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6. SUMMARY AND CONCLUSIONS

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The DOE-NNSA Flow Team was chartered in July 2010 to estimate the total oil flow from the Macondo MC252 Well from the first days of the Deepwater Horizon accident through well shut-in on July 15, 2010. While there had been attempts throughout post-accident times to quantify the instantaneous flow rate, the DOE-NNSA Flow Team and other researchers directed by the DOI were generally stymied in these attempts prior to well shut-in, largely because of uncertainties in the well geometry, the BOP, and reservoir depletion. Events associated with BP preparations for Macondo Well shut-in afforded the Flow Team with data and a well-characterized geometry to predict flows through the kill and choke lines of the CS prior to and during shut-in. Analyses by the three subteams using traditional pipe-flow models and also a differential-pressure model resulted in very consistent flow rate estimates between 48,500 and 55,300 bopd, a range of +/-7%. During meetings held July 30-31, 2010, the DOE-NNSA Flow Team recommended a flow rate of 53,000 bopd be accepted for the day of well shut-in, with a +/- 10% uncertainty accounting for multiphase effects and other factors, such as accuracy of pressure measurements and surface-ship collection data.

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