

SAN JUAN NM REGIONAL SCIENCE & ENGINEERING FAIR

JUNIOR AND SENIOR DIVISION

ABSTRACT & CERTIFICATION

TITLE: PURIFYING OIL-CONTAMINATED WATER

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Type the Body of Your Abstract Here (250 Word Maximum)

Regretfully, the world continues to pump underground oil for heating, transportation, and petrochemicals without regard to the extensive environmental damage being caused. This damage includes our drinking water. Still ongoing is the U.S. Navy spill of jet fuel into the drinking water in Hawai'i [ref.1]. Nigeria has extensive oil-contamination in their drinking water, [ref.2], which has resulted in many serious health problems.

This study identifies a simple way to purify water from oil contaminants. Bentonite clay is used to purify water contaminated with actual samples of crude oil. First, samples of distilled water are contaminated with the crude oil and the initial "time-zero" concentration of oil contamination of each is documented. Then laboratory-grade powdered Bentonite clay is added to each sample and the samples are stirred frequently. At the times of 1 hour, 2 hours, 3 hours, etc., one sample is filtered to remove the Bentonite clay and the oil it has adsorbed on its surface, before documenting the concentration of the remaining oil in the water. This purification process is documented hourly, and graphed, to show the reduction of oil concentration versus time. This study proved that Bentonite clay is effective as a decontaminant of oil-contaminated water.

1. The student independently performed all procedures as outlined in this abstract Yes No
2. This project is a continuation. Yes No
3. This project is being presented at SJRSEF NMJAS Paper Competition

I hereby certify that the above statements are correct and the information provided in the Abstract is the result of one year's research. I also attest that the above properly reflects my own work.



Student's Signature

2/18/2022

Date

