

CLAIMS

1. A fluid recovery system comprising:

a telescoping joint of a marine riser, the telescoping joint having an inner barrel and an outer barrel configured to extend and retract with respect to one another when installed as part of the marine riser;

a drip pan coupled to the outer barrel to enable the drip pan to catch fluid leaking from the telescoping joint between the inner barrel and the outer barrel;

a pump mounted on the marine riser; and

a return conduit, wherein the pump and the return conduit are coupled to enable the pump to pump caught fluid from the drip pan directly back into the telescoping joint via the return conduit.

2. The fluid recovery system of claim 1, wherein the outer barrel includes at least one seal assembly having a seal disposed inside of a spool and adapted to seal against the inner barrel.

3. The fluid recovery system of claim 2, wherein the drip pan is attached about an outer surface of the spool of the at least one seal assembly.

4. The fluid recovery system of claim 3, wherein the drip pan is attached about a waist of the spool having a narrower diameter than ends of the spool.

5. The fluid recovery system of claim 2, wherein the at least one seal assembly includes a double-seal assembly.

6. The fluid recovery system of claim 2, wherein the drip pan includes fittings that enable connection of hoses and routing of fluid into the spool via the drip pan.

7. The fluid recovery system of claim 1, wherein the drip pan includes at least one nozzle that enables irrigation within the drip pan.

8. The fluid recovery system of claim 1, comprising a level detector that enables reading of a level of caught fluid within the drip pan.

9. The fluid recovery system of claim 8, wherein the pump is configured to activate in response to the level of the caught fluid within the drip pan read by the level detector.

10. The fluid recovery system of claim 1, wherein the pump and the return conduit are coupled to enable the pump to pump caught fluid from the drip pan back into the outer barrel of the telescoping joint via the return conduit.

11. The fluid recovery system of claim 10, wherein the outer barrel includes an adapter spool and the return conduit is coupled to a port in the adapter spool to enable caught fluid to be pumped from the drip pan, through the return conduit, and through the port to return the caught fluid into the outer barrel.

12. A fluid recovery system comprising:

a reservoir having an inner edge that is defined by an opening through the reservoir that enables installation of the reservoir about a telescoping joint to catch drilling fluid leaking from the telescoping joint; and

an adapter spool having a fluid port and configured to be installed as part of the telescoping joint and in fluid communication with the reservoir to enable the drilling fluid caught by the reservoir to be recycled by directly returning the drilling fluid into the telescoping joint through the fluid port of the adapter spool.

13. The fluid recovery system of claim 12, wherein the reservoir is formed of multiple pieces that enable the reservoir to be assembled about the telescoping joint, the multiple pieces including abutting end walls with at least one fluid transfer port that permits drilling fluid caught within one of the multiple pieces to pass to another of the multiple pieces through the end walls when the multiple pieces are assembled about the telescoping unit.

14. The fluid recovery system of claim 12, comprising a fluid conduit and a pump configured to be installed between a drain of the reservoir and the fluid port of the adapter spool to enable drilling fluid caught in the reservoir to be pumped into the fluid port of the adapter spool.

15. The fluid recovery system of claim 12, comprising the telescoping joint.

16. A method comprising:

conveying drilling mud through a telescoping joint of a marine riser connected to an offshore drilling rig;

catching, within a reservoir on the telescoping joint, drilling mud that has escaped the telescoping joint by passing between an inner barrel and an outer barrel of the telescoping joint; and

recycling the drilling mud caught within the reservoir by routing the drilling mud caught within the reservoir directly back into the telescoping joint.

17. The method of claim 16, wherein routing the drilling mud caught within the reservoir directly back into the telescoping joint includes routing the drilling mud caught within the reservoir into the outer barrel of the telescoping joint.

18. The method of claim 17, wherein routing the drilling mud caught within the reservoir into the outer barrel of the telescoping joint includes routing the drilling mud caught within the reservoir through a port in an adapter spool of the telescoping joint.

19. The method of claim 16, wherein routing the drilling mud caught within the reservoir includes pumping the drilling mud caught within the reservoir from the reservoir into an annular space between the inner barrel and the outer barrel of the telescoping joint.

20. The method of claim 16, comprising detecting that the drilling mud caught within the reservoir exceeds a threshold amount and, in response, automatically activating a pump to drain the drilling mud caught within the reservoir and return it to the telescoping joint.

CLAIMS

1. A fluid recovery system comprising:
 - a telescoping joint of a marine riser, the telescoping joint having an inner barrel and an outer barrel configured to extend and retract with respect to one another when installed as part of the marine riser;
 - a drip pan coupled to the outer barrel to enable the drip pan to catch fluid leaking from the telescoping joint between the inner barrel and the outer barrel;
 - a pump; and
 - a return conduit, wherein the pump and the return conduit are coupled to enable the pump to pump caught fluid from the drip pan back into the telescoping joint via the return conduit.
2. The fluid recovery system of claim 1, wherein the outer barrel includes at least one seal assembly having a seal disposed inside of a spool and adapted to seal against the inner barrel.
3. The fluid recovery system of claim 2, wherein the drip pan is attached about an outer surface of the spool of the at least one seal assembly.
4. The fluid recovery system of claim 3, wherein the drip pan is attached about a waist of the spool having a narrower diameter than ends of the spool.
5. The fluid recovery system of claim 2, wherein the at least one seal assembly includes a double-seal assembly.

6. The fluid recovery system of claim 2, wherein the drip pan includes fittings that enable connection of hoses and routing of fluid into the spool via the drip pan.
7. The fluid recovery system of claim 1, wherein the drip pan includes at least one nozzle that enables irrigation within the drip pan.
8. The fluid recovery system of claim 1, comprising a level detector that enables reading of a level of caught fluid within the drip pan.
9. The fluid recovery system of claim 8, wherein the pump is configured to activate in response to the level of the caught fluid within the drip pan read by the level detector.
10. The recovery system of claim 1, wherein the pump and the return conduit are coupled to enable the pump to pump caught fluid from the drip pan back into the outer barrel of the telescoping joint via the return conduit.
11. The fluid recovery system of claim 10, wherein the outer barrel includes an adapter spool and the return conduit is coupled to a port in the adapter spool to enable caught fluid to be pumped from the drip pan, through the return conduit, and through the port to return the caught fluid into the outer barrel.

12. A fluid recovery system comprising:

a reservoir having an inner edge that is defined by an opening through the reservoir that enables installation of the reservoir about a telescoping joint to catch drilling fluid leaking from the telescoping joint; and

an adapter spool having a fluid port and configured to be installed as part of a telescoping joint and in fluid communication with the reservoir to enable the drilling fluid caught by the reservoir to be recycled by returning the drilling fluid into the telescoping joint through the fluid port of the adapter spool.

13. The fluid recovery system of claim 12, wherein the reservoir is formed of multiple pieces that enable the reservoir to be assembled about the telescoping joint, the multiple pieces including abutting end walls with at least one fluid transfer port that permits drilling fluid caught within one of the multiple pieces to pass to another of the multiple pieces through the end walls when the multiple pieces are assembled about the telescoping unit.

14. The fluid recovery system of claim 12, comprising a fluid conduit and a pump configured to be installed between a drain of the reservoir and the fluid port of the adapter spool to enable drilling fluid caught in the reservoir to be pumped into the fluid port of the adapter spool.

15. The fluid recovery system of claim 12, comprising the telescoping joint.

16. A method comprising:

conveying drilling mud through a telescoping joint of a marine riser connected to an offshore drilling rig;

catching, within a reservoir on the telescoping joint, drilling mud that has escaped the telescoping joint by passing between an inner barrel and an outer barrel of the telescoping joint; and

recycling the drilling mud caught within the reservoir by routing the drilling mud caught within the reservoir directly back into the telescoping joint.

17. The method of claim 16, wherein routing the drilling mud caught within the reservoir directly back into the telescoping joint includes routing the drilling mud caught within the reservoir into the outer barrel of the telescoping joint.

18. The method of claim 17, wherein routing the drilling mud caught within the reservoir into the outer barrel of the telescoping joint includes routing the drilling mud caught within the reservoir through a port in an adapter spool of the telescoping joint.

19. The method of claim 16, wherein routing the drilling mud caught within the reservoir includes pumping the drilling mud caught within the reservoir from the reservoir into an annular space between the inner barrel and the outer barrel of the telescoping joint.

20. The method of claim 16, comprising detecting that the drilling mud caught within the reservoir exceeds a threshold amount and, in response, automatically activating a pump to drain the drilling mud caught within the reservoir and return it to the telescoping joint.