CLAIMS

What is claimed is:

1. A method of cementing a pipe or casing in a wellbore which comprises:

(a) introducing into the wellbore a cementitious slurry comprising methylhydroxyethyl cellulose (MHEC), wherein the MHEC is present in the cementitious slurry in an amount sufficient to reduce or prevent the occurrence of gas channeling in the wellbore during the cementing of the pipe or casing; and

(b) allowing the slurry to harden to a solid mass.

2. The method of claim 1, wherein the density of the cementitious slurry is less than or equal to about 17 ppg.

3. The method of claim 2, wherein the density of the cementitious slurry is less than or equal to about 13.0 ppg.

4. The method of claim 1, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement..

5. The method of claim 1, wherein the amount of fluid loss of the cementitious slurry is less than about 500 cm^3/30 minutes, API Spec 10b.

6. The method of claim 1, wherein the amount of free fluid content of the cementitious slurry if less than or equal to about 0.2 mL, API Spec 10b.

7. The method of claim 1, wherein the MHEC is suspended in oil before introducing the MHEC to the cementitious slurry.

8. A method of cementing a pipe or casing in a wellbore which comprises introducing into the wellbore a cementitious slurry comprising methylhydroxyethyl cellulose (MHEC), wherein the MHEC is present in the cementitious slurry in an amount sufficient for at least one of the following:

(a) reducing or preventing the occurrence of gas channeling in the wellbore during cementing;

(b) controlling fluid loss during cementing;

(c) minimizing free fluid during cementing; or

(d) improving slurry stability during cementing.

9. The method of claim 8, wherein the amount of fluid loss of the cementitious slurry is less than about 500 cm^3/30 minutes, API Spec 10b.

10. The method of claim 8, wherein the amount of free fluid content of the cementitious slurry if less than or equal to about 0.2 mL, API Spec 10b.

11. The method of claim 8, wherein the density of the cementitious slurry is less than or equal to about 17 ppg.

12. The method of claim 11, wherein the density of the cementitious slurry is less than or equal to about 13.0 ppg.

13. The method of claim 8, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

14. A method of cementing within a gas or oil well and controlling fluid loss during cementing, the method comprising:

pumping into the well a cementitious slurry comprising water, cement and MHEC; and

allowing the slurry to harden to a solid mass.

15. The method of claim 14, wherein the amount of fluid loss of the cementitious slurry is less than about 500 cm^3/30 minutes, API Spec 10b.

16. The method of claim 14, wherein the amount of free fluid content of the cementitious slurry is less than or equal to about 0.2 mL, API Spec 10b.

17. The method of claim 14, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

18. The method of claim 14, wherein the cement in the cementitious slurry is Portland cement.

19. A method for reducing the occurrence of gas channeling during the cementing of a well which comprises introducing into the well a cementitious slurry comprising Portland cement and methylethylhydroxy cellulose (MHEC).

20. The method of claim 19, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

CLAIMS

What is claimed is:

1. A method of cementing a pipe or casing in a gas well which comprises:

(a) introducing into the gas well a cementitious slurry comprising methylhydroxyethyl cellulose (MHEC), wherein the MHEC is present in the cementitious slurry in an amount sufficient to reduce or prevent the occurrence of gas channeling in the wellbore during the cementing of the pipe or casing; and

(b) allowing the slurry to harden to a solid mass.

2. The method of claim 1, wherein the density of the cementitious slurry is less than or equal to about 17 ppg.

3. The method of claim 2, wherein the density of the cementitious slurry is less than or equal to about 13.0 ppg.

4. The method of claim 1, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

5. The method of claim 1, wherein the amount of fluid loss of the cementitious slurry is less than about 500 cm.sup.3/30 minutes, API Spec 10b.

6. The method of claim 1, wherein the amount of free fluid content of the cementitious slurry if less than or equal to about 0.2 mL, API Spec 10b.

7. A method for reducing the occurrence of gas channeling during the cementing of a well susceptible to gas channeling which comprises introducing into the well a cementitious slurry comprising Portland cement and methylethylhydroxy cellulose (MHEC) in an amount sufficient to reduce or prevent the occurrence of gas channeling in the well.

8. The method of claim 7, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

9. A method of cementing a pipe or casing in a wellbore which comprises:

(a) introducing into the wellbore a cementitious slurry comprising methylhydroxyethyl cellulose (MHEC), a foaming agent and gas, wherein the MHEC is present in the cementitious slurry in an amount sufficient to reduce or prevent the occurrence of gas channeling in the wellbore during the cementing of the pipe or casing; and

(b) allowing the slurry to harden to a solid mass.

10. The method of claim 9, wherein the amount of fluid loss of the cementitious slurry is less than about 500 cm.sup.3/30 minutes, API Spec 10b.

11. The method of claim 9, wherein the amount of free fluid content of the cementitious slurry if less than or equal to about 0.2 mL, API Spec 10b.

12. The method of claim 9, wherein the density of the cementitious slurry is less than or equal to about 17 ppg.

13. The method of claim 12, wherein the density of the cementitious slurry is less than or equal to about 13.0 ppg.

14. The method of claim 9, wherein the amount of MHEC in the cementitious slurry is between from about 0.05 to about 1.50 percent by weight of cement.

15. The method of claim 9, wherein the cementitious slurry further comprises fly ash.