

# **THE CAVES OF LUBBOCK COUNTY**

**Edited by James R. Reddell**

**Texas Speleological Survey  
Volume 3, Number 4  
March 1970**

*A Publication of the Texas Speleological Association*



TEXAS SPELEOLOGICAL SURVEY

Vol. 3, No. 4

THE CAVES OF LUBBOCK COUNTY

Edited by James R. Reddell

A Publication of the  
Texas Speleological Association

March 1970



# TEXAS SPELEOLOGICAL SURVEY

Editor  
A. Richard Smith

## Staff

Carl E. Kunath  
Terry Raines

James R. Reddell  
William H. Russell

## THE CAVES OF LUBBOCK COUNTY

### GEOLOGY

By A. Richard Smith

Lubbock County is located in the southern High Plains province, almost within the Texas Panhandle. It has a hot, dry climate with cold winters and has an average rainfall of 18 inches. Lubbock, home of Texas Tech University, is the county seat.

The caves of Lubbock County are all located around the rim of Buffalo Springs Lake, which was formed by damming up the North Fork of the Double Mountain Fork of the Brazos River. The lake is a few miles southeast of Lubbock and is readily reached by paved roads. Yellow House Canyon, the valley of the North Fork, is about 100 feet deep from the surrounding plain to the lake surface. All of the known caves are found in the upper 25 feet of the canyon walls.

The plains of Lubbock County are formed on the Ogallala Formation of Tertiary age. The Ogallala consists of silt, sand, and gravel eroded from the Rocky Mountains to the northwest and spread by rivers and streams as a broad sheet over the High Plains of Kansas, Oklahoma, and Texas. By mechanisms not yet fully understood, a kind of limestone called caliche (kuh lē' chē) was deposited near the land surface in the capillary groundwater zone at the top of the water table. The caliche is commonly found within a few feet of the present level surface and extends downward as much as 30 feet. The caliche zone is usually harder toward the top and grades down into underlying Ogallala sands. Locally, more than one zone of caliche may indicate varying levels of the water table. A typical caliche zone up to 20 feet thick is now exposed in the upper parts of Yellow House Canyon around Buffalo Springs Lake; all of the caves occur in this zone.

As the banks of Yellow House Canyon were eroded, water leaked from the lower exposed sands, causing compaction of the sand as water pressures declined. In addition, the sand may have moved slightly toward the open valley as erosion of the valley walls continued. The net result has been fracturing, or jointing, of the caliche caprock around the edge of the canyon as support of the underlying sands gave way. Since caliche (like any limestone) is soluble in CO<sub>2</sub>-rich ground water, solution began to act on the joints and on more soluble parts of the caliche zone, resulting in the caves much as we see them today.

Wind erosion may also play an important role in the ultimate enlargement of the caves. On spring days when surface winds often exceed 30 miles per hour, some or all of these caves are wind-whipped, with the wind carrying silt and fine sand particles. If solution has loosened quartz

particles contained in the caliche, wind is probably the agent responsible for their final removal.

At the present time the caves of Lubbock County, although small, are intriguing and worthy of continued study since they are the only caves known in Texas in caliche.

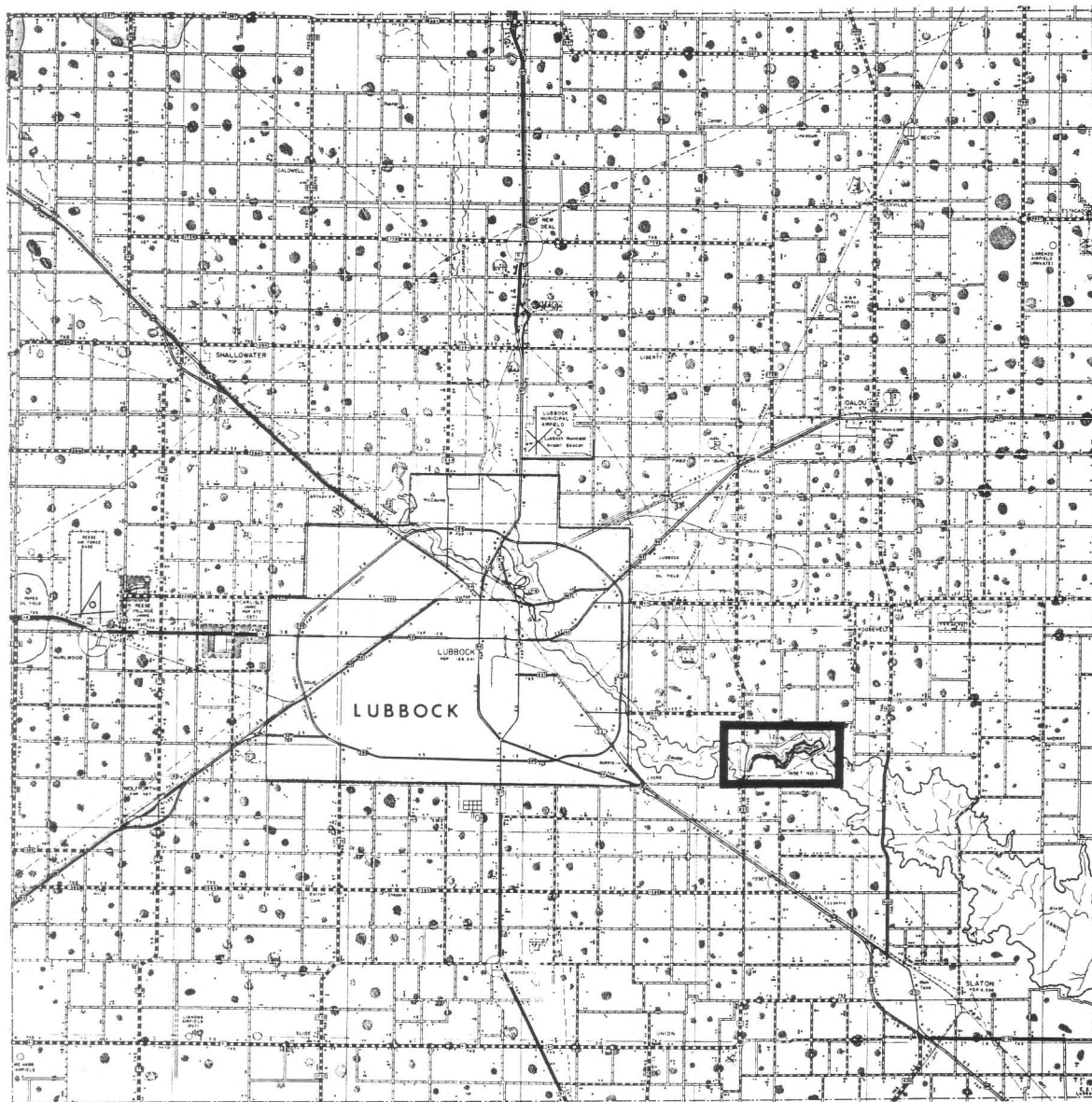
The Texas Speleological Survey gratefully acknowledges the assistance of Bill Elliott and Suzanne Fowler Wiley of Texas Tech University, who mapped \*\*\*\*\* Cave. Jon Vinson redrafted all the maps except that of \*\*\*\*\* Cave and the location maps. Bill Elliott drafted the map of \*\*\*\*\* Cave.

# INDEX TO THE CAVES OF LUBBOCK COUNTY

NO.	NAME	LENGTH	DEPTH	PAGE
1.	***** Cave	50'	0'	7
2.	Big Cave	25'	15'	7
3.	Buffalo Lakes Cave	40'	12'	8
4.	Buffalo Lakes Shelter Cave	30'	10'	8
5.	Climb-Into Cave	30'	10'	8
SHELTERS AND DOUBTFUL CAVES				
1a.	Almost a Cave	20'	10'	15
2a.	Box Shelter	11'	0'	15
3a.	Buffalo Lakes Crawl	15'	0'	15
4a.	Overlook Shelter	20'	0'	16
5a.	Stovepipe Hole	12'	11'	16







CAVE AREA



0 5 MI.

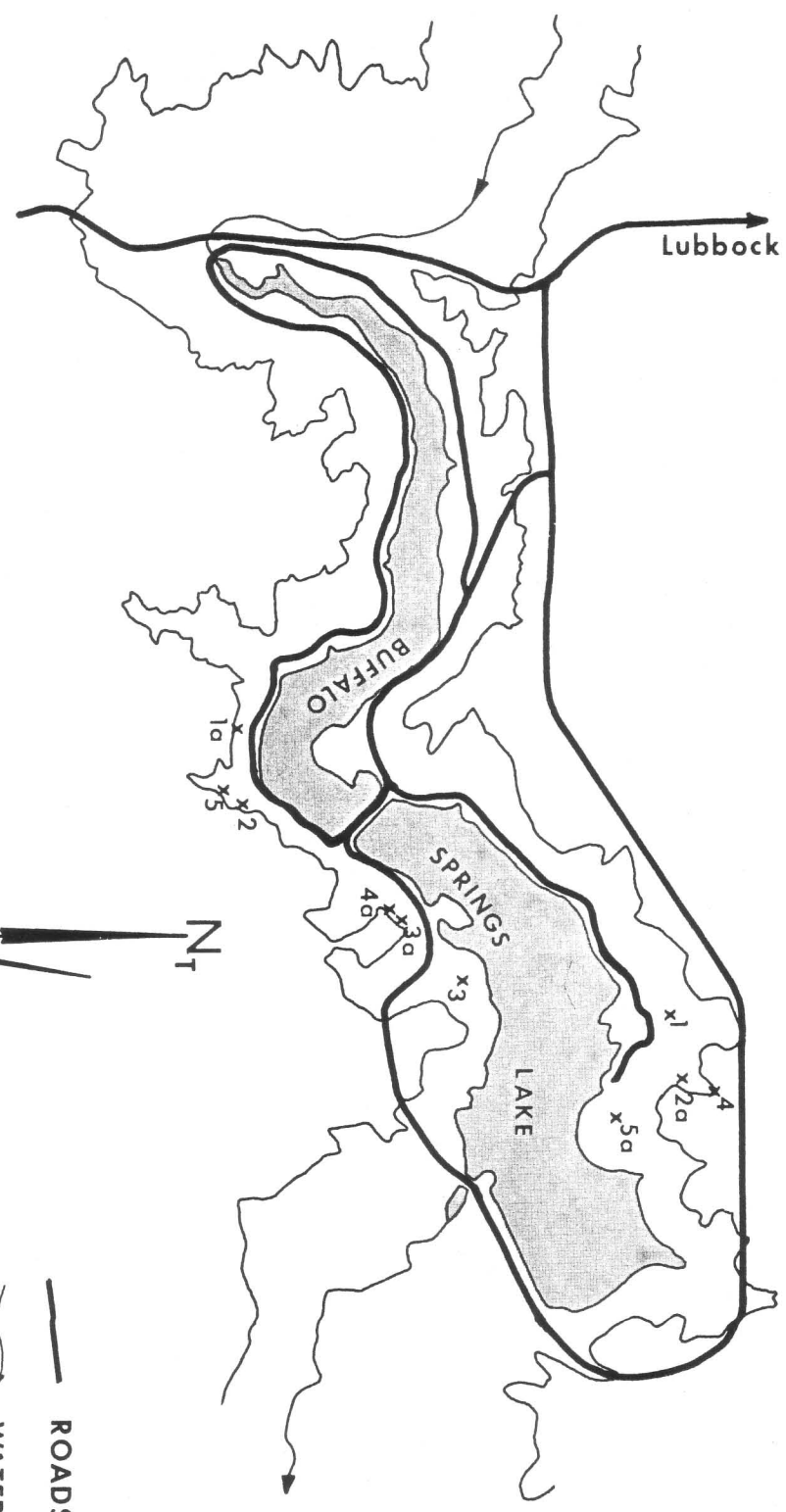
LUBBOCK COUNTY  
TEXAS

# BUFFALO SPRINGS LAKE

LUBBOCK CO., TEXAS



- ROADS
- WATER
- SCARP
- CAVE



\*\*\*\*\* CAVE

Lubbock County (#1)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The main entrance to the cave is about four feet wide and twelve feet high. A passage extends about 12 feet before turning abruptly to the right. A small crawl immediately opens into a room six feet high, 8 feet long, and six feet wide. Another abrupt ceiling drop forces a crawl of a few feet into a third "room" extending to the right. This "room" or passage is 9 feet high, 12 feet long, and 6 feet wide and opens onto the cliff face through an entrance about 2 feet wide. Both entrances are at the base of a cliff at the mouth of a side canyon entering Yellow House Canyon. On days when a strong wind is blowing, the cave acts as a wind tunnel and considerable silt is flown through the cave. (See map, page 9)

History: Before recent development of the area and subsequent building of houses along the lake front, the cave was visited frequently by campers and served as a trysting place for lovers. It was discovered by James Reddell in the early 1950's and rediscovered by A. Richard Smith, Suzanne Wiley, and James Reddell in 1969. It was mapped on November 1, 1969, by William Elliott, John Reeves, Jon Vinson, and Suzanne Wiley.

Ref: TSS files

BIG CAVE

Lubbock County (#2)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The entrance to Big Cave is located about 100 feet above the highway on the south side of the lake and on the east side of a deep gully cut back into the canyon wall. It is 12 feet high and 20 feet wide. The cave extends back about 25 feet, curving to the right and narrowing to about 10 feet. On the left side of the room a chimney extends about 5 feet to the surface while a third entrance is about 10 feet from the main entrance and near the right wall. On the right wall about 4 feet above the floor there is a small alcove extending a few feet. The floor of the cave is clay and rocks and slopes up toward the back.

History: An easily followed trail leads up to the cave, indicating that it is frequently visited. The only recorded trips by spelunkers have been by James Reddell in 1964 and by James Reddell, Suzanne Wiley, and A. Richard Smith in 1969.

Ref: TSS files

BUFFALO LAKES CAVE

Lubbock County (#3)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The entrance to this cave is on the south side of the lake and is an easily-seen opening five feet high and three feet wide. It opens into a room about seven feet wide, ten feet long, and seven feet high. At the back of the room over a five-foot high ledge is a junction. To the left is a dead-end ten-foot long crawlway; straight ahead the passage extends for ten feet, passing beneath a six-foot skylight entrance, to a two-foot high vertical entrance. To the left a tight squeeze over rubble leads to a fourth entrance. A spider and centipede were seen in the entrance room. (See map, page 11)

History: This cave is among the more frequently visited in the lake area. It was mapped by James Reddell on August 20, 1962. A later trip was made by A. Richard Smith, Suzanne Wiley, and James Reddell in 1969.

Ref: TSS files

BUFFALO LAKES SHELTER CAVE

Lubbock County (#4)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: Two horizontal entrances, located at the base of a cliff in a side canyon of Yellow House Canyon, lead directly into a three- to five-foot high shelter-like chamber floored with loosely packed silt and rocks. Both entrances are about four feet high and wide. At the back of the "shelter" a slope leads up to a three-foot diameter opening on top of the bluff. (See map, page 13)

History: The cave was explored and mapped by James Reddell on August 20, 1962. It has been revisited by Suzanne Wiley, A. Richard Smith, and James Reddell in 1969.

Ref: TSS files

CLIMB-INTO CAVE

Lubbock County (#5)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The entrance to this cave lies somewhat south and west of Big Cave. To gain access, it is necessary to climb up a vertical face for about 10 feet. The cave entrance is about 10 feet wide and six feet high and curved. The walls of the cave narrow towards the back, and the room ends about 20 feet from the entrance. A second entrance on the right side of the room extends vertically up for seven feet to the top of the bluff. The total length of the cave is about 30 feet.

# \*\*\*\*\* CAVE

Lubbock County, Texas

Brunton and tape survey by

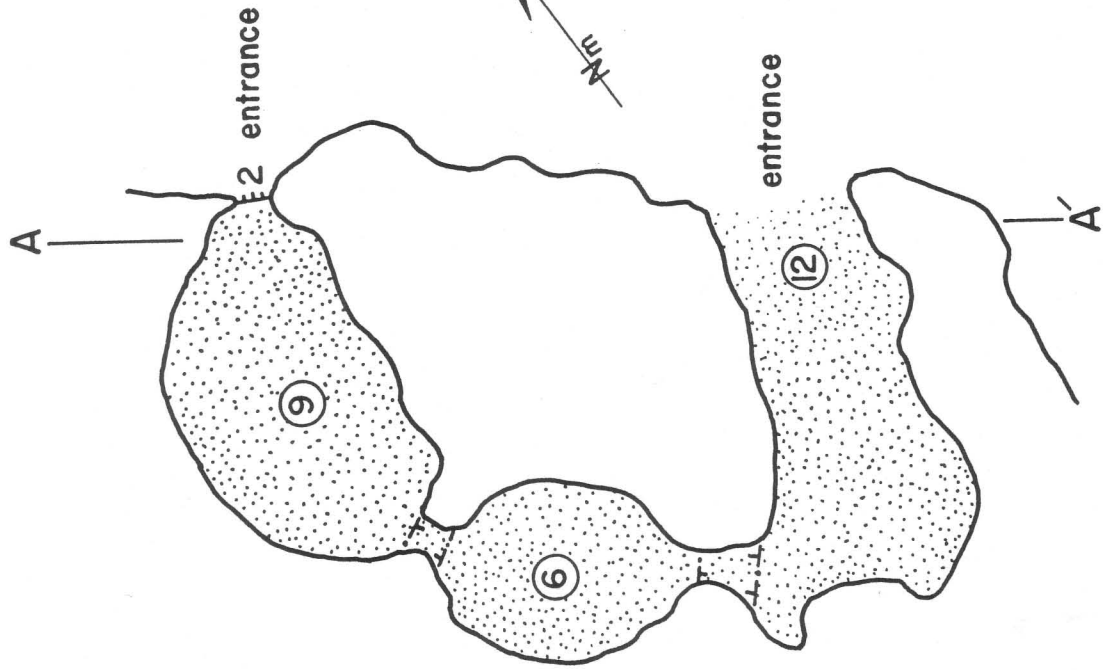
William Elliott, John Reeves,

Jon Vinson, and Suzanne Wiley

November 1, 1969

Drafted by William Elliott

TSS



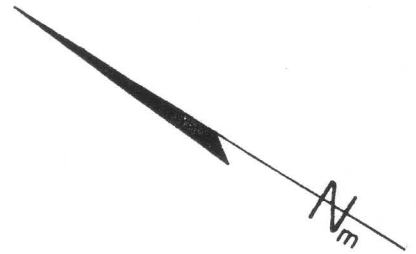


# BUFFALO LAKES CAVE

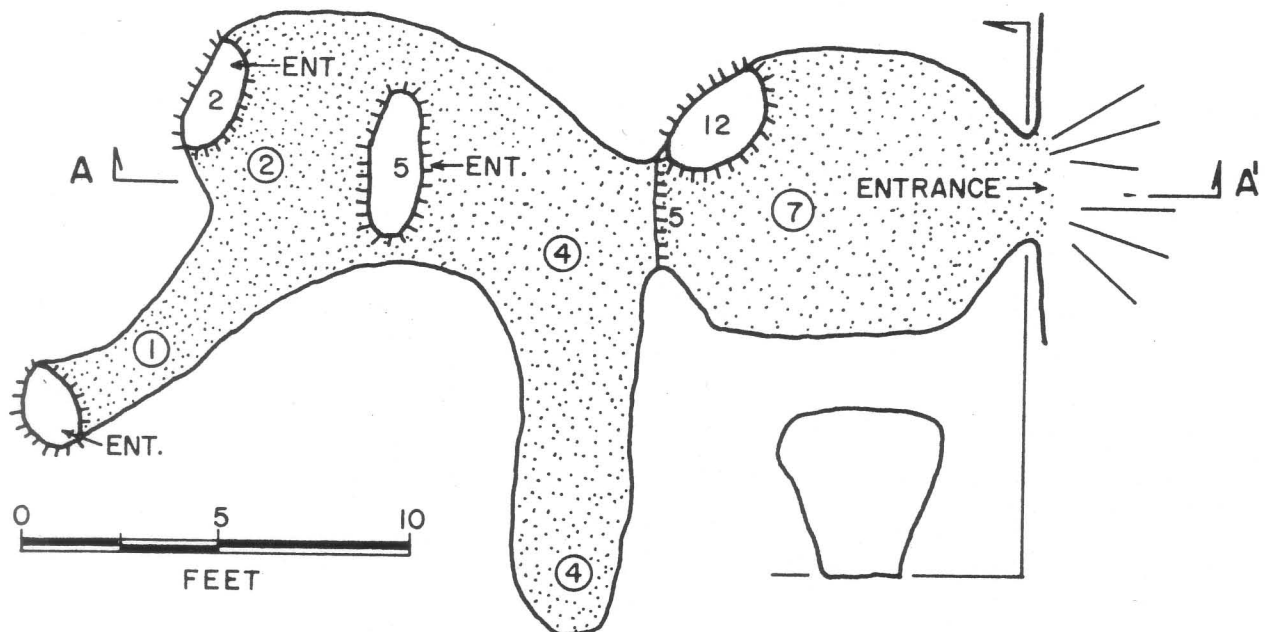
LUBBOCK COUNTY, TEXAS

BRUNTON & TAPE SURVEY 8-20-62 BY:

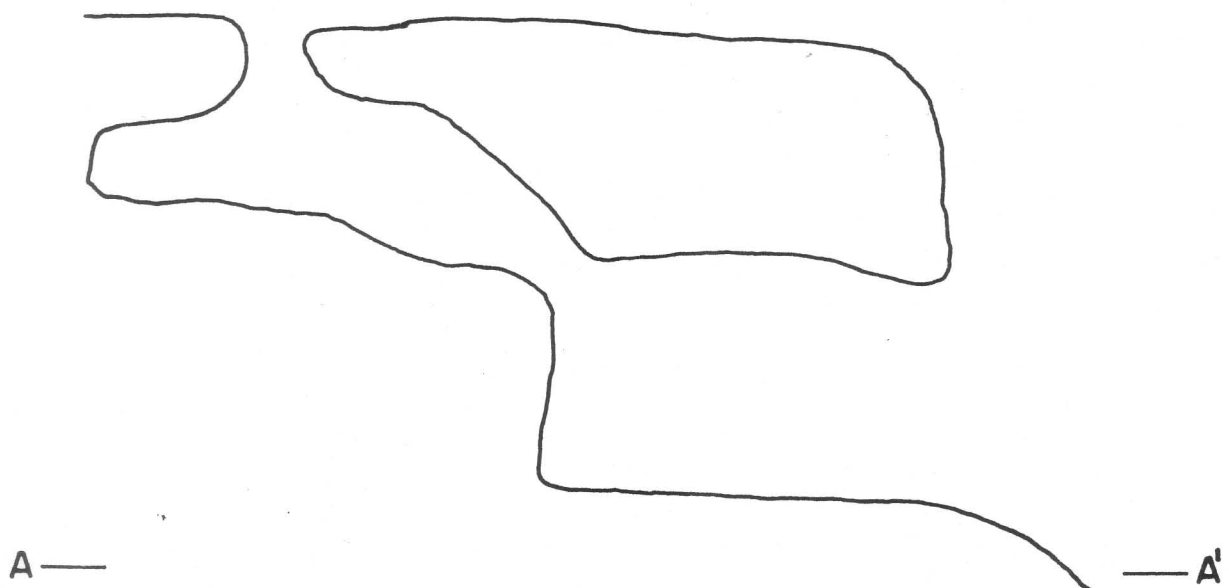
JAMES REDDELL



## PLAN



## PROFILE





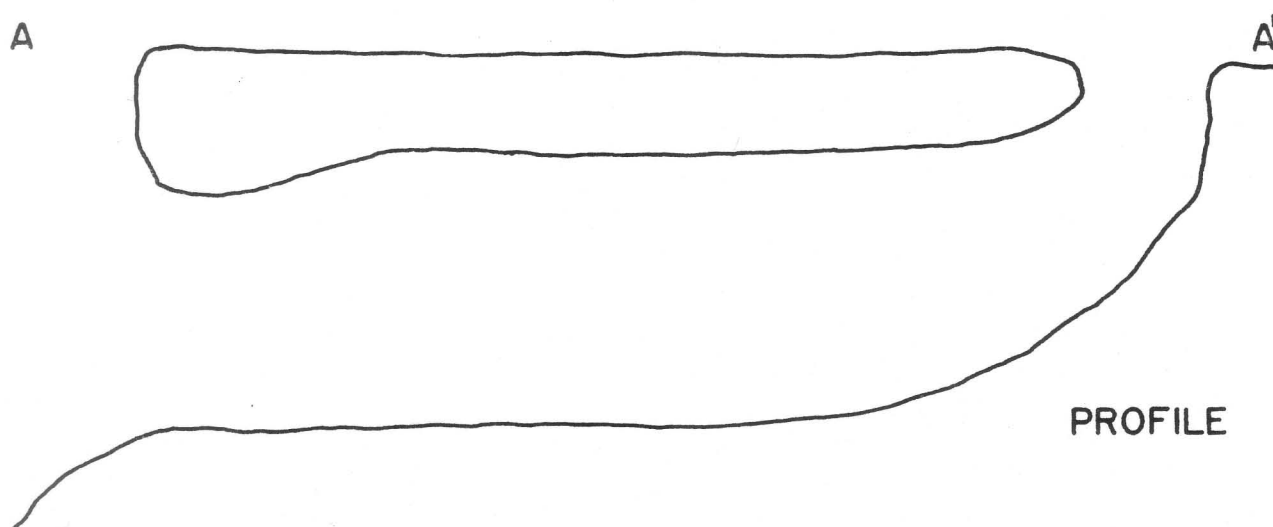
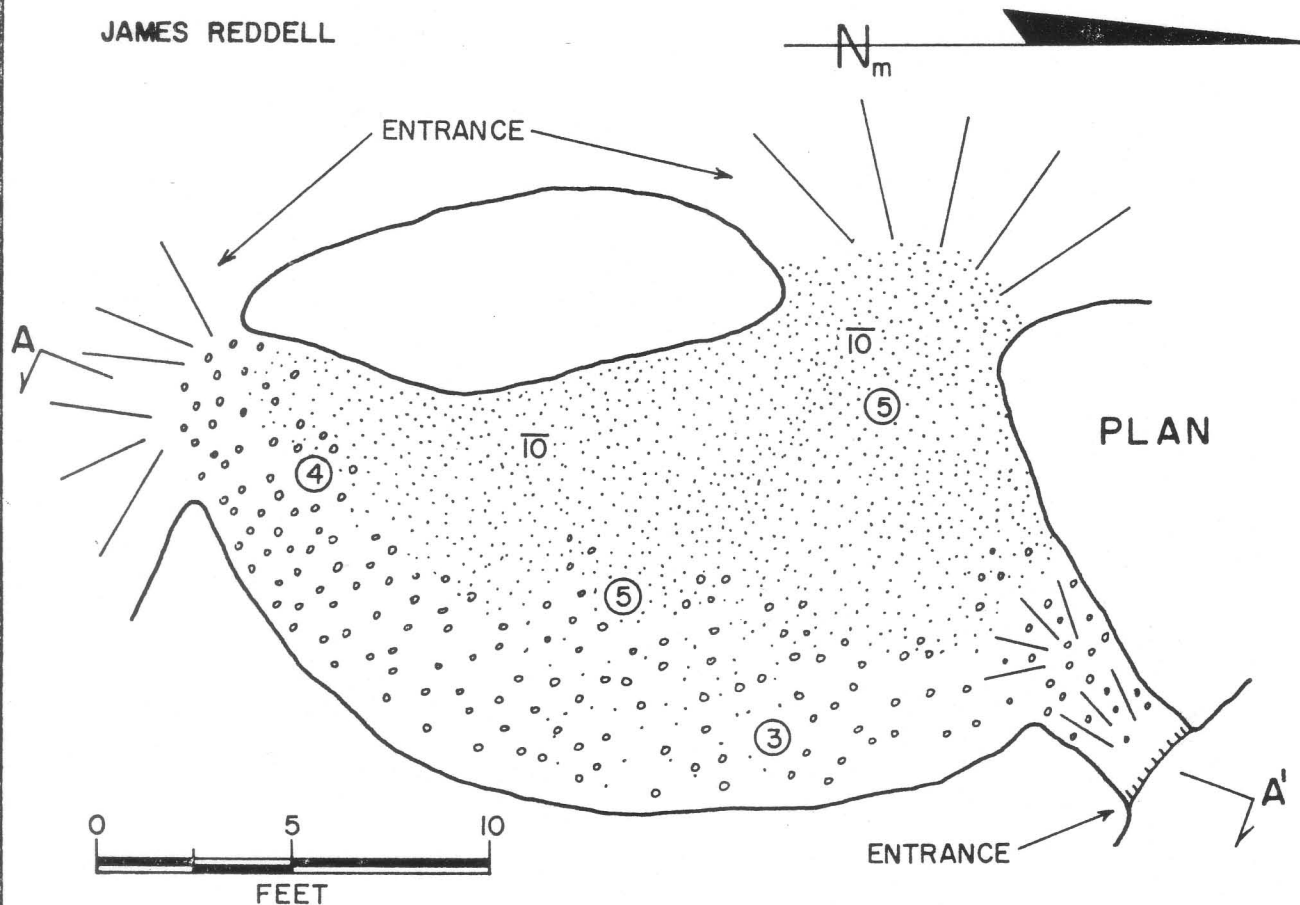


# BUFFALO LAKES SHELTER CAVE

LUBBOCK COUNTY, TEXAS

BRUNTON & TAPE SURVEY 8-20-62 BY:

JAMES REDDELL





History: The cave was first explored by James Reddell in 1964. It was revisited in 1969 by Suzanne Wiley, A. Richard Smith, and James Reddell.  
Ref: TSS files

#### SHELTERS AND DOUBTFUL CAVES

##### ALMOST A CAVE

Lubbock County (#1a)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: A 10-foot wide entrance, about six feet high, leads to a passage extending in for a few feet before sloping steeply up to a second entrance on top of the bluff. Total length of the cave is about 20 feet. It was explored by James Reddell in 1962.

Ref: TSS files

##### BOX SHELTER

Lubbock County (#2a)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The entrance to Box Shelter is located on a sheer cliff at the head of a side canyon of Yellow House Canyon. It is about four feet wide and seven feet high. The only passage extends back twelve feet before ending abruptly. The cave was mapped by James Reddell on October 5, 1962. (See map, page 17.)

Ref: TSS files

##### BUFFALO SPRINGS LAKE CRAWL

Lubbock County (#3a)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The entrance to Buffalo Springs Lake Crawl is a three-foot high, five-foot wide opening located at the base of a cliff overlooking Buffalo Springs Lake. A passage, slightly larger than the entrance, extends about eight feet before enlarging to eight feet wide and turning left. The ceiling gradually lowers to one foot before the passage is blocked by breakdown from a shallow, filled surface sink on top of the cliff. The cave was mapped on December 28, 1961, by James Reddell. (See map, page 19.)

Ref: TSS files

OVERLOOK SHELTER

Lubbock County (#4a)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: Two entrances five feet apart, each about four feet wide and high, are located at the base of a cliff overlooking Buffalo Springs Lake. They lead immediately into a concave, flat-floored "room" five feet high and 12 feet long. It was mapped on December 28, 1961, by James Reddell. (See map, page 21.)

Ref: TSS files

STOVEPIPE HOLE

Lubbock County (#5a)

Buffalo Springs Lake 7.5' Quadrangle

Owner: City of Lubbock

Description: The single horizontal entrance to Stovepipe Hole is located at the base of a cliff near the mouth of a side canyon entering Yellow House Canyon. The entrance is two feet high and three feet wide, opening into a single room six feet wide, twelve feet long, and five to six feet high. Near the center of the room a hole in the ceiling opens onto the surface above the cliff-face eleven feet up. The cave was mapped by James Reddell on December 28, 1961. (See map, page 23.)

Ref: TSS files

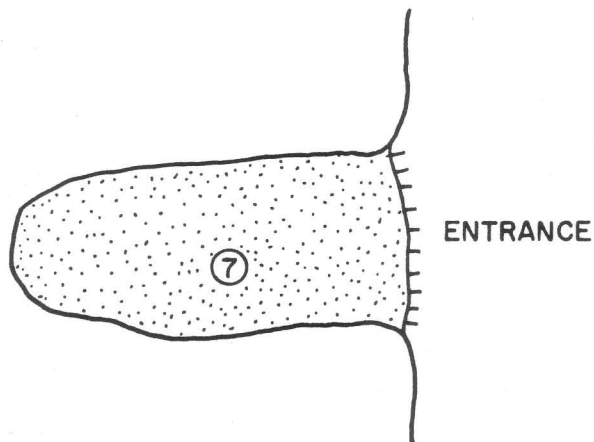
# BOX SHELTER

LUBBOCK COUNTY, TEXAS

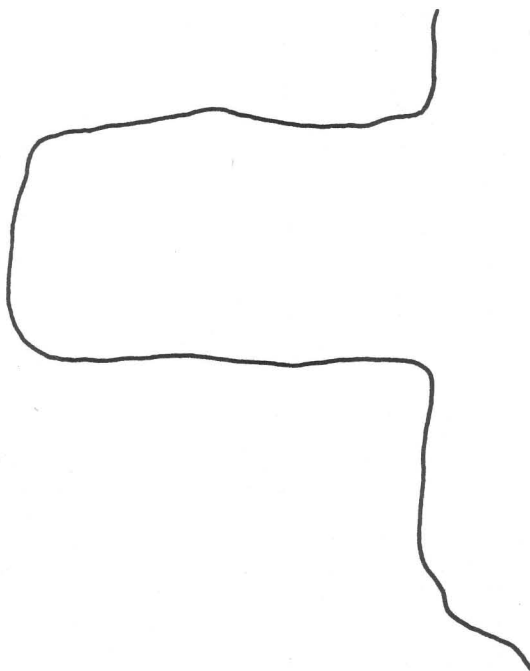
SKETCH MAP 12-28-61 BY:

JAMES REDDELL

PLAN



PROFILE





# BUFFALO SPRINGS LAKE CRAWL

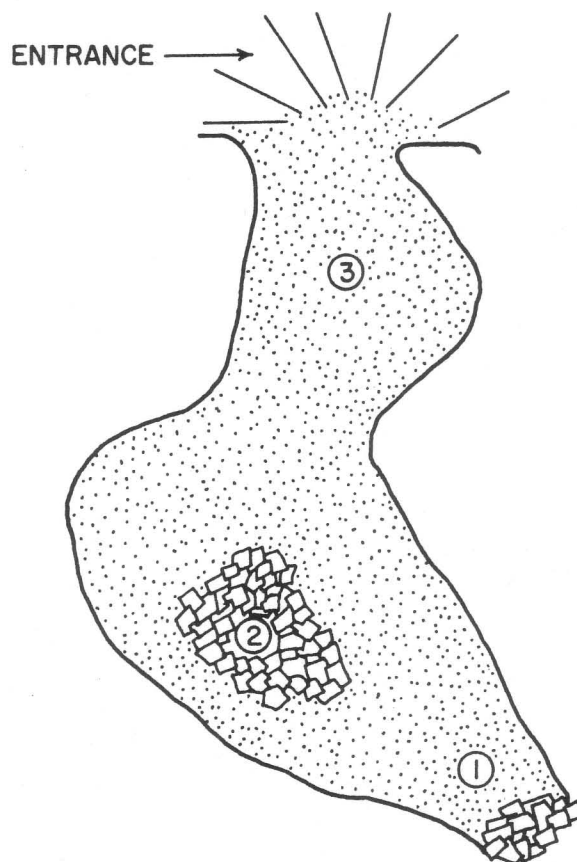
LUBBOCK COUNTY, TEXAS

SKETCH MAP 12-28-61 BY:

JAMES REDDELL



PLAN





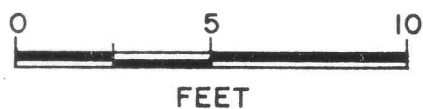


# OVERLOOK SHELTER

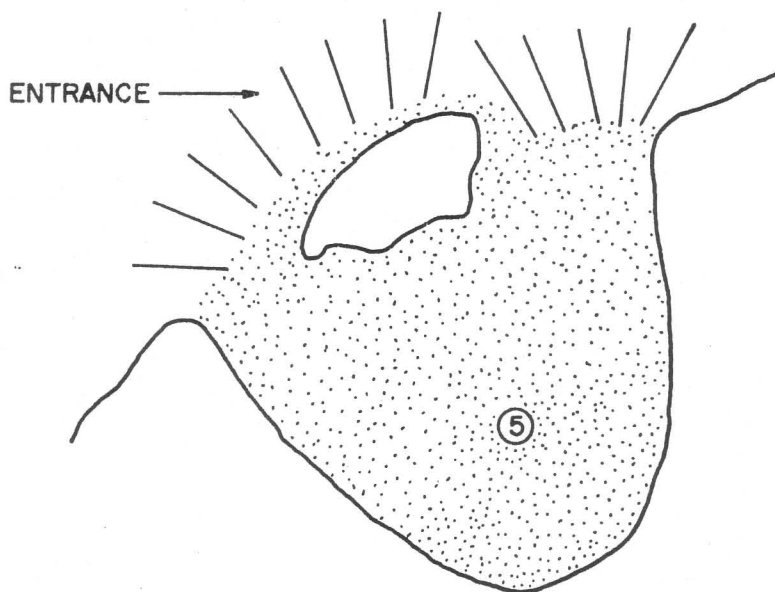
LUBBOCK COUNTY, TEXAS

SKETCH MAP 12-28-61 BY:

JAMES REDDELL



PLAN





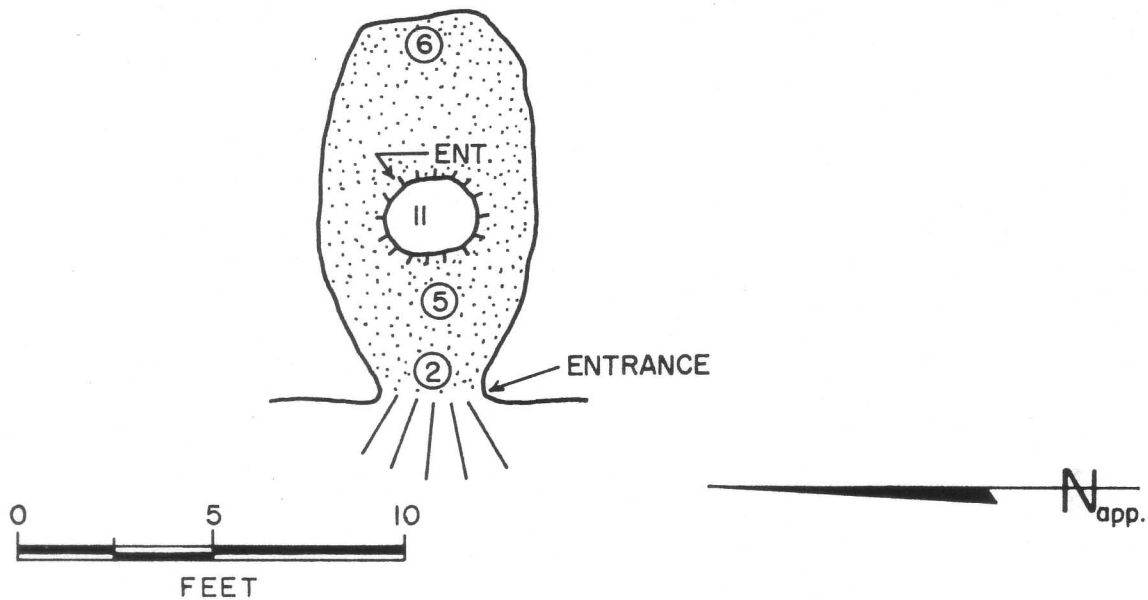
# STOVEPIPE HOLE

LUBBOCK COUNTY, TEXAS

SKETCH MAP 12-28-61 BY:

JAMES REDDELL

PLAN



PROFILE

