

From: Bichsel, Matthias M SIEP-EPT-D
To: Minderhoud, Martijn M SEPI-EPG; Parry, Gordon G SIEP-EPG
CC: Aalbers, Remco RD SIEP-EPB-P; Lewis, Keith K SEPI-EPG; Lohr, Fran FA SIEP-EPB; Lovelock, Susan S SEPI-EPG; Rothermund, HC SEPI-EPG; Wink, Maarten MN SEPI-EPG; Sears, Richard RA SIEP-EPT-DE; Knight, Barry BP SIEP-EPT-DE
BCC:
Sent Date: 2000-11-23 13:49:29.000
Received Date: 2000-11-23 13:49:31.000
Subject: RE: West Africa reserves 2000
Attachments:

Martijn,

we obviously need to involve our RE and reserves auditors in your questions. An observation I can make however and that it is not necessary to penetrate ALL channels. It is one of confidence and using analogue settings. At the moment we only have Bonga and as you know in Bonga, we did not penetrate each and every reservoir body, but with the appraisal wells results and the ensuing seismic calibration, a strong story can be built to support booking of proved reserves (proved is the operative word here) over a whole hc bearing structure. This was the main comment by the reserves auditors that we do not have any appraisal data and little understanding of the reservoir model in block 18 (as you may have heard, whilst we have at least Bonga from West Africa, bp is using North Sea analogues!) Incidentally that also applies to Bonga, where SDS has identified significant in-field scope, in somewhat deeper horizons, but because they have not yet been penetrated we cannot booked proved reserves. As you know the development drilling campaign has built in exploratory/appraisal elements exactly for this reason.

I still believe in the large volumes in block 18, that, given a programme of appraisal (which I don't think needs to be overly ambitious)are realisable as booked reserves in the short term.

Re. GoM, please be assured that we are using SEPCo reservoir engineers AND the SEPCo reserves auditor to ensure that we capture all possibilities regarding booking away from well penetration. I do not believe that we are missing a trick here, but I agree that we need to be continuously vigilant.

Let me know when you want to meet.

Matthias

CONFIDENTIAL

SMJ00035959

101403366



-----Original Message-----

From: Minderhoud, Martijn M SEPI-EPG

Sent: 23 November 2000 03:51

To: Bichsel, Matthias M SIEP-EPT-D; Parry, Gordon G SIEP-EPG

Cc: Aalbers, Remco RD SIEP-EPB-P; Lewis, Keith K SEPI-EPG; Lohr, Fran FA SIEP-EPB; Lovelock, Susan S SEPI-EPG; Rothermund, HC SEPI-EPG; Wink, Maarten MN SEPI-EPG

Subject: RE: West Africa reserves 2000

Gordon, Matthias,

can we have another meeting shortly to address these issues, as I think they are of wider consequence for deep water settings.

If I understand Matthias e-mail correctly, the originally quoted volumes are the MSV (pre-drill) and SFR (after discovery) of the ENTIRE PROSPECTIVE STRUCTURE; this may comprise a complex of individual channels, the total of which makes up the number. For proved reserves booking, a very strict rule appears to apply, essentially related to PENETRATED hydrocarbon occurrences; obviously, in a complex channel setting potentially only a subset of the total is being penetrated and the remainder can only be booked as proved reserves after penetration thru appraisal wells. This I think is the "incorrect" that Matthias refers to.

A number of questions come to mind:

- how many of additional appraisal wells are required prior to taking FID

- is that taken into account in the pre-drill economics?

- for new prospects, how are we going to define pre-drill MSV, when we know we are not going to penetrate all channels in the well?

I could see the dilemma of first wells not penetrating enough channels to make an economic development if taken strictly. To make it pre-drill, would require the entire structure volume to be quoted for MSV/expectation purposes; however, after discovery only a smaller volume is bookable as reserves, but even that only if we have proven up the additional reserves through appraisal, to demonstrate an FID-able project. It means spending more money to prove up the necessary reserves, is that still economic? How does this impact the attractiveness of Block 34, the SNEPCO UDW blocks or Brazil? We may come to the conclusion that economic exploration wells cannot be drilled in these settings; if that is correct, are we doing the right thing here then?

How did the GoM overcome these problems, which they must have also faced in drilling turbidite channels. I hope there are some learnings

CONFIDENTIAL

SMJ00035960

101403366

exportable.

Martijn

-----Original Message-----

From: ROTHERMUND, H.C.

Sent: 23 November 2000 08:21

To: PARRY, G. /SIEP /EPG

Cc: MINDERHOUD, M. /SEPI /EPG; WINK, M.N. /SEPI /EPG; LOVELOCK, S. /SEPI

/EPG; Lewis, Keith K. /SEPI /EPG; BICHSEL, MATTHIAS M. /SIEP /EPT-D /777264

Subject: West Africa reserves 2000

Gordon,

I am obviously disappointed by the attached information. In some way, however, we can say that it was not for lack of trying. Equally, however, I am concerned about the the second paragraph in the e-mail, since it states that we simply made an error, and this I do not understand! What does this statement refer to, and why is it only now that we realise that we are not doing our reservoir engineering "properly"?

Regards
Heinz

-----Original Message-----

From: Bichsel, Matthias M. /777264

Sent: 22 November 2000 01:28

To: ROTHERMUND, H.C.

Cc: Warren, Tim T.N.

Subject: West Africa reserves 2000

Heinz,

I am responding to your e-mail from 29th October regarding reserves booking in Angola. I attach a note that addresses the issue in the wider context of West Africa, since we are also working on identifying additional volumes in Bonga.

As you will have heard already, the earlier quoted figures of some 300 MMB of proved reserves to be booked in 2000 were incorrect and represent volumes of entire structures rather than what can be booked with confidence in 2000, and in accordance to SEC rules and Shell guidelines.

CONFIDENTIAL

SMJ00035961

101403368

I can assure you that I am personally pushing and cajoling my staff to get the most out of what is possible. Contrary to what you have heard, we are not "covering our back side" and are "overly conservative" but are exploring every avenue to trying to increase reserves bookings.

The current total reserves booking potential is, on a P50 basis, 195 to 315 MMB and on a P85 (proved) basis 130-190 MMB. I have asked for another set of eyes of reservoir engineering expertise from SepTAR and SEPCo to ensure that we are not missing anything and literally leave no stone unturned at our next peer review session.

Regards,
Matthias

CONFIDENTIAL

SMJ00035962

101403366

From: Knight, Barry BP SIEP-EPT-DE
To: Wilhelm, Chandler CT SIEP-EPT-DE; Hines, Ian IM SIEP-EPT-DE
CC:
BCC:
Sent Date: 2000-11-28 13:37:48.000
Received Date: 2000-11-28 13:37:48.000
Subject: FW: West Africa reserves 2000
Attachments:

FYI

-----Original Message-----

From: Bichsel, Matthias M SIEP-EPT-D
Sent: Monday, November 27, 2000 9:43 AM
To: Sears, Richard RA SIEP-EPT-DE; Knight, Barry BP SIEP-EPT-DE
Subject: FW: West Africa reserves 2000

Gently, clearly a reprimand from Heinz. Not quite clear how I deserved that, as if we reported MSV figures to him in the first place. We need to keep working on guys like Grigori et al. - they seem to be dropping us in it whenever they have a chance.

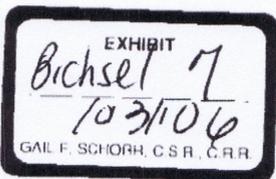
Matthias

-----Original Message-----

From: Rothermund, HC SEPI-EPG
Sent: Thursday, November 23, 2000 3:21 PM
To: Bichsel, Matthias M SIEP-EPT-D
Cc: Lewis, Keith K SEPI-EPG; Lovelock, Susan S SEPI-EPG; Minderhoud, Martijn M SEPI-EPG; Parry, Gordon G SIEP-EPG; Wink, Maarten MN SEPI-EPG
Subject: West Africa reserves 2000

Matthias,

I would describe the problem differently. There has been a historical shift, in the past two to five years. Ever since we are reviewing booking of reserves closely, in the context of financial results and our focus on actual performance, the old focus on exploration success and the much "looser" talk about reserves has become obsolete. Yet, particularly amongst explorers, and whenever we book a technical success, we forget that volumes found with an "exploration mindset" are not the same as reserves defined in terms of Financial results. And this we must get after and communicate with greater focus.



CONFIDENTIAL

912519

SMJ00038852

Regards
Heinz

—Original Message—

From: Bichsel, Matthias M. /777264
Sent: 23 November 2000 14:00
To: ROTHERMUND, H.C.; PARRY, G.
Cc: Lewis, Keith K.; LOVELOCK, S.; MINDERHOUD, M.; WINK, M.N.; Bichsel, Matthias M. /777264
Subject: RE: West Africa reserves 2000

Heinz,

I don't think it is an issue of doing reservoir engineering properly but an issue of definition. An age-old problem in Shell.

We often quote success volumes pre-drill and in case of success than adjust net pay and other parameters across the whole structure to reflect what we found. These then are volumes for the whole structure - volumes that indeed are likely there, but because of the way we have to book proved reserves, non-connected bodies etc are very heavily discounted, particularly in virgin areas such as block 18 - and Angola as a whole.

What my comment referred to was that the information on what we can book as proved reserves with one exploration well was pre-mature when reported in mid-year and, hence, when used for the global reserves monitor, not "correct" information.

Best regards,
Matthias

—Original Message—

From: Rothermund, HC SEPI-EPG
Sent: 23 November 2000 01:21
To: Parry, Gordon G SIEP-EPG
Cc: Bichsel, Matthias M SIEP-EPT-D; Lewis, Keith K SEPI-EPG; Lovelock, Susan S SEPI-EPG; Minderhoud, Martijn M SEPI-EPG; Wink, Maarten MN SEPI-EPG
Subject: West Africa reserves 2000

Gordon,

I am obviously disappointed by the attached information. In some way, however, we can say that it was not for lack of trying. Equally,

CONFIDENTIAL

912519

SMJ00038853

however, I am concerned about the the second paragraph in the e-mail, since it states that we simply made an error, and this I do not understand! What does this statement refer to, and why is it only now that we realise that we are not doing our reservoir engineering "properly"?

Regards
Heinz

—Original Message—

From: Bichsel, Matthias M. 1777264
Sent: 22 November 2000 01:28
To: ROTHERMUND, H.C.
Cc: Warren, Tim T.N.
Subject: West Africa reserves 2000

Heinz,

I am responding to your e-mail from 29th October regarding reserves booking in Angola. I attach a note that addresses the issue in the wider context of West Africa, since we are also working on identifying additional volumes in Bonga.

As you will have heard already, the earlier quoted figures of some 300 MMB of proved reserves to be booked in 2000 were incorrect and represent volumes of entire structures rather than what can be booked with confidence in 2000, and in accordance to SEC rules and Shell guidelines.

I can assure you that I am personally pushing and cajoling my staff to get the most out of what is possible. Contrary to what you have heard, we are not "covering our back side" and are "overly conservative" but are exploring every avenue to trying to increase reserves bookings.

The current total reserves booking potential is, on a P50 basis, 195 to 315 MMB and on a P85 (proved) basis 130-190 MMB. I have asked for another set of eyes of reservoir engineering expertise from SepTAR and SEPCo to ensure that we are not missing anything and literally leave no stone unturned at our next peer review session.

Regards,
Matthias

CONFIDENTIAL

SMJ00038854

912519