

CLAIMS

1. A method of maintaining a hydrostatic pressure exerted, ~~by a fluid that flows from a work string,~~ on a wall of a wellbore in at least a first interval and a second interval of the wellbore, comprising the steps of:

flowing a liquid through at least a first pressure regulator and a second pressure regulator from a work string onto the wall of the wellbore,

wherein the first pressure regulator is located in the first interval of the wellbore,

wherein the second pressure regulator is located in the second interval of the wellbore, and

wherein each of the first and second pressure regulators regulates the amount of pressure exerted by the liquid on the wall of the wellbore; and maintaining the amount of pressure for a specific period of time .

2. The method according to Claim 1, wherein at least a portion of the wellbore is an open hole wellbore.

3. The method according to Claim 1, wherein at least one of the first and second intervals is part of a soft formation.

4. The method according to Claim 1, wherein more than one pressure regulator is located in the first interval, the second interval, or combinations thereof.

5. The method according to Claim 1, wherein the first pressure regulator is part of a first sand control assembly and the second pressure regulator is part of a second sand control assembly .

6. The method according to Claim 5, wherein at least the first sand control assembly is located in the first interval and at least the second sand control assembly is located in the second interval .

7. The method according to Claim 5, wherein each of the first and second sand control assemblies comprise a screen and a blank pipe .

8. The method according to Claim 7, wherein the first and second pressure regulators are attached to the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

9. The method according to Claim 8, wherein the first and second pressure regulators are attached to the outside of the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

10. The method according to Claim 1, further comprising the step of placing at least the first pressure regulator in the first interval and at least the second pressure regulator in the second interval.

11. The method according to Claim 1, further comprising placing a top packer and at least two isolation packers in desired portions of the wellbore prior to the step of placing the first and second pressure regulators.

12. The method according to Claim 1, wherein the step of flowing comprises pumping a liquid through the first and second pressure regulators.

13. The method according to Claim 1, wherein the step of flowing comprises simultaneously flowing the fluid through the first and second pressure regulators.

14. The method according to Claim 1, wherein at least one of the first and second pressure regulators further comprise a backflow device.

15. The method according to Claim 1, wherein the amount of pressure is predetermined.

16. The method according to Claim 15, wherein the first and second pressure regulators are pre-set to the predetermined amount of pressure.

17. The method according to Claim 1, wherein the first and second pressure regulators do not allow the pressure exerted on the wall of the wellbore to increase above or fall below the amount of pressure.

18. The method according to Claim 1, wherein the amount of pressure is greater than the pressure exerted by fluids in the subterranean formation.

19. The method according to Claim 1, wherein the step of maintaining comprises maintaining liquid communication between the first and second pressure regulators and the wall of the wellbore .

20. A method of maintaining a hydrostatic pressure in multiple intervals of a soft subterranean formation, comprising the steps of:

using a pressure regulator to maintain an amount of

pressure exerted by a liquid, flowing from a work string, on the face of the subterranean formation in each of the multiple intervals, wherein the step of using comprises maintaining liquid communication with each of the multiple intervals.

WHAT IS CLAIMED IS:

1. A method of maintaining a hydrostatic pressure exerted on a wall of a wellbore in at least a first interval and a second interval of the wellbore, comprising the steps of:
 flowing a liquid through at least a first pressure regulator and a second pressure regulator,
 wherein the first pressure regulator is located in the first interval of the wellbore,
 wherein the second pressure regulator is located in the second interval of the wellbore, and
 wherein each of the first and second pressure regulators regulates the amount of pressure exerted by the liquid on the wall of the wellbore; and
 maintaining the amount of pressure for a specific period of time.
2. The method according to Claim 1, wherein at least a portion of the wellbore is an open hole wellbore.
3. The method according to Claim 1, wherein at least one of the first and second intervals is part of a soft formation.
4. The method according to Claim 1, wherein more than one pressure regulator is located in the first interval, the second interval, or combinations thereof.
5. The method according to Claim 1, wherein the first pressure regulator is part of a first sand control assembly and the second pressure regulator is part of a second sand control assembly.

6. The method according to Claim 5, wherein at least the first sand control assembly is located in the first interval and at least the second sand control assembly is located in the second interval.

7. The method according to Claim 5, wherein each of the first and second sand control assemblies comprise a screen and a blank pipe.

8. The method according to Claim 7, wherein the first and second pressure regulators are attached to the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

9. The method according to Claim 8, wherein the first and second pressure regulators are attached to the outside of the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

10. The method according to Claim 1, further comprising the step of placing at least the first pressure regulator in the first interval and at least the second pressure regulator in the second interval.

11. The method according to Claim 1, further comprising placing a top packer and at least two isolation packers in desired portions of the wellbore prior to the step of placing the first and second pressure regulators.

12. The method according to Claim 1, wherein the step of flowing comprises pumping a liquid through the first and second pressure regulators.

13. The method according to Claim 1, wherein the step of flowing comprises simultaneously flowing the fluid through the first and second pressure regulators.

14. The method according to Claim 1, wherein at least one of the first and second pressure regulators further comprise a backflow device.

15. The method according to Claim 1, wherein the amount of pressure is predetermined.

16. The method according to Claim 15, wherein the first and second pressure regulators are pre-set to the predetermined amount of pressure.

17. The method according to Claim 1, wherein the first and second pressure regulators do not allow the pressure exerted on the wall of the wellbore to increase above or fall below the amount of pressure.

18. The method according to Claim 1, wherein the amount of pressure is greater than the pressure exerted by fluids in the subterranean formation.

19. The method according to Claim 1, wherein the step of maintaining comprises maintaining liquid communication between the first and second pressure regulators and the wall of the wellbore.

20. A method of maintaining a hydrostatic pressure in multiple intervals of a soft subterranean formation, comprising the steps of:

using a pressure regulator to maintain an amount of pressure exerted by a liquid on the face of the subterranean formation in each of the multiple intervals, wherein the step of using comprises maintaining liquid communication with each of the multiple intervals.

CLAIMS

1. A method of maintaining a hydrostatic pressure exerted, on a wall of a wellbore in at least a first interval and a second interval of the wellbore, comprising the steps of:

flowing a liquid through at least a first pressure regulator and a second pressure regulator from a work string onto the wall of the wellbore,

wherein the first pressure regulator is located in the first interval of the wellbore,

wherein the second pressure regulator is located in the second interval of the wellbore, and

wherein each of the first and second pressure regulators regulates the amount of pressure exerted by the liquid on the wall of the wellbore; and maintaining the amount of pressure for a specific period of time.
2. The method according to Claim 1, wherein at least a portion of the wellbore is an open hole wellbore.
3. The method according to Claim 1, wherein at least one of the first and second intervals is part of a soft formation.
4. The method according to Claim 1, wherein more than one pressure regulator is located in the first interval, the second interval, or combinations thereof.
5. The method according to Claim 1, wherein the first pressure regulator is part of a first sand control assembly

and the second pressure regulator is part of a second sand control assembly.

6. The method according to Claim 5, wherein at least the first sand control assembly is located in the first interval and at least the second sand control assembly is located in the second interval.

7. The method according to Claim 5, wherein each of the first and second sand control assemblies comprise a screen and a blank pipe.

8. The method according to Claim 7, wherein the first and second pressure regulators are attached to the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

9. The method according to Claim 8, wherein the first and second pressure regulators are attached to the outside of the screen, blank pipe, or combinations thereof of the first and second sand control assemblies, respectively.

10. The method according to Claim 1, further comprising the step of placing at least the first pressure regulator in the first interval and at least the second pressure regulator in the second interval.

11. The method according to Claim 1, further comprising placing a top packer and at least two isolation packers in desired portions of the wellbore prior to the step of placing the first and second pressure regulators.

12. The method according to Claim 1, wherein the step of flowing comprises pumping a liquid through the first and second pressure regulators.

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14. The method according to Claim 1, wherein at least one of the first and second pressure regulators further comprise a backflow device.

15. The method according to Claim 1, wherein the amount of pressure is predetermined.

16. The method according to Claim 15, wherein the first and second pressure regulators are pre-set to the predetermined amount of pressure.

17. The method according to Claim 1, wherein the first and second pressure regulators do not allow the pressure exerted on the wall of the wellbore to increase above or fall below the amount of pressure.

18. The method according to Claim 1, wherein the amount of pressure is greater than the pressure exerted by fluids in the subterranean formation.

19. The method according to Claim 1, wherein the step of maintaining comprises maintaining liquid communication between the first and second pressure regulators and the wall of the wellbore.

20. A method of maintaining a hydrostatic pressure in multiple intervals of a soft subterranean formation, comprising the steps of:

using a pressure regulator to maintain an amount of pressure exerted by a liquid,

flowing from a work string on the face of the subterranean formation in each of the multiple intervals, wherein the step of using comprises maintaining liquid communication with each of the multiple intervals.