Quarterly Programmatic Report

Component Project Title:	**Aeration Technology Performance Evaluation**
Component Project PI:	Russ T. Brown
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Project Manager	G. Fred Lee	Phone 530-753-9630
CALFED Project	01-N61- 05	
Quarter Ending	March 31, 2001	

Deliverables

Deliverable	Due	% Completed	Date Completed
Task 1 Field Test Aerator			
1.1 Mass Balance method	12/1/01	100%	
1.2 Off-gas method (Deleted)	12/1/01	0%	
1.3 Tracer gas method	12/1/01	10%	
Task 2 Evaluation of Performance			
2.1 Preliminary Evaluation	12/1/01	50%	
2.2 Complete Evaluation	3/31/02		
Task 3 Review of Aeration Alternatives	12/31/01	50%	
Task 4 Comparison and Feasibility	5/31/02	0%	
Task 5 Preliminary 2001 Data Analysis	2/28/02	100%	

Narrative

Overall Project

Task 1.2 was modified as recommended by the TAC to allow preliminary analysis of the 2001 data collected by the City and other directed projects. This anaysis was performed and presented to the TAC. Many of the finding were incorporated into the City of Stockton monitoring report that was submitted to the TAC and CALFED. The aerator access agreement with the Port of Stockton, Corps of Engineers, and Jones & Stokes was prepared by the Port but was never signed by the Corps. Modification of the Corps device to allow tracer gas injection and air-flow measurement has not been accomplished. We are still hoping to obtain their cooperation and perform the tracer gas analysis of the device in May or June 2002. This will require an extension of the original contract that terminates on May 31, 2002.

Task 1 Field Testing of Corps of Engineers Jet-Aeration Device

No additional testing of the Corps device has been accomplished. We are still planning to obtain cooperation for the tracer gas study in May or June 2002

Task 2 Evaluation of Jet-Aeration Device Performance

No additional evaluation will be made until the tracer gas study is completed. Our findings and potential design changes appear in the preliminary aeration report.

Task 3 Review of Alternative Aeration Technology Performance

A preliminary review of the major aeration technology for rivers and lakes has been completed for the peer review. Several methods appear to be economical and feasible. We are proposing that several of the methods be tested in the DWSC in May 2002. In cooperation with the Port of Stockton, we would like to measure the performance of three oxygen devices: a ceramic diffuser, a porous tube diffuser rack, and a bubble tube that uses oxygen bubbles to produce a water flow into a horseshoe tube. The water in the tube is oxygenated by the bubbles as it rises and the tube then returns the water to the bottom of the channel. The draft report was sent to G Fred Lee and Kevin Wolfe for posting on the website.

Task 4 Comparison and Feasibility of Aeration Alternatives for DWSC

This task will follow the review and comments by the TAC and aeration sub-committee. The possibility of a field testing project for oxygenation devices is proposed for May and June 2002. Vertical temperature and DO and pH profiles during the afternoon in the DWSC are needed to identify the diurnal stratification that leads to near-surface algae photosynthesis and surface aeration, but may isolate the surface layer from the majority of the DWSC. An extension of the contract will allow this testing to be described in the

final report. The peer review comments and suggestions will also be included in the final report if the contract can be extended slightly.

Task 5 Preliminary Evaluation of 2001 Data

The TAC requested that money for the second testing method be used for initial analysis of 2001 data collected by the other directed action projects. The master spreadsheet for all of the flow and water quality data has been prepared. An initial analysis of the likely flows in the DWSC (there were several periods of missing UVM data) was presented to the TAC. The results of the 2001 data analysis was presented to the TAC and is included in the City of Stockton sampling report. This task is complete.

Fiscal Quarterly Report

Component Project Title: Aeration Technology Performance Evaluation
Component Project PI: Russ T. Brown
CALFED Project: 01-N61- 05
Quarter Ending December 31, 2001

Total Estimated Cost: $125,000
CALFED Funding: $125,000
Other Funding $0
Completion Date: 5/31/02

	Quarterly Budget			Annual Budget		
	Budget	Accrued	Balance	Budget	Accrued	Balance
Task 1: Field Testing		$1,315		$36,640	$19,626	$17,014
Task 2: Evaluation of Corps Device		$170		$24,490	$2,690	$21,800
Task 3: Review Alternatives		$10,478		$24,435	$11,750	$12,685
Task 4: Compare Alternatives		$800		$24,435	$800	$23,635
Task 5: Year 2001 Data Analysis		$13,550		$15,000	$14,971	$29
Total Project		$26,313		$125,000	$49,837	$75,163

Estimated Expenses for Next Quarter: $50,000
April $10,000
May $20,000
June $20,000 (assumes extension is approved)