a metal saw blade, dog, and a large pelagic fish vertebra. A bone toothbrush (Acc. # 36) manufactured between 1884–1920 was also collected from 80 cmbs at the interface of Strata II and III. One feature originated from Stratum II, indicating use as a living surface for a period of time. Stratum II is designated as a component of SIHP # -7429 (Component 1).

SIHP # -7429 Feature 99 is a semi-articulated dog skeleton, documented near the lower boundary of Stratum II, from 66–77 cmbs (see Figure 61). The feature measured 55 cm long, 32 cm wide, and 11 cm thick. Ceramic fragments were observed underneath the dog remains. This feature is a dog burial.

The Stratum III wetland sediment consists of gray sandy clay containing wetland snails and marine shell fragments. A 4-liter bulk sediment sample of Stratum III was collected from the test excavation floor between 84–100 cmbs and saved as a databank sediment sample.



Figure 60. T-12 southwest sidewall, view to west



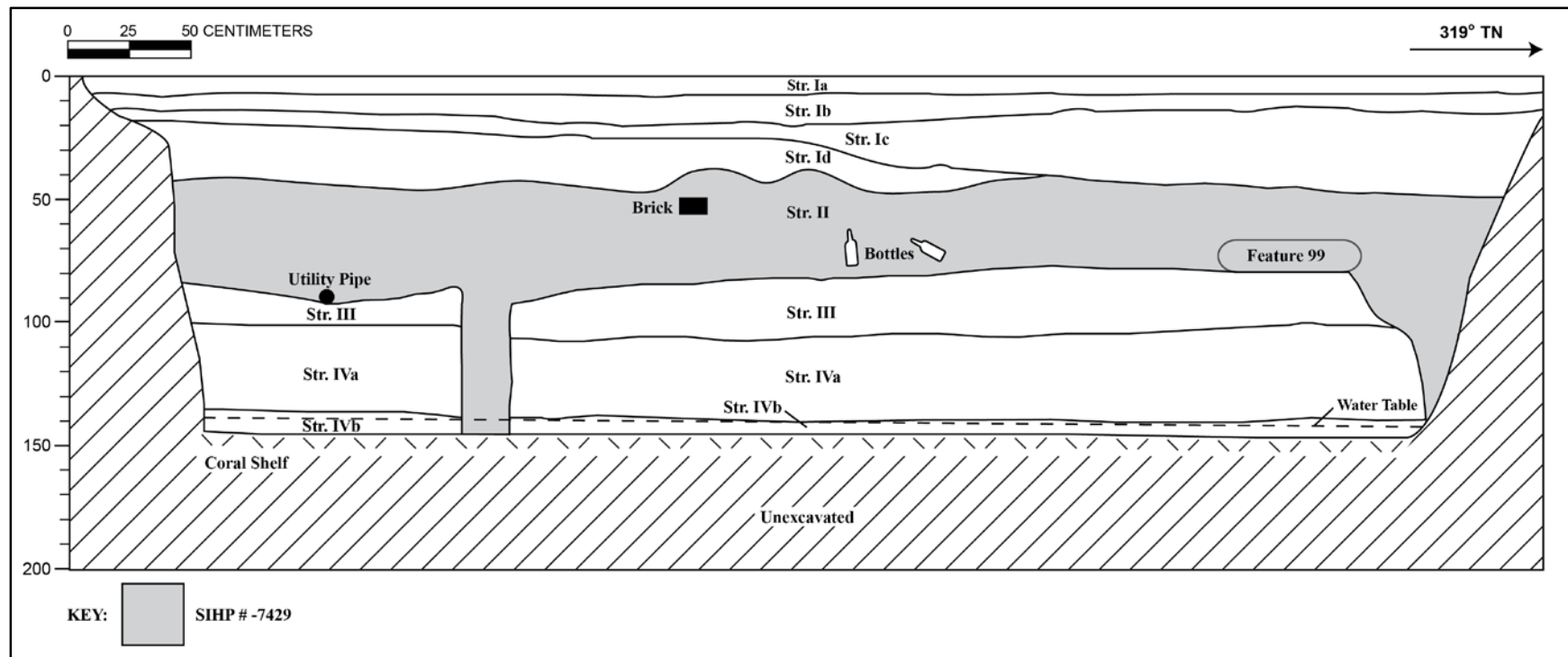


Figure 61. T-12 southwest wall profile

Table 12. T-12 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–7	Asphalt; road surface
Ib	7–20	Fill; 7.5YR 3/3, dark brown; extremely gravelly silt loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, wavy lower boundary; imported base course fill
Ic	15–50	Fill; 10YR 5/3, brown; very gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, wavy lower boundary; imported fill mainly composed of crushed coral cobble fill
Id	17–48	Fill; 5YR 3/2, dark reddish brown; gravelly clay loam; moist, friable consistence; slightly plastic; mixed origin; many, medium roots; clear, wavy lower boundary; mixed fill with coral and basalt pebble and cobble inclusions
II	41–145	Fill; 10YR 3/1, very dark gray; gravelly sandy clay loam; weak, fine, crumb structure; moist, very friable consistence; slightly plastic; mixed origin; many, medium roots; contains burnt faunal bone (cow, dog, fish); metal (not collected), metal pipes (not collected), a porcelain cup fragment (Acc. # 30), a glass bottle (Acc. # 31), a whiteware flatware fragment (Acc. # 32), an Arctic Soda Works bottle (Acc. # 33), two whiteware hollowware fragments (Acc. #s 34 and 42), a brick fragment (Acc. # 35), a glass liquor bottle (Acc. # 37), a glass beer bottle (Acc. # 38), two glass bottle fragments (Acc. #s 39 and 40), a glass bottle (Acc. # 41), and a bone toothbrush (Acc. # 36); mixed fill deposit utilized as a living surface; SIHP # -7429 Component 1; contains Feature 99
	66–77	SIHP # -7429 Feature 99; semi-articulated dog burial; ceramic fragments noted in pit fill (not collected)
III	77–108	Natural; 10YR 5/1, gray; sandy clay; structureless (massive); moist, very friable consistence; plastic; mixed origin; clear, smooth, broken lower boundary; many, medium to coarse roots; contains snails and shells; wetland deposit
IVa	100–139	Natural; 10YR 8/3, very pale brown; clayey medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; many, fine roots; saturated sand deposit
IVb	135–145	Natural; 5GY 7/1, light greenish gray; sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine sand
V	145 (BOE)	Natural; coral shelf

### 1.2.13 Test Excavation 13 (T-13)

T-13, an exterior test excavation located in the northern portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.55 mbs, and the base of excavation was determined by the hard coral shelf at 1.6 mbs.

The stratigraphy of T-13 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), mixed sandy loam and gravelly silt loam fill (Stratum Ic), and gravelly loamy sand fill (Stratum Id), over a gravelly sandy loam fill living surface (Stratum II; SIHP # -7429), over a natural, loamy sand A horizon (Stratum IIIa) that developed within natural, calcareous Jaucas sand (Stratum IIIb; SIHP # -7429), over a thin layer of indurated sand (Stratum IIIc), sandy clay (Stratum IIId), and saturated, gravelly clay sand (Stratum IV) (Figure 62 through Figure 65 and Table 13).

The excavation of T-13 documented modern deposits (Strata Ia and Ib), over heavily mixed fill sediments (Strata Ic and Id), over a historic fill living surface (Stratum II), over a disturbed and truncated, in situ A horizon (Stratum IIIa), over natural sand deposits (Strata IIIb–IIId and IV). Early twentieth century land reclamation fill material was absent. Stratum II consists of a layer of mixed sediment, including non-local alluvial sediment and locally procured sandy sediment, including A horizon material. Stratum II truncates, and in some places has completely removed, the underlying natural A horizon (Stratum IIIa). It contains five associated pit features. Based on the presence of associated features, Stratum II served as a former living surface for a period of time, likely in association with historic residences in this area. Stratum II is considered a component of SIHP # -7429 (Component 1), with the associated features designated SIHP # -7429 Features 100–104.

SIHP # -7429 Feature 100 consists of two sub-features, 100a and 100b (see Figure 64 and Figure 66). Feature 100b extends downward from the middle of the base of Feature 100a. The shape of Feature 100b suggests it may be a post mold. Feature 100a could represent a subsequent attempt to shore up the original post. Feature 100 measures approximately 18 cm long, 12 cm wide, and 36 cm thick. It extends into the northwest test excavation sidewall and ranges from 60–96 cmbs. It originates within Stratum II and terminates in Stratum IIIb. Cultural material within the feature includes two metal nails with attached wood fragments (Acc. # 43).

SIHP # -7429 Feature 101 is a circular discoloration of sediment that measures approximately 12 cm in diameter and 17 cm thick. It originates within Stratum II and ranges from 75–92 cmbs (see Figure 64 and Figure 67). It was observed within the test excavation floor, although it extends slightly into the northwest sidewall. No cultural material was noted within the feature during excavation. Based on morphology, Feature 101 is likely a post mold.

SIHP # -7429 Feature 102 is a backfilled pit that measures approximately 87 cm long and 36 cm thick (see Figure 63, Figure 65, and Figure 68). It originates within Stratum II, extends into the southeast test excavation sidewall, and ranges from 41–77 cmbs. The base of the feature was lined with burnt trash. Several items were collected from the feature and include a ceramic doorknob (Acc. # 44), glass bottle fragments (Acc. #s 45 and 51), a pressed glass chandelier/lamp prism (Acc. # 46), pressed glass possible candlestick/lamp fragments (Acc. # 47), glass bottle/jar fragments manufactured between 1919–1929 (Acc. # 48), a ceramic toilet





Figure 62. T-13 northwest sidewall, view to west





Figure 63. T-13 southeast wall, view to south; note SIHP # -7429 Feature 102 in the center

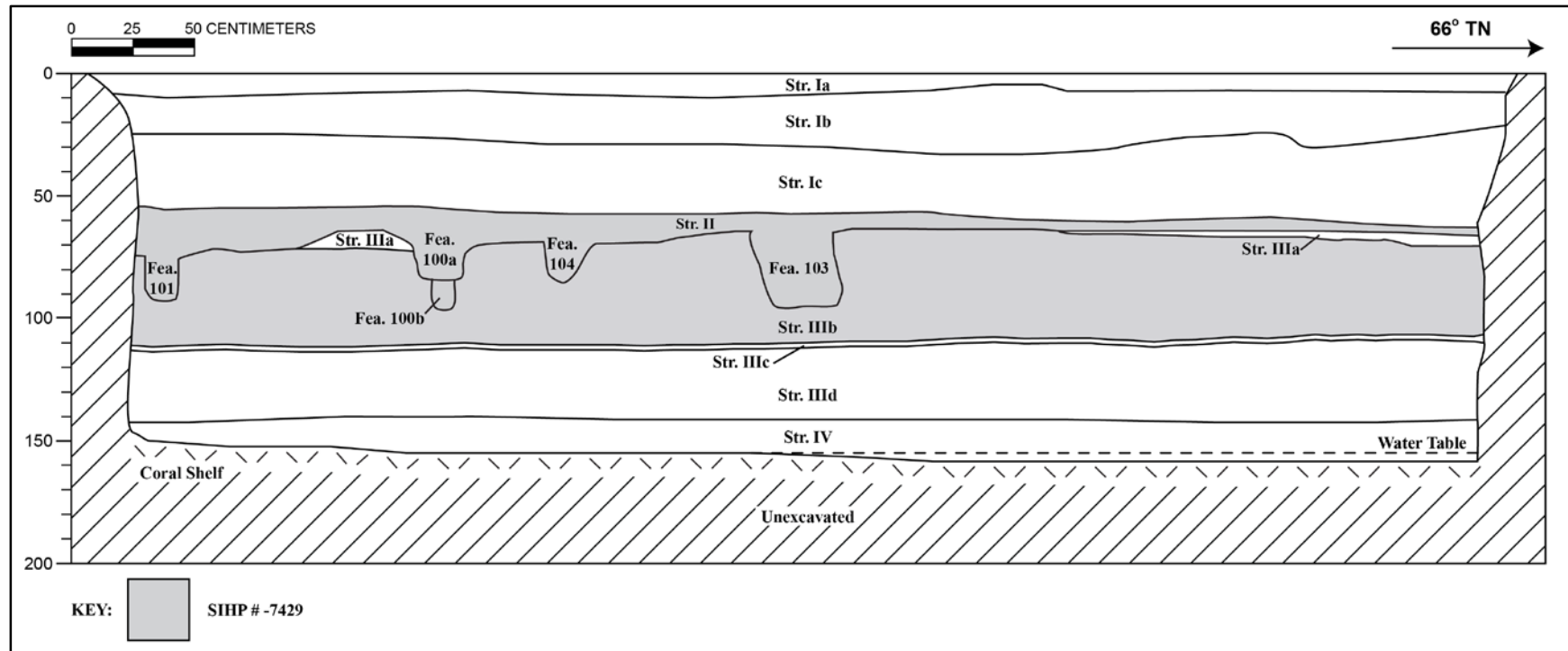


Figure 64. T-13 northwest profile



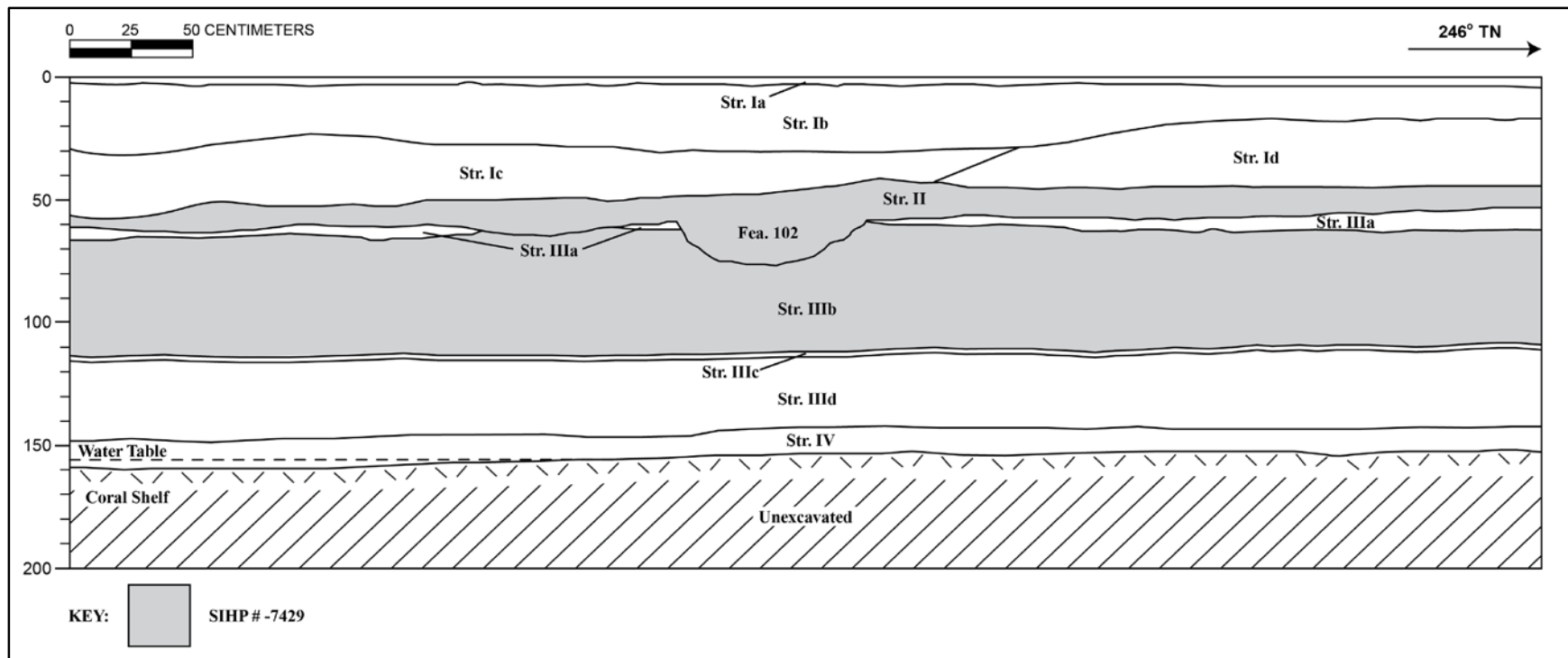


Figure 65. T-13 southeast profile

Table 13. T-13 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–4	Asphalt; road surface
Ib	4–31	Fill; 5YR 5/3, reddish brown, mottled with 5YR 4/1, dark gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for road surface
Ic	24–63	Fill; 2.5Y 3/2, very dark grayish brown, mottled with 10YR 4/2, dark grayish brown, and 5YR 2.5/1, black; sandy loam mottled with gravelly silt loam; weak, fine to medium, granular structure; moist, loose consistence; non-plastic; mixed origin; clear to diffuse, wavy lower boundary; heavily mixed fill
Id	17–49	Fill; 10YR 4/3, brown, mottled with 10YR 3/2, very dark grayish brown, and 10YR 6/4, light yellowish brown; gravelly loamy sand; weak, fine to medium, granular structure; moist, loose consistence; non-plastic; mixed origin; poorly sorted; clear, smooth lower boundary; present in a portion of the southeast wall only; heavily mixed fill
II	45–70	Fill; 2.5Y 3/1, very dark gray, mottled with 10YR 5/2, grayish brown; gravelly, fine sandy loam to loamy sand; weak, fine, crumb structure; moist, loose consistence; slightly plastic; mixed origin; clear, smooth lower boundary; contains some faunal material and marine shell ( <i>Isognomon</i> sp.) (not collected); locally procured A horizon material mixed with imported fill including crushed coral; SIHP # -7429 Component 1; contains Features 100–104
	60–96	SIHP # -7429 Feature 100; composed of subfeature 100a, possible shoring-up attempt, and subfeature 100b, possible post mold; contained two metal nails with wood fragments (Acc. # 43)
	75–92	SIHP # -7429 Feature 101; post mold
	41–77	SIHP # -7429 Feature 102; historic trash pit; contained a ceramic doorknob (Acc. # 44), glass bottle fragments (Acc. #s 45 and 51), a glass chandelier decoration (Acc. # 46), pressed glass possible candlestick/lamp fragments (Acc. # 47), glass bottle/jar fragments (Acc. # 48), a ceramic toilet fragment (Acc. # 49), a copper battery component (Acc. # 50), a glass medicine bottle (Acc. # 52), and a pressed glass pedestal, possibly part of a lamp or candlestick holder (Acc. # 53)
	62–95	SIHP # -7429 Feature 103; contained a bone button (Acc. # 54), a porcelain flatware fragment (Acc. # 55), four metal nails (Acc. # 56), marine shell ( <i>Isognomon californicum</i> ), and faunal remains (dog); indeterminate function
	69–86	SIHP # -7429 Feature 104; contained a plastic button (Acc. # 57), a rusted nail (Acc. # 58), and small cobbles

Stratum	Depth (cmbs)	Description
IIIa	54–67	Natural; 10YR 4/3, brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, broken/discontinuous lower boundary; few fine roots; truncated A horizon
IIIb	56–110	Natural; 10YR 6/6, brownish yellow; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand; SIHP # -7429 Component 2; contains SIHP # -7429 Feature 105
	89–119	SIHP # -7429 Feature 105; possible post mold
IIIc	107–116	Natural; 2.5Y 7/4, pale brown; structureless (massive); indurated; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand
IIId	115–151	Natural; 2.5Y 7/4, pale brown; sandy clay; structureless (massive); moist, friable consistence; slightly plastic; marine origin; few fine roots; clear, smooth lower boundary; contains very tiny brackish water snails ( <i>T. granifera</i> )
IV	141–160	Natural; 2.5Y 6/2, light brownish gray; gravelly clayey coarse sand; structureless (single-grain); wet, slightly sticky consistence; weak cementation; non-plastic; marine origin; abrupt, smooth lower boundary; contains marine shell; saturated marine deposit
V	160 (BOE)	Natural; coral shelf





Figure 66. SIHP # -7429 Feature 100 within the northwest sidewall, view to northwest



Figure 67. SIHP # -7429 Feature 101 in the southwest (*makai*) end of T-13



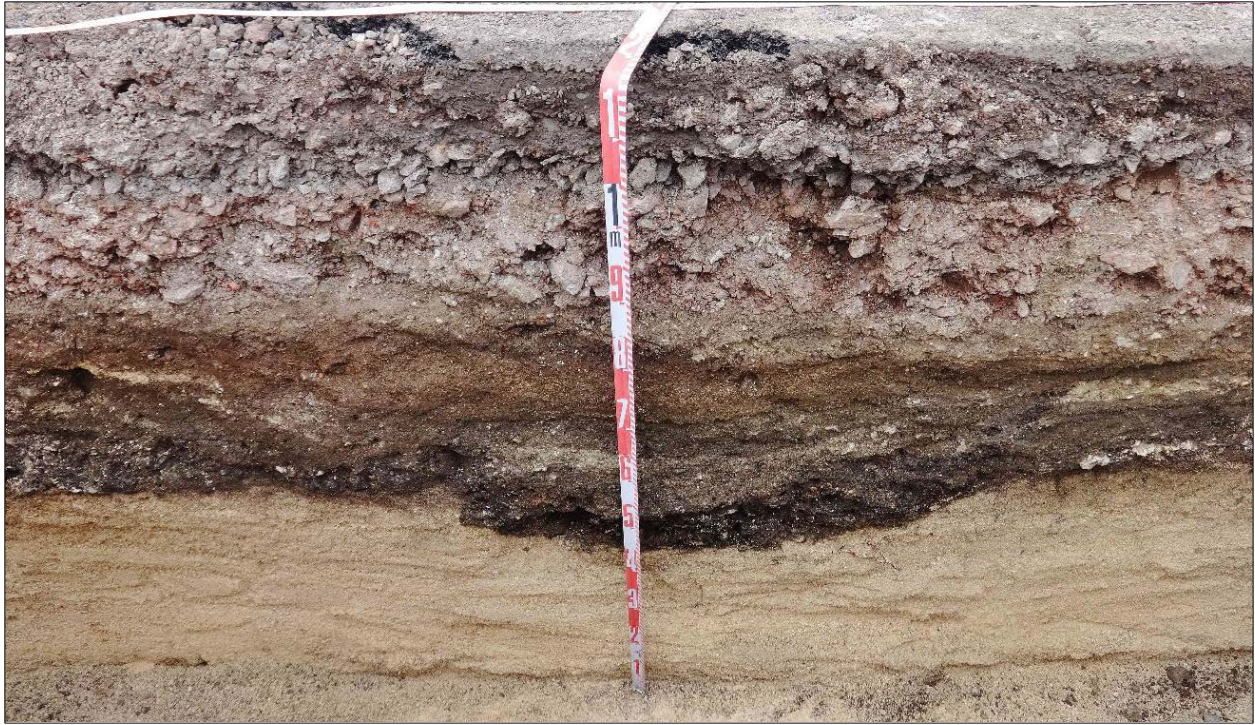


Figure 68. SIHP # -7429 Feature 102 within the southeast sidewall, view to southeast

fragment (Acc. # 49), a post-1880 copper battery component (Acc. # 50), a glass medicine bottle manufactured between 1872–1893 (Acc. # 52), and a pressed glass pedestal, possibly part of a lamp or candlestick holder (Acc. # 53). These historic artifacts represent mid-nineteenth to early twentieth century residential items. Based on the manufacture dates of Acc. # 48, Feature 102 post-dates 1919. Feature 102 appears to be a historic trash pit.

SIHP # -7429 Feature 103 is a pit of extremely gravelly sediment that measures approximately 35 cm wide and 33 cm thick (see Figure 64 and Figure 69). It extends into the northwest test excavation sidewall, and it ranges from 62–95 cmbs. Cultural material within the pit consists of a pre-1935 bone button (Acc. # 54), a porcelain flatware fragment (Acc. # 55), four metal nails (Acc. # 56), a small amount of marine shell (*Isognomon californicum*), and faunal remains (dog). The function of Feature 103 is indeterminate.

SIHP # -7429 Feature 104 is a pit of sandy loam sediment that measures approximately 23 cm wide and 17 cm thick (see Figure 64 and Figure 70). It was observed in the northwest sidewall, extending from 69–86 cmbs, from Stratum II into Stratum IIIb. Cultural material observed consists of a plastic (bakelite) button manufactured between 1907–1935 (Acc. # 57), a rusted round-head nail (Acc. # 58), and small bluestone cobbles at the base of the pit. The function of Feature 104 is indeterminate.

Underlying Stratum II is the natural, sandy loam A horizon (Stratum IIIa). No cultural material was observed within Stratum IIIa; however, Stratum IIIa shows heavy disturbance via grading activities and has been largely removed. One pit feature, SIHP # -7429 Feature 105, was documented within the underlying natural Jaucas sand (Stratum IIIb) during careful shovel scraping of the test excavation floor. Feature 105 was first observed at 89 cmbs, approximately 20 cm below the upper boundary of Stratum IIIb, as a circular discoloration of sediment measuring 34 cm in diameter (Figure 71). The feature matrix consisted of loamy sand. It extended to 119 cmbs, terminating within Stratum IIIc. A few possibly fire-altered gravels were noted at the base of the pit. Feature 105 may be a large post mold. Based on the presence of this feature, Stratum IIIb is considered a component of SIHP # -7429 (Component 2).

Butchered cow bone was also recovered from the Strata Ib–Id spoils pile.





Figure 69. SIHP # -7429 Feature 103 within the northwest sidewall, view to northwest



Figure 70. SIHP # -7429 Feature 104 within the northwest sidewall, view to northwest





Figure 71. SIHP # -7429 Feature 105, post-excavation, within the northeast (*mauka*) end of T-13

### 1.2.14 Test Excavation 14 (T-14)

T-14, an exterior test excavation located in the northern portion of the project area, was oriented northwest-southeast and measured 6.0 m long by 0.8 m wide. The water table was encountered at 1.29 mbs and determined the base of excavation at 1.32 mbs. No photographic documentation of T-14 was performed due to the exposed presence of numerous burials and isolated human skeletal remains throughout the test excavation. Additionally, slumping of the sidewalls hindered views of the trench stratigraphy.

The stratigraphy of T-14 consists of the asphalt surface (Stratum Ia), associated gravel base course (Stratum Ib), and very gravelly sandy loam fill (Stratum Ic), over a reworked/redeposited loamy sand A horizon (Stratum II), over natural, calcareous Jaucas sand (Stratum IIIa; SIHP # -7429), sandy clay (Stratum IIIb), and saturated sand (Stratum IIIc) (Figure 72 and Table 14).

The excavation of T-14 documented modern deposits (Strata Ia–Ic), over a mix of redeposited A horizon and sand material (Stratum II), over natural sand layers (Strata IIIa–IIIc). Early twentieth century land reclamation fill material was absent. Stratum II consists of disturbed, loamy sand A horizon sediment mixed with Jaucas sand. No cultural material was observed within Stratum II. The Jaucas sand layer (Stratum IIIa) contains crustacean remains and abundant Polynesian rat bone. Stratum IIIa also contains in situ human burials. Stratum IIIa is considered a component of SIHP # -7429 (Component 2).

A total of six human burials—including four traditional-type burials, one historic coffin burial, and one set of scattered and disarticulated remains that likely originated from a historic coffin burial—were documented within T-14 (Figure 73). All six burials are located within Jaucas sand (Stratum IIIa), with no burial pits visible. The coffin burials are both located at the northwest end of the test excavation, while the traditional-type burials are located in the center and southeast end of T-14. These burials are part of a larger burial ground documented during the Block N East AIS. This burial ground was first identified within T-14; subsequently, seven additional test excavations were added to the AIS in order to define the boundaries of this burial ground (T-14A through T-14G). The presence of both traditional-type and historic coffin burials suggests continued use of this area as a burial ground. Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). All six burials were only minimally uncovered, and they were all preserved in place. The uncovered portions of each burial were re-covered with sand. At the end of the documentation of T-14, the entire test excavation was covered with plywood, prior to repaving with asphalt, as added protection for the burials.

SIHP # -7429 Feature 106 is a traditional-type burial located at the southeast end of T-14 from approximately 57–61 cmbs. The burial is in a flexed position, lying on its right side with the head to the northwest. Only the upper half of the burial was partly uncovered; the lower half of the burial extends into the southwest sidewall. The burial is an adolescent, aged approximately 10–15 years at time of death. The sex of the burial is indeterminate, due to its young age. The ancestry of the burial is considered Native Hawaiian based on burial style and context.

SIHP # -7429 Feature 107 is a traditional-type burial located near the center of T-14 at 66 cmbs. The burial is believed to be in a flexed position (although only the cranium was



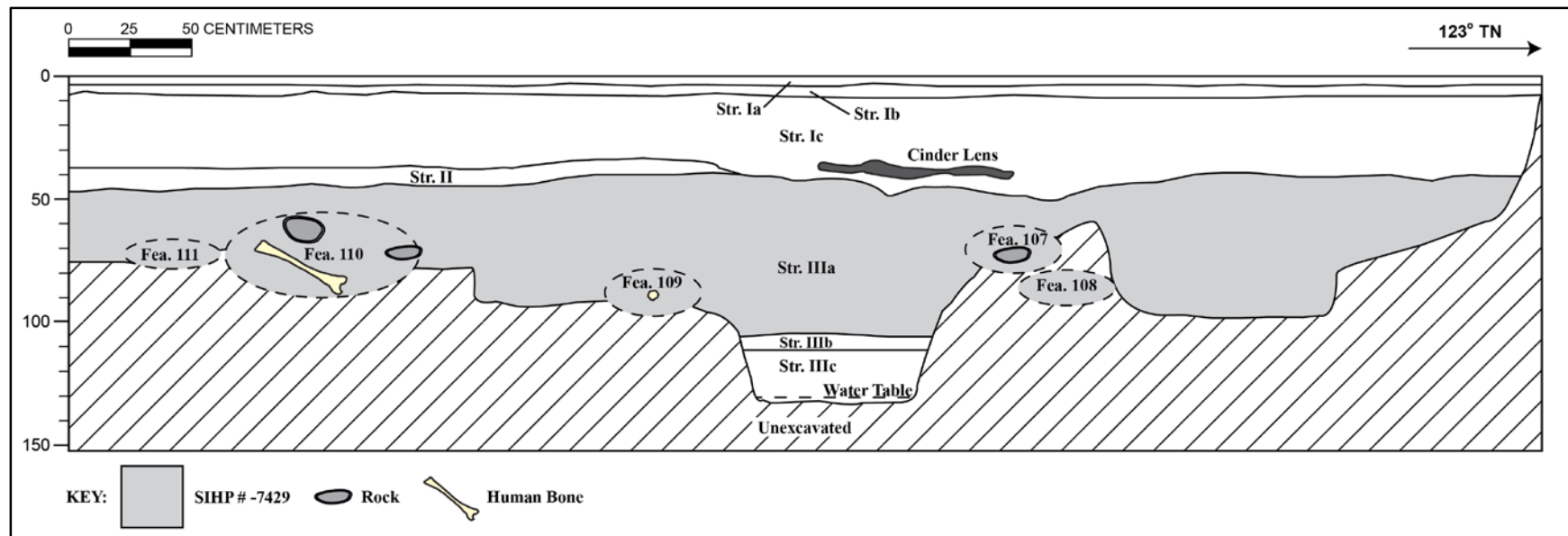


Figure 72. T-14 northeast profile

Table 14. T-14 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–3	Asphalt; road surface
Ib	3–7	Fill; 5YR 5/3, reddish brown; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; base course for road surface
Ic	7–50	Fill; 10YR 3/3, dark brown; very gravelly sandy loam; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; contains a small cinder lens near the lower boundary; contains faunal remains (cow)
II	32–46	Natural; 10YR 5/3, brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, irregular lower boundary; disturbed, intermixed A horizon loamy sand and Jaucas sand
IIIa	40–105	Natural; 10YR 7/4, very pale brown; fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; contains crustacean remains and abundant Polynesian rat bones; Jaucas sand; SIHP # -7429 Component 2; contains Features 106–111
	57	SIHP # -7429 Feature 106; traditional-type burial, adolescent, indeterminate sex, Native Hawaiian
	66	SIHP # -7429 Feature 107; traditional-type burial, adult, male, likely Native Hawaiian
	80	SIHP # -7429 Feature 108; likely traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
	83	SIHP # -7429 Feature 109; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
	68	SIHP # -7429 Feature 110; historic coffin burial, adult, unknown sex and ancestry
	62–74	SIHP # -7429 Feature 111; disarticulated and scattered skeletal remains likely from a disturbed historic coffin burial, adult, unknown sex and ancestry
IIIb	105–110	Natural; 2.5Y 8/2, pale yellow; sandy clay; moderate, very fine, blocky structure; moist, firm consistence; plastic; marine origin; clear, smooth lower boundary; contains a large <i>Tellina palatam</i> shell
IIIc	110–132 (BOE)	Natural; 2.5Y 8/3, pale yellow; sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; lower boundary not observed

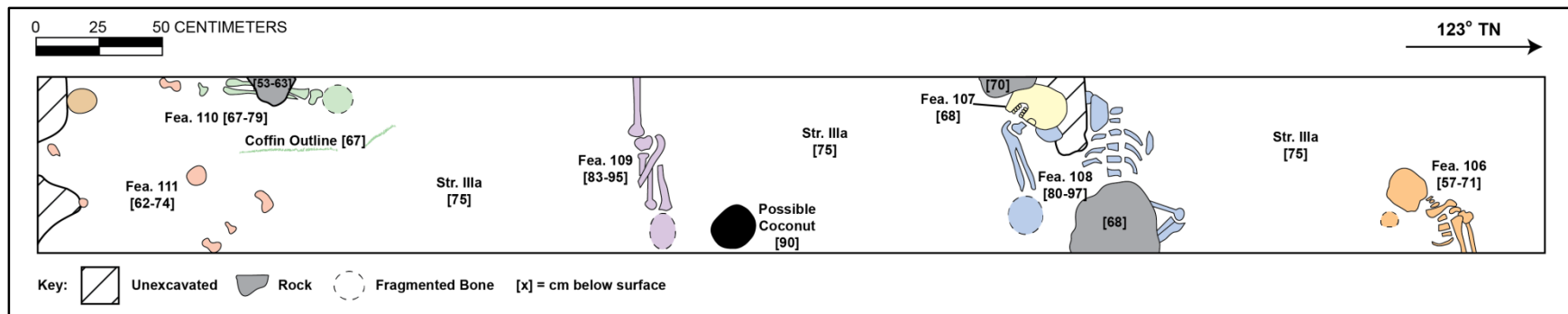


Figure 73. Plan view of T-14 depicting SIHP # -7429 Features 106–111



uncovered), lying on its left side with the head to the south. The portion of the burial below the head extends into the northeast sidewall and was not further explored. The burial is an adult male of likely Native Hawaiian ancestry (based on burial type and context). A large rock was present just above the neck of the burial at 70 cmbs. The rock may have acted as a burial marker.

SIHP # -7429 Feature 108 is a traditional-type burial located near the center of T-14, adjacent (to the southeast) and below SIHP # -7429 Feature 107, from approximately 80–97 cmbs. The burial appears to be prone (face down) with arms out to the sides and bent. The burial was likely in a partly flexed position, but has experienced some displacement. Only the upper portion of the burial was partly uncovered; the remainder of the burial appears to be beneath the upper remains in a flexed position. Some of the remains may extend into the southwest sidewall, as well. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context). A large rock was present over a portion of the burial at 68 cmbs. The rock may have acted as a burial marker.

SIHP # -7429 Feature 109 is a traditional-type burial located near the center of T-14 from approximately 83–95 cmbs. The burial appears to be flexed and possibly lying on its right side with the head to the south. The majority of the burial was not uncovered, making the exact burial position uncertain. The head end of the burial appears to extend into the southwest sidewall, while the foot end of the burial appears to extend into the northeast sidewall. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 110 is a historic coffin burial located at the northwest end of T-14 from approximately 67–79 cmbs. Only the right lower leg and foot were uncovered, with the remainder of the burial extending into the northeast sidewall. A coffin outline (stain) was present surrounding the uncovered remains. The burial appears to be in an extended, supine position within a coffin, with the head to the northwest and feet to the southeast. The burial is an adult of unknown sex and ancestry. The skeletal elements necessary to determine sex and ancestry were not uncovered for analysis.

SIHP # -7429 Feature 111 is a disarticulated and scattered burial located throughout the northwest end of T-14 from approximately 62–74 cmbs. The remains appear to continue into the sidewalls of the trench, indicating a wide area of disturbance. A remnant coffin outline (stain) is present along the southwest sidewall near the remains, and it is believed these remains represent a single disturbed coffin burial. The burial is an adult of unknown sex and ancestry. The skeletal elements necessary to determine sex and ancestry were not observed. An isolated patella (knee bone) displays an extreme pathological condition of unknown etiology. The observed scattered remains were collected and placed together at the approximate location and depth of the overall find before being re-covered with sand.

### 1.2.15 Test Excavation 14A (T-14A)

T-14A is a supplemental test excavation placed at the southeast end of T-14, extending southwest, in order to aid in establishing the boundary of the T-14 burial cluster. T-14A, an exterior trench located in the northern end of the project area along Queen Street, was orientated northeast-southwest and measured 6.1 m long by 0.7 m wide. The base of excavation was determined by the water table at 1.28 mbs.

The stratigraphy of T-14A consists of the asphalt surface (Stratum Ia), associated very gravelly silt loam base course (Stratum Ib), and imported sandy loam fill (Stratum Ic), over an imported volcanic cinder fill living surface (Stratum II; SIHP # -7429), a sandy loam fill living surface (Stratum III; SIHP # -7429), an in situ, loamy sand A horizon (Stratum Va; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum Vb; SIHP # -7429), over a thin layer of indurated sand (Stratum Vc), sandy clay (Stratum Vd), and sand (Stratum Ve) (Figure 74 through Figure 77 and Table 15). Two utility pipes within utility trenches (Strata IVa and IVb) were encountered running across the width of T-14A in the west end of the test excavation (see Figure 74). Both pipes originated from the Stratum III fill living surface at approximately 55 cmbs. The larger utility required pedestaling to protect it, which prevented excavation beneath it.

The excavation of T-14A documented modern deposits (Strata Ia–Ic), over a volcanic cinder fill living surface (Stratum II), over a locally procured fill living surface (Stratum III), over a truncated, in situ A horizon (Stratum Va), over natural sands (Strata Vb–Ve). Early twentieth century land reclamation fill material was absent. Several of the fill layers have experienced post-depositional disturbance, resulting in mixing of the strata. Strata Ic, II, and III are intact in the northeast end of T-14A but are comingled toward the southwest end of the trench. Faunal bone consisting of pig and butchered cow were collected from the Stratum Ib base course.

Both the Strata II and III fill layers show evidence of cultural activity, indicating their use as living surfaces during the historic period. These strata are considered components of SIHP # -7429 (Component 1). Stratum II, imported volcanic cinder, contains historic artifacts, a concentration of fish remains, and two associated pit features (SIHP # -7429 Features 112 and 113). The collected cultural material includes a whiteware tableware fragment (Acc. # 59), a glass bottle fragment (Acc. # 60), and a stoneware bottle fragment (Acc. # 61).

SIHP # -7429 Feature 112 is a rectangular discoloration of soil that measures approximately 40 cm long, 35 cm wide, and 24 cm thick. It originates within Stratum II at 43 cmbs and terminates in Stratum Va at 67 cmbs (Figure 78 and Figure 79). Five gallons of feature matrix were screened and yielded faunal bone (rat), a metal nail (Acc. # 62), and slag (not collected). The function of Feature 112 is indeterminate.

SIHP # -7429 Feature 113 is a semi-circular pit that measures 30 cm long, 20 cm wide, and 37 cm thick (see Figure 77, Figure 78, and Figure 80). It originates within Stratum II, extends into the northwest test excavation sidewall, and ranges from 42–79 cmbs. It terminates within SIHP # -7429 Feature 118 (human burial), and slightly disturbed that burial. Approximately eight gallons of feature matrix were screened and yielded a porcelain tableware fragment (Acc. # 68), four metal nails (Acc. #s 66 and 69), a shell button (Acc. # 63), a glass bottle fragment



Figure 74. T-14A southeast sidewall, view south





Figure 75. T-14A northwest sidewall, view north

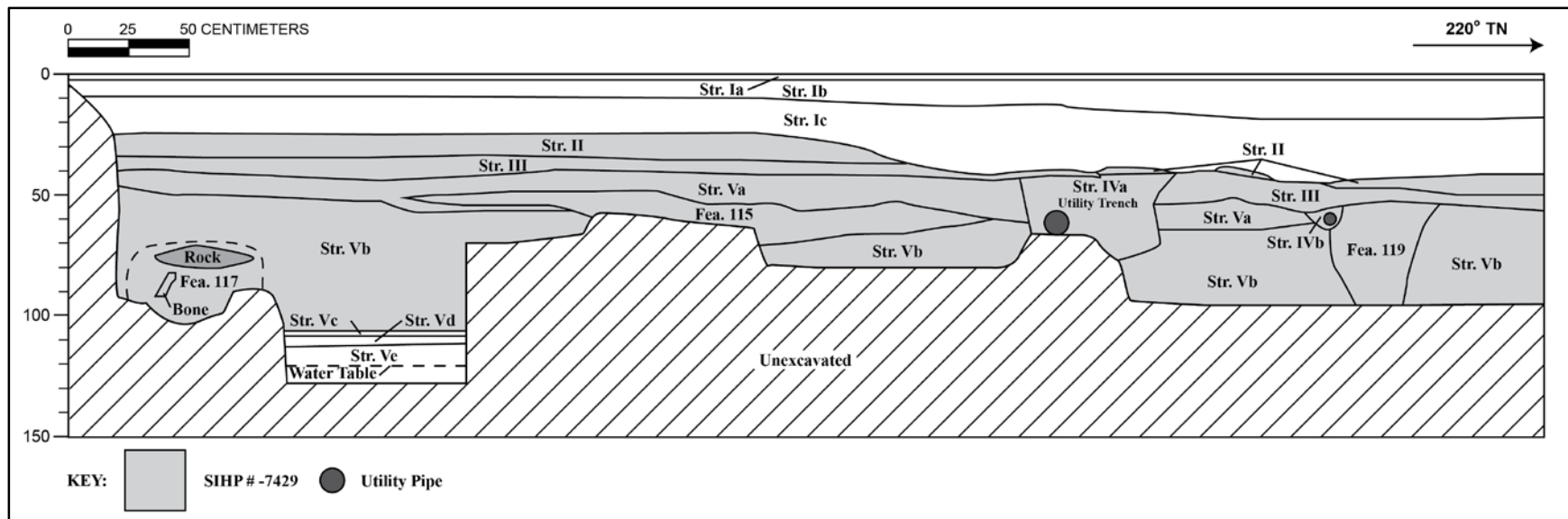


Figure 76. T-14A southeast profile

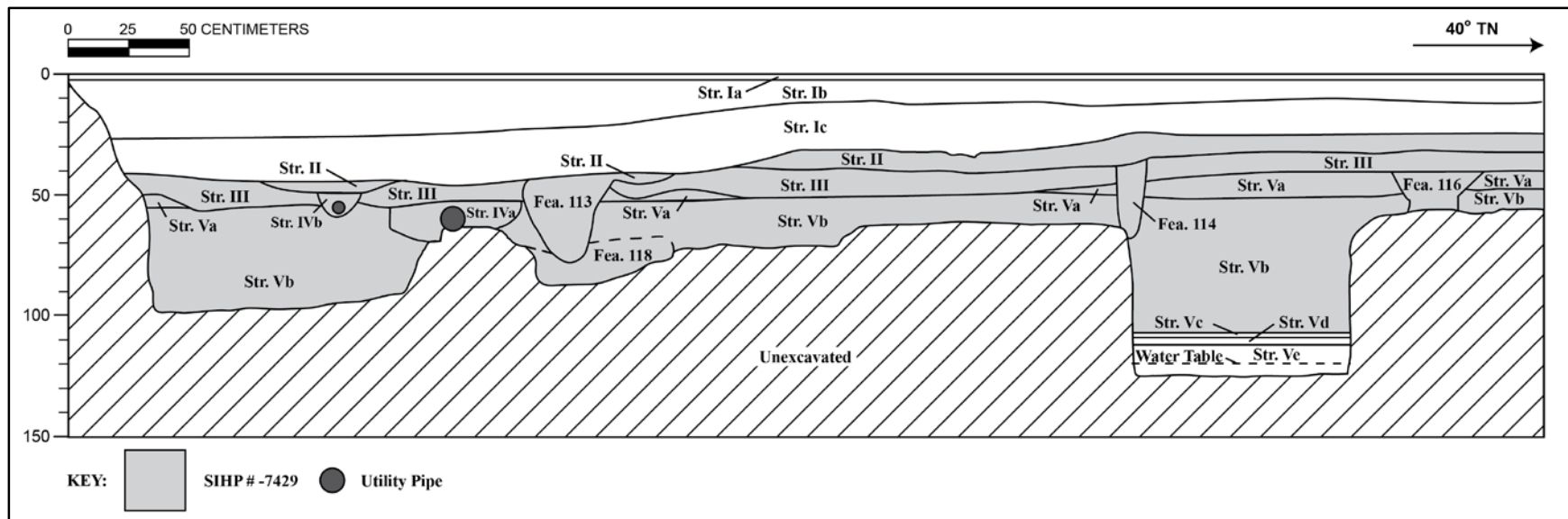


Figure 77. T-14A northwest profile



Table 15. T-14A Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–3	Asphalt; road surface
Ib	3–17	Fill; 10YR 3/3, dusky red; very gravelly silt loam; weak, very fine, crumb structure; moist, very friable consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; base course for road surface
Ic	17–45	Fill; 5YR 3/2, dark reddish brown; sandy loam; weak, fine, crumb structure; moist, friable consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; contains faunal bone (cow); imported fill material
II	25–49	Fill; 10YR 2/1, black; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, broken/discontinuous lower boundary; contains a whiteware tableware fragment (Acc. # 59), a glass bottle fragment (Acc. # 60), and a stoneware bottle fragment (Acc. # 61); imported volcanic cinder; historic living surface; SIHP # -7429 Component 1; contains SIHP # -7429 Features 112 and 113
	43–67	SIHP # -7429 Feature 112; indeterminate function; contains faunal bone (rat), a metal nail (Acc. # 62), and slag (not collected)
	42–79	SIHP # -7429 Feature 113; indeterminate function; contains a porcelain tableware fragment (Acc. # 68), four metal nails (Acc. #s 66 and 69), a shell button (Acc. # 63), a glass bottle fragment (Acc. # 64), whiteware tableware fragments (Acc. #s 65 and 67), a waterworn basalt stone (Acc. # 235), and fish bone
III	35–55	Fill; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, crumb structure; moist, friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; contains two utility pipes within utility trenches; contains charcoal, ceramics, metal nails (not collected), and faunal bone (chicken, rat); locally procured sediment; historic living surface; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 114
	39–72	SIHP # -7429 Feature 114; 10YR 4/2, dark grayish brown; loamy sand with bands of Stratum IVb Jaucas sand; indeterminate function; no cultural material observed
IVa	40–75	Fill; utility trench
IVb	53–63	Fill; utility trench
Va	38–60	Natural; 10YR 5/3, brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; contains charcoal (not collected), a basalt manuport (Acc. # 236), and faunal bone (rat); in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Features 115 and 116
	56–71	SIHP # -7429 Feature 115; traditional-type burial, adult, unknown sex,

Stratum	Depth (cmbs)	Description
		likely Native Hawaiian ancestry
	40–60	SIHP # -7429 Feature 116; traditional-type burial, adult or older adolescent, unknown sex, likely Native Hawaiian ancestry
Vb	46–106	Natural; 10YR 8/8, yellow; fine to medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; Jaucas sand; SIHP # -7429 Component 2; contains Features 117–119
	81–105	SIHP # -7429 Feature 117; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry; has a possible rock burial marker
	68	SIHP # -7429 Feature 118; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
	55–94	SIHP # -7429 Feature 119; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
Vc	106–108	Natural; 10YR 8/1, white; sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; clear, smooth lower boundary; indurated sand
Vd	108–111	Natural; 10YR 8/3, very pale brown; sandy clay; structureless (massive); wet, sticky consistence; plastic; marine origin; diffuse, smooth lower boundary
Ve	111–120	Natural; 10YR 8/6, yellow; medium sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; lower boundary not visible

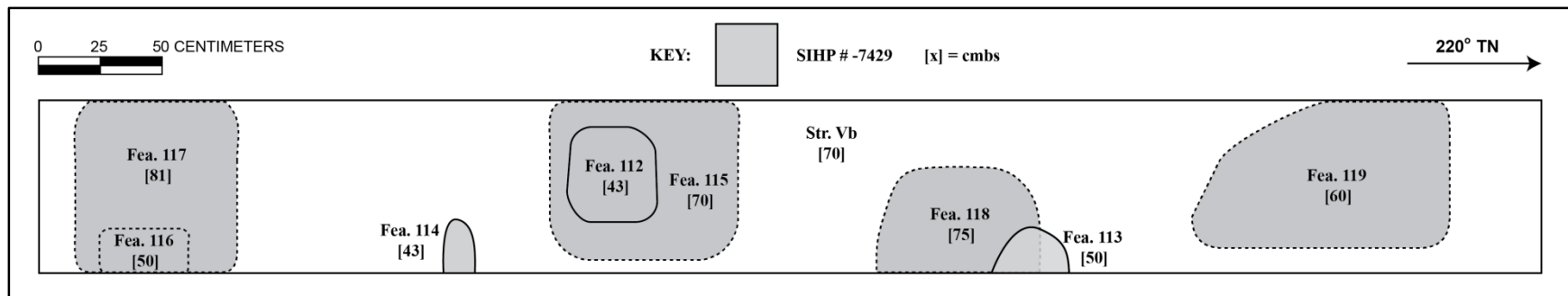


Figure 78. T-14A plan view showing locations of SIHP # -7429 Features 112–119





Figure 79. SIHP # -7429 Feature 112 in plan view



Figure 80. SIHP # -7429 Feature 113 in the northwest sidewall of T-14A, view to west

(Acc. # 64), whiteware tableware fragments (Acc. #s 65 and 67), a waterworn basalt stone (Acc. # 235), and a fish vertebra. The function of this feature is indeterminate.

Stratum III consists of locally procured and redeposited sediment, likely A horizon and Jaucas sand material. It contains charcoal, ceramic fragments, metal nails (not collected), faunal bone (bird and rat), and an associated pit feature (SIHP # -7429 Feature 114). Feature 114 is a semi-circular pit that measures 23 cm long, 11 cm wide, and 33 cm thick (see Figure 77, Figure 78, and Figure 81). It originates from the upper boundary of Stratum III, extends into the northwest test excavation sidewall, and ranges from 39–72 cmbs. No cultural material was observed during excavation of Feature 114. The function of this feature is indeterminate.

Underlying the Strata II and III historic living surfaces is an in situ, natural sandy loam A horizon (Stratum Va). The A horizon contains charcoal (not collected), a waterworn basalt manuport with small grooves (Acc. # 236), faunal bone (rat), and two human burials (SIHP # -7429 Features 115 and 116). Stratum Va is considered a component of SIHP # -7429 (Component 2). Three additional human burials were documented within the underlying Stratum Vb Jaucas sand (SIHP # -7429 Component 2, Features 117–119). The five documented burials within T-14A extended the boundaries of the burial ground identified within T-14. Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). All five burials were only minimally uncovered, and they were all preserved in place (Figure 82). The uncovered portions of each burial were covered with sand, muslin, and *tī* leaves, followed by plywood boards and more clean sand.

SIHP # -7429 Feature 115 is a traditional-type burial located in the northeast half of T-14A from approximately 56–71 cmbs (see Figure 76, Figure 78, Figure 82, Figure 83, and Figure 84). A very faint burial pit was observed originating within the base of the Stratum Va A horizon and extending into the Stratum Vb Jaucas sand. The burial pit was approximately 2.45 m wide initially, but quickly shrunk to less than 1 m wide within the southeast test excavation sidewall. The burial is in a tightly flexed position, lying on its left side with the head to the south-southeast. Only the cranium and portions of the lower body were partly uncovered. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 116 is believed to be a traditional-type burial located at the northeast end of T-14A within the northwest sidewall (see Figure 77 through Figure 82 and Figure 85). A small burial pit was observed originating from the upper boundary of the Stratum Va A horizon at 40 cmbs and extending into the Stratum Vb Jaucas sand at 60 cmbs. Only several phalanges (toe bones) were observed within the northwest sidewall; the remainder of the burial is believed to continue within the sidewall. The likely orientation of the burial is roughly northwest-southeast, with the feet to the southeast. The burial is an adult or older adolescent of unknown sex and likely Native Hawaiian ancestry (based on presumed burial type and context).

SIHP # -7429 Feature 117 is a traditional-type burial located at the northeast end of T-14A from approximately 81–105 cmbs (see Figure 76, Figure 78, Figure 82, Figure 85, and Figure 86). This burial is located adjacent to and underneath (approximately 20 cm below) SIHP # -7429 Feature 116. A burial pit was observed originating within the Stratum Vb Jaucas sand. The burial is in a tightly flexed position, lying on its left side with the head to the north-northwest. The head end of the burial is underneath SIHP # -7429 Feature 116 and possibly extends into the northwest sidewall and the foot end extends into the southeast sidewall. A large rock was present



Figure 81. SIHP # -7429 Feature 114 in the northwest sidewall, view to northwest





Figure 82. T-14A post-excavation trench overview indicating burial locations (SIHP # -7429 Features 115–119), view to southwest



Figure 83. SIHP # -7429 Feature 115 pit stain in the southeast sidewall (coarse sand lens, outlined in white dashed lines), view to southeast

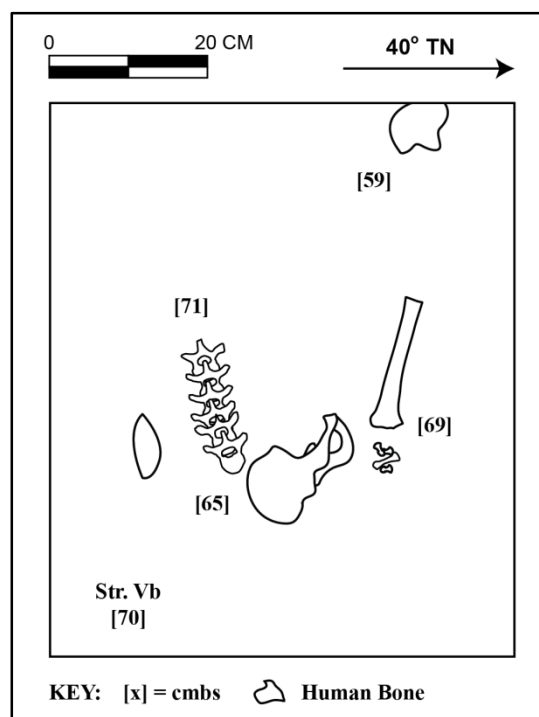


Figure 84. Plan view of SIHP # -7429 Feature 115





Figure 85. T-14A northeast end, view to northeast: left, SIHP # -7429 Feature 116 location (pedestaled); right, SIHP # -7429 Feature 117 location underneath the waterworn basalt rock (probable grave marker)



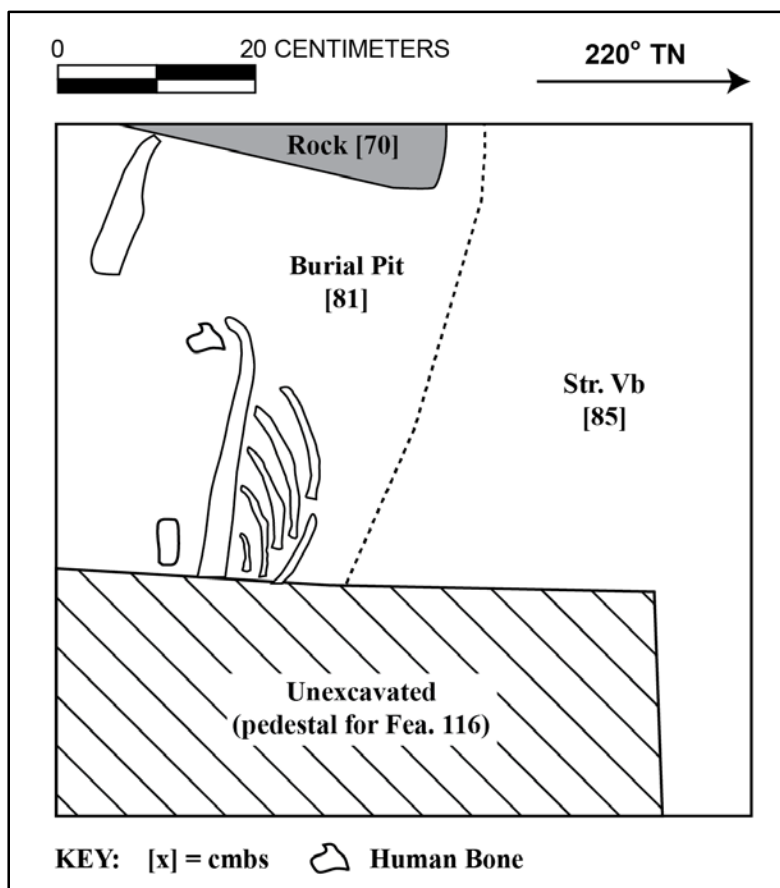


Figure 86. Plan view of SIHP # -7429 Feature 117

just above the foot end of the burial at 70 cmbs within the southeast sidewall. The rock may have acted as a grave marker. This rock is similar to the rocks documented in association with the burials of T-14. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 118 is a traditional-type burial located in the southwest half of T-14A at approximately 68 cmbs (see Figure 77 through Figure 82, Figure 87, and Figure 88). The burial originated in the Stratum Vb Jaucas sand. Only portions of the pelvis and lower body were exposed, with the upper portion of the burial extending into the northwest sidewall. No burial pit was noted. The burial has been previously disturbed by a historic utility pipe and from SIHP # -7429 Feature 113. The burial is in a tightly flexed position, lying partly on its left side and partly facedown with the head end to the west. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 119 is a traditional-type burial located at the southwest end of T-14A at approximately 55–94 cmbs (see Figure 76, Figure 78, Figure 82, and Figure 89). A faint burial pit was observed originating from the upper boundary of the Stratum Vb Jaucas sand within the southeast sidewall. The burial is in a tightly flexed position, lying on its left side with the head to the northeast. Only the cranium and portions of the right leg were exposed. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

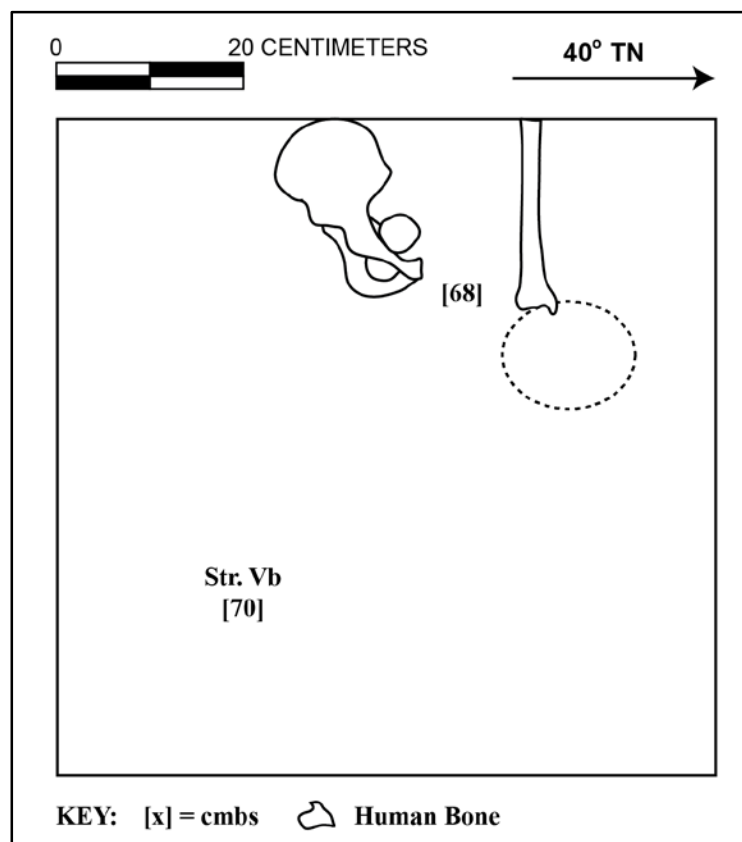


Figure 87. Plan view of SIHP # -7429 Feature 118



Figure 88. SIHP # -7429 Feature 118, burial pit, view to northeast

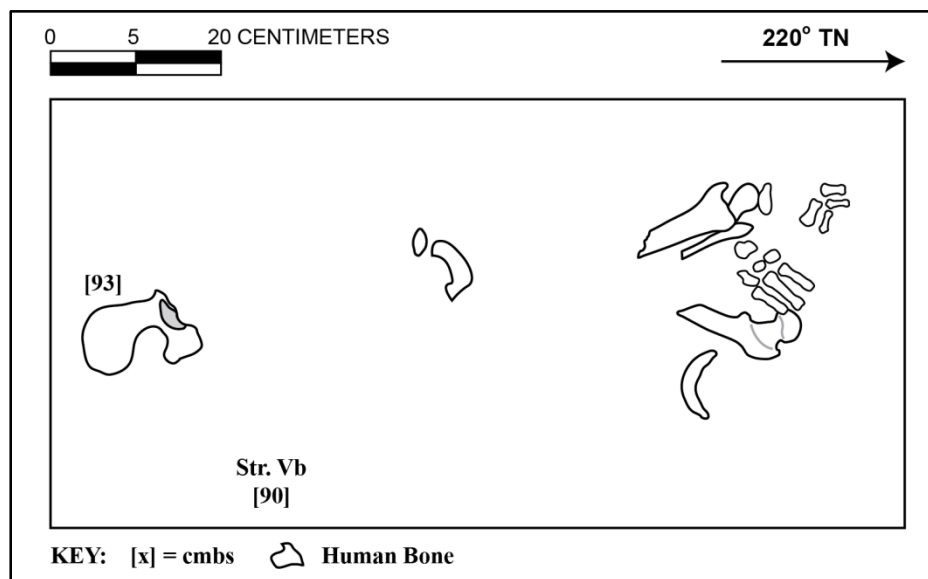


Figure 89. Plan view of SIHP # -7429 Feature 119



### 1.2.16 Test Excavation 14B (T-14B)

T-14B is a supplemental test excavation, placed approximately 2 m southwest of the northwest ('Ewa) end of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14B was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.22 mbs, and the base of excavation was determined by the hard coral shelf at 1.35 mbs.

The stratigraphy of T-14B consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and imported clay loam fill (Stratum Ic), over a heavily mixed, sandy clay loam fill living surface (Stratum II; SIHP # -7429) and a gravelly sandy loam fill living surface (Stratum III; SIHP # -7429), over a natural loamy sand A horizon (Stratum IVa; SIHP # -7429) that developed within natural calcareous Jaucas sand (Stratum IVb; SIHP # -7429), over a thin layer of indurated sand (Stratum IVc), sandy clay (Stratum IVd), and sand (Stratum IVe) (Figure 90 through Figure 93 and Table 16).

The excavation of T-14B documented modern deposits (Strata Ia–Ic) over two historic fill living surfaces (Strata II and III), over a truncated and disturbed, in situ A horizon (Stratum IVa) over natural sand (Strata IVb–IVe). Early twentieth century land reclamation fill material was absent. Both Strata II and III consist of a mix of non-local sediment and locally procured sediment, including A horizon material, and likely represent grading and raising of the ground surface associated with historic residences. Similar mixed deposits were observed within the surrounding test excavations, and included cultural enrichment in the form of historic cultural material and associated features. Within T-14B, Stratum II contains historic artifacts and butchered cow bone. The artifacts include bottle and flat glass fragments (Acc. #s 70 and 71–73), a whiteware tableware fragment (Acc. # 74), a stoneware bathroom/flooring tile (Acc. # 75), and a metal axe head (Acc. # 234). One of the glass bottle fragments (Acc. # 71) was manufactured in 1943, indicating Stratum II was an exposed land surface at this time. Stratum III contains similar historic cultural material and faunal remains, including a metal fragment (Acc. # 76) and glass, ceramic, and wood (not collected). Strata II and III are interpreted as historic living surfaces associated with historic residences along Queen Street and are considered components of SIHP # -7429 (Component 1).

Stratum IVa, the in situ A horizon, also contains glass, ceramic, wood, and faunal bone (not collected). Six metal nails (Acc. # 83) and stoneware bottle fragments (Acc. # 82) were collected from the interface of Strata III and IVa. Stratum IVa appears heavily disturbed throughout the test excavation and is almost completely truncated in many areas. However, based on the presence of historic cultural material, Stratum IVa appears to have been utilized as a living surface during the historic period and is also considered a component of SIHP # -7429 (Component 2).

Several features, including human burials, were documented within T-14B and are considered components of SIHP # -7429 (Figure 94). Two features (Features 120 and 121) were truncated by Stratum II, therefore their provenience is unclear; however, Feature 120 likely originated within Stratum III (SIHP # -7429 Component 1), while Feature 121 likely originated within Stratum IVa (SIHP # -7429 Component 2). One cobble feature and five burial features originated within Stratum IVb Jaucas sand.



Figure 90. T-14B northwest sidewall, view to west



Figure 91. T-14B southeast sidewall, view to southeast

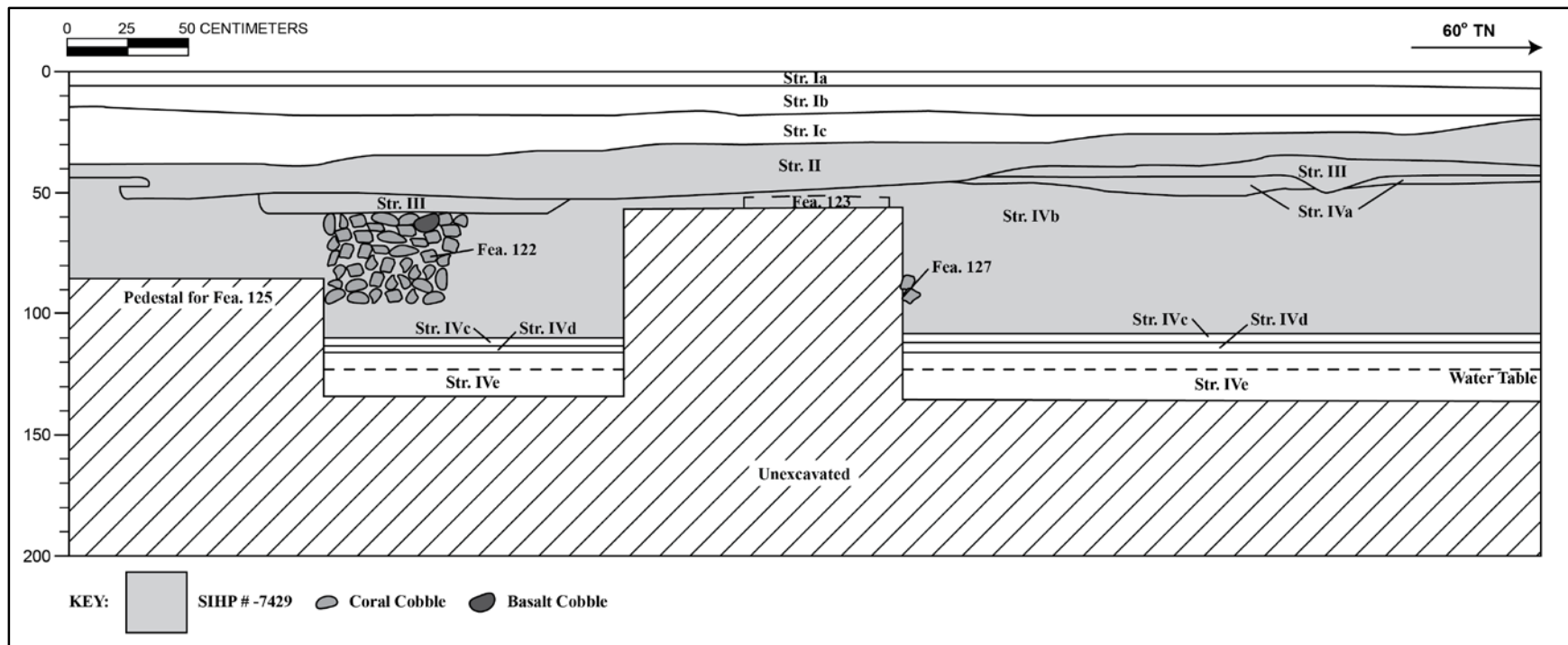


Figure 92. T-14B northwest profile



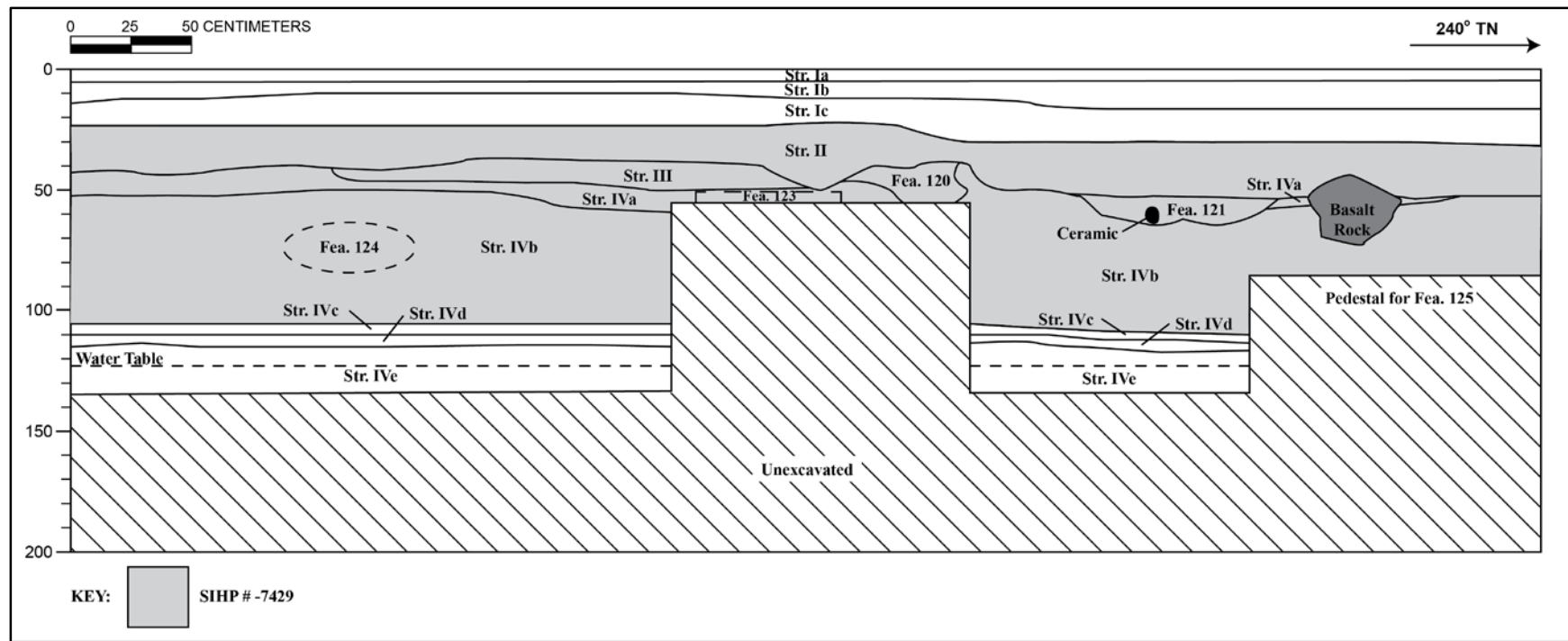


Figure 93. T-14B southeast profile

Table 16. T-14B Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	5–17	Fill; 10YR 3/3, dusky red; extremely gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; base course associated with parking lot construction
Ic	7–30	Fill; 5YR 3/4, dark reddish brown; gravelly clay loam; weak, medium, blocky structure; moist, very friable consistence; slightly plastic; mixed origin; clear, wavy lower boundary; imported fill
II	17–55	Fill; 7.5YR 3/2, dark brown; sandy clay loam; weak, fine, blocky structure; moist, friable consistence; slightly plastic; mixed origin; clear, wavy lower boundary; contains bottle and flat glass fragments (Acc. #s 70–73), a whiteware tableware fragment (Acc. # 74), a stoneware tile (Acc. # 75), a metal axe head (Acc. # 234), and butchered faunal bone (cow); fill composed of both locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1
III	40–59	Fill; 10YR 3/1, dark gray; gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; contains coral gravels, a metal fragment (Acc. # 75), and glass, ceramic, wood, and faunal bone (not collected); also contains stoneware bottle fragments (Acc. # 82) and metal nails (Acc. # 83) at the interface with Stratum IVa; fill composed of both locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1; likely associated with SIHP # -7429 Feature 120
	40–65	SIHP # -7429 Feature 120; contains glass fragments (Acc. #s 79 and 80), a whiteware fragment (Acc. # 77), and rusted metal pieces (Acc. # 78); indeterminate function
IVa	40–60	Natural; 10 YR 4/3, brown; fine loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; contains glass, ceramic, wood, and faunal bone (not collected); in situ A horizon; SIHP # -7429 Component 2; likely associated with SIHP # -7429 Feature 121
	51–65	SIHP # -7429 Feature 121; loamy sand; contains a broken stoneware bottle (Acc. # 81), a waterworn pebble manuport (Acc. # 237), and charcoal; indeterminate function
IVb	50–110	Natural; 10YR 8/8, yellow; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; contains faunal remains (rat); calcareous Jaucas sand; SIHP # -7429 Component 1; contains SIHP # -7429 Features 122–127

Stratum	Depth (cmbs)	Description
	60–95	SIHP # -7429 Feature 122; collection of many coral cobbles and one basalt cobble; possible grave marker for SIHP # -7429 Feature 125 or another burial
	52	SIHP # -7429 Feature 123; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry; previously slightly disturbed
	64–84	SIHP # -7429 Feature 124; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
	84	SIHP # -7429 Feature 125; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry; contains a fire-altered basalt cobble and charcoal flecks; may be associated with SIHP # -7429 Feature 122 (concentration of cobbles) that may be a possible grave marker
	70	SIHP # -7429 Feature 126; cranium uncovered only; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry
	95	SIHP # -7429 Feature 127; probable proximal tibia portion uncovered only; probable traditional-type burial, adult or adolescent, unknown sex, likely Native Hawaiian ancestry; coral cobble grouping nearby may be a possible grave marker
IVc	105–110	Natural; 10YR 8/1, white; indurated coarse sand; structureless (massive); moist, extremely firm, indurated consistence; cemented; non-plastic; marine origin; clear, smooth lower boundary; indurated sand
IVd	110–115	Natural; 10YR 8/3, very pale brown; sandy clay; structureless (massive); wet, sticky consistence; plastic; marine origin; diffuse, smooth lower boundary
IVe	115–135	Natural; 10YR 8/6, yellow; coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary
V	135 (BOE)	Natural; coral shelf



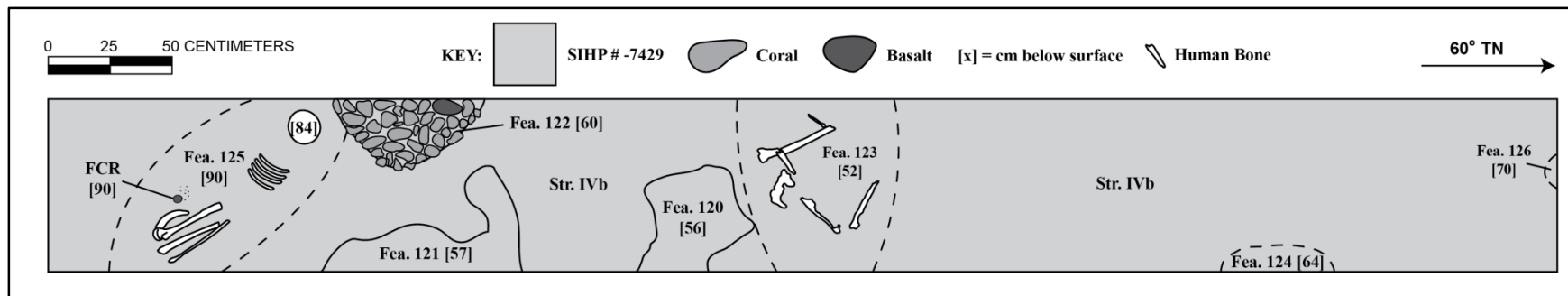


Figure 94. T-14B plan view depicting SIHP # -7429 Features 120–126

sand. These burials are part of a larger burial ground identified within test excavation T-14 through T-14G.

Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). All five burials were only minimally uncovered, and they were all preserved in place. The uncovered portions of each burial were covered with sand, muslin, and *tī* leaves, followed by plywood boards and more clean sand (Figure 95).

SIHP # -7429 Feature 120 is an irregularly shaped pit composed of a loamy sand matrix that measures 45 cm long, 40 cm wide, and 25 cm thick (see Figure 93 through Figure 96). It ranges from 40–65 cmbs and extends into the southeast test excavation sidewall. It is truncated by Stratum II but likely originated from Stratum III. A whiteware fragment (Acc. # 77), a corroded metal nail (Acc. # 78), and glass fragments (Acc. #s 79–80) were observed within the feature. The function of this feature is indeterminate.

SIHP # -7429 Feature 121 is an irregularly shaped pit composed of loamy sand that measures 84 cm long, 40 cm wide, and 14 cm thick (see Figure 93 through Figure 95 and Figure 97). It ranges from 51–65 cmbs and extends into the southeast sidewall. It is truncated by Stratum II, but likely originated from Stratum IVa. Stoneware bottle fragments (Acc. # 81), a waterworn pebble manuport (Acc. # 237), and charcoal were observed within the feature. The function of this feature is indeterminate.

SIHP # -7429 Feature 122 is a collection of cobbles that measures 60 cm long, 30 cm wide, and 35 cm thick (see Figure 92, Figure 94, Figure 95, and Figure 98). It originates within Stratum IVa (possibly truncated by Stratum III), extends into the northwest test excavation sidewall, and ranges from 60–95 cmbs. All of the cobbles are coral except for one 15 by 12 cm, waterworn, bread loaf-shaped, basalt cobble. This feature is immediately east of the cranial portion of an in situ burial, SIHP # -7429 Feature 125, and is believed to be a possible grave marker for Feature 125 or perhaps an unidentified burial within the northwest sidewall.

SIHP # -7429 Feature 123 is a traditional-type burial located in the center of T-14B at approximately 52 cmbs (see Figure 92 through Figure 95). The burial originates at the very upper boundary of the Stratum IVb Jaucas sand layer, although the burial has been previously disturbed with some remains out of place. No burial pit was noted. Only portions of the legs, right hip, and right ribs were uncovered. The rest of the remains are believed to be in situ and may extend into both the northwest and southeast test excavation sidewalls. The burial is in a flexed position, lying on its right side with the head to the northeast. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 124 is a traditional-type burial located in the northeast half of T-14B from approximately 64–84 cmbs (see Figure 93 through Figure 95). The burial originates in the Stratum IVb Jaucas sand layer, and no burial pit was noted. Only portions of the left hip and legs were uncovered, with the remainder of the burial extending into the southeast test excavation sidewall. The burial is in a flexed position, lying on its right side with the head to the southeast. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 125 is a traditional-type burial located in the southwest half of T-14B at approximately 84 cmbs (see Figure 92 through Figure 95 and Figure 99). The burial originates in

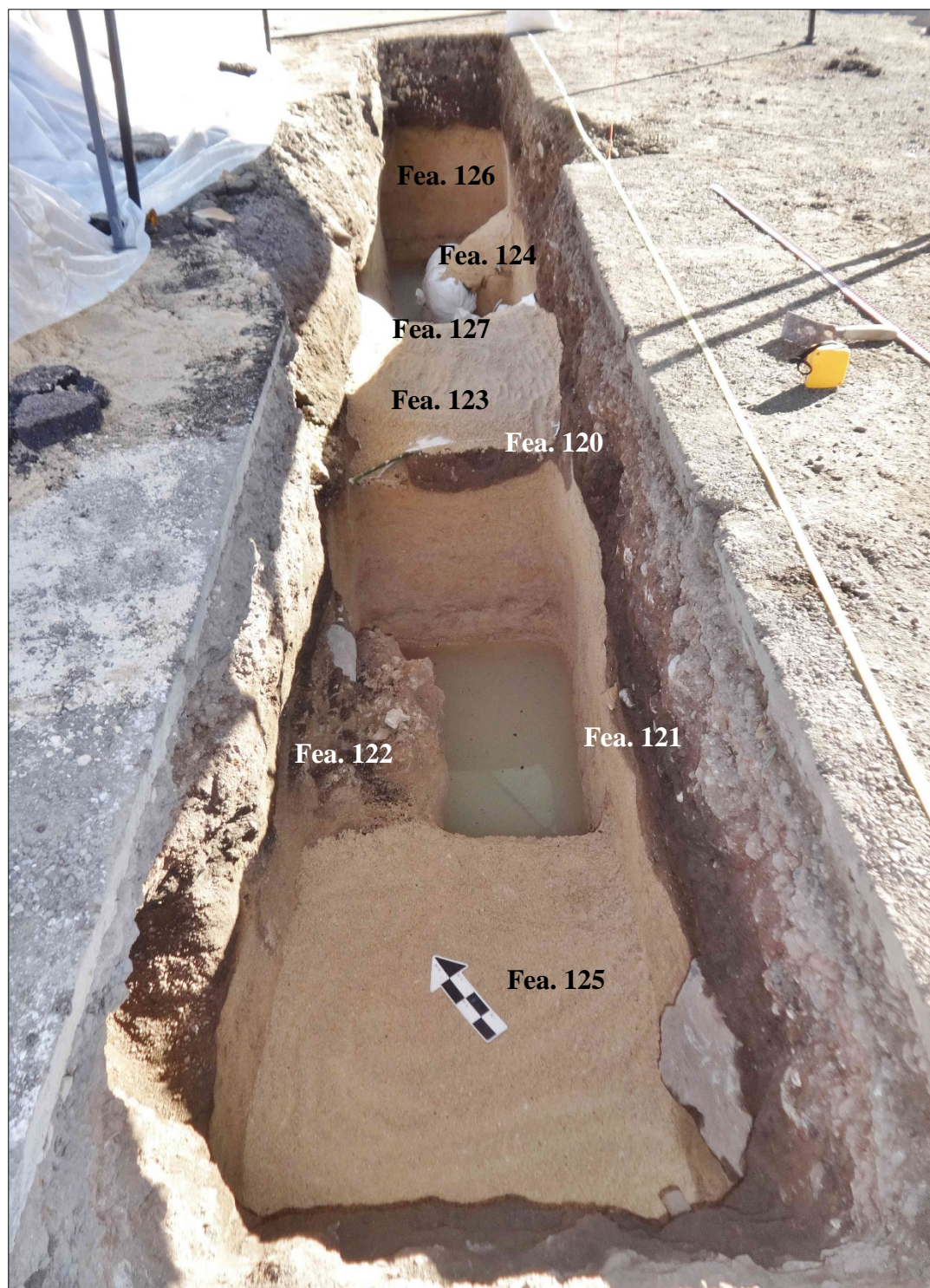


Figure 95. T-14B post-excavation overview showing locations of burials and pit features, view to northeast





Figure 96. SIHP # -7429 Feature 120, view to east



Figure 97. SIHP # -7429 Feature 121 within the southeast test excavation sidewall, view to south



Figure 98. SIHP # -7429 Feature 122, view to north





Figure 99. Location of SIHP # -7429 Feature 125 (indicated by *tī* leaves) in proximity to SIHP # -7429 Feature 122 (cobble concentration/possible grave marker), view to southwest



the Stratum IVb Jaucas sand layer. Faint staining of the surrounding matrix may indicate a burial pit; however, the staining may also be associated with the adjacent Feature 122, a large concentration of coral cobbles and one larger basalt cobble located near the head of this individual. Feature 122 may have acted as a grave marker. Only portions of the head, right ribs, right hip, and legs were uncovered. The burial is in a flexed position, lying on its left side with the head to the north. Fire-altered basalt cobble and charcoal flecks were noted next to the individual's hip. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 126 is a traditional-type burial located within the northeast end of T-14B at approximately 70 cmbs (see Figure 94 and Figure 95). The burial originates in the Stratum IVb Jaucas sand layer, and has a faint pit stain. Only the top of the cranium was noted in the sidewall, with the remainder of the burial presumed to be present and extending into the northeast sidewall. The burial was not further investigated. The burial position of this individual is unknown, as so little of it was uncovered, but the head is to the southwest. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on context).

SIHP # -7429 Feature 127 is believed to be a traditional-type burial located in the center of T-14B, beneath SIHP # -7429 Feature 123, at approximately 95 cmbs (see Figure 92 and Figure 95). The burial originates in the Stratum IVb Jaucas sand layer, and no burial pit was noted. Only a probable proximal tibia portion was observed extending from the sidewall of the sediment pedestal beneath SIHP # -7429 Feature 123. It is unclear whether this skeletal element is isolated or represents a complete burial. The remainder of the burial could be within the pedestalled sediment. A grouping of coral cobbles is present near the remains within the northwest test excavation sidewall; these could represent a grave marker. The remains represent an adult or adolescent of unknown sex and likely Native Hawaiian ancestry (based on context).

### 1.2.17 Test Excavation 14C (T-14C)

T-14C is a supplemental test excavation, placed approximately 9 m southwest of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14C was orientated northeast-southwest and measured 6.1 m long by 0.7 m wide. The base of excavation was determined by the water table at 1.33 mbs.

The stratigraphy of T-14C consists of the asphalt surface (Stratum Ia), associated extremely gravelly loam base course (Stratum Ib), and gravelly loamy sand fill (Stratum Ic), over sandy loam fill (Stratum II), over a very gravelly loamy sand fill living surface (Stratum III; SIHP # -7429), over a natural loamy sand A horizon (Stratum IVa; SIHP # -7429) that developed within calcareous Jaucas sand (Stratum IVb), over a thin layer of indurated sand (Stratum IVc), sandy clay (Stratum IVd), and sand (Stratum IVe) (Figure 100 through Figure 103 and Table 17).

The excavation of T-14C documented modern deposits (Strata Ia–Ic) over two heavily mixed, largely locally procured historic fill layers (Strata II and III), over a truncated and disturbed, in situ A horizon (Stratum IVa) that developed within natural sands (Strata IVb–IVe). Early twentieth century land reclamation fill material was absent, although high concentrations of crushed coral cobbles were noted within Stratum Ic (particularly in the southwest end of the test excavation) and Stratum III. This could indicate removal of a crushed coral land reclamation fill layer from a nearby area that was then mixed with other local and non-local sediment and redeposited.

Strata II and III are similar in composition to historic fill living surfaces documented in the surrounding test excavations, being composed of a mix of local sediment (A horizon and sand material) and imported sediment, and similarly overlie a truncated natural A horizon. Strata II and III likely date to the same time period and represent historic modification of the ground surface for residential purposes. While historic artifacts were not observed within Strata II and III, Stratum III does contain faunal remains (pig bone cut with a metal saw blade, dog, and rat) and two associated features. Stratum III is considered a component of SIHP # -7429 (Component 1) and the associated features are designated SIHP # -7429 Features 128 and 129. Stratum II likely also served as a living surface, however, due to the absence of cultural material it has not been designated part of SIHP # -7429.

SIHP # -7429 Feature 128 is a semi-circular pit located in the northeast (*mauka*) portion of the test excavation. It measures approximately 55 cm long, 26 cm wide, and 31 cm thick, and extends from 52–83 cmbs (see Figure 103, Figure 104, and Figure 105). Feature 128 truncates Strata IVa and IVb and is itself truncated by Stratum II. Based on the similarity of its gravelly loamy sand matrix with Stratum III, it is most likely associated with Stratum III, which was truncated in this portion of the test excavation by Stratum II. A large basalt rock was present within the center of the feature, from 52–83 cmbs. Feature 128 also contains charcoal, marine shell midden (*Nerita picea*, *Cellana exarata*, and *Cellana sandwicensis*), faunal remains (cow bone cut with a metal saw blade, pig, rat, and fish), and abundant, residential-type historic artifacts consisting of glass bottle fragments (Acc. # 84, 85, 93, 94, and 96), a flat glass fragment (Acc. # 95), metal fragments (Acc. #s 87 and 91), metal nails (Acc. #s 86, 89, and 90), a metal hook (Acc. # 88), a fragment of a glass marble (Acc. # 99), porcelain hollowware fragments (Acc. # 97), a copper wire fragment (Acc. # 92), and ironstone pitcher fragments (Acc. # 98).



Figure 100. T-14C northwest sidewall, view to north





Figure 101. T-14C southeast wall, note SIHP # -7429 Feature 131 in the background, view to south

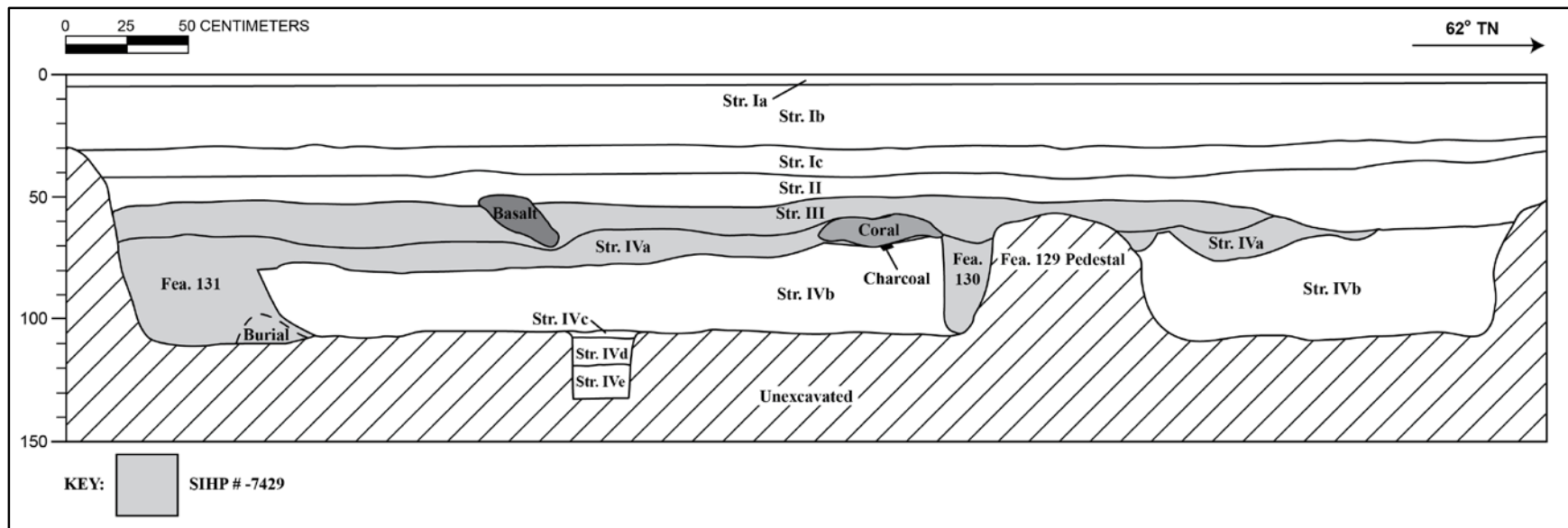


Figure 102. T-14C northwest profile

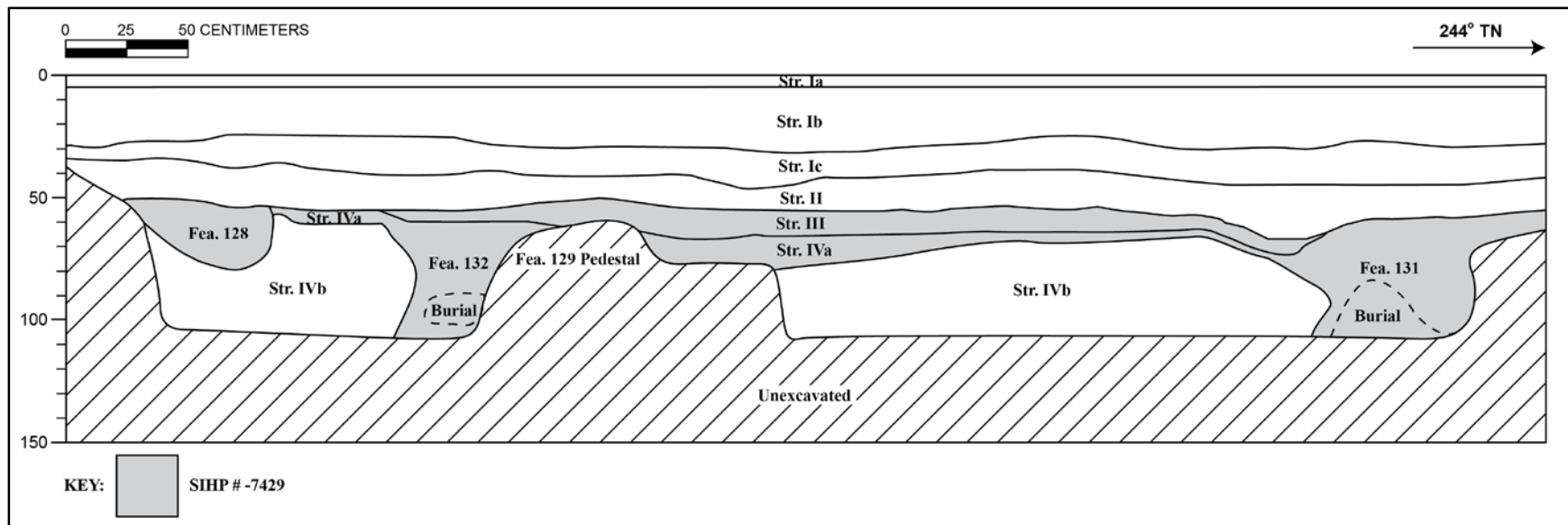


Figure 103. T-14C southeast profile



Table 17. T-14C Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	3–30	Fill; 2.5Y 6/1, gray, and 2.5YR 4/2, weak red; extremely gravelly loam; structureless (single-grain); moist, loose consistence; non-plastic; terrestrial origin; abrupt, smooth lower boundary; basalt gravel base course for road surface
Ic	26–43	Fill; 2.5YR 4/3, reddish brown; gravelly loamy sand; strong, fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; contains coral and basalt gravel
II	33–63	Fill; 10YR 3/2, very dark grayish brown; sandy loam; moderate, fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; mixture of non-local and locally procured and redistributed sediment
III	50–72	Fill; 10YR 4/2, dark grayish brown; very gravelly loamy sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt broken/discontinuous lower boundary; contains coral gravels/cobbles and faunal remains (pig, dog, rat); locally procured sediment used as fill; SIHP # -7429 Component 1; likely associated with SIHP # -7429 Features 128 and 129
	52–83	SIHP # -7429 Feature 128; contains a large basalt rock, charcoal, marine shell midden ( <i>Nerita picea</i> , <i>Cellana exarata</i> , and <i>Cellana sandwicensis</i> ), faunal remains (cow bone cut with a metal saw blade, pig, rat, fish), and historic artifacts consisting of glass bottle fragments (Acc. #s 84, 85, 93, 94, and 96), flat glass (Acc. # 95), metal nails (Acc. #s 86, 89, and 90), metal fragments (Acc. #s 87 and 91), a metal hook (Acc. # 88), ceramic fragments (Acc. #s 97 and 98), a glass marble fragment (Acc. # 99), and copper wire (Acc. # 92); indeterminate function
	56	SIHP # -7429 Feature 129; secondary burial, MNI=2, adults, unknown sex, likely Native Hawaiian ancestry
IVa	57–80	Natural; 10YR 4/1, dark gray; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, wavy lower boundary; truncated and disturbed, in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Features 130–132
	67–108	SIHP # -7429 Feature 130; contains a piece of rebar with an attached steel conduit; indeterminate function
	70–110	SIHP # -7429 Feature 131; probable traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry; charcoal observed in burial pit
	60–107	SIHP # -7429 Feature 132; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry

Stratum	Depth (cmbs)	Description
IVb	60–110	Natural; 10YR 8/4, very pale brown; fine to medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; contains charcoal; calcareous Jaucas sand
IVc	105–107	Natural; 10YR 8/1, white; sand; structureless (massive); moist, extremely firm consistence; indurated cementation; non-plastic; marine origin; very abrupt, smooth lower boundary; indurated sand
IVd	107–119	Natural; 2.5YR 8/3, pale yellow; sandy clay; structureless (massive); wet, sticky consistence; slightly plastic; marine origin; diffuse, smooth lower boundary
IVe	119–133 (BOE)	Natural; 10YR 8/2, pale brown; coarse sand; structureless (single grain); wet, non-sticky consistence; non-plastic; marine origin; lower boundary not visible

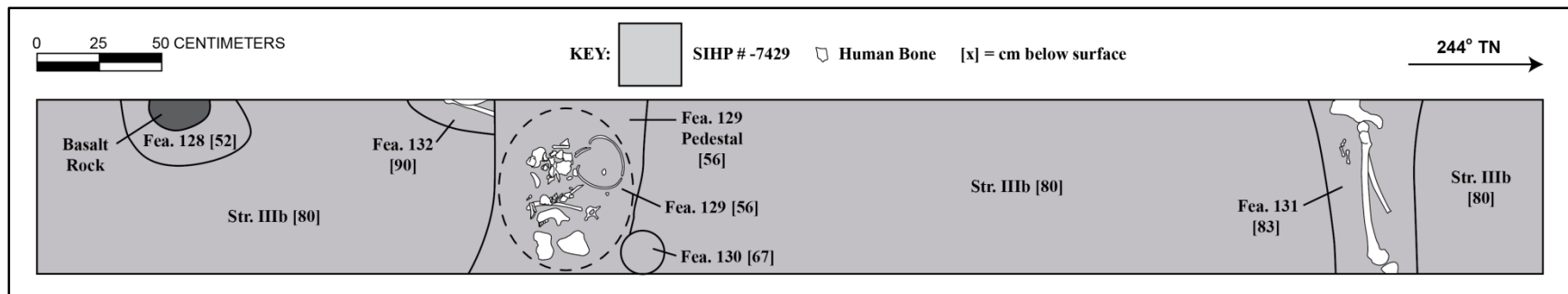


Figure 104. T-14C plan view depicting SIHP # -7429 Features 128–132





Figure 105. SIHP # -7429 Feature 128, pre- and post-excavation, view to southeast

The ironstone pitcher fragments have a maker's mark (Homer Laughlin) with a post-1900 manufacture date, while Acc. # 96 has an Illinois Glass Company maker's mark indicating a manufacture date range of AD 1911-1929. Based on the manufacture date of the historic artifacts, Feature 129 post-dates AD 1911. The function of this feature is indeterminate.

SIHP # -7429 Feature 129 is a secondary burial located near the center/northeast half of T-14C at approximately 56 cmbs (see Figure 102 through Figure 106). The burial is located at the interface of the Stratum III locally procured and redeposited fill layer and the Stratum IVa in situ A horizon, and it may extend into both the northwest and southeast test excavation sidewalls. A possible mound of coral cobbles is present surrounding and amongst the remains and may have acted as a grave marker. The possible mound has been severely truncated by subsequent historic land modification (i.e., the deposition of Stratum III). The burial is composed of isolated and disarticulated cranial and postcranial remains, which are highly fragmentary. There are two right glenoid cavities, meaning a minimum of two separate individuals are represented. This is a secondary burial that likely resulted from disturbance to in situ burials in the area. The remains represent adults of unknown sex and likely Native Hawaiian ancestry (based on context).

As evidenced by the presence of Feature 129, the deposition of Strata II and III heavily disturbed the natural, in situ A horizon (Stratum IVa), which is completely removed in some areas. One pit feature and two burial features (SIHP # -7429 Feature 130–132) originated within Stratum IVa. Based on the presence of associated features and burial, Stratum IVa served as a living surface and is considered a component of SIHP # -7429 (Component 2).

SIHP # -7429 Feature 130 is a circular pit located in the central portion of T-14C. It has a loamy sand matrix and measures approximately 19 cm in diameter and 41 cm thick (see Figure 102), Figure 104, and Figure 107). The feature likely originated within the Stratum IVa A horizon, but has since been truncated by Stratum III. It extends out from the northwest test excavation sidewall and ranges from 67–108 cmbs. A piece of rebar attached to a steel conduit was observed within the feature. The function of this feature is indeterminate.

SIHP # -7429 Feature 131 is believed to be a traditional-type burial located at the southwest end of T-14C (see Figure 101 through Figure 106). A burial pit is present originating from within the Stratum IVa A horizon at approximately 70 cmbs and extending into Stratum IVb Jaucas sand at 110 cmbs. The burial pit is present within both the northwest and southeast test excavation sidewalls. The base of the burial pit was not determined as it exceeds the base of excavation. Charcoal was observed within the pit matrix. The remains were noted beginning at 83 cmbs. Only a portion of the right hip and upper legs were uncovered, with the remainder of the burial believed to be present and extending into both sidewalls. The burial appears to be in an extended or only slightly flexed position, lying on its right side with the head to the southeast. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 132 is believed to be a traditional-type burial located in the northeast half of T-14C, abutting (to the northeast) SIHP # -7429 Feature 128 (see Figure 103, Figure 104, and Figure 106). A burial pit is present within the southeast test excavation sidewall originating from within the Stratum IVa A horizon at 60 cmbs and extending into Stratum IVb Jaucas sand at 107 cmbs. The base of the burial pit was not determined as it exceeds the base of excavation. The remains were noted beginning at approximately 90 cmbs. Only the left shoulder area was





Figure 106. T-14C post-excavation overview showing burial locations and treatment





Figure 107. SIHP # -7429 Feature 130 against the SIHP # -7429 Feature 128 pedestal, view to north

uncovered, with the remainder of the burial believed to be present and extending into the southeast sidewall and underneath the SIHP # -7429 Feature 128 pedestal within the test excavation. The burial appears to be in a flexed position, lying face down with the head to the east. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). All three burials were only minimally uncovered, and they were all preserved in place. The uncovered portions of each burial were covered with sand, muslin, and *tī* leaves (see Figure 106).

### 1.2.18 Test Excavation 14D (T-14D)

T-14D is a supplemental test excavation, placed approximately 5 m northwest of the northwest end of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14D was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The base of the majority of the test excavation was determined by an indurate sand layer at approximately 1.05 mbs. However, an exploratory pothole was manually excavated down to the coral shelf at 1.4 mbs. The water table was encountered at 1.3 mbs.

The stratigraphy of T-14D consists of the asphalt surface (Stratum Ia), associated extremely gravelly silty sand base course (Stratum Ib), and very gravelly loam fill (Stratum Ic), over heavily mixed sandy loam and clay loam fill (Stratum II; SIHP # -7429), a loamy sand fill living surface (Stratum III; SIHP # -7429), a truncated, in situ, silty loamy sand A horizon (Stratum IVa), natural Jaucas sand (Stratum IVb; SIHP # -7429), a thin layer of indurated sand (Stratum IVc), silty sandy clay (Stratum IVd), and clay sand (Stratum IVe) (Figure 108 through Figure 111 and Table 18).

The excavation of T-14D documented modern deposits (Strata Ia–Ic) over two historic living surfaces comprised of local and/or imported fill (Strata II and III), over a truncated and disturbed, natural A horizon (Stratum IVa) that developed atop natural sands (Strata IVb–IVe). Early twentieth century land reclamation fill material was absent within T-14D, although high concentrations of crushed coral cobbles were noted within Strata Ic and II. This could indicate removal of a crushed coral land reclamation fill layer from a nearby area that was then mixed with other local and non-local sediment and redeposited. Heavy disturbance and mixing were observed within Strata Ic through III, particularly within Stratum II. Stratum II appears to be a combination of two previously separate stratigraphic layers and asphalt that were subsequently disturbed and combined. Stratum III consists largely of locally procured sediment, likely A horizon and Jaucas sand material. Historic artifacts and faunal remains were observed within the Strata II–III spoil pile as well as along the interface of the two strata, including glass bottle fragments (Acc. #s 100, 102, 103, and 108), flat glass fragments (Acc. # 104), a stoneware bottle fragment (Acc. # 101), a clay marble (Acc. # 105), whiteware tableware fragments (Acc. #s 106 and 107), two metal nails (Acc. # 109), faunal remains (pig, cow, and Polynesian rat), and marine shell midden (*Cellana exarata*). Several pit features were also documented in association with Strata II–III, one pit feature originated from Stratum II and five pit features and a disturbed human burial originated from Stratum III. Based on the presence of cultural material and associated features, Strata II and III are interpreted as historic living surfaces, likely associated with the historic residences in this area, and considered components of SIHP # -7429 (Component 1). The features are designated SIHP # -7429 Features 133–139.

SIHP # -7429 Feature 133 is a rectangular pit that measures approximately 70 cm long, 50 cm wide, and 22 cm thick (see Figure 110 and Figure 112–Figure 114). It originates from the lower boundary of Stratum II, extends into the northeast and southeast test excavation sidewalls, and ranges from 40–62 cmbs. The feature matrix was screened and yielded four metal nails (Acc. # 110), a porcelain tableware fragment (Acc. # 111), flat glass fragments (Acc. # 112), bottle glass fragments (Acc. #s 113–116), a wood fragment (Acc. # 117), a basalt manuport (Acc. # 238), a piece of coal, and faunal remains (pig). The function of this feature is indeterminate.





Figure 108. T-14D northeast sidewall, view to north





Figure 109. T-14D southwest sidewall, view to south; note SIHP # -7429 Features 140 and 141

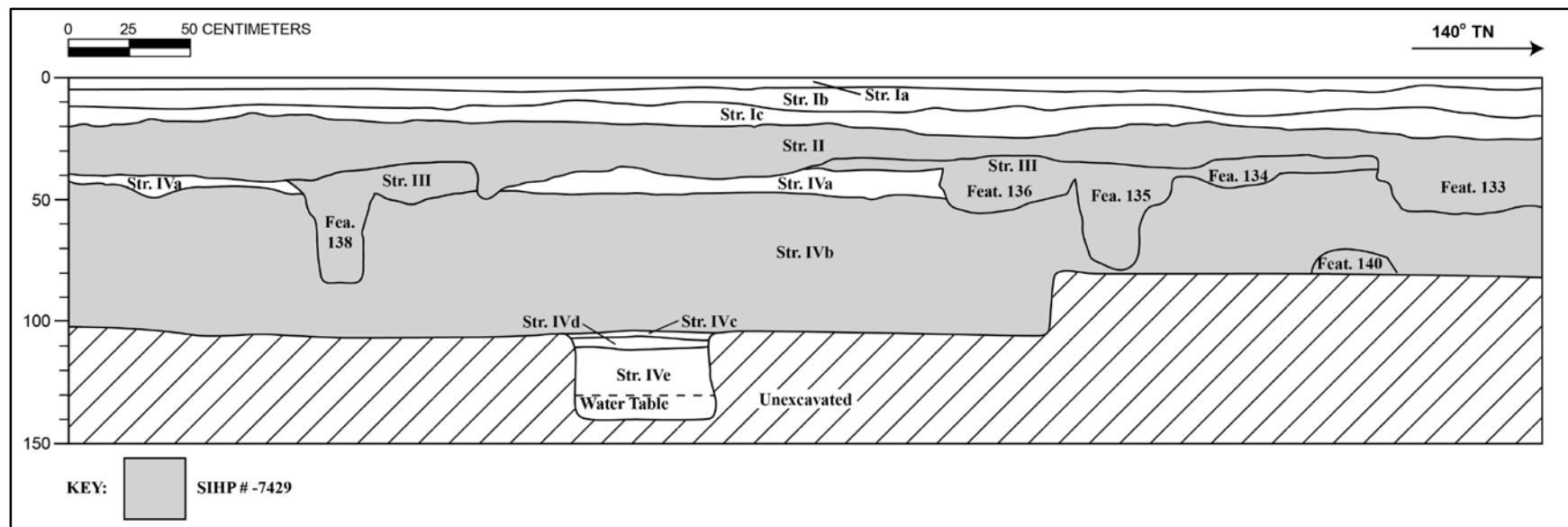


Figure 110. T-14D northeast profile



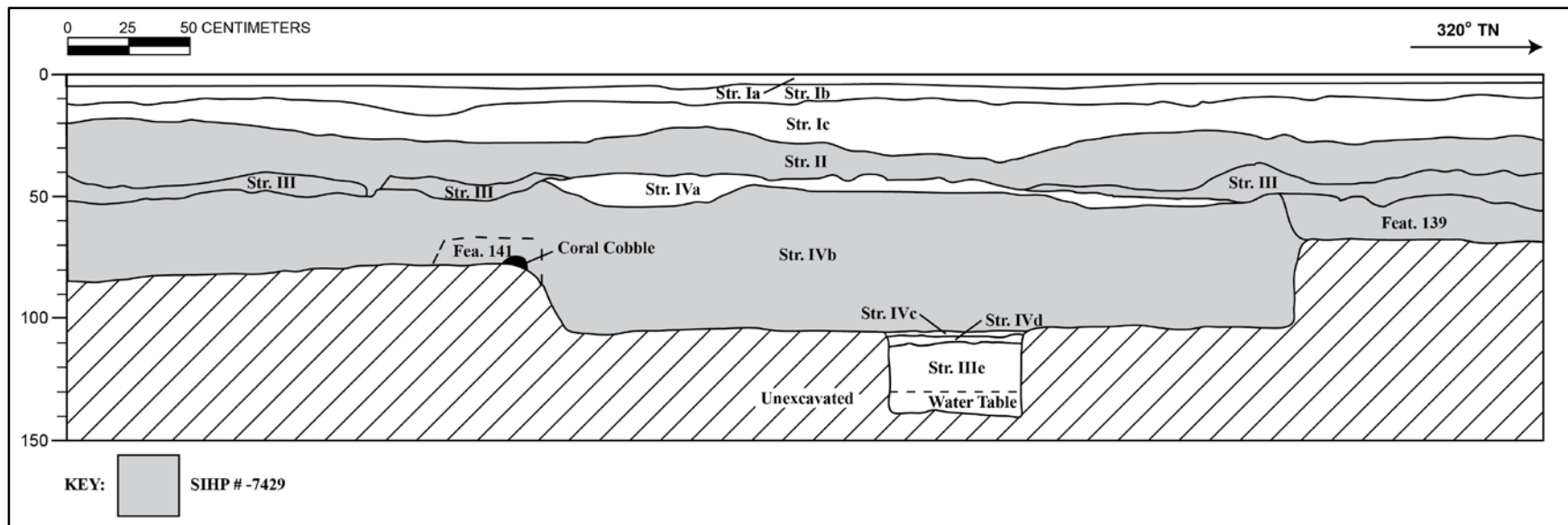


Figure 111. T-14D southwest profile

Table 18. T-14D Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	5–15	Fill; 10YR 4/2, dark grayish brown; extremely gravelly silty sand; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; basalt base course
Ic	12–35	Fill; 7.5YR 3/2, dark brown; very gravelly loam; strong, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; basalt and coral gravel grading fill
II	15–50	Fill; 10YR 3/2, very dark grayish brown; clay loam; mottled (~40%) with 2.5YR 3/3, dark reddish brown; sandy clay; moderate, fine, crumb structure; moist, friable consistence; slightly plastic; terrigenous origin; abrupt, smooth lower boundary; contains asphalt pieces; also contains historic artifacts* and faunal remains**; heavily mixed fill, possibly from two originally separate stratigraphic layers in the area; historic living surface; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 133
	40–62	SIHP # -7429 Feature 133; indeterminate function; contains four metal nails (Acc. # 110), a porcelain tableware fragment (Acc. # 111), flat glass fragments (Acc. # 112), bottle glass fragments (Acc. #s 113–116), a wood fragment (Acc. # 117), a piece of coal, a basalt stone manuport (Acc. # 238), and faunal remains (pig)
III	32–65	Fill; 10YR 5/3, brown; loamy sand; weak, medium, crumb structure; moist, very friable consistence; non-plastic; mixed origin; abrupt, broken/discontinuous lower boundary; contains historic artifacts* and faunal remains**; partly truncated, heavily mixed fill comprised of largely of locally procured and redistributed sediment; historic living surface; SIHP # -7429 Component 1; contains SIHP # -7429 Features 134–139
	33–45	SIHP # -7429 Feature 134; indeterminate function; contains slag, charcoal, a bottle glass fragment (Acc. # 118), and a glass marble (Acc. # 119)
	40–78	SIHP # -7429 Feature 135; possible post mold; no cultural material noted
	42–53	SIHP # -7429 Feature 136; indeterminate function; miscellaneous metal fragments (Acc. # 120), two metal nails (Acc. # 121), brick fragments, and a faunal remains (chicken)
	50–66	SIHP # -7429 Feature 137; indeterminate function; contains an isolated, large, cut basalt block, two metal nails (Acc. # 122), and a brick fragment
	48–85	SIHP # -7429 Feature 138; possible post mold; contains charcoal flecks
	50–69	SIHP # -7429 Feature 139; possible disturbed burial pit; contains isolated and disarticulated human skeletal remains (probable male adult, unknown

Stratum	Depth (cmbs)	Description
		ancestry), miscellaneous metal fragments (Acc. # 124), four metal nails (Acc. #s 125 and 134), bottle glass fragments (Acc. #s 126–129, 133, and 135), flat glass fragments (Acc. # 123), whiteware tableware fragments (Acc. # 130), porcelain tableware fragments (Acc. # 131), a brick fragment (Acc. # 132), a whiteware hollowware fragment (Acc. # 136), a flaked glass fragment (Acc. # 239), faunal remains (pig, red snapper, and unidentified fish), and charcoal flecks
IVa	38–54	Natural; 10YR 4/1, dark gray; silty loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; truncated and disturbed A horizon
IVb	40–105	Natural; 10YR 7/4, very pale brown; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; Jaucas sand; SIHP # -7429 Component 2; contains SIHP # -7429 Features 140 and 141
	70	SIHP # -7429 Feature 140; traditional-type burial, juvenile, unknown sex, likely Native Hawaiian ancestry
	80	SIHP # -7429 Feature 141; traditional-type burial, juvenile, unknown sex, likely Native Hawaiian ancestry; three coral boulders placed over the remains may be a grave marker
IVc	103–106	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; indurated sand
IVd	105–110	Natural; 2.5Y 8/2, pale yellow; silty sandy clay; structureless (massive); wet, slightly sticky consistence; very plastic; marine origin; very abrupt, smooth lower boundary
IVe	110–140 (BOE)	Natural; 2.5Y 7/4, pale brown; slightly clayey sand; structureless (single-grain); wet, non-sticky consistence; slightly plastic; marine origin; lower boundary not visible; few very fine roots; becomes coarser with depth

\*Historic artifacts collected from the Strata II–III spoils pile and Strata II–III interface: glass bottle fragments (Acc. #s 100, 102, 103, and 108), flat glass fragments (Acc. #s 104), a clay marble (Acc. # 105), whiteware tableware fragments (Acc. #s 106 and 107), two metal nails (Acc. # 109)

\*\*Faunal remains collected from the Strata II–III spoils pile and Strata II–III interface: pig, cow, and Polynesian rat



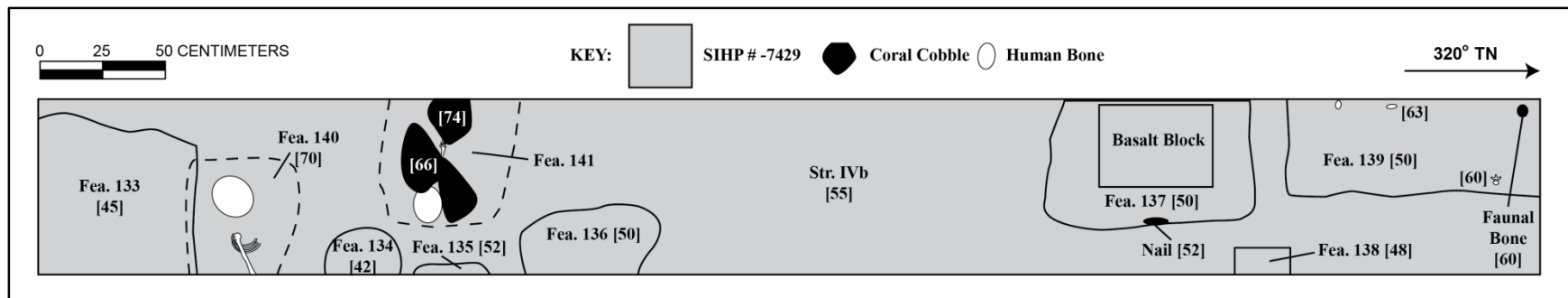


Figure 112. T-14D plan view depicting SIHP # -7429 Features 133–141



Figure 113. SIHP # -7429 Feature 133 in plan view in the southeast end of T-14D, view to northeast



Figure 114. SIHP # -7429 Feature 133 in the northeast and southeast sidewalls, view to east

SIHP # -7429 Feature 134 is a semi-circular pit that measures approximately 30 cm long, 20 cm wide, and 12 cm thick (see Figure 110, Figure 112, Figure 115, and Figure 116). It originates from the lower boundary of Stratum III, extends into the northeast test excavation sidewall, and ranges from 33–45 cmbs. The feature matrix was screened and yielded slag, charcoal, a bottle glass fragment (Acc. # 118), and a glass marble (Acc. # 119) with a post-1901 manufacture date. The function of this feature is indeterminate.

SIHP # -7429 Feature 135 is a rectangular pit that measures approximately 30 cm long, 5 cm wide, 38 cm thick (see Figure 110, Figure 112, Figure 115, and Figure 116). It originates from the lower boundary of Stratum III, extends into the northeast test excavation sidewall, and ranges from 40–78 cmbs. The feature matrix was screened and yielded no cultural material. This feature is a possible post mold.

SIHP # -7429 Feature 136 is a rectangular pit that measures approximately 60 cm long, 30 cm wide, and 11 cm thick (see Figure 110, Figure 112, and Figure 117). It originates from the lower boundary of Stratum III, extends into the northeast test excavation sidewall, and ranges from 42–53 cmbs. The feature matrix was screened and yielded miscellaneous metal fragments (Acc. # 120), two metal nails (Acc. # 121), brick fragments, and faunal remains (chicken). The function of this feature is indeterminate.

SIHP # -7429 Feature 137 is a rectangular pit that measures approximately 85 cm long, 53 cm wide, and 16 cm thick (Figure 112, Figure 118, and Figure 119). It originates from the lower boundary of Stratum III, abuts the southwest test excavation sidewall, and ranges from 50–66 cmbs. The main component of the feature is an isolated, large, cut basalt block. The block measures approximately 45 cm long, 35 cm wide, and 10 cm thick. It was likely part of a structural element at some point. Also present within the feature pit matrix were two metal nails (Acc. # 122) and a machine-made brick fragment. The function of this feature is indeterminate.

SIHP # -7429 Feature 138 is a rectangular pit that measures approximately 23 cm long, 10 cm wide, and 37 cm thick (see Figure 110, Figure 112, and Figure 120). It originates from the lower boundary of Stratum III, extends into the northeast test excavation sidewall, and ranges from 48–85 cmbs. The feature matrix was screened and yielded no cultural material; however, charcoal flecks were noted in the feature matrix during excavation. This feature is a possible post mold.

SIHP # -7429 Feature 139 is a large rectangular pit that measures approximately 102 cm long, 33 cm wide, and 19 cm thick (see Figure 111, Figure 112, and Figure 121). It originates from the lower boundary of Stratum III, extends into the southwest test excavation sidewall, and ranges from 50–69 cmbs. Cultural material within the feature included miscellaneous metal fragments (Acc. # 124), four metal nails (Acc. #s 125 and 134), bottle glass fragments (Acc. #s 126–129, 133, and 135), flat glass fragments (Acc. # 123), whiteware tableware fragments (Acc. # 130), porcelain tableware fragments (Acc. # 131), a brick fragment (Acc. # 132), a whiteware hollowware fragment (Acc. # 136), a flaked glass fragment (Acc. # 239), charcoal flecks, and faunal remains (pig, red snapper fish, and unidentified fish). The feature also contained several isolated and disarticulated human skeletal remains. Once discovered, excavation of the feature was stopped. It is unclear whether the remains represent a previously disturbed in situ historic burial, a disturbed secondary burial, or isolated remains within a pit feature. The remains represent a probable male adult of unknown ancestry.





Figure 115. SIHP # -7429 Features 134 (right) and 135 (left) in plan view, view to northeast



Figure 116. SIHP # -7429 Features 134 (right) and 135 (left) in the northeast sidewall, view to northeast





Figure 117. SIHP # -7429 Feature 136 in plan view, view to northeast



Figure 118. SIHP # -7429 Feature 137 in plan view, view to southwest





Figure 119. SIHP # -7429 Feature 137, depicting cut basalt block and brick in profile, view to northwest



Figure 120. SIHP # -7429 Feature 138 in the northeast sidewall, view to north





Figure 121. SIHP # -7429 Feature 139 in plan view in northwest end of T-14D, view to northwest

Underlying and truncated by Strata II and III is a remnant, natural loamy sand A horizon (Stratum IVa). It appears to have been largely removed by the deposition of the overlying fill layers. No cultural material or features were observed within the A horizon. Two traditional-type burials, however, were documented within the natural Jaucas sand (Stratum IVb), SIHP # -7429 Features 140 and 141. Stratum IVb is considered a component of SIHP # -7429 (Component 2).

SIHP # -7429 Feature 140 is a traditional-type burial located at the southeast end T-14D at 70 cmbs (see Figure 109, Figure 110, Figure 112, and Figure 122). The burial originates in the Stratum IVb Jaucas sand layer. No burial pit was observed. Only the head and right shoulder were uncovered. The rest of the remains are believed to be in situ and extend into the northeast test excavation sidewall. The burial appears to be in a flexed position, lying on its left side with the head to the southwest. The burial is a juvenile of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 141 is a traditional-type burial located in the southeast half of T-14D near SIHP # -7429 Feature 158 at 66 cmbs (see Figure 109, Figure 111, Figure 112, and Figure 122). The burial originates in the Stratum IVb Jaucas sand layer. No burial pit was observed; however, three coral boulders were observed on top of the remains that likely represent a grave marker. Only the head and right elbow were uncovered beneath and between the coral boulders. The rest of the remains are believed to be in situ and extend into the southwest test excavation sidewall. The burial appears to be in a flexed or semi-flexed position, lying on its left side with the head to the northeast. The burial is a juvenile of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). All three burials were only minimally uncovered, and they were all preserved in place. The uncovered portions of each burial were covered with sand, natural cloth, *tī* leaves, and plywood boards (see Figure 122).





Figure 122. T-14D post-excavation showing burial locations and treatment



### 1.2.19 Test Excavation 14E (T-14E)

T-14E is a supplemental test excavation, placed approximately 11 m northwest of the northwest end of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14E was oriented east-west and measured 6.0 m long by 0.6 m wide. The water table was encountered at 1.1 mbs, and the base of excavation was determined by the coral shelf at 1.3 mbs.

The stratigraphy of T-14E consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), very gravelly loamy sand fill (Stratum Id), and loamy sand fill (Stratum If), over a sandy loam fill living surface (Stratum II; SIHP # -7429) and a loamy sand fill living surface (Stratum III; SIHP # -7429), over a natural, loamy sand A horizon (Stratum IVa) that developed within natural, calcareous Jaucas sand (Stratum IVb), over a thin layer of indurated sand (Stratum IVc), sandy clay (Stratum IVd), and sand (Stratum IVe) (Figure 123 through Figure 126 and Table 19). The backfilled T-10 excavation was observed transecting the east end of T-14E. A modern utility pit (Stratum Ic) originates from the top of Stratum Id at approximately 20 cmbs and terminates at approximately 88 cmbs within Stratum IVb near the center of T-14E. A second, large, modern utility pit (Stratum Ie) containing a pipe originates from the top of Stratum If at approximately 30 cmbs and extends to the coral shelf at 130 cmbs in the west half of T-14E. The utility pipe is located from approximately 105–125 cmbs. A small utility pipe was observed transecting the east half of T-14E from 50–55 cmbs within Stratum II. A utility void was also noted near the small utility pipe in the center of the north sidewall from 50–60 cmbs within Stratum II.

The excavation of T-14E documented modern deposits (Strata Ia–If) over two locally procured fill layers that functioned as historic living surfaces (Strata II and III), over an in situ A horizon (Stratum IVa) and natural sands (Strata IVb–IVe). Early twentieth century land reclamation fill material was absent.

A total of 100 gallons of Stratum II were screened in the field and yielded faunal remains (cow bone cut with a metal saw blade, pig, dog, Polynesian rat, and fish), two traditional-type artifacts consisting of a basalt flake (Acc. # 240) and a chert core (Acc. # 241), and abundant historic artifacts including a metal cap for a wide-mouth jar or bottle (Acc. # 138), a stoneware spout from a round jug (Acc. # 139), a woven fiber strap (Acc. # 140), a metal bottle cap (Acc. # 141), a metal nail (Acc. # 142), a shell button (Acc. # 143), a prosser button (Acc. # 144), a pressed glass base (Acc. # 145), glass bottle fragments (Acc. #s 146 and 154), a porcelain cup fragment (Acc. # 147), porcelain spoon fragment (Acc. # 148), porcelain tableware fragments (Acc. # 151), a clay marble (Acc. # 149), a glass marble (Acc. # 150), whiteware tableware fragment (Acc. # 152), yellowware tableware fragment (Acc. # 153), and an ironstone tableware fragment (Acc. # 155). Accession # 154, a Honolulu Soda Water Company bottle, was manufactured in 1910. A pit feature was also documented originating from the lower boundary of Stratum II. Based on the presence of historic cultural material and an associated pit feature, Stratum II is interpreted as a historic living surface and considered a component of SIHP # -7429 (Component 1). The associated feature is designated SIHP # -7429 Feature 142.

SIHP # -7429 Feature 142 is an oblong pit that measures approximately 60 cm long, 40 cm wide, and 7 cm thick (Figure 127 and Figure 128). It originates from the lower boundary of



Figure 123. T-14E north sidewall; note slumping of previously backfilled T-10 at far right; view to northwest



Figure 124. T-14E south sidewall; note backfilled/layered T-10; view to southwest



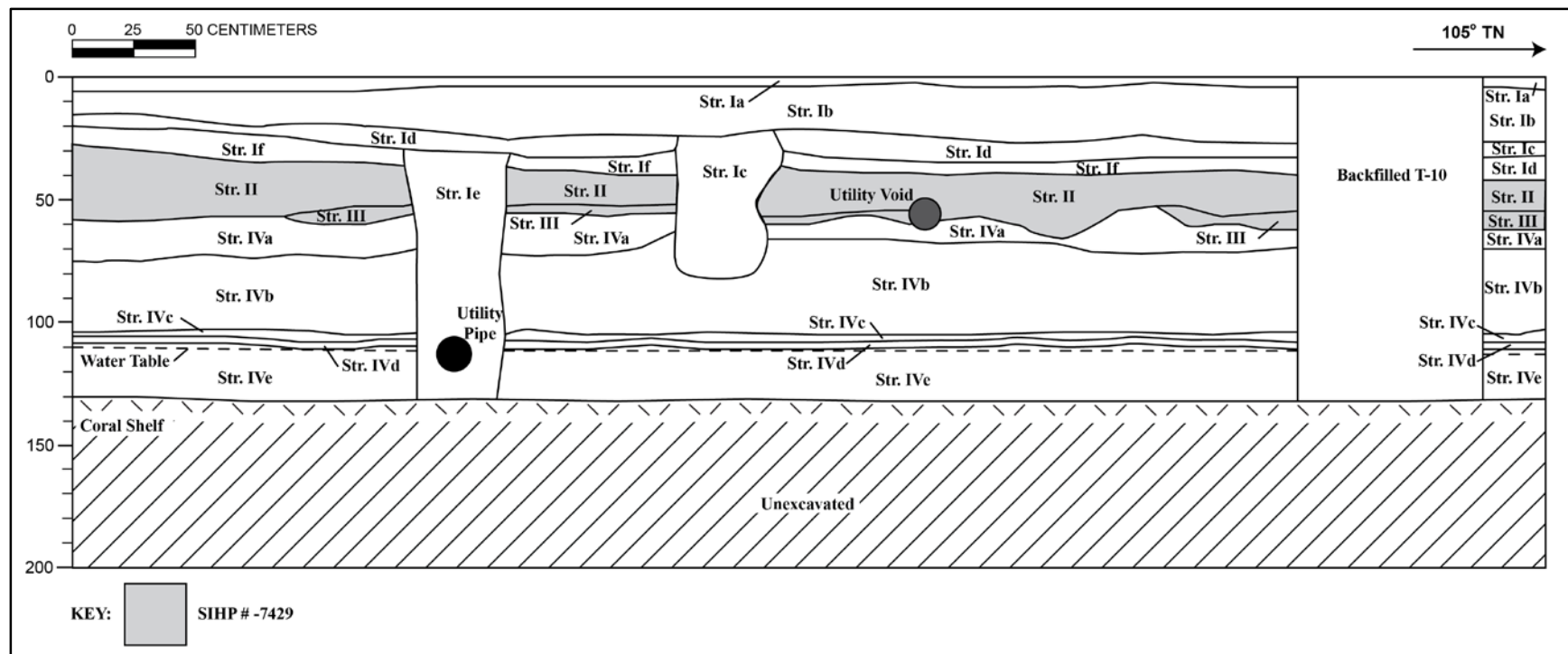


Figure 125. T-14E north profile

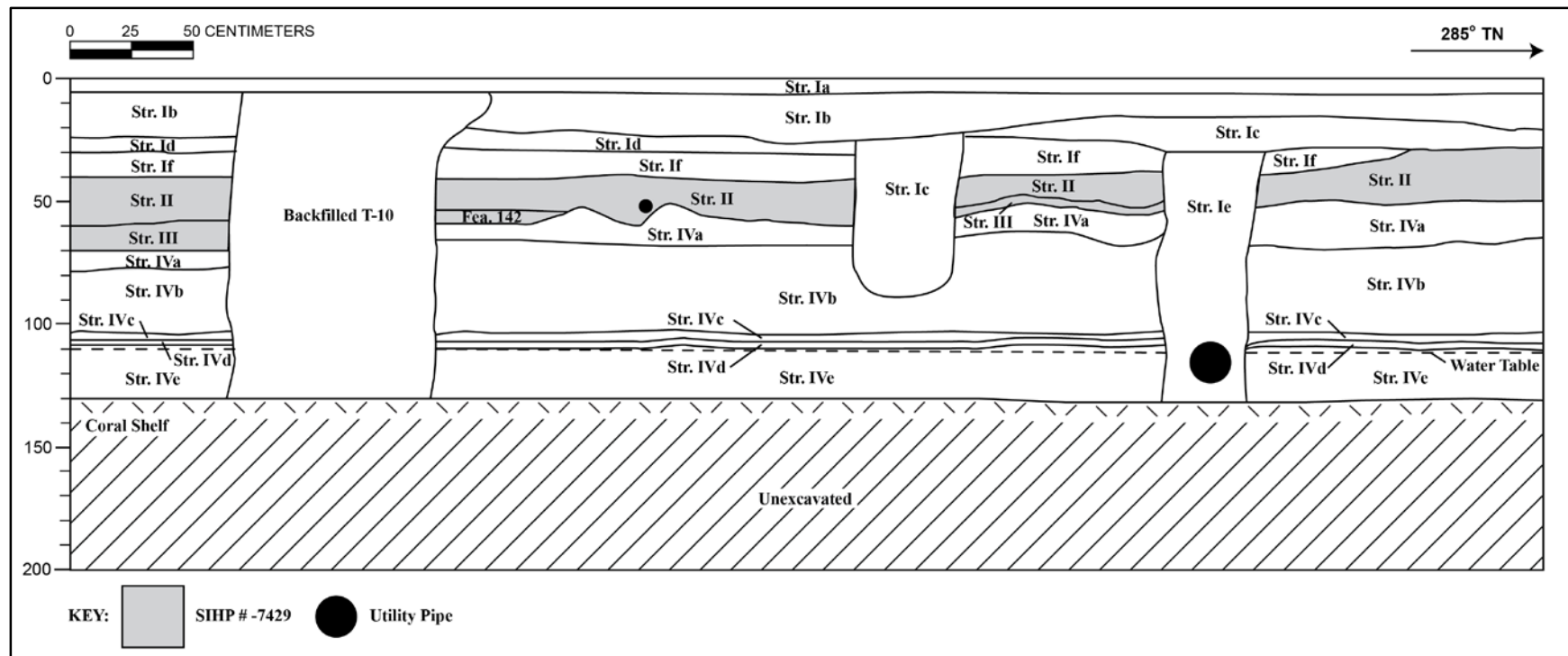


Figure 126. T-14E south profile

Table 19. T-14E Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	3–25	Fill; 10YR 3/1, very dark gray; extremely gravelly fine sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; very abrupt, smooth lower boundary; contains asphalt pieces; basalt base course
Ic	23–82	Fill; gravelly clay loam and Jaucas sand; utility trench
Id	15–35	Fill; 10YR 7/2, light gray; very gravelly loamy fine sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; very abrupt, smooth lower boundary; contains a glass marble (Acc. # 161), asphalt pieces, and coral and basalt cobbles; mixed fill
Ie	25–130 (BOE)	Fill; Jaucas sand and clay loam; utility trench
If	20–39	Fill; 10YR 4/2, dark grayish brown; loamy fine sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary
II	27–59	Fill; 7.5YR 3/1, very dark gray; sandy loam; weak, medium, crumb structure; moist, very friable consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; contains faunal remains (cow, pig, dog, Polynesian rat, fish), two traditional-type artifacts consisting of a basalt flake (Acc. # 240) and a chert core (Acc. # 241), and abundant historic artifacts consisting of a metal cap for a wide-mouth jar or bottle (Acc. # 138), a stoneware spout from a round jug (Acc. # 139), a woven fiber strap (Acc. # 140), a metal bottle cap (Acc. # 141), a metal nail (Acc. # 142), a shell button (Acc. # 143), a prosser button (Acc. # 144), a pressed glass base (Acc. # 145), glass bottle fragments (Acc. #s 146 and 154), a porcelain cup fragment (Acc. # 147), porcelain tableware fragments (Acc. #s 148 and 151), a clay marble (Acc. # 149), a glass marble (Acc. # 150), whiteware tableware fragments (Acc. #s 152 and 153), and an ironstone tableware fragment (Acc. # 155); historic living surface composed of locally procured and redistributed sediment; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 142
	53–60	SIHP # -7429 Feature 142; indeterminate function; contains a brick fragment (Acc. # 156), bottle glass fragments (Acc. # 157), a window glass fragment (Acc. # 158), a whiteware tableware fragment (Acc. # 159), porcelain tableware fragments (Acc. #s 160 and 162), stoneware jar fragments (Acc. # 161 and 163), and faunal remains consisting of cow and pig bone cut with a metal saw blade and fish



Stratum	Depth (cmbs)	Description
III	46–70	Fill; 10YR 2/1, black; loamy fine sand; weak, fine crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, broken/discontinuous lower boundary; contains isolated and disarticulated human skeletal remains (SIHP # -7429 Feature 143), charcoal, a basalt flake (Acc. # 242), and unidentified medium mammal bone; historic living surface composed of locally procured and redeposited sediment; SIHP # -7429 Component 1; contains SIHP # -7429 Feature 143
	49–57	SIHP # -7429 Feature 143; several isolated and disarticulated human skeletal remains; no biological information available
IVa	49–78	Natural; 10YR 4/3, brown; loamy fine sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, wavy lower boundary; truncated, in situ A horizon
IVb	62–105	Natural; 10YR 8/3, very pale brown; fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; calcareous Jaucas sand
IVc	102–107	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; indurated sand
IVd	105–109	Natural; 2.5Y 8/2, pale yellow; very fine sandy clay; structureless (massive); wet, slightly sticky consistence; slightly plastic; marine origin; abrupt, smooth lower boundary
IVe	109–130	Natural; 2.5Y 8/3, pale yellow; fine to medium sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; overlies the coral shelf
V	130 (BOE)	Natural; coral shelf

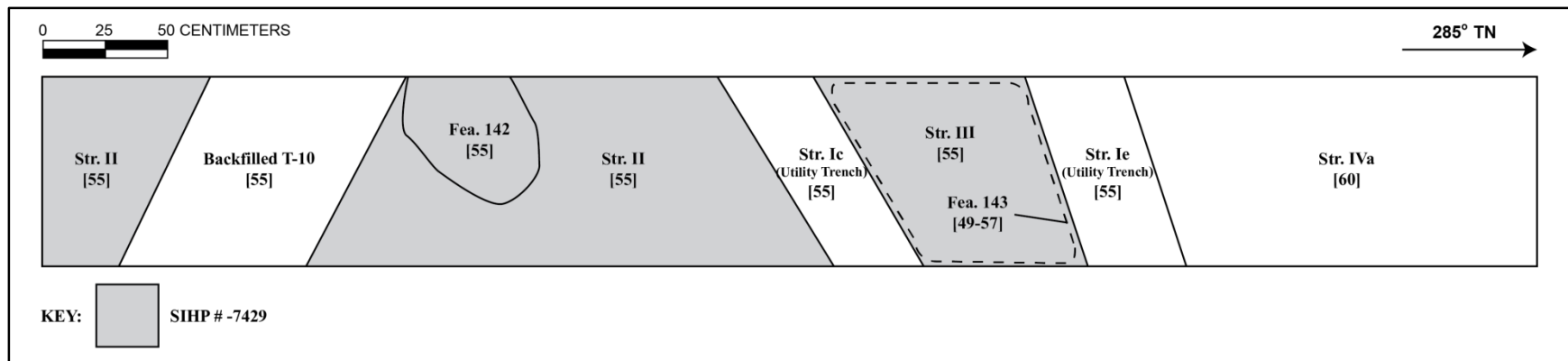


Figure 127. T-14E plan view depicting SIHP # -7429 Features 142 and 143



Figure 128. Plan view of SIHP # -7429 Feature 142



Stratum II, extends into the south test excavation sidewall, and ranges from 53–60 cmbs. Cultural material within the feature includes a brick fragment (Acc. # 156), bottle glass fragments (Acc. # 157), a window glass fragment (Acc. # 158), a whiteware tableware fragment (Acc. # 159), porcelain tableware fragments (Acc. #s 160 and 162), stoneware jar fragments (Acc. #s 161 and 163), and faunal remains consisting of fish and butchered pig and cow bone. The function of this feature is indeterminate.

Approximately 20 gallons of Stratum III were also screened, in particular within the area surrounding a scattering of disturbed and isolated human skeletal remains. Additional disarticulated human skeletal remains (SIHP # -7429 Feature 143) were documented, as well as charcoal, a basalt flake (Acc. # 242), and unidentified mammal bone. Stratum III is also considered a component of SIHP # -7429 (Component 1).

SIHP # -7429 Feature 143 consists of several isolated and disarticulated human skeletal remains found scattered within Stratum III from 49–57 cmbs (see Figure 127). They were observed between the two modern utility pits (Strata Ic and Ie) in the west half of the test excavation within a roughly 60 cm<sup>2</sup> area. The skeletal remains consist of hand bones and small fragments. No biological information could be gleaned from the remains. These remains were likely disturbed from a burial in the nearby area. The burial find is likely related to a large burial ground in the area. Protective measures and burial protocol for the burial find were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). The burial find was preserved in place. The remains were covered with natural cloth, sand, and plywood boards (Figure 129).



Figure 129. Burial location and treatment for SIHP # -7429 Feature 143, view to northeast

### 1.2.20 Test Excavation 14F (T-14F)

T-14F is a supplemental test excavation, placed approximately 12 m west of the northwest end of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14F was oriented east-west and measured 6.0 m long by 0.7 m wide. The water table was encountered at 1.0 mbs (torrential rains at the time appear to have raised the water table), and the base of excavation was determined by the coral shelf at 1.60 mbs.

The stratigraphy of T-14F consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), gravelly sandy loam fill (Stratum Ic), gravelly sandy clay loam fill (Stratum Id), and sandy clay loam fill (Stratum If), over a sandy loam fill historic living surface (Stratum II; SIHP # -7429), over a truncated, natural loamy sand A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb; SIHP # -7429) (Figure 130 through Figure 133 and Table 18). Two backfilled utility trenches (Strata Ie and Ig) were encountered within T-14F, running perpendicular through the test excavation. The western utility trench (Stratum Ie) originates at the Strata Id and If interface and extends to the coral shelf. The eastern utility (Stratum Ig) originates at the lower boundary of Stratum Ie; excavation of the utility trench ceased at 90 cmbs due to the presence of the utility line.

The excavation of T-14F documented modern deposits and utility trenches (Strata Ia–Ig) over a historic fill living surface (Stratum II), over a truncated, in situ A horizon (Stratum IIIa) that developed within natural sand (Strata IIIb). Early twentieth century land reclamation fill material was absent. Stratum II consists of largely locally procured sediment that has been redeposited and graded. Field screening of 105 gallons of Stratum II sediment yielded glass fragments, ceramic fragments, and metal nails and fragments. Faunal remains were also hand collected from Stratum II, consisting of pig, dog, chicken, fish, and cow bone cut with a metal saw blade. Similar culturally enriched, mixed fill deposits, comprised of varying amounts of imported and locally procured sediment, were documented within the area surrounding T-14F, often containing associated pit features. Stratum II likely served as a historic living surface in association with historic residences along Queen Street. It is considered a component of SIHP # -7429 (Component 1).

A remnant natural A horizon (Stratum IIIa) was observed only within the central portion of the north sidewall and appears to have been largely removed by the deposition of Stratum II. The underlying Jaucas sand (Stratum IIIb) contains two human burials and is also considered a component of SIHP # -7429 (Component 2). The two burials are traditional-type burials located in the Jaucas sand within faint burial pits (Figure 134). These burials are part of a larger burial ground documented within test excavations T-14 through T-14G. Protective measures and burial protocol for all burials were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). Both burials were only minimally uncovered, and they were preserved in place. The uncovered portions of each burial were re-covered with Jaucas sand and plywood boards.

SIHP # -7429 Feature 144 is a traditional-type burial located in the east end of T-14F at approximately 129 cmbs (see Figure 132, Figure 133, and Figure 134). The burial is located





Figure 130. T-14F north sidewall, view to northwest



Figure 131. T-14F south sidewall, view to southwest

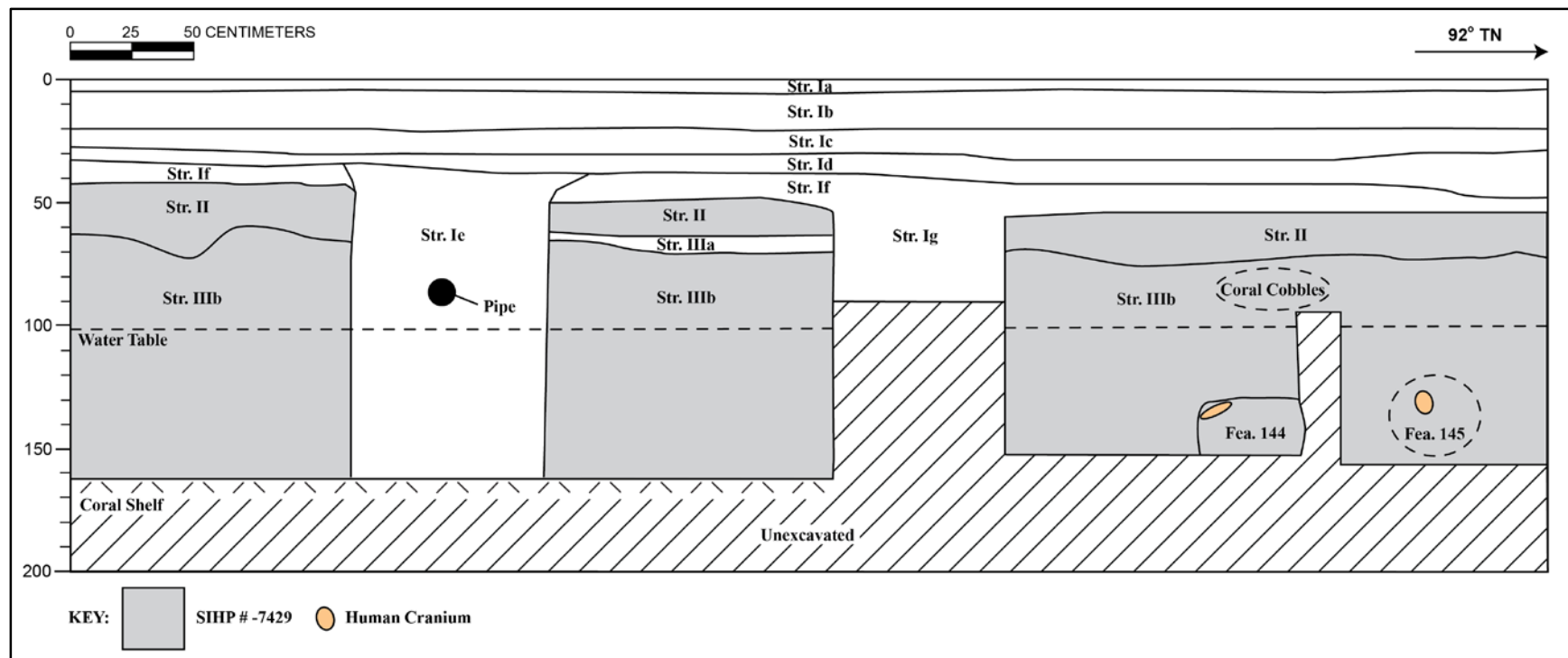


Figure 132. T-14F north profile



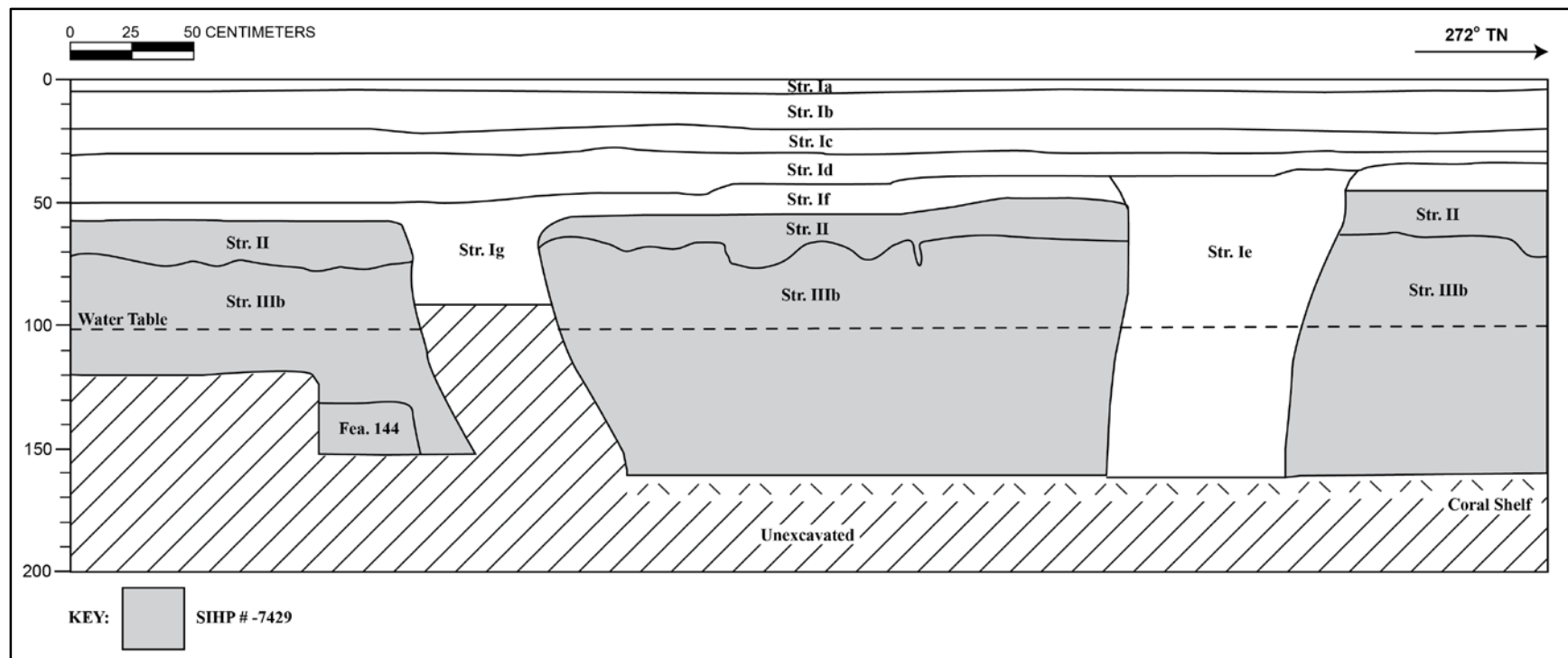


Figure 133. T-14F south profile

Table 20. T-14F Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	5–20	Fill; 5YR 4/2, dark reddish gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; basalt base course
Ic	20–30	Fill; 10YR 2/2, very dark brown; gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; basalt grading fill
Id	30–50	Fill; 10YR 4/1, dark gray; gravelly silt loam; moderate, fine, crumb structure; moist, friable consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; contains coral cobbles and asphalt pieces
Ie	45–160 (BOE)	Fill; clay loam and sand; utility trench
If	44–55	Fill; 10YR 2/2, very dark brown; sandy clay loam; moderate, medium, crumb structure; moist, friable consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; contains asphalt pieces
Ig	52–unkn.	Fill; gravelly clay loam; utility trench
II	44–76	Fill; 7.5YR 3/3, dark brown; sandy loam; weak, medium, crumb structure; moist, friable consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; contains ceramic and glass fragments, metal nails, and faunal bone (cow, pig, dog, chicken, fish); composed of both locally procured and non-local sediment; likely a historic living surface; SIHP # -7429 Component 1
IIIa	63–71	Natural; 10YR 5/2, grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; truncated, in situ A horizon; visible in central portion of north wall only
IIIb	56–160 (BOE)	Natural; 10YR 6/4, light yellowish brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; calcareous Jaucas sand; SIHP # -7429 Component 2; contains SIHP # -7429 Features 144 and 145
	129	SIHP # -7429 Feature 144; traditional-type burial in a faint burial pit, adult or older adolescent, unknown sex, likely Native Hawaiian ancestry; contains a gourd and braided <i>tī</i> leaf cordage surrounding or wrapping around it
	127	SIHP # -7429 Feature 145; traditional-type burial in a faint burial pit, adult or older adolescent, unknown sex, likely Native Hawaiian ancestry; contains a braided <i>tī</i> leaf <i>lei</i> wrapped around the head and neck

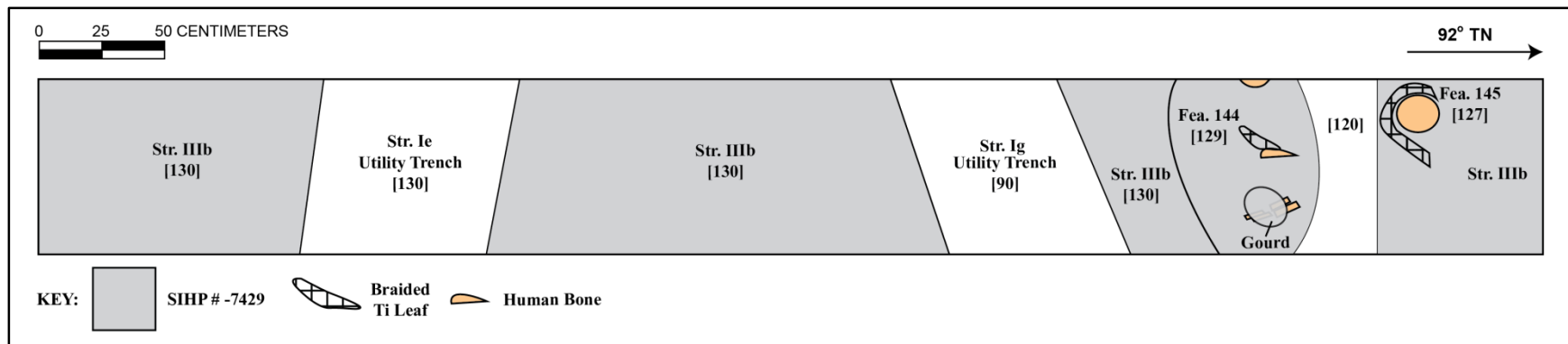


Figure 134. T-14 Plan view at 130 cmbs depicting SIHP # -7429 Features 144 and 145 (burials)



within a faint burial pit that originates within Stratum IIIb Jaucas sand. The entire burial pit was not uncovered, so its complete dimensions are unknown, but the burial likely continues into both the north and south test excavation sidewalls. Only the cranium and left arm area were uncovered, but the burial appears to be in a flexed position. Braided *tī* leaf cordage was observed surrounding the burial, possibly wrapped around it. A gourd was also observed on top of the burial. The burial is an adult or older adolescent of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

SIHP # -7429 Feature 145 is a traditional-type burial located in the east end of T-14F at approximately 127 cmbs (see Figure 132 and Figure 134). The burial appears to be located within a faint burial pit that originates within Stratum IIIb Jaucas sand, and it is located approximately 10 cm away from Feature 144. Only the cranium was uncovered, and the burial position is unknown. A braided *tī* leaf *lei* was observed wrapped around the head and neck of the burial. The burial is an adult or older adolescent of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

### 1.2.21 Test Excavation 14G (T-14G)

T-14G is a supplemental test excavation, placed approximately 15 m southwest of T-14, for the purpose of determining the boundary of the T-14 burial cluster. T-14G was oriented east-west and measured 6.0 m long by 0.6 m wide. The water table was encountered at 1.38 mbs, and the base of excavation was determined by the coral shelf at 1.50 mbs.

The stratigraphy of T-14G consists of the asphalt surface (Stratum Ia), associated extremely gravelly loamy sand base course (Stratum Ib), extremely gravelly loamy sand fill (Stratum Ic), gravelly loamy sand fill (Stratum Id), gravelly loamy clay sand fill (Stratum Ie), and loamy sand fill containing oil (Stratum If), over a gravelly loamy sand fill historic living surface (Stratum II; SIHP # -7429), over a remnant, natural loamy sand A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb), over a thin layer of indurated sand (Stratum IIIc), sandy clay (Stratum IIId), and sand (Stratum IIIe) (Figure 135 through Figure 138 and Table 21).

The excavation of T-14G documented modern deposits (Strata Ia–If) over a historic living surface (Stratum II), over a remnant in situ A horizon (Stratum IIIa) that developed within natural sands (Strata IIIb–IIIe). Early twentieth century land reclamation fill material was absent within T-14G, although high concentrations of crushed coral cobbles were noted within Strata Id, Ie, and II. This could indicate removal of a crushed coral land reclamation fill layer from a nearby area that was then mixed with other local and non-local sediment and redeposited. Stratum II consists of largely locally procured and redeposited sediment. Field screening of 30 gallons of Stratum II material yielded charcoal, faunal bone (dog), and historic artifacts, consisting of whiteware tableware fragments (Acc. # 164), an intact glass bottle (Acc. # 180) with a manufacture date of post-1908, glass bottle fragments (Acc. #s 170 and 172), a decorative glass ball (Acc. # 173), a glass tube fragment (Acc. # 165), and a machine-cut metalwire nail (Acc. # 167). Stratum II also contains four associated pit features. Based on the presence of historic cultural material and associated pit features, Stratum II is interpreted as a historic living surface associated with historic residences along Queen Street and considered a component of SIHP # -7429 (Component 1). The associated features are designated SIHP # -7429 Features 146–149.

SIHP # -7429 Feature 146 is a small pit that measures approximately 18 cm long, 16 cm wide, and 12 cm thick (see Figure 138, Figure 139, and Figure 140). It originates from the lower boundary of the Stratum II fill living surface at 55 cmbs, extends into the south and east test excavation walls, intrudes into the burial pit for SIHP # -7429 Feature 150, and terminates at 67 cmbs. Cultural material within the feature includes coral cobbles and many Polynesian rat bones (possibly an articulated skeleton). The function of this feature is indeterminate.

SIHP # -7429 Feature 147 is an oblong pit that measures approximately 20 cm long, 11 cm wide, and 30 cm thick (see Figure 137, Figure 139, and Figure 141). It originates from the base of the Stratum II fill living surface at 55 cmbs, extends into the north test excavation sidewall, and terminates in Stratum IIIb Jaucas sand at 85 cmbs. A total of 5 gallons of sediment matrix were screened, but no cultural material was noted. The function of this feature is indeterminate.



Figure 135. T-14G north sidewall, view to northwest





Figure 136. T-14G south sidewall, view to southwest

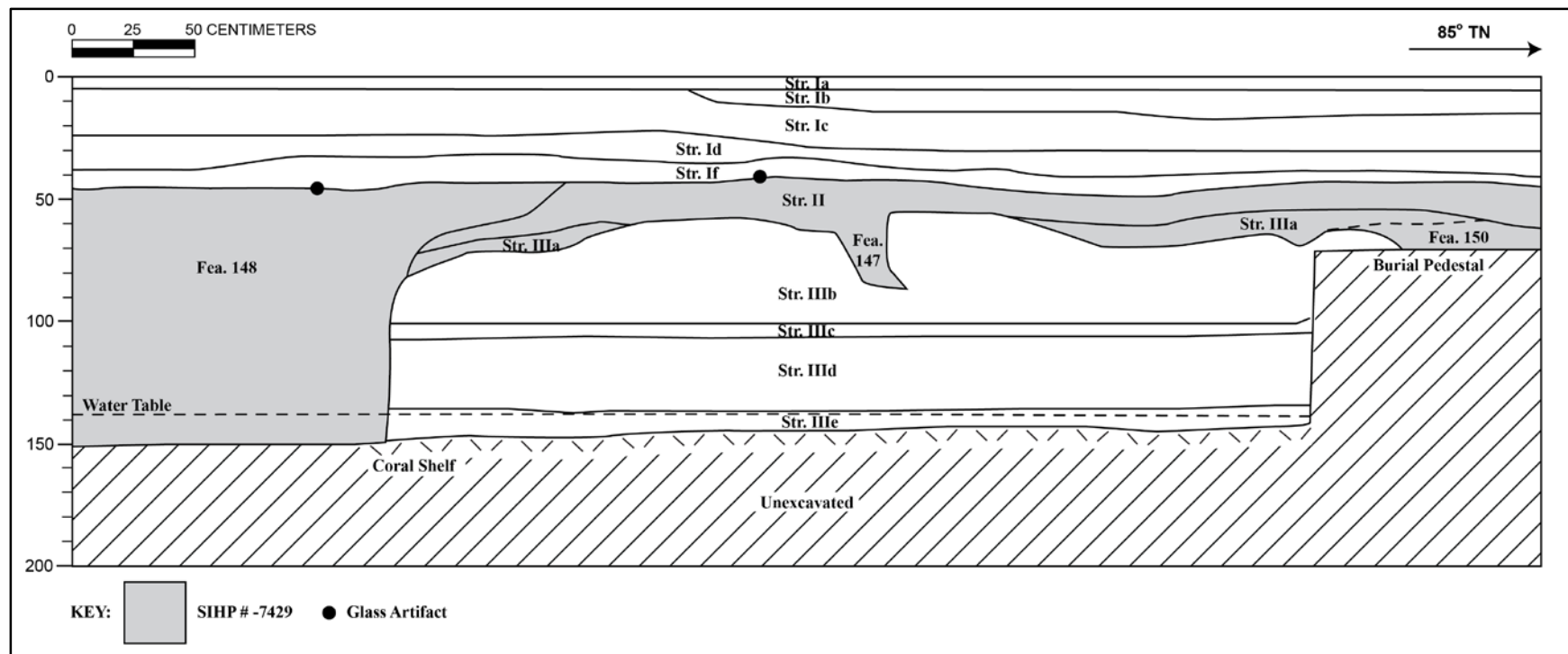


Figure 137. T-14G north profile

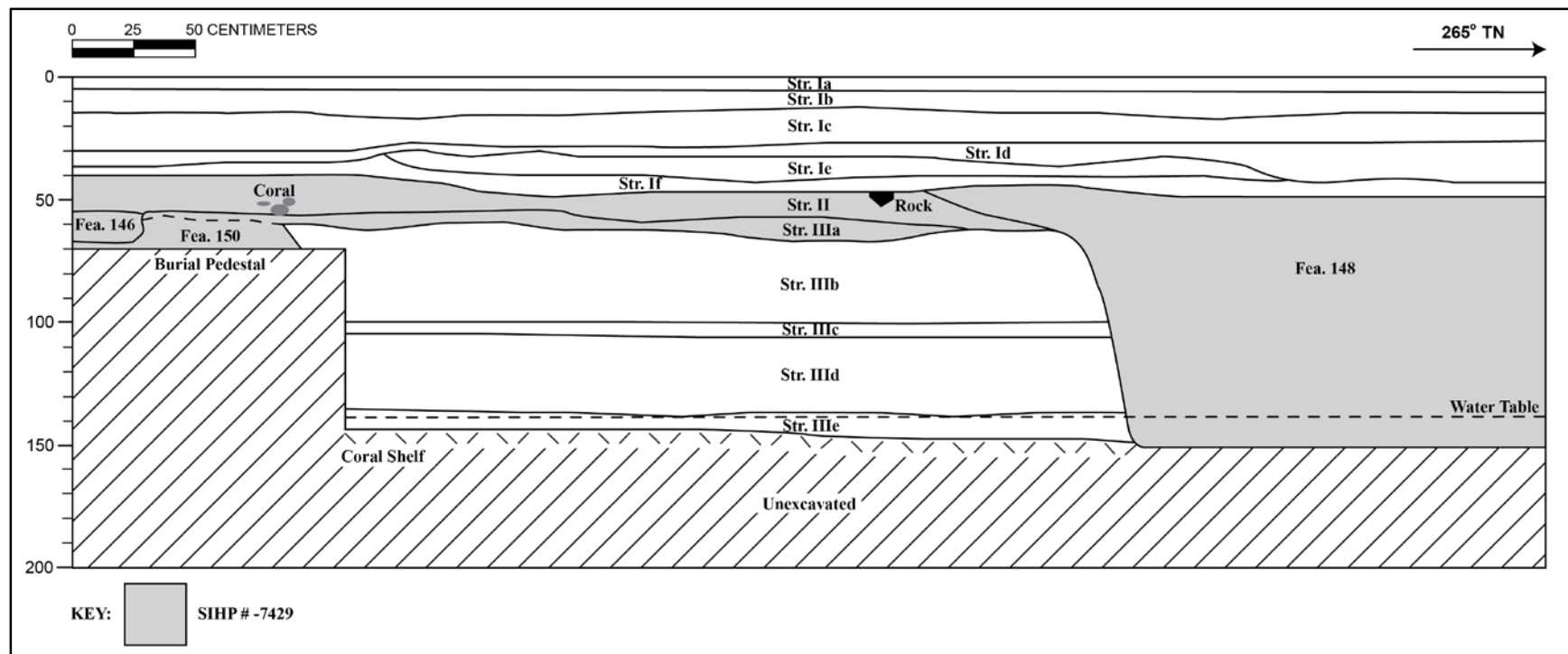


Figure 138. T-14G south profile



Table 21. T-14G Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	1–16	Fill; 10YR 3/1, very dark gray; extremely gravelly loamy sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; basalt base course
Ic	5–31	Fill; 2.5YR 3/3, dark reddish brown; very gravelly loamy sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; basalt base course/grading fill
Id	23–42	Fill; 10YR 4/4, dark yellowish brown; gravelly loamy sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; mixed fill with coral gravels and cobbles
Ie	30–40	Fill; 10YR 4/1, dark gray, with mottles of 10YR 5/3, brown; gravelly loamy sand; weak, medium, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; mixed fill with crushed coral inclusions
If	33–49	Fill; 2.5Y 2.5/1, black; loamy fine sand; weak, fine crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, broken/discontinuous lower boundary; disturbed and truncated fill deposit containing oil
II	39–71	Fill; 10YR 4/2, dark grayish brown; gravelly loamy sand; weak, fine crumb structure; moist, loose consistence; non-plastic; mixed origin; diffuse, wavy lower boundary; contains crushed coral, charcoal, whiteware tableware fragments (Acc. # 164), a glass tube (Acc. # 165), glass bottle fragments (Acc. #s 166 and 168), a machine-cut metal nail (Acc. # 167), a decorative glass ball (possibly a castor or paperweight; Acc. # 169), and dog bone; fill composed of largely locally procured and redeposited sediment; historic living surface; SIHP # -7429 (Component 1); contains SIHP # -7429 Features 146–149
	55–67	SIHP # -7429 Feature 146; indeterminate function; contains coral cobbles and many Polynesian rat bones (possibly an articulated skeleton).
	64–85	SIHP # -7429 Feature 147; indeterminate function; no cultural material
	40–150	SIHP # -7429 Feature 148; trash pit; contains historic artifacts and structural debris (such as milled wood); cultural material collected from the feature includes porcelain tableware fragments (Acc. #s 170 and 172), whiteware tableware fragments (Acc. #s 171, 175, 176, 178, 184, and 190), glass lamp globe and chimney fragments (Acc. #s 173, 183, and 191), a metal nail with attached wire (Acc. # 174), a glass bottle fragment (Acc. # 177), glass bottles (Acc. #s 179, 180, 181, 187, 188, and 189), a metal flathead screwdriver shaft (Acc. # 182), a whiteware saucer fragment (Acc. # 185), a prosser button (Acc. # 186), a pressed glass

Stratum	Depth (cmbs)	Description
		tumbler base (Acc. # 192), an ironstone tableware fragment (Acc. # 193), and butchered cow bone
	75–104	SIHP # -7429 Feature 149; possible post mold; no cultural material
IIIa	53–80	Natural; 10YR 4/4, dark yellowish brown; loamy fine sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, discontinuous lower boundary; truncated, in situ A horizon; SIHP # -7429 Component 2; contains SIHP # -7429 Feature 150
	60	SIHP # -7429 Feature 150; traditional-type burial, adult, unknown sex, likely Native Hawaiian ancestry; contains organic material (possibly <i>tī</i> leaves)
IIIb	55–102	Natural; 10YR 7/4, very pale brown; fine sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; few, fine roots; abrupt, smooth lower boundary; contains a metal fragment (not collected); natural, calcareous Jaucas sand
IIIc	100–105	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; indurated sand
IIId	104–140	Natural; 2.5Y 8/2, pale brown; fine sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; diffuse, smooth lower boundary
IIIe	135–150 (BOE)	Natural; GLEY 1, 10Y 8/1, light greenish gray; sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; overlies the coral shelf

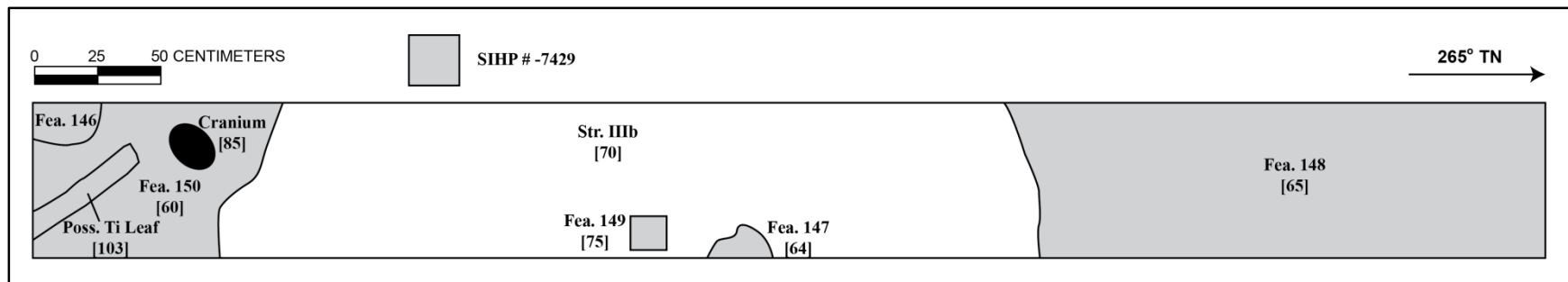


Figure 139. T-14G plan view depicting SIHP # -7429 Features 146–150



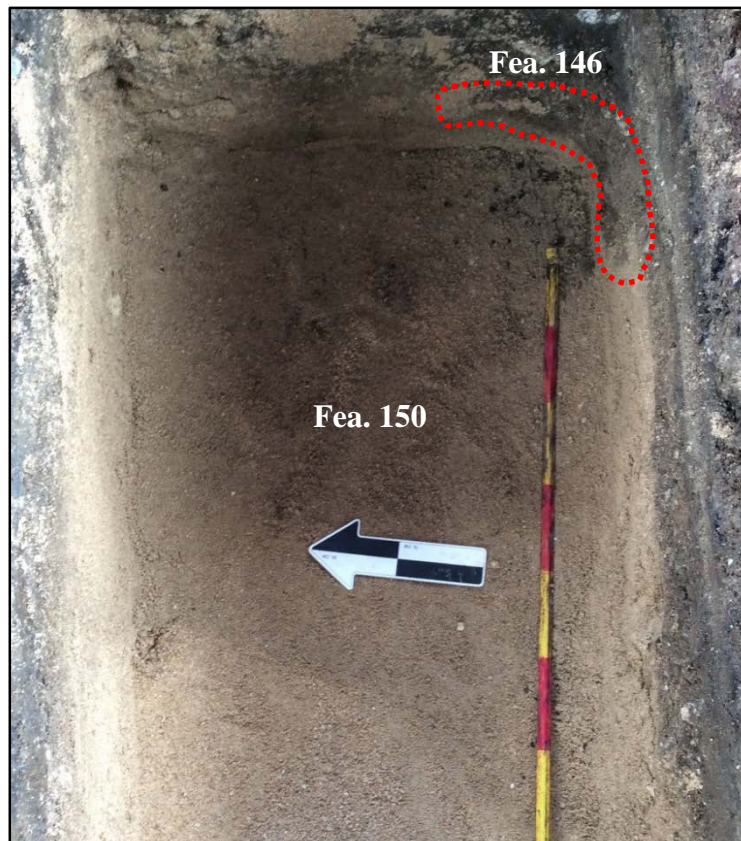


Figure 140. Profile view of SIHP # -7429 Feature 146 (dashed outline) and plan view of SIHP # -7429 Feature 150



Figure 141. Plan view of SIHP # -7429 Feature 147

SIHP # -7429 Feature 148 is a large trash pit located in the west end of T-14G (Figure 137 through Figure 139 and Figure 142). It originates from the upper boundary of the Stratum II fill living surface at approximately 40 cmbs and extends to the coral shelf at 150 cmbs. The pit extends into the north, south, and west test excavation walls. It measures approximately 190 cm long, 60 cm wide, and 110 cm thick. An appreciable amount of historic material and structural debris (such as milled wood) was observed within the feature. Cultural material collected from the feature includes porcelain tableware fragments (Acc. #s 170 and 172), whiteware tableware fragments (Acc. #s 171, 175, 176, 178, 184, and 190), glass lamp globe and chimney fragments (Acc. #s 173, 183, and 191), a metal nail with attached wire (Acc. # 174), a glass bottle fragment (Acc. # 177), glass bottles (Acc. #s 179, 180, 181, 187, 188, and 189), a metal flathead screwdriver shaft (Acc. # 182), a whiteware saucer fragment (Acc. # 185), a prosser button (Acc. # 186), a pressed glass tumbler base (Acc. # 192), and an ironstone tableware fragment (Acc. # 193). Cow skeletal remains were also collected, consisting of tibia and long bone fragments, a rib fragment, and glenoid fossa, all cut with a metal saw blade. Based on the 1967 manufacture date of Acc. # 188 (glass soda bottle), the trash pit represents a post-1967 feature, possibly associated with the demolition of the residential houses in this area ca. 1970.

SIHP # -7429 Feature 149 is a roughly square pit that measures approximately 16 cm in length and width and 29 cm thick (see Figure 139 and Figure 143). It originates from the base of the Stratum II fill A horizon at 75 cmbs and terminates in Stratum IIIb Jaucas sand at 104 cmbs. One gallon of sediment matrix was screened but yielded no cultural material. This feature is a possible post mold.

Underlying and truncated by Stratum II is a remnant natural A horizon (Stratum IIIa). A traditional-type human burial was documented originating from Stratum IIIa within the *mauka* portion of the test excavation (SIHP # -7429 Feature 150). Based on the presence of a human burial, Stratum IIIa is considered a component of SIHP # -7429 (Component 2).

SIHP # -7429 Feature 150 is a traditional-type burial located at the east end of T-14G starting at approximately 60 cmbs (see Figure 137 and Figure 139). The burial is within a faint burial pit that originates from the base of the Stratum IIIa in situ A horizon. The burial pit extends into the north, south, and east test excavation walls and measures minimally 88 cm long and 60 cm wide. Only the cranium was uncovered at approximately 85 cmbs, at which point excavation was stopped. The burial appears to be in a flexed, seated position, with the head looking south. Organic material (possibly *tī* leaves) was observed near and below the cranium at 103 cmbs. The burial is an adult of unknown sex and likely Native Hawaiian ancestry (based on burial type and context).

Protective measures and burial protocol for the burial were determined and carried out by the on-site Hawaiian cultural practitioners (from 'Ōiwi Cultural Resources). The burial was only minimally uncovered, and it was preserved in place. The uncovered portion of the burial was covered with sand and a plywood board (Figure 144).





Figure 142. Profile view of SIHP # -7429 Feature 148



Figure 143. Plan view of SIHP # -7429 Feature 149





Figure 144. Burial location and treatment for SIHP # -7429 Feature 150 in the east end of T-14G

### 1.2.22 Test Excavation 15 (T-15)

T-15, an exterior test excavation located *makai* of the warehouse building in the southwest portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.5 mbs, and the base of excavation was determined by the hard coral shelf at 1.57 mbs.

The stratigraphy of T-15 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over a Kaka'ako reclamation fill deposit consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) clay sand (Stratum IIb), over locally procured and redeposited loamy sand fill (Stratum III), over an in situ, loamy sand A horizon (Stratum IVa) that developed within natural, calcareous Jaucas sand (Stratum IVb), a thin layer of indurated sand (Stratum IVc), clay sand (Stratum IVd), and marine clay sand (Stratum VI) (Figure 145, Figure 146, and Table 22).

The excavation of T-15 documented modern deposits (Strata Ia–Ib) over an early twentieth century land reclamation fill deposit (Strata IIa–IIb), over a graded, historic fill layer composed of locally procured and redeposited A horizon sediment (Stratum III), over a truncated, in situ A horizon (Stratum IVa) and natural sands (Strata IVb–IVd and VI).

Five gallons of sediment were screened from the Strata III–IVa interface, but yielded no cultural material. Cow bone (cut with a metal blade) was hand-collected from the interface of Strata IIb and III at approximately 73 cmbs.

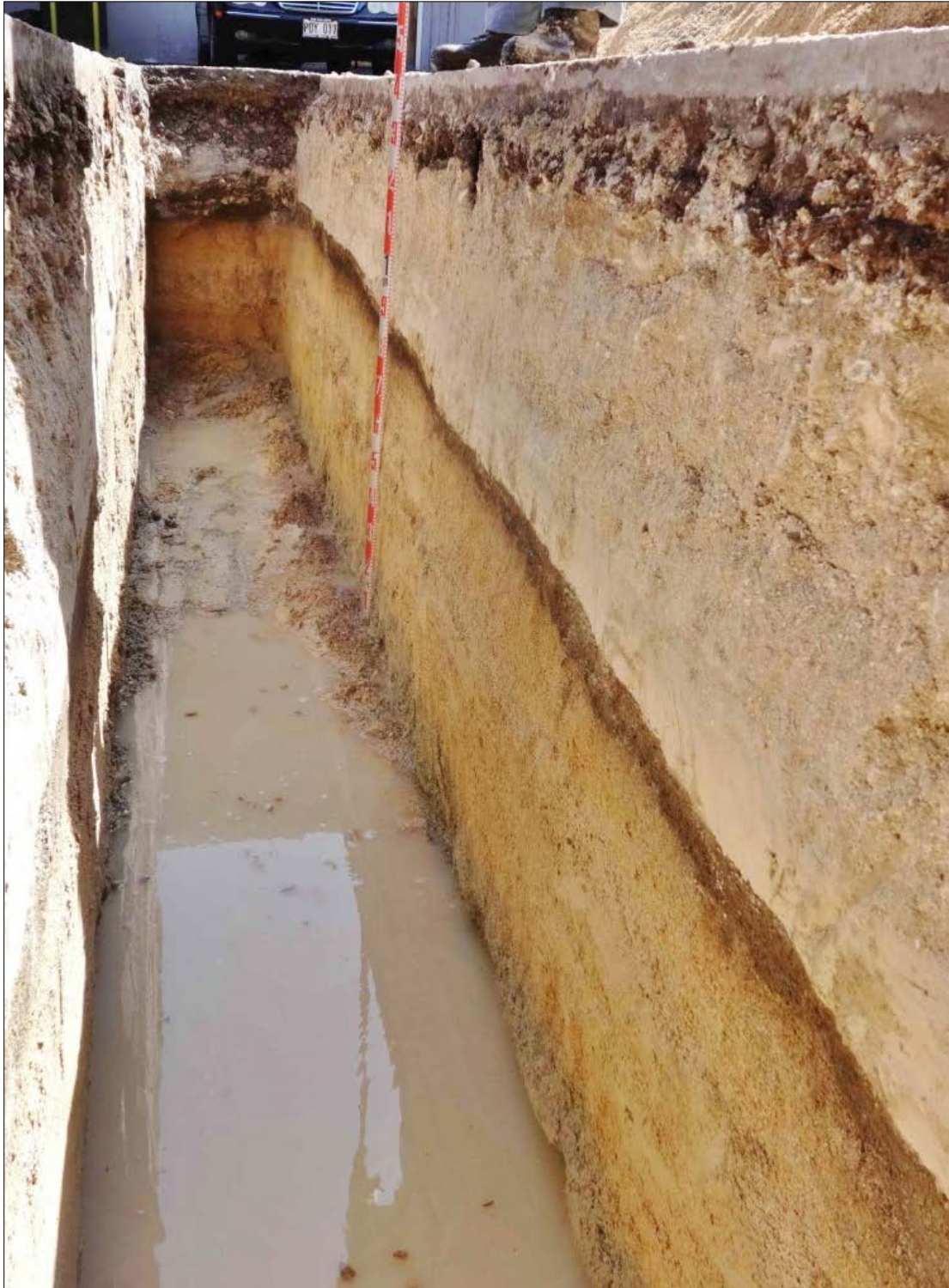


Figure 145. T-15 northwest sidewall, view to west



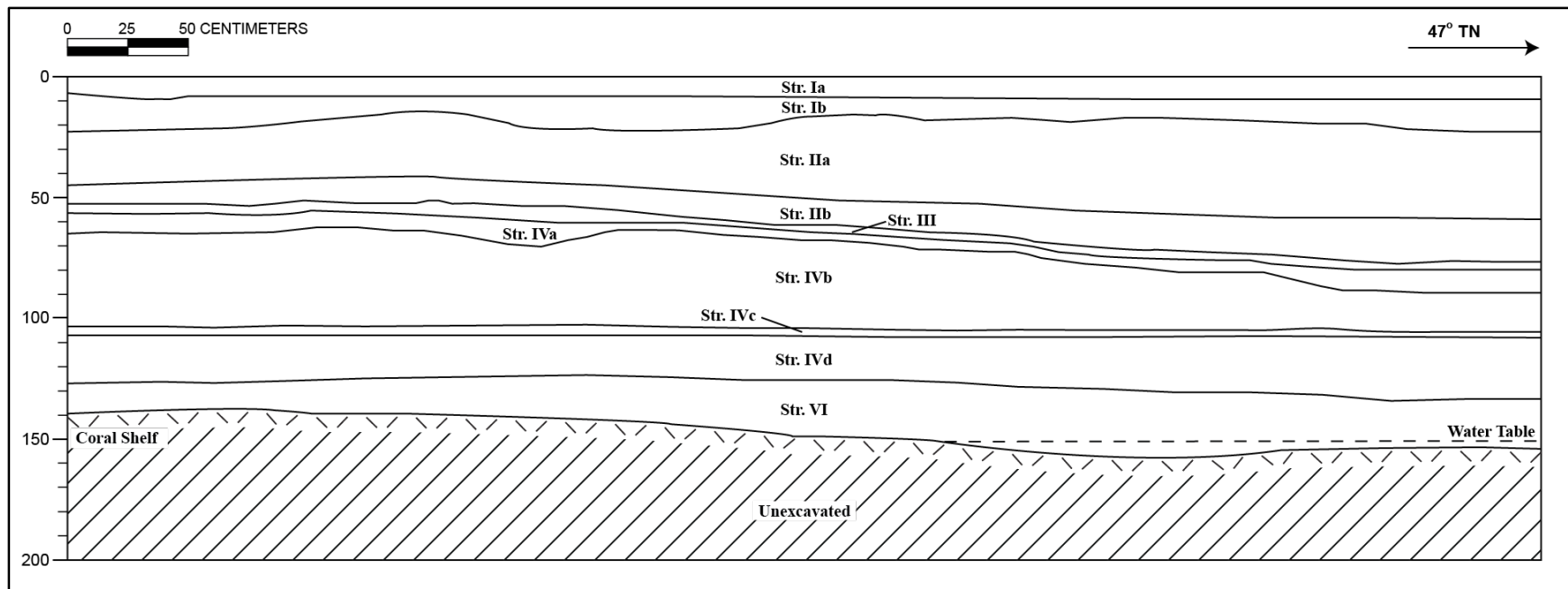


Figure 146. T-15 northwest profile

Table 22. T-15 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–9	Asphalt; road surface
Ib	9–28	Fill; 10YR 3/1, very dark gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; basalt base course for road surface
IIa	16–60	Fill; 10YR 7/2, light gray; extremely cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; common, fine roots; contains rusted nails and a metal fragment (not collected); crushed coral fill related to early twentieth century land reclamation
IIb	45–76	Fill; 10YR 7/4, very pale brown; clay sand; structureless (massive); moist, friable consistence; slightly plastic; marine origin; clear, smooth lower boundary; common, fine roots; hydraulic (dredged) material related to early twentieth century land reclamation
III	52–80	Fill; 10YR 5/3, brown, loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; contains cow bone (cut with a metal blade); compacted and graded historic surface composed of locally procured and redeposited A horizon material
IVa	56–89	Natural; 10YR 4/2, dark grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; truncated/graded, in situ A horizon
IVb	65–105	Natural; 2.5Y 8/3, pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand
IVc	103–107	Natural; 2.5Y 8/3, pale brown; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; indurated Jaucas sand
IVd	107–125	Natural; 10YR 7/4, very pale brown; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; clear, smooth lower boundary; saturated clay and Jaucas sand
VI	125–157	Natural; 5Y 7/1, light gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; saturated marine clay sand
V	137–157 (BOE)	Natural; coral shelf

### 1.2.23 Test Excavation 16 (T-16)

T-16, an interior test excavation located inside commercial warehouse space in the central portion of the project area, was oriented northeast-southwest and measured 6.0 m long by 0.7 m wide. The base of excavation was determined by the water table at 1.52 mbs. The coral shelf was not encountered.

The stratigraphy of T-16 consists of the concrete floor surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over a buried, former asphalt surface (Stratum IIa; SIHP # -7686) and associated gravelly sandy loam base course (Stratum IIb; SIHP # -7686), over a Kaka'ako reclamation fill deposit consisting of extremely gravelly sand (crushed coral) (Stratum IIIa) and hydraulic (dredged) sand and sandy clay (Stratum IIIb), over an oil-rolled cinder surface (Stratum IV; SIHP # -7686) and an in situ sandy clay wetland A horizon (Stratum Va) that developed within natural marine sand (Stratum Vb) (Figure 147, Figure 148, and Table 23).

The excavation of T-16 documented modern deposits (Strata Ia–Ib), over a buried asphalt road surface (Strata IIa–IIb), over Kaka'ako reclamation fill (Strata IIIa–IIIb), over an oil-rolled surface (Stratum IV) and natural wetland sediments (Strata Va–Vb). The buried surfaces represent successive phases of historic development within the project area and are considered components of SIHP # -7686. The buried oil-rolled surface (Stratum IV) consists of compacted, crushed cinder with a strong hydrocarbon odor (Figure 149). The surface is stratigraphically located beneath the 1919–1927 Kaka'ako reclamation fill deposits, indicating that it was constructed sometime prior to this time period. The asphalt surface and associated base course layer (Strata IIa–IIb) directly overlie and post-date the 1919–1927 Kaka'ako reclamation fill deposits (see Figure 149). Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2).





Figure 147. T-16 southeast sidewall, view to east

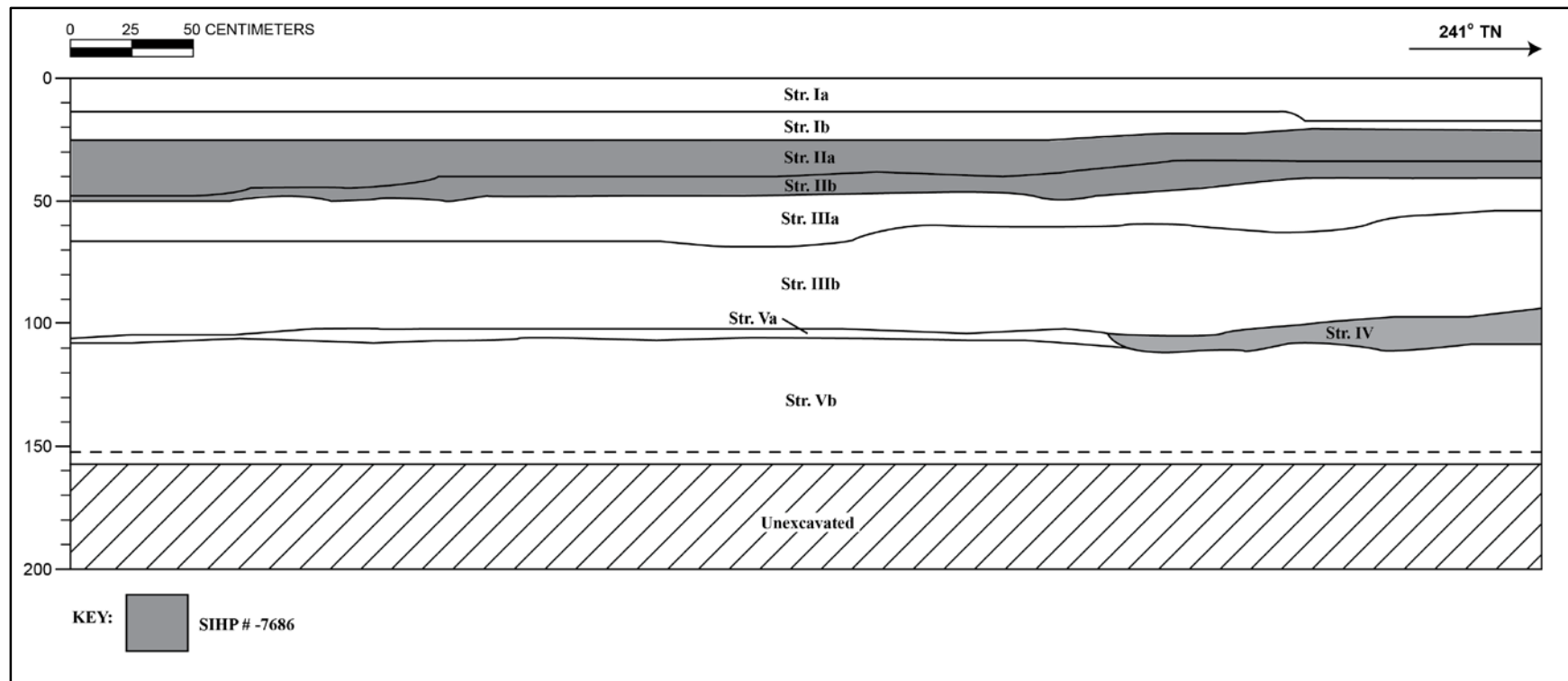


Figure 148. T-16 southeast profile

Table 23. T-16 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–18	Concrete; building floor
Ib	16–25	Fill; 7.5YR 3/2, dark brown; extremely gravelly sandy loam; weak, fine, granular structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; base course for concrete
IIa	20–48	Asphalt; buried former road surface; SIHP # -7686
IIb	35–50	Fill; 10YR 3/4, dark yellowish brown; gravelly sandy loam; weak, fine granular structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; base course for Stratum IIa asphalt; SIHP # -7686
IIIa	40–67	Fill; 2.5Y 7/3, pale yellow; extremely gravelly sand; weak, fine, granular structure; moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIIb	53–105	Fill; 10YR 7/6, yellow; sand grading to sandy clay; moderate, fine granular structure; moist, friable consistence; non-plastic; marine origin; abrupt, smooth lower boundary; hydraulic (dredged) fill related to early twentieth century land reclamation
IV	95–111	Fill; oil-rolled, historic road surface; SIHP # -7686
Va	101–110	Natural; 2.5Y 5/2, grayish brown; sandy clay; moderate, fine, blocky structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; in situ, organic-rich, wetland A horizon
Vb	105–152 (BOE)	Natural; GLEY 1 10Y 6/1, greenish gray; sand; weak, fine, granular structure; wet, non-sticky consistence; non-plastic; marine origin; lower boundary not visible; few, fine roots; marine sand



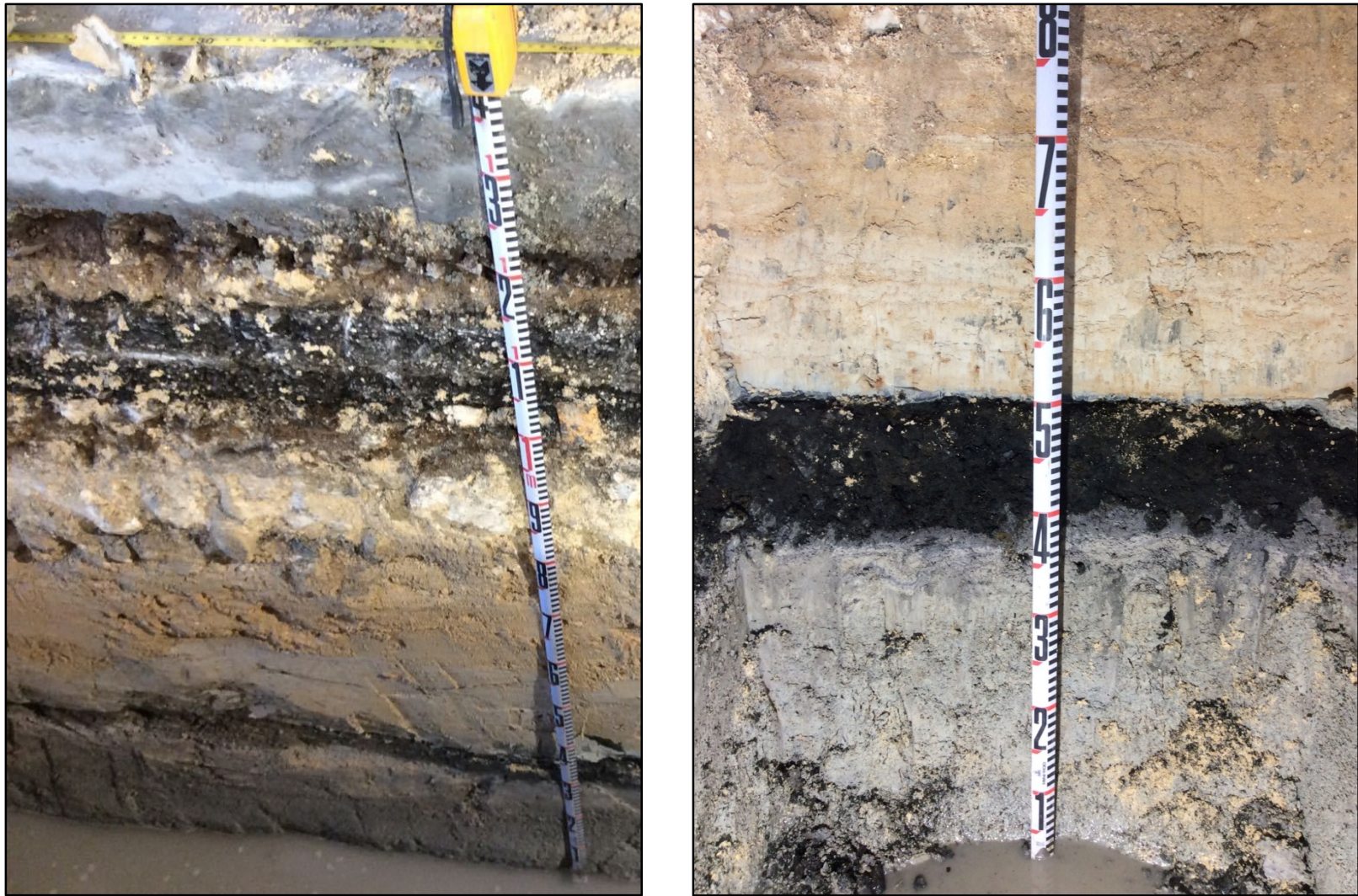


Figure 149. Photograph of SIHP # -7686 buried surfaces: left—asphalt surface and base course (Strata IIa–IIb) underlying the current concrete surface (view to southeast); right—oil-rolled cinder surface (Stratum IV ) overlying wetland sediment (view to southwest)

### 1.2.24 Test Excavation 17 (T-17)

T-17, an exterior test excavation located in the central portion of the project area, was oriented northwest-southeast and measured 6.2 m long by 0.7 m wide. The water table was encountered at 1.35 mbs, and the base of excavation was determined by the hard coral shelf at 1.4 mbs.

The stratigraphy of T-17 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over a buried asphalt surface (Stratum II; SIHP # -7686), associated gravelly sandy loam base course/grading fill (Stratum IIB; SIHP # -7686), and a utility trench (Stratum III), over Kaka'ako reclamation fill deposits consisting of extremely gravelly sand (crushed coral) (Stratum IVa), and hydraulic (dredged) clay (Stratum IVb), over a gravelly clay wetland O horizon (Stratum Va) that developed within wetland clay sand (Stratum Vb), over wetland silty clay sand (Stratum Vc) (Figure 150, Figure 151, and Table 24). A utility trench (Stratum III) was encountered running diagonally through the southeast end of T-17 and contained a concrete storm drain. This concrete storm drain aligns with a concrete storm drain within T-11 and T-19 and is likely the same utility. The utility trench originates from the upper boundary of Stratum IIB and terminates in Stratum Vc. As Stratum IIB is interpreted as base course/grading fill associated with the Stratum IIa buried asphalt surface, the installation of the utility line would have also required the cutting and repaving of the Stratum IIa asphalt. No excavation was conducted beneath or around the utility pipe due to safety precautions.

The excavation of T-17 documented modern deposits (Strata Ia–Ib) over a buried asphalt road surface (Strata IIa–IIB), over early twentieth century land reclamation fill deposits (Strata IVa–IVb), over an in situ wetland O horizon (Stratum Va) that developed atop natural wetland deposits (Strata Vb–VI). The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2).

The Stratum Va wetland O horizon consists of decomposing organics (peat/humus) and appears somewhat mottled, indicating slight disturbance. Similar to the wetland horizons observed within T-7 and T-11, several historic artifacts were observed within the deposit, indicating cultural use of the wetland edge, possibly associated with the historic residential houses located immediately *mauka* of T-17. Within T-17, Stratum Va contained a piece of milled wood and small ceramic and glass fragments (not collected) (Figure 152). Stratum Va is a culturally enriched, former land surface and is therefore considered a component of SIHP # -7429 (Component 2).





Figure 150. T-17 southwest sidewall, view to southwest



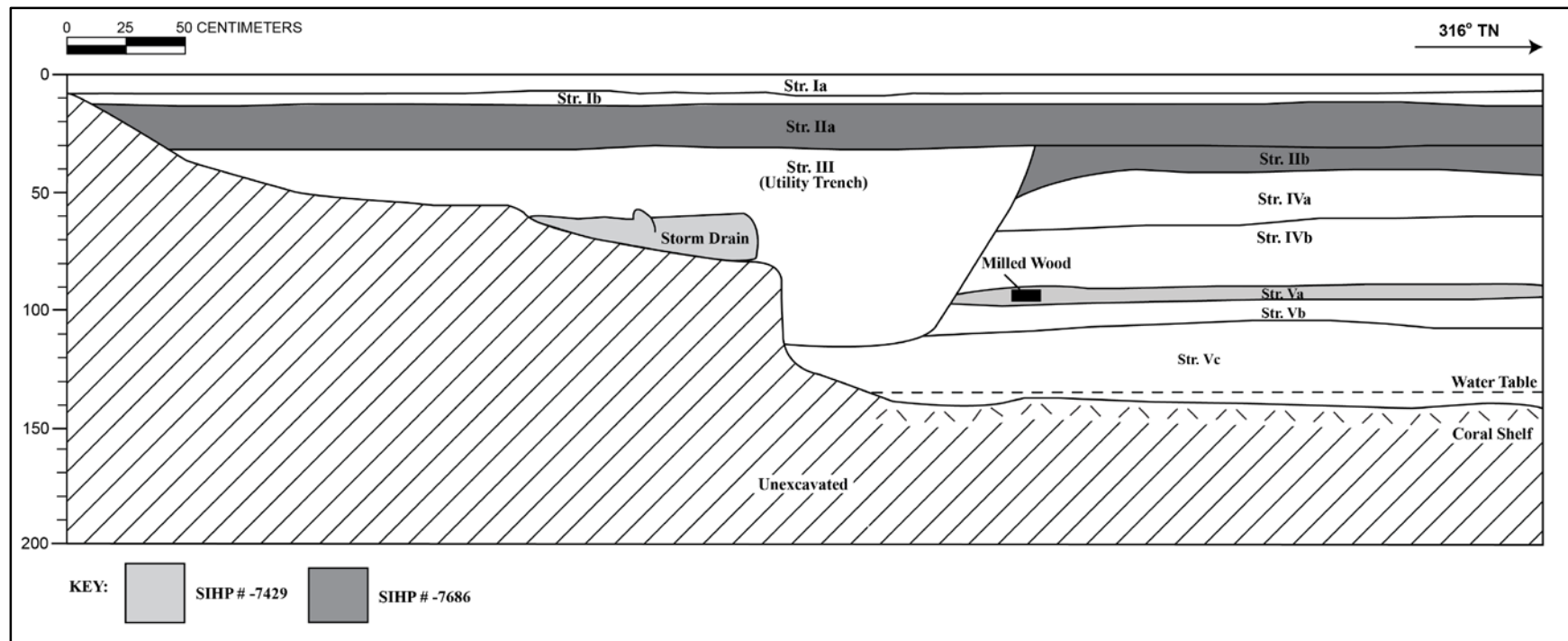


Figure 151. T-17 southwest profile

Table 24. T-17 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–7	Asphalt; road surface
Ib	7–14	Fill; 10YR 3/2, very dark grayish brown; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; base course for road surface
IIa	12–33	Asphalt; buried former road surface; SIHP # -7686
IIb	30–40	Fill; 10YR 5/2, grayish brown; very gravelly sandy loam; weak, medium, crumb structure; moist, loose consistence; mixed origin; clear, smooth, lower boundary; contains ceramic and glass fragments (not collected); probable base course/grading fill associated with SIHP # -7686 asphalt surface
III	31–99	Fill; gravelly sandy loam; storm drain utility trench fill
IVa	40–65	Fill; 10YR 8/2, very pale brown; gravelly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth, lower boundary; crushed coral fill related to early twentieth century land reclamation
IVb	65–90	Fill; 10YR 8/3, very pale brown to 10YR 7/1, light gray; sandy clay; structureless (massive); moist, extremely firm consistence; plastic; marine origin; clear, smooth, lower boundary; hydraulic (dredged) fill related to early twentieth century land reclamation
Va	90–96	Natural; GLEY 1, 5GY 5/1, greenish gray; gravelly clay; structureless (massive); moist, firm consistence; slightly plastic; marine origin; clear, smooth lower boundary; few, fine roots; contains milled wood and ceramic and glass fragments; wetland O horizon with decomposing organics (peat/humus); SIHP # -7429 Component 2
Vb	95–106	Natural; 2.5Y 7/1, light gray; clay sand; moderate, fine, blocky structure; moist, friable consistence; slightly plastic; marine origin; clear, smooth lower boundary; few, fine roots; wetland deposit
Vc	106–140 (BOE)	Natural; 2.5Y 6/1, gray; silty clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; contains gastropods ( <i>Melampus</i> sp.); wetland deposit
VI	136–140 (BOE)	Natural; coral shelf



Figure 152. T-17 glass and ceramics observed within Stratum IIb (not collected)



### 1.2.25 Test Excavation 18 (T-18)

T-18, an exterior test excavation located in the central portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.33 mbs, and the base of excavation was determined by the decomposing coral shelf at 1.45 mbs.

The stratigraphy of T-18 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and sandy clay fill (Stratum Ic), over a buried asphalt surface (Stratum IIa; SIHP # -7686) and associated base course (Stratum IIb; SIHP # -7686), over Kaka'ako reclamation fill deposits consisting of very cobbly sand (crushed coral) (Stratum IIIa) and hydraulic (dredged) sandy clay (Stratum IIIb), over a thin, compact layer of locally procured and redeposited loamy sand fill (Stratum IV), over a natural sandy clay loam A horizon (Stratum Va) that developed within natural calcareous Jaucas sand (Stratum Vb), that transitions into saturated, natural clay sand (Stratum VIa) and sandy clay (Stratum VIb) (Figure 153, Figure 154, and Table 25).

The excavation of T-18 documented modern deposits (Strata Ia–Ic), over a buried asphalt road surface (Strata IIa–IIb), over Kaka'ako reclamation fill (Strata IIIa–IIIb), over a historic fill deposit of locally procured and redeposited sediment, likely including A horizon material (Stratum IV), over an in situ sandy A horizon (Stratum Va) that developed within natural sandy deposits (Strata Vb, VIa, and VIb). The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2).



Figure 153. T-18 central and *makai* portions, view to southwest

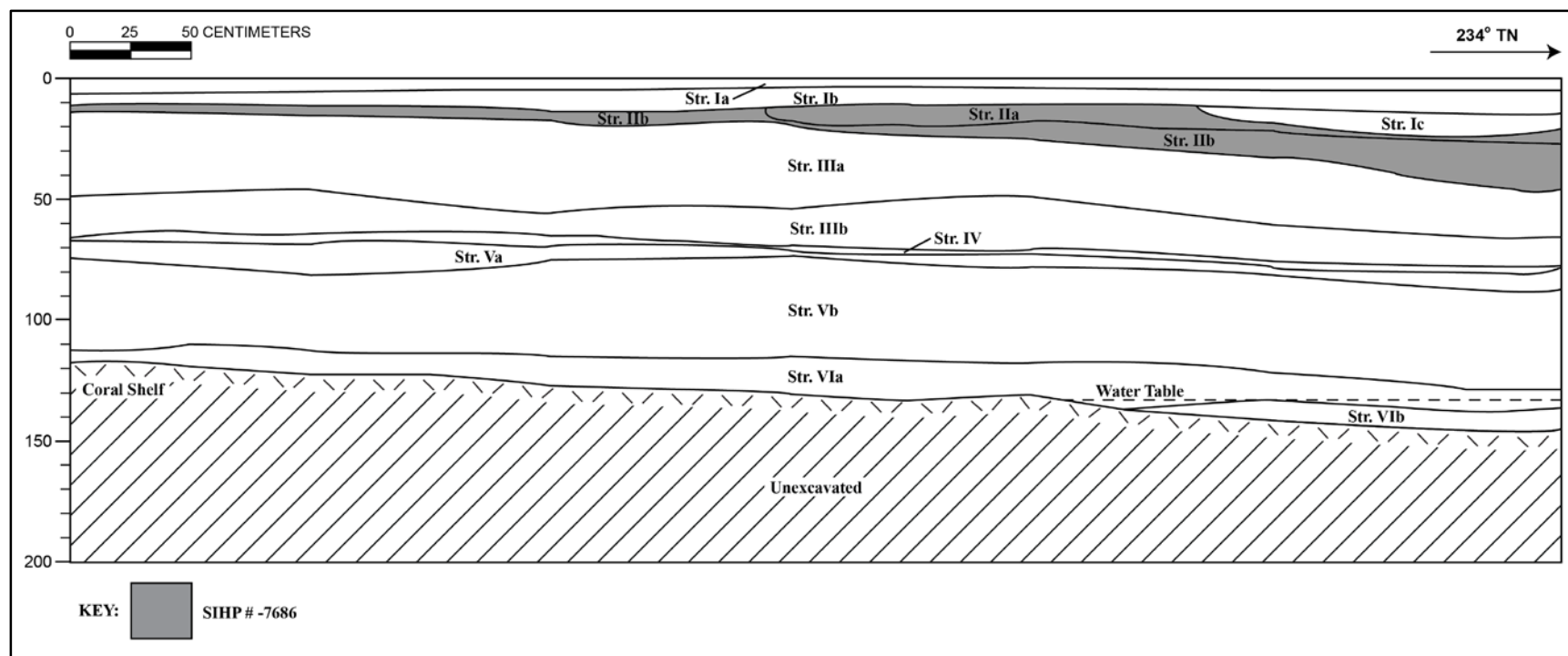


Figure 154. T-18 southeast wall profile



Table 25. T-18 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–8	Asphalt; road surface
Ib	5–15	Fill; 10YR 3/2, very dark grayish brown; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for the road surface
Ic	12–25	Fill; 5Y 4/1, dark gray; sandy clay; weak, coarse, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; clear, broken lower boundary; coral cobble inclusions; fill associated with raising land for commercial warehouses
IIa	12–23	Asphalt; buried former road surface; SIHP # -7686
IIb	12–47	Fill; 2.5Y 4/3, olive brown; loam; weak, medium to coarse, granular structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; rusted metal layer observed within the stratum; base course fill containing coral cobbles, likely associated with asphalt surface; SIHP # -7686
IIIa	15–56	Fill; 10YR 8/4, very pale brown; very cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, wavy lower boundary; crushed coral fill related to early twentieth century land reclamation
IIb	46–80	Fill; 5Y 7/2, light gray; sandy clay; structureless (massive); moist, very friable consistence; non-plastic; marine origin; very abrupt, smooth lower boundary; grades from fine sand to clay; hydraulic (dredged) clay related to early twentieth century land reclamation
IV	64–77	Fill; 10YR 6/1, gray, mottled with 10YR 6/4, light yellowish brown; loamy sand; structureless (single-grain); dry, extra hard consistence; non-plastic; mixed origin; clear to diffuse, smooth lower boundary; no roots observed; no cultural material observed; highly compact, indurated layer of locally procured fill material; likely used to level the land surface
Va	65–83	Natural; 2.5Y 3/1, very dark gray; sandy clay loam; weak, medium, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear to abrupt, smooth lower boundary; no roots observed; no cultural material observed; disturbed former A horizon with compact upper boundary
Vb	75–130	Natural; 2.5Y 7/4, pale yellow; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; calcareous Jaucas that grades to clay sand

<b>Stratum</b>	<b>Depth (cmbs)</b>	<b>Description</b>
Vla	110–137	Natural; 5Y 7/1, light gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; common, fine roots; saturated natural deposit
Vlb	133–145	Natural; 5Y 7/1, light gray; clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; common, fine roots; saturated natural deposit
VII	118–145 (BOE)	Natural; coral shelf

### 1.2.26 Test Excavation 19 (T-19)

T-19, an exterior test excavation located in the central portion of the project area, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.40 mbs, and the base of excavation was determined by the decomposing coral shelf at 1.45 mbs.

The stratigraphy of T-19 consists of the asphalt surface (Stratum Ia) and associated base course (Stratum Ib), over a buried asphalt surface (Stratum II; SIHP # -7686) and heavily mixed, gravelly loamy sand fill (Stratum IV), over a Kaka'ako reclamation fill deposit consisting of hydraulic (dredged) sandy clay (Stratum V), over a thin, compact layer of locally procured and redeposited loamy clay sand fill (Stratum VI), over a natural sandy loam A horizon (Stratum VIIa) that developed within natural calcareous Jaucas sand (Stratum VIIb), over saturated silty sand (Stratum VIII) (Figure 155, Figure 156, and Table 26). A large storm drain within a utility trench (Stratum III) was encountered running perpendicular through the center of T-19. This concrete storm drain aligns with a concrete storm drain within T-11 and T-17 and is likely the same utility. The utility trench originates at the upper boundary of Stratum IV and terminates at the coral shelf at 145 cmbs. No excavation was conducted beneath or around the utility pipe due to safety precautions.

The excavation of T-19 documented modern deposits (Strata Ia–Ib), over a buried asphalt surface (Stratum II), over a twentieth century fill deposit containing historic artifacts (Stratum IV), over a Kaka'ako reclamation fill deposit (Stratum V), over a historic fill deposit of locally procured and redeposited sediment, likely including A horizon material (Stratum VI), over an in situ sandy A horizon (Stratum VIIa) that developed within natural sand deposits (Strata VIIb and VIII). The buried asphalt surface (Stratum II) is intact at the southwest end of T-19 but is broken up and mixed with other sediment, including Strata Ib and IV material, in the northeast (*mauka*) portion of the test excavation. The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. The underlying Stratum IV fill in T-19 is very different from the fill deposits underlying the SIHP # -7686 buried asphalt surfaces in other test excavations which have been interpreted as associated base course or grading fill. Stratum IV is highly churned with an irregular lower boundary and has greatly truncated the underlying Kaka'ako reclamation fill. The purpose for this disturbance is indeterminate. Stratum IV contains cow bone (cut with a metal saw blade), chicken bone, and fragments of brick, marble, glass, ceramic, wire, and pipes (not collected) (Figure 157).





Figure 155. T-19 southeast sidewall, view to south

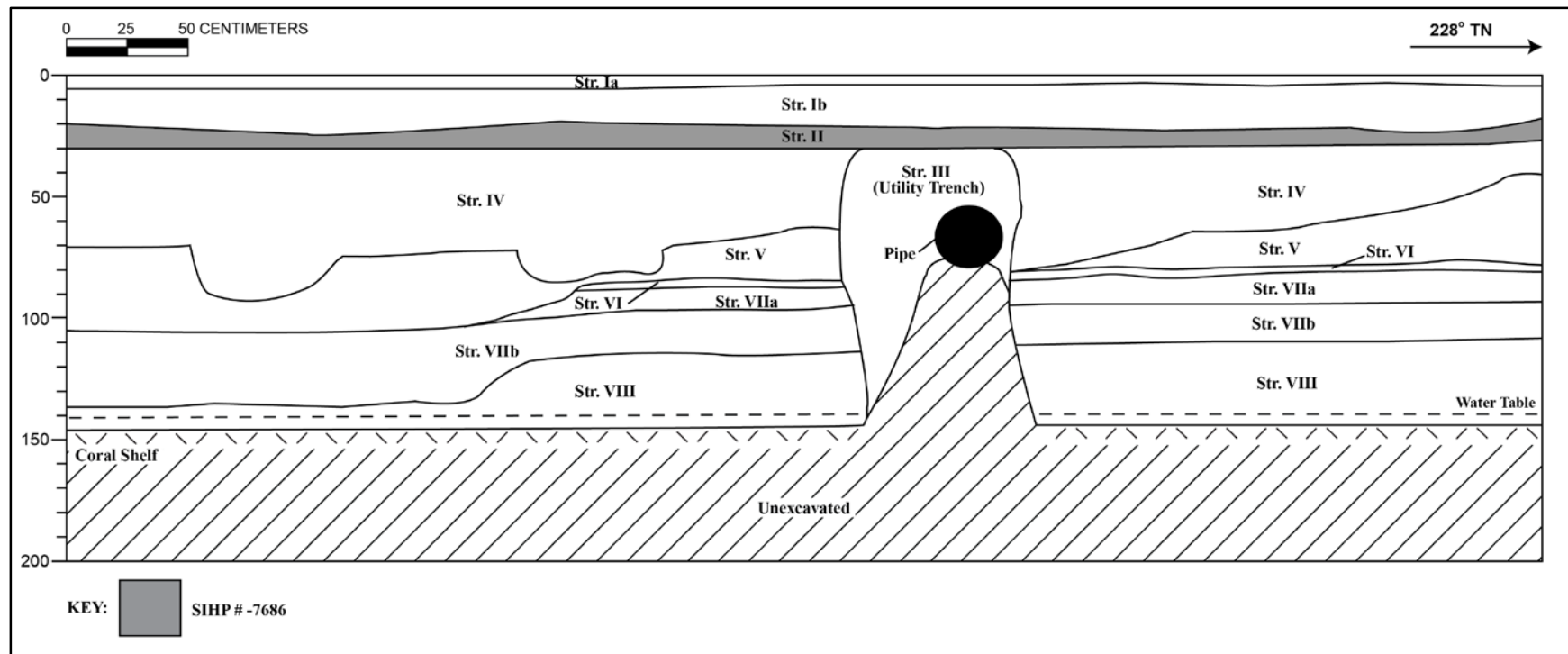


Figure 156. T-19 southeast wall profile

Table 26. T-19 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–5	Asphalt; road surface
Ib	5–25	Fill; 10YR 3/2, very dark grayish brown; gravelly sandy loam; weak, medium, granular structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; contains sparse historic artifacts; base course for road surface
II	20–30	Asphalt; buried former road surface; SIHP # -7686
III	30–145	Fill; utility trench fill; associated with storm drain
IV	30–75	Fill; 10YR 4/3, brown, mottled with 5YR 3/3, dark reddish brown; gravelly loamy sand mottled with gravelly sandy clay; weak, medium, granular structure; moist, loose consistence; non-plastic; mixed origin; clear, irregular lower boundary; contains faunal remains (cow, chicken), wire, pipes, and fragments of brick, glass, ceramic, marble, and tile; heavily mixed fill with crushed coral reclamation fill material
V	43–105	Fill; 2.5Y 6/3, light yellowish brown, grading to 2.5Y 7/5, pale brown; gravelly fine sand grading to sandy clay; structureless (massive); moist, firm consistence; slightly plastic; marine origin; abrupt, irregular lower boundary; truncated by Stratum IV; hydraulic (dredged) material related to early twentieth century land reclamation
VI	76–89	Fill; 2.5Y 5/1, gray; loamy clay sand; weak, fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; no roots observed; compact layer of locally procured and redeposited material, likely including A horizon sediment
VIIa	80–95	Natural; 10YR 3/2, very dark grayish brown; sandy loam; weak, fine, crumb structure; moist, loose to very friable consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; in situ A horizon
VIIb	95–135	Natural; 10YR 7/3, very pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; common, fine to medium roots; Jaucas sand grading to clay at lower boundary
VIII	115–145	Natural; 10GY 7/1, light greenish gray; silty coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine sand
IX	145 (BOE)	Natural; coral shelf





Figure 157. Representative sample of historic artifacts observed in Stratum IV (not collected)

### 1.2.27 Test Excavation 20 (T-20)

T-20, an exterior test excavation located in the eastern portion of the project area, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.42 mbs, and the base of excavation was determined by the hard coral shelf at 1.45 mbs.

The stratigraphy of T-20 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over a buried asphalt surface (Stratum IIa; SIHP # -7686) and associated very gravelly sandy loam base course/grading fill (Stratum IIb), over Kaka'ako reclamation fill deposits consisting of disturbed, very gravelly coarse sand (crushed coral) (Stratum IVa) and hydraulic (dredged) sandy clay (Stratum IVb), over a thin, compact layer of locally procured and redeposited loamy clay sand fill (Stratum V), over a natural loamy sand A horizon (Stratum VIa; SIHP # -7429) that developed within natural calcareous Jaucas sand (Stratum VIb), over natural clay sand (Stratum VIc) and silty clay sand (Stratum VII) (Figure 158, Figure 159, and Table 27). A utility pipe within a utility trench (Stratum III) was encountered running perpendicular through the center of T-20. The utility trench originates from the upper boundary of Stratum IIb at approximately 41 cmbs and terminates within Stratum VIc at 112 cmbs. As Stratum IIb is interpreted as base course/grading fill associated with the Stratum IIa buried asphalt surface, the installation of the utility line would have also required the cutting and repaving of the Stratum IIa asphalt.

The excavation of T-20 documented modern deposits (Strata Ia–Ib), over a buried asphalt surface (Strata IIa–IIb), over an early twentieth century land reclamation fill deposit (Strata IVa–IVb) that truncates a graded, historic fill deposit of locally procured and redeposited sediment, likely including A horizon material (Stratum V), that truncates an in situ sandy A horizon (Stratum VIa) that developed within natural sand deposits (Strata VIb, VIc, and VII). The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2). Historic material such as glass, wood, porcelain, metal nails, metal, and faunal bone were observed within the Stratum IIb base course, but not collected (see Figure 160).

Approximately 20 gallons of Strata V and VIa were screened; due to the thinness of the deposits and the similarity in texture and color, these strata could not be screened separately. A sparse amount of small glass fragments were observed.



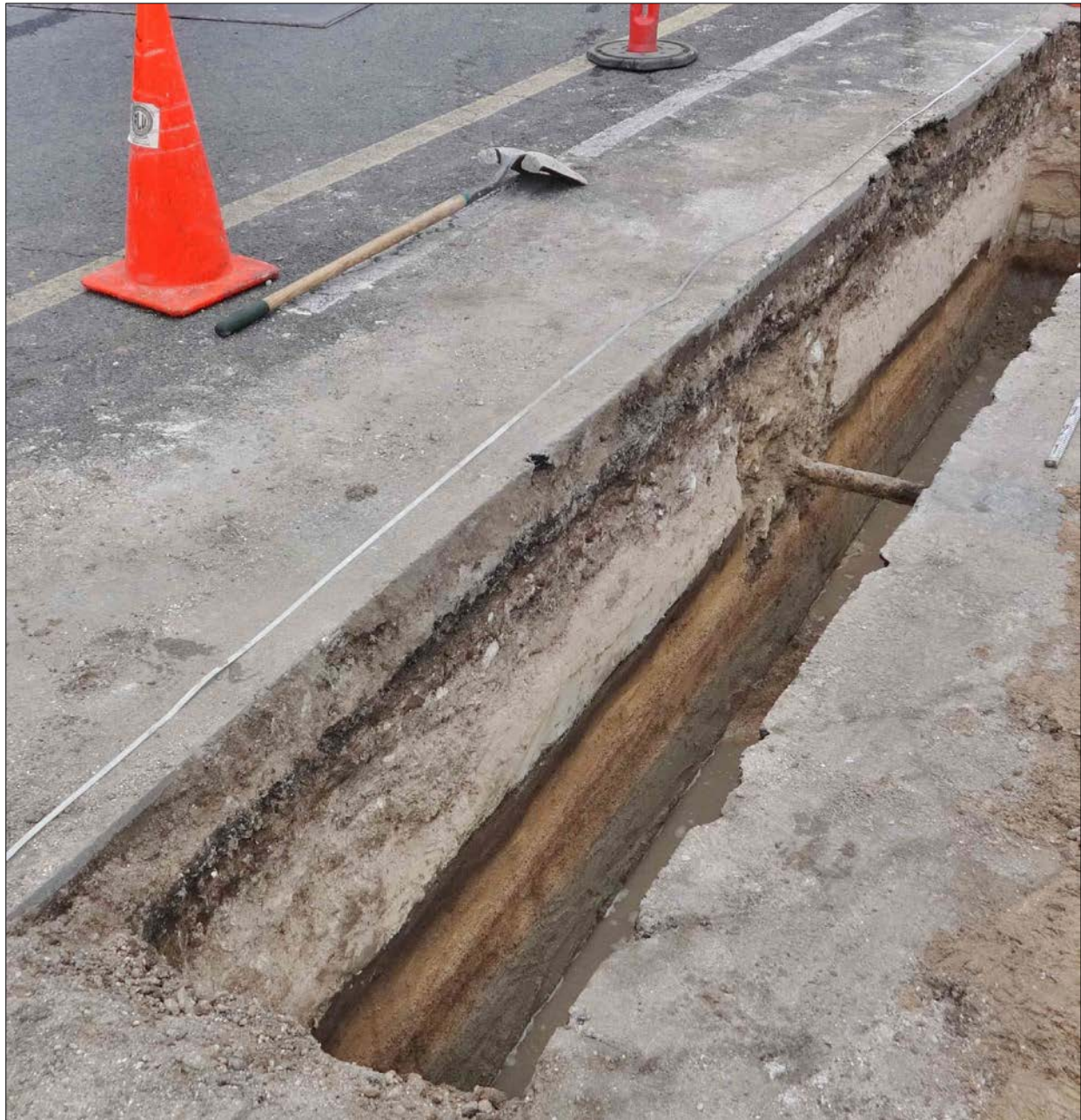


Figure 158. T-20 southwest sidewall, view to west



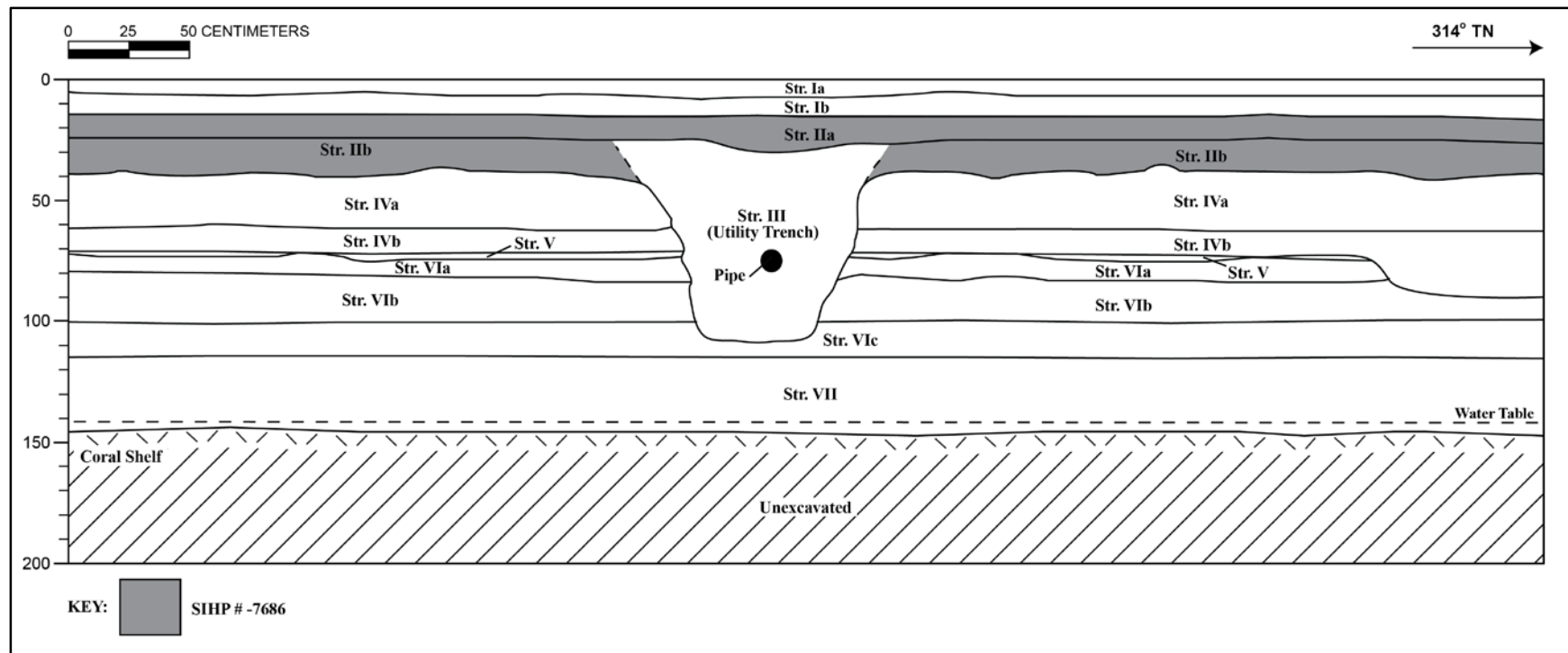


Figure 159. T-20 southwest profile

Table 27. T-20 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–6	Asphalt; road surface
Ib	5–15	Fill; 2.5Y 4/3, olive brown; extremely gravelly sandy loam; weak, medium to coarse, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; contains glass fragments (not collected); base course for road surface
IIa	15–25	Asphalt; buried former road surface; SIHP # -7686
IIb	23–41	Fill; 10YR 3/3, dark brown mottled with 5YR 3/3, dark reddish brown; very gravelly sandy loam; weak, medium, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, irregular lower boundary; contains coral gravels, metal nails, and fragments of glass, ceramic, wood, and metal (not collected); base course/grading fill associated with SIHP # -7686 asphalt surface
III	23–109	Fill; utility trench fill
IVa	41–62	Fill; 2.5Y 7/3, pale yellow; very gravelly coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; upper boundary somewhat disturbed; crushed coral fill related to early twentieth century land reclamation
IVb	62–88	Fill; 2.5Y 7/4, pale yellow; sandy clay; moderate, fine, platy structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, wavy lower boundary; hydraulic (dredged) clay related to early twentieth century land reclamation
V	70–75	Fill; 2.5Y, 5/2, brownish gray; loamy clay sand; weak, fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, broken lower boundary; thin, compact and graded layer of locally procured and redeposited sediment, likely including A horizon material
VIa	75–84	SIHP # -7429; 10YR 3/2, very dark grayish brown; loamy medium sand; weak, fine, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; truncated in situ A horizon
VIb	82–100	Natural; 10YR 6/4, light yellowish brown; coarse sand; structureless (single-grain); moist, loose consistence; marine origin; abrupt, smooth lower boundary; Jaucas sand
VIc	100–115	Natural; 10YR 4/3, brown; clay sand; structureless (single-grain); moist, loose consistence; marine origin; abrupt, smooth lower boundary; common, fine roots; Jaucas sand and clay
VII	115–145	Natural; 5Y 5/2, olive gray; silty clay sand; structureless (single-grain); wet, slightly sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; common, fine roots; marine clay sand
VIII	145 (BOE)	Natural; coral shelf



Figure 160. Historic artifacts observed within Stratum IIb, including glass, wood, ceramic, and metal



### 1.2.28 Test Excavation 21 (T-21)

T-21, an exterior test excavation located in the eastern portion of the project area near Queen Street, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.50 mbs, and the base of excavation was determined by the hard coral shelf at 1.54 mbs.

The stratigraphy of T-21 consists of the asphalt surface (Stratum Ia), associated extremely gravelly loam base course (Stratum Ib), and gravelly silty clay loam fill (Stratum Ic), over two gravelly sandy clay loam fill living surfaces (Strata II and III), over disturbed, locally procured and redeposited loamy sand (Stratum IV), over natural sandy clay (Stratum V) (Figure 161, Figure 162, and Table 28). An abandoned utility pipe was encountered within the southwest test excavation sidewall between 125–130 cmbs within Stratum IV. The utility is not within a utility trench.

The excavation of T-21 documented modern deposits (Strata Ia–Ic), over two historic fill living surfaces (Strata II and III), over churned or redeposited Jaucas sand (Stratum IV), over a natural marine sandy clay deposit (Stratum V). Early twentieth century land reclamation fill deposits were not encountered. Both Strata II and III consist of mixed non-local and locally procured sediment and contain residential-type historic material, including fragments of glass, ceramic, marble, metal, and brick. Historic artifacts collected from the Strata II–III spoils pile consist of porcelain tableware fragments (Acc. #s 194, 197, and 198), whiteware flatware fragments (Acc. #s 195 and 200), a whiteware lid knob (Acc. # 196), a whiteware tableware fragment (Acc. # 203), a porcelain hollowware fragment (Acc. # 199), a porcelain hollowware fragment (Acc. # 201), and an earthenware doorknob (Acc. # 202). Cow bone (cut with a metal saw blade) was collected from Stratum III at 90 cmbs. Based on the presence of residential-type historic cultural material and similarity with culturally enriched, locally procured fill deposits in the area of historic residences along Queen Street (e.g., fill deposits documented within T-8 through T-14G, T-22, T-27, and T-28), Strata II and III likely represent historic living surfaces. Strata II and III are considered components of SIHP # -7429 (Component 1).

Underlying Strata II and III is a thick layer of Jaucas sand (Stratum IV). It is highly churned, with pockets of loamy sand A horizon material, and contains an abandoned pipe and a brick fragment within the lower portion. Stratum IV appears to have been excavated and redeposited.



Figure 161. T-21 southwest sidewall, view south

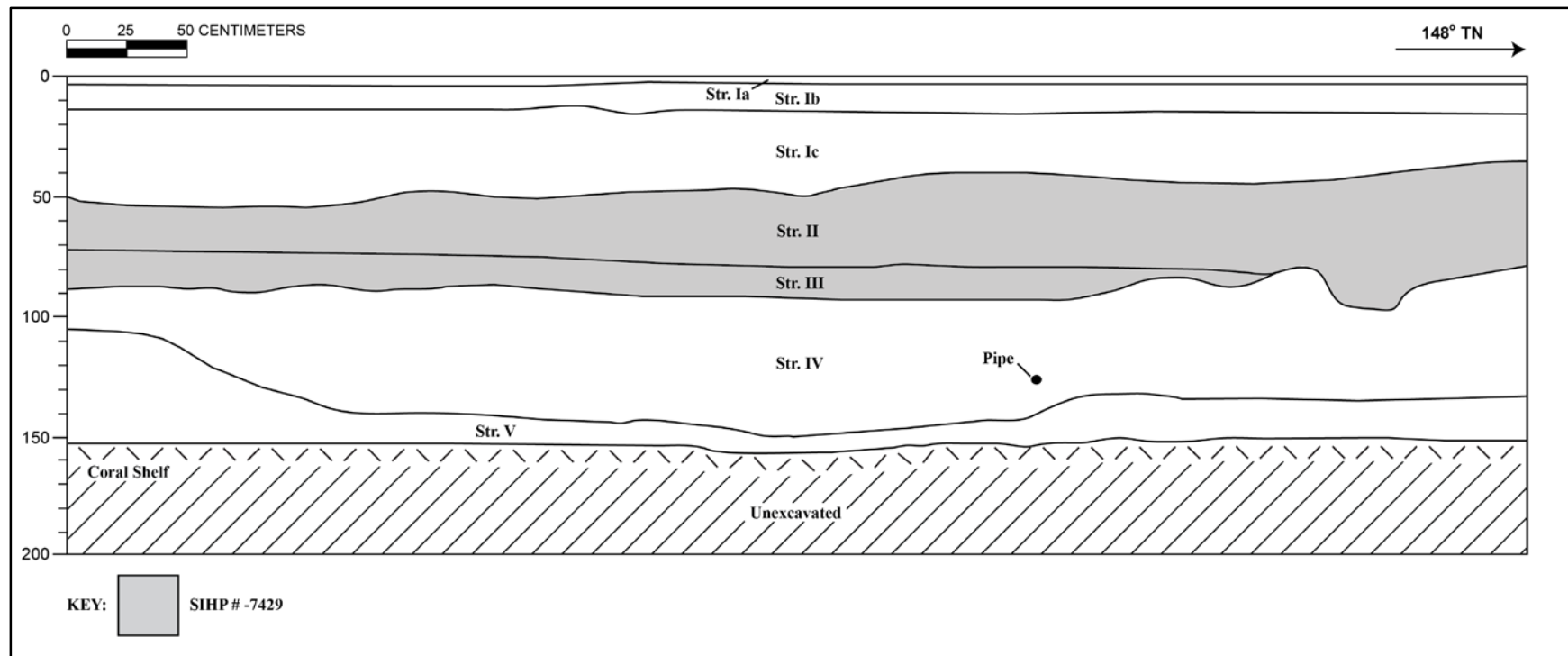


Figure 162. T-21 southwest wall profile



Table 28. T-21 Stratigraphic Description

Stratum	Depth (cmbs)	Description of Sediment
Ia	0–4	Asphalt; road surface
Ib	4–15	Fill; 5Y 3/2, dark olive gray; extremely gravelly loam; structureless (massive); moist, loose consistence; non-plastic; terrigenous origin; very abrupt, smooth lower boundary; few, fine roots; base course for road surface
Ic	15–55	Fill; 2.5YR 3/3, dark reddish brown; gravelly silty clay loam; structureless (massive); moist, very friable consistence; slightly plastic; terrigenous origin; very abrupt, smooth lower boundary; few, fine roots; contains historic material; imported fill
II	35–98	Fill; 2.5Y 3/2, very dark grayish brown; gravelly sandy clay loam; weak, fine, crumb structure; moist, loose consistence; slightly plastic; very abrupt, smooth lower boundary; few, fine roots; contains historic material; mixed locally procured and imported fill; historic living surface; SIHP # -7429 Component 1
III	73–93	Fill; 2.5Y 4/2, dark grayish brown; gravelly sandy clay loam; weak, fine, crumb structure; moist, loose consistence; slightly plastic; mixed origin; abrupt, discontinuous lower boundary; contains historic artifacts and cow bone (cut with a metal saw blade); mixed locally procured and imported fill; historic living surface; SIHP # -7429 Component 1
IV	80–150	Fill; 2.5Y 6/4, light yellowish brown mottled with 2.5Y 4/2, dark grayish brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; contains a brick fragment and an abandoned utility pipe; churned or redeposited local Jaucas sand
V	105–154	Natural; 5Y 6/1, gray; sandy clay; structureless (massive); wet, slightly sticky consistence; slightly plastic; marine origin; abrupt, smooth lower boundary; marine sandy clay
VI	154 (BOE)	Natural; coral shelf

### 1.2.29 Test Excavation 22 (T-22)

T-22, an exterior test excavation located in the eastern portion of the project area near Queen Street, was oriented northeast-southwest and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.79 mbs, and the base of excavation was at 2.10 mbs. The base of excavation was determined by the instability of the sidewalls. The coral shelf was not encountered.

The stratigraphy of T-22 consists of the asphalt surface (Stratum Ia), associated extremely gravelly loam base course (Stratum Ib), and gravelly clay loam fill (Stratum Ic), over two silt loam fill living surfaces (Strata II and III), over disturbed, natural Jaucas sand (Stratum IVa), gleyed sand (Stratum IVb), and marine gravel (the decomposing coral shelf; Stratum V) (Figure 163, Figure 164, and Table 29).

The excavation of T-22 documented modern deposits (Strata Ia–Ic), over two historic fill living surfaces (Strata II and III), over natural sand (Strata IVa–IVb) and large coral gravel from the decomposing coral shelf (Stratum V). Early twentieth century land reclamation fill deposits were not encountered. Both Strata II and III consist of mixed non-local and locally procured sediment and contain residential-type historic artifacts and charcoal or ash lenses. Stratum II contains a charcoal lens, a copper pipe, wire, wood fragments, brick fragments, metal pieces, glass fragments, and ceramic fragments. Collected artifacts consist of glass bottle fragments (Acc. #s 206 and 208), cinderblock brick fragments (Acc. # 207), a brick fragment (Acc. # 209), and a post-1921 stainless steel fork (Acc. # 210). Stratum III contains an ash lens, glass and ceramic fragments, wood, and metal pieces (not collected). Based on the presence of residential-type historic cultural material, charcoal/ash deposits, and similarity with culturally enriched, locally procured fill deposits in the area of historic residences along Queen Street (e.g., fill deposits documented within T-8 through T-14G, T-21, T-27, and T-28), Strata II and III likely represent historic living surfaces. Strata II and III are considered components of SIHP # -7429 (Component 1).

Stratum Ic also contains two very small glass medicine vial fragments (Acc. #s 204 and 205); however, as Stratum I consists of imported fill, the association of these artifacts is indeterminate.

Within T-22, the natural Jaucas sand (Stratum IVa) appears churned within the upper portion of the deposit. An in situ, natural A horizon was also absent, possibly incorporated into Strata II and III during land modification activities. At the base of the excavation is a thick layer of coral gravel; although the hard coral shelf was documented within the adjacent T-21 at 154 cmbs, within T-22 the coral shelf was not reached at 210 cmbs. Excavation ceased due to the instability of the sidewalls.



Figure 163. T-22 southeast sidewall, view to east



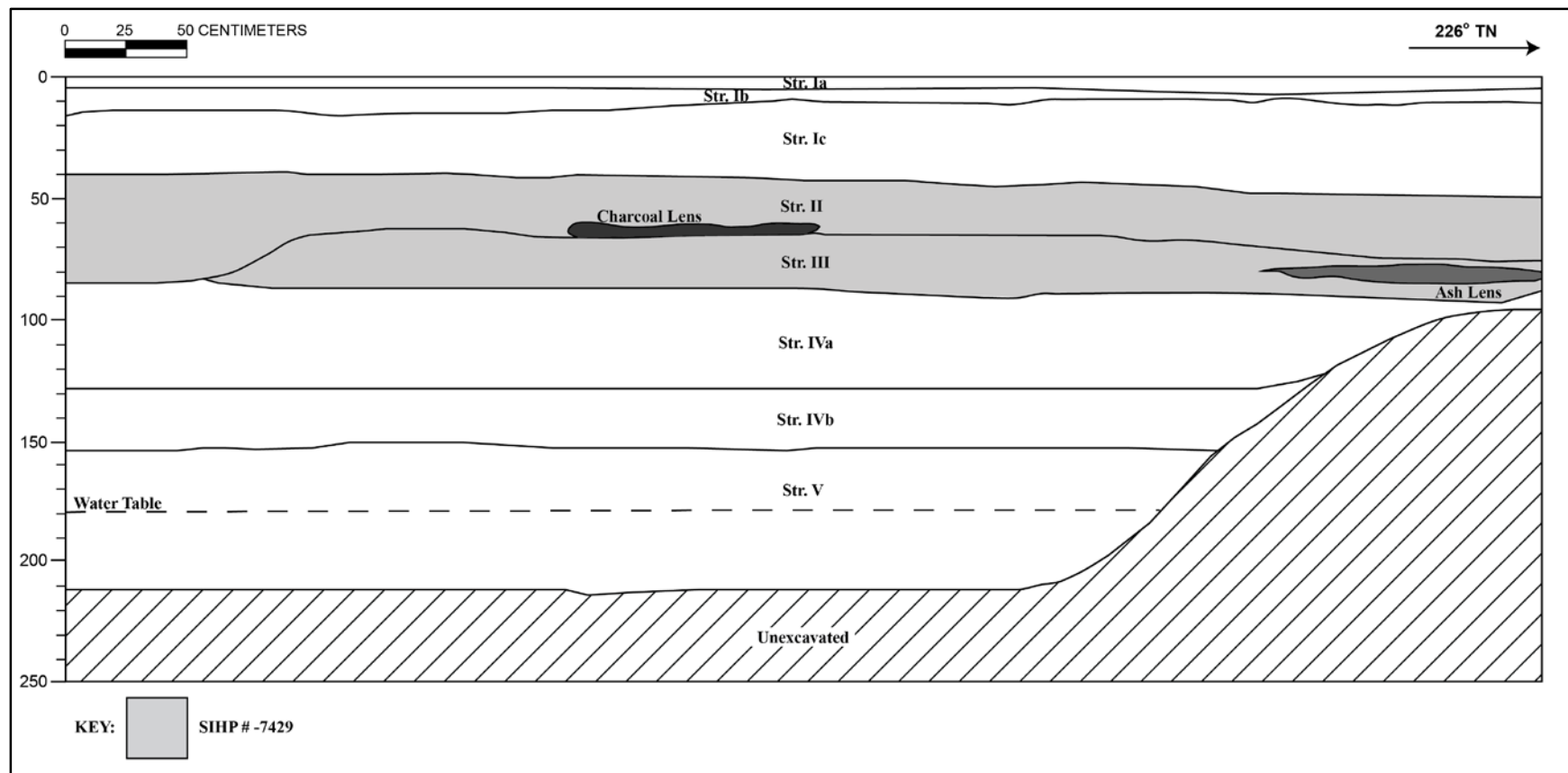


Figure 164. T-22 southeast profile

Table 29. T-22 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–7	Asphalt; road surface
Ib	5–16	Fill; 10YR 2/2, very dark brown; extremely gravelly loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for road surface
Ic	9–50	Fill; 10YR 4/4, dark yellowish brown; gravelly clay loam; moderate, fine to medium, crumb structure; moist, friable consistence; plastic; terrigenous origin; clear, smooth lower boundary; contains two glass medicine vial fragments (Acc. # 204 and 205); imported fill
II	48–85	Fill; 10YR 3/2, very dark grayish brown; silt loam; weak, fine to medium, crumb structure; moist, friable consistence; slightly plastic; terrigenous origin; clear, smooth lower boundary; contains charcoal, glass bottle fragments (Acc. #s 206 and 208), cinderblock brick fragment (Acc. # 207), a brick fragment (Acc. # 209), a stainless steel fork (Acc. # 210), small fragments of glass, ceramic, metal, wire, wood, and brick; mixed locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1
III	65–92	Fill; 10YR 4/2, dark grayish brown; silt loam; moderate, medium, crumb structure; moist, friable consistence; slightly plastic; terrigenous origin; clear, smooth lower boundary; few, fine to medium roots; contains an ash lens and small fragments of glass, ceramic, metal, and wood; mixed locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1
IVa	85–130	Natural; 10YR 7/4, very pale brown; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; diffuse, smooth lower boundary; natural Jaucas sand
IVb	127–153	Natural; GLEY 1, 5G 6/1, greenish gray; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; marine sand
V	150–210 (BOE)	Natural; GLEY 1, 5G 5/1, greenish gray; gravel; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; lower boundary not visible; decomposing coral shelf composed of large coral gravels

### 1.2.30 Test Excavation 23 (T-23)

T-23, an exterior test excavation located *makai* of the warehouse building in the southern portion of the project area, was oriented southwest-northeast and measured 6.1 m long by 0.7 m. The water table was encountered at 1.45 mbs, and the base of excavation was determined by the water table and the hard coral shelf at 1.45 mbs.

The stratigraphy of T-23 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over Kaka'ako reclamation fill deposits consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) sandy clay (Stratum IIb), over three historic fill deposits consisting of sandy loam (Stratum III), a burnt, gravelly loamy sand (Stratum IV), and a locally procured loamy sand fill (Stratum V), over natural, calcareous Jaucas sand (Stratum VIa), a thin layer of indurated sand (Stratum VIb), and clay sand (Strata VIc and VId) (Figure 165, Figure 166, and Table 30).

T-23 is very similar to T-3, located approximately 5 m to the southeast. The excavation of T-23 documented modern deposits (Strata Ia–Ib) over land reclamation fill (Strata IIa–IIb), over nineteenth to early twentieth century fill deposits consisting of a mixed non-local and local sediment (Stratum III), a lens of burnt material (Stratum IV), and a layer of locally procured and redeposited A horizon and sand material (Stratum V), over natural sands (Strata VIa–VIc and VII). The Strata IIa–IIb (land reclamation) and III fill deposits contain a small amount of historic material, consisting of fragments of glass, ceramic, metal, and brick (Figure 167). These items were not collected. Several burnt historic artifacts, as well as cow and pig bone, were also observed within the Stratum IV burnt fill sediment (Figure 168). The entirety of the Stratum V reworked local sediment was screened in the field; no cultural material was observed. The Stratum VIa Jaucas sand layer was also somewhat disturbed, as evidenced by a porcelain fragment documented within the stratum at 80 cmbs.





Figure 165. T-23 northwest sidewall, view to southwest

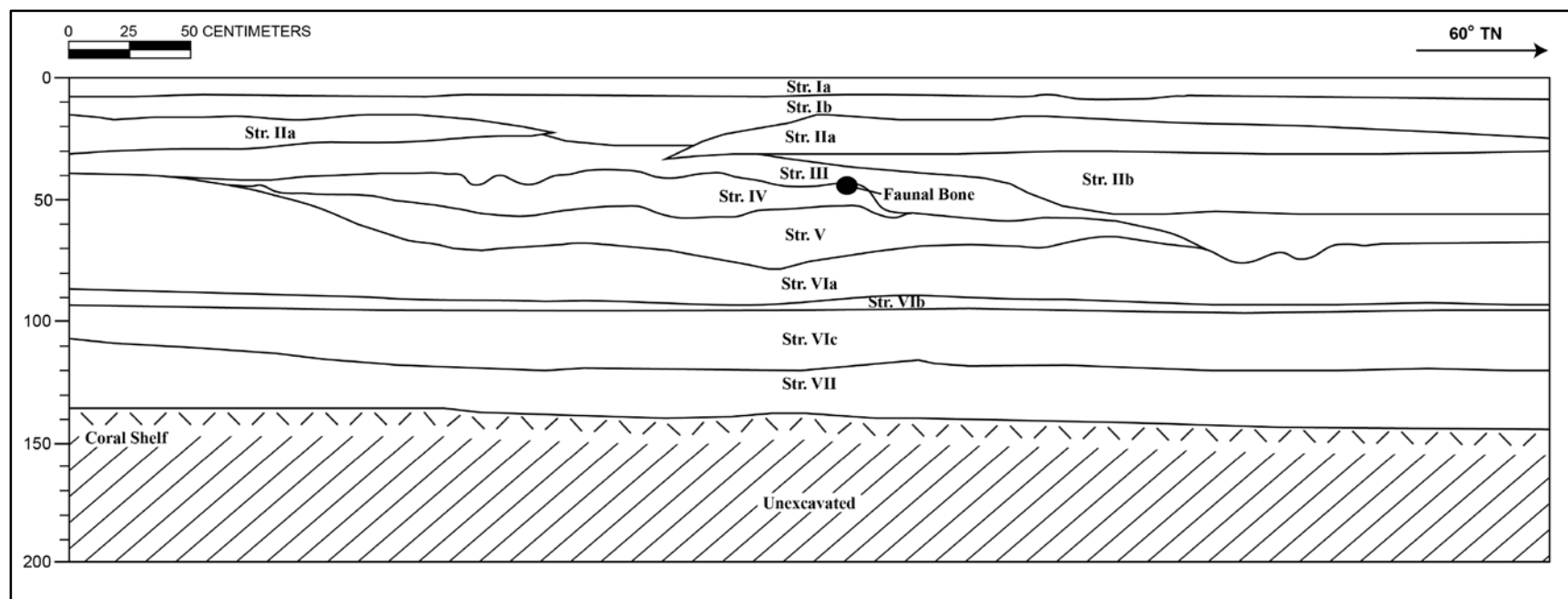


Figure 166. T-23 northwest sidewall profile

Table 30. T-23 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–8	Asphalt; road surface
Ib	8–30	Fill; 10YR 4/1, dark gray; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for road surface
IIa	17–30	Fill; 10YR 7/2, light gray; cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, discontinuous lower boundary; contains sparse historic material; crushed coral fill related to early twentieth century land reclamation
IIb	30–55	Fill; 10YR 7/4, very pale brown; sandy loam; structure (massive); moist, friable consistence; slightly plastic; marine origin; abrupt, discontinuous lower boundary; contains sparse historic material; hydraulic (dredged) material related to early twentieth century land reclamation
III	25–76	Fill; 10YR 4/2, dark grayish brown, gravelly to cobbly sandy loam; weak, fine to medium, crumb structure; moist, friable consistence, non-plastic; mixed origin; abrupt, irregular lower boundary; contains volcanic cinder, basalt and coral cobbles, and sparse historic material; mix of non-local and local sediment
IV	38–58	Fill; 10YR 2/1, black; gravelly loamy fine sand; weak, fine, granular structure; moist, very friable consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; lens containing burnt material such as brick, metal, and faunal bone (cow and pig)
V	49–79	Fill; 10YR 5/2, grayish brown; loamy fine to medium sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear to abrupt, wavy, lower boundary; likely locally procured and redeposited A horizon material
VIa	41–88	Natural; 2.5Y 7/4, pale yellow; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; contained a porcelain fragment (not collected); disturbed, calcareous Jaucas sand
VIb	88–95	Natural; 2.5YR 8/1, white; calcified sand; structureless (massive); cemented; indurated consistence; non-plastic; marine origin; abrupt, smooth lower boundary; indurated Jaucas sand
VIc	95–120	Natural; 10YR 7/3, very pale brown; medium clay sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; many, fine roots; calcareous Jaucas sand



Stratum	Depth (cmbs)	Description
VII	110–145	Natural; 2.5Y 7/1, light gray; medium to coarse clay sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; contains many sea urchin spines and crustacean fragments; many, fine roots; marine sand deposit
VIII	145 (BOE)	Natural; coral shelf



Figure 167. Historic items observed within the Strata IIa, IIb, III, and IV fill deposits



Figure 168. Burnt items observed within Stratum IV

### 1.2.31 Test Excavation 24 (T-24)

T-24, an interior test excavation located inside commercial warehouse space in the southern portion of the project area, was oriented southwest-northeast and measured 6.2 m long by 0.7 m wide. The water table was encountered at 1.34 mbs, and the base of excavation was determined by the presence of the hard coral shelf at 1.60 mbs.

The stratigraphy of T-24 consists of the concrete surface (Stratum Ia) and associated extremely gravelly loam base course (Stratum Ib), over a loamy crushed coral pit (Stratum Ic) and Kaka'ako reclamation fill deposits consisting of very cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) sandy clay (Stratum IIb) a, over a natural, loamy sand A horizon (Stratum IIIa; SIHP # -7429) that developed within natural, calcareous Jaucas sand (Stratum IIIb), over saturated clay sand (Stratum IV) (Figure 169, Figure 170, and Table 31).

The excavation of T-24 documented modern deposits (Strata Ia–Ib), over early twentieth century land reclamation fill deposits (Strata IIa–IIb), over in situ natural sand deposits (Strata IIIa, IIIb, and IV). In the northeast end of the test excavation, a modern or historic pit (Stratum Ic) extends from the upper boundary of Stratum IIa crushed coral into the Jaucas sand, truncating Strata IIa, IIb, IIIa, and IIIb. The pit matrix consists of loamy crushed coral with dredge inclusions. A cow rib fragment was found within this pit. Stratum IIIa is a very dark gray, loamy sand A horizon. Within the majority of the test excavation, Stratum IIIa has an average thickness of 7 cm. Within the *mauka* portion of T-24, however, adjacent to the crushed coral pit, it appears to extend downwards into a large pit feature. Five gallons of the general A horizon were screened, yielding glass bottle fragment, rusted metal pieces, and ceramic dishware sherds (Figure 172). Stratum IIIa shows evidence of cultural enrichment and use as a land surface and is considered a component of SIHP # -7429 (Component 2). The feature was designated SIHP # -7429 Feature 151. Glass bottle fragments were also observed within Stratum IIb, but were not collected.

SIHP # -7429 Feature 151 is a large pit feature within the eastern corner of the test excavation which extends into the northeast and southeast sidewalls and is truncated by the Stratum IIa crushed coral pit (see Figure 170 and Figure 171). The feature extends from 65–110 cmbs, terminating within Stratum IIIb Jaucas sand. The matrix is composed of mixed A horizon and sand. Ten gallos of feature matrix were screened; no cultural material was identified. The function of this feature is indeterminate.





Figure 169. T-24 southeast sidewall, view to south

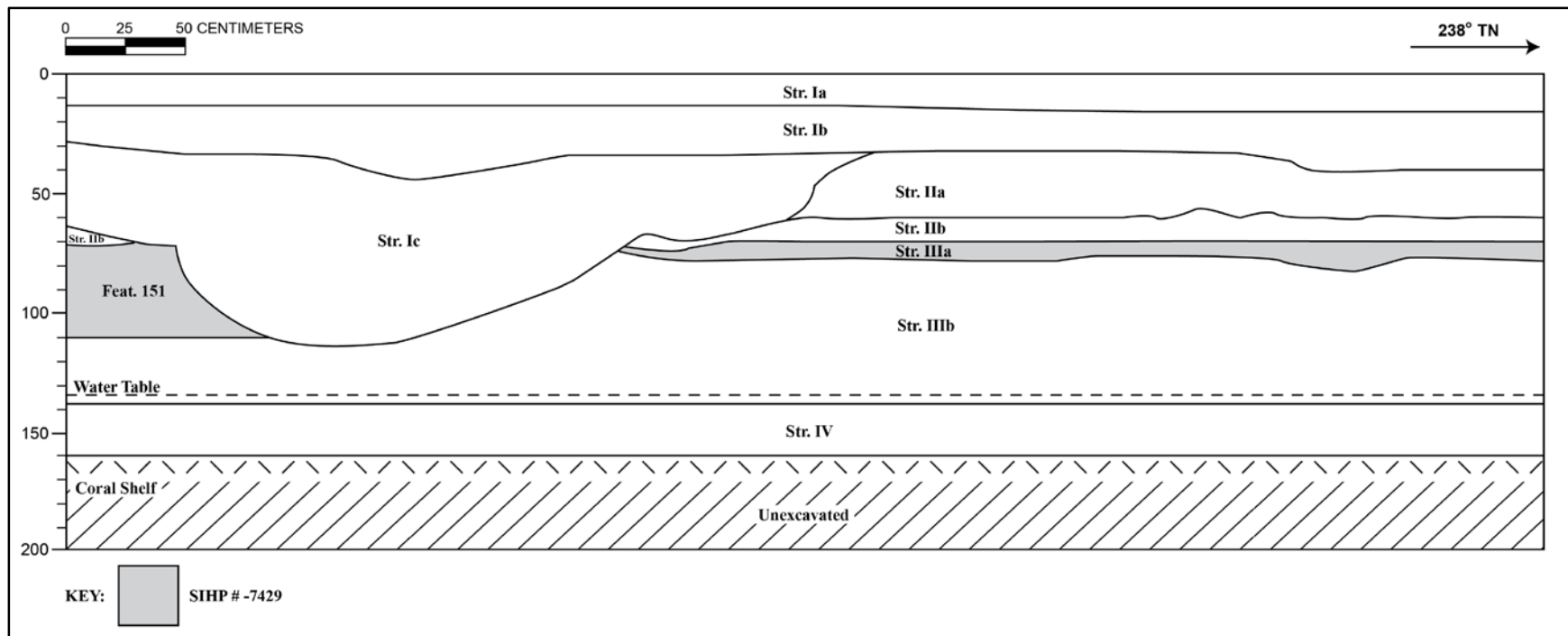


Figure 170. T-24 southeast profile

Table 31. T-24 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–16	Concrete; building floor
Ib	14–43	Fill; 7.5YR 3/3, dark brown; extremely gravelly loam; structureless (single-grain); moist, friable consistence; non-plastic; terrigenous origin; clear, smooth lower boundary; base course for concrete surface
Ic	33–113	Fill; 10YR 5/1, gray; very gravelly loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, irregular lower boundary; disturbance pit
IIa	30–60	Fill; 2.5Y 7/3, pale yellow; extremely cobbly medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, discontinuous lower boundary; contains cow bone; crushed coral fill related to early twentieth century land reclamation
IIb	54–79	Fill; 10YR 7/4, very pale brown; sandy loam; structure (massive); moist, friable consistence; plastic; marine origin; abrupt, discontinuous lower boundary; contains glass bottle fragments (not collected); hydraulic (dredged) material related to early twentieth century land reclamation
IIIa	69–81	Natural; 10YR 3/1, very dark gray; loamy medium sand; structureless (single-grain); moist, very friable consistence; slightly plastic; mixed origin; diffuse, smooth lower boundary; contains glass fragments, rusted metal pieces, and ceramic dishware sherds (not collected); in situ A horizon; partly disturbed in one area; SIHP # -7429; contains SIHP # -7429 Feature 151
	70–110	SIHP # -7429 Feature 151; indeterminate pit
IIIb	75–138	Natural; 10YR 8/4, very pale brown; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand
IV	138–160	Natural; 2.5Y 7/1, light gray; silty sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; saturated marine sand
V	160 (BOE)	Natural; coral shelf





Figure 171. Photograph of SIHP # -7429 Stratum IIIa, Feature 151 within the northeast (*mauka*) and southeast sidewalls, view to northeast



Figure 172. Historic material documented within SIHP # -7429 Stratum IIIa, consisting of ceramic fragments, rusted metal pieces, and a glass bottle fragment

### 1.2.32 Test Excavation 25 (T-25)

T-25, an exterior test excavation located in the southern portion of the project area, was oriented east-west and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.40 mbs, and the base of excavation was determined by the decomposing coral shelf at 1.47 mbs.

The stratigraphy of T-25 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over Kaka'ako reclamation fill deposits consisting of cobbly sand (crushed coral) (Stratum IIa) and hydraulic (dredged) sandy loam (Stratum IIb), over a locally procured and redeposited sandy loam fill (Stratum III), over an in situ natural loamy sand A horizon (Stratum IVa) that developed with natural, calcareous Jaucas sand (Stratum IVb), over clay sand (Stratum IVc), loamy sand (Stratum Va), and sandy clay (Stratum Vb) (Figure 173, Figure 174, and Table 32).

The excavation of T-25 documented modern deposits (Strata Ia–Ib), over early twentieth century land reclamation fill deposits (Strata IIa–IIb), over a thin layer of locally procured sediment comprised of A horizon material (Stratum III), over an in situ A horizon (Stratum IVa), over natural sands (Strata IVb, IVc, Va, and Vb). Abundant metal fragments were observed at the interface of Strata Ib and IIa, but were not collected. Five gallons of the Stratum IVa A horizon were screened, but yielded no cultural material.





Figure 173. T-25 north sidewall, view to east

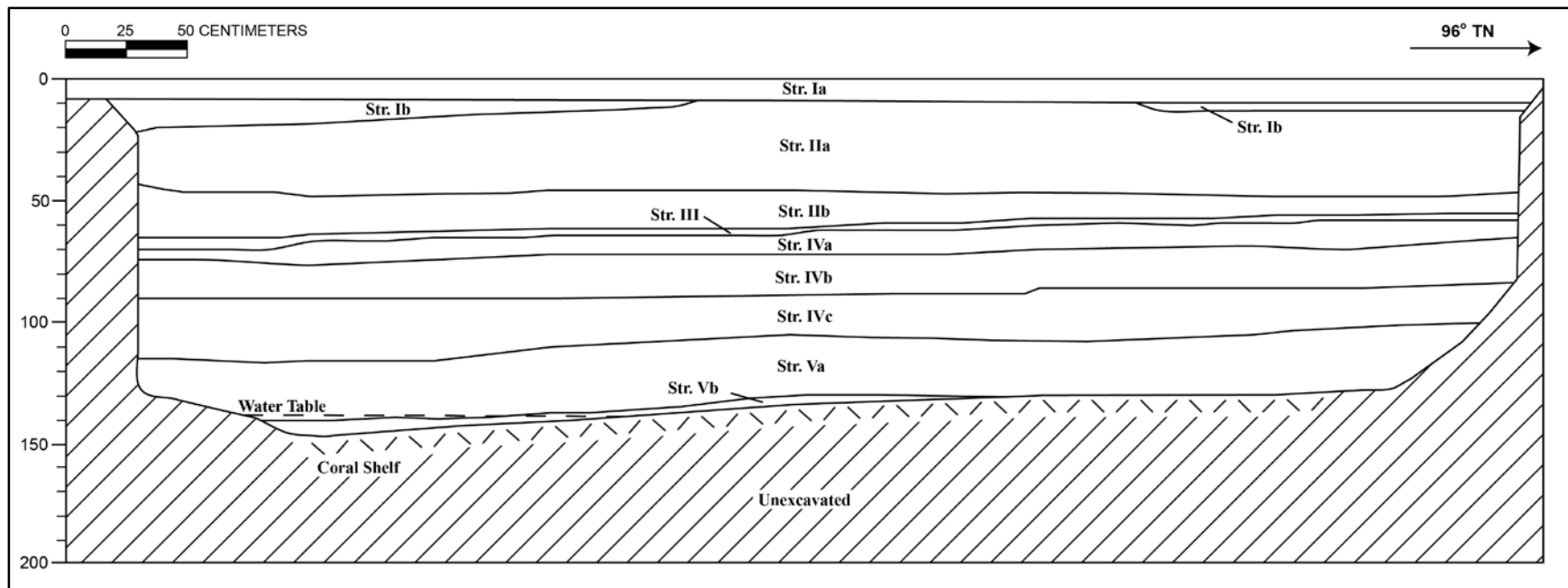


Figure 174. T-25 north profile

Table 32. T-25 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–10	Asphalt; road surface
Ib	10–21	Fill; 10YR 4/4, dark yellowish brown; extremely gravelly sandy loam; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; abrupt, broken/discontinuous lower boundary; contained abundant metal fragments at lower boundary; gravel base course and mixed fill with coral cobbles
IIa	10–47	Fill; 10YR 8/3, very pale brown; cobbly sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; crushed coral fill related to early twentieth century land reclamation
IIb	45–66	Fill; 10YR 7/3, very pale brown; sandy loam; weak, fine, platy structure; moist, very friable consistence; non-plastic; marine origin; hydraulic (dredged) material related to early twentieth century land reclamation
III	55–71	Fill; 10YR 5/2, grayish brown, sandy loam; weak, fine to medium, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, smooth lower boundary; compact layer of locally procured and redeposited A horizon material
IVa	57–78	Natural; 10YR 2/2, very dark brown; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, smooth lower boundary; in situ A horizon
IVb	65–90	Natural; 10YR 6/4, light yellowish brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand
IVc	85–117	Natural; 10YR 7/3, very pale brown; medium clay sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; common, fine roots; calcareous Jaucas sand
Va	100–140	Natural; GLEY 1, 10Y 7/1, light greenish gray; loamy sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; marine sand
Vb	130–147 (BOE)	Natural; GLEY 1, 10Y 6/1, greenish gray; coarse sandy clay; weak, coarse to very coarse, crumb structure; wet, slightly sticky consistence; non-plastic; marine origin; lower boundary not observed; marine sandy clay and decomposing coral shelf



### 1.2.33 Test Excavation 26 (T-26)

T-26, an exterior test excavation located in the southeastern portion of the project area, was oriented northeast-southwest and measured 6.2 m long by 0.69 m wide. The base of excavation was determined by the presence of the water table and the hard coral shelf at 1.45 mbs.

The stratigraphy of T-26 consists of the asphalt surface (Stratum Ia) and associated extremely gravelly sandy loam base course (Stratum Ib), over a buried asphalt surface (Stratum IIa; SIHP # -7686) and associated gravelly sandy loam base course (Stratum IIb; SIHP # -7686), over a Kaka'ako reclamation fill deposit consisting of extremely gravelly sand (crushed coral) (Stratum IVa) and hydraulic (dredged) clay (Stratum IVb), over an organic-rich, silty clay wetland O horizon (Stratum Va) that developed within natural wetland sandy clay (Stratum Vb), over coarse marine sand (Stratum VI) (Figure 175, Figure 176, and Table 33). A modern pit, likely a utility pit (Stratum III), was present within the *mauka* portion of T-26, extending from the lower boundary of the Stratum II buried asphalt at approximately 28 cmbs and terminating within Stratum IVb at approximately 95 cmbs.

The excavation of T-26 documented the modern asphalt surface and base course (Strata Ia–Ib), over a buried asphalt surface and associated base course (Strata IIa–IIb), over twentieth century fill deposits (Strata IVa–IVb), over natural wetland sediment (Strata Va, Vb, and VI). Pig bone cut with a metal saw blade was collected from Stratum IVa at 65 cmbs. The buried asphalt surface is likely older than 50 years of age and is considered a component of SIHP # -7686. Similar asphalt surfaces located atop reclamation fill deposits were documented within eight additional Block N East test excavations (see Figure 2).

The Strata Va–Vb wetland deposits represent a small pocket of low-lying, saturated sediments within the larger sand dune which extends through the project area (see Figure 3). The Stratum Va wetland sediment contains decomposing organic matter (peat/humus), indicative of an O horizon. The underlying Stratum Vb contains brackish water snails. A small wire fragment was observed within Stratum Va, but was not collected. A column sample of Strata IVa and IVb was collected between 98–112 cmbs (see Figure 176). A 7-liter bulk sediment sample of Stratum IVb was also collected from the test excavation floor between 100–120 cmbs. All sediment samples have been kept in reserve as a databank.



Figure 175. T-26 southeast sidewall, view to south

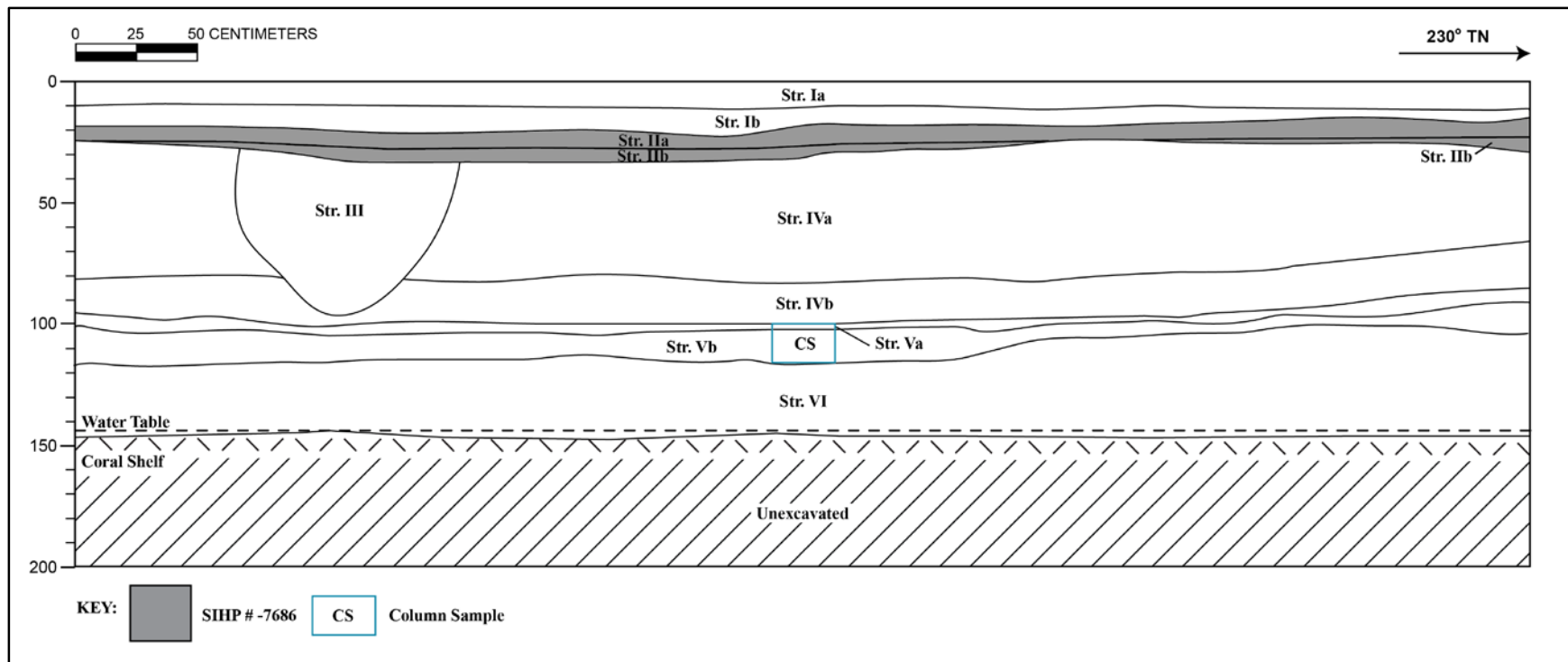


Figure 176. T-26 southeast profile



Table 33. T-26 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–10	Asphalt; road surface
Ib	10–20	Fill; 10YR 4/3, brown; extremely gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; contains modern debris, such as metal fragments; base course for road surface
IIa	15–25	Asphalt; buried former road surface; SIHP # -7686
IIb	24–33	Fill; lenses of gravelly loamy sand and sandy loam; base course for SIHP # -7686 asphalt surface
III	27–96	Fill; cobbly loamy sand; trench fill
IVa	25–85	Fill; 10YR 8/2, very pale brown; extremely gravelly medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; contains faunal remains (pig); crushed coral fill related to early twentieth century land reclamation; upper portion has slight staining possibly indicative of a forming A horizon
IVb	77–100	Fill; 10YR 7/2, light gray; silty clay; structureless (massive); moist, friable consistence; plastic; marine origin; very abrupt, smooth lower boundary; hydraulic (dredged) material related to early twentieth century land reclamation
Va	85–103	Natural; 10YR 2/1, black; silty clay; structureless (massive); moist, friable consistence; plastic; mixed origin; diffuse, smooth lower boundary; common, fine roots; wetland O horizon with peat/humus
Vb	100–115	Natural; GLEY 1, N 6/1, gray; sandy clay; structureless (massive); moist, firm consistence; plastic; marine origin; clear, wavy lower boundary; common, medium roots; contains brackish water snails; gleyed wetland sediment
VI	100–145	Natural; 2.5Y 6/2, light brownish gray; coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; abrupt, smooth lower boundary; marine sand
VII	145 (BOE)	Natural; coral shelf

### 1.2.34 Test Excavation 27 (T-27)

T-27, an exterior test excavation located in the eastern portion of the project area near Queen Street, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.80 mbs, and the coral shelf was reached beginning at 1.66 mbs in the southeast end of the test excavation sloping to 2.05 mbs in the northwest end. The base of excavation was reached at 2.05 mbs.

The stratigraphy of T-27 varied between the northeast/northwest and southwest/southeast sidewalls. Within the northeast (*mauka*) and northwest sidewalls, the stratigraphy consists of the modern asphalt surface (Stratum Ia) and two layers of associated extremely gravelly loam base course (Strata Ib and Ic), over a very gravelly sandy loam fill living surface (Stratum II; SIHP # -7429), over a thin silty sand fill living surface (Stratum III; SIHP # -7429), over a natural, in situ sandy loam A horizon (Stratum IVa) that developed within natural, calcareous Jaucas sand (Stratum IVb), over marine sand (Strata Va and Vb) (Figure 177, Figure 179, and Table 34). Within the southwest (*makai*) and southeast sidewalls, the Stratum II fill deposit is absent and is instead replaced with a different series of fill deposits consisting of very gravelly sandy loam (Stratum Id), silty sand (Stratum Ie), gravelly clay loam (Stratum If), and sandy loam fill (Stratum Ig) (Figure 178, Figure 180, and Table 34). All other strata are still present (i.e., Strata Ia–Ic, III, and IVa–Vb).

The boundary between the two stratigraphic sequences within T-27 forms a diagonal line through the test excavation, from the west corner to the east corner. This boundary line corresponds neatly with the boundary line of a row of previous historic residences along Queen Street as documented within numerous historic maps and photographs (see Volume I, Section 3.1). It is likely the *mauka* (northeast) wall stratigraphic sequence correlates with activities within this Queen Street residential zone. Historic artifacts were observed within the upper boundary of the Stratum II *mauka* fill layer, including a 1967 Miller's glass beer bottle (Acc. # 217), a tin cup (Acc. # 218), styrofoam (Acc. # 219), and a plastic food label from the Farmer's Market on Auahi Street (Acc. # 220). Based on the presence of residential-type historic artifacts and similarity with historic living surfaces documented along Queen Street (i.e., fill deposits within T-8 through T-14G, T-21, T-22, and T-28), Stratum II is represents a historic living surface and is considered a component of SIHP # -7429 (Component 1). The series of fill layers on the *makai* sidewall (Strata Id–Ig) appear highly mixed/churned and may represent bulldozing activity. These fill layers also contain historic material including glass, ceramic, and metal fragments (not collected); however, the material is likely in a secondary context. Historic material was also collected from the backdirt pile; however, the exact provenience(s) is indeterminate and may include Strata Ic–Ig and Stratum II. Items collected from the backdirt consist of a 1954–1964 glass beer bottle (Acc. # 211), a square glass bottle manufactured between 1954–1984 (Acc. # 213), a post-1954 glass food jar (Acc. # 212), 1962 and 1963 glass liquor flasks (Acc. #s 214 and 216), and a glass medicine bottle manufactured between 1954–1983 (Acc. # 215). These mid-twentieth century historic artifacts represent domestic items.

Underlying these various historic fill layers is another relatively thin fill deposit (Stratum III) comprised of locally procured material (i.e., sand and sandy loam material). Stratum III contains three historic post molds, indicating this deposit served as a historic land surface. The stratum is designated a component of SIHP # -7429 (Component 1) and the three features are designated



Figure 177. T-27 northeast sidewall, view to northeast





Figure 178. T-27 southwest sidewall, view to west

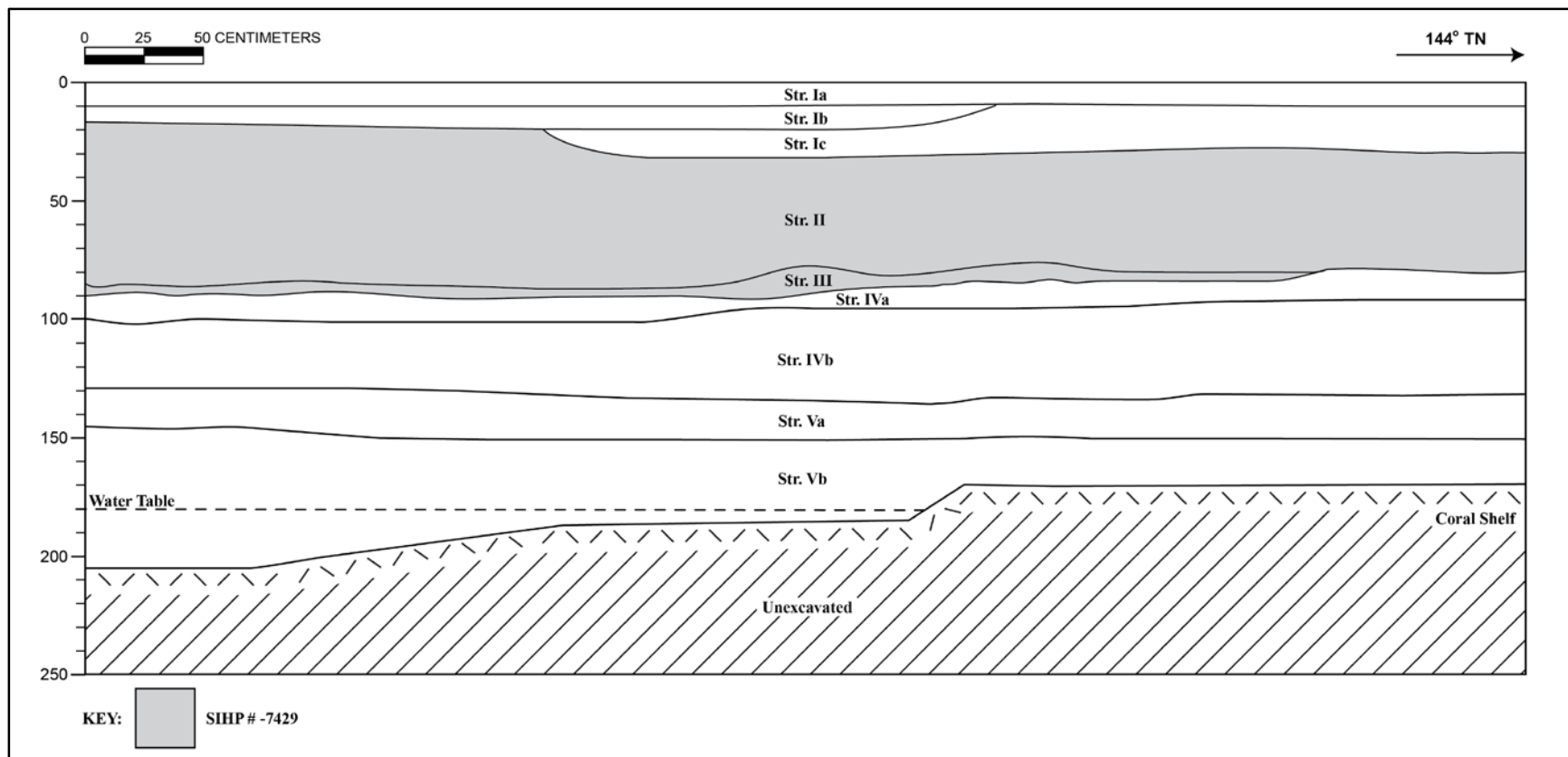


Figure 179. T-27 northeast profile

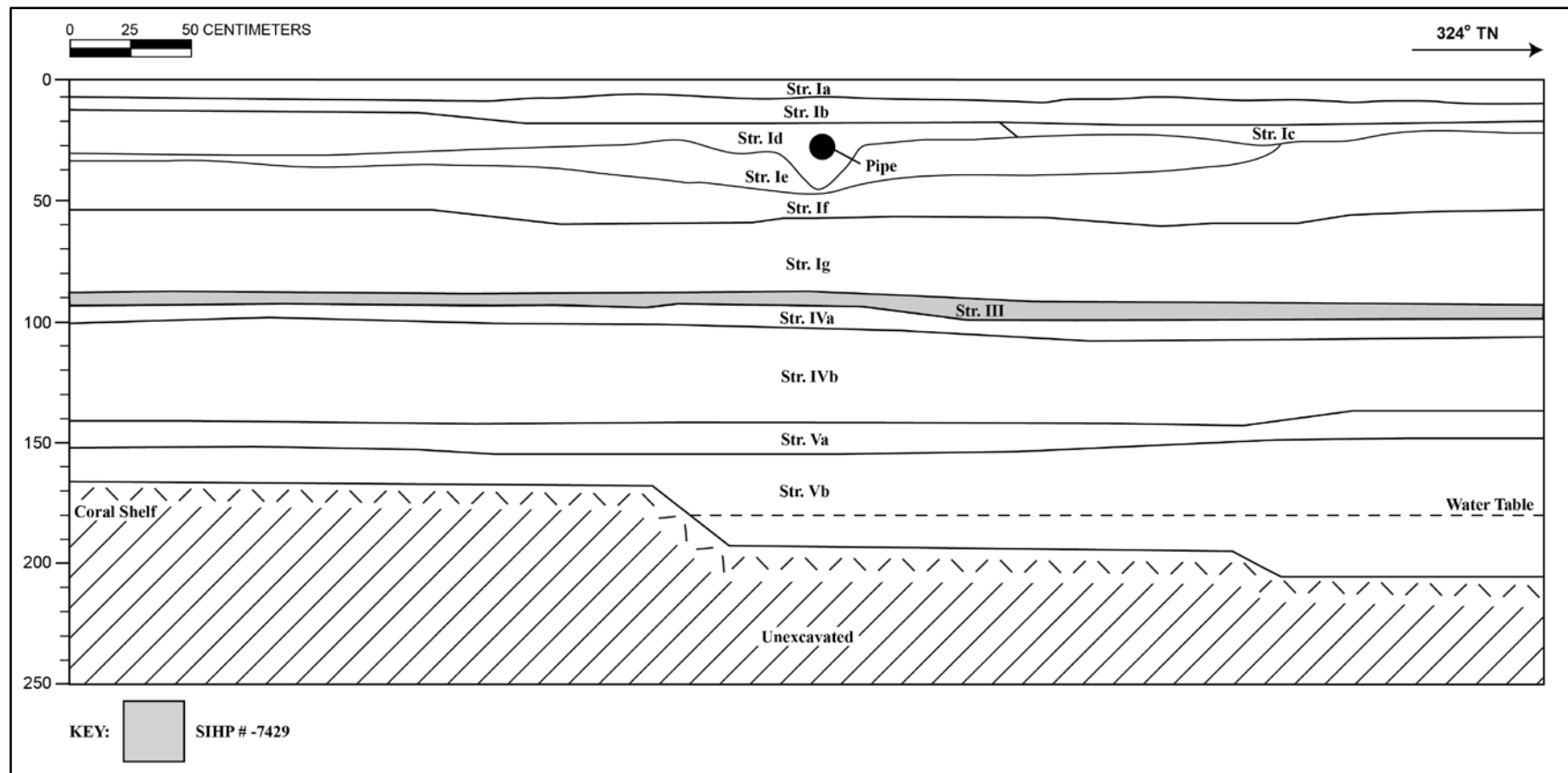


Figure 180. T-27 southwest wall profile



Table 34. T-27 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–10	Asphalt; road surface
Ib	7–18	Fill; 10YR 2/2, very dark brown; extremely gravelly loam; weak, coarse, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; abrupt, broken/discontinuous lower boundary; common, medium roots; base course associated with road surface
Ic	10–30	Fill; 10YR 3/4, dark yellowish brown; gravelly sandy clay loam; weak, fine to medium, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; abrupt, broken/discontinuous lower boundary; common, medium roots; base course
Id	13–45	Fill; 10YR 6/4, light yellowish brown; very gravelly sandy loam; weak, medium to coarse crumb structure; moist, loose consistence; non-plastic; terrigenous origin; clear, irregular lower boundary; contains an abandoned utility pipe and metal fragments (not collected); present only in the southwest sidewall; mixed fill; only within southwest sidewall
Ie	21–47	Fill; 10YR 5/3, brown; silty sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; diffuse, broken/discontinuous lower boundary; few, coarse roots; contains historic material; mixed fill; only within southwest sidewall
If	20–59	Fill; 10YR 3/2, very dark grayish brown; gravelly clay loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; diffuse, irregular lower boundary; few coarse roots; present only in the southwest sidewall; contains historic material; mixed fill; only within southwest sidewall
Ig	52–97	Fill; 10YR 5/4, yellowish brown; sandy loam; weak, medium crumb structure; moist, very friable consistence; non-plastic; mixed origin; clear, smooth lower boundary; few, coarse roots; present only in the southwest sidewall; contains historic material; extremely mixed fill, including pockets of hydraulic fill material; only within southwest sidewall
II	30–86	Fill; 10YR 2/2, very dark brown; very gravelly sandy loam; weak, medium to coarse, crumb structure; moist, loose consistence; non-plastic; terrigenous origin; abrupt, smooth lower boundary; few, medium roots; contains historic artifacts, including a glass beer bottle (Acc. # 211), a tin cup (Acc. # 228), styrofoam (Acc. # 230), and a plastic food label (Acc. # 231); only within northeast sidewall; mixed locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1

Stratum	Depth (cmbs)	Description
III	75–98	Fill; 10YR 7/1, light gray; silty sand; structureless (single-grain); moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; few, coarse roots; locally procured sediment; SIHP # -7429 (Component 1); contains SIHP # -7427 Features 152–154
	110–145	SIHP # -7429 Feature 152; post mold; contains a round, marble disc (Acc. # 213) and a 4 x 4 inch milled wood post remnant (Acc. # 214)
	105–135	SIHP # -7429 Feature 153; post mold; contains cow rib fragments, a metal nail (Acc. # 212), a 4 x 4 inch milled wood post remnant (Acc. # 222), and a flat glass fragment (not collected)
	108–156	SIHP # -7429 Feature 154; post mold; contains a 4 x 4 inch milled wood post remnant (Acc. # 219), a glass bottle fragment (Acc. # 215), and faunal bone (cow, pig, chicken)
IVa	80–105	Natural; 10 YR 4/2, dark grayish brown; sandy loam; weak, medium, blocky structure; moist, loose consistence; non-plastic; mixed origin; diffuse, irregular lower boundary; few, coarse roots; disturbed, truncated, A horizon remnant
IVb	93–140	Natural; 10YR 8/3, very pale brown; sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; calcareous Jaucas sand
Va	128–152	Natural; GLEY 1, N 7/1, light gray; medium sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; clear, smooth lower boundary; marine sand
Vb	145–205	Natural; GLEY 1, N 6/1, gray; gravelly coarse sand; structureless (single-grain); wet, non-sticky consistence; non-plastic; marine origin; abrupt, irregular lower boundary; contains coral cobbles (part of the decomposing coral shelf); marine sand and decomposing coral shelf
VI	170–205 (BOE)	Natural; coral shelf

SIHP # -7429 Features 152–154. The three post molds originate within Stratum III and terminate within Stratum IVb Jaucas sand. They are not in an exact linear alignment, are not spaced evenly apart, and are different shapes, indicating they likely do not all belong to the same structure (Figure 181 through Figure 184).

SIHP # -7429 Feature 152 is a circular post mold that measures 30 cm in diameter and at least 35 cm thick (see Figure 181 and Figure 182). It terminates within Stratum IIIb at 145 cmbs. Cultural material within the feature includes a round stone (marble) disc (Acc. # 221) and a 4 by 4 inch milled wood post remnant (Acc. # 222) from 135–145 cmbs.

SIHP # -7429 Feature 153 is an oval post mold that measures approximately 35 cm long, 30 cm wide, and at least 30 cm thick (see Figure 181 and Figure 183). It abuts the northeast test excavation sidewall and terminates at the interface of Strata IIIb and IVa at 135 cmbs. Cultural material within the feature includes cow rib fragments, a metal nail (Acc. # 223), a 4 by 4 inch milled wood post remnant (Acc. # 224) from approximately 130 cmbs, and a flat glass fragment (not collected).

SIHP # -7429 Feature 154 is a rectangular post mold that measures approximately 25 cm long, 20 cm wide, and at least 48 cm thick (see Figure 181 and Figure 184). It terminates within Stratum IVb at 156 cmbs. Cultural material within the feature includes a 4 by 4 inch milled wood post remnant (Acc. # 226), a glass bottle fragment (Acc. # 225), and faunal bone (pig bone cut with a metal saw blade, cow, and chicken).

The natural soils underlying Stratum III consist of a series of sand deposits (Strata IVa–Vb), including an in situ sandy loam A horizon (Stratum IVa). Approximately 20 gallons of Stratum IVa were screened, consisting of 5 gallons from four portions of the test excavation; no cultural material was documented.



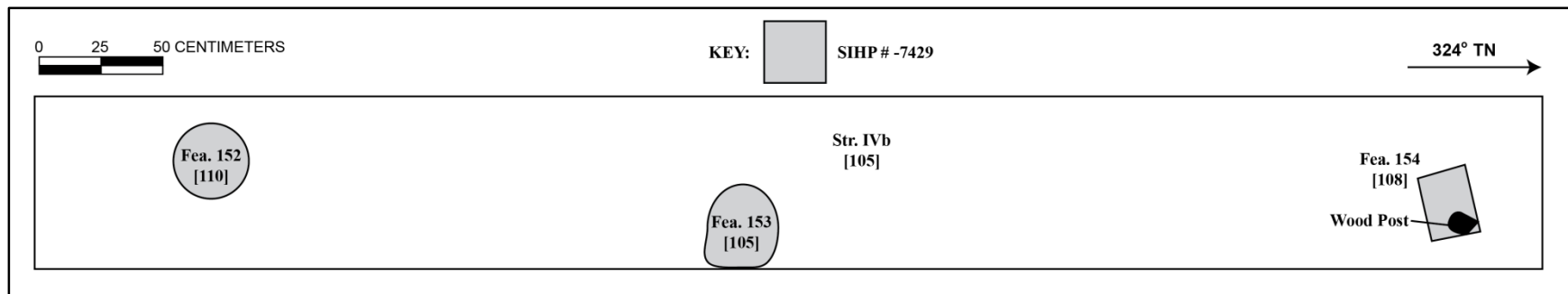


Figure 181. T-27 plan view showing SIHP # -7429 Features 152–154



Figure 182. Plan view of SIHP # -7429 Feature 152



Figure 183. Plan view of SIHP # -7429 Feature 153





Figure 184. Plan view of SIHP # -7429 Feature 154 (dashed outline); also note the four overlying backhoe tooth scars from the current excavation



### 1.2.35 Test Excavation 28 (T-28)

T-28, an exterior test excavation located in the eastern corner of the project area near Queen Street, was oriented northwest-southeast and measured 6.1 m long by 0.7 m wide. The water table was encountered at 1.38 mbs, and the base of excavation was determined by the coral shelf at 1.7 mbs.

The stratigraphy of T-28 consists of the asphalt surface (Stratum Ia), associated extremely gravelly sandy loam base course (Stratum Ib), and extremely gravelly sandy loam fill (Stratum Ic), over a very gravelly sandy loam fill living surface (Stratum II; SIHP # -7429), over an in situ sandy loam A horizon (Stratum IIIa) that developed within natural, calcareous Jaucas sand (Stratum IIIb), over marine sand (Stratum IV) and extremely gravelly sand (the decomposing coral shelf; Stratum IV) (Figure 185, Figure 186, and Table 35).

The excavation of T-28 documented modern deposits (Strata Ia–Ic), over a historic living surface (Stratum II), over a truncated and graded, natural sandy loam A horizon (Stratum IIIa), natural sands (Strata IIIb and IV), and the decomposing coral shelf (Stratum V). Early twentieth century land reclamation fill deposits were not encountered. Stratum II consists of a mix of non-local and locally procured sediment and contains historic artifacts. Collected items include a post-1954 Bayer aspirin glass medicine bottle (Acc. # 227), a 1963 Seagram's glass liquor flask (Acc. #s 228), an additional glass flask manufactured between 1934-1970 (Acc. # 230), a post-1940 miniature glass whiskey bottle (Acc. # 229), a 1963 glass beer bottle (Acc. # 231), a synthetic window screen portion (Acc. # 232), and a glass cold cream jar with a plastic lid (Acc. # 233). These mid-twentieth century historic artifacts represent domestic items likely associated with the previous residences in this area. Based on the presence of residential-type historic cultural material and similarity with culturally enriched, locally procured fill deposits in the area of historic residences along Queen Street (i.e., fill deposits documented within T-8 through T-14G, T-21, T-22, and T-27), Strata II likely represents a historic living surface and is considered a component of SIHP # -7429 (Component 1).

An in situ, natural sandy loam A horizon (Stratum IIIa) was documented beneath Stratum II. The A horizon appeared truncated and graded. Approximately 3 gallons of the Stratum IIIa A horizon sediment was screened; no cultural material was observed.

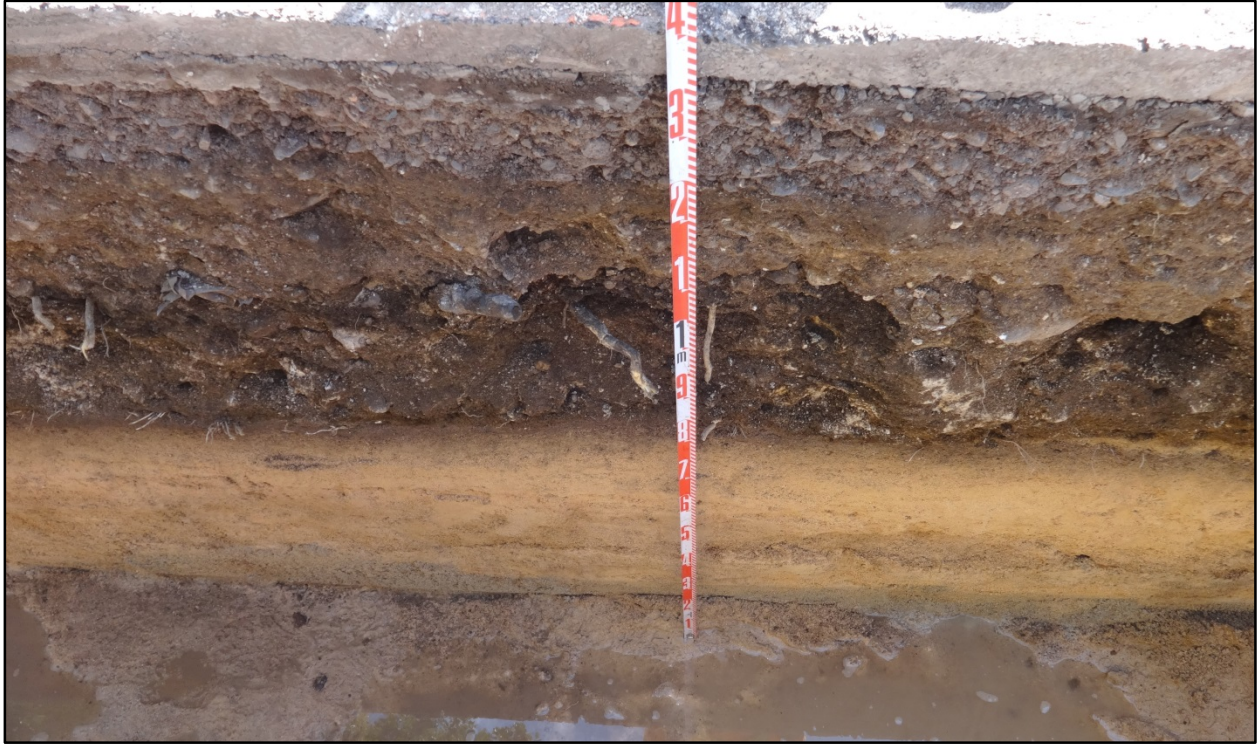


Figure 185. T-28 northeast sidewall, view to east

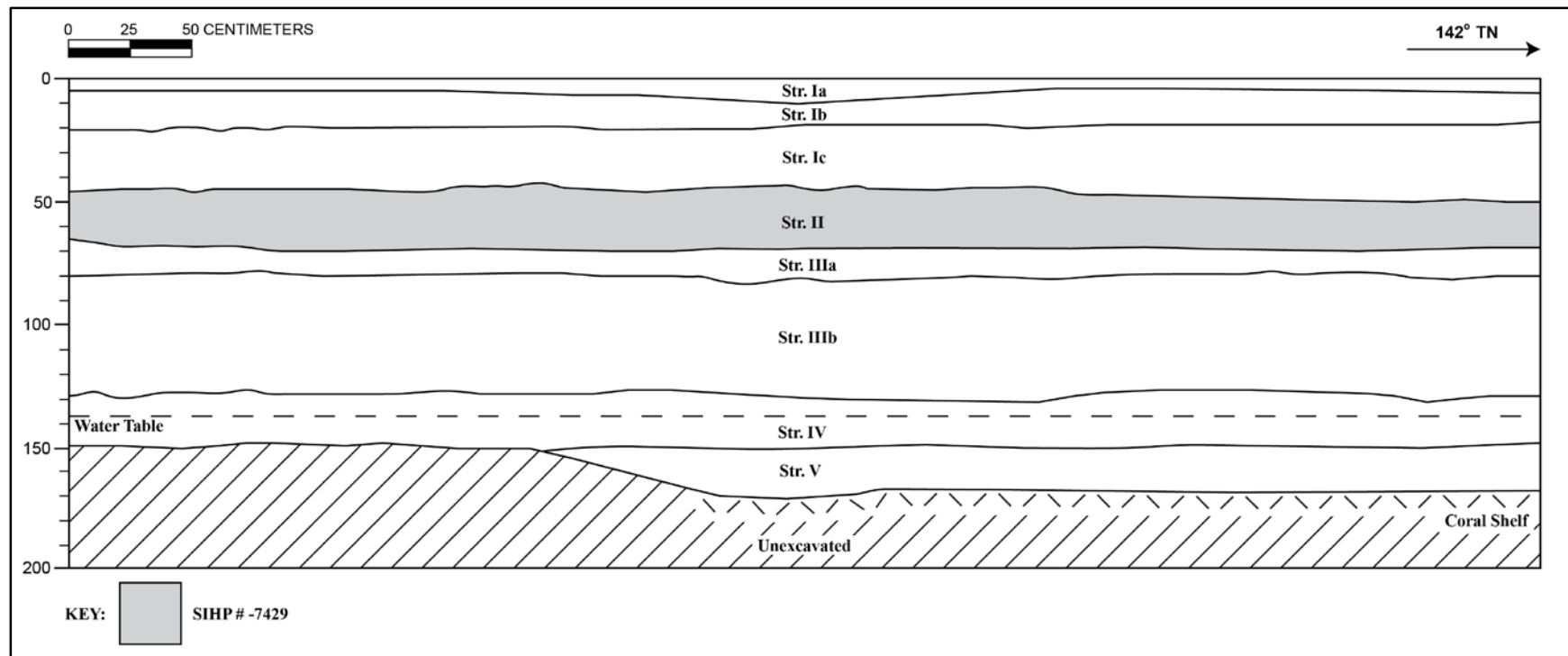


Figure 186. T-28 northeast profile



Table 35. T-28 Stratigraphic Description

Stratum	Depth (cmbs)	Description
Ia	0–10	Asphalt; road surface
Ib	5–20	Fill; 5YR 4/2, dark reddish gray; extremely gravelly sandy loam; weak, fine, crumb structure; moist, loose consistence; non-plastic; mixed origin; abrupt, wavy lower boundary; basalt gravel base course for road surface
Ic	20–50	Fill; 10YR 3/6, dark yellowish brown; extremely gravelly sandy loam; fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; common, coarse roots; contains faunal remains (cow)
II	45–70	Fill; 10YR 2/2, very dark brown; very gravelly sandy loam; weak, fine, crumb structure; moist, friable consistence; slightly plastic; mixed origin; abrupt, smooth lower boundary; common, coarse to very coarse roots; contains glass bottles (Acc. #s 227–231 and 233), synthetic window screen (Acc. # 232), a plastic comb/ brush and a plastic circular canister (not collected); mixed locally procured and non-local sediment; historic living surface; SIHP # -7429 Component 1
IIIa	65–83	Natural; 10YR 3/2, very dark grayish brown; sandy loam; medium, crumb structure; moist, loose consistence; non-plastic; mixed origin; clear, smooth lower boundary; common, medium roots; truncated, in situ A horizon
IIIb	80–132	Natural; 10YR 8/4, very pale brown; medium sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear and smooth lower boundary; calcareous Jaucas sand
IV	133–150	Natural; 10YR 6/1, gray; medium to coarse sand; structureless (single-grain); moist, loose consistence; non-plastic; marine origin; clear, smooth lower boundary; marine sand
V	150–170 (BOE)	Natural; GLEY 1, 10Y 6/1, greenish gray; extremely gravelly/cobbly sand; coarse structure; wet, non-sticky consistence; non-plastic; marine origin; abrupt, smooth lower boundary; decomposing coral shelf with 95% coral cobbles