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Site Significance Testing Report of Site 41BP920 on the 140-Mile-Long Vista Ridge Water Pipeline in Bastrop County, Texas

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Site Significance Testing Report of Site 41BP920 on the 140-Mile-Long Vista Ridge Water Pipeline in Bastrop County, Texas

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Site Significance Testing Report of Site 41BP920 on the 140-Mile-Long Vista Ridge Water Pipeline in Bastrop County, Texas

TEXAS ANTIQUITIES PERMIT NO. 7295

AUGUST 2018

PREPARED FOR
VRRSP Consultants, LLC.

PREPARED BY
SWCA Environmental Consultants

Redacted

**SITE SIGNIFICANCE TESTING REPORT OF SITE 41BP920 ON
THE 140-MILE-LONG VISTA RIDGE WATER PIPELINE IN
BASTROP COUNTY, TEXAS**

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SWCA Project No. 31410-AUS

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August 2018

ABSTRACT

On behalf of VRRSP Consultants, LLC, and Central Texas Regional Water Supply Corporation (CTRWSC), SWCA Environmental Consultants (SWCA) conducted archaeological significance test excavations at multicomponent site 41BP920 within the proposed alignment of the Vista Ridge Regional Water Supply Project (Vista Ridge) in Bastrop County. The Vista Ridge project will involve construction of an approximately 140-mile-long, 60-inch-diameter water pipeline from north-central San Antonio, Bexar County, to Deansville, Burleson County, Texas. The project will also include three pump station locations in Guadalupe, Bastrop, and Burleson Counties. The majority of the alignment will follow existing utilities and traverse undeveloped, agricultural parcels in rural settings. The area of potential effects (APE) will consist of the proposed centerline alignment and an 85-foot-wide corridor for temporary and permanent construction easements; however, SWCA surveyed a 100-foot-wide corridor to allow for minor shifts in the alignment.

Due to the presence of buried artifacts, including burned rock that suggested the presence of buried cultural features, and temporally diagnostic projectile points, site 41BP920 was recommended for significance testing to determine the site's eligibility for State Antiquities Landmark (SAL) designation or listing on the National Register of Historic Places (NRHP). Investigations were done in compliance with the Antiquities Code of Texas and the National Historic Preservation Act. Brandon Young, M.A., RPA, served as Principal Investigator under Antiquities Permit No. 7295.

Significance test excavations at the site occurred from August 1–6, 2016, with a methodology that integrated hand excavations with mechanical trenching to assess the archaeological potential of 41BP920. Site 41BP920 is a multi-component site with deposits from the Late Archaic to the present on an upland margin landform overlooking a confluence of drainages associated with Wilbarger Creek. The historic assemblage of the site contains highly fragmented glass and metal debris dating from the early twentieth century to the present. The prehistoric assemblage consisted of burned rock, lithic debitage, chipped stone tools, and two projectile point fragments predominantly recovered from the upper 26 centimeters of the profile, but cultural materials did extend up to 60 centimeters below surface. Only one of the projectile points was identified as to type, which was a Late Archaic Lange point. The prehistoric assemblage also includes a cluster of burned rock and thermally altered soil that was designated a feature.

Based on multiple factors, including the shallow depth of the assemblage, the highly fragmented and mixed context of the historic and prehistoric cultural materials, prevalent disturbances, and the sparse quantity of the cultural materials recovered, the site provides insufficient data to substantively and explicitly address specific questions concerning local or regional prehistoric contexts. Based on the considerations of integrity and potential data yield, site 41BP920 is recommended as not eligible for the NRHP or as an SAL. This recommendation pertains only to the portions of the site within the APE; areas of the site that extend beyond the APE have not been evaluated.

Artifacts recovered from testing will be returned to the landowners following analysis; however, all project documentation and photographs generated during investigations at 41BP920 will be curated at the Center for Archaeological Research at The University of Texas in San Antonio in accordance with their standards and protocols.

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INTRODUCTION

On behalf of VRRSP Consultants, LLC, and Central Texas Regional Water Supply Corporation (CTRWSC), SWCA Environmental Consultants (SWCA) conducted archaeological significance test excavations at site 41BP920 within the proposed Vista Ridge Regional Water Supply Project (Vista Ridge) in Bastrop County. The proposed project traverses, from north to south, portions of Burleson, Lee, Bastrop, Caldwell, Guadalupe, Comal, and Bexar Counties in south-central Texas. The Vista Ridge Project will involve installation of an approximately 140-mile-long, 60-inch-diameter water pipeline. The area of potential effects (APE) will consist of the proposed centerline alignment and an 85-foot-wide corridor for temporary and permanent construction easements; however, SWCA surveyed a 100-foot-wide corridor to allow for minor shifts in the alignment. The Project is subject to review under Section 106 of the National Historic Preservation Act (54 USC 306108) and its implementing regulations (36 CFR 800) in anticipation of a Nationwide Permit 12 from the U.S. Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act. In addition, the work is subject to compliance with the Antiquities Code of Texas under Permit No. 7295, as the pipeline will ultimately be owned by a political subdivision of the State of Texas.

The purpose of the archaeological significance test excavations is to determine the site's eligibility for listing on the National Register of Historic Places (NRHP) and for designation as a State Antiquities Landmark (SAL). SWCA conducted initial intensive field surveys of the planned pipeline alignment from June 2015 to December 2015 (Acuña et al. 2016). This initial inventory effort identified 59 cultural resources, including 52 archaeological sites and seven isolated finds. In addition to newly recorded resources, two previously recorded archaeological sites were revisited and two cemeteries were documented. Of the 52 newly recorded archaeological sites, seven are recommended for further work or avoidance because the NRHP and SAL eligibility of these sites is currently undetermined. Based on project design limitations, site 41BP920 was recommended for additional NRHP evaluative testing; this report reviews the results of archaeological significance test excavations conducted at site 41BP920 during August 2016.

Previous Investigations – Site 41BP920

Site 41BP920 is a multi-component site containing a Late Archaic lithic scatter with a historic-modern assemblage in northwestern Bastrop County (Figure 1). The site is on a generally level upland overlooking an unnamed ephemeral tributary of Wilbarger Creek. The unnamed tributary is 350 meters (m) to the north, and Wilbarger Creek is 1.3 kilometers (km) southwest of the site boundary. Vegetation consists of scattered trees and a fallow agricultural field with 60 to 70 percent ground surface visibility. Soils at the site consist of light gray, very pale brown, red, reddish brown, and strong brown sandy clays; clay loams; sandy clays; and sandy loams. Soil inclusions include gravels, pebbles, and mottles that ranged from 1 to 10 percent. Soil deposits revealed in shovel tests range from 15 to 40 centimeters below surface (cmbs) and terminated at compact clay subsoils. Site 41BP920 measures 140 m northeast to southwest by 30 m northwest to southeast; however, the site likely extends to the northwest and southeast beyond the project boundaries. Previous impacts to the site area include ranching activities, gravel roads, a single large earthen push pile (in the southwestern end of the site), an overhead transmission line and fence lines, as well as a corral and barn (Figures 2 and 3). It also appears likely that the site area was plowed to remove mesquite, which has compromised the vertical and horizontal integrity of the upper approximately 40 cm of soil.

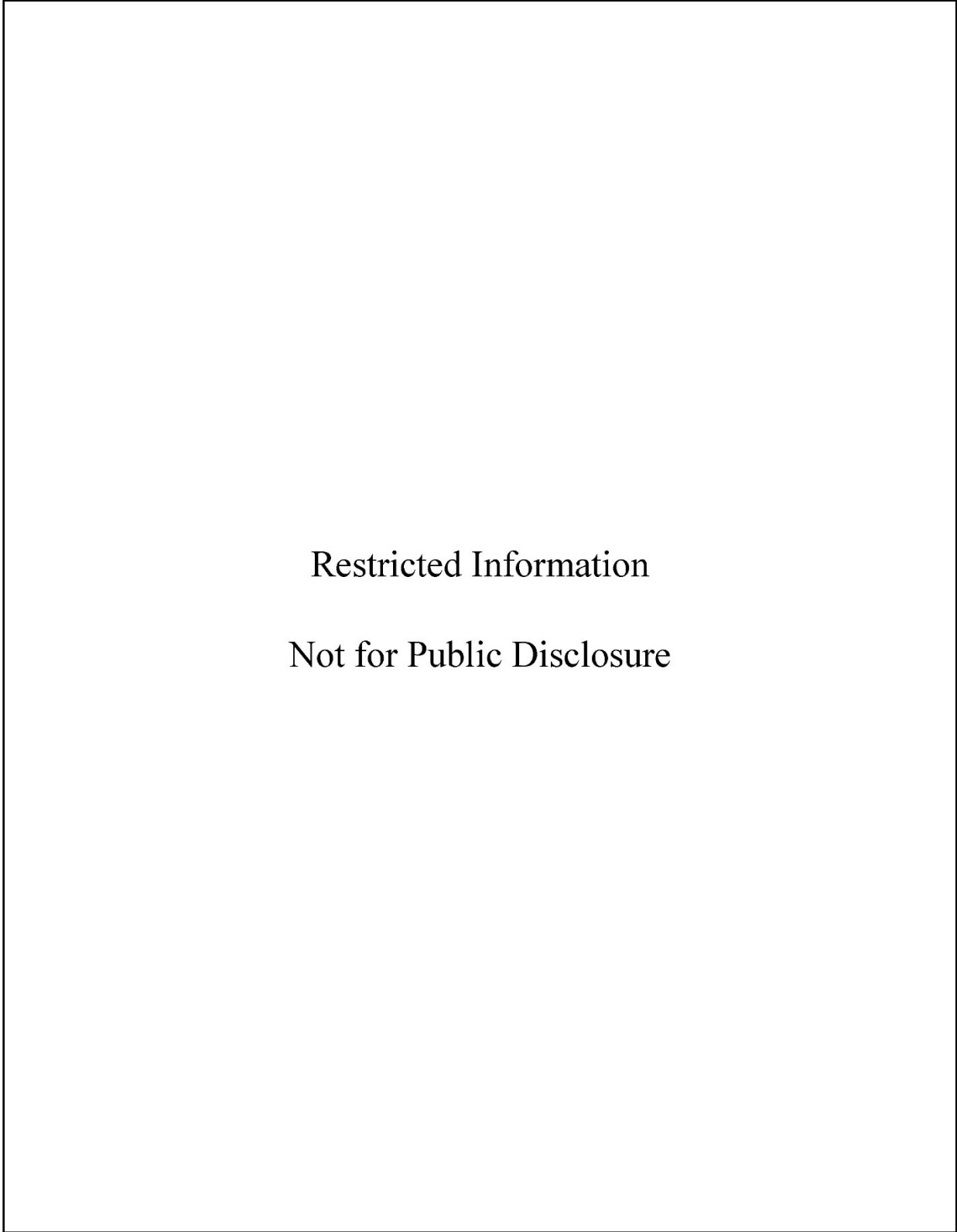


Figure 1. Bastrop County Vista Ridge overview map; note location of site 41BP920.



Figure 2. Overview of Site 41BP920, facing west.



Figure 3. Overview of existing disturbances on 41BP920, including a private gravel drive, an overhead transmission utility, and property fence lines, facing south.

The horizontal extent of 41BP920 was determined during the initial pedestrian survey of the project corridor with shovel testing in 2015 (Figure 4). SWCA excavated 26 shovel tests (i.e., AJ18–21, DR218–222, DR245–252, and MN213–221) within the site boundaries, of which 15 (i.e., AJ19, DR218, DR220, DR246–DR249, DR252, MN213–217, and MN220–221) were positive for subsurface cultural materials (see Figure 4). Subsurface materials identified during the initial cultural resources inventory range from ground surface to 35 cmbs and consist of primary, secondary, and tertiary flakes; utilized flakes; burned rock fragments; one Late Archaic Lange-like projectile point; and historic glass and metal fragments. Materials observed on the ground surface during the initial cultural resources inventory consists of one biface; 10–20 modified flakes; 10–20 primary flakes; 10–20 secondary flakes; 100–150 tertiary flakes; 20–80 cultural shatter fragments; 300–500 burned rock fragments; three to five clear glass shards; two solarized glass shards that date to the early twentieth century; and three whiteware sherds. All lithic materials observed are composed of chert material types.

The initial interpretation of the 41BP920 is that it represents a palimpsest with cultural materials spanning the Late Archaic to the present; however, subsurface materials were consistently found across the site at similar depths, suggesting the possibility of an intact cultural zone. Further work was recommended to assess 1) the preservation potential of the depositional context as numerous buried artifacts were discovered, and 2) the potential for intact buried archaeological components that could contribute important information about the regional archaeological context. Background information concerning the natural and cultural settings of the project area, as well as the detailed results of the Phase I survey effort at 41BP920, can be found in Acuña et al. (2016).

OVERVIEW OF SCOPE AND NATIONAL REGISTER EVALUATIVE RESEARCH QUESTIONS

The scope of work was designed to gather sufficient data from 41BP920 to make a clear assessment of the site's significance in accordance with NRHP and SAL criteria. The project systematically identified, recorded, and assessed the significance of archaeological materials discovered at 41BP920. Significance was interpreted within the contexts developed by previous archaeological investigations in the immediate area and larger region. Levels of artifactual and contextual integrity, chronology, potential data yield, and preservation potential were key criteria in this evaluation. The investigations focused on two main issues: integrity and potential data yield.

Research Issue 1: Integrity of the Archaeological Deposits

A primary factor in determining the significance of site 41BP920 was the integrity of the site's archaeological deposits. One goal of these investigations was to acquire data on depositional context, define any relationships between natural strata and subsurface cultural features/deposits, and determine if the integrity of the buried deposits was sufficient to establish relative and/or absolute chronological dates for any subsurface components.

Restricted Information
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Figure 4. Aerial overview of initial pedestrian survey conducted at site 41BP920 in 2015.

Research Issue 2: Potential Data Yield

A secondary factor in determining the significance of the site was the potential for additional excavations to recover meaningful quantities of data, both in terms of artifacts and other special samples that could be used to address specific research questions during data recovery. Prior to the testing investigations, with so little known about the site, proposing detailed research questions was premature. Instead, the testing project addressed general questions that are relevant to any archaeological investigation, including site size, function, and chronology. Preservation potential for macrobotanical or faunal remains were also criteria used to evaluate potential data yield.

Evaluating Significance

SWCA proposed that for 41BP920 to be found significant under Criterion D, the deposits must demonstrate good integrity and adequate data yield potential to address research questions that would contribute to the understanding of the regional prehistory by providing new or beneficial data. If the site had good integrity but few artifacts, no dateable materials, no features, and poor preservation of organics, it would not be able to contribute new or important information. Similarly, if the site had abundant artifacts and materials but poor archaeological integrity, it would also not be considered significant.

Project Personnel

Brandon S. Young, M.A., RPA, served as the initial Principal Investigator, Project Manager, and Field Director for the duration of the testing project, overseeing overall logistics and organization, managing reporting, and agency consultation. The testing was completed by Brandon Young and archaeologists Matthew Carter, Bruce Darnell, Jacob Lyons, Ben Morton, and Antonio Padilla between August 1 and 6, 2016, under Permit No. 7295. Dan Rodriguez and Brandon Young undertook the reporting effort, Carole Carpenter and Jason Kainer expertly produced all field and report maps for the project, and Lauri Logan provided technical editing and document preparation.

EVALUATION METHODS

The field investigations consisted of archaeological testing of specified portions of site 41BP920 (see Figure 5). SWCA utilized a variety of techniques to test site significance. These techniques included mechanical backhoe trenching and hand excavations to determine the research potential of the cultural deposits at the site.

Backhoe Trenching

Backhoe trenches (BHTs) were utilized to quickly and efficiently explore the subsurface at the site. The goal of the work was to expose the subsurface for stratigraphic examination and locate possible buried features and/or components for hand excavations and documentation. BHTs were excavated to a depth sufficient to determine the presence/absence of buried cultural materials and allowed the complete recording of all features and geomorphic information to depths of project impacts. The trenches were 1.2 to 1.7 m deep, 4 to 5 m in length, and 1.5 m wide. All work was performed in accordance with Occupational Safety and Health Administration (OSHA) (29 CFR 1926) and the Texas Trench Safety Act (H.B. 1569). Appropriate measures were taken for any trenches that exceeded 2 m in depth, utilizing shoring or the stepping back of sidewalls to ensure that all OSHA protocols were followed. The entire process was thoroughly photographed.

Restricted Information
Not for Public Disclosure

Figure 5. Aerial overview of 2016 investigations at site 41BP920.

Hand Excavations

Hand-excavated units were placed adjacent to BHTs. The hand excavation units were 1×1 m in size, excavated to 1.5 m deep in select units or to culturally sterile deposits, whichever was encountered first. Using standard archaeological methods, test units were systematically excavated in arbitrary 10-cm levels and documented using standardized field forms and photographs. Archaeologists screened all soils through ¼-inch hardware mesh. Features encountered during the investigations were carefully exposed, documented, and excavated. A single buried burned rock feature was encountered during the testing program. The feature was identified during hand excavations in TU01 and numbered, exposed in plan, drawn, and photographed. Feature fill was screened through ⅛-inch mesh as appropriate. All artifacts and pertinent faunal or floral remains were collected for analysis.

Artifact Collection

All artifacts and samples recovered from each provenience unit were collected, bagged, and labeled accordingly. Burned rock was quantified (by size category) and weighed in the field but not collected unless the context suggested decent integrity for the purposes of special sample analysis. Artifacts were taken to SWCA labs for washing and analysis. Collected materials were washed, tabulated, and analyzed to the extent needed to support an eligibility determination. Artifacts were sorted into analytical classes. Based on the initial survey results, the assemblages were expected to consist primarily of prehistoric lithic materials, a broad category that can be further subdivided into: anomalous stones, fire-cracked rock, unmodified/modified lithic debitage, ground stone, formal and informal tools, cores, and projectile points. The stone artifacts were further sorted according to raw material type.

Curation

Artifacts recovered from testing will be returned to the landowners following analysis; however, all project documentation and photographs generated during investigations at 41BP920 will be curated at the Center for Archaeological Research at The University of Texas in San Antonio in accordance with their standards and protocols.

RESULTS OF EXCAVATIONS

This section of the report provides the archaeological findings of the significance test investigations (see Figure 5). A more detailed description of the artifacts and feature are provided below. The investigations targeted an area in the far northeastern portion of the site where the previous survey revealed the highest quantities of cultural materials, as well as a Lange projectile point (see Figures 4 and 5). The tested area of the site is a nearly level upland margin with short grass and erosional exposures (see Figure 5). Immediately south of the project area, the landform slopes downward towards a minor headwater tributary to Wilbarger Creek. The land has been previously cleared for a gravel driveway and horse pasture with a mound of soil, located on the southwest portion of the site, indicative of land grading and leveling. Two BHTs, designated BHT01 and BHT02, were excavated at 41BP920 (see Figure 5). Each trench was placed near one of the previous positive shovel tests with the intent to locate some of the deposits exposed in the prior investigations. One trench (BHT01) was placed on the eastern portion of the site and one trench (BHT02) was placed in the western portion of the site. The two trenches revealed low quantities of cultural materials within a thin deposit. Subsequent to the BHT excavations, SWCA

excavated five 1×1-m hand excavation units (Test Units) across the broad site to test the potential in various locales.

Backhoe Trenching

BHT01

BHT01 was placed in the eastern portion of the site; it was approximately 6 m long and excavated to a depth of approximately 170 cmbs (Table 1; Figures 6 and 7). Four strata were identified within the trench profile (see Table 1; Figure 7). Stratum I consisted of yellowish brown (10YR 5/4) sandy loam from the surface to 20 cmbs and contained a clear and wavy lower boundary. Below this was Stratum II, which extended from 20 to 30 cmbs and consisted of dark brown (7.5YR 3/4) sandy clay loam with ferrous concretions and a diffuse and wavy lower boundary. The underlying Stratum III (30–45 cmbs) consisted of a dark reddish brown (2.5YR 3/4) clay loam with ferrous concretions and slickensides and a diffuse and smooth lower boundary. The lowest horizon (Stratum IV) extended from 45–170 cmbs and consisted of light olive brown (2.5YR5/4) clay loam with white filaments, possibly calcium carbonate (CaCO₃) and an unobserved lower boundary. Only Stratum I (0–20 cmbs) of BHT01 contained any cultural materials consisting of two tertiary flakes.

Table 1. BHT Stratigraphy at site 41BP920

BHT	Depth (cmbs)	Munsell	Soil Color	Soil Texture and Consistency	Structure Type	Grade	Inclusions	Lower Boundary	Comment
1	0-20	10YR 5/4	Yellowish-brown	Firm sandy loam	Subangular	Strong	Rootlets, pebbles	Clear, wavy	Two tertiary flakes
	20-30	7.5YR 3/4	Dark brown	Firm sandy clay loam	Angular	Strong	Ferrous concretions	Diffuse, wavy	No cultural materials
	30-45	2.5YR 3/4	Dark reddish brown	Extremely firm clay loam	Angular blocky	Strong	Ferrous stains	Diffuse	No cultural materials
	45-170	2.5YR 5/4	Light olive brown	Firm clay loam	Subrounded	Strong	Rootlets	Unobserved	No cultural materials
2	0-35	10YR 5/4	Yellowish-brown	Firm sandy loam	Subangular	Strong	Rootlets, few pebbles	Clear, wavy	One secondary flake
	35-60	7.5YR 3/4	Dark brown	Firm sandy clay loam	Angular	Strong	Ferrous concretions	Diffuse, wavy	No cultural materials
	60-150	2.5YR 3/4	Dark reddish brown	Extremely firm clay loam	Angular blocky	Strong	Ferrous stains	Unobserved	No cultural materials



Figure 6. BHT01 overview and south wall profile, facing south.

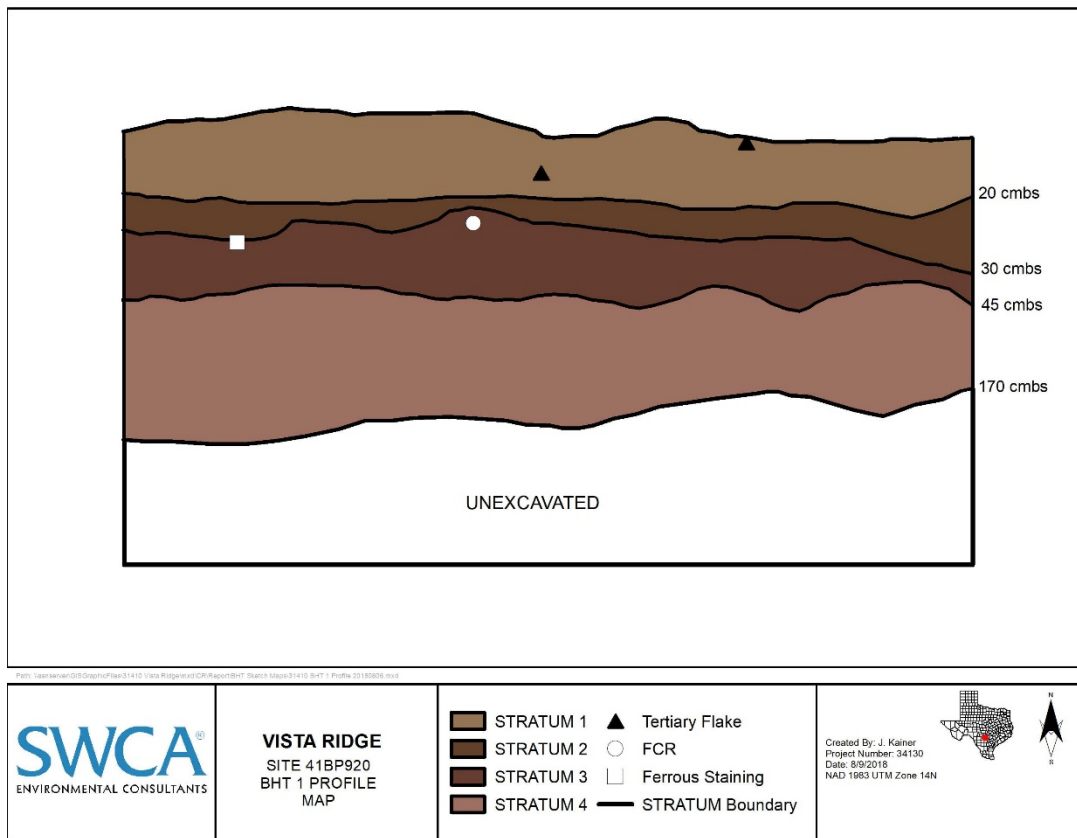


Figure 7. BHT01 south wall profile (not to scale).

BHT02

BHT02 was placed in the southwestern portion of the site; it was approximately 8 m long and excavated to a depth of approximately 150 cmbs (see Table 1; Figures 8 and 9). Three strata were identified within the soil profile (see Table 1; Figure 9). Stratum I consisted of yellowish brown (10YR 5/4) sandy loam from the surface to 35 cmbs. Below this was Stratum II, which extended from 35 to 60 cmbs and consisted of dark brown (7.5YR 3/4) sandy clay loam. Finally, Stratum III was noted from 60 to at least 150 cmbs and was described as a dark reddish brown (2.5YR 3/4) clay loam. Ferrous concretions and staining were noted in Strata II and III, respectively, while one secondary flake was noted within Stratum I (0–35 cmbs).

Backhoe trenching on site 41BP920 confirmed the observed natural stratigraphy described during the survey portion of the investigations. The investigations further explored the deposits of the upland that covers the area between two drainages of Wilbarger Creek. The backhoe trench investigations revealed that cultural materials extended from ground surface to approximately 35 cmbs in a layer of silty clay loam. This layer was usually situated either on a gradual transition zone or exhibited a clear abrupt soil boundary with a dark red brown clay loam subsoil. The upper portions have been mechanically altered with modern, historic, and prehistoric material mixed together to a depth of 20 cmbs.



Figure 8. BHT02 overview, facing southwest.

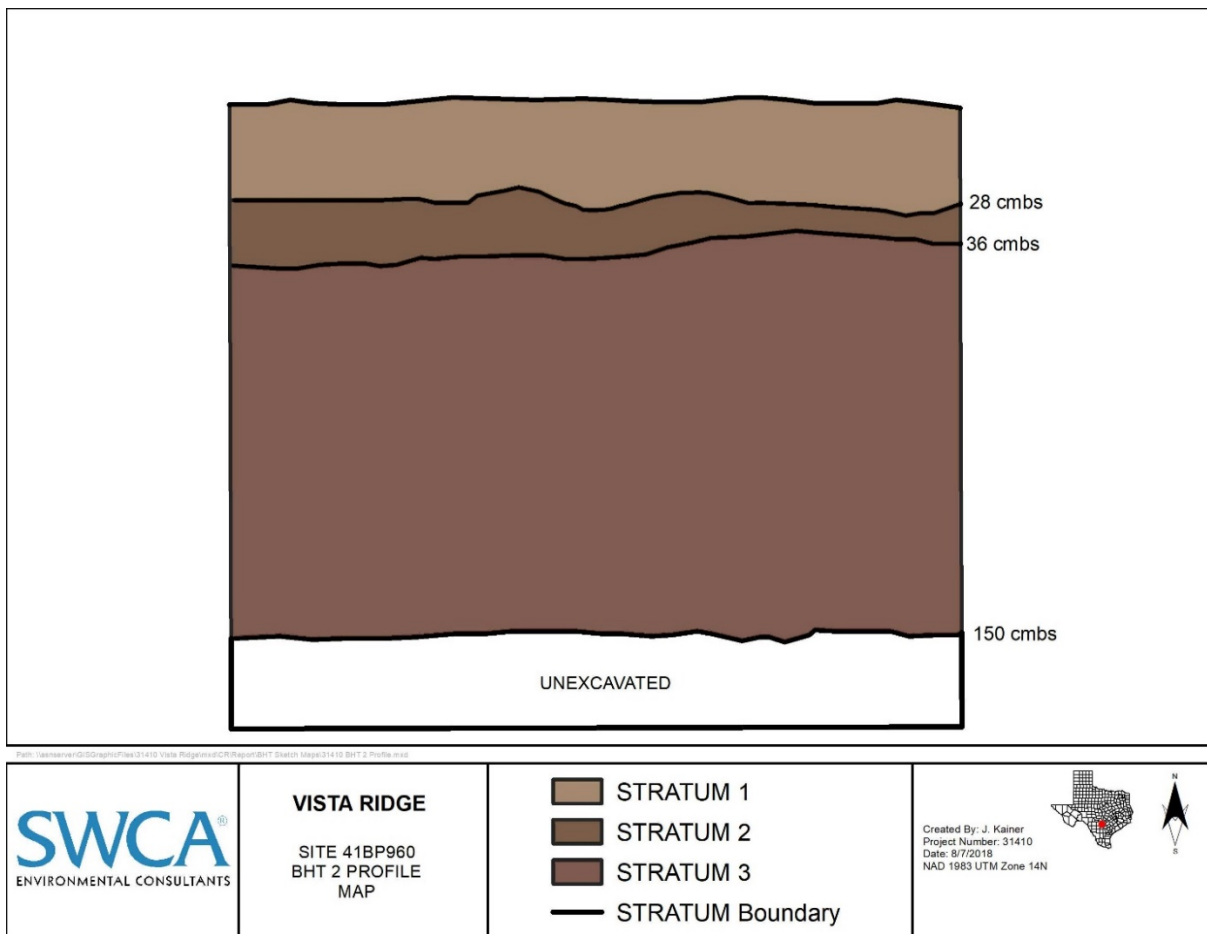


Figure 9. BHT02 west wall profile (not to scale).

Excavation Units

A total of 2.05 m³ of soils were excavated across the site among five 1×1-m excavation units (see Figure 5). The units were laid out either around previously excavated positive shovel tests or near surficial cultural materials. The following section describes the findings within each excavation unit. As previously discussed in methods, the datum used had an arbitrary elevation of 100.00 m and was set up using the corner nail from each test unit, mapped with a handheld sub-meter accurate GPS, to measure below datum. All excavation unit elevations referenced below are in relation to the arbitrary 100.00-m datum elevation. Due to undulations in the ground surface, several of the excavation units have starting elevations slightly higher than 100.00 m (i.e., TU01, Level 1 beginning at 100.03 m). In contrast, all backhoe trench and shovel test depths referenced below are in relation to ground surface (i.e., cmbs).

Test Unit 1

Test Unit (TU) 01 is located in the northeastern portion of site 41BP920 along centerline, approximately 20 m west of the site boundary. The unit was placed to bisect the previous shovel test AJ19 in the northern half of the unit. The previously excavated shovel test had encountered a concentration of primary, secondary, and tertiary flakes between 10 and 30 cmbs, as well as a dart point fragment. The test unit was excavated in seven levels from elevation 100.03 to 99.37 m (1 to 56 cm below datum [cmdbd]). Notably, due to diminishing artifact densities and eventual negative recovery from the east half of the

unit, Level 6 was excavated as a 0.5×1-m layer on the west side of the unit, followed by Level 7 consisting of a 0.25×0.25-m layer in the northwestern corner. A total volume of 0.59 m³ was excavated from TU01 (Figures 10–12).

Overall, the unit recovered 515 pieces of debitage, two retouched projectile point fragments, and six unidentifiable metal fragments (Table 2). Additionally, SWCA recovered 1.48 kilograms (kg) of burned rock in the unit (Table 3). The majority (71.1 percent) of lithic artifacts for this unit were recovered from Levels 2 and 3, between elevations 99.97 to 99.77 m, above and slightly overlapping the burned rock. The majority (70.5 percent) of the burned rock in this unit was found in Levels 3 and 4 between elevations of 99.87 to 99.67 m. Finally, of the two projectile points recovered, one was recovered from 20 to 30 cmbs in shovel test AJ19 (approximately Level 4 of the adjacent TU01), and the other projectile point was recovered in Level 5 of the test unit, between 99.77 to 99.57 m. The projectile points are discussed below, but briefly, one projectile point (from TU01) is untyped while the projectile point from shovel test AJ19 appears to be a Late Archaic Lange point.

The excavations in TU01 encountered a disturbed upper zone containing a mixed collection of artifacts that extended to at least 16 cmdb or an elevation of 99.87 m. Below that, between 16–26 cmdb (99.87–99.77 m), an increase in burned rock was encountered, coupled with a slight cluster of burned rocks and rubified sediment in the northwest and central portions of the unit (see Table 3). The rubified sediment and burned rocks continued into Level 4 (99.77–99.67 m) in the northwest corner, with an artifact concentration in the same corner in Level 5 (99.67–99.57 m). The rubified sediment and burned rock cluster in the northwestern corner of the test unit suggests the corner of the unit may have been near or just in a thermal feature spanning from 99.77 to 99.57 m. This phenomenon was designated Feature 1 (discussed below). Near the bottom of the burned rock Feature 1 cluster in the northwest corner is the stratigraphic boundary of the dark red brown clay loam (Stratum 4). However, excavations revealed no discrete pit outline.

Feature 1 was first observed as a small, scattered burned rock located in TU01, Levels 3 and 4 (99.87–99.67 m) situated on the contact with a dense reddish brown clay (Stratum 4). The clustered burned rock was all less than 5 cm diameter and highly fragmented with seemingly thermally altered (i.e., reddened) sediment in the center and northwest corner of TU01. The reddened sediment and burned rock was initially encountered toward the bottom of Level 3 and left in place during the excavation of Level 4 (see Figure 10: TU01 Level 4). The feature consisted mostly of thermally altered sandstone in a single layer with a slightly downward slope towards the northwest. However, there was no distinct pattern to the rock placement with only a small amount of reddened soil staining found in association with the feature. Notably, no charcoal, charcoal staining, burned flora or fauna fragments were observed within or near the thermal feature. Based on the morphology of the Feature 1, the feature may represent an oven cleaning event, where the oven pit is dug out for reuse and repeatedly used as evidenced by the small and highly fragmented rock. Due to the shallowness of the feature (i.e., 16–36 cmdb), it may also have been subsequently disturbed by mechanical land clearing that may have displaced and fragmented portions of the feature.

Both above and below Feature 1 were two heavily reworked dart points that may be associated with the feature (see Figures 10 and 11). As mentioned briefly above, the dart point located stratigraphically above the feature from shovel test AJ19 most closely resembles the Late Archaic Lange type. The projectile point stratigraphically positioned at or just below Feature 1 is an untyped dart point. The proximity and position of these artifacts in relation to Feature 1 imply that the feature is associated with the Late Archaic time period. Notably, however, below the northwestern corner of TU01 in Level 5 (below the feature), artifacts were clustered along a root intrusion into the lower boundary below Feature 1. Therefore, some degree of translocation (vertical and horizontal) of cultural materials appears to have occurred due to bioturbation.



Figure 10. TU01, Level 4, plan view. Note the burned sandstone concentration in upper center and the projectile point in lower left corner.



Figure 11. Untyped projectile point (obverse and inverse) recovered from TU01, Level 4/5 transition.

Table 2. Lithic Recoveries, all test units

Unit	Level	Elevation (m)	Depth (cmbd)	Primary Flake		Secondary Flake		Tertiary Flake		TOTAL	
				#	Wt (gm)	#	Wt (gm)	#	Wt (gm)	#	Wt (gm)
TU01	1	100.03-99.97	0-6	0	0	10	43.26	22	29.15	32	72.42
	2	99.97-99.87	6-16	0	0	26	67.87	174	122.59	200	190.43
	3	99.87-99.77	16-26	1	21.17	19	87.71	143	169.51	163	281.75
	4	99.77-99.67	26-36	6	44.36	7	28.62	60	121.29	73	194.27
	5	99.67-99.57	36-46	4	24.67	6	67.84	26	101.68	36	194.19
	6	99.57-99.47	46-56	2	21.95	4	54.4	5	17.28	11	93.63
TU02	1	100.06-99.90	0-16	14	20.68	24	63.9	168	107.55	206	192.13
	2	99.90-99.80	16-26	4	8.36	6	24.52	97	61.13	107	94.01
TU03	1	100.00-99.90	0-10	1	4.19	5	11.45	19	17.76	25	33.33
	2	99.90-99.80	10-20	0	0	1	2.25	3	3.8	4	6.05
TU04	1	100.05-99.90	0-15	0	0	2	1.26	7	6.44	9	7.70
	2	99.90-99.80	15-25	0	0	2	9.77	6	15.28	8	25.05
	3	99.80-99.70	25-35	0	0	0	0	5	5.48	5	5.48
	4	99.70-99.60	35-45	0	0	0	0	1	16.64	1	73.09
TU05	1	100.05-99.90	0-15	2	2.66	7	22.08	56	28.87	65	53.61
	2	99.90-99.80	15-25	0	0	9	9.59	91	50.44	100	60.03
	3	99.80-99.70	25-35	2	3.89	4	3.97	32	12.66	38	20.52
Total				36	151.93	132	498.49	915	887.55	1083	1,597.69

Table 3. Burned Rock / Fire Cracked Rock Recoveries, all test units

Unit	Level	Elevation (m)	Depth (cmbd)	Thermally Altered Rocks	Wt (gm)
TU01	1	100.03-99.97	0-6	8	60.3
	2	99.97-99.87	6-16	21	122.0
	3	99.87-99.77	16-26	61	794.9
	4	99.77-99.67	26-36	52	369.3
	5	99.67-99.57	36-46	14	87.6
	6	99.57-99.47	46-56	3	45.0
TU02	1	100.06-99.90	0-16	13	115.4
	2	99.90-99.80	16-26	9	103.3
TU03	1	100.00-99.90	0-10	6	20.8
	2	99.90-99.80	10-20	0	0.0
TU04	1	100.05-99.90	0-15	5	43.3
	2	99.90-99.80	15-25	3	26.0
	3	99.80-99.70	25-35	2	23.7
	4	99.70-99.60	35-45	0	0.0
TU05	1	100.05-99.90	0-15	2	52.2
	2	99.90-99.80	15-25	11	378.1
	3	99.80-99.70	25-35	5	331.6
Total				215	2,573.5



Figure 12. TU01, Level 7, plan view (termination of excavation).

Test Unit 2

Approximately 30 m southwest of TU01, SWCA placed TU02 near the previously excavated shovel test DR247 (see Figure 5). The unit is situated on the southern edge of the survey corridor on an upland overlooking a tributary of Wilbarger Creek. The test unit was excavated in three levels from arbitrary elevation 100.06 to 99.70 m (0 to 26 cmbd). A total volume of 0.25 m³ was excavated from TU02 (Figures 13 and 14).

Overall, the unit recovered 313 pieces of debitage, and 0.22 kg of burned rock (see Tables 2 and 3). All of the artifacts were found in Levels 1 and 2, between elevations 100.00 to 99.80 m. Level 3, which was excavated as a 0.5×1-m unit due to a lack of artifacts within the western half of the unit, was completely sterile of cultural materials between elevations 99.80–99.70 m.

The excavations in TU02 encountered a disturbed upper zone containing a mixed collection of artifacts that extended to Level 2 (approximately 26 cmbd or an elevation of 99.80 m). Modern colorless glass was observed in Level 2 and discarded. The cultural materials are highest near the surface, suggesting most may be in a secondary context and have been transported to the location by agricultural disturbances. The thin Ap horizon, 100.00–99.80 m in elevation, also suggests the location is highly deflated.



Figure 13. TU02, Level 3, plan view (termination of excavation).



Figure 14. TU02, Level 3, north wall profile.

Test Unit 3

Approximately 25 m north of TU02, SWCA placed TU03 in the north-central portion of the site within the northeast corner of a horse pen (see Figure 5). The test unit was excavated to investigate a possible subsurface component to the lithic scatter seen on surface in that area, which consisted of three levels from arbitrary elevation 100.00 to 99.70 m (0 to 20 cmbd). Level 3 was excavated as a 0.5×1-m level in the southern half of TU03 due to the paucity of artifacts in that northern half of the unit in Level 2. A total volume of 0.25 m³ was excavated from TU03 (Figure 15).

Overall, the unit recovered 29 pieces of debitage, six pieces of solarized glass, and 0.21 kg of burned rock (see Tables 2 and 3). All of the artifacts were found in Levels 1 and 2, between elevations 100.00 to 99.80 m. Level 3, which was excavated as a 0.5×1-m unit, was completely sterile of cultural materials between elevations 99.80–99.70 m.

The excavations in TU03 encountered a disturbed upper zone containing a mixed collection of artifacts that extended to approximately 20 cmbd or an elevation of 99.80 m. The solarized glass was observed in Level 1. The cultural materials were very sparse but were highest near the surface, suggesting a secondary context. Specifically, the cultural materials may have been transported by mechanical impacts given the large push pile in the immediate area. The thin Ap horizon, 100.00–99.80 m in elevation, also suggests the location is highly deflated.



Figure 15. TU03, Level 3, plan view and west profile (termination of excavation).

Test Unit 4

TU04 is located in the southwestern portion of the site, north of the centerline, approximately 5 m south of previous positive shovel test DR249 (see Figure 5). Previous shovel tests encountered a single tertiary flake in the upper 25 cm. The test unit was excavated in five levels from arbitrary elevation 100.05 to 99.50 m (0 to 45 cmbd). Level 5 was excavated as a 0.5×1-m level in the northern half of the unit due to the general paucity of artifacts in the southern half of the unit in Level 4 (99.70–99.60 m). A total volume of 0.45 m³ was excavated from TU04 (Figures 16–17).

Overall, the unit recovered 23 pieces of debitage, with one of the pieces apparently stream rolled smooth and likely in a secondary context, and 0.93 kg of burned rock (see Tables 2 and 3). The majority (73.9 percent) of lithic artifacts for this unit were recovered from Levels 1 and 2, between elevations 100 to 99.80 m or upper 25 cm. Level 4, which was excavated as a 0.5×1-m unit, contained only one piece of debitage that likely is translocated from the upper levels given the presence of deep cracks extending from the ground surface to the bottom of Level 4.

The excavations in TU04 encountered a disturbed upper zone containing a mixed collection of artifacts that extended to approximately 25 cmbd or an elevation of 99.80 m. The quantity of cultural materials was very sparse and overwhelmingly near the surface.

Based on the low amount of cultural materials on or near the altered surface of the unit, it is likely that the earth-moving activities, apparent in the push pile to the south of the unit, and agricultural disturbance have affected much of the cultural deposits. The remaining traces of cultural materials have been further disturbed by bioturbation and soil pedogenic processes.



Figure 16. TU04, Level 5, plan view of northern half of unit (termination of excavation).



Figure 17. TU04, Level 5, north wall profile.

Test Unit 5

Approximately 5 m north of BHT02, TU05 was placed to encompass the previous shovel test MN220 (see Figure 5). The previous shovel tests contained three tertiary flakes in the upper 30 cm of deposits. The test unit was excavated in four levels from arbitrary elevation 100.00 to 99.60 m (0 to 35 cmbd). Level 4 was excavated as a 0.5×1-m level in the southern half of the unit due to a lack of artifacts in the northern half of the unit in Level 3 (99.80–99.70 m). A total volume of 0.40 m³ was excavated from TU05 (Figures 18 and 19).

Overall, the unit recovered 203 pieces of debitage, one bifacial tool (broken in two), and 0.76 kg of burned rock (see Tables 2 and 3). The overwhelming majority of lithic artifacts (81.3 percent) and burned rock (72.2 percent) for this unit were recovered from Levels 1 and 2, between elevations 100.00 to 99.80 m or upper 25 cm. Level 4 (99.70–99.60 m), which was excavated as a 0.5×1-m unit, was sterile for cultural materials.

The excavations in TU05 encountered a disturbed upper zone containing a mixed collection of artifacts that extended to approximately 25 cmbd or an elevation of 99.80 m. All three artifact types collected (i.e., debitage, chipped stone tools, and burned rock) were in the highest concentration in Level 2, 99.90–99.80 m in elevation. The quantity of burned rock continued to be elevated in Level 3, which is just above the dense clay stratigraphic layer (Stratum 4). This may be due to the translocation of artifacts from upper levels settling at or just above the dense lower clay subsoil layer.

Based on the amount of materials on or near the altered surface of the unit, it is likely that the earth-moving activities, apparent in the push pile to the south of the unit, and agricultural impacts have affected the deposits in this portion of site 41BP920.



Figure 18. TU05, Level 4, plan view (termination of excavation).



Figure 19. TU05, Level 4, south wall profile.

Artifact Discussion

The investigations identified and recovered very few lithic tools and a large collection of debitage and burned rock. All cultural materials collected during the data recovery project were washed, sorted, and tabulated. The following descriptions aim to provide sufficient data, particularly on diagnostic artifacts, that support the interpretations of site 41BP920 regarding cultural components and site chronology. Lacking radiometric data and other samples, the artifacts form the basis for such considerations. Although there were no features clearly defined during the initial survey investigations within any of the shovel tests, a sparse collection of burned rock in TU01 may represent the remains of a thermal feature (Feature 1).

Artifacts

The cultural materials recovered during the significance test excavations at site 41BP920 consist of a prehistoric assemblage containing two projectile points, two bifacial tools, one scraper tool, 1,103 pieces of debitage, and a suite of thermally altered chert and burned rocks. The historic assemblage contains one fragment of milk glass, seven fragments of unidentifiable metal, and six shards of amethyst glass (see Tables 2–5). The following descriptions and classifications provide sufficient data, particularly on diagnostic artifacts, to support the interpretations of site 41BP920 regarding cultural components and site chronology.

PROJECTILE POINTS

As previously stated, two projectile points were recovered from the investigations at site 41BP920. Both of the projectile points are made from the same medium-grained, opaque, tan-gray chert raw material and are partially intact with evidence of heavy reworking along the lateral margins. The heavily reworked projectile points are difficult to assign a type, but both are dart points, suggesting an association with the Archaic time period.

The projectile point from TU01 has a base that is broad and straight to slightly expanding on one side, with a large portion of the stem removed from a fracture (see Figure 11). The distal tip of the artifact shows numerous pressure flaking scars with failures toward the proximal end. The artifact appears to have undergone a mostly complete lateral edge rejuvenation leaving one edge convex with the numerous flaking failures. The opposite lateral margin of the artifact is only reworked on the distal portion of the point. The base appears to be reworked as well, with deep notching scars typical of corner pressure flaking with a worked straight to slightly expanding stem. Due to the extensive modifications to the artifact, a determination as to typology cannot be made.

The second project point was initially encountered in shovel test AJ19 (adjacent to TU01) at a depth of 20–30 cmbs (see Figure 5). The distal tip of the artifact exhibits a steep base of re-touch along one lateral margin, just below the distal fracture, suggesting the artifact had previously been fractured and reworked (Figure 20). The flake scars near the shoulder suggest that the stem and barbs were originally created from a corner notch angle before the point was reworked. The lateral edges also appear to be heavily reworked with hard-hammer percussion and pressure flaking to rejuvenate the edges. The modifications to the artifact make classification of the projectile point tenuous; however, the dart point is closest morphologically in style to the Lange projectile point. The Lange projectile point is associated with the Late Archaic time period (Turner et al. 2011).

Despite the extensive modifications to both projectile points at the site, the size and general characteristics suggest an affiliation with the Archaic time period. The Lange projectile point indicates a Late Archaic occupation at 41BP920.



Figure 20. Large projectile point (obverse and inverse) recovered from shovel test AJ19, immediately adjacent to TU01.

BIFACES

The two recovered bifaces at site 41BP920 represent rather crude expedient tools or possibly early stages of tool production. One chipped stone tool was recovered in the back dirt during the excavation of BHT01. The second bifacially worked tool was recovered from TU05 Level 2, elevation 99.90–99.80 m (see Figure 5; Table 4).

The biface recovered from BHT01 is made from a tan-gray chert with some brown cortex remaining on the dorsal proximal side. The artifact appears to have been created from a flake with an isolated platform. One of the lateral edges was then further worked by deep hard-hammer percussion on either side to create a sharp wavy edge.

The biface recovered from TU05 is composed of a fired dark brown chert with numerous internal cracks and imperfections across the surface of the material. The artifact was broken in two pieces during excavation and a large portion of one of the lateral sides has disintegrated from the force. The biface is made of a single flake with small lateral edge rework predominately along the dorsal side but has some indications of ventral flake scars as well.

Table 4. Chipped Stone Tools at 41BP920

Location	Level	Artifact Type	Artifact Description	Weight (g)
BHT01	Backfill	Tool	Biface	46.27
BHT01	Backfill	Tool	Scraper	157.91
TU05	2	Tool	Biface	5.01

SCRAPERS

One scraper was recovered in the backfill of BHT01. The artifact is made from a large hard-hammer flake that retains some cortex on the dorsal side. The scraper appears to be a large primary flake from a chert cobble likely transported to the site. The cortex and internal dark gray, medium-grain chert material are reddened with old external flake scars showing a high sheen, suggesting it was thermally altered prior to flaking. The ventral side shows numerous internal cracks and defects. One lateral edge appears to have been reworked by hard-hammer percussion to create a wavy cutting edge of steeply incised flake scars. This reworking of the edge appears to be utilizing the previous flake scars on the dorsal side to create a sharp edge. The maximum length of the specimen is 90 mm, width is 60 mm, thickness is 29 mm, and the weight is 157.91 grams.

LITHIC DEBITAGE

SWCA recovered 1,103 pieces of debitage from test excavations on 41BP920. The debitage exhibits all stages of lithic reduction, including 37 primary, 138 secondary, and 926 tertiary reduction stages (see Table 2). The raw material consists of mostly fine-grained chert made available through local sources; based on the cortex of a number of the collected debitage specimens exhibiting smooth cortex characteristic of stream-rolled cobbles, it is likely some of the raw material was obtained in the nearby tributaries. Additionally, some of the debitage exhibited evidence of heat treatment and/or burning. Of note, 44 percent of the lithic debitage was recovered in the upper level of the excavations followed by 33 percent in level 2 (see Table 2). Combined, the upper two levels (ranging from 10–26 cm thick) of 41BP920 contains the vast majority (77 percent) of the cultural assemblage.

HISTORIC/MODERN MATERIALS

A total of 14 historic or modern artifacts were recovered, all of which are early- to late-twentieth-century objects. The assemblage consists of glass (milk and amethyst colored) fragments and unidentifiable metal fragments (Table 5). None of the highly fragmented glass (n=7) contained maker's marks or diagnostic attributes; however, amethyst glass was only in production prior to 1917 (Intermountain Antiquities Computer System 2001).

Table 5. Historic Assemblage at 41BP920

Location	Level	Artifact Type	Artifact Description	Number of artifacts	Weight (g)
BHT01	Backfill	Glass	Historic Milk Glass	1	2.7
TU03	1	Glass	Amethyst glass	6	21.6
TU01	2	Metal	Indeterminate Metal	7	16.55

SUMMARY OF INVESTIGATIONS

On behalf of VRRSP Consultants, LLC, and CTRWSC, SWCA conducted archaeological significance test excavations at 41BP920 within the proposed Vista Ridge Water Supply Project alignment in Bastrop County, Texas. The investigations at 41BP920, consisting of 26 shovel tests (i.e., AJ18–21, DR218–222, DR245–252, and MN213–221), two backhoe trenches (BHTs 01–02), and five test units (TUs 01–05), revealed a natural and cultural stratigraphy containing a Late Archaic occupation (based on the recovery of a Lange-like projectile point) mixed with limited early- to late-twentieth-century materials. The excavations also revealed a heavily disturbed cultural zone at or near the ground surface. The cultural

zone is rather shallowly buried, and in some areas has been impacted by mechanical blading and clearing, as well as ongoing agricultural activities.

Overall, the integrity of 41BP920 is poor and contains mixed cultural deposits encompassing Late Archaic to recent cultural materials. The cultural assemblage is a moderately light, but spatially extensive, scatter of lithic debitage and burned rock, and the remnant of a scattered hearth or oven. Trench examinations and all five of the hand-excavated test units confirmed that the site is situated on a deflating upland landform with shallow basal clay and heavy mechanical and agricultural disturbances in the upper levels. The cultural deposit is interpreted as having occupied a highly disturbed deflating surface that was intermittently occupied during the Late Archaic period, from approximately 3,000 to 2,400 years ago. The relatively stable landform at the site, suggested by the absence of alluvium or eolian deposits, prohibited any separation of cultural occupations, resulting in a palimpsest. These shallowly buried (typically less than 30 cmbs), mixed deposits allowed disturbance from repetitive occupations over time, and consequently most of the archaeological deposits have poor integrity, particularly with the modern mechanical impacts to the surface and subsurface components of the site.

Research Issues

The significance test excavations at 41BP920 had two research issues that it was attempting to answer: 1) determining the integrity of the cultural deposits and 2) potential data yield for the cultural assemblage. The results of the investigations at the site determined that the integrity of 41BP920 is poor, due to prevalent and extensive disturbances. As expressed above, the upper 26 cm of 41BP920 contains the vast majority (77 percent) of the cultural assemblage. The shallow depth of the assemblage exposed the prehistoric component to subsequent occupations and activities that continue to mix the cultural materials and alter the deposits to this day. To a lesser degree, some translocation of the assemblage appears to have also occurred through natural shrink-swell processes, accounting for the limited, isolated deeper artifacts (about 50–60 cmbd) encountered at the site.

Similarly, the potential data yield for 41BP920 is severely limited. The cumulative assemblage of the site contained 1,103 pieces of chert debitage, one crude scraper, two crude expedient chipped stone tools (i.e., bifaces), two projectile point fragments (one untyped and one Late Archaic Lange dart point), a suite of thermally altered chert and burned rocks, and an historic assemblage containing seven glass fragments and seven fragments of unidentifiable metal. One thermal feature (Feature 1) was encountered at the site in TU01, positioned at 16–36 cmbs. The feature was highly fragmented and scattered with no discernable patterning and an absence of charcoal or burned flora or fauna. The Feature 1 phenomenon was interpreted to be a thermal cooking feature that was used and then affected by bioturbation (i.e., root) and possibly agricultural practices (i.e., plowing). As a result, no additional information can be derived from the feature.

RECOMMENDATIONS

The significance test excavations mitigated the effects of prior construction impacts on the cultural resources and provided data to assess the site's research potential and significance. SWCA's recommendations are the following:

- 1) No further archaeological investigations are recommended at 41BP920 within the proposed Vista Ridge corridor.
- 2) The test investigations indicate that the cultural deposit within the proposed waterline alignment at 41BP920 is a palimpsest comprising an unknown number of mixed occupations encompassing

the Late Archaic to the present. The site has been impacted by the removal of an unknown amount of the topsoil from the site, vegetation clearing, and plowing. As a result, neither the surface nor subsurface deposits within the project area are intact, having been displaced and fragmented to varying degrees. Under such circumstances, it is impossible to identify individual site occupations that could potentially contribute new or important data concerning regional prehistory.

Based on these data, SWCA recommends the Vista Ridge Regional Water Supply Project will not impact cultural deposits eligible for the NRHP or for SAL designation within the proposed waterline alignment. However, the parts of the site outside the project area have not been evaluated, so their NRHP and SAL eligibility are currently unknown. Should the proposed project require design changes that result in impacting areas outside of the currently proposed corridor, then additional investigations in those areas would be necessary.

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APPENDIX A

Specimen Inventory

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Site Significance Testing Report of Site 41BP920, Bastrop County, Texas

Lot #	FS#	FTR No.	Sample No.	BHT	Unit	Level	Elevation (m)	Depth (cmbd)	Artifact Type	Artifact Description	Material	Number of artifacts	Weight (g)	Date
1	1	-	-	BHT1	-	Backfill	n/a	n/a	Debitage	*see Table 2debitage sort	Lithics	19	130.45	8/1/2016
1	1	-	-	BHT1	-	Backfill	n/a	n/a	Tool	Biface	Lithics	1	46.27	8/1/2016
1	1	-	-	BHT1	-	Backfill	n/a	n/a	Glass	Historic Milk Glass	Glass	1	2.7	8/1/2016
1	1	-	-	BHT1	-	Backfill	n/a	n/a	Tool	Scraper	Lithics	1	157.91	8/1/2016
2	2	-	-	-	TU1	1	100.03-99.97	0-6	Debitage	*see Table 2debitage sort	Lithics	32	72.42	8/1/2016
3	4	-	-	-	TU1	2	99.97-99.87	6-13	Debitage	*see Table 2debitage sort	Lithics	200	190.43	8/1/2016
3	4	-	-	-	TU1	2	99.97-99.87	6-13	Metal	Indeterminate Metal	Metal	7	16.55	8/1/2016
3	4	-	-	-	TU1	2	99.97-99.87	6-13	Burned Rock	-	Lithics	8	60.33	8/1/2016
4	5	-	-	-	TU1	3	99.87-99.77	16-26	Debitage	*see Table 2debitage sort	Lithics	163	281.75	8/2/2016
4	5	-	-	-	TU1	3	99.87-99.77	16-26	Burned Rock	-	Lithics	21	122.04	8/2/2016
5	6	-	-	-	TU1	4	99.77-99.67	26-36	Debitage	*see Table 2debitage sort	Lithics	73	72.42	8/2/2016
5.1	6	-	-	-	TU1	4	99.77-99.67	26-36	Tool	Partial Dart Point	Lithics	1	10.18	8/2/2016
5	6	-	-	-	TU1	4	99.77-99.67	26-36	Fire Cracked Rock	fired metamorphic rock	Lithics	19	176.9	8/2/2016
5	6	-	-	-	TU1	4	99.77-99.67	26-36	Fire Cracked Rock	fired sedimentary rock	Lithics	61	794.89	8/2/2016
6	7	-	-	-	TU1	5	99.67-99.57	36-46	Burned Rock	-	Lithics	33	192.4	8/3/2016
6.1	7	-	-	-	TU1	5	99.67-99.57	36-46	Tool	Partial Dart Point	Lithics	1	11.05	8/3/2016
6	7	-	-	-	TU1	5	99.67-99.57	36-46	Debitage	*see Table 2debitage sort	Lithics	36	194.19	8/3/2016
7	12	-	-	-	TU1	6	99.57-99.47	46-56	Burned Rock	fired sedimentary rock	Lithics	14	87.61	8/4/2016
7	12	-	-	-	TU1	6	99.57-99.47	46-56	Fire Cracked Rock	fired metamorphic rock	Lithics	3	45.04	8/4/2016

Site Significance Testing Report of Site 41BP920, Bastrop County, Texas

Lot #	FS#	FTR No.	Sample No.	BHT	Unit	Level	Elevation (m)	Depth (cmbd)	Artifact Type	Artifact Description	Material	Number of artifacts	Weight (g)	Date
7	12	-	-	-	TU1	6	99.57-99.47	46-56	Debitage	*see Table 2 debitage sort	Lithics	11	93.63	8/4/2016
8	22	-	-	-	TU1	1-5	100.03-99.70	0-46	Special Sample	Soil Resistivity Sample	-	-	-	8/6/2016
9	8	1	1	-	TU1	5-7	99.80-99.67	46-66	Special Sample	Matrix Sample	-	-	-	8/3/2016
10	9	-	-	-	TU2	1	100.06-99.90	0-16	Fire Cracked Rock	-	Lithics	13	115.4	8/2/2016
10	9	-	-	-	TU2	1	100.06-99.90	0-16	Debitage	*see Table 2 debitage sort	Lithics	206	192.13	8/2/2016
11	10	-	-	-	TU2	2	99.90-99.80	16-26	Debitage	*see Table 2 debitage sort	Lithics	107	94.01	8/2/2016
11	10	-	-	-	TU2	2	99.90-99.80	16-26	Fire Cracked Rock	-	Lithics	9	103.26	8/2/2016
12	11	-	-	-	TU3	1	100-99.00	0-10	Debitage	*see Table 2 debitage sort	Lithics	25	33.33	8/3/2016
12	11	-	-	-	TU3	1	100-99.00	0-10	Fire Cracked Rock	-	Lithics	6	20.83	8/3/2016
12	11	-	-	-	TU3	1	100-99.00	0-10	Glass	Solarized glass	Glass	6	21.6	8/3/2016
13	13	-	-	-	TU3	2	99.90-99.80	10-20	Debitage	*see Table 2 debitage sort	Lithics	4	6.05	8/5/2016
4	14	-	-	-	TU4	1	100.05-99.90	0-15	Fire Cracked Rock	-	Lithics	5	43.29	8/5/2016
14	14	-	-	-	TU4	1	100.05-99.90	0-15	Debitage	*see Table 2 debitage sort	Lithics	9	7.7	8/5/2016
15	15	-	-	-	TU4	2	99.90-99.80	15-25	Fire Cracked Rock	-	Lithics	3	25.98	8/4/2016
15	15	-	-	-	TU4	2	99.90-99.80	15-25	Debitage	*see Table 2 debitage sort	Lithics	8	25.05	8/4/2016
16	16	-	-	-	TU4	3	99.80-99.70	25-35	Fire Cracked Rock	-	Lithics	2	23.71	8/4/2016
16	16	-	-	-	TU4	3	99.80-99.70	25-35	Debitage	*see Table 2 debitage sort	Lithics	5	5.48	8/4/2016
17.1	17	-	-	-	TU4	4	99.70-99.60	35-45	Debitage	Primary	Lithics	1	56.63	8/4/2016
17	17	-	-	-	TU4	4	99.70-99.60	35-45	Debitage	*see Table 2 debitage sort	Lithics	1	16.64	8/4/2016

Lot #	FS#	FTR No.	Sample No.	BHT	Unit	Level	Elevation (m)	Depth (cmbd)	Artifact Type	Artifact Description	Material	Number of artifacts	Weight (g)	Date
18	18	-	-	-	TU5	1	100.05-99.90	0-15	Fire Cracked Rock	-	Lithics	2	52.22	8/5/2016
18	18	-	-	-	TU5	1	100.00-99.90	0-15	Debitage	*see Table 2debitage sort	Lithics	65	53.61	8/5/2016
19.1	19	-	-	-	TU5	2	99.90-99.80	15-25	Tool	Biface	Lithics	1	5.01	8/5/2016
19	19	-	-	-	TU5	2	99.90-99.80	15-25	Fire Cracked Rock	-	Lithics	11	378.06	8/5/2016
19	19	-	-	-	TU5	2	99.90-99.80	15-25	Debitage	*see Table 2debitage sort	Lithics	100	60.03	8/5/2016
20	20	-	-	-	TU5	3	99.80-99.70	25-35	Fire Cracked Rock	-	Lithics	5	331.56	8/6/2016
20	20	-	-	-	TU5	3	99.80-99.70	25-35	Debitage	*see Table 2debitage sort	Lithics	38	20.52	8/6/2016
21	21	-	2	-	TU5	1-3	100.05-99.70	0-35	Special Sample	Soil Resistivity Sample	-	-	-	8/6/2016