Claims

1. A method of unloading sand from a ship, the method comprising the steps of:

providing at least one hold within said ship, said hold containing a volume of unsaturated sand;

flowing water into the hold, using water jets, and consequently;

saturating a portion of the unsaturated sand;

creating a pond of surface water on the sand within the saturated portion of the unsaturated sand;

agitating sand by said water jets within the saturation portion so as to place sand particles into suspension within the pond;

pumping out said suspended sand from the ship to a designated location using a sand pump; and

controlling of a location of a pump as the sand within the hold is progressively unloaded so as to maintain the pump immersed within the pond.

2. The method according to claim 1, further including, after the pumping step, the steps of progressively and simultaneously, saturating the unsaturated sand, agitating sand, using the water jets, into suspension and pumping out suspended sand.

3. The method according to claim 2, wherein the progressively and simultaneously saturating step includes balancing the rate of flow of water into the hold with the rate of pumping out of the suspended sand.

4. The method according to any one of claims 1 to 3, further including the step, prior to the flowing step of hollowing the unsaturated sand in which the pond is formed.

5. The method according to any one of claims 1 to 4, wherein the water introduction step includes the step of directing water against peripheral walls of sand, and collapsing the sand walls into the pond.

6. The method according to any one of the preceding claims, wherein the flowing step includes jetting water at a pressure in the range 4 to 8 Bar.

~~7. The method according to any one of the preceding claims, further including the step of controlling of a location of the pump as the sand within the hold is progressively unloaded so as to maintain the pump immersed within the pond.~~

~~8.~~7. The method according to any one of the preceding claims, wherein the ship is any one of: a bulk carrier or barge.

~~9.~~8. A system for unloading sand from at least one hold of a ship comprising:

at least one water jet, said water jet arranged to direct a flow of water onto a volume of unsaturated sand so as to form a portion of saturated sand and a pond of surface water within said portion of saturated sand;

a sand pump arranged to be placed in the pond for pumping out sand in suspension;

at least one direct water jet;

said at least one direct water jet arranged to be mounted to the sand pump so as to agitate the sand within the saturated portion of sand.

wherein the direct water jet is selectively movable relative to the sand pump so as to selectively vary the direction of water flow.

~~10.~~9. The system according to claim ~~9~~8 wherein the water jets are arranged to be placed at a peripheral edge of said at least one hold.

~~11.~~10. The system according to claim 8~~9~~ or 9~~10~~ wherein the sand pump is suspended by a cable and arranged to progressively control of a location of the pump so as to ensure the sand pump remains immersed.

11~~12~~. The system according to claim 8~~9~~, wherein the direction of flow from the at least one direct water jet varies from 0° to 90° from a vertical axis of the sand pump.

12~~13~~. The system according to any one of claims 8~~9~~ to 11~~12~~, wherein said water jets are arranged to operate at a pressure in the range 4 to 8 Bar.