

PROJECT FACT SHEET

CONTRACT TITLE: Simultaneous Injection Pilot Project: Phase 1 - Feasibility Study

ID NUMBER: FEW 49397

CONTRACTOR: Argonne National Lab

B & R CODE: AC1015000

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CONTRACT PERFORMANCE PERIOD:

08/15/1997 to 08/14/1998

PROJECT SITE

CITY: Washington

STATE: DC

CITY:

STATE:

PROGRAM: Environmental-Oil

CITY:

STATE:

RESEARCH AREA: Environmental

FUNDING (\$1000'S)	DOE	CONTRACTOR	TOTAL
PRIOR FISCAL YRS	50	0	50
FISCAL YR 1998	50	0	50
FUTURE FUNDS	350	0	350
TOTAL EST'D FUNDS	450	0	450

OBJECTIVE: Evaluate the feasibility of a relatively new technology, simultaneous injection, that has been developed to reduce the cost of handling produced water during petroleum production.

PROJECT DESCRIPTION:

Work to be performed: This project, a feasibility evaluation, is the first of two phases. The second phase will involve field pilot studies. Phase I consists of six tasks. Task 1 assesses the historical applications of the technology including their success and the geological settings in which they were used. Task 2 is an industry needs assessment in which the industry is interviewed about the potential of this tool in various oil field applications. During this task, oil operators will also be asked to nominate field trial sites for consideration. Task 3 will not only inventory the existing and proposed state and federal regulations that could affect the use of this technology, but also include governmental interpretations of the technology. Task 4 will use the information collected in tasks 1, 2, and 3 to pinpoint which rock, fluid, and reservoir conditions are most suited to existing downhole separation technology. In Task 5 the contractors and industry partners (to be identified later) will prioritize nationwide oil industry needs, determine the optimum number of field trial sites needed, and rank the proposed pilot sites. In Task 6, the Phase II field pilot trials are designed. The Phase II design document will include the locations and details of the trials, the goals of the trials, and the importance of this new knowledge to the U.S. oil industry.

PROJECT DESCRIPTION (Continued)

Background: This project evaluates the feasibility of a relatively new technology, downhole oil/water separation, that has been developed to reduce the cost of handling produced water during petroleum production. Downhole separation (also referred to as simultaneous injection) involves use of devices that separate oil and gas from produced water at the bottom of the well and reinject the produced water into another formation while the oil and gas are pumped to the surface. Since produced water is not pumped to the surface, treated, and then pumped from the surface to a deep formation, the cost of handling produced water is greatly reduced. Downhole separation also minimizes the opportunity for contamination of underground sources of drinking water through leaks in tubing and casing during the injection process.

PROJECT STATUS:

Current Work: As of February 1998, Tasks 1, 2, and 3 are well under way. We have evaluated several types of downhole oil/water separators. We have identified all U.S. and some Canadian installations of the technology. We are continuing to collect more detailed information on the site geological characteristics and the performance of the wells before and after installation of the downhole separators. We have contacted all oil and gas producing states to determine if they have any specific regulations that would control downhole separation. We prepared a poster outlining our preliminary findings and displayed the poster and made a presentation at the January meeting of the Ground Water Protection Council. We have scheduled a technology transfer workshop at the NPTO offices in Tulsa for March 6 to meet with small operators and explain what we have learned to date.

Scheduled Milestones:

Hold technology transfer workshop

03/98

Accomplishments: