

1

00:00:00,000 --> 00:00:10,000

Look at this thing. It is a monster.

2

00:00:10,000 --> 00:00:15,000

Do we have a clear understanding of why the woolly mammoth went completely extinct?

3

00:00:15,000 --> 00:00:17,000

No, we really don't.

4

00:00:19,000 --> 00:00:21,000

Oh, look at this!

5

00:00:21,000 --> 00:00:23,000

This is a huge boat.

6

00:00:23,000 --> 00:00:24,000

Excellent.

7

00:00:24,000 --> 00:00:26,000

Nice preservation.

8

00:00:31,000 --> 00:00:36,000

The whole wall is literally just disintegrating.

9

00:00:36,000 --> 00:00:38,000

Josh, look out!

10

00:00:38,000 --> 00:00:40,000

It's collapsing!

11

00:00:50,000 --> 00:00:56,000

The woolly mammoth was the king of the Ice Age and the largest mammal ever to walk the Earth.

12

00:00:57,000 --> 00:01:02,000

For millions of years they dominated the planet from Asia to Europe to North America.

13

00:01:02,000 --> 00:01:08,000

But then about 10,000 years ago, something went wrong and mammoths rapidly went extinct.

14

00:01:10,000 --> 00:01:16,000

Now, scientists across the globe are investigating to determine why the mammoth vanished

15

00:01:16,000 --> 00:01:19,000

and what their fate might mean for our own future.

16

00:01:19,000 --> 00:01:24,000

In Canada, gold miners are finding mammoth bones trapped in ancient ice

17

00:01:24,000 --> 00:01:29,000

and scientists are using these remains to decipher Earth's ancient environment.

18

00:01:29,000 --> 00:01:38,000

And half a world away, Korean geneticists have a radical idea to study the mammoth firsthand by bringing it back to life.

19

00:01:38,000 --> 00:01:45,000

In a real-world version of Jurassic Park, they plan to clone the mammoth and return the species from the grave.

20

00:01:45,000 --> 00:01:52,000

But to pull it off, they'll need DNA trapped deep in the ice at the northern reaches of the planet.

21

00:01:55,000 --> 00:02:02,000

I'm embarking on a quest to find the smallest fragments of life to restore the largest of beasts.

22

00:02:02,000 --> 00:02:05,000

The fate of the woolly mammoth isn't just ancient history.

23

00:02:05,000 --> 00:02:09,000

It's a puzzle that may have huge implications for humanity.

24

00:02:09,000 --> 00:02:14,000

So bundle up, because we're headed north to unlock the mysteries of the mammoth.

25

00:02:15,000 --> 00:02:18,000

My name is Josh Gates.

26

00:02:18,000 --> 00:02:19,000

Look at that!

27

00:02:19,000 --> 00:02:23,000

With a degree in archaeology and a passion for exploration.

28

00:02:23,000 --> 00:02:28,000

I have a tendency to end up in some very strange situations.

29

00:02:28,000 --> 00:02:29,000

This is horrible.

30

00:02:29,000 --> 00:02:31,000

This is officially horrible.

31

00:02:31,000 --> 00:02:37,000

My travels have taken me to the ends of the Earth as I investigate the greatest legends in history.

32

00:02:37,000 --> 00:02:39,000

We're going to fly, let's go!

33

00:02:39,000 --> 00:02:42,000

This is Expedition Unknown.

34

00:02:43,000 --> 00:02:49,000

My expedition begins on the other side of North America in the small Canadian city of Whitehorse.

35

00:02:54,000 --> 00:02:56,000

Welcome to the Yukon.

36

00:02:56,000 --> 00:02:59,000

It's one of the most naturally stunning places in the world,

37

00:02:59,000 --> 00:03:01,000

but it's also one of the most sparsely populated.

38

00:03:01,000 --> 00:03:04,000

So very few people are around to approach the expedition.

39

00:03:04,000 --> 00:03:08,000

Tens of thousands of years ago, this area was teeming with woolly mammoth.

40

00:03:10,000 --> 00:03:14,000

To learn what happened to them, I'm headed to the Yukon Beringia Interpretive Center,

41

00:03:14,000 --> 00:03:17,000

a scientific shrine to the Ice Age.

42

00:03:17,000 --> 00:03:20,000

Dr. Grant Zazula is the chief paleontologist,

43

00:03:20,000 --> 00:03:23,000

and is going to give me a crash course in Mammoth 101.

44

00:03:23,000 --> 00:03:28,000

So here we are, this is our main exhibit gallery, and this is our woolly mammoth.

45

00:03:29,000 --> 00:03:30,000

Wow!

46

00:03:30,000 --> 00:03:31,000

Unbelievable!

47

00:03:31,000 --> 00:03:34,000

Yeah, so that's probably a large adult male.

48

00:03:34,000 --> 00:03:38,000

You can tell it's a male because it's got these giant curved tusks like that.

49

00:03:38,000 --> 00:03:41,000

I mean, look at this thing, it is a monster!

50

00:03:41,000 --> 00:03:46,000

Yeah, they're about 11 feet tall at the shoulder, 6 tons in weight.

51

00:03:46,000 --> 00:03:48,000

It's a large animal.

52

00:03:48,000 --> 00:03:49,000

It's incredible.

53

00:03:49,000 --> 00:03:50,000

Yeah.

54

00:03:50,000 --> 00:03:52,000

It's a giant giant giant.

55

00:03:52,000 --> 00:03:54,000

It's a giant giant.

56

00:03:54,000 --> 00:03:56,000

It's a giant giant.

57

00:03:56,000 --> 00:03:57,000

It's incredible.

58

00:03:57,000 --> 00:03:58,000

Yeah.

59

00:03:58,000 --> 00:04:01,000

Meet the master of all mammals.

60

00:04:01,000 --> 00:04:06,000

First appearing 2.5 million years ago, these beasts weighed up to 6 tons,

61

00:04:06,000 --> 00:04:11,000

with large dome-shaped heads and lethal 12-foot-long tusks.

62

00:04:13,000 --> 00:04:16,000

So I see a lot of other dangerous-looking skeletons mounted here.

63

00:04:16,000 --> 00:04:18,000

So who are the mammoth's cohorts?

64

00:04:18,000 --> 00:04:24,000

There's Ice Age horses, there's ground sloths, and camels, and saber-toothed cats.

65

00:04:24,000 --> 00:04:25,000

These are...

66

00:04:25,000 --> 00:04:26,000

Yes.

67

00:04:26,000 --> 00:04:31,000

Huge cats with these giant fangs that could just rip into a woolly mammoth if they wanted to.

68

00:04:31,000 --> 00:04:33,000

Just say nothing of the most dangerous animal of all.

69

00:04:33,000 --> 00:04:34,000

People.

70

00:04:34,000 --> 00:04:35,000

People, of course.

71

00:04:35,000 --> 00:04:41,000

You know, these are woolly mammoths that live alongside people for hundreds of thousands of years in Europe and Asia.

72

00:04:43,000 --> 00:04:48,000

So we know that people were hunting them because we find bones of woolly mammoths at archaeological sites.

73

00:04:48,000 --> 00:04:52,000

We also see the paintings of woolly mammoths in the caves in Europe dating to the Ice Age.

74

00:04:52,000 --> 00:04:55,000

So we know that people had a relationship with woolly mammoths.

75

00:04:55,000 --> 00:05:01,000

In fact, mammoths were so resilient, the very last ones died out only 4,000 years ago.

76

00:05:01,000 --> 00:05:04,000

That means while the pyramids were being constructed in Egypt,

77

00:05:04,000 --> 00:05:09,000

people in the Arctic were still running into these prehistoric behemoths.

78

00:05:09,000 --> 00:05:16,000

Do we have a clear understanding of why something as hardy and huge as the woolly mammoth went completely extinct?

79

00:05:16,000 --> 00:05:17,000

No, we really don't.

80

00:05:17,000 --> 00:05:21,000

It could have been climate change that caused a lot of stress on these populations,

81

00:05:21,000 --> 00:05:24,000

and then people were obviously hunting these animals too.

82

00:05:24,000 --> 00:05:26,000

Maybe it was disease.

83

00:05:26,000 --> 00:05:27,000

But you don't know yet.

84

00:05:27,000 --> 00:05:32,000

We still don't have a clear understanding of what actually drove these animal populations into extinction.

85

00:05:32,000 --> 00:05:38,000

The Beringia Center's impressive collection of mammoth bones comes mostly from one surprising source,

86

00:05:38,000 --> 00:05:44,000

a gold mine north of Whitehorse that turns up priceless remains along with their precious metals.

87

00:05:44,000 --> 00:05:47,000

Grant invites me on his next expedition.

88

00:05:48,000 --> 00:05:56,000

In the Yukon Minute, we're off to Dawson City, home of the great Klondike Gold Rush of 1896.

89

00:05:56,000 --> 00:06:02,000

This is no milk run, it's 350 miles through some of the least populated land on Earth.

90

00:06:02,000 --> 00:06:08,000

Five hours later, the endless forests give way to signs of civilization.

91

00:06:09,000 --> 00:06:15,000

Dawson City was the Yukon's first capital, and shortly after the 1896 gold strike,

92

00:06:15,000 --> 00:06:19,000

it exploded into a frontier city of 40,000 people.

93

00:06:19,000 --> 00:06:24,000

Today it's down to 1,300, but gold mining is still an active industry.

94

00:06:24,000 --> 00:06:28,000

Smack in the middle of Dawson City is the historic downtown hotel.

95

00:06:28,000 --> 00:06:33,000

While Grant parks, I walk into what feels like Westworld and the sounds of an old timey piano.

96

00:06:39,000 --> 00:06:47,000

Nearby is an old timey person who keeps a watchful eye over the saloon.

97

00:06:47,000 --> 00:06:52,000

How are you, I'm Josh. I'm Captain Terry Lee. Captain Terry, how are you? I'm fine.

98

00:06:52,000 --> 00:06:59,000

What am I getting myself into here? You're about to enter into the Sartol Cocktail Club.

99

00:07:00,000 --> 00:07:04,000

What is a Sartol Cocktail?

100

00:07:04,000 --> 00:07:11,000

Sartol Cocktail is a human amputated toe that is completely necrotic.

101

00:07:11,000 --> 00:07:17,000

It's an actual human toe? Human toe. Where did this toe come from? Somebody's foot.

102

00:07:17,000 --> 00:07:25,000

Well, ask a stupid question. That's a human toe. That is, that's officially a human toe.

103

00:07:26,000 --> 00:07:31,000

The Sartol Cocktail is a tradition that's been going on here for more than 40 years.

104

00:07:31,000 --> 00:07:38,000

Local residents donate their little piggies and idiots like me belly up to the bar for the ultimate in bespoke cocktails.

105

00:07:38,000 --> 00:07:40,000

Alright, well, when in Rome...

106

00:07:40,000 --> 00:07:43,000

You can drink it fast. You can drink it slow.

107

00:07:43,000 --> 00:07:50,000

But your lips must touch this gnarly toe. Just you lips, Josh. It's up to you.

108

00:07:51,000 --> 00:07:54,000

It's your health. Slauncha.

109

00:08:01,000 --> 00:08:06,000

So, there it is. Oh my God. Count them to the clubs.

110

00:08:06,000 --> 00:08:10,000

This has been one of the weirdest experiences of my life, but an honor. Thank you.

111

00:08:10,000 --> 00:08:15,000

Before I end up with athletes' tongue, I'm back on the mammoth trail.

112

00:08:16,000 --> 00:08:24,000

A few miles outside of town, we drive into Gold Country and we begin to see evidence of a massive mining operation.

113

00:08:24,000 --> 00:08:31,000

Grant and his team have been contacted by the owners, who have reportedly discovered ancient animal bones during their excavations.

114

00:08:31,000 --> 00:08:38,000

Is it? Frozen mud? It smells like mammoth to me. Let's check it out. Let's go.

115

00:08:39,000 --> 00:08:48,000

We grab some tools and bags for specimen collection and meet up with Grant's colleague, paleontologist Dick Mold, who's already gotten the party started here.

116

00:08:48,000 --> 00:08:50,000

Hey, look at you. You're already at work.

117

00:08:50,000 --> 00:08:58,000

There are bones all around the place. Look. A tibia horse. Beautiful. Nice mandible of a stepbison. But this one.

118

00:08:58,000 --> 00:09:03,000

This is a mandible, a lured jaw of a wild horse. And all the teeth in? Yeah.

119

00:09:03,000 --> 00:09:07,000

There's so many bones around and it's all over the place.

120

00:09:08,000 --> 00:09:13,000

These bones are up to 10,000 years old. So how did they end up laying on the ground?

121

00:09:13,000 --> 00:09:17,000

The answer has to do with the terrifying cliff that's slowly collapsing behind us.

122

00:09:17,000 --> 00:09:25,000

You can start to feel the cold and the firmer frost. You really can. It's actually temperatures dropping as you get close to the wall.

123

00:09:25,000 --> 00:09:29,000

So underneath all this stinky mud is just solid ice.

124

00:09:30,000 --> 00:09:35,000

Look at that too. Right there you can see it more clearly. That's ice.

125

00:09:35,000 --> 00:09:40,000

This is all ice that's 25 or 30,000 years old from the ice age.

126

00:09:45,000 --> 00:09:53,000

We begin to walk up to the main mine and everywhere we look we find ice age remains from animals that lived alongside the mammoth.

127

00:09:53,000 --> 00:09:57,000

It's hard not to notice that the hillside is drenched by a rushing stream.

128

00:09:57,000 --> 00:10:02,000

And as we trudge through it we make another discovery. Canadian gold miner Guy Fevron.

129

00:10:02,000 --> 00:10:05,000

How's it going man? Good. Josh. Guy. Nice to meet you.

130

00:10:05,000 --> 00:10:13,000

Guy's the owner of this mine. He's been working here for generations out in the Klondike and finding gold and helping us find bones as well.

131

00:10:13,000 --> 00:10:17,000

Anytime we're in the frozen black mud it's a recipe for bones.

132

00:10:17,000 --> 00:10:20,000

Where is all this water coming from?

133

00:10:21,000 --> 00:10:27,000

We don't protect of gear and Guy leads us to the source of the stream which isn't exactly a natural spring.

134

00:10:29,000 --> 00:10:31,000

This is incredible.

135

00:10:36,000 --> 00:10:43,000

This is called placer mining. High pressure water cannons called monitors are used to blast the permafrost in search of gold.

136

00:10:43,000 --> 00:10:48,000

In the process they free prehistoric remains from their icy tombs.

137

00:10:50,000 --> 00:10:53,000

Do you just let it go or do you aim this thing? What are you doing?

138

00:10:53,000 --> 00:11:00,000

We can steer it around. If we got an operator for it they'll sit there and cut the gravel which is actually just sinking the gravel down.

139

00:11:00,000 --> 00:11:03,000

So this thing can do some serious damage? It can.

140

00:11:03,000 --> 00:11:07,000

Can I run it? Yeah you betcha. You're making a huge mistake here. I love this.

141

00:11:11,000 --> 00:11:15,000

Right about now you might notice the dumb grin that I can't wipe off my face.

142

00:11:15,000 --> 00:11:18,000

Suck it permafrost.

143

00:11:18,000 --> 00:11:24,000

This baby is the ultimate super soaker. Powerful enough to bore straight into the permafrost.

144

00:11:24,000 --> 00:11:27,000

Not to mention launch a person clear across the valley.

145

00:11:27,000 --> 00:11:34,000

Hey Josh we're gonna go over here and have a look for some bones so make sure you keep this thing over here so you don't mow it down okay?

146

00:11:34,000 --> 00:11:37,000

I make no promises Grant. Okay. I'll work on this side.

147

00:11:38,000 --> 00:11:44,000

While I break apart the rock and ice ahead of us Grant and Dick investigate to see if my blasting turns anything up.

148

00:11:45,000 --> 00:11:49,000

Hey Josh! Josh! You got something?

149

00:11:58,000 --> 00:12:03,000

I'm on a hunt for the largest mammal that ever walked the earth, the woolly mammoth.

150

00:12:03,000 --> 00:12:13,000

Here in the Canadian Yukon scientists are working with gold miners to solve the mystery of why it vanished by hunting for ancient remains using ice shattering water cannons.

151

00:12:14,000 --> 00:12:17,000

And it looks like we just hit something.

152

00:12:17,000 --> 00:12:19,000

Hey Josh! Hey! Hey!

153

00:12:19,000 --> 00:12:22,000

We got something over here! We got something big!

154

00:12:28,000 --> 00:12:32,000

Holy! Yeah we got something big. Oh my god!

155

00:12:32,000 --> 00:12:36,000

Ready? Take that in. Oh wow!

156

00:12:36,000 --> 00:12:40,000

Look at this! This is mammoth yeah?

157

00:12:40,000 --> 00:12:41,000

100%

158

00:12:41,000 --> 00:12:44,000

Yes. Look how wonderful preserved.

159

00:12:44,000 --> 00:12:48,000

What bone is this? That's the older one. Yeah it's the lower arm.

160

00:12:48,000 --> 00:12:53,000

There must be more of that because that's so well preserved you can't imagine it just kind of popping under the ground.

161

00:12:53,000 --> 00:12:55,000

It must be cleaning in the water. Yeah yeah.

162

00:12:57,000 --> 00:13:00,000

So let's keep on looking around as Dick's cleaning that off and see if we find anything more.

163

00:13:00,000 --> 00:13:04,000

The thing that's tricky though is like that bone could have been here, it could have been up there.

164

00:13:04,000 --> 00:13:08,000

I can and move so much stuff that it's like who knows where it came from.

165

00:13:08,000 --> 00:13:11,000

Yeah, hey! Oh another one!

166

00:13:11,000 --> 00:13:14,000

This is a huge bone.

167

00:13:14,000 --> 00:13:21,000

The mammoth bone is still deeply embedded in the frozen mud and it takes two of us with all our strength to pull it out.

168

00:13:25,000 --> 00:13:30,000

Okay what bone is this? Well I think it's a humerus of a woolly mammoth right?

169

00:13:30,000 --> 00:13:33,000

There's nothing funny about this. Yeah humerus joke huh?

170

00:13:33,000 --> 00:13:36,000

It's a required joke. It's a parmbo yes.

171

00:13:36,000 --> 00:13:39,000

Parmbo, you think these are from the same animal? Maybe they will fit to each other.

172

00:13:39,000 --> 00:13:45,000

To determine if our two finds came from the same mammoth, there's some assembly required.

173

00:13:45,000 --> 00:13:47,000

Here we go, come on in.

174

00:13:49,000 --> 00:13:53,000

Look at that it locks right in. Oh yeah, there's one individual for sure.

175

00:13:53,000 --> 00:13:55,000

Is this from the same animal? Yeah it has to be.

176

00:13:55,000 --> 00:13:59,000

Look they're so well preserved they're found 20 feet from one another at the same site.

177

00:13:59,000 --> 00:14:02,000

Congratulations! Oh my god that's so cool.

178

00:14:02,000 --> 00:14:05,000

You are a mammoth hunter. Thank you.

179

00:14:05,000 --> 00:14:10,000

It's obviously a lot of controversy about what happened to these animals. What do you think did them in?

180

00:14:10,000 --> 00:14:18,000

Well there are different hypotheses. We have the over kill that viruses came in and the mammoths passed away.

181

00:14:18,000 --> 00:14:23,000

We have the hypothesis of the over kill that humans were over hunting these animals.

182

00:14:23,000 --> 00:14:30,000

But I think it's the over chill. It's the dramatic change of climate at the end of the Pleistocene.

183

00:14:30,000 --> 00:14:38,000

Remains like this are showing that at the end of the Ice Age temperatures dropped, freezing grasslands and water supplies for the mammoth.

184

00:14:38,000 --> 00:14:42,000

Then temperatures swung the other way and rapidly warmed.

185

00:14:42,000 --> 00:14:50,000

When you have higher temperatures, a great ocean surface needs more evaporation and then finally this mammoth step disappeared.

186

00:14:50,000 --> 00:14:58,000

Once you have habitat loss and you have human invasion into natural landscapes, animals will die.

187

00:15:01,000 --> 00:15:05,000

I'm elated at our discovery, but there is a sad irony here.

188

00:15:05,000 --> 00:15:13,000

The mammoth which Grant and Dick believe may have been a victim of climate change is being unearthed by our own deliberate erosion of the landscape.

189

00:15:13,000 --> 00:15:18,000

And we would be wise to remember that once a species dies out, it's gone forever.

190

00:15:18,000 --> 00:15:26,000

Or is it? It turns out that another brazen group of scientists believe it may be possible to rewind the hands of time.

191

00:15:27,000 --> 00:15:32,000

So I'm jetting across the Pacific to a place that hopes to resurrect the woolly mammoth.

192

00:15:34,000 --> 00:15:36,000

Seoul, South Korea.

193

00:15:40,000 --> 00:15:47,000

Welcome to Seoul. This is a place of awesome contradictions to city of temples and spaceships.

194

00:15:47,000 --> 00:15:54,000

For hundreds of years, Seoul has also been a seat of power, a place of politics and art, of cuisine and cultures.

195

00:15:54,000 --> 00:16:00,000

Today, it's all of those things and more. It's the past, the present and the future all rolled into one.

196

00:16:02,000 --> 00:16:08,000

Here, the future isn't just happening now, it happened yesterday and they're already on to something new.

197

00:16:08,000 --> 00:16:16,000

Seoul's high-tech computing scene is revolutionizing everything from buying a new car to picking out the perfect shade of makeup.

198

00:16:17,000 --> 00:16:25,000

Even the food looks like something out of science fiction, including ice cream cones that require special training to handle it.

199

00:16:27,000 --> 00:16:34,000

Thank you. Thank you. That should be enough. Keep it straight. Keep it straight. Yeah, that's the small?

200

00:16:34,000 --> 00:16:37,000

I would have bought a large, but my crew wasn't big enough.

201

00:16:37,000 --> 00:16:39,000

Want some?

202

00:16:41,000 --> 00:16:43,000

Son of a...

203

00:16:44,000 --> 00:16:51,000

But forget the ice cream. The most futuristic advancements here in Seoul are happening in a nondescript compound at the edge of the city.

204

00:16:51,000 --> 00:16:56,000

This is So-Am Biotech Laboratory, where I'm meeting cell biologist Jay Wong.

205

00:16:57,000 --> 00:17:00,000

Jay. Josh. Jay, nice to meet you. It's a pleasure.

206

00:17:00,000 --> 00:17:07,000

So-Am has made headlines as one of the world leaders in animal cloning, with aspirations to revive the woolly mammoth.

207

00:17:07,000 --> 00:17:11,000

Is this science fiction? Is this something that's possible?

208

00:17:11,000 --> 00:17:17,000

Well, I don't think it's fiction anymore, considering we've cloned hundreds of animals here thus far.

209

00:17:17,000 --> 00:17:20,000

And we're trying to apply that knowledge and bring it back to woolly mammoths.

210

00:17:20,000 --> 00:17:22,000

I'd love to see what you guys are up to.

211

00:17:22,000 --> 00:17:24,000

Yes, please. Follow me.

212

00:17:24,000 --> 00:17:30,000

Getting a peek into So-Am's facilities is rare, and I'm not exactly sure what to expect.

213

00:17:30,000 --> 00:17:33,000

So, welcome to our dog quarantine room.

214

00:17:33,000 --> 00:17:34,000

Wow, look at this place.

215

00:17:34,000 --> 00:17:38,000

These are where puppies that are waiting for quarantine are kept.

216

00:17:39,000 --> 00:17:41,000

So, these are all clone dogs?

217

00:17:41,000 --> 00:17:42,000

Yes, they are.

218

00:17:42,000 --> 00:17:46,000

Okay, so it is about a thousand times more adorable in here than I ever expected.

219

00:17:46,000 --> 00:17:52,000

To date, So-Am has cloned over 600 dogs, but second lives aren't cheap.

220

00:17:52,000 --> 00:17:57,000

The cost of a rerun of your favorite pet? A mere \$100,000.

221

00:17:57,000 --> 00:18:01,000

Are they all just for pets, for personal ownership?

222

00:18:01,000 --> 00:18:07,000

Some have a different purpose behind their birth, in which we clone dogs that had a very good career

223

00:18:07,000 --> 00:18:08,000

in helping people.

224

00:18:08,000 --> 00:18:14,000

So-Am has cloned some of the world's best-seeing eye and search-and-rescue dogs, including Tracker,

225

00:18:14,000 --> 00:18:19,000

who pulled the last survivor out of the wreckage of the Twin Towers on 9-11.

226

00:18:19,000 --> 00:18:21,000

When I think of cloning, I never really thought about that.

227

00:18:21,000 --> 00:18:26,000

You know, taking dogs that have a real skill set and trying to foster that and to pass it on.

228

00:18:26,000 --> 00:18:27,000

That's really cool.

229

00:18:27,000 --> 00:18:32,000

Jay tells me they've also cloned cows, pigs, deer, and even wolves.

230

00:18:32,000 --> 00:18:34,000

You wonder where this stops.

231

00:18:34,000 --> 00:18:36,000

And where do you keep the velociraptors?

232

00:18:37,000 --> 00:18:38,000

On a separate floor?

233

00:18:38,000 --> 00:18:40,000

That's highly confidential.

234

00:18:40,000 --> 00:18:42,000

Highly classified. I understand.

235

00:18:42,000 --> 00:18:44,000

You don't have to talk about it now.

236

00:18:45,000 --> 00:18:50,000

So-Am even combines material from different animals to study gene expression,

237

00:18:50,000 --> 00:18:55,000

like the glow-in-the-dark nails on this pooch, courtesy of jellyfish DNA.

238

00:18:56,000 --> 00:18:59,000

Now I'm going to take you into our clean facility.

239

00:18:59,000 --> 00:19:02,000

We're afraid we're going to have to change suits.

240

00:19:03,000 --> 00:19:06,000

Wow, we're trying to keep this place as clean as possible.

241

00:19:06,000 --> 00:19:11,000

To see the inner sanctum of the lab, Jay and I suit up for a sterile environment.

242

00:19:13,000 --> 00:19:14,000

Ready?

243

00:19:14,000 --> 00:19:15,000

Ready.

244

00:19:15,000 --> 00:19:16,000

Okay.

245

00:19:16,000 --> 00:19:20,000

We pass through an airlock that blows any remaining foreign particles off our bodies

246

00:19:20,000 --> 00:19:22,000

and head into the heart of the operation.

247

00:19:23,000 --> 00:19:27,000

And it just so happens, I picked a special day to visit the lab.

248

00:19:28,000 --> 00:19:32,000

Jay leads me into a delivery room, where a team of geneticists and vets

249

00:19:32,000 --> 00:19:35,000

are about to attempt a delivery of a cloned puppy.

250

00:19:36,000 --> 00:19:40,000

Leading up the operation is Dr. Huang Wu-Sook, the mastermind of So-Am

251

00:19:40,000 --> 00:19:43,000

and the world's leading animal cloning expert.

252

00:19:46,000 --> 00:19:50,000

In terms of the mammoth project, this is the same basic process that we're seeing here?

253

00:19:50,000 --> 00:19:55,000

Yes, in theory, we will be applying the same particles in the cloned mammoth as well.

254

00:19:57,000 --> 00:19:59,000

This is bigger than just a puppy.

255

00:19:59,000 --> 00:20:04,000

As he begins the surgery, it feels like I'm watching the future itself being born.

256

00:20:14,000 --> 00:20:20,000

I'm in South Korea at So-Am Biotech, one of the world leaders in the controversial technology of cloning.

257

00:20:21,000 --> 00:20:24,000

After a sterilization process that would impress Howard Hughes,

258

00:20:24,000 --> 00:20:30,000

cell biologist Jay Wong grants me exclusive access to witness the birth of a cloned dog.

259

00:20:37,000 --> 00:20:39,000

Oh my God!

260

00:20:39,000 --> 00:20:40,000

Wow!

261

00:20:40,000 --> 00:20:43,000

Honestly, this is nothing like I expected.

262

00:20:43,000 --> 00:20:49,000

Cloning is a cold word, but once the egg is inserted, the entire pregnancy is totally natural,

263

00:20:49,000 --> 00:20:53,000

and the results? Real? Precious? Life?

264

00:20:53,000 --> 00:20:59,000

But what about So-Am's most ambitious project? Cloning the currently extinct woolly mammoth?

265

00:20:59,000 --> 00:21:02,000

Some people might ask the question, why? Why cloning mammoth?

266

00:21:02,000 --> 00:21:05,000

You know, this is an animal that went extinct. Why try to revive it?

267

00:21:05,000 --> 00:21:10,000

If the mammoth can walk the earth one more time, then we'd be able to learn so much about the mammoths

268

00:21:10,000 --> 00:21:13,000

and its ecology than being in the fossil form.

269

00:21:13,000 --> 00:21:14,000

Sure.

270

00:21:14,000 --> 00:21:19,000

It sounds like a long shot, but anything seems possible when you hold a newborn clone in your hands.

271

00:21:20,000 --> 00:21:21,000

Cloning.

272

00:21:22,000 --> 00:21:24,000

Look at that.

273

00:21:29,000 --> 00:21:33,000

So this room is purposely kept dark.

274

00:21:33,000 --> 00:21:38,000

And you can see all these microscopes around here, and these are the micromanipulators.

275

00:21:38,000 --> 00:21:42,000

These manipulators are how DNA is extracted from the cell of a creature to be cloned

276

00:21:42,000 --> 00:21:45,000

and then injected into a waiting egg.

277

00:21:45,000 --> 00:21:49,000

In the case of the mammoth, it would be slipped into the egg of a modern elephant.

278

00:21:49,000 --> 00:21:53,000

Those live mammoth cells are the key to making this whole thing work.

279

00:21:53,000 --> 00:21:57,000

And to find them, they're using remains found trapped in the ice.

280

00:21:59,000 --> 00:22:04,000

Jay takes me to our final stop, the company's mammoth cloning project.

281

00:22:04,000 --> 00:22:07,000

What you're seeing in front of you is a mammoth tissue.

282

00:22:07,000 --> 00:22:08,000

This is mammoth tissue.

283

00:22:08,000 --> 00:22:09,000

It is.

284

00:22:11,000 --> 00:22:13,000

Wow, that's astounding.

285

00:22:13,000 --> 00:22:14,000

This is Ms. Park.

286

00:22:14,000 --> 00:22:15,000

Hello, Ms. Park.

287

00:22:15,000 --> 00:22:16,000

You can call me Kelly.

288

00:22:16,000 --> 00:22:17,000

Hi Kelly.

289

00:22:17,000 --> 00:22:19,000

She's Sensei Kelly for the day.

290

00:22:19,000 --> 00:22:23,000

And today she's going to teach you how to culture mammoth cells.

291

00:22:23,000 --> 00:22:28,000

Kelly and I get to work preparing the tissue samples for DNA extraction.

292

00:22:28,000 --> 00:22:32,000

First, the tissue is given a bath to remove any large impurities.

293

00:22:32,000 --> 00:22:36,000

Then we cut the tissue into finely ground mammoth burger.

294

00:22:36,000 --> 00:22:45,000

It's a pretty wild feeling to be cutting away here at a meat that's 10 or 20,000 years old.

295

00:22:45,000 --> 00:22:47,000

It's really incredible.

296

00:22:47,000 --> 00:22:53,000

The meat is then saturated in enzymes that break down the cells to free the DNA inside.

297

00:22:53,000 --> 00:22:54,000

To the incubator.

298

00:22:54,000 --> 00:22:58,000

To aid the process, samples are gently heated.

299

00:22:59,000 --> 00:23:00,000

Nice work.

300

00:23:00,000 --> 00:23:02,000

But here's the rub.

301

00:23:02,000 --> 00:23:06,000

No complete strand of mammoth DNA has ever been salvaged.

302

00:23:06,000 --> 00:23:14,000

That's because unlike the live cells used to clone the puppy, every mammoth cell discovered turns out to be damaged or degraded.

303

00:23:14,000 --> 00:23:17,000

In the case of mammoth, we're going to have to work with frozen tissue.

304

00:23:17,000 --> 00:23:20,000

And it's very hard to clone using frozen tissues.

305

00:23:20,000 --> 00:23:28,000

A single live cell with a complete DNA strand is the key to unlocking the mammoth's genetic code and bringing it back to life.

306

00:23:28,000 --> 00:23:31,000

So with a mammoth, you're really looking for that complete DNA.

307

00:23:31,000 --> 00:23:40,000

That's one of the reasons why we embark on expeditions so we can find that one cell that can be served as the raw material for the mammoth cloning.

308

00:23:40,000 --> 00:23:45,000

SOAM currently has scientists on the ground scouring for viable mammoth DNA.

309

00:23:45,000 --> 00:23:48,000

And they've arranged for me to join their latest mission.

310

00:23:48,000 --> 00:23:51,000

And those expeditions are primarily headed where?

311

00:23:51,000 --> 00:23:52,000

Siberia.

312

00:23:52,000 --> 00:23:58,000

I'm nodding on the outside, but inside I'm remembering that I didn't pack any long underwear.

313

00:23:58,000 --> 00:24:04,000

I leave the lab and board a flight that carries me 1700 miles north to the very edge of human existence.

314

00:24:06,000 --> 00:24:07,000

Siberia.

315

00:24:11,000 --> 00:24:15,000

In a place this fast, even the rental cars are bigger.

316

00:24:15,000 --> 00:24:17,000

Welcome to Siberia.

317

00:24:17,000 --> 00:24:23,000

5 million square miles of tundra, permafrost, swamps and forests.

318

00:24:23,000 --> 00:24:31,000

Collectively, it takes up almost all of northern Asia and represents about 10% of all the land on planet Earth.

319

00:24:31,000 --> 00:24:34,000

In other words, it's enormous.

320

00:24:35,000 --> 00:24:41,000

My Soviet-era monster truck could probably drive through anything, but I do hit the brakes for some local traffic.

321

00:24:50,000 --> 00:24:53,000

Come on. Come on.

322

00:24:53,000 --> 00:24:57,000

I feel like they don't respect that I could run them over with this thing.

323

00:24:58,000 --> 00:25:04,000

First stop on our Siberian quest is the largest town in these parts, Yakutsk,

324

00:25:04,000 --> 00:25:08,000

home to the Suam Laboratory's sister facility.

325

00:25:10,000 --> 00:25:13,000

Yakutsk is famously known as the coldest city on Earth.

326

00:25:13,000 --> 00:25:17,000

In the winter, temperatures can drop to 40 degrees below zero.

327

00:25:17,000 --> 00:25:21,000

Fortunately, it's summer, so I can walk outside without dropping dead.

328

00:25:22,000 --> 00:25:29,000

My first stop is the Yakutsk Outdoor Market, where I rendezvous with two scientists looking to find viable mammoth DNA.

329

00:25:29,000 --> 00:25:33,000

Paleontologists Alexei Tikanov and Simeon Grigoryev.

330

00:25:33,000 --> 00:25:34,000

Alexei.

331

00:25:34,000 --> 00:25:36,000

Yeah. Nice to meet you.

332

00:25:36,000 --> 00:25:37,000

Nice to meet you, Josh.

333

00:25:37,000 --> 00:25:38,000

Hi.

334

00:25:38,000 --> 00:25:39,000

Oh, my name's here.

335

00:25:39,000 --> 00:25:40,000

Hi, Simeon. Nice to meet you.

336

00:25:40,000 --> 00:25:41,000

Nice to see you.

337

00:25:41,000 --> 00:25:42,000

Thank you. Happy to see you too.

338

00:25:42,000 --> 00:25:43,000

You're welcome to Siberia.

339

00:25:43,000 --> 00:25:44,000

Thank you very much.

340

00:25:44,000 --> 00:25:45,000

So what's the plan?

341

00:25:45,000 --> 00:25:50,000

The plan to organize an expedition to Batagay.

342

00:25:50,000 --> 00:25:51,000

What's Batagay?

343

00:25:51,000 --> 00:25:53,000

Batagay is a settlement.

344

00:25:53,000 --> 00:25:56,000

It's around 400 miles from here to the north.

345

00:25:56,000 --> 00:25:58,000

Wow. Near the Arctic Circle.

346

00:25:58,000 --> 00:26:00,000

Inside already Arctic Circle, yes.

347

00:26:00,000 --> 00:26:01,000

Wow.

348

00:26:01,000 --> 00:26:05,000

We have visited this place looking for the remains of palaces and animals,

349

00:26:05,000 --> 00:26:07,000

and first of all of woolly mammoths,

350

00:26:07,000 --> 00:26:12,000

because the preservation of the material can be excellent.

351

00:26:12,000 --> 00:26:14,000

So a good chance of finding something.

352

00:26:14,000 --> 00:26:16,000

Yes, it's a good chance.

353

00:26:16,000 --> 00:26:17,000

All right, so where do we start?

354

00:26:17,000 --> 00:26:19,000

We start from here, from market.

355

00:26:19,000 --> 00:26:20,000

Okay.

356

00:26:20,000 --> 00:26:25,000

We can buy good things from here.

357

00:26:25,000 --> 00:26:28,000

Batagay is off more than the beaten path.

358

00:26:28,000 --> 00:26:29,000

It's off the grid.

359

00:26:29,000 --> 00:26:32,000

We'll have to bring everything we need to survive,

360

00:26:32,000 --> 00:26:36,000

which means we have to shop while the shopping is good.

361

00:26:36,000 --> 00:26:39,000

Proper headgear is, of course, a must.

362

00:26:39,000 --> 00:26:42,000

I'm trying to blend in.

363

00:26:42,000 --> 00:26:46,000

As well as the latest in Russian stealth technology.

364

00:26:47,000 --> 00:26:49,000

Can you even see me right now, Brian?

365

00:26:49,000 --> 00:26:50,000

Hey, has anybody seen Josh?

366

00:26:50,000 --> 00:26:52,000

I heard him just a second ago.

367

00:26:52,000 --> 00:26:54,000

He was literally just right here.

368

00:26:54,000 --> 00:26:57,000

Guys, I'm right here.

369

00:26:57,000 --> 00:26:59,000

Tell you one thing, this stuff works.

370

00:26:59,000 --> 00:27:03,000

Some of the items on Alexi's wish list are a bit worrying.

371

00:27:03,000 --> 00:27:04,000

Is this necessary?

372

00:27:04,000 --> 00:27:05,000

Do I really need this?

373

00:27:05,000 --> 00:27:07,000

Yes, you really need this.

374

00:27:07,000 --> 00:27:08,000

Where are we going?

375

00:27:08,000 --> 00:27:11,000

Now that Team Pleistocene is fully outfitted for the journey ahead,

376

00:27:11,000 --> 00:27:15,000

we're ready for our flight into northern Siberia.

377

00:27:17,000 --> 00:27:19,000

The heart of Mammoth Country.

378

00:27:19,000 --> 00:27:21,000

Okay, what's our back count?

379

00:27:21,000 --> 00:27:22,000

30 green.

380

00:27:22,000 --> 00:27:25,000

For being one of the most northerly cities in the world,

381

00:27:25,000 --> 00:27:28,000

the Yucuzk Airport is surprisingly modern.

382

00:27:28,000 --> 00:27:31,000

I wish I could say the same about our airplane.

383

00:27:31,000 --> 00:27:32,000

Oh, boy.

384

00:27:38,000 --> 00:27:41,000

I'm on my way to the town of Batagay in northern Siberia,

385

00:27:41,000 --> 00:27:44,000

with a team of paleontologists hoping to clone

386

00:27:44,000 --> 00:27:47,000

the long extinct woolly mammoth.

387

00:27:47,000 --> 00:27:49,000

To get the DNA they need, though,

388

00:27:49,000 --> 00:27:52,000

we have to pack into an airplane only slightly younger

389

00:27:52,000 --> 00:27:54,000

than the mammoth we're hunting.

390

00:27:54,000 --> 00:27:56,000

Welcome aboard the Antonov An-26.

391

00:27:56,000 --> 00:28:00,000

On this bucket of bolts, navigation is done entirely by hand.

392

00:28:00,000 --> 00:28:03,000

Weird pieces of machinery are bolted to the cabin ceiling,

393

00:28:03,000 --> 00:28:05,000

the lavatory is, just forget it,

394

00:28:05,000 --> 00:28:07,000

and the luggage compartment,

395

00:28:07,000 --> 00:28:10,000

it's conveniently located right behind us.

396

00:28:11,000 --> 00:28:13,000

After a few dozen hail marries,

397

00:28:13,000 --> 00:28:16,000

and some other stuff I learned in Hebrew and Arabic for good measure,

398

00:28:16,000 --> 00:28:19,000

the engines roar to life and we take off.

399

00:28:23,000 --> 00:28:24,000

We're up.

400

00:28:26,000 --> 00:28:29,000

In case you're wondering, there is meal service on the flight.

401

00:28:29,000 --> 00:28:30,000

Thank you.

402

00:28:36,000 --> 00:28:39,000

Man, Alicia's not handing out parachutes.

403

00:28:41,000 --> 00:28:46,000

As we fly north, it's impossible not to be struck by what we're flying over.

404

00:28:46,000 --> 00:28:51,000

It's just pure wilderness, forests and swamps and lakes,

405

00:28:51,000 --> 00:28:53,000

and no roads, no cities, no people.

406

00:28:53,000 --> 00:28:58,000

But underneath all of this down here are millions of tons of permafrost,

407

00:28:58,000 --> 00:29:01,000

and somewhere in all of that ancient ice,

408

00:29:01,000 --> 00:29:03,000

there are remains of mammoths,

409

00:29:03,000 --> 00:29:06,000

and just maybe one intact strand of DNA

410

00:29:06,000 --> 00:29:09,000

that could bring them back to life.

411

00:29:11,000 --> 00:29:15,000

We fly a harrowing 400 miles closer to the north pole

412

00:29:15,000 --> 00:29:19,000

and begin our descent into one of the more remote towns on Earth.

413

00:29:24,000 --> 00:29:26,000

That's a guy. Here we come.

414

00:29:29,000 --> 00:29:33,000

Once we touch down, we quickly offload our gear in awaiting convoy

415

00:29:33,000 --> 00:29:36,000

and drive off in search of mammoth DNA.

416

00:29:37,000 --> 00:29:39,000

Okay, here we go.

417

00:29:40,000 --> 00:29:43,000

Okay, so, Alexi, where are we headed?

418

00:29:43,000 --> 00:29:46,000

We are going to a very interesting place.

419

00:29:46,000 --> 00:29:48,000

We call this place Butterguy Creator.

420

00:29:48,000 --> 00:29:51,000

It's a very important creator for permafrost study.

421

00:29:51,000 --> 00:29:52,000

Great.

422

00:29:52,000 --> 00:29:57,000

We drive across an eerie landscape that feels unlike anywhere I've ever seen.

423

00:29:57,000 --> 00:30:00,000

It's a long bumpy slog down a mud track,

424

00:30:00,000 --> 00:30:03,000

and eventually the gulfs are gone.

425

00:30:03,000 --> 00:30:05,000

We're heading to the next stop,

426

00:30:05,000 --> 00:30:08,000

where we'll be able to see the place I've ever seen.

427

00:30:08,000 --> 00:30:11,000

It's a long bumpy slog down a mud track,

428

00:30:11,000 --> 00:30:14,000

and eventually the ground becomes too soft to continue driving.

429

00:30:14,000 --> 00:30:16,000

Okay, here we are.

430

00:30:16,000 --> 00:30:18,000

We're here. Great. Okay, let's do it.

431

00:30:20,000 --> 00:30:23,000

We'll walk from here, so we unload our gear

432

00:30:23,000 --> 00:30:26,000

and prepare for a long hike through melting permafrost.

433

00:30:26,000 --> 00:30:29,000

Since nothing destroys DNA faster than heat,

434

00:30:29,000 --> 00:30:33,000

the most important thing in our kit is a cooler lined with dry ice

435

00:30:33,000 --> 00:30:35,000

that we might discover.

436

00:30:45,000 --> 00:30:47,000

So, what do we have living up here, Alexi?

437

00:30:47,000 --> 00:30:51,000

Some local people, they have some stories about Chuchuna.

438

00:30:51,000 --> 00:30:55,000

Chuchuna? Chuchuna is what? It's like, like, bigfoot?

439

00:30:55,000 --> 00:31:00,000

Yeah, and the females are very dangerous for big guys like you.

440

00:31:00,000 --> 00:31:02,000

They're looking for mates, yeah?

441

00:31:02,000 --> 00:31:05,000

Yes, they're looking to breed with somebody.

442

00:31:05,000 --> 00:31:07,000

Alright, I'll take that under advisement.

443

00:31:07,000 --> 00:31:10,000

A bunch of horny bigfoots up here.

444

00:31:15,000 --> 00:31:19,000

With our eyes peeled for the one bigfoot you really don't want to find,

445

00:31:19,000 --> 00:31:23,000

our group finally approaches the northern rim of the Badagai crater,

446

00:31:23,000 --> 00:31:26,000

and it is truly the edge of the world.

447

00:31:26,000 --> 00:31:28,000

Welcome to Badagai Crater.

448

00:31:28,000 --> 00:31:30,000

Whoa.

449

00:31:33,000 --> 00:31:35,000

Look at that!

450

00:31:35,000 --> 00:31:37,000

That is insane.

451

00:31:37,000 --> 00:31:41,000

I'm in northern Siberia with a team of paleontologists

452

00:31:41,000 --> 00:31:46,000

looking for preserved remains of the woolly mammoth trapped in the permafrost,

453

00:31:46,000 --> 00:31:50,000

and they've just led me to a place that leaves me speechless.

454

00:31:50,000 --> 00:31:52,000

Welcome to Badagai Crater.

455

00:31:52,000 --> 00:31:54,000

Whoa.

456

00:31:58,000 --> 00:32:00,000

Look at that!

457

00:32:00,000 --> 00:32:03,000

That is insane.

458

00:32:04,000 --> 00:32:07,000

The crater is unlike anything I have ever seen,

459

00:32:07,000 --> 00:32:09,000

a postcard from another planet.

460

00:32:09,000 --> 00:32:13,000

If you saw it in a James Cameron movie, you'd think it was a digital effect,

461

00:32:13,000 --> 00:32:16,000

but it's actually stunningly real,

462

00:32:16,000 --> 00:32:20,000

nearly a mile long and up to 350 feet deep.

463

00:32:20,000 --> 00:32:24,000

And what's really incredible, it didn't form naturally.

464

00:32:24,000 --> 00:32:26,000

How did it get here?

465

00:32:26,000 --> 00:32:29,000

It's interesting. 45 years ago, it was just this surface.

466

00:32:29,000 --> 00:32:30,000

It was like this?

467

00:32:30,000 --> 00:32:31,000

Like this.

468

00:32:31,000 --> 00:32:36,000

But the guys decided to excavate some rocks,

469

00:32:36,000 --> 00:32:38,000

some material to make a road,

470

00:32:38,000 --> 00:32:43,000

and they removed trees, they removed moss covering everything.

471

00:32:43,000 --> 00:32:48,000

And when the ice was exposed to the surface,

472

00:32:48,000 --> 00:32:50,000

the sun started to melt.

473

00:32:50,000 --> 00:32:52,000

So it just started to eat away?

474

00:32:52,000 --> 00:32:56,000

Start to eat, to eat, to eat, and after 45 years we have this.

475

00:32:57,000 --> 00:32:59,000

And it isn't done growing.

476

00:32:59,000 --> 00:33:02,000

This mile-wide mega-slump, as geologists call it,

477

00:33:02,000 --> 00:33:05,000

widens about 60 feet every year,

478

00:33:05,000 --> 00:33:09,000

as its walls melt away, collapse, and reveal ancient bones.

479

00:33:09,000 --> 00:33:12,000

So up here, this is present day.

480

00:33:12,000 --> 00:33:15,000

At the bottom of the wall, what year is it?

481

00:33:15,000 --> 00:33:18,000

It's approximately 300,000 years ago.

482

00:33:19,000 --> 00:33:21,000

It's like slicing through time.

483

00:33:21,000 --> 00:33:24,000

It's slicing for 300,000 years.

484

00:33:24,000 --> 00:33:25,000

Incredible.

485

00:33:25,000 --> 00:33:27,000

So now that I see it, I understand it.

486

00:33:27,000 --> 00:33:30,000

You've got hundreds of thousands of years of ice exposed here,

487

00:33:30,000 --> 00:33:32,000

and that ice is filled with samples.

488

00:33:32,000 --> 00:33:34,000

How do you find those samples?

489

00:33:34,000 --> 00:33:36,000

How do you get at those preserved remains?

490

00:33:36,000 --> 00:33:37,000

We have to look.

491

00:33:39,000 --> 00:33:41,000

Since the walls of the crater are unstable,

492

00:33:41,000 --> 00:33:45,000

we decide to send up our drone to scout ahead for possible remains.

493

00:33:56,000 --> 00:34:00,000

We look for outcroppings of bone that emerge from the melting curtain of permafrost.

494

00:34:00,000 --> 00:34:02,000

It isn't as simple as it sounds.

495

00:34:02,000 --> 00:34:05,000

So, Alexei, where is the best place to search for the bones?

496

00:34:05,000 --> 00:34:08,000

Most interesting for us is the lower part of walls.

497

00:34:08,000 --> 00:34:11,000

Between the ice and already melted sediments.

498

00:34:11,000 --> 00:34:13,000

Aha, because stuff's falling down there?

499

00:34:13,000 --> 00:34:17,000

Fall down, and of course it's the most recent finds.

500

00:34:18,000 --> 00:34:22,000

The drone sweeps up and down the crater as we stay riveted to the screen.

501

00:34:22,000 --> 00:34:26,000

It's tough because there's so many trees down there that look like bones.

502

00:34:26,000 --> 00:34:28,000

Yes, sometimes it's quite difficult.

503

00:34:28,000 --> 00:34:30,000

This is all wood, yeah?

504

00:34:30,000 --> 00:34:33,000

Yes, all wood which fall down from the slope.

505

00:34:36,000 --> 00:34:38,000

What's that? Is that wood?

506

00:34:39,000 --> 00:34:41,000

Eventually, our patience pays off.

507

00:34:41,000 --> 00:34:43,000

No, this is a bone.

508

00:34:43,000 --> 00:34:45,000

That's a bone? There, yeah?

509

00:34:45,000 --> 00:34:47,000

This is it. A mammoth bone.

510

00:34:47,000 --> 00:34:49,000

Tens of thousands of years old,

511

00:34:49,000 --> 00:34:52,000

and ours for the taking, if we can get it.

512

00:34:52,000 --> 00:34:54,000

Okay, we got a bone. We got a bone.

513

00:34:54,000 --> 00:34:56,000

Okay, all right, good. Danny, let's mark that.

514

00:34:56,000 --> 00:34:59,000

Let's look around here and see if anything else fell out with it.

515

00:35:02,000 --> 00:35:07,000

After tagging the coordinates of the bone on GPS, we keep the drone flying.

516

00:35:07,000 --> 00:35:11,000

It's covering more ground in a few minutes than we could in a full day.

517

00:35:11,000 --> 00:35:14,000

God, there's so much debris down there. It's tough.

518

00:35:15,000 --> 00:35:17,000

This is capital of mammoth.

519

00:35:19,000 --> 00:35:21,000

I should have played. Okay, bone number two.

520

00:35:23,000 --> 00:35:26,000

Okay, we've got two pieces. We start with that, yeah?

521

00:35:26,000 --> 00:35:29,000

Okay, we should go to this place and look for sure.

522

00:35:32,000 --> 00:35:34,000

Got it?

523

00:35:36,000 --> 00:35:39,000

Okay, nice work everybody. Let's go find a mammoth.

524

00:35:41,000 --> 00:35:44,000

The drone is down. Now it's our turn to explore.

525

00:35:44,000 --> 00:35:47,000

We gear up not for a hike, but for a climb.

526

00:35:50,000 --> 00:35:54,000

The walls are solid ice.

527

00:35:54,000 --> 00:35:57,000

We have to use cramons so that we can stick them.

528

00:35:59,000 --> 00:36:00,000

So what's the plan, Alexei?

529

00:36:00,000 --> 00:36:01,000

You will go first.

530

00:36:01,000 --> 00:36:03,000

And why am I going first again?

531

00:36:04,000 --> 00:36:08,000

Because we need to check the equipment, and you are the heaviest guy among us.

532

00:36:10,000 --> 00:36:11,000

Russians.

533

00:36:13,000 --> 00:36:16,000

While I'm all for a good joke, it's hard to laugh right now.

534

00:36:16,000 --> 00:36:23,000

The rim of the crater grows wider every day, and Alexei is using me to make sure that it and our gear will hold up.

535

00:36:26,000 --> 00:36:28,000

Look at that. It's just pure ice.

536

00:36:30,000 --> 00:36:32,000

Super dangerous looking.

537

00:36:34,000 --> 00:36:40,000

The whole wall is literally just disintegrating. You can see it just melting away.

538

00:36:40,000 --> 00:36:45,000

Everywhere I look, the muddy wall is carving off and plunging down to the crater floor.

539

00:36:45,000 --> 00:36:48,000

I just do my best to stay stuck to the ice.

540

00:36:50,000 --> 00:36:53,000

It's okay now. We're going to be to the right.

541

00:36:55,000 --> 00:36:59,000

It's too difficult to repel quickly, but I don't want to be up here for too long.

542

00:36:59,000 --> 00:37:05,000

Since it fast becomes apparent that the ground beneath my crampons is something I definitely can't rely on.

543

00:37:08,000 --> 00:37:09,000

Josh, look out.

544

00:37:09,000 --> 00:37:10,000

It's collapsing. Holy...

545

00:37:16,000 --> 00:37:28,000

I'm repelling down the side of a massive crater in northern Siberia on the hunt for mammoth DNA, and the rim suddenly collapses.

546

00:37:29,000 --> 00:37:30,000

Josh, look out.

547

00:37:30,000 --> 00:37:32,000

It's collapsing. Holy...

548

00:37:33,000 --> 00:37:44,000

A huge section of the rim falls inches to the left of my rope, a stark reminder that the whole cliff could go at any moment.

549

00:37:46,000 --> 00:37:52,000

But a potential trove of mammoth DNA lies directly below me, so I keep going into the abyss.

550

00:37:52,000 --> 00:38:08,000

Finally, I touch down on the ledge midway down the crater, where we spotted the first mammoth bone

with our drone.

551

00:38:08,000 --> 00:38:11,000

That was ill-advised.

552

00:38:11,000 --> 00:38:21,000

If anybody out there thinks that cutting down trees doesn't have an impact on the planet, that's what happened when they cut down the forest.

553

00:38:23,000 --> 00:38:27,000

Okay, Josh.

554

00:38:27,000 --> 00:38:30,000

Falling is going down now.

555

00:38:31,000 --> 00:38:34,000

We lower the cooler from the top to receive our mammoth samples.

556

00:38:34,000 --> 00:38:39,000

To preserve the DNA, anything we find needs to be immediately put on ice.

557

00:38:41,000 --> 00:38:42,000

Keep coming.

558

00:38:45,000 --> 00:38:46,000

Okay.

559

00:38:46,000 --> 00:38:47,000

Little more.

560

00:38:47,000 --> 00:38:48,000

Good.

561

00:38:49,000 --> 00:38:52,000

Once our gear is down, we can begin our search.

562

00:38:54,000 --> 00:38:57,000

It should be close. It's somewhere on this part.

563

00:38:57,000 --> 00:38:58,000

Yeah.

564

00:38:59,000 --> 00:39:09,000

Just standing up is a balancing act. One false step and we'll plunge another hundred feet into 300,000-year-old permafrost, becoming specimens ourselves.

565

00:39:13,000 --> 00:39:14,000

Look on it.

566

00:39:16,000 --> 00:39:17,000

It's a bone.

567

00:39:17,000 --> 00:39:18,000

That's it, yeah?

568

00:39:18,000 --> 00:39:19,000

It's great.

569

00:39:19,000 --> 00:39:21,000

What a beautiful find.

570

00:39:22,000 --> 00:39:25,000

It's a mammoth bone, all right, from an adult's leg.

571

00:39:27,000 --> 00:39:28,000

Wow.

572

00:39:29,000 --> 00:39:32,000

Oh, it's a nice preservation from this side.

573

00:39:32,000 --> 00:39:33,000

Look at that.

574

00:39:33,000 --> 00:39:34,000

Male.

575

00:39:34,000 --> 00:39:35,000

Male, yeah.

576

00:39:35,000 --> 00:39:36,000

Yeah, exactly.

577

00:39:36,000 --> 00:39:37,000

Adult one.

578

00:39:37,000 --> 00:39:38,000

Adult.

579

00:39:38,000 --> 00:39:39,000

It's freezing cold.

580

00:39:39,000 --> 00:39:42,000

Yeah, because you see the surface pale.

581

00:39:42,000 --> 00:39:43,000

Yeah.

582

00:39:43,000 --> 00:39:44,000

It's yellowish.

583

00:39:44,000 --> 00:39:45,000

Uh-huh.

584

00:39:45,000 --> 00:39:48,000

It should be well preserved in such places where there is no damages.

585

00:39:48,000 --> 00:39:49,000

We can cut.

586

00:39:49,000 --> 00:39:50,000

Uh-huh.

587

00:39:50,000 --> 00:39:51,000

A little bit, yeah.

588

00:39:51,000 --> 00:39:53,000

Good bone for the analysis.

589

00:39:53,000 --> 00:39:55,000

Okay, so let's get a sample out of it, yeah?

590

00:39:55,000 --> 00:40:02,000

Unlike the bones I found in Canada, this is still ice cold and therefore more probable to carry viable DNA.

591

00:40:02,000 --> 00:40:03,000

Please.

592

00:40:03,000 --> 00:40:04,000

Me?

593

00:40:04,000 --> 00:40:05,000

Take some.

594

00:40:05,000 --> 00:40:06,000

Sure.

595

00:40:06,000 --> 00:40:07,000

Okay, here we go.

596

00:40:07,000 --> 00:40:11,000

Any live cell is likely going to be deep inside the bone in the marrow.

597

00:40:12,000 --> 00:40:18,000

Ameth bone is dense enough, but after being frozen for 10,000 years, it's like cutting into concrete.

598

00:40:26,000 --> 00:40:27,000

What's the smell?

599

00:40:27,000 --> 00:40:28,000

A fresh bone.

600

00:40:28,000 --> 00:40:29,000

The smell of fresh bone?

601

00:40:29,000 --> 00:40:30,000

Yeah, sure.

602

00:40:30,000 --> 00:40:32,000

I love the smell of fresh bone in the morning.

603

00:40:32,000 --> 00:40:37,000

The saw isn't getting us in there fast enough, so we break out a slightly more direct tool.

604

00:40:40,000 --> 00:40:46,000

Will this bone, buried in the ice for 200,000 years, tell us how to resurrect the woolly mammoth?

605

00:40:51,000 --> 00:40:52,000

Look at this!

606

00:40:52,000 --> 00:40:53,000

Oh my God.

607

00:40:53,000 --> 00:40:54,000

That's unbelievable.

608

00:40:56,000 --> 00:40:59,000

There's more expedition to the world.

609

00:41:00,000 --> 00:41:03,000

There's more expedition to come.

610

00:41:04,000 --> 00:41:10,000

For more than 100 miles above the Arctic Circle and continuing farther north.

611

00:41:10,000 --> 00:41:14,000

A dangerous mission takes me deep into Siberia.

612

00:41:14,000 --> 00:41:15,000

What's going on?

613

00:41:15,000 --> 00:41:17,000

I think we broke down.

614

00:41:17,000 --> 00:41:20,000

It just basically jeopardizes the whole mission at this point.

615

00:41:20,000 --> 00:41:24,000

And I find myself in a lawless wilderness.

616

00:41:24,000 --> 00:41:26,000

Let's see if they let us go forward.

617

00:41:27,000 --> 00:41:31,000

In an Ice Age graveyard ruled by the Black Market.

618

00:41:31,000 --> 00:41:33,000

Oh my God.

619

00:41:34,000 --> 00:41:36,000

This could be where my adventure ends.

620

00:41:36,000 --> 00:41:38,000

The ceiling's gonna come down on us.

621

00:41:39,000 --> 00:41:44,000

Or will we succeed in finding enough DNA to clone the woolly mammoth?

622

00:41:44,000 --> 00:41:45,000

Ha ha!

623

00:41:45,000 --> 00:41:46,000

Look at this thing!

624

00:41:46,000 --> 00:41:47,000

Yeah.

625

00:41:47,000 --> 00:41:48,000

Intact!