

MONTHLY PROGRESS REPORT FOR CONTRACT NO. 500-00-036

PROJECT 2.1 – ENHANCED LANDFILL GAS PRODUCTION USING BIOREACTORS

REPORT PREPARED BY: COMMONWEALTH ENERGY TEAM

May 2003

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**What we planned to accomplish this period:**

The primary focus of activity will be to develop the waste characterization report deliverable for the Mid-Valley landfill in Fontana, San Bernardino County. Also, the meeting summary for the April project kickoff meeting and the site visit notes will be prepared by the Team. Commonwealth Team staff will also clarify the research objectives of the Mid-Valley Bioreactor project in light of the discussion at the kickoff meeting. Particular attention will be devoted to making certain that the research on this Project builds on the results of work at the Yolo County bioreactor project.

Project planning activity will also take into account the fact that work will focus on conducting research at one bioreactor site instead of two. This will allow greater focus and more effective use of Commission PIER funds. A final activity planned for May is setting initial coordination activity between San Bernardino County staff and Project Team and regulatory staff who worked on the Yolo County project.

**What we actually accomplished this period:**

Task 2.1.1 Characterize Waste to be Placed in Bioreactor:

- In May, data collection activities were initiated to enable the preparation of the Waste Characterization Report. Data were requested from San Bernardino County and data was obtained from statewide sources. Also, efforts were initiated on the identification of amendment material that might be suitable for disposal at a bioreactor.
- Team members also developed a list of issues to be considered as a part of this project. Focus was placed on considerations that will allow the Commonwealth Program's bioreactor project to build on the work being undertaken at Yolo

County. This is being undertaken in accordance with the guidance received at the kickoff meeting and as a result of observations made during the visit to the Yolo County project.

- Also in May, planning began on a coordination meeting planned to be held in Sacramento in June. The purpose of the meeting, which will be conducted in conjunction with a tour of the Yolo County project, is to bring together San Bernardino County staff, key State Agency staff and others familiar with bioreactor development and approval process that was implemented at the Yolo County site so as to optimize the proposed San Bernardino County project. Discussions will focus on expediting the bioreactor design, approval and development processes. The final activity on this task was continued communication with San Bernardino County staff on the Mid-Valley project. Information to be used in developing the waste characterization report was collected by the project team.

**How we are doing compared to our plan:**

Work is generally proceeding as anticipated. An important challenge is gaining regulatory acceptance of the bioreactor landfill project. As part of this activity, EPA activity to implement an R&D exemption for bioreactors is being closely followed. This regulation will be very important in successfully permitting the bioreactor project. Developments in this area are being closely followed.

**Significant problems or changes:**

There are no significant fiscal problems to report during this period and work is proceeding within Project budget. Progress and expenditures will result in project being completed on time and within budget.

**What we expect to accomplish during the next period:**

The primary focus of activity will be completion of the waste characterization report deliverable for the Mid-Valley landfill in Fontana, San Bernardino County. Information on waste streams in the region requested during May should be available in June. Depending on when all such information is received, the waste characterization report is anticipated to be completed in late June or early July.

Also, the meeting scheduled between San Bernardino County staff and State Agency and others involved in the Yolo County bioreactor project is anticipated to held in June. It is anticipated that these discussions will help pave the way for developing a bioreactor at the Mid-Valley landfill site.

Project planning activity will also take into account the fact that work will focus on conducting research at one bioreactor site instead of two. This will allow greater focus and more effective use of Commission funds.

**Status of Milestones and Deliverables:**

Table 1 below summarizes the status of Project 2.1 task deliverables as of the end of the current reporting period.

**Table 1: Summary of Project Status and Deliverables – Project 2.1**

Task No.	Description	Start Date		Due Date		Status (%)
		Planned	Actual	Planned	Actual	
2.1.1a	Characterize MSW and Source Separated Organic Waste To Be Placed in Both Bioreactors	04/07/03	1/24/03	06/26/03		15%
2.1.1b	Characterize Food or Animal Wastes to be Placed as Amendment in the Second Bioreactor	04/07/03	1/24/03	07/09/03		5%
2.1.2	Identify Amendment Source Locations for the Second Bioreactor	04/07/03		08/06/03		
2.1.3a	Prepare Conceptual Design for the First Bioreactor	06/11/03		10/23/03		
2.1.6	Coordinate with Renewables Project Advisory Committee/TAC Critical Project Review meeting	04/07/03		07/24/03		

Explanation of any Difference(s) in Schedule:

Task 2.1.1a – Landfill Feedstock Characterization Report – Information needed to complete this report is being assembled. Efforts required to collect this information took longer than anticipated, as the primary data to be used was not available in an electronic format. This will likely lead to a delay of submittal of this report into July from the planned delivery date of June 26.

**Overall Schedule for Project 2.1:**

Task Name	Duration	Start Date	End Date	Cost	2003				2004				2005	
					Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Qtr 3	Qtr 4	Qtr 1
<b>Project 2.1 - Enhanced Landfill Gas Production Using Bioreactors</b>	<b>865 days</b>	<b>Mon 11/4/02</b>	<b>Fri 2/24/06</b>	<b>\$0.00</b>										
Task 2.1.1a - Characterize MSW and Source Separated Organic	110 days	Fri 1/24/03	Thu 6/26/03	\$52,117.00										
Task 2.1.1.b - Characterize Food or Animal Wastes to be Placed	119 days	Fri 1/24/03	Wed 7/9/03	\$53,064.00										
Task 2.1.2 - Identify Amendment Source Locations for the Secor	88 days	Mon 4/7/03	Wed 8/6/03	\$40,476.00										
Task 2.1.3.a - Prepare Conceptual Design for the First Bioreactor	97 days	Wed 6/11/03	Thu 10/23/03	\$103,578.00										
Task 2.1.3.b - Prepare Test and Construction Plans for the First	61 days	Fri 10/24/03	Fri 1/16/04	\$92,334.00										
<b>Critical Project Review Meeting</b>	<b>79 days</b>	<b>Mon 4/7/03</b>	<b>Thu 7/24/03</b>	<b>\$0.00</b>										
Task 2.1.3.c - Prepare Conceptual Design for the Second Bioreac	85 days	Fri 10/24/03	Thu 2/19/04	\$103,578.00										
Task 2.1.3.d - Prepare Test and Construction and Plans for the S	83 days	Tue 10/28/03	Thu 2/19/04	\$92,334.00										
Task 2.1.4.a(1) - Construct and Operate the First Bioreactor	219 days	Tue 10/7/03	Fri 8/6/04	\$200,000.00										
<b>Critical Project Review Meeting</b>	<b>21 days</b>	<b>Fri 3/5/04</b>	<b>Fri 4/2/04</b>	<b>\$22,512.00</b>										
Task 2.1.4.a(2) - Construct and Operate the First Bioreactor	219 days	Tue 10/7/03	Fri 8/6/04	\$100,000.00										
Task 2.1.4.a(3) - Construct and Operate the First Bioreactor	219 days	Tue 10/7/03	Fri 8/6/04	\$100,000.00										
Task 2.1.4.a(4) - Construct and Operate the First Bioreactor	262 days	Tue 10/7/03	Thu 10/7/04	\$150,000.00										
Task 2.1.4.a(5) - Construct and Operate the First Bioreactor	262 days	Tue 10/7/03	Thu 10/7/04	\$100,000.00										
Task 2.1.4.a(6) - Construct and Operate the First Bioreactor	215 days	Thu 7/8/04	Thu 5/5/05	\$30,428.00										
<b>Critical Project Review Meeting (Optional)</b>	<b>54 days</b>	<b>Tue 4/5/05</b>	<b>Fri 6/17/05</b>	<b>\$22,512.00</b>										
Task 2.1.4.b(1) - Construct and Operate the Second Bioreactor	218 days	Mon 4/5/04	Thu 2/3/05	\$250,000.00										
Task 2.1.4.b(2) - Construct and Operate the Second Bioreactor	218 days	Mon 4/5/04	Thu 2/3/05	\$100,000.00										
Task 2.1.4.b(3) - Construct and Operate the Second Bioreactor	218 days	Mon 4/5/04	Thu 2/3/05	\$100,000.00										
Task 2.1.4.b(4) - Construct and Operate the Second Bioreactor	261 days	Mon 4/5/04	Tue 4/5/05	\$150,000.00										
Task 2.1.4.b(5) - Construct and Operate the Second Bioreactor	261 days	Mon 4/5/04	Tue 4/5/05	\$150,000.00										
Task 2.1.4.b(6) - Construct and Operate the Second Bioreactor	169 days	Fri 2/4/05	Wed 9/28/05	\$79,856.00										
Task 2.1.5.a - Prepare Final Report Outline for Project 2.1	22 days	Fri 10/24/03	Mon 11/24/03	\$12,431.00										
Task 2.1.5.b - Prepare Draft Final Report for Project 2.1	211 days	Fri 2/4/05	Fri 11/25/05	\$93,236.00										
Task 2.1.5.c - Prepare Final Report for Project 2.1	22 days	Tue 12/27/05	Thu 1/26/06	\$18,647.00										
Task 2.1.6 - Coordinate with RPAC	865 days	Mon 11/4/02	Fri 2/24/06	\$0.00										
Task 2.1.7.a - Evaluate Project 2.1: Draft Report	75 days	Wed 9/28/05	Wed 1/11/06	\$79,117.00										
Task 2.1.7.b - Evaluate Project 2.1: Final Report	19 days	Tue 1/31/06	Fri 2/24/06	\$19,779.00										

**Overview of Fiscal Status:**

Table 2 below summarizes the fiscal status of Project 2.1 by task as of the end of the current reporting period.

**Table 2: Fiscal Status By Task – Project 2.1**

Task Number	Budget	Invoiced To-Date	Fiscal Status *
2.1.1 a	\$52,117	\$0	OT
2.1.1 b	\$53,064	\$0	OT
2.1.2	\$40,476	\$0	OT
2.1.3 a	\$103,578	\$0	OT
2.1.6	\$22,512	\$0	OT

\*Fiscal Status – Please indicate if you are “On Track” (OT), OverBudget (OB), or UnderBudget (UB)