

**RS SCM 1894 Camp Pilot Butte Medical History
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Camp Pilot Butte Wyoming
Medical History of Post
from September 1885 to November 12th 1894,
New #156

Special Report on
Camp Pilot Butte, Rock Springs Wyoming
By
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Camp Pilot Butte, Wyoming.

Situation & Establishment

[1] Camp Pilot Butte, Wyoming is situated on the north bank of Bitter Creek in the town of Rock Springs. Latitude 41° 39' north, longitude 109° 30' west and at an altitude of 6260 feet above the sea level. The Camp was established in September 1885 on account of an anti-Chinese riot in which several Chinamen lost their lives. The ground and buildings are the property of the Union Pacific Railway.

Geology

The geological formations of the neighborhood are cretaceo-tertiary, the two periods not being sharply differentiated. The town is surrounded by low cliffs and foot hills of sandstone and argillaceous deposit. The sandstone carries much iron and the cliffs and outcrops are worn into fantastic shapes and are variously colored. The strata generally dips toward the north. Water worn pebbles of agate, quartz and conglomerate and marine fossils, *Ostrea* and *Corbula*, prove the existence of immense inland seas in time past. Many of the lower foothills show no outcrop, but are covered by surface debris. The town is built on level ground on both sides of Bitter Creek gulch.

Soil

The soil sterile and alkaline consists of debris washed from ? [2] hills, packed hard and perfectly dry. It crumbles easily into a fine dust and has an average depth of fifteen feet to bed rock. Underlying the sandstone are immense beds of fine bituminous coal (Lignite). This is extensively mined forming the main industry of the town, giving employment to over 2000 miners. The climate of Rock Springs is very dry and temperatures vary between wide limits.

***Table I

Monthly Maximum Minimum and Mean Temperatures 1889-1892 inc.
Month Max. Min. Mean (Degrees. F.)

January 50 -30 15.5

February 54 -17 24.0

March 66 -19 32.2

April 79 9 41.8

May 88 24 52.3

June 93 28 59.5

July 97 36 67.9

August 95 29 65.7
September 89 23 55.9
October 83 11 41.9
November 68 11 28.9
December 52 27 19.1

***Table II

Annual Maximum Minimum Average Precipitation, includes 1889-1892

Maximum (1890) 14.37
Minimum (1889) 4.31
Average 1889-1892 inc. 10.61

Snow falls of from one to twelve inches are common in Fall, Winter and Spring, but owing to the almost constant high winds, measurements are very unreliable. Within a day or two after a snowfall all is generally blown away. Rain is very rare, and would not average over 3 inches a year. The prevailing winds are from W. & SW. This is the case two [3] thirds of the time. The weather is liable to most sudden changes, the thermometer frequently showing a range of 40° in twenty-four hours. A range of 60° has occurred and the average range may be put down as in the neighborhood of 30°. The great plague of the place is dust. Nearly every day in summer and not infrequently in winter a dust storm occurs sometimes lasting only an hour or so, again lasting the entire day and night. At such times the dust is stifling and is invariably blown from the west. Everything indoors as well as out is covered, windows and doors being of no avail in keeping out the fine powdery dust. Even when the atmosphere is still, little whirl winds form, gather up dust, ashes, refuse etc, and after sweeping some part of the town, suddenly break scattering their contents over quite a different neighborhood. This is in my opinion the gravest danger, as regards the spread of disease in the town. At the same time the almost constant westerly winds, sometimes attaining the violence of a hurricane, must be ? against the general and even

unsanitary condition of the town and must counter [4] balance many, other-wise fertile sources of disease.

Topography of Camp and surroundings

(A plan of the post is herewith enclosed [which was not found—Ed])

The ground on which the camp is situated is perfectly level and 5 1/2 acres in extent. The parade is the natural earth covered with a layer of cinders. The only vegetation is found in small grass plots in front of the officers quarters, planted on soil brought from a distance, and kept in good condition by constant waterings. The gulch of Bitter Creek to the southwest of the camp is twenty-five feet in depth and in the spring contains several feet of water with a rapid current. The rest of the year the gorge is dry, with the exception of stagnant pools of water pumped into the ravine from its several coal mines or discharged from the camp sewers. The sides of the ravine as it goes through the town are sometimes precipitous again consist of benches & gutter slopes and when this is the case, dug-outs and shanties of all kinds are built & are thereby inhabited by the lowest class of people, the bed of the creek is used as a common receptacle [5] for filth, garbage and refuse of all kinds but owing to the constantly moving atmosphere no particularly bad odor is noticed from the ravine.

To the north and separate from the camp by a road only, is the chinese [sic] village, a collection of rude houses inhabited by 300 chinamen [sic]. Garbage of all kinds is thrown out in front of these huts and no attempt is made at cleaning up this village. To the west of the camp there are no habitations, on the east and south are the houses of the town of all kinds and materials. The town is ? built and has a most varied population estimated at 4000. The majority are foreigners, Welsh, English, Scotch, Scandinavians, Finns, Slovenians, Italians and Tyrolese. The streets of the town are fairly clean. The premises vary from clean to filthy. There is no sewerage system, but an annual attempt is made by the authorities to

make their property builders clean up. The recent establishment of a Board of Health promises a better sanitary condition for the town in the future. To the southwest of town lie [6] piles of ever burning slack, the fumes of which can be often noticed in the town. The camp is kept in a state of good police, but is of course always liable to suffer from the unsanitary surroundings.

Water Supply

The camp is supplied with water from the U.P. Coal Co.'s system of water works. This water is piped 15 miles, from Green River and is stored in a Reservoir capacity 8,000,000 gallons about a mile to the south-west of the town. The water is rather hard but good.

Water Supply Analysis

Analysis of Green River water, by H.B. Hodges, chemist & Engineer of tests, Union Pacific Railway.

Grs. Per gallon

Clay .41

Carbonate of Lime 9.39

Carbonate of Magnesia .45

Sulphate of Lime 2.84

Sulphate of Magnesia 4.12

Chloride of Sodium .86

Sulphate of Sodium 4.10

True solids 22.17

Free Ammonia .005 parts per 100,000

Albuminoid Ammonia .011 parts per 100,000

The water is clear except during the Spring time when it is almost murky in appearance.

[7] The supply for the camp is not limited. This, the most expensive of luxuries for the towns people, being partly supplied to the garrison, water is introduced into the barrack and hospital kitchens, the first bath house and the kitchens and bath-rooms of the officers quarters, there is also a hydrant in the corral. Three fire plugs, so distributed as to bring every part of the camp within range of a powerful stream, provide against fire. Some of the families boil the water used for drinking as it is more palatable, but as a rule it is used just as drawn. I believe the water to be pure and can attribute no diseases to its use, at least when freshly drawn. The reservoir is far enough from the city to be safe from contamination & the town's dust is never blown in that direction.

Possible Danger of Bad Water

Green River above the point from which the water is pumped, runs through a sparsely settled country and the only probable source of contamination would be the dead bodies of sheep and cattle. (a large proportion of the houses in Rock Springs do not have the Coal Co's water.

[(page 8 was missing in the microfilm ms)]

[9] Owing to the light precipitation, water sinks, but a short distance into the ground, and evaporation is very rapid. There is no system of subsoil drainage nor is it necessary.

Sewerage

The camp has two small sewer pipes both emptying into Bitter Creek. The pipe used by the barracks is only for kitchen slop water and the waste from the bath house, it is of wrought iron 4 inches in diameter and 400 feet long, having a fall of fifteen feet. The kitchen sink is protected by a strainer. Back of the line of Officers Quarters is a sewer of cast iron pipe 4 ½ inches in diameter 300 feet long and having a fall of 25 feet. It is ventilated at its upper end, projecting four feet above the ground, and

receives the soil of six water closets, six bath tubs, six wash basins, and six kitchen sinks. It is frequently flushed by using the water from a fire plug. In warm weather this is done every day.

Privy Pits

The men's quarters and the hospital have ordinary privy pits covered with wooden structures, which are closed when nearly full and others [10] dug. Each officers house has also a privy pit for servants. No diseases have occurred which could be connected with sewage disposal. In the absence of a town sewer system, water carriage is out of the question for the Barracks and Hospital, and the distance that excretia would have to be carted makes movable earth boxes objectionable.

Refuse

Refuse other than excretia is removed daily by a police party and carted outside the town limits.

Description of Buildings

The buildings are one storied frame structures well built, with sloping shingled roofs and are painted dark red, freight car color.

Barracks

The Barrack building originally included for two companies of Infantry, is now only occupied by one which thus has ample room. There are two dormitories. The larger is 106 feet long, 28 feet broad and in height 12 feet. It contains 29 beds, allowing to each occupant 1228 cu. ft. of air space. The smaller dormitory was originally used as a dining room, but the company now uses the corresponding room of the other half of the building for that purpose. This sleeping room is 50 by 13 feet, and in height 12 feet. It contains seven (7) beds, or 1114 cu. ft. air space for each man, making [11] due allowance for space occupied by furniture,

stoves, etc. it will be seen that the cubical air space per man is unusually liberal. The rooms are all plastered and ceiled and finished in calsomime. There is a very large air space between the ceilings and the roof ridge, which space extends over the entire building. This is ventilated at each end of the building by a slatted window 2 by 3 feet, and in two places on the ridge by openings 3 by 4 feet. The openings are covered in by a cupola shaped slatted structure. From the large dormitory two fresh air openings are cut through the ceiling into the roof space each 1 by 2 feet. The smaller dormitory has no special fresh air inlet, but is always open to the larger room. The sleeping rooms are heated by stoves whose flues serve as foul air outlets there being no special openings for this purpose. The other rooms of the Barrack building are dining room, kitchen, cook's room, office, lavatory, gymnasium and many store-rooms, some of which are utilized by Post Quartermaster for his stores. None of these rooms have any ventilating arrangements beyond doors, windows and flues. Coal stoves are [12] used for heating, and the Rock Springs Coal is the fuel. (See plan of Barracks).

Guard house

The Guard-house is a small building, X by X feet divided into two rooms, a Guard room and a prison room. The partition is partly of iron bars, and one stove heats both rooms. The walls ceilings of wood, painted; each room is ventilated by a small opening 6 by 8 inches under the eaves. The prison room is very seldom occupied and the little building is clean and airy. (See plan of Guard-house).

Hospital

The Hospital is a square building divided by a narrow hall, having on one side the ward, dispensary and a small store-room; on the other, stewards-room, sleeping room for two men, dining room and kitchen, a lavatory room has recently been added to the back of the building. The roof space is very deep and if properly floored and ceiled would almost

constitute a second story. There is however no ingress to this attic save by step ladder from the hall. The ward is 28 X 18 feet, in height 12 feet, and contains six beds thus allowing when full, 841 cu. ft. per man. The average occupancy however is but one man, besides the attendant. The room is [13] ventilated by a galvanized iron tube 8 inches in diameter. It is located in the center of the ceiling, passes through the roof where it projects several feet, and terminates in a drum shaped perforated cap. All the rooms are plastered & calsomimed, except the lavatory which is finished in wood and painted. The building is a queer looking structure & much space is wasted in the absurd inaccessible attic. The dispensary is very small and the store room is much so, but the building has proved sufficient for the actual needs of the camp. (See plan of Hospital).

Officers Quarters

There are quarters for six officers, consisting of two large buildings each containing three sets of quarters. A common veranda runs the front length of each building and every set of the three communicates with the next.

A set of Quarters consists of parlor and dining room, communicating directly by a large archway, two bed-rooms, bath-room, kitchens, servants' room, a very small front entry and a small hall-way leading to kitchens. The rooms are mainly papered and the houses are quite comfortable. They are heated by coal stoves of various patterns, and have no special [14] arrangements for ventilation.

The plumbing fixtures are very primitive and the outlet to the bath tubs and wash basins have ? to communicated directly with house waste pipe, no traps except under the closets, and no trap ventilation. The great care taken to keep the sewer pipe flushed and the fact that its outlet is in a windy gulch instead of a cesspool has so far prevented any ill-health on account of the bad condition of affairs. The air in the bath rooms has been sometimes offensive and the attention of the Coal Co. has been

repeatedly called to the matter. New fixtures have been ordered and before this report is sent in these evils will have been corrected. Solid porcelain closets, traps for bath huts and wash basins, and a separate tube into which each fixture is to be vented, have been recommended and will soon be obtained. The closets flush from the rim by pressure of the seat and there is abundant water supply and considerable pressure. The kitchen sink waste pipe is to run outside of the building, then be cut off and the water to fall into a hopper communicating direct with the sewer [15] pipe, it being impracticable to trap and ventilate this pipe which is at a distance from all the others.

Ventilation and heating

The arrangements for ventilating the buildings at the post although not elaborate are on the whole satisfactory, no bad smell is even noticed in Hospital or Quarters and no diseases have occurred which could be traced to defective ventilation. The opening specially made and the chinks of doors and windows admit plenty of fresh air. The store flues act as very efficient outlets. In windy weather the complaint is apt to be in the other direction, of too much air.

The heating arrangements are satisfactory except in the very coldest weather and then it is almost impossible to heat uniformly the larger rooms. The necessary opening of doors lets in blasts of icy air which very soon abstracts the heat of the room. This applies [sic] especially to the barrack dormitory because the doors open to the west in the direction of the prevailing winds. I recommend storm doors and double windows as a remedy. The Hospital ward is easily heated and needs no changes. The command is singularly free from respiratory troubles, simple [16] bronchial catarrh being the only noticeable affliction and that not common.

Rheumatism is rare. Tonsillitis occurs more often.

Food supply

The food of the troops is generally of good quality, ample in quantity and is well cooked and served. The bakery furnishes excellent bread at present but much trouble has occurred in the past from the want of an expert baker. The following bill of fare gives a good idea of the company's menu.

RS SCM Camp Pilot Butte MENU 1894

Day

Breakfast

Dinner

Supper

Sunday

Beef Steak, Gravy Bread. Coffee.

Roast Beef. Gravy Macaroni. Potatoes. Bread. Coffee.

Beef Hash. Bread Coffee.

Monday

Beef Stew. Bread Tea.

Roast Beef Gravy Potatoes. Bread. Coffee.

Stewed Macaroni Bread. Coffee.

Tuesday

Beef Hash. Bread Coffee.

Pork. Baked Beans. Bread. Coffee.

Beefsteak. Gravy Stewed Apples. Bread. Tea.

Wednesday

Beef Hash. Bread, Coffee.

Pork and Cabbage Potatoes. Bread. Coffee,

Clam Chowder. Bread. Coffee.

Thursday

Beef Stew. Bread. Coffee.

Boiled Beef Dumplings. Potatoes. Bread. Coffee.

Sub: Boiled Beef Bread. Coffee

Friday

Beef Hash. Bread. Coffee.

Roast Beef. Gravy. Potatoes. Corn Bread. Coffee.

Beef Hash. Bread. Coffee.

Saturday

Beef Stew. Bread. Tea.

Baked Beans. Pork. Potatoes. Bread. Coffee.

Beef Steak. Gravy Bread. Tea.

[17] The Hospital Ward has in addition to substantially the same bill of fare as above, fresh butter, condensed milk, fresh eggs, and occasional deliveries of these kinds.

In the winter hunting parties are sent out for a week or so at a time, and always bring back abundance of antelope, deer and elk venison.

Vegetables are scarce and expensive, and there are of course no company or Post gardens. The messes are inspected every day. No diseases can be attributed to the food, & I have no recommendations to make.

Bathing

The Camp bath house contains two tubs with an abundant supply of hot & cold water. Camp regulations require each man to bathe twice a week. There are no laundry facilities in camp limits, but in the neighborhood washing is done cheaply and well, by Chinese and others. There is a steam laundry in the town. No recommendations are necessary.

Clothing

The clothing furnished is generally satisfactory. The new summer underwear is too flimsy for use in this climate. The shoe is much complained of and with reason. The upper is stiff and usually causing soreness of the feet. [18] Much better shoes can be bought for the same price at any furnishings establishment. The new shoe said to be satisfactory, has not been furnished to this camp as the old stock is not yet exhausted.

The forage cap at best a poor article, has as now furnished lost its only good point, its beauty. The men will not wear the present issue except on compulsion, and prefer to buy caps from some of the larger dealers in equipments.

Disease in the Neighborhood

There are no other conditions beyond those already mentioned which could cause disease at the camp. The health of the command is excellent and no disease can be said to be especially prevalent. The possibility of the introduction of contagious disease from the town must however be always kept in view, for in case of an epidemic the Camp would share the danger equally with the town. So far Typhoid Fever has been the greatest menace to the camp and nearly every autumn a few cases occur. I believe the flying dust to be the great carrier of contagion and against that there is no possible protection. The disease is usually of a mild [19] type and recovery is the rule. In the early summer a very acute febrile complaint with severe pains in back and limbs, high fever, headache, and considerable "violence" is common. It lasts only a few days and promptly yields to a calomel purge. This is commonly alluded to as "mountain fever." In August the Typhoid Fever makes its appearance, and prevails with cold weather. The attacks average three weeks in duration and all classical symptoms are seen although never in a single case. Many patients are constipated through the whole course of the

fever, and such cases invariably do well. The condition is generally present, and nervous symptoms are always well marked. It is very probably that many patients do not take to their beds at all, and as ? the recovery it is not possible to properly disinfect dejecta & the germs of disease must be pretty well disseminated through the town. Heart failure is the greatest danger, and in the few fatal cases is the cause of death. Measles of a rather severe type made its appearance in the winter of 1892, and a few cases occurred in camp.

[20] Diphtheria although not common is almost always in the town. The post has so far escaped. This is also mild and unless attacking infants and then in the laryngeal form, is rarely fatal. The town went almost unscathed through the late epidemic of "grip." On the whole the place is naturally very salubrious, and in spite of the great lack of proper sanitation, the death rate is small enough among infants.

Owing to improper food, and the crowded and filthy lodgings, the infant mortality in bad weather is enormous. The very dry climate and the high winds are I think largely protective against infectious diseases, and even when these occur the germs seem to be weakened.

Isolation & Disinfection

There is no isolation ward in the Hospital and in case of serious contagious disease, hospital beds would have to be used. During the prevalence of Typhoid, bed linen and clothing are soaked in bi-chloride solution, and boiled. Dejecta is disinfected with crude carbolic acid. The Camp privies are kept as clean as possible, and disinfected with [21] chloride of lime: for the ground around slop banks sulphate of iron is used.

The present garrison is entirely free from venereal disease. The hospital records show no gonorrhoea or primary syphilis for the last two years,

and no alcoholism for nearly as long. The men are subjected to no drill or occupation which can affect their health prejudicially.

Gymnasium

During the past winter a very fine gymnasium has been established and its effects have been most happy on the general comfort and health of the men. The large dormitory formerly used by one company, when the garrison consisted of two has been so fitted up. It contains horizontal, parallel, and perpendicular bars, arm rings, ladders .two sets of pulley weight apparatus, a vaulting horse and many pairs of dumb bells and Indian clubs. A drill in athletics is held every morning for half an hour. The men are allowed to wear about what they please and seem to enjoy the exercise. There are few of them that are not above the average in strength and activity and some are first class athletes.

[22] Baseball and football are out door sports as far as its limited space will allow. There is also an out of door trapeze. The gymnasium has been the cause of a slight increase in the sick report of bruises and sprains but this is a cheap price to pay for the improved health and enjoyment of the men.

The many opportunities, the value of labor, the numerous sporting and gambling dens, and the absence of all beauty in the neighborhood, have all contributed to cause a rather large proportion of desertions from the command; but as a rule the garrison is contented, healthy, & well behaved, and it has the heartiest good will of the townspeople.

Respectfully Submitted

Walter W. McGraw

Capt. and Asst. Surg. U.S.A.

Post Surgeon

Forwarded with sanitary report for June 1893
per General Orders No. 5 Headquarters of the Army
A.G.O. Washington January 23, 1893

[Note. Pilot Butte paper seems to contradict itself saying both that the
wind causes disease, then wind weakens germs. Ed.]