

SUMMMARY OF EMISSION TESTING 2007

**RESULTS OBTAINED FROM THE SA GOVERNMENT SPONSORED EMISSION TESTING
FACILITY IN REGENCY PARK SOUTH AUSTRALIA**

TRIALING THE FUEL FREEDOM PRODUCT DURING TESTS

The first test was on the 16th July 2007 before the Fuel Freedom International Product had been used.

From the 16th July 2007 the vehicle was treated with the Fuel Freedom International Product and this treatment was still continuing when the vehicle was presented for the second test on 17th August 2007.

The CUEDC tests emulate driving conditions in Congested to Freeway/Highway driving. This summary concentrates on the Inner City driving conditions, as this is where emissions are expected to create the most impact on life and the environment.

For ease of understanding the figures on the CUEDC tests the g/km.t line is the line used. The g/km.t figures are used to record DT80 test results for emission testing the 800 sample vehicles for TAFE, UNI SA and the SA Government.

AN IMPORTANT RESULT FROM THE TWO TESTS

The vehicle failed the emission test on the first test (Monday, July 16, 2007)
NOx reading of 2.769 (The safe minimum level for this reading is 2.0)

On the second test the vehicle passed the emission test (Friday, August 17, 2007)
NOx reading of 1.868

GENERAL REPAIR COSTS TO REDUCE EMISSIONS

The cost of a repair in an attempt to improve emissions with a lighter vehicle is near \$980 (2003 figures) and this can actually cause a worsening change in NOx

The cost of a repair in an attempt to improve emissions with a heavy vehicle is near \$1320 (2003 figures) and this can also cause a worsening change in NOx

The above repair/result figures are from a report by the VACC (Melbourne) New Diesel Emission regulations 2003. These cost are expected to be considerably more in the present time.

THE SAVINGS FROM USING THE FUEL FREEDOM INTERNATIONAL PRODUCT

In the case of adding the Fuel Freedom International Product the NOx (Nitrogen Monoxide) has reduced by 33% and is now well below the minimum safe level. This is quite substantial as the repairs mentioned above for a heavy vehicle will usually increase the NOx by around 14.4%

(NOx is a Pollutant causing the reduction of the ozone)

PM-LLSP has improved by 78%; now well below the minimum level. Again quite substantial as the repairs mention above for a heavy vehicle mentioned above will usually only reduce this by around 11.9%

(PM-LLSP is a measure of Exhaust Matter imposing a Dangerous Health Risk and Respiratory Problems).

The Opacity Av (%) has improved by 61%; now well below the minimum level. Also quite substantial as the repairs mention above for a heavy vehicle mentioned will usually only reduce the Opacity Av (%) by around 2.1%

(Opacity is a measure of the Thickness or Density of Exhaust Smoke; Smog)

Also reduced, and most quite noticeably, were:

CO (Carbon Monoxide). (A dangerous pollutant that may contribute to the greenhouse effect and is an extremely poisonous gas) and

CO2 (Carbon Dioxide). (Said to be a major contributor to the earths global warming and is a major component of the carbon cycle).

CH4 (Concentration of Methane Hydrocarbons) (A relatively potent greenhouse gas with a high global warming potential)

THC (Total Hydrocarbons) (Raw unburnt fuel measured in parts per million)

THE FUEL CONSUMPTION HAS DROPPED BY 17%

The fuel saving in itself will give quite a dramatic saving for any user of the Fuel Freedom International Product.

In summary the use of the Fuel Freedom International product has produced a far better result than an expensive repair. This is especially so with the larger vehicles where the higher repair costs produce a less effective emission improvement than smaller vehicles. All these figures are extremely important to any fleet operator or owner-driver where the cost of "Downtime" while the vehicle is off the road can often outweigh the fuel saving costs listed above.

It is found with all the tests, here and overseas, there is never any report of damage to any engine while using the Fuel Freedom International product. During the last 30 years with over 400 million Kilometres of use this has proved very conclusive. A very noticeable effect however is the reduction in ware of engine components and this is creating a huge benefit also in maintenance and downtime costs.

Wednesday, 10 October 2007

Vehicle Emissions Test Facility

Kateena Street, Regency Park, SA 5010

ABN 92 366 288 135

EMISSIONS TEST REPORT

Date: Monday, July 16, 2007

Test number: 1707

Test Location: Regency Park

YOM: 2004

Vehicle Registration No: XDF028

Make & Model: Mitsubishi FK617

Vehicle Test Mass (kg): 8540

Vehicle GVM (kg): 10400

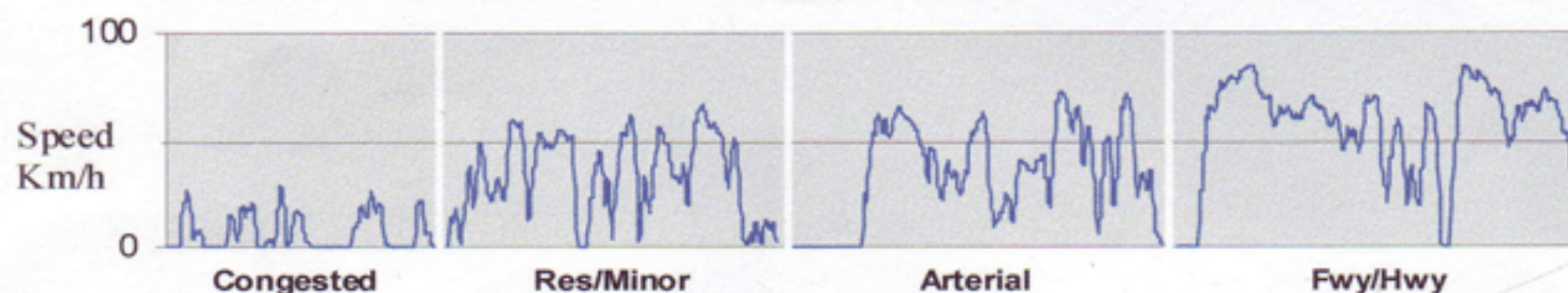
Vehicle Odometer: 78990

Fuel Type: Diesel

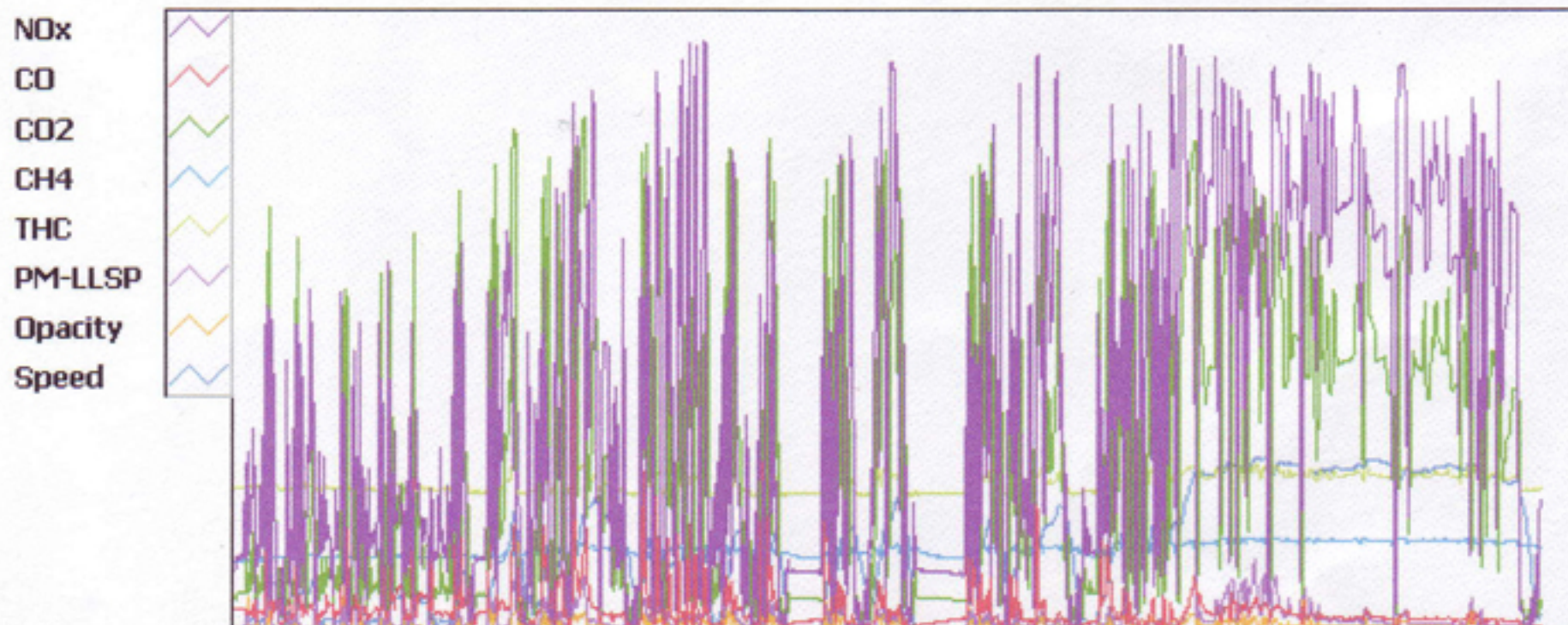
Other Vehicle & Test Details: FFi testing - Straight diesel

Comments: Test 1 CUEDC

Composite Urban Emissions Drive Cycle (CUEDC) - Typical



Emission Results	Segment	NOx	CO	CO2	CH4	THC	PM-LLSP	Opacity Av(%)	Opacity Max(%)	FuelCon (L/100k)
g/km	1	23.651	4.087	1824.839	5.683	0.294	395.598	1.609	48.069	69.772
g/km.t	1	2.769	0.479	213.681	0.666	0.034	46.323			
g/kWh	1	27.489	4.750	2120.901	6.605	0.342	459.779			
g/km	2	11.153	1.208	1064.655	1.779	0.085	237.557	2.996	57.291	40.626
g/km.t	2	1.306	0.141	124.667	0.208	0.010	27.817			
g/kWh	2	12.673	1.373	1209.745	2.021	0.097	269.931			
g/km	3	11.666	0.767	1004.646	2.043	0.099	112.814	1.656	23.092	38.316
g/km.t	3	1.366	0.090	117.640	0.239	0.012	13.210			
g/kWh	3	14.176	0.932	1220.849	2.482	0.120	137.092			
g/km	4	9.660	0.260	719.882	0.879	0.040	96.679	2.077	23.154	27.434
g/km.t	4	1.131	0.030	84.295	0.103	0.005	11.321			
g/kWh	4	15.961	0.430	1189.396	1.452	0.067	159.734			



Vehicle Emissions Test Facility

Kateena Street, Regency Park, SA 5010

ABN 92 366 288 135

EMISSIONS TEST REPORT

Date: Friday, August 17, 2007

Test number: 1956

Test Location: Regency Park

YOM: 2004

Vehicle Registration No: XDF028

Make & Model: Mitsubishi FK617

Vehicle Test Mass (kg): 8540

Vehicle GVM (kg): 10400

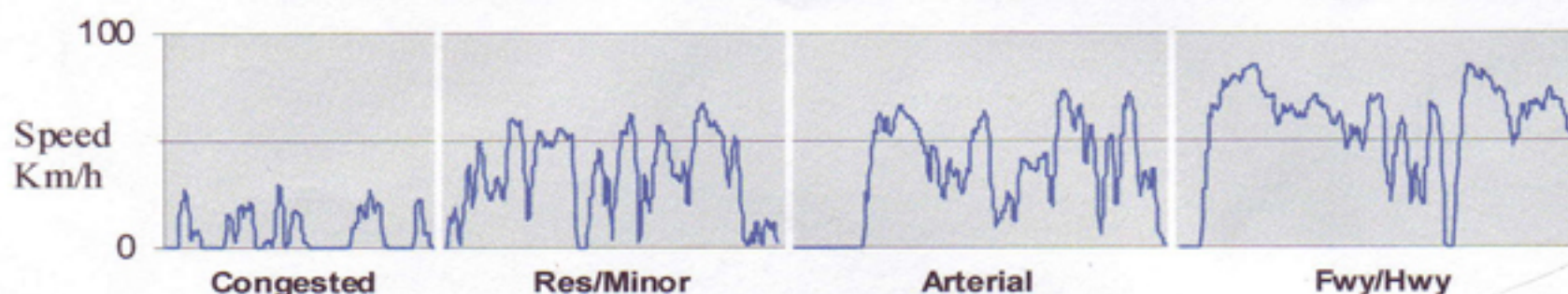
Vehicle Odometer: 81484

Fuel Type: Diesel

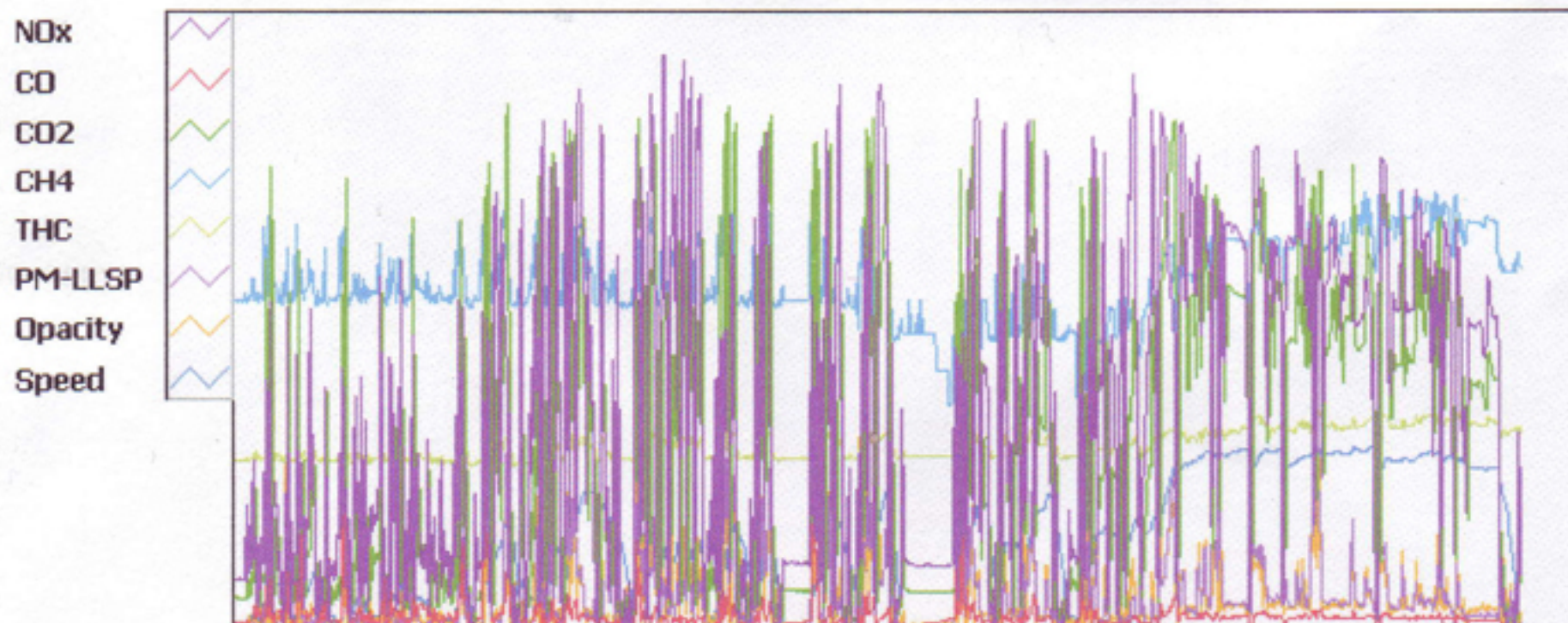
Other Vehicle & Test Details: FFi testing - Straight diesel + FFi Additive

Comments: 2nd CUEDC

Composite Urban Emissions Drive Cycle (CUEDC) - Typical



Emission Results	Segment	NOx	CO	CO2	CH4	THC	PM-LLSP	Opacity Av(%)	Opacity Max(%)	FuelCon (L/100k)
g/km	1	15.95	2.168	1511	2.120	0.282	84.63	1.068	18.60	57.72
g/km.t	1	1.868	0.254	177.0	0.248	0.033	9.910			
g/kWh	1	18.72	2.545	1774	2.489	0.331	99.35			
g/km	2	10.49	0.509	1012	0.700	0.092	65.75	2.140	15.38	38.59
g/km.t	2	1.228	0.060	118.5	0.082	0.011	7.699			
g/kWh	2	11.09	0.538	1071	0.741	0.097	69.53			
g/km	3	10.20	0.534	994.1	0.743	0.110	54.47	1.602	15.12	37.90
g/km.t	3	1.194	0.062	116.4	0.087	0.013	6.378			
g/kWh	3	11.97	0.626	1166	0.871	0.128	63.90			
g/km	4	7.178	0.196	667.4	0.337	0.047	25.57	1.698	19.12	25.43
g/km.t	4	0.841	0.023	78.15	0.039	0.005	2.994			
g/kWh	4	12.29	0.336	1143	0.576	0.080	43.79			
g/km	combined	8.716	0.404	826.0	0.556	0.077	40.74			31.49
g/km.t	combined	1.021	0.047	96.72	0.065	0.009	4.771			
g/kWh	combined	12.29	0.570	1165	0.784	0.108	57.45			



Test Officer: Robert House

QA Officer: