

Statutory declaration  
Commonwealth of Australia  
*Statutory Declarations Act 1959*

I, **DAVID ARTHUR DOEG** of 57 Waiwaka Terrace, New Plymouth, New Zealand make the following declaration under the *Statutory Declarations Act 1959*:

- 1 I have been asked to provide a witness statement by the Montara Commission of Inquiry (**Inquiry**). Attached hereto and marked **DD1** is a copy of the letter from the Inquiry dated 16 February 2010, including the areas of interest to the Inquiry.
- 2 Attached to this statement and marked **DD2** is a copy of the letter from the Montara Commission of Inquiry to Mr Philip Willox dated 24 February 2010 enclosing a copy of a document entitled *Investigation Report Blow-out Montara Platform – 21 Aug 2009* that appears to have been prepared by Seadrill (the **Seadrill report**).
- 3 The letter from the Montara Commission of Inquiry refers to particular pages from the Seadrill report and asks for my comments which are set out below.
- 4 This statutory declaration sets out my responses to the Inquiry's areas of interest and the Seadrill report.

**Background**

- 5 I was born on 30 June 1964.
- 6 I currently live in New Zealand.
- 7 I am currently a self employed cementer.
- 8 As a cementer, I work on Off Shore Drilling Rigs mixing batches of cement and pumping it down well holes. The exact work depends on the tasks being undertaken at the time.
- 9 I have been self employed since 1 October 2009.
- 10 I first worked for Halliburton Australia Pty Ltd (**Halliburton**) as a cementer in about 1988, until about 2000. From 2000 until 2006, I worked on and off for Halliburton as a cementer while I studied and then worked as a primary school teacher.
- 11 I resumed working full time with Halliburton in about 2006.
- 12 When I was working for Halliburton on 7 March 2009 I was engaged through a labour hire company, Adecco Industrial Pty Ltd. Halliburton's client at that time was PTTEP Australasia (Ashmore Cartier) Pty Ltd (**PTTEPAA**). Prior to about the end of February 2009, PTTEPAA had been known as Coogee Resources Ltd.
- 13 On 1 October 2009 I set up my own business in Australia and since that time I have provided my services directly to Halliburton as 'contract staff'.
- 14 I have only ever provided cementing services to Halliburton.
- 15 I had worked on the West Atlas rig (**the Rig**) for over a year and a half prior to 7 March 2009 and had probably done up to 100 cement jobs on that Rig alone. When I am working as a cementer I usually receive my day to day instructions from the Company Man on the Rig.

## Freehills

16 The “Company Man” is a common industry term for the client’s representative on the Rig. In this case the Company Man was a PTTEPAA employee Noel Treasure.

### Overview

17 In light of the Inquiry’s requests, I have considered the cement job on the H1 well and provide the following information.

18 On 7 March 2009 I was providing cementing services to Halliburton on the Rig.

19 Attached to this statement and marked **DD3** is a document entitled “Montara H1 Cementing Program prepared for Chris Wilson” dated 30 January 2009. This is an example of a cementing program that I use on a Rig, and I believe that this was the cementing program for the work undertaken on 7 March 2009.

20 Attached to this statement and marked **DD4** is a copy of the post job report for the work done on 7 March 2009.

21 The post job report is produced from data that is automatically captured when I operate the cementing machine.

22 Attached to this statement and marked **DD5** is a graph that shows what was happening with the cement job from about 10:25 Hrs through to 12:40 Hrs on 7 March 2009 (**graph 1**).

23 Attached to this statement and marked **DD6** is a graph that shows what was happening with the cement job from about 14:00 Hrs through to 15:20 Hrs on 7 March 2009 (**graph 2**).

24 Both of these graphs are taken from the post job report.

25 Based on reading the post job report, and my memory of the events at the time, I set out below my recollection of how the job was done on 7 March 2009.

26 The drillers on the Rig would “land the casing”, which in this case meant that the 240mm casing had been moved through the casing string and into position. At this time the 240mm casing was the last piece of casing in the string.

27 The cement head, which is used to pump the cement into the well, is set up at the top of the casing on the drilling platform and we set up a line to the cement unit which is located under the cantilever, about 20 – 30 meters away from the cement head. I operate the cement unit to mix and control the flow of cement slurry into the well.

28 Both the Rig and the cement unit have pumps that can be used to pump into the well. During cementing operations we can switch between the cement unit pumps – meaning that I am pumping into the well, and the Rig pumps, meaning that the Rig is pumping into the well.

29 When the casing was in place the Rig pumped 80 bbls of tuned spacer into the well.

30 “Tuned spacer” is the brand name for a scouring/cleaning fluid that cleans the casing ahead of whatever product, including cement, is to be put down the well.

31 After that the Rig switched the lines over to us, meaning that I was now able to pump into the well. The table at the bottom of page 12 of 91 of DD2, title Job Logs (the **Job Log**) shows that at 10:27 (2nd column from the left) I pumped 5 bbls (3rd column from the left) (**see point A on graph 1**) of drill water into the well. This was done to test the surface lines, being high pressure flexible lines that run from the cement head.

32 The Job Log also shows that this was done at a pressure of 200 psi (4th column from the left) (**see point B on graph 1**), and a rate of 5 bbls per minute (5th column from the left) (**see point C on graph 1**).

33 At 10:32 I tested the surface lines to 5,000 psi. (**see point D on graph 1**).

## Freehills

- 34 After I tested the lines I bled the pressure off, meaning that I released the built up pressure from the lines.
- 35 The Job Log shows that at 10:40 I pumped another 5 bbls of drill water at 200 psi at 3 bbls per minute. (**see point E on graph 1**).
- 36 At 10:42 I dropped the bottom plug.
- 37 The bottom plug is what is known as a wiper plug. It is a plug with rubber fins that goes into the well before the cement and cleans the inside of the casing as it goes down. As it moves down the casing string the cement slurry cannot get past the bottom plug.
- 38 At 10:45 I kicked off the bottom plug with 5 bbls of drill water. This means that I used 5 bbls of drill water to get the bottom plug moving down the casing string. (**see point F on graph 1**).
- 39 The Job Log shows that this was done at 200 psi at 3 bbls per minute.
- 40 At 10:58 the Job Log shows that I mixed and pumped 382 bbls (**see point G on graph 1**) of Lead Slurry at 500 psi (**see point H on graph 1**) and 8 bbls per minute (**see point I on graph 1**).
- 41 At 11:47 the Job Log shows that I mixed and pumped 133 bbls of Tail slurry (**see point J on graph 1**) at 300 psi (**see point K on graph 1**) and 5 bbls per minute (**see point L on graph 1**).
- 42 After I had pumped the required volume of cement I went to the cement head on the drill floor and dropped the top plug. The top plug is a similar type of plug as the bottom plug, but it helps push the cement slurry down the casing string and stops the cement slurry from coming up past the top plug.
- 43 The Job Log shows that I dropped the top plug at 12:25 and then kicked it off with 24 bbls of drill water at 12:27 (**see point M on graph 1**). The job Log shows that this was at 200 psi (**see point N on graph 1**) and 5 bbls per minute (**see point O on graph 1**).
- 44 At 12:33 I switched back over to the West Atlas Rig pumps (**see point P on graph 1**), and they displaced the cement with 900 bbls of inhibited sea water. This is done by the Rig because they have larger capacity pumps and can do the job faster. This means that the Atlas personnel were responsible for pumping all of the cement through the casing string and this information does not show up on graph 1.
- 45 In this case, at the bottom of the casing string there was a guide shoe and a float collar. As the cement is pumped through the casing string the bottom plug 'lands' on the top of the float collar. The bottom plug has a rupture disc which is designed to rupture at this point so that the cement flows through the bottom plug, through the float collar and through the guide shoe, out into the well to secure the casing string. When the cement flows out the top plug lands on top of the bottom plug which is on top of the float collar. This is called 'bumping the plugs'.
- 46 At this point the Rig switches back to my cementing unit to test the casing and the float.
- 47 A casing test tests the integrity of the casing string.
- 48 The Float collar has a one way valve so that product (e.g. cement) can flow out of the casing string, but cannot flow back through the float collar into the casing string. We test the float collar to make sure that the valve is holding.
- 49 The first thing I do is increase the pressure in the casing string using inhibited sea water, up to 4,000 psi.
- 50 The Job Log shows that I did this at 14:10 (**see point Q on graph 2**).

## Freehills

- 51 The pressure is then held for a period of time and in this case they were only looking for 10 minutes. As soon as the company (in this case PTTEPAA) is happy with the integrity we bleed the pressure off. (**see point R on graph 2**).
- 52 The Job Log shows that we bled the casing string off at 14:41 (**see point S on graph 2**).
- 53 In this case, the pressure got down to about 100 psi when we had a sudden rush of fluid back from the casing string.
- 54 The Job Log shows that this happened at about 14:44 and that 16.5 bbls flowed back from the well (**see point T on graph 2**).
- 55 When this happened I said to the drilling engineer, who was supervising the test with me, words to the effect:
- "I think the float's fucked"*
- 56 By this I meant that I thought that the float collar had failed.
- 57 At this point I shut the well in, meaning that I simply shut the valve at the surface so that nothing could flow back.
- 58 I had been involved in one other job when the float collar had failed. This was in about 2006. At that time we suspected the failure was caused by debris under the float collar, so we pumped the volume that had returned back down the well and re-seated the plug – meaning that we forced the wiper plugs back down onto the float collar.
- 59 After I had shut the well the Drilling Engineer said to me words to the effect:
- "What do you think we should do?"*
- 60 I said to him words to the effect:
- "I think we should call the Company Man."*
- 61 I recall that I rang the Company Man and discussed what had happened. I cannot remember the details of my conversation with the Company Man, but the end result was that I was given an instruction by the Company Man to try and re-seat the plugs.
- 62 I do remember that I agreed with the Company Man that I would only pump back 16.5bbls.
- 63 The Job Log shows that at 14:47 I pumped back 16.5 bbls to try and re-seat the plug. However it did not work. When I started to pump back in the pressure quickly rose to 1300 psi, but then would not rise any further (**see point U on graph 2**).
- 64 If everything was working well I would have expected we should have been able to pump about 9.25 barrels back in and get the pressure to climb back to 4000 psi.
- 65 I kept pumping until I had pumped 16.5 bbls as instructed.
- 66 It is a rule that you never pump in more than you get back so the instruction to pump back 16.5 bbls did not cause me any concern at the time. However, it has now been pointed out to me that the extra fluid used to get the casing to 4000 psi was not taken in to account. I accept this and that pumping 16.5 bbls back in probably resulted in a wet shoe.
- 67 After I had pumped 16.5 bbls back I said to the drilling engineer words to the effect:
- "Something's not right here, I'm not sure what."*

## Freehills

- 68 By this I meant that the pressure had not climbed beyond 1300 psi and therefore the plugs had not re-landed. I had not idea what might have been causing this as I had never experienced something like this before.
- 69 The Drilling Engineer said words to the effect:
- “Shut it in.”*
- or
- “Leave it.”*
- 70 The Job Log shows that at 15.10 I shut it in at surface on the cement head (**see point V on graph 2**). I also bled off the pressure on the line and cleaned up my equipment while we let the cement go off, that is, while we waited for the cement to set. This is known as “wait on cement”
- 71 Samples of the cement we used are kept on the surface, so that they can be monitored and we can estimate when the cement in the casing string is set. When Atlas was content that the surface cement samples were hard I had to check it was all okay.
- 72 The Job Log shows that at 17:51 I bled back 3.5 bbls. We had about 687 psi when we opened back up to the unit and the pressure bled back to zero.
- 73 These returns were unexceptional.
- 74 That evening I prepared the report referred to in paragraph 19 above. I handed it to the Company Man. He completed the section entitled “EJCS/Customer Comments”, signed and dated it and gave me a copy. I subsequently emailed a copy of the farpack to the West Atlas Drilling Supervisor (the Company Man), Attached to this statement and marked **DD7** is a copy of that email.

### **The volume and type of cement slurry pumped into the H1 ST-1 Well for this purpose and whether this was adequate**

- 75 I have no involvement with determining the type of cement slurry or the top of cement. I made a calculation as to the volume of slurry and provided it to the Company Man to allow him to verify his own calculations. My calculations were based on information provided to me by the Company Man. That information included the estimated top of cement for tail slurry, lead slurry and tuned spacer, hole sizes, excess and casing internal diameter. . There was nothing I observed at the time to suggest that the volume or type of cement slurry used was inappropriate or inadequate.
- 76 Nor do I believe that the calculations I provided to the Company Man were inadequate based on the information provided to me.

### **Whether such matters were carried out in accordance with Halliburton and/or PTTEP Australasia (Ashmore Cartier) Pty Ltd (PTTEPAA) standards, regulatory requirements and/or best practice**

- 77 I can only repeat the above.

### **The possible consequences of such matters**

- 78 The consequences of putting the wrong volume of cement slurry into the well are that the top of cement for both the tail and lead may not be in the desired or specified location. However, volumes are generally calculated with an excess built in to the final volume of slurry specified in the casing cement job as set out in PTTEPAA’s Standing Instructions to Drillers. I only received a paper copy of this and I cannot find it. I most probably left it on the Rig.
- 79 Using the wrong type of slurry could create a potentially adverse situation with decreased hydrostatic pressures. Although, in this case I believe both the lead and tail slurries were designed to be compatible with potential reservoirs, it is the tail slurry that offers the initial strength.

## Freehills

80 The design and execution of a cement job offshore is preceded by multiple tests of both the materials and equipment. Whilst performing the jobs, the cementer will acquire, store and analyse a variety of information about the type and volume of cement.

**What, if any, other/additional steps should have been taken in relation to those matters**

81 I am not aware of any other/additional steps that should have been taken.

**Whether, in the circumstances, the 244mm casing shoe cement constituted an adequate primary tested barrier**

82 If the casing was re-tested after the wait on cement, then it should be an adequate primary tested barrier.

**How the pressure was tested after the period of time given to allow the cement to set ('wait on cement')**

83 I do not recall if the pressure was tested after the wait on cement.

**Whether a pressure of 687psi was recorded following the wait on cement and, if so, what this indicated and what, if any, steps were and/or should have been taken in response to this**

84 There was a pressure of 687 psi following the wait on cement, but as far as I am aware this is not unusual. It did not cause me any concerns.

85 As far as I am aware, no additional steps were required.

**Whether there was a return of 3.5bbls following the wait on cement and, if so, what this indicated and what, if any, steps were and/or should have been taken in response to this**

86 There was a return of 3.5 bbls following the wait on cement, but as far as I am aware this is not unusual. It did not cause me any concerns.

87 As far as I am aware, no additional steps were required.

**The relevant standards (including best practice), instructions or directions relating to the cementing of the 244mm casing in the H1 ST-1 Well, including but not limited to any directions or instructions issued by:**

- i. Halliburton;
- ii. PTTEPAA; and/or
- iii. Seadrill Management (S) Pte Ltd (Seadrill) / Atlas Drilling (S) Pte Ltd (Atlas).

88 I am not aware of any formal PTTEPAA or Seadrill/Atlas Drilling standards that applied to the work I was doing. I carried out the work in accordance with my training and what I consider to be proper industry standards.

89 As far as I recall, the instructions and directions I received were those referred to by me above and the Standing Instructions to Drillers.

**Mr Doeg's knowledge of and views about whether there were failures in communication between PTTEPAA and Seadrill / Atlas and/or PTTEPAA and Halliburton that led to the Uncontrolled Release.**

90 I am not aware of any failures in communication that might have led to the release.

**Seadrill report**

91 **Page 13:** I was not involved in any of the discussions about any of the changes to the cementing program referred to and do not have any knowledge of the matters referred to on page 13.

## Freehills

- 92      **Page 15:**
- (A)      Paragraph 3 – In my view paragraph 3 is factually correct and represents what happened.
- (B)      Paragraph 4 – As to paragraph 4, I do not believe it is correct to say that 16.5bbls were pumped back “without impedance” because we did get some pressure build up when we tried to pump back. Also, although the theory that the plug leaked and that the shoe was over displaced is reasonable, I do not know that, that is actually what happened.
- (C)      I do not have knowledge of the other matters referred to on page 15.
- 93      **Page 32 – 33:** I am not aware of and have never seen the PTTEPAA Well Construction Standards or the Safety Case and associated Safety Case Revision (bridging document) discussed at this part of the report and cannot comment on what has been said.
- 94      **Page 36 – 38:** With respect to paragraph 1 on page 36, I agree that the fact that the plugs did not bump should have raised some concerns, although not necessarily the possibility that the shoe had been over displaced. They did raise a concern with me, which is why, after I had pumped 16.5 bbls back I said to the drilling engineer words to the effect:
- “Something’s not right here, I’m not sure what.”*
- 95      I do not have knowledge of the other matters referred to on page 36 - 38.
- 96      **Page 43:** I do not have knowledge of the other matters referred to on page 43.
- 97      **Page 45:**
- (a)      Second bullet point under the heading “Root Cause/s” – as I said earlier, the theory that the plug leaked and that the shoe was over displaced is reasonable.
- (b)      First bullet point under the heading “Contributing Causes” – I do not know whose training and what supervision is being referred to. I believe that my training and experience were appropriate for the work being done, and at all times I was supervised by either the drilling engineer or the Company Man.
- (c)      I do not have knowledge of the other matters referred to on page 45.

I understand that a person who intentionally makes a false statement in a statutory declaration is guilty of an offence under section 11 of the *Statutory Declarations Act 1959*, and I believe that the statements in this declaration are true in every particular.

## Freehills

sign here ► \_\_\_\_\_  
Signature of person making the declaration

Declared at \_\_\_\_\_ on \_\_\_\_\_ of March 2010

Before me:

sign here \_\_\_\_\_  
Signature of person before whom the declaration is made

Note 1 A person who intentionally makes a false statement in a statutory declaration is guilty of an offence, the punishment for which is imprisonment for a term of 4 years – see section 11 of the *Statutory Declarations Act 1959*.

Note 2 Chapter 2 of the Criminal Code applies to all offences against the Statutory Declarations Act 1959 – see section 5A of the *Statutory Declarations Act 1959*.