READING PASSAGE 3

*You should spend about 20 minutes on **Questions 27-40**, which are based on Reading Passage 3 below.*

Australia's Megafauna Controversy

Just how long did humans live side by side with megafauna in Australia? Barry Brook, Richard Gillespie and Paul Martin dispute previous claims of a lengthy coexistence.

Over the past 50 millennia, Australia has witnessed the extinction of many species of large animals, including a rhinoceros-sized wombat and goannas the size of crocodiles. Debate about the possible cause of these extinctions has continued for more than 150 years, and one of the crucial questions raised is how long humans and megafauna coexisted in Australia. We need to know the overlap of time to make an informed choice between the two main theories regarding the causes of these extinctions. If humans and megafauna coexisted for a protracted period, then climate change is the more likely cause. However, if the megafauna became extinct shortly after the arrival of humans, then humans are the likely culprits.

The archaeological site at Cuddie Springs in eastern Australia appears to be well preserved. This dusty claypan holds within its sediments a rich cache of flaked stone and seed-grinding tools, and side by side with these clear signals of human culture are the bones of a dozen or more species of megafauna. Drs Judith Field and Stephen Wroe of the University of Sydney, who excavated the site, claim that it provides unequivocal evidence of a long overlap of humans and megafauna, and conclude that aridity leading up to the last Ice Age brought about their eventual demise. In the long-standing explanation of this site, artefacts such as stone tools and extinct animal remains were deposited over many thousands of years in an ephemeral lake – a body of water existing for a relatively short time – and remained in place and undisturbed until the present day.

There is no disputing the close association of bones and stones at Cuddie Springs, as both are found 1 to 1.7 metres below the modern surface. The dating of these layers is accurate: ages for the sediments were obtained through radiocarbon dating of charcoal fragments and luminescence dating of sand grains from the same levels (revealing when a sample was last exposed to sunlight). Intriguingly, some of the stone tools show surface features indicating their use for processing plants, and a few even have well-preserved blood and hair residues suggesting they were used in butchering animals.

But is the case proposed by Field and Wroe clear-cut? We carried out a reanalysis of the scientific data from Cuddie Springs that brings into question their conclusions. The amount of anthropological evidence found at the site is remarkable: we estimate there are more than 3 tonnes of charcoal and more than 300 tonnes of stone buried there. Field and Wroe estimate that there are approximately 20 million artefacts. This plethora of tools is hard to reconcile with a site that was only available for occupation when the lake was dry. Furthermore, no cultural

features such as oven pits have been discovered. If the sediment layers have remained undisturbed since being laid down, as Field and Wroe contend, then the ages of those sediments should increase with depth. However, our analysis revealed a number of inconsistencies.

First, the charcoal samples are all roughly 36,000 years old. Second, sand in the two upper levels is considerably younger than charcoal from the same levels. Third, Field and Wroe say that the tools and seed-grinding stones used for plant and animal processing are ancient, yet they are very similar to implements found elsewhere that were in use only a few thousand years ago. Also of interest is the fact that a deep drill core made a mere 60 metres from the site recovered no stone artefacts or fossil bones whatsoever. These points suggest strongly that the sediments have been moved about and some of the old charcoal has been re-deposited in younger layers. Indeed, one sample of cow bone found 1 metre below the surface came from sediments where charcoal dated at 6,000 and 23,000 years old is mixed with 17,000-year-old sand. The megafauna bones themselves have not yet been dated, although new technological developments make this a possibility in the near future.

We propose that the archaeologists have actually been sampling the debris carried by ancient flood channels beneath the site, including charcoal transported from bushfires that intermittently occurred within the catchment. Flood events more likely explain the accumulation of megafauna remains, and could have mixed old bones with fresh deposits. European graziers also disturbed the site in 1876 by constructing a well to provide water for their cattle. Given the expense of well-digging, we speculate that the graziers made sure it was protected from the damage caused by cattle hooves by lining the surface with small stones collected from further afield, including prehistoric quarries. This idea is consistent with the thin layer of stones spread over a large area, with cattle occasionally breaking through the gravel surface and forcing the stone and even cattle bones deeper into the waterlogged soil.

The lack of conclusive evidence that humans and megafauna coexisted for a lengthy period casts doubt on Field and Wroe's assertion that climate change was responsible for the extinction of Australia's megafauna. However, we do not suggest that newly arrived, well-armed hunters systematically slaughtered all the large beasts they encountered. Recent studies based on the biology of modern-day large mammals, combined with observations of people who still practise a traditional hunter-gatherer lifestyle, reveal an unexpected paradox and suggest a further possible explanation as to what happened. Using a mathematical model, it was found that a group of 10 people killing only one juvenile Diprotodon each year would be sufficient to bring about the extinction of that species within 1,000 years. This suggests that here, as in other parts of the world, the arrival of humans in lands previously inhabited only by animals created a volatile combination in which large animals fared badly.

Questions 27–30

Do the following statements agree with the claims of the writer in Reading Passage 3?

In boxes 27–30 on your answer sheet write

YES	*if the statement agrees with the claims of the writer*
NO	*if the statement contradicts the claims of the writer*
NOT GIVEN	*if it is impossible to say what the writer thinks about this*

27 Field and Wroe argue that findings at the Cuddie Springs site show that people lived in this area at the same time as megafauna.

28 Field and Wroe believe it is likely that smaller megafauna species survived the last Ice Age.

29 The writers believe that the dating of earth up to 1.7 m below the present surface at Cuddie Springs is unreliable.

30 Some artefacts found at Cuddie Springs were preserved well enough to reveal their function.

Questions 31–35

*Complete the summary using the list of words, **A–I**, below.*

*Write the correct letter, **A–I**, in boxes 31–35 on your answer sheet.*

The writers' arguments against Field and Wroe's analysis of the scientific data from Cuddie Springs

One objection to Field and Wroe's interpretation is the large quantity of charcoal, **31** _____ and artefacts found at Cuddie Springs. Such large numbers of artefacts would be impossible if the area had been covered with **32** _____ for a period. There is also a complete lack of man-made structures, for instance those used for **33** _____.

Other evidence that casts doubt on Field and Wroe's claim is the fact that while some material in the highest levels of sediment is 36,000 years old, the **34** _____ in the same levels is much more recent. The tools used to process plants and animals may also be newer than Field and Wroe believe. Further evidence against human occupation of the area is the absence of tools and **35** _____ just a short distance away.

A	seeds	**B**	stone	**C**	sand
D	cooking	**E**	deep drill core	**F**	water
G	fossil bones	**H**	sediment	**I**	storage

Questions 36–40

Choose the correct letter, ***A, B, C*** *or* ***D****.*

Write the correct letter in boxes 36–40 on your answer sheet.

36 What conclusions did the writers reach about the inconsistencies in the data from Cuddie Springs?

A The different layers of sediment have been mixed over time.
B The sand evidence is unhelpful and should be disregarded.
C The area needs to be re-examined when technology improves.
D The charcoal found in the area cannot be dated.

37 According to the writers, what impact could a natural phenomenon have had on this site?

A Floods could have caused the death of the megafauna.
B Floods could have disturbed the archaeological evidence.
C Bushfires could have prevented humans from settling in the area for any length of time.
D Bushfires could have destroyed much of the evidence left by megafauna and humans.

38 What did the writers speculate about the people who lived at this site in 1876?

A They bred cattle whose bones could have been confused with megafauna.
B They found that the soil was too waterlogged for farming.
C They allowed cattle to move around freely at the site.
D They brought stones there from another area.

39 In the final paragraph, what suggestion do the writers make about Australia's megafauna?

A A rapid change in climate may have been responsible for the extinction of the megafauna.
B Megafauna could have died out as a result of small numbers being killed year after year.
C The population of humans at that time was probably insufficient to cause the extinction of the megafauna.
D The extinction of ancient animals should not be compared to that of modern-day species.

40 Which of the following best represents the writers' criticism of Field and Wroe?

A Their methods were not well thought out.
B The excavations did not go deep enough.
C Their technology failed to obtain precise data.
D Their conclusions were based on inconsistent data.

27–30 YES/NO/NOT GIVEN

题号	答案	题干翻译	定位段落 & 关键句（英文）	定位句翻译	详细解析
27	**YES**	Field 和 Wroe 认为，Cuddie Springs 遗址的发现表明，人类与巨型动物曾在这一地区同时生活。	**第 2 段**："...this dusty claypan holds...flaked stone and seed-grinding tools, and side by side with these clear signals of human culture are the bones of a dozen or more species of megafauna. Drs Judith Field and Stephen Wroe...claim that it provides unequivocal evidence of a long overlap of humans and megafauna..."	"……这片布满粉尘的黏土平地保存着大量石片和磨籽石等**明显属于人类文化的遗物**，而**与之并列**的，是十余种巨型动物的骨骼。……Field 和 Wroe 声称，这一遗址**提供了人类与巨型动物长期共存的无可争辩的证据**。"	题干说的是：*Field* 和 *Wroe* 主张 Cuddie Springs 的发现证明人类和巨型动物同时生活在这里。作者确实这样转述了他们的观点——"clear signals of human culture" 和 "bones of... megafauna" 并列，再加上 "evidence of a long overlap"。题干只是在复述他们 "argue/claim" 的内容，没有评价对错，因此与作者说法 **一致 → YES**。
28	**NOT GIVEN**	Field 和 Wroe 认为，小型巨型动物物种很可能熬过了上一次冰期。	**无直接定位句**。第 2 段只说："...conclude that aridity leading up to the last Ice Age brought about their eventual demise."	"……并得出结论：在上一次冰期来临前逐渐加剧的干旱最终导致了它们的灭绝。"	文中只说 Field 和 Wroe 认为**干旱导致巨型动物灭绝**，没有提到 "较小体型的巨型动物是否幸存"。题干加了 "smaller megafauna species survived the last Ice Age（小型物种熬过冰期）"，这是**新信息**，文中既没肯定也没否定，所以是 **NOT GIVEN**。
29	**NO**	作者认为，在 Cuddie Springs 距今地表以下 1.7 米范围内的土层年代测定不可靠。	**第 3 段**："There is no disputing the close association of bones and stones at Cuddie Springs, as both are found 1 to 1.7 metres below the modern surface. **The dating of these layers is accurate**: ages for the sediments were obtained through radiocarbon dating of charcoal fragments and luminescence dating of sand grains..."	"毫无疑问，在 Cuddie Springs，骨骼和石器关系密切，因为两者都出现在距今地表 1 至 1.7 米处。**这些地层的年代测定是准确的**：沉积物的年代是通过木炭碎片的放射性碳定年和砂粒的发光定年得出的……"	题干说 "the writers believe...is unreliable（作者认为不可靠）"，而原文明确说 "The dating...**is accurate**（是准确的）"，与题干陈述**正好相反**，因此答案为 **NO**。注意这里问的是作者对 "年代测定" 的态度，而不是对 Field & Wroe 结论整体的态度。
30	**YES**	在 Cuddie Springs 发现的一些人工制品保存得足够好，可以看出它们的用途。	**第 3 段**："Intriguingly, some of the stone tools show surface features indicating their **use for processing plants**, and a few even have well-preserved blood and hair residues suggesting they were **used in butchering animals**."	"有趣的是，一些石制工具表面留下的痕迹表明，它们**曾被用来加工植物**；还有少数工具上保存得很完好的血迹和毛发残留，暗示它们**曾被用来宰杀动物**。"	题干里的 "preserved well enough to reveal their function（保存得足以看出功能）" 对应文中 "surface features indicating their use...well-preserved blood and hair residues suggesting they were used..."。工具上的痕迹和残留物很好地保留下来，使考古学家能判断它们是用来加工植物和宰杀动物的，因此陈述与原文一致，选 **YES**。

31–35 Summary 填空

题号	答案	空格所在句的中文大意	定位段落 & 关键句（英文）	定位句翻译	详细解析
31	**B – stone**	"作者对 Field 和 Wroe 解释的一个反对意见是，在 Cuddie Springs 发现了大量的木炭、31 和其他器物……"	**第 4 段**："...we estimate there are more than 3 tonnes of charcoal and more than 300 tonnes of **stone** buried there, approximately 20 million artefacts."	"我们估计，这里埋藏着**超过 3 吨木炭和 300 多吨石块**，大约 2000 万件器物。"	31 空格与 "charcoal, 31 ... and artefacts" 构成并列三项，对应原文 "charcoal and...stone... artefacts"。选项中只有 **stone** 与此完全对应。其他如 seeds / sand / fossil bones 都没与木炭一起出现过，因此排除。
32	**F – water**	"如果这一地区在一段时间内被 32 覆盖，就不可能出现如此多的器物。"	**第 4 段**："This plethora of tools is hard to reconcile with a site that was only available for occupation **when the lake was dry**."	"如此多的工具，很难与这样一个事实相吻合：**这个地点只有在湖床干涸时才适合人类居住**。"	逻辑是：如果湖里**有水**（lake not dry），人类就不能长期居住、留下大量器物。所以 summary 写成：大量器物不可能出现在被 **water** 覆盖了很长时间的地区。与原文 "only available...when the lake was dry" 是反向改写，对应 **F water**。
33	**D – cooking**	"还完全缺乏人造结构，比如用来 33 的那些。"	**第 4 段**："Furthermore, no cultural features such as **oven pits** have been discovered."	"此外，并没有发现诸如**炉灶坑**之类的文化遗迹。"	"oven pits" 是用来做饭、烹饪的灶坑，因此空格应是 "cooking"。题干用 "man-made structures...for instance those used for 33" 来概括 "oven pits"。其他选项如 storage / seeds 都不对应 "oven pits" 的用途。
34	**C – sand**	"而且虽然最高层沉积物里的某些材料有 36,000 年历史，同一层中的 34 却要年轻得多。"	**第 4 段**："Second, **sand** in the two upper levels is considerably younger than charcoal from the same levels."	"其次，**上面两层中的砂**明显比同一层的木炭年轻得多。"	空格处要填的就是 "在同一层中更年轻的东西"，原文明确是 "sand"，对应选项 **C**。这里考察的是同层中不同物质年代不一致，成为 "inconsistencies" 的一部分。
35	**G – fossil bones**	"反对该地区曾有人类居住的进一步证据，是在仅相距不远的地方缺少工具和 35。"	**第 4 段**："Also of interest is the fact that a deep drill core made a mere 60 metres from the site recovered no stone artefacts or **fossil bones whatsoever**."	"还有一点很有意思：在距离遗址仅 60 米处钻取的一根深钻岩芯中，完全没有发现石制器物或**任何化石骨骼**。"	题干提到 "absence of tools and 35 just a short distance away"，与原文 "no stone artefacts or fossil bones...60 metres from the site" 完全对应：tools = stone artefacts，另一个缺失的是 **fossil bones**。因此答案为 G。选项 E deep drill core 是 "取样手段"，不是 "被缺少的东西"，不能填在 "tools and ..." 后面。

36–40 选择题

题号	答案	题干翻译	定位段落 & 关键句（英文）	定位句翻译	详细解析（含错误项排除）
36	**A**	作者们对 Cuddie Springs 数据中这些“不一致”现象得出了什么结论?	**第 4 段**（末尾）：“These points suggest strongly that **the sediments have been moved about** and some of the old charcoal has been re-deposited in younger layers.”	“这些事实强烈表明，**沉积层曾被扰动、被重新搬动过**，一些古老的木炭被重新沉积在较年轻的地层中。”	A：“*different layers of sediment have been mixed over time*” 正是对上句的概括——沉积层被移动、重新沉积，等于不同地层被混在一起。B 说 sand evidence 应被忽略，原文并没有说“不该使用沙子的证据”；相反，沙子的年代反而是重要证据。C 说要等技术进步再重测，是在说未来计划，而原文只是顺带提到“bones have not yet been dated…developments make this a possibility”，主旨不是“需要重检整个地区”。D 说木炭不能定年，但文中前面刚说过用 radiocarbon dating 定年，所以 D 明显错误。故选 **A**。
37	**B**	根据作者的观点，自然现象可能对这个遗址产生了什么影响?	**第 5 段**：“Flood events more likely **explain the accumulation of megafauna remains, and could have mixed old bones with fresh deposits**.”	“洪水事件更有可能**解释巨型动物遗骸为何在此聚集，并且可能把古老的骨骼与新的沉积物混在一起**。”	这里的自然现象是 **flood events**。B 选项“Floods could have disturbed the archaeological evidence（洪水可能扰乱了考古证据）”正是“混合旧骨与新沉积物”的释义。A 说洪水导致巨型动物死亡，原文并没有把“死亡原因”归因于洪水，只说解释‘积累的位置’。C/D 说的是 bushfires 的影响，而原文 bushfires 只是说把木炭冲刷进渠道，并没有说因此“阻止人类定居”或“毁坏大部分证据”。因此选择 **B**。
38	**D**	作者对于 1876 年生活在该遗址上的人们作出了什么推测?	**第 5 段**：“European graziers also disturbed the site in 1876 by constructing a well… we speculate that the graziers made sure it was protected… **by lining the surface with small stones collected from further afield, including prehistoric quarries.**”	“欧洲牧民在 1876 年修井取水时也破坏了这一地点……我们推测，为了保护井面不被牛蹄踩坏，他们**用从更远处采来的小石块（包括史前采石场的石头）铺在地表**。”	D：“They brought stones there from another area（他们从别处把石头运到这里）”正好对应“stones collected from further afield”。A 说他们饲养的牛骨可能被误认成巨型动物骨骼，文中完全没有提到。B 说他们发现土壤太潮湿不适合耕种，原文提到的是 waterlogged soil 但用来解释“牛蹄把石头和牛骨压得更深”，不是农耕问题。C 说他们让牛自由活动，与“为了保护井面而铺石头”不符，因此都排除。
39	**B**	在最后一段中，作者对澳大利亚的巨型动物提出了什么建议（推论)?	**第 6 段**：“Using a mathematical model, it was found that a group of 10 people killing only one juvenile Diprotodon each year would be sufficient to bring about the extinction of that species within 1,000 years.”	“通过一个数学模型发现：如果一群 10 个人每年只猎杀一只幼年的 Diprotodon，在 1,000 年之内就足以使该物种灭绝。”	该句说明：**即使每年被杀的数量很少，长期累积仍可导致灭绝**。B “Megafauna could have died out as a result of small numbers being killed year after year（巨型动物可能是因为每年只有少量个体被猎杀、长期积累最终灭绝的）”是对这句话的直接概括。A 提到“快速气候变化”，而作者在这一段恰恰是用模型来说明人类捕猎即可导致灭绝，用来反驳“气候变化”单因说。C 说“当时人类数量可能太少，不足以导致灭绝”，与模型结论相反。D 讨论“古代动物与现代动物灭绝不可类比”，文中也没有提到，所以正确答案为 **B**。
40	**D**	下列哪一项最能代表作者对 Field 和 Wroe 的批评?	**第 4 段**（开头和中段）：“But is the case proposed by Field and Wroe clear-cut? We carried out a reanalysis…that brings into question their conclusions… our analysis revealed a number of **inconsistencies**.”	“但是，Field 和 Wroe 提出的论证真的如此一目了然吗？我们对 Cuddie Springs 的科学数据做了重新分析，这些分析**使他们的结论受到质疑**……我们的分析揭示出了许多**不一致之处**。”	作者并不是说 Field 和 Wroe 挖得不够深（B）、技术不行（C），而是强调：他们的数据中存在多处“不一致”，从而使结论不可靠。D：“Their conclusions were based on inconsistent data（他们的结论建立在前后不一致的数据之上）”正好点中这条批评。A 说“methods were not well thought out（方法没想清楚）”太宽泛，文中并未细说方法设计不周，只是从数据本身提出质疑，因此最佳答案是 **D**。