

<p>1 Friday, 30 September 2011 2 (9.00 am) 3 MR MANSFIELD: My Lord, good morning. May I introduce 4 the parties first of all prior to arraignment. I'm 5 Michael Mansfield and I'm prosecuting this case, 6 together with Jane Russell, who sits to my right, and 7 Stephen Powles, who is at the far end of the bench. 8 The defendants are represented, that's Mr Bannerman 9 and Mr Tench -- the defendants are represented by my 10 learned friends Mr Christopher Parker, who is sitting to 11 my left, and Mr Adam Hiddlestone, who is sitting further 12 to my left, and may I therefore, having introduced the 13 parties, ask if your Lordship would allow arraignment 14 now to take place with the defendants. 15 JUDGE NORMAN: Yes. 16 THE CLERK OF THE COURT: Would the defendants please stand. 17 Are you Mr Robin Bannerman? 18 THE DEFENDANT: I am, yes. 19 THE CLERK OF THE COURT: Are you Mr John Tench? 20 THE DEFENDANT: I am. 21 THE CLERK OF THE COURT: Mr Bannerman and Mr Tench, you are 22 here today on the following indictment. 23 Count 1 of the indictment, Mr Bannerman, you are 24 charged with ecocide, contrary to section 1(1) and 25 section 2 of the Ecocide Act 2010. The particulars of</p> <p style="text-align: center;">Page 1</p>	<p>1 responsibility of all GPC operations in the Tar Sands. 2 As a consequence of extracting the Athabasca Tar Sands 3 in Canada, the ... extensive description, damage to or 4 loss of ecosystems to ... territories has been severely 5 diminished, thereby putting birds at risk of injury and 6 death, contrary to section 1(1) and 2 of the Ecocide Act 7 2010. Mr Bannerman, to that offence how do you plead? 8 THE DEFENDANT: Not guilty. 9 THE CLERK OF THE COURT: On Count 3 of the indictment, 10 Mr Tench, you are charge with ecocide contrary to 11 section 1(1) and 2 of the Ecocide Act 2010. 12 The particulars of this offence are that on 13 19 April 2011 in his role as chief executive officer, 14 Mr Tench of Glamis Group had authority and 15 responsibility of all Glamis Group operations in Tar 16 Sands. As a consequence of extracting the Athabasca Tar 17 Sands in Canada has ... loss of ecosystems to such 18 an extent that the peaceful enjoyment of that territory 19 and other territories has been severely diminished ... 20 1(1) and 1.2 of the Ecocide Act 2010. 21 Mr Tench, to this charge how do you plead? 22 THE DEFENDANT: Not guilty. 23 THE CLERK OF THE COURT: Mr Bannerman and John Tench, 24 the names you are about to hear called are the names of 25 the jurors who are to try you. If, therefore, you wish</p> <p style="text-align: center;">Page 3</p>
<p>1 the offence are that between the 22nd day of April and 2 the 31st day of August 2010, in his role as chief 3 executive officer, Mr Bannerman of Global Petroleum 4 Corporation had authority over and responsibility for 5 a semi-submersible mobile offshore drilling unit when 6 an explosion on the platform caused an oil spill in 7 excess of 250 million gallons of crude oil into 8 the Gulf of Mexico sea, resulting in extensive 9 destruction, damage to, or loss of ecosystems covering 10 an area in excess of 200 square kilometres of ocean, to 11 such an extent that the peaceful enjoyment by the 12 inhabitants of that territory has been severely 13 diminished thereby, causing injury to 2086 birds, 14 causing the death of 2303 birds, putting birds at risk 15 of injury contrary to section 1(1) and section 2 of 16 the Ecocide Act 2010. 17 Mr Bannerman, to that charge how do you plead? 18 THE DEFENDANT: Not guilty. 19 THE CLERK OF THE COURT: On Count 2, Mr Bannerman, you are 20 charged with ecocide contrary to section 1(1) and 21 section 2 of the Ecocide Act 2010. The particulars of 22 that offence are that between the 28th day of March and 23 the 6th day of September 2010, in his role as chief 24 executive officer, Mr Bannerman of 25 Global Petroleum Company had authority and</p> <p style="text-align: center;">Page 2</p>	<p>1 to object to them, or to any of them, you must do so as 2 they come to the book to be sworn and before you are 3 sworn your objection will be heard. 4 JUDGE NORMAN: If the jury remain standing until they are 5 called into their seats, please. 6 (Jury selected and sworn) 7 THE CLERK OF THE COURT: Members of the jury, to this 8 indictment Robin Bannerman and John Tench have pleaded 9 not guilty and it is your charge, having heard all the 10 evidence, to decide whether they were guilty or not. 11 JUDGE NORMAN: I don't think the jury were in the room when 12 the indictment was read. 13 MR MANSFIELD: No, I was intending with your Lordship's 14 permission to ask for a jury bundle to be given. 15 The indictment is on that. 16 JUDGE NORMAN: You can take them through the indictments, 17 yes. 18 Members of the jury, I hope you have had a few 19 introductory words before you have come in so you have 20 some general idea of what this is about. I'm here to 21 deal with matters of law that arise. I, therefore, -- 22 you will hear from me at the end. I also have 23 a function to try ensure this trial finishes within 24 a day, which will be unusual ordinarily. I may have to 25 try and hurry things along, but I will not take up your</p> <p style="text-align: center;">Page 4</p>

<p>1 time now. Mr Mansfield prosecutes and you'll hear from 2 him. Thank you.</p> <p>3 Opening Speech by MR MANSFIELD</p> <p>4 MR MANSFIELD: Thank you, my Lord. Good morning members of 5 the jury. I think the first thing is for a bundle to be 6 handed to you because it will be easier for you to 7 follow what I'm going to say about this case if you have 8 it in front of you. I think there's one between two and 9 one for your Lordship if you don't already have it.</p> <p>10 JUDGE NORMAN: Yes, I would like one, please.</p> <p>11 MR MANSFIELD: Could they please be handed now the jury 12 bundles that have been assembled.</p> <p>13 JUDGE NORMAN: Can I make an inquiry: can I be heard at 14 the back of the room?</p> <p>15 NEW SPEAKER: Not very well.</p> <p>16 JUDGE NORMAN: There's no amplification here; is that 17 better? I'll attempt to keep my voice up but you may 18 have difficulty when counsel are facing me. Yes.</p> <p>19 MR MANSFIELD: Yes, my Lord, I think the bundles are ready. 20 Members of the jury, it's one between two, I am 21 afraid, so if you can overlook the one next to you. 22 There's always a slight temptation to flick through 23 something new and see what it's all about. Well, I'm 24 going to take you through, not all of it, because 25 obviously this case depends upon the evidence.</p> <p style="text-align: center;">Page 5</p>	<p>1 Lordship has already said, the law at the end of 2 the day, and literally at the end of the day, is 3 a matter for him and not for us, and anything I say 4 which there is any disagreement about, of course, his 5 word is supreme on these matters.</p> <p>6 But, it is obviously sensible for me to attempt some 7 kind of outline of why you're here and what it is that 8 these two defendants face. Now, before actually looking 9 at some of the elements that are set out in this 10 divider, I think it may be sensible, and unusual, 11 because normally when prosecuting you don't spend any 12 time talking about the act from which the offences are 13 derived. Normally, for example, if you are dealing with 14 burglary and murder, whatever it is, the jury are just 15 put in charge of the offences and nothing is said, but 16 on this occasion it would be unreal of me not to say 17 something, because first of all you will see that the 18 offence that's already been read out, these have been 19 read out and the defendants pleaded not guilty, the 20 offence you will see there, the one word I'm just going 21 to alight upon for the moment, is ecocide. You will see 22 that in the title. Ecocide, contrary to the Ecocide Act 23 2010. Last year.</p> <p>24 So, this is a very recent piece of domestic 25 legislation, domestic meaning within the United Kingdom.</p> <p style="text-align: center;">Page 7</p>
<p>1 Before I get into that, may I indicate the 2 defendants in this case, and, again, just one document 3 so that as I speak you can see what I'm talking about. 4 If you turn, let's hope all these dividers aren't the 5 same, to divider number 1, behind that divider is the 6 indictment, which has already been read out to these two 7 defendants, and you'll see two names at the top, 8 underneath R v Bannerman and Tench.</p> <p>9 Now, Mr Bannerman and Mr Tench are chief executive 10 officers of two different companies, the companies are 11 actually mentioned in the counts. I'll get to them in 12 a moment, and those two defendants are sitting to my 13 right, over here. So, the dock is there, to my right. 14 Mr Bannerman, as you look at the dock, as it were, is 15 sitting on the left, and Mr Tench on the right.</p> <p>16 Then, to introduce to you those of us who are 17 participants in this trial and represent the various 18 parties, my name is Michael Mansfield and I'm leading 19 for the prosecution in this case, but I'm assisted by my 20 learned friends who sit to my right, Jane Russell and 21 Stephen Powles, further to my right.</p> <p>22 On my left, these two defendants, obviously also 23 represented, by Christopher Parker, my learned friend 24 who sits here, and then to his left Adam Hiddlestone. 25 I'm starting with the indictment, but as his</p> <p style="text-align: center;">Page 6</p>	<p>1 The reason I'm mentioning this is that this is the first 2 time that an offence under that act has been tried: in 3 other words it's the first trial within that act.</p> <p>4 So, the importance is this: that you may -- and 5 I just want to extrapolate for a moment, because there 6 are other offences of equal stature that you may have 7 heard of, and the reason for this one is in that 8 context.</p> <p>9 There are some crimes that are regarded as so 10 serious by the international community that they've been 11 made international crimes, and, in a sense, you'll see 12 by the robes today, just in case you wondered why one 13 team have one and the other another, I don't want to 14 spend time on it. The United Kingdom robes are to my 15 left and these are European, that's the reason.</p> <p>16 But this is an international matter, and what the 17 international legal community established some time ago 18 at the beginning of the millennium, effectively, 2001 19 and 2002, was that these certain crimes that are so 20 heinous they have to be marked in a certain way and 21 cannot be left to resolution between parties, the kind 22 of crimes you will have heard of before ecocide, war 23 crimes, crimes against humanity, genocide. There is 24 another crimes, a fourth one, called aggression, the 25 terms haven't been finally resolved in statute form,</p> <p style="text-align: center;">Page 8</p>

<p>1 however, genocide you will have heard of.</p> <p>2 So, in a sense, this is ecocide, applying the same</p> <p>3 kind of principles to a situation which relates to the</p> <p>4 environment as a whole: in other words, the planet,</p> <p>5 the welfare of the planet is at stake within this</p> <p>6 statute, and so that although the international</p> <p>7 community have made it a crime and added it, if you like</p> <p>8 the fifth crime -- the other four I've just mentioned --</p> <p>9 the fifth crime against the peace of the planet, in</p> <p>10 a sense.</p> <p>11 So, that fifth crime has been incorporated -- not</p> <p>12 all states have done it, but it's been incorporated into</p> <p>13 domestic law to reflect the international desire,</p> <p>14 effectively -- and you may have heard in this context of</p> <p>15 a court which is dealing with international crimes,</p> <p>16 the International Criminal Court at the Hague.</p> <p>17 But, here, of course, you're not sitting in</p> <p>18 the International Criminal Court in the Hague; you are</p> <p>19 sitting here in the United Kingdom dealing with</p> <p>20 a domestic statute which has attempted to incorporate</p> <p>21 the gravity of that crime into domestic law.</p> <p>22 Now, there are two aspects to this that are</p> <p>23 extremely important, and also apply to the other --</p> <p>24 well, three of the other four crimes that have been</p> <p>25 accepted. One is universality, I'm going to use that</p> <p style="text-align: center;">Page 9</p>	<p>1 Now you will see the background to it.</p> <p>2 There's one other general matter of extreme</p> <p>3 importance which applies here. It's a principle called</p> <p>4 the principle of strict liability. Now, the principle</p> <p>5 of strict liability for this offence means that the</p> <p>6 defendant, and in this case the defendants, do not, as</p> <p>7 it were, have to have a state of mind that you have to</p> <p>8 decide upon. You're not here, for example -- I'll put</p> <p>9 it in simple language, you're not here deciding whether</p> <p>10 they intended, or their companies intended to damage the</p> <p>11 planet, or the particular areas and the locations we're</p> <p>12 going to look at.</p> <p>13 So, the question of intention, which often crops up</p> <p>14 in crimes you may have heard of: did you intend to</p> <p>15 murder or cause serious harm. That's the normal phrase,</p> <p>16 the mens rea of the offence.</p> <p>17 Now, that doesn't apply here. In other words, what</p> <p>18 they knew, what they believed, what they intended is,</p> <p>19 essentially, irrelevant to this offence. It's</p> <p>20 an offence dealing with consequences of certain acts</p> <p>21 committed by the company, and this is another principle.</p> <p>22 Essentially it's not the company that's on trial. The</p> <p>23 company is -- the corporation is a fiction and you only</p> <p>24 have to think about it for a minute. It's quite</p> <p>25 difficult to put a corporation on trial. It happens,</p> <p style="text-align: center;">Page 11</p>
<p>1 word rather than the Latin phrase. Universality,</p> <p>2 meaning effectively this is a crime that can be tried</p> <p>3 wherever: in other words, if the person is within</p> <p>4 the English jurisdiction, it doesn't -- as it happens,</p> <p>5 these two gentlemen are both British citizens, but they</p> <p>6 don't have to be, and you will hear into moment -- and</p> <p>7 I'm not going to deal with the evidence in detail</p> <p>8 because of time constraints, and because you're going to</p> <p>9 hear the witnesses. I will be calling expert witnesses</p> <p>10 and my learned friend, it's a matter for him who he</p> <p>11 calls later in the day, but no doubt he may wish to call</p> <p>12 both defendants and perhaps other evidence beyond that.</p> <p>13 But, you will be hearing that the, if you like, the</p> <p>14 location, the venue for what we call, effectively,</p> <p>15 a crime against the planet, the venues for these are not</p> <p>16 within the United Kingdom waters, and you may be saying:</p> <p>17 well, why can we try them? We can try them because of</p> <p>18 the universality principle. They're so important that</p> <p>19 it doesn't matter who you are or where you are, the</p> <p>20 United Kingdom has jurisdiction to try these crimes</p> <p>21 wherever they are committed by whomsoever word, however,</p> <p>22 you have British citizens on trial in relation to this</p> <p>23 matter.</p> <p>24 So, slowly, as it were, one works one's way towards</p> <p>25 the actual indictment which you have in front of you.</p> <p style="text-align: center;">Page 10</p>	<p>1 but that's not happening here. The other important</p> <p>2 difference here is that the international community are</p> <p>3 saying, at the end of the day, as they said at the end</p> <p>4 of the second world war and the Nuremberg tribunals and</p> <p>5 so on, individual responsibility is important, you can't</p> <p>6 hide behind a fiction. That's another matter you take</p> <p>7 into account here: you are dealing with individuals who</p> <p>8 have, as you will see in these counts, individual</p> <p>9 responsibility for the systems that are in place with</p> <p>10 their companies and, of course, we say have led to</p> <p>11 the damage caused.</p> <p>12 A further principle before I look at the terms of</p> <p>13 this, this applies to all crime throughout the United</p> <p>14 Kingdom when it comes to a trial tried by a jury. When</p> <p>15 you retire, after his Lordship's summing-up later today,</p> <p>16 you retire to your jury room to consider your verdict,</p> <p>17 it's the prosecution whom I represent who have to prove</p> <p>18 the case. So it's called the onus of proof. That's on</p> <p>19 me. That's on us.</p> <p>20 But, from your point of view, as his Lordship will</p> <p>21 say, the standard which has to be reached by the</p> <p>22 prosecution before you can convict is that each one of</p> <p>23 you has to be sure of the guilt of each of these</p> <p>24 defendants, obviously approached separately because, as</p> <p>25 you will see, one of them is facing one count and the</p> <p style="text-align: center;">Page 12</p>

<p>1 other one is facing two counts, and the two -- the 2 different sets of counts have different elements, but 3 much in common. They are different. 4 So, you have to be sure -- I'm not going to 5 elaborate on it, it's a phrase you have heard before and 6 his Lordship may direct you about that. 7 You will be wanting to know now, as you hear the 8 evidence, what is it that we have to be sure about, 9 otherwise one is roaming around in the dark as to what 10 are the elements of the offence about which you have to 11 be sure. This is where we come to the question of 12 ecocide and, in a sense, this indictment you have in 13 front of you with the counts gives you a basis. It 14 gives you the parameters and it gives you some of the 15 elements, and if I may just run through these, and 16 please highlight, as you wish, on this. 17 Now, the first count applies only to Mr Bannerman, 18 and you'll see his name is there, and the company of 19 which he is the chief executive officer, or CEO, is 20 Global Petroleum Company, GPC, so that's the company, 21 that's the individual, and you'll see straightaway that 22 the count indicates clearly that he had authority over 23 and responsibility for. Now, in this case, never mind 24 what the description is of the technical terms, 25 semi-submersible mobile offshore drilling unit.</p> <p style="text-align: center;">Page 13</p>	<p>1 set out very clearly. In fact, the platform you're 2 going to be dealing with is off this photograph, but it 3 gives you an idea of some of the drilling platforms that 4 are there, and the numbers, in fact, in the central 5 planning area, 3359 drilling platforms. The states 6 marked there are Texas, Mississippi, Alabama and 7 Florida, so it may help with the location for you. 8 That's what we're dealing with, an explosion that took 9 place in that part of the world. The dates are set out. 10 Last year, the act came into the force at the beginning 11 of last year, and the period, explosion taking place -- 12 in fact, if you just go back to the first document in 13 the indictment, you'll see the dates we're dealing with 14 in 2010. The initial date, 22 April, that's when the 15 explosion took place, but the affects of it spread over 16 a period of time, and the concluding date is the end 17 of August. 18 So, that's where it took place, that's what 19 happened, in short form. The result of what happens was 20 gallons of crude oil into the Gulf of Mexico. 21 Now, the next wording, I just light upon these now 22 because, again, they're terms that have not commonly 23 been used in this statute before because they've not 24 been put on trial before, but I'm going to indicate 25 them, again subject to his Lordship.</p> <p style="text-align: center;">Page 15</p>
<p>1 Now, any of you familiar with the oil industry or 2 seen news items about this, you will be familiar with 3 the drilling unit. It was, in fact, an exploratory 4 drilling unit, that's all I'm going to say for the 5 minute, when an explosion took place on the unit. 6 That's the causes of the explosion. But it caused 7 an oil spill in excess of 250 million-gallons of crude 8 oil into the Gulf of Mexico. 9 Now, there are here, and it may just assist if I do 10 it straightaway, so you can have an idea of what we're 11 talking about, I'm not suggesting you don't know where 12 the Gulf of Mexico is, but if you want a clue as to the 13 environment generally, divider number 4, if you just 14 kindly quickly turn to divider number 4, a series of 15 photographs. Now, they should have been numbered, but 16 if they haven't please do so. It should be the fourth 17 photograph in. I'll hold mine up and make sure yours is 18 the same as mine. It should have a little map there. 19 Please, at any time feel free to indicate to his 20 Lordship if there's something missing, or you're not 21 following or I'm going too fast or there's something you 22 want to ask. Please write it down so his Lordship can 23 deal with it. 24 That's an example. There you will see the southern 25 States, I mean the southern part of the United States,</p> <p style="text-align: center;">Page 14</p>	<p>1 These are issues about which you will have to be 2 sure. They are factual issues for you. The facts are 3 for you, and the law is for his Lordship. 4 The first thing is, and I'm going to, if I may, just 5 interpose. I'm not going to ask you to look it up in 6 other documents. There are agreed facts in this case, 7 so some of the agreed facts, and plainly you won't have 8 to bother with them, they're not in contention, they 9 are, in a sense, already proved. We don't have to call 10 witnesses to prove them. 11 Clearly, I'm now bordering on issues which may well 12 need your factual evaluation. 13 So, the first question is, and this is part of the 14 offence itself, extensive destruction, and "extensive" 15 is obviously a term of art, not of science, and you will 16 be asked to consider criteria in relation to 17 "extensive", and the sort of criteria. There are three 18 that you will be asked to consider: the size of 19 the occurrence, here in the explosion, in the oil spill, 20 the size of it; the duration of it -- that's the second 21 factor; and the impact of it. You can see, immediately, 22 where we're going with it. 23 Size, duration and impact. They're three very 24 important words, and you may wish to employ those, 25 subject to his Lordship's direction, in relation to</p> <p style="text-align: center;">Page 16</p>

<p>1 the words "extensive destruction".</p> <p>2 Now, you see there's a comma there. Sorry to be</p> <p>3 particular, but it's so you may follow. The next word</p> <p>4 is "damage", so that they are both words within</p> <p>5 the statute but, of course, there are circumstances in</p> <p>6 which you can have damage without complete destruction.</p> <p>7 So, the key word, we would suggest, on behalf of</p> <p>8 the prosecution, the key word in the statute for this</p> <p>9 count, and the other two for that matter, is "damage".</p> <p>10 "Extensive damage to", and then, disjunctive, "Or loss".</p> <p>11 "Or loss", it doesn't necessarily mean there has to be</p> <p>12 a complete loss of an ecosystem, which I'm just coming</p> <p>13 to, "damage to".</p> <p>14 So, the key words, "extensive damage to", and then</p> <p>15 the next word -- I'm sorry to belabour you with</p> <p>16 technical terms at this time on a Friday morning, and</p> <p>17 it's very hot outside. It may become very hot inside --</p> <p>18 "ecosystem". Some of you may have familiarity with</p> <p>19 these terms, and the act itself has attempted to define</p> <p>20 this. Again, his Lordship will be telling you at the</p> <p>21 end of the case. An ecosystem is this -- you may write</p> <p>22 it down if you wish now for future reference, or you can</p> <p>23 leave it and just listen -- termed as "a biological</p> <p>24 community of interdependent living organisms and their</p> <p>25 physical environment". I'll just do it once more:</p> <p style="text-align: center;">Page 17</p>	<p>1 human beings. That's one living species, and, of</p> <p>2 course, the indictment deals with birds. Human beings</p> <p>3 are obviously included in the offence, human beings and</p> <p>4 other living organisms. So, there may be mammals,</p> <p>5 birds, way beyond birds, but that's the covering aspect</p> <p>6 of that term. "Of that territory", here we're dealing</p> <p>7 with a territory within the Gulf of Mexico -- it doesn't</p> <p>8 have to be land territory, it can be water territory.</p> <p>9 "Has been", and here are some more terms of art, I am</p> <p>10 afraid, of which you must be sure, "extensive damage to</p> <p>11 an ecosystem in excess of ... to such an extent peaceful</p> <p>12 enjoyment has been severely diminished."</p> <p>13 Now, "severely diminished" is another term ... test</p> <p>14 criteria: that is size, duration and impact of</p> <p>15 the occurrence. Has that resulted, putting it shortly,</p> <p>16 in seriously diminishing the peaceful enjoyment?</p> <p>17 Now, here in this count, what has been specified in</p> <p>18 the first two propositions is "causing injury", and,</p> <p>19 again, I don't think there'll be issue about</p> <p>20 the numbers. "Causing injury to 2086 birds, causing</p> <p>21 death to 2303."</p> <p>22 You will see, also, that if you put a line under</p> <p>23 that, that's retrospective. That's telling you what has</p> <p>24 happened as a result.</p> <p>25 But there is a further aspect to this, and this</p> <p style="text-align: center;">Page 19</p>
<p>1 "A biological community of interdependent living</p> <p>2 organisms and their physical environment".</p> <p>3 So, "extensive", we say, "damage", was caused to</p> <p>4 an ecosystem, and in this case this is the oil spill,</p> <p>5 covering an area in excess of ... So, it's not</p> <p>6 definitive, it's not the final area, in excess of</p> <p>7 200 square kilometres of oceans.</p> <p>8 Again, in terms of the geographic area, there may</p> <p>9 not be an issue with regard to that, but that's another</p> <p>10 factual matter.</p> <p>11 Then we come to the final part of this. I won't</p> <p>12 repeat it with each count because the elements are much</p> <p>13 the same, "to such an extent". So, in other words,</p> <p>14 the extensive damage to an ecosystem in the terms that</p> <p>15 are set out here, "to such an extent", so you have to be</p> <p>16 sure that there is that damage to an ecosystem in</p> <p>17 the terms of the count to such an extent, something else</p> <p>18 you have to be sure about, that the peaceful enjoyment</p> <p>19 by the -- and peaceful enjoyment, of course, again is</p> <p>20 a term of art, and you will see underneath, of course,</p> <p>21 that specifics have been placed. Plainly, if living</p> <p>22 things die, living organisms die, or are seriously</p> <p>23 injured, or their lives seriously disrupted, then you</p> <p>24 will see that that comes within peaceful enjoyment.</p> <p>25 "By the inhabitants", "inhabitants" isn't limited to</p> <p style="text-align: center;">Page 18</p>	<p>1 relates to section 2, which you will see is specified</p> <p>2 above under the statement of offences, two different</p> <p>3 sections. Section 2 of the act is essentially dealing</p> <p>4 with prospective events, in other words, nothing that</p> <p>5 may have actually happened in terms of being able to</p> <p>6 prove deaths -- although we can do that here -- but it's</p> <p>7 putting birds and their community at risk of injury.</p> <p>8 So, it's an "at risk" clause.</p> <p>9 So, those are the three essential clauses within</p> <p>10 the Act, and within the offence derived from that act.</p> <p>11 Now, that's Count 1, and I've taken a little time.</p> <p>12 I'm bearing in mind I want to finish -- I say that</p> <p>13 straightaway -- at 9.45 so we can call the evidence.</p> <p>14 What I say is not as important as the evidence itself.</p> <p>15 Would you just turn over the sheet, and then we get</p> <p>16 to Count 2. This is Mr Bannerman as well facing this</p> <p>17 count. You'll see the dates are there, I'm not going to</p> <p>18 go through that. This is a different location. This is</p> <p>19 not the Gulf of Mexico, it's the same two offences under</p> <p>20 the Ecocide Act, but here the allegation concerns the</p> <p>21 same company, same chief executive, but an operation in</p> <p>22 a different part of the world, and it's specified here</p> <p>23 Tar Sands, the Athabasca River, effectively, you'll see</p> <p>24 the name just underneath, because the name is a river,</p> <p>25 but that's what it is: there is a river along which</p> <p style="text-align: center;">Page 20</p>

<p>1 the Tar Sands exists. I'm going to do this as shortly 2 as I can, and, once again, it's often helpful just to 3 have a pictorial image of what we're dealing with here, 4 and I'll explain how it comes about.</p> <p>5 If you turn to divider number 5, please. If you 6 flick through these, you will see the first photograph 7 is an expanse of water, and we say it's dirty, toxic 8 water. It is what is called a "tailing". So that is 9 what this count is about, effectively, expanses of water 10 like that. There's a little more detail in a moment.</p> <p>11 If you flick through the pages after that, what is 12 going on in Tar Sands is a mining operation. The most 13 graphic photograph, I think, is the one that is -- 14 the fourth photograph. It looks like a series of 15 semicircular lines. I'll hold it up for you to ensure 16 it's the same. It should look like that (indicates); do 17 you have that?</p> <p>18 Now, this Tar Sands in Alberta, it's the largest 19 energy project of its kind in the world, and this is not 20 the other company involved. There are other companies 21 involved, who are mining for oil that is going to be 22 derived from the bitumen that is trapped underneath the 23 soil in that area of Alberta and if, in fact, you need 24 to see, would like to see roughly where it is, you will 25 find behind divider 3 part of a report, and in part of Page 21</p>	<p>1 imagine, it is not just birds that are put at risk, but 2 I'm not going to deal with all the other risks that are 3 attendant upon the mining. It is the digging out -- you 4 saw that semicircular area. They have to dig it out, 5 they have to strip away the trees -- first point, when 6 you're dealing with risks to birds -- you're stripping 7 away the trees, dealing with vast areas. Then you get 8 to the topsoil. They call it humus but it's a peat-like 9 substance. They have to strip that away and then they 10 get to a mixture of sand and clay and bitumen. They 11 have to take that out, which they do by these huge 12 trucks, and then they take it to a place within this 13 general site where they have to, as it were, having 14 extracted it from the land, they have to separate it. 15 They have to separate the bitumen -- which is going to 16 be converted into synthetic crude oil, they have to 17 separate it out so they can use it. This has not 18 happened until very recently because it was too 19 expensive a process, but the price of oil, as you may be 20 only too well aware, at your petrol pumps and so on, has 21 gone up to such an extent it is now an economic 22 exercise. That's why it's happening on such a massive 23 scale.</p> <p>24 And the separation is important, because for every 25 barrel of oil, somewhere between two and four barrels of</p> <p style="text-align: center;">Page 23</p>
<p>1 that report you will see there's a map. It comes, 2 again, a few pages in. It is, in fact, on page 6 of 3 the report, and it looks like that (indicates). A map 4 with blue areas and yellow areas.</p> <p>5 In fact there are several maps. It's just, again, 6 to give you a clue if geography wasn't your hot 7 subject -- along with maths as far as some others. 8 There we go.</p> <p>9 Now, you will see the states marked, it's northern 10 Alberta and there's a little inset of North America, so 11 you'll get a clue of where we're dealing with.</p> <p>12 The boreal -- it's called the "boreal forest" in 13 Canada. There's boreal forest just south of the tundra 14 in other parts of the world, like Russia, so boreal 15 forest isn't limited to Canada. On the other hand, 16 Canada has one of the most important areas of boreal 17 forest for an ecosystem. Bearing in mind the boreal 18 forest has taken since the ice age to get to the state 19 it's now in, 10,000 years, 5,000 years, it's taken 20 a long, long time to get this boreal forest in place, as 21 it were, supporting a unique ecosystem, and that unique 22 ecosystem supports all kinds of wildlife.</p> <p>23 Now, the count, as you will see, going back to that 24 count, is only dealing with birds, you will see. 25 Putting birds at risk of injury. But, as you may</p> <p style="text-align: center;">Page 22</p>	<p>1 fresh water is used. Huge amounts of fresh water are 2 being used, and where are they getting it from? Mostly 3 they are getting it from the Athabasca River. I'm not 4 going to ask you to look at it, but it's in one of the 5 pages of the report, will show you the river runs 6 north/south straight through the Tar Sands area, and, of 7 course, that's why they've cited it there, because they 8 use the river water to, as it were, do the separation 9 process.</p> <p>10 Now we get to the tailings specified in the account, 11 because the tailings are created as a result of the 12 waste water. 90 per cent of the water that's being used 13 in the barrel I've just mentioned, 90 per cent of that 14 water cannot be recycled, either put back in the river 15 or used for other purposes, because -- and the reason is 16 simple: the process has contaminated the water. They 17 can't just dump it back in the river; they're not 18 allowed to. And they can't use it. So, what they do, 19 they dump it. The companies often called these, rather 20 euphemistically, "ponds" but they're not ponds, they're 21 lakes. Several square kilometres in dimension, several 22 square miles in dimension, and they contain all kinds of 23 toxic substances, PAHs, is the short term for some of 24 them, that are contaminants for anything that touches, 25 comes near, consumes, particularly, any water from these</p> <p style="text-align: center;">Page 24</p>

6 (Pages 21 to 24)

<p>1 sources, which is why, if you just shoot forward to the 2 third count. This is a specific count, it's the only 3 one that Mr Tench faces. It's the same area, Tar Sands 4 in Canada, it's tailing ponds again that have been 5 created by the process of extraction here, and here it's 6 not only causing the risk of injury, but also actually 7 causing 1600 birds to die on a particular day who 8 landed -- those birds landed on one of the tailings 9 because, of course, they're an attraction.</p> <p>10 There are two categories you have to consider here. 11 I think I have five seconds left. Two categories. 12 There are resident birds, that goes without saying: most 13 places have resident birds. Resident birds plainly put 14 at risk, as well as lots of other creatures, but one of 15 the main things is the boreal forest in this area has, 16 for many, many years, been a nesting ground, a breeding 17 ground, for billions of migrating birds. We're talking 18 about very large numbers here. So, therefore, often 19 the migrating birds are unaware -- of course they're 20 unaware, and it mentions having a yellow jacket or 21 scarecrow or cannon, we would submit is almost 22 irrelevant, given the size of these tailing ponds.</p> <p>23 So, I've given you a brief description of why you're 24 here and the test criteria and the locations. I hope 25 you will find that of some assistance as you listen to</p> <p style="text-align: center;">Page 25</p>	<p>1 law. Does your Lordship have a copy of the Ecocide Act 2 2010?</p> <p>3 JUDGE NORMAN: Yes, I do.</p> <p>4 MR PARKER: If I could take your Lordship, please, first of 5 all to section 11.</p> <p>6 JUDGE NORMAN: Yes.</p> <p>7 MR PARKER: Which deals with the question of responsibility 8 under the act. It is said that ecocide, which was 9 defined earlier, is a crime committed by natural and 10 fictional persons -- fictional persons being, no doubt, 11 (inaudible). It is said under the act that prosecution 12 was first and foremost against natural persons who are 13 in the position of superior responsibility.</p> <p>14 Ecocide can be committed, in accordance with 15 section 6, by a person, a company, organisation, 16 partnership or other legal entity. The section which 17 I've just read out, the prosecution first and foremost 18 seek to prosecute individuals. Upon what basis? 19 The basis is derived from Section 12, which is headed 20 "superior responsibility". For the sake of 21 your Lordship's record, I read that out: 22 "Any director, partner, leader and/or any other 23 person in a position of superior responsibility is 24 responsible for events committed by member of staff 25 under its authority as a result of its failure to</p> <p style="text-align: center;">Page 27</p>
<p>1 the evidence which, with his Lordship's permission, 2 I would like to call.</p> <p>3 JUDGE NORMAN: Yes. If you took advantage of the clock on 4 the wall, you would have another two hours.</p> <p>5 MR PARKER: My Lord, before we embark upon any evidence, 6 there is, even at this early stage, a matter of law 7 which I do have to raise. If it's convenient to the 8 jury to retire, I respectfully submit, take five or 9 eight minutes.</p> <p>10 JUDGE NORMAN: I think you had better take five, Mr Parker. 11 Members of the jury, I don't know if there are 12 facilities for you to retire but if you could retire 13 while a matter of law is raised.</p> <p style="text-align: center;">(In the absence of the jury) Matter of Law</p> <p>16 MR PARKER: My Lord, it's important for me to raise this 17 matter now so that the trial does not proceed on what 18 we would submit is an incorrect legal footing.</p> <p>19 The case has been opened to the jury that these two 20 defendants, human beings, Robin Bannerman and 21 John Tench, are guilty of this offence simply because 22 they are the chief executive officers of 23 Global Petroleum Company and Glamis, and that their 24 knowledge and intent is irrelevant to their liability. 25 We would submit that that is wrong as a matter of</p> <p style="text-align: center;">Page 26</p>	<p>1 exercise authority properly over such staff where he 2 failed to take all necessary measures within his power 3 to prevent or stop all steps leading to the commission 4 of ecocide."</p> <p>5 There is not a blanket liability which attaches, we 6 would submit, to chief executive officers of companies 7 which may or may not have committed the crime of 8 ecocide. Their responsibility derives from Section 12 9 and requires the Crown prove a failure on the part of 10 that individual person to take all necessary measures 11 within his or her power to prevent the crime from being 12 committed. It is a necessary condition that anybody to 13 be found liable under the ... person in a position of 14 superior responsibility, but that position by itself 15 does not generate liability without the form which is 16 set out in Section 12.</p> <p>17 Your Lordship will see under section 8, under this 18 act any person found guilty of ecocide shall be liable 19 to be sentenced to a term of imprisonment. If 20 (inaudible) had intended contrary to the normal 21 principles of English law that the chief executive 22 officer of a national company shall be liable to 23 a sentence of imprisonment by reason of strict 24 liability, it would have set that out in the terms. On 25 the contrary, under Section 12 it is not set out as</p> <p style="text-align: center;">Page 28</p>

<p>1 (inaudible) in terms. Furthermore, there is no reversal 2 of the burden of proof here, which is what one would 3 expect to see if one were to expose a citizen of this 4 nation to a term of imprisonment for a breach by 5 a company over which he had no control. 6 It is important, we would submit, that the jury 7 should understand that the prosecution have brought the 8 case not against the company here. They have chosen to 9 prosecute two chief executive officers and that there 10 must be before the jury can determine a verdict of 11 guilt, a personal liability on their part proven by 12 the Crown under Section 12. I raise this now rather 13 than embark upon cross-examination on a false premise. 14 Ruling 15 JUDGE NORMAN: Yes, Mr Parker. An appeal court might take 16 a different view, but I take -- I read this act as 17 imposing an absolute requirement that all necessary 18 measures should be taken to prevent the spill, and if 19 those measures are not taken by employees under 20 the control, under the authority of the chief executive 21 charged in the particular case, then the offence is 22 attributable to that chief executive. So, I will rule 23 against that submission. 24 MR PARKER: My Lord, may I take it, so I understand 25 the position fully.</p> <p style="text-align: center;">Page 29</p>	<p>1 of law are discussed it's usual for the jury to retire 2 and, inevitably, there are occasions when such matters 3 do have to be discussed because then the issues of law 4 can be discussed briefly without any concerns they might 5 influence your decision on the facts. Thank you very 6 much indeed. We'll try and avoid too many of those 7 interruptions today. 8 Yes, Mr Mansfield. 9 MR MANSFIELD: Yes, thank you. 10 With your Lordship's permission, may I call 11 Dr Simon Boxall, please, and for the jury's assistance 12 and your Lordship's, the divider that may have some 13 relevance to this, in terms of at least photographs, is 14 divider number 4 in the jury bundle. Divider number 4. 15 DR SIMON BOXALL (Affirmed) 16 MR MANSFIELD: I'm just checking before I start that 17 your Lordship has all the reports of this witness. 18 The jury do not, for obvious reasons, but there should 19 be three -- 20 JUDGE NORMAN: I have two statements. 21 MR MANSFIELD: And then there's one additional comment. 22 There's one headed "comments" and then "additional 23 comments". 24 JUDGE NORMAN: No, I don't have the comments. 25 MR MANSFIELD: May I just be given one moment.</p> <p style="text-align: center;">Page 31</p>
<p>1 JUDGE NORMAN: Yes. 2 MR PARKER: That any (inaudible) of any industrial concern 3 throughout the world committed by a British subject will 4 then mean, under this act, lead to proceedings being 5 brought against both the individual chief executive 6 officer, even though they could not and did not have any 7 hand at all in the act which caused the damage and 8 he could not possibly have prevented it? 9 JUDGE NORMAN: The impact of the ruling is not for me to 10 determine, but my ruling in this case, in relation to 11 the statute as drafted, is that which I've given: that, 12 in this sense, it's an absolute requirement of the steps 13 being taken by those under the authority of chief 14 executive officers, and in the light of the admissions 15 of fact that have been made, one proceeds, therefore, to 16 consider the questions whether the ecocide has been 17 caused by these operations and whether the crime of 18 ecocide has been committed. That is the scope of this 19 trial. 20 MR PARKER: My Lord, I'm obliged. 21 JUDGE NORMAN: Yes, Mr Mansfield. 22 MR MANSFIELD: My Lord, I will wait for the jury to be 23 brought back. I don't have anything else. Thank you. 24 (In the presence of the jury) 25 JUDGE NORMAN: Thank you, members of the jury. When matters</p> <p style="text-align: center;">Page 30</p>	<p>1 My instructing solicitor is ... would the usher be kind 2 enough to hand this up. 3 JUDGE NORMAN: This is in another divider. Looking at 4 the bundle I was given, divider 4. 5 Examination-in-chief by MR MANSFIELD 6 MR MANSFIELD: Dr Boxall, addresses and so on, clearly that 7 information is available so I will skip over that if 8 I may. 9 First of all, would you be kind enough in brief 10 form, because everybody has your background, but 11 the jury don't, just a little bit about your 12 qualification and background. 13 A. Certainly. I'm an academic from 14 the University of Southampton, I'm a member of 15 the National Oceanography Centre of the UK. My 16 expertise is in (inaudible) in oil spills and in general 17 oceans. I'm an oceanographer by training, I have a PhD 18 in oceanography and I have experience of working on oil 19 spills in the UK and in France. 20 Q. A slight gap because I notice people are writing and 21 I don't want to go too far. So, that's your general 22 background, we can ask for more detail if necessary. 23 I want to ask you about the matter on the indictment 24 to which you can speak. So the jury are clear, the oil 25 spill, which is part of Count 1, and the date of that</p> <p style="text-align: center;">Page 32</p>

<p>1 oil spill is also on the count in terms of the starting 2 date. It was 22 April 2010, and I want to take it in 3 logical stages with each one as briefly as you feel you 4 can.</p> <p>5 First of all, on that date -- there's no issue that 6 it was the Gulf of Mexico, can you just describe what 7 happened.</p> <p>8 A. On that date the rig, which is an exploratory rig, it is 9 a rig where the oil company GPC were exploring for oil 10 and determining the oils (inaudible) in the ground below 11 the sea level. What they will normally do is explore 12 a number of areas in a particular zone. They will 13 determine what the potential production will be in those 14 areas and they will then, effectively, close the wells 15 down until they come back for production.</p> <p>16 The well in question was in the process of being 17 plugged temporarily by a subcontractor, using a mixture 18 of concrete and slurry, to effectively seal the well 19 off, put the cork in the bottle, until a later date when 20 the oil will be extracted for production.</p> <p>21 The company under contract to GPC were undertaking 22 a plugging when an error occurred. There were concerns 23 over the particular mix of concrete they used, where 24 (inaudible) was being applied, and as a result there was 25 a leak of methane gas which effectively came up</p> <p style="text-align: center;">Page 33</p>	<p>1 one mile, and there is no set methodology for dealing 2 with a blowout at this depth. It is beyond the depth of 3 divers and most exploratory vehicles.</p> <p>4 So, the oil in itself took something in the region 5 of four months before the oil was eventually capped.</p> <p>6 Q. If you pause there for a moment, because you have 7 imparted a lot of information.</p> <p>8 Could we just, to bring it to light a little bit, -- 9 could the witness have a bundle? Do we have a spare 10 bundle? No. Right, you can have mine. Ignore 11 the writing on it, please.</p> <p>12 JUDGE NORMAN: I have most of these documents, I can hand up 13 mine.</p> <p>14 MR MANSFIELD: Your Lordship is very kind.</p> <p>15 It's divider number 4. Can we just run through 16 the photographs. The first photograph shows what?</p> <p>17 A. Basically it shows the rig and the fire after 18 the explosion with fire crews on hand to control 19 the rig, to evacuate the rig of personnel.</p> <p>20 Q. The second photograph speaks for itself.</p> <p>21 A. As far as I can see, in the oil is a pelican.</p> <p>22 Q. Then the next photograph shows, effectively, once again, 23 a map of -- aerial view of the Gulf of Mexico. Was 24 the rig within this area?</p> <p>25 A. It was. It's marked by a cross in the centre of</p> <p style="text-align: center;">Page 35</p>
<p>1 the well.</p> <p>2 Now, there are a number of techniques and 3 methodologies in place to stop this being a major issue.</p> <p>4 First of all, there are alarm systems on the rig to warn 5 of a release of methane coming up the pipe. The alarms 6 had been disabled by the crew on board the rig because 7 it had gone off a number of times, giving a false 8 warning, and had woken them up. Unfortunately, that 9 meant that when the real incident happened, there was no 10 alarm, and that caused the explosion, which caused 11 the death of 11 people. At that stage, the rig was 12 severely damaged and sank, causing damage to the supply 13 pipe to the surface.</p> <p>14 The second safety mechanism is if damage occurs to 15 the supply pipe, there is an automatic shut off valve, 16 called a blowout preventer valve, which effectively 17 stops the flow of oil. This valve didn't fail 18 completely but didn't close correctly, and at the moment 19 there is still discussion going on as to the reason for 20 this, but it's been identified that there was a fault to 21 the design of this valve, faults both in terms of 22 maintenance and in terms of the actual valve design 23 itself.</p> <p>24 At that point, oil was released into the Gulf of 25 Mexico. The depth of the release was 1500 metres, about</p> <p style="text-align: center;">Page 34</p>	<p>1 the map.</p> <p>2 Q. Right.</p> <p>3 A. And is about 40 to 50 kilometres offshore.</p> <p>4 Q. I'll come back to the offence in a moment. That's 5 the place of it, I hope everybody can see it.</p> <p>6 If we turn over again, the one the jury have seen, 7 a little clearer. This is closer to the shore. It 8 shows the states concerned and the number of platforms 9 within those two zones, as it were.</p> <p>10 A. Correct.</p> <p>11 Q. Anything else to say about that, or not?</p> <p>12 A. No.</p> <p>13 Q. If we turn over again, what do we see in the next 14 photograph?</p> <p>15 A. We see surface oil, crude oil from the seabed in slicks. 16 The slicks on this picture are relatively thin, of 17 the order of perhaps a few centimetres, and we can see 18 a rig support vessel going through the middle of that 19 slick.</p> <p>20 Q. Then more birds?</p> <p>21 A. Yes, these are birds near coastal areas, which have been 22 caught up, effectively swamped with oil.</p> <p>23 Q. The next photograph shows an area of photograph with 24 three vessels and no doubt oil on the surface of 25 the water. What is going on on this photograph?</p> <p style="text-align: center;">Page 36</p>

<p>1 A. I have not seen this photograph before. I'm guessing --</p> <p>2 Q. I don't want you to guess.</p> <p>3 A. I'm assuming that these are basically oil vessels where</p> <p>4 they have tows, which is basically (inaudible) the oil</p> <p>5 to make it easier to collect physically.</p> <p>6 Q. I think that's, if I may say so, a fair assumption.</p> <p>7 Then if we turn to the next one, that's another</p> <p>8 member of the bird community.</p> <p>9 A. Yes.</p> <p>10 Q. So, that's a very rough guide to the pictorial</p> <p>11 circumstances surrounding, and you've indicated a number</p> <p>12 of factors that bore upon the explosion itself.</p> <p>13 I want to ask you straightaway in relation to this,</p> <p>14 were there any other factors that played a part in</p> <p>15 the cause of the explosion?</p> <p>16 A. To the best of my knowledge, no, but many of the factors</p> <p>17 have been discussed in other arraignments in US courts.</p> <p>18 Q. Well, then, I want to ask you this: in relation to this</p> <p>19 kind of operation and this rig in particular, have there</p> <p>20 been any warnings? In other words, were the company</p> <p>21 made aware at any time of difficulties in relation to</p> <p>22 this spill?</p> <p>23 A. There have been previous examples of deep sea blowouts,</p> <p>24 particularly off the north-west of northern Australia</p> <p>25 one year before, so this wasn't a unique incident, and</p> <p style="text-align: center;">Page 37</p>	<p>1 companies or inspectors?</p> <p>2 A. They are kept by both companies and by inspectors.</p> <p>3 Q. The inspectors are derived from where? What authority</p> <p>4 provides the inspectors?</p> <p>5 A. The inspectors come from the United States Coastguard.</p> <p>6 Q. And they, presumably, also keep records of what they</p> <p>7 have found from time to time?</p> <p>8 A. They do.</p> <p>9 Q. Now, in relation to three of the factors, that's</p> <p>10 the concrete slurry in the first place, and then</p> <p>11 the alarm and then the valve, are all those aspects</p> <p>12 matters which an inspector would have asked questions</p> <p>13 about prior to this time?</p> <p>14 A. Ordinarily that is the case, but there is some</p> <p>15 supposition as to the level of the inspection that took</p> <p>16 place.</p> <p>17 Q. Right. Now, I want to pass from causes to effects, and</p> <p>18 you've indicated already, we're looking at</p> <p>19 the photographs, that this went on for a number of</p> <p>20 months?</p> <p>21 A. Correct.</p> <p>22 Q. Dealing with that, first of all, about how many months</p> <p>23 did the spill continue, effectively?</p> <p>24 A. The spill rate varied, depending on what was being done</p> <p>25 to stem the flow, but the spill occurred for four and</p> <p style="text-align: center;">Page 39</p>
<p>1 there had been concerns during inspections of the EPA</p> <p>2 and the (inaudible) agency of the United States on</p> <p>3 certain safety issues.</p> <p>4 Q. And what were the concerns?</p> <p>5 A. Concerns primarily on inspection and maintenance</p> <p>6 schedules, the details of which I don't have.</p> <p>7 Q. Can you deal with it in general terms as to what</p> <p>8 the category of concern was? What was going right or</p> <p>9 wrong?</p> <p>10 A. I wouldn't like to comment on that without having</p> <p>11 evidence with me.</p> <p>12 Q. All right.</p> <p>13 Now, what -- are you in a position to say what</p> <p>14 should happen in relation to a rig prior to use, tests,</p> <p>15 inspections and so on, that kind of thing? Are you able</p> <p>16 to indicate what should happen?</p> <p>17 A. Yes, there should be protocols set in place for dealing</p> <p>18 with a number of incidents. A company needs to look at</p> <p>19 worst case scenarios, particularly a scenario such as</p> <p>20 a blowout and (inaudible). It needs to have in place</p> <p>21 protocols to deal with such an incident. In this case</p> <p>22 GPC hadn't got a viable methodology for dealing with</p> <p>23 this particular incident, and that is a regulation and</p> <p>24 rule of (inaudible) in the first place.</p> <p>25 Q. And are records kept in relation to this normally by</p> <p style="text-align: center;">Page 38</p>	<p>1 a half months in total and eventually was capped by</p> <p>2 a bypass valve in the drill to stop the flow into</p> <p>3 the water.</p> <p>4 Q. I think this can often be confusing, and maybe you don't</p> <p>5 know, but has somebody calculated in barrel form or some</p> <p>6 other form how much crude oil reached the sea --</p> <p>7 the top --</p> <p>8 A. The agreed level between the Coastguard Agency and GPC</p> <p>9 was something in the region of (inaudible) tonnes, which</p> <p>10 equates to 4.9 million barrels spilled over the period.</p> <p>11 As you correctly say, it's very difficult to estimate</p> <p>12 the precise figure. The areas around that could be</p> <p>13 significant, certainly 20 to 30 per cent. The key thing</p> <p>14 is it's a significant amount of oil and puts it in the</p> <p>15 top five spills worldwide.</p> <p>16 Q. And, just so the jury have a little bit of background,</p> <p>17 they may have heard of other spills: what other spills</p> <p>18 approached this kind of magnitude?</p> <p>19 A. There have been a number of spills over the years.</p> <p>20 The largest spill in history was during the first Gulf</p> <p>21 War in the late 1980s, where something in the region of</p> <p>22 300 million tonnes of oil was spilt as a result of</p> <p>23 sabotage.</p> <p>24 Within the US there was a land spill in California,</p> <p>25 Lakeview, in the early 1900s which took place, and it</p> <p style="text-align: center;">Page 40</p>

<p>1 was estimated that around about 700,000 tonnes of oil 2 was spilt during that. The irony was that that was 3 a similar issue of a blowout. That was a land blowout 4 and in the early 1900s the technology didn't exist to 5 cap the blowout. Today the blowout is usually capped 6 within 24 hours. The issue here was this was the second 7 blowout that had happened and it did take four months to 8 resolve the blowout.</p> <p>9 Q. I'm just going back to divider 4 and the region or the 10 territory of the water that is in yellow and then deeper 11 red, it crosses in the middle where the platform is. 12 So the jury have some idea, does the yellow area 13 reflect the area touched by oil one way or another? 14 A. It does, yes. 15 Q. And I'm going to deal with it in stages: first of all, 16 what was the effect -- perhaps I should put a precursor 17 to this. I mentioned in opening the definition of 18 an ecosystem; do you have a definition of an ecosystem 19 that's the same or different? 20 A. My definition would be the same as your own definition. 21 Q. All right. That's very fortunate. 22 In relation to that, that's the question of 23 an ecosystem, I asked you a supplementary: was there 24 an ecosystem in place? In other words, was there 25 a pre-existing ecosystem within this territory?</p> <p style="text-align: center;">Page 41</p>	<p>1 the rig area was an area of around about ten kilometres 2 a circle around the area which has been impacted. That 3 occurred through smothering. Even at 1.5 kilometres 4 there is a deep ocean system, it's very complex and very 5 fragile, and the oil smothering effectively cuts out 6 life to that area, so it basically devastated that 7 particular area. 8 Having said that, the area beyond that region will 9 have been largely unaffected, so the deep ocean 10 ecosystem as a whole will not be as affected as it could 11 have been. 12 Q. Now, the 10-kilometre area you've described, that 13 ecosystem being affected because of its complexity, now, 14 is that an impact that is continuing now or it's 15 impossible to say? 16 A. That is continuing now and it will be a long-term 17 impact. 18 Q. How long? 19 A. Estimates vary. The measurements so far from 20 (inaudible) institute and from other organisations 21 around the US coast that have been investigating this 22 show that the thickness of oil in these areas is of 23 the order of several centimetres. That doesn't sound 24 a lot, but that's sufficient to smother life for some 25 extent of time, and because of the depth and temperature</p> <p style="text-align: center;">Page 43</p>
<p>1 A. Yes, there were a number of ecosystems. There was 2 obviously the open ocean deep sea, but also in this 3 particular region, Mississippi Delta, there is a very 4 fragile mangrove ecosystem which supports a wide range 5 of plants, obviously including birds. The effect of the 6 oil was to impact on both the open ocean ecosystem and 7 the mangrove ecosystem. 8 Q. Right. Now, on the delta, as it were, 9 the Mississippi Delta and the mangrove, where would 10 the jury place that on this particular photograph? Just 11 roughly, where would that appear? 12 A. Put very simply, along most of that coastline that was 13 impacted. The bulk of the mangrove system existed on 14 the islands of the delta itself which occurred in 15 the area that protrudes out towards the cross. 16 Q. Yes. 17 A. So, the area was central to that particular region, 18 heading out towards the sort of south-east. 19 Q. So, two different ecosystems, I'll deal with them in 20 turn. What was the impact or effect on the first of 21 the ecosystems, that's the ocean one, either the surface 22 or deep down. 23 A. In terms of the water board itself, the impact was 24 relatively small: there was an impact for fisheries. In 25 terms of the seabed ecosystem in the open ocean, around</p> <p style="text-align: center;">Page 42</p>	<p>1 of these particular deposits, it would take, we think, 2 between 10 and 20 years for bacteria and other microbes 3 to break the spill down at depth. 4 Q. You mention temperature. What is the significance of 5 temperature? 6 A. The temperature affects both the speed at which microbes 7 operate. The surface is at the temperature of between 8 17 and 27 degrees Celcius, which is a perfect 9 temperature for microbes to work. Beneath the ocean 10 we're looking at temperatures of 2 to 3 Celsius, so the 11 equivalent of moving the milk from a worktop to 12 a fridge, and in the fridge it lasts a lot longer. In 13 the deep ocean it doesn't receive the same decay as it 14 would do on the surface. 15 Added to that, the light helps to break the oil down 16 and, again, light doesn't have that depth at 17 1.5 kilometres. 18 Finally, the viscosity of the oil is affected by 19 warm temperature. At warm temperatures -- it disperses 20 more readily at 27 degrees than it would at 21 2 degrees. So the temperature affects it in two ways, 22 plus the depth, being away from the lighter zone of 23 the ocean. 24 Q. Now, the second microbe system that you mentioned was 25 a coastal one, the mangrove. Can you then deal with the</p> <p style="text-align: center;">Page 44</p>

<p>1 impact on that region? I think you said, looking at the 2 photograph, does it cover the area of the black line or 3 is it smaller? There's a black dotted line; is that it? 4 A. The black dotted line covers virtually all of the near 5 shore island mangrove habitat. 6 The big issue of this particular spill is because 7 the spill was over a long period of time and was chronic 8 as opposed to acute, it has meant that the initial 9 impact has continued, and in the small area impacted and 10 we would expect to see the timescale at which it is 11 impacted to be fairly short. 12 Because oil continues to be washed ashore as 13 a result of currents, winds and continuing spilled oil, 14 it meant that the habitat was impacted continuously for 15 about four to five months in some cases, and it would 16 have continued shortly after the well being capped. 17 The second thing is, because of the wide area of 18 coverage of oil, ordinarily a habitat will be helped to 19 recover by the fact that ecosystems from neighbouring 20 regions will repopulate the damaged area. 21 Now, reports are already coming in that 22 the mangroves themselves are regrowing and there's 23 little doubt that with support from GPC, funding 24 extensive mangrove restoration, that the mangroves 25 themselves, and the plants in the mangroves, will</p> <p style="text-align: center;">Page 45</p>	<p>1 any of these areas? 2 A. One would argue that the ecosystem as it stood prior to 3 the incident would be irrevocably damaged. A new 4 ecosystem will develop with time. 5 Q. And the time span you're giving? I know it's all -- 6 A. It's speculation, but based on past incidents, for 7 example Exxon Valdez, Sea Empress, the Sea Empress in 8 south-west Wales, we're looking at the order of 10 to 9 15 years for this system to recover to some form of 10 stability, and it is the stability of the ecosystem so 11 that it is in balance and it is a stable ecosystem that 12 takes the time. 13 A recognisable system will be much quicker, so if 14 one visited the mangrove, to the human eye it would 15 appear to be stable, but it does take nature longer to 16 stabilise. 17 Q. Now, I want, finally, for you to deal with two other 18 aspects to this: one, was there some damage already in 19 the -- either the ocean ecosystem or the coastal 20 ecosystem? Had there been damage before? 21 A. The area is not a pristine area. The Mississippi Delta 22 is an area of heavy industry, both the oil industry and 23 for other heavy industry. 24 The mangrove swamps were already stressed. The oil 25 spill was the last straw, effectively, which broke</p> <p style="text-align: center;">Page 47</p>
<p>1 recover. 2 But the ecosystem is more than just plants. It is 3 the interrelationship, and when the mangroves go, one 4 loses the other animals and species that depend on those 5 mangroves, and although the mangroves themselves will 6 probably recover within one to two years, it will 7 probably take in excess of 10 to 15 years before 8 a fuller recovery takes place, and that ecosystem is 9 likely to be changed: it's virtually impossible if you 10 take one part of a very complex system out to rebuild 11 that system to exactly the same state as it was before. 12 As scientists we can try to model an ecosystem and 13 work out things will be populated, but ecosystem 14 modelling is very complex, and only time will tell how 15 the ecosystem will recover over the course of the next 16 10 to 15 years. 17 Q. In short form, are there areas of the mangrove or 18 coastal region that are -- where the ecosystems are 19 irrevocably damaged in your view? 20 A. Without the -- mangroves being 80 per cent of 21 the mangrove swamps in the area impacted off the coast 22 of New Orleans, Mississippi Delta were affected in some 23 form or other. 24 Q. Yes, I'm sorry to repeat the question, it's the term 25 I used, whether you can employ the term irrevocably to</p> <p style="text-align: center;">Page 46</p>	<p>1 the stress. So, this was an area that was receiving 2 attention from the EPC, the environmental protection -- 3 EPA, rather, the Environmental Protection Agency, in 4 terms of trying to assure that no further damage took 5 place from existing pollution sources. 6 In the near Mississippi Delta area, there was also 7 a fair amount of contamination and sediments, but as far 8 away, as far offshore as the rig itself, there was no 9 significant environmental damage in that region. 10 Q. The second matter is this: the clean up operation. In 11 this case, first of all, have you exercise on clean up 12 methodology? 13 A. Yes. 14 Q. And are there aspects of this clean up operation that 15 took place once the spill was in place about which you 16 can speak, please? 17 A. There are three simple rules of an oil spill. The first 18 rule is don't spill. The second rule is pick up 19 mechanically as much as possible to prevent it from 20 impacting on the environment, and that's through the use 21 of booms, through skimmers and through pumps. 22 Q. Is that like the photograph we've seen? 23 A. Similar to the photograph we've seen earlier. 24 Q. Yes. 25 A. The final rule is, let nature take its course, and</p> <p style="text-align: center;">Page 48</p>

<p>1 there's been extensive research from organisations 2 around the world which have been published in journals 3 which show that the system of the planet responds to oil 4 very well. Oil is a natural product. It leaks 5 naturally into the environment around the world from 6 deep seas, and there are bacteria and microbes that are 7 designed by nature to deal with the oil, actually reduce 8 the oil down to its component parts, which are harmless.</p> <p>9 Where a particular area is under severe threat, 10 there are alternative methodologies. There are two 11 methodologies that were used in this particular clean 12 up. The first was burning. There are arguments amongst 13 experts as to whether burning is advisable or not. The 14 general argument is that, generally speaking, burning is 15 used as a way of showing that something is being done: 16 it looks good for the media. Its actual affect is to 17 take away the lighter components of the oil which help 18 to disperse the oil, because the lighter components burn 19 off very quickly, and what one is left with is a heavy 20 crude oil, a tar-like substance which tends to sink to 21 the seabed where it becomes difficult to deal with. 22 Certainly for the ... technology that deals with deep 23 ocean spills that sit on the seabed.</p> <p>24 The second technology that was used was dispersants. 25 Again, there is controversy over these dispersants. In Page 49</p>	<p>1 showed that actually in this case 800,000-gallons of 2 dispersants didn't break the oil up and actually took 3 the oil slightly below the surface away from microbe 4 activity and oxygen to encourage microbial activity.</p> <p>5 So, the evidence so far is that the action of 6 the dispersant actually slowed the dispersion of the oil 7 down rather than improved it.</p> <p>8 The EPA, the Environmental Protection Agency, 9 declared that actually both Corexits were seen as acute 10 health hazards, and they requested in a letter on 19 May 11 to the GPC evidence to show that they had no alternative 12 means of dispersion.</p> <p>13 The argument put by GPC was that it didn't have 14 stock pile in sufficient quantities other than using 15 Corexit to deal with this particular incident. 16 Evidently, there is plenty of Corexit available because 17 it was banned in so many countries.</p> <p>18 There is also evidence from a Nalco employer, one of 19 the Nalco scientists, that shows actually in open ocean 20 conditions Corexit 9527A is not well suited to use.</p> <p>21 Q. I want to ask you just this as a footnote to all of it: 22 what is the impact on the bird community of the use of 23 these dispersants?</p> <p>24 A. They have two impacts: they have a toxic impact if they 25 good into the food chain, and the cumulation of Page 51</p>
<p>1 early days these were seen as toxic, and growing more 2 toxic after an oil spill is seen as being negative.</p> <p>3 Some countries have now banned these dispersants. 4 Most countries, particularly in Europe, require that 5 operators have permission from (inaudible) to use 6 a dispersant.</p> <p>7 The dispersant used in the case of this particular 8 spill were two dispersants, Corexit 9500 and 9 Corexit 9527A. The latter of these was used in the deep 10 well to actually try and disperse the oils that came out 11 of the well, and the former, 9500, was used near shore.</p> <p>12 The latter one contains what we call 2-butoxyethanol 13 and propylene glycol. 2-butoxyethanol is a toxic 14 substance, it's been shown to affect red blood cells in 15 human, to cause liver failure and eye irritation. Both 16 of these materials were banned for use in the UK, 17 through an order of the UK government agency on 18 30 July 1998.</p> <p>19 The ban was total for near shore habitats and they'd 20 only be used as a last resort with permission from the 21 UK government in offshore environments.</p> <p>22 In offshore environments, the dispersant has little 23 or no role to play. Research being carried out by the 24 Whitwell Institute, the largest oceanographic institute 25 in the US, along with the University of West Florida, Page 50</p>	<p>1 the toxins within the dispersants.</p> <p>2 If the dispersant also reduces the way in which 3 bacteria degrade the oil, and the oil remains ironically 4 in the water for longer than it should, rather than 5 shorter.</p> <p>6 Q. Thank you. Would you wait there, please. 7 Cross-examination by MR PARKER 8 MR PARKER: Dr Boxall, crude oil of the type that was spilt 9 in this incident is a naturally occurring mineral, is it 10 not?</p> <p>11 A. It is, indeed.</p> <p>12 Q. And it's found in large quantities beneath the Gulf of 13 Mexico?</p> <p>14 A. Yes.</p> <p>15 Q. Does it, as an ordinary part of nature, leach from the 16 seabed into the Gulf of Mexico?</p> <p>17 A. As stated earlier, yes, it does.</p> <p>18 Q. In what quantities per annum?</p> <p>19 A. The exact estimates are uncertain, but evidence shows 20 that more oil globally dispersed through the oceans, 21 leaks into the oceans by accidental accidents by humans.</p> <p>22 Q. That wasn't my question.</p> <p>23 A. Okay.</p> <p>24 Q. How much per annum leaks into the Gulf of Mexico 25 naturally? Page 52</p>

<p>1 A. We don't have an exact figure, but it's estimated to 2 be -- based on global estimates it's something around 3 about 50,000 tonnes per annum spread across the entire 4 Gulf of Mexico.</p> <p>5 Q. And when it escapes from underneath the surface, whether 6 by human action or by a natural seepage, it disperses, 7 does it not, by a microbial or bacterial action.</p> <p>8 A. It's broken down as it comes to the surface, yes.</p> <p>9 Q. And the surface actions in which it leaches or is 10 released, can have an effect upon the speed at which it 11 is broken down into non toxic constituents.</p> <p>12 A. Correct.</p> <p>13 Q. And some of those features were present here in a very 14 beneficial way to assist with the dispersal of the oil 15 leak at this particular well.</p> <p>16 A. Do you mean in terms of the microbes?</p> <p>17 Q. Yes.</p> <p>18 A. Correct.</p> <p>19 Q. In particular, the oil which leaked was broken down more 20 speedily than might have been the case, for example in 21 Alaska, in part because of the sea temperature, in part 22 because of the time of year, the summer, with extended 23 daylight as the oil reached the surface, in part because 24 of dispersal of the oil slick by moving currents within 25 the Gulf of Mexico.</p> <p style="text-align: center;">Page 53</p>	<p>1 Q. So the effect of the seepage wasn't immediately obvious 2 from looking at it?</p> <p>3 A. Correct.</p> <p>4 Q. I'm going to come onto the clean up operation in 5 a moment, but I think you can confirm, can you not, that 6 Global Petroleum Company by itself, never mind any other 7 agency, spent some \$34 billion in clean up operation?</p> <p>8 A. Substantially more, I think you will find.</p> <p>9 Q. Sorry?</p> <p>10 A. I think you will find it's even more than that.</p> <p>11 Q. How much more?</p> <p>12 A. I've seen the figures, but they have spent a significant 13 amount on the clean up.</p> <p>14 Q. Of the oil which was spilt, we can break down, can we 15 not, the various different means by which the oil was 16 cleaned up?</p> <p>17 A. To a degree, yes, but there are still questions as to 18 where the oil went exactly, and also how much was 19 collected.</p> <p>20 Q. Well, the best estimates are these, aren't they: that 21 67 per cent of the oil spill was effectively cleaned up 22 by natural microbial action within the slick itself.</p> <p>23 A. I haven't the exact figure, but the figure sounds about 24 right, it's slightly an underestimate.</p> <p>25 Q. It's slightly an underestimate?</p> <p style="text-align: center;">Page 55</p>
<p>1 A. Yes, and in major by the fact that it was in a large 2 volume of water: so the depth of the spill at 3 1.5 kilometres and the fact that it was 40 to 4 50 kilometres offshore has meant that it's very 5 different to an oil spill in a coastal zone where you 6 have shallow water and a limited amount of water.</p> <p>7 Q. So, rising 1500 metres from the seabed --</p> <p>8 A. Yes.</p> <p>9 Q. -- in a very large volume of water also assisted with 10 the natural dispersion?</p> <p>11 A. It was fundamental to the natural dispersion.</p> <p>12 Q. In fact, it had a -- the microbial breakdown had a small 13 disadvantage of its own, did it not, in that the extent 14 of the leak from the well bed was not at first apparent 15 because the oil was being broken down so fast?</p> <p>16 A. No, it wasn't being broken down that quickly: the oil 17 wouldn't have been broken down on its way to 18 the surface. It surfaces very rapidly. The problem is, 19 as it comes to the surface, it's not coming up as 20 a solid stream, it's coming up as a dispersed stream, so 21 what was (inaudible) at the source would effectively 22 arrive at the surface over a two or three kilometre 23 area. So, because it's so dispersed, what would appear 24 initially is a sheen rather than a thick oil slick such 25 as you might expect to see from a hole in a tanker.</p> <p style="text-align: center;">Page 54</p>	<p>1 A. Yes.</p> <p>2 Q. Which would be over two thirds of the spill?</p> <p>3 A. Correct.</p> <p>4 Q. Broken down by ordinary bacterial action?</p> <p>5 A. Yes.</p> <p>6 Q. And, certainly by the -- within a matter of months, 7 concentrations in the water column were back to normal?</p> <p>8 A. In most of the water column they were, but there were 9 areas where concentrations today are still high.</p> <p>10 Q. Of the remaining one third, there were -- there was oil 11 recovered at the well itself, at the seabed?</p> <p>12 A. Correct.</p> <p>13 Q. Some oil was chemically dispersed.</p> <p>14 A. That oil would come under the same category as bacterial 15 decay, because ultimately the dispersed oil will only 16 breakdown through bacterial decay.</p> <p>17 Q. I'll come to that in a moment. 18 Some was burned?</p> <p>19 A. Small amounts, yes.</p> <p>20 Q. And some was recovered at sea?</p> <p>21 A. Yes.</p> <p>22 Q. And, just putting some figures on that, if I suggest to 23 you that 17 per cent of the escaping oil was recovered 24 at the wellhead, would you disagree with that, or are 25 you going to help me with some more figures?</p> <p style="text-align: center;">Page 56</p>

<p>1 A. I can't confirm or refute those figures. 2 Q. My suggestion to you is that 8 per cent of the total 3 spill was chemically dispersed, 5 per cent was burned, 4 and 3 per cent was recovered at sea; do those figures 5 sound about right to you? 6 A. Yes, I don't have an issue with those figures. 7 JUDGE NORMAN: Sorry, what was the last number? 8 MR PARKER: 3 per cent. 9 JUDGE NORMAN: Yes. 10 MR PARKER: Recovered at sea, and then ... 11 A. Effectively recover. 12 Q. A small percentage? 13 A. One doesn't count in there the amount that was recovered 14 on beaches as well. 15 Q. The -- 16 A. One of the key issues with booms is the lack of booms 17 available for recovery. 18 Q. The lack of booms? 19 A. Yes. 20 Q. Well, in this case, within two months there were, what, 21 38 kilometres of booms and by the end of August, 22 146 kilometres? 23 A. Correct, but in most spills one would expect booms to be 24 on site within 24 hours. 25 Q. But the fact of the matter is, this was undoubtedly</p> <p style="text-align: center;">Page 57</p>	<p>1 Your suggestion is that this is simply window 2 dressing for the media. 3 A. Primarily, yes. It doesn't seem to serve any particular 4 purpose. 5 Q. Except that it did dispose of 5 per cent of 6 250 million-gallons of oil? 7 A. It disposed of a proportion of the oil. It also added 8 an equivalent percentage to heavy tars which then sank 9 to the seabed where they cannot be biodegraded. 10 Q. Is that verified in this case? 11 A. Sorry? 12 Q. Is that verified in this cases as opposed to other 13 cases? 14 A. That would be the typical breakdown of the amount of 15 oil. We burned about half of the oil and the other 16 half, the remaining 5 per cent would effectively end up 17 on the seabed. 18 Q. I'm asking about this case, not typically, or other 19 cases, I want to know about in this case. 20 A. There is no reason why it shouldn't be the same in this 21 case. 22 Q. Is there any evidence that it was? 23 A. There was evidence of tar in the seabed away from 24 the main rig area. 25 Q. But not in the figures you've suggested.</p> <p style="text-align: center;">Page 59</p>
<p>1 a large area? 2 A. It was, indeed. 3 Q. But, nonetheless 146 kilometres worth of booms were 4 employed? 5 A. Halfway through the spill, yes. 6 Q. The burning, first of all. You have a criticism of 7 burning to get rid of oil? 8 A. Yes. 9 Q. Can we be clear, first of all, that the clean up 10 operation here was not conducted by 11 Global Petroleum Company in some kind of vacuum, was it? 12 A. It was conducted under the auspices of 13 the Environmental Protection Agency and 14 the Coastguard Agency of the US. 15 Q. United States Government National Incident Command? 16 A. Yes. 17 Q. So whether there would be burning or chemical dispersal, 18 it's undoubtedly with the authority of, indeed 19 the encouragement of, the local government authority? 20 A. In the case of the burning, that is the case. As 21 mentioned, in the case of the use of Corexit, there were 22 questions asked by the (inaudible). 23 Q. We'll come back to that. I want to deal with burning 24 for the moment. It covers only 5 per cent of the total 25 volume of oil, which spilled.</p> <p style="text-align: center;">Page 58</p>	<p>1 A. The ocean is too vast to actually get an accurate 2 measure of that. Most of it is below the ocean. 3 Q. Dr Boxall, we are dealing with this case and these 4 offences. 5 A. But in this case there aren't sufficient measurements to 6 confirm or refute exactly this. 7 Q. Thank you. 8 Lessons to be learned, or not, from burning oil 9 spills in the past: there have been some disasters where 10 burning has taken place but not in appropriate 11 conditions? 12 A. Correct. 13 Q. For example, the Torrey Canyon disaster. 14 A. Yes. 15 Q. Where the oil was not properly boomed or ring fenced and 16 the lighter fractions burned off and the heavier 17 fractions sank in the way you described? 18 A. That's correct, but you cannot boom. Booming brings 19 the oil together to reduce the area for which it takes 20 place. But you cannot boom below, you can only boom to 21 the side, so gravity still takes heavy tars, as the oil 22 burns, to the seabed. 23 Q. Either way, a more efficient system was employed here 24 than it was 13 or 15 years ago in Torrey Canyon? 25 A. Not necessarily.</p> <p style="text-align: center;">Page 60</p>

<p>1 Q. Do you have any incentives? 2 A. There's no evidence to show otherwise. 3 Q. No, that's not the point. Do you have any evidence? 4 A. (Inaudible). 5 Q. Do you have any evidence to show that it was less 6 efficient? 7 A. No. 8 Q. But the smoke was tested, was it not? 9 A. It was tested for soot and other contaminants. 10 Q. And to see if it was toxic? 11 A. Correct. 12 Q. And it was determined that it was, indeed, made up 13 largely of soot and was not toxic? 14 A. There were no significant levels of toxicity. 15 Q. You are allowed to agree with me, Dr Boxall. 16 As far as chemical dispersants are concerned, again, 17 the use of chemicals was authorised and regulated by 18 United States Government National Incident Command. 19 A. Right. 20 Q. There is a protocol, in fact there are endless 21 protocols, are there not, about the use of detergents 22 and dispersals? Did this protocol, or the relevant one 23 here, require that the dispersants firstly should be 24 less toxic than the oil which it was being employed to 25 disperse?</p> <p style="text-align: center;">Page 61</p>	<p>1 A. 9527. 2 Q. (inaudible)? 3 A. 9500 has a toxicity, but it isn't of the same level, 4 it's not seen as an acute health hazard in the same way 5 the 9527 is. 6 Q. And Germany use it with permission? 7 A. With permission. 8 Q. And Holland? 9 A. Again with permission, but in Holland Corexit is banned. 10 Q. All? 11 A. Both the 9500 and the 9527. 12 Q. Spain? 13 A. I don't know about Spain. 14 Q. And (inaudible)? 15 A. I don't know about (inaudible). 16 Q. Mr Bannerman is not charged with causing damage to 17 the mangroves, but I'm going to deal with it because it 18 may encompass part of the ecosystem which relates to the 19 birds he is charged with causing risk to, or injury. 20 Here, initially we've seen the jury have been 21 invited to look at a large expanse of coastline where 22 oil came ashore, much of the mangrove was covered? 23 A. Yes. 24 Q. 1200 kilometres? 25 A. Yes.</p> <p style="text-align: center;">Page 63</p>
<p>1 A. No, because gallon for gallon, the toxicity of the raw 2 dispersants is far greater than as you mentioned 3 already, the oil, which was a normal product. 4 Q. More toxic than the oil itself? 5 A. Not (inaudible) it has to be, overall, supposed to be 6 less toxic to deploy per square kilometre of ocean, and 7 that is in debate. 8 Q. But it's still subject to the 9 Environmental Protection Agency and the United States 10 government whether or not they're prepared to allow it 11 to be used? 12 A. Many governments are not prepared to allow it to be 13 used. 14 Q. Many governments? 15 A. The US allow it. 16 Q. It is allowed in the United States and it is allowed in 17 the United Kingdom, is it not? 18 A. It's allowed in certain cases, but not in the case of 19 Corexit, no. 20 Q. It's allowed with permission in Norway. 21 A. Again, Corexit is allowed in certain cases in Norway. 22 Q. In France? 23 A. Again, Corexit isn't allowed in France. 24 Q. The only toxic (inaudible) allowed in this case at 25 the moment, and I'm going to have ... deep sea level?</p> <p style="text-align: center;">Page 62</p>	<p>1 Q. Initially impacted. 2 A. Initially impacted to a medium to high level. So that's 3 not a sheen but a significant amount. 4 Q. You (inaudible) whether the damage to mangroves was 5 irrecoverable? 6 A. Correct. 7 Q. In fact, you were asked again to provide a further 8 answer, but your answer is "irrecoverable without 9 intervention". That's your first answer? 10 A. No, I think you'll find I said it was irrecoverable to 11 its pre-existing state. 12 Q. You came back to that after being pressed, but your 13 first answer was irrecoverable without intervention. 14 My question for you now is what sort of 15 intervention? You mean human intervention? 16 A. Human intervention to assist in the recovery of the 17 mangroves, yes. 18 Q. Here, there has been human intervention to assist with 19 the recovery of the mangrove -- 20 A. That's correct. 21 Q. -- coast. 1200 kilometres of coast line impacted 22 initially. As of this month, September 2011, there are 23 only 40 kilometres of coastline which are still subject 24 to moderate or more areas of impact. 25 A. That's correct, yes.</p> <p style="text-align: center;">Page 64</p>

<p>1 Q. With some 3.5 per cent of the total coastline originally 2 affected.</p> <p>3 A. That's correct, yes.</p> <p>4 Q. You say that ecosystems would change. In this case 5 a byproduct of the spill was that a no fishing zone was 6 declared in the centre of the spill. Where that fishing 7 zone was reinstated, as it largely has, the consequence 8 has been that fish stocks have improved enormously?</p> <p>9 A. It's the same in any oil spill around the world: that 10 during a fishing ban, the fish stocks, the fish that 11 exist in the water column swim and avoid the oil in the 12 main, they swim away from the area and then return once 13 the area is clean. There is consistent evidence to show 14 that one benefit of an oil spill is that a no fishing 15 zone imposed then increases the fishing stocks of 16 an area.</p> <p>17 Q. Either because there was no fishing before or there was 18 some other action which leads to recovery of fish 19 stocks?</p> <p>20 A. You're cutting back our removal of fish from the 21 environment, and that's the result: you get an increased 22 fish stock.</p> <p>23 Q. It's not (inaudible)?</p> <p>24 A. It's a small benefit, but obviously not to the 25 fishermen.</p> <p style="text-align: center;">Page 65</p>	<p>1 referred.</p> <p>2 A. It's a small area, a very small area.</p> <p>3 Q. Can you help us with the --</p> <p>4 A. My maths isn't there, but we're talking of a fraction of 5 a per cent of the seabed of Mexico.</p> <p>6 Q. Let's look at a different example then, still in 7 the Gulf of Mexico, that the River Eden comes down from 8 the state of Mississippi, as I understand it.</p> <p>9 A. Yes.</p> <p>10 Q. Each year, the season creates a dead zone of it's own, 11 doesn't it?</p> <p>12 A. It does through two mechanisms, yes.</p> <p>13 Q. One of those mechanism is pesticides, fertilisers and 14 other material from farming.</p> <p>15 A. Yes.</p> <p>16 Q. And the other?</p> <p>17 A. The other being from industrial contamination through 18 sediments, so again --</p> <p>19 Q. Forgive me, I didn't hear the first one.</p> <p>20 A. Industrial contamination.</p> <p>21 Q. And the dead zone which is created each year is 22 seasonal?</p> <p>23 A. Yes. There is a seasonal peak but, having said that, 24 there is still a fairly -- there's a -- we call it 25 (inaudible) it's not complete yet, but it's in poor</p> <p style="text-align: center;">Page 67</p>
<p>1 Q. Not to?</p> <p>2 A. The fishermen.</p> <p>3 Q. The real -- well, before I come to (inaudible), you 4 referred to a dead zone around the wellhead itself?</p> <p>5 A. Correct.</p> <p>6 Q. An area, a hypoxic zone where all the oxygen is sucked 7 out or expressed by the crude oil?</p> <p>8 A. It's not just the oxygen, it's the fact you have 9 a smothering crude oil which helps the ... supporting 10 a wide ecosystem.</p> <p>11 Q. Can we get this in some kind of perspective. The area 12 you're talking about has a radius of some 5 kilometres.</p> <p>13 A. The precise size is uncertain, but we know it's 14 a minimum of 10 kilometres by 10 kilometres.</p> <p>15 Q. It was earlier 10 kilometres?</p> <p>16 A. A radius of 5, and an area of 10 by 10 kilometres.</p> <p>17 Q. Yes. What is the diameter of the Gulf of Mexico?</p> <p>18 A. It's vast, so we're looking at the small -- a small part 19 of the Gulf of Mexico, but a part that would not return 20 to normality.</p> <p>21 Q. I understand that. There's no dispute there. We 22 recognise there has been damage there.</p> <p>23 A. Yes.</p> <p>24 Q. What I do want to do is make sure we understand 25 the scale of some of the parts to which you have</p> <p style="text-align: center;">Page 66</p>	<p>1 condition.</p> <p>2 Q. And, again, hypoxic?</p> <p>3 A. Hypoxic, yes.</p> <p>4 Q. And that has an area, doesn't it, of some 8500 square 5 miles?</p> <p>6 A. It is much larger than the area around the rig, yes.</p> <p>7 Q. Overwhelmingly larger an area, is it not?</p> <p>8 A. Yes.</p> <p>9 Q. In time, the area around the wellhead, the 10-kilometre 10 diameter area, will, in fact, return to a normal 11 (inaudible) years?</p> <p>12 A. We think so, and that's based on what we've done 13 ourselves, small areas in Southampton.</p> <p>14 Q. That just puts it into perspective for us?</p> <p>15 A. Yes.</p> <p>16 Q. The final area I want to come to, so far as you're 17 concerned, relates to the matters which are the subject 18 of Count 1 on this indictment: injury and loss of life 19 to birds.</p> <p>20 Now, would your Lordship excuse me a moment.</p> <p>21 My Lord, I invite the jury to turn to divider number 2, 22 page 3, please.</p> <p>23 Do you have, Dr Boxall, a bundle like that?</p> <p>24 A. I think so.</p> <p>25 Q. Yes, a coloured table.</p> <p style="text-align: center;">Page 68</p>

<p>1 A. Yes.</p> <p>2 Q. My Lord, so the jury understand what these questions are</p> <p>3 directed to, they see to the indictment Mr Bannerman ...</p> <p>4 death of 2303 birds and putting birds at risk of injury.</p> <p>5 Now, I'm going to ask you, doctor, if you can help</p> <p>6 with this chart and these figures.</p> <p>7 If you look in the top left-hand box of the chart</p> <p>8 itself, do you see there that that box relates to birds</p> <p>9 which have been recovered within a particular period</p> <p>10 along the Gulf of Mexico coastline?</p> <p>11 A. Yes.</p> <p>12 Q. And that this box relates to those which are collected</p> <p>13 alive; yes?</p> <p>14 A. Yes.</p> <p>15 Q. And it's divided into columns: those with visible oil;</p> <p>16 those which have no visible oil; and a pending section.</p> <p>17 A. Yes.</p> <p>18 Q. In the legend at the top of the report, we are told that</p> <p>19 this report covers the consolidated numbers of birds</p> <p>20 from April 14, 2011 and marine animals to April 12, 2011</p> <p>21 but the figures, as we understand it, relate to a year's</p> <p>22 collection?</p> <p>23 A. I assume so. I haven't seen this chart before.</p> <p>24 Q. That's as we understand it.</p> <p>25 We understand that to be the case and, indeed, the</p> <p style="text-align: center;">Page 69</p>	<p>1 necessarily caught by the GPC incident, an official</p> <p>2 designation of cause of death will be determined at</p> <p>3 a later date."</p> <p>4 A. Yes.</p> <p>5 Q. Of those collected dead, with visible oil, 2303, if you</p> <p>6 look just to the right, there are 3830 which are</p> <p>7 collected dead which are not visibly oiled.</p> <p>8 A. Yes.</p> <p>9 Q. Indeed, those dying naturally exceed those the number</p> <p>10 that have died and are contaminated with oil?</p> <p>11 A. There is no assumption they died naturally: they could</p> <p>12 have died through ingestion of oil or dispersants.</p> <p>13 Q. I'm sorry, say that again.</p> <p>14 A. It is not assumed they died from the oil spill without</p> <p>15 proper analysis of birds: they could have died as</p> <p>16 a result of ingestion.</p> <p>17 Q. They could have died. But we're not interested in</p> <p>18 "could have died". There's no evidence on this document</p> <p>19 provided by the prosecution that those birds died as</p> <p>20 a result of the oil spill or clean up operation. That's</p> <p>21 the 3800.</p> <p>22 A. There is no evidence that we can see, no.</p> <p>23 Q. And, furthermore, of the 2303 dead birds recovered over</p> <p>24 this year, an unknown number of those could very well</p> <p>25 have died and been contaminated with oil after death.</p> <p style="text-align: center;">Page 71</p>
<p>1 indictment is framed to cover those particulars.</p> <p>2 The figure in the bottom left-hand corner of this</p> <p>3 box shows 2086 birds collected alive with visible oil.</p> <p>4 In the next box at the top, it shows collected dead, and</p> <p>5 you can see in the total number with visible oil</p> <p>6 collected dead is 2303; do you see that?</p> <p>7 A. Yes.</p> <p>8 Q. Reflecting the second line in our Count 1 of</p> <p>9 the indictment, the cause of death of 2303 birds.</p> <p>10 But, these figures are subject to a number of</p> <p>11 caveats, aren't they, the figures reported?</p> <p>12 A. These figures that I haven't seen before need to be</p> <p>13 treated with caution.</p> <p>14 Q. I don't think there are going to be other witnesses who</p> <p>15 can help me with this, so I'm going to have to ask you.</p> <p>16 A. Okay.</p> <p>17 Q. If you look at the legend at the top, small print, and</p> <p>18 the third paragraph, you will see in the second</p> <p>19 sentence:</p> <p>20 "This documents reflects only the initial field</p> <p>21 level evaluation, it does not reflect a final</p> <p>22 determination of caused injury or death."</p> <p>23 A. Yes.</p> <p>24 Q. It goes on to say:</p> <p>25 "Not all of the ...(reading to the words)... were</p> <p style="text-align: center;">Page 70</p>	<p>1 MR MANSFIELD: That is speculation and so I will ask him to</p> <p>2 rephrase it, please.</p> <p>3 JUDGE NORMAN: Yes, Mr Parker.</p> <p>4 MR PARKER: Is there any evidence that the birds recovered</p> <p>5 dead, and were visibly oiled, were covered with oil</p> <p>6 before they died?</p> <p>7 A. Without an autopsy of each bird, it's impossible to say.</p> <p>8 Q. I'm asking you about the prosecution evidence. I want</p> <p>9 to know whether or not we can rely on the figure of</p> <p>10 cause of death of 2303 birds?</p> <p>11 A. I think there's enough evidence to say that a number of</p> <p>12 birds were killed, but I couldn't say how many were</p> <p>13 verified as killed as a result of directly the oil</p> <p>14 spill.</p> <p>15 Q. I'm not trying to (inaudible). Again, I do want some</p> <p>16 kind of certainty if certainty is being alleged against</p> <p>17 Mr Bannerman.</p> <p>18 A. Based on those tables, I can't comment.</p> <p>19 Q. The tables themselves provide a (inaudible), don't they.</p> <p>20 Do you, we, have any data of recovery of dead birds</p> <p>21 from previous years, through natural causes?</p> <p>22 A. There is evidence that birds along the entire coasts of</p> <p>23 the world will be washed up through natural causes,</p> <p>24 through death, through entanglement in fishing lines,</p> <p>25 through other forms of pollution. So, yes, there is</p> <p style="text-align: center;">Page 72</p>

<p>1 evidence that birds will die for many other reasons. 2 Q. Here, as part of the clean up operation, of course there 3 were many, many people involved, over hundreds of miles 4 of coast line, and so the figures of birds recovered 5 dead, whether oiled or not, were higher than normally 6 reported in any event? 7 A. Yes. 8 Q. But the best -- the greatest figure that can be 9 ascertained from this data is that 2303 were collected 10 dead and visibly oiled, but they may have died of 11 natural causes and been covered in oil thereafter, and 12 collected alive and, therefore, contaminated before 13 death, obviously, 2086 birds. 14 A. Yes. 15 Q. In the context of an oil spill of 250 million tonnes? 16 A. 250 million gallons, yes. We work in tonnes. 17 Q. I know we are concerned about damage to the ecosystem. 18 We may have a human concern for the fishermen themselves 19 that you said have been affected by this. Of course, 20 a number of those were employed as part of the clean up 21 operation by GPC, were they not? 22 A. They were, yes. 23 Q. And just coming back for a moment to the third lot of 24 figures, again, can I just put these matters in some 25 kind of scale: figures reported here, even at their</p> <p style="text-align: center;">Page 73</p>	<p>1 A. It's a different scenario. 2 Q. And there's enormous assistance from (inaudible) and 3 others? 4 A. Yes. As is right. 5 Q. I'm not saying right or wrong, but there has been. 6 Dr Boxall, thank you very much. 7 A. Thank you. 8 JUDGE NORMAN: Mr Mansfield. 9 Re-examination by MR MANSFIELD 10 MR MANSFIELD: I have in mind the time restriction, but 11 there are two matters of re-examination. 12 The two matters are these: first of all you were 13 asked about natural leaching of oil into the Gulf of 14 Mexico. In that instance, whatever the scale, does it, 15 the natural leaching, have an impact on the ecosystem of 16 any significance? 17 A. No, because it's happening over a long period of time 18 but in a very dispersed way rather than point source. 19 Q. Secondly, significant time has been spent asking you 20 about the number of -- an amount that has been put here 21 by the company into recovery, if you like, of areas and 22 clean up. 23 A. Yes. 24 Q. I want to ask you this question: nevertheless, in other 25 words, in spite of all that, was there in the first</p> <p style="text-align: center;">Page 75</p>
<p>1 highest, amount to only 10 per cent of the losses which 2 arose from the Exxon Valdez disaster in Alaska? 3 A. That's correct, yes. 4 Q. (Inaudible) the mangrove recovery, which has been 5 assisted by GPC. We've already dealt with the 6 (inaudible). You said it would take 10 to 15 years to 7 recover? 8 A. Not just from Exxon Valdez, but from other probably more 9 comparable. The Exxon Valdez will take longer than 10 15 years, so with comparable climates and environments 11 from past experiences, one is looking at about 10 to 12 15 years for a recovery to a balanced ecosystem. 13 Q. Here, with the input from GPC and others -- one wouldn't 14 want to (inaudible) -- the recovery is well under way, 15 is it not? 16 A. Yes. 17 Q. And in many respects, although perhaps changed, but 18 nonetheless (inaudible), four to six months after 19 the oil well is capped there is a substantial recovery? 20 A. Not so much for mangrove, but certainly for fishing 21 grounds. The mangrove has to go through a seasonal 22 cycle before it starts to see any form of recovery. 23 Q. That's understood, but we're not -- we're not here 24 talking on the scale of the Exxon Valdez. It's 25 a different scenario.</p> <p style="text-align: center;">Page 74</p>	<p>1 place a severe impact on the two ecosystems that you 2 described in the first place? 3 A. Yes. 4 Q. I have no other questions. 5 JUDGE NORMAN: Dr Boxall, thank you very much indeed. 6 A. Thank you. 7 (The witness withdrew) 8 JUDGE NORMAN: We'll take a break for the jury for a quarter 9 of an hour now. I'll ask them to withdraw, if you 10 would, and we will resume in a quarter of an hour's 11 time. 12 (11.13 am) 13 (A short break) 14 (11.45 am) 15 (In the absence of the jury) 16 JUDGE NORMAN: Sorry, it's taken rather longer than 17 15 minutes. 18 First, there's mention of an act. Are the jury to 19 receive the act? 20 MR MANSFIELD: I wouldn't have any objection to them having 21 a copy of the statute. 22 JUDGE NORMAN: You know about as little of the question as 23 I do. 24 MR PARKER: We have no objection. 25 JUDGE NORMAN: And the other is how are we doing on our</p> <p style="text-align: center;">Page 76</p>

<p>1 time. May I have an idea? We should be stopping at 2 about 12. 3 NEW SPEAKER: Could we ask for your voices to be raised 4 a little bit. It's very difficult to hear at the back. 5 (In the presence of the jury) 6 JUDGE NORMAN: I gather after all that you weren't able to 7 get a cup of coffee, for which I apologise. 8 If the message has reached me correctly, there's 9 a request for a copy of the act, and I've raised that 10 with counsel and one will be provided in the lunch 11 break. Thank you. 12 Mr Mansfield. 13 MR MANSFIELD: I call the next witness for the prosecution. 14 Peter Robinson, please. 15 PETER ROBINSON (affirmed) 16 Examination-in-chief by MR MANSFIELD 17 MR MANSFIELD: Again your address is available. 18 Could you very kindly, Mr Robinson, let his Lordship 19 and the jury know about your qualifications and 20 background and experience so they can, as it were, know 21 what you are deriving your testimony from? 22 A. Yes, sir. I was for 12 years in charge of the Royal 23 Society for the Protection of Birds Department of 24 Investigations, responsible for inquiries and wildlife 25 matters in relation to birds throughout the United Page 77</p>	<p>1 with his Lordship's permission, would be just to have 2 a look first of all at the initial paragraph which 3 the jury have in their bundle, of a report entitled 4 "Danger in the nursery". Do you have it there? "Danger 5 in the Nursery", that tab. 6 A. Yes. 7 Q. There is, so the jury are aware and everyone else is 8 aware, the jury only have parts of this report, parts 9 considered particularly relevant to the counts. 10 If you have page 1 of chapter 1, and it summarises 11 the position. Are you familiar with this report, first 12 of all? 13 A. I have read it. I've had it about a week and I have 14 read it through, or most of it, and I used it 15 extensively in compiling my own report. 16 Q. Right. Again, I'm just going to read, because the jury 17 have it there, but I'm going to read just this page, to 18 put the context, if I may. 19 The heading is, "Canada's Boreal Forest, North 20 America's Nesting Bird Destination": 21 "The Canadian boreal is one of the most important 22 breeding areas for migratory birds with 1 to 3 billion 23 individual birds from at least 300 species known to 24 regularly breed there. Approximately 30 per cent of all 25 shore birds (7 million) and 30 per cent of all land Page 79</p>
<p>1 Kingdom. 2 I'm a fellow of the Institute of Professional 3 Investigators and my name appears on several national 4 expert witness lists. 5 As an ornithologist, I have a lifelong experience of 6 working with wild birds, particularly breeding birds, 7 and since 1990 when I left the RSPB, I've worked as 8 a consultant ornithologist on -- both as an expert 9 witness in criminal cases, but as a consultant carrying 10 out field inquiries, both commercial and ornithology 11 based. 12 I have experience as a bird watcher on all 13 the continents, including it's South America. One of my 14 main centres is what Americans call bird banding, taking 15 biological data and fitting metal rings to the legs, 16 the process of which may exist on a worldwide basis to 17 be confident in how populations move and long-term 18 survival and all those similar matters. 19 Q. Thank you. 20 Now, because we have spent time this morning already 21 on the Gulf of Mexico, I'll come back to that before 22 finishing the questions I have for you, but can we turn 23 to the other location which the jury are concerned with, 24 and that is Tar Sands in Canada. I'm going to try and 25 do it as quickly as possible. One of the quick ways, Page 78</p>	<p>1 birds (1 to 3 billion) that breed in the United States 2 and Canada do so within the boreal. 3 "The section of the boreal which sits over the tar 4 sands region of Alberta is part of the forest that is 5 being rapidly fragmented by oil and development. As 6 much as 34 to 66 per cent of the Canadian Boreal Forest 7 -- up to 438 million acres, equivalent to 177 million 8 hectares -- may no longer be intact. In Alberta, 9 86 per cent of the boreal forest is no longer considered 10 intact." 11 MR PARKER: My Lord, I hesitate to interrupt, but the counts 12 which we understand relate to damage to the ecosystem 13 and birds in particular as a result of birds coming into 14 injury on tailings, not destruction of the boreal 15 forest. 16 JUDGE NORMAN: Yes, Mr Mansfield, I think that's -- 17 MR MANSFIELD: Well, it's the last sentence, if my learned 18 friend would be a little patient, it's the last 19 sentence: 20 "This puts our valuable bird habitat at risk." 21 Now, I'll go straight to the tailings, if I may. 22 That is a contextual matter that I put to you from this 23 report. Are you familiar with tailings? 24 A. Only in so far as I've read this report. 25 Q. Right. Page 80</p>

<p>1 Now, the tailings themselves are, is this right, 2 lakes of water? 3 A. That's as I understand it, sir, extensive lakes. 4 Q. Have you any idea of the total area covered by these 5 lakes? 6 A. I, I've found that difficult to ascertain from 7 the report that I read, but I did note that some of 8 the -- they say lakes, but we're talking about up to 9 three miles across areas of standing water that weren't 10 previously present. 11 Q. And within the lakes -- and this is another page that 12 the jury have -- in fact, if they look at page 8 they 13 will see the source of what I'm asking you. The 14 contents of these lakes are -- is it right, are a toxic 15 mix of different elements? 16 A. I'm not a -- I'm not knowledgeable in these matters, but 17 it certainly looks very toxic to me. 18 Q. And at the bottom of page 8, the report identifies some 19 of them? 20 A. That's right. 21 Q. Bitumen, salts, naphthenic acids and polycyclic aromatic 22 hydrocarbons, and then it mentions water standing still. 23 Two points here, first of all contextual: the boreal 24 forest itself, have you some concept of how long it's 25 taken for the boreal forest to grow to its present Page 81</p>	<p>1 There's the -- a similar loss to, I guess, fewer 2 numbers of what the Americans call shore birds, this 3 report talking about shore birds in Europe, in Eurasia 4 we've called them wading birds. The long legged birds 5 with long bills that probe in the mud. 6 Then, of course, there is the impact on having 7 created new lagoons, substantial lagoons of open water, 8 and the birds that are attracted to that, either to 9 ducks and geese primarily, either to breed or use that 10 habitat on migration north in the spring and south again 11 in the autumn. So, there are three different impacts. 12 In the case of loss of habitat, it's obvious that 13 the small birds can no longer breed there. 14 In the case of ducks and geese, this report talks in 15 terms mainly -- primarily, of direct contamination, 16 direct contamination, and with substances like sulphuric 17 acid the results, I guess, are obvious. 18 What the report doesn't seem to deal with, that 19 I can see, is the impact on the wading birds, the shore 20 birds, who are feeding in a contaminated environment, 21 accumulating on each occasion a small dose of 22 contaminants, but over the course of time consuming 23 larger doses of contaminant. Again, the report doesn't 24 mention this, but they then migrate south to North 25 America and South America and transmit those Page 83</p>
<p>1 dimensions? 2 A. The boreal forest is circumpolar: it extends through the 3 Canadian region and across through Eurasia at the same 4 latitude. 5 It's a prime example of an ecosystem that has 6 established itself over a long period of time, whether 7 that amounts to thousands of years, or probably millions 8 of years, I'm not certain, but we're talking about 9 a long time that that ecosystem developed in that way. 10 Q. So, the question I want to ask you is do the existence 11 of these tailing ponds severely damage that ecosystem? 12 A. They certainly severely alter it from what it was -- 13 what it was before the spill. 14 So, in terms of changing the environment, yes, it 15 damages it. 16 Q. And what is the effect of the specifics of the count 17 concern -- and there are two counts in relation to Tar 18 Sands. What is the effect on the bird communities -- 19 and I'm saying that in the plural? 20 A. The -- I can see two or three effects. There's the loss 21 of habitat, the habitat structure for those birds that 22 bred within that habitat, and that would be mostly, 23 primarily small, what we would call perching birds, 24 warblers, bunting, finches, they have lost their 25 habitat. Page 82</p>	<p>1 contaminants in small doses to predatory birds en route 2 who would accumulate large doses. It's exactly that 3 process that resulted in the serious -- well, certainly 4 western world decline of the Peregrine Falcon in the 5 1950s and 1960, accumulation of DDT in the natural 6 environment from birds and insects and passed that on. 7 Q. Just returning to the tailings themselves. There are 8 contacts of different kinds: one, a bird landing on 9 the tailing. What is the lighter consequence of a bird 10 landing on the tailing? 11 A. Well, there's two, isn't there: there's the direct 12 contact to the bird. If the substances are present in 13 significant amounts, and reports says they are acutely 14 toxic, then there will be some form of detrimental 15 effect to the bird itself and the report talks about 500 16 ducks having died on one particular incident. It's very 17 unusual to have an incident, except for oil incidents at 18 sea, maybe, it's very unusual to have a large -- mass 19 die-out of that number of birds. So, one has to assume 20 that there's a direct effect and a rapid effect to birds 21 coming into contact with areas and then, of course, 22 there's, as I've said, the much more difficult to assess 23 longer term impact of birds feeding around the margins, 24 or feeding on organisms in the lake, or maybe not 25 feeding if the food isn't there. Page 84</p>

<p>1 Q. There's another dimension of these tailings I want to 2 ask you about vis a vis bird life, never mind any other 3 life in the area or not; that is, are you aware that the 4 tailings themselves leak substantially into the 5 substratum and ground water? 6 A. I wasn't aware of it, and I'm going outside my subject, 7 but it would -- 8 Q. If you are then I'm not going to ask -- 9 A. It would seem logical to most of us that you have 10 a shale type strata, then surface water is going to leak 11 into it. 12 Q. And, therefore, I want to just deal with the fact of, or 13 the possibility of birds, migratory or otherwise, 14 arriving in an area which has been -- not the actual 15 water, but an area of seepage around the tailing and, 16 therefore, the effects of landing in that area and 17 feeding in that area. 18 A. Well, again, it would be the same as -- pretty much the 19 same as birds landing in the water that's contaminated. 20 Those contaminants will, presumably, transfer themselves 21 to birds concerned. 22 But, I would imagine there's also a loss of habitat. 23 If it's as toxic as suggested, there will be a loss of 24 habitat in surrounding areas. 25 Q. Now, the other question that relates to this -- and if</p> <p style="text-align: center;">Page 85</p>	<p>1 Q. I'm only talking about -- because there are three 2 columns -- 3 A. Yes. 4 Q. That go horizontally, if I can put it that way. 5 A. On the top left-hand? 6 Q. Yes, it's only the top that deals with birds. The ones 7 underneath are turtles and mammals. I'm sorry about the 8 print, it's very faint, but you will see that there are 9 then columns dealing with different states in America, 10 or, for example, Mexico, and then visibly oiled, not 11 visibly oiled and pending. 12 A. Yes. 13 Q. One group is recovered alive, that's the first green 14 box, the other recovered dead. 15 A. Yes. 16 Q. Do you have some observations about these sorts of 17 statistics? 18 A. I do. The suggestion I heard this morning was that 19 the -- there is no evidence that the birds found not 20 visibly oiled died from oiling and that, alternatively, 21 and more probably, it is suggested that they died from 22 natural causes. 23 Q. Right? 24 A. My experience of helping in the investigation of oiling 25 incidents within the United Kingdom over the last --</p> <p style="text-align: center;">Page 87</p>
<p>1 you can't say, please obviously say straightaway: is 2 there any, again, estimate, because that's all it can 3 be, of how long it would take to restore the area of the 4 tailing to the pre-existing forest condition? 5 A. To pristine forest conditions. About as long as it took 6 to create it, one assumes. 7 Q. Now, I want to ask you, therefore, just to reflect for 8 a moment on the other location, which is the Gulf of 9 Mexico. 10 A. Mm. 11 Q. And you've been -- I think you have been in court, so 12 you've heard the first witness being asked questions 13 about this, and what I particularly want to ask you 14 about is the schedule. I think you have it there. 15 A. Yes. 16 Q. The green schedule which the jury have in their bundle. 17 Now, do you have some observations to make about the 18 collection of birds, dead or alive, and these figures? 19 A. Yes. I'm not a biologist, but I have worked for 20, 20 25 years now, with particularly the RSPB, with other 21 staff, assisting them in their inquiries into this sort 22 of situation, and I'm familiar -- part of my position 23 rests with me being widely read in these matters. 24 So, are you asking me to comment on the figures 25 for --</p> <p style="text-align: center;">Page 86</p>	<p>1 certainly the period of 1974 to 1990, showed two or 2 three things: firstly, it's unreasonable and probably 3 illogical to assume that you find all the birds that 4 died: you will only find a percentage of the birds that 5 died. The question, of course, is what percentage. 6 I saw in another report in the last few days on the 7 internet the suggestion that the birds found dead in the 8 gulf oil spill represented about 10 per cent, possibly, 9 of the total number killed. I personally would not 10 argue with that. 11 The other suggestion is that the 960 birds that were 12 found not visibly oiled -- sorry, that's dead birds, and 13 then 3830 not visibly oiled for -- no, sorry, that is 14 dead birds. 15 Either way, if you have a situation where you have 16 an oil spill and you have, let's say, 100 birds and you 17 have 200 birds which show no sign of having died from 18 oil, I could not support the suggestion that the other 19 200 died from natural causes. You don't normally find 20 dead birds. There are a host of other animal organisms 21 out there seeking to find dead birds and dispose of 22 them. It is true that you do find sea birds dead around 23 the UK, for example, and most of those appear to result 24 from byproducts of fishing, fishing nets, et cetera, but 25 there was no fishing going on in this region at that</p> <p style="text-align: center;">Page 88</p>

<p>1 time.</p> <p>2 I would not expect -- and I think it's unacceptable,</p> <p>3 to suggest that in this situation two thirds more birds</p> <p>4 were found that died from natural causes than resulted</p> <p>5 from the direct results of the oil spill. I think what</p> <p>6 that figure takes into account is that one of the -- as</p> <p>7 I understand the situation, one of the major causes of</p> <p>8 mortalities in sea birds is not the direct oiling, but</p> <p>9 it is the ingestion of oil, either through drinking or</p> <p>10 through contaminated food supply and, again, as</p> <p>11 I understand it, there are two issues you have in trying</p> <p>12 to rehabilitate birds that have gone to rehabilitation</p> <p>13 centres: one, you have to remove the oil, which in</p> <p>14 itself creates the problem of removing the natural oils</p> <p>15 so the bird loses its buoyancy, but importantly you have</p> <p>16 to try and address the internals, the burning of the</p> <p>17 internal organs through the ingestion of oil, and it</p> <p>18 would be entirely reasonable to suggest that certain --</p> <p>19 you can't rule out that some of those birds died by</p> <p>20 natural causes or by other causes, but I personally</p> <p>21 would expect most of those birds that were oiled, that</p> <p>22 were found dead or alive, to have died through some</p> <p>23 consequence of oil pollution.</p> <p>24 Q. So, effectively -- can I finalise this: in the absence</p> <p>25 of an oil spill --</p> <p style="text-align: center;">Page 89</p>	<p>1 and the effects of tailing pools is founded upon</p> <p>2 a report entitled "Danger in the Nursery"?</p> <p>3 A. I wouldn't say entirely, because to some extent</p> <p>4 the effects on birds of tailing pools cannot be that</p> <p>5 different from some other similar habitats.</p> <p>6 Q. Your research into tailing pools and their effect has</p> <p>7 been (inaudible)?</p> <p>8 A. Into tailing pools, yes. But if you follow where you're</p> <p>9 going with this, I have also looked at the references at</p> <p>10 the back of the report. The report is of the sort that</p> <p>11 I would read and take note of and trust the --</p> <p>12 the findings of.</p> <p>13 Q. Mr Robinson, I wasn't asking you that. I was asking you</p> <p>14 about limitations of your knowledge of tailing pools and</p> <p>15 the effects on bird life, which is what counts 2 and 3</p> <p>16 on this indictment are concerned with.</p> <p>17 The report upon which you rely covers a great deal</p> <p>18 of information and data relating to the extraction of</p> <p>19 tar from sand, doesn't it?</p> <p>20 A. Yes.</p> <p>21 Q. You have come to this court to present your evidence as</p> <p>22 an independent, impartial expert.</p> <p>23 A. Yes, sir.</p> <p>24 Q. But notwithstanding that, if even you in your own</p> <p>25 report -- page 4 if you want to look at it -- say</p> <p style="text-align: center;">Page 91</p>
<p>1 A. Yes.</p> <p>2 Q. -- of these dimensions or something similar, would you</p> <p>3 expect to find these quantities of dead birds?</p> <p>4 A. It's a difficult question to answer, because as we've</p> <p>5 heard, the actual search area involved in the</p> <p>6 acquisition of these stretched over I think a thousand</p> <p>7 kilometres.</p> <p>8 Q. Yes.</p> <p>9 A. So given that timeline research, you would expect to</p> <p>10 find some dead birds, but normally not as a result of</p> <p>11 dying of natural causes, but as a result of dying from</p> <p>12 other causes. But I still would not expect to find two</p> <p>13 thirds more of that type than birds that were oiled,</p> <p>14 particularly in an oil spill of this magnitude.</p> <p>15 Q. Thank you, would you wait there.</p> <p>16 Cross-examination by MR PARKER</p> <p>17 MR PARKER: Mr Robinson, let's deal with Tar Sands first of</p> <p>18 all and tailing pools in particular.</p> <p>19 Am I right in thinking that until a day or two</p> <p>20 ago --</p> <p>21 A. I'm sorry?</p> <p>22 Q. Until a day or two ago, your knowledge of Tar Sands</p> <p>23 extraction and tailing pools was virtually non-existent?</p> <p>24 A. Yes sir, that's correct, yes.</p> <p>25 Q. The entirety of your knowledge about industry operations</p> <p style="text-align: center;">Page 90</p>	<p>1 "I have difficulty finding anything positive to say</p> <p>2 about the oil industry activities, as I understand them,</p> <p>3 being carried on within the Canadian boreal Tar Sands</p> <p>4 area".</p> <p>5 Can I ask you to put aside your own concerns or</p> <p>6 feelings about oil extraction from the Tar Sands and</p> <p>7 invite you instead, please, to focus upon the matters</p> <p>8 which are the subject of counts 2 and 3 on this</p> <p>9 indictment: the risk to lives of birds caused by tailing</p> <p>10 pools operated by GPC and Glamis. That's what we're</p> <p>11 talking about. May I ask you to concentrate on that,</p> <p>12 please.</p> <p>13 Can you tell us, please, how many tailing ponds</p> <p>14 there are in the boreal forest?</p> <p>15 A. I had trouble finding that figure, as I think I've</p> <p>16 already suggested.</p> <p>17 Q. If you can't tell us, please say so.</p> <p>18 A. No, I have trouble finding the figure of the actual --</p> <p>19 if you are asking me for the actual number of tailing</p> <p>20 ponds.</p> <p>21 Q. I am. Can you help us?</p> <p>22 A. No, I can't help on that.</p> <p>23 Q. Can you tell us how many tailing ponds are operated by</p> <p>24 GPC in the boreal forest?</p> <p>25 A. I don't think anything within this report concentrates</p> <p style="text-align: center;">Page 92</p>

<p>1 on any particular company, if I might say.</p> <p>2 Q. Is the answer to that: no you can't?</p> <p>3 A. No, I can't.</p> <p>4 Q. Because the report on which you rely is simply</p> <p>5 a wide-ranging document -- I don't suggest for a moment</p> <p>6 anything other than a highly impressive document, but it</p> <p>7 doesn't cover the specific operation of the tailing</p> <p>8 pools run by GPC or Glamis; does it?</p> <p>9 A. No, it doesn't.</p> <p>10 Q. Can you tell us how many tailing ponds or pools are</p> <p>11 operated by Glamis?</p> <p>12 A. By?</p> <p>13 Q. Glamis, the second defendant company.</p> <p>14 A. No.</p> <p>15 Q. You can't, can you?</p> <p>16 Even if you can't tell us how many ponds or pools</p> <p>17 they operate, or the size of them and what proportion</p> <p>18 they are?</p> <p>19 A. I can tell you something about the size of it because</p> <p>20 it's mentioned (inaudible).</p> <p>21 Q. You don't know whose pools they are?</p> <p>22 A. No, the tailing pools themselves are up to three miles.</p> <p>23 Q. You don't know whose they are?</p> <p>24 A. No, no, sir.</p> <p>25 Q. But, these tailing pools are all, are they not, licensed</p> <p style="text-align: center;">Page 93</p>	<p>1 A. No, I would -- I put the answer to that rather</p> <p>2 differently: I see no reason why any particular pools</p> <p>3 within that system would differ to any other in terms of</p> <p>4 being contaminated or attracting birds.</p> <p>5 Q. But there's no evidence --</p> <p>6 A. No direct evidence, yes sir.</p> <p>7 Q. That GPC operate any pools in which there have been any</p> <p>8 bird injuries or fatalities?</p> <p>9 A. Not to my knowledge, sir.</p> <p>10 Q. I'm not suggesting to you there haven't been, but there</p> <p>11 aren't any in the evidence you have seen?</p> <p>12 A. No that I have seen, sir.</p> <p>13 Q. And as far as Glamis are concerned, the only evidence of</p> <p>14 bird loss in a tailing pool operated by Glamis, if</p> <p>15 that's the operating name of that company, comes from</p> <p>16 the agreements which, my Lord, the jury will find in</p> <p>17 their bundles under Count 3, that on 19 April 2010, 1600</p> <p>18 birds landed on a tailing pond operated by Glamis and</p> <p>19 did not survive.</p> <p>20 So, beyond that, there's no evidence that you have,</p> <p>21 is there, of any bird being injured or killed by</p> <p>22 a tailing pond or pool operated by Glamis?</p> <p>23 A. As I said, in general the report does not attribute</p> <p>24 incidents to land managed by that company.</p> <p>25 Q. I'm not criticising you, Mr Robinson, but the fact is</p> <p style="text-align: center;">Page 95</p>
<p>1 by the national authorities in Canada.</p> <p>2 A. Again, I didn't have -- I didn't read that information</p> <p>3 in the report but I would assume that was the situation.</p> <p>4 Q. And their use and operation is operated by Canada.</p> <p>5 A. If it wasn't then there would be something seriously</p> <p>6 wrong with the information.</p> <p>7 Q. It would be (inaudible).</p> <p>8 Canada is a highly developed industrialised nation;</p> <p>9 yes?</p> <p>10 A. Yes.</p> <p>11 Q. A member of the Commonwealth?</p> <p>12 A. Yes.</p> <p>13 Q. A member of G8?</p> <p>14 A. If you say so, sir.</p> <p>15 Q. And the fourth richest economy in the world?</p> <p>16 A. That I didn't know.</p> <p>17 Q. That company has licensed the operation of these tailing</p> <p>18 pools; yes?</p> <p>19 A. As I said, if they weren't licensed I would think</p> <p>20 something's gone seriously wrong.</p> <p>21 Q. In the case of tailing pools or ponds operated by GPC,</p> <p>22 is there any evidence at all that you have seen that any</p> <p>23 bird has been injured or killed in a GPC tailing pool?</p> <p>24 A. No sir, not in the report, no.</p> <p>25 Q. And you have no other evidence to give upon the subject?</p> <p style="text-align: center;">Page 94</p>	<p>1 you have very, very limited information, don't you,</p> <p>2 about the specific activity of a tailing pool operated</p> <p>3 by Glamis?</p> <p>4 A. That's true, sir.</p> <p>5 Q. Limited to the fact that you agreed (inaudible) 1600</p> <p>6 birds.</p> <p>7 A. That's true, sir.</p> <p>8 Q. All the rest of your evidence comes from a report which</p> <p>9 is directed to oil expansion from --</p> <p>10 A. In general terms.</p> <p>11 Q. In general terms.</p> <p>12 A. Yes, sir.</p> <p>13 Q. Let us put these figures into some perspective; that's</p> <p>14 to say the figures of 0 and 1600.</p> <p>15 You are familiar, are you, with various studies in</p> <p>16 both the United States and candid a connected with bird</p> <p>17 mortality, the cause of bird deaths.</p> <p>18 A. Are you referring to specific figures?</p> <p>19 Q. Well, let's -- I'm going to give you some broad figures</p> <p>20 and this is a broad picture and I want you to tell us if</p> <p>21 this confirms your understanding of the causes of death</p> <p>22 which have been recorded or assessed with Canada and the</p> <p>23 United States.</p> <p>24 Death by birds flying into windows -- this is per</p> <p>25 year -- in the United States, 100 to 900 million</p> <p style="text-align: center;">Page 96</p>

24 (Pages 93 to 96)

<p>1 estimate. In Canada 900 million per year. 2 Would you say that those figures are broadly 3 accurate or not? 4 A. I'm really not in a position to say. I know the 5 Americans are heavily into what they call "citizen 6 science" data from the general public. 7 Q. (Inaudible)? 8 A. I really can't comment on this. 9 MR MANSFIELD: My Lord, I wonder if I could raise 10 an objection to comments. This is to do with ecosystem 11 and breeding. I'm not aware of any ecosystems around 12 windows, let alone breeding, so I would ask for 13 estimates that are relevant rather than all birds who 14 might have accidents. 15 MR PARKER: My Lord, the issue goes to nature, extent and 16 duration. The jury at some stage are going to have to 17 retire. 18 JUDGE NORMAN: I think you are entitled to put some figures 19 for the purpose of comparison. 20 MR PARKER: My Lord, thank you. 21 Tell us whether from your experience, Mr Robinson, 22 these figures ring a bell: in the United States, annual 23 death from cats, 100 million. 24 A. There are -- in the USA there are 300 million people. 25 If everybody had a cat that killed a bird a year you'd</p> <p style="text-align: center;">Page 97</p>	<p>1 Q. Let's come to the oil spill figures, which you have 2 referred to already. 3 The prosecution case is that there have been in 4 the Gulf of Mexico 2086 birds injured by oil that have 5 been collected alive and visibly oiled and 2303 6 collected dead. 7 A. It is within a period of few days. 8 Q. We understand this to be (inaudible). 9 A. It says "through April 14". In American terms, when 10 they say "through", they mean "up until". 11 Q. This is the up until. Yes. 12 A. No, these -- 13 Q. Oil spill -- 14 A. It occurred in April. 15 Q. April 2010. Ah, an interesting point. 16 Now, this is the prosecution case, these are 17 the prosecution figures, they are saying the birds are 18 killed or injured by an oil spill in the Gulf of Mexico. 19 You have put forward the suggestion that these figures, 20 the Crown's own figures are, firstly, a serious 21 underestimate because of your internet research and, 22 secondly, you reject the idea that some of the visibly 23 oiled dead birds might have died before they were 24 contaminated with oil. 25 A. I didn't actually reject that some might have been,</p> <p style="text-align: center;">Page 99</p>
<p>1 get those sorts of figures. If you are asking me what 2 the relevance might be. 3 Q. I'm not asking you the relevance. 4 A. That's a figure, but I'd like to hear what you have to 5 say about it before I commit further. I can't confirm 6 the figures. 7 Q. And in Canada 560 million? 8 A. What, birds killed by. 9 Q. Feral cats; can you help on that or not? 10 A. No, I'd be interested to see the data. 11 Q. By vehicles in both countries, around about 100 million; 12 do you have any idea? 13 A. I can't arrive at those sorts of figures. 14 Q. National -- 15 A. I can't argue with them, I accept what you said. 16 Q. I ask you, Mr Robinson, because you are the expert in 17 ornithology. 18 A. But you are asking me more than that, you are asking me 19 about collisions. 20 Q. I'm asking you if you are familiar with the data. 21 A. I told you, I'm not familiar with this. 22 Q. Or death by birds flying into electric wires, in each 23 country 150 to 180 million per annum. 24 A. It happens, but what the percentage is in North America, 25 I can't say.</p> <p style="text-align: center;">Page 98</p>	<p>1 I suggested it was a very small percentage. 2 Q. Shall we just have a look at the document and tell us if 3 you agree or disagree with what is said there: not all. 4 This is the third paragraph. Not all of the injured or 5 dead -- 6 A. Sorry, which paragraph? 7 Q. The third paragraph, the second line. 8 A. Ah. Yes. 9 Q. "Not all the injured fish and wildlife reflected in 10 these numbers were necessarily caused by the incident 11 and an official designation for cause of death will be 12 agreed." 13 Do you agree with that? 14 A. That would be a sensible statement, yes. 15 Q. Certainly. 16 In the next paragraph, the second sentence: 17 "Some fish and wildlife reported here have likely 18 died or been injured by natural causes not due to 19 the oil spill." 20 That's the evidence which the Crown produced; do you 21 contradict that or accept that that is so? 22 A. Whereabouts are you, sir? On the third paragraph or the 23 fourth paragraph? 24 Q. Fourth paragraph. 25 A. Line 1?</p> <p style="text-align: center;">Page 100</p>

1 Q. Line 1, second sentence, "Some fish":
 2 "Some fish and wildlife reported here have likely
 3 died or been injured by natural causes not due to
 4 the oil spill."
 5 Do you accept that or not, sir?
 6 A. I just told you, yes, I accept that it would be
 7 unreasonable not to believe that some of the other birds
 8 died from natural causes. I dispute the figures.
 9 Q. You say that these figures are unnaturally large anyway?
 10 A. I'm saying that if you're asking me is it normal
 11 expectation to find two thirds more birds died of
 12 natural causes than died from the oil spill, I'd say no.
 13 Q. But, have a look at the next sentence, please.
 14 "Due to the increased number of trained people
 15 evaluating the spilling pattern in areas it is also
 16 likely that we will recover more naturally injured dead
 17 fish and wildlife than (inaudible)."
 18 Do you accept that?
 19 A. I have made that point already, sir.
 20 Q. Mr Robinson, you extrapolated, extended, increased your
 21 figures to what the prosecution say is a total number of
 22 4389 to somewhere in the region of 60,000 on the basis
 23 of no data at all.
 24 A. Yes, and that's not uncommon.
 25 Q. It's not uncommon to extend data on no basis --
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1 A. That's what extrapolation is about, sir.
 2 Q. But we're concerned here --
 3 A. As I have said, sir, it is not acceptable, amongst those
 4 people who understand these things, to suggest that you
 5 find all of the birds that died. You find a percentage.
 6 The big question, quite obviously, is what percentage do
 7 you find. Given the time spent, I do not have the data,
 8 but I do know that the RSPB certainly has carried out
 9 research in the north Atlantic -- sorry, in the North
 10 Sea involving the depositing of dead birds with marker
 11 tags into the -- into the mid-sea with the aim of
 12 finding out: a, where they wash up and, b, what
 13 percentage of those put in wash up, and the results of
 14 that -- and I do not have the exact data, but the
 15 results of that show that clearly more birds die than
 16 get found. What I -- the article I picked up on the
 17 internet suggested that 10 per cent of those get found
 18 and, on the basis of 10 per cent, if you have 6,000
 19 found then you have another -- the figure comes out at
 20 60,000. That's where that figure came from.
 21 I would agree that we don't have data enough to be
 22 precise on that figure, but I stand by what I say.
 23 A further unknown percentage of birds, and almost
 24 certainly a great deal larger than those that were
 25 found, will have been involved in these incidents.
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1 Q. Mr Robinson, it is the prosecution case, founded upon
 2 evidence, founded upon data collected, that 4389 birds
 3 from injured. You arbitrarily estimate, in fact, there
 4 were going to be 60,000.
 5 A. Mm.
 6 Q. But you haven't found any research here or acquired any
 7 data about the number of birds actually killed or
 8 injured in the Gulf of Eden, have you?
 9 A. No.
 10 Q. There is no evidential foundation for you to increase
 11 the prosecution case, as you seek to do, by an enormous
 12 number.
 13 A. There's equally no reason to believe that the situation
 14 in the Gulf of Mexico is any different to any other oil
 15 spill.
 16 Q. Mr Robinson, that's not the question. I'm asking you
 17 whether there is any data. The answer is that there
 18 isn't any?
 19 A. Not directly, no.
 20 MR PARKER: Thank you.
 21 MR MANSFIELD: My Lord, I have no other questions.
 22 JUDGE NORMAN: Thank you very much indeed.
 23 A. Thank you.
 24 (The witness withdrew)
 25 MR MANSFIELD: That's the case for the prosecution.
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1 JUDGE NORMAN: So, are there any other matter to be raised
 2 or do we adjourn for lunch now?
 3 MR PARKER: My Lord, that would be sensible. If there are
 4 any other matters raised, then we'll make sure the Court
 5 knows about them before we resume after lunch.
 6 JUDGE NORMAN: Members of the jury, shall we take an hour or
 7 less than an hour?
 8 MR PARKER: Would your Lordship take 50 minutes for us, and
 9 maybe an hour for the jury?
 10 JUDGE NORMAN: Yes.
 11 Well, members of the jury, then an hour is the time.
 12 Thank you.
 13 (12.34 pm)
 14 (The Luncheon Adjournment)
 15 (1.34 pm)
 16 (In the absence of the jury)
 17 JUDGE NORMAN: Mr Mansfield, I was given a timetable which
 18 assumes that we'll get to the stage of the jury; me
 19 starting to sum up at 3.30 and finishing at 3.45. I'm
 20 assuming that we can keep that schedule, but that will
 21 mean the defence evidence will be reduced to an hour and
 22 a half.
 23 MR PARKER: My Lord, yes, I know my learned friend has been
 24 good enough to indicate that unusually I'm allowed to
 25 lead my witness in examination-in-chief to speed matters
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<p>1 up.</p> <p>2 I can indicate to my Lord the submission I make this</p> <p>3 morning, I do not repeat now, but for the sake of</p> <p>4 the record, we would say, your Lordship, we would make</p> <p>5 the submission again at this stage in the same terms.</p> <p>6 JUDGE NORMAN: Yes, I trust the jury is on its way.</p> <p>7 (In the presence of the jury)</p> <p>8 JUDGE NORMAN: Yes, Mr Parker.</p> <p>9 MR PARKER: My Lord, I call Robin Bannerman.</p> <p>10 ROBIN BANNERMAN (Affirmed)</p> <p>11 Examination-in-chief by MR PARKER</p> <p>12 MR PARKER: Mr Bannerman, would you tell the court, please,</p> <p>13 your full name.</p> <p>14 A. Roger James Bannerman.</p> <p>15 Q. And in your personal capacity are you a British citizen?</p> <p>16 A. I am, yes.</p> <p>17 Q. And you live in the United Kingdom?</p> <p>18 A. I do.</p> <p>19 Q. You have been employed, have you not, by the</p> <p>20 Global Petroleum Company -- I'm going to call them</p> <p>21 GPC -- for over 20 years?</p> <p>22 A. I have, yes.</p> <p>23 Q. And in that time you have had a series of both technical</p> <p>24 and commercial roles in the company?</p> <p>25 A. That's right.</p> <p style="text-align: center;">Page 105</p>	<p>1 4.8 million barrels per day?</p> <p>2 A. That is correct.</p> <p>3 Q. And, so far as non oil energy is concerned, renewable</p> <p>4 energy resources are concerned, does the company invest</p> <p>5 £1.5 billion a year in the development of renewable</p> <p>6 energies?</p> <p>7 A. We do, yes.</p> <p>8 Q. And you are committed, are you not, to spending some</p> <p>9 £9 billion between 2011 and 2020 upon renewable energy</p> <p>10 resources?</p> <p>11 A. Yes.</p> <p>12 Q. That should be seen, perhaps, in context of \$20 billion,</p> <p>13 which is set aside for the funding, development and</p> <p>14 extraction of oil, gas and other fossil fuels?</p> <p>15 A. That's right.</p> <p>16 Q. Let us come to the oil spill in the Gulf of Eden.</p> <p>17 My Lord, the jury have a set of agreed facts behind</p> <p>18 tab 3 in the bundle.</p> <p>19 JUDGE NORMAN: Yes.</p> <p>20 MR PARKER: There is no question is there, Mr Bannerman,</p> <p>21 that on 22 April 2010, you were the chief executive</p> <p>22 officer of GPC.</p> <p>23 A. That's right.</p> <p>24 Q. And you had authority and responsibility in that</p> <p>25 capacity over GPC operations in the Gulf of Eden?</p> <p style="text-align: center;">Page 107</p>
<p>1 Q. Both here and abroad.</p> <p>2 A. That's right.</p> <p>3 Q. Were you appointed in 2004 executive vice president of</p> <p>4 the company?</p> <p>5 A. That's right.</p> <p>6 Q. And did you become the chief executive officer on</p> <p>7 1 January 2007?</p> <p>8 A. I have indeed, yes.</p> <p>9 Q. You have held, have you not, every significant post</p> <p>10 within the company executive?</p> <p>11 A. Yes.</p> <p>12 Q. In your personal capacity, are you a man of good</p> <p>13 character; that's to say a man without any previous</p> <p>14 convictions?</p> <p>15 A. That's correct, yes.</p> <p>16 Q. I want to deal with two areas of operations where you,</p> <p>17 Mr Bannerman, face criminal charges. In the gulf</p> <p>18 stream, firstly, and then in Canada in respect of some</p> <p>19 tailing ponds.</p> <p>20 As far as the GPC is concerned, so the jury have</p> <p>21 some understanding of the size of this concern, does</p> <p>22 your company have operations in over 60 countries around</p> <p>23 the world?</p> <p>24 A. That's right, yes.</p> <p>25 Q. In oil production, equivalent of about</p> <p style="text-align: center;">Page 106</p>	<p>1 A. I don't dispute that.</p> <p>2 Q. There was, unfortunately, an explosion on the offshore</p> <p>3 drilling unit you've heard about in the gulf on that</p> <p>4 date?</p> <p>5 A. That is right.</p> <p>6 Q. And, as a result of that, there was an oil spillage,</p> <p>7 a substantial oil spillage, as you've already heard.</p> <p>8 A. There was also loss of life of my company employees as</p> <p>9 well, which I deeply, deeply regret, but yes, there was</p> <p>10 an oil spill.</p> <p>11 Q. And you accept, do you not, that by 31 August 2010, so</p> <p>12 some three and a half months after this tragedy, the oil</p> <p>13 spill covered some 200 square kilometres of ocean?</p> <p>14 A. Yes.</p> <p>15 Q. And as a result of that, it is beyond question, isn't</p> <p>16 it, that one of the consequences of an oil spill of this</p> <p>17 nature is that there were, indeed, some birds, some</p> <p>18 mammals, who were killed and injured?</p> <p>19 A. That must be right and inevitable, yes.</p> <p>20 Q. What I would like to turn your attention to at this</p> <p>21 point, please, is the approach adopted by the company</p> <p>22 and by you personally insofar as trying to limit</p> <p>23 the damage arising from the oil spill that's concerned.</p> <p>24 As far as you personally were concerned, on the day</p> <p>25 were you in this country or?</p> <p style="text-align: center;">Page 108</p>

<p>1 A. No, I was in Venezuela on company business. 2 Q. Did you nonetheless, inevitably, because of the size and 3 scale of the spill, come to the scene? 4 A. As soon as practicable, yes. 5 Q. So far as trying to remove or limit the impact of 6 the spill zone, did you have a number of different 7 strategies? 8 A. We did, yes. In terms of trying to limit it initially, 9 obviously the first thought is to prevent any further 10 oil spill, and to try and cap the flow which operated 11 that depth of sea presents enormous technical 12 difficulties. 13 Q. The depth we've heard of some 1500 metres. 14 A. Indeed, yes. We also took strenuous efforts to contain 15 the spill, and the figures have been read out in terms 16 of the mileage of booms that we put into place to 17 prevent the oil spill travelling any further that was 18 absolutely unavoidable. We also made strenuous efforts 19 to prevent it arriving onto beaches and when it did 20 arrive onto beaches clear it up as quickly and 21 efficiently as possible. 22 Q. What were the steps taken to try to prevent the oil from 23 reaching the beaches? 24 A. Well, essentially two. One of them was to try and burn 25 off some of the oil on the surface. The other one was</p> <p style="text-align: center;">Page 109</p>	<p>1 number of burn events? 2 A. I believe it was in the region of 320, 323, I think. 3 Q. And do those burning events, or did those burning events 4 take place in an uncontrolled environment, or was there 5 some appropriate testing and containing of the fire? 6 A. There has to be testing and containment. We can't 7 simply, as it were, drop a match in the ocean and hope 8 it all goes off safely. We have to do it under very, 9 very carefully controlled circumstances. 10 Q. So far as chemical dispersants are concerned, was not 11 just the use of chemical dispersants but the type of 12 chemical dispersants subject to regulatory control from 13 the United States government? 14 A. Very closely. Very closely indeed, but they were very, 15 very closely scrutinising every step that we took. One 16 of the things that was checked was the type of 17 dispersant we chose to use. The US authorities 18 permitted us, indeed encouraged us, to use those 19 specific dispersants. 20 Q. We're going to hear later on in the course of this trial 21 from Mr Perry, an oil containment expert. 22 A. Yes. 23 Q. So maybe I can leave those matters to him, but as far as 24 you were concerned, were the chemical dispersants used 25 in order to and effectively achieved a net benefit?</p> <p style="text-align: center;">Page 111</p>
<p>1 to use chemical dispersants, which we did, both at 2 the wellhead itself and further up to the surface of 3 the ocean to seek to disperse the oil and thereby 4 improve the microbial destruction of the oil to prevent 5 the oil, again, reaching the beaches. 6 Obviously the other main area, source of prevention, 7 was the operation of the booms. 8 Q. Now, before I come to the details of the burning and use 9 of dispersants -- 10 A. Mm. 11 Q. -- were GPC operating alone in this or were you 12 assisted, advised and, indeed, regulated by any other 13 bodies? 14 A. This is one of the things that I think needs to be 15 clear: in terms of the entire response to this spill, 16 we were not merely regulated but, indeed, controlled by 17 the American authorities who put a command in place over 18 the entire operation. The day to day impact of that, 19 put simply, was that we could do nothing unless 20 specifically authorised by that commander. 21 Q. Was there any activity in terms of limiting or 22 containing the oil spill undertaken by the company which 23 was outside of that control? 24 A. No. 25 Q. Let us look at the burning. Did you have a specific</p> <p style="text-align: center;">Page 110</p>	<p>1 A. Absolutely. There would be nothing to be gained by 2 putting in a chemical dispersant that would have made 3 the overall pollution worse. That was no part of my 4 plan, no part of my intention and, indeed, that was not 5 the result. 6 Q. So far as the financial impact on the company is 7 concerned, are you able to tell us how much was spent by 8 GPC on the clean up operation? 9 A. Yes, it was approximately £34.5 billion. 10 Q. A figure which has to be seen in the context of 11 the amounts of money you had set aside for both 12 renewable and non renewable -- 13 A. Indeed, this was a substantial figure to put towards 14 the clean up. 15 Q. That money, presumably, was spent on a number of 16 different projects? 17 A. Yes. 18 Q. Did it include projects designed to reinvigorate and 19 renew the mangrove -- 20 A. Indeed, yes. 21 Q. -- culture along the coastline? 22 A. Yes. 23 Q. Have you been involved, as a company, with various 24 nationally recognised wildlife groups? 25 A. Indeed we have, yes. We have helped to finance</p> <p style="text-align: center;">Page 112</p>

<p>1 the response to those groups, specifically and 2 individually involved in rescuing birds that have been 3 contaminated with oil, cleaning them and setting them 4 free again. So we've been hands on involved with that 5 operation. 6 Q. As a particular example, has GPC agreed to donate 7 a figure of some \$23 million to the United States 8 National Fish and Wildlife -- 9 A. That's correct, yes. Yes. 10 Q. Of course, money isn't everything here. How do you, 11 personally, regard the (inaudible) of the company to 12 make restoration here along the coastline? 13 A. For me personally, it's a matter of priority. For us, 14 as a company, it's a matter of -- I'll call it corporate 15 responsibility. We recognise our obligations and our 16 duties and we do them willingly, not involuntarily in 17 any sense. 18 Q. I want to move on, because you will be asked questions 19 about those matters later. I want to move onto 20 the extractive process from (inaudible) from boreal 21 forest and, specifically, because you face a criminal 22 allegation in Count 2 on this indictment in respect of 23 tailing ponds. 24 Do we understand correctly that tailing ponds are 25 a necessary consequence of extracting bitumen from Page 113</p>	<p>1 Q. There has not been, so far, any evidence of any bird 2 loss or injury in any tailing ponds offered by GPC but, 3 nonetheless, you accept, do you not, that there would be 4 a (inaudible) ones offered by your company as, indeed, 5 by Glamis. 6 A. I would accept that, yes, but I've seen nothing that 7 says anything about specific figures relating to our 8 tailing ponds. 9 Q. Are there, indeed, any reports of extensive bird 10 mortality kept by your company? 11 A. No. No. 12 Q. Some company operating in the boreal forest and using 13 tailing ponds have cannons, don't they, in order to 14 scare off birds and to limit them so far as possible? 15 A. Yes. 16 Q. Is that an option which is available for you? 17 A. Bearing in mind the size of the ponds, no. It would 18 make no difference. 19 Q. And the size of the ponds which you operate; can you 20 help us with that, approximately? 21 A. It would be difficult for me to estimate the sizes and 22 I wouldn't want to offer misleading evidence without 23 foundation. 24 Q. You've heard a suggestion of some kilometres across, and 25 certainly that's the scale so far as you're concerned? Page 115</p>
<p>1 surface and subsurface mining? 2 A. They are, yes. 3 Q. If that operation is carried out, then it is necessary 4 to dispose the waste product in various forms of 5 containment. 6 A. It is, yes. 7 Q. It's not necessary to have tailing ponds for other sorts 8 of tar extraction from the sands? 9 A. That's right, and we're now moving operations towards 10 that deep mining process. 11 Q. So that the use of tailing ponds will diminish so far as 12 GPC is concerned? 13 A. It will diminish and become a matter of history, so far 14 as we're concerned. 15 Q. Can you help the jury with how many tailing ponds are 16 operated at present by GPC? 17 A. I believe it is between 30 and 40 tailing ponds. 18 I would also emphasise that we are one of many oil 19 companies operating in that area. 20 Q. Yes. 21 A. We are by no means the largest. 22 Q. And, indeed, you, like Mr Robinson, the ornithologist, 23 have seen, have you not, the report 24 "Danger in the Nursery"? 25 A. Mm. Page 114</p>	<p>1 A. Yes. 2 Q. All that said, is the use of, operation of tailing ponds 3 in Canada subject to regulation, or have you simply gone 4 along to Canada and started (inaudible)? 5 A. This is, again, a point I wanted to make that all of 6 the operations that we carry out in the boreal forest 7 are subject to licence from the Canadian government. 8 We have not simply gone in there and started cleaning 9 the place up, and would never dream of that. 10 The operations that we're carrying out in Canada are 11 reasons licensed by the government, authorised by 12 the government. They are legitimate operations. We 13 have chosen to move away from operations that involve 14 tailing ponds and go for the steam assisted gravity 15 drainage which does not involve trailing ponds. 16 Q. Is there any respect in which -- is there any aspect of 17 your operation (inaudible)? 18 A. No, none whatsoever. Everything we've done there has 19 been licensed, checked and authorised by the government 20 of Canada. 21 Q. Mr Bannerman, thank you very much. Would you wait 22 there, please. 23 A. Yes. 24 Cross-examination by MR MANSFIELD 25 MR MANSFIELD: Mr Bannerman, of course the operation itself Page 116</p>

<p>1 has been in Canada an extremely profitable exercise, 2 hasn't it? 3 A. It is a profitable exercise, yes. 4 Q. Both for the companies involved, yours and others, as 5 well as for the Canadian nation? 6 A. Yes. 7 Q. And what I want to ask you, therefore, is -- do forgive 8 me if you haven't got the details, but you did 9 appreciate when you came here today that you would be 10 facing questions to deal with, on the Tar Sands front, 11 trailing ponds. 12 A. Indeed. 13 Q. So you would have had time to research tailing ponds. 14 A. Yes, either myself or through my advisers. 15 Q. Have you done that? 16 A. We have looked into the figures, yes. 17 Q. All right. I want to ask you, therefore, about the 18 square kilometres. First of all, dealing with all the 19 tailing ponds, not just the ones you operate, what 20 percentage of the boreal forest that has already been 21 taken over by oil companies as a whole is covered by 22 tailing ponds? 23 A. Well, I'm not responsible for those covered by other 24 companies. 25 Q. Well, you must be aware of the context of your Page 117</p>	<p>1 they're better described as lakes, really, aren't they? 2 A. Well, I notice you're using the word "lakes". I still 3 call them tailing ponds, (inaudible) calls them tailing 4 ponds. 5 Q. Yes, I appreciate that. I don't want to take up a long 6 time over what is a pond and what is a lake. 7 A. I don't think I could answer that. 8 Q. Well, no, you might not, but I'm going to call them 9 lakes, you continue calling them ponds, if you wish? 10 A. Thank you very much. 11 Q. That's a pleasure. 12 So far as lakes are concerned -- or ponds in your 13 case -- these ponds average about, what, 10 kilometres 14 in area, square kilometres, average? 15 A. Very roughly, yes. 16 Q. Very roughly. 17 The ponds themselves are contained by what? 18 A. I'm not sure I quite follow the question. 19 Q. Yes. In other words, what keeps them contained? 20 A. Well, there isn't a concrete barrier around them. 21 Q. No, so what is around them? 22 A. The rest of the boreal forest. 23 Q. Yes, I know. A few trees won't keep the water from 24 spreading; what keeps the water from spreading? 25 A. Just the earth and the surrounding area. Page 119</p>
<p>1 operation. 2 A. As I say, I'm not responsible for what other companies 3 are doing or the acreage covered by their tailing ponds. 4 Q. That wasn't the question. 5 A. Well, I'm sure it wasn't, but it's not a question I can 6 answer because I don't know what their acreage is. 7 Q. You don't know what the acreage or hectareage is of 8 tailing ponds in the boreal forest? 9 A. No. 10 Q. So, if I put to you it's about 25 per cent of the total 11 acreage that has been taken over by oil companies for 12 mining, you can't make any observations about that? 13 A. As I say, I don't know. 14 Q. All right, we'll deal with the ones that you do know 15 about. 16 I think you've estimated 30 to 40 ponds? 17 A. Yes. 18 Q. And the first question is, over what period have these 19 existed? 20 A. Over a period of the last five years. 21 Q. Is that all? 22 A. Yes. 23 Q. In your case? 24 A. Yes. 25 Q. Five years. And the average size of these ponds, Page 118</p>	<p>1 Q. In fact I put to you that the containment is comprised 2 of, as you put it, the earth, but actually it's 3 comprised of a sand composite, isn't it? 4 A. As I understood it, this was to do with birds being 5 injured by the tailing ponds. 6 Q. Exactly. 7 A. I'm not dealing with drainage away from tailing ponds or 8 birds that might be injured anywhere other than 9 the tailing ponds. 10 Q. You don't feel that there might be repercussions for 11 birds that land three feet away from the pond where the 12 water might be leaving? 13 A. That's not the subject of the indictment drawn up. 14 Q. Well, there may be a dispute about that. 15 Do you know this one answer: do you know the rate of 16 leakage of these ponds? 17 A. Again, that's not the subject of the indictment. 18 I don't know. 19 Q. I put to you it is. Tailing ponds and their 20 repercussions is. We're dealing with per year, 21 I suggest to you, this is before we deal with the actual 22 water that's left, 4 billion litres per year leaks from 23 these ponds into the surrounding area; did you know 24 that? 25 A. I haven't had the opportunity to read it. Page 120</p>

<p>1 MR PARKER: Are those the GPC ponds, or -- 2 MR MANSFIELD: All of the ponds together. 3 A. As I said earlier on, I'm not responsible for, nor can 4 I answer for, all of the ponds created by other oil 5 companies. 6 Q. Has it ever been brought to your attention, before 7 I deal with the actual water that's still in the lakes 8 or ponds, as somebody deeply involved in GPC over 9 the last 20 years, has the question of leakage of 10 the ponds into, for example, ground water, the 11 Athabasca River, has that ever come up at a board level? 12 A. Not that I recall, no. 13 Q. Now, let's deal with the water that's in the tailing 14 itself. 15 A. Mine or everybody's? 16 Q. Well, I put it to you it's everybody's, because from 17 the surface mining point of view all of the oil 18 companies are using very much the same techniques, 19 aren't they? 20 A. As I said before, I'm not here to answer for what they 21 are doing, I'm happy to answer for what my company is 22 doing and I will not be held responsible for other oil 23 companies. 24 Q. I'm not holding you responsible, I'm just asking you 25 about awareness of the techniques used by oil companies.</p> <p style="text-align: center;">Page 121</p>	<p>1 "Containing a toxic mixture of bitumen, salts, 2 naphthenic acids and polycyclic aromatic 3 hydrocarbons..." 4 Together with a number of other things; do you 5 accept that? 6 A. Yes, I do. 7 Q. Do you accept, also, that that mix is highly toxic? 8 A. I accept that it is toxic, but what do you call it, 9 highly, or hugely or whatever, but it is toxic, yes. 10 Q. Do you also accept whether you put the adjective highly 11 before or afterwards it does, in fact, therefore mean 12 that life, and obviously the example on the indictment 13 is birds, are put at serious risk, aren't they? 14 A. If they land in those ponds, if they drink from those 15 ponds, I presume, yes. 16 Q. Thank you. 17 Now, as a company were you aware of that? 18 A. This has been one of the reasons that has led us away 19 from using this sort of technology into a technology 20 that has minimal impact on the environment. 21 Q. So, you were aware, therefore, is that what you're 22 saying? You were aware that that was a risk? 23 A. Well, over the years we have become aware of reports 24 such as this, and there are all sorts of pressure groups 25 as, no doubt, you're aware, who constantly seek to make</p> <p style="text-align: center;">Page 123</p>
<p>1 I'm coming to the birds in a moment. 2 Now, the terms of the tailings you've established, 3 were you aware, first of all, of contents of the tailing 4 ponds? 5 A. What, the specific chemical content? 6 Q. Yes. 7 A. In broad terms, yes. 8 Q. And what do they contain, in broad terms? 9 A. Well, I don't have the data in front of me to give you 10 a complete breakdown of the chemical content. 11 Q. All right, well, could the defendant please have -- oh, 12 it's just there. The bundle. I just want to draw your 13 attention, so the jury have it as well, the 14 "Danger in the Nursery" report, and page 8 of that 15 report where, under the heading "Tailing Ponds from 16 Mining Trap Birds in Oily Waste", and then it says it 17 has a number of constituents. Page 8 of 18 Danger in the Nursery, just one of those selected pages, 19 you see the page numbers right at the bottom? 20 A. Yes, I have that. 21 Q. Have you seen this before? 22 A. Yes, I have read this report. 23 Q. I don't want to make an unfair report if you haven't 24 seen it. 25 It says there:</p> <p style="text-align: center;">Page 122</p>	<p>1 us aware of the impact that we have. We take those 2 things seriously and, where necessary, we respond and 3 change what we're doing. This is an example of that. 4 Q. Have you taken any precautions, just as far as bird life 5 is concerned, to ensure that birds migrating or resident 6 don't come anywhere near your ponds? 7 A. What we have done is to ensure we comply with any 8 requirement put upon us by the Canadian government. 9 We have done that. 10 Q. Yes, never mind the Canadian government for the moment: 11 have you put in place anything, any measure at all, to 12 prevent, so far as is humanly possible, bird life being 13 put at risk by the tailing water itself or any water 14 leaking out of it? 15 A. There is nothing that can be humanly done to prevent 16 a bird landing in a lake or a pond. 17 Q. Right. 18 A. There is nothing that can be done. 19 Q. Accepted. 20 Now, just on the question of numbers -- and 21 I appreciate numbers can be misleading -- but does your 22 company have a policy of monitoring life in and about 23 these tailings? That's life generally: bird life, 24 beavers, humans, the rest? 25 A. No.</p> <p style="text-align: center;">Page 124</p>

<p>1 Q. Why not?</p> <p>2 A. We're not required to, we're not asked to by the</p> <p>3 Canadian government.</p> <p>4 Q. Right.</p> <p>5 A. They have their own ways of monitoring and they pass</p> <p>6 things onto us if they wish to do so. We are not</p> <p>7 requested or required to do anything (inaudible)</p> <p>8 ourselves.</p> <p>9 Q. Right.</p> <p>10 Now, I want to ask you a little bit about the other</p> <p>11 location with which you are charged --</p> <p>12 A. Yes.</p> <p>13 Q. -- which is the Gulf, can I just call it that for the</p> <p>14 moment.</p> <p>15 Now, there are one or two aspects to what you have</p> <p>16 said today that I would like to just ask you a little</p> <p>17 bit more about.</p> <p>18 This question was put to you, and I just want to</p> <p>19 repeat it, your counsel put to you that this was</p> <p>20 a substantial oil spill. Those were his words. You do</p> <p>21 agree that, don't you?</p> <p>22 A. I think it's on the list of agreed facts put forward.</p> <p>23 Q. Right, so a substantial oil spill, and as far as oil</p> <p>24 spills are concerned, you remember this morning, as you</p> <p>25 obviously were here, that Dr Boxall indicated three</p> <p style="text-align: center;">Page 125</p>	<p>1 coverage until halfway through the exercise, so if the</p> <p>2 exercise took four months, that's two months in; is that</p> <p>3 right?</p> <p>4 A. Yes, that's right.</p> <p>5 Q. By that time, of course, there had been, already,</p> <p>6 a considerable spread slick on the surface, never mind</p> <p>7 the seabed?</p> <p>8 A. Yes, and you'd also have to put these questions to the</p> <p>9 American authority that was governing what we could and</p> <p>10 could not do.</p> <p>11 Q. Yes, I follow that --</p> <p>12 A. Because we can do nothing unless they authorise it.</p> <p>13 Q. Absolutely. But, on the other hand, as a very</p> <p>14 experienced company who have, as it were, negotiated</p> <p>15 permits and licences with the government, you have</p> <p>16 an influential position, don't you?</p> <p>17 A. In what sense?</p> <p>18 Q. Well, in every sense, but I'll deal with this sense:</p> <p>19 namely, if you wanted to conduct your, as it were, clean</p> <p>20 up operation in a particular way, whilst it has to be</p> <p>21 authorised, you can make the suggestions, can't you?</p> <p>22 A. And we did.</p> <p>23 Q. So, was the suggestion to burn it off yours?</p> <p>24 A. Yes, it was.</p> <p>25 Q. And was the suggestion to use chemical dispersants</p> <p style="text-align: center;">Page 127</p>
<p>1 ground rules so far as his expertise is concerned about</p> <p>2 spills; do you remember him saying there were three</p> <p>3 basic rules? They're not rocket science, but I want to</p> <p>4 put them to you.</p> <p>5 A. I don't recall any specific three.</p> <p>6 Q. Very well. The first one was: don't spill in the first</p> <p>7 place.</p> <p>8 A. Indeed, yes.</p> <p>9 Q. You accept that?</p> <p>10 A. Absolutely.</p> <p>11 Q. It's a fairly obvious thing to say.</p> <p>12 A. Yes.</p> <p>13 Q. And prior to this, plainly given your experience, you're</p> <p>14 fully aware, are you, of the risks attached to an oil</p> <p>15 spill?</p> <p>16 A. Of course. Every oil man is.</p> <p>17 Q. Everyone is. So, that's the first one. The second one</p> <p>18 is to do with picking up the oil afterwards; do you</p> <p>19 remember he said that?</p> <p>20 A. Mm hmm.</p> <p>21 Q. That's another way of dealing with it, if you haven't</p> <p>22 not done it and you have done it, you mechanically pick</p> <p>23 them up.</p> <p>24 A. He did.</p> <p>25 Q. Do you remember in this case you didn't have enough boom</p> <p style="text-align: center;">Page 126</p>	<p>1 yours?</p> <p>2 A. Yes, as was the suggestion to use booms.</p> <p>3 Q. Yes, I follow that.</p> <p>4 The third rule that was put this morning that you</p> <p>5 let nature take its course.</p> <p>6 A. Mm.</p> <p>7 Q. These were the three. Now, you're aware, obviously, of</p> <p>8 the microbial -- degradation, which is just let nature</p> <p>9 do it.</p> <p>10 A. Yes.</p> <p>11 Q. Did you put that forward?</p> <p>12 A. Yes. And that was --</p> <p>13 Q. What was the result?</p> <p>14 A. That was one of the things that we actually allowed to</p> <p>15 happen, and we encouraged that to happen with the use of</p> <p>16 chemical dispersants as well.</p> <p>17 Q. Now, this particular spill and its causes wasn't out of</p> <p>18 the blue, was it?</p> <p>19 A. I don't know what you mean by that.</p> <p>20 Q. All right, well I'll come to it precisely.</p> <p>21 When you were contemplating having a look at the</p> <p>22 area for exploration purposes, you must have had</p> <p>23 a review of the area done in the first place?</p> <p>24 A. Yes, of course.</p> <p>25 Q. And various reports done?</p> <p style="text-align: center;">Page 128</p>

<p>1 A. Yes. 2 Q. And that would also apply to the use of the equipment 3 that's going to be employed. 4 A. Yes, of course. 5 Q. And you keep those records? 6 A. Yes. 7 Q. Are they available for inspection? 8 A. Not today but we can produce them. 9 Q. Now, the problem was that the faults, some of which were 10 outlined this morning by Dr Boxall, are definitely 11 attributable to yourself and the company, aren't they? 12 A. Some of them were down to errors made by my company, 13 yes. Some, not all. 14 Q. No, I appreciate they may not all be directly. Which 15 ones do you say are attributable to your company and 16 yourself? 17 A. I think, in fairness, there was a -- a lack of proper 18 inspection, as in the proper rates of inspection, and 19 I think the appropriate level of inspection did tail off 20 latterly from the life span of that particular group. 21 Q. Who has responsibility for ensuring they don't tail off? 22 A. It's jointly held primarily by my company but also by 23 the US Coastguard authority who are the inspections 24 authority. 25 Q. So, inspections would have revealed items that are not</p> <p style="text-align: center;">Page 129</p>	<p>1 valve, and one of the aspects of this is poor 2 maintenance of that valve? 3 A. That's one contention, yes. 4 Q. An inspection should reveal that, shouldn't it? 5 A. I would have thought so, yes. Yes. 6 Q. And, just finally this: the plugging of the original 7 source of the explosion, the slurry, now, there are 8 protocols concerned with how that has to be done. 9 A. Mm hmm. 10 Q. Were they followed? 11 A. Yes. 12 Q. By? 13 A. By my organisation and the subcontractors who were 14 brought in to plug the original hole. 15 Q. So, the fact that the incorrect procedures were used, to 16 what does that relate? 17 A. Well, again, you would need to speak to the people who 18 are actually on the ground doing the operation to get 19 the detail of that. 20 Q. Well, I'm speaking to you, now, a year later: have you 21 spoken to the people on the ground? 22 A. In general terms, yes, but in terms of, you know, 23 specific evidence that I might be able to give, no. 24 Q. And can I finish with this: one of the problems you 25 discovered when you did a review, is this right, was</p> <p style="text-align: center;">Page 131</p>
<p>1 working properly? 2 A. Well, this is a matter of pure speculation: we don't 3 know whether a different level of inspection would have 4 revealed the precise faults, for two reasons: firstly, 5 what precise faults were is as yet still a matter of 6 speculation, so we don't know. Secondly, we don't know 7 the level of inspections that would have revealed those 8 faults if we know what those faults are. So at the 9 moment it is too early to say as a matter of pure 10 speculation. 11 Q. One of the faults related to the alarm? 12 A. Yes. 13 Q. And, of course, the alarm had been switched off? 14 A. Yes, I understand it was faulty. 15 Q. Well, when did that happen? When was it switched off 16 and available for an inspection to demonstrate that it 17 had been switched off? 18 A. I don't have the data in front of me. From recollection 19 I believe it had been switched off approximately two to 20 three weeks before the actual blowout. 21 Q. When was the date of the last inspection? 22 A. Prior to that, again, I don't have those dates in front 23 of me. 24 Q. Another failure, do you agree, concerned the preventer, 25 interestingly by the acronym BOV, the blowout preventer</p> <p style="text-align: center;">Page 130</p>	<p>1 that certain documentation was missing. 2 A. Yes, that's right. 3 Q. What was the documentation that was missing that would 4 have made a difference here? 5 A. Would have made a difference to what? 6 Q. In other words, documentation that related precisely to 7 the event that occurred. 8 A. I don't follow the question. 9 Q. Safety documentation and emergency procedure 10 information. Did you discover that or someone else 11 discover that it was missing? 12 A. Well, I didn't go through the filing cabinets myself, 13 but I'm told that those documents were missing. 14 Q. Can I just ask you this: for how long have they been 15 missing? 16 A. That's unanswerable. 17 Q. Thank you. 18 Re-examination by MR PARKER 19 MR PARKER: Mr Bannerman, for the avoidance of doubt, 20 there's no suggestion here, is there, that your company 21 is trying to suggest that the spill itself is not the 22 responsibility of the company? 23 A. No, we take responsibility for that. 24 MR PARKER: Thank you. Does your Lordship have any 25 questions?</p> <p style="text-align: center;">Page 132</p>

<p>1 JUDGE NORMAN: I have none, thank you. 2 (The witness withdrew) 3 MR PARKER: Would you go back, Mr Bannerman. 4 My Lord, slightly unusually, I am going to call 5 Mr Perry in due course, but I'm going to call the second 6 defendant now, if I may. 7 John Tench, please. 8 JOHN TENCH (Affirmed) 9 Examination-in-chief by MR PARKER 10 MR PARKER: Would you tell the jury your full name, please? 11 A. John Stephen Tench. 12 Q. Mr Tench, are you a British citizen? 13 A. I am. 14 Q. And where are you employed, please? 15 A. Glamis Group. 16 Q. The Glamis Group? 17 A. Correct. 18 Q. And what is the nature, please, of Glamis Group's 19 business? 20 A. We are a primarily an oil company. 21 Q. And within that company, have you been the executive 22 vice president, and were you appointed executive vice 23 president in 2000? 24 A. That's correct. 25 Q. And have you subsequently become the chief executive</p> <p style="text-align: center;">Page 133</p>	<p>1 Q. And are you one of the larger producers of crude oil 2 from Tar Sands? 3 A. Yes, indeed we are. 4 Q. And your current production capacity running in the 5 region of 420,000 barrels a day? 6 A. Correct. 7 Q. Am I right in thinking a barrel is 32-gallons, of that 8 order? 9 A. Of that order. 10 Q. We heard that surface mining is what requires the use of 11 tailing ponds, and I'm going to restrict my questions to 12 your tailing ponds and the incident that led to 4600 13 birds dying in a single incident. 14 First of all, does your company have any procedure 15 in place designed to extract birds or keep them away 16 from tailing ponds? 17 A. We do. Within the season in which they fly around those 18 areas, we operate a system of canons, which obviously 19 operates by the sound of the firing of them to stop the 20 birds from landing. 21 Q. Could you move the microphone a bit further towards you. 22 A. Is that better? 23 Q. Sound canons? 24 A. That's correct. 25 Q. And you say when the birds are flying, is that because</p> <p style="text-align: center;">Page 135</p>
<p>1 officer of the company? 2 A. That's correct. 3 Q. And were you the chief executive officer of the company 4 ... 5 A. I'm sorry? 6 Q. I haven't finished yet. Were you the chief executive 7 officer of the company on 19 April of last year? 8 A. Correct. 9 Q. At that time was your company, Glamis Group, engaged in 10 operations in the Athabasca Tar Sands area in Canada? 11 A. We certainly were. 12 Q. And as part of that operation, was your company carrying 13 out surface mining? 14 A. Correct. 15 Q. And in surface mining, did that entail what is known as 16 tailing ponds or tailing lakes, depending upon one's 17 semantic? 18 A. As my colleague pointed out, "tailing pond" is the 19 accepted term within the industry. That's correct. 20 Q. So that we have some understanding of the size of your 21 company, and by comparison, for example, with GPC, does 22 the Glamis Group employ some 7,000 personnel? 23 A. That's correct. 24 Q. In this country and abroad? 25 A. Yes.</p> <p style="text-align: center;">Page 134</p>	<p>1 these are, in the main, migratory birds? 2 A. Correct. 3 Q. Flying across your tailing ponds? 4 A. Yes. 5 Q. On the day in question, back in 2010, were those sound 6 canons, first of all, operational? 7 A. I believe in the broadest terms we would say they were 8 operational, but they were actually turned off. 9 Q. So they were serviceable but they were not in operation? 10 A. Correct. 11 Q. Why was that? 12 A. Simply because, as you pointed out, and as I said, it's 13 a migratory event: birds come and they actually came 14 earlier than normal. 15 Q. What it amounts to here is that you had a -- in place 16 a distractant which didn't take account of the fact that 17 migratory birds might migrate at the time you weren't 18 expecting? 19 A. Indeed. 20 Q. And the consequence was that 1600 birds perished? 21 A. Yes. 22 Q. And you acknowledge, do you not, the responsibility of 23 your company in that incident? 24 A. We most certainly do regret any accident, whether it is 25 to human life, wildlife, any kind of life.</p> <p style="text-align: center;">Page 136</p>

<p>1 Q. Were the sound canons in place as a company initiative 2 or because they were required under your operating 3 licence from the authorities? 4 A. I believe it's -- it's a company initiative. 5 Q. On the subject of licensing authorities, you heard 6 a moment ago the evidence of Mr Bannerman in respect of 7 the tailing ponds operated by GPC and the requirement 8 that such operations should be licensed and authorised. 9 As far as your company is concerned, were your 10 tailing ponds, are your tailing ponds operated within 11 the law? 12 A. Absolutely. We were and are licensed by the Canadian 13 government, as in every other company where we operate, 14 legally licensed by the government. 15 Q. And, quite apart from being licensed in the first place, 16 are you also subject to both national and local 17 government, environmental regulations about how they 18 operate? 19 A. Absolutely. The Environmental Protection Agency being 20 one of them. 21 Q. Forgive me for putting words into your mouth, what has 22 happened here is there has been a failure to act within 23 the licence in the sense that the canons were not being 24 operated at the time when (inaudible). 25 A. In response to the end of your question, perhaps they</p> <p style="text-align: center;">Page 137</p>	<p>1 in this case. 2 MR PARKER: I'm grateful, my Lord. It may be that they may 3 not be entirely of peripheral value when one looks at 4 the size, nature and extent of (inaudible). 5 Put broadly, Mr Tench, in both Canada and America 6 estimated bird loss through window collisions ranges 7 from 100 to 980 million; from cats, 100 to 500 million. 8 A. I believe that's correct. 9 Q. Vehicles between 50 and 100 million per annum; electric 10 wires, 170 to 180 million; agricultural pesticides, 11 67 to 80 million; hunted in the United States, 12 100 million, and in Canada 30 million; tailing ponds, 13 not just your tailing ponds, but across the border, 14 somewhere rather less than -- 15 A. I'm not familiar with the exact figure from tailing 16 ponds, there are other companies operating here, but 17 I also believe from the report it pointed out that the 18 installations of wind power are also accountable for 19 a comparable amount in Canada, of which the Canadian 20 government is also the licensing authority. 21 Q. You've heard the GPC are reducing their reliance upon 22 tailing ponds; is that the same as far as your company 23 is concerned, or are you going to carry on using tailing 24 ponds at the same level? 25 A. We have a slightly different approach. We are in the</p> <p style="text-align: center;">Page 139</p>
<p>1 should have been but, as I said, there's a pattern which 2 we unfortunately were not able to predict, the birds 3 arriving prematurely. 4 Q. And the evidence is -- and it is accepted as part of the 5 agreed facts of this trial, that 1600 birds were killed. 6 That said, have you carried out some research about 7 the birds (inaudible) and the causes of their mortality 8 in North America? 9 A. Indeed, my legal team has done extensive research in the 10 process. 11 Q. You heard the figures put this morning to Mr Robinson, 12 the ornithologist. 13 A. I did, yes. 14 Q. And in order to avoid a certain amount of repetition, 15 perhaps I could remain the jury what those figures were. 16 From your researches -- well, I say your researches: 17 did your researches come from data provided, amongst 18 others, by the National Institute for Urban Wildlife and 19 the United States Fishing Wildlife Service? 20 A. Yes. 21 Q. The Smithsonian Institute? 22 A. Yes. 23 Q. The National Ornithological Society? 24 A. I don't have the names in front of me. 25 JUDGE NORMAN: Mr Parker, the figures are peripheral values</p> <p style="text-align: center;">Page 138</p>	<p>1 process of investing £340 million in a process, without 2 going into too much technical detail, which will reduce 3 the use of the tailing ponds and speed up the process of 4 recovery of the (inaudible). 5 Q. So reduce the toxicity and reduce the duration of the 6 (inaudible)? 7 A. That's our anticipated aim, yes. 8 Q. Mr Tench, thank you very much. Would you wait there, 9 please. 10 Cross-examination by MR MANSFIELD 11 MR MANSFIELD: Mr Tench, I asked this question of your 12 fellow defendant and I ask it of you: how many tailing 13 ponds does your company operate? 14 A. From memory I believe my company operates 62. 15 Q. 62? 16 A. In the region of, yes. 17 Q. Right, and do you accept the figure that I put to him 18 that on average they're about 10 kilometres square? 19 A. Again, I'm not certain of the exact size, myself. 20 Q. Would that be a fair assertion? 21 A. I would say it was a fair assertion, yes. 22 Q. What percentage, do you know this, of the boreal forest 23 that has already been claimed by oil companies, 24 including your own, do the tailings comprise? 25 A. I believe you said it was 25 per cent earlier.</p> <p style="text-align: center;">Page 140</p>

<p>1 Q. Yes, do you accept that?</p> <p>2 A. I don't have any data in front of me to compare.</p> <p>3 Q. I'm concentrating on the tailings for the moment. There</p> <p>4 may be all sorts of, as I put it, measures that can be</p> <p>5 taken, but as your fellow defendant conceded, actually</p> <p>6 canons are just no good at the job, are they? Whether</p> <p>7 they operate or they don't?</p> <p>8 A. That sounds entirely like an opinion.</p> <p>9 Q. Well, I want your opinion; do you agree that they're</p> <p>10 pretty useless?</p> <p>11 A. No, I do not agree.</p> <p>12 Q. So you are aware of the number of birds that get</p> <p>13 frightened by canons, are you?</p> <p>14 A. Not a specific figure, no.</p> <p>15 Q. Does your company monitor birds lighting upon the water?</p> <p>16 A. Not in a specific way.</p> <p>17 Q. Do you publish any data whatsoever indicating the effect</p> <p>18 of the ponds on the wildlife that may have been there</p> <p>19 before or may still exist in the area of the pond?</p> <p>20 A. That was before the tailing ponds?</p> <p>21 Q. Yes, sorry, I put the question -- my fault. Do you keep</p> <p>22 any sort of records publicly available of the effect on</p> <p>23 wildlife of the existence of the tailing ponds?</p> <p>24 A. I believe it's one of the agreed facts in our bundle,</p> <p>25 but there are chemicals in the tailing ponds and we are</p> <p style="text-align: center;">Page 141</p>	<p>1 Q. No, it's just to indicate clearly what is being alleged</p> <p>2 against you as the individual chief executive of the</p> <p>3 group is that your company was responsible for the</p> <p>4 creation of the ponds --</p> <p>5 A. My company solely for all --</p> <p>6 Q. No, no, the creation of tailing ponds.</p> <p>7 A. I'm not sure that's correct. I couldn't comment.</p> <p>8 Q. Well, I'm sorry, there may be a misunderstanding: your</p> <p>9 company has created tailings as a result of surface</p> <p>10 mining, hasn't it?</p> <p>11 A. Yes, I just thought you said something else.</p> <p>12 Q. No, no, I'm just reading from the indictment.</p> <p>13 And that those ponds that you, your company, have</p> <p>14 created over the last five years -- because we're</p> <p>15 leading with size and duration, how long is this going</p> <p>16 to go on for -- that those ponds contain toxic waste, do</p> <p>17 you accept that?</p> <p>18 A. We do, as I said earlier, there's a risk in any</p> <p>19 enterprise in the extraction of oil. It's the side</p> <p>20 effect. If you'll excuse me for saying you can't make</p> <p>21 an omelette without breaking a few eggs.</p> <p>22 Q. And it is unfortunate for the eggs.</p> <p>23 A. It is unfortunate. These things are unavoidable if we</p> <p>24 are to continue the essential employ of oil to the</p> <p>25 western developed world.</p> <p style="text-align: center;">Page 143</p>
<p>1 aware that there is a risk to wildlife.</p> <p>2 Q. Yes, well I was going to come onto that. Therefore I'll</p> <p>3 take it very quickly.</p> <p>4 You accept, therefore, that this area, 620 square</p> <p>5 kilometres, roughly, of your tailing ponds, contain the</p> <p>6 chemicals of the kind I've already put to other</p> <p>7 witnesses, polycyclic and so on -- you're aware of that?</p> <p>8 A. As I said, we are in the process of ensuring that those</p> <p>9 chemicals are actually sunk to the bottom of the mines</p> <p>10 as soon as possible.</p> <p>11 Q. I will come to that. How long has this operation been</p> <p>12 continued by your company?</p> <p>13 A. Approximately the same duration as Mr Bannerman.</p> <p>14 Q. How long is that?</p> <p>15 A. Five years.</p> <p>16 Q. Five years.</p> <p>17 How long -- how many of the ponds that you operate</p> <p>18 actually been reclaimed?</p> <p>19 A. I was under the impression we were dealing with one</p> <p>20 pond, one specific indictment; is that correct?</p> <p>21 Q. Yes, that's correct, it's you as a company, you as</p> <p>22 an individual, and I'll read the count again. Do you</p> <p>23 want to see the indictment again?</p> <p>24 A. Yes, if that's an accepted legal procedure, I'm very</p> <p>25 happy to --</p> <p style="text-align: center;">Page 142</p>	<p>1 Q. I'm not entering the political discussion about what's</p> <p>2 essential and what isn't. I'm dealing with a risk that</p> <p>3 is created.</p> <p>4 Now, do you accept that as a result of creation of</p> <p>5 the ponds that your company put into place, with the</p> <p>6 toxic materials, that provides a serious risk to the</p> <p>7 wildlife -- including birds -- in that area?</p> <p>8 A. Again, I believe it states in the agreed facts that we</p> <p>9 accept, my company accepts that that is a risk, of</p> <p>10 course. Whether it's serious, or not. We accept there</p> <p>11 is a risk, naturally.</p> <p>12 Q. I'll ask you: do you think it's serious?</p> <p>13 A. Define "serious" and I'll answer.</p> <p>14 Q. No, no, I'm asking you: do you accept the risk you have</p> <p>15 created is serious?</p> <p>16 A. I believe in the circumstances that our prevention</p> <p>17 measures, the canons being turned off on that particular</p> <p>18 day on that particular incident when that particular</p> <p>19 type of birds flew past, did create a serious risk for</p> <p>20 that particular group of birds.</p> <p>21 Q. They all died remarkably quickly, didn't they?</p> <p>22 A. Apparently so. Over a five month period according to</p> <p>23 the agreed facts, from the February to July.</p> <p>24 Q. No, but once they landed. They may have landed at</p> <p>25 different times, but once they landed they died very</p> <p style="text-align: center;">Page 144</p>

<p>1 quickly?</p> <p>2 A. I can't comment on that.</p> <p>3 Q. You can't comment.</p> <p>4 A final question: do you know how long it takes for</p> <p>5 a tailing pond to, in fact, settle and then be reclaimed</p> <p>6 as land as it was before?</p> <p>7 A. I don't know.</p> <p>8 Q. If I put 150 years, are you in a position to make any</p> <p>9 observation about that?</p> <p>10 A. I couldn't comment on that.</p> <p>11 Q. Thank you.</p> <p>12 Re-examination by MR PARKER</p> <p>13 MR PARKER: My Lord, one matter I should have asked</p> <p>14 Mr Tench.</p> <p>15 Are you a man of good character?</p> <p>16 A. I certainly am.</p> <p>17 MR PARKER: Thank you.</p> <p>18 MR MANSFIELD: Check the agreed facts.</p> <p>19 MR PARKER: Thank you very much.</p> <p>20 JUDGE NORMAN: Thank you, Mr Tench.</p> <p>21 (The witness withdrew)</p> <p>22 MR PARKER: My Lord, the final witness is Mr Robin Perry.</p> <p>23 ROBIN PERRY (Affirmed)</p> <p>24 Examination-in-chief by MR PARKER</p> <p>25 MR PARKER: Mr Perry, would you please tell the jury your</p> <p style="text-align: center;">Page 145</p>	<p>1 Q. In Russia, 1994?</p> <p>2 A. Yes.</p> <p>3 Q. Mombassa, 1994?</p> <p>4 A. Yes.</p> <p>5 Q. Villeria(?) in France in 1994?</p> <p>6 A. Yes.</p> <p>7 Q. And the Sea Empress in 1996.</p> <p>8 A. Yes.</p> <p>9 Q. And the (inaudible), to name a few?</p> <p>10 A. Yes.</p> <p>11 Q. You've heard the evidence this morning of Dr Boxall?</p> <p>12 A. Yes.</p> <p>13 Q. Insofar as he gave evidence about the oil spill in the</p> <p>14 Gulf of Eden, do you, in broad terms, agree with the</p> <p>15 figures given for the dispersal of the oil, the methods</p> <p>16 by which the oil was dispersed; in other words microbial</p> <p>17 action.</p> <p>18 A. Yes, and that has been discussed, including the use of</p> <p>19 dispersants.</p> <p>20 Q. And the other things discussed this morning, you agree</p> <p>21 with those?</p> <p>22 A. Yes.</p> <p>23 Q. And you agree, do you not, with the evidence that he</p> <p>24 gave about the cultural condition, if you want to put it</p> <p>25 that way, in the Gulf of Eden, which led to</p> <p style="text-align: center;">Page 147</p>
<p>1 full name.</p> <p>2 A. Sorry, my?</p> <p>3 Q. Your full name for the jury?</p> <p>4 A. My full name is Robin Perry.</p> <p>5 Q. And what is the area of your expertise?</p> <p>6 A. I have been involved in oil spill response in responding</p> <p>7 to spills, in training, in planning and in oil spill</p> <p>8 exercises for 31 years. And as a result of that, I've</p> <p>9 gained a lot of knowledge about many of the issues we're</p> <p>10 discussing today.</p> <p>11 Q. And over the course of those three decades, has oil</p> <p>12 spill response changed as new techniques are being</p> <p>13 developed and there's understanding of the breakdown of</p> <p>14 oil products will become better known?</p> <p>15 A. Regrettably not as much as one would have hoped, but</p> <p>16 yes, equipment has improved, without doubt. The</p> <p>17 understanding of certain techniques has improved, things</p> <p>18 that we are discussing here to do with burning and</p> <p>19 dispersants, yes.</p> <p>20 Q. In the course of your experience, have you been involved</p> <p>21 in major oil spill response in many parts of the world,</p> <p>22 including the Torrey Canyon?</p> <p>23 A. Yes, I was involved in that.</p> <p>24 Q. In 1990, Mega Borg?</p> <p>25 A. Yes.</p> <p style="text-align: center;">Page 146</p>	<p>1 an acceleration of the products?</p> <p>2 A. Yes, I think this is something that did surprise people</p> <p>3 but it's because of the oil seeps which he mentioned</p> <p>4 earlier on, going on, if you like, and also the</p> <p>5 bacterial community there also, and it just said: here</p> <p>6 comes a lot of food, and they jumped on it very quickly.</p> <p>7 Q. Because there was already natural seepage from the</p> <p>8 seabed?</p> <p>9 A. Indeed, yes.</p> <p>10 Q. There are, are there not, some issues, however, where</p> <p>11 you and he are not in entire agreement as far as the</p> <p>12 clean up operation is concerned?</p> <p>13 A. Yes, that is true.</p> <p>14 Q. Let me deal with one or two matters and if there's</p> <p>15 anything extra you think is important as far as the</p> <p>16 Gulf of Eden is concerned, you can deal with that.</p> <p>17 First of all, it was suggested that there was not or</p> <p>18 may not have been in place certain plans to cater for</p> <p>19 a contingency of an oil spill on this particular rig; is</p> <p>20 that right or wrong?</p> <p>21 A. That couldn't have been true because anyone who is</p> <p>22 planning to drill a well in that area must have an oil</p> <p>23 spill contingency plan which must be approved. In those</p> <p>24 details it was the minerals planning service, so there</p> <p>25 was a plan in place.</p> <p style="text-align: center;">Page 148</p>

<p>1 Q. With regard to burning operations which accounted for 2 some five per cent of the overall seepage, it was 3 suggested that the use of burning, whether licensed or 4 otherwise, was simply window dressing; what do you say 5 to that? 6 A. I don't agree with that. Since burning was first 7 invented some years ago, there's been tremendous 8 improvement in the manufacture of what are called fire 9 booms. These are booms that can with stand the enormous 10 heat which is generated when the oil is burned. 11 Once the oil is lightened by some ignition method, 12 it burns very, very intensely and consumes rather more 13 of the oil than I think Dr Boxall had indicated. I'm 14 not saying that there would be no residue at the end, 15 because I think there would be, but I don't think there 16 would have been a very great deal because even the 17 heavier ends will burn with the intense heat that was 18 produced in the fire. 19 Q. Dr Boxall suggested this morning something in the order 20 of 50 per cent; what would you say to that? 21 A. I don't agree with that. I think it will be much less 22 than that. Probably in the order of 5 per cent. 23 Q. From the evidence given, 8 per cent of the total oil was 24 subject to chemical dispersal; is that right? 25 A. That's in the accepted reports at the moment, yes.</p> <p style="text-align: center;">Page 149</p>	<p>1 oil staying on the surface and therefore affected birds. 2 That's one of the main reasons one uses it and it seems 3 to have been effective in this case. 4 Q. Is that because dispersant breaks down the oil and it 5 sinks? 6 A. It doesn't sink. That is word we have to be very 7 careful about. It remains in suspension. It remains, 8 billions and billions of tiny (inaudible) stay in 9 suspension with even the slightest amount of agitations. 10 Q. And the subject, thereafter, of microbial breakdown? 11 A. That is my understanding and certainly every paper that 12 I have read says that, yes. 13 Q. There was a suggestion made that the recovery process 14 might take 20 years here; what do you say to that? 15 A. Well, all of the scientists that I've spoken to over my 16 years, and there's Jenny Baker, who said that in the 17 majority of oil spills recovery time has been between 18 three and five years. 19 If one was to look at the Sea Empress spill, which 20 Dr Boxall mentioned in particular, my friend John Moore, 21 who wrote a report after the ten years was over, is full 22 of comments about the various -- the communities on the 23 sea shore and in the sea, and nearly all of those say 24 that the recovery took two to three years. 25 Q. And were they surprised at the bounce back?</p> <p style="text-align: center;">Page 151</p>
<p>1 Q. In the? 2 A. Reports which have come out, it's been accepted in 3 those, yes. 4 Q. So far as chemical dispersants are concerned, Dr Boxall 5 was rather critical of the use of that, suggesting in 6 the broadest possible terms that that had increased 7 toxicity rather than diluting the problem and lowering 8 toxicity; what do you say to that? 9 A. Well, I'm not an expert on the American system for 10 licensing dispersal, but I am very knowledgeable about 11 the system for licensing dispersals in this country, and 12 I certainly will say that the protocol requires, A, that 13 the dispersant is less toxic than the oils they use to 14 measure it against; B, that the dispersed oil mixture is 15 less toxic than the oil itself. In other words, you're 16 improving the situation. 17 Now, the other thing about dispersants is there are 18 certain circumstances where one does use them and where 19 one doesn't. In this particular case it was decided 20 that using dispersants would minimise the amount of oil 21 which came ashore, and this has been spoken out by 22 Admiral Thad Allen, as the National Incident Commander, 23 as being exactly what did happen. 24 The other point I'd like to make is one of the 25 reasons for using dispersal is to actually prevent the</p> <p style="text-align: center;">Page 150</p>	<p>1 A. No, this has been seen before: basically one looks at 2 the Braer spill in the Shetlands, the report there 3 written by an independent professor in Aberdeen said, 4 again, it was remarkable how resilient the ecosystem 5 was. 6 Q. And that was off Aberdeen? 7 A. That was off Shetland. 8 Q. Which didn't have the advantages of being in the 9 Gulf of Eden? 10 A. No, cold temperatures and 80,000 tonnes of oil. 11 Q. Here we've been told, we understand, some 12 1200 kilometres of coastline were initially impacted by 13 oil spill from this particular rig, but now there are 14 only some 40 kilometres which have either moderate or 15 more than moderate (inaudible). 16 A. Yes. 17 Q. 3.5 per cent of the total a year on. 18 A. Yes. 19 Q. Is that something which surprises you or does you and, 20 in any event, can you gives us any indication as to why 21 it should have produced -- 22 A. I don't think it surprises me. Again, if one looks back 23 at other oil spills, again talking of the Sea Empress, 24 that happened in February of 1996, by Easter time the 25 beaches were open, so much so the mayor gave a response</p> <p style="text-align: center;">Page 152</p>

<p>1 to say how well they did, most of the areas I've just 2 talked about, recovery was complete or well on the way 3 within two years.</p> <p>4 Q. Shortly, can one say that there was, undoubtedly, short 5 term impact, but the impact was, indeed, short term?</p> <p>6 A. Indeed, there are always going to be short term impacts, 7 and I think -- I've quoted Mr Jonathan Porritt, who was 8 saying however horrendous the short term impacts are 9 from an oil spill, they are not nearly as serious as the 10 permanent loss of habitat. He was quoting things like 11 development, concreting over large areas.</p> <p>12 Q. And apart from natural recovery, in the present case was 13 there a very substantial intervention on the part not 14 just of (inaudible) try to cope with this spill?</p> <p>15 A. Indeed, it was the biggest response anybody's ever seen 16 ever in the world, 54,000 people and 5,000 vessels were 17 involved in the clean up operation.</p> <p>18 Q. And that accounts for speed of response?</p> <p>19 A. And, indeed, the cost.</p> <p>20 Q. And the cost.</p> <p>21 Yes, those are the matters I particularly want to 22 cover. Is there anything else especially arising from 23 Dr Boxall's evidence you'd like to deal with?</p> <p>24 A. No, I'd like to talk a little bit more about dispersal. 25 We've been using dispersal in the UK for more than</p> <p style="text-align: center;">Page 153</p>	<p>1 A. Of course. I will be pleased if you are.</p> <p>2 Q. Right, yes.</p> <p>3 Can I just deal with the Jonathan Porritt point 4 which you've raised for the moment, the quotation. When 5 did he say that?</p> <p>6 A. Forgive me for two seconds. He said it in 1993.</p> <p>7 Q. 1993. In relation to?</p> <p>8 A. In relation to oil spills in general.</p> <p>9 Q. Was he talking about a particular one?</p> <p>10 A. I honestly can't remember exactly. It's one of those 11 quotations I've now kept up my sleeve.</p> <p>12 Q. Right. I'm going to resist the temptation.</p> <p>13 Now, can I ask you this: according to your report 14 which you have very kindly provided, you were formerly 15 General Manager of BP oil spill service centre?</p> <p>16 A. That's correct, yes.</p> <p>17 Q. For how long?</p> <p>18 A. Five years.</p> <p>19 Q. And when was it?</p> <p>20 A. Between 1989 and 1994.</p> <p>21 Q. And there are a number of other companies you have 22 worked for, Exxon Mobil?</p> <p>23 A. No, I haven't worked for them, I've worked as 24 a consultant to them.</p> <p>25 Q. Right. Exxon?</p> <p style="text-align: center;">Page 155</p>
<p>1 30 years, we have the largest continental shelf of 2 fisheries and there is no evidence, through all those 3 spills I've talked about, of being long lasting damage 4 from dispersals and therefore I cannot see where the 5 antagonism to the use of dispersal in this country -- we 6 certainly wouldn't use it if it was going to damage our 7 fisheries.</p> <p>8 Q. Was there any dispersal used here that wasn't licensed 9 or authorised or otherwise regulated by the 10 United States agencies controlling --</p> <p>11 A. Not at all. I mentioned that the EPA had written 12 a letter, the United States 13 Environmental Protection Agency --</p> <p>14 Q. Thank you.</p> <p>15 A. -- had written a letter to say they would prefer them 16 not to use Corexit dispersal and would ask them to find 17 something less toxic. We have more than once now been 18 given permission to continue with those operations, so 19 they were mandated by the national incident commander 20 and the commander would not have allowed it if the 21 Environmental Protection Agency said: you can't.</p> <p>22 Q. Thank you very much. Would you wait there, please.</p> <p>23 Cross-examination by MR MANSFIELD</p> <p>24 MR MANSFIELD: Mr Perry, will you forgive me if I'm rather 25 swift because of time constraints?</p> <p style="text-align: center;">Page 154</p>	<p>1 A. Yes.</p> <p>2 Q. Chevron?</p> <p>3 A. Yes.</p> <p>4 Q. BP, of course, and other companies, I won't go through 5 the list.</p> <p>6 Now, I want to ask you this about something you 7 haven't mentioned, and maybe you don't want to talk 8 about it particularly; are you familiar with Tar Sands?</p> <p>9 A. No.</p> <p>10 Q. Not at all?</p> <p>11 A. No.</p> <p>12 Q. No aspect of it?</p> <p>13 A. I've read very little about it so I'm not in a position 14 to comment on Tar Sands. I know what they are and 15 I know roughly how it works, but that's about it.</p> <p>16 Q. And certainly companies with which you've had contact in 17 the past are -- not the two in the dock here, but there 18 are companies that you're familiar with who have had 19 involvement there?</p> <p>20 A. I don't know which companies are involved. I know one 21 company in (inaudible) petroleum; I don't know any of 22 the other companies involved.</p> <p>23 Q. Because it does involve a formal, although in land 24 rather than in sea, a form of oil spill going on there.</p> <p>25 A. I can't answer that question because I don't know that</p> <p style="text-align: center;">Page 156</p>

<p>1 there's been a form of oil spill going on there. 2 Q. All right, so no questions about Tar Sands. 3 Coming back to the gulf, as I may call it. As far 4 as the background to this is concerned, can I ask you 5 questions about the failure to prevent an explosion? 6 A. You can ask me questions. I'll tell you whether I can 7 answer them. 8 Q. Are you familiar with the failures that led to the 9 explosion or not? 10 A. I am familiar with the events which led up to the 11 explosion, yes. 12 Q. And they're not failures? 13 A. Obviously there were, or they wouldn't have been -- 14 Q. All right, what were they? 15 A. There were a number of events. We've heard a little bit 16 about alarms, we've heard a little bit about cementing. 17 We've heard about the blowout preventer and such like, 18 and there are, of course, other things as well. 19 Q. Yes. And are you aware of the inspection record in 20 relation to this blowout preventer? 21 A. I am aware that the blowout preventer inspection was out 22 of date, yes. 23 Q. And were you aware that, in fact, company records 24 revealed that there had been a number of written 25 warnings about aspects of safety, one of which was that</p> <p style="text-align: center;">Page 157</p>	<p>1 A. I've said about 5 per cent. This is what I've heard 2 from previous colleagues in the past. 3 Q. What I was going to ask you, is since you've come up 4 with figures and this is tested with other witnesses, is 5 there any report or research that can be, as it were, 6 discoverable that shows that figure? 7 A. There are because there were tests done by the 8 United States in places like Canada and, in fact, the 9 burn off (inaudible) but I don't have that with me. But 10 I have spoken to the people who were involved in this 11 particular incident who did the burns and they are 12 telling me that virtually all the oil was burned. So, 13 if you like, it's from personal experience -- sorry, 14 second hand experience from people who were there. 15 Q. Yes, I understand what you're saying. 16 Now, in relation to this operation, you remember the 17 three criteria that Dr Boxall indicated this morning: we 18 don't do the spill in the first place? 19 A. I think we'd all agree with that. 20 Q. We'd all agree with that. 21 Secondly, mechanical recovery. 22 A. I don't necessarily agree with him on that. 23 Q. All right, well I'm not going to spend time -- 24 A. The only reason I think you will need to look at the 25 results achieved in this particular spill with all of</p> <p style="text-align: center;">Page 159</p>
<p>1 valve? 2 A. No, I'm not aware of that. 3 Q. You're not aware of that. Would it be any part of your 4 responsibility to look at that aspect when considering 5 this incident? 6 A. No, because my involvement throughout this has been in 7 relation to the response itself. 8 Q. The response to the spill? 9 A. To the oil slick. 10 Q. All right, I'll restrict the remaining questions to the 11 response itself, if that's how you see the ambit of what 12 you're saying. 13 Now, so far as the question of burning is concerned, 14 you would regard -- you gave a figure of something like 15 5 per cent after burning -- is this correct -- might 16 remain as suspended -- 17 A. No, no, no, burning, you would end up with some unburned 18 revenue. 19 Q. Yes, how much? 20 A. We've seen this happen in ship collision and fires. It 21 doesn't necessary always sink. Sometimes that residue 22 will -- oil of course is lighter than water. The 23 residue may well stay floating inside the boom that they 24 were using. 25 Q. Yes. Percentage?</p> <p style="text-align: center;">Page 158</p>	<p>1 those vessels I've mentioned was 2 per cent recovery. 2 Q. One of the problems was they didn't have enough vessels 3 and boom, did they, until halfway through? 4 A. No, that's not true. They didn't need that many more 5 vessels. They had response to and national response 6 cooperation all available with offshoring recovery 7 vessels there very quickly after the spill. 8 Q. That's not the evidence we've heard? 9 A. This is offshore recovery, I'm not talking about the 10 shore line. I'm talking about recovery in the sea. 11 Q. The shore line? 12 A. Yes. 13 Q. You agree it's a major oil spill? 14 A. Yes. 15 Q. You agree that it's not only concerned with the ocean 16 where it happened but also has affected the shore line? 17 A. Yes. 18 Q. And what you're talking about, and what Jonathan Porritt 19 was talking about in 1993, is recovery times and 20 permanent loss. 21 A. Mm. 22 Q. Are you aware that the Act is not talking about, 23 necessarily, permanent loss, is it? 24 A. No, it's not, but I was -- I am actually talking about 25 recovery times, those are some of the figures I've</p> <p style="text-align: center;">Page 160</p>

<p>1 quoted to you in terms of recovery. 2 Q. It will be for the jury to decide about recovery times 3 in terms of whether they're significant. 4 Just on your own basis, recovery process you've 5 indicated today -- and first you said three to five 6 years? 7 A. That was one lady, yes. 8 Q. That was one what? 9 A. That was one report, this is one lady, this is looking 10 at average times for all -- 11 Q. Well, you appear to be giving evidence, and I'm not 12 explaining, on the basis of what you've been told by 13 other people, and when it comes to booms and so forth, 14 that's acceptable, but that figure of 3.5, do you accept 15 it? 16 A. Do I accept it. 17 Q. Yes. 18 A. Yes, I do however, I mentioned if you talk about the Sea 19 Empress and John Moore's report, that covered most of 20 the recovery in a much shorter time. 21 Q. Yes, it could be, but three to five is how you started 22 and that's the figure which you accept? 23 A. It's one which is an average over the world. The reason 24 for that is, of course, the great variety of 25 temperatures, habitats and such like.</p> <p style="text-align: center;">Page 161</p>	<p>1 A precursor to that is the jury did ask for a copy 2 of the indictment -- I'm so sorry, a copy of the Act. 3 I don't know whether that's been provided? It has. Can 4 I therefore make final submissions in this way: it is 5 extremely important in any criminal case that at the end 6 of the day, and we're fast approaching it, a jury is 7 concerned, as his Lordship will say in a moment to you, 8 with the indictment as it is phrased, because the 9 indictment is derived from a statute, which you now 10 have, the statute is the responsibility of the 11 legislature, which is just across the square. So, the 12 fact that it could have been turned in different ways or 13 whatever, those are different issues. 14 The issues that arise out of the statute on which it 15 is based is right in front of you, and one of the points 16 I've just put to the witness, in fact, and he very 17 fairly answered it, and answered it in such a way that 18 I suggest to you that on both these counts, these two 19 defendants are guilty for these reasons, and they're 20 fairly -- I'm going to take them in a logical fashion. 21 First of all, there's no dispute of the agreed 22 facts, you need to have a firm finger in that page. 23 They're both chief executive officers of companies, in 24 one case that has caused the spill in the gulf, and in 25 the other case, that's the Tar Sands, two companies</p> <p style="text-align: center;">Page 163</p>
<p>1 Q. And it can differ depending on all those various 2 concerns of the environment in which it happens? 3 A. It can, indeed. 4 Q. Right. You're not suggesting, are you, that a recovery 5 period of three to five isn't a severe disturbance of 6 the ecosystem, are you? 7 A. I'm not suggesting that, but what I'm saying in this 8 particular thing, from all the evidence which people who 9 are working with shore lines at the moment is that they 10 are already seeing strong recovery going on right now. 11 Q. Right now. Let's deal with that. That's a year later. 12 You're not suggesting that 12 months of interference is 13 not serious, are you? 14 A. No, I'm not saying that, but in terms of world affairs 15 it's a short term event. 16 Q. Thank you. 17 MR PARKER: Does your Lordship have any questions? 18 JUDGE NORMAN: I have none. Thank you very much indeed. 19 MR PARKER: Thank you. 20 (The witness withdrew) 21 MR PARKER: My Lord, that's the case. 22 Closing Speech by MR MANSFIELD 23 MR MANSFIELD: I'm watching the clock as closely as I can. 24 My Lord, may I address the jury with final submissions 25 on behalf of the prosecution.</p> <p style="text-align: center;">Page 162</p>	<p>1 involved in creating tailings. So, in terms of actually 2 causing a hazard, there's no question: they have caused 3 a hazard. So, you can be sure about that. The question 4 essentially is, if you like, the size of the hazard, the 5 duration of the hazard, because as you -- if you look at 6 the -- I don't mind whether you look at the statute or 7 you look at the offence as it is set out in the first 8 count. It's "Extensive destruction, damage or loss", so 9 the question that is being posed here is not: is it 10 irrecoverable, because I'm just going to pause, 11 a completely different example, it's rather like birds 12 flying into windows and all the rest of it, which 13 I would say is very much on the margins of this case and 14 certainly don't involve ecosystems and certainly windows 15 were not designed in that way. 16 However, it's like saying in a war time situation: 17 oh well, we bombed Warsaw but they recovered. Sorry, 18 that won't wash, and that's why the act is very 19 carefully worded. That's an extreme example, I accept 20 that, and we're not dealing with that. 21 However, extensive destruction -- extensive is, of 22 course, a term of art, and you will have so bear in mind 23 those criteria, size, duration and impact, of 24 an ecosystem. The fact that it may recover, with or 25 without help from these two and their companies -- and</p> <p style="text-align: center;">Page 164</p>

<p>1 one appreciates, they have spent money and resources 2 and, of course, in one sense it's not just they're doing 3 it: they have to do this, in a sense, because of the 4 business potential of the company. They're not going to 5 ignore it and turn their backs, are they? So that isn't 6 really the point, how much money they've spent, very 7 welcome though it is. 8 The question is, in the first place should this have 9 occurred in this way? It has occurred. They are 10 strictly liable for this having occurred. I've raised 11 the question of warnings and documents missing and so 12 on. Actually, to some extent that's irrelevant as well. 13 Their company in one case caused the spill, and in the 14 other case -- the two companies -- are creating the 15 tailings. 16 And in the case of the gulf, the size of it, well, 17 it's there on a map, everybody agrees it's a large 18 spill. No one is talking about the fact that it isn't. 19 No one has really contended that the -- I'm going to 20 call it the dead area around the wellhead, is a dead 21 area. What is being said, perhaps, is: well, it's only 22 10 kilometres across, that's not very much. We're back 23 to the question: does it have to be 100, does it have to 24 be 200, but there's a dead area that's going to take 25 a long time to recover, it's going to take years to Page 165</p>	<p>1 witness has said maybe three to five, maybe a bit less. 2 I don't mind if he says it's only a year. That's the 3 point. A year is, we say, a substantial innovation of 4 an ecosystem. Whatever methods they use to try and 5 clear it up, it shouldn't have happened in the first 6 place and companies, if I could put it in a rather more 7 dramatic form, cannot be given a licence to spill and 8 kill provided they clear up the mess. That's what this 9 is about: strict liability and accountability for 10 companies who indulge in this for all sorts of reasons, 11 you know why they do. 12 The tailings is, really, unanswerable. The tailings 13 is unanswerable. You've seen the photographs, there 14 really is no issue here. You have one company owning -- 15 you don't really know, the second defendant knew 62, the 16 other thought it was 30 to 40 tailings. They both 17 agreed maybe 10 square kilometres. So we're dealing 18 with vast areas here. These are not ponds. 19 Interestingly, you'll see in the agreed facts, if you 20 wouldn't mind just looking at those -- you don't have to 21 if you don't want to be bothered with looking at agreed 22 facts at this stage. 23 If you look at agreed fact number 11, in the middle 24 of the paragraph, dealing with tailings -- I'm not even 25 dealing with the rest of the mining exercise that's Page 167</p>
<p>1 cover. The ecosystem is a biological community of 2 interdependent living organisms. 10 kilometres even in 3 oceans is a significant portion. But it isn't the bed 4 of the ocean, and what happened over four months. It 5 took four months for this spill to be, as it were, 6 terminated at source, never mind recovered on surface. 7 Even within four months, that is a serious hazard, 8 and part of this section is talking about putting, if 9 you like, life at risk. It's in the first count, it's 10 in the second count and it's in the third count. Birds 11 are used as the example in all those cases because birds 12 did die. 13 The fact that birds may die in other ways, either 14 running into bus windows, aircraft, or whatever it is, 15 or cats, is irrelevant. The fact that they may also be 16 threatened by other industrial pollutants in the delta 17 is irrelevant. If the cause here, that is the explosion 18 and the oil spill, itself is adding to a fragile 19 situation -- and I don't think anybody is really going 20 to say the numbers here are insubstantial, the actual 21 numbers of death and injury are insubstantial. The fact 22 of other deaths by other means again, is an irrelevance. 23 I suggest ... hazard it is in the gulf and the risk 24 that was posed to the deep sea within the dead area of 25 10 kilometres and that vast coastline, which the last Page 166</p>	<p>1 going on in the boreal forest, surface mining removes 2 forest lands and creates -- look at the phrase that's 3 been agreed "great lakes", not ponds, "great lakes" so 4 not tiddly little things, of toxic tailings. 5 So, there you have it. Vast areas, in one case 6 620 square kilometres, that's the second defendant. In 7 the other one, 400 square kilometres. 8 So, big areas of dead sea, effectively, can't be 9 used. Can't be recycled, can't be put back in 10 the river. The reason is, it's creating a risk, a risk 11 which neither company monitors. There's no public data 12 on what is going on. It just so happened that a large 13 number of birds landed on a particular occasion and died 14 very quickly. Well, that's pretty substantial. If you 15 need more than: is there a risk? There you have it. 16 The risk is serious and substantial, and this is to 17 an ecosystem that's been there for thousands of years, 18 can't be easily replaced, will take a long time to 19 reclaim. One only has to deal with thousands of years. 20 You have there, we say, with that risk to the migration 21 area which you've seen in the chapter, just the one 22 section of the report that we've put in that you can 23 see. This is one of the most critical areas on 24 the planet that has effectively been eroded and is being 25 eroded by all sorts of other means, and I'm Page 168</p>

<p>1 concentrating only on the tailings, which has not been 2 accepted by certainly the second defendant, it's about 3 25 per cent of the area that has already been, as it 4 were, attacked by these companies. 5 So, it is, therefore, in this sense, in this 6 particular set of accounts, I am going to use the 7 word -- because there's no evidence to suggest 8 otherwise, what has been created in Alberta along the 9 banks of the river that you will see on the plan, 10 the Athabasca River, is irrevocable as far as human 11 knowledge is concerned, there's no going back for the 12 foreseeable future, and that, I suggest to you, is 13 enough. 14 Therefore, we say, so far as ecocide is concerned, 15 it is proved beyond a shadow of a doubt in relation to 16 the Tar Sands counts, that's the last two counts, 2 and 17 3, and as far as Count 1 is concerned, obviously you 18 will give some consideration to reclamation, to 19 the efforts to, as it were, clean up afterwards, but at 20 the end of the day just examine how long that spill took 21 in the first place. The area that was covered, the 22 fragile mangrove swamps, the interdependence, as 23 Dr Boxall said. The problem with the mangrove 24 situation, that's all part of this count, dealing with 25 the gulf spill, and birds obviously inhabit that area, Page 169</p>	<p>1 transgressions growing too heavily, the high priest 2 would place all the sins upon the head of a goat and 3 send it up the mountain and see how the goat got along 4 with the local wolf. Not, you may think, morally sound. 5 Not, you may think, ecologically sound. It made 6 the villagers feel better. It didn't do much for the 7 goat. 8 Here, I invite you to concentrate upon these men 9 and, if you do that, it may make you concentrate 10 a little more closely upon the issues which have to be 11 determined by you. 12 In Count 1, you are going to have to ask yourselves 13 are you sure that the oil spill in the Gulf of Eden 14 didn't just cause damage to the ecosystem. There's no 15 question of that, is there? Of course it did to some 16 extent. But did it cause extensive damage to the 17 ecosystem? If it did so, and if you look at the 18 particulars of offence, which are set out in Count 1, 19 how is the ecosystem (inaudible) extent of the damage, 20 in a particular way, the prosecution allege, by severely 21 diminishing the peaceful enjoyment of some specified 22 inhabitants: birds. And the prosecution have pinned 23 their colours to the mast, the mast which flies in that 24 schedule prepared -- you've seen it, the coloured 25 schedule, injuring 2086 birds, killing 2303 birds and Page 171</p>
<p>1 is that whereas in other areas, possibly the ones 2 Jonathan Porritt was talking about in 1993, that there 3 isn't another ecosystem nearby that can feed in so it 4 will gradually recover, but there's not, not in the form 5 that it was before. That's the point of having this 6 accountability through this act on these advise and 7 their companies. 8 Thank you for your attention. 9 Closing submissions by MR PARKER 10 MR PARKER: Members of the jury, I'm going to turn in 11 a moment to the issues of fact, which you will have to 12 determine and consider when you are trying to reach your 13 verdicts in this case, but before I do, let me invite 14 you, please, to concentrate your minds upon 15 Robin Bannerman and John Tench. 16 The prosecution could, if they wished, have chosen 17 to prosecute the companies of which they are the chief 18 executive officers. They chose not to do so. The 19 prosecution have decided who will be the subject of your 20 deliberations. They, having no opportunity to do 21 anything about the matters which have been the subject 22 of the complaint, have had no choice either but to sit 23 there as defendants. 24 In biblical times when villagers living near yom 25 kippur felt the press of shame and guilt of their Page 170</p>	<p>1 putting birds at risk of injury. 2 That data, relied upon and produced by the Crown, 3 indicates the extent of the bird life loss which they 4 are able to level against the GPC for the explosion 5 which occurred back in April 2010. 6 You might be astonished that you could spill 7 250 million-gallons of crude oil into the Gulf of Eden, 8 and that the loss of life and the injury to life, bird 9 life, regrettable though it is, should thankfully be as 10 low as it was. If you were asked beforehand, how many 11 birds do you think that might kill? What would you have 12 said? 10 million, 20 million, 30 million? No, that's 13 the figure, their figure which they rely upon, and that 14 is the reason (inaudible) in cross-examination is not 15 even necessarily the top figure. It is the outside 16 figure, and it could be less. 17 This number is said by the prosecution to be an act 18 of ecocide. They say: of course, it's putting birds at 19 risk of injury. These figures are collated after 20 a year. Any further figures after that year are not 21 likely to be attributable to this spill. But they liken 22 it to crimes against humanity, war crimes, genocide, the 23 bombing of Warsaw. 24 We invite you to keep a sense of perspective and 25 reality here, and the act enjoins you to do that. If Page 172</p>

<p>1 you ask for a copy of the Act, and section 7 tells you, 2 it gives you some guidance, because there's precious 3 little guidance in this (inaudible). But the test to 4 determine the standard is dependent on size, duration 5 and impact. That is very important. That is why 6 recovery periods are important. That is why it's 7 important to carry out remedial works as GPC do, why it 8 is important that the coastline affected was reduced 9 from 1200 kilometres to 400 kilometres a year after 10 the event and diminishing.</p> <p>11 That is why the figure of 2086 and 2303 needs to be 12 seen in context. Size, duration and impact are 13 absolutely critical to your determination of whether the 14 damage admitted here was extensive damage to 15 an ecosystem and whether it severely diminished the 16 peaceful enjoyment of that habitat.</p> <p>17 I'm not going to rehearse the evidence because you 18 have heard it in the course of this trial, but you will 19 perhaps now see why we concentrate on how the clean up 20 operation was conducted and how effective the clean up 21 operation has been in this particular case, probably 22 surprising every expectation of everybody who first saw 23 television pictures of the gushing oil into the ocean 24 and all the media attention which those initial pictures 25 attracted, and now you, the jury, have heard the worst</p> <p style="text-align: center;">Page 173</p>	<p>1 extraction operation in Alberta, and used that to try to 2 suggest that this man, in his role as a chief executive 3 officer, for a pond which his company operates, is 4 guilty of ecocide and that he is somehow responsible for 5 causing extensive damage to the ecosystem.</p> <p>6 By severely diminishing the peaceful enjoyment of 7 the birds that are in it, and as the prosecution set out 8 in the indictment -- they frame it, but they have to 9 prove it, by putting birds at risk of injury or death, 10 you have heard no evidence at all of a single bird 11 injured or killed in any tailing pond operated by GPC. 12 You have heard that operations setting up and the use of 13 those ponds is entirely lawful, carried out under the 14 authority of the government of Canada. Somehow, the 15 prosecution say that by acting within the licences 16 provided to them on its own ponds, Mr Bannerman is 17 guilty of this crime against nature, ecocide, and yet 18 they cannot point to a single bird killed (inaudible).</p> <p>19 We, in fact, Mr Bannerman, you may think, 20 realistically and sensibly says there may not be ... of 21 course we accept there's bound to be some loss here. 22 That's true. Let's not be (inaudible) about it, but 23 that's not the issue: the issue is the Crown seeking to 24 convict, to ask you to convict this man of a crime 25 against nature without having any data to suggest that</p> <p style="text-align: center;">Page 175</p>
<p>1 that the prosecution can put forward as the damage to 2 bird life which they may (inaudible) this case of 3 Robin Bannerman, scapegoat extraordinaire.</p> <p>4 If there had been millions of birds killed, or fish, 5 the destruction and irrecoverable loss of an ecosystem 6 then one might very well understand why the charge is 7 brought, although you might have thought it would be 8 brought in the first instance against the company, not 9 the chief executive officer who was in Venezuela at the 10 time. That is not the case.</p> <p>11 We invite you to look very carefully at the meaning 12 of "extensive damage" in this case, and that is to be 13 seen in proportion.</p> <p>14 I remind you, before I move onto Count 2, that every 15 activity of the company in the clean up operation -- 16 which was, you might think, enormous, the amount of 17 money they spent trying to get the habitat back, was 18 lawful, controlled and regulated, and somehow this man 19 is to be held responsible nonetheless.</p> <p>20 Count 2, the tailing pond operated by GPC. The 21 prosecution say again, extensive damage to the ecosystem 22 has been caused. It may be that you think that oil 23 extraction from the Tar Sands is outrageous, taken as 24 a whole. The prosecution's case appears to be based 25 upon a document which looks at the whole of the oil</p> <p style="text-align: center;">Page 174</p>	<p>1 the risk they say has been in place for five years has 2 actually eventuated.</p> <p>3 How does that amount to extensive damage within 4 the meaning of the act? The answer is it does not.</p> <p>5 If it had been the case that GPC was responsible for 6 all of the tailing ponds in Alberta, and all of the 7 damage caused by oil extraction from the Tar Sands, 8 well, you might think that's a different matter. That 9 would be a (inaudible) and that would be the chief 10 executive officer of a company who would be responsible, 11 would it not, for the destruction of an ecosystem, but 12 the Crown have used this act, this powerful legislation, 13 unheard of in this court before, to try to convict this 14 man for the limited operations of GPC which have, in 15 fact, say the prosecution, not in fact led to any 16 provable (inaudible) at all.</p> <p>17 They have, you may think, picked the wrong target. 18 I am not here to represent the government of Canada or 19 Alberta or to defend oil sand extraction or to defend 20 oil companies globally, I am here to look after 21 Mr Bannerman's interests and to stop, insofar as I can, 22 the prosecution using the most enormous (inaudible) to 23 crush this particular (inaudible). They have picked the 24 wrong target and limited it by their own actions to the 25 tailing ponds run by GPC.</p> <p style="text-align: center;">Page 176</p>

<p>1 What of Count 3? John Tench, the chief executive 2 officer of Glamis. His situation is different in two 3 aspects from that of GPC. First of all, there is some 4 identifiable damage here, 1600 birds did die as a result 5 of the failure of the company to activate its canons 6 during a migratory bird passage. Second, that failure 7 was a -- although I suggested it to Mr Tench, it may or 8 may not have been a breach of licence because he said it 9 was a company initiative to use the cannon in the first 10 place, but the consequence was 1600 birds died. 11 The same test under section 7 applies for both 12 counts 2 and 3 as it did to 1. The test to determine 13 whether ecocide is established is determined on size, 14 duration and impact. I didn't even mention it in Count 15 2. I hope you will think it an understandable oversight 16 because it's hard to talk about size, duration and 17 impact when there is no evidence of any loss at all. 18 Here in Count 3 there is: 1600 birds. Look at that, 19 please, proportionately. If Mr Tench or the chief 20 executive officer of a company which was responsible for 21 ravishing of the Alberta Tar Sands, that company 22 single-handedly -- and he was charged not just with the 23 operation of tailing ponds, but with the surface mining 24 which is going on, and the destruction of the boreal 25 forest which is not charged here, it focuses on the Page 177</p>	<p>1 John Tench. Limited to 1600 birds in one day. They 2 have no other evidence of any other loss. 3 Was it flippant to introduce United States and 4 Canadian data of causes of bird loss? It was not 5 flippant at all. It was intended so that you, in 6 looking at the size of the impact could really see 7 whether 1600 birds lost on that day in fact amounts to 8 ecocide and means that he and Robin Bannerman should 9 themselves be subject to the sanctions in this act when 10 an individual as opposed to a company or, dare one say 11 it, a government is charged with crimes of this type. 12 Members of the jury, do not, please, be tempted to 13 fall into the trap of penitence and allow your since to 14 be your since, the villagers' sins to be expunged by 15 some sacrificial goat on the slopes of yom kippur. 16 Summing-Up 17 JUDGE NORMAN: Thank you, Mr Parker. 18 Members of the jury in the next 15 minutes it's my 19 task to sum the case up to you. Usually that would 20 involve me directing you on the law and reminding you of 21 the salient facts. 22 As I shall shortly be telling you -- I will tell you 23 now, indeed -- my task in this case is to direct you on 24 the law and you take the law from me. You don't make 25 your own judgment on it, but you determine the facts, Page 179</p>
<p>1 (inaudible) operating those mines, that might be 2 a different matter. He might, then, through his company 3 be said to be responsible for ecocide for the 4 destruction of habitats. I don't know, because I'm not 5 here to represent his company and his company is not 6 responsible, as it happens, for the destruction of 7 the Alberta Tar Sands, full stop. 8 If his company were responsible for that damage and 9 were he, no doubt there would be a representative, but 10 the prosecution have not decided to charge the company: 11 they've gone for a scapegoat and the limited damage they 12 claim is the subject of ecocide of 1600 birds on that 13 incident. That is a highly regrettable incident, of 14 course. Does it amount in terms of size, (inaudible) 15 and impact to the destruction of a habitat? It does 16 not. What they would, no doubt, like to do if they 17 could, the prosecution, is prosecute whoever was 18 responsible for permitting the boreal forests to be 19 exploited -- and I use the word without any tendentious 20 meaning, by development companies, but they can't. 21 So, they try to find somebody else to scapegoat, and 22 that's what's happened here. 23 But, in doing that, it has necessarily narrowed and 24 limited the ambit of the damage which they were 25 beginning to be capable of laying at the door of Page 178</p>	<p>1 you are the sovereign judges of the facts in this case, 2 and for that reason, because of the time constraints, 3 I shall do very little by way of reminding you of those 4 facts: only where it is absolutely necessary in order 5 for me to make a point, or to illustrate a point of law. 6 The burden of proof on each of these counts is on 7 the prosecution. They must prove the count, the 8 individual count against each defendant so that you are 9 sure. You will, in due course, be told by me that, 10 unusually, the verdict which will be accepted from you 11 will be one of a plain majority of you, so that you 12 aren't seeking to ensure that the whole of the jury is 13 satisfied so that the jury collectively is sure: each 14 individual one of you when you determine the guilt or 15 innocence of the defendant in question on the charge in 16 question will ask yourself the question: am I sure that 17 he's guilty. If you are sure that he's guilty of that 18 charge you will vote for guilt. If you are not so sure, 19 you will vote for innocence, and that's his entitlement 20 under the law. 21 You will, as I've indicated, form your own views on 22 the facts. Counsel have made representations, made 23 submissions, and no doubt you'll bear them in mind, but 24 it's for you to take and make your own decisions, which 25 is important in this case because the decision that you Page 180</p>

<p>1 reach ultimately will rest on a series, in each case 2 a series of two steps in which you make judgments on 3 matters, in which you bring your experience of life to 4 form the judgment, that you will make the judgments and 5 not be unduly swayed by what others might suggest to you 6 in relation to. 7 You will treat each defendant separately and you 8 will consider each count against each defendant 9 separately. In the case of Mr Bannerman, therefore, you 10 will treat the two counts separately, and in the case of 11 Mr Tench you will also treat him separately. 12 You have been handed a copy of the act. That's 13 unusual, but you shouldn't use that copy that's been 14 handed to you to gainsay what's in the indictment. The 15 indictment has been framed in the form that it is before 16 you. It has been placed before you, it hasn't been 17 altered by any direction that I've made, so if you find 18 the facts alleged in the indictment proved, then the 19 offence is made out. It's not a matter for you, it 20 shouldn't complicate your task by considering whether 21 the indictment is any way gainsaid by the terms of the 22 statute itself. 23 There are three points of the statute, however, 24 which I do draw to your attention as matters of law. It 25 is not a defence for any defendant to say the operations Page 181</p>	<p>1 that there was an extensive oil leak which affected 2 the ecosystems of the Gulf of Mexico, and which was 3 caused by areas of platform crew members who were under 4 Mr Bannerman's authority as chief executive officer of 5 GPC. It is, therefore, the case in the light of those 6 agreed facts that Mr Bannerman is guilty of the offence 7 if, but only if, ecocide was caused by the operations on 8 or controls from the (inaudible), and the question as to 9 whether ecocide was caused by those operations, 10 therefore, that you have to turn your attention. 11 There's three stages of that, of which the third 12 is -- of which one, I'm sorry, the first, is effectively 13 conceded: that is that there was damage to ecosystems in 14 the gulf. You've heard that there were two ecosystems 15 in this case under consideration: there were the coastal 16 ecosystems and the ocean ecosystems, and it's accepted 17 that both ecosystems were damaged. 18 The important question that you have to determine in 19 relation to that issue is whether the damage was 20 extensive. That's effectively the first question you 21 have to ask and answer, and when addressing that 22 question, you have to have regard to the tests in 23 section 7: size, duration, impact, for example in this 24 case the size of the affected area on the coastal 25 ecosystem that was 1200 kilometres. The size of the Page 183</p>
<p>1 were licensed according to national rules and were 2 operated in accordance with the terms of those licences, 3 or that, in relevant cases, clean up procedures were 4 carried out under the direction of national authorities. 5 You will have noticed, if you looked at the act, I think 6 it's under section 52, there's provision for national 7 authorities to be brought before the court in 8 appropriate circumstances, and so that of itself is not 9 a defence. Although it's a relevant matter, it's not 10 a defence. 11 Secondly in relation to the act, it does itself 12 contain the definition that you have heard of 13 an ecosystem, so that's a definition that you will 14 apply. You find that definition at the very -- at the 15 very end of the act in the definitions section, which is 16 section 33: 17 "An ecosystem means a biological community of 18 interdependent living organisms and their physical 19 environment." 20 And the third point that I draw to your attention on 21 the Act is that both matters have ... stark test which 22 engages the judgments that you have to form in this case 23 when you determine whether ecocide is established you 24 have regard to the tests of size, duration and impact. 25 Turning to Count 1 of the indictment, it is agreed Page 182</p>	<p>1 affected -- of the damage to the ecosystem, the ocean 2 area, was very much larger in terms that there was 3 an oil spill that spread throughout the gulf. So, those 4 are issues of size. 5 Then you're required by the Act to have regard to 6 duration. The coastal ecosystem, you have heard 7 evidence, is in the process of being restored, perhaps 8 not in the same form with some alteration going on, but 9 in this process of being restored. 40 kilometres of 10 coastline now are affected. The mangrove swamps are 11 recovering, and the process leading to stability will 12 take approximately ten years in terms of the ocean 13 ecosystem. The fish have returned in numbers, but the 14 dead zone will remain for ten years or more and you've 15 heard very little evidence as to what -- and this is the 16 next question -- the impact of the dead zone is. 17 So far as impact is concerned, you have the evidence 18 as to, it's partly duration, but partly there will be 19 some alteration of the coastal system, or the coastal 20 ecosystem, as you've heard. Some species will perhaps 21 not return and may be replaced by others. So there's 22 a matter that you throw into the judgment in terms of 23 the coastal -- of the deep ocean ecosystem. As I've 24 indicated, you've heard little evidence of what the 25 actual impact of the dead zone of 5 kilometres around Page 184</p>

<p>1 the ring is in fact.</p> <p>2 Here's your judgment: you consider the issues of</p> <p>3 facts in relation to those three tests and ultimately</p> <p>4 you form a judgment as to whether, in the light of</p> <p>5 balance and the weighting that you apply, that there is</p> <p>6 extensive damage to the ecosystems of the gulf.</p> <p>7 If you find there's not such extensive damage, then</p> <p>8 that's an end of the matter: the defendant in relation</p> <p>9 to that count is not guilty.</p> <p>10 If, however, you find there is extensive damage,</p> <p>11 then you go onto the next important question on the</p> <p>12 indictment, which is whether that damage is to such</p> <p>13 an extent that the peaceful enjoyment by inhabitants,</p> <p>14 and the inhabitants includes the birds and the fish and</p> <p>15 so on, has been severely diminished there by. The</p> <p>16 prosecution rely upon three elements of damage to make</p> <p>17 good their assertion that there's been severe diminution</p> <p>18 of the inhabitants of the environment (inaudible) you</p> <p>19 have in front of you. But, causing injury to a number</p> <p>20 of birds, causing death to a number of birds. You don't</p> <p>21 have to find out the exact number of birds that have</p> <p>22 been injured or died, you have to find sufficient</p> <p>23 numbers of birds would have been injured or died to</p> <p>24 enable you to form the judgment, if you do, that there</p> <p>25 was severe diminution of peaceful enjoyment.</p> <p style="text-align: center;">Page 185</p>	<p>1 been caused by the creation of tailing ponds. That is</p> <p>2 because it is agreed that tailing ponds have been</p> <p>3 created by GPC in the Tar Sands area of Alberta and</p> <p>4 Canada, and operations carried out under his authority</p> <p>5 and, therefore, if the result is ecocide, then he's</p> <p>6 guilty of the events, but only if. You'll ask</p> <p>7 yourselves the same series of questions as I've</p> <p>8 indicated before, which essentially are two: in relation</p> <p>9 to the ecosystem in question, the ecosystem on the</p> <p>10 evidence would be the ecosystem of the Canadian boreal</p> <p>11 forests, which, in terms of relevance to this charge, is</p> <p>12 as a habitat for very large numbers of birds. You have,</p> <p>13 I think, been given the figures, but birds both</p> <p>14 resorting there for their breeding grounds, and other</p> <p>15 birds passing over there in terms of migration.</p> <p>16 So, the ecosystem is a large ecosystem of which the</p> <p>17 tailing ponds form a part and on which they have</p> <p>18 an effect. It's in relation to its -- the</p> <p>19 interdependence of those elements, the ecosystem tailing</p> <p>20 ponds, that you then have to ask whether damage has been</p> <p>21 caused but, most specifically, whether that damage has</p> <p>22 been extensive, having regard to size, duration and</p> <p>23 impact, and whether, in the case of Mr Bannerman, and in</p> <p>24 the case of the GPC tailing ponds, whether the effect</p> <p>25 has been the severe diminution in the peaceful enjoyment</p> <p style="text-align: center;">Page 187</p>
<p>1 The third element is putting birds at risk of</p> <p>2 injury. I think it's in terms of approaching that</p> <p>3 issue, it's better for you really to think in terms as</p> <p>4 to whether the conditions created were likely to cause</p> <p>5 injury or death to the birds because, simply putting the</p> <p>6 birds at risk of injury doesn't put enough flesh on the</p> <p>7 bones of that particular test.</p> <p>8 When considering that test, you equally have to</p> <p>9 apply -- or that issue, the tests of size, duration and</p> <p>10 impact, and I won't go through them again and there will</p> <p>11 be different weighting and different considerations in</p> <p>12 relation to that of diminution. But, ultimately, again,</p> <p>13 as I've indicated on the other, you form a judgment, and</p> <p>14 if you, the individual juror, are sure that there has</p> <p>15 been both extensive damage to the ecosystems and that</p> <p>16 the result of that has been severe diminution of</p> <p>17 peaceful enjoyment by, in this case, the fauna of the</p> <p>18 area, then you find the defendant guilty but, if not,</p> <p>19 then you find him not guilty.</p> <p>20 The indictment in relation to Count 2 deals with the</p> <p>21 ecosystems in the Canadian boreal forest but ties it</p> <p>22 specifically to the damage caused to them, or allegedly</p> <p>23 caused to them, by the creation of the tailing ponds.</p> <p>24 In relation to the tailing ponds, again, the</p> <p>25 question that you have to decide is whether ecocide has</p> <p style="text-align: center;">Page 186</p>	<p>1 of the ecosystem by the inhabitants, being the birds.</p> <p>2 In this case, the prosecution assert that that</p> <p>3 diminution of enjoyment by the birds has been by putting</p> <p>4 them at risk of injury.</p> <p>5 Now, the defence say that you've not heard a word of</p> <p>6 evidence from the prosecution that the -- any birds</p> <p>7 were, in fact, injured, but no doubt when considering</p> <p>8 the matter you'll bear in mind these two questions,</p> <p>9 facts: that it is accepted by the defence that these</p> <p>10 tailing ponds in question are highly toxic. It is also</p> <p>11 accepted by the defence that no measures have been put</p> <p>12 into place to prevent birds landing on those tailing</p> <p>13 ponds, and it's in the context of those facts the</p> <p>14 prosecution make the assertion they do, which they must</p> <p>15 make good to the exercise in your judgment that you are</p> <p>16 sure, that there's risk of injury such that there's been</p> <p>17 a severe diminution in enjoyment of the ecosystem by the</p> <p>18 inhabitants of the territory.</p> <p>19 In relation to Count 3, again, the sole issue,</p> <p>20 because of the agreed facts, is whether there has been</p> <p>21 ecocide and the same two important questions arise. In</p> <p>22 relation to the second of those questions, where there's</p> <p>23 been severe diminution in the peaceful enjoyment by the</p> <p>24 bird life of that territory, the prosecution rests their</p> <p>25 case upon the -- the prosecution make two elements of</p> <p style="text-align: center;">Page 188</p>

<p>1 their case: one, that bird are put at risk of injury 2 and, secondly, that 1600 birds have been caused to die. 3 So far as birds being put at risk of injury is 4 concerned, the issue is similar, but not precisely the 5 same as that in the GPC count, because in relation to 6 that you have heard that Glamis, the company, have put 7 in place canons to scare birds off, and there has been 8 no evidence before you that save for that occasional 9 question when they weren't working when 1600 birds died, 10 that that's not an effective (inaudible) in the other 11 related count Mr Bannerman on behalf of GPC has said 12 that they don't use canons because they don't think 13 they'll be effective. 14 But in this count -- and you consider each count 15 separately, Glamis has asserted that they do have in 16 place the protection and that it works with that 17 exception, and there's no evidence, in fact, to 18 contradict that. 19 As far as the causation of 1600 birds dying, again, 20 bearing in mind you're applying the same test of 21 duration, impact and injury, the stark issue before you 22 on that is that this is something that happened, birds 23 died suddenly, it is said, on an occasion when 24 unexpectedly, so far as Glamis is concerned, the 25 migration started early and therefore the canons were</p> <p style="text-align: center;">Page 189</p>	<p>1 THE FOREMAN OF THE JURY: Yes. 2 THE COURT USHER: Do you find Mr Bannerman guilty or not 3 guilty of Count 1? 4 THE FOREMAN OF THE JURY: Not guilty. 5 THE COURT USHER: What number convicted and what number 6 acquitted. 7 THE FOREMAN OF THE JURY: Three convicted, nine acquitted. 8 THE COURT USHER: Has the jury reached a verdict upon Count 9 2 upon which a majority are agreed. 10 THE FOREMAN OF THE JURY: Yes. 11 THE COURT USHER: Do you find Mr Bannerman guilty or not 12 guilty of Count 2? 13 THE FOREMAN OF THE JURY: Guilty. 14 THE COURT USHER: What number convicted and what number 15 acquitted. 16 THE FOREMAN OF THE JURY: The decision was unanimous. 17 THE COURT USHER: Has the jury reached a verdict upon Count 18 3 of this indictment upon which a majority are agreed? 19 THE FOREMAN OF THE JURY: Yes. 20 THE COURT USHER: Do you find Mr Tench guilty or not guilty 21 of Count 3? 22 THE FOREMAN OF THE JURY: Guilty. 23 THE COURT USHER: What number convicted and what number 24 acquitted? 25 THE FOREMAN OF THE JURY: The decision was unanimous.</p> <p style="text-align: center;">Page 191</p>
<p>1 not in operation. 2 Members of the jury, that is all I have to say. 3 I am afraid it's taken longer than 15 minutes, in 4 directing you, and it's now time for you to consider, 5 when the bailiffs have been sworn, for you to consider 6 your verdicts in the case. 7 Remember what I said to you earlier: the verdicts 8 which will be accepted will be verdicts in each count, 9 majority verdicts, more will find the defendants guilty 10 than will find them innocent with the defendant on that 11 particular count innocent, and when you return your 12 verdict the foreman will be asked how many were in 13 favour of that particular verdict and how many were 14 against. You're not going to be asked to identify which 15 of you is in favour and which of you is against. Thank 16 you. 17 Could the jury bailiff please be sworn. 18 (Jury bailiff sworn) 19 (The jury retired to consider their verdicts at 3.52 pm) 20 JUDGE NORMAN: I think we have a verdict. 21 Shall we call them in. 22 (In the presence of the jury) 23 THE COURT USHER: Would the foreman please stand. Has the 24 jury reached a verdict upon Count 1 of the indictment 25 upon which a majority are agreed?</p> <p style="text-align: center;">Page 190</p>	<p>1 THE COURT USHER: Thank you. 2 JUDGE NORMAN: Thank you very much, Mr Foreman. 3 I think that brings proceedings to a close. I don't 4 think we can proceed any further. 5 MR PARKER: I'm not going to ask for sentencing. 6 MR MANSFIELD: May I, on behalf of the bar and others thank 7 your Lordship very much, and also the members of the 8 jury for their patience and understanding. Thank you. 9 JUDGE NORMAN: Thank you for proceeding the case with care. 10 MR MANSFIELD: Thank you very much. 11 JUDGE NORMAN: We will adjourn the court. 12 (The Court adjourned) 13 (5.10 pm) 14 15 16 17 18 19 20 21 22 23 24 25</p> <p style="text-align: center;">Page 192</p>

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