slurry to bypass any sand bridges that may be formed and permit the slurry to enter the screen/casing annulus beneath a sand bridge, thereby forming the desired sand pack beneath it.

SUMMARY

[0004a] According to a first aspect of the present invention, there is provided a shunt tube assembly to be mounted alongside a base pipe assembly, the shunt tube assembly comprising: a first shunt tube having a first end; a second shunt tube having a first end; and a jumper tube assembly fluidly connecting the first shunt tube and the second shunt tube, wherein the jumper tube assembly comprises: a first tubular member engaged with the first end of the first shunt tube; a second tubular member disposed within the first tubular member, wherein the second tubular member telescopically and slidingly engages within the first tubular member, and wherein the second tubular member is extended to engage with the first end of the second shunt tube; and a locking member that engages the first tubular member and the second tubular member, and wherein the locking member prevents the second tubular member from telescopically and longitudinally displacing further into the first tubular member when the locking member engages both the first tubular member and the second tubular member.

[0004b] According to a second aspect of the present invention, there is provided a jumper tube assembly for use with a shunt tube assembly comprising: a first tubular member capable of engaging a first end of a first shunt tube; a second tubular member axially disposed within the first tubular member, wherein the second tubular member is capable of extending into engagement with a first end of a second shunt tube, wherein the second tubular member has an outer surface in contact with the inner surface of the first tubular member, and wherein the second tubular member comprises circumferential grooves disposed on the outer surface of the second tubular member; a locking member engaging the outer surface of the second tubular member, the locking member comprising circumferential grooves on an inner surface, and wherein the circumferential grooves of the second tubular member interact with the circumferential grooves of the locking member to prevent further longitudinal movement of the second tubular member into the first tubular member.

[0005] In an embodiment, a jumper tube for use with a shunt tube assembly comprises a first tubular member configured to engage a first shunt tube, a second tubular member axially disposed within the first tubular member, and a locking member configured to prevent the second tubular member from axially displacing into the first tubular member. The second tubular member is configured to slidingly engage within the first tubular member, and the second tubular member is configured to engage a second shunt tube.

[0006] In an embodiment, a jumper tube for use with a shunt tube assembly comprises a first tubular member configured to engage a first shunt tube; a second tubular member axially disposed within the first tubular member, and a locking member engaging the outside surface of the second tubular member. The second tubular member is configured to engage a second shunt tube.

[0007] In an embodiment, method of engaging a jumper tube to a shunt tube assembly comprises disposing a jumper tube between open ends of two shunt tubes; axially extending a second tubular member from a first tubular member to engage the open ends of the two shunt tubes; coupling at least one of the distal ends of the first tubular member and at least one of the distal ends of the second tubular member to the open ends of the two shunt tubes; and locking the second tubular member relative to the first tubular member to prevent an axially decrease in length of the jumper tube.

[0008] These and other features will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] For a more complete understanding of the present disclosure and the advantages thereof, reference is now made to the following brief description, taken in connection with the accompanying drawings and detailed description:

[0010] Figure 1 is a cut-away view of an embodiment of a wellbore servicing system according to an embodiment.

[0011] Figure 2 is a cross-sectional view of an embodiment of a shunt tube assembly.

[0012] Figure 3 is a cross-sectional view of an embodiment of a shunt tube assembly along line A-A' of Figure 2.

CLAIMS

What is claimed is:

1. A jumper tube for use with a shunt tube assembly comprising:

   a first tubular member configured to engage a first shunt tube;

   a second tubular member axially disposed within the first tubular member, wherein the second tubular member is configured to slidingly engage within the first tubular member, and wherein the second tubular member is configured to engage a second shunt tube; and

   a locking member configured to prevent the second tubular member from axially displacing into the first tubular member.

2. The jumper tube of claim 1, wherein the locking member is configured to engage at least a portion of the circumference of the second tubular member.

3. The jumper tube of claim 1, wherein the locking member is configured to engage the first tubular member and the second tubular member.

4. The jumper tube of claim 1, wherein the locking member is configured to prevent disengagement between the jumper tube and shunt tube assembly.

5. The jumper tube of claim 1, wherein the locking member is configured to maintain a sealing engagement between the jumper tube and the shunt tube assembly.

6. The jumper tube of claim 1, wherein the locking member comprises frictional grooves on at least one face, and wherein the frictional grooves are configured to prevent axial movement of the locking member along the longitudinal axis of the jumper tube.

7. The jumper tube of claim 1, wherein the second tubular member comprises grooves disposed on a surface of the second tubular member, and wherein the grooves are configured to prevent axial movement of the locking member along the longitudinal axis of the second tubular member.

8. The jumper tube of claim 1, further comprising at least one seal disposed between the first tubular member and the second tubular member, wherein the at least one seal is configured to sealingly engage the first tubular member and the second tubular member.

9. The jumper tube of claim 1, further comprising at least one seal disposed between at least one of the first tubular member and the first shunt tube or the second tubular member and the second shunt tube, and wherein the at least one seal is configured to form a sealing engagement between at least one of the first tubular member and the first shunt tube or the second tubular member and the second shunt tube.

10. The jumper tube of claim 1, wherein the first tubular member is configured to engage at least a portion of the locking member.

11. The jumper tube of claim 1, wherein the locking member is partially disposed between the first tubular member and the second tubular member.

12. The jumper tube of claim 1, wherein the first tubular member comprises frictional grooves disposed on an inside diameter of the first tubular member, and wherein the frictional grooves are configured to prevent axial movement of the locking member along the longitudinal axis of the second tubular member.

13. The jumper tube of claim 1, wherein at least one distal end of the first tubular member and at least one distal end of the second tubular member comprises an increased diameter portion, and wherein the increased diameter portion engages the first tubular member and the second tubular member with the shunt tube assembly.

14. A jumper tube for use with a shunt tube assembly comprising:
a first tubular member configured to engage a first shunt tube;
a second tubular member axially disposed within the first tubular member, wherein the second tubular member is configured to engage a second shunt tube; and
a locking member engaging the outside surface of the second tubular member.

15. The jumper tube of claim 14, wherein the locking member comprises a c-ring.

16. The jumper tube of claim 14, wherein the locking member comprises a tube clamp.

17. The jumper tube of claim 14, wherein an end of at least one of the first tubular member or second tubular member is round.

18. The jumper tube of claim 14, wherein the second tubular member has an outside diameter substantially equal to the inside diameter of the first tubular member.

19. The jumper tube of claim 14, wherein the inside diameter of at least a portion of the second tubular member increases towards at least one distal end of the second tubular member as the outside diameter of the second tubular member remains substantially constant.

20. The jumper tube of claim 14, wherein the inside diameter of at least a portion of the first tubular member increases towards at least one distal end of the first tubular member as the outside diameter of the first tubular member remain substantially constant.

21. The jumper tube of claim 14, wherein at least one seal is disposed between the first tubular member and the second tubular member.

22. The jumper tube of claim 14, wherein at least one seal is disposed between the second tubular member and the second shunt tube and at least one seal is disposed between the first tubular member and the first shunt tube.

23. A method of engaging a jumper tube to a shunt tube assembly, the method comprising:

disposing a jumper tube between open ends of two shunt tubes;

axially extending a second tubular member from a first tubular member to engage the open ends of the two shunt tubes;

coupling at least one of the distal ends of the first tubular member and at least one of the distal ends of the second tubular member to the open ends of the two shunt tubes; and

locking the second tubular member relative to the first tubular member to prevent an axially decrease in length of the jumper tube.

24. The method of claim 23, wherein the locking further comprises engaging a locking member into a shoulder between the first tubular member and the second tubular member; and engaging the locking member with grooves displaced on the second tubular member.

25. The method of claim 24, wherein the locking further comprises engaging the locking member in the shoulder with shoulder grooves disposed on the first tubular member to secure the locking member within the grooves.

CLAIMS

1. A shunt tube assembly to be mounted alongside a base pipe assembly, the shunt tube assembly comprising:

a first shunt tube having a first end;

a second shunt tube having a first end; and

a jumper tube assembly fluidly connecting the first shunt tube and the second shunt tube, wherein the jumper tube assembly comprises:

a first tubular member engaged with the first end of the first shunt tube;

a second tubular member disposed within the first tubular member, wherein the second tubular member telescopically and slidingly engages within the first tubular member, and wherein the second tubular member is extended to engage with the first end of the second shunt tube; and

a locking member that engages the first tubular member and the second tubular member, and wherein the locking member prevents the second tubular member from telescopically and longitudinally displacing further into the first tubular member when the locking member engages both the first tubular member and the second tubular member.

2. The shunt tube assembly of claim 1, wherein the locking member is engaged with at least a portion of an outer surface of the second tubular member.

3. The shunt tube assembly of claim 1, wherein the locking member is engaged with an inner surface of the first tubular member.

4. The shunt tube assembly of claim 1, wherein the locking member maintains engagement between the jumper tube assembly and the shunt tube assembly.

5. The shunt tube assembly of claim 1, wherein the locking member maintains a scaling engagement between the jumper lube assembly and the shunt tube assembly.

6. The shunt tube assembly of claim 1, wherein the locking member comprises frictional grooves on at least one face, and wherein the frictional grooves prevent longitudinal movement of the locking member along a longitudinal axis of the jumper tube assembly.

7. The shunt tube assembly of claim 1, wherein the second tubular member

comprises grooves disposed on an outer surface of the second tubular member, and wherein the grooves prevent longitudinal movement of the locking member along a longitudinal axis of the second tubular member.

8. The shunt tube assembly of claim 1, further comprising at least one seal disposed between the first tubular member and the second tubular member, wherein the at least one seal sealingly engages the first tubular member and the second tubular member.

9. The shunt tube assembly of claim 1, wherein the first tubular member engages at least a portion of the locking member.

10. The shunt tube assembly of claim 1, wherein a portion of the locking member is disposed between an inner surface of the first tubular member and an outer surface of the second tubular member.

11. The shunt tube assembly of claim 1, wherein the first tubular member comprises frictional grooves disposed on an inner surface of the first tubular member, and wherein the frictional grooves prevent longitudinal movement of the locking member along a longitudinal axis of the first tubular member.

12. The shunt tube assembly of claim 1, wherein the locking member comprises a c-ring, wherein the c-ring comprises frictional grooves disposed on an inner surface, and wherein the frictional grooves prevent longitudinal movement of the locking member along a longitudinal axis of the first tubular member.

13. The shunt tube assembly of claim 12, wherein the second tubular member comprises frictional grooves disposed on an outer surface, wherein the c-ring is disposed about the second tubular member, and wherein the frictional grooves disposed on the inner surface of the c-ring engage the frictional grooves disposed on the outer surface of the second tubular member.

14. A jumper tube assembly for use with a shunt tube assembly comprising:

a first tubular member capable of engaging a first end of a first shunt tube;

a second tubular member axially disposed within the first tubular member, wherein the second tubular member is capable of extending into engagement with a first end of a second shunt tube, wherein the second tubular member has an outer surface in

contact with the inner surface of the first tubular member, and wherein the second tubular member comprises circumferential grooves disposed on the outer surface of the second tubular member;

a locking member engaging the outer surface of the second tubular member, the locking member comprising circumferential grooves on an inner surface, and wherein the circumferential grooves of the second tubular member interact with the circumferential grooves of the locking member to prevent further longitudinal movement of the second tubular member into the first tubular member.

15. The jumper tube assembly of claim 14, wherein the locking member comprises a c-ring.

16. The jumper tube assembly of claim 14, wherein the locking member engages the first tubular member and the second tubular member.