From: Jeffrey M. Glossa
To: Brian Keenan
Subject: FW: PDC Sunmarke 28W-414 CBL Issue
Date: Monday, February 02, 2015 11:33:31 AM

This is the communication between Erik and COGCC on the sunmarke

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From: Erik Roach
Sent: Monday, February 02, 2015 9:53 AM
To: Jeffrey M. Glossa
Cc: Steve W. Trippett
Subject: Fwd: PDC Sunmarke 28W-414 CBL Issue

FYI regarding Sunmarke CBL issue.

Sent from my iPhone

Begin forwarded message:

> **From:** Erik Roach <Erik.Roach@pdce.com>
> **Date:** November 26, 2014 at 11:05:32 AM MST
> **To:** "Jenkins - DNR, Steve" <steve.jenkins@state.co.us>
> **Subject: RE: PDC Sunmarke 28W-414 CBL Issue**
>
> Thank you Steve, I appreciate your assistance on the matter.
>
> Regards,
>
> **Erik Roach**
> *Lead Engineer - DJ Asset*
>
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>
> **From:** Jenkins - DNR, Steve [mailto:steve.jenkins@state.co.us]
> **Sent:** Wednesday, November 26, 2014 10:21 AM
> **To:** Erik Roach
> **Subject:** Re: PDC Sunmarke 28W-414 CBL Issue
>
> Good morning Erik:
> I think we are good to go, there isn't to much we can do about the lack of CBL on this one.

Steve

On Tue, Nov 25, 2014 at 4:44 PM, Erik Roach <Erik.Roach@pdce.com> wrote:
Hi Steve,

I wanted to touch base with you regarding the below response to our CBL issue on the Sunmarke 28W-414. We're preparing to frac that pad and wanted to make sure all our bases were covered with before commencing operations. Please let me know if there is any follow-up required.

Regards,

Erik Roach
Lead Engineer - DJ Asset

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From: Erik Roach
Sent: Monday, November 17, 2014 2:49 PM
To: 'steve.jenkins@state.co.us'
Cc: Jeffrey M. Glossa (Jeffrey.Glossa@pdce.com)
Subject: FW: Casing split

Steve,

I have provided answers to the below questions you had for Jeff Glossa after your phone conversation. Please let me know if you have any additional information you require regarding our ability to CBL the Sunmarke 28W-414. If it would help, I can provide you with CBL's on the other surrounding Sunmarke wells on the same pad, as well as the cement tickets, for a comparative analysis to support our feelings about adequate cement coverage on this well. I am available by phone at 303-831-3906 as well if you would like to chat.

Regards,

Erik Roach
Lead Engineer - DJ Asset

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From: Jenkins - DNR, Steve [mailto:steve.jenkins@state.co.us]
Sent: Friday, November 14, 2014 12:41 PM
To: Jeffrey M. Glossa
Subject: Re: Casing split

Hi Jeff:
Got your voicemail.
You do have a situation here..... I have some questions for you:
1. Why wasn't a CBL run after cementing the 1st string in the hole, prior to setting the 4-1/2" liner? Which is typically done! Our standard operation on horizontal pads is to complete all drilling operations (i.e. drill all 7 wells on the pad) and then bring the logging truck in to CBL all 7 wells at the same time. It is difficult to get the equipment on location to get the logging done simultaneously with drilling equipment on location so we use that as our standard procedure, obviously we will be evaluating our procedures to accommodate point forward.
2. Where is the split in the casing as compared to the top of cement? Our liner top is set 7,564' MD which is at approximately 70 degrees of inclination in the build section of the 7". We set an RBP in the 4-1/2" liner past the hanger and RIH with a 7" packer on tbg to attempt a pressure test on the 7" casing. We were unable to set the packer near the liner hanger and, after numerous attempts, were able to get the packer and successfully pressure test the 7" at 7,342' MD (232' above the liner hanger). That said we're confident the issue with the 7" casing is between 7,342' and 7,564' MD. When attempting to stab a 4-1/2" tie-back string into a PBR at the liner hanger we circulated shale and cement, leading to a final assumption that we burst/split/ovaled/scoured the 7" somewhere above the liner hanger. TOC in the 7" is assumed to be within the surface casing, at a minimum, as the cement ticket reports returns to surface of a type "cement" to the tune of 15 BBLS
3. Where is the top of the 4-1/2" liner, APD says it is supposed to be at 6835? Liner top is at 7,564' MD
4. How did the casing split? We are unsure how the casing split, and frankly we're not 100% positive "split" is the right term (implying some internal pressure burst the casing or popped a collar). It is possible that we wore the 7" down in that vicinity while drilling out the lateral and that we had a mild key-seating issue as well.
5. With this split in the casing, we will require monitoring,not only of the Bradenhead, but the annulus between the 7" casing and the 4-1/2" tie back string, during adjacent well stimulation. We can certainly monitor the annulus between the 7" and 4-1/2". With our assumption that the cement returns to surface effectively cemented the backside, would you still like us to consider bradenhead monitoring for offset operations?

If you could get back to me with these answers it would be greatly appreciated.
Thanks, and have a great day,
Steve

On Fri, Nov 14, 2014 at 11:45 AM, Jeffrey M. Glossa
<Jeffrey.Glossa@pdce.com> wrote:
Good morning Steve,
I just left a phone message for you regarding a situation we have encountered with our Sunmarke 28W 414 (123-38728)
Due to a downhole split in our 7" casing on the we were forced to isolate the problem by deploying a 4-1/2" 13.5# P110 tie-back string stung into a PBR at the 4-1/2" linger hanger set at 7,575'. Given the sensitive timing associated with the situation we were unable to run a CBL on the 7" intermediate prior to completing the tie-back operation and at this point I don't believe we would be able to pull the tie-back and sting it in again given the nature of the casing split. Based on the information on the cement ticket for the cement job on the 7" we are confident that we have adequate cement coverage on that string. Please advise on our options for this well.
Thanks
Jeff Glossa
Regulatory Supervisor-Operations
PDC Energy
1775 Sherman St.
Denver, Colorado 80203

Jeffrey.Glossa@PDCE.com
Direct Dial (303) 831-3972

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Stephen C. Jenkins, P.E., C.P.E.S.C.

North Central Area Engineer

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