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An Intensive Archaeological Survey Of The Proposed Buffalo To Hogan Project, Midland And Martin Counties, Texas

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An Intensive Archaeological Survey Of The Proposed Buffalo To Hogan Project, Midland And Martin Counties, Texas

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AN INTENSIVE ARCHAEOLOGICAL SURVEY
OF THE PROPOSED BUFFALO TO HOGAN
PROJECT, MIDLAND AND MARTIN COUNTIES,
TEXAS

TEXAS ANTIQUITIES PERMIT NO. 8412

MAY 2018

PREPARED FOR

Targa Pipeline Mid-Continent WestTex LLC

PREPARED BY

SWCA Environmental Consultants

SWCA Project No. 50091

SWCA Cultural Resources Report No. 18-296

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PROPOSED BUFFALO TO HOGAN PROJECT, MIDLAND AND
MARTIN COUNTIES, TEXAS**

Texas Antiquities Permit No. 8412

Prepared for

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SWCA Project No. 50091

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May 2018

ABSTRACT

On behalf of Targa Pipeline Mid-Continent WestTex LLC, SWCA Environmental Consultants (SWCA) conducted an intensive archaeological survey of the proposed Buffalo to Hogan Project located on lands owned or maintained by the City of Midland, Texas in Martin and Midland counties. The overall project area includes 2.73 miles of pipeline construction within a 100-foot-wide corridor, for a total area of 33.09 acres. The project area lies approximately 16.9 km southeast of Rankin, Texas. All work was conducted under Texas Antiquities Permit Number 8412, as the project is located on lands owned or maintained by the City of Midland, Texas.

The background literature and records review revealed that most of the project area was previously surveyed for cultural resources. The background review also revealed no previously recorded sites within or adjacent to the proposed project area, and only one site has been recorded within 1 mile of the project area. The previously recorded site (41MD46), has no information available on the Texas Antiquities Sites Atlas (TASA) (Texas Historical Commission [THC] 2018). The site lies outside of the project area and will not be impacted by project construction.

The archaeological investigations included an intensive pedestrian survey augmented by shovel testing within the project area. Forty-three shovel tests were excavated along the project centerline. A total of two additional shovel tests were not excavated due to existing pipelines subsurface. No prehistoric or historic-age cultural materials were identified on the ground surface within the 100-foot-wide centerline survey corridor.

In accordance with Section 106 of the National Historic Preservation Act (NHPA) 36 Code of Federal Regulations (CFR) 800.4 (b)(1) and the Antiquities Code of Texas, SWCA has made a reasonable and good faith effort to identify significant cultural resources within the project area. No properties listed or otherwise eligible for the National Register of Historic Places (NRHP), or for designation as a State Antiquities Landmark (SAL), were identified within the project area. Consequently, SWCA recommends no further archaeological investigation and a finding of **NO HISTORIC PROPERTIES AFFECTED** under 36 CFR 800.4(d)(1). Per requirements of the Antiquities Code of Texas, project documentation will be curated with the Texas State Center for Archaeological Studies.

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MANAGEMENT SUMMARY

Project Title: An Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas

SWCA Project Number: 50091

Project Description: The overall project consists of the construction of approximately 2.73 miles of pipeline in Midland and Martin counties, Texas. The proposed alignment will cross lands owned or maintained by the City of Midland, Texas. SWCA's investigations included a background literature and records review and an intensive archaeological survey of the project area. Investigations for this part of the project were conducted under the Antiquities Code of Texas (Permit Number 8412).

Location: The project area lies approximately 16.9 km southeast of Rankin, Texas. The project area is depicted on the Northeast Midland 7.5-minute U.S. Geological Survey (USGS) quadrangle.

Number of Acres Surveyed: Approximately 33.09 acres (2.73 project miles with survey occurring within a 100-foot-wide corridor).

Principal Investigator: C. Wesley Mattox

Texas Antiquities Permit: 8412

Dates of Work: May 8, 2018

Purpose of Work: Investigations were conducted in compliance with the Antiquities Code of Texas (Permit Number 8412) as the project area is located on lands owned or maintained by the City of Midland.

Number of Sites: No cultural material was encountered during the investigation.

Curation: No cultural materials were collected during the investigation. Original survey documentation will be curated with the Texas State Center for Archaeological Studies, San Marcos, Texas.

Comments: In accordance with the Antiquities Code of Texas, SWCA has made a reasonable and good faith effort to identify archaeological and historical resources within the project area. As no properties were identified that are eligible for designation as a State Antiquities Landmark according to 13 Texas Antiquities Code 26.12, SWCA recommends no further archaeological investigations within the project area.

INTRODUCTION

On behalf of Targa Pipeline Mid-Continent WestTex LLC, SWCA Environmental Consultants (SWCA) conducted an intensive archaeological survey of the proposed Buffalo to Hogan Project located on lands owned or maintained by the City of Midland, Texas in Martin and Midland counties. Investigations were conducted in compliance with the Antiquities Code of Texas (ACT) (Texas Natural Resource Code, Title 9, Chapter 191) under permit number 8412, as the project is located on lands owned or maintained by the City of Midland.

The investigation began with a background literature and records review of previously conducted cultural resources surveys and recorded archaeological sites. The fieldwork consisted of an intensive pedestrian survey with shovel testing along the proposed project centerline. The goal of the investigation was to locate all prehistoric and historic archaeological sites in the investigated project area, establish vertical and horizontal site boundaries, as appropriate, and evaluate the significance and eligibility of any site recorded for the National Register of Historic Places (NRHP).

All investigations were conducted in accordance with the Texas Historical Commission (THC) standards. C. Wesley Mattox served as the Principal Investigator. This report was prepared by Kurt Dilores. Miguel Gutierrez and K. Dilores conducted the field investigations on May 8, 2018. Geographic information systems (GIS) support was provided and report graphics were prepared by GIS Specialist Kelly Shields. The report was edited by Joy Hengst.

Project Area Description

The project alignment is located approximately 16.9 km southeast of Rankin, Texas. The project measures approximately 2.73 miles in length and begins approximately 2.4 miles northwest of the Martin/Midland county border and extends in a generally southeastern direction to approximately 0.3 miles southeast of the county border into Midland County, Texas. This pipeline traverses land owned and maintained by the City of Midland. All construction of the project centerline will occur within a 100-foot-wide corridor along the 2.73-mile alignment, for a total disturbance area of approximately 33.09 acres. The project area is depicted on the U.S. Geological Survey (USGS) Northeast Midland 7.5-minute topographic quadrangle map.

Pipeline construction impacts will be confined to the project corridor and will include clearing of vegetation, excavation of a trench, installation of the pipe, stockpiling and replacement of soil, grading, and reestablishing vegetation.

The goal of the intensive archaeological survey was to determine if any previously undiscovered archaeological sites were located within the project area. All work was performed in accordance with the standards and guidelines of the ACT and the National Historic Preservation Act (NHPA). All project related impacts were investigated thoroughly for their potential to affect cultural resources that may be present in the project area.

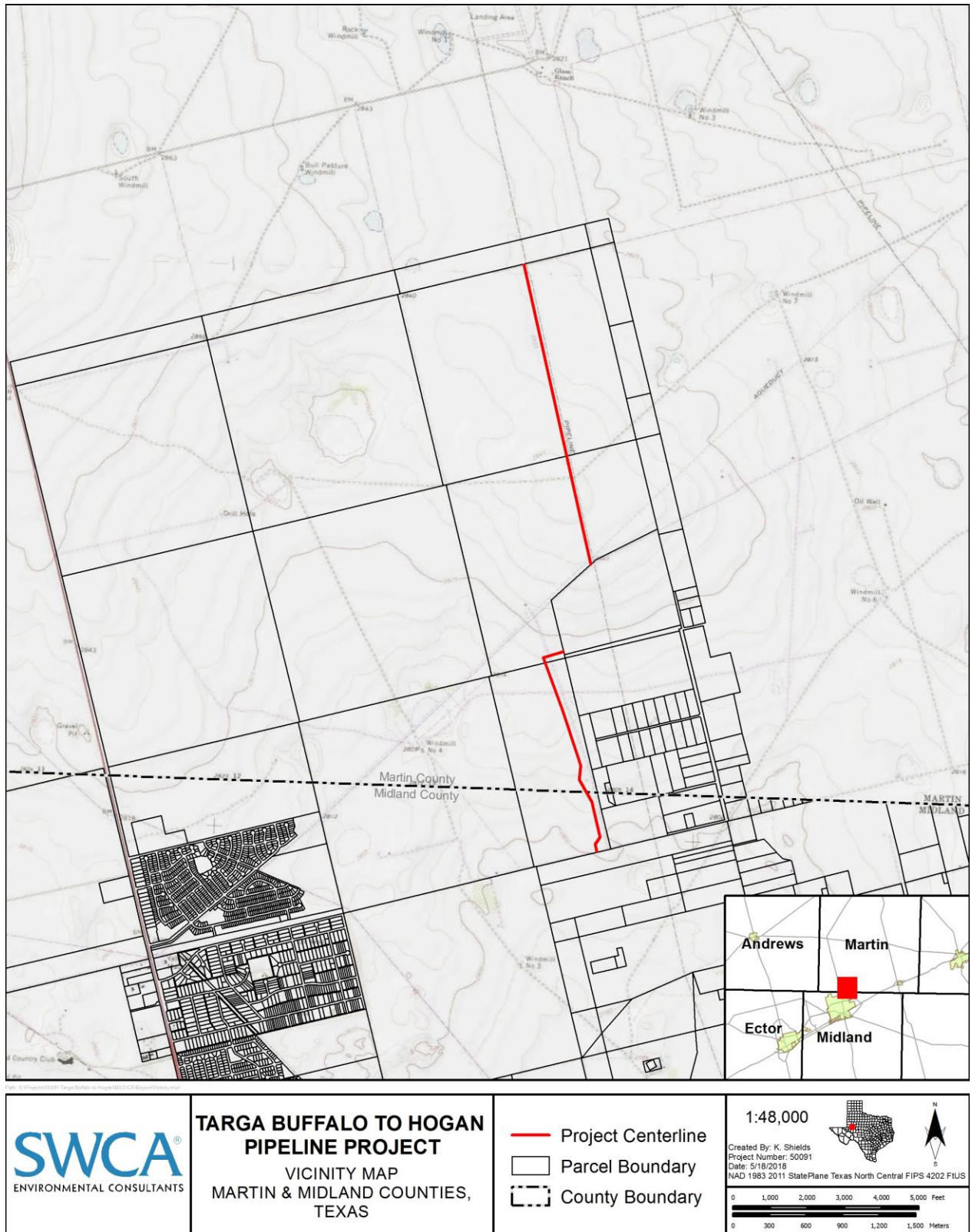


Figure 1. Project vicinity map.

ENVIRONMENTAL SETTING

The proposed project alignment lies within the southern High Plains of Texas. The area is relatively flat and pockmarked by small playas. Mustang Draw is the only nearby drainage, approximately 7.8 miles east of the project area. Geologically, the project area is located in Pleistocene age Windblown cover sand (Qcs), a fine- to- medium-grained quartz sand. The deposits may be grayish red, calcareous, and massive (Barnes 1976). A small area at the north end of the project alignment is mapped as Playa deposits (Qp), Pleistocene-to Holocene-age deposits of clay and silt formed in shallow depressions (Barnes 1976).

The Natural Resources Conservation (NRCS) Service Web Soil Survey was consulted to identify soils crossed by the project area (NRCS 2018). Several soil series and map units were identified, most of which are fine sandy windblown deposits derived from the Blackwater Draw formation. Several soil formations in the area have formed shallow, indurated layers of caliche (Table 1).

Table 1. List of Soil Series within the Project Area (NRCS 2018)

Soil Series	Texture	Location	Description
Amarillo	Fine sandy loam	Level to gently sloping plains	Very deep, well drained, moderately permeable soils formed in loamy eolian deposits from the Blackwater Draw formation.
Slaughter	Loam	Level to gently sloping plains	Well-drained, moderately slowly permeable soils formed in loamy and clayey eolian sediments over a layer of indurated caliche.
Kimbrough	Gravelly loam	Level to very gently sloping plains	Well-drained, calcareous, gravelly soils formed in moderately fine textured eolian sediments. Generally include a very shallow to shallow petrocalcic horizon.
Lipan	Clay	Smooth, nearly level alluvial plains and shallow playas	Deep, moderately well to somewhat poorly drained, very slowly permeable soils formed in calcareous clayey alluvium derived from limestone.
Randall	Clay	Playas	Very deep, poorly drained, very slowly permeable soils formed in clayey lacustrine sediments.

METHODS

Background Review

An SWCA archaeologist conducted a background review literature search of the project area to determine the locations and content of any previous archaeological surveys and recorded archaeological sites in or near the project area. To conduct this review, an SWCA archaeologist reviewed the corresponding USGS 7.5-minute topographic quadrangle maps on the THC's Texas Archeological Sites Atlas (TASA), a restricted, online database. The TASA provides information on the nature and location of previously conducted archaeological surveys, previously recorded cultural resources sites, locations of NRHP properties, State Antiquities Landmarks (SALs), Official Texas Historical Markers (OTHMs), Registered Texas Historic Landmarks (RTHLs), cemeteries, and local neighborhood surveys. The Texas Historic Sites Overlay, aerial photographs, Bureau of Economic Geology Maps, and the NRCS Web Soil Survey were also examined for historical and environmental information related to the project area.

Field Methods

Based on the review of the project area soils, geology, and the results of the previously conducted surveys in the area, SWCA conducted an intensive archaeological survey for the entire proposed project area. The survey consisted of two SWCA archaeologists walking one survey transect along the project centerline within a 100-foot-wide survey corridor. During the survey, the SWCA archaeologists examined the ground surface and any cutbanks or erosional profiles for cultural resources.

Shovel testing was utilized during the survey for subsurface exploration. The utilization of shovel tests was keyed to the level of disturbance within the area and the nature of the soils, geology, and topography. Shovel tests were placed at 100-m intervals along the project centerline and excavated in 20-cm arbitrary levels to culturally sterile deposits or 1 m in depth, whichever came first. The matrix was screened through ¼-inch hardware mesh. The location of each shovel test or attempted shovel test was plotted using a global positioning system (GPS) receiver, and each test was recorded on appropriate project field forms.

The survey was of sufficient intensity to determine the nature, extent, and significance of any cultural resources located within the project area. The survey met all THC minimum archaeological survey standards for such projects, with any exceptions adequately addressed.

RESULTS

Background Review

The results of the background review revealed that most of the project area has been previously surveyed for cultural resources in 1985 (Figure 2). Little data is available for the project, but it appears to have been conducted on behalf of the Federal Aviation Administration (FAA). No cultural resources appear to have been identified within that project area. Due to its age, it is likely that the methodology utilized on this survey is unlikely to be sufficient under current standards. A second project area lies just under 1 mile southwest of the project area. That project, conducted by SWCA for the Delaware Basin Project, was completed in 2015. No sites associated with that project are present within a 1-mile radius of the project area (Young and Cody 2015).

There are no previously documented sites within or adjacent to (within 300 feet) the proposed project area, and only one site has been recorded within 1 mile of the project area. Unfortunately, no information on the site, identified as 41MD46, is available on TASA (THC 2018). The site lies outside of the project area and will not be impacted by project construction. The next closest site, 41MD30, is located approximately 2.2 miles west of the project area. That site consists of a prehistoric open campsite including burned caliche and lithic debitage. Site 41MD19, approximately 2.2 miles southwest of the project area, appears to have been a significant prehistoric open campsite, with recovered materials including dart and arrow points, side scrapers, manos, end scrapers, and brownware pottery (THC 2018).

Detailed topographical maps of the project area were not completed until 1968 and later, limiting their utility in identifying potential historic structures. By that time, several oil wells and ranch roads crossed in the vicinity of the project area (USGS 1968). The nearest occupied structure appears to be a ranch, approximately 1.15 miles south of the project area. The area west of the project area included at least one oil well and gravel pit. Otherwise, the area appeared very rural in the mid-twentieth century. A 1975 map of the project area shows minimal development; in that time, a newly occupied structure was constructed at the end of an unimproved road which parallels the southern portion of the project alignment, and a barn or other unoccupied structure was constructed along the ranch road, approximately 45 m east of the project alignment. Thus, despite their proximity, both structures should pertain to the modern period and should not be considered historical.

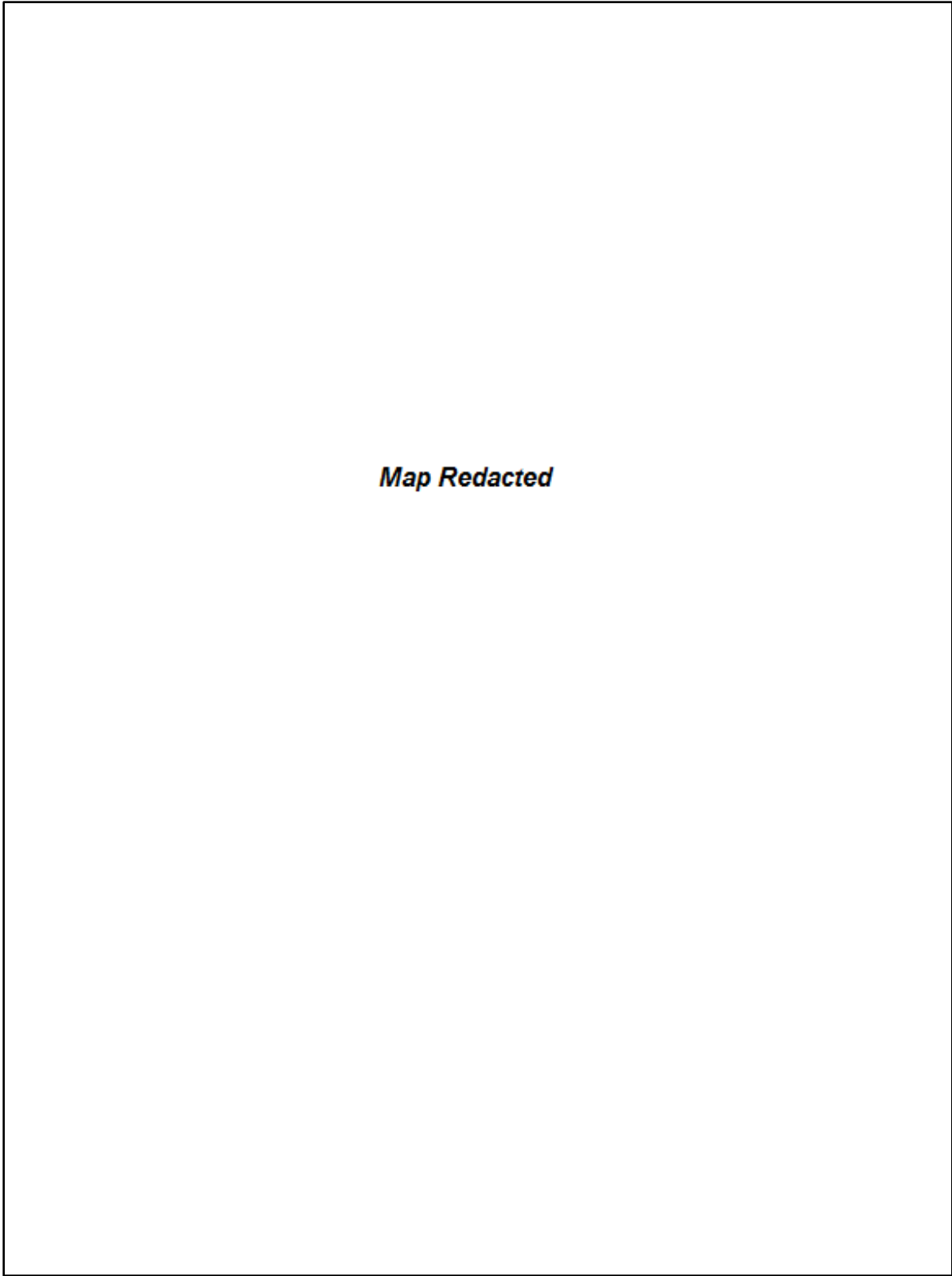


Figure 2. Background review map.

Field Investigations

On May 8, 2018, SWCA archaeologists conducted an intensive archaeological survey of the proposed project alignment within lands owned or maintained by the City of Midland. Land use along the proposed alignment was dominated by cultivated fields, access roads, and pipeline corridors. A majority of the project area exhibited 60 to 100 percent ground surface visibility. The vegetation was dominated by mesquite and grasses. The project area was separated into two segments, A and B.

Segment A was entirely in Martin County running adjacent to an existing pipeline corridor (Figure 3). A total of 25 shovel tests were excavated along the centerline on segment A. One additional shovel test was not excavated due to existing pipeline disturbance. Shovel tests generally featured dark reddish brown (10YR4/4) sandy loams and reached sterile, compact soils at approximately 20 to 30 cmbs.

Segment B was mostly in Martin County with the southern portion in Midland County (Figure 4). The segment ran along a previous pipeline corridor that had been cleared of vegetation and looked to have been plowed recently. A total of 18 shovel tests were excavated along the centerline on segment B. One additional shovel test was not excavated due to existing pipeline disturbance. Shovel tests were generally dark reddish brown (7.5YR4/8) fine sands and reached sterile compact soils at approximately 30 to 50 cmbs. No cultural material was encountered on the ground surface within the investigated area.

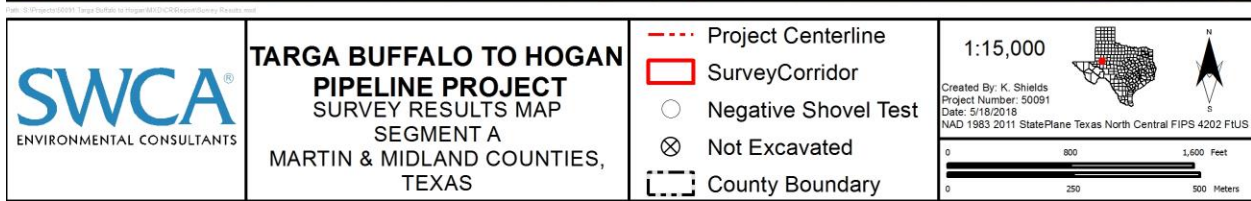


Figure 3. Project results map – Segment A.



	<p>TARGA BUFFALO TO HOGAN PIPELINE PROJECT SURVEY RESULTS MAP SEGMENT B MARTIN & MIDLAND COUNTIES, TEXAS</p>	<ul style="list-style-type: none"> --- Project Centerline ▭ Survey Corridor ○ Negative Shovel Test ⊗ Not Excavated - - - County Boundary 	<p>1:15,000</p> <p>Created By: K. Shields Project Number: 50091 Date: 5/18/2018 NAD 1983 2011 StatePlane Texas North Central FIPS 4202 FTUS</p>
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Figure 4. Project results map – Segment B.

SUMMARY AND RECOMMENDATIONS

On behalf of Targa Pipeline Mid-Continent WestTex LLC, SWCA conducted an intensive archaeological survey of the proposed project. The archaeological investigations were conducted along approximately 2.73 miles of project alignment within a 100-foot-wide corridor encompassing approximately 33.09 acres. Archaeological investigations were conducted in compliance with the Texas Antiquities Code under permit number 8412, as the project is located on lands owned or maintained by the City of Midland.

The background literature review determined that most of the proposed alignment has been previously surveyed for cultural resources, however, little information was available on the methodology of the original survey. In addition, there are no previously recorded sites within or immediately adjacent to the study area; however, one site is documented within 1 mile of the project area. The site lies outside of the project area and will not be impacted by project construction.

Archaeological investigations consisted of an intensive pedestrian survey with shovel testing along the proposed project area located on land owned or operated by the City of Midland. Forty-three shovel tests were excavated along the 2.73-mile project centerline; two shovel tests were not excavated due to existing pipelines subsurface. No cultural materials were encountered during the investigation.

In accordance with Section 106 of the NHPA 36 CFR 800.4 (b)(1) and the Antiquities Code of Texas, SWCA has made a reasonable and good faith effort to identify significant cultural resources within the project area. No properties listed or otherwise eligible for the NRHP, or for designation as a SAL were identified within the project area. Consequently, SWCA recommends no further archaeological investigation and a finding of NO HISTORIC PROPERTIES AFFECTED under 36 CFR 800.4(d)(1).

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APPENDIX A

Shovel Test Log

Appendix A. Shovel Test Log

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
A	A_001	1	0-25	N	10YR5/2	Sandy Loam	On edge of existing ROW, some young mesquite, 60% GSV	-----	Compact Soil	NCM	5/8/2018	KD
A	A_001	2	25-50	N	10YR4/2	Clay	On edge of existing ROW, some young mesquite, 60% GSV	-----	Compact Soil	NCM	5/8/2018	KD
A	A_002	1	0-10	N	7.5YR4/8	Sub angular Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, 80% GSV	-----	Compact Soil	NCM	5/8/2018	MG
A	A_003	1	0-10	N	10YR5/2	Compact Sandy Loam	On edge of existing ROW, some young mesquite, 60% GSV	Limestone inclusions at 5 cmbs	Compact Soil	NCM	5/8/2018	KD
A	A_004	1	0-20	N	10YR4/4	Sub angular Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, 80% GSV	-----	Compact Soil	NCM	5/8/2018	MG
A	A_005	1	0-10	N	7.5YR4/8	Compact Sandy Loam	On edge of ROW, 20-40% GSV, some bunch grasses/ young mesquite	Limestone inclusions at ~ 8cmbs	Compact Soil	NCM	5/8/2018	KD

Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas (Antiquities Permit Number 8412)

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
A	A_006	1	0-5	N	10YR4/4	Sub angular Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, 80% GSV	10% limestone inclusions	Compact Soil	NCM	5/8/2018	MG
A	A_007	1	0-30	N	10YR4/4	Compact Sandy Loam	On edge of ROW, 20-40% GSV, some bunch grasses/ young mesquite	-----	Basal Clay	NCM	5/8/2018	KD
A	A_007	2	30-45	N	7.5YR4/8	Clay	On edge of ROW, 20-40% GSV, some bunch grasses/ young mesquite	-----	Basal Clay	NCM	5/8/2018	KD
A	A_008	1	0-15	N	10YR4/4	Sub angular Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, 80% GSV	10% limestone inclusions	Compact Soil	NCM	5/8/2018	MG
A	A_009	1	0-30	N	10YR5/2	Compact Sandy Loam	On edge of ROW, 20-40% GSV, some bunch grasses/ young mesquite	-----	Basal Clay	NCM	5/8/2018	KD
A	A_009	2	30-40	N	7.5YR5/6	Clay	On edge of ROW, 20-40% GSV, some bunch grasses/ young mesquite	-----	Basal Clay	NCM	5/8/2018	KD

Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas (Antiquities Permit Number 8412)

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
A	A_010	1	0-35	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, Slightly more deposition, 100% GSV	60% limestone inclusions	Limestone gravel impasse	NCM	5/8/2018	MG
A	A_011	1	0-10	N	10YR5/2	Compact Sand	On edge of ROW, 10-20% GSV, some bunch grasses/ young mesquite	Limestone cobbles/ pebbles	Compact Soil	NCM	5/8/2018	KD
A	A_012	1	0-5	N	10YR5/2	Compact Sand	On edge of ROW, 10-20% GSV, some bunch grasses/ young mesquite	Limestone cobbles/ pebbles	Compact Soil	NCM	5/8/2018	KD
A	A_013	1	0-25	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks, Slightly more deposition, 100% GSV	75% limestone inclusions	Limestone gravel impasse	NCM	5/8/2018	MG
A	A_014	1	0-25	N	10YR5/4	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Basal Clay	NCM	5/8/2018	KD
A	A_014	2	25-30	N	7.5YR4/8	Clay	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Basal Clay	NCM	5/8/2018	KD

Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas (Antiquities Permit Number 8412)

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
A	A_015	1	0-20	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open. Vast shrubland, scattered mesquite, grass tussocks. Slightly more deposition, 100% GSV	75% limestone inclusions	Limestone gravel impasse	NCM	5/8/2018	MG
A	A_016	1	0-20	N	10YR5/2	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	Limestone inclusions	Limestone gravel impasse	NCM	5/8/2018	KD
A	A_017	1	0-15	N	10YR5/2	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Limestone gravel impasse	NCM	5/8/2018	KD
A	A_018	1	0-30	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open pasture; low shrub, scattered mesquite, grass tussocks, 90% GSV	90% limestone inclusions	Compact Soil	NCM	5/8/2018	MG
A	A_019	1	0-20	N	7.5YR4/8	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Limestone gravel impasse	NCM	5/8/2018	KD
A	A_020	1	0-10	N	7.5YR4/8	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Bedrock	NCM	5/8/2018	KD

Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas (Antiquities Permit Number 8412)

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
A	A_021	1	0-20	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open pasture; low shrub, scattered mesquite, grass tussocks, 90% GSV	90% limestone inclusions	Compact Soil	NCM	5/8/2018	MG
A	A_022	1	0-15	N	10YR5/4	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Limestone gravel impasse	NCM	5/8/2018	KD
A	A_023	1	0-20	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open pasture; low shrub, scattered mesquite, grass tussocks, 90% GSV	90% limestone inclusions	Limestone gravel impasse	NCM	5/8/2018	MG
A	A_024	1	0-10	N	10YR4/4	Sandy Loam	On edge of existing ROW, some bunch grasses and young mesquite, 0-10% GSV	-----	Compact Soil	NCM	5/8/2018	KD
A	A_025	1	0-15	N	10YR4/4	Friable Sandy Loam	Adjacent to cleared ROW, open pasture; low shrub, scattered mesquite, grass tussocks, 90% GSV	90% limestone inclusions	Compact Soil	NCM	5/8/2018	MG
A	A_026	NE		N	-----	-----	Pipelines <5m away, on fence line, no surface material, 100% GSV	-----	Not Excavated	NCM	5/8/2018	KD
B	B_001	1	0-20	N	10YR5/2	Sandy Loam	On fence line 10-20% GSV, young mesquite, bunch grasses	-----	Limestone gravel impasse	NCM	5/8/2018	KD

Intensive Archaeological Survey of the Proposed Buffalo to Hogan Project, Midland and Martin Counties, Texas (Antiquities Permit Number 8412)

Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
B	B_002	NE		N	-----	-----	Not excavated due to existing gas pipeline, 100% GSV	-----	Not Excavated	NCM	5/8/2018	MG
B	B_003	1	0-25	N	10YR4/4	Fine Sand	Cleared corridor, 100% GSV, adjacent to fence line	90% limestone gravels	Limestone gravel impasse	NCM	5/8/2018	MG
B	B_004	1	0-35	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_005	1	0-20	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	20% gravel inclusions	Compact Soil	NCM	5/8/2018	MG
B	B_006	1	0-45	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_007	1	0-50	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_008	1	0-30	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	5% gravel inclusions	Compact Soil	NCM	5/8/2018	MG

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Segment	ST#	Level	Depth (cmbs)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
B	B_009	1	0-35	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_010	1	0-10	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	5% gravel inclusions	Compact Soil	NCM	5/8/2018	MG
B	B_011	1	0-30	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_012	1	0-35	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	20% gravel inclusions	Compact Soil	NCM	5/8/2018	MG
B	B_013	1	0-35	N	7.5YR4/8	Sand	In existing pipeline ROW, plowed/cultivated land, Disturbed. 100% GSV, small grasses	-----	Compact Soil	NCM	5/8/2018	KD
B	B_014	1	0-33	N	7.5YR4/8	Sand	Plowed/cultivated pipeline ROW, Disturbed, No vegetation within 10m. 100% GSV	-----	Compact Soil	NCM	5/18/2018	KD
B	B_015	1	0-20	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	20% gravel inclusions	Compact Soil	NCM	5/8/2018	MG

Segment	ST#	Level	Depth (cmts)	P/N	Munsell	Soil Texture	Description/ Comments	Inclusions	Reason for Termination	Artifacts	Date	Excavated by
B	B_016	1	0-28	N	7.5YR4/8	Sand	Plowed/cultivated pipeline ROW, Disturbed, No vegetation within 10m. 100% GSV	-----	Compact Soil	NCM	5/18/2018	KD
B	B_017	1	0-30	N	10YR4/4	Fine Sand	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	20% gravel inclusions	Compact Soil	NCM	5/8/2018	MG
B	B_018	1	0-65	N	7.5YR4/8	Silty Clay Loam	Plowed/cultivated pipeline ROW, Disturbed, No vegetation within 10m. 100% GSV	5% limestone inclusions at 50cmts	Compact Soil	NCM	5/8/2018	KD
B	B_019	1	0-20	N	10YR4/4	Sandy Loam	Cleared corridor; churned-up topsoil (very loose); compact soil below; 100% GSV	-----	Limestone gravel impasse	NCM	5/8/2018	KD