

FORMALDEHYDE EMISSION CONTROL TECHNOLOGY FOR METHANOL-FUELED VEHICLES

Final Report
Appendices A - Y

Contract No. A732-148

LIBRARY-AIR RESOURCES BOARD

Prepared for:

California Air Resources Board
Research Division
2020 L Street
Sacramento, California, 95814

and

South Coast Air Quality Management District
21865 East Copley Drive
Diamond Bar, California 95814

Prepared by:

Matthew S. Newkirk

Southwest Research Institute
Post Office Drawer 28510
6220 Culebra Road
San Antonio, Texas 78228-0510

February 1994

APPENDIX A

COMPUTER PRINTOUTS OF TASK 1 EMISSION TESTS

Page A-	Test No.	Test Cycle	Catalyst System
2	1 Run 1	FTP	None
3	1 Run 1	30SS	None
4	1 Run 1	55SS	None
5	1 Run 2	FTP	None
6	1 Run 2	30SS	None
7	1 Run 2	55SS	None
8	BL-3	FTP	None
9	BL-3	30SS	None
10	BL-3	55SS	None
11	BL-4	FTP	None
12	BL-4	30SS	None
13	BL-4	55SS	None
14	AESU1	FTP	A
15	AESU1	30SS	A
16	AESU1	55SS	A
17	AESU2	FTP	A
18	AESU2	30SS	A
19	AESU2	55SS	A
20	ANSU1	FTP	B
21	ANSU1	30SS	B
22	ANSU1	55SS	B
23	ANSU2	FTP	B
24	ANSU2	30SS	B
25	ANSU2	55SS	B
26	ADCU1	FTP	C
27	ADCU1	30SS	C
28	ADCU1	55SS	C
29	ADCU2	FTP	C
30	ADCU2	30SS	C
31	ADCU2	55SS	C
32	AJMU1	FTP	D
33	AJMU1	30SS	D
34	AJMU1	55SS	D
35	AJMU1	FTP	D
36	AJMU1	30SS	D
37	AJMU1	55SS	D

APPENDIX A (CONT'D)

COMPUTER PRINTOUTS OF TASK 1 EMISSION TESTS

Page A-	Test No.	Test Cycle	Catalyst System
38	AHCU-1	FTP	E
39	AHCU-1	30SS	E
40	AHCU-1	55SS	E
41	AHCU-2	FTP	E
42	AHCU-2	30SS	E
43	AHCU-2	55SS	E
44	ASWU-1	FTP	F
45	ASWU-1	30SS	F
46	ASWU-1	55SS	F
47	AASC-1	FTP	G
48	AASC-1	30SS	G
49	AASC-1	55SS	G
50	AASC-2	FTP	G
51	AASC-2	30SS	G
52	AASC-2	55SS	G
53	ANSC-1	FTP	H
54	ANSC-1	30SS	H
55	ANSC-1	55SS	H
56	ANSC-2	FTP	H
57	ANSC-2	30SS	H
58	ANSC-2	55SS	H
59	ADCC-1	FTP	I
60	ADCC-1	30SS	I
61	ADCC-1	55SS	I
62	ADCC-2	FTP	I
63	ADCC-2	30SS	I
64	ADCC-2	55SS	I
65	AJMC-1	FTP	J
66	AJMC-1	30SS	J
67	AJMC-1	55SS	J
68	AJMC-2	FTP	J
69	AJMC-2	30SS	J
70	ADMC-2	55SS	J
71	ANSUC-1	FTP	K
72	ANSUC-1	30SS	K
73	ANSUC-1	55SS	K

APPENDIX A (CONT'D)

COMPUTER PRINTOUTS OF TASK 1 EMISSION TESTS

Page A-	Test No.	Test Cycle	Catalyst System
74	ANSUC-2	FTP	K
75	ANSUC-2	30SS	K
76	ANSUC-2	55SS	K
77	SWUC	FTP	L
78	SWUC	30SS	L
79	SWUC	55SS	L
80	AASC2-1	FTP	M
81	AASC2-1	30SS	M
82	AASC2-1	55SS	M
83	AASC2-2	FTP	M
84	AASC2-2	30SS	M
85	AASC2-2	55SS	M
86	AASC3-1	FTP	N
87	AASC3-1	30SS	N
88	AASC3-1	55SS	N
89	ANSC2-1	FTP	O
90	ANSC2-1	30SS	O
91	ANSC2-1	55SS	O
92	AJMM1-1	FTP	P
93	AJMM1-1	30SS	P
94	AJMM1-1	55SS	P
95	AJMM1-2	FTP	P
96	AJMM1-2	30SS	P
97	AJMM1-2	55SS	P
98	AJMM2-1	FTP	Q
99	AJMM2-1	30SS	Q
100	AJMM2-1	55SS	Q
101	AJMM2-2	FTP	Q
102	AJMM2-2	30SS	Q
103	AJMM2-2	55SS	Q
104	AJMM3-1	FTP	R
105	AJMM3-1	30SS	R
106	AJMM3-1	55SS	R

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 12/14/88
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER

BAROMETER 739.90 MM HG(29.13 IN HG)
RELATIVE HUMIDITY 34. PCT
BAG RESULTS

DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 6.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR .88

BAG NUMBER
DESCRIPTION

1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)	39.4 (103.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40630.	69876.	40595.
TOT FLOW STD. CU. METRES(SCF)	75.4 (2662.)	130.4 (4603.)	75.3 (2660.)
THC SAMPLE METER/RANGE/PPM	49.3/ 3/ 493.	13.6/ 3/ 134.	14.7/ 3/ 144.
THC BCKGRD METER/RANGE/PPM	1.3/ 3/ 13.	1.2/ 3/ 12.	1.1/ 3/ 11.
CO SAMPLE METER/RANGE/PPM	74.3/ 3/1964.	34.3/ 3/ 808.	41.7/ 3/ 999.
CO BCKGRD METER/RANGE/PPM	.1/ 3/ 2.	.0/ 3/ 0.	.0/ 3/ 0.
CO2 SAMPLE METER/RANGE/PCT	79.7/ 11/ .7363	57.9/ 11/ .4675	73.3/ 11/ .6504
CO2 BCKGRD METER/RANGE/PCT	8.0/ 11/ .0477	8.2/ 11/ .0490	8.2/ 11/ .0490
NOX SAMPLE METER/RANGE/PPM	25.6/ 2/ 25.6	30.6/ 1/ 7.7	87.3/ 1/ 21.9
NOX BCKGRD METER/RANGE/PPM	.2/ 2/ .2	2.8/ 1/ .7	3.2/ 1/ .8
DILUTION FACTOR	12.29	21.43	15.74
THC CONCENTRATION PPM	481.	122.	134.
CO CONCENTRATION PPM	1899.	789.	970.
CO2 CONCENTRATION PCT	.6925	.4208	.6046
NOX CONCENTRATION PPM	25.4	7.0	21.1
THC MASS GRAMS	44.20	19.43	12.33
CO MASS GRAMS	166.71	119.71	85.03
CO2 MASS GRAMS	956.0	1004.2	833.8
NOX MASS GRAMS	3.22	1.54	2.67
THC GRAMS/MI	12.33	4.97	3.45
CO GRAMS/MI	46.50	30.64	23.76
CO2 GRAMS/MI	266.7	257.0	233.0
NOX GRAMS/MI	.90	.39	.75
FUEL ECONOMY IN MPG	12.54	13.43	14.37
RUN TIME SECONDS	505.	869.	506.
MEASURED DISTANCE MI	3.59	7.49	3.91
SCF, DRY	.976	.979	.980
DFC, WET (DRY)		.941(.930)	
TOT VOL (SCM) / SAM BLR (SCM)		205.8/ .00	
			.948(.938)
			204.9/ .00

COMPOSITE RESULTS

TEST NUMBER 1
BAROMETER MM HG 739.9
HUMIDITY G/KG 6.5
TEMPERATURE DEG C 23.9

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	252.5	(251.9)
FUEL ECONOMY MPG	14.40	(14.52)
HYDROCARBONS (THC) G/MI	6.07	(5.72)
CARBON MONOXIDE G/MI	32.03	(31.11)
OXIDES OF NITROGEN G/MI	.59	(.59)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30SS - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 740.41 MM HG(29.15 IN HG)
RELATIVE HUMIDITY 42. PCT
BAG RESULTS
TEST CYCLE

VEHICLE NO.
DATE 12/14/88
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 8.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER

NOX HUMIDITY CORRECTION FACTOR .94

30SS

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	24061.
TOT FLOW STD. CU. METRES(SCF)	44.7 (1578.)
THC SAMPLE METER/RANGE/PPM	81.0/ 2/ 81.
THC BCKGRD METER/RANGE/PPM	11.0/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	18.2/ 3/ 417.
CO BCKGRD METER/RANGE/PPM	.1/ 3/ 2.
CO2 SAMPLE METER/RANGE/PCT	61.1/ 11/ .5030
CO2 BCKGRD METER/RANGE/PCT	8.1/ 11/ .0483
NOX SAMPLE METER/RANGE/PPM	97.2/ 1/ 24.3
NOX BCKGRD METER/RANGE/PPM	1.3/ 1/ .3
DILUTION FACTOR	21.74
THC CONCENTRATION PPM	71.
CO CONCENTRATION PPM	404.
CO2 CONCENTRATION PCT	.4569
NOX CONCENTRATION PPM	23.9
THC MASS GRAMS	3.84
CO MASS GRAMS	21.00
CO2 MASS GRAMS	373.7
NOX MASS GRAMS	1.91
RUN TIME SECONDS	300.
DFC, WET (DRY)	.954 (.941)
SCF, WET (DRY)	1.000 (.977)
VOL (SCM)	44.7
SAM BLR (SCM)	.00
MI (MEASURED)	2.54

TEST NUMBER,	1
BAROMETER, MM HG	740.4
HUMIDITY, G/KG	8.6
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	147.2
FUEL ECONOMY, MPG	27.7

HYDROCARBONS, (THC) G/MI	1.51
CARBON MONOXIDE, G/MI	8.27
OXIDES OF NITROGEN, G/MI	.75

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
 5555 - VEHICLE EMISSIONS RESULTS -
 PROJECT 08-2346-001

TEST NO. 1 RUN 1
 VEHICLE MODEL 0 FORD ESCORT
 ENGINE 1.6 L(98. CID) L-4
 TRANSMISSION A3

BAROMETER 740.41 MM HG(29.15 IN HG)
 RELATIVE HUMIDITY 42. PCT
 BAG RESULTS

VEHICLE NO.
 DATE 12/14/88
 BAG CART NO. 1
 DYNO NO. 3
 CVS NO. 2
 DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
 ABS. HUMIDITY 8.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
 ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
 GASOLINE EM-835-F
 ODOMETER
 NOX HUMIDITY CORRECTION FACTOR .94

TEST CYCLE

5555

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	24060.
TOT FLOW STD. CU. METRES(SCF)	44.6 (1574.)
THC SAMPLE METER/RANGE/PPM	17.7/ 3/ 174.
THC BCKGRD METER/RANGE/PPM	1.5/ 3/ 15.
CO SAMPLE METER/RANGE/PPM	18.7/ 3/ 429.
CO BCKGRD METER/RANGE/PPM	.2/ 3/ 5.
CO2 SAMPLE METER/RANGE/PCT	62.9/ 3/1.1207
CO2 BCKGRD METER/RANGE/PCT	3.0/ 3/ .0489
NOX SAMPLE METER/RANGE/PPM	38.6/ 2/ 38.6
NOX BCKGRD METER/RANGE/PPM	.9/ 2/ .9
DILUTION FACTOR	10.17
THC CONCENTRATION PPM	161.
CO CONCENTRATION PPM	406.
CO2 CONCENTRATION PCT	1.0766
NOX CONCENTRATION PPM	37.8
THC MASS GRAMS	8.75
CO MASS GRAMS	21.07
CO2 MASS GRAMS	878.9
NOX MASS GRAMS	3.02
RUN TIME SECONDS	300.
DFC, WET (DRY)	.902 (.889)
SCF, WET (DRY)	1.000 (.966)
VOL (SCM)	44.6
SAM BLR (SCM)	.00
MI (MEASURED)	4.60

TEST NUMBER,	1
BAROMETER, MM HG	740.4
HUMIDITY, G/KG	8.6
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	191.1
FUEL ECONOMY, MPG	22.3

HYDROCARBONS, (THC) G/MI	1.90
CARBON MONOXIDE, G/MI	4.58
OXIDES OF NITROGEN, G/MI	.66

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 1 RUN 2
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 12/15/88
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER

BAROMETER 744.47 MM HG(29.31 IN HG)
RELATIVE HUMIDITY 58. PCT

DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 10.2 GM/KG

NOX HUMIDITY CORRECTION FACTOR .98

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)	40.6 (105.0)	43.3 (110.0)	39.4 (103.0)
BLOWER REVOLUTIONS	40591.	69670.	40485.	69528.
TOT FLOW STD. CU. METRES(SCF)	75.5 (2668.)	130.6 (4611.)	75.5 (2665.)	130.6 (4611.)
THC SAMPLE METER/RANGE/PPM	46.1/ 3/ 461.	12.8/ 3/ 126.	14.2/ 3/ 139.	9.5/ 3/ 93.
THC BCKGRD METER/RANGE/PPM	1.2/ 3/ 12.	1.2/ 3/ 12.	.9/ 3/ 9.	1.0/ 3/ 10.
CO SAMPLE METER/RANGE/PPM	69.6/ 3/1809.	36.4/ 3/ 862.	47.0/ 3/1141.	30.2/ 3/ 706.
CO BCKGRD METER/RANGE/PPM	.2/ 3/ 5.	.1/ 3/ 2.	.1/ 3/ 2.	.1/ 3/ 2.
CO2 SAMPLE METER/RANGE/PCT	80.4/ 11/ .7461	57.6/ 11/ .4642	71.8/ 11/ .6312	56.6/ 11/ .4534
CO2 BCKGRD METER/RANGE/PCT	7.1/ 11/ .0421	7.2/ 11/ .0427	7.3/ 11/ .0433	7.2/ 11/ .0427
NOX SAMPLE METER/RANGE/PPM	29.5/ 2/ 29.5	34.4/ 1/ 8.7	76.5/ 1/ 19.2	30.7/ 1/ 7.8
NOX BCKGRD METER/RANGE/PPM	1.4/ 2/ 1.4	4.8/ 1/ 1.2	2.0/ 1/ .5	1.3/ 1/ .3
DILUTION FACTOR	12.42	21.41	15.88	22.58
THC CONCENTRATION PPM	450.	114.	131.	84.
CO CONCENTRATION PPM	1733.	832.	1097.	682.
CO2 CONCENTRATION PCT	.7074	.4235	.5906	.4126
NOX CONCENTRATION PPM	28.2	7.5	18.7	7.4
THC MASS GRAMS	41.39	18.20	12.07	13.30
CO MASS GRAMS	152.44	126.53	96.42	103.66
CO2 MASS GRAMS	978.5	1012.4	816.2	986.3
NOX MASS GRAMS	4.01	1.84	2.65	1.82
THC GRAMS/MI	11.50	4.69	3.38	3.44
CO GRAMS/MI	42.35	32.57	26.98	26.83
CO2 GRAMS/MI	271.8	260.6	228.4	255.3
NOX GRAMS/MI	1.11	.47	.74	.47
FUEL ECONOMY IN MPG	12.63	13.35	16.29	15.51
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.60	7.48	3.57	7.44
SCF, DRY	.968	.971	.970	.972
DFC, WET (DRY)		.941(.923)		.949(.931)
TOT VOL (SCM) / SAM BLR (SCM)		206.1/ .00		206.1/ .00

COMPOSITE RESULTS

TEST NUMBER 1
BAROMETER MM HG 744.5
HUMIDITY G/KG 10.2
TEMPERATURE DEG C 22.8

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	254.1	(252.5)
FUEL ECONOMY MPG	14.28	(14.50)
HYDROCARBONS (THC) G/MI	5.74	(5.37)
CARBON MONOXIDE G/MI	33.06	(31.36)
OXIDES OF NITROGEN G/MI	.68	(.68)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH -
30SS - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 1 RUN 2
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 746.25 MM HG(29.38 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

VEHICLE NO.
DATE 12/15/88
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 10.1 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER
NOX HUMIDITY CORRECTION FACTOR .98

TEST CYCLE

30SS

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	40.6 (105.0)
BLOWER REVOLUTIONS	24061.
TOT FLOW STD. CU. METRES(SCF)	45.2 (1596.)
THC SAMPLE METER/RANGE/PPM	72.8/ 2/ 73.
THC BCKGRD METER/RANGE/PPM	8.5/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	78.6/ 11/ 347.
CO BCKGRD METER/RANGE/PPM	.0/ 11/ 0.
CO2 SAMPLE METER/RANGE/PCT	60.3/ 11/ .4940
CO2 BCKGRD METER/RANGE/PCT	7.2/ 11/ .0427
NOX SAMPLE METER/RANGE/PPM	98.8/ 1/ 24.7
NOX BCKGRD METER/RANGE/PPM	.8/ 1/ .2
DILUTION FACTOR	22.42
THC CONCENTRATION PPM	65.
CO CONCENTRATION PPM	336.
CO2 CONCENTRATION PCT	.4532
NOX CONCENTRATION PPM	24.5
THC MASS GRAMS	3.56
CO MASS GRAMS	17.68
CO2 MASS GRAMS	375.1
NOX MASS GRAMS	2.08
RUN TIME	300.
DFC, WET (DRY)	.955 (.938)
SCF, WET (DRY)	1.000 (.973)
VOL (SCM)	45.2
SAM BLR (SCM)	.00
MI (MEASURED)	2.54

TEST NUMBER,	1
BAROMETER, MM HG	746.3
HUMIDITY, G/KG	10.1
TEMPERATURE, DEG C	22.8
CARBON DIOXIDE, G/MI	147.8
FUEL ECONOMY, MPG	27.9

HYDROCARBONS, (THC) G/MI	1.40
CARBON MONOXIDE, G/MI	6.97
OXIDES OF NITROGEN, G/MI	.82

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
5555 - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 1 RUN 2
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 12/15/88
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C (73.0 DEG F)
ABS. HUMIDITY 10.1 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER

BAROMETER 746.25 MM HG (29.38 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .98

TEST CYCLE

5555

BLOWER DIF P MM. H2O (IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O (IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C (DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	24054.
TOT FLOW STD. CU. METRES (SCF)	45.0 (1588.)
THC SAMPLE METER/RANGE/PPM	18.6/ 3/ 183.
THC BCKGRD METER/RANGE/PPM	.9/ 3/ 9.
CO SAMPLE METER/RANGE/PPM	92.3/ 11/ 464.
CO BCKGRD METER/RANGE/PPM	.3/ 11/ 1.
CO2 SAMPLE METER/RANGE/PCT	62.5/ 3/ 1.1127
CO2 BCKGRD METER/RANGE/PCT	2.7/ 3/ .0440
NOX SAMPLE METER/RANGE/PPM	38.3/ 2/ 38.3
NOX BCKGRD METER/RANGE/PPM	.5/ 2/ .6
DILUTION FACTOR	10.21
THC CONCENTRATION PPM	175.
CO CONCENTRATION PPM	440.
CO2 CONCENTRATION PCT	1.0730
NOX CONCENTRATION PPM	37.8
THC MASS GRAMS	9.61
CO MASS GRAMS	23.05
CO2 MASS GRAMS	883.4
NOX MASS GRAMS	3.19
RUN TIME SECONDS	300.
DFC, WET (DRY)	.902 (.885)
SCF, WET (DRY)	1.000 (.961)
VOL (SCM)	45.0
SAM BLR (SCM)	.00
MI (MEASURED)	4.61

TEST NUMBER,		1
BAROMETER,	MM HG	746.3
HUMIDITY,	G/KG	10.1
TEMPERATURE,	DEG C	22.8
CARBON DIOXIDE,	G/MI	191.8
FUEL ECONOMY,	MPG	22.2
HYDROCARBONS, (THC)	G/MI	2.09
CARBON MONOXIDE,	G/MI	5.00
OXIDES OF NITROGEN,	G/MI	.69

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH

FTP - VEHICLE EMISSIONS RESULTS -

PROJECT 08-2346-001

NO. BL-3 RUN 1
 HICLE MODEL 0 FORD ESCORT
 SINE 1.6 L(98. CID) L-4
 ANSMISSION A3

VEHICLE NO.
 DATE 2/24/89
 BAG CART NO. 1 / CVS NO. 2
 DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
 ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
 GASOLINE EM-835-F
 ODOMETER 89272. KM(55471. MILES)

ROMETER 750.57 MM HG(29.55 IN HG)
 LATIVE HUMIDITY 33. PCT

DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)

ABS. HUMIDITY 6.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR .88

6 RESULTS

BAG NUMBER DESCRIPTION	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	39.4 (103.0)	42.2 (108.0)	39.4 (103.0)
BLOWER REVOLUTIONS	40518.	69590.	40528.	69523.
TOT FLOW STD. CU. METRES(SCF)	76.5 (2702.)	132.4 (4674.)	76.7 (2708.)	132.2 (4669.)
THC SAMPLE METER/RANGE/PPM	49.3/ 3/ 493.	14.5/ 3/ 142.	16.9/ 3/ 166.	10.6/ 3/ 104.
THC BCKGRD METER/RANGE/PPM	.8/ 3/ 8.	.9/ 3/ 9.	1.0/ 3/ 10.	.9/ 3/ 9.
CO SAMPLE METER/RANGE/PPM	75.5/ 3/2004.	34.9/ 3/ 824.	44.4/ 3/1071.	30.9/ 3/ 723.
CO BCKGRD METER/RANGE/PPM	.1/ 3/ 2.	.1/ 3/ 2.	.6/ 3/ 14.	.4/ 3/ 9.
CO2 SAMPLE METER/RANGE/PCT	82.7/ 11/ .7789	58.5/ 11/ .4740	74.1/ 11/ .6608	56.4/ 11/ .4513
CO2 BCKGRD METER/RANGE/PCT	7.8/ 11/ .0465	7.9/ 11/ .0471	7.9/ 11/ .0471	7.7/ 11/ .0458
NOX SAMPLE METER/RANGE/PPM	32.3/ 2/ 32.3	38.7/ 1/ 9.7	95.1/ 1/ 23.8	38.4/ 1/ 9.7
NOX BCKGRD METER/RANGE/PPM	.5/ 2/ .5	.6/ 1/ .2	.3/ 1/ .1	.1/ 1/ .0
DILUTION FACTOR	11.73	21.09	15.35	22.53
THC CONCENTRATION PPM	486.	134.	157.	95.
CO CONCENTRATION PPM	1937.	802.	1027.	698.
CO2 CONCENTRATION PCT	.7364	.4292	.6168	.4075
NOX CONCENTRATION PPM	31.9	9.6	23.7	9.6
THC MASS GRAMS	45.28	21.62	14.69	15.37
CO MASS GRAMS	172.58	123.56	91.68	107.48
CO2 MASS GRAMS	1031.7	1040.1	866.0	986.5
NOX MASS GRAMS	4.10	2.13	3.05	2.14
THC GRAMS/MI	12.50	5.53	4.04	3.93
CO GRAMS/MI	47.64	31.61	25.22	27.48
CO2 GRAMS/MI	284.8	266.1	238.2	252.2
NOX GRAMS/MI	1.13	.55	.84	.55
FUEL ECONOMY IN MPG	11.87	12.83	13.86	15.83
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.62	7.53	3.91	7.55
SCF, DRY	.975	.979	.981	.978
DFC, WET (DRY)		.939(.929)		.948(.938)
TOT VOL (SCM) / SAM BLR (SCM)		208.9/ .00		208.9/ .00

MPOSITE RESULTS

TEST NUMBER BL-3
 BARDMETER MM HG 750.6
 HUMIDITY G/KG 6.5
 TEMPERATURE DEG C 25.0

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	262.3	(258.2)
FUEL ECONOMY MPG	13.86	(14.15)
HYDROCARBONS (THC) G/MI	6.56	(6.09)
CARBON MONOXIDE G/MI	33.17	(31.95)
OXIDES OF NITROGEN G/MI	.75	(.75)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

.. NO. BL-3 RUN 1
HICLE MODEL 0 FORD ESCORT
SINE 1.6 L(98. CID) L-4
ANSMISSION A3

ROMETER 749.30 MM HG(29.50 IN HG)
LATIVE HUMIDITY 34. PCT
S RESULTS
TEST CYCLE

VEHICLE NO.
DATE 2/24/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 6.9 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89298. KM(55487. MILES)

NOX HUMIDITY CORRECTION FACTOR .89

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

749.3 (29.5)
749.3 (29.5)
42.2 (108.0)
24058.
45.4 (1504.)
82.5/ 2/ 83.
8.9/ 2/ 9.
75.8/ 11/ 327.
.4/ 11/ 1.
60.6/ 11/ .4973
7.9/ 11/ .0471
40.8/ 2/ 40.8
.1/ 2/ .1
22.31
74.
318.
.4524
40.7
4.09
15.81
376.3
3.15
300.
.955 (.945)
1.000 (.980)
45.4
.00
2.55

TEST NUMBER,		BL-3
BAROMETER,	MM HG	749.3
HUMIDITY,	G/KG	6.9
TEMPERATURE,	DEG C	25.6
CARBON DIOXIDE,	G/MI	147.7
FUEL ECONOMY,	MPG	28.0
HYDROCARBONS, (THC)	G/MI	1.61
CARBON MONOXIDE,	G/MI	6.60
OXIDES OF NITROGEN,	G/MI	1.23

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. BL-3 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 749.30 MM HG(29.50 IN HG)
RELATIVE HUMIDITY 34. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 2/24/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 6.9 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89304. KM(55491. MILES)
NOX HUMIDITY CORRECTION FACTOR .89

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	24067.
TOT FLOW STD. CU. METRES(SCF)	45.4 (1602.)
THC SAMPLE METER/RANGE/PPM	25.3/ 3/ 251.
THC BCKGRD METER/RANGE/PPM	1.1/ 3/ 11.
CO SAMPLE METER/RANGE/PPM	91.0/ 11/ 451.
CO BCKGRD METER/RANGE/PPM	.5/ 11/ 1.
CO2 SAMPLE METER/RANGE/PCT	63.8/ 3/1.1388
CO2 BCKGRD METER/RANGE/PCT	3.3/ 3/ .0538
NOX SAMPLE METER/RANGE/PPM	60.7/ 2/ 60.7
NOX BCKGRD METER/RANGE/PPM	.6/ 2/ .6
DILUTION FACTOR	9.94
THC CONCENTRATION PPM	241.
CO CONCENTRATION PPM	431.
CO2 CONCENTRATION PCT	1.0904
NOX CONCENTRATION PPM	60.2
THC MASS GRAMS	13.31
CO MASS GRAMS	22.76
CO2 MASS GRAMS	905.6
NOX MASS GRAMS	4.64
RUN TIME SECONDS	300.
DFC, WET (DRY)	.899 (.890)
SCF, WET (DRY)	1.000 (.969)
VOL (SCM)	45.4
SAM BLR (SCM)	.00
MI (MEASURED)	4.59

TEST NUMBER,	BL-3
BAROMETER, MM HG	749.3
HUMIDITY, G/KG	6.9
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	197.2
FUEL ECONOMY, MPG	21.5
HYDROCARBONS, (THC) G/MI	2.90
CARBON MONOXIDE, G/MI	4.96
OXIDES OF NITROGEN, G/MI	1.01

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. BL-4 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 8/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89644. KM(55702. MILES)

BAROMETER 749.05 MM HG(29.49 IN HG)
RELATIVE HUMIDITY 24. PCT
BAG RESULTS

DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 4.3 GM/KG

NOX HUMIDITY CORRECTION FACTOR .83

BAG NUMBER
DESCRIPTION

1	2	3	4
COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
741.7 (29.2)	754.4 (29.7)	746.8 (29.4)	754.4 (29.7)
739.1 (29.1)	754.4 (29.7)	746.8 (29.4)	754.4 (29.7)
45.6 (114.0)	45.6 (114.0)	45.6 (114.0)	45.6 (114.0)
40602.	69660.	40531.	69594.
76.6 (2705.)	131.1 (4630.)	76.4 (2697.)	131.0 (4626.)
41.2/ 3/ 412.	12.4/ 3/ 125.	15.9/ 3/ 160.	7.6/ 3/ 77.
2.1/ 3/ 21.	1.7/ 3/ 17.	1.5/ 3/ 15.	1.3/ 3/ 13.
96.2/ 2/2857.	54.8/ 2/1091.	67.1/ 2/1497.	66.1/ 1/ 605.
.0/ 2/ 0.	.0/ 2/ 0.	.0/ 2/ 0.	.0/ 1/ 0.
85.8/ 14/ .7723	67.8/ 14/ .4693	79.5/ 14/ .6499	66.2/ 14/ .4483
12.7/ 14/ .0426	12.7/ 14/ .0426	12.5/ 14/ .0418	12.5/ 14/ .0418
37.2/ 2/ 37.2	46.7/ 1/ 11.7	28.4/ 2/ 28.5	47.4/ 1/ 11.9
.1/ 2/ .1	.0/ 1/ .0	.0/ 2/ .0	.2/ 1/ .1
10.99	20.38	14.77	23.28
393.	109.	146.	64.
2774.	1068.	1458.	593.
.7335	.4288	.6109	.4082
37.1	11.7	28.5	11.8
36.64	17.34	13.57	10.23
247.33	163.07	129.66	90.42
1028.7	1029.4	854.3	979.1
4.49	2.42	3.43	2.45
10.06	4.44	3.73	2.62
67.89	41.72	35.63	23.13
282.4	263.4	234.7	250.5
1.23	.62	.94	.63
11.12	12.19	15.16	15.31
505.	867.	505.	867.
3.64	7.55	3.64	7.55
.978	.982	.981	.983
			.984
	.935(.928)		.948(.941)
	207.7/ .00		207.4/ .00

COMPOSITE RESULTS

TEST NUMBER BL-4
BAROMETER MM HG 749.0
HUMIDITY G/KG 4.3
TEMPERATURE DEG C 23.3

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	259.4	(255.6)
FUEL ECONOMY	MPG	13.25	(13.79)
HYDROCARBONS (THC)	G/MI	5.41	(4.87)
CARBON MONOXIDE	G/MI	45.48	(39.99)
OXIDES OF NITROGEN	G/MI	.84	(.84)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. BL-4 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 749.30 MM HG(29.50 IN HG)
RELATIVE HUMIDITY 24. PCT

BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 3/ 8/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 4.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89669. KM(55718. MILES)
NOX HUMIDITY CORRECTION FACTOR .84

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	744.2 (29.3)
BLOWER INLET P MM. H2O(IN. H2O)	741.7 (29.2)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.6 (114.0)
BLOWER REVOLUTIONS	24079.
TOT FLOW STD. CUL. METRES(SCF)	45.4 (1604.)
THC SAMPLE METER/RANGE/PPM	68.2/ 2/ 69.
THC BCKGRD METER/RANGE/PPM	8.9/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	22.2/ 1/ 167.
CO BCKGRD METER/RANGE/PPM	.0/ 1/ 0.
CO2 SAMPLE METER/RANGE/PCT	70.8/ 14/ .5108
CO2 BCKGRD METER/RANGE/PCT	12.7/ 14/ .0426
NOX SAMPLE METER/RANGE/PPM	34.6/ 2/ 34.6
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	22.46
THC CONCENTRATION PPM	60.
CO CONCENTRATION PPM	163.
CO2 CONCENTRATION PCT	.4701
NOX CONCENTRATION PPM	34.5
THC MASS GRAMS	3.31
CO MASS GRAMS	8.63
CO2 MASS GRAMS	390.9
NOX MASS GRAMS	2.51
RUN TIME	300.
DFC, WET (DRY)	.955 (.948)
SCF, WET (DRY)	1.000 (.983)
VOL (SCM)	45.4
SAM BLR (SCM)	.00
MI (MEASURED)	2.52

TEST NUMBER,	BL-4
BAROMETER, MM HG	749.3
HUMIDITY, G/KG	4.7
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	155.2
FUEL ECONOMY, MPG	27.6
HYDROCARBONS, (THC) G/MI	1.31
CARBON MONOXIDE, G/MI	3.43
OXIDES OF NITROGEN, G/MI	1.00

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. BL-4 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 8/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C (77.0 DEG F)
ABS. HUMIDITY 4.7 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89676. KM (55722. MILES)

BAROMETER 749.30 MM HG (29.50 IN HG)
RELATIVE HUMIDITY 24. PCT

NOX HUMIDITY CORRECTION FACTOR .84

BAG RESULTS

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O (IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O (IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C (DEG. F)	45.6 (114.0)
BLOWER REVOLUTIONS	24073.
TOT FLOW STD. CU. METRES (SCF)	45.4 (1602.)
THC SAMPLE METER/RANGE/PPM	18.0/ 3/ 181.
THC BCKGRD METER/RANGE/PPM	1.2/ 3/ 12.
CO SAMPLE METER/RANGE/PPM	47.8/ 1/ 402.
CO BCKGRD METER/RANGE/PPM	.0/ 1/ 0.
CO2 SAMPLE METER/RANGE/PCT	97.7/ 14/ 1.0782
CO2 BCKGRD METER/RANGE/PCT	12.6/ 14/ .0422
NOX SAMPLE METER/RANGE/PPM	67.8/ 2/ 67.8
NOX BCKGRD METER/RANGE/PPM	.0/ 2/ .0
DILUTION FACTOR	10.57
THC CONCENTRATION PPM	170.
CO CONCENTRATION PPM	387.
CO2 CONCENTRATION PCT	1.0400
NOX CONCENTRATION PPM	67.8
THC MASS GRAMS	9.39
CO MASS GRAMS	20.41
CO2 MASS GRAMS	863.7
NOX MASS GRAMS	4.91
RUN TIME SECONDS	300.
DFC, WET (DRY)	.905 (.898)
SCF, WET (DRY)	1.000 (.973)
VOL (SCM)	45.4
SAM BLR (SCM)	.00
MI (MEASURED)	4.62

TEST NUMBER,	BL-4
BAROMETER,	749.3
HUMIDITY,	4.7
TEMPERATURE,	25.0
CARBON DIOXIDE,	187.0
FUEL ECONOMY,	22.8

HYDROCARBONS, (THC)	6/MI	2.03
CARBON MONOXIDE,	6/MI	4.42
OXIDES OF NITROGEN,	6/MI	1.06

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/18/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88636. KM(55076. MILES)

BAROMETER 743.20 MM HG(29.26 IN HG)
RELATIVE HUMIDITY 48. PCT

DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 10.6 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.00

BAG RESULTS

BAG NUMBER	1	2	3	4
DESCRIPTION	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	767.1 (30.2)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	769.6 (30.3)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	43.3 (110.0)	43.3 (110.0)	42.8 (109.0)
BLOWER REVOLUTIONS	40584.	69558.	41087.	69479.
TOT FLOW STD. CU. METRES(SCF)	75.6 (2669.)	129.5 (4571.)	76.5 (2701.)	129.4 (4570.)
THC SAMPLE METER/RANGE/PPM	14.3/ 3/ 140.	13.4/ 2/ 13.	20.9/ 2/ 21.	15.2/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	1.9/ 3/ 18.	11.1/ 2/ 11.	11.8/ 2/ 12.	12.0/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	26.9/ 3/ 625.	39.4/ 13/ 36.	66.2/ 12/ 146.	34.8/ 13/ 32.
CO BCKGRD METER/RANGE/PPM	.1/ 3/ 2.	2.0/ 13/ 2.	.9/ 12/ 2.	1.0/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	89.2/ 11/ .8767	65.5/ 11/ .5539	80.8/ 11/ .7518	64.0/ 11/ .5362
CO2 BCKGRD METER/RANGE/PCT	8.1/ 11/ .0483	8.7/ 11/ .0521	9.1/ 11/ .0546	8.6/ 11/ .0515
NOX SAMPLE METER/RANGE/PPM	72.8/ 1/ 18.3	22.0/ 1/ 5.6	52.3/ 1/ 13.1	20.4/ 1/ 5.2
NOX BCKGRD METER/RANGE/PPM	4.8/ 1/ 1.2	2.5/ 1/ .7	.1/ 1/ .0	.0/ 1/ .0
DILUTION FACTOR	12.61	21.47	15.62	22.17
THC CONCENTRATION PPM	124.	3.	10.	4.
CO CONCENTRATION PPM	598.	34.	140.	30.
CO2 CONCENTRATION PCT	.8322	.5042	.7006	.4871
NOX CONCENTRATION PPM	17.1	5.0	13.1	5.2
THC MASS GRAMS	11.37	.44	.92	.59
CO MASS GRAMS	52.65	5.06	12.43	4.53
CO2 MASS GRAMS	1151.8	1194.9	981.1	1154.1
NOX MASS GRAMS	2.47	1.23	1.91	1.28
THC GRAMS/MI	3.17	.11	.25	.15
CO GRAMS/MI	14.67	1.30	3.40	1.17
CO2 GRAMS/MI	320.8	307.3	268.5	299.3
NOX GRAMS/MI	.69	.32	.52	.33
FUEL ECONOMY IN MPG	12.89	13.69	14.51	15.59
RUN TIME SECONDS	505.	867.	510.	867.
MEASURED DISTANCE MI	3.59	7.48	3.65	7.51
SCF, DRY	.969	.973	.971	.975
DFC, WET (DRY)	.941(.927)		.948(.933)	
TOT VOL (SCM) / SAM BLR (SCM)	205.0/ .00		205.9/ .00	

COMPOSITE RESULTS

TEST NUMBER AESU1
BAROMETER MM HG 743.2
HUMIDITY G/KG 10.6
TEMPERATURE DEG C 26.7

3-BAG (4-BAG)
CARBON DIOXIDE G/MI 299.4 (297.0)
FUEL ECONOMY MPG 14.59 (14.71)
HYDROCARBONS (THC) G/MI .78 (.79)
CARBON MONOXIDE G/MI 4.64 (4.61)
OXIDES OF NITROGEN G/MI .45 (.46)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 742.44 MM HG(29.23 IN HG)
RELATIVE HUMIDITY 51. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 1/18/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 11.4 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88660. KM(55091. MILES)

NOX HUMIDITY CORRECTION FACTOR 1.02

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)
BLOWER REVOLUTIONS	48079.
TOT FLOW STD. CU. METRES(SCF)	89.3 (3153.)
THC SAMPLE METER/RANGE/PPM	13.6/ 2/ 14.
THC BCKGRD METER/RANGE/PPM	9.2/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	2.2/ 13/ 2.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	64.0/ 11/ .5362
CO2 BCKGRD METER/RANGE/PCT	8.2/ 11/ .0490
NOX SAMPLE METER/RANGE/PPM	31.9/ 2/ 31.9
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	22.30
THC CONCENTRATION PPM	5.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	.4895
NOX CONCENTRATION PPM	31.8
THC MASS GRAMS	.52
CO MASS GRAMS	.19
CO2 MASS GRAMS	800.1
NOX MASS GRAMS	5.56
RUN TIME	600.
DFC, WET (DRY)	.955 (.939)
SCF, WET (DRY)	1.000 (.974)
VOL (SCM)	89.3
SAM BLR (SCM)	.00
MI (MEASURED)	5.06

TEST NUMBER,		AESU1
BAROMETER,	MM HG	742.4
HUMIDITY,	G/KG	11.4
TEMPERATURE,	DEG C	26.7
CARBON DIOXIDE,	G/MI	158.1
FUEL ECONOMY,	MPG	28.4

HYDROCARBONS, (THC)	G/MI	.10
CARBON MONOXIDE,	G/MI	.04
OXIDES OF NITROGEN,	G/MI	1.10

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 742.19 MM HG(29.22 IN HG)
RELATIVE HUMIDITY 50. PCT
GAS RESULTS

VEHICLE NO.
DATE 1/18/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 10.9 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88672. KM(55098. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.01

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48035.
TOT FLOW STD. CU. METRES(SCF)	89.2 (3151.)
THC SAMPLE METER/RANGE/PPM	14.5/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	9.3/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	.2/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.0/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	64.8/ 3/1.1589
CO2 BCKGRD METER/RANGE/PCT	3.4/ 3/ .0554
NOX SAMPLE METER/RANGE/PPM	28.8/ 2/ 28.8
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	10.34
THC CONCENTRATION PPM	6.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1089
NOX CONCENTRATION PPM	28.7
THC MASS GRAMS	.66
CO MASS GRAMS	.02
CO2 MASS GRAMS	1811.9
NOX MASS GRAMS	4.93
RUN TIME SECONDS	600.
DFC, WET (DRY)	.903 (.889)
SCF, WET (DRY)	1.000 (.963)
VOL (SCM)	89.2
SAM BLR (SCM)	.00
MI (MEASURED)	9.20

TEST NUMBER,	AESU1
BAROMETER, MM HG	742.2
HUMIDITY, G/KG	10.9
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	197.0
FUEL ECONOMY, MPG	22.8
HYDROCARBONS, (THC) G/MI	.07
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.54

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/19/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 88686. KM (55107. MILES)

BAROMETER 742.70 MM HG (29.24 IN HG)
RELATIVE HUMIDITY 51. PCT

DRY BULB TEMP. 26.7 DEG C (80.0 DEG F)
ABS. HUMIDITY 11.4 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.02

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O (IN. H2O)	764.5 (30.1)	767.1 (30.2)	764.5 (30.1)	769.6 (30.3)
BLOWER INLET P MM. H2O (IN. H2O)	764.5 (30.1)	769.6 (30.3)	762.0 (30.0)	772.2 (30.4)
BLOWER INLET TEMP. DEG. C (DEG. F)	43.9 (111.0)	43.3 (110.0)	43.3 (110.0)	42.8 (109.0)
BLOWER REVOLUTIONS	40506.	69511.	40451.	69465.
TOT FLOW STD. CU. METRES (SCF)	75.4 (2661.)	129.4 (4568.)	75.4 (2661.)	129.4 (4568.)
THC SAMPLE METER/RANGE/PPM	14.4/ 3/ 141.	13.8/ 2/ 14.	20.6/ 2/ 21.	15.7/ 2/ 16.
THC BCKGRD METER/RANGE/PPM	1.1/ 3/ 11.	11.1/ 2/ 11.	11.0/ 2/ 11.	12.0/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	28.1/ 3/ 655.	42.2/ 13/ 39.	82.7/ 12/ 196.	46.9/ 13/ 44.
CO BCKGRD METER/RANGE/PPM	.2/ 3/ 5.	.1/ 13/ 0.	.0/ 12/ 0.	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	92.6/ 11/ .9312	67.1/ 11/ .5730	81.1/ 11/ .7560	65.1/ 11/ .5491
CO2 BCKGRD METER/RANGE/PCT	8.2/ 11/ .0490	8.2/ 11/ .0490	8.1/ 11/ .0483	8.1/ 11/ .0483
NOX SAMPLE METER/RANGE/PPM	71.9/ 1/ 18.0	20.6/ 1/ 5.2	58.0/ 1/ 14.6	20.5/ 1/ 5.2
NOX BCKGRD METER/RANGE/PPM	4.9/ 1/ 1.3	1.3/ 1/ .3	.6/ 1/ .2	.0/ -1/ .0
DILUTION FACTOR	11.90	20.74	15.44	21.61
THC CONCENTRATION PPM	132.	3.	10.	4.
CO CONCENTRATION PPM	623.	38.	189.	42.
CO2 CONCENTRATION PCT	.8863	.5264	.7108	.5030
NOX CONCENTRATION PPM	16.9	4.9	14.4	5.2
THC MASS GRAMS	12.09	.51	.95	.67
CO MASS GRAMS	54.63	5.68	16.57	6.36
CO2 MASS GRAMS	1222.9	1246.7	980.6	1191.3
NOX MASS GRAMS	2.49	1.24	2.12	1.32
THC GRAMS/MI	3.36	.13	.26	.17
CO GRAMS/MI	15.17	1.45	4.59	1.63
CO2 GRAMS/MI	339.5	318.9	271.4	305.1
NOX GRAMS/MI	.69	.32	.59	.34
FUEL ECONOMY IN MPG	12.20	13.06	16.11	15.28
14.59				
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.60	7.51	3.61	7.52
3.90				
SCF, DRY	.967	.971	.970	.972
.974				
DFC, WET (DRY)		.939 (.923)		.947 (.931)
TOT VOL (SCM) / SAM BLR (SCM)		204.7/ .00		204.7/ .00

COMPOSITE RESULTS

TEST NUMBER AESU2
BAROMETER MM HG 742.7
HUMIDITY G/KG 11.4
TEMPERATURE DEG C 26.7

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	310.2	(306.1)
FUEL ECONOMY MPG	14.06	(14.24)
HYDROCARBONS (THC) G/MI	.83	(.84)
CARBON MONOXIDE G/MI	5.14	(5.19)
OXIDES OF NITROGEN G/MI	.47	(.47)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 742.19 MM HG(29.22 IN HG)
RELATIVE HUMIDITY 48. PCT
BAS RESULTS

VEHICLE NO.
DATE 1/19/89
BAS CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 27.2 DEG C(81.0 DEG F)
ABS. HUMIDITY 11.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88710. KM(55122. MILES)

NOX HUMIDITY CORRECTION FACTOR 1.02

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	767.1 (30.2)
BLOWER INLET P MM. H2O(IN. H2O)	764.5 (30.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48061.
TOT FLOW STD. CU. METRES(SCF)	89.6 (3164.)
THC SAMPLE METER/RANGE/PPM	14.5/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	12.8/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	.3/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.0/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.3/ 11/ .5515
CO2 BCKGRD METER/RANGE/PCT	8.0/ 11/ .0477
NOX SAMPLE METER/RANGE/PPM	94.5/ 1/ 23.6
NOX BCKGRD METER/RANGE/PPM	1.2/ 1/ .3
DILUTION FACTOR	21.69
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.5060
NOX CONCENTRATION PPM	23.3
THC MASS GRAMS	.25
CO MASS GRAMS	.03
CO2 MASS GRAMS	830.0
NOX MASS GRAMS	4.06
RUN TIME	600.
DFC, WET (DRY)	.954 (.939)
SCF, WET (DRY)	1.000 (.975)
VOL (SCM)	89.6
SAM BLR (SCM)	.00
MI (MEASURED)	5.04

TEST NUMBER,	AESU2
BAROMETER, MM HG	742.2
HUMIDITY, G/KG	11.2
TEMPERATURE, DEG C	27.2
CARBON DIOXIDE, G/MI	164.7
FUEL ECONOMY, MPG	27.3
HYDROCARBONS, (THC) G/MI	.05
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.81

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AESU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/19/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 11.4 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88720. KM(55128. MILES)

BAROMETER 741.93 MM HG(29.21 IN HG)
RELATIVE HUMIDITY 51. PCT

NOX HUMIDITY CORRECTION FACTOR 1.02

BAG RESULTS
TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

774.7 (30.5)
777.2 (30.6)
43.3 (110.0)
48063.
89.2 (3151.)
18.0/ 2/ 18.
13.6/ 2/ 14.
.7/ 13/ 1.
.3/ 13/ 0.
63.9/ 3/1.1408
2.8/ 3/ .0456
29.5/ 2/ 29.5
.0/ 2/ .0
10.50
6.
0.
1.0995
29.5
.62
.04
1796.5
5.16
600.
.905 (.890)
1.000 (.963)
89.2
.00
9.20

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AESU2
741.9
11.4
26.7
195.3
23.0

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.07
.00
.56

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

EST NO. ANSU1 RUN 1
EHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/25/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88752. KM(55148. MILES)

BAROMETER 740.92 MM HG(29.17 IN HG)
RELATIVE HUMIDITY 64. PCT
BAG RESULTS

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 14.0 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.12

BAG NUMBER DESCRIPTION	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)	767.1 (30.2)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	767.1 (30.2)	769.6 (30.3)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)	42.2 (108.0)	43.3 (110.0)	43.3 (110.0)
BLOWER REVOLUTIONS	40540.	69661.	40486.	69598.
TOT FLOW STD. CU. METRES(SCF)	75.2 (2656.)	129.6 (4575.)	75.1 (2651.)	129.1 (4558.)
THC SAMPLE METER/RANGE/PPM	87.5/ 2/ 88.	11.7/ 2/ 12.	13.6/ 2/ 14.	15.8/ 2/ 16.
THC BCKGRD METER/RANGE/PPM	13.6/ 2/ 14.	11.6/ 2/ 12.	12.4/ 2/ 12.	13.0/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	89.6/ 11/ 438.	10.3/ 13/ 9.	33.7/ 13/ 31.	3.2/ 13/ 3.
CO BCKGRD METER/RANGE/PPM	.4/ 11/ 1.	1.1/ 13/ 1.	.5/ 13/ 0.	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.2/ 11/ .9410	66.1/ 11/ .5610	31.9/ 11/ .7674	64.5/ 11/ .5421
CO2 BCKGRD METER/RANGE/PCT	7.6/ 11/ .0452	7.7/ 11/ .0458	7.8/ 11/ .0465	7.6/ 11/ .0452
NOX SAMPLE METER/RANGE/PPM	39.6/ 1/ 10.0	19.6/ 1/ 5.0	43.3/ 1/ 10.9	17.6/ 1/ 4.5
NOX BCKGRD METER/RANGE/PPM	6.7/ 1/ 1.7	1.1/ 1/ .3	.5/ 1/ .1	.2/ 1/ .1
DILUTION FACTOR	12.10	21.30	15.54	22.05
THC CONCENTRATION PPM	75.	1.	2.	3.
CO CONCENTRATION PPM	417.	8.	29.	3.
CO2 CONCENTRATION PCT	.8996	.5173	.7239	.4989
NOX CONCENTRATION PPM	8.4	4.7	10.8	4.4
THC MASS GRAMS	6.87	.10	.18	.53
CO MASS GRAMS	35.49	1.19	2.54	.39
CO2 MASS GRAMS	1228.6	1227.0	995.2	1179.0
NOX MASS GRAMS	1.35	1.31	1.73	1.23
THC GRAMS/MI	1.91	.03	.05	.14
CO GRAMS/MI	10.13	.31	.71	.10
CO2 GRAMS/MI	343.8	318.0	277.9	306.2
NOX GRAMS/MI	.38	.34	.48	.32
FUEL ECONOMY IN MPG	12.39	13.22	14.11	15.32
RUN TIME SECONDS	505.	869.	505.	869.
MEASURED DISTANCE MI	3.60	7.46	3.58	7.43
SCF, DRY	.962	.967	.965	.968
DFC, WET (DRY)	.940(.920)		.948(.928)	
TOT VOL (SCM) / SAM BLR (SCM)	204.8/ .00		204.2/ .00	

COMPOSITE RESULTS

TEST NUMBER ANSU1
BAROMETER MM HG 740.9
HUMIDITY G/KG 14.0
TEMPERATURE DEG C 26.1

CARBON DIOXIDE	G/MI	312.4	(308.8)
FUEL ECONOMY	MPG	14.18	(14.34)
HYDROCARBONS (THC)	G/MI	.42	(.46)
CARBON MONOXIDE	G/MI	2.46	(2.40)
OXIDES OF NITROGEN	G/MI	.39	(.38)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH -
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/25/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 13.0 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88775. KM(55162. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.08

BAROMETER 740.41 MM HG(29.15 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48084.
TOT FLOW STD. CU. METRES(SCF)	89.2 (3149.)
THC SAMPLE METER/RANGE/PPM	11.7/ 2/ 12.
THC BCKGRD METER/RANGE/PPM	11.0/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	1.1/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.2/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.5/ 11/ .5539
CO2 BCKGRD METER/RANGE/PCT	7.2/ 11/ .0427
NOX SAMPLE METER/RANGE/PPM	94.7/ 1/ 23.7
NOX BCKGRD METER/RANGE/PPM	.7/ 1/ .2
DILUTION FACTOR	21.60
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.5131
NOX CONCENTRATION PPM	23.5
THC MASS GRAMS	.13
CO MASS GRAMS	.08
CO2 MASS GRAMS	837.9
NOX MASS GRAMS	4.33
RUN TIME	600.
DFC, WET (DRY)	.954 (.936)
SCF, WET (DRY)	1.000 (.971)
VOL (SCM)	89.2
SAM BLR (SCM)	.00
MI (MEASURED)	5.03

TEST NUMBER,	ANSU1
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG

HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 739.90 MM HG(29.13 IN HG)
RELATIVE HUMIDITY 65. PCT
BAG RESULTS

VEHICLE NO.
DATE 1/25/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 27.2 DEG C(81.0 DEG F)
ABS. HUMIDITY 15.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 98788. KM(55170. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.17

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48057.
TOT FLOW STD. CU. METRES(SCF)	89.0 (3142.)
THC SAMPLE METER/RANGE/PPM	10.1/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	9.1/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	1.0/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.9/ 3/1.1811
CO2 BCKGRD METER/RANGE/PCT	3.1/ 3/ .0505
NOX SAMPLE METER/RANGE/PPM	95.3/ 1/ 23.8
NOX BCKGRD METER/RANGE/PPM	.4/ 1/ .1
DILUTION FACTOR	10.14
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	1.1356
NOX CONCENTRATION PPM	23.7
THC MASS GRAMS	.21
CO MASS GRAMS	.08
CO2 MASS GRAMS	1850.1
NOX MASS GRAMS	4.73
RUN TIME	600.
DFC, WET (DRY)	.901 (.883)
SCF, WET (DRY)	1.000 (.958)
VOL (SCM)	89.0
SAM BLR (SCM)	.00
MI (MEASURED)	9.19

TEST NUMBER,	ANSU1
BAROMETER, MM HG	739.9
HUMIDITY, G/KG	15.2
TEMPERATURE, DEG C	27.2
CARBON DIOXIDE, G/MI	201.3
FUEL ECONOMY, MPG	22.3

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.52

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSUR RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/26/89
BAG CART NO. 1 / CVS NO. 2
DYND NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88802. KM(55179. MILES)

BAROMETER 744.73 MM HG(29.32 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 12.9 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.08

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)	764.5 (30.1)	767.1 (30.2)	767.1 (30.2)
BLOWER INLET P MM. H2O(IN. H2O)	767.1 (30.2)	764.5 (30.1)	769.6 (30.3)	769.6 (30.3)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)	42.8 (109.0)	43.3 (110.0)	41.7 (107.0)
BLOWER REVOLUTIONS	40620.	69568.	40466.	69537.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2676.)	130.1 (4593.)	75.5 (2667.)	130.2 (4597.)
THC SAMPLE METER/RANGE/PPM	10.7/ 3/ 105.	10.9/ 2/ 11.	12.0/ 2/ 12.	10.7/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	1.8/ 3/ 17.	10.9/ 2/ 11.	10.2/ 2/ 10.	10.6/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	80.4/ 11/ 361.	8.2/ 13/ 7.	39.2/ 13/ 36.	3.1/ 13/ 3.
CO BCKGRD METER/RANGE/PPM	.1/ 11/ 0.	.4/ 13/ 0.	.4/ 13/ 0.	.0/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	90.4/ 11/ .8956	65.8/ 11/ .5574	80.7/ 11/ .7504	64.0/ 11/ .5362
CO2 BCKGRD METER/RANGE/PCT	7.3/ 11/ .0433	7.2/ 11/ .0427	7.4/ 11/ .0440	7.5/ 11/ .0446
NOX SAMPLE METER/RANGE/PPM	67.4/ 1/ 16.9	20.7/ 1/ 5.3	44.0/ 1/ 11.1	21.4/ 1/ 5.4
NOX BCKGRD METER/RANGE/PPM	5.1/ 1/ 1.3	1.5/ 1/ .4	.0/ 1/ .0	.0/ 1/ .0
DILUTION FACTOR	12.75	21.45	15.88	22.31
THC CONCENTRATION PPM	89.	1.	2.	1.
CO CONCENTRATION PPM	345.	7.	34.	3.
CO2 CONCENTRATION PCT	.8557	.5167	.7092	.4936
NOX CONCENTRATION PPM	15.7	4.9	11.1	5.4
THC MASS GRAMS	8.18	.08	.22	.09
CO MASS GRAMS	30.42	1.01	3.02	.40
CO2 MASS GRAMS	1187.3	1230.5	980.8	1176.7
NOX MASS GRAMS	2.45	1.31	1.72	1.46
THC GRAMS/MI	2.38	.02	.06	.02
CO GRAMS/MI	8.83	.26	.84	.10
CO2 GRAMS/MI	344.6	316.7	273.2	303.3
NOX GRAMS/MI	.71	.34	.48	.38
FUEL ECONOMY IN MPG	12.41	13.28	14.17	15.51
RUN TIME SECONDS	506.	868.	505.	868.
MEASURED DISTANCE MI	3.45	7.33	3.59	7.47
SCF, DRY	.965	.969	.968	.970
DFC, WET (DRY)		.942(.924)		.949(.931)
TOT VOL (SCM) / SAM BLR (SCM)		205.9/ .00		205.7/ .00

COMPOSITE RESULTS

TEST NUMBER ANSUR
BAROMETER MM HG 744.7
HUMIDITY G/KG 12.9
TEMPERATURE DEG C 26.7

CARBON DIOXIDE	G/MI	310.4	(306.5)
FUEL ECONOMY	MPG	14.28	(14.47)
HYDROCARBONS (THC)	G/MI	.51	(.51)
CARBON MONOXIDE	G/MI	2.15	(2.10)
OXIDES OF NITROGEN	G/MI	.45	(.46)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH -
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSUR RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 744.73 MM HG(29.32 IN HG)
RELATIVE HUMIDITY 54. PCT
BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 1/26/89
BAG CART NO. 1
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 12.1 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88828. KM(55195. MILES)

NOX HUMIDITY CORRECTION FACTOR 1.05

30 MPH

769.6 (30.3)
767.1 (30.2)
41.7 (107.0)
48084.
90.0 (3180.)
11.6/ 2/ 12.
10.0/ 2/ 10.
.1/ 13/ 0.
.1/ 13/ 0.
64.7/ 11/ .5444
7.8/ 11/ .0465
26.1/ 2/ 26.1
.2/ 2/ .2
21.98
2.
0.
.5001
25.9
.23
.00
824.4
4.68
600.
.955 (.938)
1.000 (.973)
90.0
.00
5.03

TEST NUMBER,	ANSUR	
BAROMETER,	MM HG	744.7
HUMIDITY,	G/KG	12.1
TEMPERATURE,	DEG C	26.7
CARBON DIOXIDE,	G/MI	164.0
FUEL ECONOMY,	MPG	27.4
HYDROCARBONS, (THC)	G/MI	.04
CARBON MONOXIDE,	G/MI	.00
OXIDES OF NITROGEN,	G/MI	.93

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH -
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/26/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 12.8 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88839. KM(55202. MILES)

BAROMETER 744.73 MM HG(29.32 IN HG)
RELATIVE HUMIDITY 63. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR 1.08

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

772.2 (30.4)
769.6 (30.3)
43.3 (110.0)
48084.
89.7 (3169.)
9.1/ 2/ 9.
8.1/ 2/ 8.
.8/ 13/ 1.
.6/ 13/ 1.
65.9/ 3/1.1811
2.7/ 3/ .0440
27.9/ 2/ 27.9
.0/ 2/ .0
10.15
2.
0.
1.1415
27.9
.20
.02
1875.5
5.15
600.
.901 (.883)
1.000 (.958)
89.7
.00
9.19

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

ANSU1
744.7
12.8
25.0
204.1
22.0

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.02
.00
.56

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/30/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88870. KM(55221. MILES)

BAROMETER 746.00 MM HG(29.37 IN HG)
RELATIVE HUMIDITY 40. PCT

DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 7.3 GM/KG

NOX HUMIDITY CORRECTION FACTOR .90

BAG RESULTS

BAG NUMBER
DESCRIPTION

1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)	772.2 (30.4)	769.6 (30.3)
BLOWER INLET P MM. H2O(IN. H2O)	767.1 (30.2)	762.0 (30.0)	769.6 (30.3)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	40.6 (105.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40555.	69606.	40517.
TOT FLOW STD. CU. METRES(SCF)	75.9 (2680.)	130.9 (4623.)	75.9 (2681.)
THC SAMPLE METER/RANGE/PPM	81.3/ 2/ 81.	12.3/ 2/ 12.	12.5/ 2/ 13.
THC BCKGRD METER/RANGE/PPM	12.2/ 2/ 12.	12.3/ 2/ 12.	10.5/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	91.7/ 11/ 458.	12.0/ 13/ 11.	27.4/ 13/ 25.
CO BCKGRD METER/RANGE/PPM	.4/ 11/ 1.	.9/ 13/ 1.	.4/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	92.0/ 11/ .9214	64.7/ 11/ .5444	79.4/ 11/ .7322
CO2 BCKGRD METER/RANGE/PCT	7.4/ 11/ .0440	7.6/ 11/ .0452	7.8/ 11/ .0465
NOX SAMPLE METER/RANGE/PPM	46.9/ 1/ 11.8	20.4/ 1/ 5.2	52.5/ 1/ 13.2
NOX BCKGRD METER/RANGE/PPM	2.2/ 1/ .6	.4/ 1/ .1	.4/ 1/ .1
DILUTION FACTOR	12.32	21.94	16.30
THC CONCENTRATION PPM	70.	1.	3.
CO CONCENTRATION PPM	439.	10.	24.
CO2 CONCENTRATION PCT	.8810	.5013	.6886
NOX CONCENTRATION PPM	11.3	5.1	13.1
THC MASS GRAMS	6.48	.09	.24
CO MASS GRAMS	38.82	1.46	2.09
CO2 MASS GRAMS	1224.0	1201.7	957.1
NOX MASS GRAMS	1.47	1.15	1.71
THC GRAMS/MI	1.81	.02	.07
CO GRAMS/MI	10.84	.38	.58
CO2 GRAMS/MI	341.7	311.1	266.8
NOX GRAMS/MI	.41	.30	.48
FUEL ECONOMY IN MPG	12.43	13.39	14.41
RUN TIME SECONDS	505.	868.	505.
MEASURED DISTANCE MI	3.58	7.44	3.86
SCF, DRY	.970	.975	.977
DFC, WET (DRY)		.941(.929)	.950(.938)
TOT VOL (SCM) / SAM BLR (SCM)		206.8/ .00	206.2/ .00

COMPOSITE RESULTS

TEST NUMBER ADCU1
BAROMETER MM HG 746.0
HUMIDITY G/KG 7.3
TEMPERATURE DEG C 23.3

CARBON DIOXIDE	G/MI	305.3	(299.7)
FUEL ECONOMY	MPG	14.50	(14.77)
HYDROCARBONS (THC)	G/MI	.40	(.40)
CARBON MONOXIDE	G/MI	2.60	(2.53)
OXIDES OF NITROGEN	G/MI	.37	(.37)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 746.51 MM HG(29.39 IN HG)
RELATIVE HUMIDITY 36. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 1/30/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 7.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88895. KM(55237. MILES)

NOX HUMIDITY CORRECTION FACTOR .90

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	767.1 (30.2)
BLOWER INLET P MM. H2O(IN. H2O)	764.5 (30.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	52179.
TOT FLOW STD. CU. METRES(SCF)	97.7 (3450.)
THC SAMPLE METER/RANGE/PPM	10.8/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	10.5/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	.3/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.0/ 11/ .5246
CO2 BCKGRD METER/RANGE/PCT	7.5/ 11/ .0446
NOX SAMPLE METER/RANGE/PPM	85.4/ 1/ 21.4
NOX BCKGRD METER/RANGE/PPM	1.2/ 1/ .3
DILUTION FACTOR	22.81
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4820
NOX CONCENTRATION PPM	21.1
THC MASS GRAMS	.09
CO MASS GRAMS	.02
CO2 MASS GRAMS	862.3
NOX MASS GRAMS	3.53
RUN TIME SECONDS	651.
DFC, WET (DRY)	.956 (.945)
SCF, WET (DRY)	1.000 (.979)
VOL (SCM)	97.7
SAM BLR (SCM)	.00
MI (MEASURED)	5.46

TEST NUMBER,	ADCU1
BAROMETER, MM HG	746.5
HUMIDITY, G/KG	7.2
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	158.1
FUEL ECONOMY, MPG	28.4

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.65

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 746.76 MM HG(29.40 IN HG)
RELATIVE HUMIDITY 35. PCT

BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 1/30/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 7.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88907. KM(55244. MILES)

NOX HUMIDITY CORRECTION FACTOR .90

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	772.2 (30.4)
BLOWER INLET P MM. H2O(IN. H2O)	777.2 (30.6)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48091.
TOT FLOW STD. CU. METRES(SCF)	90.0 (3176.)
THC SAMPLE METER/RANGE/PPM	11.6/ 2/ 12.
THC BCKGRD METER/RANGE/PPM	11.0/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	.3/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	64.1/ 3/1.1448
CO2 BCKGRD METER/RANGE/PCT	3.6/ 3/ .0587
NOX SAMPLE METER/RANGE/PPM	31.4/ 2/ 31.4
NOX BCKGRD METER/RANGE/PPM	.2/ 2/ .2
DILUTION FACTOR	10.47
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.0918
NOX CONCENTRATION PPM	31.2
THC MASS GRAMS	.18
CO MASS GRAMS	.02
CO2 MASS GRAMS	1798.0
NOX MASS GRAMS	4.82
RUN TIME	600.
DFC, WET (DRY)	.904 (.894)
SCF, WET (DRY)	1.000 (.968)
VOL (SCM)	90.0
SAM BLR (SCM)	.00
MI (MEASURED)	9.18

TEST NUMBER,	ADCU1
BAROMETER,	746.8
HUMIDITY,	7.2
TEMPERATURE,	25.0
CARBON DIOXIDE,	195.9
FUEL ECONOMY,	22.9

HYDROCARBONS, (THC)	.02
CARBON MONOXIDE,	.00
OXIDES OF NITROGEN,	.52

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AD012 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/31/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODDMETER 88921. KM (55253. MILES)

BAROMETER 742.70 MM HG (29.24 IN HG)
RELATIVE HUMIDITY 41. PCT

DRY BULB TEMP. 23.9 DEG C (75.0 DEG F)
ABS. HUMIDITY 7.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR .91

16 RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O (IN. H2O)	764.5 (30.1)	772.2 (30.4)	767.1 (30.2)	767.1 (30.2)
BLOWER INLET P MM. H2O (IN. H2O)	767.1 (30.2)	769.6 (30.3)	769.6 (30.3)	769.6 (30.3)
BLOWER INLET TEMP. DEG. C (DEG. F)	43.9 (111.0)	41.1 (106.0)	41.7 (107.0)	40.0 (104.0)
BLOWER REVOLUTIONS	40529.	69550.	40629.	69365.
TOT FLOW STD. CU. METRES (SCF)	75.4 (2662.)	129.9 (4588.)	75.8 (2678.)	129.9 (4586.)
THC SAMPLE METER/RANGE/PPM	83.0/ 2/ 83.	9.9/ 2/ 10.	14.5/ 2/ 15.	10.6/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.1/ 2/ 9.	9.9/ 2/ 10.	9.8/ 2/ 10.	10.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	85.3/ 11/ 400.	10.2/ 13/ 9.	53.2/ 13/ 50.	5.4/ 13/ 5.
CO BCKGRD METER/RANGE/PPM	.4/ 11/ 1.	1.8/ 13/ 2.	1.7/ 13/ 1.	1.2/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	91.2/ 11/ .9084	64.9/ 11/ .5468	80.5/ 11/ .7475	63.3/ 11/ .5281
CO2 BCKGRD METER/RANGE/PCT	7.7/ 11/ .0458	7.9/ 11/ .0471	9.0/ 11/ .0540	8.6/ 11/ .0515
NOX SAMPLE METER/RANGE/PPM	67.1/ 1/ 16.8	19.1/ 1/ 4.9	54.6/ 1/ 13.7	20.0/ 1/ 5.1
NOX BCKGRD METER/RANGE/PPM	2.0/ 1/ .5	2.3/ 1/ .6	.9/ 1/ .2	.5/ 1/ .1
DILUTION FACTOR	12.56	21.86	15.91	22.64
THC CONCENTRATION PPM	75.	0.	5.	1.
CO CONCENTRATION PPM	384.	7.	47.	4.
CO2 CONCENTRATION PCT	.8663	.5018	.6969	.4789
NOX CONCENTRATION PPM	16.4	4.3	13.5	5.0
THC MASS GRAMS	6.85	.07	.49	.10
CO MASS GRAMS	33.69	1.10	4.15	.35
CO2 MASS GRAMS	1195.7	1193.9	967.7	1138.8
NOX MASS GRAMS	2.15	.97	1.78	1.12
THC GRAMS/MI	1.93	.02	.14	.03
CO GRAMS/MI	9.48	.29	1.17	.14
CO2 GRAMS/MI	336.3	312.1	272.4	297.5
NOX GRAMS/MI	.60	.25	.50	.29
FUEL ECONOMY IN MPG	12.69	13.51	16.37	15.68
RUN TIME	505.	867.	507.	866.
MEASURED DISTANCE	3.56	7.38	3.55	7.38
SCF, DRY	.970	.975	.973	.976
DFC, WET (DRY)		.942 (.929)		.949 (.936)
TOT VOL (SCM) / SAM BLR (SCM)		205.3/ .00		205.7/ .00

COMPOSITE RESULTS

TEST NUMBER AD012
BAROMETER MM HG 742.7
HUMIDITY G/KG 7.7
TEMPERATURE DEG C 23.9

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	306.2	(301.9)
FUEL ECONOMY MPG	14.46	(14.67)
HYDROCARBONS (THC) G/MI	.45	(.45)
CARBON MONOXIDE G/MI	2.43	(2.39)
OXIDES OF NITROGEN G/MI	.39	(.41)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

T NO. ADCU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 742.95 MM HG (29.25 IN HG)

RELATIVE HUMIDITY 53. PCT

BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 1/31/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.2 DEG C (72.0 DEG F)
ABS. HUMIDITY 9.1 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 88945. KM (55268. MILES)

NOX HUMIDITY CORRECTION FACTOR .95

30 MPH

BLOWER DIF P MM. H2O (IN. H2O)	769.6 (30.3)
BLOWER INLET P MM. H2O (IN. H2O)	767.1 (30.2)
BLOWER INLET TEMP. DEG. C (DEG. F)	41.1 (106.0)
BLOWER REVOLUTIONS	48077.
TOT FLOW STD. CU. METRES (SCF)	89.9 (3174.)
THC SAMPLE METER/RANGE/PPM	10.0/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	9.3/ 2/ 3.
CO SAMPLE METER/RANGE/PPM	.1/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.6/ 11/ .5316
CO2 BCKGRD METER/RANGE/PCT	7.8/ 11/ .0465
NOX SAMPLE METER/RANGE/PPM	91.6/ 1/ 22.9
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1
DILUTION FACTOR	22.52
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4872
NOX CONCENTRATION PPM	22.8
THC MASS GRAMS	.12
CO MASS GRAMS	.00
CO2 MASS GRAMS	801.7
NOX MASS GRAMS	3.72
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.956 (.939)
SCF, WET (DRY)	1.000 (.973)
VOL (SCM)	89.9
SAM BLR (SCM)	.00
MI (MEASURED)	5.01

TEST NUMBER,	ADCU2
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG

743.0
9.1
22.2
160.2
28.0

HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

.02
.00
.74

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 1/31/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 8.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88956. KM(55275. MILES)

BAROMETER 742.95 MM HG(29.25 IN HG)
RELATIVE HUMIDITY 42. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .93

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	784.9 (30.9)
BLOWER INLET P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48047.
TOT FLOW STD. CU. METRES(SCF)	89.4 (3155.)
THC SAMPLE METER/RANGE/PPM	10.5/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.2/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	.4/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.4/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.6/ 3/1.1348
CO2 BCKGRD METER/RANGE/PCT	3.0/ 3/ .0489
NOX SAMPLE METER/RANGE/PPM	28.1/ 2/ 28.1
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	10.56
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.0905
NOX CONCENTRATION PPM	27.8
THC MASS GRAMS	.24
CO MASS GRAMS	.00
CO2 MASS GRAMS	1784.0
NOX MASS GRAMS	4.44
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.905 (.893)
SCF, WET (DRY)	1.000 (.966)
VOL (SCM)	89.4
SAM BLR (SCM)	.00
MI (MEASURED)	9.14

TEST NUMBER,	ADCU2
BAROMETER, MM HG	743.0
HUMIDITY, G/KG	8.6
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	195.1
FUEL ECONOMY, MPG	23.0

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.49

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/ 2/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89006 KM/ 55306 MILES

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 67. PCT
BAG RESULTS

DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 13.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.11

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)	762.0 (30.0)	762.0 (30.0)	764.5 (30.1)
BLOWER INLET P MM. H2O(IN. H2O)	767.1 (30.2)	762.0 (30.0)	762.0 (30.0)	767.1 (30.2)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	42.8 (109.0)	43.3 (110.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40547.	69501.	40463.	70022.
TOT FLOW STD. CU. METRES(SCF)	75.1 (2652.)	129.0 (4554.)	75.0 (2649.)	130.0 (4589.)
THC SAMPLE METER/RANGE/PPM	71.7/ 2/ 72.	11.3/ 2/ 11.	15.0/ 2/ 16.	12.1/ 2/ 12.
THC BCKGRD METER/RANGE/PPM	11.2/ 2/ 11.	11.1/ 2/ 11.	10.4/ 2/ 10.	11.2/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	75.6/ 11/ 325.	4.5/ 13/ 4.	49.9/ 13/ 47.	2.7/ 13/ 2.
CO BCKGRD METER/RANGE/PPM	.1/ 11/ 0.	.3/ 13/ 0.	.3/ 13/ 0.	.5/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	91.5/ 11/ .9133	65.1/ 11/ .5491	81.0/ 11/ .7546	63.7/ 11/ .5327
CO2 BCKGRD METER/RANGE/PCT	7.7/ 11/ .0458	7.7/ 11/ .0458	7.8/ 11/ .0465	7.8/ 11/ .0465
NOX SAMPLE METER/RANGE/PPM	58.4/ 1/ 14.7	18.9/ 1/ 4.8	37.2/ 1/ 9.4	18.0/ 1/ 4.6
NOX BCKGRD METER/RANGE/PPM	2.6/ 1/ .7	1.9/ 1/ .5	1.2/ 1/ .3	1.1/ 1/ .3
DILUTION FACTOR	12.61	21.78	15.77	22.45
THC CONCENTRATION PPM	61.	1.	6.	1.
CO CONCENTRATION PPM	310.	4.	45.	2.
CO2 CONCENTRATION PCT	.8711	.5054	.7111	.4884
NOX CONCENTRATION PPM	14.0	4.3	9.1	4.3
THC MASS GRAMS	5.62	.11	.57	.22
CO MASS GRAMS	27.09	.53	3.89	.28
CO2 MASS GRAMS	1198.0	1193.3	976.5	1162.1
NOX MASS GRAMS	2.24	1.19	1.45	1.19
THC GRAMS/MI	1.57	.03	.16	.06
CO GRAMS/MI	7.60	.14	1.09	.07
CO2 GRAMS/MI	336.0	311.8	274.3	301.9
NOX GRAMS/MI	.63	.31	.41	.31
FUEL ECONOMY IN MPG	12.83	13.59	14.40	15.51
RUN TIME SECONDS	506.	867.	505.	874.
MEASURED DISTANCE MI	3.57	7.39	3.56	7.41
SCF, DRY	.962	.966	.965	.969
DFC, WET (DRY)		.942(.921)		.949(.928)
TOT VOL (SCM) / SAM BLR (SCM)		204.1/ .00		205.0/ .00

COMPOSITE RESULTS

TEST NUMBER AJMU1
BAROMETER MM HG 739.4
HUMIDITY G/KG 13.7
TEMPERATURE DEG C 25.0

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	306.5	(303.6)
FUEL ECONOMY MPG	14.49	(14.62)
HYDROCARBONS (THC) G/MI	.39	(.39)
CARBON MONOXIDE G/MI	1.95	(1.93)
OXIDES OF NITROGEN G/MI	.40	(.40)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/ 2/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 12.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89032. KM(55322. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.07

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 60. PCT
BAG RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48062.
TOT FLOW STD. CU. METRES(SCF)	89.2 (3149.)
THC SAMPLE METER/RANGE/PPM	12.6/ 2/ 13.
THC BCKGRD METER/RANGE/PPM	11.6/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	.4/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.1/ 11/ .5491
CO2 BCKGRD METER/RANGE/PCT	7.8/ 11/ .0465
NOX SAMPLE METER/RANGE/PPM	97.3/ 1/ 24.3
NOX BCKGRD METER/RANGE/PPM	1.6/ 1/ .4
DILUTION FACTOR	21.79
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.5048
NOX CONCENTRATION PPM	23.9
THC MASS GRAMS	.17
CO MASS GRAMS	.03
CO2 MASS GRAMS	824.1
NOX MASS GRAMS	4.36
RUN TIME SECONDS	600.
DFC, WET (DRY)	.954 (.936)
SCF, WET (DRY)	1.000 (.971)
VOL (SCM)	89.2
SAM BLR (SCM)	.00
MI (MEASURED)	5.02

TEST NUMBER,	AJMU1
BAROMETER, MM HG	739.4
HUMIDITY, G/KG	12.7
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	164.2
FUEL ECONOMY, MPG	27.4

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.87

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. AJMU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 739.14 MM HG(29.10 IN HG)
RELATIVE HUMIDITY 61. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 2/ 2/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 13.8 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89043. KM(55329. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.11

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET P MM. H2O(IN. H2O)	779.8 (30.7)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48076.
TOT FLOW STD. CU. METRES(SCF)	88.8 (3137.)
THC SAMPLE METER/RANGE/PPM	13.6/ 2/ 14.
THC BCKGRD METER/RANGE/PPM	13.3/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	.4/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.4/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.7/ 3/1.1771
CO2 BCKGRD METER/RANGE/PCT	3.1/ 3/ .0505
NOX SAMPLE METER/RANGE/PPM	98.6/ 1/ 24.6
NOX BCKGRD METER/RANGE/PPM	1.6/ 1/ .4
DILUTION FACTOR	10.18
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1315
NOX CONCENTRATION PPM	24.2
THC MASS GRAMS	.17
CO MASS GRAMS	.00
CO2 MASS GRAMS	1840.6
NOX MASS GRAMS	4.58
RUN TIME SECONDS	600.
DFC, WET (DRY)	.902 (.884)
SCF, WET (DRY)	1.000 (.959)
VOL (SCM)	88.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.18

TEST NUMBER,	AJMU1
BAROMETER, MM HG	739.1
HUMIDITY, G/KG	13.8
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	200.4
FUEL ECONOMY, MPG	22.4

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.50

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/ 3/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89087. KM(55356. MILES)

BAROMETER 751.08 MM HG(29.57 IN HG)
RELATIVE HUMIDITY 20. PCT

DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 3.4 GM/KG

NOX HUMIDITY CORRECTION FACTOR .91

BAG RESULTS

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	784.9 (30.9)
BLOWER INLET P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	41.1 (106.0)
BLOWER REVOLUTIONS	48103.
TOT FLOW STD. CU. METRES(SCF)	90.8 (3207.)
THC SAMPLE METER/RANGE/PPM	7.0/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.4/ 2/ 6.
CO SAMPLE METER/RANGE/PPM	.7/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.2/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.9/ 3/1.1408
CO2 BCKGRD METER/RANGE/PCT	3.2/ 3/ .0522
NOX SAMPLE METER/RANGE/PPM	36.9/ 2/ 36.9
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	10.51
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.0936
NOX CONCENTRATION PPM	36.8
THC MASS GRAMS	.13
CO MASS GRAMS	.05
CO2 MASS GRAMS	1818.6
NOX MASS GRAMS	5.16
RUN TIME	600.
DFC, WET (DRY)	.905 (.899)
SCF, WET (DRY)	1.000 (.973)
VOL (SCM)	90.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.17

TEST NUMBER,

AJMU2

BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

751.1
3.4
22.8
198.3
22.7

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.01
.00
.56

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AHCU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/ 8/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 1

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89143. KM(55391. MILES)

BAROMETER 754.63 MM HG(29.71 IN HG)

RELATIVE HUMIDITY 19. PCT

DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)

ABS. HUMIDITY 3.4 GM/KG

NOX HUMIDITY CORRECTION FACTOR .81

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	769.6 (30.3)	782.3 (30.8)	784.9 (30.9)	784.9 (30.9)
BLOWER INLET P MM. H2O(IN. H2O)	767.1 (30.2)	779.8 (30.7)	782.3 (30.8)	782.3 (30.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)	42.2 (108.0)	43.3 (110.0)	40.6 (105.0)
BLOWER REVOLUTIONS	40588.	69617.	40844.	69534.
TOT FLOW STD. CU. METRES(SCF)	76.8 (2711.)	131.9 (4659.)	77.2 (2727.)	132.1 (4666.)
THC SAMPLE METER/RANGE/PPM	37.5/ 2/ 38.	9.1/ 2/ 9.	12.0/ 2/ 12.	9.8/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	6.5/ 2/ 7.	7.6/ 2/ 8.	8.0/ 2/ 8.	8.1/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	71.1/ 11/ 295.	16.0/ 13/ 14.	33.0/ 13/ 30.	7.7/ 13/ 7.
CO BCKGRD METER/RANGE/PPM	.1/ 11/ 0.	.4/ 13/ 0.	.5/ 13/ 0.	.6/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	95.6/ 11/ .9813	65.0/ 11/ .5480	79.5/ 11/ .7336	62.6/ 11/ .5200
CO2 BCKGRD METER/RANGE/PCT	6.9/ 11/ .0409	7.0/ 11/ .0415	7.2/ 11/ .0427	7.1/ 11/ .0421
NOX SAMPLE METER/RANGE/PPM	78.2/ 1/ 19.6	26.0/ 1/ 6.6	67.1/ 1/ 16.8	24.6/ 1/ 6.2
NOX BCKGRD METER/RANGE/PPM	.2/ 1/ .1	.2/ 1/ .1	.1/ 1/ .0	.2/ 1/ .1
DILUTION FACTOR	11.83	21.80	16.26	22.99
THC CONCENTRATION PPM	32.	2.	4.	2.
CO CONCENTRATION PPM	285.	14.	29.	6.
CO2 CONCENTRATION PCT	.9439	.5084	.6935	.4798
NOX CONCENTRATION PPM	19.6	6.5	16.8	6.2
THC MASS GRAMS	2.95	.30	.42	.33
CO MASS GRAMS	25.45	2.09	2.60	.95
CO2 MASS GRAMS	1326.6	1228.0	980.4	1160.6
NOX MASS GRAMS	2.32	1.33	2.00	1.26
THC GRAMS/MI	.82	.08	.12	.09
CO GRAMS/MI	7.06	.54	.72	.24
CO2 GRAMS/MI	368.0	318.1	271.9	299.7
NOX GRAMS/MI	.64	.34	.56	.33
FUEL ECONOMY IN MPG	11.82	12.89	14.08	15.64
RUN TIME SECONDS	505.	867.	509.	867.
MEASURED DISTANCE MI	3.61	7.47	3.61	7.48
SCF, DRY	.976	.981	.981	.983
DFC, WET (DRY)		.940(.934)		.950(.944)
TOT VOL (SCM) / SAM BLR (SCM)		208.7/ .00		209.4/ .00

COMPOSITE RESULTS

TEST NUMBER AHCU1
BAROMETER MM HG 754.6
HUMIDITY G/KG 3.4
TEMPERATURE DEG C 23.9

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	315.7	(310.3)
FUEL ECONOMY MPG	14.08	(14.33)
HYDROCARBONS (THC) G/MI	.24	(.24)
CARBON MONOXIDE G/MI	1.94	(1.86)
OXIDES OF NITROGEN G/MI	.46	(.46)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH -
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AHCU1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 754.13 MM HG(29.69 IN HG)
RELATIVE HUMIDITY 16. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 2/ 8/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 2.9 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89167. KM(55406. MILES)

NOX HUMIDITY CORRECTION FACTOR .80

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48135.
TOT FLOW STD. CU. METRES(SCF)	91.1 (3218.)
THC SAMPLE METER/RANGE/PPM	8.5/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	7.5/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	.3/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.0/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.3/ 11/ .5281
CO2 BCKGRD METER/RANGE/PCT	7.1/ 11/ .0421
NOX SAMPLE METER/RANGE/PPM	36.1/ 2/ 36.1
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	22.67
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4879
NOX CONCENTRATION PPM	35.8
THC MASS GRAMS	.15
CO MASS GRAMS	.03
CO2 MASS GRAMS	813.9
NOX MASS GRAMS	4.97
RUN TIME SECONDS	600.
DFC, WET (DRY)	.956 (.951)
SCF, WET (DRY)	1.000 (.985)
VOL (SCM)	91.1
SAM BLR (SCM)	.00
MI (MEASURED)	5.03

TEST NUMBER,	AHCU1
BAROMETER,	MM HG 754.1
HUMIDITY,	G/KG 2.9
TEMPERATURE,	DEG C 23.9
CARBON DIOXIDE,	G/MI 161.7
FUEL ECONOMY,	MPG 27.8

HYDROCARBONS, (THC)	G/MI .03
CARBON MONOXIDE,	G/MI .01
OXIDES OF NITROGEN,	G/MI .99

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AHCJ1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 754.13 MM HG(29.69 IN HG)
RELATIVE HUMIDITY 15. PCT
BAG RESULTS

VEHICLE NO.
DATE 2/ 8/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 3.0 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89179. KM(55413. MILES)
NOX HUMIDITY CORRECTION FACTOR .80

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	784.9 (30.9)
BLOWER INLET P MM. H2O(IN. H2O)	782.3 (30.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)
BLOWER REVOLUTIONS	48126.
TOT FLOW STD. CU. METRES(SCF)	90.8 (3207.)
THC SAMPLE METER/RANGE/PPM	9.0/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	7.7/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	1.1/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.5/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.8/ 3/1.1791
CO2 BCKGRD METER/RANGE/PCT	3.4/ 3/ .0554
NOX SAMPLE METER/RANGE/PPM	43.7/ 2/ 43.7
NOX BCKGRD METER/RANGE/PPM	.0/ 2/ .0
DILUTION FACTOR	10.16
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	1.1291
NOX CONCENTRATION PPM	43.7
THC MASS GRAMS	.23
CO MASS GRAMS	.06
CO2 MASS GRAMS	1877.7
NOX MASS GRAMS	6.05
RUN TIME SECONDS	600.
DFC, WET (DRY)	.902 (.897)
SCF, WET (DRY)	1.000 (.974)
VOL (SCM)	90.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.19

TEST NUMBER,	AHCJ1
BAROMETER, MM HG	754.1
HUMIDITY, G/KG	3.0
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	204.3
FUEL ECONOMY, MPG	22.0

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.66

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AH02 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/ 9/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89195. KM(55423. MILES)

BAROMETER 759.46 MM HG(29.90 IN HG)
RELATIVE HUMIDITY 21. PCT

DRY BULB TEMP. 22.2 DEG C(72.0 DEG F)
ABS. HUMIDITY 3.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR .81

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	782.3 (30.8)	782.3 (30.8)	782.3 (30.8)	792.5 (31.2)
BLOWER INLET P MM. H2O(IN. H2O)	784.9 (30.9)	784.9 (30.9)	784.9 (30.9)	795.0 (31.3)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)	41.7 (107.0)	43.9 (111.0)	39.4 (103.0)
BLOWER REVOLUTIONS	40558.	69590.	40529.	69490.
TOT FLOW STD. CU. METRES(SCF)	77.1 (2721.)	132.9 (4692.)	77.1 (2722.)	133.1 (4698.)
THC SAMPLE METER/RANGE/PPM	33.3/ 2/ 33.	7.7/ 2/ 8.	10.8/ 2/ 11.	8.2/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	5.8/ 2/ 6.	6.7/ 2/ 7.	6.6/ 2/ 7.	6.9/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	62.6/ 11/ 243.	14.5/ 13/ 13.	44.6/ 13/ 41.	6.6/ 13/ 6.
CO BCKGRD METER/RANGE/PPM	.1/ 11/ 0.	.5/ 13/ 0.	.6/ 13/ 1.	.6/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	94.1/ 11/ .9560	65.2/ 11/ .5503	79.5/ 11/ .7336	61.7/ 11/ .5098
CO2 BCKGRD METER/RANGE/PCT	7.2/ 11/ .0427	7.3/ 11/ .0433	7.3/ 11/ .0433	7.3/ 11/ .0433
NOX SAMPLE METER/RANGE/PPM	84.0/ 1/ 21.1	24.0/ 1/ 6.1	63.2/ 1/ 15.9	23.4/ 1/ 5.9
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1	.0/ 1/ .0	.5/ 1/ .1	.4/ 1/ .1
DILUTION FACTOR	12.20	21.71	16.24	23.46
THC CONCENTRATION PPM	28.	1.	-5.	2.
CO CONCENTRATION PPM	235.	12.	40.	5.
CO2 CONCENTRATION PCT	.9168	.5090	.6929	.4683
NOX CONCENTRATION PPM	20.9	6.1	15.7	5.8
THC MASS GRAMS	2.63	.21	.43	.26
CO MASS GRAMS	21.06	1.89	3.57	.80
CO2 MASS GRAMS	1293.6	1238.2	977.8	1140.7
NOX MASS GRAMS	2.50	1.25	1.88	1.20
THC GRAMS/MI	.73	.05	.12	.07
CO GRAMS/MI	5.89	.48	.99	.21
CO2 GRAMS/MI	361.8	317.8	272.3	294.7
NOX GRAMS/MI	.70	.32	.52	.31
FUEL ECONOMY IN MPG	12.07	13.05	16.39	15.77
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.58	7.47	3.59	7.46
SCF, DRY	.976	.981	.980	.982
DFC, WET (DRY)		.941(.934)		.950(.944)
TOT VOL (SCM) / SAM BLR (SCM)		210.0/ .00		210.1/ .00

COMPOSITE RESULTS

TEST NUMBER AH02
BAROMETER MM HG 759.5
HUMIDITY G/KG 3.5
TEMPERATURE DEG C 22.2

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	314.4	(307.5)
FUEL ECONOMY MPG	14.15	(14.47)
HYDROCARBONS (THC) G/MI	.21	(.22)
CARBON MONOXIDE G/MI	1.74	(1.65)
OXIDES OF NITROGEN G/MI	.45	(.45)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AHCU2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 759.71 MM HG(29.91 IN HG)
RELATIVE HUMIDITY 17. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 2/ 9/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 3.1 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89219. KM(55438. MILES)
NOX HUMIDITY CORRECTION FACTOR .80

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	789.9 (31.1)
BLOWER INLET P MM. H2O(IN. H2O)	787.4 (31.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	40.6 (105.0)
BLOWER REVOLUTIONS	48120.
TOT FLOW STD. CU. METRES(SCF)	92.1 (3251.)
THC SAMPLE METER/RANGE/PPM	8.4/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	8.0/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	.4/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.3/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	62.0/ 11/ .5132
CO2 BCKGRD METER/RANGE/PCT	7.1/ 11/ .0421
NOX SAMPLE METER/RANGE/PPM	26.6/ 2/ 26.6
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	23.33
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4729
NOX CONCENTRATION PPM	26.5
THC MASS GRAMS	.08
CO MASS GRAMS	.01
CO2 MASS GRAMS	797.0
NOX MASS GRAMS	3.73
RUN TIME SECONDS	600.
DFC, WET (DRY)	.957 (.952)
SCF, WET (DRY)	1.000 (.985)
VOL (SCM)	92.1
SAM BLR (SCM)	.00
MI (MEASURED)	5.01

TEST NUMBER,	AHCU2
BAROMETER, MM HG	759.7
HUMIDITY, G/KG	3.1
TEMPERATURE, DEG C	23.3
CARBON DIOXIDE, G/MI	159.0
FUEL ECONOMY, MPG	28.3

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.74

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AH02 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 759.71 MM HG(29.91 IN HG)
RELATIVE HUMIDITY 20. PCT
GAS RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 2/ 9/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 3.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89230. KM(55445. MILES)
NOX HUMIDITY CORRECTION FACTOR .81

55 MPH

789.9 (31.1)
792.5 (31.2)
43.3 (110.0)
48104.
91.5 (3231.)
8.7/ 2/ 9.
7.8/ 2/ 8.
.7/ 13/ 1.
.4/ 13/ 0.
64.7/ 3/1.1569
3.1/ 3/ .0505
37.9/ 2/ 37.9
.0/ 2/ .0
10.36
2.
0.
1.1113
37.9
.18
.03
1861.8
5.38
600.
.903 (.898)
1.000 (.973)
91.5
.00
9.18

TEST NUMBER,		AH02
BAROMETER,	MM HG	759.7
HUMIDITY,	G/KG	3.6
TEMPERATURE,	DEG C	23.3
CARBON DIOXIDE,	G/MI	202.8
FUEL ECONOMY,	MPG	22.2
HYDROCARBONS, (THC)	G/MI	.02
CARBON MONOXIDE,	G/MI	.00
OXIDES OF NITROGEN,	G/MI	.59

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

T NO. ASMU RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 7/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90353. KM(56143. MILES)

BAROMETER 741.68 MM HG(29.20 IN HG)
RELATIVE HUMIDITY 48. PCT
WAG RESULTS

DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 9.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR .96

BAG NUMBER
DESCRIPTION

1	2	3	4
COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(INL. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET P MM. H2O(INL. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	40.6 (105.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40568.	69685.	40574.
TOT FLOW STD. CU. METRES(SCF)	75.5 (2665.)	130.3 (4601.)	75.6 (2671.)
THC SAMPLE METER/RANGE/PPM	19.2/ 3/ 193.	18.9/ 2/ 19.	34.2/ 2/ 35.
THC BCKGRD METER/RANGE/PPM	2.3/ 3/ 23.	13.4/ 2/ 14.	14.0/ 2/ 14.
CO SAMPLE METER/RANGE/PPM	59.0/ 2/1221.	71.3/ 12/ 71.	67.3/ 14/ 314.
CO BCKGRD METER/RANGE/PPM	.3/ 2/ 4.	3.2/ 12/ 3.	.7/ 14/ 3.
CO2 SAMPLE METER/RANGE/PCT	88.2/ 14/ .8250	73.1/ 14/ .5448	83.4/ 14/ .7231
CO2 BCKGRD METER/RANGE/PCT	13.5/ 14/ .0458	13.5/ 14/ .0458	13.6/ 14/ .0462
NOX SAMPLE METER/RANGE/PPM	96.1/ 1/ 24.0	23.1/ 1/ 5.9	67.1/ 1/ 16.8
NOX BCKGRD METER/RANGE/PPM	4.6/ 1/ 1.2	1.9/ 1/ .5	1.3/ 1/ .3
DILUTION FACTOR	12.47	21.67	15.85
THC CONCENTRATION PPM	172.	6.	21.
CO CONCENTRATION PPM	1170.	66.	300.
CO2 CONCENTRATION PCT	.7829	.5011	.6799
NOX CONCENTRATION PPM	22.8	5.4	16.5
THC MASS GRAMS	15.77	.98	1.95
CO MASS GRAMS	102.80	9.98	26.45
CO2 MASS GRAMS	1081.8	1195.4	941.4
NOX MASS GRAMS	3.17	1.29	2.29
THC GRAMS/MI	4.37	.25	.54
CO GRAMS/MI	28.45	2.56	7.36
CO2 GRAMS/MI	299.4	306.7	262.0
NOX GRAMS/MI	.88	.33	.64
FUEL ECONOMY IN MPG	12.82	13.61	14.44
RUN TIME SECONDS	505.	868.	505.
MEASURED DISTANCE MI	3.61	7.51	3.90
SCF, DRY	.969	.973	.975
DFC, WET (DRY)	.941(.927)		.950(.935)
TOT VOL (SCM) / SAM BLR (SCM)	205.8/ .00		205.9/ .00

COMPOSITE RESULTS

TEST NUMBER ASMU
BAROMETER MM HG 741.7
HUMIDITY G/KG 9.5
TEMPERATURE DEG C 24.4

CARBON DIOXIDE	G/MI	293.0	(287.4)
FUEL ECONOMY	MPG	14.53	(14.83)
HYDROCARBONS (THC)	G/MI	1.18	(1.14)
CARBON MONOXIDE	G/MI	9.23	(8.84)
OXIDES OF NITROGEN	G/MI	.53	(.55)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. ASMU RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 741.43 MM HG(29.19 IN HG)
RELATIVE HUMIDITY 51. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 4/ 7/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90378. KM(56158. MILES)

NOX HUMIDITY CORRECTION FACTOR .96

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48149.
TOT FLOW STD. CU. METRES(SCF)	89.7 (3168.)
THC SAMPLE METER/RANGE/PPM	19.1/ 2/ 19.
THC BCKGRD METER/RANGE/PPM	13.1/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	18.8/ 12/ 19.
CO BCKGRD METER/RANGE/PPM	2.2/ 12/ 2.
CO2 SAMPLE METER/RANGE/PCT	72.3/ 14/ .5328
CO2 BCKGRD METER/RANGE/PCT	13.4/ 14/ .0454
NOX SAMPLE METER/RANGE/PPM	86.5/ 1/ 21.6
NOX BCKGRD METER/RANGE/PPM	.8/ 1/ .2
DILUTION FACTOR	22.35
THC CONCENTRATION PPM	7.
CO CONCENTRATION PPM	16.
CO2 CONCENTRATION PCT	.4894
NOX CONCENTRATION PPM	21.4
THC MASS GRAMS	.73
CO MASS GRAMS	1.66
CO2 MASS GRAMS	803.8
NOX MASS GRAMS	3.52
RUN TIME	600.
SECONDS	.955 (.940)
DFC, WET (DRY)	1.000 (.974)
SCF, WET (DRY)	89.7
VOL (SCM)	.00
SAM BLR (SCM)	5.03
MI (MEASURED)	

TEST NUMBER,	ASMU
BAROMETER, MM HG	741.4
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	23.3
CARBON DIOXIDE, G/MI	159.7
FUEL ECONOMY, MPG	28.0

HYDROCARBONS, (THC) G/MI	.14
CARBON MONOXIDE, G/MI	.33
OXIDES OF NITROGEN, G/MI	.70

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

EST NO. ASMU RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 7/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90389. KM(56165. MILES)

BAROMETER 741.43 MM HG(29.19 IN HG)
RELATIVE HUMIDITY 51. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .96

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48133.
TOT FLOW STD. CU. METRES(SCF)	89.6 (3163.)
THC SAMPLE METER/RANGE/PPM	14.0/ 2/ 14.
THC BCKGRD METER/RANGE/PPM	12.4/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	2.4/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	2.2/ 12/ 2.
CO2 SAMPLE METER/RANGE/PCT	63.3/ 1/1.1636
CO2 BCKGRD METER/RANGE/PCT	2.7/ 1/ .0476
NOX SAMPLE METER/RANGE/PPM	48.0/ 2/ 48.0
NOX BCKGRD METER/RANGE/PPM	.5/ 2/ .5
DILUTION FACTOR	10.29
THC CONCENTRATION PPM	3.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1205
NOX CONCENTRATION PPM	47.5
THC MASS GRAMS	.31
CO MASS GRAMS	.03
CO2 MASS GRAMS	1838.0
NOX MASS GRAMS	7.79
RUN TIME SECONDS	600.
DFC, WET (DRY)	.903 (.888)
SCF, WET (DRY)	1.000 (.963)
VOL (SCM)	89.6
SAM BLR (SCM)	.00
MI (MEASURED)	9.25

TEST NUMBER,	ASMU
BAROMETER, MM HG	741.4
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	23.3
CARBON DIOXIDE, G/MI	198.7
FUEL ECONOMY, MPG	22.6

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.84

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/27/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89323. KM (55503. MILES)

BAROMETER 732.03 MM HG (28.82 IN HG)
RELATIVE HUMIDITY 50. PCT

DRY BULB TEMP. 26.1 DEG C (79.0 DEG F)
ABS. HUMIDITY 11.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.01

3 RESULTS	1	2	3	4
BAG NUMBER	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
DESCRIPTION				
BLOWER DIF P MM. H2O (IN. H2O)	734.1 (28.9)	734.1 (28.9)	731.5 (28.8)	734.1 (28.9)
BLOWER INLET P MM. H2O (IN. H2O)	731.5 (28.8)	731.5 (28.8)	729.0 (28.7)	731.5 (28.8)
BLOWER INLET TEMP. DEG. C (DEG. F)	45.6 (114.0)	45.0 (113.0)	45.6 (114.0)	45.0 (113.0)
BLOWER REVOLUTIONS	40511.	69599.	40468.	69574.
TOT FLOW STD. CU. METRES (SCF)	74.6 (2634.)	128.0 (4520.)	74.5 (2632.)	128.0 (4518.)
THC SAMPLE METER/RANGE/PPM	46.4/ 2/ 46.	8.7/ 2/ 9.	10.4/ 2/ 10.	9.2/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	7.1/ 2/ 7.	8.2/ 2/ 8.	8.7/ 2/ 9.	9.6/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	24.8/ 3/ 574.	5.6/ 13/ 5.	57.9/ 13/ 55.	4.8/ 13/ 4.
CO BCKGRD METER/RANGE/PPM	.2/ 3/ 5.	.0/ 13/ 0.	.8/ 13/ 1.	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	94.4/ 11/ .9610	66.9/ 11/ .5706	83.7/ 11/ .7934	64.5/ 11/ .5421
CO2 BCKGRD METER/RANGE/PCT	7.2/ 11/ .0427	7.4/ 11/ .0440	7.6/ 11/ .0452	7.4/ 11/ .0440
NOX SAMPLE METER/RANGE/PPM	39.6/ 1/ 10.0	19.3/ 1/ 4.9	56.9/ 1/ 14.3	20.7/ 1/ 5.3
NOX BCKGRD METER/RANGE/PPM	.7/ 1/ .2	.0/ 1/ .0	.1/ 1/ .0	.2/ 1/ .1
DILUTION FACTOR	11.75	20.97	15.00	22.07
THC CONCENTRATION PPM	40.	1.	2.	0.
CO CONCENTRATION PPM	546.	5.	52.	4.
CO2 CONCENTRATION PCT	.9219	.5287	.7512	.5001
NOX CONCENTRATION PPM	9.8	4.9	14.3	5.2
THC MASS GRAMS	3.62	.14	.21	.01
CO MASS GRAMS	47.37	.71	4.53	.60
CO2 MASS GRAMS	1258.8	1239.0	1025.0	1171.6
NOX MASS GRAMS	1.42	1.22	2.06	1.29
THC GRAMS/MI	1.02	.04	.06	.00
CO GRAMS/MI	13.27	.18	1.26	.15
CO2 GRAMS/MI	352.7	319.2	284.4	301.4
NOX GRAMS/MI	.40	.31	.57	.33
FUEL ECONOMY IN MPG	11.98	12.98	15.69	15.27
RUN TIME SECONDS	505.	868.	505.	868.
MEASURED DISTANCE MI	3.57	7.45	3.60	7.49
SCF, DRY	.966	.971	.969	.972
DFC, WET (DRY)		.939 (.923)		.947 (.931)
TOT VOL (SCM) / SAM BLR (SCM)		202.6/ .00		202.5/ .00

COMPOSITE RESULTS

TEST NUMBER AASC-1
BAROMETER MM HG 732.0
HUMIDITY G/KG 11.1
TEMPERATURE DEG C 26.1

CARBON DIOXIDE	G/MI	316.5	(311.3)
FUEL ECONOMY	MPG	13.96	(14.19)
HYDROCARBONS (THC)	G/MI	.24	(.23)
CARBON MONOXIDE	G/MI	3.17	(3.16)
OXIDES OF NITROGEN	G/MI	.40	(.41)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. AASC-1 RUN 1
HICLE MODEL 0 FORD ESCORT
GINE 1.6 L(98. CID) L-4
ANSMISSION A3

VEHICLE NO.
DATE 2/27/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 10.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89348. KM(55518. MILES)

ROMETER 731.77 MM HG(28.81 IN HG)

LATIVE HUMIDITY 50. PCT

6 RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	734.1 (28.9)
BLOWER INLET P MM. H2O(IN. H2O)	731.5 (28.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)
BLOWER REVOLUTIONS	48120.
TOT FLOW STD. CU. METRES(SCF)	88.4 (3122.)
THC SAMPLE METER/RANGE/PPM	10.3/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	10.1/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	.3/ 13/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.3/ 11/ .5515
CO2 BCKGRD METER/RANGE/PCT	7.5/ 11/ .0446
NOX SAMPLE METER/RANGE/PPM	28.5/ 2/ 28.5
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	21.71
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.5090
NOX CONCENTRATION PPM	28.4
THC MASS GRAMS	.07
CO MASS GRAMS	.02
CO2 MASS GRAMS	823.8
NOX MASS GRAMS	4.79
RUN TIME SECONDS	600.
DFC, WET (DRY)	.954 (.939)
SCF, WET (DRY)	1.000 (.974)
VOL (SCM)	88.4
SAM BLR (SCM)	.00
MI (MEASURED)	5.02

TEST NUMBER,	AASC-1
BAROMETER, MM HG	731.8
HUMIDITY, G/KG	10.6
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	164.2
FUEL ECONOMY, MPG	27.4

HYDROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.95

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

EST NO. AASC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 731.52 MM HG(28.80 IN HG)
RELATIVE HUMIDITY 50. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.
DATE 2/27/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 10.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89360. KM(55526. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.00

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	739.1 (29.1)
BLOWER INLET P MM. H2O(IN. H2O)	739.1 (29.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.6 (114.0)
BLOWER REVOLUTIONS	48129.
TOT FLOW STD. CU. METRES(SCF)	88.4 (3123.)
THC SAMPLE METER/RANGE/PPM	10.5/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	10.5/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	1.2/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.2/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	66.3/ 3/1.1892
CO2 BCKGRD METER/RANGE/PCT	2.9/ 3/ .0473
NOX SAMPLE METER/RANGE/PPM	57.9/ 2/ 57.9
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	10.08
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	1.1466
NOX CONCENTRATION PPM	57.8
THC MASS GRAMS	.11
CO MASS GRAMS	.09
CO2 MASS GRAMS	1856.7
NOX MASS GRAMS	9.75
RUN TIME SECONDS	600.
DFC, WET (DRY)	.901 (.886)
SCF, WET (DRY)	1.000 (.962)
VOL (SCM)	88.4
SAM BLR (SCM)	.00
MI (MEASURED)	9.20

TEST NUMBER,	AASC-1
BAROMETER, MM HG	731.5
HUMIDITY, G/KG	10.6
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	201.7
FUEL ECONOMY, MPG	22.3
HYDROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	1.06

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

NO. AASC-2 RUN 1
HICLE MODEL 0 FORD ESCORT
SINE 1.6 L(98. CID) L-4
ANSMISSION A3

VEHICLE NO.
DATE 2/28/89
BAG CART NO. 2 / CVS NO. 3
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89375. KM(55535. MILES)

ROMETER 738.89 MM HG(29.09 IN HG)
LATIVE HUMIDITY 39. PCT

DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 8.0 GM/KG

NOX HUMIDITY CORRECTION FACTOR .92

6 RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	734.1 (28.9)	739.1 (29.1)	734.1 (28.9)	739.1 (29.1)
BLOWER INLET P MM. H2O(IN. H2O)	734.1 (28.9)	741.7 (29.2)	734.1 (28.9)	741.7 (29.2)
BLOWER INLET TEMP. DEG. C(DEG. F)	46.1 (115.0)	42.8 (109.0)	45.0 (113.0)	41.7 (107.0)
BLOWER REVOLUTIONS	40571.	59648.	40510.	59658.
TOT FLOW STD. CU. METRES(SCF)	75.5 (2657.)	129.5 (4574.)	75.3 (2657.)	129.8 (4584.)
THC SAMPLE METER/RANGE/PPM	37.7/ 2/ 38.	7.6/ 2/ 8.	9.6/ 2/ 10.	7.8/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	8.7/ 2/ 9.	7.5/ 2/ 8.	7.4/ 2/ 8.	7.9/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	67.3/ 1/ 620.	10.0/ 12/ 10.	78.6/ 12/ 75.	3.7/ 12/ 9.
CO BCKGRD METER/RANGE/PPM	.8/ 1/ 6.	3.9/ 12/ 4.	1.7/ 12/ 2.	1.6/ 12/ 2.
CO2 SAMPLE METER/RANGE/PCT	93.8/ 14/ .9643	74.1/ 14/ .5601	85.9/ 14/ .7744	71.5/ 14/ .5210
CO2 BCKGRD METER/RANGE/PCT	12.5/ 14/ .0418	12.4/ 14/ .0415	12.3/ 14/ .0411	12.3/ 14/ .0411
NOX SAMPLE METER/RANGE/PPM	56.1/ 1/ 14.1	23.2/ 1/ 5.9	64.0/ 1/ 16.0	23.9/ 1/ 6.1
NOX BCKGRD METER/RANGE/PPM	.1/ 1/ .0	.3/ 1/ .1	.4/ 1/ .1	.4/ 1/ .1
DILUTION FACTOR	11.67	21.35	15.32	22.95
THC CONCENTRATION PPM	30.	0.	3.	0.
CO CONCENTRATION PPM	590.	6.	74.	7.
CO2 CONCENTRATION PCT	.9261	.5206	.7360	.4817
NOX CONCENTRATION PPM	14.0	5.8	15.9	6.0
THC MASS GRAMS	2.75	.06	.25	.04
CO MASS GRAMS	51.88	.91	6.50	1.05
CO2 MASS GRAMS	1280.4	1234.7	1014.1	1144.9
NOX MASS GRAMS	1.86	1.32	2.10	1.36
THC GRAMS/MI	.77	.01	.07	.01
CO GRAMS/MI	14.44	.23	1.81	.27
CO2 GRAMS/MI	356.4	318.3	281.6	295.9
NOX GRAMS/MI	.52	.34	.58	.35
FUEL ECONOMY IN MPG	11.82	12.90	15.79	15.46
RUN TIME SECONDS	505.	868.	505.	868.
MEASURED DISTANCE MI	3.59	7.47	3.60	7.47
SCF, DRY	.970	.975	.973	.976
DFC, WET (DRY)		.939(.927)		.948(.936)
TOT VOL (SCM) / SAM BLR (SCM)		205.1/ .00		205.1/ .00

IMPOSITE RESULTS

TEST NUMBER AASC-2
BAROMETER MM HG 738.9
HUMIDITY G/KG 8.0
TEMPERATURE DEG C 25.0

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	316.1	(309.5)
FUEL ECONOMY MPG	13.95	(14.24)
HYDROCARBONS (THC) G/MI	.19	(.18)
CARBON MONOXIDE G/MI	3.60	(3.61)
OXIDES OF NITROGEN G/MI	.44	(.45)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

NO. AASC-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 738.63 MM HG(29.08 IN HG)
RELATIVE HUMIDITY 37. PCT
SAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 2/28/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89401. KM(55551. MILES)
NOX HUMIDITY CORRECTION FACTOR .91

30 MPH

736.6 (29.0)
736.6 (29.0)
45.0 (113.0)
48156.
89.4 (3157.)
7.9/ 2/ 8.
7.5/ 2/ 8.
2.4/ 12/ 2.
.3/ 12/ 1.
72.3/ 14/ .5328
12.2/ 14/ .0407
39.2/ 2/ 39.2
.0/ 2/ .0
22.47
1.
2.
.4939
39.2
.08
.17
808.3
6.11
600.
.955 (.944)
1.000 (.978)
89.4
.00
5.02

TEST NUMBER,		AASC-2
BAROMETER,	MM HG	738.6
HUMIDITY,	G/KG	7.7
TEMPERATURE,	DEG C	25.6
CARBON DIOXIDE,	G/MI	161.1
FUEL ECONOMY,	MPG	27.9
HYDROCARBONS, (THC)	G/MI	.02
CARBON MONOXIDE,	G/MI	.03
OXIDES OF NITROGEN,	G/MI	1.22

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

NO. AASC-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 2/28/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 8.0 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89410. KM(55557. MILES)

BAROMETER 738.38 MM HG(29.07 IN HG)
RELATIVE HUMIDITY 39. PCT
RESULTS
TEST CYCLE

NOX HUMIDITY CORRECTION FACTOR .92

BLOWER DISCHARGE P MM. H ₂ O(IN. H ₂ O)	736.6 (29.0)
BLOWER INLET P MM. H ₂ O(IN. H ₂ O)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.0 (113.0)
BLOWER REVOLUTIONS	42121.
TOTAL FLOW STD. CU. METRES(SCF)	78.2 (2760.)
THC SAMPLE METER/RANGE/PPM	7.8/ 2/ 8.
THC BACKGROUND METER/RANGE/PPM	7.0/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	3.1/ 12/ 3.
CO BACKGROUND METER/RANGE/PPM	.5/ 12/ 1.
CO ₂ SAMPLE METER/RANGE/PCT	64.3/ 1/1.1823
CO ₂ BACKGROUND METER/RANGE/PCT	2.3/ 1/ .0406
NOX SAMPLE METER/RANGE/PPM	59.0/ 2/ 59.0
NOX BACKGROUND METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	10.13
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	2.
CO ₂ CONCENTRATION PCT	1.1458
NOX CONCENTRATION PPM	58.9
THC MASS GRAMS	.15
CO MASS GRAMS	.22
CO ₂ MASS GRAMS	1639.6
NOX MASS GRAMS	5.08
RUN TIME SECONDS	525.
DFC, WET (DRY)	.901 (.890)
SCF, WET (DRY)	1.000 (.956)
VOL (SCM)	78.2
SAM BLR (SCM)	.00
MI (MEASURED)	8.04

TEST NUMBER,	AASC-2
BAROMETER, MM HG	738.4
HUMIDITY, G/KG	8.0
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	203.9
FUEL ECONOMY, MPG	22.0
HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.03
OXIDES OF NITROGEN, G/MI	1.00

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 2/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 39444. KM(55578. MILES)

BAROMETER 738.89 MM HG(29.09 IN HG)
RELATIVE HUMIDITY 43. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 9.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR .95

TEST RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)	736.6 (29.0)	734.1 (28.9)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	736.6 (29.0)	736.6 (29.0)	731.5 (28.8)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.6 (114.0)	44.4 (112.0)	45.6 (114.0)	43.3 (110.0)
BLOWER REVOLUTIONS	40550.	69624.	40519.	69553.
TOT FLOW STD. CU. METRES(SCF)	75.4 (2662.)	129.2 (4562.)	75.4 (2661.)	129.3 (4566.)
THC SAMPLE METER/RANGE/PPM	53.7/ 2/ 54.	10.1/ 2/ 10.	13.1/ 2/ 13.	10.2/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	7.9/ 2/ 8.	8.4/ 2/ 8.	8.7/ 2/ 9.	9.4/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	27.9/ 3/ 650.	35.1/ 13/ 32.	53.7/ 13/ 51.	11.0/ 13/ 10.
CO BCKGRD METER/RANGE/PPM	.1/ 3/ 2.	1.5/ 13/ 1.	1.6/ 13/ 1.	.9/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	96.0/ 11/ .9881	67.4/ 11/ .5766	83.2/ 11/ .7861	63.4/ 11/ .5293
CO2 BCKGRD METER/RANGE/PCT	8.0/ 11/ .0477	8.1/ 11/ .0483	8.2/ 11/ .0490	8.2/ 11/ .0490
NOX SAMPLE METER/RANGE/PPM	66.8/ 1/ 16.8	24.0/ 1/ 6.1	76.3/ 1/ 19.1	28.3/ 1/ 7.2
NOX BCKGRD METER/RANGE/PPM	2.9/ 1/ .8	.0/ 1/ .0	.0/ 1/ .0	.1/ 1/ .0
DILUTION FACTOR	11.36	20.65	15.14	22.58
THC CONCENTRATION PPM	47.	2.	5.	1.
CO CONCENTRATION PPM	621.	30.	47.	9.
CO2 CONCENTRATION PCT	.9446	.5306	.7404	.4825
NOX CONCENTRATION PPM	16.1	6.1	19.1	7.1
THC MASS GRAMS	4.27	.33	.46	.19
CO MASS GRAMS	54.46	4.51	4.17	1.31
CO2 MASS GRAMS	1303.7	1255.2	1021.7	1142.3
NOX MASS GRAMS	2.20	1.43	2.62	1.67
THC GRAMS/MI	1.19	.09	.13	.05
CO GRAMS/MI	15.14	1.16	1.15	.34
CO2 GRAMS/MI	362.4	323.0	281.5	293.2
NOX GRAMS/MI	.61	.37	.72	.43
FUEL ECONOMY IN MPG	11.58	12.65	15.85	15.56
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.60	7.48	3.63	7.53
SCF, DRY	.968	.973	.972	.975
DFC, WET (DRY)		.937(.924)		.948(.934)
TOT VOL (SCM) / SAM BLR (SCM)		204.6/ .00		204.7/ .00

COMPOSITE RESULTS

TEST NUMBER ANSC-1
BAROMETER MM HG 738.9
HUMIDITY G/KG 9.1
TEMPERATURE DEG C 25.6

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	319.7	(310.9)
FUEL ECONOMY MPG	13.76	(14.16)
HYDROCARBONS (THC) G/MI	.32	(.31)
CARBON MONOXIDE G/MI	4.05	(3.80)
OXIDES OF NITROGEN G/MI	.52	(.53)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. ANSC-1 RUN 1
HICLE MODEL 0 FORD ESCORT
SINE 1.6 L(98. CID) L-4
ANSMISSION A3

VEHICLE NO.
DATE 3/ 2/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89468. KM(55593. MILES)

ROMETER 738.38 MM HG(29.07 IN HG)
LATIVE HUMIDITY 41. PCT
G RESULTS

NOX HUMIDITY CORRECTION FACTOR .96

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	734.1 (28.9)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)
BLOWER REVOLUTIONS	48124.
TOT FLOW STD. CU. METRES(SCF)	89.3 (3155.)
THC SAMPLE METER/RANGE/PPM	10.6/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.6/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	1.4/ 13/ 1.
CO BCKGRD METER/RANGE/PPM	.7/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	63.8/ 11/ .5339
CO2 BCKGRD METER/RANGE/PCT	8.2/ 11/ .0490
NOX SAMPLE METER/RANGE/PPM	26.0/ 2/ 26.0
NOX BCKGRD METER/RANGE/PPM	.4/ 2/ .4
DILUTION FACTOR	22.41
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.4871
NOX CONCENTRATION PPM	25.6
THC MASS GRAMS	.16
CO MASS GRAMS	.06
CO2 MASS GRAMS	796.9
NOX MASS GRAMS	4.19
RUN TIME	600.
DFC, WET (DRY)	.955 (.943)
SCF, WET (DRY)	1.000 (.977)
VOL (SCM)	89.3
SAM BLR (SCM)	.00
MI (MEASURED)	5.03

TEST NUMBER,	ANSC-1
BAROMETER, MM HG	738.4
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	158.5
FUEL ECONOMY, MPG	28.3

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.83

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 738.12 MM HG (29.06 IN HG)
RELATIVE HUMIDITY 47. PCT
56 RESULTS
TEST CYCLE

VEHICLE NO.
DATE 3/ 2/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C (79.0 DEG F)
ABS. HUMIDITY 10.3 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89480. KM (55600. MILES)
NOX HUMIDITY CORRECTION FACTOR .99

55 MPH

BLOWER DIF P MM. H2O (IN. H2O)	741.7 (29.2)
BLOWER INLET P MM. H2O (IN. H2O)	741.7 (29.2)
BLOWER INLET TEMP. DEG. C (DEG. F)	45.6 (114.0)
BLOWER REVOLUTIONS	48121.
TOT FLOW STD. CU. METRES (SCF)	89.3 (3153.)
THC SAMPLE METER/RANGE/PPM	15.6/ 2/ 16.
THC BCKGRD METER/RANGE/PPM	9.9/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	5.2/ 13/ 5.
CO BCKGRD METER/RANGE/PPM	.1/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	67.4/ 3/1.2115
CO2 BCKGRD METER/RANGE/PCT	2.9/ 3/ .0473
NOX SAMPLE METER/RANGE/PPM	73.3/ 2/ 73.3
NOX BCKGRD METER/RANGE/PPM	.2/ 2/ .2
DILUTION FACTOR	9.88
THC CONCENTRATION PPM	7.
CO CONCENTRATION PPM	4.
CO2 CONCENTRATION PCT	1.1690
NOX CONCENTRATION PPM	73.2
THC MASS GRAMS	.73
CO MASS GRAMS	.44
CO2 MASS GRAMS	1910.8
NOX MASS GRAMS	12.31
RUN TIME SECONDS	600.
JFC, WET (DRY)	.899 (.885)
SCF, WET (DRY)	1.000 (.963)
VOL (SCM)	89.3
SAM BLR (SCM)	.00
MI (MEASURED)	9.20

TEST NUMBER,	ANSC-1
BAROMETER, MM HG	738.1
HUMIDITY, G/KG	10.3
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	207.6
FUEL ECONOMY, MPG	21.6

HYDROCARBONS, (THC) G/MI	.08
CARBON MONOXIDE, G/MI	.05
OXIDES OF NITROGEN, G/MI	1.34

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 3/89
BAG CART NO. 1 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89494. KM(55609. MILES)

BAROMETER 731.52 MM HG(28.80 IN HG)
RELATIVE HUMIDITY 52. PCT

DRY BULB TEMP. 27.8 DEG C(82.0 DEG F)
ABS. HUMIDITY 12.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.07

TEST RESULTS

BAG NUMBER	1	2	3	4
DESCRIPTION	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	723.9 (28.5)	723.9 (28.5)	721.4 (28.4)	723.9 (28.5)
BLOWER INLET P MM. H2O(IN. H2O)	721.4 (28.4)	723.9 (28.5)	721.4 (28.4)	723.9 (28.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.6 (114.0)	45.0 (113.0)	44.4 (112.0)	45.0 (113.0)
BLOWER REVOLUTIONS	40588.	69607.	40565.	69588.
TOT FLOW STD. CU. METRES(SCF)	74.8 (2640.)	128.1 (4522.)	74.6 (2635.)	128.0 (4521.)
THC SAMPLE METER/RANGE/PPM	67.2/ 2/ 67.	14.8/ 2/ 15.	19.3/ 2/ 19.	14.9/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	12.3/ 2/ 12.	13.3/ 2/ 13.	13.1/ 2/ 13.	13.7/ 2/ 14.
CO SAMPLE METER/RANGE/PPM	33.7/ 3/ 793.	59.6/ 13/ 57.	70.8/ 12/ 160.	30.1/ 13/ 27.
CO BCKGRD METER/RANGE/PPM	.2/ 3/ 5.	.5/ 13/ 0.	.1/ 12/ 0.	.5/ 13/ 0.
CO2 SAMPLE METER/RANGE/PCT	99.0/ 11/1.0407	70.7/ 11/ .6173	87.0/ 11/ .8427	67.6/ 11/ .5790
CO2 BCKGRD METER/RANGE/PCT	8.1/ 11/ .0483	8.1/ 11/ .0483	8.2/ 11/ .0490	8.2/ 11/ .0490
NOX SAMPLE METER/RANGE/PPM	60.7/ 1/ 15.2	25.1/ 1/ 6.4	67.3/ 1/ 16.9	27.0/ 1/ 6.8
NOX BCKGRD METER/RANGE/PPM	3.7/ 1/ 1.0	.0/ 1/ .0	.0/ 1/ .0	.1/ 1/ .0
DILUTION FACTOR	10.68	19.21	13.95	20.57
THC CONCENTRATION PPM	56.	2.	7.	2.
CO CONCENTRATION PPM	753.	54.	153.	26.
CO2 CONCENTRATION PCT	.9969	.5715	.7972	.5324
NOX CONCENTRATION PPM	14.4	6.4	16.9	6.8
THC MASS GRAMS	5.10	.34	.65	.29
CO MASS GRAMS	65.54	8.11	13.29	3.88
CO2 MASS GRAMS	1354.8	1340.0	1089.2	1248.2
NOX MASS GRAMS	2.20	1.67	2.58	1.78
THC GRAMS/MI	1.40	.09	.18	.07
CO GRAMS/MI	17.98	2.09	3.65	.99
CO2 GRAMS/MI	374.5	346.2	298.9	319.5
NOX GRAMS/MI	.60	.43	.71	.46
FUEL ECONOMY IN MPG	11.10	11.94	12.85	14.74
RUN TIME SECONDS	506.	867.	505.	867.
MEASURED DISTANCE MI	3.64	7.51	3.64	7.55
SCF, DRY	.964	.969	.972	.971
DFC, WET (DRY)		.933(.917)		.943(.927)
TOT VOL (SCM) / SAM BLR (SCM)		202.9/ .00		202.7/ .00

COMPOSITE RESULTS

TEST NUMBER ANSC-2
BAROMETER MM HG 731.5
HUMIDITY G/KG 12.7
TEMPERATURE DEG C 27.8

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	339.0	(331.2)
FUEL ECONOMY MPG	12.88	(13.20)
HYDROCARBONS (THC) G/MI	.39	(.38)
CARBON MONOXIDE G/MI	5.84	(5.51)
OXIDES OF NITROGEN G/MI	.54	(.55)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 756.67 MM HG (29.79 IN HG)
RELATIVE HUMIDITY 47. PCT
30 RESULTS

VEHICLE NO.
DATE 3/ 3/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C (80.0 DEG F)
ABS. HUMIDITY 10.4 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89520. KM (55625. MILES)
NOX HUMIDITY CORRECTION FACTOR .99

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O (IN. H2O)	718.8 (28.3)
BLOWER INLET P MM. H2O (IN. H2O)	718.8 (28.3)
BLOWER INLET TEMP. DEG. C (DEG. F)	45.0 (113.0)
BLOWER REVOLUTIONS	48152.
TOT FLOW STD. CU. METRES (SCF)	92.0 (3250.)
THC SAMPLE METER/RANGE/PPM	15.2/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	13.4/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	3.1/ 13/ 3.
CO BCKGRD METER/RANGE/PPM	1.2/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	66.8/ 11/ .5694
CO2 BCKGRD METER/RANGE/PCT	8.3/ 11/ .0496
NOX SAMPLE METER/RANGE/PPM	26.1/ 1/ 6.6
NOX BCKGRD METER/RANGE/PPM	.3/ 1/ .1
DILUTION FACTOR	21.00
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	.5221
NOX CONCENTRATION PPM	6.5
THC MASS GRAMS	.27
CO MASS GRAMS	.18
CO2 MASS GRAMS	879.8
NOX MASS GRAMS	1.14
RUN TIME SECONDS	600.
DFC, WET (DRY)	.952 (.938)
SCF, WET (DRY)	1.000 (.974)
VOL (SCM)	92.0
SAM BLR (SCM)	.00
MI (MEASURED)	5.02

TEST NUMBER,	ANSC-2
BAROMETER, MM HG	756.7
HUMIDITY, G/KG	10.4
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	175.2
FUEL ECONOMY, MPG	25.6
HYDROCARBONS, (THC) G/MI	.05
CARBON MONOXIDE, G/MI	.04
OXIDES OF NITROGEN, G/MI	.23

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. ANSC-2 RUN 1
HICLE MODEL 0 FORD ESCORT
SINE 1.6 L(98. CID) L-4
ANSMISSION A3

VEHICLE NO.
DATE 3/ 3/89
BAG CART NO. 1
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 10.9 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89531. KM(55632. MILES)

ROMETER 731.27 MM HG(28.79 IN HG)
LATIVE HUMIDITY 48. PCT
6 RESULTS

NOX HUMIDITY CORRECTION FACTOR 1.01

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	723.9 (28.5)
BLOWER INLET P MM. H2O(IN. H2O)	723.9 (28.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	45.0 (113.0)
BLOWER REVOLUTIONS	48147.
TOT FLOW STD. CU. METRES(SCF)	88.6 (3127.)
THC SAMPLE METER/RANGE/PPM	20.3/ 2/ 20.
THC BCKGRD METER/RANGE/PPM	13.5/ 2/ 14.
CO SAMPLE METER/RANGE/PPM	9.6/ 13/ 8.
CO BCKGRD METER/RANGE/PPM	1.2/ 13/ 1.
CO2 SAMPLE METER/RANGE/PCT	70.5/ 3/1.2745
CO2 BCKGRD METER/RANGE/PCT	3.6/ 3/ .0587
NOX SAMPLE METER/RANGE/PPM	64.7/ 2/ 64.7
NOX BCKGRD METER/RANGE/PPM	.6/ 2/ .6
DILUTION FACTOR	9.39
THC CONCENTRATION PPM	8.
CO CONCENTRATION PPM	7.
CO2 CONCENTRATION PCT	1.2220
NOX CONCENTRATION PPM	64.2
THC MASS GRAMS	.89
CO MASS GRAMS	.73
CO2 MASS GRAMS	1981.3
NOX MASS GRAMS	10.93
RUN TIME SECONDS	600.
DFC, WET (DRY)	.893 (.880)
SCF, WET (DRY)	1.000 (.962)
VOL (SCM)	88.6
SAM BLR (SCM)	.00
MI (MEASURED)	9.20

TEST NUMBER,	ANSC-2
BAROMETER, MM HG	731.3
HUMIDITY, G/KG	10.9
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	215.4
FUEL ECONOMY, MPG	20.8

HYDROCARBONS, (THC) G/MI	.10
CARBON MONOXIDE, G/MI	.08
OXIDES OF NITROGEN, G/MI	1.19

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCC-1 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 9/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89703. KM (55739. MILES)

BAROMETER 750.32 MM HG (29.54 IN HG)
RELATIVE HUMIDITY 36. PCT

DRY BULB TEMP. 27.2 DEG C (81.0 DEG F)
ABS. HUMIDITY 8.2 GM/KG

NOX HUMIDITY CORRECTION FACTOR .92

AG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O (IN. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET P MM. H2O (IN. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C (DEG. F)	48.9 (120.0)	47.8 (118.0)	47.8 (118.0)	43.3 (110.0)
BLOWER REVOLUTIONS	40484.	69521.	40446.	69524.
TOT FLOW STD. CU. METRES (SCF)	76.6 (2703.)	131.3 (4638.)	76.4 (2698.)	131.0 (4626.)
THC SAMPLE METER/RANGE/PPM	22.8/ 2/ 23.	6.9/ 2/ 7.	9.6/ 2/ 10.	8.8/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	6.1/ 2/ 6.	6.5/ 2/ 7.	8.2/ 2/ 8.	8.8/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	54.0/ 1/ 467.	2.5/ 12/ 3.	46.9/ 12/ 46.	3.2/ 12/ 3.
CO BCKGRD METER/RANGE/PPM	.0/ 1/ 0.	.0/ 12/ 0.	.0/ 12/ 0.	.4/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.3/ 14/ .9508	73.1/ 14/ .5448	83.9/ 14/ .7331	71.6/ 14/ .5224
CO2 BCKGRD METER/RANGE/PCT	12.8/ 14/ .0430	12.4/ 14/ .0415	12.8/ 14/ .0430	13.0/ 14/ .0438
NOX SAMPLE METER/RANGE/PPM	66.1/ 1/ 16.6	27.2/ 1/ 6.9	76.7/ 1/ 19.2	28.9/ 1/ 7.3
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0	.2/ 1/ .1	.3/ 1/ .1	.0/ 1/ .0
DILUTION FACTOR	12.02	21.98	16.24	22.90
THC CONCENTRATION PPM	17.	1.	2.	0.
CO CONCENTRATION PPM	449.	2.	45.	3.
CO2 CONCENTRATION PCT	.9114	.5052	.6927	.4805
NOX CONCENTRATION PPM	16.6	6.8	19.1	7.3
THC MASS GRAMS	1.62	.11	.18	.06
CO MASS GRAMS	40.03	.38	3.98	.42
CO2 MASS GRAMS	1277.4	1214.8	969.1	1152.5
NOX MASS GRAMS	2.24	1.58	2.58	1.69
THC GRAMS/MI	.45	.03	.05	.02
CO GRAMS/MI	11.10	.10	1.10	.11
CO2 GRAMS/MI	354.3	311.3	268.1	296.0
NOX GRAMS/MI	.62	.41	.71	.43
FUEL ECONOMY IN MPG	12.06	13.19	16.65	15.85
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.61	7.51	3.61	7.51
SCF, DRY	.971	.976	.975	.978
DFC, WET (DRY)		.941 (.930)		.950 (.939)
TOT VOL (SCM) / SAM BLR (SCM)		207.9/ .00		207.4/ .00

YSITE RESULTS

TEST NUMBER ADCC-1
BAROMETER MM HG 750.3
HUMIDITY G/KG 8.2
TEMPERATURE DEG C 27.2

CARBON DIOXIDE	G/MI	308.3	(303.8)
FUEL ECONOMY	MPG	14.37	(14.58)
HYDROCARBONS (THC)	G/MI	.12	(.12)
CARBON MONOXIDE	G/MI	2.64	(2.65)
OXIDES OF NITROGEN	G/MI	.53	(.54)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

NO. ADCC-1 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/ 9/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 4.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89727. KM(55754. MILES)
NOX HUMIDITY CORRECTION FACTOR .82

BAROMETER 749.30 MM HG(29.50 IN HG)
RELATIVE HUMIDITY 20. PCT
AG RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	47.8 (118.0)
BLOWER REVOLUTIONS	48100.
TOT FLOW STD. CU. METRES(SCF)	90.7 (3204.)
THC SAMPLE METER/RANGE/PPM	9.6/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	9.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	.7/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	73.2/ 14/ .5463
CO2 BCKGRD METER/RANGE/PCT	13.5/ 14/ .0458
NOX SAMPLE METER/RANGE/PPM	25.2/ 2/ 25.3
NOX BCKGRD METER/RANGE/PPM	.0/ 2/ .0
DILUTION FACTOR	21.91
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.5026
NOX CONCENTRATION PPM	25.3
THC MASS GRAMS	.07
CO MASS GRAMS	.07
CO2 MASS GRAMS	834.9
NOX MASS GRAMS	3.62
RUN TIME	600.
DFC, WET (DRY)	.954 (.948)
SCF, WET (DRY)	1.000 (.984)
VOL (SCM)	90.7
SAM BLR (SCM)	.00
MI (MEASURED)	5.05

TEST NUMBER,	ADCC-1
BAROMETER, MM HG	749.3
HUMIDITY, G/KG	4.3
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	165.5
FUEL ECONOMY, MPG	27.1
HYDROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.72

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

EST NO. ~~8111~~ ^{ADCC-1} RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 749.30 MM HG(29.50 IN HG)
RELATIVE HUMIDITY 20. PCT
AG RESULTS
TEST CYCLE

VEHICLE NO.
DATE 3/ 9/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 4.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89739. KM(55761. MILES)

NOX HUMIDITY CORRECTION FACTOR .82

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	47.8 (118.0)
BLOWER REVOLUTIONS	48113.
TOT FLOW STD. CU. METRES(SCF)	90.8 (3205.)
THC SAMPLE METER/RANGE/PPM	9.5/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	9.2/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	1.6/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.9/ 1/1.2123
CO2 BCKGRD METER/RANGE/PCT	2.4/ 1/ .0423
NOX SAMPLE METER/RANGE/PPM	78.1/ 2/ 78.1
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	9.88
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	1.1743
NOX CONCENTRATION PPM	78.0
THC MASS GRAMS	.14
CO MASS GRAMS	.16
CO2 MASS GRAMS	1951.3
NOX MASS GRAMS	11.17
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.899 (.893)
SCF, WET (DRY)	1.000 (.972)
VOL (SCM)	90.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.21

TEST NUMBER,	BL-1 1
BAROMETER,	MM HG 749.3
HUMIDITY,	G/KG 4.3
TEMPERATURE,	DEG C 26.1
CARBON DIOXIDE,	G/MI 212.0
FUEL ECONOMY,	MPG 21.2

HYDROCARBONS. (THC)	G/MI .02
CARBON MONOXIDE,	G/MI .02
OXIDES OF NITROGEN,	G/MI 1.21

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCC-2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/10/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 89753. KM (55770. MILES)

BAROMETER 749.81 MM HG (29.52 IN HG)
RELATIVE HUMIDITY 41. PCT

DRY BULB TEMP. 21.7 DEG C (71.0 DEG F)
ABS. HUMIDITY 6.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR .88

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O (IN. H2O)	749.3 (29.5)	746.8 (29.4)	746.8 (29.4)	746.8 (29.4)
BLOWER INLET P MM. H2O (IN. H2O)	746.8 (29.4)	746.8 (29.4)	746.8 (29.4)	746.8 (29.4)
BLOWER INLET TEMP. DEG. C (DEG. F)	43.9 (111.0)	42.8 (109.0)	42.8 (109.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40526.	69655.	40519.	69530.
TOT FLOW STD. CU. METRES (SCF)	76.4 (2698.)	131.6 (4646.)	76.5 (2702.)	131.5 (4642.)
THC SAMPLE METER/RANGE/PPM	24.9/ 2/ 25.	6.8/ 2/ 7.	9.6/ 2/ 10.	7.2/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.2/ 2/ 6.	6.8/ 2/ 7.	5.9/ 2/ 7.	7.4/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	52.3/ 1/ 449.	8.2/ 12/ 8.	79.7/ 12/ 80.	1.2/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.1/ 1/ 1.	.0/ 12/ 0.	.0/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.4/ 14/ .9535	74.1/ 14/ .5601	86.2/ 14/ .7908	72.0/ 14/ .5283
CO2 BCKGRD METER/RANGE/PCT	12.3/ 14/ .0411	12.3/ 14/ .0411	12.4/ 14/ .0415	12.4/ 14/ .0415
NOX SAMPLE METER/RANGE/PPM	50.7/ 1/ 12.7	25.7/ 1/ 6.5	71.1/ 1/ 17.8	28.0/ 1/ 7.1
NOX BCKGRD METER/RANGE/PPM	.4/ 1/ .1	.4/ 1/ .1	.4/ 1/ .1	.2/ 1/ .1
DILUTION FACTOR	12.00	21.35	15.19	22.66
THC CONCENTRATION PPM	19.	0.	3.	0.
CO CONCENTRATION PPM	430.	8.	77.	1.
CO2 CONCENTRATION PCT	.9159	.5210	.7421	.4887
NOX CONCENTRATION PPM	12.6	6.4	17.7	7.0
THC MASS GRAMS	1.81	.05	.30	.02
CO MASS GRAMS	38.26	1.22	6.85	.18
CO2 MASS GRAMS	1281.0	1254.9	1039.8	1176.2
NOX MASS GRAMS	1.63	1.43	2.29	1.56
THC GRAMS/MI	.50	.01	.08	.01
CO GRAMS/MI	10.58	.31	1.88	.05
CO2 GRAMS/MI	354.4	321.9	284.9	300.9
NOX GRAMS/MI	.45	.37	.63	.40
FUEL ECONOMY IN MPG	12.09	12.98	15.60	15.25
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.61	7.51	3.65	7.56
SCF, DRY	.970	.974	.973	.976
DFC, WET (DRY)		.940 (.927)		.948 (.935)
TOT VOL (SCM) / SAM BLR (SCM)		208.0/ .00		208.0/ .00

COMPOSITE RESULTS

TEST NUMBER ADCC-2
BAROMETER MM HG 749.8
HUMIDITY G/KG 6.7
TEMPERATURE DEG C 21.7

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	318.4	(312.3)
FUEL ECONOMY	MPG	13.90	(14.18)
HYDROCARBONS (THC)	G/MI	.13	(.13)
CARBON MONOXIDE	G/MI	2.87	(2.79)
OXIDES OF NITROGEN	G/MI	.46	(.47)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCC-2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 749.81 MM HG (29.52 IN HG)

RELATIVE HUMIDITY 24. PCT

AG RESULTS

TEST CYCLE

VEHICLE NO.

DATE 3/10/89

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 21.7 DEG C (71.0 DEG F)

ABS. HUMIDITY 3.9 GM/KG

TEST WEIGHT 1134. KG (2500. LBS)

ACTUAL ROAD LOAD 4.8 KW (6.5 HP)

GASOLINE EM-835-F

ODOMETER 89777. KM (55785. MILES)

NOX HUMIDITY CORRECTION FACTOR .82

30 MPH

BLOWER DIF P MM. H2O (IN. H2O)
BLOWER INLET P MM. H2O (IN. H2O)
BLOWER INLET TEMP. DEG. C (DEG. F)
BLOWER REVOLUTIONS

741.7 (29.2)
744.2 (29.3)
42.8 (109.0)
48115.

TOT FLOW STD. CU. METRES (SCF)

90.9 (3210.)

THC SAMPLE METER/RANGE/PPM

7.7/ 2/ 8.

THC BCKGRD METER/RANGE/PPM

7.1/ 2/ 7.

CO SAMPLE METER/RANGE/PPM

.0/ 12/ 0.

CO BCKGRD METER/RANGE/PPM

.0/ 12/ 0.

CO2 SAMPLE METER/RANGE/PCT

72.4/ 14/ .5342

CO2 BCKGRD METER/RANGE/PCT

12.5/ 14/ .0418

NOX SAMPLE METER/RANGE/PPM

27.6/ 2/ 27.7

NOX BCKGRD METER/RANGE/PPM

.0/ 2/ .0

DILUTION FACTOR

22.42

THC CONCENTRATION PPM

1.

CO CONCENTRATION PPM

0.

CO2 CONCENTRATION PCT

.4943

NOX CONCENTRATION PPM

27.7

THC MASS GRAMS

.10

CO MASS GRAMS

.00

CO2 MASS GRAMS

822.8

NOX MASS GRAMS

3.93

RUN TIME SECONDS

600.

DFC, WET (DRY)

.955 (.948)

SCF, WET (DRY)

1.000 (.983)

VOL (SCM)

90.9

SAM BLR (SCM)

.00

MI (MEASURED)

5.03

TEST NUMBER,

ADCC-2

BAROMETER,

MM HG

749.8

HUMIDITY,

G/KG

3.9

TEMPERATURE,

DEG C

21.7

CARBON DIOXIDE,

G/MI

163.5

FUEL ECONOMY,

MPG

27.5

HYDROCARBONS, (THC)

G/MI

.02

CARBON MONOXIDE,

G/MI

.00

OXIDES OF NITROGEN,

G/MI

.78

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ADCC-2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 749.81 MM HG(29.52 IN HG)

RELATIVE HUMIDITY 21. PCT

BAG RESULTS

TEST CYCLE

VEHICLE NO.

DATE 3/10/89

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 21.7 DEG C(71.0 DEG F)

ABS. HUMIDITY 3.4 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)

ACTUAL ROAD LOAD 4.8 KM(6.5 HP)

GASOLINE EM-835-F

ODOMETER 89789. KM(55792. MILES)

NOX HUMIDITY CORRECTION FACTOR .80

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)

762.0 (30.0)

BLOWER INLET P MM. H2O(IN. H2O)

762.0 (30.0)

BLOWER INLET TEMP. DEG. C(DEG. F)

42.8 (109.0)

BLOWER REVOLUTIONS

48074.

TOT FLOW STD. CU. METRES(SCF)

90.6 (3199.)

THC SAMPLE METER/RANGE/PPM

8.4/ 2/ 9.

THC BCKGRD METER/RANGE/PPM

7.8/ 2/ 8.

CO SAMPLE METER/RANGE/PPM

.0/ 12/ 0.

CO BCKGRD METER/RANGE/PPM

.0/ 12/ 0.

CO2 SAMPLE METER/RANGE/PCT

68.4/ 1/1.2593

CO2 BCKGRD METER/RANGE/PCT

2.5/ 1/ .0441

NOX SAMPLE METER/RANGE/PPM

56.8/ 2/ 56.8

NOX BCKGRD METER/RANGE/PPM

.0/ 2/ .0

DILUTION FACTOR

9.52

THC CONCENTRATION PPM

1.

CO CONCENTRATION PPM

0.

CO2 CONCENTRATION PCT

1.2199

NOX CONCENTRATION PPM

56.8

THC MASS GRAMS

.16

CO MASS GRAMS

.00

CO2 MASS GRAMS

2023.5

NOX MASS GRAMS

7.92

RUN TIME SECONDS

600.

DFC, WET (DRY)

.895 (.889)

SCF, WET (DRY)

1.000 (.971)

VOL (SCM)

90.6

SAM BLR (SCM)

.00

MI (MEASURED)

9.20

TEST NUMBER,

ADCC-2

BAROMETER, MM HG

749.8

HUMIDITY, G/KG

3.4

TEMPERATURE, DEG C

21.7

CARBON DIOXIDE, G/MI

220.1

FUEL ECONOMY, MPG

20.4

HYDROCARBONS, (THC) G/MI

.02

CARBON MONOXIDE, G/MI

.00

OXIDES OF NITROGEN, G/MI

.86

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMC -1 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/15/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89851. KM(55831. MILES)

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 37. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR .91

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	731.5 (28.8)	734.1 (28.9)	734.1 (28.9)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	731.5 (28.8)	731.5 (28.8)	734.1 (28.9)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.7 (107.0)	42.2 (108.0)	41.7 (107.0)
BLOWER REVOLUTIONS	40469.	69586.	40435.	69540.
TOT FLOW STD. CUL. METRES(SCF)	75.4 (2664.)	130.0 (4589.)	75.4 (2663.)	129.8 (4582.)
THC SAMPLE METER/RANGE/PPM	38.5/ 2/ 39.	6.5/ 2/ 7.	7.4/ 2/ 8.	7.0/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.5/ 2/ 7.	6.5/ 2/ 7.	6.7/ 2/ 7.	7.2/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	54.7/ 1/ 475.	17.9/ 12/ 18.	54.9/ 12/ 54.	6.2/ 12/ 6.
CO BCKGRD METER/RANGE/PPM	.2/ 1/ 1.	.7/ 12/ 1.	.6/ 12/ 1.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	52.7/ 1/ .9653	74.1/ 14/ .5601	85.7/ 14/ .7702	72.1/ 14/ .5298
CO2 BCKGRD METER/RANGE/PCT	2.7/ 1/ .0476	12.2/ 14/ .0407	12.2/ 14/ .0407	12.2/ 14/ .0407
NOX SAMPLE METER/RANGE/PPM	55.0/ 1/ 13.8	26.4/ 1/ 6.7	71.9/ 1/ 18.0	29.4/ 1/ 7.4
NOX BCKGRD METER/RANGE/PPM	.3/ 1/ .1	.4/ 1/ .1	.4/ 1/ .1	.3/ 1/ .1
DILUTION FACTOR	11.82	21.32	15.45	22.58
THC CONCENTRATION PPM	33.	0.	1.	0.
CO CONCENTRATION PPM	455.	17.	52.	6.
CO2 CONCENTRATION PCT	.9217	.5213	.7321	.4909
NOX CONCENTRATION PPM	13.7	6.6	17.9	7.4
THC MASS GRAMS	3.01	.05	.11	.02
CO MASS GRAMS	39.94	2.51	4.55	.92
CO2 MASS GRAMS	1272.9	1240.3	1010.8	1166.4
NOX MASS GRAMS	1.80	1.49	2.35	1.66
THC GRAMS/MI	.83	.01	.03	.00
CO GRAMS/MI	11.05	.64	1.26	.24
CO2 GRAMS/MI	352.0	319.0	279.5	299.6
NOX GRAMS/MI	.50	.38	.65	.43
FUEL ECONOMY IN MPG	12.12	13.05	14.04	15.96
RUN TIME SECONDS	505.	868.	505.	868.
MEASURED DISTANCE MI	3.62	7.50	3.62	7.51
SCF, DRY	.971	.975	.974	.977
DFC, WET (DRY)		.939(.928)		.948(.937)
TOT VOL (SCM) / SAM BLR (SCM)		205.4/ .00		205.2/ .00

COMPOSITE RESULTS

TEST NUMBER AJMC -1
BAROMETER MM HG 739.4
HUMIDITY G/KG 7.7
TEMPERATURE DEG C 25.6

CARBON DIOXIDE	G/MI	315.0	(309.2
FUEL ECONOMY	MPG	14.05	(14.31
HYDROCARBONS (THC)	G/MI	.19	(.18
CARBON MONOXIDE	G/MI	2.97	(2.85
OXIDES OF NITROGEN	G/MI	.48	(.49

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

T NO. AJMC -1 RUN
ICLE MODEL 0 FORD ESCORT
INE 1.6 L(98. CID) L-4
MISSION A3

VEHICLE NO.
DATE 3/15/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 7.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89875. KM(55846. MILES)

OMETER 738.89 MM HG(29.09 IN HG)
ATIVE HUMIDITY 36. PCT
RESULTS
TEST CYCLE

NOX HUMIDITY CORRECTION FACTOR .90

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	734.1 (28.9)
BLOWER INLET P MM. H2O(IN. H2O)	731.5 (28.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48108.
TOT FLOW STD. CU. METRES(SCF)	89.7 (3167.)
THC SAMPLE METER/RANGE/PPM	6.9/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.4/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	.5/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	72.7/ 14/ .5387
CO2 BCKGRD METER/RANGE/PCT	12.3/ 14/ .0411
NOX SAMPLE METER/RANGE/PPM	74.9/ 1/ 18.8
NOX BCKGRD METER/RANGE/PPM	.3/ 1/ .1
DILUTION FACTOR	22.23
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4995
NOX CONCENTRATION PPM	18.7
THC MASS GRAMS	.09
CO MASS GRAMS	.05
CO2 MASS GRAMS	820.1
NOX MASS GRAMS	2.88
RUN TIME SECONDS	600.
DFC, WET (DRY)	.955 (.944)
SCF, WET (DRY)	1.000 (.979)
VOL (SCM)	89.7
SAM BLR (SCM)	.00
MI (MEASURED)	5.04

TEST NUMBER,	AJMC -1
BAROMETER, MM HG	738.9
HUMIDITY, G/KG	7.3
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	162.6
FUEL ECONOMY, MPG	27.6

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.57

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMC -1 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 738.89 MM HG(29.09 IN HG)
RELATIVE HUMIDITY 34. PCT
% RESULTS
TEST CYCLE

VEHICLE NO.
DATE 3/15/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.1 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89887. KM(55853. MILES)

NOX HUMIDITY CORRECTION FACTOR .89

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

754.4 (29.7)
751.8 (29.6)
41.7 (107.0)
48099.
89.5 (3160.)
7.0/ 2/ 7.
6.9/ 2/ 7.
.5/ 12/ 1.
.3/ 12/ 0.
67.9/ 1/1.2499
2.4/ 1/ .0423
63.4/ 2/ 63.4
.1/ 2/ .1
9.59
1.
0.
1.2120
63.3
.09
.02
1985.7
9.67
600.
.896 (.886)
1.000 (.967)
89.5
.00
9.22

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AJMC -1
738.9
7.1
25.6
215.4
20.9

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.01
.00
1.05

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMC -2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/16/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89901. KM(55862. MILES)

BAROMETER 742.70 MM HG(29.24 IN HG)
RELATIVE HUMIDITY 48. PCT

DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 9.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR .95

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	734.1 (28.9)	736.6 (29.0)	736.6 (29.0)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	734.1 (28.9)	736.6 (29.0)	736.6 (29.0)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)	42.8 (109.0)	42.2 (108.0)	42.2 (108.0)
BLOWER REVOLUTIONS	40446.	69573.	40461.	69504.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2677.)	130.2 (4598.)	75.8 (2677.)	130.2 (4598.)
THC SAMPLE METER/RANGE/PPM	38.2/ 2/ 39.	8.5/ 2/ 9.	9.4/ 2/ 10.	8.1/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	8.2/ 2/ 8.	8.5/ 2/ 9.	7.7/ 2/ 8.	8.4/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	56.6/ 1/ 495.	14.2/ 12/ 14.	39.3/ 12/ 39.	8.7/ 12/ 9.
CO BCKGRD METER/RANGE/PPM	.5/ 1/ 3.	2.0/ 12/ 2.	6.1/ 12/ 6.	4.3/ 12/ 4.
CO2 SAMPLE METER/RANGE/PCT	93.6/ 14/ .9589	73.8/ 14/ .5555	85.0/ 14/ .7555	71.4/ 14/ .5195
CO2 BCKGRD METER/RANGE/PCT	13.2/ 14/ .0446	13.1/ 14/ .0442	13.3/ 14/ .0450	13.2/ 14/ .0446
NOX SAMPLE METER/RANGE/PPM	39.7/ 1/ 10.0	27.5/ 1/ 7.0	74.2/ 1/ 18.6	31.1/ 1/ 7.9
NOX BCKGRD METER/RANGE/PPM	1.1/ 1/ .3	.8/ 1/ .2	.7/ 1/ .2	.5/ 1/ .1
DILUTION FACTOR	11.87	21.50	15.78	23.01
THC CONCENTRATION PPM	31.	0.	2.	0.
CO CONCENTRATION PPM	471.	12.	32.	4.
CO2 CONCENTRATION PCT	.9181	.5133	.7134	.4769
NOX CONCENTRATION PPM	9.7	6.8	18.4	7.7
THC MASS GRAMS	2.85	.06	.21	.01
CO MASS GRAMS	41.60	1.79	2.79	.66
CO2 MASS GRAMS	1274.2	1223.8	990.1	1136.9
NOX MASS GRAMS	1.33	1.60	2.53	1.82
THC GRAMS/MI	.79	.02	.06	.00
CO GRAMS/MI	11.53	.46	.77	.17
CO2 GRAMS/MI	353.1	314.9	273.3	291.1
NOX GRAMS/MI	.37	.41	.70	.47
FUEL ECONOMY IN MPG	12.06 13.10	14.24	16.36 15.86	15.42
RUN TIME SECONDS	504.	868.	505.	868.
MEASURED DISTANCE MI	3.61 7.50	3.89	3.62 7.53	3.90
SCF, DRY	.967 .972	.975	.971 .974	.975
DFC, WET (DRY)	.940(.925)		.949(.935)	
TOT VOL (SCM) / SAM BLR (SCM)	206.0/ .00		206.0/ .00	

COMPOSITE RESULTS

TEST NUMBER AJMC -2
BAROMETER MM HG 742.7
HUMIDITY G/KG 9.1
TEMPERATURE DEG C 23.9

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	311.4	(304.4)
FUEL ECONOMY MPG	14.21	(14.54)
HYDROCARBONS (THC) G/MI	.19	(.18)
CARBON MONOXIDE G/MI	2.84	(2.75)
OXIDES OF NITROGEN G/MI	.48	(.50)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMC -2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 741.93 MM HG(29.21 IN HG)
RELATIVE HUMIDITY 51. PCT
AG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS

RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SPM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 3/16/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 9.7 GM/KG

30 MPH

734.1 (28.9)
734.1 (28.9)
42.2 (108.0)
48061.
90.0 (3177.)
8.0/ 2/ 8.
8.2/ 2/ 8.
3.3/ 12/ 3.
2.3/ 12/ 2.
72.0/ 14/ .5283
13.0/ 14/ .0438
87.9/ 1/ 22.0
.7/ 1/ .2
22.65
0.
1.
.4864
21.8
.02
.11
801.3
3.64
600.
.956 (.940)
1.000 (.974)
90.0
.00
5.02

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89927. KM(55878. MILES)

NOX HUMIDITY CORRECTION FACTOR .97

TEST NUMBER,		AJMC -2
BAROMETER,	MM HG	741.9
HUMIDITY,	G/KG	9.7
TEMPERATURE,	DEG C	23.9
CARBON DIOXIDE,	G/MI	159.7
FUEL ECONOMY,	MPG	28.1
HYDROCARBONS, (THC)	G/MI	.00
CARBON MONOXIDE,	G/MI	.02
OXIDES OF NITROGEN,	G/MI	.72

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

NO. AJMC -2 RUN
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
EMISSION A3

BAROMETER 741.68 MM HG(29.20 IN HG)
RELATIVE HUMIDITY 46. PCT
RESULTS
TEST CYCLE

VEHICLE NO.
DATE 3/16/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89938. KM(55885. MILES)

NOX HUMIDITY CORRECTION FACTOR .95

BLOWER DIF P MM. H2O(IN. H2O)	759.5 (29.9)
BLOWER INLET P MM. H2O(IN. H2O)	756.9 (29.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48041.
TOT FLOW STD. CU. METRES(SCF)	89.6 (3164.)
THC SAMPLE METER/RANGE/PPM	7.9/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	8.2/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	4.1/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	2.1/ 12/ 2.
CO2 SAMPLE METER/RANGE/PCT	66.7/ 1/1.2274
CO2 BCKGRD METER/RANGE/PCT	2.5/ 1/ .0441
NOX SAMPLE METER/RANGE/PPM	62.8/ 2/ 62.8
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	9.76
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	1.1878
NOX CONCENTRATION PPM	62.5
THC MASS GRAMS	.06
CO MASS GRAMS	.21
CO2 MASS GRAMS	1948.3
NOX MASS GRAMS	10.22
RUN TIME SECONDS	600.
DFC, WET (DRY)	.898 (.884)
SCF, WET (DRY)	1.000 (.963)
VOL (SCM)	89.6
SAM BLR (SCM)	.00
MI (MEASURED)	9.19

TEST NUMBER,	AJMC -2
BAROMETER, MM HG	741.7
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	212.0
FUEL ECONOMY, MPG	21.2

/DROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.02
OXIDES OF NITROGEN, G/MI	1.11

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSUC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/23/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 89988. KM(55916. MILES)

BAROMETER 743.46 MM HG(29.27 IN HG)
RELATIVE HUMIDITY 42. PCT

DRY BULB TEMP. 22.2 DEG C(72.0 DEG F)
ABS. HUMIDITY 7.2 GM/KG

NOX HUMIDITY CORRECTION FACTOR .90

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	731.5 (28.8)	739.1 (29.1)	736.6 (29.0)	739.1 (29.1)
BLOWER INLET P MM. H2O(IN. H2O)	731.5 (28.8)	739.1 (29.1)	736.6 (29.0)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.7 (107.0)	42.2 (108.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40521.	69742.	40486.	69530.
TOT FLOW STD. CU. METRES(SCF)	76.0 (2683.)	130.9 (4622.)	75.9 (2681.)	130.7 (4614.)
THC SAMPLE METER/RANGE/PPM	47.1/ 2/ 47.	6.5/ 2/ 7.	8.8/ 2/ 9.	7.6/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	7.1/ 2/ 7.	6.8/ 2/ 7.	8.6/ 2/ 9.	7.9/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	57.3/ 1/ 503.	5.4/ 12/ 5.	39.2/ 12/ 39.	1.6/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.0/ 1/ 0.	.1/ 12/ 0.	.3/ 12/ 0.	.2/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	92.8/ 14/ .9376	72.2/ 14/ .5313	83.9/ 14/ .7331	70.4/ 14/ .5051
CO2 BCKGRD METER/RANGE/PCT	12.7/ 14/ .0426	12.7/ 14/ .0426	13.1/ 14/ .0442	12.9/ 14/ .0434
NOX SAMPLE METER/RANGE/PPM	53.9/ 1/ 13.5	29.9/ 1/ 7.6	76.3/ 1/ 19.1	31.1/ 1/ 7.9
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1	.5/ 1/ .1	.4/ 1/ .1	.5/ 1/ .1
DILUTION FACTOR	12.11	22.52	16.26	23.70
THC CONCENTRATION PPM	41.	0.	1.	0.
CO CONCENTRATION PPM	483.	5.	37.	1.
CO2 CONCENTRATION PCT	.8984	.4905	.6916	.4636
NOX CONCENTRATION PPM	13.4	7.4	19.0	7.7
THC MASS GRAMS	3.77	.00	.07	.01
CO MASS GRAMS	42.74	.79	3.27	.21
CO2 MASS GRAMS	1250.0	1175.6	961.6	1109.0
NOX MASS GRAMS	1.74	1.67	2.48	1.73
THC GRAMS/MI	1.05	.00	.02	.00
CO GRAMS/MI	11.95	.20	.91	.05
CO2 GRAMS/MI	349.3	303.6	267.1	285.6
NOX GRAMS/MI	.49	.43	.69	.45
FUEL ECONOMY IN MPG	12.15	13.39	16.73	16.20
RUN TIME SECONDS	505.	870.	505.	868.
MEASURED DISTANCE MI	3.58	7.45	3.60	7.48
SCF, DRY	.970	.974	.973	.976
DFC, WET (DRY)		.942(.929)		.951(.938)
TOT VOL (SCM) / SAM BLR (SCM)		206.9/ .00		206.6/ .00

COMPOSITE RESULTS

TEST NUMBER ANSUC-1
BAROMETER MM HG 743.5
HUMIDITY G/KG 7.2
TEMPERATURE DEG C 22.2

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	303.0	(297.7)
FUEL ECONOMY	MPG	14.60	(14.86)
HYDROCARBONS (THC)	G/MI	.22	(.22)
CARBON MONOXIDE	G/MI	2.82	(2.78)
OXIDES OF NITROGEN	G/MI	.51	(.52)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

ST NO. ANSUC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/23/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C (79.0 DEG F)
ABS. HUMIDITY 6.2 G/M³

TEST WEIGHT 1134. KG (2500. LBS)
ACTUAL ROAD LOAD 4.8 KW (6.5 HP)
GASOLINE EM-835-F
ODOMETER 90014. KM (55932. MILES)

BAROMETER 742.95 MM HG (29.25 IN HG)
RELATIVE HUMIDITY 29. PCT
6 RESULTS

NOX HUMIDITY CORRECTION FACTOR .87

TEST CYCLE

30 MPH

BLOWER DIF P MM. H ₂ O (IN. H ₂ O)	736.6 (29.0)
BLOWER INLET P MM. H ₂ O (IN. H ₂ O)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C (DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48096.
TOT FLOW STD. CU. METRES (SCF)	90.1 (3183.)
THC SAMPLE METER/RANGE/PPM	8.1/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	7.8/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	.6/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.1/ 12/ 0.
CO ₂ SAMPLE METER/RANGE/PCT	72.2/ 14/ .5313
CO ₂ BCKGRD METER/RANGE/PCT	12.8/ 14/ .0430
NOX SAMPLE METER/RANGE/PPM	96.3/ 1/ 24.0
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1
DILUTION FACTOR	22.54
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO ₂ CONCENTRATION PCT	.4902
NOX CONCENTRATION PPM	23.9
THC MASS GRAMS	.07
CO MASS GRAMS	.05
CO ₂ MASS GRAMS	809.0
NOX MASS GRAMS	3.58
RUN TIME SECONDS	600.
DFC, WET (DRY)	.956 (.947)
SCF, WET (DRY)	1.000 (.981)
VOL (SCH)	90.1
SAM BLR (SCH)	.00
MI (MEASURED)	5.04

TEST NUMBER,	ANSUC-1
BAROMETER, MM HG	743.0
HUMIDITY, G/KG	6.2
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	160.5
FUEL ECONOMY, MPG	28.0

HYDROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.71

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSUC-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 742.70 MM HG(29.24 IN HG)
RELATIVE HUMIDITY 31. PCT
16 RESULTS

TEST CYCLE

VEHICLE NO.
DATE 3/23/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 6.4 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90025. KM(55939. MILES)

NOX HUMIDITY CORRECTION FACTOR .88

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	759.5 (29.9)
BLOWER INLET P MM. H2O(IN. H2O)	756.9 (29.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48093.
TOT FLOW STD. CU. METRES(SCF)	89.8 (3172.)
THC SAMPLE METER/RANGE/PPM	7.8/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	7.8/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	1.2/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.9/ 1/1.2123
CO2 BCKGRD METER/RANGE/PCT	2.4/ 1/ .0423
NOX SAMPLE METER/RANGE/PPM	62.1/ 2/ 62.1
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	9.89
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	1.1743
NOX CONCENTRATION PPM	62.0
THC MASS GRAMS	.09
CO MASS GRAMS	.12
CO2 MASS GRAMS	1931.3
NOX MASS GRAMS	9.32
RUN TIME	600.
DFC, WET (DRY)	.899 (.890)
SCF, WET (DRY)	1.000 (.968)
VOL (SCM)	89.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.21

TEST NUMBER,	ANSUC-1
BAROMETER,	742.7
HUMIDITY,	6.4
TEMPERATURE,	25.6
CARBON DIOXIDE,	209.8
FUEL ECONOMY,	21.4

HYDROCARBONS, (THC)	6/MI	.01
CARBON MONOXIDE,	6/MI	.01
OXIDES OF NITROGEN,	6/MI	1.01

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSUC-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/24/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90043. KM(55950. MILES)

BAROMETER 741.93 MM HG(29.21 IN HG)
RELATIVE HUMIDITY 43. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 9.0 GM/KG

NOX HUMIDITY CORRECTION FACTOR .95

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)	739.1 (29.1)	739.1 (29.1)	739.1 (29.1)
BLOWER INLET P MM. H2O(IN. H2O)	736.6 (29.0)	739.1 (29.1)	739.1 (29.1)	739.1 (29.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.7 (107.0)	42.2 (108.0)	41.7 (107.0)
BLOWER REVOLUTIONS	40546.	69651.	40519.	69562.
TOT FLOW STD. CUL. METRES(SCF)	75.8 (2677.)	130.4 (4606.)	75.8 (2677.)	130.3 (4600.)
THC SAMPLE METER/RANGE/PPM	38.6/ 2/ 39.	8.1/ 2/ 8.	8.4/ 2/ 9.	8.3/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	7.8/ 2/ 8.	8.0/ 2/ 8.	8.1/ 2/ 8.	8.7/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	68.7/ 14/ 322.	11.6/ 12/ 12.	30.3/ 12/ 30.	2.9/ 12/ 3.
CO BCKGRD METER/RANGE/PPM	.1/ 14/ 0.	.3/ 12/ 0.	.7/ 12/ 1.	.7/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	92.4/ 14/ .9271	73.1/ 14/ .5448	84.7/ 14/ .7493	70.1/ 14/ .5009
CO2 BCKGRD METER/RANGE/PCT	12.6/ 14/ .0422	12.7/ 14/ .0426	12.7/ 14/ .0426	12.8/ 14/ .0430
NOX SAMPLE METER/RANGE/PPM	53.1/ 1/ 13.3	25.3/ 1/ 6.4	67.2/ 1/ 16.8	26.7/ 1/ 6.8
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ 0	.1/ 1/ 0	.5/ 1/ .1	.5/ 1/ .1
DILUTION FACTOR	12.47	21.94	15.93	23.89
THC CONCENTRATION PPM	32.	0.	1.	0.
CO CONCENTRATION PPM	309.	11.	28.	2.
CO2 CONCENTRATION PCT	.8882	.5041	.7094	.4597
NOX CONCENTRATION PPM	13.3	6.4	16.7	6.6
THC MASS GRAMS	2.92	.08	.08	.00
CO MASS GRAMS	27.27	1.66	2.48	.33
CO2 MASS GRAMS	1232.9	1203.8	984.5	1096.3
NOX MASS GRAMS	1.83	1.51	2.30	1.57
THC GRAMS/MI	.81	.02	.02	.00
CO GRAMS/MI	7.55	.43	.69	.09
CO2 GRAMS/MI	341.5	307.9	272.8	282.9
NOX GRAMS/MI	.51	.39	.64	.40
FUEL ECONOMY IN MPG	12.67	13.59	14.56	16.40
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.61	7.52	3.61	7.48
SCF, DRY	.969	.974	.973	.975
DFC, WET (DRY)	.942(.929)		.950(.937)	
TOT VOL (SCM) / SAM BLR (SCM)	206.3/ .00		206.1/ .00	

COMPOSITE RESULTS

TEST NUMBER ANSUC-2
BAROMETER MM HG 741.9
HUMIDITY G/KG 9.0
TEMPERATURE DEG C 25.6

CARBON DIOXIDE	G/MI	305.2	(297.8)
FUEL ECONOMY	MPG	14.56	(14.93)
HYDROCARBONS (THC)	G/MI	.18	(.1)
CARBON MONOXIDE	G/MI	1.97	(1.87)
OXIDES OF NITROGEN	G/MI	.48	(.49)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ASMUC RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/11/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90415. KM(56181. MILES)

BAROMETER 749.30 MM HG(29.50 IN HG)
RELATIVE HUMIDITY 23. PCT
BAG RESULTS

DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 4.4 GM/KG

NOX HUMIDITY CORRECTION FACTOR .83

BAG NUMBER DESCRIPTION	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)	756.9 (29.8)	749.3 (29.5)	756.9 (29.8)
BLOWER INLET P MM. H2O(IN. H2O)	751.8 (29.6)	759.5 (29.9)	751.8 (29.6)	759.5 (29.9)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)	38.9 (102.0)	41.1 (106.0)	38.3 (101.0)
BLOWER REVOLUTIONS	40521.	69673.	40454.	69627.
TOT FLOW STD. CU. METRES(SCF)	76.5 (2702.)	132.2 (4670.)	76.5 (2703.)	132.3 (4672.)
THC SAMPLE METER/RANGE/PPM	68.2/ 2/ 69.	6.6/ 2/ 7.	10.2/ 2/ 10.	6.7/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	7.4/ 2/ 8.	6.6/ 2/ 7.	6.2/ 2/ 6.	6.4/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	55.2/ 2/1103.	57.0/ 12/ 56.	51.3/ 14/ 229.	41.5/ 12/ 41.
CO BCKGRD METER/RANGE/PPM	.0/ 2/ 0.	.2/ 12/ 0.	.0/ 14/ 0.	.3/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	90.3/ 14/ .8743	72.5/ 14/ .5357	83.5/ 14/ .7251	69.7/ 14/ .4953
CO2 BCKGRD METER/RANGE/PCT	12.2/ 14/ .0407	12.2/ 14/ .0407	12.4/ 14/ .0415	12.4/ 14/ .0415
NOX SAMPLE METER/RANGE/PPM	75.8/ 1/ 19.0	26.5/ 1/ 6.7	81.1/ 1/ 20.3	32.8/ 1/ 8.3
NOX BCKGRD METER/RANGE/PPM	.6/ 1/ .2	.5/ 1/ .1	.5/ 1/ .1	.5/ 1/ .1
DILUTION FACTOR	12.14	22.13	16.03	23.99
THC CONCENTRATION PPM	62.	0.	4.	1.
CO CONCENTRATION PPM	1068.	55.	222.	40.
CO2 CONCENTRATION PCT	.8370	.4969	.6862	.4555
NOX CONCENTRATION PPM	18.9	6.6	20.2	8.1
THC MASS GRAMS	5.74	.05	.42	.09
CO MASS GRAMS	95.12	8.45	19.82	6.11
CO2 MASS GRAMS	1172.6	1203.1	961.7	1103.4
NOX MASS GRAMS	2.28	1.38	2.45	1.71
THC GRAMS/MI	1.59	.01	.12	.02
CO GRAMS/MI	26.42	2.18	5.50	1.57
CO2 GRAMS/MI	325.6	310.6	267.1	283.8
NOX GRAMS/MI	.63	.36	.68	.44
FUEL ECONOMY IN MPG	12.16 13.18	14.30	16.28 15.97	15.69
RUN TIME SECONDS	504.	868.	504.	868.
MEASURED DISTANCE MI	3.60 7.47	3.87	3.60 7.49	3.89
SCF, DRY	.977 .981	.983	.980 .982	.984
DFC, WET (DRY)	.941(.934)		.951(.944)	
TOT VOL (SCM) / SAM BLR (SCM)	208.8/ .00		208.8/ .00	

COMPOSITE RESULTS

TEST NUMBER ASMUC
BAROMETER MM HG 749.3
HUMIDITY G/KG 4.4
TEMPERATURE DEG C 24.4

CARBON DIOXIDE	G/MI	301.8	(293.9)
FUEL ECONOMY	MPG	14.26	(14.64)
HYDROCARBONS (THC)	G/MI	.37	(.37)
CARBON MONOXIDE	G/MI	8.12	(7.93)
OXIDES OF NITROGEN	G/MI	.50	(.53)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ASMUC RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/11/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 4.4 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90452. KM(56204. MILES)

BAROMETER 749.05 MM HG(29.49 IN HG)
RELATIVE HUMIDITY 23. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .83

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48114.
TOT FLOW STD. CU. METRES(SCF)	90.7 (3201.)
THC SAMPLE METER/RANGE/PPM	7.6/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	6.1/ 2/ 6.
CO SAMPLE METER/RANGE/PPM	.9/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.5/ 1/1.2048
CO2 BCKGRD METER/RANGE/PCT	2.5/ 1/ .0441
NOX SAMPLE METER/RANGE/PPM	63.2/ 2/ 63.2
NOX BCKGRD METER/RANGE/PPM	.2/ 2/ .2
DILUTION FACTOR	9.95
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	1.1652
NOX CONCENTRATION PPM	63.0
THC MASS GRAMS	.24
CO MASS GRAMS	.09
CO2 MASS GRAMS	1934.1
NOX MASS GRAMS	9.04
RUN TIME SECONDS	600.
DFC, WET (DRY)	.899 (.893)
SCF, WET (DRY)	1.000 (.971)
VOL (SCM)	90.7
SAM BLR (SCM)	.00
MI (MEASURED)	9.18

TEST NUMBER,	ASMUC
BAROMETER, MM HG	749.0
HUMIDITY, G/KG	4.4
TEMPERATURE, DEG C	24.4
CARBON DIOXIDE, G/MI	210.6
FUEL ECONOMY, MPG	21.3

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.98

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ASWUC RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 749.05 MM HG(29.49 IN HG)
RELATIVE HUMIDITY 21. PCT
BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS

RUN TIME SECONDS

DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

VEHICLE NO.
DATE 4/11/89
BAG CART NO. 2
BYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 4.2 GM/KG

30 MPH

754.4 (29.7)
749.3 (29.5)
40.0 (104.0)
48125.
91.2 (3221.)
6.7/ 2/ 7.
6.1/ 2/ 6.
.3/ 12/ 0.
.1/ 12/ 0.
71.7/ 14/ .5239
12.3/ 14/ .0411
38.1/ 2/ 38.1
.2/ 2/ .2
22.85
1.
0.
.4846
37.9
.10
.02
809.3
5.44
600.
.956 (.950)
1.000 (.984)
91.2
.00
5.02

ASWUC
749.0
4.2
25.0
161.1
27.9

.02
.00
1.08

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90440. KM(56197. MILES)

NOX HUMIDITY CORRECTION FACTOR .82

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ARSC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/13/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90482. KM(56223. MILES)

BAROMETER 743.20 MM HG(29.26 IN HG)
RELATIVE HUMIDITY 41. PCT

DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 7.7 GR/KG

NOX HUMIDITY CORRECTION FACTOR .91

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	739.1 (29.1)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	741.7 (29.2)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	42.2 (108.0)	43.3 (110.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40542.	69740.	40478.	69679.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2678.)	130.5 (4609.)	75.6 (2670.)	130.7 (4615.)
THC SAMPLE METER/RANGE/PPM	39.2/ 2/ 40.	7.3/ 2/ 7.	11.5/ 2/ 12.	7.5/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	6.5/ 2/ 7.	6.6/ 2/ 7.	6.7/ 2/ 7.	7.1/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	98.2/ 14/ 493.	6.3/ 12/ 6.	44.1/ 13/ 102.	3.8/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	.1/ 14/ 0.	.6/ 12/ 1.	.0/ 13/ 0.	.6/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	93.2/ 14/ .9482	73.4/ 14/ .5493	84.9/ 14/ .7535	71.3/ 14/ .5181
CO2 BCKGRD METER/RANGE/PCT	11.8/ 14/ .0391	10.0/ 14/ .0324	10.8/ 14/ .0354	11.9/ 14/ .0395
NOX SAMPLE METER/RANGE/PPM	46.6/ 1/ 11.7	27.3/ 1/ 6.9	70.7/ 1/ 17.7	30.9/ 1/ 7.8
NOX BCKGRD METER/RANGE/PPM	.2/ 1/ .1	.4/ 1/ .1	.6/ 1/ .2	.9/ 1/ .2
DILUTION FACTOR	12.00	21.78	15.69	23.10
THC CONCENTRATION PPM	33.	1.	5.	1.
CO CONCENTRATION PPM	473.	6.	99.	3.
CO2 CONCENTRATION PCT	.9123	.5184	.7203	.4802
NOX CONCENTRATION PPM	11.6	6.8	17.6	7.6
THC MASS GRAMS	3.09	.16	.49	.12
CO MASS GRAMS	41.75	.85	8.71	.48
CO2 MASS GRAMS	1266.5	1239.0	997.2	1149.0
NOX MASS GRAMS	1.54	1.55	2.31	1.72
THC GRAMS/MI	.86	.04	.14	.03
CO GRAMS/MI	11.60	.22	2.42	.12
CO2 GRAMS/MI	351.9	317.9	276.8	294.8
NOX GRAMS/MI	.43	.40	.64	.44
FUEL ECONOMY IN MPG	12.10	13.07	14.12	16.00
RUN TIME SECONDS	504.	868.	504.	868.
MEASURED DISTANCE MI	3.60	7.50	3.60	7.50
SCF, DRY	.970	.974	.977	.977
DFC, WET (DRY)	.940(.928)		.949(.937)	
TOT VOL (SCM) / SAM BLR (SCM)	206.4/ .00		206.3/ .00	

COMPOSITE RESULTS

TEST NUMBER ARSC2-1
BAROMETER MM HG 743.2
HUMIDITY G/KG 7.7
TEMPERATURE DEG C 23.9

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	313.7	(306.8)
FUEL ECONOMY	MPG	14.08	(14.40)
HYDROCARBONS (THC)	G/MI	.24	(.23)
CARBON MONOXIDE	G/MI	3.17	(3.14)
OXIDES OF NITROGEN	G/MI	.47	(.48)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ARSC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/13/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90519. KM(56246. MILES)

BAROMETER 743.20 MM HG(29.26 IN HG)
RELATIVE HUMIDITY 37. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .91

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48142.
TOT FLOW STD. CU. METRES(SCF)	90.0 (3178.)
THC SAMPLE METER/RANGE/PPM	8.3/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	6.5/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	1.9/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.2/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	63.3/ 1/1.1636
CO2 BCKGRD METER/RANGE/PCT	2.3/ 1/ .0406
NOX SAMPLE METER/RANGE/PPM	71.3/ 2/ 71.3
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	10.30
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	1.1269
NOX CONCENTRATION PPM	71.0
THC MASS GRAMS	.27
CO MASS GRAMS	.17
CO2 MASS GRAMS	1857.2
NOX MASS GRAMS	11.11
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.903 (.892)
SCF, WET (DRY)	1.000 (.967)
VOL (SCM)	90.0
SAM BLR (SCM)	.00
MI (MEASURED)	9.16

TEST NUMBER,	ARSC2-1
BAROMETER,	MM HG
743.2	
HUMIDITY,	G/KG
7.7	
TEMPERATURE,	DEG C
25.6	
CARBON DIOXIDE,	G/MI
202.7	
FUEL ECONOMY,	MPG
22.2	
HYDROCARBONS, (THC)	G/MI
.03	
CARBON MONOXIDE,	G/MI
.02	
OXIDES OF NITROGEN,	G/MI
1.21	

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/13/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90508. KM(56239. MILES)

BAROMETER 743.20 MM HG(29.26 IN HG)
RELATIVE HUMIDITY 37. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .91

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48158.
TOT FLOW STD. CU. METRES(SCF)	90.1 (3183.)
THC SAMPLE METER/RANGE/PPM	7.1/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.5/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	1.3/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	73.0/ 14/ .5432
CO2 BCKGRD METER/RANGE/PCT	12.1/ 14/ .0403
NOX SAMPLE METER/RANGE/PPM	83.0/ 1/ 20.8
NOX BCKGRD METER/RANGE/PPM	.9/ 1/ .2
DILUTION FACTOR	22.04
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.5048
NOX CONCENTRATION PPM	20.6
THC MASS GRAMS	.10
CO MASS GRAMS	.13
CO2 MASS GRAMS	833.0
NOX MASS GRAMS	3.22
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.955 (.943)
SCF, WET (DRY)	1.000 (.978)
VOL (SCM)	90.1
SAM BLR (SCM)	.00
MI (MEASURED)	5.02

TEST NUMBER,	AASC2-1
BAROMETER,	MM HG
	743.2
HUMIDITY,	G/KG
	7.7
TEMPERATURE,	DEG C
	25.6
CARBON DIOXIDE,	G/MI
	165.8
FUEL ECONOMY,	MPG
	27.1

HYDROCARBONS, (THC)	G/MI	.02
CARBON MONOXIDE,	G/MI	.03
OXIDES OF NITROGEN,	G/MI	.64

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC2-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/14/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90532. KM(56254. MILES)

BAROMETER 742.19 MM HG(29.22 IN HG)
RELATIVE HUMIDITY 54. PCT
BAG RESULTS

DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 10.0 GM/KG

NOX HUMIDITY CORRECTION FACTOR .98

BAG NUMBER DESCRIPTION	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	41.1 (106.0)	42.8 (109.0)	40.6 (105.0)
BLOWER REVOLUTIONS	40610.	69658.	40494.	69637.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2675.)	130.5 (4606.)	75.6 (2670.)	130.5 (4609.)
THC SAMPLE METER/RANGE/PPM	49.5/ 2/ 50.	8.4/ 2/ 9.	10.5/ 2/ 11.	7.8/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	7.1/ 2/ 7.	7.6/ 2/ 8.	6.9/ 2/ 7.	7.4/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	66.3/ 1/ 608.	31.3/ 12/ 31.	50.6/ 12/ 50.	8.2/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.1/ 1/ 1.	.5/ 12/ 1.	.0/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.2/ 14/ .9482	73.7/ 14/ .5539	85.1/ 14/ .7576	71.0/ 14/ .5137
CO2 BCKGRD METER/RANGE/PCT	11.8/ 14/ .0391	11.9/ 14/ .0395	12.0/ 14/ .0399	12.1/ 14/ .0403
NOX SAMPLE METER/RANGE/PPM	52.0/ 1/ 13.0	28.7/ 1/ 7.3	72.6/ 1/ 18.2	32.3/ 1/ 8.1
NOX BCKGRD METER/RANGE/PPM	.1/ 1/ .0	.1/ 1/ .0	.5/ 1/ .1	.6/ 1/ .2
DILUTION FACTOR	11.86	21.50	15.71	23.27
THC CONCENTRATION PPM	43.	1.	4.	1.
CO CONCENTRATION PPM	580.	29.	48.	8.
CO2 CONCENTRATION PCT	.9123	.5162	.7202	.4752
NOX CONCENTRATION PPM	13.0	7.2	18.1	8.0
THC MASS GRAMS	3.98	.19	.38	.12
CO MASS GRAMS	51.16	4.45	4.22	1.21
CO2 MASS GRAMS	1265.3	1232.9	996.9	1135.6
NOX MASS GRAMS	1.84	1.76	2.55	1.95
THC GRAMS/MI	1.11	.05	.11	.03
CO GRAMS/MI	14.21	1.15	1.17	.31
CO2 GRAMS/MI	351.5	317.6	277.4	293.0
NOX GRAMS/MI	.51	.45	.71	.50
FUEL ECONOMY IN MPG	11.97	12.97	16.08	15.67
RUN TIME SECONDS	505.	867.	504.	868.
MEASURED DISTANCE MI	3.60	7.48	3.59	7.47
SCF, DRY	.965	.970	.969	.972
DFT, WET (DRY)		.940(.923)		.949(.933)
TOT VOL (SCM) / SAM BLR (SCM)		206.2/ .00		206.1/ .00

COMPOSITE RESULTS

TEST NUMBER AASC2-2
BAROMETER MM HG 742.2
HUMIDITY G/KG 10.0
TEMPERATURE DEG C 23.3

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	313.6	(306.3)
FUEL ECONOMY	MPG	14.04	(14.38)
HYDROCARBONS (THC)	G/MI	.28	(.2)
CARBON MONOXIDE	G/MI	3.86	(3.61)
OXIDES OF NITROGEN	G/MI	.54	(.55)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC2-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/14/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 9.5 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 88948. KM(55270. MILES)

BAROMETER 742.19 MM HG(29.22 IN HG)
RELATIVE HUMIDITY 44. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .96

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48134.
TOT FLOW STD. CU. METRES(SCF)	90.0 (3176.)
THC SAMPLE METER/RANGE/PPM	8.0/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	7.1/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	.8/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	72.2/ 14/ .5313
CO2 BCKGRD METER/RANGE/PCT	11.8/ 14/ .0391
NOX SAMPLE METER/RANGE/PPM	32.5/ 2/ 32.5
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	22.54
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.4939
NOX CONCENTRATION PPM	32.3
THC MASS GRAMS	.14
CO MASS GRAMS	.08
CO2 MASS GRAMS	813.3
NOX MASS GRAMS	5.33
RUN TIME	600.
DFC, WET (DRY)	.956 (.942)
SCF, WET (DRY)	1.000 (.976)
VOL (SCM)	90.0
SAM BLR (SCM)	.00
MI (MEASURED)	5.02

TEST NUMBER,	AASC2-2
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG

HYDROCARBONS, (THC)	G/MI	.03
CARBON MONOXIDE,	G/MI	.02
OXIDES OF NITROGEN,	G/MI	1.06

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC2-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/14/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.2 DEG C(72.0 DEG F)
ABS. HUMIDITY 9.8 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90569. KM(56277. MILES)

BAROMETER 742.19 MM HG(29.22 IN HG)
RELATIVE HUMIDITY 57. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .97

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48108.
TOT FLOW STD. CU. METRES(SCF)	89.8 (3171.)
THC SAMPLE METER/RANGE/PPM	9.8/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	8.5/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	.2/ 12/ 0.
CO BCKGRD METER/RANGE/PPM	.1/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	65.9/ 1/1.2123
CO2 BCKGRD METER/RANGE/PCT	2.3/ 1/ .0406
NOX SAMPLE METER/RANGE/PPM	62.7/ 2/ 62.7
NOX BCKGRD METER/RANGE/PPM	.1/ 2/ .1
DILUTION FACTOR	9.88
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1759
NOX CONCENTRATION PPM	62.6
THC MASS GRAMS	.24
CO MASS GRAMS	.01
CO2 MASS GRAMS	1933.5
NOX MASS GRAMS	10.43
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.899 (.882)
SCF, WET (DRY)	1.000 (.960)
VOL (SCM)	89.8
SAM BLR (SCM)	.00
MI (MEASURED)	9.17

TEST NUMBER,	AASC2-2
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG
HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/19/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90609. KM(56302. MILES)

BAROMETER 742.44 MM HG(29.23 IN HG)
RELATIVE HUMIDITY 58. PCT

DRY BULB TEMP. 27.2 DEG C(81.0 DEG F)
ABS. HUMIDITY 13.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.10

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	42.2 (108.0)	43.3 (110.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40597.	69595.	40522.	69598.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2675.)	130.1 (4594.)	75.6 (2670.)	130.4 (4604.)
THC SAMPLE METER/RANGE/PPM	43.5/ 2/ 44.	9.4/ 2/ 10.	9.6/ 2/ 10.	6.8/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	8.7/ 2/ 9.	8.2/ 2/ 8.	6.3/ 2/ 6.	5.8/ 2/ 6.
CO SAMPLE METER/RANGE/PPM	58.4/ 1/ 516.	14.2/ 12/ 14.	34.2/ 12/ 34.	4.5/ 12/ 5.
CO BCKGRD METER/RANGE/PPM	.2/ 1/ 1.	.0/ 12/ 0.	.0/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	91.9/ 14/ .9142	72.6/ 14/ .5372	84.1/ 14/ .7371	70.1/ 14/ .5009
CO2 BCKGRD METER/RANGE/PCT	13.1/ 14/ .0442	11.6/ 14/ .0384	11.2/ 14/ .0369	11.1/ 14/ .0365
NOX SAMPLE METER/RANGE/PPM	35.5/ 1/ 8.9	20.2/ 1/ 5.2	55.8/ 1/ 14.0	23.7/ 1/ 6.0
NOX BCKGRD METER/RANGE/PPM	.1/ 1/ .0	.1/ 1/ .0	.0/ 1/ .0	.2/ 1/ .1
DILUTION FACTOR	12.39	22.23	16.18	23.89
THC CONCENTRATION PPM	36.	2.	4.	1.
CO CONCENTRATION PPM	491.	14.	32.	4.
CO2 CONCENTRATION PCT	.8736	.5006	.7025	.4659
NOX CONCENTRATION PPM	8.9	5.1	14.0	6.0
THC MASS GRAMS	3.29	.25	.35	.20
CO MASS GRAMS	43.34	2.07	2.84	.67
CO2 MASS GRAMS	1211.6	1192.4	972.5	1112.2
NOX MASS GRAMS	1.42	1.40	2.22	1.64
THC GRAMS/MI	.92	.07	.10	.05
CO GRAMS/MI	12.18	.54	.80	.17
CO2 GRAMS/MI	340.5	309.9	272.3	289.1
NOX GRAMS/MI	.40	.36	.62	.43
FUEL ECONOMY IN MPG	12.44	13.41	16.41	15.94
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.56	7.41	3.57	7.42
SCF, DRY	.965	.969	.968	.972
DFC, WET (DRY)		.942(.924)		.951(.933)
TOT VOL (SCM) / SAM BLR (SCM)		205.9/ .00		206.0/ .00

COMPOSITE RESULTS

TEST NUMBER AASC3-1
BAROMETER MM HG 742.4
HUMIDITY G/KG 13.5
TEMPERATURE DEG C 27.2

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	305.9	(299.8)
FUEL ECONOMY MPG	14.45	(14.75)
HYDROCARBONS (THC) G/MI	.25	(.25)
CARBON MONOXIDE G/MI	3.01	(2.91)
OXIDES OF NITROGEN G/MI	.44	(.46)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

BAROMETER 742.95 MM HG(29.25 IN HG)
RELATIVE HUMIDITY 42. PCT

BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCH)
SAM BLR (SCH)
MI (MEASURED)

VEHICLE NO.
DATE 4/19/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 8.1 GM/KG

30 MPH

739.1 (29.1)
739.1 (29.1)
41.7 (107.0)
48138.
90.3 (3188.)
9.1/ 2/ 9.
8.3/ 2/ 9.
5.0/ 12/ 5.
.0/ 12/ 0.
73.8/ 14/ .5555
14.4/ 14/ .0494
59.2/ 1/ 14.8
.6/ 1/ .2
21.54
1.
5.
.5083
14.7
.13
.51
840.3
2.34
600.
.954 (.941)
1.000 (.977)
90.3
.00
5.00

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90638. KM(56320. MILES)

NOX HUMIDITY CORRECTION FACTOR .92

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

AASC3-1
743.0
8.1
24.4
168.1
26.7

.03
.10
.47

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AASC3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 743.20 MM HG(29.26 IN HG)
RELATIVE HUMIDITY 54. PCT

BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM

DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS

RUN TIME SECONDS

DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 4/19/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 9.5 GM/KG

55 MPH

754.4 (29.7)
754.4 (29.7)
42.8 (109.0)
48099.
89.9 (3173.)
10.7/ 2/ 11.
8.7/ 2/ 9.
3.4/ 12/ 3.
3.4/ 12/ 3.
63.8/ 1/1.1729
3.1/ 1/ .0547
55.0/ 2/ 55.0
.3/ 2/ .3

10.21

3.

0.

1.1236

54.7

.32

.02

1848.6

9.05

600.

.902 (.886)

1.000 (.962)

89.9

.00

9.10

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90650. KM(56327. MILES)

NOX HUMIDITY CORRECTION FACTOR .96

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AASC3-1
743.2
9.5
22.8
203.2
22.1

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.03
.00
.99

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/20/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90675. KM(56343. MILES)

BAROMETER 743.46 MM HG(29.27 IN HG)
RELATIVE HUMIDITY 64. PCT

DRY BULB TEMP. 21.7 DEG C(71.0 DEG F)
ABS. HUMIDITY 10.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.00

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	40.6 (105.0)	42.2 (108.0)	40.6 (105.0)
BLOWER REVOLUTIONS	40608.	69792.	40443.	69781.
TOT FLOW STD. CU. METRES(SCF)	76.0 (2682.)	131.1 (4629.)	75.7 (2673.)	131.1 (4628.)
THC SAMPLE METER/RANGE/PPM	86.5/ 2/ 87.	10.7/ 2/ 11.	14.4/ 2/ 15.	10.7/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.8/ 2/ 10.	10.5/ 2/ 11.	10.0/ 2/ 10.	10.3/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	67.5/ 1/ 622.	5.3/ 12/ 5.	48.6/ 13/ 113.	2.3/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.0/ 1/ 0.	.7/ 12/ 1.	.5/ 13/ 1.	1.3/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	93.2/ 14/ .9482	73.8/ 14/ .5555	85.4/ 14/ .7639	71.2/ 14/ .5166
CO2 BCKGRD METER/RANGE/PCT	13.3/ 14/ .0450	13.5/ 14/ .0458	13.9/ 14/ .0474	13.9/ 14/ .0474
NOX SAMPLE METER/RANGE/PPM	40.9/ 1/ 10.3	19.3/ 1/ 4.9	50.3/ 1/ 12.6	22.7/ 1/ 5.8
NOX BCKGRD METER/RANGE/PPM	.8/ 1/ .2	.9/ 1/ .2	.8/ 1/ .2	.8/ 1/ .2
DILUTION FACTOR	11.80	21.53	15.45	23.16
THC CONCENTRATION PPM	78.	1.	5.	1.
CO CONCENTRATION PPM	593.	4.	108.	1.
CO2 CONCENTRATION PCT	.9070	.5118	.7195	.4713
NOX CONCENTRATION PPM	10.1	4.7	12.4	5.6
THC MASS GRAMS	7.18	.11	.47	.14
CO MASS GRAMS	52.41	.68	9.48	.15
CO2 MASS GRAMS	1261.4	1228.3	997.4	1131.0
NOX MASS GRAMS	1.46	1.18	1.79	1.39
THC GRAMS/MI	2.01	.03	.13	.04
CO GRAMS/MI	14.64	.18	2.64	.04
CO2 GRAMS/MI	352.4	316.4	278.1	294.2
NOX GRAMS/MI	.41	.30	.50	.36
FUEL ECONOMY IN MPG	11.87	12.97	15.91	15.57
RUN TIME SECONDS	505.	869.	505.	868.
MEASURED DISTANCE MI	3.58	7.46	3.59	7.43
SCF, DRY	.962	.969	.965	.968
DFC, WET (DRY)		.940(.920)		.949(.929)
TOT VOL (SCM) / SAM BLR (SCM)		207.0/ .00		206.8/ .00

COMPOSITE RESULTS

TEST NUMBER ANSC2-1
BAROMETER MM HG 743.5
HUMIDITY G/KG 10.7
TEMPERATURE DEG C 21.7

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	313.3	(306.7)
FUEL ECONOMY	MPG	14.04	(14.34)
HYDROCARBONS (THC)	G/MI	.46	(.47)
CARBON MONOXIDE	G/MI	3.84	(3.80)
OXIDES OF NITROGEN	G/MI	.38	(.40)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/20/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 10.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90701. KM(56359. MILES)

BAROMETER 743.97 MM HG(29.29 IN HG)
RELATIVE HUMIDITY 58. PCT

NOX HUMIDITY CORRECTION FACTOR .98

BAG RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	40.6 (105.0)
BLOWER REVOLUTIONS	48114.
TOT FLOW STD. CU. METRES(SCF)	90.4 (3193.)
THC SAMPLE METER/RANGE/PPM	10.8/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	10.0/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	.9/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.7/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	72.4/ 14/ .5342
CO2 BCKGRD METER/RANGE/PCT	13.8/ 14/ .0470
NOX SAMPLE METER/RANGE/PPM	32.2/ 2/ 32.2
NOX BCKGRD METER/RANGE/PPM	.4/ 2/ .4
DILUTION FACTOR	22.40
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4894
NOX CONCENTRATION PPM	31.9
THC MASS GRAMS	.14
CO MASS GRAMS	.02
CO2 MASS GRAMS	810.2
NOX MASS GRAMS	5.42
RUN TIME	600.
DFC, WET (DRY)	.955 (.938)
SCF, WET (DRY)	1.000 (.972)
VOL (SCM)	90.4
SAM BLR (SCM)	.00
MI (MEASURED)	5.00

TEST NUMBER,	ANSC2-1
BAROMETER,	MM HG 744.0
HUMIDITY,	G/KG 10.2
TEMPERATURE,	DEG C 22.8
CARBON DIOXIDE,	G/MI 162.2
FUEL ECONOMY,	MPG 27.7

HYDROCARBONS, (THC)	G/MI .03
CARBON MONOXIDE,	G/MI .00
OXIDES OF NITROGEN,	G/MI 1.08

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. ANSC2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/20/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 10.2 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90711. KM(56365. MILES)

BAROMETER 743.97 MM HG(29.29 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .98

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48094.
TOT FLOW STD. CU. METRES(SCF)	89.9 (3176.)
THC SAMPLE METER/RANGE/PPM	10.7/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.9/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	.7/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.5/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	65.6/ 1/1.2067
CO2 BCKGRD METER/RANGE/PCT	2.5/ 1/ .0441
NOX SAMPLE METER/RANGE/PPM	41.1/ 2/ 41.1
NOX BCKGRD METER/RANGE/PPM	.5/ 2/ .5
DILUTION FACTOR	9.93
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1671
NOX CONCENTRATION PPM	40.7
THC MASS GRAMS	.20
CO MASS GRAMS	.02
CO2 MASS GRAMS	1921.6
NOX MASS GRAMS	6.87
RUN TIME SECONDS	600.
DFC, WET (DRY)	.899 (.883)
SCF, WET (DRY)	1.000 (.960)
VOL (SCM)	89.9
SAM BLR (SCM)	.00
MI (MEASURED)	9.14

TEST NUMBER,	ANSC2-1
BAROMETER, MM HG	744.0
HUMIDITY, G/KG	10.2
TEMPERATURE, DEG C	22.8
CARBON DIOXIDE, G/MI	210.2
FUEL ECONOMY, MPG	21.4

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.75

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM1-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/29/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 8.6 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90146. KM(56014. MILES)
NOX HUMIDITY CORRECTION FACTOR .94

BAROMETER 737.36 MM HG(29.03 IN HG)
RELATIVE HUMIDITY 38. PCT
BAG RESULTS

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	48153.
TOT FLOW STD. CU. METRES(SCF)	89.5 (3161.)
THC SAMPLE METER/RANGE/PPM	6.8/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.6/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	.3/ 12/ 0.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	72.9/ 14/ .5417
CO2 BCKGRD METER/RANGE/PCT	11.6/ 14/ .0384
NOX SAMPLE METER/RANGE/PPM	40.2/ 1/ 10.1
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1
DILUTION FACTOR	22.11
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.5051
NOX CONCENTRATION PPM	10.0
THC MASS GRAMS	.06
CO MASS GRAMS	.03
CO2 MASS GRAMS	827.7
NOX MASS GRAMS	1.60
RUN TIME	600.
DFT, WET (DRY)	.955 (.943)
SCF, WET (DRY)	1.000 (.978)
VOL (SCM)	89.5
SAM BLR (SCM)	.00
MI (MEASURED)	5.06

TEST NUMBER,	AJMM1-1
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG

HYDROCARBONS, (THC)	G/MI	.01
CARBON MONOXIDE,	G/MI	.01
OXIDES OF NITROGEN,	G/MI	.32

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM1-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/29/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 8.0 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90155. KM(56020. MILES)

BAROMETER 737.36 MM HG(29.03 IN HG)
RELATIVE HUMIDITY 39. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .92

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	48142.
TOT FLOW STD. CU. METRES(SCF)	89.3 (3153.)
THC SAMPLE METER/RANGE/PPM	7.0/ 2/ 7.
THC BCKGRD METER/RANGE/PPM	6.7/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	.2/ 12/ 0.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	64.1/ 1/1.1786
CO2 BCKGRD METER/RANGE/PCT	2.2/ 1/ .0388
NOX SAMPLE METER/RANGE/PPM	54.5/ 2/ 54.5
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	10.17
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1436
NOX CONCENTRATION PPM	54.2
THC MASS GRAMS	.11
CO MASS GRAMS	.02
CO2 MASS GRAMS	1869.9
NOX MASS GRAMS	8.50
RUN TIME	600.
SECONDS	.902 (.890)
DFC, WET (DRY)	1.000 (.966)
SCF, WET (DRY)	89.3
VOL (SCM)	.00
SAM BLR (SCM)	9.21
MI (MEASURED)	

TEST NUMBER,	AJMM1-1
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG
	737.4
	8.0
	25.0
	203.0
	22.1
HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI
	.01
	.00
	.92

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM1-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/30/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90170. KM(56029. MILES)

BAROMETER 736.60 MM HG(29.00 IN HG)
RELATIVE HUMIDITY 34. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 7.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR .89

BAG RESULTS

BAG NUMBER
DESCRIPTION

1	2	3	4
COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
736.6 (29.0)	741.7 (29.2)	736.6 (29.0)	741.7 (29.2)
736.6 (29.0)	741.7 (29.2)	736.6 (29.0)	741.7 (29.2)
41.7 (107.0)	40.0 (104.0)	42.2 (108.0)	40.6 (105.0)
40592.	69638.	40531.	69536.
75.4 (2664.)	129.7 (4581.)	75.3 (2657.)	129.4 (4569.)
39.9/ 2/ 40.	7.7/ 2/ 8.	8.0/ 2/ 8.	7.6/ 2/ 8.
8.0/ 2/ 8.	8.1/ 2/ 8.	7.5/ 2/ 8.	8.0/ 2/ 8.
80.8/ 14/ 391.	20.9/ 12/ 21.	34.1/ 12/ 34.	6.8/ 12/ 7.
.1/ 14/ 0.	.5/ 12/ 1.	.0/ 12/ 0.	.0/ 12/ 0.
92.8/ 14/ .9376	73.3/ 14/ .5478	84.9/ 14/ .7535	71.0/ 14/ .5137
13.0/ 14/ .0438	12.7/ 14/ .0426	12.4/ 14/ .0415	12.3/ 14/ .0411
47.5/ 1/ 11.9	21.0/ 1/ 5.4	57.0/ 1/ 14.3	22.3/ 1/ 5.7
.5/ 1/ .1	.4/ 1/ .1	.4/ 1/ .1	.5/ 1/ .1
12.25	21.78	15.83	23.28
33.	0.	1.	0.
377.	20.	32.	7.
.8973	.5071	.7146	.4744
11.8	5.3	14.2	5.5
3.01	.00	.09	.00
33.07	2.97	2.84	1.00
1239.5	1204.6	984.6	1124.0
1.52	1.17	1.83	1.23
.84	.00	.03	.00
9.22	.76	.80	.26
345.5	310.6	275.7	291.0
.42	.30	.51	.32
12.44	13.39	16.22	15.42
505.	868.	505.	867.
3.59	7.47	3.57	7.43
.972	.977	.975	.980
	.941(.931)		.950(.939)
	205.2/ .00		204.7/ .00

COMPOSITE RESULTS

TEST NUMBER AJMM1-2
BAROMETER MM HG 736.6
HUMIDITY G/KG 7.1
TEMPERATURE DEG C 25.6

CARBON DIOXIDE	G/MI	308.3	(302.4)
FUEL ECONOMY	MPG	14.38	(14.66)
HYDROCARBONS (THC)	G/MI	.18	(.1)
CARBON MONOXIDE	G/MI	2.52	(2.37)
OXIDES OF NITROGEN	G/MI	.38	(.39)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM1-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 3/30/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 6.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90196. KM(56045. MILES)

BAROMETER 736.60 MM HG(29.00 IN HG)
RELATIVE HUMIDITY 33. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .88

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DTC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

731.5 (28.8)
731.5 (28.8)
41.7 (107.0)
48144.
89.5 (3162.)
6.9/ 2/ 7.
6.3/ 2/ 6.
.4/ 12/ 0.
.4/ 12/ 0.
72.8/ 14/ .5402
11.7/ 14/ .0388
53.3/ 1/ 13.4
.5/ 1/ .1
22.17
1.
0.
.5032
13.2
.10
.00
825.0
2.00
600.
.955 (.945)
1.000 (.980)
89.5
.00
5.06

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AJMM1-2
736.6
6.7
25.0
163.1
27.5

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.02
.00
.40

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM1-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 736.60 MM HG(29.00 IN HG)
RELATIVE HUMIDITY 31. PCT
BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 3/30/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 6.5 GM/KG

55 MPH

754.4 (29.7)
754.4 (29.7)
42.8 (109.0)
48126.
89.0 (3144.)
7.7/ 2/ 8.
7.7/ 2/ 8.
.6/ 12/ 1.
.6/ 12/ 1.
64.5/ 1/1.1861
2.1/ 1/ .0370
54.8/ 2/ 54.8
.3/ 2/ .3
10.10
1.
0.
1.1527
54.5
.08
.00
1878.9
8.15
600.
.901 (.892)
1.000 (.969)
89.0
.00
9.21

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90205. KM(56051. MILES)

NOX HUMIDITY CORRECTION FACTOR .88

TEST NUMBER,		AJMM1-2
BAROMETER,	MM HG	736.6
HUMIDITY,	G/KG	6.5
TEMPERATURE,	DEG C	25.6
CARBON DIOXIDE,	G/MI	204.1
FUEL ECONOMY,	MPG	22.0
HYDROCARBONS, (THC)	G/MI	.01
CARBON MONOXIDE,	G/MI	.00
OXIDES OF NITROGEN,	G/MI	.88

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 3/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90238. KM(56071. MILES)

BAROMETER 736.60 MM HG(29.00 IN HG)
RELATIVE HUMIDITY 77. PCT

DRY BULB TEMP. 22.2 DEG C(72.0 DEG F)
ABS. HUMIDITY 13.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.10

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	739.1 (29.1)	739.1 (29.1)	736.6 (29.0)	739.1 (29.1)
BLOWER INLET P MM. H2O(IN. H2O)	739.1 (29.1)	739.1 (29.1)	736.6 (29.0)	739.1 (29.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.1 (106.0)	42.8 (109.0)	41.7 (107.0)
BLOWER REVOLUTIONS	40600.	69631.	40558.	69540.
TOT FLOW STD. CU. METRES(SCF)	75.3 (2658.)	129.5 (4573.)	75.2 (2656.)	129.2 (4562.)
THC SAMPLE METER/RANGE/PPM	43.4/ 2/ 44.	8.6/ 2/ 9.	9.3/ 2/ 10.	9.4/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	8.6/ 2/ 9.	8.6/ 2/ 9.	9.1/ 2/ 9.	9.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	92.5/ 14/ 460.	13.4/ 12/ 13.	60.0/ 12/ 59.	8.1/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.2/ 14/ 1.	1.0/ 12/ 1.	1.3/ 12/ 1.	1.3/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	92.6/ 14/ .9323	74.5/ 14/ .5663	86.4/ 14/ .7851	71.7/ 14/ .5239
CO2 BCKGRD METER/RANGE/PCT	12.8/ 14/ .0430	12.8/ 14/ .0430	13.0/ 14/ .0438	13.1/ 14/ .0442
NOX SAMPLE METER/RANGE/PPM	46.3/ 1/ 11.6	20.0/ 1/ 5.1	53.2/ 1/ 13.3	23.3/ 1/ 5.9
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1	.0/ 1/ .0	.0/ 1/ .0	.0/ 1/ .0
DILUTION FACTOR	12.23	21.10	15.15	22.82
THC CONCENTRATION PPM	36.	0.	1.	0.
CO CONCENTRATION PPM	436.	12.	55.	7.
CO2 CONCENTRATION PCT	.8928	.5254	.7442	.4816
NOX CONCENTRATION PPM	11.5	5.1	13.3	5.9
THC MASS GRAMS	3.27	.07	.08	.07
CO MASS GRAMS	38.18	1.79	4.85	.99
CO2 MASS GRAMS	1230.6	1245.6	1025.0	1139.2
NOX MASS GRAMS	1.82	1.39	2.11	1.61
THC GRAMS/MI	.91	.02	.02	.02
CO GRAMS/MI	10.62	.46	1.35	.25
CO2 GRAMS/MI	342.4	321.8	285.0	293.8
NOX GRAMS/MI	.51	.36	.59	.41
FUEL ECONOMY IN MPG	12.47	13.18	13.93	15.65
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.59	7.47	3.87	7.47
SCF, DRY	.958	.962	.965	.961
DFC, WET (DRY)		.940(.916)		.948(.924)
TOT VOL (SCM) / SAM BLR (SCM)		204.8/ .00		204.4/ .00

COMPOSITE RESULTS

TEST NUMBER AJMM2-1
BAROMETER MM HG 736.6
HUMIDITY G/KG 13.5
TEMPERATURE DEG C 22.2

	3-BAG	(4-BAG)
CARBON DIOXIDE	6/MI	316.0 (307.7)
FUEL ECONOMY	MPG	14.01 (14.39)
HYDROCARBONS (THC)	6/MI	.20 (.20)
CARBON MONOXIDE	6/MI	2.81 (2.75)
OXIDES OF NITROGEN	6/MI	.45 (.47)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

BAROMETER 736.85 MM HG(29.01 IN HG)
RELATIVE HUMIDITY 74. PCT
BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SPM BLR (SCM)
MI (MEASURED)

VEHICLE NO.
DATE 4/ 3/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 13.7 GM/KG

30 MPH

736.6 (29.0)
736.6 (29.0)
42.2 (108.0)
48148.
89.4 (3158.)
9.7/ 2/ 10.
9.6/ 2/ 10.
1.6/ 12/ 2.
1.6/ 12/ 2.
73.5/ 14/ .5509
13.2/ 14/ .0446
30.2/ 1/ 7.6
.4/ 1/ .1
21.73
1.
0.
.5083
7.5
.06
.00
832.2
1.43
600.
.954 (.931)
1.000 (.966)
89.4
.00
5.03

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90262. KM(56086. MILES)

NOX HUMIDITY CORRECTION FACTOR 1.11

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AJMM2-1
736.9
13.7
23.3
165.5
27.1

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.01
.00
.28

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM2-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 3/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 11.0 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90273. KM(56093. MILES)

BAROMETER 736.85 MM HG(29.01 IN HG)
RELATIVE HUMIDITY 56. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR 1.01

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48102.
TOT FLOW STD. CU. METRES(SCF)	89.1 (3146.)
THC SAMPLE METER/RANGE/PPM	9.7/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	9.7/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	1.2/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.8/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	66.4/ 1/1.2217
CO2 BCKGRD METER/RANGE/PCT	2.6/ 1/ .0459
NOX SAMPLE METER/RANGE/PPM	42.5/ 2/ 42.5
NOX BCKGRD METER/RANGE/PPM	.2/ 2/ .2
DILUTION FACTOR	9.81
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1805
NOX CONCENTRATION PPM	42.3
THC MASS GRAMS	.11
CO MASS GRAMS	.05
CO2 MASS GRAMS	1925.4
NOX MASS GRAMS	7.28
RUN TIME	600.
DFC, WET (DRY)	.898 (.882)
SCF, WET (DRY)	1.000 (.960)
VOL (SCM)	89.1
SAM BLR (SCM)	.00
MI (MEASURED)	9.19

TEST NUMBER,	AJMM2-1
BAROMETER, MM HG	736.9
HUMIDITY, G/KG	11.0
TEMPERATURE, DEG C	24.4
CARBON DIOXIDE, G/MI	209.4
FUEL ECONOMY, MPG	21.5

HYDROCARBONS, (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.79

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM2-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 4/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90287. KM(56102. MILES)

BAROMETER 736.60 MM HG(29.00 IN HG)
RELATIVE HUMIDITY 52. PCT
BAG RESULTS

DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
ABS. HUMIDITY 10.3 GM/KG

NOX HUMIDITY CORRECTION FACTOR .99

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.1 (106.0)	42.2 (108.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40512.	69633.	40444.	69550.
TOT FLOW STD. CU. METRES(SCF)	74.7 (2639.)	128.8 (4549.)	74.7 (2637.)	128.7 (4543.)
THC SAMPLE METER/RANGE/PPM	65.4/ 2/ 66.	8.5/ 2/ 9.	8.4/ 2/ 9.	8.5/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	12.2/ 2/ 12.	8.8/ 2/ 9.	8.3/ 2/ 9.	8.8/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	60.4/ 1/ 538.	11.7/ 12/ 12.	42.2/ 12/ 42.	8.3/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.3/ 1/ 2.	.5/ 12/ 1.	1.5/ 12/ 2.	1.5/ 12/ 2.
CO2 SAMPLE METER/RANGE/PCT	92.7/ 14/ .9349	74.7/ 14/ .5695	86.4/ 14/ .7851	71.9/ 14/ .5268
CO2 BCKGRD METER/RANGE/PCT	13.2/ 14/ .0446	13.2/ 14/ .0446	13.1/ 14/ .0442	13.0/ 14/ .0438
NOX SAMPLE METER/RANGE/PPM	53.0/ 1/ 13.3	21.9/ 1/ 5.6	58.6/ 1/ 14.7	23.8/ 1/ 6.0
NOX BCKGRD METER/RANGE/PPM	.4/ 1/ .1	.7/ 1/ .2	.6/ 1/ .2	.6/ 1/ .2
DILUTION FACTOR	12.08	20.99	15.18	22.69
THC CONCENTRATION PPM	54.	0.	1.	0.
CO CONCENTRATION PPM	513.	11.	39.	7.
CO2 CONCENTRATION PCT	.8940	.5270	.7438	.4850
NOX CONCENTRATION PPM	13.2	5.4	14.5	5.9
THC MASS GRAMS	4.94	.02	.06	.01
CO MASS GRAMS	44.65	1.62	3.35	.99
CO2 MASS GRAMS	1223.2	1243.1	1016.9	1142.4
NOX MASS GRAMS	1.86	1.31	2.05	1.43
THC GRAMS/MI	1.37	.01	.02	.00
CO GRAMS/MI	12.39	.42	.93	.26
CO2 GRAMS/MI	339.4	319.0	283.5	296.3
NOX GRAMS/MI	.52	.34	.57	.37
FUEL ECONOMY IN MPG	12.45	13.24	14.06	15.77
RUN TIME SECONDS	504.	868.	504.	868.
MEASURED DISTANCE MI	3.60	7.50	3.90	7.44
SCF, DRY	.966	.971	.973	.974
DFC, WET (DRY)		.939(.924)		.948(.932)
TOT VOL (SCM) / SAM BLR (SCM)		203.6/ .00		203.3/ .00

COMPOSITE RESULTS

TEST NUMBER AJMM2-2
BAROMETER MM HG 736.6
HUMIDITY G/KG 10.3
TEMPERATURE DEG C 24.4

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	313.5	(306.7)
FUEL ECONOMY MPG	14.10	(14.41)
HYDROCARBONS (THC) G/MI	.29	(.2)
CARBON MONOXIDE G/MI	3.03	(2.98)
OXIDES OF NITROGEN G/MI	.44	(.45)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJM42-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L (98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 4/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90312. KM(56117. MILES)

BAROMETER 738.38 MM HG(29.07 IN HG)
RELATIVE HUMIDITY 46. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .96

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

762.0 (30.0)
762.0 (30.0)
42.2 (108.0)
48130.
89.3 (3152.)
7.6/ 2/ 8.
7.7/ 2/ 8.
1.5/ 12/ 2.
1.0/ 12/ 1.
72.9/ 14/ .5417
12.4/ 14/ .0415
41.9/ 1/ 10.5
.5/ 1/ .1
22.10
0.
1.
.5022
10.4
.03
.05
820.7
1.70
600.
.955 (.941)
1.000 (.975)
89.3
.00
5.03

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

AJM42-2
738.4
9.3
25.0
163.1
27.5

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.01
.01
.34

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM2-2 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/ 4/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 9.3 G/MKG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90323. KM(56124. MILES)
NOX HUMIDITY CORRECTION FACTOR .96

BAROMETER 738.38 MM HG(29.07 IN HG)
RELATIVE HUMIDITY 46. PCT
BAG RESULTS

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48099.
TOT FLOW STD. CU. METRES(SCF)	89.1 (3147.)
THC SAMPLE METER/RANGE/PPM	7.4/ 2/ 8.
THC BCKGRD METER/RANGE/PPM	6.8/ 2/ 7.
CO SAMPLE METER/RANGE/PPM	2.4/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.6/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	65.2/ 1/1.1992
CO2 BCKGRD METER/RANGE/PCT	2.4/ 1/ .0423
NOX SAMPLE METER/RANGE/PPM	46.4/ 2/ 46.4
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	9.99
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	1.1611
NOX CONCENTRATION PPM	46.1
THC MASS GRAMS	.14
CO MASS GRAMS	.18
CO2 MASS GRAMS	1894.4
NOX MASS GRAMS	7.52
RUN TIME SECONDS	600.
DFC, WET (DRY)	.900 (.887)
SCF, WET (DRY)	1.000 (.964)
VOL (SCM)	89.1
SAM BLR (SCM)	.00
MI (MEASURED)	9.19

TEST NUMBER,	AJMM2-2
BAROMETER, MM HG	738.4
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	25.0
CARBON DIOXIDE, G/MI	206.1
FUEL ECONOMY, MPG	21.8

HYDROCARBONS, (THC) G/MI	.02
CARBON MONOXIDE, G/MI	.02
OXIDES OF NITROGEN, G/MI	.82

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/25/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KM(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90759. KM(56395. MILES)

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 61. PCT

DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 11.0 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.01

BAG RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM H2O(IN. H2O)	734.1 (28.9)	739.1 (29.1)	734.1 (28.9)	739.1 (29.1)
BLOWER INLET P MM H2O(IN. H2O)	731.5 (28.8)	739.1 (29.1)	734.1 (28.9)	739.1 (29.1)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	40.6 (105.0)	42.2 (108.0)	40.0 (104.0)
BLOWER REVOLUTIONS	40524.	69524.	40450.	69509.
TOT FLOW STD. CU. METRES(SCF)	75.5 (2664.)	130.0 (4589.)	75.4 (2664.)	130.1 (4593.)
THC SAMPLE METER/RANGE/PPM	79.5/ 2/ 80.	12.1/ 2/ 12.	20.9/ 2/ 21.	12.9/ 2/ 13.
THC BCKGRD METER/RANGE/PPM	12.1/ 2/ 12.	12.1/ 2/ 12.	10.5/ 2/ 11.	11.5/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	73.7/ 1/ 700.	6.4/ 12/ 6.	80.2/ 12/ 80.	8.0/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.6/ 1/ 4.	3.7/ 12/ 4.	3.8/ 12/ 4.	4.7/ 12/ 5.
CO2 SAMPLE METER/RANGE/PCT	90.5/ 14/ .8792	72.0/ 14/ .5283	84.0/ 14/ .7351	70.8/ 14/ .5108
CO2 BCKGRD METER/RANGE/PCT	14.0/ 14/ .0478	14.2/ 14/ .0486	14.3/ 14/ .0490	14.6/ 14/ .0502
NOX SAMPLE METER/RANGE/PPM	48.0/ 1/ 12.0	19.5/ 1/ 5.0	57.4/ 1/ 14.4	23.9/ 1/ 6.1
NOX BCKGRD METER/RANGE/PPM	.9/ 1/ .2	1.1/ 1/ .3	1.1/ 1/ .3	1.2/ 1/ .3
DILUTION FACTOR	12.57	22.62	16.10	23.38
THC CONCENTRATION PPM	68.	1.	11.	2.
CO CONCENTRATION PPM	665.	3.	73.	3.
CO2 CONCENTRATION PCT	.8352	.4819	.6891	.4628
NOX CONCENTRATION PPM	11.8	4.7	14.1	5.8
THC MASS GRAMS	6.29	.09	1.03	.30
CO MASS GRAMS	58.41	.41	6.45	.50
CO2 MASS GRAMS	1153.8	1146.6	951.8	1102.1
NOX MASS GRAMS	1.72	1.18	2.05	1.45
THC GRAMS/MI	1.74	.02	.28	.08
CO GRAMS/MI	16.15	.10	1.76	.13
CO2 GRAMS/MI	319.0	293.2	260.4	282.0
NOX GRAMS/MI	.48	.30	.56	.37
FUEL ECONOMY IN MPG	12.95	14.08	17.04	16.44
RUN TIME SECONDS	505.	867.	505.	868.
MEASURED DISTANCE MI	3.62	7.53	3.65	7.56
SCF, DRY	.964	.968	.967	.969
DFC, WET (DRY)		.943(.924)		.950(.931)
TOT VOL (SCF) / SAM BLR (SCM)		205.4/ .00		205.5/ .00

COMPOSITE RESULTS

TEST NUMBER AJMM3-1
BAROMETER MM HG 739.4
HUMIDITY G/KG 11.0
TEMPERATURE DEG C 22.8

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	289.5	(286.2)
FUEL ECONOMY MPG	15.16	(15.33)
HYDROCARBONS (THC) G/MI	.45	(.46)
CARBON MONOXIDE G/MI	3.88	(3.88)
OXIDES OF NITROGEN G/MI	.41	(.43)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
30 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/25/89
BAG CART NO. 2
DYND NO. 3
CVS NO. 2
DRY BULB TEMP. 22.8 DEG C(73.0 DEG F)
ABS. HUMIDITY 10.3 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90785. KM(56411. MILES)

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .99

TEST CYCLE

30 MPH

BLOWER DIF P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET P MM. H2O(IN. H2O)	736.6 (29.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	41.1 (106.0)
BLOWER REVOLUTIONS	48080.
TOT FLOW STD. CU. METRES(SCF)	89.8 (3172.)
THC SAMPLE METER/RANGE/PPM	12.5/ 2/ 13.
THC BCKGRD METER/RANGE/PPM	10.1/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	3.7/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	3.7/ 12/ 4.
CO2 SAMPLE METER/RANGE/PCT	72.9/ 14/ .5417
CO2 BCKGRD METER/RANGE/PCT	14.4/ 14/ .0494
NOX SAMPLE METER/RANGE/PPM	69.8/ 1/ 17.5
NOX BCKGRD METER/RANGE/PPM	1.1/ 1/ .3
DILUTION FACTOR	22.07
THC CONCENTRATION PPM	3.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	.4946
NOX CONCENTRATION PPM	17.2
THC MASS GRAMS	.32
CO MASS GRAMS	.01
CO2 MASS GRAMS	813.3
NOX MASS GRAMS	2.91
RUN TIME	600.
SECONDS	
DFC, WET (DRY)	.955 (.937)
SCF, WET (DRY)	1.000 (.972)
VOL (SCM)	89.8
SAM BLR (SCM)	.00
MI (MEASURED)	5.03

TEST NUMBER,	AJMM3-1
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG

HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
55 MPH- VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. AJMM3-1 RUN 1
VEHICLE MODEL 0 FORD ESCORT
ENGINE 1.6 L(98. CID) L-4
TRANSMISSION A3

VEHICLE NO.
DATE 4/25/89
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 23.3 DEG C(74.0 DEG F)
ABS. HUMIDITY 10.7 GM/KG

TEST WEIGHT 1134. KG(2500. LBS)
ACTUAL ROAD LOAD 4.8 KW(6.5 HP)
GASOLINE EM-835-F
ODOMETER 90796. KM(56418. MILES)

BAROMETER 739.39 MM HG(29.11 IN HG)
RELATIVE HUMIDITY 58. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR 1.00

TEST CYCLE

55 MPH

BLOWER DIF P MM. H2O(IN. H2O)	741.7 (29.2)
BLOWER INLET P MM. H2O(IN. H2O)	741.7 (29.2)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	48091.
TOT FLOW STD. CU. METRES(SCF)	89.5 (3160.)
THC SAMPLE METER/RANGE/PPM	12.5/ 2/ 13.
THC BCKGRD METER/RANGE/PPM	11.5/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	4.3/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	4.3/ 12/ 4.
CO2 SAMPLE METER/RANGE/PCT	65.4/ 1/1.2030
CO2 BCKGRD METER/RANGE/PCT	2.8/ 1/ .0494
NOX SAMPLE METER/RANGE/PPM	45.6/ 2/ 45.6
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3
DILUTION FACTOR	9.96
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	0.
CO2 CONCENTRATION PCT	1.1585
NOX CONCENTRATION PPM	45.3
THC MASS GRAMS	.24
CO MASS GRAMS	.03
CO2 MASS GRAMS	1898.4
NOX MASS GRAMS	7.76
RUN TIME SECONDS	600.
DFC, WET (DRY)	.900 (.883)
SCF, WET (DRY)	1.000 (.960)
VOL (SCM)	89.5
SAM BLR (SCM)	.00
MI (MEASURED)	9.21

TEST NUMBER,	AJMM3-1
BAROMETER, MM HG	739.4
HUMIDITY, G/KG	10.7
TEMPERATURE, DEG C	23.3
CARBON DIOXIDE, G/MI	206.1
FUEL ECONOMY, MPG	21.8

HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.00
OXIDES OF NITROGEN, G/MI	.84

APPENDIX B

COMPUTER PRINTOUT OF TOYOTA CAMRY ENGINE-OUT EMISSIONS FOR M85

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - FUEL BLEND-
PROJECT 08-2346-001

TEST NO. 82TBL RUN 2
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO.311
DATE 11/21/89
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-954-F
ODOMETER 36514. KM(22689. MILES)

BAROMETER 741.43 MM HG(29.19 IN HG)
RELATIVE HUMIDITY 48. PCT
BAG RESULTS

DRY BULB TEMP. 23.9 DEG C(75.0 DEG F)
ABS. HUMIDITY 9.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR .95

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	713.7 (28.1)	716.3 (28.2)	711.2 (28.0)	711.2 (28.0)
BLOWER INLET P MM. H2O(IN. H2O)	711.2 (28.0)	713.7 (28.1)	711.2 (28.0)	711.2 (28.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)	40.6 (105.0)	41.1 (106.0)	40.0 (104.0)
BLOWER REVOLUTIONS	40532.	69605.	40526.	69542.
TOT FLOW STD. CU. METRES(SCF)	76.1 (2686.)	131.0 (4625.)	76.2 (2691.)	131.1 (4628.)
THC SAMPLE METER/RANGE/PPM	13.2/ 3/ 133.	73.0/ 2/ 73.	90.5/ 2/ 91.	70.2/ 2/ 71.
THC BCKGRD METER/RANGE/PPM	2.4/ 3/ 24.	17.3/ 2/ 18.	13.6/ 2/ 14.	15.2/ 2/ 16.
CO SAMPLE METER/RANGE/PPM	66.3/ 1/ 608.	53.2/ 14/ 238.	61.2/ 14/ 281.	54.4/ 14/ 245.
CO BCKGRD METER/RANGE/PPM	.4/ 1/ 3.	.4/ 14/ 2.	.3/ 14/ 1.	.3/ 14/ 1.
CO2 SAMPLE METER/RANGE/PCT	83.8/ 14/ .7311	67.9/ 14/ .4706	80.4/ 14/ .6661	67.8/ 14/ .4693
CO2 BCKGRD METER/RANGE/PCT	13.1/ 14/ .0442	12.9/ 14/ .0434	12.8/ 14/ .0430	12.7/ 14/ .0426
NOX SAMPLE METER/RANGE/PPM	60.3/ 2/ 60.3	33.0/ 2/ 33.0	55.9/ 2/ 55.9	33.9/ 2/ 33.9
NOX BCKGRD METER/RANGE/PPM	.5/ 2/ .5	.5/ 2/ .5	.2/ 2/ .2	.3/ 2/ .3
DILUTION FACTOR	14.99	24.01	17.13	24.06
THC CONCENTRATION PPM	110.	56.	78.	56.
CO CONCENTRATION PPM	584.	230.	270.	237.
CO2 CONCENTRATION PCT	.6898	.4290	.6256	.4284
NOX CONCENTRATION PPM	59.8	32.6	55.7	33.6
THC MASS GRAMS	9.33	8.22	6.59	8.12
CO MASS GRAMS	51.69	35.11	23.99	36.12
CO2 MASS GRAMS	960.8	1028.9	873.1	1028.1
NOX MASS GRAMS	8.25	7.74	7.70	8.00
THC GRAMS/MI	2.60	2.14	1.83	2.10
CO GRAMS/MI	14.39	9.14	6.68	9.35
CO2 GRAMS/MI	267.5	267.7	243.1	266.3
NOX GRAMS/MI	2.30	2.01	2.14	2.07
FUEL ECONOMY IN MPG	16.55	16.81	18.99	17.97
RUN TIME SECONDS	505.	868.	505.	867.
MEASURED DISTANCE MI	3.59	7.44	3.59	7.45
SCF, DRY	.972	.975	.973	.977
DFC, WET (DRY)		.949(.934)		.952(.938)
TOT VOL (SCM) / SAM BLR (SCM)		207.1/ .00		207.3/ .00

COMPOSITE RESULTS

TEST NUMBER 82TBL
BAROMETER MM HG 741.4
HUMIDITY G/KG 9.1
TEMPERATURE DEG C 23.9

CARBON DIOXIDE	G/MI	3-BAG	(4-BAG)
FUEL ECONOMY	MPG	260.9	(260.5)
HYDROCARBONS (THC)	G/MI	17.43	(17.45)
CARBON MONOXIDE	G/MI	2.15	(2.14)
OXIDES OF NITROGEN	G/MI	9.55	(9.62)
		2.11	(2.13)

APPENDIX C

COMPUTER PRINTOUTS OF TOYOTA CAMRY TASK 2 EMISSION TESTS

Page C-	Test No.	Fuel	Catalyst	Test Cycle
2	B2TTCU-01	M85	OEM	FTP
3	B2TTCU-01	M85	OEM	HFET
4	B2TTCU-01	M85	OEM	NYCC
5	B2THCU-01	M85	Camet	FTP
6	B2THCU-01	M85	Camet	HFET
7	B2THCU-01	M85	Camet	NYCC
8	B2THCU-02	M85	Camet	FTP
9	B2THCU-02	M85	Camet	HFET
10	B2THCU-02	M85	Camet	NYCC
11	B2TDCC-01	M85	Degussa	FTP
12	B2TDCC-01	M85	Degussa	HFET
13	B2TDCC-01	M85	Degussa	NYCC
14	B2TDCC-02	M85	Degussa	FTP
15	B2TDCC-02	M85	Degussa	HFET
16	B2TDCC-02	M85	Degussa	NYCC
17	B2TJM2-01	M85	JM	FTP
18	B1TJM2-01	M85	JM	HFET
19	B1TJM2-01	M85	JM	NYCC
20	B2TJM2-02	M85	JM	FTP
21	B2TJM2-02	M85	JM	HFET
22	B2TJM2-02	M85	JM	NYCC

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2TTCU-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/13/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG (3000. LBS)
ACTUAL ROAD LOAD 5.5 KW (7.4 HP)
GASOLINE EM-998-F
ODOMETER 36658. KM (22778. MILES)

BAROMETER 734.06 MM HG (28.90 IN HG)
RELATIVE HUMIDITY 56. PCT
TEST RESULTS

DRY BULB TEMP. 25.0 DEG C (77.0 DEG F)
ABS. HUMIDITY 11.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.03

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O (IN. H2O)	782.3 (30.8)	759.5 (29.9)	759.5 (29.9)	759.5 (29.9)
BLOWER INLET P MM. H2O (IN. H2O)	779.8 (30.7)	756.9 (29.8)	756.9 (29.8)	756.9 (29.8)
BLOWER INLET TEMP. DEG. C (DEG. F)	43.3 (110.0)	41.7 (107.0)	42.8 (109.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40457.	69424.	40438.	69362.
TOT FLOW STD. CU. METRES (SCF)	74.2 (2620.)	128.1 (4524.)	74.5 (2630.)	128.1 (4525.)
THC SAMPLE METER/RANGE/PPM	79.7/ 2/ 79.	17.1/ 2/ 17.	19.9/ 2/ 20.	19.0/ 2/ 19.
THC BCKGRD METER/RANGE/PPM	16.8/ 2/ 17.	17.0/ 2/ 17.	17.6/ 2/ 17.	18.6/ 2/ 18.
CO SAMPLE METER/RANGE/PPM	66.6/ 14/ 310.	12.1/ 12/ 12.	17.0/ 12/ 16.	16.7/ 12/ 16.
CO BCKGRD METER/RANGE/PPM	.3/ 14/ 1.	1.0/ 12/ 1.	1.0/ 12/ 1.	.9/ 12/ 1.
CO2 SAMPLE METER/RANGE/PCT	86.0/ 14/ .7765	70.5/ 14/ .5066	82.6/ 14/ .7075	69.9/ 14/ .4981
CO2 BCKGRD METER/RANGE/PCT	13.4/ 14/ .0454	13.3/ 14/ .0450	13.4/ 14/ .0454	13.5/ 14/ .0458
NOX SAMPLE METER/RANGE/PPM	23.6/ 2/ 23.7	17.3/ 1/ 4.4	38.0/ 1/ 9.6	19.5/ 1/ 5.0
NOX BCKGRD METER/RANGE/PPM	.3/ 2/ .3	1.0/ 1/ .3	.9/ 1/ .2	.8/ 1/ .2
DILUTION FACTOR	14.78	23.63	16.92	24.00
THC CONCENTRATION PPM	63.	1.	3.	1.
CO CONCENTRATION PPM	297.	10.	15.	15.
CO2 CONCENTRATION PCT	.7342	.4635	.6648	.4542
NOX CONCENTRATION PPM	23.4	4.2	9.3	4.8
THC MASS GRAMS	5.23	.12	.27	.17
CO MASS GRAMS	25.67	1.55	1.30	2.21
CO2 MASS GRAMS	997.3	1087.2	906.5	1065.5
NOX MASS GRAMS	3.41	1.05	1.37	1.20
THC GRAMS/MI	1.47	.03	.08	.04
CO GRAMS/MI	7.21	.41	.36	.58
CO2 GRAMS/MI	280.2	284.6	253.9	277.1
NOX GRAMS/MI	.96	.28	.38	.31
FUEL ECONOMY IN MPG	16.78	17.04	17.29	18.49
RUN TIME SECONDS	505.	867.	505.	867.
MEASURED DISTANCE MI	3.56	7.38	3.57	7.42
SCF, DRY	.969	.972	.970	.973
DFC, WET (DRY)	.948 (.931)		.952 (.935)	
TOT VOL (SCM) / SAM BLR (SCM)	202.3/ .00		202.6/ .00	

COMPOSITE RESULTS

TEST NUMBER B2TTCU-01
BAROMETER MM HG 734.1
HUMIDITY G/KG 11.5
TEMPERATURE DEG C 25.0

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	275.2	(273.0)
FUEL ECONOMY MPG	17.70	(17.83)
HYDROCARBONS (THC) G/MI	.34	(.35)
CARBON MONOXIDE G/MI	1.81	(1.86)
OXIDES OF NITROGEN G/MI	.45	(.46)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2TTCU-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/13/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 10.6 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36680. KM(22792. MILES)
NOX HUMIDITY CORRECTION FACTOR 1.00

BAROMETER 733.04 MM HG(28.86 IN HG)
RELATIVE HUMIDITY 50. PCT
3 RESULTS
TEST CYCLE

HFET

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	759.5 (29.9)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	61224.
TOT FLOW STD. CU. METRES(SCF)	112.4 (3970.)
THC SAMPLE METER/RANGE/PPM	19.1/ 2/ 19.
THC BCKGRD METER/RANGE/PPM	17.1/ 2/ 17.
CO SAMPLE METER/RANGE/PPM	6.3/ 12/ 6.
CO BCKGRD METER/RANGE/PPM	.5/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.5/ 14/ .9562
CO2 BCKGRD METER/RANGE/PCT	13.5/ 14/ .0458
NOX SAMPLE METER/RANGE/PPM	35.2/ 1/ 8.9
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1
DILUTION FACTOR	12.55
THC CONCENTRATION PPM	3.
CO CONCENTRATION PPM	5.
CO2 CONCENTRATION PCT	.9141
NOX CONCENTRATION PPM	8.7
THC MASS GRAMS	.42
CO MASS GRAMS	.70
CO2 MASS GRAMS	1881.6
NOX MASS GRAMS	1.87
RUN TIME	765.
DFC, WET (DRY)	.920 (.906)
SCF, WET (DRY)	1.000 (.968)
VOL (SCM)	112.4
SAM BLR (SCM)	.00
MI (MEASURED)	10.12

TEST NUMBER,	B2TTCU-01
BAROMETER, MM HG	733.0
HUMIDITY, G/KG	10.6
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	185.9
FUEL ECONOMY, MPG	26.5
HYDROCARBONS, (THC) G/MI	.04
CARBON MONOXIDE, G/MI	.07
OXIDES OF NITROGEN, G/MI	.19

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
 NYCC - VEHICLE EMISSIONS RESULTS - 85% METHANOL
 PROJECT 08-2346-001

T NO. B2TTCU-01 RUN 1
 ICLE MODEL 86 TOYOTA CAMRY
 INE 2.0 L(122. CID) L-4
 NSMISSION A3

VEHICLE NO.311
 DATE 3/13/90
 BAG CART NO. 2
 DYNO NO. 3
 CVS NO. 2
 DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)
 ABS. HUMIDITY 11.8 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
 ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
 GASOLINE EM-998-F
 ODOMETER 36696. KM(22802. MILES)
 NOX HUMIDITY CORRECTION FACTOR 1.04

OMETER 732.28 MM HG(28.83 IN HG)
 ATIVE HUMIDITY 59. PCT
 RESULTS
 TEST CYCLE

NYCC

BLOWER DIF P MM. H2O(IN. H2O)	749.3 (29.5)
BLOWER INLET P MM. H2O(IN. H2O)	746.8 (29.4)
BLOWER INLET TEMP. DEG. C(DES. F)	42.8 (109.0)
BLOWER REVOLUTIONS	47852.
TOT FLOW STD. CU. METRES(SCF)	88.0 (3108.)
THC SAMPLE METER/RANGE/PPM	19.0/ 2/ 19.
THC BCKGRD METER/RANGE/PPM	15.8/ 2/ 16.
CO SAMPLE METER/RANGE/PPM	50.0/ 12/ 49.
CO BCKGRD METER/RANGE/PPM	.5/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	60.6/ 14/ .3804
CO2 BCKGRD METER/RANGE/PCT	13.5/ 14/ .0458
NOX SAMPLE METER/RANGE/PPM	14.9/ 1/ 3.8
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1
DILUTION FACTOR	31.09
THC CONCENTRATION PPM	4.
CO CONCENTRATION PPM	47.
CO2 CONCENTRATION PCT	.3361
NOX CONCENTRATION PPM	3.7
THC MASS GRAMS	.36
CO MASS GRAMS	4.85
CO2 MASS GRAMS	541.7
NOX MASS GRAMS	.65
RUN TIME SECONDS	598.
DFC, WET (DRY)	.968 (.949)
SCF, WET (DRY)	1.000 (.974)
VOL (SCM)	88.0
SAM BLR (SCM)	.00
MI (MEASURED)	1.16

B2TTCU-01

TEST NUMBER,		B2TTCU-01
BAROMETER,	MM HG	732.3
HUMIDITY,	G/KG	11.8
TEMPERATURE,	DEG C	24.4
CARBON DIOXIDE,	G/MI	468.0
FUEL ECONOMY,	MPG	10.4
HYDROCARBONS, (THC)	G/MI	.31
CARBON MONOXIDE,	G/MI	4.19
OXIDES OF NITROGEN,	G/MI	.56

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2THCU-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 2/28/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG (3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36563. KM(22719. MILES)

BAROMETER 744.47 MM HG(29.31 IN HG)
RELATIVE HUMIDITY 50. PCT
BAG RESULTS

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 10.9 GM/KG

NOX HUMIDITY CORRECTION FACTOR 1.00

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	41.7 (107.0)	42.2 (108.0)	41.1 (106.0)
BLOWER REVOLUTIONS	48569.	69460.	48430.	69486.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2676.)	130.1 (4595.)	75.7 (2672.)	130.3 (4601.)
THC SAMPLE METER/RANGE/PPM	50.1/ 2/ 50.	10.5/ 2/ 10.	19.9/ 2/ 20.	10.7/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	10.0/ 2/ 10.	11.0/ 2/ 11.	9.3/ 2/ 9.	10.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	54.0/ 14/ 243.	2.6/ 12/ 2.	60.6/ 12/ 60.	4.3/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	.3/ 14/ 1.	.6/ 12/ 1.	.0/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	85.6/ 14/ .7681	69.8/ 14/ .4967	83.0/ 14/ .7153	69.7/ 14/ .4953
CO2 BCKGRD METER/RANGE/PCT	12.4/ 14/ .0415	12.4/ 14/ .0415	12.6/ 14/ .0422	12.6/ 14/ .0422
NOX SAMPLE METER/RANGE/PPM	35.0/ 1/ 8.8	6.8/ 1/ 1.8	13.0/ 1/ 3.4	6.5/ 1/ 1.7
NOX BCKGRD METER/RANGE/PPM	.1/ 1/ .0	.1/ 1/ .0	.0/ 1/ .0	.0/ 1/ .0
DILUTION FACTOR	15.11	24.17	16.64	24.23
THC CONCENTRATION PPM	40.	0.	11.	1.
CO CONCENTRATION PPM	233.	2.	58.	4.
CO2 CONCENTRATION PCT	.7293	.4569	.6756	.4548
NOX CONCENTRATION PPM	8.8	1.7	3.4	1.7
THC MASS GRAMS	3.40	.00	.93	.10
CO MASS GRAMS	20.52	.28	5.09	.60
CO2 MASS GRAMS	1011.9	1088.6	935.9	1085.0
NOX MASS GRAMS	1.28	.44	.49	.43
THC GRAMS/MI	.95	.00	.26	.03
CO GRAMS/MI	5.73	.07	1.42	.16
CO2 GRAMS/MI	282.8	283.7	260.4	281.6
NOX GRAMS/MI	.36	.11	.14	.11
FUEL ECONOMY IN MPG	16.81	17.10	18.74	18.08
RUN TIME SECONDS	506.	867.	505.	868.
MEASURED DISTANCE MI	3.58	7.41	3.59	7.45
SCF, DRY	.971	.974	.972	.974
DFC, WET (DRY)		.949(.934)		.952(.936)
TOT VOL (SCM) / SAM BLR (SCM)		205.9/ .00		206.0/ .00

COMPOSITE RESULTS

TEST NUMBER B2THCU-01
BAROMETER MM HG 744.5
HUMIDITY G/KG 10.9
TEMPERATURE DEG C 26.1

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	277.1	(276.5)
FUEL ECONOMY	MPG	17.61	(17.64)
HYDROCARBONS (THC)	G/MI	.27	(.28)
CARBON MONOXIDE	G/MI	1.62	(1.64)
OXIDES OF NITROGEN	G/MI	.17	(.17)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2THCU-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 2/28/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 10.2 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36587. KM(22734. MILES)

BAROMETER 743.97 MM HG(29.29 IN HG)
RELATIVE HUMIDITY 47. PCT
BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .98

TEST CYCLE

HFET

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	61240.
TOT FLOW STD. CU. METRES(SCF)	114.3 (4036.)
THC SAMPLE METER/RANGE/PPM	11.6/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.7/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	6.6/ 12/ 6.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.1/ 14/ .9455
CO2 BCKGRD METER/RANGE/PCT	12.3/ 14/ .0411
NOX SAMPLE METER/RANGE/PPM	11.5/ 1/ 3.0
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	12.70
THC CONCENTRATION PPM	3.
CO CONCENTRATION PPM	6.
CO2 CONCENTRATION PCT	.9077
NOX CONCENTRATION PPM	3.0
THC MASS GRAMS	.34
CO MASS GRAMS	.81
CO2 MASS GRAMS	1899.3
NOX MASS GRAMS	.64
RUN TIME	765.
SECONDS	
DFC, WET (DRY)	.921 (.907)
SCF, WET (DRY)	1.000 (.969)
VOL (SCM)	114.3
SAM BLR (SCM)	.00
MI (MEASURED)	10.14

TEST NUMBER,	B2THCU-01
BAROMETER, MM HG	744.0
HUMIDITY, G/KG	10.2
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	187.4
FUEL ECONOMY, MPG	26.3
HYDROCARBONS, (THC) G/MI	.03
CARBON MONOXIDE, G/MI	.08
OXIDES OF NITROGEN, G/MI	.06

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
NYCC - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2THCU-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

BAROMETER 743.97 MM HG(29.29 IN HG)
RELATIVE HUMIDITY 47. PCT

BAG RESULTS

TEST CYCLE

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS
TOT FLOW STD. CU. METRES(SCF)
THC SAMPLE METER/RANGE/PPM
THC BCKGRD METER/RANGE/PPM
CO SAMPLE METER/RANGE/PPM
CO BCKGRD METER/RANGE/PPM
CO2 SAMPLE METER/RANGE/PCT
CO2 BCKGRD METER/RANGE/PCT
NOX SAMPLE METER/RANGE/PPM
NOX BCKGRD METER/RANGE/PPM
DILUTION FACTOR
THC CONCENTRATION PPM
CO CONCENTRATION PPM
CO2 CONCENTRATION PCT
NOX CONCENTRATION PPM
THC MASS GRAMS
CO MASS GRAMS
CO2 MASS GRAMS
NOX MASS GRAMS
RUN TIME SECONDS
DFC, WET (DRY)
SCF, WET (DRY)
VOL (SCM)
SAM BLR (SCM)
MI (MEASURED)

VEHICLE NO.311

DATE 2/28/90

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)

ABS. HUMIDITY 10.2 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 44648. KM(27743. MILES)

NOX HUMIDITY CORRECTION FACTOR .98

NYCC

762.0 (30.0)
762.0 (30.0)
41.7 (107.0)
48019.
89.9 (3174.)
11.2/ 2/ 11.
9.5/ 2/ 9.
12.4/ 12/ 12.
.0/ 12/ 0.
61.3/ 14/ .3885
12.2/ 14/ .0407
7.8/ 1/ 2.0
.0/ 1/ .0
38.80
2.
12.
.3491
2.0
.20
1.22
574.6
.34
600.
.968 (.953)
1.000 (.978)
89.9
.00
1.16

TEST NUMBER,
BAROMETER, MM HG
HUMIDITY, G/KG
TEMPERATURE, DEG C
CARBON DIOXIDE, G/MI
FUEL ECONOMY, MPG

B2THCU-01
744.0
10.2
26.1
495.8
9.9

HYDROCARBONS, (THC) G/MI
CARBON MONOXIDE, G/MI
OXIDES OF NITROGEN, G/MI

.17
1.85
.30

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2THCU-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/ 1/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36605. KM(22745. MILES)

BAROMETER 748.79 MM HG(29.48 IN HG)

RELATIVE HUMIDITY 29. PCT

DRY BULB TEMP. 24.4 DEG C(76.0 DEG F)

ABS. HUMIDITY 5.6 GM/KG

NOX HUMIDITY CORRECTION FACTOR .85

46 RESULTS

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	769.6 (30.3)	769.6 (30.3)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	764.5 (30.1)	764.5 (30.1)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)	41.1 (106.0)	41.7 (107.0)	40.6 (105.0)
BLOWER REVOLUTIONS	40442.	69440.	40402.	69425.
TOT FLOW STD. CU. METRES(SCF)	75.8 (2678.)	131.0 (4625.)	76.2 (2690.)	131.2 (4632.)
THC SAMPLE METER/RANGE/PPM	56.5/ 2/ 56.	9.3/ 2/ 9.	9.4/ 2/ 9.	9.2/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	7.8/ 2/ 8.	9.2/ 2/ 9.	8.0/ 2/ 8.	8.8/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	66.5/ 14/ 310.	4.3/ 12/ 4.	8.3/ 12/ 8.	7.0/ 12/ 7.
CO BCKGRD METER/RANGE/PPM	.3/ 14/ 1.	.5/ 12/ 0.	.3/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	86.6/ 14/ .7894	69.7/ 14/ .4953	82.8/ 14/ .7114	69.5/ 14/ .4925
CO2 BCKGRD METER/RANGE/PCT	12.7/ 14/ .0426	12.7/ 14/ .0426	12.6/ 14/ .0422	12.6/ 14/ .0422
NOX SAMPLE METER/RANGE/PPM	42.6/ 1/ 10.7	10.5/ 1/ 2.7	19.4/ 1/ 5.0	12.3/ 1/ 3.2
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0	.9/ 1/ .2	.2/ 1/ .1	.1/ 1/ .0
DILUTION FACTOR	14.59	24.23	16.88	24.36
THC CONCENTRATION PPM	49.	0.	2.	1.
CO CONCENTRATION PPM	299.	4.	7.	7.
CO2 CONCENTRATION PCT	.7497	.4544	.6716	.4520
NOX CONCENTRATION PPM	10.7	2.5	4.9	3.2
THC MASS GRAMS	4.11	.07	.16	.11
CO MASS GRAMS	26.42	.54	.66	1.00
CO2 MASS GRAMS	1041.0	1089.7	936.7	1085.4
NOX MASS GRAMS	1.33	.53	.61	.68
THC GRAMS/MI	1.14	.02	.04	.03
CO GRAMS/MI	7.34	.14	.18	.26
CO2 GRAMS/MI	289.1	282.4	261.2	280.4
NOX GRAMS/MI	.37	.14	.17	.17
FUEL ECONOMY IN MPG	16.30	16.87	17.45	18.85
RUN TIME SECONDS	505.	868.	505.	868.
MEASURED DISTANCE MI	3.60	7.46	3.59	7.46
SCF, DRY	.977	.981	.979	.981
DFC, WET (DRY)		.949(.940)		.952(.943)
TOT VOL (SCM) / SAM BLR (SCM)		206.8/ .00		207.3/ .00

COMPOSITE RESULTS

TEST NUMBER B2THCU-02
BAROMETER MM HG 748.8
HUMIDITY G/KG 5.6
TEMPERATURE DEG C 24.4

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	278.0	(277.4)
FUEL ECONOMY MPG	17.55	(17.58)
HYDROCARBONS (THC) G/MI	.26	(.26)
CARBON MONOXIDE G/MI	1.65	(1.68)
OXIDES OF NITROGEN G/MI	.19	(.21)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 88-2346-001

TEST NO. B2THCU-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/ 1/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)
ABS. HUMIDITY 6.6 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36627. KM(22759. MILES)
NOX HUMIDITY CORRECTION FACTOR .88

BAROMETER 747.01 MM HG(29.41 IN HG)
RELATIVE HUMIDITY 33. PCT
3 RESULTS
TEST CYCLE

HFET

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	61267.
TOT FLOW STD. CU. METRES(SCF)	114.9 (4056.)
THC SAMPLE METER/RANGE/PPM	9.2/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	8.6/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	2.3/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.1/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	95.9/ 14/1.0237
CO2 BCKGRD METER/RANGE/PCT	12.7/ 14/ .0426
NOX SAMPLE METER/RANGE/PPM	22.3/ 1/ 5.7
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	11.74
THC CONCENTRATION PPM	1.
CO CONCENTRATION PPM	2.
CO2 CONCENTRATION PCT	.9847
NOX CONCENTRATION PPM	5.7
THC MASS GRAMS	.17
CO MASS GRAMS	.27
CO2 MASS GRAMS	2070.8
NOX MASS GRAMS	1.10
RUN TIME SECONDS	765.
DFC, WET (DRY)	.915 (.905)
SCF, WET (DRY)	1.000 (.972)
VOL (SCM)	114.9
SAM BLR (SCM)	.00
MI (MEASURED)	10.26

TEST NUMBER,	B2THCU-02
BAROMETER,	MM HG
	747.0
HUMIDITY,	G/KG
	6.6
TEMPERATURE,	DEG C
	25.0
CARBON DIOXIDE,	G/MI
	201.9
FUEL ECONOMY,	MPG
	24.4
HYDROCARBONS, (THC)	G/MI
	.02
CARBON MONOXIDE,	G/MI
	.03
OXIDES OF NITROGEN,	G/MI
	.11

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
NYCC - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2THCU-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311

DATE 3/ 1/90

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 25.0 DEG C(77.0 DEG F)

ABS. HUMIDITY 6.6 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)

ACTUAL ROAD LOAD 5.5 KW(7.4 HP)

GASOLINE EM-998-F

ODOMETER 36643. KM(22769. MILES)

BAROMETER 747.01 MM HG(29.41 IN HG)

RELATIVE HUMIDITY 33. PCT

3 RESULTS

TEST CYCLE

NOX HUMIDITY CORRECTION FACTOR .88

NYCC

BLOWER DIF P MM. H2O(IN. H2O)
BLOWER INLET P MM. H2O(IN. H2O)
BLOWER INLET TEMP. DEG. C(DEG. F)
BLOWER REVOLUTIONS

762.0 (30.0)

762.0 (30.0)

42.8 (109.0)

47794.

TOT FLOW STD. CU. METRES(SCF)

89.7 (3167.)

THC SAMPLE METER/RANGE/PPM

10.0/ 2/ 10.

THC BCKGRD METER/RANGE/PPM

8.4/ 2/ 8.

CO SAMPLE METER/RANGE/PPM

23.2/ 12/ 23.

CO BCKGRD METER/RANGE/PPM

.1/ 12/ 0.

CO2 SAMPLE METER/RANGE/PCT

60.3/ 14/ .3770

CO2 BCKGRD METER/RANGE/PCT

12.5/ 14/ .0418

NOX SAMPLE METER/RANGE/PPM

12.4/ 1/ 3.2

NOX BCKGRD METER/RANGE/PPM

.0/ 1/ .0

DILUTION FACTOR

31.65

THC CONCENTRATION PPM

2.

CO CONCENTRATION PPM

22.

CO2 CONCENTRATION PCT

.3365

NOX CONCENTRATION PPM

3.2

THC MASS GRAMS

.18

CO MASS GRAMS

2.30

CO2 MASS GRAMS

552.6

NOX MASS GRAMS

.48

RUN TIME SECONDS

598.

DFC, WET (DRY)

.968 (.958)

SCF, WET (DRY)

1.000 (.983)

VOL (SCM)

89.7

SAM BLR (SCM)

.00

MI (MEASURED)

1.16

TEST NUMBER,

B2THCU-02

BAROMETER,

MM HG

747.0

HUMIDITY,

G/KG

6.6

TEMPERATURE,

DEG C

25.0

CARBON DIOXIDE,

G/MI

476.4

FUEL ECONOMY,

MPG

10.3

HYDROCARBONS, (THC)

G/MI

.16

CARBON MONOXIDE,

G/MI

1.98

OXIDES OF NITROGEN,

G/MI

.42

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2TDCC-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

BAROMETER 739.90 MM HG(29.13 IN HG)
RELATIVE HUMIDITY 28. PCT
3 RESULTS
TEST CYCLE

VEHICLE NO. 311
DATE 3/16/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 5.8 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36745. KM(22832. MILES)

NOX HUMIDITY CORRECTION FACTOR .86

HFET

BLOWER DIF P MM. H2O(IN. H2O)	777.2 (30.6)
BLOWER INLET P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET TEMP. DEG. C(DEG. F)	44.4 (112.0)
BLOWER REVOLUTIONS	61212.
TOT FLOW STD. CU. METRES(SCF)	113.1 (3994.)
THC SAMPLE METER/RANGE/PPM	15.3/ 2/ 15.
THC BCKGRD METER/RANGE/PPM	10.3/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	8.0/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.5/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.5/ 14/ .9562
CO2 BCKGRD METER/RANGE/PCT	12.5/ 14/ .0418
NOX SAMPLE METER/RANGE/PPM	40.4/ 1/ 10.1
NOX BCKGRD METER/RANGE/PPM	.3/ 1/ .1
DILUTION FACTOR	12.56
THC CONCENTRATION PPM	6.
CO CONCENTRATION PPM	7.
CO2 CONCENTRATION PCT	.9177
NOX CONCENTRATION PPM	10.1
THC MASS GRAMS	.72
CO MASS GRAMS	.92
CO2 MASS GRAMS	1900.4
NOX MASS GRAMS	1.98
RUN TIME SECONDS	765.
DFC, WET (DRY)	.920 (.912)
SCF, WET (DRY)	1.000 (.975)
VOL (SCM)	113.1
SAM BLR (SCM)	.00
MI (MEASURED)	10.12

TEST NUMBER,	B2TDCC-01
BAROMETER, MM HG	739.9
HUMIDITY, G/KG	5.8
TEMPERATURE, DEG C	25.6
CARBON DIOXIDE, G/MI	187.9
FUEL ECONOMY, MPG	26.2
HYDROCARBONS, (THC) G/MI	.07
CARBON MONOXIDE, G/MI	.09
OXIDES OF NITROGEN, G/MI	.19

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

TEST NO. B2TDCC-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/16/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36722. KM(22918. MILES)

BAROMETER 740.66 MM HG(29.16 IN HG)
RELATIVE HUMIDITY 26. PCT
TEST RESULTS

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 5.6 GM/KG

NOX HUMIDITY CORRECTION FACTOR .86

BAG NUMBER DESCRIPTION	1 COLD TRANSIENT	2 STABILIZED	3 HOT TRANSIENT	4 STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)	769.6 (30.3)	769.6 (30.3)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)	764.5 (30.1)	764.5 (30.1)	769.6 (30.3)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.9 (111.0)	40.6 (105.0)	43.9 (111.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40435.	69427.	40460.	69465.
TOT FLOW STD. CU. METRES(SCF)	75.0 (2649.)	129.5 (4573.)	75.0 (2649.)	129.4 (4568.)
THC SAMPLE METER/RANGE/PPM	79.1/ 2/ 78.	15.7/ 2/ 16.	17.3/ 2/ 17.	14.0/ 2/ 14.
THC BCKGRD METER/RANGE/PPM	13.5/ 2/ 13.	17.2/ 2/ 17.	13.1/ 2/ 13.	13.1/ 2/ 13.
CO SAMPLE METER/RANGE/PPM	58.1/ 14/ 264.	5.4/ 12/ 5.	6.5/ 12/ 6.	5.5/ 12/ 5.
CO BCKGRD METER/RANGE/PPM	.0/ 14/ 0.	.3/ 12/ 0.	.1/ 12/ 0.	.1/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	86.0/ 14/ .7765	70.1/ 14/ .5009	82.2/ 14/ .6998	70.1/ 14/ .5009
CO2 BCKGRD METER/RANGE/PCT	12.7/ 14/ .0426	12.8/ 14/ .0430	13.0/ 14/ .0438	13.1/ 14/ .0442
NOX SAMPLE METER/RANGE/PPM	40.4/ 1/ 10.1	30.1/ 1/ 7.6	37.8/ 1/ 9.5	23.9/ 1/ 6.1
NOX BCKGRD METER/RANGE/PPM	.5/ 1/ .1	1.0/ 1/ .3	.8/ 1/ .2	.3/ 1/ .1
DILUTION FACTOR	14.86	23.93	17.14	23.93
THC CONCENTRATION PPM	66.	0.	5.	1.
CO CONCENTRATION PPM	256.	5.	6.	5.
CO2 CONCENTRATION PCT	.7368	.4597	.6585	.4585
NOX CONCENTRATION PPM	10.0	7.4	9.3	6.0
THC MASS GRAMS	5.49	.00	.41	.21
CO MASS GRAMS	22.40	.72	.52	.76
CO2 MASS GRAMS	1011.9	1090.0	904.6	1086.0
NOX MASS GRAMS	1.23	1.56	1.14	1.27
THC GRAMS/MI	1.55	.00	.12	.05
CO GRAMS/MI	6.33	.19	.15	.20
CO2 GRAMS/MI	286.1	286.1	256.1	284.8
NOX GRAMS/MI	.35	.41	.32	.33
FUEL ECONOMY IN MPG	16.52	16.87	17.22	18.17
RUN TIME SECONDS	505.	868.	505.	869.
MEASURED DISTANCE MI	3.54	7.35	3.53	7.34
SCF, DRY	.979	.981	.980	.982
DFC, WET (DRY)		.949(.941)		.952(.944)
TOT VOL (SCM) / SAM BLR (SCM)		204.5/ .00		204.4/ .00

COMPOSITE RESULTS

TEST NUMBER B2TDCC-01
BAROMETER MM HG 740.7
HUMIDITY G/KG 5.6
TEMPERATURE DEG C 26.1

3-BAG (4-BAG)
CARBON DIOXIDE G/MI 277.9 (277.5)
FUEL ECONOMY MPG 17.56 (17.59)
HYDROCARBONS (THC) G/MI .35 (.37)
CARBON MONOXIDE G/MI 1.45 (1.45)
OXIDES OF NITROGEN G/MI .37 (.35)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
 NYCC - VEHICLE EMISSIONS RESULTS - 85% METHANOL
 PROJECT 08-2346-001

TEST NO. B2TDCC-01 RUN 1
 VEHICLE MODEL 86 TOYOTA CAMRY
 ENGINE 2.0 L(122. CID) L-4
 TRANSMISSION A3

BAROMETER 739.65 MM HG(29.12 IN HG)
 RELATIVE HUMIDITY 30. PCT
 TEST RESULTS

TEST CYCLE

VEHICLE NO. 311
 DATE 3/16/90
 BAG CART NO. 2
 DYNO NO. 3
 CVS NO. 2
 DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
 ABS. HUMIDITY 6.6 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
 ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
 GASOLINE EM-998-F
 ODOMETER 36761. KM(22842. MILES)
 NOX HUMIDITY CORRECTION FACTOR .88

NYCC

BLOWER DIF P MM. H2O(IN. H2O)	774.7 (30.5)
BLOWER INLET P MM. H2O(IN. H2O)	772.2 (30.4)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	47786.
TOT FLOW STD. CU. METRES(SCF)	88.5 (3124.)
THC SAMPLE METER/RANGE/PPM	12.0/ 2/ 12.
THC BCKGRD METER/RANGE/PPM	10.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	4.7/ 12/ 4.
CO BCKGRD METER/RANGE/PPM	.4/ 12/ .0.
CO2 SAMPLE METER/RANGE/PCT	60.8/ 14/ .3827
CO2 BCKGRD METER/RANGE/PCT	12.6/ 14/ .0422
NOX SAMPLE METER/RANGE/PPM	9.8/ 1/ 2.5
NOX BCKGRD METER/RANGE/PPM	.1/ 1/ .0
DILUTION FACTOR	31.31
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	4.
CO2 CONCENTRATION PCT	.3418
NOX CONCENTRATION PPM	2.5
THC MASS GRAMS	.19
CO MASS GRAMS	.42
CO2 MASS GRAMS	553.7
NOX MASS GRAMS	.38
RUN TIME	598.
SECONDS	
DFC, WET (DRY)	.968 (.959)
SCF, WET (DRY)	1.000 (.984)
VOL (SCM)	88.5
SAM BLR (SCM)	.00
MI (MEASURED)	1.15

TEST NUMBER,	B2TDCC-01
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG
HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 08-2346-001

ST NO. B2TDCC-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 3/19/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36775. KM(22851. MILES)

BAROMETER 749.05 MM HG(29.49 IN HG)

RELATIVE HUMIDITY 28. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)

ABS. HUMIDITY 5.7 GM/KG

NOX HUMIDITY CORRECTION FACTOR .86

6 RESULTS

BAG NUMBER	1	2	3	4
DESCRIPTION	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	787.4 (31.0)	789.9 (31.1)	787.4 (31.0)	795.0 (31.3)
BLOWER INLET P MM. H2O(IN. H2O)	782.3 (30.8)	787.4 (31.0)	784.9 (30.9)	787.4 (31.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)	41.1 (106.0)	42.8 (109.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40355.	69473.	40423.	69357.
TOT FLOW STD. CU. METRES(SCF)	75.7 (2674.)	130.7 (4614.)	75.8 (2678.)	130.4 (4606.)
THC SAMPLE METER/RANGE/PPM	66.3/ 2/ 66.	10.2/ 2/ 10.	11.5/ 2/ 11.	9.1/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	8.4/ 2/ 8.	8.9/ 2/ 9.	7.6/ 2/ 8.	7.7/ 2/ 8.
CO SAMPLE METER/RANGE/PPM	43.8/ 14/ 191.	5.3/ 12/ 5.	5.9/ 12/ 6.	4.9/ 12/ 5.
CO BCKGRD METER/RANGE/PPM	.1/ 14/ 0.	.0/ 12/ 0.	.1/ 12/ 0.	.2/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	85.4/ 14/ .7639	70.0/ 14/ .4995	81.6/ 14/ .6884	69.5/ 14/ .4925
CO2 BCKGRD METER/RANGE/PCT	11.8/ 14/ .0391	11.7/ 14/ .0388	11.7/ 14/ .0388	11.7/ 14/ .0388
NOX SAMPLE METER/RANGE/PPM	39.9/ 1/ 10.0	18.2/ 1/ 4.7	27.2/ 1/ 6.9	7.3/ 1/ 1.9
NOX BCKGRD METER/RANGE/PPM	.8/ 1/ .2	.8/ 1/ .2	.3/ 1/ .1	.1/ 1/ .0
DILUTION FACTOR	15.25	24.02	17.44	24.37
THC CONCENTRATION PPM	58.	2.	4.	2.
CO CONCENTRATION PPM	185.	5.	5.	4.
CO2 CONCENTRATION PCT	.7273	.4623	.6518	.4553
NOX CONCENTRATION PPM	9.8	4.5	6.8	1.9
THC MASS GRAMS	4.87	.24	.36	.25
CO MASS GRAMS	16.33	.75	.48	.67
CO2 MASS GRAMS	1008.3	1106.1	905.0	1087.3
NOX MASS GRAMS	1.22	.95	.85	.40
THC GRAMS/MI	1.36	.06	.10	.06
CO GRAMS/MI	4.58	.20	.13	.18
CO2 GRAMS/MI	282.5	287.8	256.1	285.2
NOX GRAMS/MI	.34	.25	.24	.11
FUEL ECONOMY IN MPG	16.89	17.00	19.23	18.16
RUN TIME SECONDS	504.	868.	505.	867.
MEASURED DISTANCE MI	3.57	7.41	3.53	7.35
SCF, DRY	.978	.981	.979	.982
DFC, WET (DRY)		.950(.941)		.953(.944)
TOT VOL (SCM) / SAM BLR (SCM)		206.4/ .00		206.3/ .00

COMPOSITE RESULTS

TEST NUMBER B2TDCC-02
BAROMETER MM HG 749.0
HUMIDITY G/KG 5.7
TEMPERATURE DEG C. 25.6

	3-BAG	(4-BAG)
CARBON DIOXIDE G/MI	278.0	(277.3)
FUEL ECONOMY MPG	17.59	(17.64)
HYDROCARBONS (THC) G/MI	.34	(.34)
CARBON MONOXIDE G/MI	1.09	(1.08)
OXIDES OF NITROGEN G/MI	.27	(.22)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS - 85% METHANOL
PROJECT 88-2346-001

TEST NO. 82TDCC-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122 CID) L-4
TRANSMISSION A3

BAROMETER 748.03 MM HG(29.45 IN HG)
RELATIVE HUMIDITY 24. PCT

TEST RESULTS
TEST CYCLE

VEHICLE NO. 311
DATE 3/19/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 5.2 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
GASOLINE EM-998-F
ODOMETER 36811. KM(22873. MILES)
NOX HUMIDITY CORRECTION FACTOR .85

HFET

BLOWER DIF P MM. H2O(IN. H2O)	800.1 (31.5)
BLOWER INLET P MM. H2O(IN. H2O)	795.0 (31.3)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)
BLOWER REVOLUTIONS	61186.
TOT FLOW STD. CU. METRES(SCF)	114.3 (4037.)
THC SAMPLE METER/RANGE/PPM	12.5/ 2/ 12.
THC BCKGRD METER/RANGE/PPM	8.8/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	7.3/ 12/ 7.
CO BCKGRD METER/RANGE/PPM	.1/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.2/ 14/ .9482
CO2 BCKGRD METER/RANGE/PCT	11.8/ 14/ .0391
NOX SAMPLE METER/RANGE/PPM	28.9/ 1/ 7.3
NOX BCKGRD METER/RANGE/PPM	1.4/ 1/ .4
DILUTION FACTOR	12.67
THC CONCENTRATION PPM	4.
CO CONCENTRATION PPM	7.
CO2 CONCENTRATION PCT	.9121
NOX CONCENTRATION PPM	7.0
THC MASS GRAMS	.55
CO MASS GRAMS	.89
CO2 MASS GRAMS	1909.0
NOX MASS GRAMS	1.29
RUN TIME SECONDS	765.
DFC, WET (DRY)	.921 (.914)
SCF, WET (DRY)	1.000 (.976)
VOL (SCM)	114.3
SAM BLR (SCM)	.00
MI (MEASURED)	10.22

TEST NUMBER,	82TDCC-02
BAROMETER, MM HG	748.0
HUMIDITY, G/KG	5.2
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	186.9
FUEL ECONOMY, MPG	26.4

HYDROCARBONS, (THC) G/MI	.05
CARBON MONOXIDE, G/MI	.09
OXIDES OF NITROGEN, G/MI	.13

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
 NYCC - VEHICLE EMISSIONS RESULTS - 85% METHANOL
 PROJECT 08-2346-001

TEST NO. B2TDCC-02 RUN 1
 VEHICLE MODEL 86 TOYOTA CAMRY
 ENGINE 2.0 L(122. CID) L-4
 TRANSMISSION A3

VEHICLE NO. 311
 DATE 3/19/90
 BAG CART NO. 2
 DYNO NO. 3
 CVS NO. 2
 DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
 ABS. HUMIDITY 4.9 G/MKG

TEST WEIGHT 1361. KG(3000. LBS)
 ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
 GASOLINE EM-998-F
 ODOMETER 36827. KM(22883. MILES)
 NOX HUMIDITY CORRECTION FACTOR .84

BAROMETER 748.03 MM HG(29.45 IN HG)
 RELATIVE HUMIDITY 23. PCT
 TEST RESULTS
 TEST CYCLE

NYCC

BLOWER DIF P MM. H2O(IN. H2O)	787.4 (31.0)
BLOWER INLET P MM. H2O(IN. H2O)	784.9 (30.9)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	47889.
TOT FLOW STD. CU. METRES(SCF)	89.7 (3167.)
THC SAMPLE METER/RANGE/PPM	11.0/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	9.2/ 2/ 9.
CO SAMPLE METER/RANGE/PPM	5.1/ 12/ 5.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	60.3/ 14/ .3770
CO2 BCKGRD METER/RANGE/PCT	12.2/ 14/ .0407
NOX SAMPLE METER/RANGE/PPM	9.7/ 1/ 2.5
NOX BCKGRD METER/RANGE/PPM	.7/ 1/ .2
DILUTION FACTOR	31.78
THC CONCENTRATION PPM	2.
CO CONCENTRATION PPM	5.
CO2 CONCENTRATION PCT	.3376
NOX CONCENTRATION PPM	2.3
THC MASS GRAMS	.21
CO MASS GRAMS	.50
CO2 MASS GRAMS	554.5
NOX MASS GRAMS	.34
RUN TIME	599.
DFC, WET (DRY)	.969 (.961)
SCF, WET (DRY)	1.000 (.986)
VOL (SCM)	89.7
SAM BLR (SCM)	.00
MI (MEASURED)	1.14

TEST NUMBER,	B2TDCC-02
BAROMETER, MM HG	748.0
HUMIDITY, G/KG	4.9
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	485.3
FUEL ECONOMY, MPG	10.1

HYDROCARBONS, (THC) G/MI	.18
CARBON MONOXIDE, G/MI	.44
OXIDES OF NITROGEN, G/MI	.29

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. B2TJM2-01 RUN 1
VEHICLE MODEL 36 TOYOTA CAMRY
ENGINE 3.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 7/ 2/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG(3000. LBS)
ACTUAL ROAD LOAD 3.5 KW(7.4 HP)
M85 EM-998-F
ODOMETER 36870. KM(22918. MILES)

BAROMETER 739.14 MM HG(29.10 IN HG)
RELATIVE HUMIDITY 44. PCT
BAG RESULTS

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 9.5 GM/KG

NOX HUMIDITY CORRECTION FACTOR .96

BAG NUMBER
DESCRIPTION

	1	2	3	4
	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	752.0 (30.0)	764.5 (30.1)	757.1 (30.2)	764.5 (30.1)
BLOWER INLET P MM. H2O(IN. H2O)	751.8 (29.6)	756.9 (29.8)	762.0 (30.0)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	43.3 (110.0)	40.6 (105.0)	41.7 (107.0)	40.6 (105.0)
BLOWER REVOLUTIONS	40401.	59349.	40364.	59325.
TOT FLOW STD. CU. METRES(SCF)	74.9 (2546.)	129.2 (4562.)	75.0 (2548.)	129.1 (4558.)
THC SAMPLE METER/RANGE/PPM	21.9/ 3/ 218.	9.8/ 2/ 10.	9.7/ 2/ 10.	9.6/ 2/ 9.
THC BCKGRD METER/RANGE/PPM	1.7/ 3/ 17.	9.9/ 2/ 10.	9.8/ 2/ 10.	10.2/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	65.1/ 14/ 302.	.5/ 12/ 0.	5.4/ 12/ 5.	.7/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.1/ 14/ 0.	.1/ 12/ 0.	.0/ 12/ 0.	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	85.9/ 14/ .7744	70.6/ 14/ .5080	82.1/ 14/ .6979	69.0/ 14/ .4856
CO2 BCKGRD METER/RANGE/PCT	12.3/ 14/ .0411	12.2/ 14/ .0407	12.1/ 14/ .0403	11.9/ 14/ .0395
NOX SAMPLE METER/RANGE/PPM	71.0/ 1/ 17.8	3.5/ 1/ .9	4.1/ 1/ 1.1	1.9/ 1/ .5
NOX BCKGRD METER/RANGE/PPM	4.2/ 1/ 1.1	.0/ 1/ .0	.2/ 1/ .0	.2/ 1/ .0
DILUTION FACTOR	14.58	23.64	17.21	24.73
THC CONCENTRATION PPM	203.	0.	0.	0.
CO CONCENTRATION PPM	291.	0.	5.	1.
CO2 CONCENTRATION PCT	.7361	.4690	.6599	.4476
NOX CONCENTRATION PPM	16.8	.9	1.1	.5
THC MASS GRAMS	16.69	.25	.04	.00
CO MASS GRAMS	25.40	.06	.44	.10
CO2 MASS GRAMS	1010.0	1109.5	905.1	1057.9
NOX MASS GRAMS	2.31	.22	.15	.11
THC GRAMS/MI	4.70	.01	.01	.00
CO GRAMS/MI	7.07	.01	.12	.03
CO2 GRAMS/MI	281.2	286.3	254.2	274.2
NOX GRAMS/MI	.64	.06	.04	.03
FUEL ECONOMY IN MPG	16.44	16.83	17.22	17.98
RUN TIME SECONDS	505.	868.	305.	868.
MEASURED DISTANCE MI	3.59	7.47	3.56	7.42
SCF, DRY	.973	.976	.974	.976
DFC, WET (DRY)		.948(.935)		.953(.940)
TOT VOL (SCM) / SAM BLR (SCM)		204.1/ .00		204.1/ .00

COMPOSITE RESULTS

TEST NUMBER B2TJM2-01
BAROMETER MM HG 739.1
HUMIDITY G/KG 9.5
TEMPERATURE DEG C 26.1

		3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI	276.5	(272.9)
FUEL ECONOMY	MPG	17.58	(17.51)
HYDROCARBONS (THC)	G/MI	.98	(.98)
CARBON MONOXIDE	G/MI	1.50	(1.51)
OXIDES OF NITROGEN	G/MI	.17	(.17)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 82TJM2-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

BAROMETER 738.12 MM HG(29.06 IN HG)
RELATIVE HUMIDITY 41. PCT
BAG RESULTS

TEST CYCLE

VEHICLE NO.311

DATE 7/ 2/90

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)

ABS. HUMIDITY 8.9 GM/KG

TEST WEIGHT 1361. KG(3000. LBS)

ACTUAL ROAD LOAD 5.5 KW(7.4 HP)

M85 EM-998-F

ODOMETER 36894. KM(22925. MILES)

NOX HUMIDITY CORRECTION FACTOR .94

HFET

BLOWER DIF P MM. H2O(IN. H2O)	764.5 (30.1)
BLOWER INLET P MM. H2O(IN. H2O)	756.9 (29.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.8 (109.0)
BLOWER REVOLUTIONS	61192.
TOT FLOW STD. CU. METRES(SCF)	113.4 (4003.)
THC SAMPLE METER/RANGE/PPM	10.0/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	10.4/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	.8/ 12/ 1.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	93.3/ 14/ .9508
CO2 BCKGRD METER/RANGE/PCT	11.7/ 14/ .0388
NOX SAMPLE METER/RANGE/PPM	7.6/ 1/ 2.0
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	12.64
THC CONCENTRATION PPM	0.
CO CONCENTRATION PPM	1.
CO2 CONCENTRATION PCT	.9151
NOX CONCENTRATION PPM	2.0
THC MASS GRAMS	.05
CO MASS GRAMS	.10
CO2 MASS GRAMS	1899.4
NOX MASS GRAMS	.40
RUN TIME	766.
DFC, WET (DRY)	.921 (.909)
SCF, WET (DRY)	1.000 (.971)
VOL (SCM)	113.4
SAM BLR (SCM)	.00
MI (MEASURED)	10.08

TEST NUMBER.	82TJM2-01
BAROMETER, MM HG	738.1
HUMIDITY, G/KG	8.9
TEMPERATURE, DEG C	26.1
CARBON DIOXIDE, G/MI	189.5
FUEL ECONOMY, MPG	26.2
HYDROCARBONS. (THC) G/MI	.01
CARBON MONOXIDE, G/MI	.01
OXIDES OF NITROGEN, G/MI	.04

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
NYCC - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 82TJM2-01 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 7/ 2/90
BAG CART NO. 2
DYND NO. 3
CVS NO. 2

TEST WEIGHT 1351. KG(3020. LBS)
ACTUAL ROAD LOAD 3.5 KW(7.4 HP)
M85 EM-988-F
ODOMETER 36910. KM(22935. MILES)

BAROMETER 738.12 MM HG(29.06 IN HG)
RELATIVE HUMIDITY 41. PCT

DRY BULB TEMP. 26.1 DEG C(79.0 DEG F)
ABS. HUMIDITY 8.9 GM/KG

NOX HUMIDITY CORRECTION FACTOR .94

SAG RESULTS

TEST CYCLE

NYCC

BLOWER DIF 9 MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET 9 MM. H2O(IN. H2O)	755.9 (29.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	41.7 (107.0)
BLOWER REVOLUTIONS	47726.
TOT FLOW STD. CU. METRES(SCF)	88.6 (3129.)
THC SAMPLE METER/RANGE/PPM	10.1/ 2/ 10.
THC BCKGRD METER/RANGE/PPM	10.1/ 2/ 10.
CO SAMPLE METER/RANGE/PPM	8.3/ 12/ 8.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	50.5/ 14/ .2793
CO2 BCKGRD METER/RANGE/PCT	11.7/ 14/ .0388
NOX SAMPLE METER/RANGE/PPM	1.1/ 1/ .3
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	31.58
THC CONCENTRATION PPM	0.
CO CONCENTRATION PPM	8.
CO2 CONCENTRATION PCT	.3418
NOX CONCENTRATION PPM	.3
THC MASS GRAMS	.03
CO MASS GRAMS	.80
CO2 MASS GRAMS	554.4
NOX MASS GRAMS	.05
RUN TIME SECONDS	397.
DFC, WET (DRY)	.958 (.956)
SCF, WET (DRY)	1.000 (.980)
VOL (SCM)	88.6
SAM BLR (SCM)	.00
MI (MEASURED)	1.12

TEST NUMBER.	82TJM2-01
BAROMETER.	MM HG 738.1
HUMIDITY.	G/KG 8.9
TEMPERATURE.	DEG C 26.1
CARBON DIOXIDE.	G/MI 493.5
FUEL ECONOMY.	MPG 18.0

HYDROCARBONS. (THC)	G/MI .03
CARBON MONOXIDE.	G/MI .71
OXIDES OF NITROGEN.	G/MI .04

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
FTP - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 92TJM2-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

VEHICLE NO. 311
DATE 7/ 3/90
BAG CART NO. 2 / CVS NO. 2
DYNO NO. 3

TEST WEIGHT 1361. KG (3000. LBS)
ACTUAL ROAD LOAD 5.5 KW (7.4 HP)
MS5 EM-998-F
ODOMETER 36918. KM (22940. MILES)

BAROMETER 737.52 MM HG(29.04 IN HG)
RELATIVE HUMIDITY 43. PCT

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)
ABS. HUMIDITY 9.1 GM/KG

NOX HUMIDITY CORRECTION FACTOR .95

BAG RESULTS

BAG NUMBER	1	2	3	4
DESCRIPTION	COLD TRANSIENT	STABILIZED	HOT TRANSIENT	STABILIZED
BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)	762.0 (30.0)	762.0 (30.0)	764.5 (30.1)
BLOWER INLET P MM. H2O(IN. H2O)	754.4 (29.7)	759.5 (29.9)	756.9 (29.9)	759.5 (29.9)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)	41.1 (106.0)	41.7 (107.0)	41.1 (106.0)
BLOWER REVOLUTIONS	40454.	59396.	40387.	59249.
TOT FLOW STD. CU. METRES(SCF)	75.0 (2548.)	128.8 (4549.)	74.9 (2546.)	128.7 (4546.)
THC SAMPLE METER/RANGE/PPM	19.4/ 3/ 193.	11.1/ 2/ 11.	10.8/ 2/ 11.	10.9/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	1.3/ 3/ 13.	11.2/ 2/ 11.	11.2/ 2/ 11.	11.7/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	67.7/ 14/ 317.	.9/ 12/ 1.	2.7/ 12/ 3.	1.9/ 12/ 2.
CO BCKGRD METER/RANGE/PPM	.1/ 14/ 0.	.5/ 12/ 0.	.0/ 12/ 0.	.1/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	27.5/ 14/ .8092	71.6/ 14/ .5224	82.6/ 14/ .7075	69.6/ 14/ .4939
CO2 BCKGRD METER/RANGE/PCT	12.6/ 14/ .0422	12.4/ 14/ .0415	12.3/ 14/ .0411	12.2/ 14/ .0407
NOX SAMPLE METER/RANGE/PPM	70.9/ 1/ 17.3	4.0/ 1/ 1.1	3.4/ 1/ .9	.6/ 1/ .2
NOX BCKGRD METER/RANGE/PPM	2.2/ 1/ .6	.6/ 1/ .2	.0/ 1/ .0	.3/ 1/ .0
DILUTION FACTOR	14.01	22.98	16.98	24.31
THC CONCENTRATION PPM	181.	0.	0.	0.
CO CONCENTRATION PPM	305.	0.	2.	2.
CO2 CONCENTRATION PCT	.7720	.4828	.5688	.4549
NOX CONCENTRATION PPM	17.2	.9	.9	.2
THC MASS GRAMS	15.13	.05	.02	.00
CO MASS GRAMS	26.62	.06	.02	.02
CO2 MASS GRAMS	1057.3	1138.8	917.5	1072.1
NOX MASS GRAMS	2.35	.21	.12	.04
THC GRAMS/MI	4.20	.31	.31	.00
CO GRAMS/MI	7.38	.01	.06	.07
CO2 GRAMS/MI	293.2	291.2	259.8	231.5
NOX GRAMS/MI	.65	.05	.03	.01
FUEL ECONOMY IN MPG	15.82	15.38	16.93	19.05
RUN TIME SECONDS	505.	868.	505.	868.
MEASURED DISTANCE MI	3.61	7.52	3.91	7.25
SCF, DRY	.972	.975	.977	.978
DFC, WET (DRY)		.946(.933)		.952(.939)
TOT VOL (SCM) / SAM BLR (SCM)		203.8/ .28		203.7/ .28

COMPOSITE RESULTS

TEST NUMBER 92TJM2-02
BAROMETER MM HG 737.6
HUMIDITY G/KG 9.1
TEMPERATURE DEG C 25.6

	3-BAG	(4-BAG)
CARBON DIOXIDE	G/MI 282.8	(279.8)
FUEL ECONOMY	MPG 17.30	(17.38)
HYDROCARBONS (THC)	G/MI .37	(.87)
CARBON MONOXIDE	G/MI 1.55	(1.56)
OXIDES OF NITROGEN	G/MI .17	(.19)

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
HFET - VEHICLE EMISSIONS RESULTS -
PROJECT 08-2346-001

TEST NO. 82TJM2-02 RUN 1
VEHICLE MODEL 86 TOYOTA CAMRY
ENGINE 2.0 L(122. CID) L-4
TRANSMISSION A3

BAROMETER 735.85 MM HG(29.91 IN HG)
RELATIVE HUMIDITY 41. PCT
BAG RESULTS

VEHICLE NO. 311
DATE 7/ 3/90
BAG CART NO. 2
DYNO NO. 3
CVS NO. 2
DRY BULB TEMP. 26.7 DEG C(80.0 DEG F)
ABS. HUMIDITY 9.3 GM/KG

TEST WEIGHT 1261. KG(2800. LBS)
ACTUAL ROAD LOAD 5.5 KW(7.4 HP)
M85 EM-998-F
ODOMETER 36941. KM(22954. MILES)
NOX HUMIDITY CORRECTION FACTOR .96

TEST CYCLE

HFET

BLOWER DIF P MM. H2O(IN. H2O)	767.1 (30.2)
BLOWER INLET P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET TEMP. DEG. C(DEG. F)	42.2 (108.0)
BLOWER REVOLUTIONS	61144.
POT FLOW STD. CU. METRES(SCF)	113.1 (3994.)
THC SAMPLE METER/RANGE/PPM	10.9/ 2/ 11.
THC BACKRD METER/RANGE/PPM	11.5/ 2/ 11.
CO SAMPLE METER/RANGE/PPM	4.0/ 12/ 4.
CO BACKRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	94.3/ 14/ .9781
CO2 BACKRD METER/RANGE/PCT	11.9/ 14/ .8395
NOX SAMPLE METER/RANGE/PPM	.8/ 1/ .2
NOX BACKRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	12.29
THC CONCENTRATION PPM	0.
CO CONCENTRATION PPM	4.
CO2 CONCENTRATION PCT	.9418
NOX CONCENTRATION PPM	.2
THC MASS GRAMS	.04
CO MASS GRAMS	.48
CO2 MASS GRAMS	1950.1
NOX MASS GRAMS	.04
RUN TIME	765.
SEC, WET (DRY)	.919 (.906)
SCF, WET (DRY)	1.000 (.970)
VOL (SCM)	113.1
BAW BLR (SCM)	.00
HI (MEASURED)	10.12

TEST NUMBER,	82TJM2-02
BAROMETER, MM HG	735.9
HUMIDITY, G/KG	9.3
TEMPERATURE, DEG C	26.7
CARBON DIOXIDE, G/MI	192.7
FUEL ECONOMY, MPG	25.6

HYDROCARBONS, (THC) G/MI	.00
CARBON MONOXIDE, G/MI	.05
OXIDES OF NITROGEN, G/MI	.00

SOUTHWEST RESEARCH INSTITUTE - DEPARTMENT OF EMISSIONS RESEARCH
 NYCC - VEHICLE EMISSIONS RESULTS -
 PROJECT 28-2346-001

TEST NO. B2TJM2-02 RUN 1
 VEHICLE MODEL 86 TOYOTA CAMRY
 ENGINE 2.0 L(122. CID) L-4
 TRANSMISSION A3

VEHICLE NO. 311

DATE 7/ 3/90

BAG CART NO. 2

DYNO NO. 3

CVS NO. 2

DRY BULB TEMP. 25.6 DEG C(78.0 DEG F)

ABS. HUMIDITY 9.1 GM/KG

TEST WEIGHT 1351. KG(3000. LBS)

ACTUAL ROAD LOAD 5.5 KW(7.4 HP)

M85 EM-998-F

ODOMETER 36957. KM(22964. MILES)

BAROMETER 736.60 MM HG(29.00 IN HG)

RELATIVE HUMIDITY 43. PCT

BAG RESULTS

NOX HUMIDITY CORRECTION FACTOR .95

TEST CYCLE

NYCC

BLOWER DIF P MM. H2O(IN. H2O)	762.0 (30.0)
BLOWER INLET P MM. H2O(IN. H2O)	756.9 (29.8)
BLOWER INLET TEMP. DEG. C(DEG. F)	41.1 (106.0)
BLOWER REVOLUTIONS	47796.
TOT FLOW STD. CU. METRES(SCF)	88.6 (3129.)
THC SAMPLE METER/RANGE/PPM	11.4/ 2/ 11.
THC BCKGRD METER/RANGE/PPM	11.8/ 2/ 12.
CO SAMPLE METER/RANGE/PPM	9.7/ 12/ 9.
CO BCKGRD METER/RANGE/PPM	.0/ 12/ 0.
CO2 SAMPLE METER/RANGE/PCT	61.5/ 14/ .3908
CO2 BCKGRD METER/RANGE/PCT	11.9/ 14/ .0395
NOX SAMPLE METER/RANGE/PPM	1.2/ 1/ .3
NOX BCKGRD METER/RANGE/PPM	.0/ 1/ .0
DILUTION FACTOR	30.63
THC CONCENTRATION PPM	0.
CO CONCENTRATION PPM	9.
CO2 CONCENTRATION PCT	.3525
NOX CONCENTRATION PPM	.3
THC MASS GRAMS	.00
CO MASS GRAMS	.94
CO2 MASS GRAMS	572.1
NOX MASS GRAMS	.05
RUN TIME	598.
DFC, WET (DRY)	.957 (.954)
SCF, WET (DRY)	1.000 (.979)
VOL (SCM)	88.6
SAM BLR (SCM)	.00
MI (MEASURED)	1.17

TEST NUMBER,	B2TJM2-02
BAROMETER,	MM HG
HUMIDITY,	G/KG
TEMPERATURE,	DEG C
CARBON DIOXIDE,	G/MI
FUEL ECONOMY,	MPG
HYDROCARBONS, (THC)	G/MI
CARBON MONOXIDE,	G/MI
OXIDES OF NITROGEN,	G/MI

