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Smart Sand Partners, LP Railway Yard University Lands, Reagan County, Texas

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Smart Sand Partners, LP Railway Yard University Lands, Reagan County, Texas

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NEGATIVE FINDINGS
CULTURAL RESOURCE SURVEY OF
Smart Sand Partners, LP
Railway Yard
UNIVERSITY LANDS, Reagan County, Texas

Report prepared for

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TAS Inc.
Technical Report 286
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ABSTRACT

In February 2015, TAS Inc. conducted a pedestrian survey of a proposed railway yard in south central Reagan County. The roughly rectangular tract lies just south of US Highway 67 about 5.5 miles west of the town of Big Lake. This location would span most of the distance between US Highway 67 and the TXPF railroad (formerly Atchison Topeka and Santa Fe) within University Lands Block 11, Sections 1, 2, 11, and 12. The survey was sponsored by Smart Sand Partners LP as part of their permitting process to construct a rail yard on University Lands and was authorized by Texas Antiquities Permit 7175, Jeff Turpin, Principal Investigator. The survey area consists of upland mesquite and scrub flats in the watershed of Big Lake Draw but has no named drainages. No evidence of significant historic or prehistoric occupation or use was found by intensive pedestrian survey of the 295-acre tract. Therefore, cultural resources do not present an obstacle to the installation of the rail yard.

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INTRODUCTION

In February 2015, TAS Inc. conducted a pedestrian survey of a proposed railway yard in south central Reagan County (Figure 1, 2). The roughly rectangular tract lies just south of US Highway 67 about 5.5 miles west of the town of Big Lake. This location would span most of the distance between US Highway 67 and the TXPF railroad (formerly Atchison Topeka and Santa Fe) within University Lands Block 11, Sections 1, 2, 11, and 12 (Figure 3). The survey was sponsored by Smart Sand Partners LP as part of their permitting process to construct a rail yard on University Lands and was authorized by Texas Antiquities Permit 7175, Jeff Turpin, Principal Investigator.

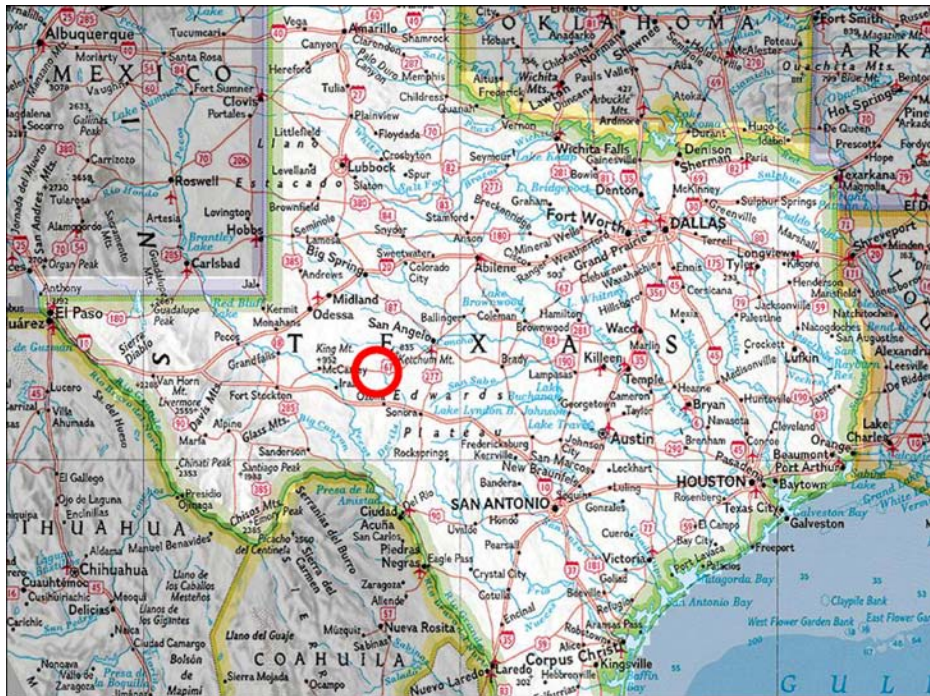


Figure 1. General location of surveyed areas (source: National Geographic Topo!)

The survey area consists of upland mesquite and scrub flats in the Big Lake Draw watershed but has no named drainages. No evidence of significant historic or prehistoric occupation or use was found by thorough examination of the 295-acre tract. Therefore, cultural resources do not present an obstacle to the installation of the rail yard.

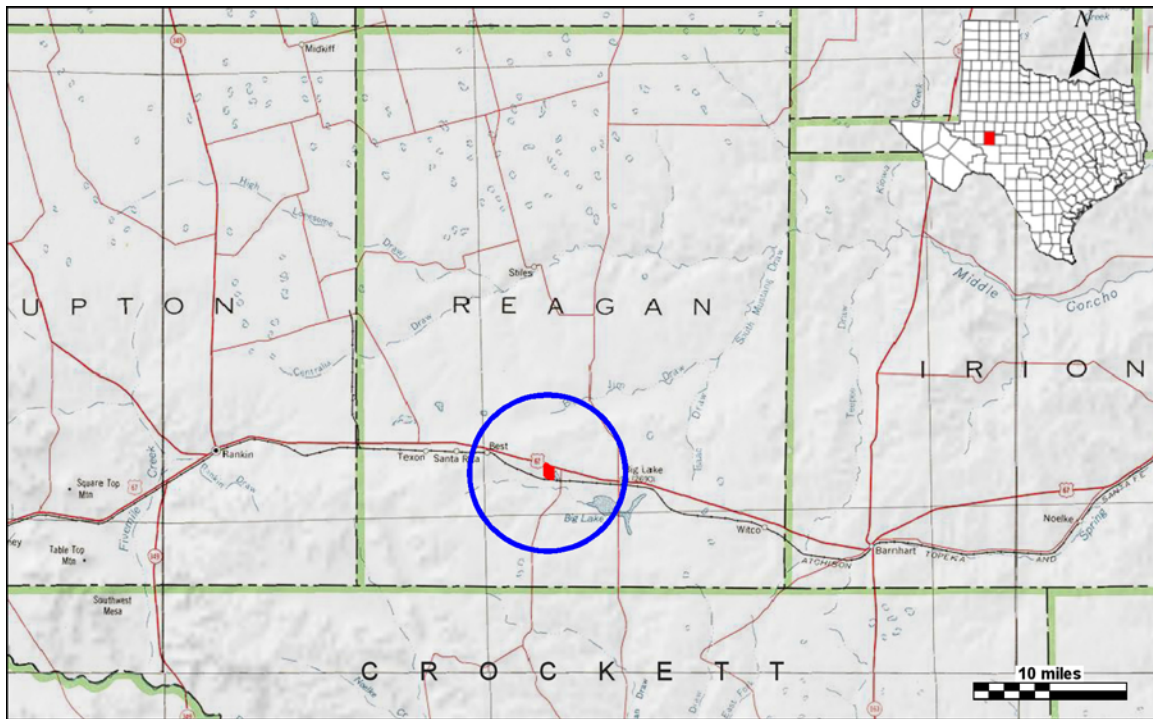


Figure 2. Smart Sand rail yard project location (source: National Geographic Topo!)

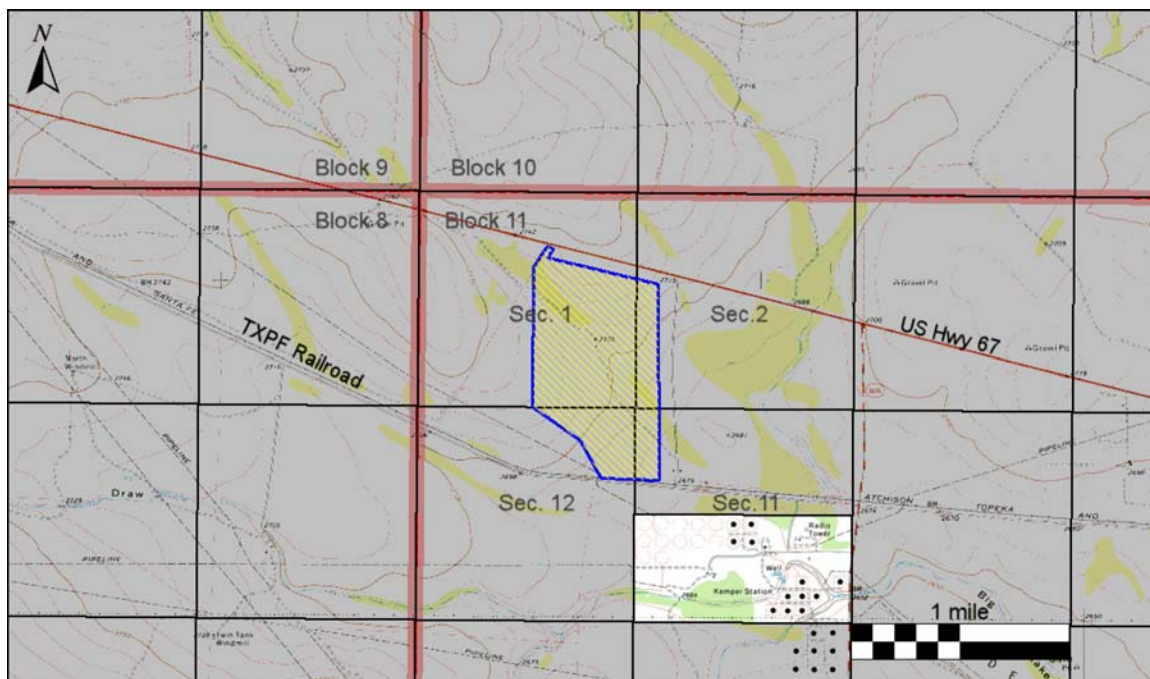


Figure 3. Proposed location of rail yard on University Lands (source: Terrain Navigator)

This cultural resource assessment consisted of an archival search, an intensive pedestrian survey, and preparation of a report of negative findings suitable for review in accordance with the Texas Historical Commission's Archeological Survey Standards for Texas.

ENVIRONMENTAL CONTEXT

Technically, the project area is in the western section of the Edwards Plateau Section of the Great Plains Province of the Interior Plains (Figure 4). The Edwards Plateau is an uplifted and elevated region originally formed from marine deposits of sandstone, limestone, shales, and dolomites 100 million years ago during the Cretaceous Period when this region was covered by an ocean (TPWD). Mesas, plateaus, and limestone ridges and hills with deep canyons and nearly level to gently sloping valley floors characterize this region. This classification is far too broad to provide a context for prehistoric adaptations in this specific study area since the landscape bears little resemblance to the Texas Hill Country as the more easterly Edwards Plateau is known in the vernacular. Here, the terrain is generally flat, the climate arid, the vegetation sparse and water scarce.

Specifically, the proposed facility would lie in upland mesquite scrub flats (Figure 5) with no well-defined drainages. The elevation range spans only 62 feet, with the highest point, 2739 feet AMSL, occurring at the extreme northwest corner along US Hwy 67, and the lowest point of 2677 feet AMSL at the southeast corner, sloping downward toward Big Lake Draw (Figure 6).

When the region was originally settled by Europeans in the mid-1800s, the area was a grassland savannah inhabited by bison and antelope. The land supported a rich diversity of forbs and grasses with an occasional mesquite tree. By 1900, continuous overgrazing and fire suppression had taken a toll. The land began to change from a grassland to a brushland with many woody species such as mesquite (*Prosopis*) displacing the overgrazed grasses. In much of the Edwards Plateau, mesquite has become the dominant plant species causing a once diverse and healthy landscape to become a "mesquite brushland" in many areas with very little plant diversity on the landscape (TPWD). The current project area is representative of this brushland with mesquite being the predominant plant species (see Figure 5). Other flora representing

different microniches dot the landscape and include grasses, tasajillo, agarita, yucca, prickly pear, allthorn, lotebush, croton, and some ephedra and juniper.

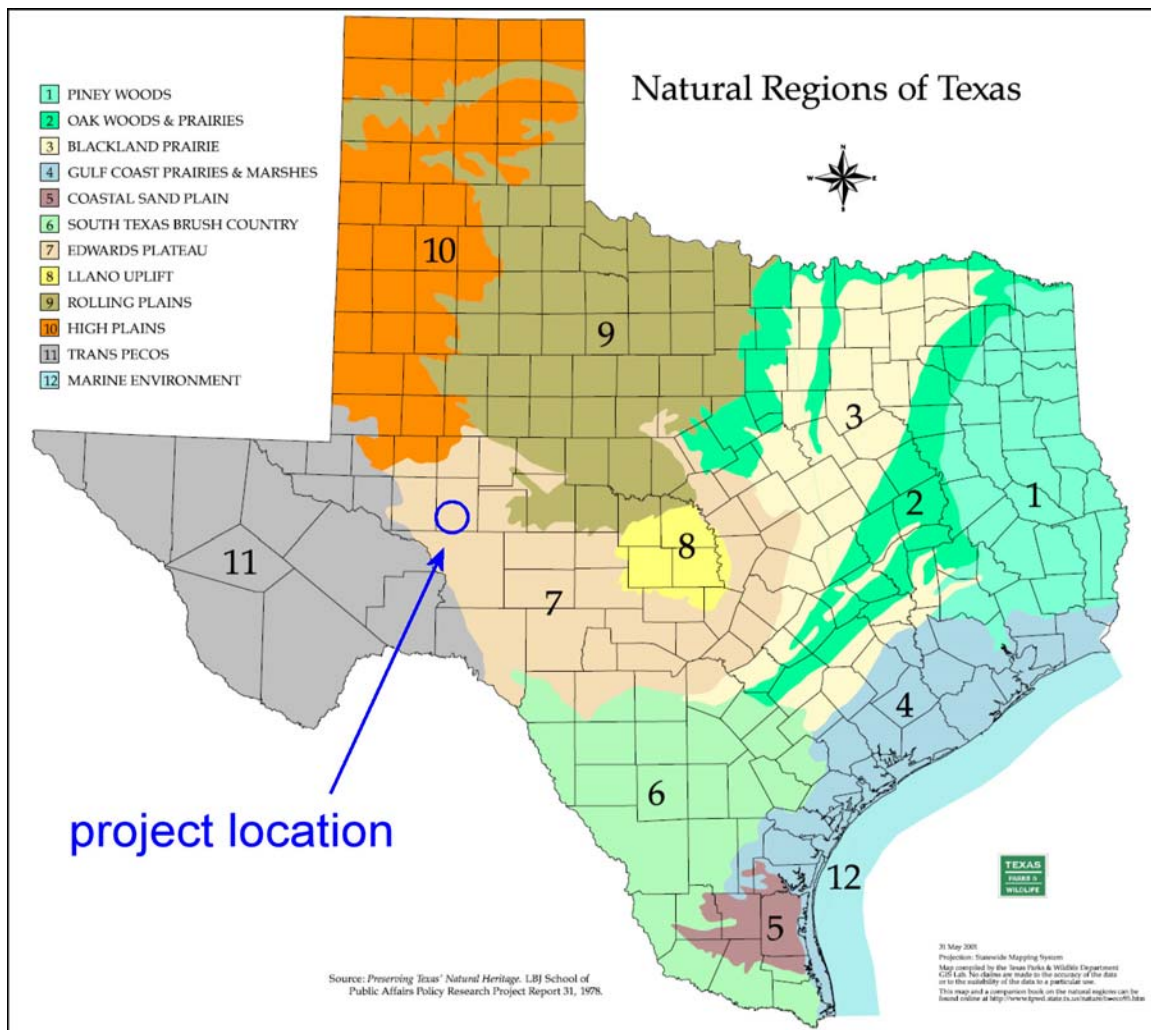


Figure 4. Natural Regions of Texas (source: Texas Parks & Wildlife)

Hydrology

Ferguson (1986) more aptly called this arid crest of the Edwards Plateau the Eldorado Divide since water sheds north to the Concho system, south and west into the Pecos and Devils rivers, and east to the Llano and San Saba drainage. The surveyed tract has no well-defined or named water features, but drains generally to the southeast and is a part of the Big Lake Draw watershed that leads to the Big Lake Depression which has no outlet. The Big Lake is the largest playa in Texas and attracted occupation throughout prehistory.



Figure 5. General environment.

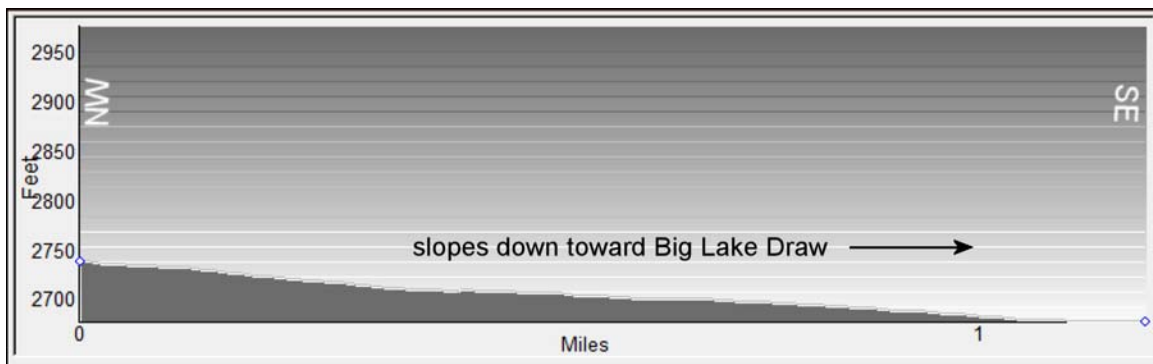


Figure 6. Elevation profile. (source Terrain Navigator)

Soils

Area soils consist entirely of the order Aridisols, which are CaCO_3 -containing soils of arid regions that exhibit at least some subsurface horizon development. They are characterized by being dry most of the year and limited leaching. Aridisols contain subsurface horizons in which clays, calcium carbonate, silica, salts, and/or gypsum

have accumulated. Materials such as soluble salts, gypsum, and CaCO_3 tend to be leached from soils of moister climates (CALS).

The predominant soils along the proposed ROWs in order of prevalence are Reagan loams and Conger-Reagan association, the parent material of both being alluvium derived from limestone (Figure 7). The terrain drains to the southeast at a maximum slope of 3 per cent.

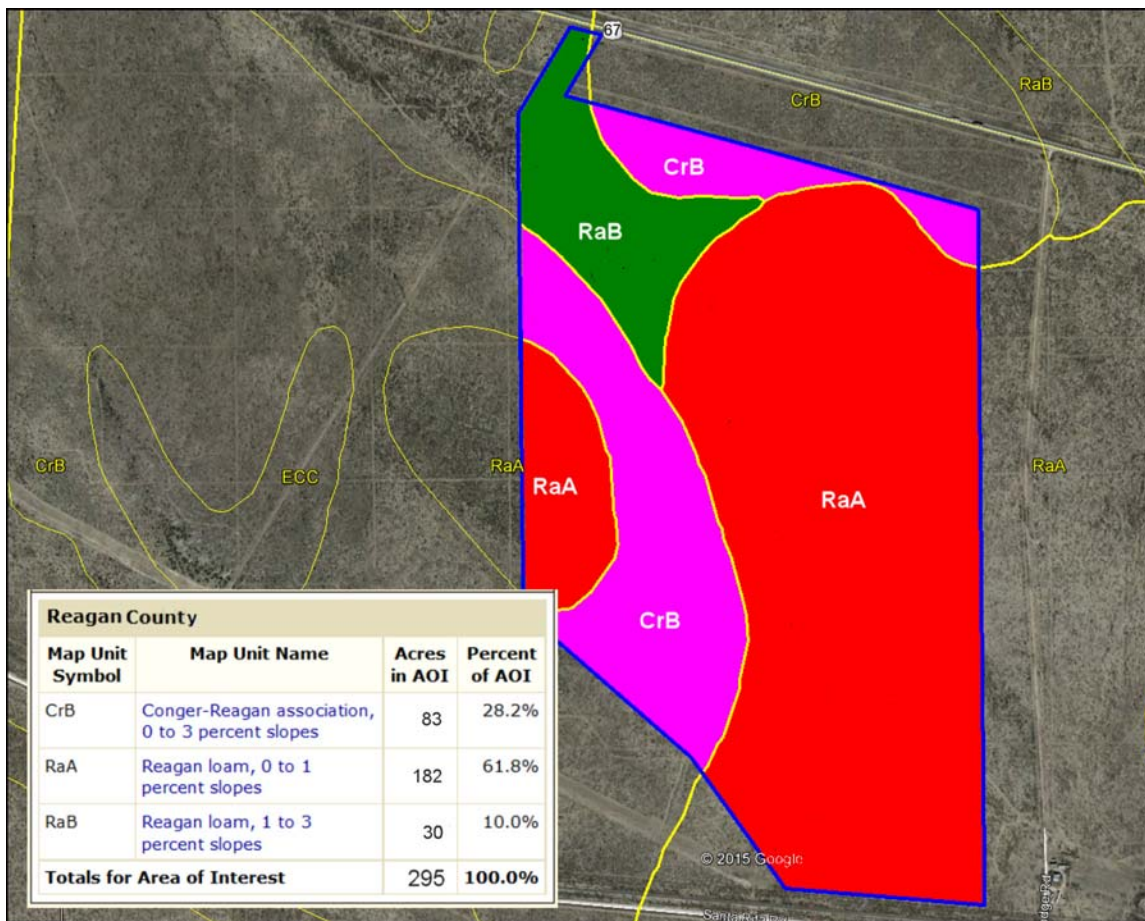


Figure 7. Soil map of proposed facility (source: NCSS and GoogleEarth)

PREVIOUS INVESTIGATIONS

Reagan County has over 360 recorded archeological sites of which two have been designated State Antiquities Landmarks (SAL) - an early military firing range associated with Camp Grierson (Riemenschneider and Turpin 2001) and the Old Reagan County Courthouse which has also been listed on the National Register of Historic Places (NRHP). The first site recordings in Reagan County were historic stage stops and a military post, Camp Grierson, both of which were investigated by the Midland Archeological Society (41RG1-3). At the other end of the time scale, an early bison kill site was excavated in the bed of the Big Lake where it had been buried under a massive sand dune (Turpin et al. 1997). However, most of the sites are open camps with hearths and/or burned rock middens.

Over 285 of Reagan County's previously recorded sites have been added within the last four years, most as a result of reconnaissance surveys preceding the clearing of grub lines to facilitate access by seismic testing vehicles. The area of the current survey is within the project boundaries of three of these seismic projects, the South Big Lake 3D Seismic project (Burgess and Turpin 2012a), the Central Big Lake 3D Seismic project (Burgess and Turpin 2012c), and partially within the Global 3D Seismic project (Burgess and Turpin 2012b). No archeological sites were recorded during any of these reconnaissance surveys in the current project area. Reconnaissance surveys associated with five other recent seismic projects also operated in Reagan County during 2011 to 2014 but in areas not overlapping the current project (Burgess and Turpin 2011, 2012d, 2013a-b, 2014). Also, in June 2104 a block survey for a Terracor Sand Transload facility (Turner 2014), one mile east of the current project area, was completed with negative findings.

Nearby Sites

There are no previously recorded sites in proximity to the proposed facility; the nearest ones are in a cluster of prehistoric sites along Big Lake Draw consisting of a dozen or so right along the drainage roughly a mile south of the survey area. No site boundaries will be crossed by the current project (Figure 8).

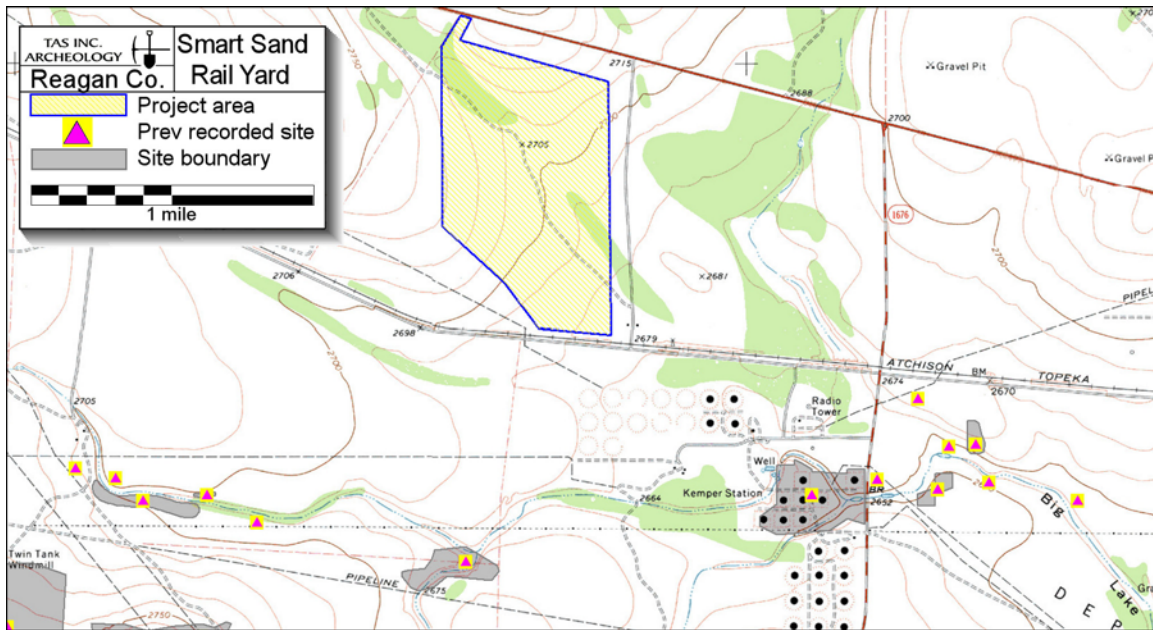


Figure 8. Nearby sites (source: Atlas and Terrain Navigator)

METHODS

Prior to field work, the site files and maps on the Texas Historical Commission's (THC) Archeological Site Atlas were searched for previously recorded site locations and references to archeological surveys undertaken in the vicinity of the proposed facility. Pedestrian survey of the 295-acre tract was conducted by north-south transects spaced at 50-meter intervals. Good surface visibility negated the need to dig shovel tests. No significant archeological remains were identified so no forms were filed or artifacts collected.

SURVEY RESULTS

The proposed Smart Sand Rail Yard lies north of Big Lake Draw on University Land. The area is characterized by gently southeast sloping mesquite scrub land interspersed with patches of short grasses. There are no apparent attractive resources that would have drawn prehistoric people to the vicinity of the proposed facility and no significant archeological remains were identified.

CONCLUSIONS

A total of 295 acres of the Smart Sand Partners, LP's proposed rail yard lies within University Lands. The area was intensively surveyed for cultural resources but no significant evidence of historic or prehistoric occupation or use was found. Therefore, cultural resources present no obstacle to the installation of this facility.

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