



1341 North 108th East Avenue
Tulsa, OK 74116
Tel: 918-437-8333
Fax: 918-437-8487

Report No.: FT97-0030
Date: 4/22/97
Page 1 of 6

CLIENT: Emissions Technology, Inc.
P.O. Box 471916
Tulsa, OK 74174

Attn: Clark Daywalt

SUBJECT: Efficiency testing of ECO Systems by use of a propane source.


REFERENCE: Verbal 4/15/97.

SAMPLE ID: Client refers to the sample as "ECO System, Model ECO-2".

PROCEDURE: The testing procedure used a flow meter, monitoring propane flow, to measure the temperature of a gas brooder. With a thermal couple located in the brooder, the temperature of the flame was evaluated in comparison to propane flow. Tests were recorded with and without the sample ECO System in line with the brooder.

RESULTS: The results are on the following pages.

TEST DATE: 4/17/97.



Eric Hundley, Engineer

bk

Signed for the Company

Dale E. Holloway
Tulsa Branch Director

Member of the SGS Group

ANALYTICAL SERVICES • PERFORMANCE TESTING • STANDARDS EVALUATION • CERTIFICATION SERVICES

SGS U.S. TESTING COMPANY INC. REPORTS ARE FOR THE EXCLUSIVE USE OF THE CLIENT TO WHOM THEY ARE ADDRESSED. ANYONE RELYING ON SUCH REPORTS SHOULD UNDERSTAND ALL OF THE DETAILS OF THE ENGAGEMENT. REPORTS REFLECT RESULTS ONLY OF THE STANDARDS OR PROCEDURES IDENTIFIED TO THE TESTS CONDUCTED AND ARE LIMITED TO THE SAMPLES TESTED. TEST RESULTS MAY NOT BE INDICATIVE OF THE QUALITIES OF THE LOT FROM WHICH THE SAMPLE WAS TAKEN. SGS U.S. TESTING COMPANY INC. HAS NOT CONDUCTED ANY QUALITY CONTROL PROGRAM FOR THE CLIENT. NEITHER THE NAME, SEALS, MARKS NOR INSIGNIA OF SGS U.S. TESTING COMPANY INC. MAY BE USED IN ANY ADVERTISING OR PROMOTIONAL MATERIALS WITHOUT THE PRIOR WRITTEN APPROVAL OF SGS U.S. TESTING COMPANY INC. THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL WITHOUT THE WRITTEN PERMISSION OF THE SGS U.S. TESTING COMPANY INC. SAMPLES NOT DESTROYED IN TESTING ARE DISPOSED OF AFTER 30 DAYS.

REPORT OF TEST

Client: Emissions Technology, Inc.

Date: 4/22/97

Page 2 of 6

RESULTS:

Brooder Temperature Test Standard Installation

Sample Number	Measurement (mm)	Temperature (°C)	Flow Rate (ft ³ /min)	Flow Rate (BTU/hr)
1	5	1049	0.0435	6495
2	10	1095	0.0869	12970
3	15	1120	0.1300	19400
4	20	1142	0.1730	25825
5	24.5	1150	0.2097	31310

Brooder Temperature Test With ECO System

Sample Number	Measurement (mm)	Temperature (°C)	Flow Rate (ft ³ /min)	Flow Rate (BTU/hr)
1	5	1065	0.0435	6495
2	10	1109	0.0869	12970
3	15	1140	0.1300	19400
4	20	1165	0.1730	25825
5	24.5	1191	0.2097	31310 (Extrapolated)

REPORT OF TEST

CONCLUSION:

Three temperature points were evaluated for flow differences made with the ECO System and without. These points are evaluated in terms of flow difference and percent efficiency difference.

EVALUATED TEMPERATURE POINTS

Sample	Temperature (°C)	Flow Difference (ft ³ /min / BTU/hr)	Efficiency Difference (%)
1	1065	.0151 / 2253	25.8
2	1095	.0138 / 2060	15.9
3	1125	.0306 / 4568	17.7
AVERAGE - 2960 BTU/hr			19.8%

****END OF REPORT****

REPORT OF TEST

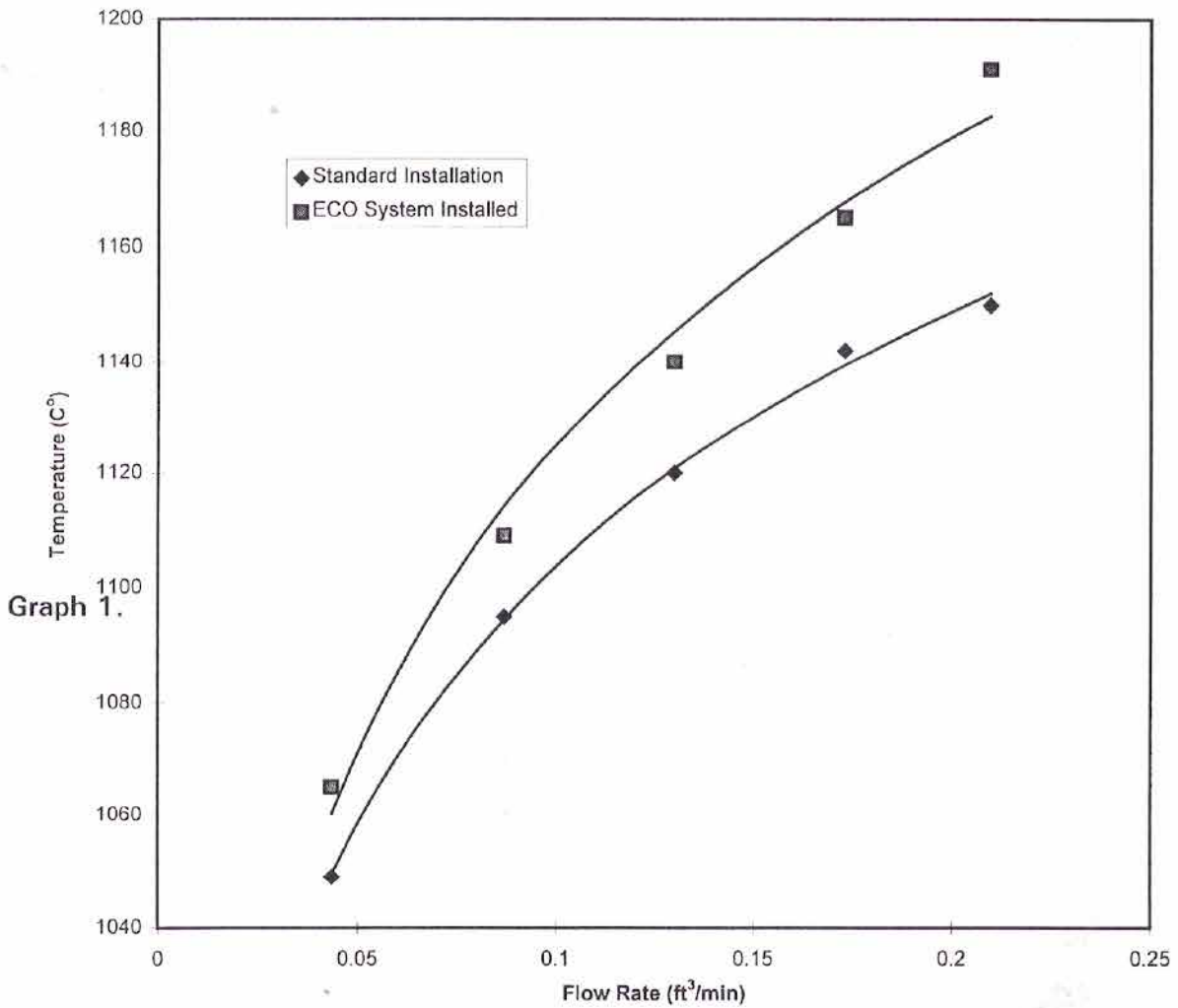
Client: Emissions Technology, Inc.

Report No.: FT97-0030

Date: 4/22/97

Page 4 of 6

Temperature Achieved Vs. Flow Rate of Propane



Graph 1.

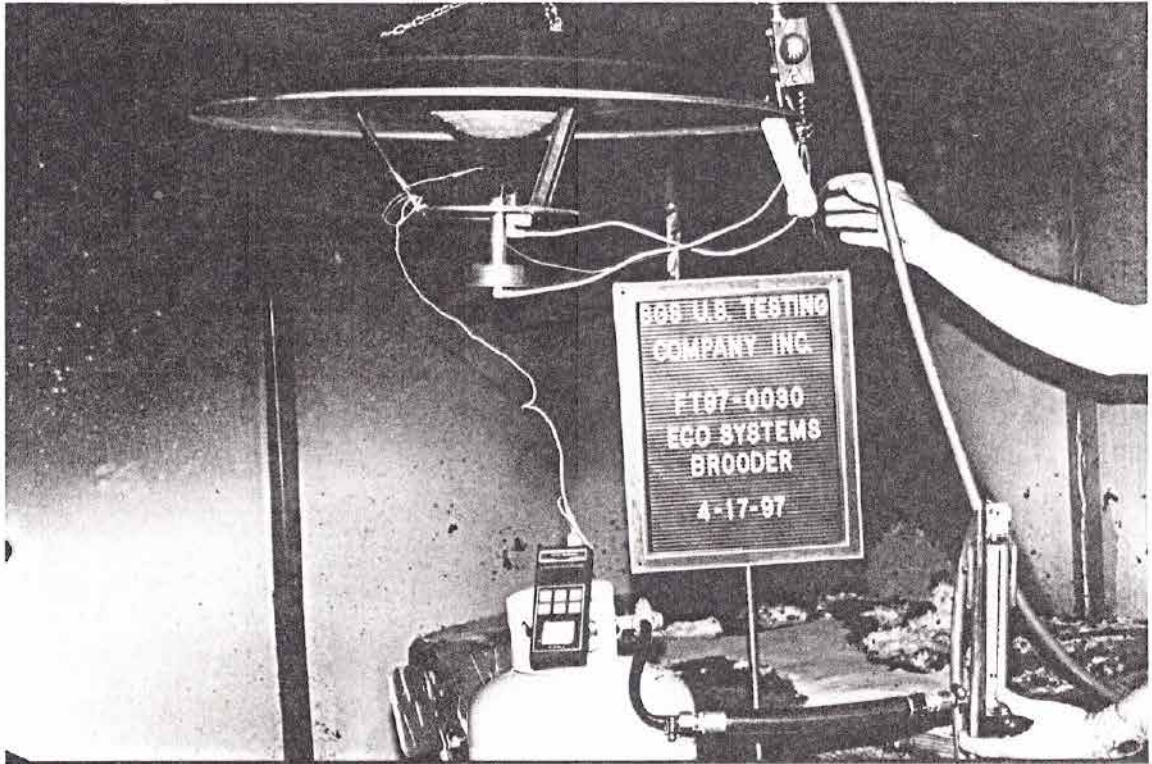
REPORT OF TEST

Client: Emissions Technology, Inc.

Report No.: FT97-0030

Date: 4/22/97

Page 5 of 6



Systems Brooder with ECO System Installed

REPORT OF TEST

Client: Emissions Technology, Inc.

REPORT OF TEST



Standard Brooder without Set-up