

**ENGINEER DEPARTMENT, U.S.
ARMY; REPORT OF A
RECONNAISSANCE OF THE
BLACK HILLS OF DAKOTA: MADE
IN 1874**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649509669

Engineer Department, U.S. Army; Report of a Reconnaissance of the Black Hills of Dakota:
Made in 1874 by William Ludlow

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

WILLIAM LUDLOW

**ENGINEER DEPARTMENT, U.S.
ARMY; REPORT OF A
RECONNAISSANCE OF THE
BLACK HILLS OF DAKOTA: MADE
IN 1874**

U.S. Engineer Dept.

ENGINEER DEPARTMENT, U. S. ARMY.

REPORT

Atk. 100 p
557.4
345a

OF A

RECONNAISSANCE

OF THE

BLACK HILLS OF DAKOTA,

MADE IN

THE SUMMER OF 1874.

BY

WILLIAM LUDLOW,

CAPTAIN OF ENGINEERS, BVT. LIEUT. COLONEL U. S. ARMY,
CHIEF ENGINEER DEPARTMENT OF DAKOTA.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1875.

[The page contains extremely faint and illegible text, likely bleed-through from the reverse side of the document. The text is scattered across the page and cannot be transcribed.]

TABLE OF CONTENTS.

	Page.
Letter of transmittal	5
General report	7
Organisation of the expedition	7
General account of the country	7
Geological report	21
From the Red River of the North to Fort Abraham Lincoln	21
From Fort Abraham Lincoln to the Belle Fourche	22
Entrance into the Black Hills, from the Belle Fourche to Hoeng-ya Ka-ga Peak	22
Through the center of the Black Hills, from Hoeng-ya Ka-ga Peak to Harney's Peak	27
Reconnaissance to the mouth of French Creek	45
Return march from Custer Park to Bear Butte	50
Return march from Bear Butte to Fort Abraham Lincoln	56
Resumé of geological results	60
The Cretaceous	60
The Jurassic and Triassic	62
The Carboniferous limestone	62
The Potsdam sandstone	63
Schists and slates	64
Granite	64
Summary section of the rocks of the Black Hills	64
The structural system of the Black Hills	65
Appendix to the geological report	67
A. Botany	67
Collection of plants made by Prof. A. B. Donaldson	68
B. List of elevations above the sea, from Lake Superior to the Missouri River	71
Between the Missouri River and the Yellowstone River	73
Paleontological report	75
Zoological report	79
Chapter I. Mammals	79
Chapter II. Birds	85
Descriptions of new fossils	103
Tables of observations for time and latitude	107
Summary table of daily instrumental observations, with deduced altitudes; the latitude and longitude of each camp; distances traveled, &c.	121

ILLUSTRATIONS AND MAPS.

- Plate illustrating new fossils.
- Map of a reconnaissance to the Black Hills, on a scale of 12 miles to 1 inch.
- Map of the Black Hills, on a scale of 3 miles to 1 inch.
- Geological map of the Black Hills, on a scale of 6 miles to 1 inch.

557.11
S.H.E.W.
C.S.

OFFICE OF THE CHIEF OF ENGINEERS,
Washington, D. C., May 17, 1875.

SIR: I have the honor to submit herewith a copy of a report by Capt. William Ludlow, Corps of Engineers, of a reconnaissance of the Black Hills of Dakota.

Captain Ludlow was attached to the military expedition under the command of Lieut. Col. G. A. Custer, of the Seventh Cavalry, who penetrated this interesting region in the summer of 1874; and his report, including the reports of Prof. N. H. Winchell on the geology, and Mr. George Bird Grinnell on the paleontology of the country, contains much valuable information.

I have respectfully to recommend, therefore, that it be printed at the Government Printing Office; and that 2,500 copies be furnished on the usual requisition.

By direction of Brigadier-General Humphreys, and in his absence,
Very respectfully, your obedient servant,

GEORGE H. ELLIOT,
Major of Engineers.

Hon. WM. W. BELKNAP,
Secretary of War.

Approved:

By order of the Secretary of War.

H. T. CROSSBY,
Chief Clerk.

WAR DEPARTMENT, May 19, 1875.

HEADQUARTERS DEPARTMENT OF DAKOTA,
OFFICE OF CHIEF ENGINEER,
Saint Paul, Minn., April 28, 1875.

SIR: I have the honor to forward to-day my report of the reconnaissance of last summer of the Black Hills of Dakota.

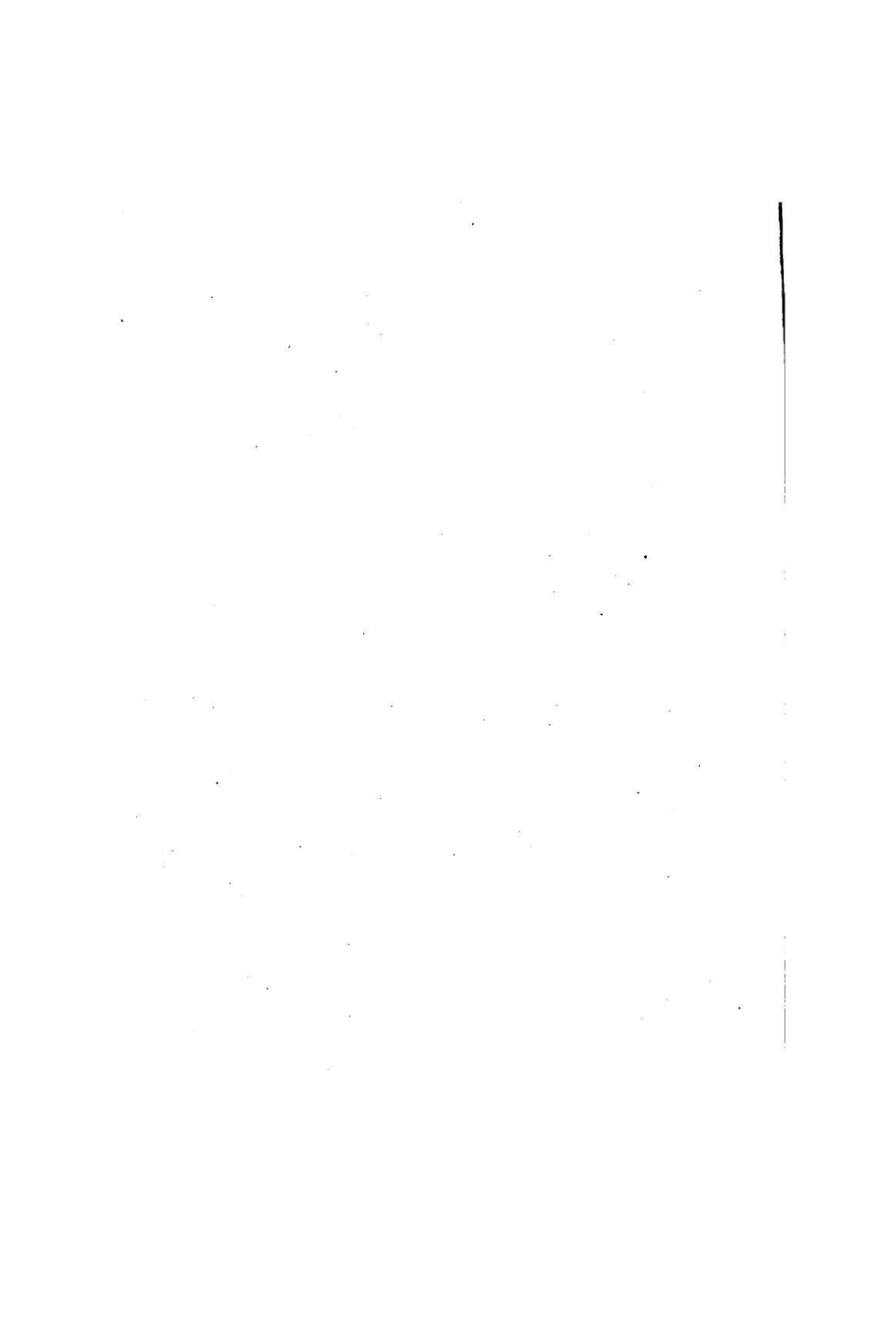
Accompanying the report are those of Professor Winchell and Mr. Grinnell, (the latter including drawings and descriptions of new fossils discovered on the trip,) a summary of the daily readings of the thermometer and barometer, the distances marched, the altitude, latitude, and longitude of each camp. A set of observations in four of the principal camps is also inclosed.

Three maps are presented, one showing the entire reconnaissance; one, more in detail and on a larger scale, representing the hills and their vicinity; and one geological map of the Black Hills, prepared by Prof. N. H. Winchell.

Very respectfully, your obedient servant,

WILLIAM LUDLOW,
Captain of Engineers, U. S. A.

The CHIEF OF ENGINEERS, UNITED STATES ARMY,
Washington, D. C.



REPORT.

HEADQUARTERS DEPARTMENT OF DAKOTA,
OFFICE OF CHIEF ENGINEER,
Saint Paul, Minn., April 28, 1875.

SIR: I have the honor to submit herewith my report of the reconnaissance of last summer to the Black Hills.

Accompanying the report are those of Prof. N. H. Winchell and Mr. Geo. Bird Grinnell, and a summary of the daily instrumental observations, with deduced altitudes, and the latitude and longitude of each camp, distances traveled, &c.

Two maps are submitted; one, of the whole reconnaissance; the other, more in detail, of the Black Hills themselves.

ORGANIZATION OF THE EXPEDITION.

The expedition was organized in compliance with the following order, the provisions of which were subsequently slightly modified, as far as they related to myself, by Special Orders No. 127, of June 19, which directed me to accompany the expedition, and take six instead of three of the enlisted men under my command.

[Special Orders No. 117.]

HEADQUARTERS DEPARTMENT OF DAKOTA,
Saint Paul, Minn., June 8, 1874.

1. In pursuance of instructions from the Headquarters of the Military Division of the Missouri, an expedition will be organized at Fort Abraham Lincoln, D. T., for the purpose of reconnoitering the route from that post to Bear Butte, in the Black Hills, and exploring the country south, southeast, and southwest of that point. The expedition will consist of the six companies of the Seventh Cavalry, now stationed at Fort Abraham Lincoln; the four companies of the same regiment now at Fort Rice; Company I, Twentieth Infantry; and Company G, Seventeenth Infantry; and such Indian scouts from Forts Abraham Lincoln and Rice as the commander of the expedition shall select.

Lieut. Col. G. A. Custer, of the Seventh Cavalry, is assigned to the command.

The expedition will start from Fort Abraham Lincoln as soon after the 30th instant as may be practicable. Lieutenant Colonel Custer will proceed, by such route as he may find to be most desirable, to Bear Butte or some other point on or near the Belle Fourche, and thence will push his explorations in such direction or directions as in his judgment will enable him to obtain the most information in regard to the character of the country and the possible routes of communication through it.

Lieutenant Colonel Custer will return to Fort Abraham Lincoln within sixty days from the time of his departure from it. Should, however, any unforeseen obstacles render it necessary or advisable for him to return from any point of his contemplated march, even before the Belle Fourche is reached, he is authorized to do so.

Capt. William Ludlow, Chief Engineer of the Department, will report to Lieutenant Colonel Custer as engineer officer of the expedition. He will be accompanied by his civil assistant and three enlisted men of the Engineer Battalion.

By command of Brigadier-General Terry.

O. D. GREENE,
Assistant Adjutant-General.

GENERAL ACCOUNT OF THE COUNTRY.

Some general account of the country to be explored will be useful in order to a full understanding of the objects of the expedition as set forth in this order.

The Black Hills are an outlying portion of the Rocky Mountains, covering an area about equal to that of the State of Connecticut, included between the forty-third and forty-fifth parallels of lati-