

TAM - Linhas Aéreas S.A.
Congonhas Airport
São Paulo, Brasil



Fuel: Diesel

Machine/Type: Airport service equipment

Test: Fuel Efficiency

Xp Lab, Inc.

946 Hawthorn St. San Diego, CA 92101
Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

OBJETIVE

Evaluate the effect of using Xp3 on various diésel machines used at the Congonhas Airport in Sao Paulo, Brasil. Equipment tested includes tractors, generators, towing trucks, etc.

TESTING

The testing period lasted 3 months.

During the first month, fuel consumption of the equipment being tested was evaluated without the use of Xp3.

During the following two months, the equipment being tested were run with the Xp3 fuel additive. The fuel was dosed with Xp3 additive in the following proportions: 1 liter of Xp3 for each 4,000 liters of fuel.

At the end of each month, the amount of fuel used by piece of equipment was checked.

RESULTS ANALYSIS

A savings of 5-8% were shown.

EXHIBITS

The results of 5 different units tested.

Xp Lab, Inc.

946 Hawthorn St. San Diego, CA 92101
Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

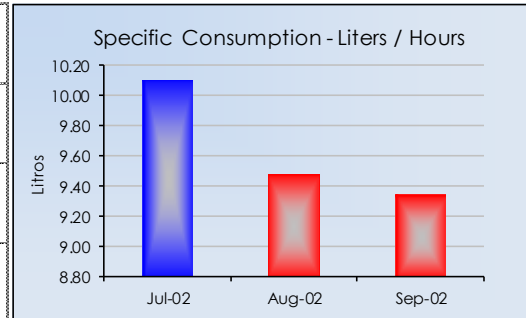
CASE STUDY



Test 1

Combustion use Control

GPU	Liters / hour	Savings - %
Jul-02	10.10	
Aug-02	9.48	6.12
Sep-02	9.34	7.48



Evaluation Form

INDUSTRY : TAM
 UNIT : GPU
 MONTH : September
 YEAR : 2002

		Sep-02	YEAR
Consumption without Xp3	Liters / hour	10.10	
Consumption with Xp3	Liters / hour	9.34	
Gain	%	7.48	
Diesel Consumed	Liters	2,280.0	27360
Service Hours	Hours	244.0	2928
Diesel Consumed without Xp3	Liters	2,464.4	29572.8
Diesel Cost	R\$ / Liter	1.00	
Savings in Diesel	Liters	184.40	2212.8
Gross Saving in Diesel	R\$	184.40	2212.8

Xp Lab, Inc.

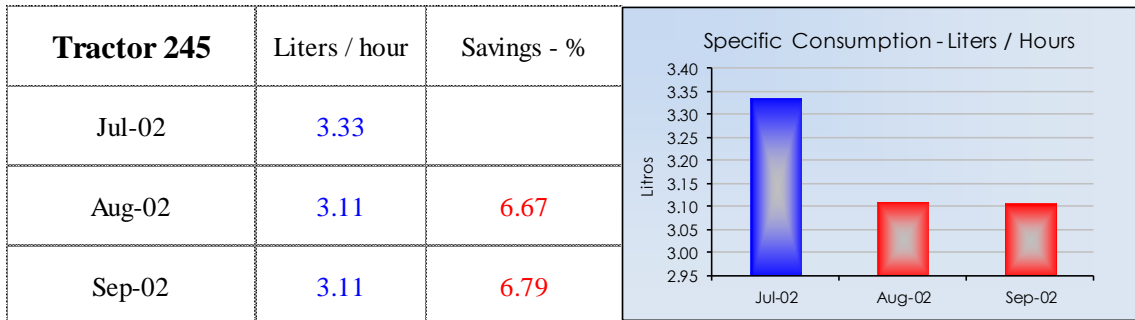
946 Hawthorn St. San Diego, CA 92101
 Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

CASE STUDY



Test 2

Combustion use Control



Evaluation Form

INDUSTRY : TAM
 UNIT : Tractor 245
 MONTH : September
 YEAR : 2002

		Sep-02	YEAR
Consumption without Xp3	Liters / hour	3.33	
Consumption with Xp3	Liters / hour	3.11	
Gain	%	6.69	
Diesel Consumed	Liters	174.0	2088
Service Hours	Hours	56.0	672
Diesel Consumed without Xp3	Liters	186.5	2237.76
Diesel Cost	R\$ / Liter	1.00	
Savings in Diesel	Liters	12.48	149.76
Gross Saving in Diesel	R\$	12.48	149.76

Xp Lab, Inc.

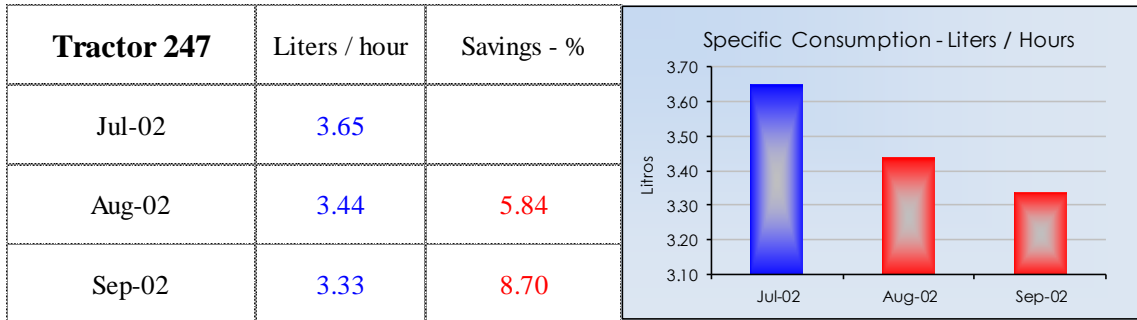
946 Hawthorn St. San Diego, CA 92101
 Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

CASE STUDY



Test 3

Combustion use Control



Evaluation Form

INDUSTRY : TAM
 UNIT : Tractor 247
 MONTH : September
 YEAR : 2002

		Sep-02	YEAR
Consumption without Xp3	Liters / hour	3.65	
Consumption with Xp3	Liters / hour	3.33	
Gain	%	8.68	
Diesel Consumed	Liters	130.0	1560
Service Hours	Hours	39.0	468
Diesel Consumed without Xp3	Liters	142.4	1708.2
Diesel Cost	R\$ / Liter	1.00	
Savings in Diesel	Liters	12.35	148.2
Gross Saving in Diesel	R\$	12.35	148.2

Xp Lab, Inc.

946 Hawthorn St. San Diego, CA 92101
 Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

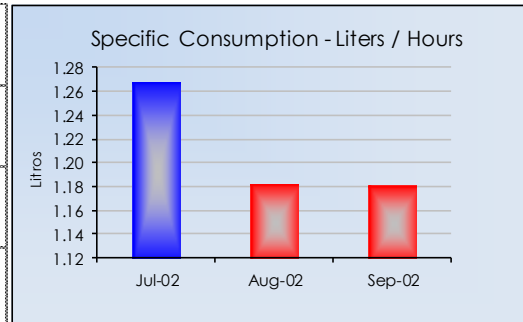
CASE STUDY



Test 4

Combustion use Control

Banda Transportadora	Liters / hour	Savings - %
Jul-02	1.27	
Aug-02	1.18	6.77
Sep-02	1.18	6.89



Evaluation Form

INDUSTRY : TAM
 UNIT : Converyor Belt
 MONTH : September
 YEAR : 2002

		Sep-02	YEAR
Consumption without Xp3	Liters / hour	1.27	
Consumption with Xp3	Liters / hour	1.18	
Gain	%	7.06	
Diesel Consumed	Liters	72.0	864
Service Hours	Hours	61.0	732
Diesel Consumed without Xp3	Liters	77.5	929.64
Diesel Cost	R\$ / Liter	1.00	
Savings in Diesel	Liters	5.47	65.64
Gross Saving in Diesel	R\$	5.47	65.64

Xp Lab, Inc.

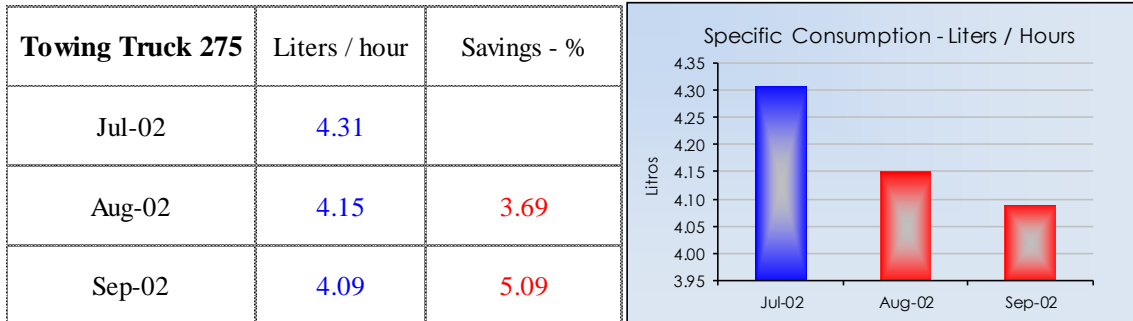
946 Hawthorn St. San Diego, CA 92101
 Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>

CASE STUDY



Test 5

Combustion use Control



Evaluation Form

INDUSTRY : TAM
 UNIT : Towing Truck 275
 MONTH : September
 YEAR : 2002

		Sep-02	YEAR
Consumption without Xp3	Liters / hour	4.31	
Consumption with Xp3	Liters / hour	4.09	
Gain	%	5.11	
Diesel Consumed	Liters	274.0	3288
Service Hours	Hours	67.0	804
Diesel Consumed without Xp3	Liters	288.8	3465.24
Diesel Cost	R\$ / Liter	1.00	
Savings in Diesel	Liters	14.77	177.24
Gross Saving in Diesel	R\$	14.77	177.24

Xp Lab, Inc.

946 Hawthorn St. San Diego, CA 92101
 Tel. (619) 233-3111 Fax: (619)233-3112
Xp3@xplab.com <http://www.xp3.com>