

# **Intensive Archaeological Investigation of the Orchard Off-Site Water, Bexar County, Texas**

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## **Abstract**

Pape-Dawson Engineers (Pape-Dawson) conducted an archaeological survey of the proposed Orchard Off-Site Water project located west of the City of San Antonio in Bexar County, Texas. This project will entail the installation of 1.33 miles (2.14 kilometer [km]) of new water line within a 50 foot (ft) (15.2 meter [m])-wide easement that will largely be located parallel to the existing right-of-way (ROW) of US 90 and Farm-to-Market (FM) 211/Texas Research Parkway. A 20 ft (6 m)-wide temporary construction easement will parallel the water line easement along one side. While depth of impact for all improvements will vary, average depth of vertical impact is considered to be 5 ft (1.5 m) below the current ground surface.

Although Cumberland 90, Ltd will construct the new utility line, San Antonio Water Systems (SAWS) will be the grantee of the easement after construction. For this reason and because a portion of this project falls within TxDOT-owned ROW, compliance with the Antiquities Code of Texas (ACT) is required. The project was conducted under Texas Antiquities Permit No. 7917. No federal permitting or funding is attached to the project, thus compliance with Section 106 of the National Historic Preservation Act (NHPA) is not necessary. All work was done in accordance with the archaeological survey standards and guidelines as developed by the Council of Texas Archeologists (CTA) and adopted by the Texas Historical Commission (THC).

Pape-Dawson archaeologists Virginia Moore and Katie Hill conducted the field work on February 22 2017. The entirety of the project area was subjected to visual inspection augmented by the excavation of 23 shovel tests in order to evaluate the impact of the proposed project on cultural resources. Overall, most of the project area was found to have been severely impacted by previous utility installation. The nature of the disturbances within the project area has reduced the potential for encountering any intact, significant cultural resources. All shovel tests were negative, and no archaeological artifacts or sites were located or recorded during the course of the survey. Project records and photographs will be curated at the Center for Archaeological Research (CAR) at the University of Texas San Antonio. Based on the results of the investigation, Pape-Dawson archaeologists recommend that no further archaeological work is necessary for the proposed project and that the project be allowed to proceed.

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## **Management Summary**

Pape-Dawson Engineers (Pape-Dawson) conducted an archaeological survey of the proposed Orchard Off-Site Water project located west of the City of San Antonio, in Bexar County, Texas. This project will entail the installation of 1.33 miles (2.14 kilometer [km]) of new water line within a 50 foot (ft) (15.2 meter [m])-wide easement that largely will be located parallel to the existing right-of-way (ROW) of US 90 and Farm-to-Market (FM) 211/Texas Research Parkway. A 20 ft (6 m)-wide temporary construction easement will parallel the water line easement along one side. Although Cumberland 90, Ltd will construct the new utility line, San Antonio Water Systems (SAWS) will be the grantee of the easement after construction. For this reason and because a portion of this project falls within TxDOT-owned ROW, compliance with the Antiquities Code of Texas (ACT) is required. No federal permitting or funding is attached to this project, thus compliance with Section 106 of the National Historic Preservation Act is also not required. Work was done under Texas Antiquities Permit No. 7917.

Pape-Dawson archaeologist conducted fieldwork for the 8.1 acres (3.3 ha) project area on February 22, 2017. Virginia Moore served as the Principal Investigator, Katie Hill served as the Project Archaeologist. A total of 23 shovel tests were excavated, all of which were negative, as such, no archaeological sites were located or recorded during the course of the survey.

The principal investigator recommends that no further cultural resources work is necessary for the project area and that construction be allowed to proceed within the project area. However, if undiscovered cultural material is encountered during construction, it is recommended that all work in the vicinity should cease and that the discovery be evaluated by a qualified archaeologist who can provide guidance on how to proceed in accordance with state regulations.

## **Introduction**

Pape-Dawson Engineers (Pape-Dawson) conducted an archaeological investigation of the proposed Orchard Off-Site Water project located west of the City of San Antonio in Bexar County, Texas (**Figure 1**). This project will entail the installation of 1.33 miles (2.14 kilometer [km]) of new water line within a 50 foot (ft) (15.2 meter [m])-wide easement. A 20 ft (6 m)-wide temporary construction easement will parallel the water line easement along one side. For the purpose of this project, the archaeological project area is defined as the footprint of the proposed water line and temporary construction easements, with the area east of FM 211 identified as the southern portion and the area west of FM 211 as the northern portion (**Figure 2**). Within the southern portion of the project area the proposed water line lies entirely within either the existing 20 foot (6.1 m)-wide San Antonio Water Systems (SAWS) water line easement or within TxDOT owned ROW. The project will begin on the north side of US 90 approximately 0.65 mile (1.04 km) east of the intersection of FM 211 and US 90. The proposed water line will extend west then north paralleling US 90 and its access road for approximately 0.96 mile (1.5 km). At this point the water line will cross FM 211 to the west and will then extend north for approximately 0.3 mile (465 m). Within the northern portion, there is an existing buried cable line within the proposed water line easement. The maximum depth of vertical impact for construction 5 ft (1.5 m) below the current ground surface.

Although Cumberland 90, Ltd will construct the new utility line, SAWS will be the grantee of the easement after construction. For this reason and because a portion of this project falls within TxDOT-owned ROW, compliance with the Antiquities Code of Texas (ACT) is required. As no federal funding or permitting is anticipated for this project, compliance with Section 106 of the National Historic Preservation Act (NHPA) will not be necessary. Work was conducted under Texas Antiquities Permit No. 7917.

Pape-Dawson's investigations included an extensive background records and literature review, followed by an intensive pedestrian survey with shovel testing. Pape-Dawson archaeologists Virginia Moore and Katie Hill conducted the field work on February 22, 2017. The goals of the investigation were to: (1) locate all prehistoric and historic cultural resources, if present, within the project area; (2) establish vertical and horizontal site boundaries, as appropriate with respect to the project area; (3) evaluate the significance of recorded cultural resources with regard to State Antiquities Landmark (SAL) eligibility.





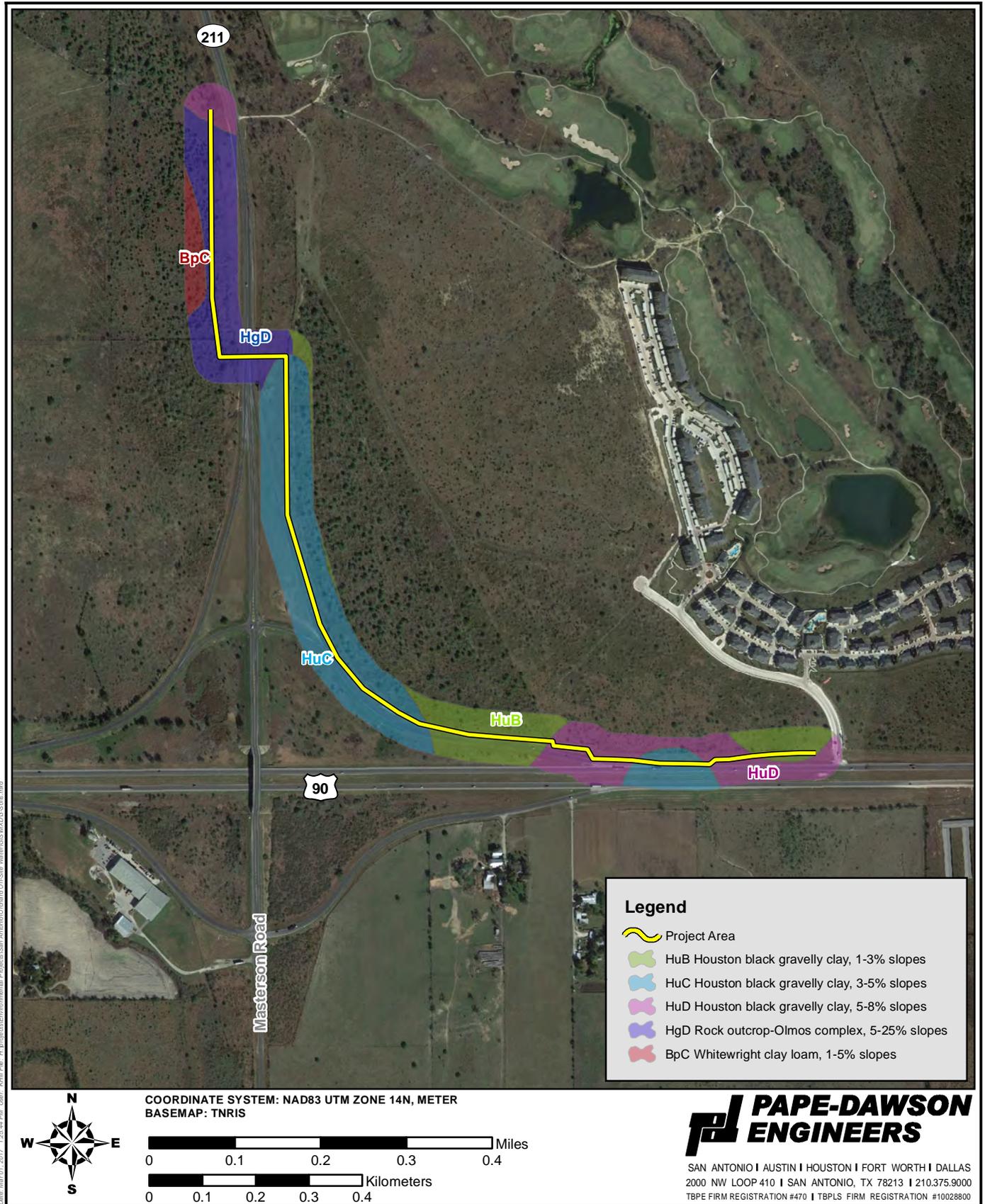
**Figure 2 : Project Area Map**

## Project Setting

The project alignment appears on portions of the La Coste (3097-214) and La Coste NE (2998-234) U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle, and is situated at the intersection of US 90 and FM 211 approximately 16.5 miles (27 km) west-southwest of downtown San Antonio. A review of historic and modern aerials ranging in date from 1955 to 2014 indicates that the project area and surrounding area have been subjected to agricultural activity at least as early as 1955, and that the construction of US 90 occurred sometime prior to 1955, while the construction of FM 211 appears to have occurred sometime between 1955 and 1995 (Google Earth Map and National Environmental Title Research [NETR] Online 2011).

Located on the margins of the Blackland Prairies and the Interior Coastal Plains regions of central Texas (Wermund 1996), the project landscape is characterized by gently and moderately sloping upland terrain. Lucas Creek flows easterly within 0.7 km (0.44 mile) of the northern terminus of the project area. The project area is geologically mapped as late Cretaceous-age Navarro Group and Marlbrook Marl, which consists of calcareous clay with silt and limestone (U.S. Geological Survey 2005). The soils that formed within these pre-Holocene-age deposits within the project area include Houston black gravelly clay on 1 to 8 percent slopes, and Rock outcrop-Olmos complex on 5 to 25 percent slopes (Natural Resources Conservation Service (NRCS) 2017) (**Figure 3**).

The Houston black soil series constitutes the largest portion of the project area and consists of very deep clay formed from calcareous mudstone of Cretaceous age (NRCS 2017). These residual soils are commonly found on the tops and slopes of upland landforms. A typical profile consists of very dark gray (10YR 3/1) clay underlain by the following series of soil strata: dark gray (10YR 5/2) clay, brown (10YR 5/2) clay, and gray (10YR 6/1) clay extending more than 8.5 ft (2.6 m) deep. The remaining soil unit, Rock outcrop-Olmos complex, composes a small portion of the project area. Olmos soils formed in ancient deposits of loamy alluvium and are commonly found undulating uplands. A typical profile consist of shallow deposits of dark grayish brown (10YR 4/2) very gravelly loam over cemented caliche (NRCS 2017). As there are no recent alluvial deposits mapped within the project area and the soils present are clayey upland deposits, it was anticipated that archaeological deposits, if present, would be shallowly buried or on the ground surface and visible to surface inspection



**Figure 3 : Soils Mapped within the Project Area**

## Methods

### RECORDS REVIEW

Pape-Dawson archaeologists conducted a thorough background literature and records search of the proposed project area. This research included reviewing the Texas Archeological Sites Atlas (Atlas) online database for any previously recorded surveys and historic or prehistoric archaeological sites located within a 0.62 mile (1 km) radius of the project area. The review also included information on the following types of cultural resources: NRHP-listed properties and districts, SALs, Official Texas Historical Markers (OTHM), Recorded Texas Historic Landmarks (RTHL), National Historic Trails, and cemeteries. In addition, archaeologists consulted the City of San Antonio (COSA) Historic Landmark Sites and Historic Geodatabases to locate any local historic landmarks and districts. The archaeologists also examined the U.S. Department of Agriculture Soil Survey of Bexar County (Taylor et al. 1991), Natural Resources Conservation Service Web Soil Survey, the Geologic Atlas of Texas-San Antonio Sheet (BEG 1983), and historic maps and aerials that depict the project area (NETR Online 2016).

### FIELDWORK

Pape-Dawson archaeologists conducted an intensive archaeological survey of the proposed 8.1 acres (3.3 ha) project area. This investigation consisted of an intensive pedestrian survey along the 50 ft (15 m)-wide easement with inspection of the ground surface, augmented by shovel testing in areas with the perceived potential for buried cultural deposits and with less than 30 percent ground surface visibility. As soils in the project area are clayey upland deposits, it was anticipated that archaeological deposits, if present, would be shallowly buried or on the ground surface and visible to surface inspection. Survey methods followed the Council of Texas Archeologists' Archeological Survey Standards for Texas.

A total of 23 shovel tests were excavated to investigate the 1.33 mile (2.14 km) long project area, exceeding the state's minimum standard of 1 shovel test every 100 meters or 16 shovel tests per 1 linear mile. Shovel tests were approximately 12 inches (30 cm) in diameter and were excavated to sterile substrate, bedrock, or to a maximum of 39.4 inches (100 cm) below the ground surface when intact soils were encountered. Soils were screened through ¼-inch (0.64 cm) hardware mesh unless they were dominated by clay. Clay soils were finely divided and hand sorted. Shovel tests were visually described, mapped using a handheld Trimble GPS unit, and backfilled upon completion. All project records and photographs will be curated at the Center for Archaeological Research at the University of Texas at San Antonio (CAR-UTSA) following their specific standards of preparation.

## Results

### RECORDS REVIEW

The results of the cultural resources background review revealed that the project area has not been previously surveyed and there are no NRHP-listed properties or districts, SALs, OTHMs, RHTLs, NHTs, cemeteries, or local historic landmarks within 1 km of the project area. However, one previously recorded archaeological site (41BX1826) has been documented within the 0.62 miles (1 km) radius (**Figure 4**). Site 41BX1826 was documented by SWCA Environmental Consultants (SWCA) in 2009 during the Ladera Tract survey and is approximately 0.43 mile (700 m) northwest of the project area. The site is dissected by Lucas Creek and consists of an early-twentieth century historic homestead and prehistoric lithic scatter. The historic component consists of an artifact scatter associated with a circa 1940s house. The prehistoric component consists of non-diagnostic lithic debitage and chipped stone tools. Artifacts were observed on the ground surface and to a maximum depth of 19.7 inches (50 cm) below surface. Based on the lack of temporally diagnostic tools and features and the sparse quantity of artifacts, SWCA recommended no further work for the prehistoric component of site 41BX1826. SWCA recommended archival research to determine NRHP eligibility and SAL designation for the historic component of the site.

In addition to the Atlas file review, Pape-Dawson archaeologists engaged in a limited amount of additional research including review of modern and historic aerial photographs and topographic maps (“Bexar County, Texas” and NETR Online 2011). Project archeologists used this information to identify potential historic high probability areas (HHPAs) within the project area. As this research did not locate any historic structures within or directly adjacent to the project area, no HHPAs were identified.

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it contains restricted  
information**

## FIELDWORK

Pape-Dawson archaeologists conducted an intensive archaeological survey of the 1.33 mile (2.14 km) long project area (see **Figure 2**). The project begins on the north side of US 90 approximately 0.65 mile (1.04 km) east of the intersection of FM 211 and US 90. Then it proceeds west paralleling US 90 and its access road along the northeast side for approximately 0.96 mile (1.5 km). At this point the proposed water line crosses FM 211 to the west and then turns north to parallel the roadway for approximately 0.3 mile (465 m). The project landscape was found to consist of gently to moderately sloping uplands located south of the Lucas Creek floodplain. The portion of the project area east of FM 211 (the southern portion) crosses through fenced, rolling pasture and TxDOT-owned ROW (**Figure 5 and 6**). West of FM 211 (the northern portion), the project area was situated primarily on a rise with the proposed line within private property then crossing the fence line into the TxDOT ROW (**Figures 7 and 8**). In both areas, medium to small gravels and pebbles were visible on the surface. Vegetation within the project area primarily consisted of short to medium tall grass, cactus, mesquite, huisache, persimmon, and a few willow trees. Ground surface visibility throughout the project area varied, but was generally less than 30 percent due to the grasses. Disturbances within the project area resulted from both natural and artificial impacts. Artificial impacts included the installation of an overhead power-line, multiple buried utility lines within an existing SAWS easement, the excavation of a road cut for FM 211, construction of a few concrete retaining walls along US 90, and the excavation of drainage ditches along both roads (**Figure 9**). The buried utility lines documented within the project area east of FM 211 include pipeline (type not identified), water, and a buried cable line all within a 20 ft (6 m) easement (**Figure 10, and 11**). Between the fence line and the roadways, the topography generally consisted of a steep man-made slope down to a drainage ditch (**Figure 12**) as well as a small swale leading to a culvert under the highway along US 90. In addition, multiple large concrete retaining walls were situated along US 90 and the FM 211 access road (**Figure 13**). Along the northwestern portion of the project area there is a two-track running along the easement east of the fence line, and a buried cable running along the fence line (**Figure 14**). Natural impacts include erosion, bioturbation caused primarily by rodent and insect burrowing, and numerous game and cattle trails crisscrossing the southern portion of the project area.



Figure 5: Pasture area with minimal ground surface visibility, some gravel visible on surface in right foreground, looking north.



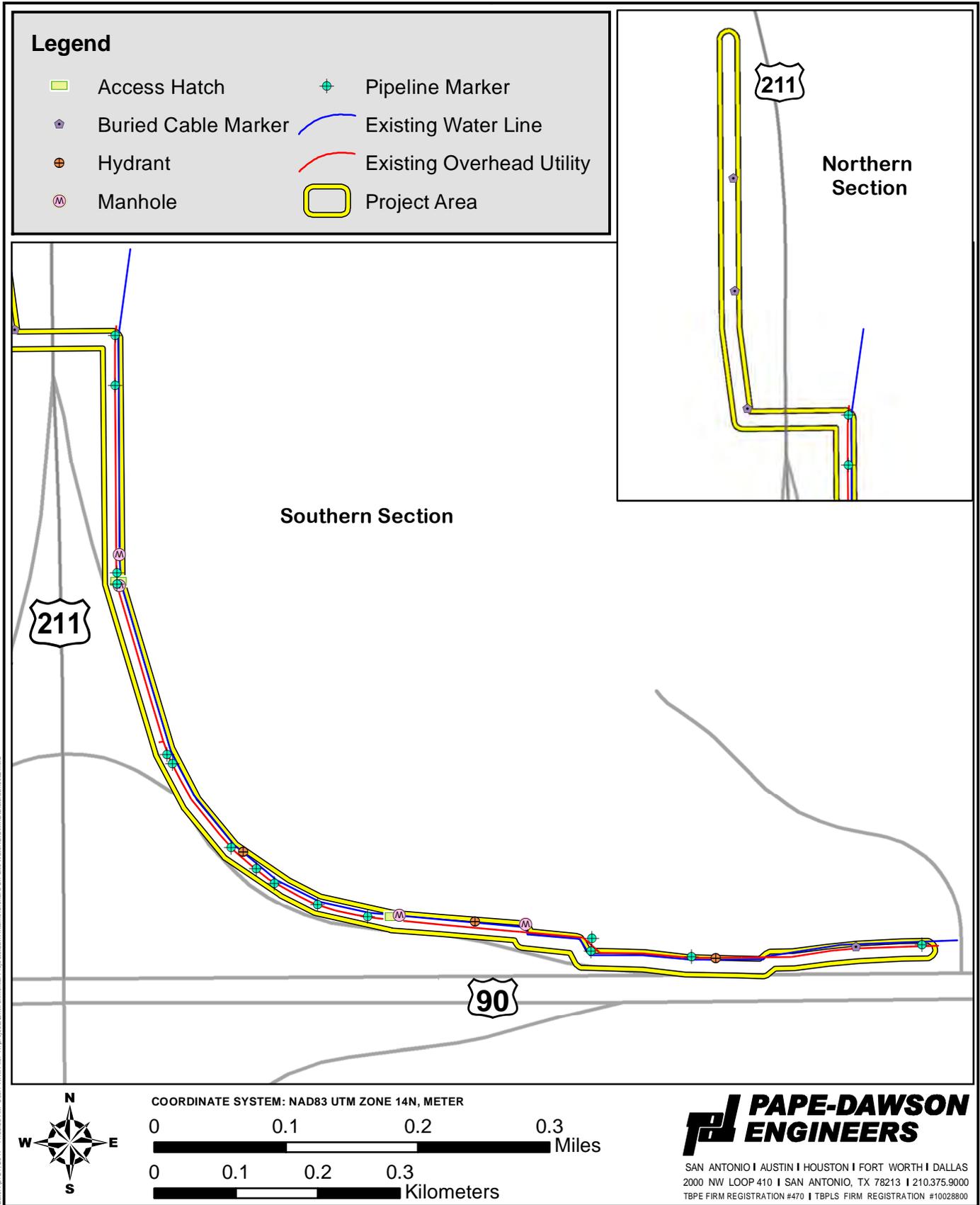
Figure 6: Southern portion of project area within the TxDOT-owned US 90 ROW, looking southeast.



Figure 7: From FM 211 showing general overview of northwestern stretch of the proposed waterline, looking southwest.



Figure 8: Northern portion, general overview on top of ridge, looking north.



**Figure 9 : Disturbances**



Figure 10: Example of buried utilities observed within the project area, looking southeast.



Figure 11: Utilities identified in the project area along the fence line, looking northwest.



Figure 12: Man-made slopes along US 90, looking west.



Figure 13: Utility lines, concrete retaining wall, and ditch along US 90 within project area, looking northeast.



Figure 14: Two-track along northern portion of the project area, looking south.

Archaeologists walked the entire project area visually inspecting the ground surface for artifacts and features. During the survey effort, a total of 23 shovel tests were excavated (**Figure 15** and **Appendix A**). Shovel tests were placed in areas with the perceived potential to contain intact soils to evaluate the impact of the proposed project on cultural resources. A total of 17 shovel tests were excavated east of FM 211 and north of US 90 within the southern portion of the project area. The majority of which contained disturbed soils resulting from the previous installation of buried utility lines and construction of US 90 and FM 211 within project area. Soils varied greatly, but generally were highly mottled clay and sand with numerous cobbles and pebbles (**Figure 16**). The upper soils were black to very dark grayish brown (10YR2/1 to 10YR3/2) clay with dark yellowish brown to very pale brown (10YR4/2 to 10YR7/4) mottles between 0 and 12 inches (0 to 30 cm) below surface. Followed by very dark brown (10YR2/2) clay mottled with black to very pale brown mottles (10YR2/1 to 10YR7/4) (**Figure 17**) with cobbles and pebbles. Two Shovel tests (KH01 and VM01) were excavated down to between 31.5 and 39.4 inches (80 and 100 cm) below surface to investigate the extent of the disturbance observed. The remaining shovel tests were terminated between 11.8 and 19.7 inches (30 and 50 cm) below surface due to the disturbed nature of the soils encountered. No cultural materials were encountered within the southern portion of the project area.

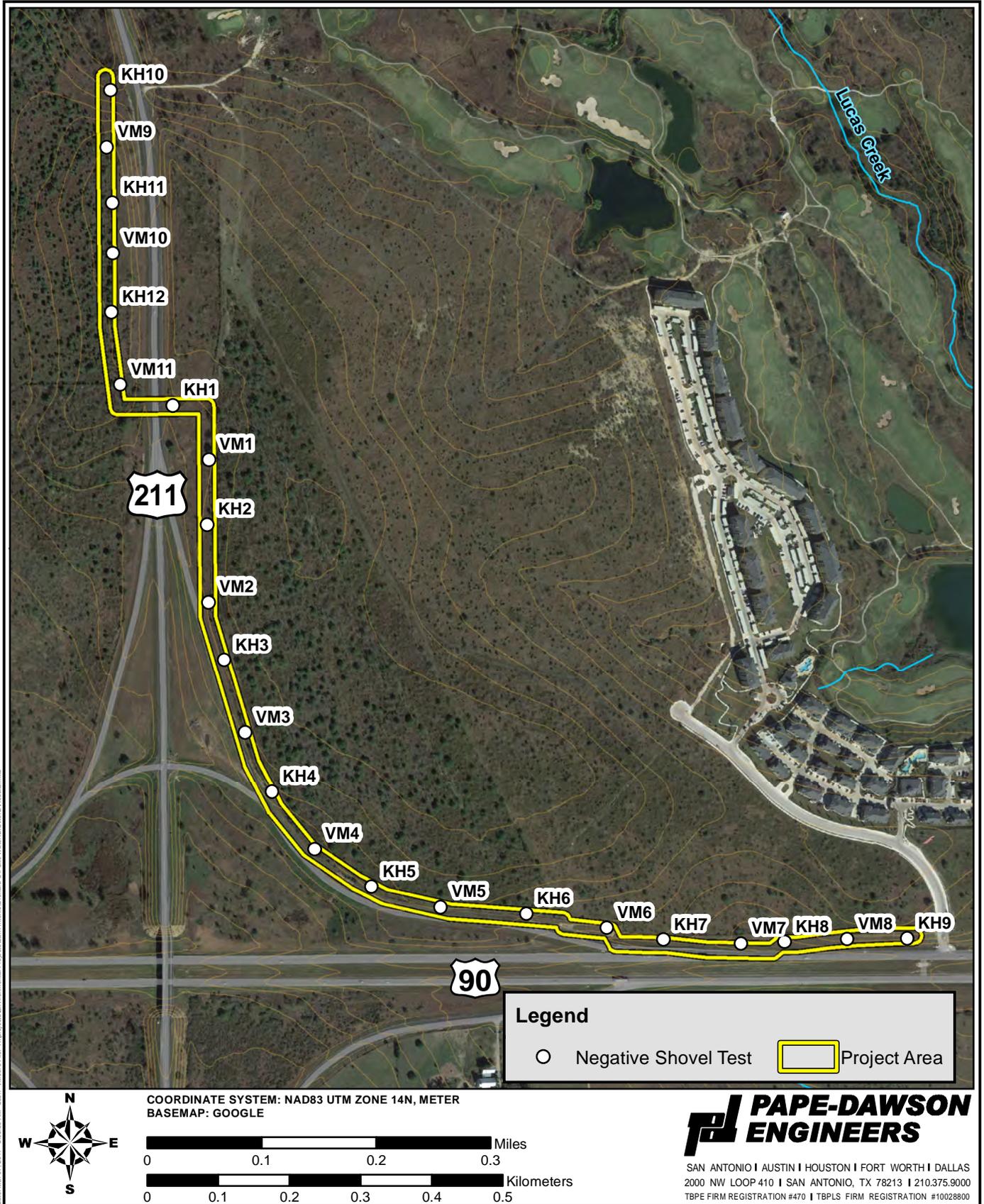


Figure 15 : Results Map



Figure 16: Shovel Test VM03 profile within existing SAWS easement.



Figure 17: Shovel Test VM01 located east of fence line on southern portion of the project area.

Six shovel tests were excavated on the west side (northern portion) of FM 211, each of which encountered mostly intact soils within the proposed easement. Of these, one was excavated at the northern terminus of the project area at the bottom of a slope within a low wet area, while the five remaining shovel tests were excavated on the ridge above. The shovel test at the bottom of the slope encountered mottled dark grayish brown (10YR4/2) wet clay down to 8 inches (20 cm) below the surface followed by very dark gray (10YR3/1) wet clay to a depth of 19.7 inches (50 cm) below surface. In general, soils on the ridge consisted of dark grayish brown (10YR4/2) compact gravelly loam between 6 and 12 inches (15 and 30 cm) below surface, followed by dark brown to very dark grayish brown (10YR3/3 to 10YR3/2) gravelly clay loam. Shovel tests within this section of the project area had a max depth of 20 inches (50 cm) below surface when gravels became impassable (**Figure 18**). No historic or prehistoric artifacts were documented within the northern portion of the project area.



Figure 18: Shovel test VM11 located on west side of FM 211 (northern portion) on the ridge.

## Summary and Recommendations

Pape-Dawson archaeologists conducted an archaeological investigation of the proposed Orchard Off-Site Water project located west of the City of San Antonio in Bexar County, Texas. This project will entail the installation of 1.33 miles (2.14 km) of new water line within a 50 ft (15.2 m) wide easement that largely will be located parallel to the existing ROW of US 90 and FM 211/Texas Research Parkway. While depth

of impact for all improvements will vary, average depth of vertical impact is considered to be 5 ft (1.5 m) below the current ground surface.

The intensive pedestrian survey was conducted under Texas Antiquities Permit No. 7917 by Pape-Dawson archeologists on February 22, 2017. The project area was subject to visual inspection supplemented by judgmentally placed shovel tests in order to evaluate the impact of the proposed project on archeological resources. A total of 23 shovel tests were excavated to investigate the 8.1 acres (3.3 ha) project area in areas of least disturbance. Major disturbances recorded include the installation of multiple utilities, and road construction within the proposed easement. All shovel tests were negative for archeological material. No artifacts were collected, and all project records and photographs will be curated at CAR.

Based on the results of the survey, Pape-Dawson recommends that no further archaeological work is necessary and that the project be allowed to proceed. However, if cultural material is encountered during construction, it is recommended that all work in the vicinity should cease and that the discovery be evaluated by a qualified archaeologist who can provide guidance on how to proceed in accordance with state regulations.

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**Appendix A**  
SHOVEL TEST TABLE

**Table A-1. Shovel Test Data**

ST #	Level	Depth (cmbs)	Positive/Negative	Munsell	Soil Color	Soil Texture	Comments/Reason for Termination
KH01	1	0-100	N	10YR3/1 mottled with 10YR3/2 and 10YR4/4	Black mottled with Very Dark Grayish Brown and dark Yellowish Brown	Loose Clay	Few small to medium cobbles throughout. Terminated at depth.
KH02	1-3	0-25	N	10YR2/1	Black	Clay	Compact
	3-5	25-50	N	10YR3/2 mottled with 10YR4/2	Very Dark Grayish Brown mottled with Dark Yellowish Brown	Clay	Common small to large cobbles throughout. Terminated due to sterile soil.
KH03	1	0-10	N	10YR2/1	Black	Clay	
	2-5	10-50	N	10YR3/2 mottled with 10YR4/6	Very Dark Grayish Brown mottled with Dark Yellowish Brown	Clay	Compact clay with some pebbles and cobbles. Terminated due to sterile soil.
KH04	1-3	0-30	N	10YR3/2 mottled with 10YR7/4 and 10YR7/8	Very Dark Grayish Brown mottled with Very Pale Brown and Yellow	Clay and Sand	Many medium and large cobbles. Terminated due to disturbed soils.
KH05	1-4	0-40	N	10YR2/1 mottled with 10YR4/2, 10YR4/6 and 5YR3/3	Black mottled with Dark Grayish Brown, Dark Yellowish Brown, and Dark Reddish Brown	Clay and Sand	Many medium and large cobbles. Terminated due to disturbed soils.
KH06	1-3	0-30	N	10YR2/2 mottled with 10YR3/2 and 10YR4/2	Very Dark Brown mottled with Very Dark Grayish Brown and Dark Grayish Brown	Clay	Compact clay with many large cobbles.
	4-5	30-50	N	10YR2/1	Black	Clay	Many large cobbles throughout. Terminated due to sterile soil.
KH07	1-2	0-15	N	10YR4/6	Dark Yellowish Brown	Clay	Terminated due to disturbed soils.
KH08	1-3	0-30	N	10YR2/2 mottled with 10YR2/1, 10YR3/2 and 10YR4/6	Very Dark Brown mottled with Black, Very Dark Grayish Brown and Dark Yellowish Brown	Clay	Terminated due to disturbed soils.
KH09	1-3	0-30	N	10YR2/1	Black	Clay	Common medium cobbles in compact clay. Terminated due to sterile soils.

**Table A-1. Shovel Test Data**

ST #	Level	Depth (cmts)	Positive/Negative	Munsell	Soil Color	Soil Texture	Comments/Reason for Termination
KH10	1-2	0-20	N	10YR4/2 mottled with 10YR4/6 and 10YR3/1	Dark Grayish Brown mottled with Dark Yellowish Brown and Very Dark Gray	Clay	Compact clay with few medium cobbles.
	3-5	20-50	N	10YR3/1	Very Dark Gray	Clay	Few medium cobbles throughout. Terminated due to sterile soils.
KH11	1-2	0-15	N	10YR3/2	Very Dark Grayish Brown	Gravelly Clay	Compact clay, Common cobbles throughout
	2-4	15-40	N	10YR4/1	Dark Gray	Clay	Compact clay, Few cobbles throughout. Terminated due to sterile soils.
KH12	1-3	0-30	N	10YR4/2	Dark Grayish Brown	Clay	Compact clay
	4-5	30-50	N	10YR3/2	Very Dark Grayish Brown	Clay	Compact Clay. Terminated due to sterile soils.
VM01	1-3	0-26	N	10YR2/1	Black	Clay	Friable, Common limestone cobbles and pebbles, worm casts, roots and rootlets.
	3-7	26-68	N	10YR2/2 mottled with 10YR5/3	Very Dark Brown mottled with Brown	Clay	Few limestone and chert cobbles and pebbles
	7-8	68-78	N	10YR3/2 mottled with 10YR7/4 and 10YR7/8	Very Dark Grayish Brown mottled with Very Pale Brown and Yellow	Silty Clay	Compact soils, heavily mottled with common pebbles throughout. Terminated at depth.
VM02	1-3	0-25	N	10YR2/1	Black	Clay	few cobbles throughout
	3-5	25-50	N	10YR2/2	Very Dark Brown	Clay	Crumbly clay with few cobbles. Terminated due to sterile soils
VM03	1-3	0-30	N	10YR3/2 mottled with 10YR7/4 and 10YR7/8	Very Dark Grayish Brown mottled with Very Pale Brown and Yellow	Clay and Sand	Many cobbles and pebbles, large roots, common rootlets. Terminated due to disturbed soils.
VM04	1-2	0-12	N	10YR3/2 mottled with 10YR2/1	Very Dark Grayish Brown mottled with Black	Silty Clay	Few to common pebbles and rootlets
	2-5	12-47	N	10YR2/1	Black	Clay	Some pebbles. Terminated due to sterile soils

**Table A-1. Shovel Test Data**

ST #	Level	Depth (cmbs)	Positive/Negative	Munsell	Soil Color	Soil Texture	Comments/Reason for Termination
VM05	1-3	0-30	N	10YR3/2 mottled with 10YR2/1, 10YR6/4	Very Dark Grayish Brown mottled with Black and Light Yellowish Brown	Clay	Many cobbles and pebbles. Terminated due to disturbed soils.
VM06	1-3	0-30	N	10YR6/4 mottled with 10YR7/6	Light Yellowish Brown mottled with Yellow	Sandy Clay	Terminated due to disturbed soils.
VM07	1-3	0-30	N	10YR3/2 mottled with 10YR5/3	Very Dark Grayish Brown mottled with Brown	Clay	Terminated due to disturbed soils.
VM08	1-2	0-15	N	10YR3/2 mottled with 10YR5/3	Very Dark Grayish Brown mottled with Brown	Sandy Clay	Common pebbles and cobbles. Terminated due to disturbed soils.
VM09	1-3	0-30	N	10YR3/2 mottled with 10YR7/2	Very Dark Grayish Brown mottled with Light Gray	Sandy Clay	Compact soils, Many cobbles and pebbles. Terminated due to sterile soils.
VM10	1-3	0-30	N	10YR3/2 mottled with 10YR7/2	Very Dark Grayish Brown mottled with Light Gray	Sandy Clay	Compact soils, Many cobbles and pebbles. Terminated due to sterile soils.
VM11	1-4	0-38	N	10YR2/2	Very Dark Brown	Clay Loam	Few round limestone pebbles
	4-5	38-50	N	10YR3/3	Dark Brown	Clay Loam	Dense gravels/degrading limestone. Terminated due to dense cobbles/bedrock.