FORT SILL, INDIAN TERRITORY.

Report of Acting Assistant Surgeon H. S. Kilbourne, United States Army,
Dated September 24, 1870

Fort Sill is situated on the Comanche, Kiowa, and Apache reservation, Indian territory; latitude 34° 40′ north, longitude 98° 25′ west; elevation above the sea, 1,700 feet. The post is near the confluence of Medicine Bluff and Cache Creeks, on the south bank of the former. Fort Smith, Arkansas, is 275 miles east; Fort Richardson, Texas, 110 miles south; Camp Supply, 190 miles northwest; and Fort Arbuckle, 75 miles east. The post is situated at the eastern extremity of the Wichita Mountains. Mount Scott, the highest peak and eastern spur of the range, is 9 ½ miles in a right line from the post. Several hills belonging to the range intervene, among which are the noted Medicine Bluff's, one mile west by north. Washita River is 30 miles north, Red River, 45 miles south. Fort Sill was located by General Grierson in June, 1868, under the name of "Camp Wichita," and was first occupied by four companies of the Tenth United States Cavalry in January, 1869. It was selected by Major General Sheridan as a base of operations against the Cheyennes and Kiowas, in his winter campaign of 1868-'69, and from that date has been the military center of the reservation of Comanches, Kiowas, and affiliated bands of the Wichitas, Keechies, Wacoes, and Caddoes. The military reservation upon which the post is situated is six miles long (east and west) by three miles broad, (north and south,) and is a quadrangle. Within its boundaries are included the confluence of Cache and Medicine Bluff Creeks, and the timber and bottom lands which fringe and skirt those streams, the hills called Medicine Bluffs, the Indian commissary buildings, lime-kilns, quarries, &c.

Cache Creek flows through the reservation from the north, through a valley ranging in width from one-half to three miles, having on each bank a belt of timber from 100 to 500 yards wide. It takes a southerly course, and discharges its waters into Red River, 45 miles from the post. The region through which it flows is well covered with fine grass. Medicine Bluff Creek rises in the northeastern portion of the mountains, and flows through a broken and abrupt region to its junction with the Cache; there are small areas of fertile bottom lands along its course.

The Wichita range of mountains extends from the northwest corner of the military reservation westward for about 50 miles. The width of the chain is from 5 to 15 miles. The highest peak is Mount Scott, at the northeast extremity of the range; it has an elevation of 1,135 feet above the waters of Medicine Bluff Creek. Mount Webster, at or near the western extremity, has nearly the same elevation.

West Cache Creek, the main branch of the main Cache, rises by numerous small streams from the southern slope of the Wichitas, and joins at a point about 10 miles from Red River.

The Indian reservation is of an irregular form, averaging 83 miles in width (north and south) by 120 miles in length, (east and west.) Its boundaries, as determined by the War Department, are as follows; On the east the 98th meridian, on the west the 100th meridian, on the north the Washita River, on the south the Red River; (the north fork of Red River forms the main western boundary.) This region appears, I think, on Dana's geological map of the United States as within the limits of the region covered by the great marine lagoons of the cretaceous period. But, as the rocks and marls are non-fossiliferous, it is inferred that we are not within the ancient shore line of these waters. The vast deposits of gypsum and selenite mentioned by Colonel Marcy as found by him west of the 100th meridian on Red River would seem to indicate that we are east of the cretaceous. The surface soil of the bottoms is a dark sandy alluvium. The Cache flows between abrupt clay banks from 5 to 50 feet in height.

The surface of the prairie is loam and marl, with various admixtures of sand and gravel. Black sand is washed out of the soil near the post by rains. The subsoil is a dingy red clay, with sand. The bed-rock is a light gray limestone, which is ordinarily far below the surface, but crops out occasionally in the hills and at points along Cache Creek; it makes a good quality of lime and fine building material. Quarries have been opened within one mile, of the post, which furnish the rock in any desirable quantities.

The soil of the creek bottoms is very fertile, producing all varieties of plants belonging to this latitude. I have seen no finer agricultural region in the West than the slope between the Wichitas and Red River. Several mineral springs have been found, which will be described under the proper heading.

The largest and finest forest trees are the oaks, cottonwood, and pecans, found in the bottoms. The two former are sufficiently numerous to furnish lumber for building purposes. There are three varieties of the oak, also hackberry, ash, black walnut, elm, and mesquite; among the small trees and shrubs are dogberry and willow. Among the fruits are the wild plum, wild grape, and blackberry; strawberries are found in small quantities. The edible plants are what is known as the prairie pea, the artichoke, and the fruit of one sort of cactus, of which latter there are several varieties. The taraxacum and chenopodium, the latter in large quantities, are seen about the post. There are also a large variety of flowering plants.

The following is a list of wild animals found on the reservation and vicinity: Buffalo, bear, elk, antelope, white-tailed deer, panther, gray wolf, wild rabbit, coyote or prairie wolf, wild cat, otter, squirrel, coon, and a few others of small size.

Among the birds are the wild turkey, wild goose, wild duck, (four varieties;) prairie hen or grouse, snipe, quail, meadow lark, blackbird, and swallow. Cache and Medicine Bluff Creeks furnish the following kinds of fish in small quantities: Catfish, white fish, sunfish, eels, and garfish; the latter stream has also a few trout, in the mountains. Thirteen sorts of game have been killed, besides fish, in one week, among the headwaters of West Cache Creek, where all the above varieties are plentiful in their season.

Both Cache and Medicine Bluff Creeks furnish a plentiful supply of water for all

purposes the year round. There are several springs of good water on the military reserve, and one on the post reserve. The latter is the largest, and is situated on the north bank of Bluff Creek opposite the post; this spring is of sufficient size to furnish water to the post for drinking and culinary purposes. It is proposed to raise the water to a reservoir with an engine for supplying the new post. No wells have been sunk. Several mineral springs have been found on the military reserve.

A bituminous substance resembling coal tar exudes from the soil at a point near the east line. There is a salt spring one mile northwest of the post. Several small springs, holding a small quantity of iron in solution, are found on the southern slope of Medicine Bluffs.

A meteorological register has been kept at this post since April 1, 1870, the necessary books, instruments, and apparatus not being in order until that date. The monthly mean temperature is as follows: April, 62.85°; May, 75.73°; June, 73.97°; July, 81.81°; August, 79.23°. The monthly extremes are as follows: April, highest, 88°; lowest, 40°; May, highest, 94°; lowest, 64°; June, highest, 101°; lowest, 64°; July, highest, 105°; lowest, 64°; August, highest, 106°; lowest, 62°. The amount, of rain-fall in April was 3 ½ inches; no rain in May; in June, 4.60 inches; in July, 4.55 inches; in August, 3.03 inches; total, 15.90 inches. The average annual rain-fall is large.

The map shows that the region lying between the Wichita Mountains and the Red River is a network of streams, receiving their water supply from the southern slope of those mountains. The northern slope towards the Washita River has but two inconsiderable streams, (Elk and Rainy Mountain Creeks.) It is probable that more than two-thirds of the mountain rain-fall is drained off by Cache Creek. This fact is due either to the greater inclination of the southern slope or the influence of the chain on prevailing winds; perhaps to both causes. Vegetation usually commences about the 1st of April. Foliage appears early in May. The warm season is from May to October, inclusive. The winters are mild, the mercury rarely falling below the freezing point in the daytime. Ice forms not to exceed one-half inch in thickness.

The prevailing wind is from the south the year round. In warm weather a daily breeze rises from the south about three hours after sunrise, and blows with more or less constancy until sunset. A cold north wind, the "norther," appears, occasionally at all seasons, and prevails steadily from two to four days at a time, with a temperature of from 10° to 30° lower than the seasonable one. The mercury falls rapidly under its influence, and occasionally the extreme is reached within an hour. The changes of temperature here are generally less marked and sudden than in central Texas. Snowstorms have come most frequently from the northeast. The number of the latter is few, and the amount of snow inconsiderable. Snow fell twice in the winter of 1869-'70, not to exceed two inches in depth.

Fort Sill is situated in the center of the post reservation. The latter is an area of one square mile, situated in the center of the United States military reserve. The ground occupied by the buildings is a plateau of irregular outline, containing an area of about one-half mile square. The sides of this plateau slope in all directions. Its elevation above low-water mark is about 50 feet. All buildings excepting the commissary

storehouse are to be built of the gray limestone previously described. This stone is easily quarried and worked, and when laid into walls presents a bright and fine appearance. The general plan of the post is a square. Its capacity, when complete, will be six companies of cavalry. The lots for each barrack are 200 feet square; those for the officers are each 200 by 106 feet. The number of buildings intended for use as barracks is three. These buildings, of which the walls are now completed, are constructed of gray limestone, unfaced. The inner surface of the walls will not be plastered. Each building is double, and of one story, each division having capacity for the accommodation of a company of one hundred men. The buildings are to be warmed by stoves; they are well lighted by windows on all sides, and ventilated from the ridge. The walls are one and a half feet thick; the external dimensions are 200 by 30 by 12 feet. Two wings, each 60 by 30 by 9 feet, with porches, 10 feet deep, in front and rear. The air space per man is about 388.57 cubic feet, calculated on the basis of one hundred men to each barrack. In the one building now occupied bunks are in two tiers, each for the accommodation of four persons. There are no wash or bath-rooms in the plan. The wing of each set of company quarters contains a mess-room, 27 by 40 feet, a kitchen, 17 by 17 feet, and a store-room, 15 by 17 feet. Laundresses and married soldiers are quartered in tents.

The number of buildings for officers' quarters on the plan is eleven; the walls of six of them are now complete. These buildings are of the same material and style as the barracks, but they are to be lathed and plastered. They are all one story high, double, excepting the quarters of the commanding officer, and each is intended for the accommodation of the officers of one company. Each building contains four rooms, two kitchens, two halls, and a covered porch between the main building and wing, (kitchen.) The outside dimensions are 52 by 34 by 9 ½ feet; wings, 18 by 30 by 9 ½ feet; a porch 10 feet deep, front and rear. There are in each set of quarters two rooms, each 15 by 15 feet, a hall, 8 by 30 feet, a covered porch, 10 by 15 feet, and a kitchen, 12 by 14 feet. The quarters of the commanding officer are of the same style and shape as the others; the dimensions are, exteriorly 52 by 40 by 10 feet. They contain four rooms, 18 ½ by 18 feet, a hall, 10 by 36 feet, a covered porch 10 by 22 feet, and a kitchen, 14 by 18 feet - a porch on all sides. Each room has a fireplace. There are no special arrangements for ventilation. There are no bath-rooms in the officers' quarters.

The buildings for headquarter offices, quartermaster's, and commissary's store-houses are located on the south end of the parade ground on the same line. Their dimensions are as follows; Quartermaster's and commissary's store-houses are each 200 by 30 feet by 12 feet, outside measurement. Each store-house has an office, private office, issuing room, and entry in one end. There is also an ordnance building, 75 by 25 feet, and a second quartermaster's store-house, 120 by 25 feet. The building for the headquarters offices is of the following dimensions: 80 by 30 by 12 feet, outside measurement. It contains a hall and four rooms, each 17 by 20 feet, and a porch in front and rear, 10 feet deep.

The guard-house is located at the southeast corner of the post, near the commissary and ordnance buildings. Its dimensions are 46 by 46 feet, exterior

measurement; the foundation walls are to be three feet in thickness; the upper wall is two feet thick. It contains a hall and four rooms, and has a basement containing four cells for prisoners. Ventilation is by the ridge above and grated windows below. The plan appears to be adequate to the needs of the post, and well adapted to its purpose.

The hospital will be located in the northwest corner of the post; it will be constructed of the same material as the other buildings; its capacity will be twenty-four beds. The plan is the one furnished from the Surgeon General's Office for a building of that size.

The places for post bakery, laundry, chapel, and school-house are yet undetermined.

The stables are located in rear of the barracks, at a distance of 300 feet. They are three in number; each has a capacity for a squadron. Dimensions, 200 feet square. The plan is a square, inclosed by a wall, furnished with sheds on the inside, and open in the center.

The total number of volumes of all kinds in the library is now about five hundred.

The water used for washing and bathing and for general purposes is obtained from Medicine Bluff Creek, a few yards above the post. Except at high water the quality of this water is good, and suitable for all purposes; the impurities, during a high stage of water, are mostly clay, sand, and some organic debris washed down by the stream. Much of the drinking water is obtained from the large spring opposite the post, previously mentioned, and from two smaller ones, one just above and one just below the present post, and from a private well on the premises of the post trader. The water of the creek is supplied by means of water-wagons (tank on four wheels drawn by eight mules) in liberal quantity. The water thus furnished is kept in covered barrels. There are no cisterns or reservoirs at the post.

The efficiency of the natural drainage, both in the new post and of the ground now occupied, is nearly complete. There is a spot of low ground of about 50 yards square in area, lying between the two posts, which is not drained; a small amount of labor is only needed to drain it toward the Creek.

There is no special arrangement for bathing, except at the hospital.

The post garden has an area of about 5 acres. The hospital has no garden as yet. At the present post two officers only have gardens; the area of each is about one-quarter of an acre. Each of the four infantry companies and two of the cavalry of the garrison have cultivated gardens of about two acres area each.

Vegetables, except canned articles, have not generally been supplied by the commissary. It is proposed hereafter to keep a supply on hand. There is no market capable of supplying the post with vegetables, butter, &c., within 50 miles.

Medical supplies are obtained from the medical purveyor at St. Louis, Missouri.

The nearest railroad station is at Fort Harker, Kansas, distance 334 miles. The means of communication with that post are trains, public and private. Communication is somewhat irregular, being liable to interruption by high water in the Washita, Canadian, and Arkansas Rivers - rarely from the attacks of Indians. Mails are usually

regularly received twice weekly. Occasional interruptions occur from high water. The line is one of light wagons from Boggy Depot, Indian Territory, to Fort Sill; at the former place connection is made with the main line from Fort Smith, Arkansas, to Fort Concho and El Paso. The time required to communicate with department headquarters is about ten days.

There are no inhabitants on the Indian or military reservations excepting those authorized by law; these include contractor's men, drovers, and persons adopted into the Indian tribes; also, employés of the Indian agent.

The prevailing diseases during the past year, ending June 30, 1870, have been intermittent fever, acute diarrhea, acute dysentery, and acute catarrh. The malarial influence is predominant at all seasons, and the majority of cases of acute disorders are complicated with it. The water used at the post is not an appreciable cause of disease. The origin of malaria is regarded as being both climatic and endemic. At Fort Arbuckle, in the same latitude, 75 miles east, malarial diseases are much less frequent than at this post. The amount of low, moist ground in the vicinity of the post, the nature of the subsoil, and rapid alterations of heat and moisture are regarded as the endemic causes. An epidemic catarrh of mild form has prevailed once during the past year. The graver forms of pulmonary diseases are not common. Bowel afflictions and rheumatism of the muscular variety are common. Acute rheumatism is rare. Two cases of congestive fever have occurred at the fort, with one death. Malaria has been the bane of the post; probably one-half of the entire garrison have been attacked with some form of malarial disorders.

Work on the new post of Fort Sill was commenced in the summer of 1869, and during that year one building, the commissary warehouse, was completed. This building is constructed of hewn timber, laid one piece upon another, horizontally. All other buildings are of stone. The number of buildings now completed and occupied is nine, as follows: Quartermaster store-houses, two; commissary store-house, ordnance building, headquarter offices, (partly occupied by the library,) one barrack building, quartermaster corral, and two small dwellings adjacent. The walls of the following-named buildings are now nearly completed, viz: Two barracks, six sets of officers' quarters. The former lack only the partition walls, as do the latter.

Foundations for the following-named buildings have been excavated, viz: Five sets of officers' quarters and guard-house. The following have not been commenced: Hospital, bakery, and chapel. The work of construction is still in progress, but with a diminished force of laborers. At the old post the men are quartered in tents, and the officers in log houses.

The commanding officer occupies a frame house.

Statement showing mean strength, number of sick, and principal diseases of white troops at Fort Sill, Indian Territory, for the year 1869.

Year	Mean Strength	Whole number taken sick	Malarial Fevers	Diarrhea and dysentery	Venereal disease	Scurvy	Rheumatism	Catarrhal afflictions*	No. of deaths
1869, (four months)	194.75	90	57	7	2	1	6	15	…

Statement showing mean strength, number of sick, and principal diseases of colored troops at Fort Sill, Indian Territory, for the year 1869.

Year	Mean Strength	Whole number taken sick	Typhoid fever	Malarial Fevers	Diarrhea and dysentery	Venereal disease	Scurvy	Rheumatism	Catarrhal afflictions*	No. of deaths
1869, (six months)	401.83	387	6	256	63	6	1	7	19	9

*Include laryngitis, bronchitis, pneumonia, and pleurisy.

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