

*RHODOPSEUDOMONAS PALUSTRIS* GENOME PROJECT

FINAL REPORT

CAROLINE S. HARWOOD

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*MP Dvorscak* *Sept 9, 2007*  
Date

Mark P Dvorscak  
(630) 252-2343

E-mail mark.dvorscak@ch.doe.gov

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## A. STATEMENT OF THE PROBLEM STUDIED.

*Rhodopseudomonas palustris* is a common soil and water bacterium that makes its living by converting sunlight to cellular energy and by absorbing atmospheric carbon dioxide and converting it to biomass. This microbe can also degrade and recycle components of the woody tissues of plants; wood being the most abundant polymer on earth. Because of its intimate involvement in carbon management and recycling, *Rhodopseudomonas* was selected by the DOE Carbon Management Program to have its genome sequenced by the Joint Genome Institute (JGI). This grant provided funds for the preparation of genomic DNA from *Rhodopseudomonas* and for the distribution of this DNA to the JGI for use in genome sequencing.

## B. SUMMARY OF THE MOST IMPORTANT RESULTS

Two lots of *Rhodopseudomonas* genomic DNA in quantities of approximately 200 µg were supplied to Jane Lamerdin, the then head of the Microbial Genome Sequencing Group at the DOE Joint Genome Institute. The DNA was of good purity and was used to prepare a random clone bank and a fosmid clone bank. These were then sequenced at the JGI. The resulting product was the complete nucleotide sequence (5,497,712 bp) of the *Rhodopseudomonas* genome. The PI assisted the Microbial Genome Group during the sequencing and genome assembly processes by providing technical information about the biology of *Rhodopseudomonas* and about the molecular makeup of the *Rhodopseudomonas* genome.