

PROJECT FACT SHEET

CONTRACT TITLE: Design and Implementation of a CO2 Flood Utilizing Advanced Reservoir Characterization and Horizontal Injection Wells in a Shallow Shelf Carbonate Approaching Waterflood Depletion

DATE REVIEWED: 08/04/1994

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OBJECTIVE: This principal objective of this project is to demonstrate the economic viability and widespread applicability of an innovative reservoir management and carbon dioxide (CO2) flood project development approach for improving CO2 flood project economics in shallow shelf carbonate reservoirs. The use of several horizontal injection wells drilled from a centralized location will reduce the number and cost of new injection wells, wellheads, and equipment; allow concentration of the surface reinjection facilities; and minimize the cost associated with the CO2 distribution system. It is anticipated that the proposed advanced technology will show improved CO2 sweep efficiency and will significantly reduce the capital investment required to implement a CO2 tertiary recovery project relative to conventional CO2 flood pattern developments using vertical injection wells. This technology will be readily transferred to the domestic oil industry.

<p>ID NUMBER: DE-FC22-93BC14991</p> <p>B & R CODE: AC1510100</p> <hr/> <p>CONTRACT PERFORMANCE PERIOD: 06/30/1994 to 01/02/2001</p> <p>PROGRAM: Field Demonstrations</p> <p>RESEARCH AREA: Class 2</p> <hr/> <p>DOE PROGRAM MANAGER: NAME: George J. Stosur COMMERCIAL: (301) 903-2749</p> <hr/> <p>DOE PROJECT MANAGER: NAME: Jerry F. Casteel LOCATION: BPO COMMERCIAL: (918) 337-4412</p>	<p>CONTRACTOR: Phillips Petroleum Co. Exploration & Production</p> <p>ADDR: Permian Basin Region 4001 Penbrook Odessa, TX 79762</p> <p>CONTRACT PROJECT MANAGER: NAME: D.R. Wier/L. Hallenbeck ADDR: Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762</p> <p>PHONE: (915) 368-1203 FAX: (915) 368-1554</p> <hr/> <p>PROJECT SITE: Odessa, TX Ecton County, TX</p>
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SCHEDULED MILESTONES:

Complete drilling of well RC-1	10/94
Complete drilling of well RC-2	10/94
Complete core description of Well 7-10	08/94
Complete well log correlations of major tops	09/94

FUNDING (1000'S)	DOE	OTHER	CONTRACTOR	TOTAL
PRIOR FISCAL YRS	0	0	0	0
FISCAL YR 1994	881	0	1,191	2,072
FUTURE FUNDS	6,298	0	12,971	19,269
TOTAL EST'D FUNDS	7,179	0	14,162	21,341

PROJECT DESCRIPTION: The principal objective of this project is to demonstrate the economic viability and widespread applicability of an innovative reservoir management and carbon dioxide (CO₂) flood project development approach for improving CO₂ flood project economics in shallow shelf carbonate (SSC) reservoirs. This project shall demonstrate the economic viability of the advanced technology of developing a CO₂ flood project utilizing multiple horizontal CO₂ injection wells drilled in several directions from a central location. The use of several horizontal injection wells drilled from a centralized location will reduce the number and cost of new injection wells, wellheads, and equipment; allow concentration of the surface reinjection facilities; and minimize the cost associated with the CO₂ sweep efficiency and will significantly reduce the capital investment required to implement a CO₂ tertiary recovery project relative to conventional CO₂ flood pattern developments using vertical injection wells. This technology will be readily transferred to the domestic oil industry and should open up CO₂ flooding as an economically viable recovery technology option for smaller SSC reservoirs and for independent operators.

PRESENT STATUS: Project awarded June 1994.

ACCOMPLISHMENTS: Have completed core description and petrographic study of well 8-19 (part of Subtask I.6). Have completed processing of the 3-D seismic data collected in 1993. Four horizons have been interpreted throughout the 3-D volume and time structure maps have been completed. Have correlated major tops on 75 percent of the existing well logs.

BACKGROUND: The principle objective of this project is to demonstrate the economic viability and widespread applicability of a carbon dioxide (CO₂) flood project utilizing multiple horizontal CO₂ injection wells. IT is anticipated that the proposed advanced technology will show improved CO₂ sweep efficiency any will significantly reduce the capital investment required to implement a CO₂ tertiary recovery project relative to conventional CO₂ flood pattern developments.