ReVive Series

Remediation Products for Brine Water or Oil Spills

This report outlines the advantages of ReVive-O and ReVive-W, which are products designed to remediate soil contaminated with crude oil or produced oilfield brine water.

ReVive-O

ReVive-O is a biodegradable dispersant that has many uses besides the remediation of crude oil contaminated soil, such as degreasers and diesel/gasoline spill cleanup after accidents on highways. But the purpose of this report is to focus on soil remediation.

Advantages:

- Eliminates soil removal /replacement. When one considers the dollars spent on disposing of contaminated soil, this single advantage provides a huge cost savings.
- Does not contain bacteria, but rather utilizes the soils natural bio-remediation capabilities. This is accomplished by using wettability to disperse and force the oil into the soil, taking advantage of the soils natural bioremediation capabilities.
- May be used in dry creek beds or ponds. However, the EPA has not approved the use on running water situations.
- ReVive-O is not harmful to the oil refinery process.
- ReVive-O can be used for oil recovery, land cleanup, or remediate old oil spill sites.

Application:

- Land / contaminated soil cleanup
    - Mix 1 gallon of ReVive-O with 1 barrel of fresh water per barrel of oil spilled.
    - Spray ReVive-O/fresh water mixture onto spill utilizing a nozzle to facilitate foaming and to hold some back pressure. The oil will become milky in appearance.
    - If the amount of oil is unknown, use 100 bbls of the ReVive-O/fresh water mixture per acre of contaminated soil.
- Oil Recovery
    - Mix 1 gallon of ReVive-O with 1 barrel of fresh water per 2 barrels of oil spilled.
    - Spray ReVive-O/fresh water mixture onto spill . A milky emulsion will form.
    - Flow mixture towards a dam on the low side of the spill, and recover with a vacuum truck. The fluid can be taken to stock tanks, separated, and sold as crude oil.
- Old Oil Spills
    - Till the contaminated soil.
    - Mix 1 gallon of ReVive-O with 1 barrel of fresh water per barrel of oil spilled.
    - Spray ReVive-O/fresh water mixture onto spill utilizing a nozzle to facilitate foaming and to hold some back pressure. The oil will become milky in appearance.
    - If the amount of oil is unknown, use 100 bbls of the ReVive-O/fresh water mixture per acre of contaminated soil.

ReVive-W

ReVive-W is a calcium liquid based product that restores brine water contaminated soil.

Advantages:

- Eliminates soil removal /replacement. When one considers the dollars spent on disposing of contaminated soil, this single advantage provides a huge cost savings.
- Avoids costly lawsuits over land damage.
- Returns soil to natural state and returns vegetation to the soil.
- Helps stop erosion.
- Inorganic solution for sodium damaged soil remediation.
- Reverses damage from brine water spills
- Reaggregates dispersed soil particles by releasing sodium-to-soil bond.

Application:

- Methods
    - Pressurized spray tank.
    - Sprinkler system.
    - Water flooding.
    - Hot oiler or water truck.
- Rates vary according to the spill
    - Severity of the spill
    - Recent spills typically require less ReVive-W. Treat based on volume of brine spilled. Should be as soon as possible after spill to minimize vegetation loss.
    - Old contamination sites typically require more ReVive-W.
- Rate calculations
    - Recent spills
        - Mix 1 drum (55 gallons) in 30 barrels of fresh water per 35 barrels of brine water spilled.
        - Till or plow if very arid region or where hardpan exists.
        - Check area once every three months to determine if additional fresh water needs to be added. Vegetation should return within 6 – 9 months.
    - Old contaminated sites
        - Rates are based on mmhos/cm or reciprocal ohms.
        - 1 drum (55 gallons) of ReVive-W is mixed in 25 barrels of fresh water, per 5 mmhos/cm per acre.
        - If hardpan, tilling or plowing will definitely help.
        - Check area once every three months to determine if additional fresh water needs to be added. Vegetation should return within 6 – 9 months.