BIOCELERATOR
BIOLOGICAL MEDIUM STIMULANT

ORA

ENHANCED OIL RECOVERY AGENT

TRANSFERRING OIL WET TO WATER WET

Application:

- Paraffin
- Clay Build Up
- Calcium Scale
- Formation Skin Damage
- H2S
- Iron Sulphide
- Asphaltenes
- Wetting Agent
- Fresh Water Emulsion

Benefits:

- Mobilize Paraffin
- Liquify Clay
- Removal Calcium Scale
- Convert Oil Wet to Water Wet
- Reduce H2S
- Break Iron Sulphide Bond
- Mobilize Aspaltene
- Break (+/-) bond in emulsion
- Less Stress on Equipment
- NO HAZARDOUS CHEMICALS

Biocelerator ORA (Oil Recovery Agent)

Biocelerator ORA is an inorganic product manufactured from sodium and silicon metal that is a stable, but oxygen insufficient, complex of silicon in an aqueous solution.

Biocelerator ORA is non-toxic, non-corrosive and ready to use. Eliminating the use of multiple products to address oil field problems. It is safe for those who handle it and for the environment in which it is used.

Biocelerator ORA is a surfactant that affects the interface between immiscible materials like oil and water. The product reduces the surface tension of oil adhering to rock matrix and fracture walls and the inter-facial tension between fluid phases (oil/gas and oil/water).

Reduced inter-facial tensions result in increased relative permeability characteristics for a given pore structure. The surfactant characteristics make them applicable to enhanced oil recovery.

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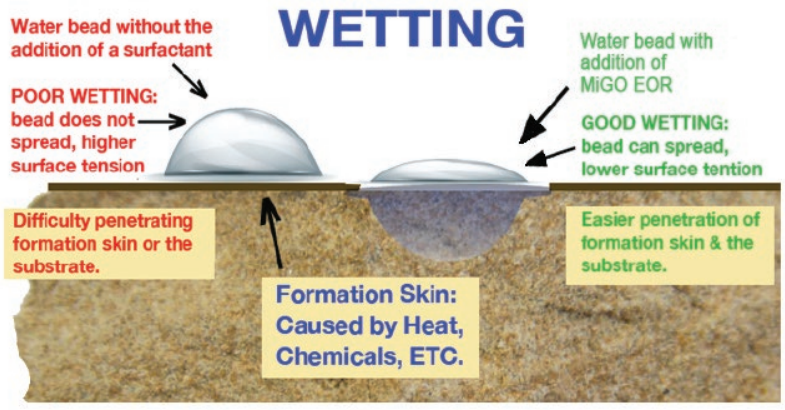
Wetting Agent is a unique property of a material and not always of a declaration of its reactive or chemical nature. There are multiple chemicals that will "wet water" in varying degrees …but not the substrate at the same time. Some will wet the substrate, but not the water (this is less common, but can happen with many ligand sulphur compounds).



(Notice; these are usually products remaining after cracking or other chemical reactions) Many disposal operations are reticent to take materials that may have these materials in them because they can react adversely with the water **(particularly low salinity or brackish water)** and create what are called "fresh water" emulsions.

To avoid this circumstance, it is important to know what is being mixed with what, but also to know what to expect from the **"wetting properties"** of a given agent that may be added. In general, so called "wetting agents" are classified as "weak, moderate, strong and very strong". Testing the inter-facial tension of a material by using the older, but very well respected method of the IFT spinning apparatus testing method, tells the tale. Very few materials rate a very strong, and almost none of those, so classified will "wet the substrate and the solution" (water as a rule) at the same time.

This product does both and at the same time, wets the oil to water interfaces! This material wets the water, wets the substrates, and each of their interfaces with hydrocarbons, all at the same time.

Usually it is hygroscopic clays, they swell when they contact water, that is direct or insitu in other compounds. This product breaks the expanded clay molecule and wets the substrate where future swelling is reduced. The material has one other unique property. It scavenges oxygen. It will break down almost all the materials mentioned because they are found in the oxide form.

Biocelerator ORA also kills H2S if caused by anaerobic bacteria