

ABSTRACT OF THE DISCLOSURE

A method of hydraulic fracturing of an oil producing formation includes the provision of a heating apparatus which is transportable and that has a vessel for containing water. The method contemplates heating the water up to a temperature of about 200° F (93.3°C). A water stream of cool or cold water is transmitted from a source to a mixer, the cool water stream being at ambient temperature. The mixer has an inlet that receives cool or cold water from the source and an outlet that enables a discharge of a mix of cool or cold water and the hot water. After mixing in the mixer, the water assumes a temperature that is suitable for mixing with chemicals that are used in the fracturing process, such as a temperature of about 40°-120°F+ (4.4 - 48.9°C+). An outlet discharges a mix of the cool and hot water to surge tanks or to mixing tanks. In the mixing tanks, a proppant and an optional selected chemical or chemicals are added to the water which has been warmed. From the mixing tanks, the water with proppant and optional chemicals is injected into the well for part of the hydraulic fracturing operation. The mixer preferably employs lateral fittings that enable heated water to enter the mixer bore at an acute angle. The mixer can also provide a lateral fitting that exits the mixer bore upstream of the first lateral fitting, the second lateral fitting transmitting water via a conduit such as a hose to the heater.

20

P:\ClientFiles\99\994\99480.1P2\PCT\Pat-PCT.wpd

25





