

Estimates Committee 2015
Questions Taken On Notice

(26/05/2015 to 4/06/2015)

Date: 26/05/2015 Output: Energy Services
Sub Output: Energy Management
Subject: Contamination resulting from hydraulic fracturing

From: Mr Ken Vowles to Hon David Tollner
Mines & Energy

Question: 2-8
In the Georgina Basin in 2012 was there an issue where there were fracked wells and shallow casing failure occurred and hydrogen sulphide gas was detected? What action was taken surrounding that?

Answer:
Answered On: 16/06/2015

ESTIMATES COMMITTEE

Question Taken on Notice

Date: 26 May 2015
Output: 15.0_Energy Services
Sub Output: 15.1_Energy Management

Subject: Contamination resulting from hydraulic fracturing

From: Mr Ken Vowles, Member for Johnston

To: The Hon David Tollner MLA, Minister for Mines and Energy

Agency: Department of Mines and Energy

Number: 2.8

Question: In the Georgina Basin in 2012 was there an issue where there were fracked wells and shallow casing failure occurred and hydrogen sulphide gas was detected? What action was taken surrounding that?

Answer:

There were three horizontal wells drilled in 2012 by PetroFrontier in the Southern Georgina Basin: Owen 3H, Baldwin 2HST1 and MacIntyre 2H.

During routine and mandatory pressure testing (a non-negotiable pre-requisite before any Fracturing is allowed to take place) of Baldwin 2HST1, there was a shallow casing failure. It was one of multiple barriers that failed and did not happen during fracturing, that is, the programmed safeguards worked and there was no environmental incident. It could not be immediately repaired (it would need mobilisation of a drilling rig, as a Frac Spread was being used at the time) and, due to the significant Frac Spread costs, PetroFrontier, made the well safe (Well Suspension) as per the Department of Mines and Energy's (DME) approval. The program was deferred and they moved onto the next two wells.

Fracturing was successful on the other two wells however hydrogen sulphide was encountered – unrelated to fracturing but made the operations very expensive. PetroFrontier adopted the appropriate safety procedures and these wells were also suspended as per DME's requirements. There was no adverse impact on human health or the environment.

In 2014, Statoil took over as operator for these wells from PetroFrontier and, after carrying out its geological and reservoir studies, concluded that the three wells had no further commercial value. Subsequently Statoil indicated to DME that it would be submitting an application to Plug and Abandon (P&A) the wells. This program was assessed by DME and approval was granted. The P&A of each of the three wells was carried out at the end of the 2014 drilling campaign.

As described above, the P&A resulted primarily from a commercial decision, not because of any "failures". The Baldwin casing failure could have adequately been repaired if Statoil determined that it made commercial sense to do so.



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Mrs Robyn Lambley
Chair
Public Accounts Committee
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Dear Mrs Lambley

On 15 June 2015, I provided Mrs Lia Finocchiaro MLA, Chair Estimates Committee with my responses as the Minister for Mines and Energy to three questions taken on notice at the 2015 Estimates Committee hearing.

It has recently come to my attention that the response provided to Question 2.8 – contamination resulting from hydraulic fracturing, was not entirely accurate.

To rectify this, please find attached an updated response to Question 2.8 for your records.

Yours sincerely

DAVID TOLLNER

02 NOV 2015

CC: Mr Russell Keith, First Clerk Assistant – Committees, email: pac@nt.gov.au

ESTIMATES COMMITTEE

Question Taken on Notice

Date: 26 May 2015

Output: 15.0_Energy Services
Sub Output: 15.1_Energy Management

Subject: Contamination resulting from hydraulic fracturing (Errata)

From: Mr Ken Vowles, Member for Johnston

To: The Hon David Tollner MLA, Minister for Mines and Energy

Agency: Department of Mines and Energy

Number: 2.8

Question: In the Georgina Basin in 2012 was there an issue where there were fracked wells and shallow casing failure occurred and hydrogen sulphide gas was detected? What action was taken surrounding that?

Answer:

There were three horizontal wells drilled in 2011 by PetroFrontier Corp in the Southern Georgina Basin: Owen 3H, Baldwin 2HST1 and MacIntyre 2H. In 2012, PetroFrontier planned to test the wells using hydraulic fracturing stimulation.

One of the wells - Baldwin 2HST1 - suffered a shallow casing failure on 18 September 2012, during the first stage of hydraulic fracturing operations. Following further review, it has been revealed that a pressure test had been performed during initial construction of the well which was below the operating pressure of the hydraulic fracturing operations and below the casing design pressure. Pressure testing of surface equipment was performed prior to hydraulic fracturing operations up to the design pressures, but did not include the downhole casing.

Notwithstanding that the casing failure occurred during hydraulic fracturing the Department of Mines and Energy (DME) is satisfied that the likelihood of environmental contamination is low because the actual volume that was pumped into the well (ca. 25 000 litres) is relatively low, and the chemical concentrations in the fluid pumped were very low resulting in a total of less than 100 litres of chemical. That said the possibility exists that some liquid entered into the surrounding strata and monitoring of the site is ongoing to ensure that no environmental damage has occurred.

During stimulation of Owen 3H and MacIntyre 2H, PetroFrontier encountered hydrogen sulphide (H₂S) in the groundwater and suspended the wells. In 2014, Statoil took over the operatorship of these wells from PetroFrontier, and after carrying out its geological and reservoir studies concluded that the three wells had no further commercial value and hence Plug and Abandoned (P & A) the wells at the end of Statoils' 2014 drilling campaign.

It is acknowledged that the procedures used by PetroFrontier for the pressure testing of wells were not in accordance with best practice and DME's requirements, and DME has updated its procedures to ensure that non-compliant well activity proposals are no longer allowed to proceed.

In addition, DME has updated its requirements to ensure that appropriate incident investigation and closeout procedures are followed after any incidents and is proceeding with further training to ensure that department officers are proficient in the assessment of petroleum activities and investigations.