QUEENSLAND COAL MINING BOARD OF INQUIRY

Coal Mining Safety and Health Act 1999

Establishment of a Board of Inquiry Notice (No 01) 2020

Before:

Mr Terry Martin SC,
Chairperson and Board Member

Mr Andrew Clough,
Board Member

At Court 17, Brisbane Magistrates Court
363 George Street, Brisbane QLD

On Wednesday, 7 April 2021 at 10am
(Day 24)

THE CHAIRPERSON: Ladies and gentlemen, just before we start, to let you know the scheduling for the day, Mr Parmar is the first witness now, and then the second witness today is Mr Sellars, but he won't be until 2pm. Thank you, Mr Hunter.

MR HUNTER: May it please the Board, I call Bipin Parmar.

<BIPIN PARMAR, sworn: [10.02am]

<EXAMINATION BY MR HUNTER:

MR HUNTER: Q. Sir, would you tell us your full name?
A. Bipin Parmar.

Q. What's your occupation?
A. I'm an electrical engineer.

Q. Where do you work?
A. At Simtars as a principal engineer.

Q. How long have you been at Simtars?
A. Thirty-plus years.

Q. What does your current role at Simtars involve?
A. I'm a principal engineer, managing product certification and auditing of manufacturers and service facilities.

Q. Can you tell us in broad terms what your experience is in the mining industry?
A. Okay. We deal with a lot of products that are used in underground coal mines, like electrical motors and machines, and I'm in the process of assessment and testing of that product and then certification. Subsequently we audit the manufacturer to ensure that the product that they have submitted for testing is exactly the same as what they are producing in mass quantities. So I get involved in that.

The other aspect of it is auditing service facilities that prepare and overhaul the certified equipment.

And then the other aspect of it is that we have non-metallic materials, fixtures and fittings, that are used in other hazardous areas, like petroleum and gas refineries, power stations and so on - we do product

testing and thermal endurance testing for those end users. We issue reports based on our assessment and testing.

Q. Can you give us an idea of the range of items that you test and certify?
A. It could be from light fittings, solenoids, motors, substations, up to a longwall, an underground coal mine longwall.

Q. Obviously what we are concerned about here is a particular type of polyurethane resin.
A. Yes.

Q. Is that something that you have been involved in the testing and certification of before?
A. We don't certify resins as such. We do testing, material testing. When you have a product that's encapsulated, the product that's encapsulated is assessed and tested, and then when it is then used as an electrical product, the encapsulation itself, then we certify that product as an encapsulated, for example, solenoid. So we would do that as part of the certification.

Q. You were engaged to test a product known as Strata Bond HA; correct?
A. Correct.

Q. Perhaps if we could have the PowerPoint up on the screen, Mr Operator, please. The Strata Bond HA is a product that you understand is manufactured by a company known as DSI?
A. Correct. Well, actually, they are the end - they are the distributors in Australia.

Q. Distributors, I'm sorry. I will make sure that I'm using the correct language. It is distributed by a company known as DSI?
A. Yes.

Q. You were requested to do some testing of it?
A. Correct.

Q. Can you explain the testing that you were requested to do?
A. Yes. When a non-metallic product is used in an underground coal mine, there is a guidance document that Mines Department have issued, MDG, Mines Department

Guidance, document 3608, and that guidance document lists a number of standards and test methods. For this particular Strata Bond material, we identified three particular tests: one was electrical resistance test, the other one was spark incendivity test and then the exothermic temperature measurement test.

Q. So the testing you did was in accordance with this regulatory guideline from New South Wales that we can see referred to on the screen?
A. That's right.

Q. Was there anything about the test that involved an attempt by you or those assisting you to somehow replicate the conditions in an underground coal mine on a longwall?
A. Very difficult to replicate an underground coal mine. Each mine itself has a different atmosphere, different conditions, and therefore to replicate a mine scenario would be very difficult to do in a laboratory, and the standard itself, the MDG 3608, specifies the test criteria, so the testing is done in accordance with those test criteria and not the mine's conditions.

Q. Did you receive some assistance from DSI in --
A. Yes, in preparing the material itself.

Q. Can you explain what assistance you got?
A. A representative of DSI attended Simtars and we had a meeting with him. We did a risk assessment to basically mitigate our exposure of our staff to that part, and then we actually asked that person to prepare the samples, the product, for our testing. The first set of tests that we did was the electrical resistance part, and so we asked him to prepare a sample that was roughly in excess of 300 by 300 and in excess of 3mm. He poured that sample outside, and when it was cured, we brought it in, conditioned it and then tested it.

Q. What about for the other tests that were done?
A. Yes, for each test, we had the DSI representative prepare the product, and we gave instructions as to now fill the cups or pour into a vessel and so forth.

Q. Can you just in general terms explain the three criteria that you tested against and the relevance of them, please?
A. Right. Under clause C5, which is the electrical

resistance test, the acceptance criteria is that the resistance of the surface of that product must not exceed 300 megaohms. So that was number one.

Q. Before you go on, what's the significance of the resistance to an electrical current?
A. If a product is conductive, then it does not resist the capability to hold static. It will drain - if it is bonded to ground, it will drain to ground. If it is a good insulator, then it has the propensity to hold static charge, and that static can then accumulate, and if it is a large enough concentration, the charge density would be such that it will jump a gap, and if you get something that's in the vicinity of that material, it can cause a spark discharge and that spark discharge can cause an ignition.

Q. When you talk about 300 megaohms - ohms are a measure of resistance?
A. That's right.

Q. And so that's the threshold --
A. That's right.

Q. Can you then tell us about the second test?
A. The guidance document says that if the material doesn't pass the 300 megaohm test, then you can do a further test, and the further test is done to clause C9, which is the spark incendivity test. If a material is a good insulator, then what happens is that you would transfer a charge by a Van de Graaff generator on to the --

Q. A what generator? I'm just thinking that this is being transcribed.
A. A Van de Graaff generator.

Q. Thank you. So you transfer a charge using a Van de Graaff generator?
A. Yes, and then remove that from the point contact, remove it away. Then there is a test that's described in C9 where you have a test cell, and in that test cell you've got a gas, that's ethylene gas, and that gas is in that area of the cell, and when you approach that test cell to the sample, if the material has sufficient charge density, it will jump because the cell is earthed to ground, and then if it does jump, it will ignite the gas, and if you get ignition, that's considered to be a failure.

Q. The gas in question was ethylene?
A. That's right.

Q. What's the ignition temperature for ethylene?
A. Ethylene, the ordinary ignition temperature is about 450 degrees centigrade.

Q. And then the last test, the exothermic ones - can you explain that?
A. Yes. The exothermic test itself - basically there are two products, products A and B. When they are mixed, the mixing of it itself is a catalyst and that generates heat. That's why it's exothermic. That heat that's generated is what we are trying to measure in a standard test cup.

Q. The next slide, slide 4, shows the manner in which the electrical resistance test was conducted.
A. Correct.

Q. Can you just explain what we are looking at here, please?
A. Right. What happens is the two - the centre probe, which is the smaller cylinder - I will point it out, so that's the centre cylinder, and then the outer ring, which is that one there. The voltage is applied between the outer ring and the centre cylinder of around about 500 volts, and we measure the current that's drawn across the sample. Then we work out the ohms load, we work out the resistance of that surface for that.

Now, obviously with a product that is poured in the manner that it has been, it is not absolutely smooth and flat, and therefore the contact area of the electrodes isn't as good as it could be if it was absolutely flat and smooth.

Q. What was the result of the electrical resistance test?
A. In the other table - I don't think it's in the PowerPoint, but in my actual report itself - there were various results ranging in gigaohms, so several hundred gigaohms, and so it indicates to me that the material is highly resistive.

Q. But those figures may have been somewhat inflated because of the --
A. Poor conduction.

Q. -- surface not being completely flat?
A. Correct, that's right.

Q. That was a result that was in excess, though, of the 300 megaohms?
A. That's right.

Q. So you then went on to do the spark incendivity test?
A. Correct.

Q. Does this slide, number 5, show the equipment that was used to do that test?
A. Yes. In the photograph on the left, which is the test cell, you can see the copper ball. That's the conductor. That's grounded. Then in that cell itself, you've got ethylene gas flowing at 5.8 per cent ethylene in air. When you approach that cell to the sample, which is that one here, if the sample has sufficient charge density, it will jump from the sample on to the test cell, and if the charge itself is of sufficient magnitude, it will ignite the gas.

The Van de Graaff generator is the one you can see on the right-hand photograph, that's the silver ball. And the meter that's in the middle, that's the electrostatic volt meter, so that indicates how much voltage that the Van de Graaff generator is transferring across to the sample, so we actually can physically see that the charge has transferred across on to the sample.

Q. What can you tell us about the atmosphere that was present in the room when this was being done?
A. We monitor the atmosphere in the room. So we made sure that the room is at about 23, 24 degrees - it's in my report - and the humidity is around about 50 to 60 per cent relative humidity.

Q. That level of humidity is a level at which, if it is going to spark, it will?
A. It will spark, that's right.

Q. So what happened when you undertook that testing?
A. Right. Remember, now, we are using the Van de Graaff generator to transfer charge on to the sample, so when you approach the Van de Graaff generator to the sample, you transfer from the Van de Graaff generator on to the sample, but then when you move it away from it, not all the charge

transfers on to the sample; some comes back on to the Van de Graaff generator, so the voltage drops. And that's the issue, that this test itself is not fully conclusive because we haven't actually quantified the quantity of charge on the sample for it to discharge.

Q. But when you brought the test cell in proximity to the PUR sample, did you get a spark?
A. Yes - no, it did not spark. There was no ignition. We tested it 50 times on one surface, then we changed the other surface, then we changed to a larger sample size, and so in total we tested three different sizes, and in none of those conditions did we get a spark ignition.

Q. The next slide, slide 6, does that show a larger piece of PUR?
A. That's right, yes. It's not of constant thickness because you can see some of the area is transparent, and that's purely because the way it was poured, in some cases it was curing as it travelled across the tray, and so you've got thick and thin areas, as it would be in a mine.

Q. So am I right in understanding your evidence that with respect to the three different surfaces or samples of PUR that you tested, in respect of none of them did a spark jump from --
A. That's right. None of them actually caused ignition, yes.

Q. Can we move, then, to the exothermic tests. This is slide 7. There were a number of different tests done. Can you explain what we're looking at here on slide 7?
A. Yes. The two silver vessels there - inside that vessel is a thermocouple. That's monitoring the ambient temperature. Any influence of movement of air is dampened, and so you actually get a static temperature reading. So thermocouples 10 and 11, TC11 and 10, are the ambient room temperature.

Then in the cups themselves, each cup has three thermocouples. The next slide has that in a graphical layout. Each thermocouple in the vessel, so samples 1, 2 and 3 - you've got thermocouples 1, 2, 3; 4, 5, 6; 7, 8, 9. The lower temperature, lower thermocouples are TC1, TC4 and TC7; the middle ones are TC2, TC5 and TC8; and the upper thermocouples are TC3, TC6 and TC9.

Q. What's the volume of PUR that was put into each of those?
A. The standard specifies a particular volume. It's 200ml. That 200ml was injected into the cup by the DSI operative, and we monitored the temperature along, on the three thermocouples. So the first time we did the test, I think the next graph shows that.

Q. I will come to the next slide in a moment. Just before we go to that, can I ask you about the ambient conditions in the room where this was done?
A. Yes. This is done in a lab condition, so 21.9 degrees was the temperature that we measured in the room. We then got some feedback from the inspectorate that said that the mine itself could be at a higher ambient, up to 38 degrees centigrade, and so we concluded this test and we said once this test is finished, we will then do a second test at a higher ambient.

Q. The mixing of the PUR, where was that done?
A. Because of the toxicology of that product --

Q. It's a carcinogen - yes?
A. A carcinogen, that's right. So that was down outside in a bunded area, with some fans and ventilated, so none of the persons are exposed to it, including the DSI operative. In our risk assessment, we've said that you had to wear PPE and all that kind of stuff. So that was done outside, and the ambient outside at that time was around about 20 degrees centigrade. Then the material was decanted into the actual mixing tubes and then brought into the lab and injected into the cups in the lab.

Q. The next slide shows the profile of the heating of the product as measured at the various thermocouples?
A. That's right.

Q. We can see thermocouples 1 through to 11. Are 10 and 11 the two ambient temperature thermocouples you referred to?
A. That's right, yes.

Q. Those results are summarised over the page. Can we just look for a moment at the duration. It is a bit difficult to see, but the test commences about here, where I've got the red dot trained?
A. Yes.

Q. That's at about 15:13, or thereabouts?
A. Yes.

Q. The data plotted here concludes at about 15:48?
A. Yes, that's when we stopped the actual chart recorder itself, but, yes, obviously, the gradient is still declining, and so it hasn't arrived at an ambient, much later.

Q. So what we are looking at here on the screen, though, is about 35 minutes' worth of data?
A. Correct, that's right.

Q. We can see that the hottest temperature appears to have been the yellow line, which is thermocouple number 4?
A. Yes.

Q. If we go back to the previous page, we can see that thermocouple number 4 is the one located in the bottom of sample 2?
A. Correct, that's right.

Q. But the other high temperatures are thermocouple 1 and thermocouple 7, which are also located at the bottom?
A. In the other two cups, that's right.

Q. Was there an issue in terms of the volume of the PUR that was put in each cup in terms of its contact with all of the thermocouples?
A. The actual standard itself doesn't mention anything about how many thermocouples to use. It was just from our experience in doing this kind of material testing that we chose to select three. When we did select three, we spaced them equally so that we could measure the temperature along the gradient of the cup. Some of the material didn't expand as much as we thought it was going to expand, and so thermocouples 3, 6 and 9 may not have been totally immersed in the actual PUR.

Q. If we go to the next page, slide 10, does this page summarise the results?
A. That's right. If you look at thermocouples 3, 6 and 9, they are much lower than 140, 141 and 137 purely because they are not actually in the PUR material itself.

Q. Do you actually explain that here in the section

labelled "Observations"?
A. Yes.

Q. The pass/fail criteria is not exceeding 150 degrees centigrade?
A. That's right.

Q. And so on that basis, it passed?
A. It passed.

Q. There is a section here talking about the maximum temperature corrected for 40 degrees ambient?
A. Yes.

Q. What's that?
A. What happens is that when we do product certification, everything that we certify is done at a lower and higher ambient. When we are doing a temperature classification, the temperature classification is based on the higher ambient. So if the higher ambient is certified at 40 degrees, then we would correct it for 40 degrees ambient. What happens is that we subtract the ambient temperature, the room temperature, from the maximum reading that we got, so that's your actual rise, and then we add the 40 to give us a corrected temperature with respect to 40 degrees centigrade. That's why, at the bottom of that table, you've got 158 degrees, which then has exceeded the 150 mark and therefore is considered to fail that test.

Q. But you did, though, then go on to do an exothermic test at a temperature that was as high as you could get it?
A. Yes.

Q. To the mine ambient of 38?
A. That's right. In the room with heaters and airconditioning, the airconditioning doesn't go that high, so we actually had external heaters, so we heated the room up. Now, this room is 8 metres by 4 metres by 3 metres high, and so when you have people in and out, you can't get as high an ambient as we would have liked to have got, but we measured 36.5 degrees when we actually poured the material in those cups.

Q. The material, though, was it prepared and mixed at that ambient temperature of 36.5?
A. No, no. The material, again, is prepared and readied for mixing in the room, but the actual decanting was done

outside. The outside temperature is 21 degrees centigrade, and so by the time you bring it into the room, it's still below the room temperature. So the subsequent results will show you that it takes a dip in the reading from the room temperature of 36.5 when the product is actually introduced into the cups.

Q. We'll jump ahead two slides. Does this graph show the data from the same thermocouples, which are in the same locations?
A. That's right.

Q. But with that ambient temperature in the room of 36.5 degrees?
A. That's right.

Q. We can see that at the start of the test, there is actually a dip below ambient?
A. Yes.

Q. Is that because of the relative coolness of the PUR when it was first introduced?
A. Correct, that's right. That's right. Once you mix and you pour it into the cup, the exothermic reaction begins. So we may not have picked the maximum temperature, even though, with that lower ambient temperature of the product itself, we managed to get 140 degrees centigrade, but if the product was at the room temperature of, say, 38, then the results may be higher.

Q. This graph also shows something that we will come to in a moment, but it contains the results of a test where you mixed some coal together with a larger quantity of PUR into a semi-insulated box?
A. That's right.

Q. Before we go to that, we'll just go back a slide to slide 12 and look at this table. Does this table set out the same data that we saw on the earlier slide in relation to those three cups, if I can call them that, that were the subject of a testing at a 36.5 degree ambient temperature?
A. That's right.

Q. In the top line, you talk about the fact that unlike the last occasion, you didn't use any ventilation system; rather, you just heated it?
A. Yes. We didn't want to influence the results by

creating a draught and to cool the material, so we kept it as still as possible and obviously to get the temperature as high as we could, to 36.5.

Q. There is a note at the bottom where you mentioned the fact that the product was prepared outside, where the temperature wasn't controlled and it was about 21 degrees?
A. That's right.

Q. You also noted here the time for the temperature to reduce from 140.7 to 100 was just a little over an hour?
A. Correct.

Q. Perhaps you can explain that to us. We will see some more examples of that in due course, but does the mass of the heated product have anything to do with how long it takes for the temperature to decay?
A. Yes. For example, if you have done a test in a cup, then the mass of the cup is tiny compared to the mass that would actually be used in underground coal mines. So when I asked the inspectorate and the mines how much product they actually use in an underground coal mine, they are talking 1000 litres at a time. So 1000 litres, if you work it out at 1 kilo, that's about a tonne of product injected in the mine. A tonne of product, of that quantity - the heating would be sustained for a much longer duration because you've got a big thermal mass as opposed to in a cup, with a thin wall, and it's losing the heat through the cup, so it's not going to be representative of the actual mine condition.

Q. Again, we will come to this shortly, but do we see that when it comes to the larger quantity of PUR that was put into the semi-insulated box and mixed with coal, the time it took for the temperature to decay back to 100 degrees was much longer again?
A. Much longer. Much longer, yes.

Q. But it was much shorter when it came to the tube test, which is what we will look at in a moment?
A. Correct.

Q. This is slide 14 and it is entitled "Exothermic test with coal core". Can you explain what we are looking at here, please?
A. Yes. The photograph on the left-hand side, that's before the pouring of the PUR into the core sample. The

white tube you see, that's the PVC casing holding the coal core. Now, the coal core was machined, bored, to a depth of 250mm. That coal core isn't a solid piece. It's actually fractured coal, so it has cracks in it. Without the PVC plastic tube, it will fall apart. So the coal core is just held together with the PVC tube.

Then in the yellow text, you see the thermocouple 15. That thermocouple 15 is actually on the coal, on the outside of the PVC tube but in contact with the coal itself. Similarly, we put three thermocouples inside the coal core, thermocouples 12, 13 and 14. So that's the set-up before putting the product into the coal core.

The photograph on the right-hand side - this is the after. That's when the PUR has been actually injected into the coal core. You have now got a little air gap at the bottom of the coal core. As the PUR cures, that gas expands in that coal core, causing the PUR to eject out of the coal core and run on the outside of the tube, covering thermocouple 15.

Q. Did that cause what you regard to be an elevation of thermocouple 15's data that would not otherwise have occurred?
A. Correct. That's right.

Q. How much PUR was placed in that --
A. Again, 100ml injected with the hand-held injector. But remember, this coal sample - when you inject something in the bottom of a hole, unless you get the nozzle right to the bottom, you've got trapped air, and that trapped air expands at a much higher rate than the foam, and so it's also pushing the PUR out of that hole and that's why you've got that expansion.

Q. The next graph shows the results - yes?
A. That's right.

Q. But which of the thermocouples should we be looking at, because there are 15 of them plotted here?
A. Yes. The one that's this part here - that's number 15, and you can see that when the product is actually poured, it's come into contact - so that's the three cups and then you've got the coal core. So you can see that the coal core - as you've got air and the PUR in the actual orifice of that coal core sample, you've got

a delay in temperature, and this delay in temperature is when the PUR overflowed from the actual sample and on to thermocouple number 15. So that's the reason why there is a delay in this particular reading.

Q. The data we're looking at here - is the point at which the test started here, or is it back here where I'm indicating?
A. We had the chart recorder running, and then when we actually introduced the PUR, so the first dip you see, that's when we put the product into the containers as well as the coal core.

Q. So the test itself started about here?
A. That's right, yes.

Q. That's at about 11.47?
A. That's right.

Q. And then ran through until about, I think, 12.19?
A. Yes.

Q. So, again, it's about 30-odd minutes?
A. Correct.

Q. The results of that test are shown in slide 16. We can see that the internal thermocouples reached temperatures in the 90s to the low 100s?
A. That's right.

Q. The highest being 109.1, in the middle?
A. Yes.

Q. The external thermocouple, which was on the outside of the coal core, got to 81.5, but that result is compromised by the fact that it came into contact with the PUR?
A. Outside, yes.

Q. How long did it take for the PUR in this instance to get from its maximum temperature back to 100 degrees?
A. That was over an hour, but we stopped the chart recorder. At the end of the day, we were trying to look for the maximum temperature; we weren't concentrating on the duration at which it went from the maximum to 100 degrees C. It was only later on that we said, oh, we should actually monitor that to see how long it actually takes for the product to drop down to 100 degrees. So when

we did the test in the insulated container, we monitored that for a lot longer.

Q. Tell me if this is outside your area of expertise, but to what extent, if at all, does this test replicate what might occur in an underground coal mine when this product is being used?
A. Coal is a good insulator, so we know that the heat can't dissipate through the coal itself. So the whole idea of doing it in a coal core was to see how long and what temperature it's going to get in a coal core.

Fortunately, in this case, because of the narrow borehole, you've got expanding air in there, so that's why you didn't get the temperatures of 140 degrees, because you've now got movement of material out of the hole and across, outside, and that's why you've got the maximum of 109 degrees, as opposed to if the hole was much larger and it had the capacity to hold that product in its container, then the temperature could have gone much higher than what we got.

So this test isn't realistic in terms of a mine situation; it's just showing you that the temperature behaves differently when you actually do it in a coal core itself.

Q. You said that coal was a good insulator.
A. Correct.

Q. You have told us about how long it took for the temperature to decay in the testing using the cups. Were they cups made from paper?
A. Yes.

Q. I assume not a good insulator?
A. Not a good insulator. Well, it's a good insulator, but it's very thin. The heat transfer through a thin surface as opposed to an inch of coal are two different things.

Q. So I'm just wondering about a scenario where you have a significant volume of PUR injected into a quantity of coal, and because there are some cavities, the PUR accumulates in a large mass. Does the coal surrounding it have an impact upon the ability of the PUR to retain its heat?

A. It would. It would. Also, you've got fractures of coal which settles on the PUR itself, if it was, and that's the reason why the temperature limit of 150 degrees is established. If you get coal particles settling on a substance that is heated, then you could get what's called an ignition as a layer - ignition of a coal as a thin layer, and so that's how the 150 degrees centigrade was established as the pass criteria. So in this case, it is important to understand that if you are injecting this PUR into a crevice, then the substance of that PUR's exothermic reaction is well below the 150 degrees C threshold.

Q. Can we go to test 4, and this involved a partly insulated container. Is the word "partly" used because the top of it was open to air?
A. That's right, yes.

Q. How did you go about insulating the container?
A. It's basically a polystyrene vessel. We lined it with plastic, because that plastic was used when we poured the PUR to get the samples for the other tests, so we knew that we could actually examine it; it will actually come away from the plastic. When we created this volume, we did the same thing again. We put three thermocouples again, 17, 18 and 19, and repeated the same test again. This time, we poured it in in two stages - the first stage to partly fill the bottom part, then put some coal particles in it, and then topped it up with the PUR again.

Q. What are the three cups that we can see in the background?
A. That just happens to be the three - the same test area, just that they are not used in this particular case.

Q. What volume of PUR in total was put into this container?
A. That was in excess of 200ml.

Q. In excess of 200?
A. Yes.

Q. Can you say how much in excess of 200ml?
A. Not without looking at my report.

Q. Do you have that handy?
A. No, I don't actually have it with me. But it will be

in the order of 200ml to 300ml.

Q. The next slide, slide 18, shows us the empty chamber. Then on the right-hand side, is that showing us PUR with coal on top of it?
A. That's right. That's right.

Q. Slide 19 shows us when it has been topped up with the remaining PUR?
A. That's right.

Q. Then the next slide, slide 20, does that show us the results of that test?
A. That's right.

Q. We can see that the maximum temperature was this time in the upper thermocouple?
A. Yes.

Q. And was 138.8 degrees?
A. Correct.

Q. In the section marked "Observations" there, you say that the time for the maximum temperature to reduce from 138 to 100 was approximately two and three-quarter hours?
A. Yes.

Q. So substantially longer than the period required in respect of the other samples. Is that an example of the effect of the mass that you are talking about?
A. Correct, that's right.

Q. You see, you told us in respect of the cups, for example, that they involved about 200ml of PUR?
A. Yes.

Q. And in this case, we have about the same amount of PUR?
A. A little bit more.

Q. Slide 21 shows us the results of that test. We can see that the period comprehended by the graph is from about 14:21 through until 16:03, so about 40 [sic] minutes or thereabouts?
A. Yes.

Q. We can see that the rate of decline of the temperature

is a lot flatter than in the other cases?
A. Correct, yes.

Q. That's, again, exemplifying what you have told us already?
A. That's right.

Q. After the test was concluded and the contents had cooled, did you do a test involving the electrical resistance?
A. Yes. Normally coal is not conductive, so when you measure with a multimeter, you don't get a reading - you get a high resistance value. But when we poured in the PUR, we did the same test again and we measured 26 megaohms, 16 megaohms, they varied depending on which part of the coal that we actually examined on, but it indicates that it had changed, it had transformed from the coal that we knew, by the heating of the PUR - heating from the PUR, the structure has changed.

Q. So it had become more conductive?
A. It had become more conductive.

Q. Was that the coal that became more conductive or the PUR that became more conductive?
A. No, the coal. This is done on the actual measurement on the coal itself.

Q. What are the implications of the increased conductivity of the coal in response to being heated?
A. From not this test but from my previous work at Simtars, we had actually had a fire in an underground coal mine, at a feeder breaker, and it was supplied by an IS power supply, and that power supply caused arcing and sparking when the conductors were making and breaking, and over time that arcing and sparking led coal to actually ignite and cause a fire. So the feeder breaker actually caught fire. We know that if the resistance of that value has come down, that means the coal has been coked, so to say, and the coking effect of it can cause it to catch fire.

Q. You summarised that exothermic test, then. The first two relate to the two tests in the cups at 21-odd degrees and 36 degrees; the third is the coal core; and the fourth is the insulated box?
A. That's right.

Q. Now, do you have a view about whether more testing is required, based on what you have seen here?
A. When we started this assessment and testing part of the PUR, we were going to do it in two stages. Stage one was to do these three tests and determine what the results are and then review the results and then do a bigger picture, a larger-scale test, as a part of a project and look at the quantities, volume, the mine conditions, the humidities, the quantities that they're actually injecting into the crevices and roof space, to replicate that and see if any of that could result in an issue of temperature above 150 degrees or a static discharge.

Q. The second part of that testing hasn't yet been done?
A. No, no. At the moment, we've set up all the parameters and we are communicating with the inspectorate as well as the mines to establish what should the mine conditions be, because we don't know the scenarios of the velocities across the longwall face; we don't know the mine temperatures, the humidities; we don't know the quantity of substances that they're actually pouring in. So all the variables are unknown. And if you have a goaf that has collapsed, you have an airblast, we don't know what kind of velocity the airblast is going to be. If you have a gas outburst, we don't know the concentration of gas that's going to be. So all these variables are unknown and we can't replicate that in a lab, so we've got to actually devise a way to ensure that what we test is going to replicate or simulate the mine scenario.

Q. Does Simtars have a facility in which that sort of testing could be done?
A. Some of the things, yes, we can. Not all.

Q. There is a larger facility available?
A. Yes. We've got a 16 cubic metre vessel that we can put coal in and inject this PUR into, in quantities of 1000 litres, for example, and do all of those parts, but what we can't do is simulate air velocity, we can't simulate the gas outburst, we can't simulate all of those kinds of scenarios that we would like to consider, and so we've got to devise a methodology to actually do that in agreement with the mines as well as the mines inspectorate.

Q. Given the results that you have seen from the testing that you did do, do you have a view about the desirability

of doing these larger-scale tests?
A. Yes. I think there is merit in doing the tests because, like I said, with a test cup, you've got small masses, the conduction of heat away from that, as opposed to a large scale. And what we really want to do, the question was have we replicated the mine? And the answer is no, because in a mine, they are not injecting 100ml or 200ml; they are injecting hundreds of litres of PUR.

Q. But is your position that the testing that you have done raises a concern about the use of this product?
A. I can't comment on that.

Q. I'm just wondering why it is that you think it's desirable that there should be more testing done?
A. Because of the mass. If the mass of the product itself can demonstrate that, yes, you've got a capacity to hold the heat, and if the heat, when we test it in a larger volume, exceeds the 150 degree mark, then there is a potential for ignition, not as a spon com but as an underlying slow thermal heating effect of a coal that could lead to a mine fire.

Q. Do you claim any expertise in the field of spontaneous combustion?
A. I'm not the expert in spon com, but I actually managed a branch for a while involved in doing spon com training as well as occupational hygiene, where we do modelling of spon com and analysis of gases as a result of spon com.

MR HUNTER: That's the evidence-in-chief of this witness.

THE CHAIRPERSON: Thank you. Mr Holt?

MR HOLT: No questions, thank you, Mr Chair.

THE CHAIRPERSON: Mr Crawshaw?

MR CRAWSHAW: No questions, thank you, Mr Chair.

THE CHAIRPERSON: Mr Telford?

<EXAMINATION BY MR TELFORD:

MR TELFORD: Q. Good morning, Mr Parmar.
A. Morning.

Q. My name is Paul Telford. I'm a barrister that's representing the interests of DSI Underground. Firstly, thank you for your assistance in preparing your report, particularly at such short notice. You have identified that the report involved six tests. You describe tests 1 to 4 in your conclusion at page 30. Just to recap, the first two tests were essentially the same, and they involved PUR product in paper cups?
A. No, no, let me correct you. The four tests in my conclusion are all exothermic reaction tests.

Q. I'm sorry, I should have clarified. My questions are just directed at the exothermic temperature testing.
A. Okay.

Q. On page 30 of your report, where you look at the conclusions under paragraph 7, those four tests are just directed at exothermic temperatures?
A. Yes, yes.

Q. The first two involve PUR product in paper cups?
A. Yes.

Q. The difference between them is that the volume of product increases between 1 and 2, is that correct, because you had trouble covering the thermocouples in the first one?
A. Yes.

Q. And the ambient temperature changes?
A. Correct.

Q. Then for tests 3 and 4, we've introduced coal into the equation?
A. Correct.

Q. You said in response to my learned friend counsel assisting that these tests were done in accordance with the standard MDG 3608?
A. Yes.

Q. That was the objective of the testing?
A. In the cups.

Q. That's right, and that standard just relates to the testing in cups 1 and 2, doesn't it? So testing 3 and 4 is not prescribed by that standard. (No audible answer

given). All right, thank you.

If we can look at the results on page 16, table 3, please, Mr Operator, of Mr Parmar's report, this testing demonstrates, doesn't it, that when you begin with an ambient temperature of - now, this report says 21.9, but I think I saw your PowerPoint say it was slightly lower, at 21.6. There's nothing in that?
A. No.

Q. The average maximum temperature of the PUR reached 139.9 degrees?
A. Yes. That's the average, that's right, yes.

Q. This is test 1 for the purposes of your conclusion?
A. Correct.

Q. Test 2, if we go forward to page 22, please, at table 4, we see that the average maximum temperature has increased to 140.27?
A. Yes.

Q. Recall that the difference between the two tests is essentially an increase in the volume in the PUR in the cups and an increase in the ambient temperature?
A. Correct.

Q. And in fact the ambient temperature has increased by not quite 15 degrees, from about 21.9 to 36.5?
A. Yes.

Q. So if we compare those two results, 139.9 degrees from test 1 to 140.27 in test 2, dealing with averages, average maximum temperature, you agree with me that an increase in volume --
A. The increase in volume is marginal, not as in two times or three times or four times or 1,000 times. You're looking at only 100ml to 150ml, up to 200ml, so you're not looking at a substantial increase in volume.

Q. So it is an increase in the order of 50 to 100 per cent?
A. That's right.

Q. So an increase of volume in the order of 50 to 100 per cent and an increase in the ambient temperature made very little difference --

A. Correct.

Q. -- for the maximum temperature?
A. Correct.

Q. So, in other words, whether the PUR is applied at an ambient temperature of 21.9 degrees, 21.6 degrees, 36.5 degrees, the average maximum temperature remains roughly the same?
A. No, not quite correct.

MR HUNTER: I object to the question. I suspect the witness might be about to point out the salient point, which is that it wasn't injected at an ambient temperature of 36.5 degrees.

MR TELFORD: Q. Mr Parmar?
A. Yes, that's correct. It's not at room temperature. Remember the product is prepared outside. The ambient outside is 20-something degrees, 21, 22 degrees, brought into the room, which is at elevated temperature, and then poured into the cups. The graphs that you saw earlier on showed a dip in temperature and then rise, so the curing has started at a temperature that is lower than the room temperature.

Q. I see. But the elevated ambient temperature is still increased as between test 1 and test 2?
A. Can you say that again, please?

Q. Sorry. There has been an elevation in the ambient temperature --
A. Yes.

Q. -- as between test 1 and test 2?
A. Correct.

Q. Regardless of that, the maximum temperature achieved in the PUR is roughly the same?
A. Correct.

Q. In fact, that's shown as well in your conclusions at paragraph 7, isn't it? If we go to page 30, please, Mr Operator, and we look at these conclusions, we see that a comparison between test 1 and test 2 involving an increase in the ambient temperature of the PUR doesn't show a rateable increase in the maximum temperature of the PUR?

A. I agree.

Q. So if we then go back, please, to tables 3 and 4, I wanted to ask about the adjustment that was made to attempt to replicate the in-mine conditions by adding a further amount to the maximum temperature to assume an ambient temperature of 40 degrees. As I understand your evidence, what you did was simply subtract from 40 the ambient temperature that was used and then add the difference to the maximum that was achieved?
A. Correct. That's right.

Q. That's correct?
A. Yes.

Q. Isn't it the case, though, that your testing in fact demonstrates that an increase in the ambient temperature doesn't have a marked difference or increase in the maximum temperature of the PUR?
A. In this case, that's right.

Q. So there is really no validity in adding to the maximum temperature the increase in the ambient temperature to a notional 40 degrees; do you agree with that?
A. No, no, that's not quite right, because what happens is when a product is certified, everything is brought back to a 40 degree ambient. Right? So that's how the T rating is established. When the end user wants to buy a product, he needs to know what the end result is going to be with regards to the highest ambient temperature. When you buy a certified product, that's how they actually assess and mark - a T rating is established.

Q. So you are using - and I think this was your evidence earlier this morning - a generalised testing methodology that is applied for certification testing?
A. Certification of products, that's right.

Q. But that's not the testing that you were doing here, was it?
A. No, that's right.

Q. This wasn't a certification test?
A. That's why in the table you will see the temperature without correction, and there is a pass, and then a temperature with a correction, but it's failed in the test number 1. So we have given you all the results.

We're not saying it's right or wrong. We're just saying when you correct it for a 40 degree ambient, it doesn't meet that 150 degrees C criteria.

Q. I see. But, Mr Parmar, the correction to a 40 degree ambient assumes that there is a one-for-one increase as between an increase in ambient and an increase in maximum temperature?
A. Correct.

Q. Whereas your testing shows that an increase in ambient temperature has very little difference?
A. No, like I said, the testing wasn't as exactly by the book, because the product is poured in an area outside which is lower than the room temperature. Therefore, if the product was tested at a temperature which was higher, then the exothermic reaction could or may have exceeded that value of the threshold of 150 degrees C. That's why, if you look at the graphs, there is a dip in there, and that dip is in the order of 10 to 12 degrees. So if you are starting everything at the same ambient conditions, then the results may be different.

Q. I suggest to you, though, that if we look at page 16, table 3, the "fail" conclusion with the correction for a 40 degree ambient temperature is, at best, a gross estimate. It wasn't replicated by the testing, because you didn't test to that; is that correct?
A. We tested the product by mixing the product outside, which is much cooler, bringing it into the room and then testing that. So if you take that ambient of 20.9 and correct it for 40 degrees, then it actually fails that criteria with respect to 40 degree ambient.

Q. Notwithstanding that when you did test at ambients of 21.9 and 36.5, the product --
A. Passed.

Q. -- passed?
A. Correct. Only because the product at a higher ambient mixed - the temperature of the product prepared was much lower. The result may be different if it was done at a higher ambient when it was actually prepared.

Q. Can I ask you about tests 3 and 4. These are the only two exothermic temperature tests that involved the application of coal?

A. Correct.

Q. And you have agreed with me that these tests weren't performed in accordance with the standard?
A. Correct.

Q. Were the tests conceived by yourself? Were you directed to perform these particular tests?
A. In consultation with the mines and the mines inspectorate.

Q. Did you have any input yourself into the way that tests 3 and 4 were set up?
A. A little bit. In terms of placement of thermocouples, the quantity, but that's the limit.

Q. Sorry, the quantity of the thermocouples?
A. Yes.

Q. What about, for example, the relative quantity or mass of coal sample?
A. No. Whatever we had at that sample - because that coal core was only one piece, we extracted some of the coal from that piece to do the tests. So this is not what is called a quality controlled test. It is a test to show that if some quantity of coal is immersed in the PUR, it may make a difference. So that's what we were trying to prove: did it alter the result if you actually mixed coal with PUR, as it would be in a real-life situation?

Q. I think you have answered my next question, and that is when we look at test 3 - and perhaps if we can show you, please, page 21, photograph 24, which involves thermocouples 12, 13, 14, and 15 on the outside of the coal.
A. Yes.

Q. Thermocouple 15 is the only test of coal temperature in the entirety of your report?
A. Correct.

Q. And even that test you have fairly conceded today was - I think you used the term "compromised" by the fact that a volume of PUR had spilled over the top and had probably impacted on the thermocouple itself?
A. Yes, yes.

Q. And of course that test showed that where the PUR reached a maximum temperature of 109.1, the thermocouple, even compromised - so even recognising that it would have been additionally heated by the PUR on the outside - only reached 81.5?
A. Yes. So what's happened is that the PUR, when you pour it inside the coal core, it's curing. So it's cured, mixed with coal, and as it's poured out, it's already cured and cooled substantially, so there is a delay in the time before thermocouple number 15 is then immersed in the PUR product. That's the reason why you are getting a much lower temperature as opposed to 109 degrees, which is inside. And then even inside the coal core, you've now got expanding air mixing with the PUR. So that's the reason why you are not getting the higher temperature of 140 degrees, because you've now got trapped air that's trying to escape out of that crevice.

Q. Thank you, Mr Parmar. If we go to page 30 of your report, paragraph 7, and to the fifth paragraph, please, which is the one just above the table, there is a statement that reads, in the middle of that passage that has been extracted:

> *The maximum exothermic temperature inside the coal core sample at an elevated ambient temperature of 36.5 degrees was 109.1 degrees C.*

But that's not a reference to the temperature of the coal, is it; that's a reference to the PUR?
A. That's right.

Q. Because the thermocouples were located concentrically within the coal core samples?
A. Yes.

Q. I've noticed, just while we have that up, we're talking here about the actual maximums, whereas when we looked at tables 3 and 4, you listed the maximums, but then you also applied an averaging process. So is there any reason why when you were reporting on --
A. We did three tests, three different cups, so we took an average of that. It's just for information. If you're looking at it in terms of the worst case scenario, you just take the maximum, but you only need one point to exceed 150 degrees C and it's considered a fail.

Q. Again, I think you have already answered this question, but just by reference to that 81.5 degrees that was reached for thermocouple 15, if I can take you to page 24, please, Mr Operator, photograph 28, which is the graph - just remind us, what does this tell us about what happened after that thermocouple 15 peaked at 81.5 degrees in terms of dissipation of heat?
A. The one that's on the right-hand side of all the traces, the grey-colour one, that's thermocouple number 15.

Q. Having reached a maximum of 81.5 degrees Celsius, it then proceeds to cool, the coal proceeds to cool, according to the thermocouple that's attached to it?
A. Correct.

Q. And returns at close to ambient within what sort of time frame?
A. About 10, 12 minutes.

Q. So there is no evidence here that having reached a temperature in excess of 80 degrees, it continues to self-heat or go on towards a --
A. Yes.

Q. -- spontaneous combustion type circumstance?
A. So it's an aerated product, plus it's outside, plus it's taken out of the room, when the temperature dropped much more than what it was in the room.

Q. If we compare the results from tables 3 and 4 and tables 5 and 6, which are tests 1 and 2 and 3 and 4, do you agree that once we add coal into the equation, which is a colloquial way of saying it, once you have gone beyond the standard testing in the MDG, the maximum temperatures that you were achieving with the PUR were greatly diminished; do you agree with that?
A. Can you say that again?

Q. The maximum temperatures that you achieved with just the PUR in the cups, the exothermic temperatures, diminished significantly between tests 1 and 2 and test 3; do you agree? So you went from about 140 down to 109, although if you averaged that 109, and I'm happy to take you through it, it comes out to about 104 - yes?
A. Yes.

Q. We attribute that decrease, don't we, to the presence of the coal?
A. No.

Q. No?
A. Tests 1 and 2 are done in a cup, no coal, thin wall and is in room temperature, so the rate of cooling is much quicker in the cups than it is in the coal core.

Q. Sorry, I'm not asking about the rate of cooling. I'm asking you about the difference in the maximum temperatures. When we're in tests 1 and 2, regardless of where we started with ambient temperature, we reached about 140 degrees Celsius, maximum?
A. Right.

Q. For test 3, which is inside the cylindrical core, the PUR reached a single maximum of 109?
A. That's right.

Q. And an average maximum of about 104?
A. Yes. So you can't take average, then, because then you are not doing the real calculation. You have to take what was the maximum measured. Now, remember, like I said, the coal core had crevices in there, so there were air gaps. There's expanding air in there. The expanding air is trying to get out, so it's pushing the PUR out. You might have voids in there. So that one test itself is not conclusive and you can't then take an average. You've got to take 109.1 as the value that was recorded, and that's not saying that's the maximum possible value that you are going to get in a coal core, because we only did one test.

Q. I appreciate that. But for the test that you did do, the maximum temperature that you achieved in PUR with the coal core --
A. 109.

Q. -- was substantially less than the about 140 degrees that you achieved in tests 1 and 2?
A. When you say "substantially less", is that because there is no air in the bottom of the cup to expand out, you've now got movement of air out of the coal that's making the PUR foam out of the coal core, and therefore the temperature is, your words, substantially less. But if you look at it, 140 and 109 or 110, that's a 30 degree difference, and you could turn around and say, well, that

could be the contributing factor, that you have got expanding air, there are voids in the coal core that could be affecting the thermocouple measuring the temperature of that PUR. So you can't conclusively say that it's substantially less, because it's not - in this particular test itself, 109.1, that's the temperature we measured, but we haven't examined the coal core to see if there is a pocket of air or it is actually in contact with the PUR itself.

Q. I'm sorry, I'm not quite sure I understand that. Wasn't the internal coal sample exposed to the PUR?
A. Yes. But the action of pumping the PUR into the coal core, you've got expanding gases, air, from the coal itself, plus expanding the PUR itself, so it's foaming, so it's no longer a solid mass as opposed to the ones that we got in the cups. In the cups, you will see that the thermocouples at the bottom of the cups were much higher than the ones on the top of the cups, right, and so you can understand from that synergy, that you've got three different temperatures in the cup, and the same thing in a coal core, you've now got an extra factor that we actually haven't reviewed yet, to say, well, was the thermocouple that's reading 109 degrees in direct contact with the PUR or was it in a void inside the PUR itself, an air bubble inside the PUR?

Q. Was the thermocouple in a void?
A. Yes, I'm saying was the thermocouple in the coal core that was reading 109 in direct contact with the PUR or was it in an air bubble within the PUR.

Q. I'm with you, thank you. But as a general observation, Mr Parmar, you would agree, wouldn't you, that once you have started to combine the coal and the PUR together, the maximum temperature of the PUR does not achieve the same levels as just the PUR itself?
A. Can't say that, because if you look at the bigger - so you look at the coal core, then when you look at the one that is in a partially insulated thing, which was 138 degrees, then it is not substantial; it is almost the same.

Q. Yes, but the volume of material is different, isn't it?
A. Not much. Not much. You're not talking ten times; you're looking at twofold, but bigger vessel, bigger area,

and, therefore, bigger volume needed to fill that space up.

Q. Test 4 was also open at the top, though, wasn't it?
A. Correct.

Q. So heat would dissipate to air through the top?
A. That's right.

Q. And, in fact, none of the testing you did involved a fully enclosed --
A. Correct.

Q. Can I take you, please, to page 25 at paragraph 6.3.1. Can I just ask you about the process for the additional testing that's described in that first sentence. Can you explain to us how that came about, what the catalyst for the additional testing was?
A. The mines inspectorate, who actually worked in the underground coal mine, involved with the PUR injection, they said, "We want to test it with a coal core and some samples". We said, "Well, we've already used - we have prepared - we only got one coal core sample, so we've done that test. So we can now do a second test. We'll do it in an insulated container. If you wish to add the coal particles into the PUR, I'm just going to report on the actual test that we did." So there's no --

Q. So that wasn't a test that was conceived by you?
A. No.

Q. It was a test that you were directed to perform?
A. Correct.

Q. And does that explain why, when test 4 was set up, you looked at what appeared to be, from my reading of the report and the methodology, an attempt to have equal volumes of material as opposed to masses of material?
A. No, it's not actually equal volume of coal and PUR. It was a small quantity of coal mixed with PUR.

Q. And that's my point, that you didn't attempt to replicate the volumes?
A. No, the three tests that we have done were only in a three-week duration time frame to generate this report and so, like I said, the bigger-scale review and the testing has not been conducted yet.

Q. So in your view, is there much merit in a test that looks to replicate comparative volumes of material, as opposed to masses, when you are talking about exothermic heating?
A. I need to understand, first of all - because I don't do this kind of work - I need to understand what is it that you are injecting into, the quantity you are injecting, and what is the likelihood of the coal being mixed in - what are the quantities you are talking about? Until somebody tells me that, I can't really come up with a test plan.

Q. All right sorry. When you say you "don't do this type of work", what do you mean by that?
A. Inject PUR in a coal mine.

Q. So is it fair to say, Mr Parmar, that tests 3 and 4 were tests that you were directed to perform?
A. No, no, not directed. We were in a meeting. We discussed it, we planned it, we executed it. So it's not, like, "Do this", it's like, "We should consider doing this, because this is what it is going to be like in a mine."

Q. But how did you happen upon, for example, the size of the coal sample that was used for tests 3 and 4?
A. That was what was supplied by the inspectorate.

Q. Just what was supplied?
A. Yes.

Q. And I think you have already told us several times today that this testing isn't, and doesn't purport to be, an accurate depiction of what would happen in a coal mine?
A. Correct.

Q. Far less what was happening in Grosvenor in May 2020?
A. That's right.

Q. Is it also correct that there was no testing done of the temperature of the coal particles that were used in test 4?
A. When you say "testing of the coal particles" - the coal core was in a room that was at ambient temperature a couple of days prior to actually doing the test. So it was acclimatised to the room temperature.

Q. Sorry, let me rephrase the question. Thermocouple 15 in test 3 was an attempt to actually identify the

temperature of the coal itself?
A. Okay. So - no. What we were trying to do with thermocouple 15 was that we wanted to look at the gradient between the inner and the outer of a coal core. So it just happened to be that the reaction resulted in overflow and buried the thermocouple 15. But in reality, if we had to do the test again, we would make sure that it doesn't overflow, then we could get a thermal gradient between what is the actual internal temperature and what is the external temperature of the coal core. Then you could work out the thermal gradient between inside and outside of the coal.

Q. So is it more accurate to say that none of your testing was really directed at identifying the temperature of the coal itself in its interaction with the PUR?
A. None of the tests in the MDG 3608 specify that. The testing that we did is in addition to those that were quoted in 3608, and when we did the test, the test of the coal was at the ambient temperature of the room in which it was tested.

Q. But, sorry, I'm not sure that answers my question. There was no attempt to actually test the temperature of the coal itself following its combination with the PUR?
A. No, because that test is not done yet.

MR TELFORD: No further questions, thank you.

THE CHAIRPERSON: Thank you. Ms Grant?

MS GRANT: No questions, thank you, Mr Martin.

THE CHAIRPERSON: Mr Trost?

<EXAMINATION BY MR TROST:

MR TROST: Q. Mr Parmar, my name is Jeremy Trost. I am counsel representing one of the injured coal mine workers.

THE CHAIRPERSON: Mr Trost, how long are you likely to be?

MR TROST: Just a minute, Mr Martin.

THE CHAIRPERSON: Yes.

MR TROST: Q. Mr Operator, could you just show page 14 of Mr Parmar's report, please. The bottom picture, please.

Mr Parmar, is this a picture of the set-up of the thermocouples inside the cups?
A. Correct.

Q. This was the same set-up for both the ambient temperature of almost 22 degrees and the ambient temperature of 36.5 degrees?
A. That's right.

Q. Going to page 24, Mr Operator, and the graph on the bottom, the dip there shows that the PUR, when it was poured into these cups, was around about the 22 degree mark?
A. Yes.

Q. And the thermocouples are situated in the centre of the cup, as we saw in the previous picture?
A. Yes.

Q. So did the ambient temperature actually have any effect on those, at the thermocouple sensor location, once it is covered in PUR being in the centre of the cup?
A. As the PUR cures, it will change. So what happens is that the thermocouple at the bottom of the cup will see the maximum amount of heating, and as it travels up because of the expansion, the subsequent thermocouples are a little bit lower than the maximum at the bottom.

Q. I understand that process, but presumably the thermocouples then become encased in the PUR?
A. Yes.

Q. And so they are not affected by the ambient temperature as much as they are by the PUR?
A. No, we're not measuring the ambient temperature with those. There are separate ambient thermocouples, numbers 10 and 11, that are monitoring the room.

Q. That's right. So these thermocouples in the base of the cup, once they are encased in PUR, would have limited input from the ambient temperature?
A. That's right. We're only measuring the temperature, in the cup, of the product.

Q. So would you accept, then, that this test with the ambient temperature of 36.5 doesn't have that much relevance, considering the PUR was at close to 22 degrees?

A. I don't understand your question.

Q. So given the PUR was around 22 degrees --
A. Yes.

Q. -- and that the PUR then encapsulated the thermocouple sensors inside the cup --
A. Yes.

Q. -- would you accept that the ambient temperature then of 36.5 degrees had little impact on the temperature recorded by the thermocouples?
A. Well, we were looking at the maximum temperature to the reaction time - the fundamental question that no-one has asked yet is what is the operating temperature of the PUR, the max and minimum. We don't know that yet. So until we know that, we still are going to go with this kind of testing. We need to know at which temperature does the PUR not function and what is the maximum operating temperature. So where is it, in the graph of the lowest ambient and the highest ambient, do we get the peak? Once we establish that, then we can do the test that says at this temperature, when we get the maximum exothermic reaction, that is going to be the worst case scenario to give us the maximum heat that's generated from the product that will contribute to the heating effect in the coal.

Q. That will depend on the actual operating temperature of the product?
A. That's right. So the bigger picture is we will need to look at it in terms of the PUR that we are using, which is the worst case scenario - is it going to be at a lower ambient or at higher ambient. At this moment in time, we did it at 20 degrees and we did it at 36.5, and we concluded that the test was almost the same, the temperature that we measured was almost the same.

Q. But in each of those cases, the PUR product was in fact at about the 22 degree mark to start with?
A. That's right.

Q. So it was about a 120 degree difference in the product?
A. That's right. But remember this is a chemical reaction, and the chemical reaction behaves differently as opposed to a thermal heating of an electric motor, for example. So that reaction itself, we need to establish

which is the worst case, ie, what is the most violent test that this product will - in terms of generating heat, at what condition. Is it 30 degrees? We don't know that yet. So that's what we need to establish. Once we establish that criteria, then we could turn around and go, well, we've now looked at it in terms of the worst case.

MR TROST: No further questions, Mr Martin.

THE CHAIRPERSON: Mr O'Brien?

MR O'BRIEN: I have no questions, thank you.

THE CHAIRPERSON: Ms Holliday, do you have questions?

MS HOLLIDAY: I have no questions.

THE CHAIRPERSON: Mr Hunter?

MR HUNTER: No re-examination.

MR CLOUGH: Mr Parmar, I have a couple of questions, and please tell me if they are outside of your area of expertise. They are just general questions.

Q. You spoke about having a set humidity when you did the - I think you called it the electrical resistance measurements. Do you have any general comments on whether the humidity affects a material's ability to hold an electric charge?
A. Yes. It does, and it could - depending on the material type, sometimes the higher humidity can be more detrimental than a lower humidity. But generally speaking, in the testing that I have done so far, the lower the humidity, the higher the potential for static discharge to occur.

Q. The second question is in relation to another product - I don't know whether you are familiar with a Cavity Fill product. Have you heard of Cavity Fill?
A. I have heard of it.

Q. I'm wondering if you have any thoughts about the use of Cavity Fill in conjunction with PUR and whether or not there may be an insulation effect from the Cavity Fill when used with PUR. Now, I know it is sort of outside the experiment, other than perhaps the last experiment you did.

Any comment on that?
A. No, that's outside my area.

MR CLOUGH: Okay, fair enough. No more questions, thank you.

THE CHAIRPERSON: Mr Parmar, thank you for your evidence today. You are excused.

<THE WITNESS WITHDREW

THE CHAIRPERSON: It is convenient to adjourn until 2 o'clock, Mr Hunter?

MR HUNTER: Yes.

THE CHAIRPERSON: All right. We will adjourn until 2pm.

LUNCHEON ADJOURNMENT

THE CHAIRPERSON: Yes, Ms O'Gorman.

MS O'GORMAN: Mr Martin, this afternoon Mr Wayne Sellars will be giving evidence. He is represented here. Also, Peter Roney is back representing One Key this afternoon. It might be an appropriate time for both of those parties to announce their appearance.

THE CHAIRPERSON: Yes. Mr Wilson?

MR C C WILSON: Thank you. Wilson, initials CC, of counsel, instructed by GC Law. I appear for Mr Sellars. Mr Sellars is before the Board.

THE CHAIRPERSON: Thank you. Mr Roney, you are back?

MR P J RONEY QC: Yes. May I reannounce my appearance. Roney, initials PJ, Queen's Counsel, appearing for One Key Resources, instructed by DLA Piper.

THE CHAIRPERSON: Thank you.

MS O'GORMAN: I call Mr Sellars. Perhaps before he takes the witness box, with the Board's consent, Mr Sellars will be wearing a hat for the duration of his evidence, if that's suitable.

THE CHAIRPERSON: Yes, of course.

MS O'GORMAN: Thank you.

<WAYNE DAVID SELLARS, sworn: [2.06pm]

MS O'GORMAN: Mr Martin, there is one other thing I should raise at the outset. Early on in these proceedings, the Board acceded to a request for privacy by the five injured coal mine workers who were on the longwall face at the time of the serious accident.

THE CHAIRPERSON: Yes.

MS O'GORMAN: For the purposes of evidence taken during these hearings and documents tendered during them, their names have been substituted for numbers.

THE CHAIRPERSON: Yes.

MS O'GORMAN: Each of those workers has given consent for their names to be used to the limited extent of Mr Sellars giving his evidence so that he doesn't have to try to convert names to numbers.

THE CHAIRPERSON: Yes, all right. Thank you very much.

MS O'GORMAN: Thank you.

<EXAMINATION BY MS O'GORMAN:

MS O'GORMAN: Q. Mr Sellars, could you tell the Board your full name, please?
A. Wayne David Sellars.

Q. Mr Sellars, you are one of the workers who were injured in the serious accident at Grosvenor mine on 6 May 2020?
A. That is correct, yes.

Q. On that day, you were working, were you not, as a shearer driver on the longwall face?
A. Yes.

Q. In terms of your employment status at that time, you were employed by One Key Resources?
A. Yes.

Q. Effectively as a labour hire worker deployed to Grosvenor mine?
A. Yes.

Q. By the time of the serious accident, as I understand it, you had been working in the coal mining industry for a period of about 13 years?
A. Yes.

Q. You had started, firstly, at Oaky North?
A. Yes.

Q. You had also worked as Crinum East?
A. Yes.

Q. You had worked at Newlands for about five years?
A. Yes, that is correct.

Q. And you had been working at Grosvenor mine since about 2013?
A. 2014, yes.

Q. 2014?
A. Yes.

Q. In terms of your employment history at Grosvenor mine, you had commenced employment there before production was even under way?
A. Yes.

Q. You had worked in development?
A. Yes.

Q. And whilst development was under way, you had worked as a continuous miner driver?
A. Yes, that is right.

Q. You had then subsequently worked on each of longwalls 101, 102 and 103?
A. Yes.

Q. And in that time, you had worked as a shearer driver?
A. Yes.

Q. Now, when you were originally employed at Grosvenor, was it One Key Resources who was your employer?

A. Originally it was Mastermyne.

Q. Then at some point, did One Key Resources take over the contract for the provision of labour hire work?
A. Yes.

Q. And you became a One Key Resources worker?
A. Yes, yes.

Q. Had you ever been employed directly by Grosvenor?
A. As a permanent?

Q. Yes.
A. No.

Q. In terms of longwall 104, is it the case that you had been working as a shearer driver on that longwall since the time of first coal on 9 March 2020?
A. Yes.

Q. What was your roster during the life of 104?
A. 104 was seven on, seven off, afternoon shift and night shifts.

Q. What crew did you work with?
A. B crew.

Q. How many people were there on that crew, roughly?
A. Eleven - 11 or 12, yes.

Q. Do you know who their employers were?
A. All One Key, except for the deputy; he was an Anglo employee.

Q. Permanent employee?
A. Yes.

Q. You were aware that there were a number of methane gas exceedances during the life of longwall 103?
A. Yes.

Q. And then during the life of longwall 104, between 9 March 2020 and the day of the serious accident, that there were a number of methane gas exceedances in that period of time?
A. Yes.

Q. Were you yourself working on the longwall at the time of all of those exceedances?
A. Not all of them, no, no. Some of those happened while we were on days off, you know, back at camp.

Q. How did you come to find out about them if you weren't there working at the time?
A. You have your pre-start meetings, start of tour meetings when we come back from days off, and just communication between the guys on crossover.

Q. When you say "pre-start meetings", are you talking about those start of tour meetings?
A. The start of tour meetings, yes, and every day before we went to work, up in the breezeway we'd have the under-manager run through incidents and stuff like that that had gone on, yes.

Q. What was the content of the information that was given to you at the time that there was a methane exceedance - what sorts of things were you told?
A. Just that there's methane exceedance and pretty much, yes, just that they'd had methane exceedances through the shift or through the days off there, they'd relay the information that they'd had methane exceedances.

Q. What further information were you given other than the fact that there had been a methane exceedance - was there any other discussion at those meetings?
A. Not that I can recall, no, about the actual exceedances.

Q. Were questions asked by any of the workers about what had happened or what was going to happen in light of the exceedances?
A. Yes, we questioned what was - what we were doing to control the gas and stuff like that, yes.

Q. When those sorts of questions were asked, what were you told?
A. We were just told - oh, how do you explain it? - what was being put in place to control, like, shearer speeds and what we were going to do throughout the shifts and that to control the gas.

Q. Now, why would shearer speeds be something that was discussed in the context of a methane exceedance?

A. Just to slow the shearer down, to try to keep the gas levels down, to get the ventilation - keep the ventilation moving, and just, yes, just slow it all down, so try to control the gas better.

Q. Was there discussion at any of these meetings about any of the underlying issues that were causing the methane exceedances?
A. Not that I can recall, no.

Q. Do you recall any discussion at these meetings about issues like pre-drainage that had or had not happened in either the working seam or the P seam?
A. No.

Q. Did you at any of these meetings or in any other context see any reports called learning from incident reports?
A. I did not, no.

Q. Did you know whether there were any investigations that were undertaken at the mine into the cause of any of the exceedances?
A. Not to my knowledge, no. No.

Q. You said that you had worked on longwalls 101 right through to 104?
A. Yes.

Q. Was there any difference in the number or frequency of the methane gas exceedances that occurred during 104 compared to the earlier longwalls?
A. 104 had more gas, lots more gas.

Q. Was there any discussion amongst the workers and the mine about the cause of the more gas that you were experiencing?
A. Discussion between the guys, myself and other miners underground, about the amount of gas and stuff, but the cause - it's just a lot of methane, we were mining through a fault, and just bad strata, too.

Q. We've been talking so far about the methane gas exceedances that occurred and how you came to be informed about those when you were not on site at the time that they occurred. What about when you were working, when there was a methane gas exceedance - can you tell us how that would

unfold?
A. If there was a methane exceedance, it would either - it would stop the longwall, stopping - the AFC chain shearer would stop, and we would be informed over the DAC that there was a gas exceedance in the tailgate, and then we would just wait for the gas levels to drop and then we would continue mining.

Q. I think you indicated that the shearer would stop?
A. Stop, yes.

Q. There were sensors, were there not, on the shearer that would stop the shearer when it read gas at certain levels?
A. On the shearer. There were also sensors in the tailgate, which would, yes, also stop the longwall from operating if the gas levels got up too high.

Q. Were there any times when the shearer would stop, but a methane gas exceedance would not in fact occur?
A. Not to my knowledge, no.

Q. And you mentioned receiving calls on the DAC. Who was relaying that information to you?
A. That was the maingate operator that was watching the gas levels in the tailgate.

Q. Now, if you were working on the longwall at the time of a methane exceedance, did you say that you would be informed on the DAC that there was an exceedance occurring?
A. Yes, they'd let us know what the gas level was and where it was at and just - yes.

Q. So when you say that you would be told what the gas level was, were you given actual numbers?
A. Yes, sometimes they'd spit it over the DAC, you know, it would be what the gas level was at the time.

Q. Firstly, you understand that when the methane gas exceeds 2.5 per cent, it is considered a high potential incident?
A. Yes.

Q. Would you be told when an HPI was under way?
A. It would relay down, yes --

Q. In those terms?

A. Yes. And we'd put it together that once it was up that high, it would be an HPI.

Q. When that happened, would you be removed from the longwall face?
A. No, we'd just wait for the gas levels to drop, just hose chocks and, yes, just keep busy while we waited for the gas levels to drop.

Q. Did the time that it took for gas levels to drop vary from methane exceedance incident to methane exceedance incident?
A. Yes, yes, they were all different, yes. Times varied.

Q. Were there sometimes lengthy periods on a shift where you would be waiting for the gas to drop below the requisite level?
A. Yes.

Q. During those lengthy periods, did you remain on the longwall face or would you come back off it and go somewhere else in the mine?
A. We would just continue to work on the longwall face, yes, hosing, cleaning up.

Q. Were there any occasions in which you were evacuated either out of the mine entirely or back to another part of the mine during --
A. Not out of the mine, no.

Q. Not out of the mine?
A. No.

Q. What about back to another part of the mine away from the longwall face?
A. We were never evacuated off the face, no.

Q. You have said in your statement that during the life of longwall 104, you encountered a lot of bad roof on that longwall?
A. Yes.

Q. You also mentioned a little earlier that you were managing a fault on longwall 104?
A. Yes.

Q. Are you able to indicate the size or the magnitude of

that fault that you were managing in the lead-up to 6 May 2020?
A. As we mined into the fault, we could see it getting bigger as we mined into it further and as it progressed down the face as we mined.

Q. Was the existence of the fault something that was discussed at either the start of tour meetings or toolbox talks?
A. Yes, yes, we knew it was there and how we were managing the roof and stuff through there.

Q. How were you managing it through there in that period of time?
A. Just through PUR pumping and just keeping the face tight.

Q. When you say "keeping the face tight", what sorts of procedures would you use to make sure that the face was kept tight?
A. Just double-chock. We'd, yes, double-chock the face, just keep that tip to face as close as possible.

Q. Now, in your statement you talk about the fact that most of the time, bi-di cutting was used on the face?
A. Yes.

Q. Can you explain to us, firstly, what bi-di cutting is?
A. Bi-di is cutting in both directions, from tailgate to maingate and cutting back to the tailgate, getting a shear in both directions.

Q. You say in your statement that there were times when you would request to revert to uni-di cutting?
A. Yes.

Q. And that that was done as a response to attempting to manage the strata issues?
A. Yes, yes.

Q. Uni-di cutting, I take it, means that you are just cutting in the one direction?
A. Cutting, yes, roof in one direction towards the maingate and taking the floor on the way back, but it's easier to manage bad strata with uni-di.

Q. Why is that?

A. Just you can keep the guys out of the dust and out of bad roof area, and you have better vision of what's going on.

Q. Just so that we can understand that, can you explain for us, as a shearer driver, where you are located, where you are positioned relative to the shearer whilst it is cutting the face?
A. While it's cutting the face, on the maingate side behind the last flipper that's down.

Q. In front of the shearer?
A. In front, maingate side, in front of the shearer, yes.

Q. Roughly how far in front of the shearer would you position yourself?
A. It's about five chocks.

Q. You use a remote control device?
A. Remote control to operate the shearer, yes.

Q. And your chocky, the person that's working with you --
A. On the chocks, yes.

Q. -- is located typically where during that process?
A. Around where I am, maybe a bit further back, hosing as we're going along, just watching the mimics, checking, making sure everything is - the push is operating correctly and the chocks are coming in.

Q. So if you are cutting uni-di, you are in front of the shearer as it advances?
A. Yes, towards the maingate, yes.

Q. And, in fact, is it the case that any of the workers will be effectively in front of the shearer?
A. Yes, yes.

Q. Is the difficulty, then, that if you are cutting in bi-di, you will have guys who are essentially working behind the shearer and therefore in the dust that you mentioned before?
A. Beside the shearer, yes, because you have to see where you're moving. If you're man delivering the chocks over when you are cutting in bi-di, you've got to be able to see where the chocks are, as well as the shearer drivers down there, too. So we're in behind the chocks right near where

that drum is.

Q. How frequently - and I'm talking about longwall 104 - did your crew ask to be able to cut uni-di rather than bi-di?
A. Oh, several times we requested if we could go to uni-di just because of the bad roof.

Q. When you made that request, can you just talk us through how that would happen - who would you or a member of your crew make that request to at first instance?
A. To our deputy. We'd request of the deputy. He'd come down to see what we're requesting, see how bad the strata is, then he would escalate it up to upstairs.

Q. Would you necessarily be part of those conversations, the escalation up to upstairs, as you have described?
A. Between the deputy and that, yes, and if management came down, a coordinator or someone came down to have a look, yes, you would get into that discussion, too.

Q. Did that happen on each occasion that you asked to revert to uni-di, the coordinator would come down?
A. No, not every occasion, no.

Q. Were those requests always acceded to? Were you always permitted to cut uni-di when you asked to do so?
A. No, no.

Q. Are you able to give us an idea of the proportion of times that you would be allowed to cut uni-di as opposed to bi-di?
A. The preferred cutting method was bi-di, so we'd go into uni-di and we could cut uni-di. We would get uni-di to where we could control the roof, and then pretty much it would be try to get back to bi-di ASAP.

Q. Is that something that you and your fellow workers decided to do, to go back to bi-di ASAP, or was that something that you were told to do?
A. No, no, we were instructed to go back to bi-di, yes.

Q. Who in those instances would relay those instructions to you?
A. Sometimes we'd be cutting uni-di, and then we'd be told next shear we're going to revert back to bi-di from upstairs, from people.

Q. When you say "upstairs"?
A. Management, yes, coordinator, further up.

Q. I'm interested to know, were you personally ever involved in any of the discussions with management personnel or was there an intermediary? Did the deputy, for example, speak to management on those occasions?
A. Yes, he spoke to them, yes. He would voice our concerns.

Q. Were there occasions when you requested to continue to cut uni-di and you were told to go back to bi-di, nonetheless?
A. Yes.

Q. On those occasions, what happened - did you do as you were told to do?
A. We did as we were instructed, yes.

Q. During the life of longwall 104, do you recall instances of methane essentially coming up through the floor of the longwall?
A. Yes.

Q. Do you recall whether that was something that happened all the way through from 9 March onwards or did it start to happen towards 6 May?
A. It had been there for a while, actually, yes. I can't recall if it was right at the very start, but, yes, we had methane coming through the floor, bubbling through the floor, for quite some time, yes.

Q. When you say "bubbling through the floor", are you talking literally that there were bubbles?
A. Yes, because there was water on the longwall floor, through hollows and stuff like that - it would be bubbling up through the water, yes.

Q. On those occasions where you observed the bubbling occurring, did the shearer always stop by way of its automatic shut-off?
A. Not all the time. It was only when it got a high gas reading when we were cutting along the face. The majority of that was through that fault.

Q. You mentioned a little earlier that one of the ways

that you managed cutting through the fault was pumping the face?
A. Yes.

Q. I just want to ask you some questions about that.
A. Yes.

Q. When the face was pumped, is that something that occurred because you were told to pump the face or that the face was going to be pumped, or was that something that you and your fellow workers would request to occur?
A. We would request to pump, yes, because - well, we were in control of the face. We'd see the conditions worsening, and just for our safety and that, you know, we would request to pump, yes.

Q. When you talk about pumping the face, are you talking about the application of both Carbofill and PUR?
A. Yes.

Q. When you say that you would request it for your safety, can you explain to us how it is that pumping the face maximises the workers' safety?
A. It just consolidates the face, glues it up nice and diet, so we haven't got strata, you know, rocks and the coalface falling in.

Q. When you were involved, either you personally or a member of your crew, in requesting to be able to pump the face, was that request always acceded to?
A. No, not all the time, no.

Q. Did the process happen much the same way as the process with the request, for example, to revert to uni-di cutting - that is, you would make the request to your deputy, who would then take the request elsewhere?
A. Yes.

Q. I take it that you personally weren't involved in those discussions between the deputy and whichever mine management personnel he spoke to?
A. Sometimes, if they came down, we would discuss it with them and put our concerns forward, yes, and just the frustrations of trying to cut through that, you know, it's so slow and just tedious.

Q. When you say sometimes "they" would come down --

A. Yes.

Q. -- what role are you talking about, people in which role would come down?
A. Coordinators, superintendents.

Q. Were those requests met with sympathy from the coordinators or the superintendents?
A. As in, sympathy as in?

Q. Well, were they inclined to allow you to pump the face?
A. Sometimes, yes, yes. Not all the time, though. Sometimes they would just try to struggle through.

Q. Were there times when they were inclined to allow you to pump the face, and then later you were told that you could not?
A. Sometimes where we would start pumping and then, yes, they'd pull it up a bit early.

Q. When you say "pull up a bit early", what do you mean by that?
A. Oh, not finish pumping all the holes that we had drilled sort of thing. You know what I mean, yes.

Q. What's the downside, if any, from your perspective, of pumping the face, if that's something that's going to maximise the safety for the workers?
A. The only downside to pulling up the longwall and pumping the face is just time - time and money.

Q. Do you recall encountering cavities --
A. Cavities on the face, yes.

Q. -- mining through longwall 104?
A. Yes.

Q. Was it in order to fill those cavities that the requests were made to either use Carbofill or, in some cases, PUR?
A. Yes, PUR was used to glue the face and help consolidate the roof in front as well, and Carbofill was used to fill the cavities above us, above the roof supports that were already there.

Q. How would you know if a cavity was developing or had

developed above you?
A. Just the roof's fallen in and there's, yes, void above the chocks, yes.

Q. Were there occasions where Carbofill was used to fill up the cavities?
A. Used to fill cavities, yes.

Q. Can you explain to us the process that was undertaken when Carbofill was used to fill a cavity?
A. Yes. The company used to do the pumping would come down, set their pump up, set their gun up where they pumped, they would put their standpipes up in the roof, they would build their - oh, what do you call it? - sort of false roof, so the Carbofill wouldn't fall through, and they would pump the Carbofill up and plug the hole.

Q. When you say "plug the hole", to your knowledge, if you know, was the product used to fill the entirety of the cavity or just to provide a plug on the bottom of it?
A. Used to plug the bottom of the hole. Some cavities weren't filled, no.

Q. From your point of view, would it have been preferable for cavities to be filled entirely, or is just inserting that plug sufficient?
A. Personally, no. I think filling the cavity, now, should have been done.

Q. You mentioned also the application of PUR to glue the face together?
A. Yes.

Q. Would you be involved in assisting the company who was applying the PUR in either their preparation or the application itself?
A. Preparation, helping, bringing the chemical into where the pump is and just helping with that side of things. Sometimes we'd go down and help with the DAC for communication between the pump and the gun. Yes, we would assist in that sort of stuff, yes.

Q. During 104, do you recall which company or companies were used by Grosvenor mine for the purpose of either PUR or Carbofill?
A. Minova and DSI.

Q. Did, during 104, that company change from Minova to DSI?
A. Yes, I think so, yes.

Q. Do you recall being involved in any discussions about what the change meant in terms of whether there was a new product that was going to be used or a new process that needed to be used?
A. We went through, when they changed companies, a familiarisation of the new - well, the products and stuff like that.

Q. Was that at a meeting or how was that conducted?
A. That was upstairs, yes, in the conference room. The crew would sit down and go through - and fill out the paperwork, yes.

Q. Was DSI, or representatives of DSI, part of that familiarisation process?
A. Yes, one of the guys from DSI was there, yes, or Minova, whichever company - when they bring in a new company, you do your familiarisation with that company, yes.

Q. You said "or Minova", so during the life of the mine, had another company been used prior to Minova, to your knowledge?
A. Yes, yes. Wilsons were there first, yes.

Q. You said that you would from time to time be involved in the preparation for the application of PUR or Carbofill?
A. Yes.

Q. Once preparation was undertaken, was it the company itself that then applied the product?
A. Yes.

Q. Were you personally ever involved in the application process?
A. Not the actual gun where they're pumping it. That was - they were trained in that field of work. So, yes, we would help the pump, bringing the product in and helping them tip drums and stuff like that, yes.

Q. What about afterwards, when the application process was completed --
A. We would help pack up, yes.

Q. Typically, how long would that pack-up process take?
A. To be honest, not very long, because the hoses were left - they were already spaced out on the longwall pan line. So instead of stopping, rolling up hoses and stuff like that, they were just flushed out, plugged and put up on the pan line.

Q. After that process was completed - that is, the application process and the clean-up that you have just described - did the mine undertake a fire watch?
A. No, we pretty much went straight in and started cutting.

Q. When I use the term "fire watch", what do you understand that to mean?
A. A time period before we cut, yes.

Q. Do you recall whether or not there was a set time period before you would resume cutting?
A. No. Pretty much when we packed up, we'd go down and start cutting again, yes.

Q. Did that happen because you and your fellow workers did that of your own volition, or would you be told, "It's time to start cutting again now"?
A. We were told, "It's good to go. Start cutting."

Q. Who would that direction come from?
A. Upstairs. I do not know who made those calls, but we would just - yes, we would finish pumping, clean up and start cutting again, yes.

Q. You have described some strata issues, the existence of a fault which you described as growing as you came closer to 6 May, the existence of cavities?
A. Yes.

Q. Were those sorts of issues ever raised by you, either personally or any of your other co-workers on your crew, with either your deputy or any mine personnel above the position of deputy?
A. Yes, yes, it was discussed, and we would bring it up all the time, yes.

Q. When you say it was discussed and you would bring it up all the time, can you give us a sense of the sorts of

discussions that happened, the sorts of information that you would relay?
A. We'd be trying to work out how we're going to - you know, how we're managing it, how the last crew was managing it, and, yes, just how we were going to try to control it and manage our way through it, yes.

Q. Were there any other ways that you and your fellow workers managed those issues other than the ones that you have described to us - that is, keeping the face tight?
A. Tight.

Q. Using face pumping?
A. Yes, yes.

Q. Those kinds of things. Is there anything else that was done to manage --
A. No, that's about all you can do, is keep it tight and, yes, just be careful and mine through steady.

Q. Was there discussion at any time about ceasing production for a period of time until conditions were better or the workers were satisfied that conditions were safe?
A. Conditions don't just get better by stopping. You've got to manage the conditions, pumping, stuff like that, that improves the conditions.

Q. When you personally or your fellow workers raised any concerns that you had about the face, were they dealt with to your satisfaction by those at the mine?
A. Could you repeat that?

Q. Okay. You have said that you would raise concerns that you had with either your deputy or mine management?
A. Yes.

Q. When those concerns were raised, were they dealt with satisfactorily? Were you happy that you were listened to and that they were responded to appropriately?
A. Not all the time, no. No.

Q. Can you tell us a little bit more about that?
A. Sometimes - like, we asked to pump, and they'd come back and just - we'd be told just to keep going. You'd get frustrated and, you know, it's just - keep voicing your - to the deputy, sort of thing, yes.

Q. In that example that you have just spoken of, an instance where you have asked to pump and you are told to just keep going, did you have any recourse to push back on a direction like that? Were you able to say, "No, we're not going to keep going", or to raise it to some other person at the mine?
A. We'd kick up a stink, yes. We'd keep - unfortunately the deputy is the one that cops the brunt of it, or the under-manager, yes.

Q. So when you say you would kick up a stink, what sorts of things would be done?
A. Oh, just keep going, "We've got to pump", you know, "We can't keep trying to cut through this." When you pump, once you've got the face consolidated like that, you can keep making progress, instead of trying to struggle through with bad strata falling and burying the chain all the time and stuff.

Q. Now, you are a shearer driver?
A. Yes.

Q. You have been for longwalls 101 through to 104?
A. Yes.

Q. You would have heard talk in the industry, I take it, of a move towards automation or the potential for the move towards automation?
A. Yes, yes.

Q. Have you worked at any mines where automation is a reality yet?
A. Not a reality yet. No, I haven't worked in a mine that's got full automation in operation, no.

Q. To your knowledge, is it something that Anglo is interested in or was working towards when you were there at Grosvenor?
A. Yes, yes. Automation is - that wall was set up for automation, yes.

Q. What's your attitude to automation and whether it is a good or a bad thing?
A. Oh, it's a good thing, yes, yes.

Q. Why?

A. Just get people out of the dust. It's safer. Yes.

Q. When a longwall is being operated under automation, does it mean that there will never need to be people down on the longwall at the time that the shearer is cutting?
A. To my knowledge, they still have to have people down there - trades, electricians, fitters. Things break. Yes.

Q. What about in circumstances where bad strata is encountered or some other unfavourable conditions - would there be a requirement for people to be down there working on the shearer?
A. Personally, yes, I think you'd have to, because you can't manage bad roof with a camera.

Q. When you say you can't manage bad roof with a camera, is that because of visibility issues?
A. Visibility. You can't see what's happening above the chocks, if the roof's - if a cavity is forming.

Q. So tell us, when you are driving a shearer, you have already described the fact that you do that by use of a remote control device?
A. Yes.

Q. What are the sorts of things that you are looking at or making observations of while the shearer is being operated?
A. While you're driving the shearer, you're watching the drums cutting, you're watching the face profile, where your seam is, where the shearer is in the seam, making sure the chocks are operating correctly over the shearer, making sure the push is all coming through, watching for blockages on the chain as well as the other guys up the face who are hosing and doing work up the face, keeping an eye on the chain - yes, just watching the strata.

Q. You mentioned earlier in your evidence that you knew - that is, the workers working on the longwall face knew - that there was going to be a fault that you were going to have to manage on longwall 104?
A. Yes.

Q. Were there times when the conditions posed by the fault were different to what you had been told to expect?
A. No. No, the conditions with the fault - you're going to get bad roof with the fault.

Q. What I'm getting as is whether there were times when your observations of the fault, your physical observations of the conditions, the rock, the height of it, all the rest, were different to what you might have expected they would be at the start of a shift?
A. Not with that fault, no. We knew it was a big fault, yes.

Q. When you were working at Grosvenor mine, you have indicated that you were employed directly by One Key Resources?
A. Yes.

Q. But obviously, since development at Grosvenor, you were deployed always to Grosvenor mine?
A. Yes, yes.

Q. You didn't go and work at other mines --
A. No, no, no, no.

Q. -- in that period of time?
A. When the contract changed, we were re-employed by One Key.

Q. Can you give us an idea of your perceptions of the benefits and any drawbacks of being employed as a labour hire worker at the mine?
A. As a labour hire worker compared to being a permanent?

Q. That's right.
A. Oh, huge difference between being a permanent and a labour hire, contractor, yes.

Q. When you say "huge difference", when you were at Newlands, were you a permanent employee?
A. Yes.

Q. You were there for five years?
A. Yes.

Q. What are the sorts of differences that you experienced?
A. Union.

Q. Beg your pardon?
A. You've got a union to back you.

Q. Were you a member of the union when you were at Newlands?
A. Yes.

Q. Were you a member of the union when you were at Grosvenor mine?
A. No, there was no union at Grosvenor.

Q. So you had a union to back you. Are there any other differences that you would describe?
A. Oh, as in being a permanent compared to a contractor, treatment, like - yes.

Q. If you can just describe for us what you mean by that?
A. Treatment? Oh, I'm finding it hard to find words for it. Contractors are just treated differently, sorry. It's just the way it is.

Q. When you say it's just the way it is, is that the way you felt about your employment?
A. Yes, yes.

Q. Can I ask you now about --

THE CHAIRPERSON: Q. Sorry, I might have missed the answer. What was the answer - the way you felt? What did you say, Mr Sellars?
A. It's just - contractors are treated differently to permanent workforce.

Q. But in what way?
A. Just - a permanent workforce, you've got more of a voice to speak up. Like, bonus schemes and stuff like that. Like, we were punished - if someone injured themselves, we'd lose our bonus on site and stuff like that, and that breeds bad culture. It puts everyone offside, if you can understand what I mean. As a permanent worker, if you got told you were going to lose your bonus, you'd walk out on the grass. You wouldn't go to work. You would strike, for sure.

THE CHAIRPERSON: Yes.

MS O'GORMAN: Q. I was going to move to ask you to describe for us the serious accident itself that occurred on 6 May?

A. Yes.

Q. Now, on that day, do you recall whether you were on an afternoon or a night shift?
A. Our last afternoon shift.

Q. When you say your "last afternoon shift", it's the last day of your tour?
A. Yes.

Q. You are on afternoon shift. What time did you start?
A. 9.30.

Q. And the shift would have gone through until what time?
A. 9.30.

Q. As I understand it from your statement, you had managed to progress mining of the longwall reasonably satisfactorily that morning?
A. Yes. Yes, we had actually had a pretty good shift up till then.

Q. Do you recall any particular cutting sequences that you had been able to undertake?
A. We had cut the tailgate out and done a floor clean-up, which - take the shearer back in and clean the floor out so we've got a nice, clean floor to push, push the pan line.

Q. Prior to the serious accident itself, do you recall where the shearer was?
A. At that stage, we had pulled up at the turnaround point at 125. I'd stopped the shearer there.

Q. You say 125. Do you mean shield 125?
A. Yes, one shield, 125.

Q. That's the turnaround point?
A. Yes.

Q. Is that the point at which you would bring the shearer back from the tailgate in order to take it back in again to advance the face?
A. Yes. You come out to 125, you could push, advance your chocks, and then the second pass into the tailgate, you could go back in, and then the next pass would keep going out to the maingate.

Q. So the shearer has been pulled back to shield 125 and stopped at that position?
A. Yes, yes.

Q. Do you recall that at that time, there was going to be a transition between the workers who were on the face?
A. Yes.

Q. So if you can describe for us who you were working with at the time?
A. At that time, Peter and Clayton - Clay had come down to relieve me at Dale from the lunch. I had pulled the shearer up at 125, turned it off and we were just about to walk into the tailgate and start advancing shields and stuff when Peter and Clayton came down. At that time, I was talking to Peter about what we were about to do, and then --

Q. You say at that time you were talking to Peter?
A. Yes.

Q. What was the first notice that you had that something was wrong?
A. That first, initial shock, pressure wave that came through.

Q. How did you experience that first, initial pressure wave? What did it feel like?
A. Standing in a cyclone. A huge - yes, just a huge pressure wave that went through.

Q. Prior to the pressure wave itself, do you recall hearing, seeing or feeling anything else unusual?
A. Before the first one?

Q. Yes.
A. Nothing. It took us by surprise.

Q. Do you recall where you were at that time?
A. Beside the hearer, around in that 125 to 130 area, yes.

Q. I mean relative to any structures. Were you close to the shields?
A. I was standing on the front pontoons of the roof supports, yes, facing the goaf.

Q. At that point in time, were any of the other workers nearby to you?
A. Yes. Peter was on my right, and Clayton was on my left, behind me, a couple of shields in.

Q. Given that you have indicated you were facing into the shields at that time, towards your right means that Peter was towards the maingate?
A. Maingate, yes.

Q. And Clayton was towards the tailgate area?
A. Yes.

Q. When that first pressure wave came through, do you recall the direction from which it came?
A. Tailgate, yes.

Q. Did you or any of the guys who were standing near you either fall over or get knocked about in any way?
A. I'm pretty sure Peter got knocked over beside me. I can't say - I'm not sure if Clayton got blown over.

Q. What about you?
A. No, I managed to hang on and stand up.

Q. How long did that pressure wave last for?
A. A few seconds, a couple of seconds.

Q. When you say it lasted for a couple of seconds, do you mean for the entirety of that time, that couple of seconds period, it felt like a cyclone?
A. Yes.

Q. Now, while that period of time, that two seconds or so, was occurring, was there any noise associated with that event?
A. Not in that first event, no.

Q. When it finished, was there any suck-back or reversal of ventilation?
A. No. It was still. It had stopped the ventilation.

Q. What did you do or say at that point in time, if anything?
A. At that point there, because the power had tripped instantly with that first one, the power had all tripped out, I remember saying to Peter, "They're not going to like

this. There's another HPI."

Q. You have said that power tripped.
A. Yes.

Q. Does that mean that everything stopped working at that point in time?
A. Yes, yes. There was no power on the face.

Q. Lights?
A. No lights.

Q. So what light did you have?
A. Just cap lamp, yes.

Q. You have indicated that you said something to Peter. Do you recall whether he responded to you?
A. No.

Q. What was the next thing that you felt or observed yourself?
A. The next thing that happened was a second pressure wave, which ignited.

Q. It ignited?
A. Yes.

Q. Did you see a flame?
A. Blue flame, yes, like standing in a blowtorch, for a split second.

Q. You said that that happened at the time of the second pressure wave?
A. Yes.

Q. Are you able to recall the direction from which that pressure wave came?
A. From what I saw, it was coming from the tailgate in front of me.

Q. Was there any noise associated with that event?
A. There was, like two stones being cracked together, but I do not know where, what direction that came from. Yes.

Q. Other than what you have just described there in terms of the second event, being a second pressure wave and the flame, was there anything else that you could observe at

that point in time in terms of the ventilation or any other changes?
A. I'm sorry, I was on fire by that stage. I don't recall anything from that point on. I don't recall anything but just, when it stopped, getting out.

Q. Sorry, when it stopped?
A. When the flames stopped, was just to get out.

Q. Now, you did get out from where you were?
A. Yes.

Q. Are you able to recall how that occurred?
A. Yes. We walked out. I initially was holding my breath after the flames went out, thinking - in my head thinking about what gases are in the air. After that, I could not find my self-rescuer. I ended up taking a breath and then realised - then shoved Peter and just started yelling, "Go, go, go." I could hear Clayton screaming behind me, and we just started marching out.

Q. At some point on your way out - I will just ask you this. Had all the flames gone by this point in time?
A. There was no flames, no. They had gone out.

Q. At some point in time, were you met by your deputy coming in?
A. Yes, yes. I take my hat off to Adam for coming in.

Q. What do you recall of him coming in?
A. I remember when we were walking out, Maggsy was there and he tried to get me to stop, and pardon my French, but I told him to "Fuck off, I'm not stopping, not stopping for anything", and he replied, "You're on fire."

Q. Did he do anything at that point in time to you?
A. He tried to pat me out, yes.

Q. Were you aware that you were on fire at the time?
A. No, no. I was just solely - to get out, to get us out.

Q. You did in fact make it all the way along the longwall?
A. The longwall face, yes, and out to the roadway, yes.

Q. Now, once you were in the roadway, were you able to be

transported out of the mine?
A. Yes. There was a PJB waiting for us there, yes.

Q. Did people assist you to get in there and transport you out?
A. Yes, yes. Yes, yes.

Q. How long did the trip out of the mine take?
A. I have no idea, to be honest. Yes.

Q. Once you came out of the mine, were you taken from there to anywhere else on the surface or to any other facility?
A. Yes, we were taken up to where the - outside the IMO's office, and the first responders were there, yes. We were put on stretchers there and they started their assessments and stuff like that, and ambulance was already waiting.

Q. You said the IMO's office. What does that stand for?
A. That's where the nurse and all the first-aid and all that is - yes.

Q. Were you taken in the ambulance to the nearby hospital?
A. Moranbah Hospital, yes.

Q. Were you at Moranbah Hospital for long, do you recall?
A. I remember arriving at the hospital, and I don't know how long we were there for, and the last thing I remember was someone telling me to take a deep breath. That's the last thing I remember until I woke up.

Q. When you say until you work woke up, was that there or had you been transported to Brisbane by that point?
A. I work up at ICU in Brisbane.

Q. In ICU in Brisbane?
A. Yes, which turned out to be three weeks later.

Q. I will just ask you briefly now about your injuries?
A. Yes.

Q. Is it the case that in the first few days, you have become aware that you had a number of surgeries and had been put on dialysis for kidney failure?
A. Yes, I was informed of that when I woke up, yes.

Q. Is it the case that you were in ICU for about three weeks?
A. Yes.

Q. And then subsequently transferred to the burns unit for about six weeks?
A. Yes.

Q. You were discharged for a period of time but readmitted because of blood clots that you were experiencing?
A. Yes, yes, blood clots on my lungs, yes.

Q. Are you able to give us an indication of the number of surgeries that you have had to date?
A. To date, 10, yes.

Q. And will there be any more?
A. Yes, I've got three more lots of laser surgery this year, I've got surgery to my hands, and my ear reconstruction, yes.

Q. What percentage of your body was burned in the incident?
A. Roughly 70 per cent.

Q. Is it the case, then, that you have had grafts to that proportion of your body, which includes your hands, your arms, your shoulders --
A. Arms, shoulders, hands, back, legs, face, head, yes.

MS O'GORMAN: If I might just have one moment, Mr Martin?

THE CHAIRPERSON: Yes.

Q. Mr Sellars, you mentioned the two pressure waves.
A. Yes.

Q. Can you estimate what time separated the two pressure waves?
A. Ten seconds or so. It wouldn't have been - it wasn't very long.

Q. And the intensity of each of them - was one more intense, more severe than the other?
A. I can't answer that, because the second one - just turned to shit, yes. The first one was pretty intense.

The second one is - yes, it just was flames. So I can't tell you how intense the second one was.

THE CHAIRPERSON: Thank you.

MS O'GORMAN: Mr Martin, would it be possible at this point to take a brief break? Probably five minutes would be sufficient.

THE CHAIRPERSON: Yes, that's fine.

MS O'GORMAN: Thank you.

THE CHAIRPERSON: We will just adjourn for a little while. Thank you.

SHORT ADJOURNMENT

THE CHAIRPERSON: Yes, Ms O'Gorman.

MS O'GORMAN: Thank you, Mr Martin.

Q. I only have one further question by way of clarification of something that you described earlier, Mr Sellars. In your evidence earlier you explained that sometimes when the mine engaged DSI or another company to fill a cavity, it would be filled by way of inserting a plug at the bottom of the cavity rather than filling it to capacity?
A. Yes.

Q. Do you personally know whose decision it was to either fill it to capacity or simply insert the plug?
A. No, I don't know who made those decisions. It was management's call from upstairs, yes.

Q. When you say "management's call from upstairs", was it DSI's decision, as far as you knew?
A. No, no.

Q. So when you say "management from upstairs", you are talking about Grosvenor mine management?
A. Yes.

MS O'GORMAN: That's all the questions that I have for Mr Sellars, thank you, Mr Martin.

THE CHAIRPERSON: Thank you. Mr O'Brien, do you have any questions?

MR O'BRIEN: No questions, thank you, Mr Martin.

THE CHAIRPERSON: Ms Grant?

MS GRANT: No questions, thank you, Mr Martin.

THE CHAIRPERSON: Mr Trost?

MR TROST: Just a few, Mr Martin, thank you.

<EXAMINATION BY MR TROST:

MR TROST: Q. Mr Sellars, my name is Jeremy Trost. I'm counsel for Dale, as you know him?
A. Yes.

Q. You mentioned earlier in your evidence that you felt you were treated differently as a contractor, as opposed to a permanent worker?
A. Yes.

Q. I assume that was treated differently by the mine operator; is that what you meant?
A. Yes.

Q. You said that that was in respect of you felt that you lost your voice - yes?
A. Yes, yes.

Q. And that there was a threat of a loss of bonus?
A. Yes.

Q. And you said that you would walk out straightaway if you were an employee?
A. If you were a permanent worker, yes, yes.

Q. What about your actual employer in this context, One Key - did they fill that gap at all, acting as your voice?
A. On site?

Q. Yes.
A. Not really, no.

Q. What about in terms of this threat to lose your bonus? Did they, to your knowledge, protect your bonus?
A. No. One Key didn't.

Q. Mr Sellars, in all of your 13 years or thereabouts in the mining industry - sorry if this is trite - did you feel unsafe at any point in time as a mine worker?
A. In those 13 years? No, you don't put yourself in the positions to be unsafe. Like I was saying, this incident that's happened was the last thing I personally expected to happen and, to be honest, I never wish this on anyone else ever again.

Q. So you didn't actually feel unsafe in this 13 years?
A. No.

Q. And do you know why that is? Did you make sure that you were personally satisfied --
A. Yes.

Q. -- with the ventilation plans --
A. Yes. You don't put yourself in unsafe positions.

Q. How did you know it wasn't unsafe?
A. Just - you just know. Commonsense - which you can't rely on commonsense. And you are taught, you know, what's safe, what's not safe.

Q. What about all of these other factors that might affect the safety of the mine. How did you know that the mine was safe in terms of the strata, for instance, around the mine, or gas flows from other seams, that sort of thing?
A. With strata, you've got your roof supports. When you are in development you have your bolting plans and all that sort of thing, you know, you go off - that's all been sorted by the GOs and that sort of stuff. So you put a lot of trust in other people's judgments.

Q. What sort of people did you trust in that respect?
A. You've got to trust your management, your geologists, your - yes.

Q. Just a few final questions. When you started working for Grosvenor mine, and when you started working for One Key in particular, did One Key provide you with an induction into the mine?

A. No, we had already been inducted with Mastermyne. We had been on site for quite a while, so --

Q. Did One Key have any ongoing contact, once they became your employer at the mine, with you?
A. Whilst we were working there?

Q. Yes.
A. Yes, they had their onsite people, yes.

Q. What sort of level of contact would they engage in with you while on site?
A. If you had problems with pay or you wanted uniforms, it was just - what do you call it? - administerial side of things.

Q. Did they ever engage with you on health and safety issues at the mine?
A. They had their representatives, yes, would come in with us, yes.

Q. What sort of engagement did that involve?
A. As in, like, with gas levels and stuff like that?

Q. With health and safety aspects?
A. Health and safety - well, we worked under the Anglo health and safety thing, Anglo's health and safety team, but they had their representative there for One Key.

Q. Did One Key have any direct discussions with you about any particular health and safety concerns that One Key had?
A. No. Not the admin side of things, no.

Q. Do you know whether - and if you don't know, that's fine - they raised any issues with your deputy or with mine management about any health and safety issues while you were working for them?
A. Not that I'm aware of, no.

MR TROST: No further questions, thank you, Mr Martin.

THE CHAIRPERSON: Yes. Ms Holliday?

MS HOLLIDAY: No questions, thank you, Mr Martin.

THE CHAIRPERSON: Mr Crawshaw?

MR CRAWSHAW: Perhaps if I could just be permitted to ask a question to clarify an answer.

<EXAMINATION BY MR CRAWSHAW:

MR CRAWSHAW: Q. Mr Sellars, I'm appearing on the screen here. I'm appearing for the union. In relation to that, I just wanted to ask you what you meant when you said there was no union at Grosvenor?
A. No CFMEU.

Q. But did you mean there weren't any union members?
A. Pardon?

Q. Did you mean there were no union members?
A. Yes.

Q. And, what, when you went there you resigned from the union, did you?
A. I just - when I changed, yes, I just - there was just no union there. We just went over with Mastermyne.

Q. Did you think the union wasn't welcome at Grosvenor?
A. They were trying to get a union started out there, a lodge started, yes.

Q. So when you say there was no union, you mean there was no union lodge, as such?
A. Yes. Yes.

Q. And so some of the workers there could have been union members?
A. I would say, yes. Yes, I don't know, at - Grosvenor didn't have an actual lodge. I don't know whether it is State union, is it, they can be in?

Q. I'm just trying to understand what you meant when you said there was no union. I think what you are telling me is that there was no union lodge, as such?
A. Yes, well, there was no union representative on site, you know, none of the boys were a union rep or anything like that.

MR CRAWSHAW: Okay, thank you.

THE CHAIRPERSON: Mr Roney?

<EXAMINATION BY MR RONEY:

MR RONEY: Q. Mr Sellars, my name is Peter Roney, I'm appearing for One Key.
A. Yes.

Q. Just a couple of questions, if I could, arising out of Mr Trost's questions to you. He asked you about, essentially, whether One Key did anything in relation to threats to not receive bonus payments; do you recall that question? Was there ever an occasion that you can recall where there was a threat, or a reality where there was a threat to receiving a bonus and this was communicated to a One Key manager or employee?
A. As in we were going to lose our bonus?

Q. Yes.
A. Several times.

Q. Was there ever an occasion?
A. Yes.

Q. Sorry?
A. We lost our bonuses on several occasions.

Q. But my question really is about whether that was something that you dealt with with the mine operator's staff or whether it was reported to One Key?
A. It was mine management, yes, not One Key. It's out of their hands, yes.

Q. So when there was that issue about bonuses, it was something that you both expected to be dealt with by the mine and which you did deal with with the mine people themselves?
A. Yes, we complained about it and stuff, yes.

Q. And as you have just said, that was because One Key didn't have any control over that.
A. No.

Q. Is that as you understand it?
A. Yes, that's how I understood it, yes.

Q. You also mentioned in response to another question that Mr Trost asked you about the health and safety manager or managers from One Key and your engagement with them -

you did from time to time deal with the One Key health and safety managers, didn't you?
A. Most of the time - I never dealt with a H&S from One Key, it was always Anglo, yes.

Q. So was there an occasion when you met the person who was the health and safety manager or the health and safety representative for One Key?
A. Not that I can recall, no.

Q. You also were asked by Mr Trost and also Ms O'Gorman about different treatment that you have referred to. It is certainly the case, isn't it, that in your dealings with One Key and its staff, you were certainly encouraged to report any safety issues that you had to mine management and indeed to One Key?
A. Yes.

MR RONEY: Thank you. Those are my questions.

THE CHAIRPERSON: Yes. Mr Holt?

MR HOLT: I have no questions, thank you, Mr Martin.

THE CHAIRPERSON: Mr Wilson?

MR WILSON: No questions, thank you.

THE CHAIRPERSON: Ms O'Gorman?

MS O'GORMAN: Just a couple of questions, thank you, Mr Martin.

<EXAMINATION BY MS O'GORMAN:

MS O'GORMAN: Q. Mr Sellars, on a couple of occasions now you have referred to the threat or the reality of losing your bonuses. When you talk about losing your bonus, are you talking about a deduction of your bonus related to safety issues or, sorry, medical issues occurring on site?
A. Yes. Yes.

Q. And is that something that was occurring close in time to the serious accident on 6 May 2020, or was that a historical event?
A. That was an ongoing historical thing, yes.

Q. Well, sorry, did you say, "It was an ongoing historical thing"?
A. Yes.

Q. Was it something that was occurring, as a matter of practice, close to 6 May 2020?
A. Before that, yes, it was - it had happened, yes.

Q. Well, when was the last time before 6 May?
A. I can't remember, to be honest, with that one, sorry.

MS O'GORMAN: I don't have any further questions, thank you.

THE CHAIRPERSON: Thank you. Mr Clough?

MR CLOUGH: No questions from me, thank you.

THE CHAIRPERSON: Mr Sellars, thank you for your attendance today. You are excused.

<THE WITNESS WITHDREW

THE CHAIRPERSON: Nothing more today?

MS O'GORMAN: Mr Martin, not in terms of witnesses. Mr Sellars was the only witness. I have just been reminded that now might be a convenient time to tender the tender list dated 7 April 2021, and I do that.

THE CHAIRPERSON: Yes. Thank you. The tender list marked "N" and the documents listed therein are received into evidence in the inquiry.

MS O'GORMAN: Thank you, Mr Martin. There aren't any witnesses scheduled for tomorrow, and I understand the first witness for Friday is scheduled for 11 o'clock.

THE CHAIRPERSON: 11am, is it?

MS O'GORMAN: Yes.

THE CHAIRPERSON: We will adjourn until 11am on Friday.

AT 3.20PM THE BOARD OF INQUIRY WAS ADJOURNED TO FRIDAY, 9 APRIL 2020 AT 11AM

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