

“An Evaluation of the Feasibility of Combining Carbon Dioxide Flooding Technology with Microbially Enhanced Oil Recovery Technologies in order to Sequester Carbon Dioxide”

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The objective of this project is to determine the fate of carbon dioxide injected into subsurface oil formations where microbial activity in these formations is high because microbially enhanced oil recovery technologies are actively being practiced. To date 25 cultures originally isolated from subsurface oil bearing formations have been revitalized and screened for their ability to convert carbon dioxide into products such as methane, lipids, and/or proteins. Of these 25 cultures, 22 cultures exhibited faster growth rates as determined by changes in optical densities and were selected for further testing with radiolabelled sodium bicarbonate. Initial studies with these 22 cultures has indicated that under the conditions tested these cultures were unable to produce methane using the radiolabeled CO₂. However, further analysis of the data has also indicated that some radiolabeled CO₂ has been transformed into either cellular material or other metabolic by-products. In either case when compared to the controls 4 of the cultures tested were converting CO₂ into other forms.

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Students Receiving Support:

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