

Recover & Clean
More
with EOR and
REMEDIADE
products used
together in
Ciad/Niger trial

April 2023



Complus Systems Group

Introduction...

- In order to enhance oil recovery and clean remaining dirt, the Client needed proper products to treat sludge oil out of the wells in Niger and Chad and clean remaining dirt.
- Complus Systems Group proposed its AlphaZyme D-610 SB (Sludge Buster) EOR product and its CCCP-7010 DB (Desert Bloom) for an initial trial project in Niger, with technical information and prices.

Introduction...

- AlphaZyme D-610 SB EOR is used as a sludge buster product to separate oil from mud and thus improve production by changing the viscosity of the oil. Temperature limit is 0 to 82 degrees Celsius. AlphaZyme D-610 SB is derived from AlphaZyme D-600 SB. While AlphaZyme D-600 SB contains enzymes, in the AlphaZyme D-610 SB the enzymes are replaced with engineered nano particles, in order to give to clients a cost saving solution.

Introduction...

- For the test trial in Niger, in order to mix the product to get oil, water and dirt separated, we proposed the ESSICK PRO20 high production heavy duty mortar mixer. It is a 20 cubic feet per hour capacity mixer that was the very best solution for the trial test. For mass treatment of large quantities of sludge, we use instead suitable Frac Tanks. For mass production we usually propose two different frac mixing tanks: one with 23 tons per hour capacity and the other with 60 tons per hour capacity.

Application method...

Treatment Calculation of Sludge Buster AlphaZyme D-610 SB

Givens: 201 Gallons per Cubic Yard

0.75 Cubic Yards per hour processed by a 20 Cubic Feet portable mixer

Application: 33 Gallons of D-600 per 30 yards of Sludge 10 to 1 Ratio Yards to Gallons

D-610 SB is sprayed on to Sludge, Ground and Mixed into Sludge prior to inserting into tanks.

Water is then inserted in tanks with Sludge treated with D-610 SB

Additional mixing is done in tank. Oil is released from Sludge and skimmed off of the top of the water. Remaining water is removed and held for further reuse. Sludge is then removed from tanks and can be optionally be remediated with our CCCP-7010 Remediate product.

0,75 Cubic Yards

30 divided by 30 Cubic Yards

0,03

1,0 Gallons per hour of Sludge Buster AlphaZyme D-610 SB

Note: Do not allow AlphaZyme D-610 SB to freeze. This product can be used in Temperatures between 30 degrees and 180 degrees Farenheit or 0 degrees to 82.22 degrees Celsius

Remediate Application:

CCCP-7010 DB Remediate product can then be applied to each 75 Cubic Yards at our recommended rate of application in 3 separate applications, to obtain a totally cleaned soil, already fertilized and ready to be used for agricultural purpose.

Step by step application EOR

- 1 D-610 SB is sprayed on to Sludge, Ground and Mixed into Sludge prior to inserting into mortar mixer.
2. Water is then inserted in frac tank with Sludge treated with D-600
3. Additional mixing is done in tank.
4. Oil is released from Sludge and skimmed off of the top of the water.
5. Remaining water is removed and held for reuse.
6. Remaining soil is then removed from frac tank.

The remaining soil/dirt is then bioremediated with our CCCP-7010 DB product, to be eventually reused as already fertilized agricultural soil.

Step by step application RemediAde

1. Plow or till the soil to incorporate the waste. Determine the depth of contamination and assure adequate tillage to the contaminated depth.
2. Plow or till and incorporate CCCP-7010 DB-Desert Bloom at a rate of 40 to 55 gallons per acre-foot for total treatment. CCCP-7010 DB-Desert Bloom should be diluted with clean water at a rate of one (1) part product to (20) parts water, to insure good dispersion.
3. Repeat step 2. (Total treatment will be 50 to 75 gallons per acre-foot per 25,000 TPH).

Step by step application RemediAde

4. Supplemental bacteria, if needed, can be added to the CCCP-7010 DB-Desert Bloom in a water mixture rate of 1/4 cup bacteria per five hundred gallons of diluted product, mixed well for 10 Minutes. This is only needed when severe PH drops occur. After application of product mixture, clean sprayer thoroughly to prevent plugging in the spray nozzle, or expansion within the sprayer due to bacteria.
5. Reapply weekly for 3 to 4 weeks as needed due to high TPH levels.
6. Apply water to the treated area and maintain soil moisture for 30 days.

Mixer used for trial project



ESSICK PRO20

Mixing Tank used for massive production (23 ton)



Mixing Tank used for massive production (60 ton)



Thank you For your time.

Please contact us for more information and learn if AlphaZyme EOR products used in conjunction to our Bioremediation EOR products.

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