## HALLIBURTON

## Halliburton Comments on National Commission Cement Testing

October 29, 2010

HOUSTON, Oct 28, 2010 (BUSINESS WIRE) -- (NYSE:HAL)--On May 22, 2010, President Obama established the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (the "Commission") to examine the facts and circumstances to determine the cause of the Deepwater Horizon Oil Disaster, develop options for guarding against future oil spills associated with offshore drilling and submit a final public report to the President with its findings within six months of the Commission's first meeting.

On October 28, 2010, the Commission released results of cement testing Chevron recently conducted on behalf of the Commission utilizing the Chevron cement testing facility in Houston, Texas. In addition, on October 28, 2010, the Deputy Chief Counsel of the Commission sent a letter to the commissioners of the National Commission that describes the results of nine tests on Halliburton's cement design that were performed on behalf of the Commission by Chevron and describes certain testing performed by Halliburton. The letter states that Chevron's laboratory personnel were unable to generate stable foam cement using the materials Halliburton provided and suggests that the foam cement used on the Macondo well was unstable.

The letter states that this may have contributed to the incident. Halliburton has only recently received and is continuing to review the results, which it believes raises a number of questions. Halliburton is issuing this press release to provide information about the content and its preliminary views regarding Chevron's cement testing report and the letter.

Halliburton believes that significant differences between its internal cement tests and the Commission's test results may be due to differences in the cement materials tested. The Commission tested off-the-shelf cement and additives, whereas Halliburton tested the unique blend of cement and additives that existed on the rig at the time Halliburton's tests were conducted. Halliburton also noted that it has been unable to provide the Commission with cement, additives and water from the rig because it is subject to a Federal Court preservation order but that these materials will soon be released to the Marine Board of Investigation. Halliburton believes further comment on Chevron's tests is premature and should await careful study and understanding of the tests by Halliburton and other industry experts.

With respect to Halliburton's internal tests, the letter concludes that "only one of the four tests" showed a stable slurry. Halliburton noted that two of those tests were conducted in February and were preliminary, pilot tests. As noted in the letter, those tests did not include the same slurry mixture and design as that actually used on the Macondo well because final well conditions were not known at that time. Contrary to the letter, however, the slurry tested in February was not "a very similar foam slurry design to the one actually pumped at the Macondo well...." Additionally, there are a number of significant differences in testing parameters, including depth, pressure, temperature and additive changes, between Halliburton's February tests and two subsequent tests Halliburton conducted in April. Halliburton believes the first test conducted in April is irrelevant because the laboratory did not use the correct amount of cement blend. Furthermore, contrary to the assertion in the letter, BP was made aware of the issues with that test. The second test conducted in April was run on the originally agreed upon slurry formulation, which included eight gallons of retarder per 100 sacks of cement, and showed a stable foam.

BP subsequently instructed Halliburton to increase the amount of retarder in the slurry formulation from eight gallons per 100 sacks of cement to nine gallons per 100 sacks of cement. Tests, including thickening time and compressive strength, were performed on the nine gallon formulation (the cement formulation actually pumped) and were shared with BP before the cementing job had begun. A foam stability test was not conducted on the nine gallon formulation.

The Commission letter concludes by summarizing a widely known industry fact regarding cementing:

Cementing wells is a complex endeavor and industry experts inform us that cementing failures are not uncommon even in the best of circumstances. Because it may be anticipated that a particular cement job may be faulty, the oil industry has developed tests, such as the negative pressure test and cement evaluation logs, to identify cementing failures. It has also developed methods to remedy deficient cement jobs.

Halliburton believes that had BP conducted a cement bond log test, or had BP and others properly interpreted a negative-pressure test, these tests would have revealed any problems with Halliburton's cement. A cement bond log test is the only means available to evaluate the integrity of the cement bond. BP, as the well owner and operator, decided not to run a cement bond log test even though the appropriate personnel and equipment were on the rig and available to run that test. BP personnel have publicly testified they intended to conduct the cement bond log test at a later date and to perform any necessary remedial work at that time.

The negative-pressure test evaluates the integrity of the production casing to provide a barrier to the reservoir. A successful test is realized when an applied differential pressure is released and no flow is observed from the system. BP has admitted in its Deepwater Horizon Investigation Report (the "BP Report") that the negative tests were not successful and that the results of those tests were misinterpreted by its own and Transocean's employees on the rig. Had they accurately interpreted the negative tests, remedial action, if necessary, would have been possible.

In discussing its preliminary views with regards to the Commission letter, Halliburton emphasized other factors contributing to the Macondo well incident and that BP's well design decisions have been broadly criticized. BP's decision to run a long string rather than a liner and tieback reduced the number of barriers to annular flow to only two, the cement and the seal assembly. The barriers to flow inside the casing include the float equipment and cement.

In addition, according to the BP Report, the float collar in the casing required nine attempts to convert and set and required an unusually high amount of pressure. Public testimony has revealed that BP personnel on the rig were concerned with the high amount of pressure needed to convert the float collar and that the float collar and/or the casing could have been damaged in that process.

Despite the extraordinary pressure necessary to convert the float collar, rig operations continued and Halliburton was directed to run the cement job on the production casing.

Halliburton also reiterated that it had warned BP engineers that its selection of only six centralizers on the casing string would lead to channeling of the cement in the annulus and the casing shoe track. BP made the decision to use only six centralizers though an additional fifteen were sent to the rig prior to running the casing. Halliburton predicted that the cement job would channel and provide a flow path for hydrocarbons. Whether the hydrocarbons escaped through the annulus or the casing, the decision to use an inadequate number of centralizers remains relevant because cement channeling can provide a flow path of hydrocarbons into the wellbore.

According to the BP Report, the Transocean-maintained blowout preventer, which would have stopped hydrocarbon flow to the surface, failed to operate. In addition, according to the BP Report, Transocean failed to maintain safety shut-off equipment which might have prevented the incident.

Well logs and rig personnel confirm that the well was not flowing after the cement job. BP and/or others, following the misinterpreted negative tests conducted after the cement job, proceeded to displace mud in the production casing and riser with lighter seawater, allowing the well to flow. Given these numerous intervening causes, Halliburton does not believe that the foam cement design used on the Macondo well was the cause of the incident.

Halliburton does not believe the issues relating to cement testing invalidates BP Exploration's indemnification obligations as discussed in Halliburton's Form 10-Q for the quarter ended September 30, 2010. Halliburton's contract with BP Exploration relating to the Macondo well is available on its website at <a href="http://www.halliburton.com">http://www.halliburton.com</a>.

## **About Halliburton**

Founded in 1919, Halliburton is one of the world's largest providers of products and services to the energy industry. With more than 55,000 employees in approximately 70 countries, the company serves the upstream oil and gas industry throughout the lifecycle of the reservoir - from locating hydrocarbons and managing geological data, to drilling and formation evaluation, well construction and completion, and optimizing production through the life of the field. Visit the company's Web site at <a href="http://www.halliburton.com">http://www.halliburton.com</a>.

NOTE: The statements in this press release that are not historical statements, including statements regarding potential reasons for differing cement test results, results of any future testing of cement used on the Macondo well, whether other tests would reveal problems with that cement, the ultimate cause of the Macondo well incident, potential losses from the incident and whether Halliburton will be indemnified for any such losses, are forwardlooking statements within the meaning of the federal securities laws. These statements are subject to numerous risks and uncertainties, many of which are beyond the company's control, which could cause actual results to differ materially from the results expressed or implied by the statements. These risks and uncertainties include, but are not limited to: results of litigation and investigations; actions by third parties, including governmental agencies; changes in the demand for or price of oil and/or natural gas which has been significantly impacted by the worldwide recession and by the worldwide financial and credit crisis; consequences of audits and investigations by domestic and foreign government agencies and legislative bodies and related publicity and potential adverse proceedings by such agencies; indemnification and insurance matters; protection of intellectual property rights; compliance with environmental laws; changes in government regulations and regulatory requirements, particularly those related to offshore oil and gas exploration, radioactive sources, explosives, chemicals, hydraulic fracturing services and climate-related initiatives; compliance with laws related to income taxes and assumptions regarding the generation of future taxable income; risks of international operations, including risks relating to unsettled political conditions, war, the effects of terrorism, and foreign exchange rates and controls, and doing business with national oil companies; weatherrelated issues, including the effects of hurricanes and tropical storms; changes in capital spending by customers; delays or failures by customers to make payments owed to us; execution of long-term, fixed-price contracts; impairment of oil and gas properties; structural changes in the oil and natural gas industry; maintaining a highly skilled workforce; availability of raw materials; and integration of acquired businesses and operations of joint ventures. Halliburton's Form 10-K for the year ended December 31, 2009, Form 10-Q for the guarter ended September 30, 2010, recent Current Reports on Form 8-K, and other Securities and Exchange Commission filings discuss some of the important risk factors identified that may affect Halliburton's business, results of operations, and financial condition. Halliburton undertakes no obligation to revise or update publicly any forwardlooking statements for any reason.

## SOURCE: Halliburton

Halliburton Investor Relations: Christian Garcia, +1-281-871-2688 Corporate Affairs Cathy Mann, +1-281-871-2601