

A.L.L América Latina
Logística
Railroad Corporation
Concordia – Argentina



Fuel: Diesel

Machine/Type: Train/Engine

Test: Gas (CO) Emissions control in locomotive engine - Bench Test

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>

Data to be Evaluated

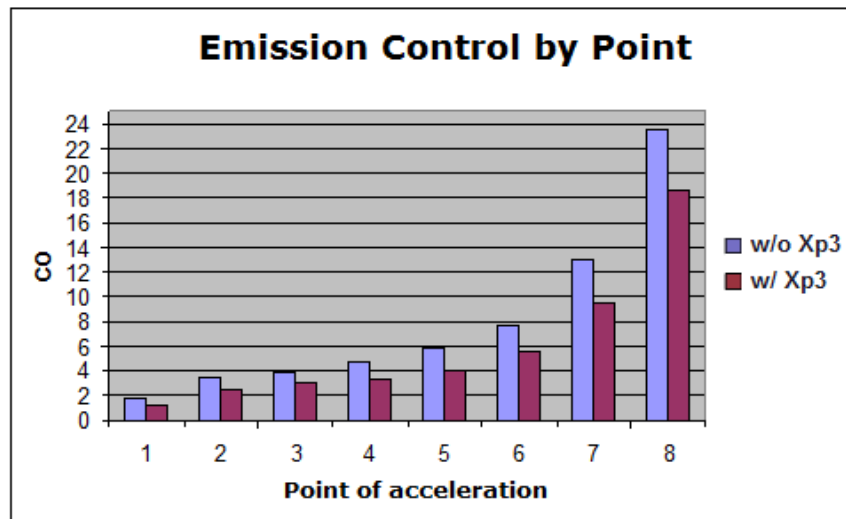
- Test Location: Concordia - Entre Ríos (Argentina)
- Date of the Test: September 3rd and 4th, 2001
- Locomotive Engine: Unit 7916 G22CW (GM 2T). Power 1600 HP
- Parameters to be Evaluated: Control of emissions (CO).
- Control of Output Power in: 1 to 8 points
- Outside Temperature: 12°C
- Humidity: 85%

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>

Carbon Monoxide Emission Measures in each Point of Acceleration

Point of Acceleration:	1	2	3	4	5	6	7	8
15:30 hr w/out Xp3 (3/9)	1.8	3.4	3.8	4.7	5.8	7.7	13	23.5
11 hr. w/ Xp3 (4/9)	1.2	2.5	3	3.3	4	5.5	9.5	18.6
Diff. PPM	0.6	0.9	0.8	1.4	1.8	2.2	3.5	4.9
Reduction:	33%	26.4%	21%	30%	32%	29%	27%	21%



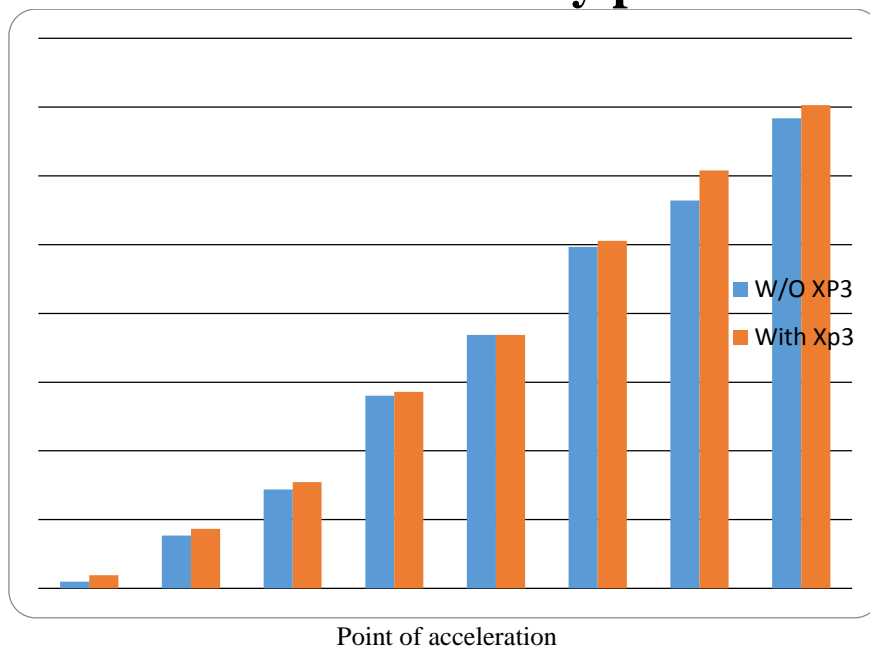
Xp Lab, Inc.

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

Output Power Control by Point

Point of Acceleration:	1	2	3	4	5	6	7	8
HP w/out Xp3 (3/9)	19.3	154.15	287.53	560.32	737.26	993.29	1128.42	1367.29
HP w/ Xp3 (4/9)	38.61	173.73	309.65	572.12	737.26	1010.7	1216.09	1405.90
Variation in HP	19.3	19.57	22.12	11.8	0.00	17.41	87.67	38.61
Increase:	100%	12.7%	7.69%	2.11%	0.00	1.75%	7.77%	2.82%

Power Control by point



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>