READING PASSAGE 1

*You should spend about 20 minutes on **Questions 1–13**, which are based on Reading Passage 1 below.*

Dust and the American West

Images of deserts in the United States show dusty, barren landscapes, but the land may not always have been this way. Ever since settlers moved west across the US, there has been dust, clouds of it, everywhere. It was part of the landscape, or so it seemed to them. But there were no records of the landscape of the West until the settlers arrived. Now, evidence is starting to emerge which suggests that before the settlers, there was very little dust.

The evidence comes from the San Juan Mountains of southwest Colorado, downwind of Arizona and New Mexico. There, Jason Neff, a geochemist from the University of Colorado, has been analyzing sediments, the sand, stones and mud, laid down over the past 5,000 years. Atmospheric dust was minimal throughout those five millennia until the mid-19th century, he says, but then, 'from about 1860 to 1900, dust deposition rates shot up.'

This is surprising because usually dry means dusty, and the American West has almost always been dry, often drier than today. There was a near-permanent drought between 900 and 1300 which was so intense that it destroyed a series of Native American civilizations, including the Anasazi, whose cliff homes are now US national treasures. Yet the evidence from the San Juan lakes is that it was not dusty. Even as their civilization was collapsing, the Anasazi seem to have protected their soils from erosion.

This was not the case with the European settlers once they brought their cows. The landscape the cattle were introduced to was remarkably ill-equipped to cope with grazing animals, says Neff. 'Unlike most other parts of the US, there were few grazers in the American Southwest until the Europeans came. No bison and few antelope or deer.'

In the Great Plains to the east and north, bison roamed in vast herds. Their regular grazing had created tough grass, while the herds manured the soil. In the Southwest, the land had few defenses against a sudden invasion of millions of livestock, whose teeth stripped the grass and whose hooves punctured the hard crust of desert soils that protected them from the wind. The invasion was sudden, funded by a bubble of speculative investment, much of it from Britain. The money went into railroads and herds of cattle and sheep that rode the rails to the wide open pastures. By 1900, when sedimentation rates peaked, there were 20 million cattle and 25 million sheep in the West.

One of the biggest ranches was owned by the Aztec Land and Cattle Company, which owned a million acres of land by 1884. Each acre had cost the company a mere 50 cents, and like many other speculators, it was only interested in quick profits and had little incentive to protect the soils from overgrazing. By the time Aztec sold the ranch in 1901, it was barren, with cattle carcasses scattered across the exhausted land. Such was the damage to the grasslands that even now few of the pastures have recovered. The parched and exposed soil simply blew away. The 1862 Homestead Act was passed in order to encourage the populating of the West. Any family willing to make the journey was entitled to claim 160 acres and farm it. Yet by the time people moved west in large numbers, the cattle companies had taken most of the land and surrounded it with barbed wire. The water sources were therefore cut off, and were aggressively guarded. It was only in the 1930s, with the passage of the Taylor Grazing Act, that federal authorities finally sought to limit cattle herds.

Soil scientists have known for a while about the importance of the hard crust that forms on arid soils. ‘These crusts can survive winds of up to a hundred miles an hour, but cattle hooves break the crust,’ says Jayne Belnap, a soil ecologist at the US Geological Survey, Utah. The scale of the dust clouds created by the livestock invasion has until now been largely unknown. When Neff first discovered dust in Colorado lake sediments laid down in the 19th century, he was initially unsure where it came from. Maybe it had crossed the Pacific from China’s Gobi Desert.

But after investigating the size and chemical composition of the dust, Neff was clear that it mostly came from the American Southwest, mainly Arizona and New Mexico. Now, with the soil crusts gone, dust clouds still head north and are having significant ecological effects in the Colorado mountains. They carry nutrients with them into areas which previously evolved and survived without them. But perhaps the most dramatic impact of the dust has been on snowfields in the Rocky Mountain Range. Even a thin sprinkling of dark material means snow absorbs more solar radiation, meaning that snowmelt occurs far more rapidly during springtime. The impact on the ski tourism industry is obvious.

The loss of snow and the shrinking of glaciers across the American West in the past century have been dramatic. Glacier National Park in Montana, for example, has lost three-quarters of its snow cover since 1910. All this is frequently attributed to global warming. While this almost certainly plays a role, Neff’s findings suggest that dust may also contribute.

Questions 1–7

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–7 on your answer sheet, write

TRUE	*if the statement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

1 Jason Neff discovered there had been a dramatic rise in dust levels in the second half of the nineteenth century.

2 The Anasazi civilization disappeared due to the impact of dust in the atmosphere.

3 Before cattle were introduced to the American Southwest, large numbers of bison occupied the area.

4 The bison population in the Great Plains diminished because European settlers found it easy to hunt them.

5 The development of railroads across the US was more expensive than originally expected.

6 The Aztec Land and Cattle Company worked hard to take care of the grazing land it owned.

7 Most of the land once owned by the Aztec Land and Cattle Company remains infertile today.

Questions 8–13

Complete the notes below.

*Choose **NO MORE THAN TWO WORDS** from the passage for each answer.*

Write your answers in boxes 8–13 on your answer sheet.

American Southwest: 1860s to present day

1862 — Homestead Act was passed to encourage settlement in the West.

1930s — Laws were passed to control the size of **8** _____.

Today Jayne Belnap believes:

- soil was not affected by high **9** _____
- soil was seriously affected by cattle hooves.

Jason Neff:

- found that **10** _____ in the Colorado region contained dust
- examined the dust for its chemical content as well as its **11** _____
- concluded that the dust was from the American Southwest
- found that dust affects mountain environments by bringing in **12** _____ that are not normally found there, causing faster seasonal snowmelt
- argues that dust is partly to blame for the gradual disappearance of some **13** _____ and snow.

一、判断题（1–7）

题号	答案	题干翻译	精确定位句	定位句翻译	解释与同义替换
1	**TRUE**	Jason Neff 发现：在19世纪下半叶，粉尘水平**显著上升**。	P2: “Atmospheric dust was minimal… until the mid-19th century… **from about 1860 to 1900, dust deposition rates shot up**.”	“过去五千年空气尘埃一直很少，直到19世纪中期；**大约1860–1900年间，粉尘沉降速率猛增**。”	*dramatic rise* ↔ *shot up*；*second half of the nineteenth century* ↔ *1860–1900*。完全对应，故 **TRUE**。
2	**FALSE**	阿纳萨齐文明因**大气粉尘**而消失。	P3: “There was a near-permanent **drought**… that it destroyed… the Anasazi… **it was not dusty**… the Anasazi seem to have **protected their soils** from erosion.”	“曾有几乎长期的干旱摧毁了包括阿纳萨齐在内的文明……但证据显示**并不多尘**；即使文明崩溃，他们**似乎仍保护住了土壤**。”	原文把“毁灭”的原因归于干旱，且明确说“**not dusty**”。与题干“因粉尘而消失”相反，故 **FALSE**。
3	**FALSE**	在把牛引入美国西南之前，那里有**大量野牛**。	P4: “Unlike most other parts of the US, there were **few grazers**… **No bison** and few antelope or deer.”	“不同于美国其他地区，西南部**几乎没有食草动物——没有野牛**，羚羊/鹿也很少。”	题干说“**large numbers of bison**”，原文说“**No bison**”，直接矛盾，故 **FALSE**。
4	**NOT GIVEN**	大平原的野牛数量减少，是因为欧洲移民**容易猎杀**它们。	——	——	文章只在 P5 提到“大平原曾经**遍布**野牛”，未谈“数量减少的原因/是否容易捕猎”。信息缺失，故 **NOT GIVEN**。
5	**NOT GIVEN**	美国铁路建设的成本**超出原先预期**。	——（P5 仅说“资金涌入铁路和牧群”）	——	原文无“成本比预期更高”的比较信息；只有“投了很多钱/投机泡沫”。无法判断，**NOT GIVEN**。
6	**FALSE**	阿兹特克土地与牧牛公司**努力保护**自有放牧地。	P6: “it was **only interested in quick profits** and had **little incentive to protect** the soils… by 1901, **it was barren**…”	“公司**只想赚快钱，几乎没有动机去保护**土壤……1901 年卖出时，牧场已**荒芜**。”	与“worked hard to take care”正相反；还有“barren（荒芜）”作反证，故 **FALSE**。
7	**TRUE**	该公司曾拥有的大部分土地**至今仍贫瘠**。	P6: “Such was the damage… that **even now few of the pastures have recovered**. The parched and exposed soil **simply blew away**.”	“破坏如此之大，以至于**至今只有少数牧场恢复**。干裂裸露的土壤**直接被风吹走**。”	“few … have recovered（只有少数恢复）” ⇒ **大多数**仍未恢复=仍贫瘠。与题干一致，故 **TRUE**。

二、笔记填空（8–13）（每空 ≤2 词）

答案总览：
8 **cattle herds** | 9 **winds** | 10 **lake sediments** | 11 **size** | 12 **nutrients** | 13 **glaciers**

题号	标准答案	题干翻译	精确定位句	定位句翻译	解释与同义替换
8	**cattle herds**	1930 年代——通过法律**限制…的规模**。	P6: “…with the passage of the **Taylor Grazing Act**, federal authorities finally **sought to limit cattle herds**.”	“通过《泰勒放牧法》，联邦当局终于**试图限制牛群规模**。”	“control the size of” ↔ “limit”；对象是 **cattle herds**。
9	**winds**	Jayne Belnap：土壤**不受高…**的影响。	P7: “These crusts can survive **winds of up to a hundred miles an hour**, but cattle hooves break the crust.”	“这种土壤结皮可在**时速达100英里的大风**下存活，但牛蹄会把结皮踩碎。”	“not affected by high ___” 正是 **winds**；与“牛蹄”形成对比。
10	**lake sediments**	Neff 发现：科罗拉多地区的**___**中含尘。	P7: “Neff first discovered dust in **Colorado lake sediments** laid down in the 19th century.”	“Neff 首先在**科罗拉多的湖泊沉积物**（19世纪堆积）里发现了粉尘。”	题干的 “in the Colorado region” 与原文 “Colorado lake sediments” 一致，填 **lake sediments**。
11	**size**	他既检测化学成分，也检测其**___**。	P8: “after investigating the **size and chemical composition** of the dust…”	“在研究粉尘的**粒径（大小）与化学成分**之后……”	题干改写了顺序，另一项就是 **size**。
12	**nutrients**	Neff 发现粉尘把**___**带入高山环境，促使雪更快融化。	P8: “They carry **nutrients** with them into areas which previously evolved and survived **without them**.”	“粉尘把**营养物质**带到原本**没有这些营养**的地区。”	“not normally found there”=“previously … without them”；填 **nutrients**。
13	**glaciers**	Neff 认为粉尘也导致某些**___**与积雪逐渐消失。	P9: “The **loss of snow and the shrinking of glaciers**… Neff’s findings suggest that **dust may also contribute**.”	“一个世纪来积雪减少、**冰川萎缩**……Neff 的发现表明**粉尘也可能是成因**。”	题干给出 “and snow”，前项即 **glaciers**。