

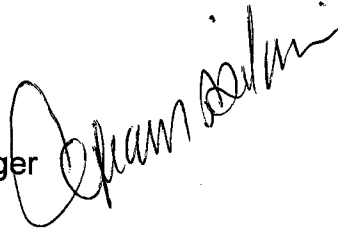
CITY OF LOS ANGELES
INTER-DEPARTMENTAL CORRESPONDENCE

Date: August 13, 2009

To: Distribution

FILE: SWP-2143-9-7

From: Cyrus Gilani, Project Manager
EED



Subject: PROGRESS REPORT FOR BIOFILTER TESTING

Attached is the progress report for Biological Odor Control Testing Project. This report covers the period from July 1, 2009 through July 31, 2009.

If you have any questions or comments regarding this report, please call Cyrus Gilani at (310) 648-6124.

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**HYPERION TREATMENT PLANT (HTP)
BIOLOGICAL ODOR CONTROL TESTING PROJECT
(CIP 2143)
REPORT AS OF JULY 31, 2009**

Cyrus Gilani, Project Manager, EED

PURPOSE

The purpose of this testing project is to evaluate alternative media in biological scrubbing technologies for control of hydrogen sulfide (H₂S) and Organic odor, for the collection system odor control projects through out City of Los Angeles. Knowledge and information gained from the results of these tests will be used to develop a sewer odor control master plan. This information will also be utilized to design Air Treatment Facilities that employ the best available technology in exposed residential areas where odor is a sensitive issue.

WORK ACCOMPLISHED AND OPERATIONAL ACTIVITIES

4-Vessels Test Unit

The repair work required due to area flooding in late June was completed by July 15th and all 3 vessels were re-started-up on this day. During this time 2 gallons of Re-Activated Sludge (RAS) was added to the sump of each vessel to speed up the start-up process.

During this repair work, the spray nozzles for all vessels were changed to a new nozzle which could provide a better spray pattern with less flow rate. The new flow rate for re-circulation system was adjusted for around 3 to 5 gpm.

The tubing for pressure drop measurement was also extended into the tank and faced downward to eliminate the plugging of these lines.

The performance of all there vessels (Matala, Zander and lava rock) reached the optimum level within one week, however the vessels loaded with Matala and lava rock showed a decline during later part of this period.

The make-up water for all 3 vessels was adjusted for about 150 gallons per day and the nutrient pump was adjusted for each vessel to use only 1.5 gallon of nutrient mix each day.

The pH of drain water for Matala and Zander was level of around 2.5 while the pH of lava rock was a little higher stabilizing around 3.

During this month after changing the spray nozzles, we tried again to start the vessel loaded with carbon, but the pressure drop was still too high for the air to travel through the wet carbon.

ANALYSIS OF RESULTS

4-Vessels Test Unit

The performance of all three vessels (Matala, Zander and lava rock) reached the optimum level after one week. However the Matala and lava rock showed a decline during late July. Originally the flow rate for re-circulation system was adjusted for 3.9 gpm for Matala, 2.9 gpm for Zander and 3.9 gpm for lava rock. These set-ups were identified by observing the spray pattern over the top of each vessel. The unstable performance during star-up is common in some units. We will change the operational parameter to improve performance during next period if the deficiencies continue.

LOOK AHEAD

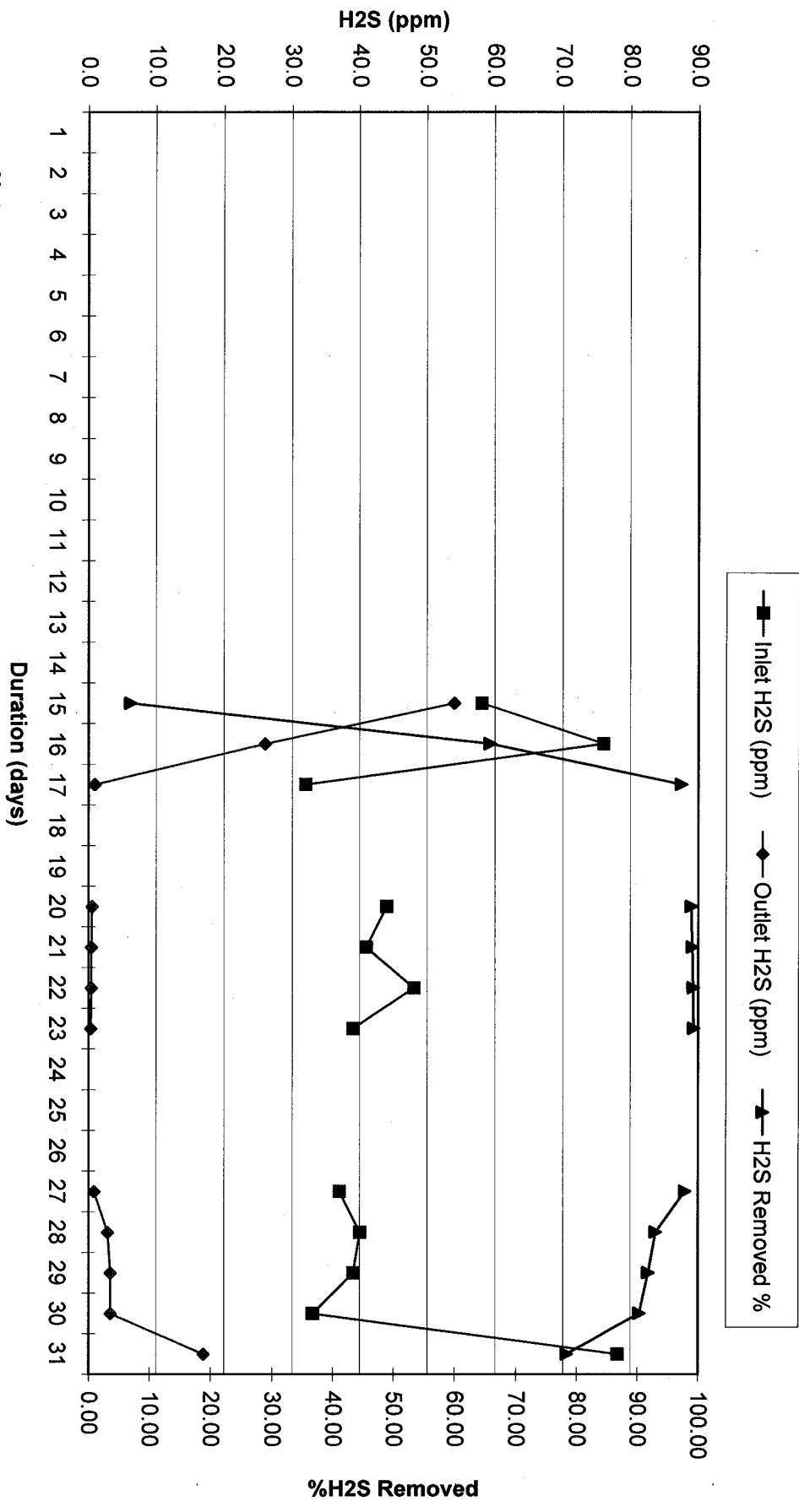
4-Vessels Test Unit

During next month we will try to optimize the performance of all three vessels. Once the optimum performances are reached we will take odor samples for odor evaluation.

4-Vessels Test Unit - Matala Media
Jul-09

Date	Time			Total Make-up Water Used	Airflow	Nutrient Used		Total Media Pressure Drop	Inlet Odor	Outlet Odor	Re-Circ. Flow Rate	pH
		(ppm)	(ppm)									
1-Jul												
2-Jul												
3-Jul												
4-Jul												
5-Jul												
6-Jul												
7-Jul												
8-Jul												
9-Jul												
10-Jul												
11-Jul												
12-Jul												
13-Jul												
14-Jul												
15-Jul	10:30am	58.0	54.0	144	85	1.5	6.90	0.2			4	4.2
16-Jul	2:30pm	76.0	26.0	144	85	1.5	65.79	0.2			4	2.9
17-Jul	2:30pm	32.0	0.9	144	85	1.5	97.19	0.4			4	2.6
18-Jul												
19-Jul												
20-Jul	2:00pm	44.0	0.5	144	85	1.5	98.86	0.4			4	2.5
21-Jul	2:00pm	41.0	0.4	144	85	1.5	99.02	0.4			4	2.5
22-Jul	2:00pm	48.0	0.4	144	85	1.5	99.17	0.4			4	2.5
23-Jul	2:00pm	39.0	0.3	144	85	1.5	99.23	0.5			4	2.4
24-Jul												
25-Jul												
26-Jul												
27-Jul	1:30pm	37.0	0.8	144	85	1.5	97.84	0.3			4	2.5
28-Jul	2:00pm	40.0	2.8	144	85	1.5	93.00	0.5			4	2.4
29-Jul	2:30pm	39.0	3.2	144	85	1.5	91.79	0.4			4	2.4
30-Jul	12:30pm	33.0	3.2	144	85	1.5	90.30	0.4			4	2.5
31-Jul	10:30am	78.0	16.9	144	85	1.5	78.33	0.3			4	2.5

4-Vessels Test Unit - Matala Media July 2009

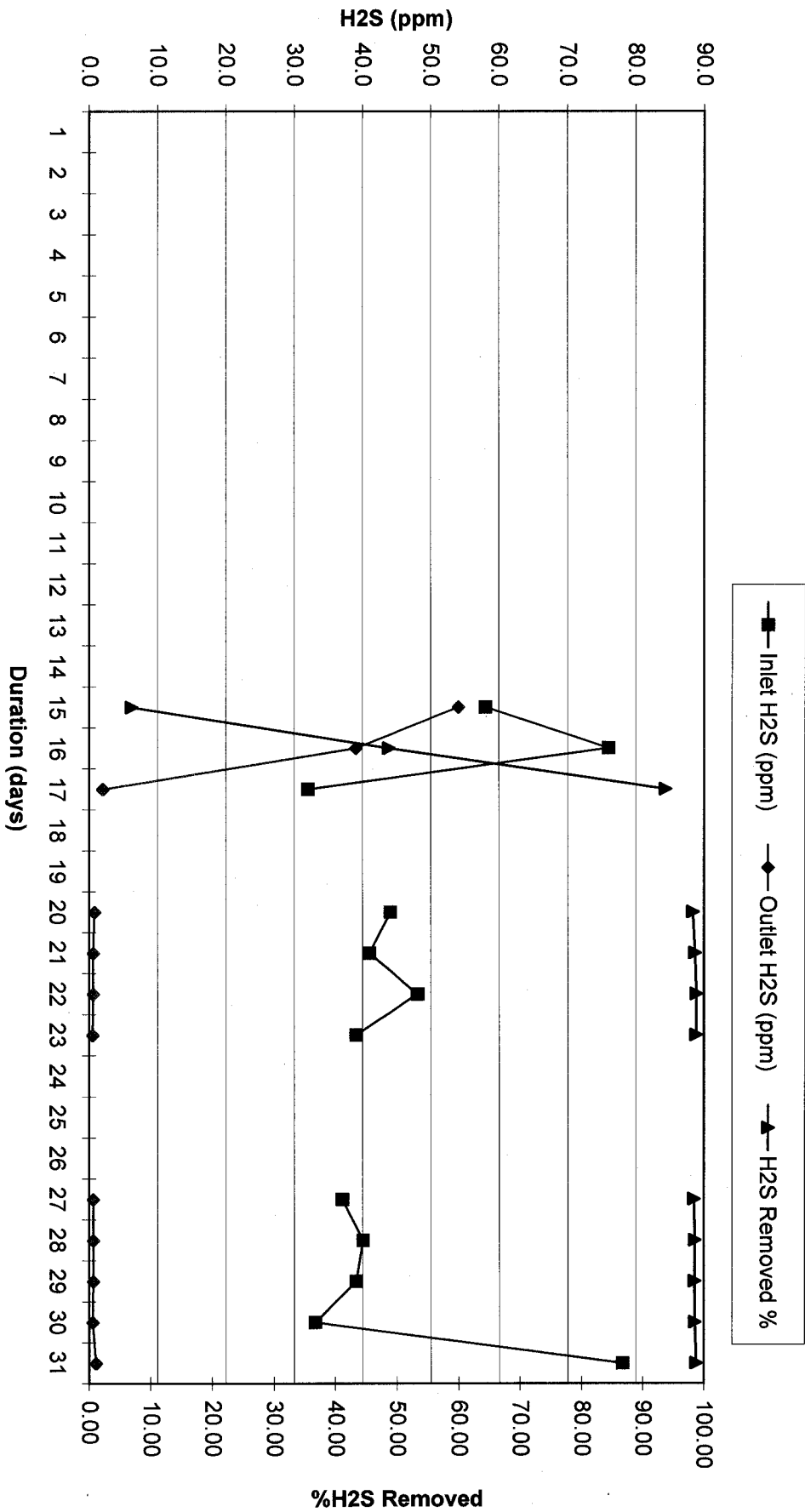


Note:
 June 29- System was shut down due to excessive water in the area caused by running HPE water during last day.
 July 15- The system was started up after the repair work was completed.

4-Vessels Test Unit - Zander Media
Jul-09

Date	Time			Total Make-up Water Used	Airflow	Nutrient Used		Total Media Pressure Drop	Inlet Odor	Outlet Odor	Re-Circ. Flow Rate	pH
D-M	AM/PM	(ppm)	(ppm)	(gal)	(cfm)	(gal)	%	Inch	DT	DT	(gpm)	
1-Jul												
2-Jul												
3-Jul												
4-Jul												
5-Jul												
6-Jul												
7-Jul												
8-Jul												
9-Jul												
10-Jul												
11-Jul												
12-Jul												
13-Jul												
14-Jul												
15-Jul	10:30am	58.0	54.0	144	85	1.5	6.90	0.2			3	3.5
16-Jul	2:30pm	76.0	39.0	144	85	1.5	48.68	0.2			3	3.0
17-Jul	2:30pm	32.0	2.0	144	85	1.5	93.75	0.2			3	2.6
18-Jul												
19-Jul												
20-Jul	2:00pm	44.0	0.8	144	85	1.5	98.18	0.2			3	2.5
21-Jul	2:00pm	41.0	0.6	144	85	1.5	98.54	0.2			3	2.5
22-Jul	2:00pm	48.0	0.6	144	85	1.5	98.75	0.2			3	2.5
23-Jul	2:00pm	39.0	0.5	144	85	1.5	98.72	0.3			3	2.4
24-Jul												
25-Jul												
26-Jul												
27-Jul	1:30pm	37.0	0.6	144	85	1.5	98.38	0.2			3	2.5
28-Jul	2:00pm	40.0	0.6	144	85	1.5	98.50	0.3			3	2.4
29-Jul	2:30pm	39.0	0.6	144	85	1.5	98.46	0.4			3	2.4
30-Jul	12:30pm	33.0	0.5	144	85	1.5	98.48	0.4			3	2.5
31-Jul	10:30am	78.0	1.0	144	85	1.5	98.72	0.3			3	2.5

4-Vessels Test Unit - Zander Media July 2009

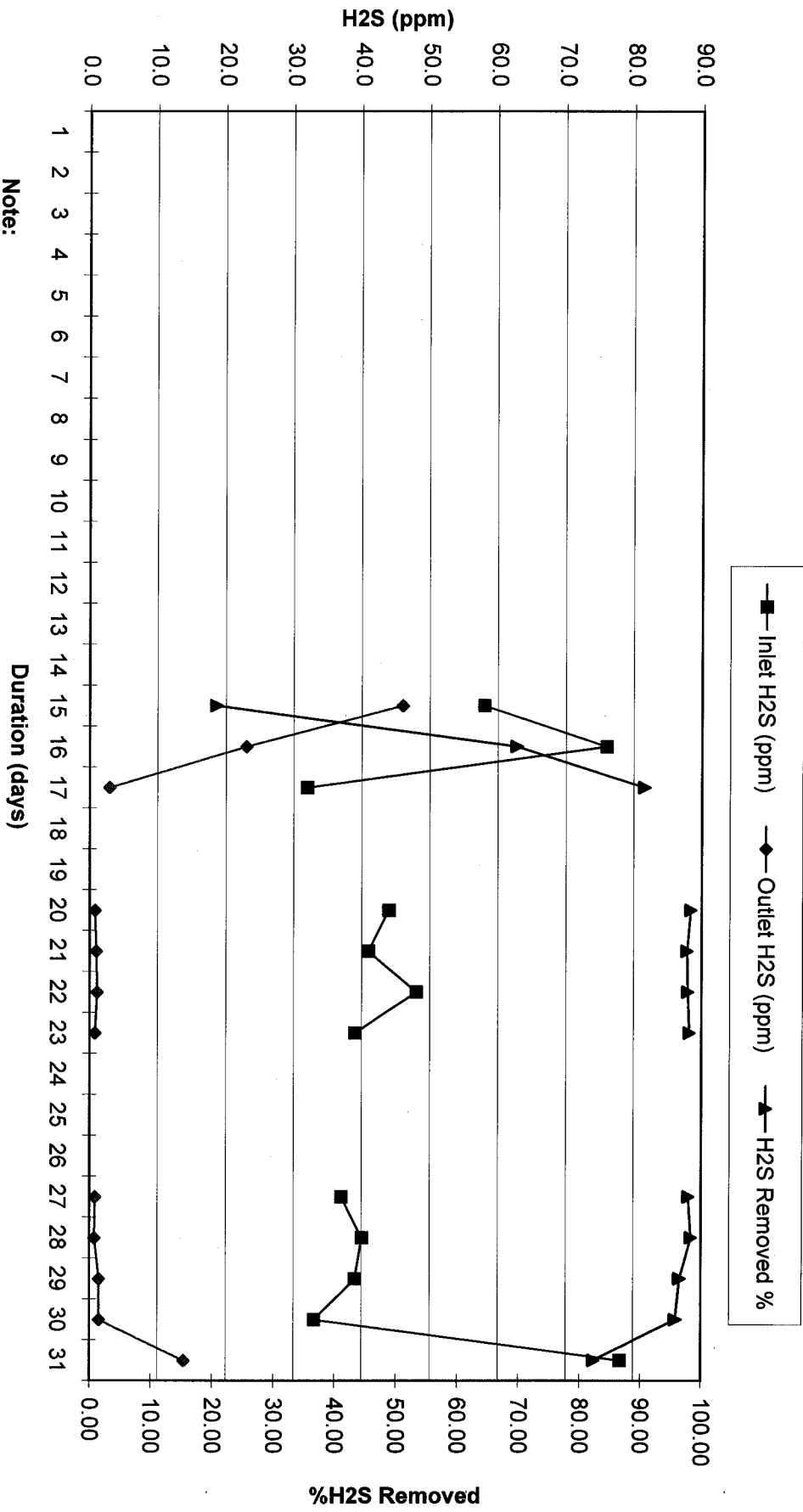


Note:
 June 29- System was shut down due to excessive water in the area caused by running HPE water during last day.
 July 15- The system was started up after the repair work was completed.

4-Vessels Test Unit - Lava Rock Media
Jul-09

Date	Time			Total Make-up Water Used	Airflow	Nutrient Used		Total Media Pressure Drop	Inlet Odor	Outlet Odor	Re-Circ. Flow Rate	pH
D-M	AM/PM	(ppm)	(ppm)	(gal)	(cfm)	(gal)	%	Inch	DT	DT	(gpm)	
1-Jul												
2-Jul												
3-Jul												
4-Jul												
5-Jul												
6-Jul												
7-Jul												
8-Jul												
9-Jul												
10-Jul												
11-Jul												
12-Jul												
13-Jul												
14-Jul												
15-Jul	10:30am	58.0	46.0	144	85	1.5	20.69	0.3			4	4.3
16-Jul	2:30pm	76.0	23.0	144	85	1.5	69.74	0.3			4	3.4
17-Jul	2:30pm	32.0	3.0	144	85	1.5	90.63	0.2			4	3.0
18-Jul												
19-Jul												
20-Jul	2:00pm	44.0	0.8	144	85	1.5	98.18	0.4			4	2.8
21-Jul	2:00pm	41.0	1.0	144	85	1.5	97.56	0.4			4	2.9
22-Jul	2:00pm	48.0	1.1	144	85	1.5	97.71	0.4			4	2.9
23-Jul	2:00pm	39.0	0.8	144	85	1.5	97.95	0.2			4	2.8
24-Jul												
25-Jul												
26-Jul												
27-Jul	1:30pm	37.0	0.8	144	85	1.5	97.84	0.2			4	2.8
28-Jul	2:00pm	40.0	0.7	144	85	1.5	98.25	0.2			4	2.7
29-Jul	2:30pm	39.0	1.4	144	85	1.5	96.41	0.2			4	2.7
30-Jul	12:30pm	33.0	1.4	144	85	1.5	95.76	0.2			4	2.7
31-Jul	10:30am	78.0	13.8	144	85	1.5	82.31	0.2			4	2.8

4-Vessels Test Unit - Lava Rock Media July 2009



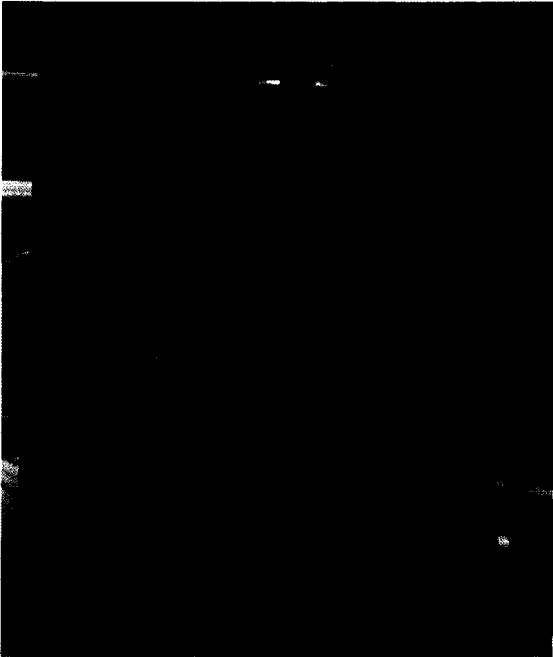
Note:
 June 29- System was shut down due to excessive water in the area caused by running HPE water during last day.
 July 15- The system was started up after the repair work was completed.



Replaced the flow meter for make-up water



Replaced the damaged pumps



Replaced the tubing for pressure drop connection and extended the tube inside the vessel

