From:	Alan Holland
To:	Xu Donghai
Cc:	Barrett, Andrew - GA; Squire, Martin; Anastasi, Kristina; McKinley, Terry; richard.sellers@dmp.wa.gov.au; david.wong@dpi.vic.gov.au; Whitfield, Jerry; bill.tinapple@dmp.wa.gov.au; Cynthia.Crowe@dpi.vic.gov.au
Subject:	RE: Application to Drill Montara H1 ST1 RW1 [SEC=IN-CONFIDENCE:COMMERCIAL]
Date:	09 September, 2009 7:54:30 AM

Donghai

I will be forwarding the majority of these points to PTTEP with a number of others that we would like comment on before we approve the intersection of H1.

Once we have the “final” interim drilling plan (to the intersect point) and have issued the approvals for PTTEP to start drilling on this Thursday / Friday, I will copy to all.

Thankyou for your input.

Alan Holland
A / Director Mineral & Energy Titles
A / Director of Energy
Department of Regional Development, Primary Industry, Fisheries and Resources
Ph 08 89995357 0438 810 155
Fax 08 89817106

From: Donghai.Xu@ga.gov.au [mailto:Donghai.Xu@ga.gov.au]
Sent: Tuesday, 8 September 2009 2:56 PM
To: Alan Holland
Cc: Andrew.Barrett@ga.gov.au; Martin.Squire@ret.gov.au; Kristina.Anastasi@ret.gov.au; terry.mckinley@dpi.vic.gov.au; richard.sellers@dmp.wa.gov.au; david.wong@dpi.vic.gov.au; Dominic Marozzi; Brett Struck; Clinton.Foster@ga.gov.au; James.Groombridge@ga.gov.au
Subject: RE: Applic ation to Drill Montara H1 ST1 RW1 [SEC=IN-CONFIDENCE:COMMERCIAL]

Alan,

Thanks for the email. We understand that you will provide us some feedback on our advice of 3 September 2009 soon.

We note that the West Triton continues to make good progress as it travels to drill a relief well to stop the leak of water, gas and oil from the Montara well head platform in the Timor Sea. PTTEP are applying for approval to drill the relief well to the intersection point. However, we still have some concerns about the drilling program and would like to offer the following further comments for your consideration:

Items 4 and 5 advice that was sent to RET (cc to NT Dept RDPIFR) on 3 September was:

- ‘What is the evidence that the blowout is coming up the 9-5/8” casing in well H1 ST1? NT requested information on 24 August (D. Marozzi to A Jacob). We have not been provided with the response to this.’
- ‘Based on available information we consider that the most likely source of the blowout is up the 9-5/8” x 13-3/8” annulus. If this is so after the 9-5/8” casing is pumped full of kill mud the leak may still continue up this annulus. What is the contingency plan for this?’

As no further information has been provided to clearly indicate the sources of the blowout and the operator is seeking approval to drill the relief well to the intersection point, **we recommend that approval be only given to drill the well to the 13-3/8” shoe at this stage**.

The source of the blowout could be up the 9-5/8” x 12-1/4” open hole section that has been poorly cemented and then up the 9-5/8” x 13-3/8” casing annulus. The attached scan shows the planned

intersection point and the location along the H1 ST1 well where Top Gas in the reservoir is located. This shows that there is approximately 700m of near horizontal hole. The attached figure shows this horizontal section.
The planned intersection point is satisfactory if the intention is to penetrate the 9-5/8" casing to kill the well. However, this will not stop flow up the 9-5/8"x 13-3/8" annulus.

If the leak is due to a poor cement job then the objective would be to drill alongside the 9-5/8" casing possibly to Top Gas and kill from that location without penetrating 9-5/8" casing, after establishing circulation to surface. An alternative plan might be a cement squeeze. If this cannot be achieved then a fall back alternative is to penetrate 9-5/8" casing and kill as currently planned.

We recommend that further discussion and analysis should take place before approval to drill RW-1 beyond the 13-3/8" casing to establish the optimum point of intersection for both eventualities or sequences of operations. This should take into account review of H1 ST1 9-5/8" cement job.

- The required volume of neat cement to cover 50m above Top Gas assuming 20% excess was 199bbl. Only 132bbl was displaced. Thus there is only filler cement across the top section of the reservoir. This is the most likely location of poor cementation.
- There is a period when cement sets during which a hydrostatic pressure is not maintained across gas bearing intervals and gas can break through to surface as worm holes. Means to combat this are high density cement, low fluid loss cement and fast setting cement across gas zones.
- Horizontal wells are notorious for the cement flowing on the low side of the well. It is likely that there will be a good cement bond on the low side and poor on the high side.
- The 9-5/8" shoe was originally planned without the long near horizontal section but it did not intersect good reservoir at Top Gas at 2935mMD. As a result the well was sidetracked and drilled near horizontal to 3796mMD. It is likely that when changing the program the hazard of cementing a long section of near horizontal hole was not fully assessed.
- If there is a leak up the 9-5/8" x 12-1/4" open hole section that has been poorly cemented and then up the 9-5/8" x 13-3/8" casing annulus then the weak point in the system is the 13-3/8" shoe. This precludes killing from the surface which might happen if mud is up inside the 9-5/8" casing. It also means that gas might be leaking to surface from the sea bed.
- The 9-5/8" casing tested satisfactorily after bumping the plug. The float was subsequently leaking but once the cement was set no flow back was observed. It is unlikely that 9-5/8" casing is leaking.

The review should also take into account:

- the events that occurred on 20 August prior to the blowout,
- observations at that time of where flow was coming from and
- explanation why flow is impacting the underside of the jack-up cantilever.

Due to the friability of the sand it is quite likely that sand will flow with the gas and bridge off the wormholes. Slowing of flow could indicate a leak up the poorly cemented annulus. Movement of sand through a hole in steel is more likely to open the hole and cause flow to increase.
Taking into account this and the possibility of gas leak through the 13-3/8" shoe it is recommended that:

- Each week an ROV survey be made around the Montara platform area to check for bubbles from the sea bed.
- Each day the height of the hydrocarbon plume be measured by surveyor from a fixed reference point. The height of the plume may be a function of wind speed and an attempt should be made to correlate plume height and wind speed and establish long term trends.

Regards,

Donghai

-----Original Message-----
From: Alan Holland [mailto:Alan.Holland@nt.gov.au]
Sent: Friday, 4 September 2009 10:40 AM
To: Xu Donghai
Cc: Barrett Andrew; Squire, Martin; Anastasi, Kristina; terry.mckinley@dpi.vic.gov.au; richard.sellers@dmp.wa.gov.au; david.wong@dpi.vic.gov.au; Dominic Marozzi; Brett Struck
Subject: RE: Application to Drill Montara H1 ST1 RW1 [SEC=IN-CONFIDENCE:COMMERCIAL]

Donghai

Thank you for your comments, we are working through them, a number of them have already been pickup by our people but it is good to have other people look at the program; will provide you some feedback on them soon.

As you can imagine due to many unknowns in this situation many of your comments can not be addressed as yet. Ie point 4...where is the blow out.

Once they start drilling the relief well and approach the H1 well, then plug the well, an investigation of the damage and source of the oil / gas will assist in addressing many other concerns.

Our aim at present is to approve the start of drilling the relief well (a standard directional drilling operation…until they intersect), then upon further information amend the drilling program.
Also once they start drilling, that will provide around 3 -4 weeks breathing space to update the program and address many of our concerns.

Alan Holland
Assistant Director
Mineral & Energy Titles
Department of Regional Development, Primary Industry, Fisheries and Resources
Ph 08 89995357 0438 810 155
Fax 08 89817106

From: Donghai.Xu@ga.gov.au [mailto:Donghai.Xu@ga.gov.au]
Sent: Thursday, 3 September 2009 11:09 AM
To: martin.squire@ret.gov.au
Cc: Alan Holland; Dominic Marozzi; kristina.anastai@ret.gov.au; terry.mckinley@dpi.vic.gov.au; david.wong@dpi.vic.gov.au; richard.sellers@dpi.wa.gov.au; Andrew.Barrett@ga.gov.au; Clinton.Foster@ga.gov.au; James.Groombridge@ga.gov.au
Subject: RE: Application to Drill Montara H1 ST1 RW1 [SEC=IN-CONFIDENCE:COMMERCIAL]

Martin,

Please find attached our comments on the Montara H1 ST-1 RW-1 Drilling Program.

Regards,

Donghai

From: Alan Holland
Sent: Wednesday, 2 September 2009 2:36 PM
To: 'Andrew.Barrett@ga.gov.au'; 'david.wong@dpi.vic.gov.au'
Cc: 'martin.squire@ret.gov.au'; 'kristina.anastai@ret.gov.au'; Dominic Marozzi; ; 'terry.mckinley@dpi.vic.gov.au'

Subject: FW: Application to Drill Montara H1 ST1 RW1
Importance: High

Andrew and David

Here are the PTTEP's proposed drilling programs for drilling the relief well by the West Triton in the Montara field.

As you would appreciate, time frames for your assistance in reviewing the plans and providing feedback / comments is going to be tight.

PTTPE are hoping that the West Triton will be ready to start drilling on the 10th of Sept, so we would require your comments back by COB Friday the 4th of Sept.

If your comments can be returned to me via track changes to the plans or dot points referring to the section of the plans, either way would be good. We will then collate them and prepare feedback to PTTEP.

Obviously the two word documents are not necessarily relevant to Vic and GA but might provide extra info to help in the overall assessments.

Alan Holland
Assistant Director
Mineral & Energy Titles
Department of Regional Development, Primary Industry, Fisheries and Resources
Ph 08 89484890 0438 810 155
Fax 08 817106

From: Noonan, Catherine [mailto:Catherine.Noonan@au.pttep.com]
Sent: Wednesday, 2 September 2009 12:36 PM
To: Dominic Marozzi; directorenergy@nt.gov.au; PetroleumOperations DPIFM
Cc: Alan Holland; Breadmore, Christy; Jacob, Andy; Wilson, Chris; Duncan, Craig; Stear, Richard
Subject: Application to Drill Montara H1 ST1 RW1
Importance: High

Dear All

Please find **attached** for your urgent attention.

Regards

Catherine Noonan
Legal Coordinator
+61 (0)8 9483 9403| + 61 (0)408921415
PTTEP Australasia

the contents of this message which arise as a result of e-mail transmission. If verification is required please request a hard-copy version.