

## Prepared Statement

Tim Probert  
President, Global Business Lines and  
Chief Health, Safety and Environmental Officer  
Halliburton

Before the

Committee on Energy and Natural Resources  
U.S. Senate

May 11, 2010

Chairman Bingaman, Ranking Member Murkowski, and Members of the Committee:

Thank you for the opportunity to share my company's perspective as you review issues related to deepwater exploration for petroleum and the accident in the U.S. Gulf of Mexico involving the offshore oil rig Deepwater Horizon. Halliburton looks forward to continuing to work with you, your colleagues, and your staff to understand what happened and what we collectively can do in the future to ensure that oil and gas production in the United States is undertaken in the safest, most environmentally responsible manner possible.

At the outset, I want to assure you and your colleagues that Halliburton has and will continue to fully support, and cooperate with, the ongoing investigations into how and why this tragic event happened. We have already made our senior personnel available to brief Members and staff and we have produced thousands of pages of documents in support of current investigations. Halliburton had four employees stationed on the rig at the time of the accident. They returned to shore safely and each has and will continue to be made available to assist the investigative efforts. We are mindful, however, that Halliburton cannot make any judgment or offer any theories about what happened until at a minimum the well owner has completed interviewing everyone on board to re-create the daily log of activities, including those that occurred after we successfully completed the cementing operations of the production casing string.

The April 20<sup>th</sup> catastrophic blowout, explosions and fire of the Deepwater Horizon rig and the spread of oil in the Gulf of Mexico are tragic events for everyone connected to the situation. The deaths and injuries to personnel working in our industry cannot be forgotten. Halliburton extends its heartfelt sympathy to the families, friends and colleagues of the 11 people who lost their lives and those workers injured in the tragedy.

### *Background on Halliburton*

As a global leader in oilfield services, Halliburton has been providing a variety of services to the oil and natural gas exploration and production industry for more than 90 years. Halliburton's areas of activity are primarily in the upstream oil and gas industry. They include providing products and services for clients throughout the life cycle of the hydrocarbon reservoir--from locating hydrocarbons and managing

geological data, to directional drilling and formation evaluation, well construction and completion, to optimizing production through the life of the field. The company is also engaged in developing and providing technologies for carbon sequestration and we are a service provider to the geothermal energy industry.

Halliburton is the largest cementing service and material provider in the oil and gas industry. Halliburton provides zonal isolation and engineering solutions for the life of a well. The company safely conducts thousands of successful well service operations each year and is committed to continuously improve its performance. The company views safety and environmental performance as critical to its success and these are core elements of our corporate culture. Halliburton has much to offer to help our nation meet its energy security needs.

With respect to the Mississippi Canyon 252 well, Halliburton was contracted by the well owner to perform a variety of services on the rig. These included cementing, mud logging, directional drilling, and measurement-while-drilling services. In addition, Halliburton provided selected real-time drilling and rig data acquisition and transmission services to key personnel both on board the Deepwater Horizon and at various onshore locations.

#### *Halliburton's Participation in the Remediation Efforts on Mississippi Canyon 252 Well*

Since the blowout, Halliburton has been working at the direction of the well owner to provide assistance in the effort to bring the well under control. This includes intervention support to help secure the damaged well and planning and services associated with drilling relief well operations.

Halliburton has deployed survey management experts to assist in planning the path of the relief wells and has mobilized its technology group to work in collaboration with another industry partner to combine our technologies, in an effort to develop an integrated ranging system to expedite the intersection of the original well.

#### *Operations Preceding the Catastrophic Loss of Well Control on Mississippi Canyon 252 Well*

I need to start this section with an important statement of disclosure. Halliburton, as a service provider to the well owner, is contractually bound to comply with the well owner's instructions on all matters relating to the performance of all work-related activities. It is also important to understand the roles and responsibilities of the various parties involved in the construction of a well. The construction of a deep water well is a complex operation involving the performance of numerous tasks by multiple parties led by the well owner's representative, who has the ultimate authority for decisions on how and when various activities are conducted.

Attached to this testimony is an illustration showing the approximate depths and positions of the casing and liner strings set in this well. In addition, the approximate position of the various cement placements is illustrated, which is consistent with the well design. It should be noted that cement is used at specific designated spots and is not designed to be a complete barrier through the entire wellbore.

Cement can be used to isolate formation fluids, to prevent movement of these fluids between formations and to bond and support the casing. A mixture of cement, water and chemicals is combined in a slurry that

can be pumped into position around the outside of steel liners and casing. There are many external factors that impact the design and execution of a cement job. These include the variability in the hole geometry, relative location of hydrocarbon zones, hydrocarbon content and the prior condition of the wellbore and associated fluids as determined by the drilling fluid provider. Casing strings are typically run with devices to centralize the casing concentrically in the wellbore and prevent incomplete displacement of drilling fluid, or “channeling”.

While every effort is made to complete a cement job with the highest levels of mechanical and hydraulic integrity, the above mentioned well conditions may prevent this. Confirming cement integrity after placement would require the well owner to direct the wireline provider to obtain cement evaluation logs. Based on the findings of these logs, the well owner can elect to perform remedial action by perforating the casing and “squeezing” cement into remaining voids to improve the integrity of the original cement.

The centralizer placement on the production casing, the drilling fluid conditioning program prior to cementing and the cement slurry and placement design used for this well were implemented as directed by the well owner. However, as shown in the attached diagram, by design there is no continuous cement column throughout the entire wellbore.

Approximately 20 hours prior to the catastrophic loss of well control, Halliburton had completed the cementing of the ninth and final production casing string in accordance with the well program.

Following the placement of 51 barrels of cement slurry, the casing seal assembly was set in the casing hanger. In accordance with accepted industry practice, as required by MMS and as directed by the well owner, a positive pressure test was then conducted to demonstrate the integrity of the production casing string. The results of the positive test were reviewed by the well owner and the decision was made to proceed with the well program.

The next step included the performance of a “negative” pressure test, which tests the integrity of the casing seal assembly and is conducted by the drilling contractor at the direction of the well owner and in accordance with MMS requirements. We understand that Halliburton was instructed to record drill pipe pressure during this test until Halliburton’s cementing personnel were advised by the drilling contractor that the negative pressure test had been completed, and were placed on standby.

We understand that the drilling contractor then proceeded to displace the riser with seawater prior to the planned placement of the final cement plug, which would have been installed inside the production string and enabled the planned temporary abandonment of the well. Prior to the point in the well construction plan that the Halliburton personnel would have set the final cement plug, the catastrophic incident occurred. As a result, the final cement plug was never set.

Halliburton is confident that the cementing work on the Mississippi Canyon 252 well was completed in accordance with the requirements of the well owner’s well construction plan.

Thank you for the opportunity to share our views.

## Well Schematic

### Mississippi Canyon 252 #1-01

